

RADIO SERVICE BULLETIN

ISSUED MONTHLY BY BUREAU OF NAVIGATION, DEPARTMENT OF COMMERCE

Washington, November 1, 1916—No. 23

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DEPARTMENT OF COMMERCE,
BUREAU OF NAVIGATION,
Washington, January 14, 1915.

To collectors of customs, radio inspectors, and others concerned:

This publication is issued monthly by the Bureau of Navigation, Department of Commerce, and distributed to the United States officers engaged in or concerned with the enforcement of the radio laws for their guidance and instruction, and to those concerned with the operation of Government and commercial radio stations for their information.

The Radio Service Bulletin supersedes the quarterly supplements to the List of Radio Stations of the United States and contains information concerning Government, commercial, and special stations only. Information regarding amateur stations appears only in the annual edition of the List of Radio Stations of the United States.

The bulletin contains tables of new stations, alterations, and corrections under headings, so that the List of Radio Stations of the United States and the List of Radiotelegraph Stations, published by the international bureau at Berne, may be brought up to date. Additions, alterations, and corrections should be entered in these two publications promptly on receipt of the bulletin.

Amendments to or changes in the Radio Laws and Regulations of the United States (edition of July 27, 1914) are printed in this bulletin in such a manner that they may be clipped and pasted in their proper places in that publication.

Items of general interest concerning the enforcement of the radio laws are printed in the bulletin from time to time, as occasion warrants.

E. T. CHAMBERLAIN,
Commissioner of Navigation.

Approved:

E. F. SWEET,
Acting Secretary.

NEW STATIONS.

LAND STATIONS, ALPHABETICALLY BY NAMES OF STATIONS.

[Additions to the List of Radio Stations of the United States, edition of July 1, 1916, and to the International List of Radiotelegraph Stations, published by the Berne bureau.]

Station.	Call signal.	System.	Wave lengths.	Service.	Hours.
Fire Island Lightship No. 68. ¹	NLS	U. S. Navy.....		O.....	X.
Fort Yukon, Alaska ²	WXX	U. S. Army.....	1, 100	PR.....	8m-6s.
Holy Cross, Alaska ²	WVK	U. S. Army, 1,000.		PG.....	10m-8s.
Lewiston, Mont. ³	KLP	Marconi, 600.....	300, 600, 1,600	Limited commercial.	X.

¹ Radio station operated and controlled by the United States Naval Communication Service, Radio, Va.

² Radio station operated and controlled by the United States Signal Corps, War Department, Washington, D. C.

³ Range, 150. Radio station operated and controlled by the Montana Power Co.

SHIP STATIONS, ALPHABETICALLY BY NAMES OF VESSELS.

[Additions to the List of Radio Stations of the United States, edition of July 1, 1916, and to the International List of Radiotelegraph Stations, published by the Berne bureau.]

Vessel.	Call signal.	System.	Wave lengths.	Service.	Hours.
Amoleo.....	KMB	Wireless Specialty Apparatus Co.			
Cauto ¹	KWF	Marconi.....	300, 600	PG	N
Idaho ²	WOO	Marconi, 1,000.....	300, 450, 600	PG	N
Joseph R. Parrott ³	KJP	Marconi.....	300, 600		
Luckenbach No. 2.....	KGC				
Luckenbach No. 3.....	KGF				
Luckenbach No. 4.....	KGG				
Oregon ⁴	WOC	Kilbourne & Clark.....			
Panuco ¹	KWM	Marconi, 1,000.....	300, 450, 600	PG	N
Paulsboro ³	KRS	Marconi.....	300, 600	PG	N
P. S. No. 6 ⁵	IYP	Marconi, 1,000.....	300, 450, 600	PG	X
William Rockefeller ⁴	KWO	Cutting & Washington, 1,000.....	200, 300, 600	P	X
Wilmore ⁷	KIK	Marconi.....	300, 600		
		Marconi, 480.....	300, 600	PG	X

¹ Rates, North and South American service, 4 cents per word, 40 cents minimum per radiogram; trans-oceanic service, 8 cents per word, 80 cents minimum per radiogram. Radio station operated and controlled by the Marconi Co. New York & Cuba Mail Steamship Co. (Ward Line), owner of vessel.

