

DEPARTMENT OF COMMERCE

RADIO SERVICE BULLETIN

ISSUED MONTHLY BY BUREAU OF NAVIGATION

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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 station. FS = Fog signal. 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.
L. W. T. C.	= Independent Wireless Telegraph Co.
K. & C.	= Kilbourne & Clark Manufacturing Co.
R. C. A.	= Radio Corporation of America.
U. R. Corp.	= Universal Radio Corporation.
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.	= After operating company denotes that the change applies only to the List of Radio Stations of the United States.

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, 1925, and to the International List of Radiotelegraph Stations published by the Berne bureau]

Station	Call signal	Wave lengths	Service	Hours	Station controlled by—
Johnswood, Mich. ¹	KUVQ	409.....	FX	X	Kreestan Co.
Poinciana, Fla. ¹	WFV	55.4.....	FX	X	Florida Radio Telegraph Co.
Point Barrow, Alaska	KFZG	.....	FX	X	Wilkins Polar Flight Expedition.
Point Barrow, Alaska (portable)	KFZH	.....	FX	X	Do.

¹ Range, 25; system, Western Electric Co. v. t. telegraph.

² Range, 25; system, composite 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, 1925, and to the International List of Radiotelegraph Stations published by the Berne bureau]

Name of vessel	Call signal	Rates	Service	Hours	Owner of vessel	Station controlled by—
Arendia	KFZL	.....	PG	X	Galen L. Stone.....	U. R. Corp.
Depere	KDHA	S.....	PG	X	.....	Do.
Derbyay	KDDT	S.....	PG	X	John Chisholm Fisheries Co.	Do.
Fabia	WJJ	S.....	PG	X	Walter P. Murphy.....	Do.
Intrepid	KDHI	S.....	PG	X	Consolidated Navigation Corporation.....	Owner.
Japhtha	KDFU	S.....	PG	X	.....	Do.
Lake Chelan ³	KQUO	S.....	PG	X	.....	R. C. A.
Lake Crescent ³	KFZM	S.....	PG	X	do.	Do.
Lake Flatenia	KOGS	S.....	PG	X	Baltimore & Tampa Steamship Co.	R. C. A.
Lake Giddings	KUCR	S.....	PG	X	do.	Do.
Lake Helen ⁴	KZOI	S.....	PG	X	Consolidated Navigation Corporation.....	Owner.
Lakina	WNB	S.....	PG	X	Alaska Steamship Co.	U. R. Corp.
Malah	KUGM	S.....	PG	X	Malah Steamship Co.	I. W. T. Co.
Miami	KFZK	S.....	PG	X	Los Angeles Dredging Co.	R. C. A.
Melina	KEXN	S.....	PG	X	Atlantic & Caribbean Steam Navigation Co.	Do.
Oriental	KFZI	S.....	PG	X	Oriental Navigation Co.	U. R. Corp.
Ormes	KFZJ	S.....	PG	X	do.	I. W. T. Co.
Osceola ⁵	KUGN	S.....	PG	X	Arsenal Steamship Co.	F. T. Co.
Samoa ⁶	KTU1	S.....	PG	X	Hannibal Lumber Co.	Do.
Seaborn	KFYX	.....	PG	X	Richard F. Howe.	Owner.
Torrent	KFZF	.....	P	X	City of Baltimore.	Do.

¹ Range, 200; system, Navy-Simon, 1,000; w. l., 600, 705, 800.

² Range, 200; system, -Navy-Simon, 1,000; w. l., 600, 705, 800.

³ Range, 200; system, Navy, 1,000; w. l., 600, 705, 800.

⁴ Range, 200; system, Navy-McCord, 1,000; w. l., 600, 705, 800.

⁵ Range, 200; system, Navy-Simon; w. l., 600, 705, 800.

⁶ Range, 200; system, Navy-Lowenstein, 1,000; w. l., 600, 705, 800.

⁷ Range, 50; system, composite v. t. telephone; w. l., 143.

Commercial land and ship stations, alphabetically, by call signals

[b, ship station; c, land station]

Call signal	Name of station	Call signal	Name of station		
KDBA	Dapero	b	KFZM	Lake Crescent	b
KDDT	Derbyay	b	KOGS	Lake Flatenia	b
KDHI	Japhtha	b	KQUO	Lake Chelan	b
KDHI	Intrepid	b	KTU1	Samoa	b
KEXN	Melina	b	KUCR	Lake Giddings	b
KFYX	Seaborn	b	KUGM	Malah	b
KFZF	Torrent	b	KUGN	Osceola	b
KFZQ	Point Barrow, Alaska	c	KUVQ	Johnswood, Mich.	b
KFZH	Point Barrow, Alaska (portable)	c	KZOI	Lake Helen	b
KFZI	Oriental	b	WFV	Poinciana, Fla.	c
KFZJ	Ormes	b	WJJ	Fabia	b
KFZK	Miami	b	WNB	El Capitan	b
KFZL	Arendia	b			b

Broadcasting stations, alphabetically, by names of States and cities

[Additions to the List of Radio Stations of the United States, edition of June 30, 1925]

State and city	Call signal	State and city	Call signal
District of Columbia: Washington.....	WRHF	Philippine Islands: Manila.....	KZIB
Florida: Miami Beach.....	WIOD	Texas: Terarkana.....	KFYO
Missouri: Kirkwood.....	XMOX		

Broadcasting stations, alphabetically, by call signals

Call signal	Location of station (address)	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
KFYO	Terarkana, Tex.....	Buchanan-Vaughan Co.....	10	290.7	1,440
KMOX	Kirkwood, Mo. (St. Louis).....	Voice of St. Louis, (Inc.).....	1,500	290.2	1,070
KZIB	Manila, P. I., 20 Plaza Moraga.....	I. Beck (Inc.).....	20	248.9	1,200
WIOD	Miami Beach, Fla.....	Carl G. Fisher.....	1,000	247.8	1,210
WRHF ¹	Washington, D. C., 623 Eleventh St. NW.	Washington Radio Hospital Fund,	50	256	1,170

¹ Relicensed.*Government land stations, alphabetically, by names of stations*

[Additions to the List of Radio Stations of the United States, edition of June 30, 1925, and to the International List of Radiotelegraph Stations published by the Berne bureau]

Station	Call signal	Wave length	Service	Hours	Station controlled by—
Anacortes, Wash. (Section Base 12) ¹	NFG	110, 115, 130	O	X	U. S. Coast Guard.
Biloxi, Miss. (Section Base 15) ¹	NSG	110, 115, 130	O	X	Do.
New York, N. Y. (Section Base 2, Argus) ¹	NABD	110, 115, 130	O	X	Do.
Port Angeles, Wash. (Section Base 13) ¹	NIG	110, 115, 130	O	X	Do.
Port Townsend, Wash. (Section Base 10) ¹	NAG	110, 115, 130	O	X	Do.
San Francisco, Calif. ²	KFZP	70	PX	X	Post Office Department.
San Francisco, Calif. (Yerba Island, Section Base 11) ²	NEG	110, 115, 130	O	X	U. S. Coast Guard.
Unalaska, Alaska ¹	NXG	110, 115, 130	O	X	Do.

