

**U. S. DEPARTMENT OF COMMERCE  
RADIO DIVISION**

# RADIO SERVICE BULLETIN

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Washington, June 30, 1930—No. 159

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## 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 latitude. 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.
- 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.
- Hours = Hours of operation: N=continuous service, X=no regular hour, Y=sunrise to sunset.
- Accounts = 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. = Meters-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).

This edition is the last supplement to the Annual List of Commercial and Government Radio Stations of the United States, edition June 30, 1930.

## 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, 1929, 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
Abilene, Tex. <sup>1</sup>	FA, FX	KGSA	278 (1,080), 3,038 (97.15), 3,460 (86.7), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).	P	X	Western Air Express (Inc.).
Atlanta, Ga. <sup>2</sup>	FX	WAI	95 (3,160), 99 (3,030)	PR	X	American Radio News Corporation.
Auburn, N. Y. <sup>3</sup>	FX	WPDN	1,712 (175.23)	P	X	City of Auburn.
Cedar Rapids, Iowa <sup>4</sup>	FX	KGOZ	2,470 (121.5)	P	N	City of Cedar Rapids, Police Department.
Chicago, Ill. <sup>2</sup>	FX	WAK	95 (3,160), 99 (3,030)	PR	X	American Radio News Corporation.
Cleveland, Ohio <sup>4</sup>	FA	WRDT	278 (1,080)	P	X	City of Cleveland, Division of Airport.
Columbus, Ohio <sup>1</sup>	FX	WPDI	2,416 (124.17)	P	N	Board of County Commissioners, Franklin County.
Dallas, Tex. <sup>1</sup>	FA, FX	KGSQ	278 (1,080), 3,038 (97.15), 3,460 (86.7), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).	P	X	Western Air Express (Inc.).
Honolulu, Hawaii <sup>5</sup>	FX	KDG	7,340 (40.87), 7,355 (40.79), 7,370 (40.71), 7,820 (38.36), 7,835 (38.29), 7,955 (37.72), 15,610 (19.218), 15,640 (19.182), 15,670 (19.145), 15,730 (19.072), 15,760 (19.036), 15,880 (18.892), 15,910 (18.856).	P	X	Press Wireless (Inc.).
Juneau, Alaska <sup>1</sup>	FA, FX	KGQW	278 (1,080), 3,103 (96.6)	PR	X	Alaska Washington Airways (Inc.).
Kalepa, Hawaii (Kauai Island) <sup>6</sup>	FX	KGXO	47,300 (6.342)	PR	X	Mutual Telephone Co.
Kansas City, Mo. <sup>7</sup>	FX	KGPE	2,422 (123.86)	P	N	State of Missouri, Metropolitan Police Department.
Kaunakakai, Hawaii (Molokai Island) <sup>8</sup>	FX	KGXN	51,600 (5.814)	PR	X	Mutual Telephone Co.
Lanai Island, Hawaii <sup>4</sup>	FX	KGXP	54,000 (5.525)	PR	X	Do.
Lansing, Mich. <sup>4</sup>	FX	WPDL	2,440 (123)	P	N	City of Lansing.
Mānāhāuā, Hawaii (Oahu Island). <sup>9</sup>	FX	KGXA	39,600 (7.58)	PR	X	Mutual Telephone Co.
Do. <sup>9</sup>	FX	KGXB	46,200 (6.494)	PR	X	Do.
Do. <sup>9</sup>	FX	KGXC	37,400 (8.02)	PR	X	Do.
Do. <sup>9</sup>	FX	KGXD	50,400 (5.952)	PR	X	Do.
Do. <sup>9</sup>	FX	KGXE	35,200 (8.52)	PR	X	Do.
Do. <sup>9</sup>	FX	KGXF	41,800 (7.177)	PR	X	Do.
Do. <sup>9</sup>	FX	KGXG	52,800 (5.682)	PR	X	Do.
Midland, Tex. <sup>1</sup>	FA, FX	KGSU	278 (1,080), 3,038 (97.15), 3,460 (86.7), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).	P	X	Western Air Express (Inc.).
Nellie Juan, Alaska <sup>10</sup>	FC, FX	KDD	178 (1,685), 460 (650), 500 (600).	PG, PR		Copper River Pack ing Co.
New Rochelle, N. Y. <sup>3</sup>	FX	WAL	95 (3,160), 99 (3,030)	PR	X	American Radio News Corpora tion.
Passaic, N. J. <sup>4</sup>	FX	WPDJ	2,416 (124.17)	P	N	City of Passaic, De partment of Pub lic Safety.
Portland, Ore. <sup>4</sup>	FX	KGPP	2,452 (122.34)	P	N	City of Portland, Bureau of Police.
Richmond, Ind. <sup>11</sup>	FX	WPDH	2,416 (124.17)	P	N	City of Richmond, Police Depart ment.
Rochester, N. Y. <sup>4</sup>	FX	WPDR	1,712 (175.23)	P	X	City of Rochester, Department of Public Safety.
Rocky Point, N. Y. <sup>12</sup>	FX	WDA	10,630 (28.22)	PR	N	R. C. A. Communi cations (Inc.).
Do. <sup>12</sup>	FX	WDB	6,710 (44.71)	PR	N	Do.

See footnotes at end of table.

## NEW STATIONS—Continued

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

Station	Class	Call signal	Frequency in kilocycles, meters in parentheses	Service	Hours	Owner
San Antonio, Tex. <sup>4</sup>	FX	KGOY	1,712 (175.23) -----	P	N	City of San Antonio, Police Department.
San Diego, Calif. <sup>13</sup>	FA, FX	KGQZ	278 (1,080), 3,172 (94.6), 5,660 (53)	P	X	Aeronautical Radio (Inc.).
San Francisco, Calif. <sup>14</sup>	FX	KGPD	1,596 (187.97), 2,410 (124.5)	P	N	City of San Francisco, Police and Fire Departments.
Santa Flavia (moored vessel in Nushagak River, Alaska). <sup>15</sup>	FC, FX	KDI	256 (117.2), 272 (110.3), 460 (652), 500 (600).	PG, PR	-----	Alaska Fishermen's Cooperative Packing Co.
Seattle, Wash. <sup>16</sup>	FA, FX	KGQX	3,106 (96.6) -----	PR	X	Alaska Washington Airways (Inc.)
South San Francisco, Calif. <sup>3</sup>	FX	KIP	95 (3,160), 99 (3,030) -----	PR	X	American Radio News Corporation.
Ulupalukua, Hawaii (Maui Island). <sup>17</sup>	FX	KGXH	48,400 (6.198) -----	PR	X	Mutual Telephone Co.
Do. <sup>17</sup>	FX	KGXI	42,900 (6.993) -----	PR	X	Do.
Do. <sup>17</sup>	FX	KGXJ	40,700 (7.371) -----	PR	X	Do.
Waikii, Hawaii <sup>18</sup>	FX	KGXK	49,500 (6.061) -----	PR	X	Mutual Telephone Co.
Do. <sup>18</sup>	FX	KGXL	38,500 (7.79) -----	PR	X	Do.
Do. <sup>18</sup>	FX	KGXM	36,300 (8.26) -----	PR	X	Do.
Wyandotte, Mich. <sup>19</sup>	FC, FX	WCV	143 (2,100), 163 (1,840), 410 (730), 425 (705), 454 (660).	PG, PR	-----	Michigan Wireless Telegraph Co.
<i>Portable</i>						
California <sup>4</sup>	FA, FX	KGQY	393 (76.3), 414 (72.46), 2,344 (12.799)	P	X	Maddux Air Lines Co.
United States No. 6—throughout. <sup>3</sup>	FX	KGVA	1,600 (187.5), 1,652 (181.6), 1,664 (180.29), 1,680 (178.6), 1,704 (176.06)	P	X	McCullum Exploration Co.
United States No. 10—throughout. <sup>3</sup>	FX	KGVB	-----do-----	P	X	Do.
United States No. 11—throughout. <sup>3</sup>	FX	KGVC	-----do-----	P	X	Do.
United States No. 12—throughout. <sup>3</sup>	FX	KGVD	-----do-----	P	X	Do.
United States No. 13—throughout. <sup>3</sup>	FX	KGVE	-----do-----	P	X	Do.

<sup>1</sup> Type, A1, A2, A3.<sup>2</sup> Type, A1.<sup>3</sup> Type, A1, A3.<sup>4</sup> Type, A3.<sup>5</sup> Type, A1, A2.<sup>6</sup> Loc. (approximate), 158° 21' 30" W., 22° 00' 00" N.; type, A3.<sup>7</sup> Loc., 94° 34' 24" W., 39° 06' 24" N.; type, A3.<sup>8</sup> Loc., 157° 01' 25" W., 21° 05' 50" N.; type, A3.<sup>9</sup> Loc. (approximate), 158° 07' 10" W., 21° 22' 40" N.; type, A3.<sup>10</sup> Type, A2; hours, 8 a. m. to 8 p. m.; rates, 6 cents per word.<sup>11</sup> Loc., 84° 54' 28" W., 39° 50' 16" N.; type, A3.<sup>12</sup> Loc., 72° 56' 30" W., 40° 55' 45" N.; type, A1, A2, A3.<sup>13</sup> Loc. (approximate), 117° 12' 00" W., 32° 45' 00" N.; type, A1, A2, A3.<sup>14</sup> Loc., 122° 23' 35" W., 37° 47' 36" N.; type, A3.<sup>15</sup> Type, A1, A2; power, M/amp. 31/3.5; hours, 7 a. m. to 7 p. m., during fishing season; rates, 12 cents (60 centimes) per word accts., R. M. C. A.<sup>16</sup> Type, A2, A3.<sup>17</sup> Loc. (approximate), 156° 22' 55" W., 20° 38' 45" N.; type, A3.<sup>18</sup> Loc. (approximate), 155° 39' 45" W., 19° 51' 30" N.; type, A3.<sup>19</sup> Loc., 83° 09' 06" W., 42° 13' 08" N.; type, A1, A2; hours, 8 a. m. to 5 p. m. daily, 9 to 11 a. m. Sundays; rates, 10 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, 1929, 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 accounts settled by—
California <sup>1</sup>	KGQU		P	X	Manuel Silvera	Owner.
Crescent City <sup>1</sup>	KGQO		PG	X	Nicholson Universal S. S. Co.	R. C. A.
James W. Good	KGQG				Inland Waterways Corporation	
Morro Castle	KGQV	8	PG		Atlantic, Gulf & West Indies S. S. Lines	R. M. C. A.
Navigator <sup>1</sup>	KGQN	8	PG	X	Manuel H. Freitas	Owner.
Oriente	KGQX	8	PG		Atlantic, Gulf & West Indies S. S. Lines	R. M. C. A.
Patrick J. Hurley	KGQK				Inland Waterways Corporation	
Penobscot <sup>1</sup>	KGQR		PG	X	Nicholson Universal S. S. Co.	R. C. A.
Sayonara	KGQM				Anthony J. Drexel	
Southland	KGQL				Norfolk & Washington Steamboat Co. (chartered to Colonial Navigation Co.)	
Talayha <sup>4</sup>	KGQV		P	X	Lazard Lippman	Owner.
Vileehi	KGQS				H. T. Horton	Do.
William J. Gaynor <sup>1</sup>	KGQT		P	X	City of New York, Fire Department	Do.

<sup>1</sup> Type, A1; fy., 8,330 (36.01).

<sup>2</sup> Type, A2; fy., 375 (800), 410 (730), 425 (705), Great Lakes service, 4 cents per word.

<sup>3</sup> Type, A1; fy., 5,525 (54.3), 8,290 (36.19), 8,450 (35.5); power, M/amp. 12/3.

<sup>4</sup> Type, A2; fy., 5,525 (54.3), 11,050 (27.15), 11,110 (27).

<sup>5</sup> Type, A3; fy., 1,596 (187.9); power, M/amp. 20/1.5.

Commercial land and ship stations, alphabetically, by call signals

Call signal	Name of station	Call signal	Name of station
KDD	Nellie Inan, Alaska.....fc, fx	KGVD	United States No. 12—throughout (portable).....fx
KDG	Honolulu, Hawaii.....fx	KGVE	United States No. 13—throughout (portable).....fx
KDI	Santa Flavia (moored vessel in Nushagak River, Alaska).....fc, fx	KGXA	Manawabua, Hawaii (Oahu Island).....fx
KGQV	Morro Castle.....b	KGXB	Do.....fx
KGQX	Oriente.....b	KGXC	Do.....fx
KGQY	San Antonio, Tex.....fx	KGXD	Do.....fx
KGQZ	Cedar Rapids, Iowa.....fx	KGXE	Do.....fx
KGPD	San Francisco, Calif.....fx	KGXF	Do.....fx
KGPE	Kansas City, Mo.....fx	KGXG	Do.....fx
KGPF	Portland, Oreg.....fx	KGXH	Ulupalakua, Hawaii (Maui Island).....fx
KGQG	James W. Good.....b	KGXI	Do.....fx
KGQK	Patrick J. Hurley.....b	KGXJ	Do.....fx
KGQL	Southland.....b	KGXK	Waikii, Hawaii.....fx
KGQM	Sayonara.....b	KGXL	Do.....fx
KGQN	Navigator.....b	KGXM	Do.....fx
KGQO	Crescent City.....b	KGXN	Kaunakakai, Hawaii (Molokai Island).....fx
KGQR	Penobscot.....b	KGXO	Kalape, Hawaii (Kauai Island).....fx
KGQS	Vileehi.....b	KGXP	Lanai Island, Hawaii.....fx
KGQT	William J. Gaynor.....b	KIP	South San Francisco, Calif.....fx
KGQU	California.....b	WAI	Atlanta, Ga.....fx
KGQV	Talayha.....b	WAK	Chicago, Ill.....fx
KGQW	Juneau, Alaska.....fa, fx	WAL	New Rochelle, N. Y.....fx
KGQX	Seattle, Wash.....fa, fx	WCV	Wyandotte, Mich., Radio.....fc
KGQY	California (portable).....fa, fx	WDA	Rocky Point, N. Y.....fx
KGQZ	San Diego, Calif.....fa, fx	WBD	Do.....fx
KGSA	Abilene, Tex.....fa, fx	WPDH	Richmond, Ind.....fx
KG8Q	Dallas, Tex.....fa, fx	WPDI	Columbus, Ohio.....fx
KG8U	Midland, Tex.....fa, fx	WPDJ	Passaic, N. J.....fx
KGVA	United States No. 6—throughout (portable).....fx	WPDL	Lansing, Mich.....fx
KGVB	United States No. 10—throughout (portable).....fx	WPDN	Auburn, N. Y.....fx
KGVC	United States No. 11—throughout (portable).....fx	WPDR	Rochester, N. Y.....fx
		WRDT	Cleveland, Ohio.....fa

*Commercial aircraft stations, alphabetically, by names of craft*

[Additions to the List of Radio Stations of the United States, edition of June 30, 1929, and to the International List of Aircraft Stations published by the Berne bureau]

Station	Call signal	Frequency in kilocycles, meters in parentheses	Service	Hours	Owner
City of Tacoma.....	KHIWD	8,650 (34.68).....	P	X	John Buffelen. New York, Rio & Buenos Aires Line.
Miami.....	KHKVE	-----	P	X	
NC-232M.....	KHJXC	333 (900), 375 (800), 500 (600), 3,106 (96.58).	P	X	Boeing Air Transport (Inc.). Curtiss Wright Flying Service (Inc.).
NC-9608 <sup>1</sup> .....	KHGNM		-----	P	
NC-9609.....	KHGOL	333 (900), 375 (800) 500 (600), 3,106 (96.58).	P	X	Do.
NC-9735 <sup>1</sup> .....	KHGMN		-----	P	X
NC-9751 <sup>1</sup> .....	KHGLO	3,106 (96.58).....	P	X	Do.
NC-9780 <sup>1</sup> .....	KHGKP	3,106 (96.58).....	P	X	Do.
NC-9784 <sup>1</sup> .....	KHITG	3,106 (96.58).....	P	X	Thompson Aeronautical Corporation.

<sup>1</sup> Type, A1, A3.

<sup>2</sup> Type, A1, A2.

<sup>3</sup> Type, A1.

*Commercial aircraft stations, alphabetically, by call signals*

Call signal	Name of station	Call signal	Name of station	Call signal	Name of station
KHGKP	NC-9780.	KHGNM	NC-9608.	KHIWD	City of Tacoma.
KHGLO	NC-9751.	KHGOL	NC-9609.	KHJXC	NC-232M.
KHGMN	NC-9735.	KHITG	NC-9784.	KHKVE	Miami.

*Broadcasting station, by name of State and city*

[Addition to the List of Radio Stations of the United States, edition of June 30, 1929]

State and city	Call signal	Frequency in kilocycles, meters in parentheses	Power (watts)
Kentucky: Paducah.....	WPAD	1,420 (211.3).....	100

*Broadcasting station, by call signal*

Call signal	Location of transmitter (mail address)	Owner	Frequency in kilocycles, meters in parentheses	Power (watts)
WPAD	Paducah, Ky., <sup>1</sup> Ritz Hotel..	Paducah Broadcasting Co. (Pierce E. Lackey & Fred W. Olcott).	1,420 (211.3).....	100

<sup>1</sup> Loc., 88° 35' 40" W., 37° 05' 18" N.