² Rates, North and South American service, 4 cents per word, 40 cents minimum per radiogram; trans-oceanic service, 8 cents per word, 80 cents minimum per radiogram. Radio station operated and controlled by the Marconi Co. Wilson Bros. & Co., owner of vessel.

³ Rates, North and South American service, 4 cents per word, 40 cents minimum per radiogram; trans-oceanic service, 8 cents per word, 80 cents minimum per radiogram. Radio station operated and controlled by the Marconi Co. Florida East Coast Railway Co., owner of vessel.

⁴ Range, 300. Rates, North and South American service, 4 cents per word, 40 cents minimum per radiogram; trans-oceanic service, 8 cents per word, 80 cents minimum per radiogram. Radio station operated and controlled by the Marconi Co. Vacuum Oil Co., owner of vessel.

⁵ Range, 100. Radio station operated and controlled by the owner of vessel, Hermann Oelrichs.

⁶ Rates, North and South American Service, 4 cents per word, 40 cents minimum per radiogram; trans-oceanic service, 8 cents per word, 80 cents minimum per radiogram. Radio station operated and controlled by the Marconi Co. Standard Oil Co. of New Jersey, owner of vessel.

⁷ Rates, North and South American service, 4 cents per word, 40 cents minimum per radiogram; trans-oceanic service, 8 cents per word, 80 cents minimum per radiogram. Radio station operated and controlled by the Marconi Co. Wilmore Steamship Co., owner of vessel.

LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS.

[b=ship station; c=land station.]

Call signal.	Name.	Call signal.	Name.
IYP	P. S. No. 6.....	b	KWF Cauto.....
KGC	Luckenbach No. 2.....	b	KWM Panuco.....
KGF	Luckenbach No. 3.....	b	KWO William Rockefeller.....
KGG	Luckenbach No. 4.....	b	NLS Fire Island Lightship.....
KIK	Wilmore.....	b	WOC Oregon.....
KJP	Joseph R. Parrott.....	b	WOO Idaho.....
KLP	Lewiston, Mont.....	c	WVK Holy Cross, Alaska.....
KMB	Amoleo.....	b	WXX Fort Yukon, Alaska.....
KRS	Paulsboro.....	b	

SPECIAL LAND STATIONS, ALPHABETICALLY BY NAMES OF STATIONS.

[Additions to the List of Radio Stations of the United States, edition of July 1, 1916, only.]

Station.	Call signal.	Wave lengths.	Serv-ice.	Hours.	Station controlled by—
Albany, N. Y.	2XK	Variable to 300....	P	X	New York State College for Teachers.
Bozeman, Mont. ...	7XB	300, 600.....	P	X	Montana State College.
Brookville, Pa.	8YW	200, 450.....	P	X	Clarence M. Wickes.
Clayton, Cal.	6XG	Variable.....	P	X	National Radio Co.
Fresno, Cal.	6ZF	200, 425.....	P	X	Oliver M. Howard.
Keddie, Cal.	6XU	Variable.....	P	X	National Radio Co.
Las Plumas, Cal. ...	6XK	do.....	P	X	Do.
Toledo, Ohio.	8ZL	200, 425.....	P	X	Willis K. Wing (Scott High School).
Williamsport, Pa. .	8XX	200, 700.....	P	X	Earl R. Thomas.

SPECIAL LAND STATIONS, GROUPED BY DISTRICTS.

Call signal.	District and station.	Call signal.	District and station.
2XK	Second district: Albany, N. Y.	7XB	Seventh district: Bozeman, Mont.
6XG	Sixth district: Clayton, Cal.	8XX	Eighth district: Williamsport, Pa.
6XK	Las Plumas, Cal.	8YW	Brookville, Pa.
6XU	Keddie, Cal.	8ZL	Toledo, Ohio.
6ZF	Fresno, Cal.		

ABBREVIATIONS.

The necessary corrections to the List of Radio Stations of the United States and to the International List of Radiotelegraph 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.

