

DEPARTMENT OF COMMERCE

RADIO SERVICE BULLETIN

ISSUED MONTHLY BY RADIO DIVISION

Washington, June 30, 1927—No. 123

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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.
Loc.	= Geographical location. O = west longitude. N = north latitude. S = south 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:
	FX = Point-to-point (fixed service);
	PG = General public.
	PR = Limited public.
	RC = Radiocompass.
	AB = Aviation beacon.
	B = Beacon.
	P = Private.
	O = Government business exclusively.
Hours	= Hours of operation:
	N = Continuous service.
	X = No regular hours.
F. T. Co.	= Federal Telegraph Co.
I. R. T. Co.	= Intercity Radio Telegraph Co.
I. W. T. Co.	= Independent Wireless Telegraph Co.
K. & C.	= Kilbourne & Clark Manufacturing Co.
R. C. A.	= Radio Corporation of America.
T. R. T. Co.	= Tropical Radio Telegraph Co.
U. R. Corp.	= Universal Radio Corp.
W. S. A. Co.	= Wireless Specialty Apparatus Co.
C. w.	= Continuous wave.
I. c. w.	= Interrupted continuous wave.
Kc.	= Kilocycles.
Fy.	= Frequency.
A. c.	= Alternating current.
V. t.	= Vacuum tube.
U. S. L.	= Applies only to the list of Commercial and Government Radio Stations of the United States

RADIO SERVICE BULLETIN

NEW STATIONS

Commercial land stations, alphabetically, by names of stations

[Additions to the List of Radio Stations of the United States, edition of June 30, 1926, and to the International List of Radiotelegraph Stations published by the Berns bureau]

Station	Call signal	Wave lengths	Service	Hours	Station controlled by—
Anniston (permanently moored vessel near Mobile, Ala.) ¹	KIDM	693, 703.....	FX	X	United States Shipping Board.
Darlington, Md. (near) ²	WBY	101.3.....	FX	X	Susquehanna Power Co.
Duluth, Minn. ³	WRI	715, 875, 890, 1575, 1674, 1800, 2100, 2400.....	PG	N	R. C. A.
Elgin, Ill. ⁴	WNBZ	33.5.....			Elgin National Watch Co.
L. McN. & L. VI No. 1 (permanently moored vessel in Kvichak River, Alaska). ⁵	KTQ	693, 703.....	P	X	Lobby, McNeill & Libby.
Philadelphia, Pa. ⁶	WIV	66.41.....	FX	X	Philadelphia Electric Co.
Rocky Point, N. Y. ⁷	WRU	14.59.....	FX	N	R. C. A.
Do. ⁸	WQQ	14.8.....	FX	N	Do.
Do. ⁹	WTT	15.02.....	FX	N	Do.

¹ Range, 300; system, Navy-Lowenstein, 1,000.
² Range, 200; system, composite v. t. telegraph and telephone.
³ Range, 300; system, R. C. A. v. t. telegraph; rates, ship service 10c (52 centimes) per word.
⁴ Range, 200; system, composite v. t. telegraph; this station transmits special time signals, no regular hours of operation at present time.
⁵ System, composite, 1,000.
⁶ Range, 200; system, composite v. t. telegraph and telephone.
⁷ Loc. 77° 56' 10" W., 41° 58' 45" N.; range, 4,000; system, R. C. A. v. t. telegraph.
⁸ Loc. 77° 56' 15" W., 40° 58' 20" N.; range, 4,000; system, R. C. A. v. t. telegraph.

Commercial ship stations, alphabetically, by names of vessels

[Additions to the List of Radio Stations of the United States, edition of June 30, 1926, and to the International List of Radiotelegraph Stations published by the Berns bureau]

Name of vessel	Call signal	Rates	Service	Hours	Owner of vessel	Station controlled by—
Caraca ¹	KDB	8	PG	X	Atlantic & Caribbean Steam Navigation Co.	
Carl D. Bradley ²	WOBK		PG	X		
C. C. Webber ³	WOBM		P	X	Inland Waterways Corporation.	
Chuky ⁴	WOBF	8	PG	X	Chilo S. S. Co.....	
Commodore.....	WOBJ				Lewis & Cook.....	
Euskadi ⁵	KZAZ	8	PG	X	Madrigal & Co.....	
General Ashburn ⁶	WOBL		P	X	Inland Waterways Corporation.	
Haihong ⁷	KZBS	8	PG	X	Juan Sandoval Co Juanco...	Owner of vessel. Do.
Intelliga ⁸	KZBC	8	PG	X	Madrigal & Co.....	
Norwester.....	WOBI				E. M. Chance.....	
Radie ⁹	WOBP		P	X	Boston Maritime Co.....	Donald B. MacMillan.
Rosario.....	WOBH				Louis Bradbury.....	R. C. A.
Shawnee ¹⁰	WOBG	8	PG	X	New York & Miami S. E. Co.	
Tillamook ¹¹	WJIP	8	PG	X	Bryne & Hoyt.....	F. T. Co.
Zapala.....	WOBG				Howard E. Coffin.....	

¹ W. L., 693, 703.
² W. L., 715, 875, rates, Great Lakes service, 4¢ per word.
³ W. L., 693, 1,100.
⁴ Range, 200; system, Marconi, 1,000; w. l., 300, 600, 650.
⁵ Range, 100; system, composite, 1,000; w. l., 300, 610.
⁶ System, Marconi 1,000; w. l., 300, 600, 700.