## 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, 1929, 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
Anchorage, Alaska	FX	WXE	200 (1,500), 476 (630), 43.10 (69.61).	PR	Y	U. S. Army.
Augusta, Me. (first district U.S.N.R.)	FX	NDR				U. S. Navy.
Cape Decision, Alaska.	FX	KCAB	410 (730), 500 (600).	O	X	Department of Commerce, Bureau of Lighthouses.
Five Finger Island Light Station, Alaska.	FC	KCE	375 (800), 410 (730), 500 (600).	O	X	Do.
Fort Drum, P. I. (Rizal). <sup>1</sup>	FX	WTE	471 (638)	O	Y	U. S. Army.
Fort Leavenworth, Kans.	FA	WYM	200 (1,500)	O	Y	Do.
Granada, Nicaragua.	FX	WVG	8,160 (36.76)	O	Y	Do.
Kilauea Point Light Station, Hawaii.	FC	KCW	375 (800), 410 (730), 500 (600).	O		Department of Commerce, Bureau of Lighthouses.
Mary Island Light Station, Alaska.	FC	KCF	375 (800), 410 (730), 500 (600).	O		Do.
Pasco, Wash. <sup>2</sup>	FA, FX	KCS	201 (1,495), 314 (955), 3,370 (89), 3,405 (88.11), 5,940 (50.51), 5,955 (50.36).	O	N	Do.
Presidio of Monterey, Calif. (Monterey).	FX	WVM	220 (1,365)	O	Y	U. S. Army.
St. Johns River Lightship, Fla. <sup>3</sup>	FC	WSJ	375 (800), 410 (730), 500 (600).	O		Department of Commerce, Bureau of Lighthouses.
Sentinel Island Light Station, Alaska.	FC	KWH	375 (800), 410 (730), 500 (600).	O	X	Do.
Washington, D. C. <sup>4</sup>	FX	WLM	6,990 (42.92)	O	X	U. S. Army.

<sup>1</sup> Loc., 120° 37' 43" E., 14° 18' 23" N.

<sup>2</sup> Type, A1, A3.

<sup>3</sup> Hours, first 15 minutes every hour between 8 a. m. and 9.15 p. m.

<sup>4</sup> Type, A1.

## Government ship station, by names of stations

[Addition to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, 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
Crocus	WWDF				Department of Commerce, Bureau of Lighthouses.
Delta	WYCG		O	Y	U. S. Army.

## Government land, ship, radiobeacon, and radiocompass stations, alphabetically, by call signals

Call signal	Name of station	Call signal	Name of station
KCAB	Cape Decision, Alaska	WSJ	St. Johns River Lightship, Fla.
KCE	Five Finger Island Light Station, Alaska	WTE	Fort Drum, P. I. (Rizal)
KCF	Mary Island Light Station, Alaska	WVG	Granada, Nicaragua
KCS	Pasco, Wash.	WVM	Presidio of Monterey, Calif. (Monterey)
KCW	Kilauea Point Light Station, Hawaii	WWDF	Crocus
KWH	Sentinel Island Light Station, Alaska	WXE	Anchorage, Alaska
NDR	Augusta, Me. (first district U. S. N. R.)	WYCG	Delta
WLM	Washington, D. C.	WYM	Fort Leavenworth, Kans.

*Airway radiobeacon stations*

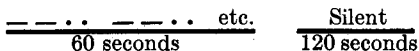
[Additions to the List of Radio Stations of the United States, edition of June 30, 1929, and to the International List of Aircraft Stations published by the Berne bureau]

Station and geographical location	Frequency and type for emission	Power (height of aerial and intensity of current at base)	Characteristic signal	Hours
Brookville, Pa. (marker); 79° 06' 30" W., 41° 08' 43" N.	A2-302 (993), 344 (872).			N (operates in conjunction with Cleveland (Ohio), and Bellefonte (Pa.), range beacons).
Bryan, Ohio (marker); 84° 32' 45" W., 41° 30' 15" N.	A2-320 (938)			N (operates in conjunction with Goshen (Ind.), range beacon).
Numidia, Pa. (marker); 76° 24' 00" W., 40° 52' 00" N. (approximate).	A2-302 (993), 338 (888).			N (operates in conjunction with Bellefonte (Pa.), and New Brunswick (N. J., Hadley Field), range beacons).
Toledo, Ohio (marker); 83° 30' 00" W., 41° 34' 00" N. (approximate).	A2-320(938), 344 (872).			N (operates in conjunction with Goshen (Ind.), and Cleveland (Ohio), range beacons).

*Marine radiobeacon stations*

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Stations Performing Special Services published by the Berne bureau]

WOLF TRAP LIGHT STATION, VA.—Loc. 76° 11' 23" W., 37° 23' 25" N.; transmits every 180 seconds, groups of 2 dashes and 2 dots for 60 seconds, silent 120 seconds, thus:



Operates on a frequency of 305 kilocycles continuously during thick or foggy weather and daily in clear weather from 3 to 3.30 and 9 to 9.30 a. m. and p. m. (75th meridian time).

*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, 1929]

Station	Call signal	Frequency in kilocycles, meters in parentheses	Power (watts)	Owner
Alaska: Libbyville	W7XD	1,540 (194.8), 3,184 (94.22)	50	Libby, McNeill & Libby.
California: San Francisco	W6AD	2,398 (125.1), 3,256 (92.5), 4,795 (62.57), 8,650 (34.68).	1,000	Whiteford and Ausman, 1330 Sacramento Street.
District of Columbia: Washington.	W3XZ	4,795 (62.56)	250	C. Francis Jenkins, 1519 Connecticut Avenue.
New Jersey: Holmdel	W2XM	1,604 (187.03), 2,398 (125.1), 3,256 (92.5), 4,795 (62.57), 6,425 (46.7), 8,650 (34.68), 12,850 (23.35), 17,300 (17.341), 23,100 (12.987).	1,000	Bell Telephone Laboratories (Inc.).
Mendham	W3XR	1,604 (187.03), 2,398 (125.1), 3,256 (92.5), 4,795 (62.57), 6,425 (46.7), 8,650 (34.68).	500	Do.
New Brunswick	W2XAO	6,950 (43.17), 6,965 (43.07), 7,415 (40.46), 8,930 (33.59), 9,450 (31.75), 9,470 (31.68), 9,490 (31.61), 13,480 (22.26), 13,870 (21.63), 13,900 (21.58), 14,800 (20.27), 14,920 (20.11), 16,030 (18.715), 17,860 (16.797).	80,000	R. C. A. Communications (Inc.).

*Experimental 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, 1929]

Station	Call signal	Frequency in kilocycles, meters in parentheses	Power (watts)	Owner
New Jersey—Contd. New Brunswick.....	W2XBC	4,795 (62.57), 6,425 (46.7), 8,650 (34.68), 12,850 (23.35), 17,300 (17.341), 25,700 (11.673), 34,600 (8.67), 51,400 (5.83), 60,000 (5) to 400,000 (.75).	80,000	R. C. A. Communications (Inc.).
New York: Rocky Point.....	W2XBC	17,300 (17.341), 25,700 (11.673), 34,600 (8.67), 51,400 (5.83).	10,000	Do.
Do.....	W2XBJ	6,740 (44.51), 8,950 (33.52), 15,040 (19.947), 16,000 (18.75), 16,030 (18.715), 17,900 (16.760), 20,100 (14.925), 21,300 (14.085).	80,000	Do.
Do.....	W2XBL	60,000 (5) to 400,000 (.75), and above 401,000 (.74).	1	Do.
Do.....	W2XBM	1,604 (187.03), 2,398 (125.1), 3,256 (92.5), 4,795 (62.57), 6,425 (46.7), 8,650 (34.68), 12,850 (23.35), 17,300 (17.341).	200	Do.
Do.....	W2XBP	1,604 (187.03), 2,398 (125.1), 3,256 (92.5), 4,795 (62.57), 6,425 (46.7), 8,650 (34.68), 12,850 (23.35), 17,300 (17.341), 25,700 (11.673).	10	Do.
Ohio: Dayton.....	W8XL	1,604 (187.03), 2,398 (125.1), 3,256 (92.5), 4,795 (62.57), 6,425 (46.7), 8,650 (34.68), 12,850 (23.35), 17,300 (17.341).	500	General Motors Radio Corporation, 1320 Wisconsin Boulevard.
Wisconsin: Lake..... <i>Portable</i>	W9XAS	278 (1,080)	7.5	Weeks Aircraft Corporation.
Alaska: Boca de Quadra (also vessel "Kiska").	K7XF	1,604 (187.03), 2,398 (125.1), 3,256 (92.5), 4,795 (62.57), 6,425 (46.7), 8,650 (34.68), 12,850 (23.35), 17,300 (17.341).	50	A. A. McCue, 600 Marion Building, Seattle, Wash.
Massachusetts: Millis	W1XXK	960 (303)	1,000	Westinghouse Electric & Mfg. Co.
Railroad train..... <i>Aircraft</i>	W10XAF	2,398 (125.1)	5	Larry L. Smith, Monticello, Ky.
NC-179N..... <i>Vessels</i>	W10XAG	333 (900), 600 (500), to 1,000 (300), 3,256 (92.5), 8,650 (34.68), 17,300 (17.341).	30-50	De Forest Radio Co., Passaic, N. J.
Casco.....	W10XAB	2,398 (125.1), 4,795 (62.57), 6,425 (46.7), 8,650 (34.68).	50	R. W. Seabury, Boonton, N. J.
Metha Nelson.....	W6XBA	3,256 (92.5)	100	Fox Film Corporation, 1401 N. Western Avenue, Hollywood, Calif.

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

Call signal	District and station	Call signal	District and station
W1XXK	First district Millis, Mass. (portable).	W6XAD	Sixth district:
W2XM	Second district:	W6XBA	San Francisco, Calif.
W2XAO	Holmdel, N. J.	K7XF	Metha Nelson (vessel).
W2XBZ	New Brunswick, N. J.	W7XD	Seventh district:
W2XBC	Do.	W8XL	Boca de Quadra, Alaska (also vessel "Kiska") (portable).
W2XBJ	Do.	W9XAS	Libbyville, Alaska.
W2XBL	Do.	W10XAB	Eighth district: Dayton, Ohio.
W2XBM	Do.	W10XAF	Ninth district: Lake, Wis.
W2XBP	Do.	W10XAG	Aircraft and portable:
W3XR	Third district:		Casco (vessel).
W3XZ	Mendham, N. J.		Railroad Train.
	Washington, D. C.		NC-179N.



## 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, edition of June 30, 1929, and to the International List of Fixed and Land Stations, published by the Berne bureau]

- ALLENTOWN, PA.—Type, strike out A2, A3; fy., strike out 3,160 (94.9), 3,166 (94.8), 3,172 (94.6), 3,178 (94.4), 3,238 (92.65), 3,244 (92.5); power, M/amp. 21/5.
- ANNETTE ISLAND, ALASKA RADIO.—Loc. (approximate), 131° 34' 20" W., 55° 59' 30" N.; type, strike out B, add A1, A2; fy., strike out 283 (1,060), add 256 (1,170), 274 (1,095); owner, R. M. C. A.
- ATLANTIC CITY, N. J. (Municipal Airport).—Owner, New York Airways (Inc.).
- BALTIMORE, MD. (WEQ).—Fy., strike out 1,712 (175.23), add 1,596 (187.97); power, M/amp. 23/3.
- BAR HARBOR, ME.—Loc., changed to Rockland, Me. (near).
- BELLE ISLE, MICH.—Fy., strike out 3,166 (94.756), add 2,410 (124.5); owner, City of Detroit.
- BIRMINGHAM, ALA.—Type, strike out B.
- BOLINAS, CALIF. (KEB), (KEE), (KEI), (KEJ), (KEL), (KEM), (KEN), (KES), (KKW), (KKZ), (KLL), (KMM), (KQG), (KQJ), (KSS), (KUN), (KWE).—Type, add A2, A3; power, M/amp. 15 to 100/100.
- BOSTON, MASS., Radio (WBF).—Type, strike out A3; fy., strike out 16,575 (18.099), add 16,580 (18.094); power, M/amp. 20/2-9 and 80/4-10.5.
- BUFFALO, N. Y., Radio (WBL).—Fy., strike out 5,525 (54.3); power, M/amp. 20/10.
- BUFFALO, N. Y. (WMJ).—Type, strike out A1; fy., strike out 1,712 (175.23), add 2,422 (123.86).
- BURNETT INLET, ALASKA.—*Read* Burnett Inlet, Alaska radio; power, M/amp. 29/4 and 6.
- BUTLER, PA. (WBR).—Fy., strike out 248 (1,210), add 257 (1,165).
- CLEARWATER, CALIF. (Los Angeles-KNR).—Type, add A1; power, M/amp. 90/40; hours, N.
- DEARBORN, MICH. (WQDW).—Fy., strike out 420 (715), add 393 (765); power, M/amp. 49/9.
- EAST MORICHEE, N. Y., Radio.—Power, M/amp. 60.97/28.
- EDMONDS, WASH., Radio.—Fy., add 460 (650), 500 (600).
- EXCURSION INLET, ALASKA.—Loc. (approximate), 135° 29' 10" W., 58° 29' 00" N.; type, add A1; fy., strike out 428 (700), 454 (660), add 212 (1,415), 246 (1,220), 425 (705); owner, R. N. C. A.
- FALSE PASS, ALASKA, Radio.—Fy., strike out 222 (1,350), add 227 (1,320); power, M/amp. 32/3.
- FORT MORGAN, ALA., Radio.—Fy., strike out 8,550 (35.09); power, M/amp./10/4.
- FRACKVILLE, PA.—Type, strike out A2, A3; fy., strike out 3,160 (94.9), 3,166 (94.8), 3,172 (94.6), 3,178 (94.4), 3,238 (92.65), 3,244 (92.5); power, M/amp. 23/5.
- GARDEN CITY, N. Y., Radio (WPN).—Fy., add 438 (685), 500 (600).
- GEORGE INLET, ALASKA.—*Read* George Inlet, Alaska radio.
- GREENSBURG, PA.—Fy., strike out 248 (1,210), add 257 (1,165).
- HARRISBURG, PA. (WBA).—Fy., strike out 248 (1,210), add 257 (1,165).
- HAWK INLET, ALASKA.—*Read* Hawk Inlet, Alaska radio; power, M/amp. 30/3.
- HAZLETON, PA.—Type, strike out A2; A3; fy., strike out 3,160 (94.9), 3,166 (94.8), 3,172 (94.6), 3,178 (94.4), 3,238 (92.65), 3,244 (92.5); power, M/amp. 19/5.
- HIGHLAND PARK, MICH.—Loc., 83° 05' 47" W., 42° 24' 21" N.; fy., strike out 1,712 (175.23), add 2,410 (124.5); owner, City of Highland Park.
- HILLSBORO, OREG. (KGH).—Type, add A1; power, M/amp. 182/60; hours, N.
- HILO, HAWAII.—Type, strike out A2; fy., strike out 4,212 (71.2), add 3,196 (93.86), 3,226 (92.99), 5,750 (52.17); power, M/amp. 20/6; hours X.
- HONOLULU, HAWAII (KOG).—Type, strike out A2; fy., strike out 4,212 (71.2), 4,455 (67.34), 4,004 (74.9), 16,580 (18.094), 16,900 (17.751), add 3,010 (99.7), 3,058 (98.10), 5,810 (51.64); power, M/amp. 20/6; service, strike out PG; hours, X.
- IKATAN, ALASKA, Radio.—Type, strike out B, add A1, A2; fy., strike out 186 (1,610), 283 (252), add 222 (1,350), 252 (1,190); owner, R. M. C. A.