G. loc = Geographical location: O = west longitude, N = north latitude.

Call = Call letters assigned

System = Radio system used and sparks per second.

Range = Normal range in nautical miles.

W. L. = Wave lengths assigned: Normal wave lengths in italics.

Service = Nature of service maintained:

PG = General public.

PR = Limited public.

P = Private.

O = Government business exclusively.

Hours = Hours of operation:

N = Continuous service.

X = No regular hours.

m = a. m. (12m = midday).

s = p. m. (12s = midnight).

Rates = Ship or coast charges, in cents: c = cents. (The rates in the international list are given in francs and centimes. For approximate purposes, 1 franc equals 20 cents and 5 centimes equal 1 cent.)

Notes = Refer to notes in the Berne list.

NOTICE.

It will be noted that the additions, alterations, and corrections contained in this Bulletin apply to the List of Radio Stations of the United States, edition of July 1, 1916, which is now in the hands of the printer,

although it is not possible at this time to anticipate its delivery. All additions, alterations, and corrections appearing in this and later editions of the Bulletin should be saved and inserted in the new annual list as soon as it is received.

A sufficient number of blank pages will be inserted in the back of the new list in order that these particulars may be clipped and pasted therein, enabling radio operators and others concerned to keep their annual list up to date with very little trouble.

ALTERATIONS AND CORRECTIONS.

LAND STATIONS, ALPHABETICALLY BY NAMES OF STATIONS.

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of July 1, 1916, and to the International List of Radiotelegraph Stations published by the Berne bureau.]

BROOKS, ALASKA.—Service, PR; hours, 9.30m to 10m, 1s to 1.30s, 4s to 4.30s; rate, 20 c. per word, \$2 minimum per radiogram. Notes, Radio station operated and controlled by the Alaska Wireless Telegraph Co. The station communicates only with the station of the United States Signal Corps, Fairbanks, Alaska.

FORT MORGAN, ALA. (WFM).—W. L., 300, 435, 600; service, PG and PR; hours, for PG service, sixth 5 minutes of each hour from 6m to 6s; for PR service, first 25 minutes of each hour from 6m to 6s.

IDITAROD, ALASKA.—System, Telefunken, 1,000; W. L., 500, 1650; service, PR; rates, to Nulato or Holy Cross, Alaska, 25 c. per word, \$2.50 minimum per radiogram, domestic count. Night letters to Nulato or Holy Cross, Alaska, \$2.50 for 50 words, 25 c. for each additional 10 words or fraction thereof, domestic count. Notes, Radio station operated and controlled by the Alaska Wireless Telegraph Co. The station is limited to communication with the United States Signal Corps stations at Nulato and Holy Cross, Alaska.

JUNEAU, ALASKA.—W. L., 300, 600, 3000; service, PG and PR; hours, 8m to midnight; rates, for general public service, North and South American service, 6 c. per word, 60 c. minimum per radiogram, transoceanic service, 12 c. per word, \$1.20 minimum per radiogram, for limited public service, as follows:

Messages.	To Seattle, Wash., or Astoria, Oreg.	To Ketchi- kan, Alaska.	To Jualin, Alaska.
Day messages:			
Per word.....	\$0.10	\$0.04	\$0.06
Minimum per radiogram.....	1.00	.40	.60
Night messages:			
Per word.....	.08		
Minimum per radiogram.....	.80		
Night letters:			
Per 10 words.....	.20	.08	.12
Minimum per radiogram of 50 words.....	1.00	.40	.60

NOTE.—All of the above are domestic count.

LATOUCHE, ALASKA.—W. L., 300, 600, 1650; service, PG and PR; hours, 1s to 5s. Notes, Radio station operated and controlled by the Kennecott Copper Corporation. The station also communicates with land stations at Cordova, Kodiak, and Sitka, Alaska. Rates, day messages, 6 c. per word, 60 c. minimum per radiogram, cable count; night messages, 75 per cent of day rate, domestic count; night letters, 60 c. for 50 words, 12 c. for each additional 10 words or fraction thereof, domestic count.

MILWAUKEE, WIS.—Hours, 8m-12m, 1s-5m, 6s-5m.