¹ Range, 50; system, Western Electric Co. v. t. telephone and telegraph.² System, composite v. t. telegraph.*Government land and ship stations, alphabetically, by call signals*

[b, ship station; c, land station]

Call signal	Name of station	Call signal	Name of station
KFZP	San Francisco, Calif.....	NFG	Anacortes, Wash. (Section Base 12)...c
NABD	New York, N. Y. (Section Base 2, Argus).....	NIG	Port Angeles, Wash. (Section Base 13)...c
NAG	Port Townsend, Wash. (Section Base 10).....	NSG	Biloxi, Miss. (Section Base 15).....c
NEG	San Francisco, Calif. (Yerba Island, Section Base 11).....	NXG	Unalaska, Alaska.....c

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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, 1925]

Station	Call signal	Station controlled by—
Baltimore, Md.	3XI	Supervisor of radio, third district.
Chicago, Ill.	9XO	Merkurum-Kleinschmidt Corporation, 1410 Wrightwood Avenue.
Madison, Wis.	9XM	University of Wisconsin.
Missoula, Mont.	7XA	University of Montana.
New York, N. Y.	2XZ	John Wissamaker.
Pensacola, Fla. (temporary)	4XH	City of Pensacola.

Special land stations grouped by districts

Call signal	District and station	Call signal	District and station
2XZ	Second district: New York, N. Y.	7XA	Seventh district: Missoula, Mont.
3XI	Third district: Baltimore, Md.	9XM	Ninth district:
4XH	Fourth district: Pensacola, Fla. (temporary).	9XO	Madison, Wis. Chicago, Ill.

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, 1925, and to the International List of Radiotelegraph Stations, published by the Berne Bureau]

CHEBOYGAN, Mich.—W. L., 409.

CLEVELAND, Ohio (WMI).—System, add K. & C., 1,000; w. l., 715, 875, 1,733; rates, 8 cents per word.

CLEVELAND, Ohio (WTK).—W. L., add 875.

FLINT, Mich.—System, composite v. t. telephone and telegraph.

GALVESTON, Tex.—Hours, N.

LUDINGTON, Mich.—System, Marconi arc and Marconi spark, 1,000; w. L., 715, 875, 1,666.

MANITOWOC, Wis.—W. L., add 875.

NORTHLAKE, Mich.—Hours, N.

PORTLAND, Oreg.—System, composite v. t. telephone and telegraph.

QUINCY, Mass.—W. L., 600, 920.

ROCKY POINT, N. Y. (WQO).—W. L., 35, 44.

ST. JAMES, N. Y.—Read Rocky Point, N. Y.; system, Alexanderson alternator.

SPRINGFIELD, Mass.—Range, 2,000.

TUCKERTON, N. Y. (WSC).—System, R. C. A. v. t. telegraph; w. L., 600, 650, 2,200, 2,425.

UNDERWOOD, Wash. (NEAR).—System, composite v. t. telephone and telegraph.

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, 1925, and to the International List of Radiotelegraph Stations, published by the Berne Bureau]

ABRON.—Owner of vessel, Finkbine-Guild Transportation Co.

ACME.—W. L., 600, 700, 800.

AMERICAN FARMER.—Strike out ditto on page 12; insert American Farmer, call signal WEG (U. S. L.).

AMERICAN LEGION.—Range, 200-500; w. L., 600, 700, 800, 1,800, 1,900, 2,000, 2,100, 2,400.

ARYAN.—W. L., 600, 700, 800.

ATLANTA CITY.—W. L., 600, 700, 800.

BALLENAS.—Range, 150; system, Telefunken, 1,000; w. L., 600, 700, 800; owner of vessel, W. E. Ledger & Co.

BASCODEL.—W. L., 600, 700, 800; station controlled by I. W. T. Co.

BELLEPLINE.—W. L., 600, 700, 800; hours, X.

- BIRMINGHAM.—System, composite, 1,000; w. l., 600, 1,100.
- BRANDON.—Range, 150; system, composite, 1,000; w. l., 600, 706, 800.
- BRAZOS.—System, Marconi, 1,000; w. l., 600, 706, 800.
- CACIQUE.—W. l., 600, 706, 800.
- CAMBRIDGE.—Range, 150; system, Lowenstein, 1,000; w. l., 600, 706, 800, 875.
- CATHERINE G. SUDDEN.—Owner of vessel, Sudden & Christenson.
- CERRO-AZUL.—Range, 300; system, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
- CHEROKEE.—Range, 150-300; system, I. W. T. Co. arc and Lowenstein spark, 1,000; w. l., 600, 700, 800, 1,800, 1,900, 2,000, 2,100, 2,400.
- CITY OF BIRMINGHAM.—W. l., 600, 706, 800.
- CITY OF CHATTANOOGA.—System, R. C. A. v. t. telegraph and R. C. A. spark, 1,000; w. l., 600, 706, 800, 1,800, 1,900, 2,100, 2,400.
- COAMO.—Range, 150; system, Marconi, 1,000; w. l., 600, 706, 800, 1,800, 1,900, 2,000, 2,100, 2,400.
- COLORADO SPRINGS.—W. l., 600, 706, 800.
- COLUMBIAN.—Range, 200; system, F. T. Co., 480; w. l., 600, 706, 800.
- COMMER.—W. l., 600, 706, 800.
- CORRALES.—Owner of vessel, Pillsbury & Curtis.
- DEER LODGE.—Station controlled by R. C. A. (U. S. L.).
- DERBYLINE.—W. l., 450, 600, 706, 800.
- DIANA DOLLAR.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 800.
- DOCHET.—Owner of vessel, Finkbine-Guild Transportation Co.
- EASTERN MOON.—W. l., 600, 706, 800.
- EAST INDIAN.—Range, 500; system, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 1,800, 2,000, 2,100, 2,400; owner of vessel, Ford Motor Co.
- EDNA CHRISTENSEN.—Owner of vessel, Sudden & Christenson.
- E. G. CROSBY.—System, Navy-W. S. A. Co., 1,000; w. l., 600, 706, 800.
- ELLENOR.—W. l., 600, 706, 800.
- ELMORE.—W. l., 600, 706; station controlled by owner of vessel.
- ESSEX.—W. l., 600, 706, 800.
- F. C. LATROBE.—Range, 50; system, composite v. t. telegraph; w. l., 143, 600.
- FOREST KING.—Range, 200; w. l., 600, 706, 800.
- FREEPORT SULPHUR No. 6.—W. l., 450, 600, 706, 800.
- GEORGE WASHINGTON (WFR).—Owner of vessel, Eastern S. S. Lines.
- GEORGE W. BAHNS.—W. l., 600, 706, 800.
- GEORGIA.—System, Marconi, 1,000; w. l., 600, 706, 800.
- HEITI.—System, Navy-International Radio Telegraph Co., 1,000; w. l., 600, 706, 800; rates, strike out Great Lakes rate.
- HALO.—W. l., add 1,000, 2,000.
- HAMLIN F. McCORMICK.—Owner of vessel Charles R. McCormick Lumber Co.
- HECIRA.—W. l., 600, 706, 800; owner of vessel, Hecira S. S. Co.
- HUGUENOT.—System, Navy, 1,000; w. l., 450, 600, 706, 800.
- INDIANA HARBOUR.—Range, 200; system, Navy, 1,000; w. l., 600, 706, 800.
- JEFFERSON (KOD).—Owner of vessel, Eastern S. S. Lines.
- LAKE BENTON.—Owner of vessel, Mobile, Miami & Gulf S. S. Co.
- LAKE CAPENS.—Range, 150; system, Navy-Marconi, 1,000; w. l., 600, 706, 800.
- LAKE ELLSBURY.—Range, 150; system, R. C. A. v. t. telegraph; w. l., 600, 706, 800.
- LAKE FAIRPORT.—Range, 200; system, Navy-Lowenstein, 1,000; w. l., 600, 706, 800; station controlled by I. W. T. Co.
- LAKE FERNANDO.—Range, 300; system, I. W. T. Co., 1,000; w. l., 600, 706, 800; owner of vessel, Murson Steamship Line.
- LAKE GETAWAY.—Name changed to Upshur; range, 200; system, Navy-Simon, 1,000; w. l., 600, 706, 800.
- LAKE GILTEDGE.—Range, 300; system, Navy-Lowenstein, 1,000; w. l., 600, 706, 800.
- LAKE MEDFORD.—Range, 200; system, Navy-R. C. A., 1,000; w. l., 600, 706, 800.
- LEROY.—W. l., 600, 706.
- LEWIS LUCKENBACH.—Hours, X.
- MANCHEURIA.—W. l., 600, 706, 800; owner of vessel, Atlantic Transport Co.
- MERRIMACK.—Hours, X.
- MONTGOMERY CITY.—W. l., strike out 450.
- MONTHOLITE.—Name changed to J. C. Fitzsimmons.
- MUNAIRES.—System, R. C. A. v. t. telegraph.
- NORTHLAND (WGJ).—Station controlled by owner of vessel.
- O. A. HERMANSON.—Range, 150; system, R. C. A., 1,000; w. l., 600, 706; owner of vessel, Cary Davis Tug & Barge Co.; station controlled by owner of vessel.