- KAHUKU, HAWAII (KEQ), (KIO), (KKH), (KKP).—Type, add A2, A3; power M/amp. 15 to 100/100.
- KAILUA, HAWAII (Honolulu).—Fy., strike out 8,720 (34.4), add 8,710 (34.44); power, M/amp. 27.69/8.
- KARLUK, ALASKA (Kodiak Island).—Type, A3; fy., 2,428 (123.55), 3,178 (94.39).
- KAUNAKAKAI, HAWAII (Molokai Island).—Type, strike out A2, add A1; fy., strike out 4,212 (71.2), 4,455 (67.34), add 3,196 (93.86), 3,226 (92.99), 5,750 (52.17); power, M/amp. 20/4; hours, X.
- KING COVE, ALASKA, Radio.—Type, strike out B, add A1, A2; fy., strike out 186 (1,610), 283 (1,060), add 222 (1,350), 252 (1,190); owner, R. M. C. A.
- LANAI, HAWAII.—Fy., strike out 500 (600), 4,212 (71.22), add 442 (680), 3,196 (93.86), 3,226 (92.99), 5,750 (52.17); power, M/amp. 20/4; hours, X.
- LATOCHE, ALASKA, Radio.—Power, M/amp. 38/2.5.
- LAWRENCEVILLE, N. J. (WMI).—Power, M/amp. 49/100.
- LAZY BAY, ALASKA.—Read Lazy Bay, Alaska radio; type, add A1; fy., strike out 283 (1,060), add 222 (1,350), 252 (1,190), 268 (1,120); service, strike out P, add PG; rates, 6 cents per word; owner, R. M. C. A.
- LIHUE, HAWAII (Island of Kauai).—Type, strike out A2, add A1; fy., strike out 460 (650), 500 (600), 4,212 (71.2), add 442 (680), 3,196 (93.86), 3,226 (92.99), 5,750 (52.17); power, M/amp. 20/4; hours, X; rates, strike out.
- LOS ANGELES, CALIF., Radio (KSM).—Fy., add 460 (650), 500 (600).
- MEDFORD, OREG. (Municipal Airport).—Fy., strike out 3,142 (95.48), add 3,172 (94.57).
- MUSSEL ROCK, CALIF., Radio.—Fy., add 460 (650); owner, Globe Wireless, Ltd.
- NAKNEK, ALASKA (KHT).—Read Naknek, Alaska radio; type, A1, A2; fy., 219 (1,370), 246 (1,220), 272 (1,105), 460 (650), 500 (600); service, strike out P, add PG and PR; rates, 6 cents per word.
- NEW BRUNSWICK, N. J. (WIZ).—Type, add A2; power, M/amp. 15 to 150/100.
- OCEAN GATE, N. J., Radio.—Loc., 74° 01' 31" W., 40° 15' 32" N.; power, M/amp. 30.5/80.
- PALM BEACH, FLA., Radio.—Type, add A1; power, M/amp. 40/15.
- PALO ALTO, CALIF. (near) (KNW).—Power, M/amp. 27.69/8.
- PALO ALTO, CALIF. (KWT).—Fy., add 13,015 (23.05); power, M/amp. 182/40; hours, N.
- PASADENA, CALIF.—Owner, city of Pasadena.
- PONCA CITY, OKLA. (KSF).—Owner, Continental Oil Co.
- PORTLAND, OREG.—Fy., strike out 163 (1,840), 460 (650), add 141 (2,130), 476 (630); power, M/amp. 46/8.
- PORT MOLLER, ALASKA, Radio.—Type, strike out B, add A2; fy., strike out 186 (1,610), 283 (1,060), 5,880 (51.02), add 222 (1,350), 252 (1,190); owner, R. M. C. A.
- ROCKY POINT, N. Y. (WJ), (WBU), (WDS), (WEA), (WEB), (WEC), (WED), (WEE), (WEL).—Type, add A2, A3; power, M/amp. 15 to 100/100.
- ROCKY POINT, N. Y. (WEG).—Type, add A2, A3.
- ROCKY POINT, N. Y. (WEJ), (WEL), (WEM), (WEN).—Type, add A2, A3; power, M/amp. 15 to 100/100.
- ROCKY POINT, N. Y. (WEO).—Type, add A2.
- ROCKY POINT, N. Y. (WER), (WES), (WEV), (WEX), (WEZ).—Type, add A2, A3; power, M/amp. 15 to 100/100.
- ROCKY POINT, N. Y. (WFX), (WHR), (WIK), (WIY), (WKC).—Type, add A2, A3; power, M/amp. 15 to 150/100.
- ROCKY POINT, N. Y. (WKD).—Type, add A2.
- ROCKY POINT, N. Y. (WKJ), (WKL), (WKM), (WKO), (WKP), (WKQ).—Type, add A2, A3; power, M/amp. 15 to 150/100.
- ROCKY POINT, N. Y. (WКУ), (WKW).—Type, add A2; power, M/amp. 15 to 150/100.
- ROCKY POINT, N. Y. (WLL).—Type, add A2, A3; power, M/amp. 15 to 150/100.
- ROCKY POINT, N. Y. (WNL).—Power, M/amp. 150/500.
- ROCKY POINT, N. Y. (WPE), (WQA), (WQB), (WQC), (WQD), (WQE), (WQF), (WQG), (WQI), (WQJ), (WQL).—Type, add A2, A3; power, M/amp. 15 to 150/100.
- ROCKY POINT, N. Y. (WQM).—Type, add A2; power, M/amp. 30/10.
- ROCKY POINT, N. Y. (WQO), (WQP), (WQQ), (WQR), (WQT), (WQU).—Type, add A2, A3; power, M/amp. 15 to 150/100.
- ROCKY POINT, N. Y. (WQW).—Type, add A2; power, M/amp. 15 to 150/100.
- ROCKY POINT, N. Y. (WQX), (WQY), (WTT).—Type, add A2, A3; power, M/amp. 15 to 150/100.

- SAN JUAN, P. R. (WGT), (WGU).—Type, add A2, A3; power, M/amp. 30/50.  
 SAYVILLE, N. Y., Radio.—Fy., add 120 (2,500).  
 SAYVILLE, N. Y. (WML).—Fy., add 7,662.5 (38.65), 7,737.5 (38.78), 7,752.5 (38.7), 8,980 (33.41), 10,820 (27.73), 13,015 (23.05), 14,695 (20.415), 14,725 (20.375), 14,755 (20.335), 17,680 (16.968), 19,560 (15.337), 19,600 (15.306); power, M/amp. 27.69/8.  
 SAYVILLE, N. Y. (WKI).—Power, M/amp. 27.69/8.  
 SHEPARD POINT, ALASKA.—Read Shepard Point, Alaska radio; power, M/amp. 18.46/4; service, add PR.  
 SHERWOOD, OREG., Radio.—Fy., add 460 (650), 500 (600).  
 UGANIK, ALASKA (KLP).—Power, M/amp. 24/4.  
 UYAK, ALASKA (KHA).—Read Uyak, Alaska radio; type, A1, A2, A3; fy., 227 (1,320), 268 (1,120), 272 (1,105), 460 (650), 500 (600), 2,428 (123.55); service, strike out P, add PG; rates, 6 cents per word.  
 WAILUKU, HAWAII.—Type, strike out A2, add A1; fy., strike out 4,212 (71.2), add 3,196 (93.86), 3,226 (92.99), 5,750 (52.17); power, M/amp. 20/4; hours, X.  
 WEST READING PA.—Fy., strike out 248 (1,210), add 257 (1,165).  
 WYOMING, PA.—Fy., strike out 248 (1,210), add 257 (1,165).  
 WILLIAMSPORT, PA.—Fy., strike out 3,160 (94.9), 3,166 (94.8), 3,172 (94.6), 3,178 (94.4), 3,238 (92.65), 3,244 (92.5); power, M/amp. 23/5.  
 YOUNGSTOWN, OHIO.—Fy., strike out 2,416 (124.17), add 2,458 (122.05).  
 ZACHAR BAY, ALASKA.—Read Zachar Bay, Alaska radio; type, add A1; fy., strike out 283 (1,060), add 222 (1,350), 252 (1,190), 268 (1,120); service, strike out P, add PG; rates, 6 cents per word; owner, R. M. C. A.

*Portable*

- LOUISIANA, MISSISSIPPI, AND TEXAS No. 5.—Read Louisiana, Mississippi, and Texas No. 17.  
 No. 14 (KFG).—Read Texas and Louisiana No. 14.  
 No. 1 (KJZ).—Owner, Continental Oil Co.  
 No. 11 (KLE).—Read Texas and Louisiana No. 11.  
 No. 10 (KLT).—Read Texas and Louisiana No. 10.  
 No. 2 (KMY).—Read Texas and Louisiana No. 2.  
 No. 3 (KMX).—Read Texas and Louisiana No. 3.  
 No. 4 (KMS).—Read Texas and Louisiana No. 4.  
 No. 1 (KND).—Read Louisiana, Mississippi, and Texas No. 16.  
 No. 2 (KNC).—Read Louisiana, Mississippi, and Texas No. 15.  
 No. 3 (KNE).—Read Louisiana, Mississippi, and Texas No. 18.  
 No. 4 (KNF).—Read Louisiana, Mississippi, and Texas No. 19.  
 No. 5 (KNB).—Read Louisiana, Mississippi, and Texas No. 5.  
 THIRD RADIO ZONE (KDH).—Read Third Radio Zone No. 41.  
 THIRD RADIO ZONE (KDV).—Read Third Radio Zone No. 40.  
 THIRD RADIO ZONE (KDX).—Read Third Radio Zone No. 39.  
 THIRD RADIO ZONE (KIB).—Read Third Radio Zone No. 38.  
 THIRD RADIO ZONE (KIC).—Read Third Radio Zone No. 37.  
 THIRD RADIO ZONE (KIJ).—Read Third Radio Zone No. 36.  
 THIRD RADIO ZONE (KKD).—Read Third Radio Zone No. 35.  
 THIRD RADIO ZONE (KKF).—Read Third Radio Zone No. 34.  
 THIRD RADIO ZONE (KKU).—Read Third Radio Zone No. 33.  
 THIRD RADIO ZONE (KKV).—Read Third Radio Zone No. 32.  
 THIRD RADIO ZONE (KKX).—Read Third Radio Zone No. 31.  
 THIRD RADIO ZONE (KKY).—Read Third Radio Zone No. 30.  
 THIRD RADIO ZONE (KSB).—Read Third Radio Zone No. 29.  
 THIRD RADIO ZONE (WCU).—Owner, Continental Oil Co.

Strike out all particulars of the following-named stations: Anaheim, Calif.; Butler, Pa. (WHJ); Camp Eustis, Va., Flagship Div. 1; Cheat Haven, W. Va.; Guam, Guam (KTA); Indianapolis, Ind. (WMDH); Main Base (KFK); Main Base (WFA); Marion, Ill.; Miami, Fla. (WSV); Midway Island, Hawaii (KTF); Monterey, Calif.; San Francisco, Calif. (KGJJ); San Francisco, Calif. (KGKH); Santa Barbara, Calif. (KGJY); Sierra Mountains (Madera County), Calif.; Sub-Base (WFD); Sub-Base (WFE); Vigo, Ind.; Ninth Radio District (portable); Sixth Radio District (portable); Texas and Louisiana WCN (portable); Texas and Louisiana WCO (portable); Texas and Louisiana WCP (portable); Texas and Louisiana WCR (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, 1929, and to the International List of Ship Stations, published by the Berne bureau]

- ABACENA.—Owner, M. A. Baily.  
 ADMIRAL PEOPLES.—Power, M/amp. 20/10.  
 ALEUTIAN.—Call changed to WCCR; accounts, M. R. T. Co.  
 ALICE COOKE.—Owner, Kalgin Packing Co.  
 AMERICA (KGQF).—Owner, Ocean Pilot and Tugboat Co.  
 ARGOSY.—Hours, add N.  
 ARTHUR J. BALDWIN.—Type, A1, A2; fy., add 375 (800), 400 (750), 410 (730), 454 (660), 468 (640); power, M/amp. 24/6.  
 ATLANTA CITY.—Owner Isthmian S. S. Co.  
 AUSTRALIA.—Owner, Texas Co.  
 BERYLE E.—Read Beryl E.  
 BOWDOIN.—Fy., strike out 2,740 (109.5), 5,555 (54).  
 BUENAVENTURA.—Fy., strike out 410 (730), 454 (660); power, M/amp. 20/9.  
 CALIFORNIA (KDRC).—Owner, Texas Co.  
 CARABOBO.—Power, M/amp. 26/14.  
 CARPLAKA.—Hours, add N.  
 CHATTANOOGA CITY.—Owner, Isthmian S. S. Co.  
 CHICKASAW.—Hours, add N.  
 CITY OF BIRMINGHAM.—Power, M/amp. 28/10 and 5.  
 CITY OF FLINT 32.—Type, A2; fy., 375 (800), 410 (730), 425 (705); accounts, Pere Marquette Ry. Co.  
 CITY OF GRAND RAPIDS.—Fy., strike out 394 (760); power, M/amp. 9/5.  
 CITY OF PANAMA.—Fy., add 5,525 (54.3), 8,290 (36.19), 8,450 (35.5), 11,050 (27.15), 11,230 (26.71), 13,240 (22.66), 16,660 (18.007); power, M/amp. 28/1.5.  
 CLIFFWOOD.—Hours, add N.  
 COLONEL JAMES M. SCHOONMAKER.—Read Col. James M. Schoonmaker.  
 CORNELIA.—Power, M/amp. 21.33/10.  
 DELEROF.—Read Delarof.  
 DOLPHIN.—Name changed to Ramona; owner, John W. Hubbard.  
 DONNA LANE.—Fy., add 5,525 (54.3), 8,450 (35.5).  
 EASTERN SUN.—Owner, Motor Tankship Corporation.  
 EGREMONT.—Power, M/amp. 22/12.  
 EINAR BEYER.—Type, A3; fy., 2,428 (123.55).  
 EMMA R. S.—Type, strike out A3; fy., strike out 4,148 (72.3), 8,230 (36.45), add 5,525 (54.3), 5,555 (54), 8,290 (36.19).  
 ENCHANTRESS.—Owner, Morgan Adams.  
 EXARCH.—Fy., add 151 (1,985); hours, strike out X.  
 EXCELSIOR.—Hours, strike out X.  
 EXILONA.—Power, M/amp. 24/14; hours, strike out X.  
 EXMOUTH.—Power, M/amp. 28/12; hours, add N.  
 FAVORITE (KDNV).—Power, M/amp. 16.61/13.  
 FRED W. GREEN.—Owner, John J. Roen.  
 FREEPORT SULPHUR No. 2.—Name changed to Sabine; owner, Sabine Towing Co.  
 FRONTENAC.—Type, strike out B, add A2; fy., add 143 (2,100), 157 (1,910); accounts, Cleveland Cliffs S. S. Co.  
 GENERAL M. H. SHERMAN.—Power, M/amp. 20/7 and 5.  
 GLACIER.—Power, M/amp. 36/2; hours, strike out X.  
 GRENADIER.—Name changed to Black Douglas.  
 GULFPRIDE.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp. 25/13.  
 HAHIRA.—Power, M/amp. 21.3/6.  
 HAIDA.—Type, add A1; fy., strike out 151 (1,985), 160 (1,875), 410 (730), 425 (705), 454 (660), add 155 (1,935), 5,525 (54.3), 8,290 (36.19), 8,330 (36.01), 8,450 (35.5), 11,050 (27.15), 11,110 (27), 13,240 (22.66), 16,580 (18.094), 16,660 (18.007); power, M/amp. 20/12.  
 HEREDIA.—Fy., strike out 400 (750), 3,428 (87.51), 8,490 (35.34), add 5,555 (54), 8,450 (35.5), 11,050 (27.15).  
 HI-ESMARO.—Owner, Edward H. Manville.  
 IOLANDA.—Rates, 8 cents per word.  
 ISHPEMING.—Type, strike out B, add A2; fy., add 143 (2,100), 157 (1,910).  
 IVANEO.—Fy., strike out 500 (600), 12,820 (23.4), add 5,525 (54.3), 11,050 (27.15), 13,240 (22.66).  
 J. F. SCHOELLKOPF, JR.—Power, M/amp. 25/150.

- J. H. SHEADLE.—Type, strike out B, add A2; fy., add 143 (2,100), 157 (1,910).  
 J. W. VAN DYKE.—Type, add A2; fy., add 400 (750), 468 (640); power, M/amp. 18.28/10.  
 JOHN R. WILLIAMS.—Type, strike out A1, add A2; fy., strike out 410 (730), 454 (660), 468 (640); power M/amp. 9/2.5.  
 KANAK.—Power, M/amp. 7/3.  
 LANSING.—Power, M/amp. 22/8 and 4.  
 LEVIATHAN.—Fy., strike out 13,270 (22.61), 17,520 (17.123), add 13,260 (22.62), 17,640 (17.007); power, M/amp. 10 to 18/75 to 3.  
 LOTOSLAND.—Owner, Lotosland Corporation.  
 M. A. BRADLEY.—Name changed to Graham C. Woodruff.  
 MACOM.—Type, add A1, A3; fy., add 410 (730), 1,684 (178.15); service, strike out PG, add P.  
 MALCHACE.—Fy., strike out 410 (730), 454 (660), 468 (640); power, M/amp. 21/6.  
 MALLEMAK.—Fy., strike out 410 (730), 454 (660), 468 (640); power, M/amp. 23/5.  
 MIMI.—Fy., strike out 2,740 (109.5), add 2,596 (115.96); power, M/amp. 14/1.  
 MUNINDIES.—Owner, Munindies S. S. Corporation.  
 NAKHODA.—Fy., add 410 (730).  
 NOSA KING.—Fy., strike out 410 (730), 454 (660); power, M/amp. 26/8.  
 OLEUM.—Fy., strike out 410 (730); power, M/amp. 15/8.  
 ONTARIO.—(WMCZ).—Fy., strike out 410 (730), 454 (660); power, M/amp. 21.3/5.  
 OREGON (KUJZ).—Owner, Texas Co.  
 PACIFIC OAK.—Power, M/amp. 22/13.  
 PETER WHITE.—Type, strike out B, add A2; fy., add 143 (2,100), 157 (1,910).  
 POINT BREEZE.—Power, M/amp. 15.28/8.  
 PRESIDENT GRANT.—Fy., strike out 400 (750), 468 (640); power, M/amp. 13/7 and 6.  
 PRUSA.—Owner, Tampa Inter-Ocean S. S. Co.  
 ROBERT JOHNSON.—Fy., strike out 410 (730); power, M/amp. 15/8.  
 ROBIN GOODFELLOW.—Owner, Seas Shipping Co.  
 ROBIN GRAY.—Owner, Seas Shipping Co.  
 ROMULUS.—Name changed to Spencer Kellogg; owner, New York and Philippine S. S. Corporation.  
 SAN PEDRO (WDDA).—Fy., strike out 400 (750), 454 (660).  
 SANTA FLAVIA.—Type, strike out B, add A1, A2; fy., add 400 (750), 468 (640); power, M/amp. 34/4.  
 SANTA INEZ (WIDA).—Fy., strike out 410 (730), 454 (660); power, M/amp. 26/14; hours, strike out X, add N.  
 SATARTIA III.—Read Satartia.  
 SEA THRUSH.—Fy., strike out 410 (730), 454 (660); power, M/amp. 24/8.  
 STEEL SEAFARER.—Owner, Isthmian S. S. Co.  
 STEEL TRAVELER.—Owner, Isthmian S. S. Co.  
 STELLARIS.—Owner, Stella Ford Schlotman.  
 THE ANGELES.—Accounts, R. M. C. A.  
 TRANSPORTATION.—Power, M/amp. 30/6.  
 TTUJILLO.—Fy., strike out 468 (640); power, M/amp. 26/2.5.  
 TULSAGAS.—Fy., 143 (2,100), 151 (1,985), 160 (1,875), 375 (800), 425 (705), 500 (600); power, M/amp. 25/10 and 6.  
 TUSCAN.—Power, M/amp. 18.3/8.  
 WALUCIA III.—Power, M/amp. 19/13.  
 WANDERER.—Fy., add 500 (600); power, M/amp. 13.5/6.  
 WAPAMA.—Owner, Claudine C. Gillespie.  
 WARRIOR (KFSX).—Owner, Harrison Williams.  
 WASHINGTON (KDCB).—Owner, Texas Co.  
 W. D. ANDERSON.—Power, M/amp. 22.86/6.  
 WICHITA.—Accounts, R. M. C. A.  
 WILLIAM H. MACHEN.—Power, M/amp. 25/10.  
 WILLIAM J. O'BRIEN.—Fy., strike out 410 (730), 454 (660); power, M/amp. 18/5.  
 Strike out all particulars of the following-named vessels: Asher J. Hudson, Bambriona, City of Dallas, City of Fort Worth, Eocene, Mahoe, Neponset (WKDQ), Peru, Santa Rosalia, Spitfire, T. A. D. Jones, Tuck-a-Hoe, Walucia, Zodiac.