MOBILE, ALA.—W. L., 300, 535, 600; hours, PG service, last 35 minutes of each hour from 6m to 6s and continuous from 6s to 8.30s, PR service, first 25 minutes of each hour from 6m to 6s.

NEW ORLEANS, LA. (WNU).—W. L., 300, 600, 2200; rates, PG with ships, 12 c. per word, \$1.20 minimum per radiogram, PR rates, as follows, per word, cable count, no minimum:

	Cents.
All points in British Honduras.....	17½
Bluefields, Nicaragua.....	22½
Bocas del Toro, Panama.....	27½
Burwood, La.....	5
All points in Costa Rica.....	25
Swan Island.....	12½

PORT WALTER, ALASKA.—W. L., 300, 525, 600, 1625; service, PG and PR; rates, PG service, 6 c. per word, 60 c. minimum per radiogram, PR service with Juneau, Ketchikan, Wrangell, and Sitka, Alaska, day messages, 6 c. per word, 60 c. minimum per radiogram, cable count; night messages, 75 per cent of day rate, domestic count; night letters, 60 c. for 50 words, 12 c. for each additional 10 words or fraction thereof, domestic count.

SHIP STATIONS, ALPHABETICALLY BY NAMES OF VESSELS.

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of July 1, 1916, and to the International List of Radiotelegraph Stations published by the Berne bureau.]

ARBOREAN.—Strike out all particulars.

ASTRAL.—Range, 150; system, Marconi, 1000; hours, X.

ATLANTIC.—Strike out all particulars.

BAY STATE.—Strike out all particulars.

CACIQUE.—System, Federal Poulsen arc; W. L., 300, 600, 1800; service, PG; hours, X; rates, North and South American service, 4 c. per word, 40 c. minimum per radiogram, transoceanic service, 8 c. per word, 80 c. minimum per radiogram. Radio station operated and controlled by the Federal Telegraph Co. W. R. Grace & Co., owner of vessel.

CLINCHER.—Strike out all particulars.

CONGRESS.—Strike out all particulars.

COSTA RICA.—System, Halcun, 400; hours, X.

DAYTON.—W. L., 300, 450, 600.

EURANA.—Notes, Radio station operated and controlled by the Marconi Co. Southland Steamship Co., owner of vessel.

F-4.—Strike out all particulars.

GEORGE E. PADDLEFORD.—Notes, Radio station operated and controlled by the Marconi Co. Pan American Petroleum & Transport Co., owner of vessel.

GEO. W. ELDER.—Range, 150.

GEORGIAN.—Strike out all particulars.

HARSTELE.—Range, 100; system, composite, 240; service, PG; hours, X; rates, North and South American service, 4 c. per word, 40 c. minimum per radiogram, transoceanic service, 8 c. per word, 80 c. minimum per radiogram. Note, Radio station operated and controlled by the Steele Towing & Wrecking Co., owner of vessel.

HEALDTON.—Range, 300; system, Marconi, 1,000; W. L., 300, 450, 600; service, PG; hours, X; rates, North and South American service, 4 c. per word, 40 c. minimum per radiogram, transoceanic service, 8 c. per word, 80 c. minimum per radiogram. Notes, Radio station operated and controlled by the Marconi Co. Standard Oil Co. of New Jersey, owner of vessel.

HENRY R. MALLORY.—Range, 250; system, Marconi, 1,000; W. L., 300, 450, 600; hours, N; rates, North and South American service, 4 c. per word, 40 c. minimum per radiogram, transoceanic service, 8 c. per word, 80 c. minimum per radiogram. Notes, Radio station operated and controlled by the Marconi Co. Mallory Steamship Co., owner of vessel.

HIRAM B. EVEREST.—Strike out all particulars.

HONOLULAN.—Strike out all particulars.

I. D. FLETCHER.—Hours, X; rates, North and South American service, 4 c. per word, 40 c. minimum per radiogram, transoceanic service, 8 c. per word, 80 c. minimum per radiogram.

J. M. DANZIGER.—Notes, Radio station operated and controlled by the Marconi Co. Pan American Petroleum & Transport Co., owner of vessel.