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Commercial land and ship stations, alphabetically, by call signals

[b, ship station; a, land station]

Call signal	Name of station	Call signal	Name of station
KDB	Caracas.....b	WOBQ	Radio.....b
KIDM	Anniston (permanently moored vessel near Mobile, Ala.).....c	WOBP	Chucky.....b
RTQ	L. McN. & L. VI No. 1 (permanently moored vessel in Kvichak River, Alaska).....c	WOBG	Shawnee.....b
KZAZ	Eureka.....b	WOBH	Rosario.....b
KZBG	Josafina.....b	WOBK	Northstar.....b
KZBS	Hahong.....f	WOBM	Commodore.....b
WBW	Rocky Point, N. Y.....c	WOBK	Carl D. Bradley.....b
WHP	Tillamook.....b	WOLL	General Ashburn.....b
WJV	Philadelphia, Pa.....c	WOM	G. C. Webber.....b
WNBT	Elgin, Ill.....c	WQQ	Rocky Point, N. Y.....b
WQBC	Zapala.....b	WRL	Duluth, Minn.....c
		WBY	Darlington, Md. (boat).....b
		WTT	Rocky Point, N. Y.....b

Broadcasting stations, alphabetically, by call signals

Call signal	Location of station (address)	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
KPVN	Fairmont, Minn.....	Carl E. Bagley.....	100	224.9	1,310
KFXD	Jerome, Utah.....	Service Radio Co.....	15	204	1,470
KOPW	Ravenna, Neb., 318 Grand Ave.....	Otto E. Sathorn.....	10	250.8	1,000
WBPP	New York, N. Y., 563 Southern Boulevard.....	Bronx Broadcasting Co.....	10	200.5	1,450
WMES	Boston, Mass., Barrister Hall.....	Massachusetts Educational Society.....	100	211.1	1,424
WNBW	Carbondale, Pa., 21 Salem Ave.....	Home Cut Glass & China Co.....	5	258.5	1,100
WNBX	Springfield, Vt.....	First Congregational Church.....	10	241.8	1,240
WRK	Hamilton, Ohio, 3 Railroad St.....	S. W. Doron & John C. Elnde.....	100	205.4	1,400
WDDF	St. Louis, Mo., Sixth and Washington Sts.....	Mississippi Valley Broadcasting Co.....	250	142.9	680

Broadcasting stations, alphabetically, by names of States and cities

[Additions to the List of Radio Stations of the United States, edition of June 30, 1926]

State and city	Call signal	State and city	Call signal
Massachusetts: Boston.....	WMES	Ohio: Hamilton.....	WRK
Minnesota: Fairmont.....	KPVN	Pennsylvania: Carbondale.....	WNBW
Missouri: St. Louis.....	WDDF	Utah: Jerome.....	KFXD
Nebbraska: Ravenna.....	KOPW	Vermont: Springfield.....	WNBX
New York: New York.....	WBPP		

Government land stations, alphabetically, by names of stations

[Additions to the List of Radio Stations of the United States, edition of June 30, 1926, and to the International List of Radiotelegraph Stations published by the Bureau]

Station	Call signal	Wave length	Service	Hours	Station controlled by—

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Special land stations, alphabetically, by names of stations

[Additions to the List of Radio Stations of the United States, edition of June 30, 1926]

Station	Call signal	Station controlled by—
Everett, Wash.....	7XS	American Tug Boat Co.
Houlton, Me.....	1XA	American Telephone & Telegraph Co.
Houlton, Me. (portable).....	1XR	Do.

Special land stations, grouped by districts

Call signal	District and station	Call signal	District and station
1XA 1XR	First district: Houlton, Me. Houlton, Me. (portable).	7XS	Seventh district: Everett, Wash.

ALTERATIONS AND CORRECTIONS

COMMERCIAL LAND STATIONS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1926, and to the International List of Radiotelegraph Stations, published by the Bureau.]

- A. AND P. NAKKEN No. 7.—Change to ship station; range, 25; system, composite v. t. telegraph; w. l., 600, 700; service, P; hours, X.
- Boca de Quadra, ALASKA; range, 100; system, composite v. t. telegraph; w. l., 1,704.
- BOLINAS, CALIF. (KPH).—Range, strike out 300; system, strike out R. C. A. (spark); w. l., 600, 675, 2,200, 2,375.
- BOSTON, MASS. (WBE).—W. l., add 1,700.
- BUFFALO, N. Y. (WBL).—W. l., add 1,900.
- CHATHAM, MASS. (WIM).—W. l., 600, 743, 2,200.
- DALLAS, TEX. (KVP).—Service, FX.
- DULUTH, MINN. (WME).—W. l., add 875.
- ENSENADA, P. R.—W. l., add 725, 830.
- FALSE PASS, ALASKA.—W. l., strike out 525.
- FORT MORGAN, ALA.—Range, 150; system, composite, 1,000; w. l., 600, 680, 1,713.
- GALVESTON, TEX.—W. l., 600, 830, 2,150, 2,200.
- HILLSBORO, OREG. (KGH-Portland).—W. l., 4,207, 6,316, 8,696.
- LUDINGTON, MICH.—System, R. C. A. v. t. telegraph.
- MARSHFIELD, OREG.—W. l., 600, 675, 700, 2,400.
- MOBILE, ALA. (WNN).—W. l., 600, 680, 1,713, 2,100.
- NEW ORLEANS, LA.—W. l., add 2,125.
- NYAC, ALASKA.—Read Bear Creek, Alaska.
- PALM BEACH, FLA.—System, I. W. T. Co. arc and Marconi, 1,000 (spark); w. l., 600, 650, 1,625, 1,850, 2,100, 2,275.
- PALO ALTO, CALIF. (KPS).—System, F. T. Co. arc and F. T. Co. v. t. telegraph.
- RED BLUFF BAY, ALASKA.—Owner of station, Baranof Packing Co.
- SNUG HARBOR, ALASKA.—Range, 150; system, Cutting & Washington, 1,000; w. l., 600, 1,650.
- TAKU HARBOR, ALASKA.—Range, 150; system, composite, 1,000; w. l., 600, 700, 900.
- TAMPA, FLA.—W. l., 600, 700.
- TUCKERTON, N. J. (WSC).—W. l., 600, 650, 2,175, 2,425.
- TYNE, ALASKA.—Range, 150; system, composite, 1,000; w. l., 600, 700.
- Strike out all particulars of the following-named stations: Fairbanks, Alaska:

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COMMERCIAL 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 June 30, 1926, and to the International List of Radiotelegraph Stations, published by the Berna bureau)