COMMERCIAL LAND AND SHIP STATIONS, ALPHABETICALLY, BY CALL SIGNALS

KDH, read Third Radio Zone No. 41 (portable); KDV, read Third Radio Zone No. 40 (portable); KDX, read Third Radio Zone No. 39 (portable); KDYZ, read

Ramona; KFG, read Texas and Louisiana No. 14 (portable); KFX, read Zachar Bay, Alaska, Radio; KFZ, read George Inlet, Alaska, Radio; KGMV, read Black Douglas; KHA, read Uyak, Alaska, Radio; KHD, read Burnett Inlet, Alaska, Radio; KHT, read Naknek, Alaska, Radio; KIB, read Third Radio Zone No. 38 (portable); KIC, read Third Radio Zone No. 37 (portable); KIDR, read Spencer Kellogg; KIJ, read Third Radio Zone No. 36 (portable); KKD, read Third Radio Zone No. 35 (portable); KKF, read Third Radio Zone No. 34 (portable); KKV, read Third Radio Zone No. 33 (portable); KKK, read Third Radio Zone No. 32 (portable); KKKX, read Third Radio Zone No. 31 (portable); KKY, read Third Radio Zone No. 30 (portable); KLE, read Texas and Louisiana No. 11 (portable); KLT, read Texas and Louisiana No. 10 (portable); KMS, read Texas and Louisiana No. 4 (portable); KMX, read Texas and Louisiana No. 3 (portable); KMY, read Texas and Louisiana No. 2 (portable); KNB, read Louisiana, Mississippi, and Texas No. 5 (portable); KNC, read Louisiana, Mississippi, and Texas No. 15 (portable); KND, read Louisiana, Mississippi, and Texas No. 16 (portable); KNE, read Louisiana, Mississippi, and Texas No. 18 (portable); KNF, read Louisiana, Mississippi, and Texas No. 19 (portable); KPD, read Hawk Inlet, Alaska, Radio; KPS, read Lazy Bay, Alaska, Radio; KRU, Sheppard Point, Alaska, Radio; KSB, read Third Radio Zone No. 29 (portable); KUKP, read Delarof; WAG, read Rockland, Me. (near); WBH, read Louisiana, Mississippi, and Texas No. 17 (portable); WECV, call changed to WCCR; WEDG, read Graham C. Woodruff; WHCY, read Sabine; WIDK, read Beryl E; WJDM, read Satartia; WTBM, read Col. James M. Schoonmaker; strike out all particulars following the call signals, KDE, KDWG, KFK, KFYZ, KGJJ, KGJY, KGKH, KGKI, KGKJ, KGKV, KONM, KOPV, KTA, KTF, WCN, WCO, WCP, WCR, WDCZ, WEU, WFA, WFD, WFE, WGC, WGDL, WHH, WHJ, WKDJ, WKDQ, WKDR, WMDF, WMDH, WMDM, WNCR, WPF, WQCS, WSBJ, WSCO, WSV.

#### 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, 1929, and to the International List of Aircraft Stations, published by the Berne bureau]

ARGENTINE.—Type, A1; fy., 333 (900), 375 (800), 500 (600), 2,662 (112.70), 5,690 (52.72).

CITY OF LOS ANGELES.—Fy., strike out 333 (900), 393 (765).

FLEETSTER No.—Read Fleetster No. 2.

FLEETSTER No. 3.—Type, A1; fy., 333 (900), 375 (800), 500 (600), 2,662 (112.70), 5,690 (52.72).

NC-23V.—Type, A1; fy., 333 (900), 500 (600), 3,106 (96.58).

NC-185H.—Type, A3; fy., 375 (800) 393 (763), 400 (750), 414 (725), 420 (715), 457 (655), 1,624 (185), 2,344 (128), 3,106 (96.58).

NC-229M.—Type, A3; fy., 3,106 (96.58), 3,172 (94.57), 5,660 (53).

NC-725K.—Type, A3; fy., 375 (800), 393 (763), 400 (750), 414 (725), 420 (715), 457 (655), 1,624 (185), 2,344 (128), 3,106 (96.58).

NC-726K.—Type, A3; fy., 375 (800), 393 (763), 400 (750), 414 (725), 420 (715), 457 (655), 1,624 (185), 2,344 (128), 3,106 (96.58).

NC-7770.—Type, strike out A2; fy., strike out 333 (900), 375 (800), 414 (725), 457 (655), 500 (600); owner, Thompson Aeronautical Corporation.

NC-9157.—Type, strike out A3; fy., strike out 333 (900), 375 (800), 414 (725), 500 (600); owner, Thompson Aeronautical Corporation.

NC-9652.—Fy., strike out 333 (900), 393 (763).

NR-500V.—Read City of New York; type, A1, A2.

THE CITY OF NEW YORK.—Fy., strike out 333 (900).

TRINIDAD.—Type, A2; fy., 333 (900), 375 (800), 500 (600), 3,070 (97.71), 3,106 (96.58), 5,690 (52.72); service, P; hours, X.

#### COMMERCIAL AIRCRAFT STATION, BY CALL SIGNAL

KHIMN, read City of New York.

#### 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, 1929, and the International List of Broadcasting Stations published by the Berne bureau]

KFAB (Lincoln, Nebr.).—Owner, KFAB Broadcasting Co.

KFJY (Riverdale, Iowa).—Loc., read Fort Dodge, Iowa (Riverdale).

KFLV (Rockford, Ill.).—Loc. (approximate), 89°, 08' 00" W., 42° 19' 00" N.

- KFNF (Shenandoah, Iowa).—Owner, Henry Field Co.  
 KFPW (Siloam Springs, Ark.).—Owner, The John Brown Schools.  
 KFPY (Spokane, Wash.).—Power, 1,000.  
 KFXD (Jerome, Idaho).—Loc., changed to Nampa, Idaho (approximate), 116° 28' 00'' W., 43° 36' 00'' N.  
 KGER (Long Beach, Calif.).—Power, 1,000.  
 KGFK (Hallowell, Minn.).—Loc., changed to Moorehead, Minn. (approximate), 96° 44' 00'' W., 46° 52' 00'' N.; fy., 1,500 (200).  
 KGFF (Picher, Okla.).—Owner, Hugh J. Powell and Stanley Platz.  
 KHQ (Spokane, Wash.).—Power, 1,000 night, 2,000 day.  
 KOIN (Sylvan, Oreg.).—Loc., read Portland, Oreg. (Sylvan).  
 KTBI (Los Angeles, Calif.).—Power, 1,000.  
 KTSL (Shreveport, La.).—Owner, G. A. Houseman.  
 KYA (San Francisco, Calif.).—Loc., 122° 24' 52'' W., 37° 46' 42'' N.  
 WBCN (Chicago, Ill.).—Loc., changed to Downers Grove, Ill.; studio at Chicago.  
 WCAU (Byberry, Pa.).—Loc., read Philadelphia, Pa. (Byberry).  
 WCKY (Crescent Springs, Ky.).—Loc., read Covington, Ky. (Crescent Springs).  
 WCMA (Culver, Ind.).—Owner, General Broadcasting Corporation.  
 WDOD (Chattanooga, Tenn.).—Loc., changed to Brainerd, Tenn.  
 WEHC (Emory, Va.).—Power, 100 night, 250 day.  
 WEHS (Cicero, Ill.).—Loc., 87° 46' 42'' W., 41° 51' 03'' N.  
 WENR (Chicago, Ill.).—Loc., changed to Downers Grove, Ill.; studio at Chicago.  
 WFBL (Syracuse, N. Y.).—Owner, Onondaga Radio Broadcasting Corporation.  
 WGHP (Detroit, Mich.).—Call changed to WXYZ.  
 WGMS (St. Paul, Minn.).—Loc., 93° 11' 09'' W., 45° 00' 06'' N.  
 WHAT (Philadelphia, Pa.).—Owner, Independence Broadcasting Co.  
 WHK (Village of Seven Hills, Ohio).—Loc., read Cleveland, Ohio (Seven Hills).  
 WIOD (Miami Beach, Fla.).—Owner, Isle of Dreams Broadcasting Corporation.  
 WJAS (Pittsburgh, Pa.).—Loc., changed to North Fayette, Pa., studio at Pittsburgh, Pa.  
 WJBI (Red Bank, N. J.).—Owner, Monmouth Broadcasting Co.  
 WJR (Sylvan Lake Village, Mich.).—Loc., read Detroit, Mich. (Sylvan Lake).  
 WKBH (La Crosse, Wis.).—Owner, WKBH (Inc.).  
 WKEN (Grand Island, N. Y.).—Call changed to WMAK; owner, WMAK Broadcasting System (Inc.).  
 WLB (St. Paul, Minn.).—Loc., 93° 11' 09'' W., 45° 00' 06'' N.  
 WLBF (Kansas City, Kans.).—Owner, WLBF Broadcasting Co.  
 WLVA (Lynchburg, Va.).—Owner, Lynchburg Broadcasting Corporation.  
 WMAK (Martinsville, N. Y.).—Call changed to WBEN; owner, Buffalo Evening News (Ada Butler Mitchell and Edward H. Butler); power, 1,000.  
 WMBF (Miami Beach, Fla.).—Owner, Isle of Dreams Broadcasting Corporation.  
 WOAI (San Antonio, Tex.).—Loc., 98° 18' 33'' W., 29° 34' 45'' N.  
 WOAN (Lawrenceburg, Tenn.).—Consolidated with WREC (Inc.) at Whitehaven, Tenn., both calls (WREC-WOAN) to be used.  
 WODX (Mobile, Ala.).—Loc., changed to Springhill, Ala.  
 WREC (Whitehaven, Tenn.).—Consolidated with WOAN, both calls (WREC-WOAN) to be used.  
 WSFA (Montgomery, Ala.).—Owner, Montgomery Broadcasting Co. (Inc.).  
 WTAQ (Washington, Wis.).—Loc., read Eau Claire (Washington), Wis.  
 WTBO (Cumberland, Md.).—Power, 100.
- Strike out all particulars of the following-named station: KGMD (Roswell, N. Mex.).

## GOVERNMENT LAND STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alteration and correction to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Fixed and Land Stations, published by the Berne bureau]

- ALBANY, N. Y.—Type, A1, A3; fy., 230 (1,305), 320 (940), 3,370 (89), 3,380 (88.8), 5,930 (50.59), 5,940 (50.51); hours, N.  
 ATLANTA, GA.—Class, add FA; type, add A3; fy., strike out 3,340 (89.8), 5,925 (50.63), add 235 (1,275), 266 (1,130), 3,400 (88.2), 5,920 (50.68); hours, N.  
 BELLEFONTE, PA.—Class, add FA; fy., strike out 230 (1,304), 238 (1,260), 303 (990), 315 (950), 333 (900), 3,355 (89.4), add 214 (1,400), 302 (995), 3,380 (88.8).  
 BOISE, IDAHO.—Type, add A3; fy., strike out 2,972 (100.94), 3,394 (88.4), add 196 (1,530), 308 (975), 3,405 (88.11), 5,955 (50.36); hours, N.

- BOLLING FIELD (Anacostia), D. C.—Hours, strike out Y, add N.
- BOSTON, MASS. (WSX).—Type, add A3; fy., strike out 201 (1,493), 321 (935), 3,394 (88.4), 4,071 (73.7), add 254 (1,180), 3,340 (89.8), 5,925 (50.63); hours, N.
- BRYAN, OHIO.—Type, add A3; fy., strike out 230 (1,304), 238 (1,260), 321 (935), 3,365 (89.1), 5,945 (50.46), add 214 (1,400), 320 (940), 3,380 (88.8), 5,930 (50.59).
- CAMP JOHN HAY, P. I.—Fy., add 4,305 (69.69), 8,610 (34.84).
- CAPE SARICHEL LIGHT STATION, ALASKA.—Class, add FX.
- CAPE SPENCER LIGHT STATION, ALASKA.—Fy., add 410 (730).
- CAPE ST. ELIAS LIGHT STATION, ALASKA.—Fy., 375 (800), 410 (730), 500 (600).
- CHEYENNE, WYO.—Class, add FA; type, add A3; fy., strike out 206 (1,456), 230 (1,304), 236 (1,271), 321 (935), 3,362.5 (89.2), 5,937.5 (50.52), add 196 (1,530), 326 (920), 3,390 (88.5), 5,950 (50.42), 8,110 (36.99), 12,165 (24.66).
- CHICAGO, ILL.—Fy., strike out 232 (1,280).
- CIRCLE, ALASKA.—Fy., add 172 (1,745).
- CLEVELAND, OHIO.—Class, add FA; fy., strike out 230 (1,304), 238 (1,260), 333 (900), 3,360 (89.3), 5,935 (50.54), add 214 (1,400), 3,380 (88.8), 5,930 (50.59).
- CORDOVA, ALASKA (WTU).—Fy., strike out 272 (1,105), add 220 (1,365); service, strike out O, add PR.
- DENVER, COLO. (Fitzsimons General Hospital).—Fy., add 315 (950).
- DETROIT RIVER LIGHT STATION, MICH.—Hours, X.
- ELKO, NEV.—Class, add FA; type, add A3; fy., strike out 210 (1,429), 230 (1,304), 315 (950), 3,372.5 (88.9), 5,952.5 (50.39), add 196 (1,530), 314 (955), 3,360 (89.3), 5,920 (50.68); hours, N.
- FAIRBANKS, ALASKA.—Fy., strike out 81 (3,704), add 81 (3,705).
- FIRE ISLAND LIGHTSHIP, N. Y.—Fy., 375 (800), 410 (730), 500 (600).
- FIVE FATHOM BANK LIGHTSHIP, N. J.—Fy.; 375 (800), 410 (730), 500 (600).
- FORT BRAGG, N. C. (Fayetteville).—Fy., add 6,990 (42.92).
- FORT CROCKETT (Galveston), TEX.—Fy., strike out 234 (1,280), 4,090 (73.35), add 185 (1,625).
- FORT D. A. RUSSELL, TEX.—Fy., strike out 234 (1,280), add 192 (1,565).
- FORT DE LESSEPS, CANAL ZONE.—Fy., strike out 826 (365); hours, strike out X, add Y.
- FORT GEORGE WRIGHT, WASH.—Fy., add 220 (1,365); hours, strike out X, add Y.
- FORT HAYES (Columbus), OHIO.—Fy., strike out 210 (1,430), add 209 (1,435).
- FORT HOWARD, MD. (Baltimore).—Fy., strike out 6,990 (42.92).
- FORT HUACHUCA, ARIZ.—Fy., strike out 234 (1,280), add 185 (1,625).
- FORT KAMEHAMEHA, HAWAII.—Fy., strike out 16,320 (18.38).
- FORT LEAVENWORTH, KANS. (Leavenworth).—Fy., strike out 187 (1,605), 17,500 (17.143), add 225 (1,335).
- FORT RILEY, KANS. (WUI).—Fy., add 200 (1,500), 4,430 (67.72), 8,860 (33.86).
- FORT RILEY, KANS. (WYV).—Hours, strike out X, add Y.
- FORT RUGER, HAWAII.—Fy., strike out 16,320 (18.38).
- FORT SAM HOUSTON, TEX. (San Antonio).—Fy., strike out 234 (1,280), add 17,500 (17.143).
- FORT SHAFTER, HAWAII (Honolulu).—Fy., strike out 20,400 (14.706) 26,190 (11.455), 26,220 (11.442), 30,555 (9.818), 30,590 (9.807), 34,920 (8.591), 34,960 (8.581), add 8,160 (36.76), 12,240 (24.51), 20,425 (14.687).
- FORT SILL, OKLA.—Fy., strike out 234 (1,280), add 192 (1,565), 8,180 (36.67).
- FORT WINT, P. I. (Grande Island).—Fy., strike out 272 (1,105), add 445 (675).
- FORT WORTH, TEX.—Class, add FA; type, add A3; fy., add 196 (1,530); hours, N.
- FRESNO, CALIF.—Class, add FA; type, strike out A2; add A1, A3; fy., strike out 218 (1,376), 230 (1,304), 350 (855), 5,920 (50.68), add 201 (1,495), 344 (870), 5,955 (50.36); hours, N.
- GLENDALE, CALIF. (Los Angeles).—Class, add FA; type, strike out A2, add A1, A3; fy., strike out 198 (1,515), 230 (1,304), 327 (915), 5,920 (50.68), add 201 (1,495), 284 (1,055), 5,955 (50.36); hours, N.
- GREENSBORO, N. C.—Class, add FA; type, add A3; fy., add 235 (1,275), 320 (940); hours, N.
- GOVERNORS ISLAND, N. Y.—Fy., strike out 223 (1,345), add 222 (1,345); hours, strike out N, add Y.
- HAINES, ALASKA.—Fy., strike out 227 (1,320), add 284 (1,055).
- IOWA CITY, IOWA.—Class, add FA; type, add A3; fy., strike out 230 (1,304), 327 (915), 3,340 (89.8), 3,342.5 (89.7), 5,922.5 (50.66), add 326 (920), 3,390 (88.5), 5,950 (50.42).
- KANSAS CITY, MO.—Class, add FA; type, add A3; fy., add 196 (1,530); hours, N.