JUNEAU.—W. L., 300, 550, 600.

- JUNIATA.**—Notes, radio station operated and controlled by the Marconi Co. Great Lakes Transit Corporation, owner of vessel.
- MARYLAND.**—Rates, North and South American service, 4 c. per word, 40 c. minimum per radiogram, transoceanic service, 8 c. per word, 80 c. minimum per radiogram.
- MAVERICK.**—Strike out all particulars.
- MEMPHIS.**—Strike out all particulars.
- MINNESOTA (WMI).**—Range, 150; rates, North and South American service, 4 c. per word, 40 c. minimum per radiogram, transoceanic service, 8 c. per word, 80 c. minimum per radiogram.
- OCTORARA.**—Notes, Radio station operated and controlled by the Marconi Co. Great Lakes Transit Corporation, owner of vessel.
- PRINCETON (KST).**—W. L., 300, 450, 600; hours, X.
- REPUBLIC.**—Notes, Radio station operated and controlled by the Marconi Co. Braden Copper Co., owner of vessel.
- SANTA RITA (WMC).**—Call, WBR.
- SOMERSET (KSU).**—W. L., 300, 450, 600; hours, X.
- SUNOIL.**—Range, 200; system, Marconi, 1,000; W. L., 300, 450, 600; hours, X.
- VIGILANT.**—Range, 100; system, Marconi, 240; hours, X. Radio station operated and controlled by the Marconi Co. Bay Steamship Co. of America (Ltd.), owner of vessel.

SPECIAL LAND STATIONS, ALPHABETICALLY BY NAMES OF STATIONS.

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of July 1, 1916, only.]

- OIL CITY, PA.**—Strike out all particulars.
- RICHMOND, VA.**—Strike out all particulars.
- SAN DIEGO, CAL.**—Strike out all particulars.
- TIFFIN, OHIO.**—Strike out all particulars.

MISCELLANEOUS.

COMMERCIAL RADIO OPERATORS LICENSED DURING MONTH OF SEPTEMBER, 1916.

Extra first grade.

Date.	Licensee.	Address.	Serial No.	Where issued.
15	Fish, Arthur S.....	4 Burton Ave., Roxbury, Mass.....	51	New Orleans. ¹
28	Swanson, John W.....	746 Columbus Ave., New York, N. Y.....	53	Washington. ¹
19	Worrall, Joseph A.....	163 Logan St., Brooklyn, N. Y.....	52	Washington. ¹

First grade.

2	Adickes, Ernest D.....	173 W. Ridgewood Ave., Ridgewood, N. J.....	14692	Brooklyn. ²
11	Bootes, Eugene H.....	Belleville, N. J.....	14077	New York. ¹
4	Bremer, Edmund H.....	301 W. Forest Ave., Detroit, Mich.....	13719	Chicago. ¹
29	Burns, Walter I.....	2320 Leavenworth St., San Francisco, Cal.....	12390	San Francisco. ¹
14	Case, Harlow M.....	Benzonia, Mich.....	13722	Frankfort, Mich. ¹
6	Christenson, Oscar.....	306 6th Ave., S. Seattle, Wash.....	14126	Seattle. ¹
25	Coblentz, Phillip O.....	Middletown, Md.....	12182	Baltimore. ¹
29	Conway, Horace B.....	52 S. Beach St., Rockaway Pk., N. Y.....	14903	Brooklyn. ²
12	Cosby, Mark B.....	356 S. Hobart Ave., Los Angeles, Cal.....	12383	San Francisco. ¹
21	Eckstein, William J.....	35 W. 177th St., New York, N. Y.....	14698	Brooklyn. ²
19	Evans, Clarence.....	94 Union Ave., Nutley, N. J.....	14901	Brooklyn. ²
25	Farmer, E. S.....	208 W. 69th St., New York, N. Y.....	14700	Brooklyn. ²
19	Ferguson, Earl.....	1723 Melrose Ave., Seattle, Wash.....	14131	Seattle. ¹
22	Ferris, Willard.....	401 Lincoln Ave., Valparaiso, Ind.....	13725	Chicago. ¹
19	Gibson, Walter L.....	2324 Dennison St., Oakland, Cal.....	12386	San Francisco. ¹

¹ License issued by radio inspector, Department of Commerce.