- ABANGAREZ.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100.
- ABBAROKA.—W. l., 600, 706.
- ALADDIN.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
- ALBERT E. WATTS.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
- ALDEN A. MILLS.—Range, 100; system, R. C. A. v. t. telegraph; w. l., 600, 706, 800.
- ALEDO.—W. l., 600, 706.
- ALMERIA LYKES.—W. l., 600, 706, 800.
- AMASA STONE.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 715, 800, 875, 1,800, 1,900, 2,000, 2,100, 2,400.
- ANN ARBOR No. 8.—W. l., 715, 875; service, PG; hours, X; rates, 8¢ per word.
- ANNISTON CITY.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100, 2,400.
- AQUARIUS.—W. l., strike out 450.
- ARCADIA.—Owner of vessel, Galen L. Stone, estate.
- ASTORIA.—Name changed to Moody; owner of vessel, Astoria Co.
- ASTORIA (KGEF).—Range, 200; system, F. T. Co., 1,000; w. l., 600, 706, 800.
- AMOLCO.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
- ASTRAL (KIQ).—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
- ATHENS.—W. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100, 2,400.
- ATLANTA CITY.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100, 2,400.
- BALLENAB.—Owner of vessel, W. E. Hedger Co.
- BARHENFORK.—W. l., 600, 706.
- BARRYTON.—W. l., 450, 600, 706.
- BELVIDERE.—W. l., 450, 600, 706.
- BERING.—W. l., 600, 706.
- BERESHIRE (KUVG).—Range, 200; system, Navy, 1,000; w. l., 600, 706, 800; station controlled by R. C. A.
- BESSEMER.—W. l., 600, 706.
- BULKO.—Owner of vessel, C. B. Watson.
- BROOKINGS.—Owner of vessel, Andrew F. Mahony Co.
- CABEGON.—W. l., 600, 706.
- C. A. CANFIELD.—W. l., add 750.
- CALAMARES.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100, 2,400.
- CALIFORNIAN.—W. l., 600, 706, 800.
- CANSUMSET.—W. l., 600, 706.
- CAPE ROMAIN.—W. l., 600, 706.
- CARABOBO.—W. l., 600, 706, 750, 800, 900.
- CARILLO.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100.
- CASCADE.—W. l., 600, 706.
- CENTURION.—W. l., 600, 706.
- CHAPPAQUA.—W. l., 450, 600, 706.
- CHARLES E. HARWOOD.—W. l., 600, 706, 750, 800.
- CHARLES G. BLACK.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 1,800, 1,900, 2,000, 2,100, 2,400.
- CHARLES L. O'CONNOR.—W. l., 600, 706.
- CHARLES M. SCHWAB.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 715, 800, 875, 1,800, 1,900, 2,000, 2,100, 2,400.
- CHESTER KIWANIS.—W. l., 450, 600, 706.
- CHETOPA.—W. l., 450, 600, 706.
- CHILBAR.—W. l., 450, 600, 706.
- CHILOIL.—W. l., 450, 600, 706.
- CHILSCO.—W. l., 450, 600, 706.
- CHIPPEWA.—W. l., 715, 875.
- CITY OF JOLIET.—W. l., 600, 706.
- CITY OF NOME.—W. l., 600, 706.

- CITY OF WEATHERFORD.—W. I., 600, 706, 800.
 CLARE.—System, R. C. A. v. t. telegraph; w. l., add 750.
 CLARENCE A. BLACK.—W. I., 715, 875; service, PG; hours, X; rates, Great Lakes service, 4¢ per word.
 CLAUDEUS.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 CLEARWATER.—W. I., 600, 706, 800.
 CLETUS SCHNEIDER.—W. I., strike out 600.
 COL. JAMES M. SCHOONMAKER.—W. I., 715, 875; service, PG; hours, X; rates, Great Lakes service, 4¢ per word.
 COLONEL JAMES PICKARDS.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 715, 800, 875, 1,800, 1,900, 2,000, 2,100, 2,400.
 COMMERCIAL GUIDE.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800.
 COMET.—Station controlled by R. C. A.
 COPENAME.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 900, 1,800, 1,900, 2,000.
 CRAMPTON ANDERSON.—W. I., add 750.
 CUBA (KDRT).—W. I., add 750.
 DANFORD.—W. I., 600, 706; owner of vessel, Gladstone Transpn. Co.
 DEAN EMERY.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 DELECTO.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 DELPHINE.—Owner of vessel, Anna Dodge Dillman; station controlled by R. C. A.
 DISTRICT OF COLUMBIA.—Station controlled by F. T. Co.
 D. M. BENTON.—W. I., 600, 706; service, PG; hours, X; rates, 8¢ per word.
 DIXIANO.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 DULCINO.—Range, 200; system, R. C. A. v. t. telegraph; w. l., 600, 706, 800.
 EAGLE (KIE).—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 EDGEMOOR.—W. I., 600, 706.
 EDWARD L. SHEA.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100, 2,400.
 E. R. KEMP.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 ESPARTA.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100.
 ESTHER WEEMS.—Name changed to Admiral Benson; owner of vessel, Portland-California S. S. Co.
 ESTRADA PALMA.—W. I., add 750.
 ETHEL M. STERLING.—W. I., 600, 706, service, PG; hours, X; rates, 8¢ per word.
 EVANGELINE.—W. I., 600, 706.
 FAITH.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 FELTORE.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 FIRE BOAT No. 31.—W. I., add 600.
 FIRE BOAT No. 44.—W. I., add 600.
 FOAM (KFUE).—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 FORT ARMSTRONG.—W. I., 600, 706.
 FOUR WINDS.—W. I., 35.03, 120, 600; service, P.
 FRANK D. STOUT.—W. I., 600, 706; service, PG; hours, X; rates, 8¢ per word; owner of vessel, Andrew F. Mahony.
 FRANKLIN K. LANE.—W. I., add 750.
 GENEVEVE LYKES.—W. I., strike out 875.
 GLENDARUEL.—Name changed to Willa Crosby.
 GOLD SHELL.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 GOVERNOR COBB.—W. I., add 750.
 GULF PRIDE.—W. I., 600, 706.
 HALIGONIAN.—W. I., add 600.
 HAPPY DAYS.—Service, PG; hours, X; rates, 8¢ per word; station controlled by R. C. A.
 HAROLD WALKER.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 HARRY COUNTRY.—W. I., 715, 875.
 HENRY M. FLAGLER.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 HENRY W. BREYER.—W. I., 600, 706.
 H. J. LAWRENCE.—W. I., 600, 706, 800.
 I. C. WHITE.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 ILLINOIS (WCZ).—W. I., 715.
 IRIS.—Station controlled by F. T. Co.
 IROQUOIS.—W. I., 600, 706.