- KETCHIKAN, ALASKA.** Radio.—Fy., strike out 66 (4,545), 4,310 (69.61), 8,620 (34.80), 12,930 (23.20), add 66 (4,550), 12,075 (24.85), 16,100 (18.634), 20,125 (14.92).
- KEY WEST, FLA. (WBP).**—Class, add FA; type, add A3; fy., strike out 344 (870), 3,350 (89.6), 5,960 (50.34), add 235 (1,275), 284 (1,055), 3,400 (88.2), 5,920 (50.68); hours, 7 a. m. to 4 p. m.
- LA CROSSE, WIS.**—Type, A1, A3; fy., add 206 (1,455), 3,370 (89), 3,390 (88.5), 5,940 (50.51), 5,950 (50.42); hours, N.
- LANSING, SHOAL LIGHTSHIP, MICH.**—Fy., 375 (800), 410 (730), 500 (600).
- LUKE FIELD, HAWAII (Pearl Harbor).**—Fy., strike out 16,320 (18.38).
- MAKAPUU POINT LIGHT STATION, HAWAII (Oahu Island).**—Fy., add 375 (800).
- MANILA, P. I. (Fort Santiago-Luzon).**—Fy., strike out 26,250 (11.429), 26,280 (11.416), 30,625 (9.796), 30,660 (9.783), 35,000 (8.571), 35,040 (8.562), 39,375 (7.619); hours, strike out N, add Y.
- MAYWOOD, ILL. (Chicago).**—Class, add FA; type, add A3; fy., strike out 230 (1,304), 238 (1,260), 3,375 (88.8), 5,950 (50.42), add 214 (1,400), 3,380 (88.8), 5,930 (50.59).
- MEDFORD, OREG.**—Class, add FA; type, strike out A2, add A1, A3; fy., strike out 204 (1,470), 230 (1,304), 344 (870), 5,920 (50.68), add 201 (1,495), 266 (1,130), 5,955 (50.36); hours, N.
- MIDLAND, TEX.**—Class, add FX; fy., strike out 6,990 (42.92), add 200 (1,500); hours, Y.
- MURFREESBORO, TENN.**—Type, A1, A3; fy., 235 (1,275), 350 (855), 3,370 (89), 3,400 (88.2), 5,920 (50.68), 5,940 (50.51); hours, N.
- NEW BRUNSWICK, N. J. (Hadley Field).**—Fy., strike out 238 (1,260), 290 (1,035), 333 (900), 3,345 (89.6), 5,920 (50.68), add 3,380 (88.8).
- NOME, ALASKA, Radio.**—Fy., strike out 236 (1,270), add 280 (1,070).
- NORTH PLATTE, NEBR.**—Class, add FA; type, add A3; fy., strike out 230 (1,304), 285 (1,055), 3,357.5 (88.1), 5,932.5 (50.56), add 284 (1,055), 3,390 (88.5), 5,950 (50.42).
- NULATO, ALASKA.**—Fy., strike out 93.7 (3,205), add 93.7 (3,200).
- OAKLAND, CALIF. (KCV).**—Class, add FA; type, add A3; fy., strike out 210 (1,429), 230 (1,304), 321 (935), 3,355 (89.4), 5,930 (50.59), add 201 (1,495), 326 (920), 5,920 (50.68).
- OKLAHOMA CITY, OKLA.**—Fy., strike out 3,370 (89), add 3,340 (89.8); hours, N.
- OMAHA, NEBR.**—Class, add FA; type, add A3; fy., strike out 230 (1,304), 315 (950), 3,352.5 (89.5), 5,927.5 (50.63), add 314 (955), 5,950 (50.42).
- PETERSBURG, ALASKA.**—Fy., strike out 207 (1,450), add 266 (1,125).
- PLEASANT VALLEY, NEV.**—Class, add FA; fy., strike out 230 (1,304), 3,365 (89.1), 5,945 (50.46), add 196 (1,530), 278 (1,080), 3,360 (89.3), 5,920 (50.68).
- POPE FIELD, N. C. (FORT BRAGG).**—Class, strike out FA, add FX.
- PORTLAND, OREG.**—Class, add FA; type, strike out A2, add A1, A3; fy., strike out 210 (1,429), 230 (1,304), 327 (915), 5,920 (50.68), add 201 (1,495), 284 (1,055), 5,955 (50.36); hours, N.
- QUARRY HEIGHTS, CANAL ZONE.**—Fy., strike out 749 (400), 24,510 (12.24), 24,540 (12.22), 32,680 (9.177), 32,700 (9.174), add 750 (400).
- RENO, NEV.**—Class, add FA; type, add A3; fy., strike out 210 (1,429), 230 (1,304), 344 (870), 3,380 (88.8), 5,955 (50.36), add 196 (1,530), 254 (1,180), 3,360 (89.3).
- RICHMOND, VA.**—Class, add FA; type, add A3; fy., add 230 (1,305), 260 (1,155); hours, N.
- ROCK SPRINGS, MO.**—Class, add FA; type, add A3; fy., strike out 210 (1,429), 230 (1,304), 244 (1,230), 3,377.5 (88.8), 5,942.5 (50.48), add 196 (1,530), 3,360 (89.3), 5,920 (50.68).
- ST. GEORGE REEF LIGHT STATION, CALIF.**—Fy., 561 (535).
- ST. LOUIS, MO. (KCQ).**—Type, A1, A3; fy., add 196 (1,530), 3,370 (89), 3,395 (88.36), 5,940 (50.51), 5,960 (50.34); hours, N.
- ST. LOUIS, MO. (WZK).**—Fy., add 2,605 (115.2).
- SALT LAKE CITY, UTAH.**—Class, add FA; type, add A3; fy., strike out 210 (1,429), 230 (1,304), 292 (1,025), 3,367.5 (89.3), 5,942.5 (50.48), add 196 (1,530), 290 (1,035), 3,360 (89.3), 5,920 (50.68), 8,110 (36.99), 12,165 (24.66).
- SAN FRANCISCO, CALIF. (PRESIDIO OF SAN FRANCISCO).**—Fy., strike out 24,180 (12.407), 24,480 (12.255), 32,240 (9.305), 32,640 (9.191), 36,720 (8.169).
- SAN JOSE FIELD, P. I. (Mindoro).**—Class, strike out FX.
- SCHOFIELD BARRACKS, HAWAII.**—Fy., strike out 16,320 (18.38).
- SCOTCH CAP LIGHT STATION, ALASKA.**—Fy., add 750 (400), 870 (345), 1,010 (297), 1,172 (256).

SEATTLE, WASH.—Class, add FA; type, strike out A2, add A1, A3; fy., strike out 230 (1,304), 238 (1,261), 338 (890), 5,920 (50.68), add 201 (1,495), 344 (870), 5,955 (50.36); hours, N.

SEATTLE, WASH. (WVD).—Fy., strike out 4,370 (68.65); service, add PR.

SEWARD, ALASKA, RADIO.—Fy., strike out 232 (1,280), 8,740 (34.32), 13,110 (22.88), add 225 (1,335).

SITKA, ALASKA (WXC).—Fy., strike out 203 (1,475), 210 (1,430), add 250 (1,200).

SKAGWAY, ALASKA.—Fy., strike out 4,380 (68.49), 8,760 (34.25), 13,140 (22.83).

SOUTH PASS LIGHTSHIP, LA.—Fy., add 375 (800), 410 (730).

SPARTANBURG, S. C.—Class, add FA; type, add A3; fy., add 235 (1,275), 254 (1,180); hours, N.

STREVELL, IDAHO.—Class, add FA; type, add A3; fy., strike out 3,347.5 (89.6), 5,957.5 (50.35), add 196 (1,530), 278 (1,080), 3,405 (88.11), 5,955 (50.36).

TELLER, ALASKA.—Service, strike out 0, add PR; hours, Y.

TULSA OKLA.—Type, add A1; fy., strike out 298 (1,005), add 196 (1,530), 296 (1,015), 3,350 (89.6), 3,370 (89), 5,940 (50.51), 5,960 (50.34); hours, N.

WASHINGTON, D. C. (WAR).—Fy., strike out 13,095 (22.91), 24,120 (12.438), 24,150 (12.422), 32,160 (9.328), 32,200 (9.317), 36,225 (8.208), add 86 (3,490), 12,765 (23.5).

WASHINGTON, D. C. (WWX).—Class, add FA; type, A3; fy., strike out 82 (3,660), 88 (3,410), add 230 (1,305), 266 (1,130), 3,340 (89.8), 3,370 (89), 5,925 (50.63), 5,940 (50.51), 8,110 (36.99), 12,165 (24.66).

WHEELER FIELD, HAWAII (Oahu).—Fy., strike out 16,320 (18.38).

WICHITA, KANS.—Class, add FA; type, add A3; fy., strike out 321 (935), add 196 (1,530), 320 (940).

WILLIAMSVILLE, N. Y. (Buffalo).—Type, A1, A3; fy., 214 (1,400), 350 (850), 3,370 (89), 3,380 (89), 5,930 (50.59), 5,940 (50.51); hours, N.

WRANGELL, ALASKA.—Fy., strike out 197 (1,525), 207 (1,450), add 258 (1,165).

ZAMBOANGA, P. I. (Pettit Barracks).—Fy., strike out 4,305 (69.69), 8,610 (34.84), add 187 (1,605), 4,030 (74.45), 8,060 (37.22).

NOTE.—The wave length for 232 kilocycles should read 1,295 meters.

Strike out all particulars of the following-named station: Navassa Island Light Station (Windward Passage), Windward Islands.

#### 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, 1929, and to the International List of Ship Stations, published by the Berns bureau]

ACCACIA.—Correct orthography, Acacia.

A. MACKENZIE.—Read A. McKenzie.

B. M. HARROD.—Hours, Y.

CAMBRAI.—Service, strike out PG, add PR.

CHATEAU THIERRY.—Service, strike out PG, add PR.

DELLWOOD.—Service, strike out PG, add PR.

GOVERNEUR.—Hours, Y.

GRANT.—Service, strike out PG, add PR.

KENOWIS.—Service, strike out PG, add PR.

MEIGS.—Service, strike out PG, add PR.

MERRITT.—Service, strike out PG, add PR.

ST. MIHIEL.—Service, strike out PG, add PR.

SOMME.—Service, strike out PG, add PR.

Strike out all particulars of the following-named vessel: Kappa.

The calls of the following named Coast Guard vessels are to be changed as indicated effective midnight September 30, 1930:

Vessel	New call	Old call	Vessel	New call	Old call
A B 9	NRKD	NISF	C. G. 164	NRJV	NECM
Active	NRLA	NIXS	C. G. 165	NRJW	NEFM
Acushnet	NRFA	NEZQ	C. G. 166	NRJX	NABN
Agassiz	NRLB	NIVL	C. G. 167	NRJY	NAJG
Alert	NRPA	NIVT	C. G. 168	NRJZ	NALL
Algonquin	NRCA	NEXD	C. G. 169	NROA	NANL
Ammen	NRGA	NABV	C. G. 170	NROB	NAQQ
Antietam	NRLC	NITL	C. G. 171	NROC	NASF
Apache	NRFD	NACB	C. G. 172	NROD	NATN
Arcata	NRKA	NADD	C. G. 173	NROF	NAVQ
Beale	NRGC	NAFK	C. G. 174	NROG	NZXQ
Bonham	NRPB	NIXQ	C. G. 175	NROH	NAZV
Boutwell	NRLD	NIXX	C. G. 176	NROJ	NEBL
Burrows	NRGB	NAFP	C. G. 177	NROK	NEBK
Caohkia	NRFC	NITV	C. G. 178	NROL	NECF
Caboone	NRLG	NIVJ	C. G. 179	NROM	NABQ
Calumet	NRKP	NIZL	C. G. 180	NROO	NAJM
Carrabasset	NRFF	NEVQ	C. G. 181	NROP	NALN
Cartigan	NRLF	NIVK	C. G. 182	NROQ	NANM
Cassin	NRDA	NEDR	C. G. 183	NROU	NAQR
C. G. 100	NRHA	NAGN	C. G. 184	NROV	NASK
C. G. 101	NRHB	NAKT	C. G. 185	NROW	NATP
C. G. 102	NRHC	NAMP	C. G. 186	NROX	NAVR
C. G. 103	NRHD	NAPP	C. G. 187	NROY	NAXR
C. G. 104	NRHF	NARM	C. G. 189	NROZ	NEBM
C. G. 105	NRHG	NABF	C. G. 190	NRRA	NEBZ
C. G. 106	NRHH	NAGP	C. G. 191	NRRB	NECG
C. G. 107	NRHJ	NAKZ	C. G. 192	NRRC	NABR
C. G. 108	NRHK	NAMQ	C. G. 193	NRRD	NAJN
C. G. 109	NRHL	NAFQ	C. G. 194	NRRF	NALQ
C. G. 110	NRHM	NARN	C. G. 195	NRRG	NANN
C. G. 111	NRHO	NABG	C. G. 196	NRRH	NAQS
C. G. 112	NRHP	NAGQ	C. G. 197	NRRJ	NASL
C. G. 115	NRHQ	NAPX	C. G. 198	NRRK	NATQ
C. G. 116	NRHR	NARQ	C. G. 199	NRRL	NAXV
C. G. 117	NRHS	NATC	C. G. 200	NRRM	NEBB
C. G. 118	NRHU	NAVJ	C. G. 201	NRRO	NEBN
C. G. 119	NRHV	NAXD	C. G. 202	NRRP	NEFQ
C. G. 120	NRHW	NAZJ	C. G. 203	NRRQ	NACC
C. G. 121	NRHX	NEBG	C. G. 204	NRRS	NAKB
C. G. 122	NRHY	NEBS	C. G. 205	NRRU	NALV
C. G. 123	NRHZ	NABJ	C. G. 206	NRRV	NANP
C. G. 124	NRIA	NAGR	C. G. 207	NRRW	NAQT
C. G. 125	NRIB	NALD	C. G. 208	NRRX	NASN
C. G. 127	NRIC	NAPZ	C. G. 209	NRRY	NATR
C. G. 128	NRID	NART	C. G. 210	NRRZ	NAXX
C. G. 129	NRIF	NATD	C. G. 211	NRVA	NACF
C. G. 130	NRIG	NAVK	C. G. 212	NRVB	NAKC
C. G. 131	NRIH	NAXF	C. G. 213	NRVC	NALX
C. G. 132	NRIJ	NAZN	C. G. 214	NRVD	NAMR
C. G. 133	NRIK	NABK	C. G. 215	NRVF	NAQX
C. G. 134	NRIL	NAGT	C. G. 216	NRVG	NASP
C. G. 135	NRIM	NALF	C. G. 218	NRVJ	NAVT
C. G. 136	NRIO	NANG	C. G. 219	NRVK	NAXZ
C. G. 137	NRIP	NARV	C. G. 220	NRVL	NEBC
C. G. 138	NRIQ	NATF	C. G. 221	NRVM	NEBP
C. G. 139	NRIR	NAVL	C. G. 222	NRVO	NACG
C. G. 140	NRIS	NAXG	C. G. 223	NRVP	NAKF
C. G. 141	NRIU	NAZR	C. G. 224	NRVQ	NAMC
C. G. 142	NRIV	NABL	C. G. 225	NRVS	NANS
C. G. 143	NRIW	NAGZ	C. G. 226	NRVU	NAQZ
C. G. 144	NRIX	NALG	C. G. 227	NRVV	NASR
C. G. 145	NRIZ	NANJ	C. G. 228	NRVW	NATX
C. G. 146	NRJZ	NAQB	C. G. 229	NRVX	NATZ
C. G. 147	NRJA	NARX	C. G. 231	NRVY	NAZB
C. G. 148	NRJB	NATK	C. G. 232	NRVZ	NEBD
C. G. 149	NRJC	NAVN	C. G. 233	NRXA	NEBQ
C. G. 150	NRJD	NAXL	C. G. 234	NRXB	NECB
C. G. 151	NRJE	NABM	C. G. 235	NRXC	NECJ
C. G. 152	NRJF	NAJF	C. G. 236	NRXD	NECN
C. G. 153	NRJH	NALJ	C. G. 237	NRXF	NEFJ
C. G. 154	NRJI	NANK	C. G. 239	NRQA	NAKG
C. G. 155	NRJK	NAQP	C. G. 240	NRXG	NAMF
C. G. 156	NRJL	NASB	C. G. 241	NRXH	NAPB
C. G. 157	NRJM	NATL	C. G. 242	NRXJ	NARB
C. G. 158	NRJO	NAVP	C. G. 243	NRXK	NASS
C. G. 159	NRJP	NAXP	C. G. 244	NRXL	NAVB
C. G. 160	NRJQ	NAZT	C. G. 246	NRXM	NAZD
C. G. 161	NRJR	NEBK	C. G. 247	NRXO	NACK
C. G. 162	NRJS	NEBT	C. G. 248	NRQB	NAKJ
C. G. 163	NRJU	NECC	C. G. 249	NRQC	NAMJ