OAKSPRING.—Station controlled by R. C. A.

OCEAN.—W. I., 600, 706, 800.

OSCAR D. BENNETT.—System, R. C. A. v. t. telegraph; w. I., 600, 706, 750, 800, 900.

PAN AMERICA.—Range, 300; system, Federal arc and Navy-Marconi spark, 1,000; w. I., 600, 706, 800, 1,800, 1,900, 2,000, 2,100, 2,400; owner of vessel Munson Steamship Line.

PAWLET.—System, Navy-Marconi, 1,000; w. I., 600, 706, 800; station controlled by I. W. T. Co.

PAWNEE (KFTL).—Name changed to Vagabondia; service, PG; owner of vessel, W. L. Melton; station controlled by owner of vessel; rates, 8 cents per word.

PAWNEE (KFZE).—Range, 300; system, R. C. A. v. t. telegraph; w. I., 600, 706, 750, 800, 1,800, 1,900, 2,000, 2,100; service, PG; hours, X; station controlled by R. C. A.; rates, 8 cents per word.

PECOS.—System, Marconi, 1,000; w. I., 600, 706, 800.

PERE MARQUETTE.—Name changed to Pere Marquette 15.

PRESIDENT GRANT.—Range, 150-300; w. I., add 800.

RELIEF.—Range, 150-300; system, I. W. T. Co. arc and Telefunken spark, 1,000; owner of vessel, Merritt & Chapman Derrick & Wrecking Corporation.

RICHMOND (KDOQ).—W. I., 600, 706; rates, 8 cents per word.

SAN JACINTO.—W. I., 600, 706, 800.

SAN JUAN (KGJ).—System, Marconi, 1,000; w. I., 600, 706, 800; hours, X.

SANTA MARTA.—W. I., 600, 706, 800; owner of vessel, United Fruit Steamship Corporation.

SAUGUS.—System, Navy-W. S. A. Co., 1,000; w. I., 450, 600, 706, 800.

SAYONARA.—Range, 150; system, R. C. A., 1,000; w. I., 600, 706, 800; service, PG; hours, X; station controlled by owner of vessel; rates, 8 cents per word.

SCHEECTADY.—Station controlled by R. C. A. (U. S. L.).

SCHONARIN.—Owner of vessel, U. S. Shipping Board.

SIBONEY.—W. I., 600, 706, 800, 1,800, 2,100, 2,400..

SOCONY 82.—W. I., 600, 706, 800.

SOCONY 83.—W. I., 600, 706, 800; owner of vessel, Standard Transportation Co.

STANDARD (KIC).—W. I., 600, 706, 800.

STANLEY.—Station controlled by R. C. A. (U. S. L.).

SUNDANCE.—Owner of vessel, U. S. Shipping Board.

SUPPORTCO.—W. I., 600, 706, 800.

SUSAN A. MORAN.—Range, 200; system, Navy-Marconi, 1,000; w. I., 600, 706, 800.

SYLVAN ARROW.—W. I., 600, 706, 800; hours, X.

UNITED STATES.—System, Marconi, 1,000; w. I., 600, 706, 715, 800.

WALUCIA.—Range, 150; system, Navy-Lowenstein, 1,000; w. I., 600, 706, 800; service, PG; hours, X; rates, 8 cents per word.

WEST CHETAC.—System, Navy-Lowenstein, 1,000; w. I., 600, 706, 800, 875.

WEST INARI.—System, Navy-Lowenstein, 1,000; w. I., 600, 706, 800.

WEST ISLETA.—Owner of vessel, South American-South African Line; station controlled by R. C. A. (U. S. L.).

WESTERN WORLD.—System, Federal arc and Navy-Marconi spark, 1,000; w. I., 600, 706, 800, 1,800, 1,900, 2,000, 2,100, 2,400; owner of vessel Munson Steamship Line.

W. H. LIBBY.—W. I., 600, 706, 800.

WILLPOLO.—W. I., 600, 706, 800.

W. J. HANNA.—W. I., 600, 706, 800.

Strike out all particulars of the following-named vessels: Australia, Cotopaxi, Jefferson (WAJ); Morro Castle, Peerless, San Juan (KULV); Windber.

COMMERCIAL LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS

KFTL, read Vagabondia; KINJ, read Munleon; KOLZ, read Upshur; WDA, read Pere Marquette 15; WFA, read J. C. Fitzsimmons; WQK, read Rocky Point, N. Y.; strike out all particulars following call signals KDXO, KFYI, KULV, KWC, WAJ, WMEI, WND.