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JAMES McNAUGHTON.—W. l., 715, 800, 875.
 J. C. DONNELL.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 J. FLETCHER FARRELL.—W. l., add 750, 900.
 JOHN A. TOPPING.—W. l., 715, 875; rates, Great Lakes service, 4¢ per word.
 JOSEPHINE.—W. l., 600, 706.
 JOSEPH M. CUDAHY.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 JOSEPH R. PARROTT.—W. l., add 750.
 KAMESIT.—W. l., 450, 600, 706.
 KEKOSKEE.—W. l., 450, 600, 706.
 KISSACOQUILLAS.—W. l., 600, 706, 800.
 LAKE ELLITHORPE.—W. l., 600, 706.
 LAKE FITHIAN.—W. l., 600, 706.
 LAKE GALEWOOD.—W. l., 600, 706.
 LAKE GILTEDGE.—Station controlled by owner of vessel.
 LAKE INGLENOOK.—W. l., 600, 706.
 L. E. BLOCK.—W. l., 715, 875.
 LENA LUCKENBACH.—W. l., 600, 706, 800.
 LEVISA.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 LIMON.—W. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100.
 LOUIS M. WINSLOW.—Range, 100; system, R. C. A. v. t. telegraph; w. l., 600, 706, 800.
 MALA.—W. l., 450, 600, 706.
 MALOLO.—W. l., 600, 706.
 MARY WEEMS.—Name changed to Admiral Peoples.
 MAURICE TRACT.—W. l., 600, 706.
 MAZATLAN.—Station controlled by F. T. Co.
 METAPAN.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100, 2,400.
 MIAMI (KOZ).—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800.
 MICHAEL TRACY.—W. l., 600, 706.
 MILTON S. PATRICK.—W. l., 600, 706.
 MILWAUKEE BRIDGE.—Name changed to Malama; w. l., 600, 706; station controlled by F. T. Co.
 MISSOURI.—W. l., 600, 1,100.
 MOUNT EVANS.—System, Navy-K. & C., 1,000; w. l., 600, 706, 800.
 MYSTIC.—Owner of vessel, Beaverson Corporation.
 NEBRASKAN (WMV).—Owner of vessel, American-Hawaiian S. S. Co.
 NEVADIAN.—Owner of vessel, American-Hawaiian S. S. Co.
 NORMAN BRIDGE.—W. l., add 750.
 NORTHERN LIGHT.—W. l., 600, 706; service, PG; hours, X; rates, 8¢ per word.
 OAKLEY L. ALEXANDER.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100, 2,400.
 OLEAN.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 PANAMA.—Name changed to Aleutian.
 PAPOOSE.—W. l., 600, 706.
 PASTORES.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,100.
 PENNSYLVANIAN.—W. l., strike out 450.
 POINT FERMIN.—W. l., add 706; station controlled by F. T. Co.
 POINT LOBOS.—Station controlled by F. T. Co.
 POINT MONTARA.—Range, 300; system, Navy, 1,000; w. l., 600, 706, 800.
 PRESIDENT ARTHUR.—Name changed to City of Honolulu.
 RADNOR.—Range, 200; system, Navy, 1,000; w. l., 600, 706, 800.
 RIPOSO.—W. l., 600, 706.
 ROBERT HOBSON.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 715, 800, 875, 1,800, 1,900, 2,000, 2,100, 2,400.
 SACCARAPPA.—Range, 300; system, Navy-W. S. A. Co., 1,000; w. l., 600, 706, 800.
 SACHEM.—Name changed to Ungava.
 SAGAMI.—W. l., 600, 706; hours, X.
 SAMUEL L. FULLER.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800.
 SAMUEL MATHER.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 715, 800, 875, 1,800, 1,900, 2,000, 2,100, 2,400.
 SAN JOSE.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 SAN MATEO.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 600, 706, 750,