Vessel	New call	Old call	Vessel	New call	Old call
C. G. 250	NRXP	NARD	Haida	NRUH	NITF
C. G. 251	NRXQ	NAVC	Hamilton(?)		
C. G. 252	NRXS	NAVZ	Alexander	NRCH	NIVS
C. G. 253	NRXU	NAZF	Harriet Lane	NRLU	NIXR
C. G. 254	NRXV	NADC	Henley	NRGH	NASD
C. G. 255	NRXW	NAKM	Hudson	NRKH	NIZK
C. G. 256	NRXX	NAMK	Itasca	NRUI	NOCD
C. G. 257	NRXY	NAPC	Jackson	NRLV	NIXC
C. G. 258	NRXZ	NARJ	Jouett	NRGJ	NEDM
C. G. 259	NRYA	NAST	Kicksapoo	NRFK	NITX
C. G. 260	NRYB	NAVF	Kimball	NRLW	NIXN
C. G. 261	NRYC	NAXB	Legare	NRLX	NITN
C. G. 262	NRYD	NAZG	Mackinac	NRKQ	NUGD
C. G. 263	NRYF	NEBF	Mahoning	NRWJ	NOCG
C. G. 264	NRYG	NEBR	Manhattan	NRLF	NEKZ
C. G. 265	NRYH	NADR	Manning	NRCM	NEZG
C. G. 266	NRYJ	NAKQ	Marion	NRLY	NITB
C. G. 267	NRYK	NAML	Mascoutin	NRFM	NIVP
C. G. 268	NRYL	NAPD	McCall	NBGL	NEJV
C. G. 269	NRYM	NARK	McDougal	NRDM	NEFP
C. G. 270	NRYO	NASZ	McLane	NRPD	NIVF
C. G. 271	NRYP	NAVZ	Mendota	NRUF	NAGK
C. G. 272	NRYQ	NAXC	Modoc	NRUQ	NIVD
C. G. 273	NRYS	NARL	Mojave	NRUM	NIXB
C. G. 274	NBYU	NAPF	Monaghan	NRGM	NEKP
C. G. 275	NRYV	NAMN	Montgomery	NRPG	NITT
C. G. 276	NRYW	NAKR	Morris	NRPF	NIVB
C. G. 277	NRYX	NADS	Nansemond	NRWK	NOGQ
C. G. 278	NRYY	NACM	Naugatuck	NRWL	NITG
C. G. 279	NRYZ	NAGF	Nemaha	NRLZ	NITK
C. G. 280	NRZA	NECL	Northland	NRUL	NISC
C. G. 281	NRZB	NADM	Osprey	NRKG	NIZF
C. G. 282	NRZC	NEGG	Ossiepe	NRCO	NEZD
C. G. 283	NRZD	NEQN	Pamlico	NRFP	NEZK
C. G. 284	NRZE	NISD	Patriot	NRWP	NOVG
C. G. 285	NRZG	NOCK	Patrol	NRKO	NIVX
C. G. 286	NRZH	NACK	Patterson	NRGP	NESG
C. G. 287	NRZJ	NAGJ	Paulding	NRGQ	NESP
C. G. 288	NRZK	NECP	Pequot	NRFQ	NUPJ
C. G. 289	NRZL	NEQR	Perry	NRWQ	NUCV
C. G. 290	NRZM	NADQ	Petrel	NRWS	NUVG
C. G. 291	NRZO	NAPJ	Pontchartrain	NRUP	NABP
C. G. 292	NRZP	NEGL	Porter	NRDP	NESQ
C. G. 293	NRZQ	NADG	Pulaski	NRMA	NIXV
C. G. 294	NRZS	NAQG	Raritan	NRKJ	NIZG
C. G. 295	NRZT	NEQV	Redwing	NRCF	NIKG
C. G. 196	NRZU	NIVG	Reliance	NRMB	NIXF
C. G. 297	NRQD	NOCP	Roe	NRGR	NIKN
C. G. 298	NRZV	NAFG	Rush	NRMC	NITP
C. G. 299	NRZW	NAQK	Saranac	NRUK	NOCJ
C. G. 300	NRZX	NECQ	Saukee	NRFW	NIVQ
C. G. 301	NRZY	NADJ	Sebago	NRUS	NOCF
C. G. 302	NRZZ	NAFN	Seminole	NRCW	NEZL
Champlain	NRUA	NAFJ	Seneca	NRCS	NEXP
Chelan	NRUB	NACD	Shaw	NRDS	NEMB
Comanche	NRFG	NIDC	Shawnee	NRFS	NIZJ
Conyngham	NRDC	NEGP	Smith	NRKS	NIXG
Cook	NRKC	NENN	Snohomish	NRFU	NEXQ
Corwin	NRWA	NEGB	Tahoe	NRUD	NADB
Crawford	NRLJ	NIVN	Tallapoosa	NRCV	NIDB
Cummings	NRDE	NEDT	Tamaroa	NRFV	NIVR
Cuyahoga	NRKJ	NITM	Tampa	NRUG	NITC
Cygan	NRKB	NICP	Terry	NRGU	NIKZ
Dallas	NRWB	NEFG	Tiger	NRMD	NIXP
Davis	NRDD	NEGR	Tingard	NRKK	NISB
Dexter	NRWD	NEQQ	Travis	NRMF	NITJ
Diligence	NRLM	NIXJ	Tripp	NRGV	NIOC
Dix	NRLP	NIVC	Tucker	NRDU	NEMF
Downes	NRDG	NEDX	Tuscarora	NRCQ	NEZF
Eagle	NRWC	NIGZ	Unalga	NRCU	NIDL
Ericsson	NRDH	NEFD	Vigilant	NRMG	NIXK
Ewing	NRPC	NIXM	Virginia I.	NRKL	NIZB
Fanning	NRGF	NALS	Wainwright	NRDW	NEMN
Faunce	NRLQ	NIVV	Wilkes	NRDV	NEKV
Florence	NRKF	NIZC	Wissahickon	NRKM	NIZD
Forward	NRWF	NIDG	Wolcott	NRWU	NUVQ
Frederick Lee	NRLR	NIVZ	Woodbury	NRMJ	NIXZ
Gallatin	NRWG	NIQG	Yamacraw	NRCY	NIDM
General Greene	NRLS	NIXL	Yeaton	NRMP	NIXT
Gresham	NRCG	NEZO			

## AIRWAY 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, 1929, and to the International List of Stations Performing Special Services, published by the Berne Bureau]

- BELLEFONTE, PA.—Fy., 302 (993).  
 BOSTON, MASS.—Fy., 320 (938).  
 CICERO, ILL. (Chicago).—Read Chicago, Ill.  
 DES MOINES, IOWA.—Loc., 90° 32' 07" W., 43° 39' 54" N.; fy., 308 (974).  
 GOSHEN, IND.—Fy., 320 (938).  
 KEY WEST, FLA.—Fy., 284 (1,056).  
 STERLING, ILL.—Fy., 326 (920).

NOTE.—Those published heretofore are *range* beacons, whereas the beacons shown in this bulletin under "New Stations" are *marker* beacons.

## 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, 1929, and to the International List of Stations Performing Special Services, published by the Berne bureau]

- POLLOCK RIP SLUE LIGHTSHIP, MASS.—Read Pollock Rip Lightship, Mass.  
 AMBROSE CHANNEL LIGHTSHIP, N. Y.—Loc., 73° 49' 22" W., 40° 27' 06" N.  
 FIVE FATHOM BANK LIGHTSHIP, N. J.—Hours, transmits second 15 minutes each hour. Radio operator stands watch for the first 15 minutes of each hour from 8 a. m. to 9.15 p. m. in clear weather only.  
 WINTER QUARTER SHOAL LIGHTSHIP, VA.—Fy., 290 (1,034); hours, transmits continuously during thick or foggy weather and daily in clear weather the second 15 minutes of each hour.  
 CAPE LOOKOUT SHOALS LIGHTSHIP, N. C.—Hours, daily in clear weather 5 to 5.30 and 11 to 11.30 a. m. and p. m.  
 SAND ISLAND LIGHT STATION, ALA.—Loc., 83° 03' 02" W., 30° 11' 15" N.  
 SABINE PASS LIGHTHOUSE, LA.—Loc., 93° 51' 01" W., 29° 42' 59" N.  
 SOUTHWEST PASS EAST JETTY, LA.—Read Southwest Pass East Jetty Light-house, La.  
 ASHTABULA LIGHT STATION, OHIO (Ashtabula Harbor).—Loc., 80° 47' 15" W., 41° 55' 05" N.  
 DETOUR POINT LIGHT STATION, MICH.—Read Detour Light Station, Mich.  
 EAGLE HARBOR LIGHT STATION, MICH.—Loc., 88° 09' 32" W., 47° 27' 35" N.; fy., 314 (955).  
 GRAND HAVEN PIERHEAD RANGE FRONT LIGHT STATION, MICH.—Loc., 86° 15' 23" W., 43° 03' 27" N.  
 GRAYS REEF LIGHTSHIP, MICH.—Loc., 85° 10' 34" W., 45° 46' 51" N.  
 MANITOU LIGHT STATION, MICH.—Air diaphone synchronized with radiobeacon for distance finding purposes. When both signals are being operated for fog or thick weather a long dash will be transmitted at some time during each minute of radiobeacon transmission, so timed that the end of this dash marks the beginning of each repetition of the diaphone characteristic, which recurs at minute intervals. The dash is easily identified by reason of the fact that it is very much longer than any dash of the radiobeacon code. Masters of vessels equipped with a radio receiver capable of receiving at approximately 300 kilocycles (wave length 1,000 meters); such as the receiver of a radio compass, may listen to the radiobeacon and, with a watch, note the time interval in seconds which elapses from the end of the long dash until the first sound of the diaphone is heard. Divide this interval by five and the result will be the approximate distance of the ship from the lighthouse in miles. This computation is based on the fact that radio transmission is practically instantaneous, and the speed of sound in air is approximately 1 mile in 5 seconds. The error will usually be not more than 10 per cent of the total distance. Air diaphone will sound a group of 3 blasts, every 60 seconds, thus: Blast 4 sec., silent 26 sec.; blast 2 sec., silent 2 sec.; blast 2 sec., silent 24 sec.  
 HURON ISLAND LIGHT STATION, WIS.—Loc., 87° 59' 55" W., 46° 57' 48" N.; fy., 286 (1,049).  
 KEWAUNEE PIERHEAD LIGHT STATION, MICH.—Loc., 87° 29' 40" W., 44° 27' 30" N.  
 LANSING SHOAL LIGHTSHIP, MICH.—Loc., 85° 33' 50" W., 45° 54' 18" N.  
 POE REEF LIGHT STATION, MICH.—Fy., 294 (1,020).  
 ROCK OF AGES LIGHT STATION, MICH.—Loc., 89° 18' 52" W., 47° 52' 00" N.

- STURGEON BAY CANAL LIGHT STATION, MICH.—Loc., 87° 18' 47" W., 44° 47' 42" N.  
 SENTINEL ISLAND LIGHT STATION, ALASKA (LYNN CANAL).—Loc., 134° 54' 37" W., 58° 32' 46" N.  
 UMATILLA REEF LIGHTSHIP, WASH.—Loc., 124° 50' 25" W., 48° 10' 03" N.; hours, add operated continuously during thick or foggy weather and daily in clear weather from 12.30 to 1 and 6.30 to 7, a. m. and p. m.  
 BLUNTS REEF LIGHTSHIP, CALIF.—Loc., 124° 30' 14" W., 40° 26' 04" N.  
 POINT ARGUELLO LIGHT STATION, CALIF.—Loc., 120° 38' 59" W., 34° 34' 30" N.  
 KILAUEA POINT LIGHT STATION, HAWAII.—Loc., 159° 24' 16" W., 22° 13' 56" N.

## RADIO-COMPASS STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Stations Performing Special Services published by the Berne Bureau]

- CAPE HINCHENBROOK, ALASKA.—Loc., receiver, 146° 39' 07" W., 60° 14' 10" N.; transmitter, 146° 39' 07" W., 60° 14' 10" N.; hours, continuous service, arc, 110-320.  
 EMPIRE, OREG.—Loc., receiver, 124° 18' 31" W., 43° 23' 01" N.; transmitter, 124° 18' 32" W., 43° 22' 58" N.; arc, 210-05.  
 JUPITER, FLA.—Arc, 356-144.  
 LAKEHURST, N. J.—Loc., receiver, 74° 19' 14.33" W., 40° 01' 58" N.; transmitter, 79° 19' 14.38" W., 40° 01' 58" N.  
 MANASQUAN, N. J.—Arc, 24-185.  
 POINT HUENEME, CALIF.—Arc, 106.5-307.5.  
 SOAPSTONE POINT, ALASKA.—Loc., receiver, 136° 29' 50" W., 58° 05' 40" N.; transmitter, 136° 29' 44" W., 58° 05' 39" N.; arc, 245-45; hours, N.

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

The following call signals of Coast Guard vessels are to be changed as indicated effective midnight September 30, 1930:

Old call	New call	Old call	New call	Old call	New call	Old call	New call
NABF	NRHG	NAGP	NRHH	NANG	NRIO	NARV	NRIP
NABG	NRHO	NAGQ	NRHP	NANJ	NRJI	NARX	NRJA
NABJ	NRHZ	NAGR	NRHA	NANK	NRJJ	NASB	NRJL
NABK	NRHK	NAGT	NRIL	NANL	NRKA	NASD	NRGH
NABL	NRIV	NAGZ	NRIW	NANM	NRQO	NASF	NRQG
NABM	NRJF	NAJF	NRJG	NANN	NRRG	NASK	NRQV
NABN	NRJX	NAJG	NRJY	NANP	NRRY	NASL	NRJZ
NABP	NRUP	NAJM	NRRO	NANR	NRVD	NASN	NRRX
NABQ	NRQM	NAJN	NRRD	NANS	NRVS	NASP	NRVQ
NABR	NRRC	NAKB	NRRS	NAPB	NRXH	NASR	NRVV
NABV	NRGA	NAKC	NRVB	NAPC	NRXY	NASS	NRXK
NACB	NRFD	NAKF	NRVP	NAPD	NRYL	NAST	NRYA
NACC	NRGQ	NAKG	NRQA	NAPF	NRYS	NASZ	NRYO
NACD	NRUB	NAKJ	NRQB	NAPJ	NRZO	NATC	NRHS
NACF	NRVA	NAKM	NRXW	NAPP	NRHD	NATD	NRIF
NACG	NRVO	NAKQ	NRJY	NAPQ	NRHL	NATF	NRIG
NACK	NRXO	NAKR	NRJW	NAPX	NRHQ	NATK	NRJB
NACM	NRYY	NAKT	NRHB	NAPZ	NRIC	NATL	NRJM
NACK	NRZH	NAKZ	NRHJ	NAQB	NRIZ	NATN	NRQD
NADB	NRUD	NALD	NRIB	NAQG	NRZS	NATP	NRQW
NADC	NRXV	NALF	NRIM	NAQK	NRZW	NATQ	NRKX
NADD	NRKA	NALG	NRIX	NAQP	NRJK	NATR	NRRY
NADG	NRZQ	NALJ	NRJH	NAQQ	NRQB	NATX	NRWV
NADJ	NRZY	NALL	NRJZ	NAQR	NRQO	NATZ	NRVX
NADM	NRZB	NALN	NRQP	NAQS	NRRH	NAVB	NRXL
NADQ	NRZM	NALQ	NRRF	NAQT	NRRW	NAVC	NRXQ
NADR	NRJH	NALS	NRGF	NAQX	NRVF	NAVF	NRJY
NADS	NRJX	NALV	NRRU	NAQZ	NRVU	NAVG	NRYP
NAFG	NRZV	NALX	NRVC	NARB	NRXJ	NAVJ	NRHU
NAFJ	NRUA	NAMC	NRVQ	NARD	NRXP	NAVK	NRIG
NAFK	NRGC	NAMF	NRXG	NARJ	NRXZ	NAVL	NRIR
NAFN	NRZJ	NAMJ	NRQC	NARK	NRYM	NAVN	NRJC
NAFP	NRGB	NAMK	NRXX	NARL	NRYS	NAVP	NRJO
NAGF	NRJZ	NAML	NRJY	NARM	NRHF	NAVQ	NRQF
NAGJ	NRJZ	NAMN	NRJY	NARN	NRHM	NAVR	NRQX
NAGK	NRUF	NAMP	NRHC	NARQ	NRHR	NAVT	NRVJ
NAGN	NRHA	NAMQ	NRHK	NART	NRID	NAVZ	NRXS