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, 1925]

- KFBC (San Diego, Calif.)—W. L., 215.7; fy. kc., 1,300.
 KFBS (Trinidad, Colo.)—Fy. kc., 1,200.
 KFH (Wichita, Kans.)—Power, 600.
 KFI (Los Angeles, Calif.)—Power, 4000.
 KFLZ (Atlantic, Iowa)—Changed to Anita, Iowa.
 KFPR (Los Angeles, Calif.)—W. L., 230.8; fy. kc., 1,300.
 KFQZ (Hollywood, Calif.)—W. L., 225.4; fy. kc., 1,330.
 KFVG (Independence, Mo.)—Power, 15.
 KFWM (Oakland, Calif.)—Fy. kc., 1,450.
 KFXD (Logan, Utah)—Owner of station, Service Radio Co.
 KLS (Oakland, Calif.)—W. L., 250.
 KMMJ (Clay Center, Nebr.)—Power, 1000.
 KNX (Los Angeles, Calif.)—Power, 1000.
 WABB (Harrisburg, Pa.)—Owner of station, Harrisburg Radio Co.; w. L., 204; fy. kc., 1,470.
 WBDC (Grand Rapids, Mich.)—Power, 500.
 WBPI (Newark, N. J.)—Owner of station, I. R. Nelson.
 WCX (Pontiac, Mich.)—Power, 5000.
 WDGR (Boston, Mass.)—Call signal changed to WSSII.
 WEBR (Buffalo, N. Y.)—Power, 60.
 WEBZ (Savannah, Ga.)—Power, 50.
 WEEI (Boston, Mass.)—W. L., 348.6; fy. kc., 800.
 WEW (St. Louis, Mo.)—Power, 1000.
 WFBH (New York, N. Y.)—Changed to Richmond Hill, N. Y.
 WGBF (Evansville, Ind.)—Power, 500.
 WHBD (Belleville, Ohio)—Strike out the word portable.
 WHBL (Logansport, Ind.)—Changed to Chicago, Ill. (portable); owner of station, C. L. Carroll.
 WHBM (Chicago, Ill.—portable)—W. L., 215.7; fy. kc., 1,300.
 WHK (Cleveland, Ohio)—Power, 1000; w. L., 272.8.
 WHT (Deerfield, Ill.)—Power, 3500.
 WIBH (New Bedford, Mass.)—Power, 30.
 WIBZ (Montgomery, Ala.)—Owner of station A. D. Trum, 217 Catoma Street.
 WJAK (Greentown, Ind.)—Changed to Kokomo, Ind., 1531 Washington Street.
 WJR (Pontiac, Mich.)—Power, 5000.
 WJZ (New York, N. Y.)—Power, variable.
 WKAO (San Juan, P. R.)—Owner of station, Radio Corporation of Porto Rico.
 WLBB (Elgin, Ill.—near)—Power, 4000.
 WLS (Crete, Ill.)—Power, 5000.
 WNAD (Norman, Okla.)—Power, 500.
 WOOD (Grand Rapids, Mich.)—Power, 500.
 WSBC (Chicago, Ill.)—Power, 1000.
 WTAT (Boston, Mass.—portable)—Call signal changed to WATT; w. L., 245.8; fy. kc., 1,230.
 WTIC (Hartford, Conn.)—W. L., 475.9; fy. kc., 630.
 Strike out all particulars of the following-named stations: KDPM (Cleveland, Ohio), KFFY (Alexandria, La.); KFGC (Baton Rouge, La.), KFGH (Steubenville, Calif.), KFJX (Cedar Falls, Iowa), KFOJ (Moeberry, Mo.), KFUJ (Breckenridge, Minn.), KFUM (Colorado Springs, Colo.), KFUV (Springfield, Mo.), KFWD (Arkadelphia, Ark.), KGB (Tacoma, Wash.), KWUC (Le Mars, Iowa), WCBC (Ann Arbor, Mich.), WDCH (Hanover, N. H.), WEAY (Houston, Tex.), WGBK (Johnstown, Pa.), WGBT (Greenville, S. C.), WIBC (St. Petersburg, Fla.), WIBK (Toledo, Ohio), WIBV (Henderson, N. C.), WJBN (Sycamore, Ill.), WKAD (East Providence, R. I.), WLB (Minneapolis, Minn.), WOCG (Sycamore, Ill.), WRAK (Escanaba, Mich.), WSAU (Chesham, N. H.), WTAC (Johnstown, Pa.).

GOVERNMENT 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 June 30, 1925, and to the International List of Radiotelegraph Stations, published by the Berne Bureau.]

ANACOSTIA, D. C. (R. O.)—Strike out all particulars.

RADIO SERVICE BULLETIN

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, 1925, and to the International List of Radiotelegraph Stations, published by the Berne Bureau]

Strike out all particulars of the following-named vessel: Argus, CG-114, CG-245.

GOVERNMENT LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS

NABD, read New York, N. Y. (Argus); strike out all particulars following call signals, NAMS, NAVX, NSF (R. C.).

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 30, 1925]

ARLINGTON, Ill. (9XN).—Changed to Chicago, Ill.; owner of station, Zenith Radio Corporation, 3020 Iron Street.

MEDFORD HILLSIDE, Mass. (1XE).—Owner of station, Amrad Corporation. Strike out all particulars of the following-named stations: Baltimore, Md. (3XAQ); Brooklyn, N. Y. (2XV); Carthage, Ill. (0YAU); Detroit, Mich. (8XAR); Hilo, Hawaii (6XAZ); Honolulu, Hawaii (0XAY); Monmouth, Ill. (0XP); New York, N. Y. (2XAL).

MISCELLANEOUS

BROADCASTING STATIONS, ALPHABETICALLY BY STATES AND CITIES

[Complete to Jan. 30, 1926]