- SARAMACCA.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100.
- ST. HELIERS.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800.
- SEMINOLE (KUGP).—W. l., 600, 706.
- SEWALLS POINT.—W. l., 450, 600, 706.
- SHARON.—W. l., 600, 706.
- SHOOTERS ISLAND.—W. l., 450, 600, 706.
- SINASTA.—W. l., 600, 706, 800.
- SIXAOLA.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100.
- SOUTHLANDS.—Owner of vessel, Lykes Brothers S. S. Co.
- STANLEY.—W. l., 600, 706, 800.
- STEEL VOYAGER.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100, 2,400.
- SOLANIERCO.—System, Navy-W. S. A. Co., 1,000; w. l., 600, 706, 800.
- SUMAR (KGAQ).—Name changed to Ouananiche; owner of vessel, P. K. Hudson.
- SUMAR (KGCF).—Owner of vessel, David C. Whitney.
- SUNOCO.—W. l., 600, 706.
- SURINAME.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100.
- TAMPA (KVK).—W. l., strike out 875.
- TASHMOO.—W. l., 600, 706.
- THEODORE ROOSEVELT.—Range, 200; system, R. C. A. v. t. telegraph; w. l., 715, 800; station controlled by R. C. A.
- TIVIVES.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100, 2,400.
- TRIPP.—W. l., 600, 706, 800.
- TERRIALBA.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,800, 1,900, 2,000, 2,100.
- UNICOI.—W. l., 600, 706.
- UTOWANA.—W. l., 600, 706, 750, 800, 900.
- VACUIL.—System, R. C. A. v. t. telegraph (only); w. l., 600, 706, 750, 800.
- VENUS (WPBI).—Range, 300; system, R. C. A. v. t. telegraph; w. l., 715, 800, 875, 1,800, 1,900, 2,000, 2,100, 2,400.
- VIDOR.—W. l., 600, 706; service, PG; hours, X.
- WABAN.—W. l., 450, 600, 706, 800.
- WABARI.—Range, 200; system, R. C. A. v. t. telegraph; w. l., 715, 800; station controlled by owner of vessel.
- WESTCHESTER.—W. l., 600, 706.
- WEST CHESWALD.—W. l., 600, 706, 800.
- WEST CRESSY.—W. l., 600, 706.
- WEST CUBSETA.—W. l., 600, 706.
- WEST ELCASCO.—W. l., 600, 706.
- WESTERN QUEEN.—W. l., 600, 706.
- WEST GRAMA.—W. l., 600, 706.
- WEST HARTLAND.—W. l., 600, 706.
- WEST HARTS.—W. l., 600, 706.
- WEST LOGUASSUCK.—W. l., 600, 706.
- WESTMEAD.—W. l., 600, 706.
- WEST MINGO.—W. l., add 706; station controlled by F. T. Co.
- WEST TOTANT.—W. l., strike out 450; station controlled by R. C. A.
- WM. BOYCE THOMPSON.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
- WESTWARD Ho.—W. l., 600, 706.
- WILLIAM C. ATWATER.—W. l., 715, 800, 875.
- WILLIAM H. DOHENT.—W. l., add 900.
- WILLIAM McLAUCHLAN.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 715, 800, 875, 1,800, 1,900, 2,000, 2,100, 2,400.
- WILLKENS.—W. l., 600, 706.
- WILPEN.—Name changed to David C. Thompson.
- WILCOX.—W. l., 600, 706.
- W. M. BURTON.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
- YARMOUTH.—W. l., 600, 706; service, PG; hours, X.
- YOMACHICHI.—W. l., 600, 706.
- YOUNGSTOWN (WPBH).—Range, 300; system, R. C. A. v. t. telegraph; w. l., 715, 800, 875, 1,800, 1,900, 2,000, 2,100, 2,400.

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ZACAPA.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900, 1,600, 1,900, 2,000, 2,100, 2,400.

The following-named vessels have 706 meters in addition to the wave lengths published heretofore: A. D. MacBeth, Aleyone, Annette Rolph, Artemis, Asher J. Hudson, City of Berkeley, City of Dalhart, City of Omaha, City of Rayville, City of Sydney, Cohasset, Cokato, Colorado, Conotton, Contocook, Coquina, Coronado, Coulee, Covens, Craigmere, Crown City, Eastern Shore, Eastport, Edgar F. Coney, Edgefield, Englewood, Favorite, Georgina Rolph, Glen White, Hampton Roads (KOJT), Higno, Homer, John M. Connelly, John W. Wells, Lake Elmdale, Lake Fabius, Lake Farber, Lake Farrar, Makawell, M. & J. Tracy, Naiwa, Nashaba, Nemaha, Neponset, Norfolk, Ormidale, Pacht, Romulus, Saco, Santa Ana (WAL), Sawokla, Wawalona, West Cape, West Imboden, West Niger, West Togue, Willzipo.

Strike out all particulars of the following-named vessels: Anniston, E. G. Crosby, Indiana Harbor, Michabo, Seneca, W. B. Keene.

COMMERCIAL LAND AND SHIP STATIONS, ALPHABETICALLY, BY CALL SIGNALS

KDYT, read Moody; KGAQ, read Ouananiche; KGBB, read Ungava; KGBP, read David C. Thompson; KGFQ, read ship station; KIBF, read Malama; KMH, read Aleutian; KUY, read Bear Creek, Alaska; WDF, read WIRA Crosby; WES, read City of Honolulu; WJEL, read Admiral Peoples; WQOA, read Admiral Benson; strike out all particulars of the following the call signals, KDLK, KFYG, KFZG, KFZH, KIDM, KUBS, KWK, WJP.

COMMERCIAL AIRPLANE STATIONS, ALPHABETICALLY, BY NAMES OF VESSELS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1926, and to the International List of Radiotelegraph Stations, published by the Bureau]

ALASKAN.—Strike out all particulars.

COMMERCIAL AIRPLANE STATIONS, ALPHABETICALLY, BY CALL SIGNALS

KDA, strike out all particulars.

BROADCASTING STATIONS, BY CALL SIGNALS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1926]

KFJF (Oklahoma, Okla.).—Power, 750 night, 1,000 day.
 KFKB (Milford, Kans.).—Power, 1,500 night, 2,500 day.
 KFRC (San Francisco, Calif.).—Power, 500 night, 1,000 day.
 KFVE (St. Louis, Mo.).—Power, 1,000 night, 2,000 day.
 KFVR (Denver, Colo., near).—Call signal changed to KOW.
 KFWV (Portland, Oreg.).—Call signal changed to KWJJ; owner of station, Wilbur Jerman.
 KFXR (Oklahoma, Okla.).—Power, 50; w. l., 223.7, fy. kc., 1,340.
 KFYR (Bismarck, N. Dak.).—Power, 250 night, 500 day.
 KGCA (Decorah, Iowa).—W. l., 247.8, fy. kc., 1,210.
 KGCI (San Antonio, Tex.).—W. l., 220.4, fy. kc., 1,360.
 KGFH (La Crescenta, Calif.).—Power, 250.
 KOIL (Council Bluffs, Iowa).—Power, 2,000 night, 4,000 day.
 KTAP (San Antonio, Tex.).—Power, 20.
 KTHS (Hot Springs, Ark.).—Power, 1,000; w. l., 334.4, fy. kc., 780.
 KTNT (Muscatine, Iowa).—Power, 3,500 night, 5,000 day.
 WABQ (Philadelphia, Pa.).—W. l., 260.7, fy. kc., 1,150.
 WADC (Akron, Ohio).—Power, 500; w. l., 296.9, fy. kc., 1,010.
 WALK (Bethayres, Pa.).—No longer portable.
 WAPI (Auburn, Ala.).—W. l., 325.9, fy. kc., 920.
 WASN (Boston, Mass.).—Call signal changed to WBIS.
 WBCN (Chicago, Ill.).—Owner of station, Great Lakes Broadcasting Co.
 WBET (Boston, Mass.).—W. l., 265.3, fy. kc., 1,130.
 WBNY (New York, N. Y.).—Power, 250; w. l., 236.1, fy. kc., 1,270.
 WBT (Charlotte, N. C.).—Power, 500 night, 1,000 day.
 WCAD (Canton, N. Y.).—Power, 500 night, 1,000 day.
 WCCO (St. Paul-Minneapolis, Minn.).—Power, 5,000 night, 7,500 day.
 WCWS (Danbury, Conn.).—W. l., 214.2, fy. kc., 1,400.