Old call	New call	Old call	New call	Old call	New call	Old call	New call
NAXB	NRYC	NECM	NRJV	NEZL	NRCW	NIVS	NROH
NAXC	NRYQ	NECN	NRXD	NEZQ	NRFA	NIVT	NRPA
NAXD	NRHV	NECP	NRZK	NICP	NRKB	NIVV	NRLQ
NAXF	NRIH	NECQ	NRZX	NIDB	NRCV	NIVX	NRKO
NAXG	NRIS	NEDM	NRGJ	NIDC	NRFG	NIVZ	NRLR
NAXL	NRJD	NEDR	NRDA	NIDG	NRWF	NIXB	NRUM
NAXP	NRJP	NEDT	NRDF	NIDL	NRCU	NIXC	NRVU
NAXQ	NROG	NEDX	NRDG	NIDM	NRCY	NIXF	NRMB
NAXR	NROY	NEFD	NRDH	NIGZ	NRWC	NIXG	NRKS
NAXV	NRRL	NEFG	NRWB	NIKG	NRCF	NIXJ	NRLM
NAXX	NRZR	NEFJ	NRXF	NIKN	NRGR	NIXK	NRMG
NAXZ	NRVK	NEFM	NRJW	NIKZ	NREG	NIXL	NRLS
NAZB	NEVY	NEFP	NRDM	NIQC	NREG	NIXM	NRPO
NAZD	NRXM	NEFQ	NRBP	NIQG	NRWG	NIXN	NRLW
NAZF	NRXU	NEGB	NRWA	NISB	NRKK	NIXP	NRMD
NAZG	NRYP	NEGG	NRZC	NISC	NRUL	NIXQ	NRPB
NAZJ	NRHW	NEGL	NRZP	NISD	NRZF	NIXR	NRLU
NAZN	NRJI	NEGP	NRDC	NISF	NRKD	NIXS	NRLA
NAZR	NRJU	NEGR	NRDD	NITB	NRLY	NIXT	NRMP
NAZT	NRJQ	NEJV	NRGL	NITC	NRUG	NIXV	NRMA
NAZV	NROH	NEKP	NRGM	NITF	NRUH	NIXX	NRLD
NEBB	NRRM	NEKV	NRDV	NITG	NRWL	NIXZ	NRMJ
NEBC	NRVL	NEKZ	NRFL	NITJ	NRMF	NIZB	NRKL
NEBD	NRVZ	NEMB	NRDS	NITK	NRLZ	NIZC	NRKF
NEBG	NRHX	NEMF	NRDU	NITL	NRLC	NIZD	NRKM
NEBK	NRJR	NEMN	NRDW	NITM	NRLK	NIZF	NRKG
NEBL	NROJ	NENN	NRKO	NITN	NRLX	NIZG	NRKJ
NEBM	NROZ	NEQG	NRWD	NITP	NRMC	NIZI	NRFJ
NEBN	NRRO	NEQN	NRZD	NITR	NRPG	NIZK	NRKH
NEBP	NRVM	NEQR	NRZL	NITV	NRFC	NIZL	NRKP
NEBQ	NRXA	NEQV	NRZT	NITX	NRFK	NOCD	NRUI
NEBF	NRXF	NESG	NRGP	NIVB	NRPF	NOCF	NRUS
NEBR	NRYG	NESP	NRGQ	NIVC	NRLP	NOCG	NRWJ
NEBS	NRHY	NESQ	NRDP	NIVD	NRUQ	NOCJ	NRUK
NEBT	NRJS	NEVQ	NRFF	NIVF	NRPD	NOCK	NRZG
NEBX	NROK	NEXD	NRCA	NIVG	NRZU	NOCP	NRQD
NEBZ	NRRA	NEXP	NRCS	NIVJ	NRLG	NOGQ	NRWK
NECB	NRXB	NEXQ	NRFU	NIVK	NRLF	NOVG	NRWP
NECC	NRJU	NEZC	NRCC	NIVL	NRLB	NUCG	NRWQ
NECF	NROL	NEZD	NRCO	NIVN	NRLJ	NUGD	NRKQ
NECG	NRBR	NEZF	NRCQ	NIVP	NRFM	NUPJ	NRPQ
NECJ	NRXC	NEZG	NRCM	NIVQ	NRFW	NUVG	NRWS
NECL	NRZA	NEZK	NRFP	NIVR	NRFV	NUVQ	NRWU

Strike out all particulars following the call signals WSZ, WYCG.

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, 1929]

CALIFORNIA: Palo Alto (W6XV).—Fy., add 99 (3,030), 150 (2,000), 375 (800), 500 (600).

NEW JERSEY: Weehawken (W2XBK).—Fy., strike out 60,100 (4.99), add 25,700 (11.673), 34,600 (8.67), 51,400 (5.83), 60,000 (5) to 400,000 (.75), above 401,000 (.74).

NEW YORK:

Rocky Point (W2XT).—Fy., add 1,604 (187.03), 2,398 (125.1), 3,256 (92.5), 4,795 (62.57), 6,425 (46.7), 8,650 (34.68), 12,850 (23.35).

Woodlawn Heights (W2XAJ).—Loc., changed to Camden, N. J.; call changed to W3XAJ.

Yonkers (W2XAB).—Loc., changed to Camden, N. J.; call changed to W3XAB.

PENNSYLVANIA: East Pittsburgh (W8XI).—Fy., 31,000 (9.68), 41,000 (7.317), 51,000 (5.882), 59,000 (5.085), 60,000 (5) to 300,000 (1).

Portable

NEW JERSEY: Ocean Township (W2XAV).—Fy., strike out 1,604 (187.03), add 1,556 (192.8), to 1,652 (181.6).

Aircraft

NC-3314 (W4XM).—Strike out all particulars.

No. 4876 (W2XBG).—Name changed to NR-487H; fy., 1,603 (186.57), 2,302 (130.32), 3,076 (97.53), 4,108 (73.02), 5,510 (54.44), 6,155 (48.74).

Strike out all particulars of the following-named stations: Alabama.—Fort Morgan (W5XL), Mobile (W5XM); California.—Los Angeles (portable) (W6XAB), Los Angeles (portable) (W6XY), Piedmont (W6XAO), San Rafael (W6XAC); Louisiana.—Burrwood (W5XE); Massachusetts.—East Springfield (W1XAE); New York.—Coney Island (Brooklyn) (W2XBH), New York (portable) (W2XAY), South Schenectady (W2XAC), South Schenectady (W2XAH), South Schenectady (W2XAZ), South Schenectady (W2XH).

#### VISUAL BROADCASTING STATION BY NAME OF STATION

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1929]

NEW YORK: New York (portable) (W2XBV).—Owner, R. C. A. Victor Co. (Inc.).

#### MISCELLANEOUS

##### LIST OF VESSELS EQUIPPED WITH A RADIO COMPASS

The following-named vessels are additions to the lists published in Commercial and Government Radio Stations of the United States, edition June 30, 1929, and the International List of Ships Stations published by the Berne bureau:

Name	Call signal	Owner
<b>COMMERCIAL</b>		
Admiral Peoples.....	WJEI	Portland-California S. S. Co.
Alamar.....	WCCF	Calmar S. S. Corporation.
Cambriona.....	KGOQ	Walter O. Briggs.
Chester.....	WTDI	New York Shipbuilding Corporation.
City of Birmingham.....	WFCK	Ocean S. S. Co.
Cliffwood.....	KORX	American Seantic Line (Inc.).
Frontenac.....	KFLJ	Cleveland Cliffs S. S. Co.
Lotosland.....	WMDV	Lotosland Corporation.
Portmar.....	KOPZ	Calmar S. S. Corporation.
Vermar.....	KORK	Do.
Western Wave.....	WLCM	North American Fruit & S. S. Corporation.
<b>GOVERNMENT</b>		
Anemone.....	WWCD	Department of Commerce, Bureau of Lighthouses.
Forward.....	NRWF	U. S. Coast Guard.
Ilex.....	WWCB	Department of Commerce, Bureau of Lighthouses.
Lotus.....	WWCF	Do.
Patriot.....	NRWP	U. S. Coast Guard.
Roe.....	NIKN	Do.

#### ADDRESS OF SUPERVISOR OF RADIO, SEVENTH DISTRICT CHANGED

The address of the supervisor of radio, seventh radio district, of this department, has been changed to 1012 Exchange Building, Seattle, Wash.

#### COMMERCIAL THIRD-CLASS RADIO-OPERATOR LICENSE ESTABLISHED

The regulations governing the issuance of radio-operator licenses are hereby amended to include a new class of operator's license, to be known as commercial third class.

Applicants for this class of license must pass code test in transmission and reception at a speed of 15 words per minute in continental Morse code, plain language (5 characters to the word) and a practical and theoretical examination, consisting of comprehensive questions on the care and operation of vacuum-tube apparatus and radio-communication laws and regulations.

A percentage of 75 will constitute a passing mark.

Holders of this class of license will be authorized to operate radiotelegraph or radiotelephone installations on aircraft and such other stations which may hereafter be designated by the licensing authority.

Effective June 21, 1930.



PROCEDURE FOR PROCURING RADIO-STATION AND RADIO-OPERATOR LICENSES FOR AIRPLANE SERVICE

The radio act of 1927 provides that no person, firm, company, or corporation shall use or operate any apparatus for the transmission of energy or communications or signals by radio except under and in accordance with a license granted under the provisions of this act.

Such licenses which are termed station licenses are issued by the Federal Radio Commission upon application, provided in its opinion, public convenience, interest, or necessity will be served thereby.

The forms upon which application for such licenses is made may be procured from the supervisor of radio in charge of the district in which the station is located, or the district in which the home port or operating base of the plane is located. These forms must be completed in duplicate and returned to the supervisor or radio, who will, if possible, inspect the station to ascertain if it complies with the application as submitted and may be operated in accordance with the regulations governing the operation of aircraft stations. He will then forward these applications through the Radio Division of the Department of Commerce at Washington to the Federal Radio Commission by whom the license is issued.

The license when issued will be forwarded to the applicant in the reverse order of that indicated above.

Section 20 of the radio act of 1927 provides that the actual operation of all transmitting apparatus in any radio station for which a station license is required by this act shall be carried on only by a person holding an operator's license issued hereunder. No person shall operate any such apparatus in such station except under and in accordance with an operator's license issued to him by the Secretary of Commerce.

Operator licenses are issued after the applicant therefor has demonstrated by examination that he is qualified to hold such a license. These examinations are given by the supervisors indicated above or their representatives.

Radio apparatus aboard airplanes may be operated by persons holding the following classes of licenses:

If the airplane is equipped only for radiotelephone communication, this apparatus may be operated by a person holding a radiotelephone operator's license or a license of a higher grade.

If the aircraft is equipped with radiotelegraph apparatus or radiotelegraph and radiotelephone apparatus, this must be operated by a person holding a commercial third-class license or higher.

The examination for radiotelephone operator's license requires no test in transmission or reception of the telegraph code, but does require that the applicant be able to make himself understood by voice communication and pass a written examination covering questions relative to radiotelephone apparatus, and the radio laws and regulations governing the operation of such apparatus.

The commercial third-class license requires that the applicant pass an examination in transmission and reception of the international telegraph code at a speed of not less than 15 words per minute, counting 5 characters to the word, as well as a written examination covering questions relative to radio apparatus used aboard aircraft and questions on radio communication laws and regulations.

GENERAL ORDERS OF THE FEDERAL RADIO COMMISSION

*Broadcasting stations classified according to values (units) for allocation equality between the five radio zones. (General Order No. 92, June 17, 1930.)*

Whereas, the act of Congress approved March 28, 1928, entitled "An Act continuing for one year the powers and authority of the Federal Radio Commission under the radio act of 1927, and for other purposes," provides and declares that "The people of all the zones established by section 2 of this act (radio act of 1927) are entitled to equality of radio broadcasting service, both of transmission and of reception," and

Whereas, said act approved March 28, 1928, above referred to, also provides and requires that "in order to provide said equality the licensing authority shall as nearly as possible make and maintain an equal allocation of broadcasting licenses of bands of frequency or wave lengths, of periods of time for operation, and of station power," and

Whereas, it was the intent and purpose of Congress to secure an equal distribution of radio broadcasting service, both of transmission and of reception between the five zones aforesaid, and

Whereas, it is necessary, in order to make and maintain such equal allocation between said five zones and fairly and equitably between the States within each of the zones, that the commission determine the value of stations of various classes or of various powers in effecting such allocation, and

Whereas, the commission has sought and obtained the best advice and information available and has given much time to an intensive study to such values of stations of various powers, and

Whereas, the commission, through its engineers and from studies made by the commission has considered all the elements required by Congress to be considered, and has allowed the paramount intent and purpose of the act of March 28, 1928, above referred to, to control; that is "that the people of all the zones are entitled to equality of radio-broadcasting service, both of transmission and of reception," and

Whereas, it has been found that, according to the broadcasting service rendered to the people of each zone and of the States within each zone by stations of various classes, both of transmission and of reception, each class of station is of the following value in units, to-wit:

A. For full-time station:	Classes of stations	Value of units
1. Stations of a power of 5 kw. or more, one station only operating on the channel at night.....		4
2. Stations of a power of 5 kw. or more, two stations operating simultaneously on a common frequency and separated by 2,000 miles or more.....		5

Value of units

A. For full-time station—Continued.	
3. Stations of a power of 5 kw. or more, two or more stations operating on a common frequency and stations separated by less than 2,000 miles.....	2
4. Stations of a power of 1 kw. two or more stations operating simultaneously on a common frequency.....	1
5. Stations with 500-watt power with more than two stations operating simultaneously on a common frequency.....	.6
6. Stations with 250-watt power with more than two stations operating simultaneously on a common frequency.....	.4
7. Stations with 100-watt power or less, with two or more stations per zone operating simultaneously on a common frequency.....	.2
B. Day stations:	
1. Stations of a power of 5 kw. operating during daylight hours only simultaneously with stations of class A(1), above.....	1.5
2. Stations of a power of 2.5 kw. operating during daylight hours only.....	.75
3. Stations of a power of 1 kw. operating during daylight hours only.....	.5
4. 500-watt, 250-watt, or 100-watt stations operating during daylight hours only, one-half values given for corresponding full-time stations above.	
C. Full-time stations having excess day power:	
All stations shall have their values in units based on one-half the units for full-time stations of same power as the stations have at night plus the value in units for a day station of the same power as the station has in daytime as follows:	
1 kw. night, 2½ kw. day equal.....	1.25
500 watts night, 1 kw. day equal.....	.8
250 watts night, 500 watts day equal.....	.5
100 watts night, 250 watts day equal.....	.3
D. Limited-time stations:	
For stations of more than 5 kw. the value of units will be the same for all powers. The units will be based on 5 units. The units for each station will therefore be 2.5 for day operation plus 2.5 times hours used between 6 p. m. and 12 p. m., local time, divided by 12.	
Stations over 5 kw. operating—	
1 night hour.....	2.7
2 night hours.....	2.9
3 night hours.....	3.1
For stations of 5 kw. the basis shall be 1.5 units for day operation the same as a 5 kw. day station given above, plus 2.5 units times hours used between 6 p. m. and 12 p. m. local times, divided by 12.	
Stations of 5 kw. operating—	
1 night hour.....	1.7
2 night hours.....	1.9
3 night hours.....	2.1
For stations operating with power of 1 kw., 500 watts, and 250 watts, the value in units shall be the same as for a day station plus the value in units of day station, times number of night hours used between 6 p. m. and 12 p. m. local time, dividing by 12.	
1,000-watt stations operating—	
1 night hour.....	.54
2 night hours.....	.58
3 night hours.....	.62
500-watt stations operating—	
1 night hour.....	.32
2 night hours.....	.35
3 night hours.....	.38
250-watt stations operating—	
1 night hour.....	.22
2 night hours.....	.23
3 night hours.....	.25

For stations dividing time on the same frequency the value assigned will be in proportion to the time assigned. It is therefore

*Ordered*, That the values of radio broadcasting stations of the various classes, powers, and time of operation, and they are hereby, fixed in units as above set forth, and

*It is further ordered*, That each of the five zones created by section 2 of the radio act of 1927 shall each have broadcasting stations the total value in units of which shall be equal, and shall be fairly and equitably distributed among and allocated to the States within each of said zones in proportion to the population each of said States bears to the population of the zone, and that the quota of broadcasting facilities to which each State is entitled shall be determined and fixed as herein provided and in accordance with values in units for various classes of stations above set out.

### *Frequency allocations to aeronautical services chains established. (General Order No. 94, June 26, 1930)*

*It is ordered*, That (1) upon proper application of any companies or agencies maintaining, or proposing to maintain, aeronautical stations, if the commission is satisfied that the particular applicant is qualified and that the issuance of the license or licenses in question would serve public interest, convenience, or necessity, frequencies will be designated solely for use by all of said stations which comprise a continuous series of stations, or chain, along a particular airway.

(2) Aeronautical stations licensed pursuant to this plan will provide adequate service, without discrimination, for all and any aircraft of whatever nature. In the interest of economy in the use of frequencies, to coordinate the radio facilities and secure the maximum flexibility, it is required that, where the service provided by a chain is regularly used, as distinguished from casual, incidental, or emergency use, the owners of the aircraft which use such chain, or chains, shall cooperate among themselves as to the operation, maintenance, and liability of the stations: *Provided, however*, That nothing herein shall impose upon the commission any authority or responsibility whatever with reference to the private business or transactions of any licensee.

(3) All frequencies assigned for aviation purposes shall be designated in three classes as follows:

(a) Frequencies used by aeronautical or aircraft stations on a chain or chains for communication purposes either between aeronautical stations and aircraft or between aeronautical stations.

(b) Frequencies used for distress, calling and aids to navigation.

(c) Experimental frequencies will include all frequencies assigned for aviation purposes other than those set forth in (a) and (b). All such experimental frequencies may be changed by the commission during the term of the license without advance notice or hearing and all licenses shall take these experimental frequencies subject to this express condition:

(4) The distress, calling, and navigational frequencies shall be assigned as follows:

278 kc. Calling and working frequency from all ground stations to itinerant aircraft. Power not to exceed 15 watts. Required for all ground stations.

333 kc. International air-calling frequency to be used only for international flights. Primarily not for assignment in the United States.

375 kc. Radio compass.

500 kc. International calling and distress frequency for ships and aircraft over the seas.

3,106 kc. National calling and working frequency for all itinerant aircraft. May also be assigned to transport aircraft in addition to chain frequencies.

5,525, 11,050, 16,580 kc. Primarily for coastal stations and ships. May also be assigned to aircraft only for the purpose of calling a coastal station or ship when aircraft is in flight over the sea.

393, 400, 414, 420, 457 kc. For aircraft and stations on chains desiring to use intermediate frequencies except where interference may be caused with other services.

414, 457 kc. Working frequencies for aircraft on sea flights desiring intermediate frequencies. Those desiring high frequencies may use the frequencies designated for maritime calling and working.

(5) The frequencies 12,180 and 12,210 kc. designated by the President as reserved for Government experimental stations but a available for assignment to commercial companies subject to recall by the Government upon six months' notice, are made available on such temporary basis for aeronautical point-to-point communications on chains during daylight hours only: *Provided, however,* That applicants desiring the use of such frequencies can show, by reason of distance to be covered, that such frequencies are necessary.