State and city	Call signal	State and city	Call signal	State and city	Call signal
Alabama:				Georgia:	
Auburn.....	WAPI	San Diego.....	KFVW	Atlanta.....	WDBE
Birmingham.....	WBEC	San Francisco.....	KFRG	Do.....	WGST
Montgomery.....	WTBZ	Do.....	EGTT	Do.....	WSB
Alaska:				Macau.....	WMAZ
Anchorage.....	KFQD	Do.....	KJRS	Savannah.....	WEBZ
Juneau.....	KFIU	Do.....	KFO	Hawaii: Honolulu.....	KGU
Arizona:				Idaho:	
Flagstaff.....	KFXY	San Jose.....	KFAF	Boise.....	KFAU
Phoenix.....	KFAD	Do.....	KQW	Do.....	KFDD
Do.....	KFCB	San Pedro.....	KFUD	Kellogg.....	KFZY
Arkansas:				Illinois:	
Fayetteville.....	KFMQ	Santa Maria.....	KPXO	Batavia.....	WORD
Hot Springs.....	KTHS	South San Francisco.....	KFWI	Cambridge.....	WTAP
California:				Carthage.....	WTAD
Alma (Holy City).....	KFOU	Stockton.....	KWQ	Chicago.....	KYW
Avalon.....	KFWO	Upland.....	KFWO	Do.....	WAAP
Bakersfield.....	KDZB	Colorado:		Do.....	WBMM
Berkeley.....	KRE	Boulder.....	KPAJ	Do.....	WBCN
Big Bear Lake.....	KFXB	Colorado Springs.....	KFXF	Do.....	WEBH
Burlingame.....	KFOB	Denver.....	KPEL	Do.....	WFKB
Chico.....	KFWH	Do.....	KFUP	Do.....	WGN
Fresno.....	KMJ	Denver (near).....	KIVR	Do.....	WIBO
Hollywood.....	KFQZ	Greeley.....	KPKA	Do.....	WLTS
Do.....	KFWB	Garrison.....	KFHQ	Do.....	WMAQ
Long Beach.....	KFON	Tincklbad.....	KYBS	Do.....	WMBB
Los Angeles.....	KFI	Connecticut:		Do.....	WPCC
Do.....	KFFR	Hartford.....	WTIC	Do.....	WQJ
Do.....	KPSG	Mansfield.....	WCAC	Do.....	WSBC
Do.....	KHJ	New Haven.....	WDRO	Do.....	WLS
Oakland.....	KMTR	Delaware: Wilmington.....	WHAV	Do.....	WBAO
Do.....	KNRC	District of Columbia:		Decatur.....	WJBL
Do.....	KNX	Washington.....	WCAP	Do.....	WHT
Do.....	KTBI	Do.....	WMAL	Doordfield.....	WCEE
Do.....	KPUS	Do.....	WRC	Eldia (near).....	WLIR
Do.....	KFUU	Do.....	WRHP	Do.....	WEHS
Do.....	KFWM	Florida:		Evanston.....	WFBZ
Do.....	KGO	Clearwater.....	WGHB	Galesburg.....	WRAM
Do.....	KLS	Fultord-by-the-Sea.....	WGBU	Do.....	WEBQ
Do.....	KLX	Jacksonville.....	WJAX	Harrisburg.....	WOK
Do.....	KTAB	Miami.....	WQAM	Homewood.....	WCLS
Oinard.....	KZMI	Miami Beach.....	WIOD	Joliet.....	WJBA
Paradise.....	KFYF	Do.....	WMBF	Do.....	WKBD
Do.....	KPPC	St. Petersburg.....	WHBN	Do.....	WJBC
Sacramento.....	KPSN	Do.....	WJBB	La Salle.....	WJJD
San Diego.....	KFBK	Tampa.....	WDAE	Mooseheart.....	WJAZ
	KFBC	Winter Park.....	WDBO	Mount Prospect.....	

BROADCASTING STATIONS, ALPHABETICALLY BY STATES AND CITIES—continued

State and city	Call signal	State and city	Call signal	State and city	Call signal
Illinois—Continued.		Massachusetts:		Montana:	
Oak Park.....	WGES	Boston.....	WSSH	Havre.....	KFBB
Plainfield.....	WWAE	Do.....	WBZA	Missoula.....	KUOM
Rockford.....	KFLV	Do.....	WEFI	Nebraska:	
Rock Island.....	WHIF	Do.....	WNAB	Clay Center.....	KMMJ
Screamer.....	WTAK	Do.....	WNAC	David City.....	KFOR
Tuscola.....	WDZ	Bartmouth.....	WMAF	Hastings.....	KPKX
Urbana.....	WLM	Fall River.....	WSAR	Lincoln.....	KFAB
Zion.....	WCBD	Do.....	WTAB	Do.....	WFAY
Indiana:		Medford Illinois.....	WARG	Norfolk.....	WIAG
Anderson.....	WEBD	New Bedford.....	WIRH	Oak.....	KFEQ
Do.....	WBHU	Do.....	WNBH	Omaha.....	KFOZ
Culver.....	WDBII	Springfield.....	WBZ	Do.....	KFOX
Evansville.....	WGDF	Taunton.....	WAIT	Do.....	KOCH
Fort Wayne.....	WBHJ	Webster.....	WKHE	Do.....	WAAW
Do.....	WOWO	Worcester.....	WTAG	Do.....	WOAW
Indianapolis.....	WFYM	Michigan:		University Place.....	WOAJ
Kokomo.....	WJAK	Bay City.....	WSKC	New Hampshire:	
Laporte.....	WRAF	Berrien Springs.....	WEMC	Chesham.....	WSAU
Logansport.....	WIBW	Bethel.....	WWI	Laconia.....	WRAV
Seymour.....	WFRE	Detroit.....	WHP	New Jersey:	
South Bend.....	WBST	Do.....	WMRC	Atlantic City.....	WHAR
Valparaiso.....	WRBC	Do.....	WWJ	Do.....	WPG
West Lafayette.....	WBAA	East Lansing.....	WKAR	Camden.....	WFBI
Iowa:		Flint.....	WFDF	Gloucester City.....	WRAX
Ames.....	WOT	Grand Rapids.....	WBDC	Hoboken.....	WMCA
Anita.....	KFLZ	Do.....	WOOD	Lambertville.....	WTAZ
Boone.....	KFGQ	Heights.....	KFMW	Newark.....	WRPI
Burlington.....	WIAS	Do.....	WWAO	Do.....	WGCP
Cedar Rapids:		Lansing.....	WREO	Do.....	WNJ
Do.....	KWCR	Mount Clemens.....		Do.....	WOR
Clarinda.....	WJAM	(near).....	WABX	North Plainfield.....	WEAM
Council Bluffs.....	KSD	Orono.....	WSMU	Peterson.....	WODA
Davenport.....	KOII	Petoskey.....	WJRP	Red Bank.....	WJBI
Des Moines.....	WUC	Pontiac.....	WCX	Trenton.....	WOAX
Fort Dodge.....	WHO	Port Huron.....	WJR	New Mexico:	
Iowa City.....	KFJY	Royal Oak.....	WAFD	Albuquerque.....	KPLR
Do.....	KFQP	Vandalia.....	WAQM	Do.....	KFVV
Marshalltown.....	WSUI	Minneapolis:	WJRK	State College.....	KOB
Muscatine.....	KFJB	Collegeville.....	WFBJ	New York:	
Oskaloosa.....	KTNT	Minneapolis.....	KFDZ	Bay Shore.....	WRST
Shenandoah.....	KFHJ	Do.....	WAMD	Brooklyn.....	WFRL
Do.....	KPNP	Do.....	WHAT	Buffalo.....	WEBR
Sioux City.....	KMA	Do.....	WHDI	Do.....	WGR
Do.....	KFMR	Do.....	WRHM	Canton.....	WJBP
Kansas:		Northfield.....	KFMX	Cazenovia.....	WCAD
Independence.....	KFVG	Do.....	WCAL	Flushing.....	WMAO
Junction City.....	KFJC	St. Cloud.....	WFAM	Freeport.....	WIBI
Lawrence.....	KFKU	St. Paul.....	KFOY	Ithaca.....	WGBB
Manhattan.....	KFVII	St. Paul-Minneapolis.....		Jamesstown.....	WEAI
Do.....	KFAC	Wellesley.....	WCCO	Kingston.....	WUCI
Wichita.....	KFH	Mississippi:	KFVN	Lockport.....	WDBZ
Do.....	KFOT	Coldwater.....	WREC	New York:	WMAK
Kentucky:		Oxford (near).....	WOBII	Do.....	WBNY
Louisville.....	WIIAS	Missouri:		Do.....	WEAF
Do.....	WLAP	Cape Girardeau.....	KFVS	Do.....	WEBJ
Louisiana:		Carterville.....	KFIPW	Do.....	WGBS
Kennettwood.....	KWKL	Columbia.....	KFRU	Do.....	WHAP
New Orleans.....	WAAB	Independence.....	KLDS	Do.....	WHN
Do.....	WABZ	Jefferson City.....	WOS	Do.....	WJY
Do.....	WHRS	Kansas City.....	KWEC	Do.....	WJZ
Do.....	WCBE	Do.....	WDAF	Do.....	WLWL
Do.....	WOWI	Do.....	WHE	Do.....	WNYC
Do.....	WSMB	Do.....	WOO	Do.....	WOKO
Do.....	WWL	Kirkville.....	KFKZ	Do.....	WQAO
Pineville.....	KFWU	Kirkwood.....	KMOK	Do.....	WRNY
Shreveport.....	KFDX	Moberly.....	KFFP	Hickman Hill.....	WSDA
Maine:		St. Louis.....	KFQA	Do.....	WAGH
Bangor.....	WABI	Do.....	KFUO	Do.....	WBOQ
Ellsworth.....	WHRK	Do.....	KFVE	Do.....	WFBL
Orono.....	WGDX	Do.....	KFWF	Do.....	WWGL
Portland.....	WCSH	Do.....	KSL	Rochester.....	WABO
Maryland:		Do.....	WKW	Do.....	WHAM
Baltimore.....	WBAL	Do.....	WIL	Rossville.....	WBR
Do.....	WCAO	Do.....	WMAY	Schaeftady.....	WGY
Do.....	WCJM	Do.....	WSDF	Syracuse.....	WFRL
Do.....	WFBN	Do.....		Tarrytown.....	WRW
Takoma Park.....	WBES				