² License issued by radio examining officer, Navy Department.

COMMERCIAL RADIO OPERATORS LICENSED DURING MONTH OF SEPTEMBER, 1916—continued.

First grade—Continued.

Date.	Licensee.	Address.	Serial No.	Where issued.
8	Griffin, William C.	Foot of W. 60th St., Seattle, Wash.	14122	Seattle. ¹
25	Hayes, Frank X. J.	162 E. 82d St., New York, N. Y.	14699	Brooklyn. ²
27	Hidalgo, Stephen	153 E. 86th St., New York, N. Y.	14082	New York. ¹
6	Himelne, William M.	Port Moller, Alaska	14123	Seattle. ¹
14	Hoernei, Paul C.	Babylon, L. I., N. Y.	14695	Brooklyn. ²
13	Isaacson, Charles B.	48 W. 89th St., New York, N. Y.	14691	Brooklyn. ²
16	Johannessen, George J.	1712 46th St. S.W., Seattle, Wash.	14130	Seattle. ¹
1	Johnson, Aubrey N.	2908 West Ave., Newport News, Va.	13559	Fort Monroe, Va. ³
18	Keeler, Fayette W.	634 W. Fourth St., Superior, Wis.	13723	Duluth. ¹
27	Koechel, Walter P.	Teaneck, N. J.	14081	New York. ¹
5	Kottler, Carl F.	1035 Second St., Milwaukee, Wis.	13720	Chicago. ¹
1	Krone, Julian E.	2908 West Ave., Newport News, Va.	13590	Fort Monroe, Va. ³
1	Lacock, Thomas J.	3 Danes Drive, Glasgow, Scotland	12381	San Francisco. ¹
8	Landsburg, Robert A.	2909 Washington St., Seattle, Wash.	14127	Seattle. ¹
22	Lewis, Dear A.	30 Williams St., Northampton, Mass.	14265	Boston. ¹
5	MacMullen, Gerald F.	2425 Le Conte Ave., Berkeley, Cal.	13271	San Francisco. ¹
28	Maynes, Walter W.	1903 Bonita Ave., Berkeley, Cal.	12389	San Francisco. ¹
22	Neel, William G.	155 Locust St., Valparaiso, Ind.	13724	Chicago. ¹
12	Neuenburg, Henry C.	233 10th Ave., San Francisco, Cal.	12384	San Francisco. ¹
16	Nevin, William B.	813 Victoria St., Victoria, B. C.	14129	Seattle. ¹
2	O'Brien, Arthur	U. S. S. Preston	13404	San Juan, P. R. ²
13	Oschmann, George J.	1093 Union Ave., New York, N. Y.	14078	New York. ¹
26	Powell, Aaron L.	4921 Magazine St., New Orleans, La.	12299	New Orleans. ¹
19	Pronier, Anthony B.	179 Tremont St., Newton, Mass.	12635	Boston. ¹
12	Rackov, Maurice	35 Buena Vista Ter., San Francisco, Cal.	12382	San Francisco. ¹
5	Reichert, Karl	P. O. Box 295, Marblehead, Mass.	14264	Boston. ¹
27	Ryan, Francis L.	1034 Bedford Ave., Brooklyn, N. Y.	14902	Brooklyn. ²
16	Sanchez, Manuel	416 W. 23d St., New York, N. Y.	14697	Brooklyn. ²
15	Sandbach, Charles	2743 Kingsbridge Ter., New York, N. Y.	14079	New York. ¹
11	Smith, Owen	47 Catherine St., Valley Stream, N. Y.	14694	Brooklyn. ²
14	Stelzer, James G.	Frankfort, Mich.	13721	Frankfort. ¹
12	Sterrick, Harry L.	1168 Clay St., San Francisco, Cal.	12385	San Francisco. ¹
5	Whitcomb, Raymond E.	U. S. S. Acushnet, Woods Hole, Mass.	14263	Boston. ¹
23	Wunderlich, George	1736 Boren Ave., Seattle, Wash.	14132	Seattle. ¹

Second grade.