(6) Frequencies licensed for use by aeronautical stations shall not be used for point-to-point service except:

(a) Where frequencies are allocated to a chain and cooperatively used as described in paragraph 2, a point-to-point service will be licensed upon application on frequencies to be designated, provided that the use of such service shall be open to all of the cooperative participants upon an equal basis and then only to the extent of the actual aviation needs of the users.

(b) That at all times, the licensee of point-to-point service shall be required to transmit, without charge or discrimination, emergency messages for the general public which involve the safety of life or property.

(7) In no event shall the use of any frequency by a licensee extend to commercial correspondence or to paid or toll messages in the sense in which these terms are generally understood and accepted.

(8) The chains shall be established as indicated upon a map to be maintained by the commission and this map shall show (1) the location of all aeronautical stations, (2) all navigational aids, (3) the frequencies allocated by the commission, and (4) as nearly as possible, all proposed chains (following, connecting with, or independent of existing chains).

(9) The initial chains shall be established as indicated upon this map in colored lines, the colors having the following designations:

#### BLUE CHAIN

From Kansas City, Kans., through Wichita, Kans., Amarillo, Tex., Albuquerque, N. Mex., Holbrook, Ariz., Flagstaff, Ariz., Kingman, Ariz., Barstow, Calif., to Los Angeles, Calif.

From Los Angeles, Calif., through San Diego, Calif., El Centro, Calif., to Phoenix, Ariz.

From Los Angeles, Calif., to San Francisco, Calif.

From San Francisco, Calif., through Redding, Calif., Montague, Calif., Medford, Oreg., Portland, Oreg., to Seattle, Wash.

From Dallas, Tex., through Fort Worth, Tex., Midland, Tex., Abilene, Tex., El Paso, Tex., Douglas, Ariz., Tucson, Ariz., Phoenix, Ariz., to Los Angeles, Calif.

From Los Angeles, Calif., through Barstow, Calif., Las Vegas, Nev., to Salt Lake City, Utah.

From Cheyenne, Wyo., through Denver, Colo., Pueblo, Colo., Trinidad, Colo., Santa Fe, N. Mex., Albuquerque, N. Mex., to El Paso, Tex.

From Pueblo, Colo., through Amarillo, Tex., Wichita Falls, Tex., to Dallas, Tex.

From Amarillo, Tex., through Oklahoma City, Okla., to Tulsa, Okla.

#### BROWN CHAIN

From Boston, Mass., through Hartford, Conn., to New York, N. Y.

From New York, N. Y., through Albany, N. Y., to Montreal, Canada.

From Albany, N. Y., through Buffalo, N. Y. (cross Lake Ontario), Cleveland, Ohio, Bryan, Ohio, Chicago, Ill., Kansas City, Kans., to Omaha, Nebr.

From Chicago, Ill., through Indianapolis, Ind., to Cincinnati, Ohio.

From Chicago, Ill., through Springfield, Ill., St. Louis, Mo., to Kansas City, Mo.

From St. Louis, Mo., through Covington, Ky., to Nashville, Tenn.

From Kansas City, Mo., through Tulsa, Okla., Fort Worth, Tex., Dallas, Tex., Big Springs, Tex., to El Paso, Tex.

From Chicago, Ill., through Terre Haute, Ind., Nashville, Tenn., Chattanooga, Tenn., Atlanta, Ga., Birmingham, Ala., Mobile, Ala., New Orleans, La., Beaumont, Tex., Houston, Tex., Waco, Tex., to Fort Worth, Tex.

From Waco, Tex., through San Antonio, Tex., to Brownsville, Tex.

From Washington, D. C., through Pittsburgh, Pa., Cleveland, Ohio, Columbus, Ohio, Dayton, Ohio, Cincinnati, Ohio, to Louisville, Ky.

From Chicago, Ill., through La Crosse, Wis., St. Paul, Minn., Minneapolis, Minn., Fargo, N. Dak., to Canada.

#### GREEN CHAIN

From Trenton, N. J., through Philadelphia, Pa., Washington, D. C., Richmond, Va., Greensboro, N. C., Spartanburg, S. C., Atlanta, Ga., Jacksonville, Fla., to Miami, Fla., and to Tampa, Fla.

From Newark, N. J., through Scranton, Pa., Cleveland, Ohio, Bryan, Ohio, to Chicago, Ill.

From Columbus, Ohio, through Indianapolis, Ind., St. Louis, Mo., Kansas City, Mo., Wichita, Kans., Amarillo, Tex., Clovis, N. Mex., Albuquerque, N. Mex., Winslow, Ariz., Flagstaff, Ariz., Seligman, Ariz., Kingman, Ariz., Barstow, Calif., to Los Angeles, Calif.

From Los Angeles, Calif., to San Diego, Calif.

From Los Angeles, Calif., to San Francisco, Calif.

From Chicago, Ill., through Dixon, Ill., St. Joseph, Mo., to Kansas City, Mo.

From Wichita, Kans., through Oklahoma City, Okla., Tulsa, Okla., Ardmore, Okla., to Fort Worth, Tex.

## RED CHAIN

From Cleveland, Ohio, through Detroit, Mich., Kalamazoo, Mich., Chicago, Ill., Iowa City, Iowa, Cedar Rapids, Iowa, Des Moines, Iowa, Council Bluffs, Iowa, Lincoln, Nebr., North Platte, Nebr., Cheyenne, Wyo., Rock Springs, Wyo., Salt Lake City, Utah, Helena, Mont., to Great Falls, Mont.  
 From Salt Lake City, Utah, through Elko, Nev., Reno, Nev., Sacramento, Calif., to San Francisco, Calif.  
 From Los Angeles, Calif., through Bakersfield, Calif., Fresno, Calif., to San Francisco, Calif.  
 From San Francisco, Calif., through Redding, Calif., Medford, Oreg., Portland, Oreg., Tacoma, Wash., to Seattle, Wash.  
 From Portland, Oreg., through Baker, Oreg., Pasco, Oreg., to Spokane, Wash.  
 From Salt Lake City, Utah, through Boise, Idaho, to Pasco, Oreg.

## YELLOW CHAIN

From New York, N. Y., to Washington, D. C.  
 From New York, N. Y., through Atlantic City, N. J., Norfolk, Va., Wilmington, N. C., Charleston, S. C., Savannah, Ga., Jacksonville, Fla., Miami, Fla., to Key West, Fla.  
 From Miami, Fla., through San Juan, P. R., St. Thomas, Virgin Islands, to Habana, Cuba.  
 From Brownsville, Tex., to Mexico.  
 (10) Frequencies (kilocycles) are designated for use on the chains as follows:  
 Brown chain.—5,600, 3,484.  
 Blue chain.—3,070, 3,088, 3,460, 6,350, 8,015 (day only), 12,180 (day only).  
 Green chain.—2,344, 3,468.  
 Red chain.—5,660, 3,172.  
 Yellow chain.—3,015 (day only), 5,690, 2,662, 3,070.

(11) In all cases herein where the word "day" occurs in connection with a specific frequency, such use of the word "day" shall be construed to mean that period of time included between two hours after local sunrise and two hours before local sunset. If, for any reason, it is impossible to shift from a day to a night frequency at the exact time required, such shift in frequency shall be made at the earliest possible moment and with respect to any aircraft; under no circumstances shall the use of a day frequency be continued at night after such aircraft has once landed at one of the regular airports along its route, following the time when such shift is required to be made.

(12) No aeronautical station will be licensed to use more than 1 kw. power on frequencies of 1,500 kc. and above.

(13) All aeronautical stations will maintain a watch on such frequencies and for such periods of time as the Assistant Secretary for Aeronautics of the Department of Commerce may designate.

(14) For the purpose of the foregoing, two types of aircraft are defined:

(a) Transport aircraft.—Those commercially transporting persons and/or property and operating regularly on fixed routes.

(b) Itinerant aircraft.—All those other than transport or Government aircraft.

(15) An aeronautical station shall be defined as one being capable of giving:

(1) Ground-to-aircraft communication.

(2) Point-to-point communication (provided frequencies have been designated for this service pursuant to paragraph (a) of section 6).

(3) Distress, calling, and navigational service.

(16) Licensees, both of aeronautical and aircraft stations, shall install equipment of such construction and efficiency as will assure the service which the station is intended to give.

(17) All licenses, whether aircraft or aeronautical, shall be posted at all times in a conspicuous place in the station so licensed. The license of every station operator shall be available for inspection at all times while he is on duty.

(18) This order is, and shall be, construed as a regulation of the commission, violation of which will be cause for revocation of license as provided by the act of 1927, as amended.

*It is further ordered,* That all general orders or parts thereof and all rules and regulations in conflict herewith be, and the same are hereby, repealed.

## SHIP STATION LICENSES REQUIRED TO BE RENEWED AFTER ONE YEAR

Licensees and others concerned are advised to make certain that such licenses are not invalid because the period for which they are issued has expired. These licenses are issued for a period not longer than one year, and not two years as was the practice when this department was the issuing authority.

## RATIFICATION OF THE INTERNATIONAL CONVENTION

The instrument of ratification by Liberia, dated January 21, 1929, was deposited with the Department of State on June 5, 1930.

The instrument of ratification by Portugal deposited on July 25, 1929, includes Portuguese West Africa, Portuguese East Africa, and the Portuguese Asiatic possessions.

## INTERNATIONAL LIST OF RADIO STATIONS AVAILABLE FOR DISTRIBUTION

The International Bureau of the Telegraph Union, Radiotelegraph Service, Berne, Switzerland, has available for distribution to the general public the March, 1930, second edition of the List of Fixed and Land Stations and the List of Ship Stations. The price of the first-named list is 9 francs, 50 centimes, Swiss gold (\$1.85), and the last-named list is priced at 15 francs, Swiss gold (\$2.90). The price of each list includes subscription to the monthly supplements thereto, appearing until the next edition is issued, and postage. All remittances should be forwarded direct to the Berne Bureau, preferably by international money order.



Name	Position		Call signal	Wave		Characteristic (see schedule 2) <sup>1</sup>	Transmission period	Schedule of operation	
	Latitude N.	Longitude W.		Meters	Kilocycles			Clear weather <sup>2</sup>	Foggy weather
Main Duck.....	43 55 53	76 38 20	VGD	968	310	Call signal repeated twice followed by 3 dashes.	The transmission period of all beacons shown on this list consists of the repetition of the characteristic for 1 minute and 15 seconds followed by a silent interval of 1 minute and 45 seconds	Hourly, commencing on the hour.	At all beacons when ever the atmosphere in the vicinity of the station is so obscure as to impede navigation the transmission period of 1 minute and 15 seconds with the silent interval of 1 minute and 45 seconds will be repeated every 3 minutes.
Long Point.....	42 33 00	80 03 20	VGF	984	305	Call signal repeated twice followed by 2 dashes.		Hourly, commencing at 4' 30" past the hour.	
Southeast Shoal.....	41 49 40	82 27 40	VGU	1,084	200	Call signal repeated twice followed by 1 dash.		Hourly, commencing on the hour.	
Cove Island.....	45 19 40	81 44 9	VGO	1,000	300	Call signal repeated twice followed by 2 dashes.		do.....	
Michipicoten.....	47 45 15	85 35 45	VGM	1,017	295	Call signal repeated twice followed by 3 dashes.		do.....	

## Transmission characteristic

Name	Transmission characteristic
Main Duck.....	..... Repeated for 1 minute and 15 seconds ..... Silent 1 minute and 45 seconds
Long Point.....	..... Repeated for 1 minute and 15 seconds ..... Silent 1 minute and 45 seconds
Southeast Shoal.....	..... Repeated for 1 minute and 15 seconds ..... Silent 1 minute and 45 seconds
Cove Island.....	..... Repeated for 1 minute and 15 seconds ..... Silent 1 minute and 45 seconds
Michipicoten.....	..... Repeated for 1 minute and 15 seconds ..... Silent 1 minute and 45 seconds

<sup>1</sup> The duration of the dash or dashes combined is equal to the length of the repeated call signal.<sup>2</sup> The clear weather transmission periods are repeated twice, viz: Characteristic for 1 minute and 15 seconds, silent 1 minute and 45 seconds, then characteristic for 1 minute and 15 seconds.

List of Canadian stations on Hudson Bay and Hudson Strait

Station	Call signal	Wave <sup>1</sup>		Position		Hours of service	Weather forecast broadcast <sup>2</sup>	Coast charge <sup>3</sup>
		Meters	Kilo-cycles	Latitude N.	Longitude W.			
Port Churchill <sup>4</sup>	VAP	600	500	58 46 49	94 09 20	Continuous during season of navigation	11 a. m. E. S. T.	6c. per word.
Nottingham Island <sup>4</sup>	VCB	600	500	63 06 48	77 56 18	do.	do.	Do.
Cape Hopes Advance <sup>4</sup>	VAV	600	500	61 05 12	69 33 24	do.	do.	Do.
Resolution Island <sup>4</sup>	VAV	600	500	61 18 30	64 53 24	do.	11:20 a. m. E. S. T.	Do.
Chesterfield Inlet <sup>4</sup>	VBZ	600	500	63 19 09	90 36 00	do.	do.	Do.

<sup>1</sup> All stations maintain watch on 600 meters (500 K/cs). Direction finding bearings are dealt with on 800 meters (375 K/cs) after communication has first been established on 600 meters (500 K/cs).

<sup>2</sup> Forecast covers area of Hudson Bay, Hudson Strait, and that portion of the Northern Atlantic adjacent thereto.

<sup>3</sup> For further rates apply to station.

<sup>4</sup> Combined coast and direction finding station.

<sup>5</sup> Coast station, to be established during August, 1930; position approximate.

Plots, masters or others interested are earnestly requested to send information of dangers, changes in aids to navigation, notice of new shoals or channels, errors in publications, or any other facts affecting the navigation of Canadian waters to the Chief Engineer, Department of Marine, Ottawa, Canada. Such communications can be mailed free of Canadian postage.

Reports on aids to navigation will be handled without charge between the captain of a vessel and the officer in charge of the stations.

PROCEDURE FOR OBTAINING BEARINGS FROM RADIO-COMPASS STATIONS IN THE  
BRITISH ISLES

The procedure to be adopted when requesting a D/F bearing from a commercial D/F station in Great Britain and Ireland, is as follows:

A ship (call signal: GRAM) requires a D/F bearing from a commercial D/F station (call signal: GNI).

The ship calls the station in the usual manner:  $\overline{CT}$  GNI GNI GNI de GRAM GRAM GRAM.

The D/F station answers:  $\overline{CT}$  GRAM GRAM GRAM de GNI K.

The ship makes the abbreviation "What is my true bearing?" thus:  $\overline{CT}$  GNI de GRAM QTE?  $\overline{IMI}$  AR.

The D/F station, when ready to take the bearing, makes:  $\overline{CT}$  GRAM de GNI K.

The ship then transmits her call signal for 60 seconds, thus:  $\overline{CT}$  GNI de GRAM GRAM. . . . . (for 60 seconds). . . . . GRAM AR.

(i) If the D/F station is satisfied with the bearing it has taken, it transmits the bearing thus:  $\overline{CT}$  GRAM de GNI 1 0945=QTE 235  $\overline{AR}$  GNI. [The figure 1 represents the number of the bearing given; 0945 is the time (G. M. T.) the bearing was taken; 235 is the true bearing, in degrees, of the ship from the D/F station.]

The ship repeats back the message thus:  $\overline{CT}$  GNI de GRAM 1 0945=QTE 235  $\overline{AR}$  GRAM.

The D/F station answers:  $\overline{CT}$  GRAM de GNI R  $\overline{VA}$  GNI.

The ship answers:  $\overline{VA}$  GRAM.

(ii) If the D/F station is *not* satisfied with the bearing, GNI asks GRAM to repeat the transmission of her call signal, thus:  $\overline{CT}$  GRAM de GNI  $\overline{IMI}$  AR.

The ship thereupon transmits her call signal again for 60 seconds, in the same manner as before.

The D/F station now being satisfied with the bearing, the procedure continues as indicated in (i).

(iii) If the D/F station does not consider that the bearing obtained is of a high order of accuracy, the station, when signalling the bearing, makes:  $\overline{CT}$  GRAM de GNI 1 0945=QTE 235 approximate  $\overline{AR}$  GNI.

(iv) If the ship is in one of the sectors in which errors are experienced (*e. g.*, parallel to the land), the D/F station will transmit the bearing thus:  $\overline{CT}$  GRAM de GNI 1 0945=QTE 235 unreliable  $\overline{AR}$  GNI.

(v) If the D/F station is unable to obtain a satisfactory bearing (*e. g.*, owing to atmospheric or interference), the station will inform the ship as follows:  $\overline{CT}$  GRAM de GNI 1 0945=QTE conditions unfavourable make another call later  $\overline{AR}$  GNI.

RADIO-COMPASS STATION ESTABLISHED AT ST. GEORGES, BERMUDA

Location, 64° 40' 07" W., 32° 22' 57" N.; call, VRT; fy., 428.6 (700), 454.4 (660), 500 (600); power, 900 m/amp.; type, B; arc (true) 320°—180°.

Ships requiring bearings first call the station on 500 kc. Signals required for determination of bearings must be transmitted on 428.6 kc. Results will be transmitted by the station on 500 kc. or 454.4 kc. Although normal measures have been taken to provide accurate bearings, which can generally be considered reliable to within 2°, the owners of the station (the Halifax and Bermudas Cable Co. (Ltd.)), can not accept any responsibility for errors in bearings, or the consequences resulting therefrom. The station is also available for use as a radio-beacon. Continuous watch is maintained. A charge of 5 shillings (\$1.22) is made for each bearing in either case.