BROADCASTING STATIONS, ALPHABETICALLY BY STATES AND CITIES—CONTINUED

State and city	Call signal	State and city	Call signal	State and city	Call signal
New York—Contd.		Pennsylvania—Contd.		Texas—Continued	
Troy.....	WHAZ	Philadelphia.....	WABY	San Antonio.....	KFLU
Utica.....	WIBX	Do.....	WCAG	Texarkana.....	KFYO
North Carolina:		Do.....	WFDD	Waco.....	WJAD
Asheville.....	WARC	Do.....	WFI	Utah:	
Charlotte.....	WBT	Do.....	WIBW	Logan.....	KFXD
Do.....	WJBG	Do.....	WIAD	Ord... Do.....	KFUR
Raleigh.....	WRCO	Do.....	WIP	Salt Lake City.....	KFWA
North Dakota:		Do.....	WLIT	Do.....	KDYL
Agricultural College.....	WPAK	Do.....	WNAT	Do.....	KFOO
Bismarck.....	KFYH	Do.....	WOO	Do.....	KFUT
Devils Lake.....	KDLR	Pittsburgh.....	WWAD	Do.....	KSL
Fargo.....	WDAY	Do.....	KQV	Vermont:	
Grand Forks.....	KFJM	Do.....	WCAE	Burlington.....	WCAX
Ohio:		Reading.....	WJAS	Springfield.....	WQAE
Akron.....	WADC	Scranton.....	WRRAW		
Bellefontaine.....	WHBD	Do.....	WGDI	Arlington.....	NAA
Cambridge.....	WBRE	Do.....	WQAN	Norfolk.....	WBBW
Canton.....	WHBU	State College.....	WPSC	Do.....	WTAR
Cincinnati.....	WAAD	Wilkes-Barre.....	WBAX	Richmond.....	WBBL
Do.....	WEKO	Do.....	WBRE	Do.....	WRVA
Cleveland.....	WDBK	Philippines Islands:		Roanoke.....	WDBJ
Do.....	WEAR	Baguio.....	KZUY	Washington.....	
Do.....	WHK	Macta.....	KZIB	Everett.....	KFBL
Do.....	WTAM	Do.....	KZKZ	Lacey.....	KOY
Columbus.....	WAIU	Do.....	KZRQ	North Bend.....	KFQW
Do.....	WEAO	Porto Rico: San Juan.....	WKAQ	Olympia.....	KFRW
Do.....	WMAN	Rhode Island:		Puget Sound.....	KWSC
Dayton.....	WSMK	Cranston.....	WDWF	Seattle.....	KFOA
Hamilton.....	WRE	Providence.....	WLBI	Do.....	KJR
Do.....	WSHO	Do.....	WEAN	Do.....	KTCL
Harrison.....	WLW	Do.....	WGBM	Do.....	XTW
Mason.....	WEAI	Do.....	WJAR	Spokane.....	KFIO
Pomeroy.....	WSAZ	South Carolina:		Do.....	KFPY
Springfield.....	WCSD	Charleston.....	WBBY	Do.....	KHQ
Toledo.....	WAHR	South Dakota:		Tacoma.....	KMO
Do.....	WTAL	Brookings.....	KFDY	Walla Walla.....	KOWW
Wooster.....	WABW	Rapid City.....	WCAT	Yakima.....	KFIQ
Yellow Springs.....	WRAY	Vermillion.....	KUSD	West Virginia: Wheeling.....	WIBR
Oklahoma:		Yankton.....	WNAX	Wisconsin:	
Bristow.....	KVOO	Tennessee:		Beloit.....	WEDW
Chickasha.....	KOCW	Chattanooga.....	WDOD	Camp Lake.....	WCLO
Norman.....	WNAD	Knoxville.....	WFHC	Foundland.....	KFIZ
Oklahoma:	KFJF	Do.....	WNOX	Madison.....	WHA
Do.....	KFXR	Lawrenceburg.....	WOAN	Do.....	WIBA
Do.....	WKY	Memphis.....	WGRC	Macomb.....	WGBR
Tulsa.....	WLAL	Do.....	WMBQ	Milwaukee.....	WHAD
Oregon:		Do.....	WMC	Do.....	WKAQ
Astoria.....	KPJI	Nashville.....	WCQB	Do.....	WSOE
Corvallis.....	KOAC	Do.....	WDAD	Ossau.....	WTAQ
Portland.....	KFEG	Do.....	WSM	Peyton.....	WIBU
Do.....	KFIF	Texas:		Stevens Point.....	WLBL
Do.....	KFJR	Amarillo.....	WDAO	Superior.....	WEBC
Do.....	KFWV	Do.....	WQAC	West De Pere.....	WILBY
Do.....	KGK	Austin.....	KUT	Wyoming: Laramie.....	KFBU
Do.....	KQP	Benton.....	KFDM	Portable stations:	
Do.....	KTBK	Do.....	KFXM	Boston, Mass.....	WATT
Pennsylvania:		Beeville.....	KFRD	Chicago, Ill.....	WBBZ
Allentown.....	WCBA	Brownsville.....	KWWG	Do.....	WIIBL
Do.....	WSAN	College Station.....	WTAW	Do.....	WHBM
Altoona.....	WFBG	Dallas.....	WFAA	Do.....	WIBJ
East Pittsburgh.....	KDKA	Do.....	WRR	Do.....	WIDM
Elkton Park.....	WIBG	Dublin.....	KFPL	Do.....	WKBG
Grove City.....	WEAJ	EI Paso.....	KFXH	Do.....	WSAX
Harrisburg.....	WAHR	Do.....	WDAH	Denver, Colo.....	KFXJ
Do.....	WBAK	Fort Worth.....	KFJZ	Elizabethtown, N.J.....	WIBS
Do.....	WBBG	Do.....	KFQI	Houston, Tex.....	KFYJ
Do.....	WPRC	Do.....	WBAP	MU-1 (yacht).....	WRMU
Haverford.....	WABQ	Galveston.....	KFLX	Providence, R.I.....	WCDR
Johnstown.....	WIBP	Do.....	KFUI	Richmond, N.Y.....	WGMU
Lancaster.....	WDBC	Greenville.....	KFPM	United States.....	WCWS
Do.....	WGAL	Houston.....	KFVI	Do.....	WEBL
Lewisburg.....	WJBQ	Do.....	KPRC	Do.....	WEBM
OU City.....	WHAH	San Antonio.....	WCAR		
Parkersburg.....	WQAA	Do.....	WOAI		