9	Bowman, Christopher M.	150 E. Chestnut St., Lancaster, Pa.	12477	Philadelphia. ²
18	Brasher, Lloyd	1666 N. White St., New Orleans, La.	12207	New Orleans. ¹
9	Egner, John	3126 N. 7th St., Philadelphia, Pa.	12475	Philadelphia. ²
9	Faries, Walter	Bala, Pa.	12476	Philadelphia. ²
6	Graf, Adolph A.	1061 Mulberry St., Rockford, Ill.	12338	Chicago. ¹
19	King, George J.	835 Exposition Blvd., New Orleans, La.	12208	New Orleans. ¹
22	Lynn, Harold W.	107 Alden St., Whitman, Mass.	12069	Boston. ¹
1	Mason, Howard F.	2702 31st Ave., S., Seattle, Wash.	12274	Seattle. ¹
1	Nickerson, Edgar W.	16 Atlantic Ave., Beverly, Mass.	12067	Boston. ¹
14	Pope, George W.	761 Manhattan Ave., Brooklyn, N. Y.	13822	Brooklyn. ²
22	Smith, Carlos M.	Lamoni, Iowa	12340	Chicago. ¹
22	Windes, Guilford R.	873 Spruce St., Winnetka, Ill.	12339	Chicago. ¹
12	Woodhead, Edward F.	56 Summer St., Lewiston, Me.	12068	Boston. ¹

¹ License issued by radio inspector, Department of Commerce.
² License issued by radio examining officer, Navy Department.
³ License issued by radio examining officer, War Department.

RADIO STATIONS OF THE UNITED STATES.

[Edition of July 1, 1916.]

Government, commercial, and special land stations.

Controlled by—	General public.		Limited public.		Limited commercial.		Special.		Government official.		Total.	
	1915	1916	1915	1916	1915	1916	1915	1916	1915	1916	1915	1916
United States Navy.....	21	24	1	1	.....	.....	.....	.....	33	32	55	57
United States Army.....	9	9	.....	.....	.....	.....	.....	.....	39	45	48	54
Philippine insular government.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	6
Marconi Co.....	6	6	4	6	10	9	1	1	.....	.....	60	60
National Electric Signaling Co.....	45	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tropical Radio Telegraph Co.....	2	2	1	1	1	1	.....	.....	.....	.....	4	4
Federal Telegraph Co.....	2	2	.....	1	.....	1	.....	1	.....	.....	2	5
Mutual Telephone Co.....	3	5	4	5	1	2	.....	.....	.....	.....	8	12
Unclassified.....	3	1	.....	2	2	3	.....	.....	.....	.....	5	6
Total.....	7	10	3	2	32	39	127	193	2	4	171	248
Total.....	98	103	13	18	46	55	128	195	74	81	359	452

Ship stations.

Controlled by—	Number.		Controlled by—	Number.	
	1915	1916		1915	1916
United States Navy.....	228	233	Alaska Steamship Co.....	12	12
United States Coast Guard.....	24	25	Standard Oil Co.....	11	10
United States Army.....	51	50	Panama Railroad Co.....	.....	5
United States Department of Commerce.....	7	8	Pacific-Alaska Navigation Co.....	5	5
Marconi Co.....	367	414	Federal Telegraph Co.....	5	17
National Electric Signaling Co.....	20	20	Atlantic Communication Co.....	3	5
Tropical Radio Telegraph Co.....	21	21	Unclassified.....	120	76
American-Hawaiian Steamship Co.....	21	19	Total.....	895	920

Amateur stations.

District and headquarters.	Number.		District and headquarters.	Number.	
	1915	1916		1915	1916
1. Boston, Mass.....	542	832	7. Seattle, Wash.....	203	215
2. New York, N. Y.....	636	840	8. Detroit, Mich.....	785	945
3. Baltimore, Md.....	682	821	9. Chicago, Ill.....	515	760
4. Savannah, Ga.....	54	103	Total.....	3,836	5,255
5. New Orleans, La.....	56	116			
6. San Francisco, Cal.....	363	614			

RADIO STATIONS OF THE UNITED STATES—continued.