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DUTCH HARBOR, ALASKA.—W. L., 600, 2,271.
 CURTIS BAY, MD.—Hours, strike out.
 EUREKA, CALIF. (traffic station).—W. L., 600, 2,883.
 FORT LAUDERDALE, FLA. (Section Base 6).—W. L., strike out; hours, strike out.
 FOURTH CLIFF, MASS.—In service column add footnote "1."
 GLOUCESTER, MASS.—W. L., strike out; hours, strike out.
 GREAT LAKES, ILL.—W. L., strike out.
 GUAM, MARIANA ISLAND.—W. L., 600, 2,271, 5,949.
 GUANTANAMO BAY, CUBA.—W. L., 600, 2,541, 4,543.
 KEY WEST, FLA. (NAR).—W. L., 600, 2,100, 2,939, 5,766.
 KEY WEST, FLA. (NGK).—W. L., strike out; hours, strike out.
 KODIAK, ALASKA.—W. L., 600, 2,677.
 LA PALMA, PANAMA.—W. L., 600, 2,342.
 NANTUCKET, MASS. (Section Base 3).—W. L., strike out; hours, strike out.
 NEW DUNGENESS, WASH.—*Read*, New Dungeness, Wash. (Juan de Fuca Strait RC group).
 NEW LONDON, CONN. (NLO).—W. L., strike out; hours, strike out.
 NEW SHOREHAM STATION, BLOCK ISLAND, R. I.—W. L., strike out; hours, strike out.
 NORFOLK, VA. (traffic station).—W. L., 600, 2,100, 2,271.
 OAKLAND, CALIF. (Government Island).—W. L., strike out; hours, strike out.
 PENSACOLA, FLA. (traffic station).—W. L., 600, 2,677.
 PHILADELPHIA, PA.—W. L., strike out.
 PORT ANGELES, WASH. (Section Base 13).—W. L., strike out; hours, strike out.
 PORT AU PRINCE, HAITI.—W. L., 600, 2,100, 2,271, 5,169.
 PORT TOWNSEND, WASH.—W. L., strike out; hours, strike out.
 POTNERS HILL, N. C.—In service column add footnote "1."
 PUERTO OBALDIA, PANAMA.—W. L., 600, 2,342.
 ROCKAWAY BEACH, N. Y.—W. L., strike out; hours, strike out.
 ST. THOMAS, V. I.—W. L., 600, 2,271.
 SAN PEDRO, CALIF.—W. L., strike out; hours, strike out.
 SAVANNAH, GA.—W. L., 600, 2,271; hours, N.
 SEATTLE, WASH.—W. L., strike out; hours, strike out.
 SITKA, ALASKA.—W. L., 600, 2,883.
 STATEN ISLAND, N. Y. (Section Base 2).—W. L., strike out; hours, strike out.
 THATCHER ISLAND, MASS.—In service column add footnote "1."
 TUTUILA, SAMOA.—W. L., 600, 2,100, 2,271, 4,543.
 UNALASKA, ALASKA.—W. L., strike out; hours, strike out.
 VIRGINIA BEACH, VA.—*Read*, Virginia Beach (Chesapeake Bay RC group).
 WOODS HOLE, MASS. (Section Base 18).—W. L., strike out; hours, strike out.
 Strike out all particulars of the following-named stations: Point Loma, Calif., Tybee Island, Ga., Norfolk (Virginia Beach, Va., NAM), Washington, D. C. (Sayville, N. Y., NDD).
 On page 79, list of "Commercial and Government Radio Stations of the United States," note "1" strike out "see p. 115." Also strike out note "5" entirely.

GOVERNMENT SHIP 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, 1926, and to the International List of Radiotelegraph Stations, published by the Bureau]

BUFFALO.—Strike out all particulars.

DESPATCH.—Strike out all particulars.

GOVERNMENT LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS

NCZ, *read* Chesapeake Bay RC group, master station, Virginia Beach, Va.;
 NDW, *read* Cape Hatteras RC group, master station, Cape Hatteras, N. C.;
 NIXN, *read* Kimball (notice in Bulletin No. 122, May 31, 1927, incorrectly cited NIXM); NJY, *read* New York Bay RC group, master station, Fire Island, N. Y.; NPL, strike out Point Loma, Calif.; NSD, *read* Delaware Bay RC group, master station, Cape Henlopen, Del.; NWM, *read* Boston Bay RC group, master station, Deer Island, Mass.; strike out all particulars following the call signals. NAM (Virginia Beach, Va.). NCU. NDD. NEV

SPECIAL LAND STATIONS, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 29, 1926]

HOLLIS, N. Y. (2XV).—Change to Long Island City, N. Y.
Strike out all particulars of the following-named stations: Rocky Point, N. Y. (2XT); Rocky Point, N. Y. (2XBC); Rocky Point, N. Y. (2XS).