BROADCASTING STATIONS, ALPHABETICALLY BY CALL SIGNALS

[Complete up to Jan. 30, 1920]

Call signal	Location of station	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
KDKA	East Pittsburgh, Pa.	Westinghouse Electric & Manufacturing Co.	(1)	309.1	970
KDLR	Devils Lake, N. Dak.	Radio Electric Co. and Wilson Insurance Co.	5	231	1,300
KDYL	Salt Lake City, Utah	Newhouse Hotel	50	248	1,220
KDZB	Bakersfield, Calif.	Frank E. Siebert	100	209.7	1,430
KFAB	Lincoln, Nebr.	Nebraska Buick Auto Co.	1,000	240.7	880
KFAD	Phoenix, Ariz.	Electrical Equipment Co. (McArthur Bros. Mercantile Co.)	100	273	1,100
KFAF	San Jose, Calif., Montgomery Hotel	Alfred E. Fowler	50	217.3	1,350
KFAJ	Boulder, Colo.	University of Colorado	100	261	1,150
KFAU	Baile, Idaho	Independent School District of Boise City (Boise High School)	750	250.2	1,070
KFBH	Havre, Mont.	F. A. Buitrey Co.	50	275	1,000
KFRC	San Diego, Calif., 1035 Cahu Place	W. K. Asbill	10	215.7	1,300
KFBK	Sacramento, Calif., 607 K Street	Kimball-Upton Co.	100	248	1,210
KFBL	Everett, Wash., 2514 Rucker Avenue	Loose Bros.	100	224	1,340
KFBS	Trinidad, Colo.	School District No. 1	15	233	1,290
KFBU	Laramie, Wyo., The Cathedral	Bishop N. S. Thomas	600	270	1,110
KFCB	Phoenix, Ariz., 311 North Central Avenue	Nielsen Radio Supply Co.	100	233	1,200
KFDD	Baile, Idaho	St. Michaels Cathedral	50	275	1,080
KFDM	Beaumont, Tex.	Magnolia Petroleum Co.	500	315.6	850
KFDX	Shreveport, La.	First Baptist Church	100	250	1,200
KFDY	Brookings, S. Dak.	South Dakota State College of Agriculture and Mechanic Arts	100	273	1,100
KFDZ	Minneapolis, Minn., 2510 Thomas Avenue South	Harry O. Iverson	10	231	1,300
KFRC	Portland, Ore.	Meter & Frank Co.	10	248	1,210
KFEL	Denver, Colo., 433 Fourteenth Street	W. L. Winder Radio Shop	50	254	1,180
KPEQ	Oak, Nebr.	Seroggin & Co. Bank	500	268	1,120
KPEY	Kellogg, Idaho	Bunker Hill & Sullivan Mining & Concentrating Co.	10	233	1,220
KFFF	Moberly, Mo.	First Baptist Church	60	242	1,240
KFGQ	Boone, Iowa	Crary Hardware Co.	10	295	1,330
KFIH	Wichita, Kansas	Hotel Lassen (Ribby-Grey Hotel Co.)	500	268	1,120
KFHA	Gunnison, Colo.	Western State College of Colorado	50	252	1,190
KFHIL	Oskaloosa, Iowa	Penn College	10	240	1,250
KFI	Los Angeles, Calif., Tenth and Hope Streets	Karl C. Anthony (Int.)	4,000	468.5	640
KFIF	Portland, Ore.	Benson Polytechnic Institute	100	218	1,210
KFIO	Spokane, Wash.	North Central High School	100	255.3	1,130
KFIQ	Yakima, Wash.	First Methodist Church	100	256	1,170
KFIU	Juniper, Alaska	Alaska Electric Light & Power Co.	10	226	1,330
KFIZ	Fond du Lac, Wis.	Daily Commonwealth & Wisconsin Sales (Inc.)	100	273	1,100
KFJB	Marshalltown, Iowa	Marshall Electric Co.	10	248	1,210
KFJC	Junction City, Kans.	Episcopal Church (R. H. Fugate)	10	218.8	1,370
KFJJ	Oklahoma, Okla.	National Radio Manufacturing Co.	500	261	1,150
KFJI	Astoria, Ore.	Liberty Theater (E. E. Marsh)	10	246	1,220
KFJM	Grand Forks, N. Dak.	University of North Dakota	100	273	1,080
KFJR	Portland, Ore., 1150 East Thirty-sixth Street	Ashley C. Dixon & Son	50	268	1,140
KFJY	Fort Dodge, Iowa	Tunwall Radio Co.	50	246	1,220
KFJZ	Fort Worth, Tex.	Southwestern Baptist Theological Seminary	50	254	1,180
KPKA	Greely, Colo.	Colorado State Teachers College	50	273	1,100
KPKU	Lawrence, Kans.	University of Kansas	500	275	1,040
KPKX	Hastings, Nebr.	Westinghouse Electric & Manufacturing Co.	5,000	258.3	3,640
KPKZ	Kirkville, Mo., 402 South High Street	F. M. Henry	10	230	1,330
KFLR	Albuquerque, N. Mex.	University of New Mexico	100	254	1,180
KFLU	San Benito, Tex.	San Benito Radio Club	10	246	1,270
KFLV	Rockford, Ill.	Swedish Evangelical Mission Church	100	220	1,310
KFLX	Galveston, Tex., 1214 Foothills Street	George R. Clough	10	210	1,250

¹ Variable.