Summary.

Kind of station.	1915	1916	Kind of station.	1915	1916
Government land stations.....	109	117	Other land and ship stations, except general and restricted amateur land stations.....	834	939
Other land stations, except gen- eral and restricted amateur.....	249	335			
Total.....	358	452	Total.....	1,253	1,372
Government ship stations.....	310	316	General and restricted amateur stations.....	3,836	5,255
Other ship stations.....	585	604			
Total.....	895	920	Grand total.....	5,089	6,627
Government land and ship sta- tions.....	419	433			

RECENTLY ORGANIZED RADIO CLUB.

Extracts from the Yearbook of the San Francisco Radio Club.

OBJECT AND PURPOSE.

During the early part of January, 1916, a number of prominent commercial and experiment radio operators of San Francisco met in order to discuss the possibility of organizing a radio club in that city. The number of enthusiastic operators barely reached the dozen mark, but regardless of the small number present, a prosperous future for a radio organization was foreseen, and the necessary steps toward founding an organization were taken. Radio operators throughout the city were notified of the undertaking and were urged to give all possible support to insure a huge success.

A meeting was held and the number of responders was surprisingly large. A constitution was framed, submitted for approval at a later date, and finally signed by 15 charter members. The situation was then well in hand, and the membership of the club increased rapidly as the weeks passed by, until at the present time 36 radio men are in possession of the membership card.

MEMBERSHIP AND QUALIFICATIONS.

The membership comprises:

(a) Members who either hold a first-grade commercial license or better or who have passed the club examination of that grade.

(b) Associates who are interested in radio communication.

Associate members desiring to become full members are examined when their capability permits, and if they are successful in passing the club examination they are transferred from the grade of associate to member. A certificate of skill will be issued to all associates who successfully pass the examination.

MEETINGS.

Meetings of the San Francisco Radio Club are held every Friday evening at the club room, 737 Shradler Street, at 8 o'clock.

The four meetings per month comprise an experiment meeting, a social meeting, and two business meetings. At the experiment meeting various electrical and radio apparatus are demonstrated. Experiments impossible for a single experimenter to perform have been made possible by the cooperation of the members.

ADVANTAGES OF MEMBERSHIP.

The San Francisco Radio Club offers many distinct advantages to its members. Radio men in all grades of experience come together, exchange ideas, relate experiences, benefit by interesting and educational lectures, and learn the methods of good speech delivery. Commercial operators come into contact with amateur operators and experimenters; interference between stations is reduced to a minimum, and the maximum of efficiency is secured from the experimenters' apparatus with the aid

of accurately calibrated measuring instruments which the club possesses. Privately owned stations are tuned to resonance to comply with the regulations of the Department of Commerce without charge to the owner.

NEW WIRELESS STATION ON AFRICAN COAST.

Military engineers are erecting a wireless station on Cape Juby, on the African coast, and expect to have it in operation before October 1. In cases of need at sea the service will be available for ships in distress. As the big installation on Teneriffe Island is less than 100 miles from the Cape Juby plant, communication with the Canary Islands will be possible and, through them, with the Spanish mainland.

A regular steamship service to Cape Juby, with sailings from Santa Cruz de Teneriffe on the 28th of each month, has been announced in the newspapers.

ALASKAN RADIO STATIONS CLOSED.

The bureau has been informed that the following land stations in Alaska have been closed for the season, and will not be reopened until March, 1917: Akutan (KNW), Chignik (KHC), Egegak (KMF), Hales Creek (KMT), Koggiung (KVV), Koggiung (KHB), Naknek (KHT), Naknek (KMK), Nushagak (KMG), and Snag Point (KHF).

TWO NEW WIRELESS STATIONS FOR COLOMBIA.

It is reported that the two Marconi outfits purchased by the Colombian Government some time ago will be delivered soon. It is intended to establish these two stations at Arauca and Orocué. The former is situated on the Arauca River where it forms the boundary between Colombia and Venezuela, and the latter is on the Meta River some 200 miles east of Bogota.

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