MISCELLANEOUS

VESSELS EQUIPPED WITH A RADIOCOMPASS

The following-named commercial vessels which are equipped with transmitters for communication, have also been equipped with a radiocompass (direction finder): *Admiral Dewey, Alameda, Alaska, Algonquin, Aleutian, Berkshires* (KUVG), *Coos Bay, Delphine, District of Columbia, Dixie Arrow, Eastern Crown, F. A. Warner, Fred G. Hartwell, Huron* (WCH), *Illinois* (KDSZ), *Isaac T. Mann, Japan Arrow, Northwestern, Oakey L. Alexander, Papoose, Pere Marquette 16, Pere Marquette 17, Pere Marquette 19, Pere Marquette 20, Pere Marquette 21, Pere Marquette 22, Plymouth* (KND), *Relief, R. W. Stewart, Saucon, Socony, Sylvan Arrow, Tiger, Vidor*; the following-named which are not equipped for communication purposes are now equipped with a radiocompass: *Grand Rapids* owned by the Grand Trunk & Milwaukee Car Ferry Co., *Herman Winter* owned by the Eastern S. S. Lines, *J. P. Morgan, jr.* owned by the Pittsburgh S. S. Co., *Madison* owned by the Grand Trunk & Milwaukee Car Ferry Co.; the following-named Government vessels which are equipped for communication purposes have also been equipped with a radiocompass: *Bear, Davis, Lydonia, Meigs, Northland, Pioneer, Shaw, Speedwell, Spruce, Sumac, Tucker, Wainwright, Wilkes.*

CHANGES IN RADIOBEACON STATIONS

Passage Island Light Station, Michigan.—A beacon has been established at this light station. Characteristic: Sounds every 180 seconds, groups of 1 dash and 1 dot for 60 seconds, silent 120 seconds, thus:

— • — • etc.	Silent.
60 seconds.	120 seconds.

Operates continuously during thick or foggy weather on a wave length of 1,000 meters (300 k. c.), and each day during clear weather from 2 to 2.30 and 8 to 8.30 a. m., 90th meridian time.

Location 88° 21' 55" W., 48° 13' 28" N.

Cape Blanco Light Station, Oregon.—Operating period changed to sound every 180 seconds, 60 seconds on, silent 120 seconds.

REGULATIONS GOVERNING THE OPERATION OF BROADCASTING STATIONS PROMULGATED BY THE FEDERAL RADIO COMMISSION

Testimony—General Order No. 14, June 5, 1927.—Testimony introduced at any hearing relative to any particular station or any particular frequency will, when relevant, be considered as testimony by the commission at any of its subsequent hearings.

Applicants may examine these records.

Broadcasting stations may file affidavits certifying that interference is being caused to its signals—General Order No. 15, June 7, 1927.—For the purposes of providing an orderly method for the reduction and eventual elimination of interference between radio broadcasting stations operating on the same or on closely adjacent frequencies, the Federal Radio Commission announces the following procedure: At any time after July 15, 1927, any radio broadcasting station operating under license from the Federal Radio Commission may file with the commission an affidavit certifying that unreasonable and injurious interference with its signals is being caused by the simultaneous operation of another radio broadcasting station, the name or call letters of which must be specified in the affidavit. The affidavit must likewise specify not less than two occasions on which such inter-

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On receipt of such affidavit, and if in the judgment of the Federal Radio Commission the interference complained of is actually unreasonable and injurious to the affiant, the commission will appoint a date for a hearing, at its convenience, will notify thereof the parties interested, and on the basis of the testimony presented at such hearing will order such changes of frequency, power, or hours of operation as may appear best to serve public interest, convenience, or necessity.

ESTABLISHMENT OF FORWARDING BUREAUS FOR RADIOTELEGRAMS

The Radio Corporation of America has established forwarding bureaus at New York and San Francisco for radiotelegrams intended for transmission to ships by the intermediary of its coast stations.

The radiotelegrams for transmission to ships in the Northern Atlantic can be directed "Newyork RCA," and those to be transmitted to ships in the Pacific can be directed "San Francisco RCA."

When radiotelegrams reach the forwarding bureaus they are transmitted to the coast station which has established communication with the vessel of destination, or which will probably first establish communication with this vessel.

The total tax includes the telegraph tax to New York or San Francisco, the coast tax of 10 cents (52 centimes), and the ship tax.

NEW INTERNATIONAL LIST OF RADIOTELEGRAPH STATIONS BY CALL SIGNALS NOW AVAILABLE

The new tenth edition of the "International List of Radiotelegraph Stations By Call Signals" (April, 1927) is now ready for distribution by the International Bureau of the Telegraph Stations, Radiotelegraph Service, Berne, Switzerland.

In addition to the ordinary edition (type A) there has been published for the use of stations having heavy traffic an edition on heavy paper, cardboard cover, with two corners covered with cloth and alphabetical index (type B) as well as an edition on heavy paper with cardboard cover, recovered with cloth, two corners of metal and index (type C). The letters of the alphabetical index are covered with cloth to protect them.

The price of these documents are, per copy, 1 franc for type A; 2 francs 80 centimes for type B; and 4 francs 50 centimes for type C (Swiss-gold).

This publication does not contain the call signals of broadcasting stations.

STANDARD FREQUENCY STATIONS

As a result of measurements by the Bureau of Standards upon the transmitted waves of a limited number of radio transmitting stations, data are given in each month's Radio Service Bulletin on such of these stations as have been found to maintain a sufficiently constant frequency to be useful as standards.

As shown by the list of "Constant frequency stations," there may be many other stations not measured in the bureau's laboratory which maintain their frequencies just as constant as the stations listed below. There is, of course, no actual guaranty that these stations will maintain the constancy shown, but the data indicate the high degree of confidence that can be placed in them. The transmitted frequencies from the standard frequency stations can be utilized for calibrating frequency meters and other apparatus by the procedure given in Bureau of Standards Letter Circular No. 171, which may be obtained by a person having actual use for it upon application to the Bureau of Standards. Depart-

Station	Owner	Location	Assigned frequency	Period covered by measurements	Number of times measured	Deviations from assigned frequencies noted in measurements	
						Average	Greatest since May 25, 1927
NBS	United States Navy	Annapolis, Md.	17.60	13	65	0.2	0.2
WCI	Radio Corporation of America	Tuckerton, N. J.	17.95	27	118	.1	.2
W55	do	Rocky Point, N. Y.	18.60	9	37	.1	.1
WII	do	New Brunswick, N. J.	21.80	20	145	.1	.4
WVA	United States Army	Annapolis, Md.	160	27	202	.2	.3
NAA	United States Navy	Arlington, Va.	112	20	103	.2	.1
WEAF	National Broadcasting Co.	New York, N. Y.	610	20	129	0	0
WRC	Radio Corporation of America	Washington, D. C.	640	42	212	.1	0
WIZ	do	Bound Brook, N. J.	660	13	53	.2	.3
NAA	United States Navy	Washington, D. C.	660	4	17	.1	0
WOY ¹	General Electric Co.	Schenectady, N. Y.	790	48	214	.1	0
WBZ	Westinghouse Electric & Manufacturing Co.	Springfield, Mass.	900	26	97	.1	.1
KDKA	do	East Pittsburgh, Pa.	970	13	50	.1	.1

¹ In the list of standard frequency station measurements reported in the May 31, 1927, issue of the Radio Service Bulletin, station WOY was reported to have deviated from its assigned frequency since Apr. 25, 1927, as much as 0.3 per cent. This was an error and should have been reported as zero per cent deviation.

CONSTANT FREQUENCY STATIONS

The list of constant frequency stations given below supplements the list of standard frequency stations. The transmitted waves from the stations in either list should be of value to the public as frequency standards because of their constancy and close adherence to the licensed values. The Bureau of Standards makes regular measurements of the transmitted frequencies of the standard frequency stations but not of the constant frequency stations. Each station included in the following list employs a special device for controlling or checking the frequency, the calibration of the device being in agreement with the bureau's frequency standards. The special device may be automatic piezo control, a piezo oscillator, piezo resonator, or frequency indicator. Stations not included in this list nor in the list of standard frequency stations, which use one of the special devices for frequency regulation, are invited to communicate with the Bureau of Standards requesting a copy of Letter Circular 214, Requirements of Constant Frequency Stations.

This list is much shorter than usual this month because of the many changes in assigned frequencies. The stations listed are the only ones which have given the Bureau of Standards the necessary information on the means now employed to hold the newly assigned frequency in agreement with the bureau's frequency standards. More stations will be added to this list as soon as the Bureau of Standards has been satisfied that the various controlling and checking devices used have been properly readjusted.

Station	Owner	Location	Frequency	Wave length	Apparatus for frequency regulation
WMAQ	Chicago Daily News	Chicago, Ill.	670 <i>Kilo-</i> <i>cycles</i>	447.5 <i>Meters</i>	Frequency indicator, type B, and piezo oscillator.
WJAD	Frank P. Jackson	Waco, Tex.	675	447.5	Frequency indicator, type B.
WCCO	Washburn-Crosby Co.	St. Paul-Minneapolis, Minn.	740	405.2	Piezo oscillator.
WCAD	St. Lawrence University	Canton, N. Y.	820	365.6	Frequency indicator, type B.
WLA	Sears, Roebuck & Co.	Croft, Ill.	870	344.6	Piezo oscillator.
WRAQ	Radio Corporation of Puerto Rico	San Juan, P. R.	880	340.7	Frequency indicator, type B.
WRAI	Radio Corporation of Puerto Rico	San Juan, P. R.	1,000	300.0	Piezo oscillator.

REFERENCES TO CURRENT RADIO LITERATURE

This is a monthly list of references prepared by the Radio Laboratory of the Bureau of Standards and is intended to cover the more important papers of interest to professional radio engineers which have recently appeared in periodicals, books, etc. The number at the left of each reference classifies the reference by subject, in accordance with the scheme presented in "A Decimal Classification of Radio Subjects—An Extension of the Dewey System," Bureau of Standards Circular No. 138, a copy of which may be obtained for 10 cents from the Superintendent of Documents, Government Printing Office, Washington, D. C. The various articles listed below are not obtainable from the Bureau of Standards. The various periodicals can be consulted at large public libraries.

R000.—Radio communication

R007.1 The radio act of 1927. Radio Leaflet, 17 pp. 16-22; June, 1927.

R100.—Radio principles

- R110 Cutler, H. and Clement, J. La propagation des ondes electromagnetiques autour de la terre. Comptes Rendus, 184, pp. 674-678; March, 1927. Abstracted in Experimental Wireless (London), p. 368; June, 1927.
- R113 Idraz, P. and Bureau, R. Experiences sur la propagation des ondes radiotelegraphiques en altitude. Comptes Rendus, 184, pp. 691-692; March, 1927. Abstracted in Experimental Wireless (London), p. 368; June, 1927.
- R113 Ocsenyi, F. C. Jr. Radio phenomena recorded by the University of Michigan Greenland Expedition. Proceedings Institute Radio Engineers, 15 pp. 425-433; May, 1927.
- R118 Uda, S. High angle radiation of short electric waves. Proceedings Institute Radio Engineers, 15, pp. 373-383; May, 1927.
- R113.4 Wilcox, U. V. The first scientific evidence of the existence of the radio cyclotron. Popular Radio, 11, pp. 552-553; June, 1927.
- R113.5 Cooley, A. G. The mirrors and fading. Radio Broadcast, 11, pp. 135-137; July, 1927.
- R112.8 Appleton, E. V. Wireless and the calypso (posts on June 29, 1927). Wireless World & Radio Review, 24, pp. 709-711; June 3, 1927.
- R190.4 Jones, H. A., and Langmuir, I. The characteristics of tungsten filaments as functions of temperature. General Electric Rev., 30, pp. 310-319; June, 1927.
- R132 Bernbach, W. Der innere Widerstand der Elektronenrobre. Jahrbuch der drahtlosen Telegraphie, 29, pp. 119-123; April, 1927.
- R134.75 Turner, P. K. Design and construction of a superheterodyne receiver. Experimental Wireless (London), 4, pp. 329-348; June, 1927.
- R134.75 Popular radio circuits (superheterodyne). Popular Radio, 11, pp. 534-535; June, 1927.
- R140 Smith, T. A., and Rodwin, O. Notes on radio-receiver measurements. Proceedings Institute Radio Engineers, 15, pp. 387-393; May, 1927.
- R142 Jarvis, E. W. Selectivity of tuned radio-receiving sets. Proceedings Institute Radio Engineers, 15, pp. 401-423; May, 1927.

R200.—Radio measurements and standardization

- R200 Radio standards. Radio (San Francisco), 9, pp. 26-28; June, 1927.
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