BROADCASTING STATIONS, ALPHABETICALLY BY CALL SIGNALS—continued

Call signal	Location of station	Owner of station	Power (watts)	Wave length	Frequency (kilo-cycles)
KFLZ	Anita, Iowa	Atlantic Automobile Co.	100	273	1,100
KFMQ	Fayetteville, Ark.	University of Arkansas	750	200.8	1,000
KFMR	Sioux City, Iowa	Morningside College	100	261	1,150
KFMW	Boughton, Mich.	M. G. Bateren	50	263	1,140
KFMX	Northfield, Minn.	Carleton College	500	330.9	900
KPNF	Shenandoah, Iowa	Henry Field Seed Co.	500	263	1,140
KPOA	Seattle, Wash.	Rhodes Department Store	1,000	454.3	660
KPOB	Burlingame, Calif.	K F O B (Inc.)	50	220	1,330
KFON	Long Beach, Calif., Merkwell Building	Echoprobe Radio Shop	500	233	1,290
KFOO	Salt Lake City, Utah	Latter Day Saints University	250	236	1,270
KFOR	David City, Nebr.	David City Tire & Electric Co. (Howard A. Shuman)	100	226	1,330
KFOT	Wichita, Kans.	College Hill Radio Club (College Hill Methodist Church)	50	231	1,300
KFOX	Omaha, Nehr.	Technical High School	100	248	1,210
KFOY	St. Paul, Minn., 711 Dayton Avenue	Dragon Radio Service (M. G. Goldberg)	50	252	1,190
KFPL	Dublin, Tex.	O. C. Baxter	15	252	1,190
KFPM	Greenville, Tex.	New Furniture Co.	10	242	1,240
KFPR	Los Angeles, Calif.	Los Angeles County Forestry Department	500	230.5	1,300
KFPW	Carterville, Mo.	St. John's M. E. Church, South	20	268	1,180
KFPY	Spokane, Wash.	Symons Investment Co.	100	268	1,180
KFQA	St. Louis, Mo., 5530 Page Avenue	The Principia	100	261	1,150
KFQB	Fort Worth, Tex.	Searchlight Publishing Co.	1,000	253	1,140
KFQD	Anchorage, Alaska	Obviova Supply Co.	100	227.1	1,320
KFQP	Iowa City, Iowa	George S. Carson, Jr.	10	224	1,340
KFQU	Alma (Holy City), Calif.	W. E. Riker	100	217.3	1,380
KFQW	North Bend, Wash.	Carl F. Knierim	50	215.7	1,390
KFQZ	Hollywood, Calif., 6653 De Longpre Avenue	Taft Products Co.	50	223.4	1,330
KFRB	Beaville, Tex.	Hall Bros.	250	243	1,210
KFRC	San Francisco, Calif.	City of Paris Dry Goods Co.	50	253	1,130
KFRU	Columbia, Mo.	Stephens College	500	199.7	600
KFRW	Olympia, Wash.	United Churches of Olympia	50	218.5	1,370
KVSG	Los Angeles, Calif.	Echo Park Evangelistic Association	500	275	1,000
KFUL	Galveston, Tex., 2126 Market Street	Thomas Goggan & Bros. Music Co.	60	238	1,160
KFUO	St. Louis, Mo.	Concordia Seminary	500	545.1	620
KFUP	Denver, Colo.	Fitzsimons General Hospital	50	234	1,280
KFUR	Ogden, Utah, 420 Twenty-fifth Street	Poetry Building Co.	50	234	1,240
KFUS	Oakland, Calif., 420 Twenty-eighth Street	Louis L. Sherman	50	236	1,170
KFUT	Salt Lake City, Utah	University of Utah	100	261	1,150
KFUU	Oakland, Calif., 3020 Broadway	Colburn Radio Laboratories	50	250	1,260
KFVD	San Pedro, Calif., 1825 South Pacific Avenue	McWinnis Electric Co.	50	205.4	1,460
KFVE	St. Louis, Mo., 6890 Delmar Boulevard	Film Corporation of America	500	240	1,220
KFVG	Independence, Kans.	First Methodist Episcopal Church	15	236	1,270
KFVI	Manhattan, Kans.	Whan Radio Shop	15	218.8	1,370
KFVI	Houston, Tex.	Fifty-sixth Cavalry Brigade, Headquarters Troop	10	240	1,250
KFVN	Welcome, Minn.	Carl E. Bagley	50	227	1,320
KFVR	Denver, Colo. (near), Moonlight Ranch, Route 8	Eugene Ross	50	244	1,330
KFVS	Cape Girardeau, Mo.	Cape Girardeau Battery Station (Oscar C. Hirach)	50	234	1,340
KFVV	San Diego, Calif., 402 B Street	Airair Radio Corp.	500	246	1,220
KFVY	Albuquerque, N. Mex., 407 West Central Avenue	Radio Supply Co.	10	250	1,200
KFWA	Ogden, Utah, 2451 Kiesel Avenue	Browning Bros. Co.	500	261	1,150
KFWB	Hollywood, Calif., 3842 Sunset Boulevard	Warner Bros. Pictures (Inc.)	500	252	1,190
KFWC	Upland, Calif.	L. R. Wall	50	211.1	1,420
KFWF	St. Louis, Mo., 4030 Lindell Boulevard	St. Louis Truth Center	200	214.2	1,400
KFWI	Chico, Calif.	F. Wellington Morse, Jr.	100	234	1,180
KFWI	South San Francisco, Calif., 205 Wiley B. Allen Building, San Francisco, Calif.	Radio Entertainments (Inc.)	500	236	1,330
KFWM	Oakland, Calif., 1126 Bella Vista Avenue	Oakland Education Society	500	206.5	1,450
KFWO	Avalon, Calif.	Lawrence Mott	250	211.1	1,420
KFWU	Pineville, La.	Louisiana College	100	238	1,260

BROADCASTING STATIONS, ALPHABETICALLY BY CALL SIGNALS—continued

Call signal	Location of station	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
KFWV	Portland, Oreg., 383 East Fifty-eighth Street, South.	Wilbur German.....	60	212.6	1,410
KFXB	Big Bear Lake, Calif.	Bertram O. Heller.....	500	202.6	1,480
KFXC	Santa Maria, Calif.	Santa Maria Valley R. I. C. Co....	100	205.7	1,450
KFXD	Logan, Utah	Service Radio Co.....	10	206.4	1,460
KFXF	Colorado Springs, Colo., 226 Highmount Building.	Pikes Peak Broadcasting Co....	500	250	1,200
KFXH	E. Poco, Tex., 2857 Mountain Street	Bledsoe Radio Co.....	50	242	1,240
KFXJ	Denver, Colo. (portable), 917 Fourteenth Street.	Mountain States Radio Distributors (Inc.).....	10	215.7	1,300
KFXM	Beaumont, Tex., 239 Crockett Street.	Neches Electric Co.....	10	227	1,320
KFXR	Oklahoma, Okla., 1124 West Main Street.	Claissen Film Finishing Co.....	15	214.2	1,400
KFXY	Flagstaff, Ariz.	Miss Mary M. Costigan (Orpheum Theatre).	50	203.4	1,460
KFYF	Oxnard, Calif., 207 Fifth Street	Car's Radio Den (Newcomb Radio Co.).	10	205.4	1,460
KFYJ	Houston, Tex. (portable)	Houston Chronicle Publishing Co.	10	235	1,350
KFYO	Terrykana, Tex.	McBanan-Voushan Co.....	10	200.7	1,440
KFYR	Bismarck, N. Dak., 200 Fourth Street.	Hoskins-Meyer (Inc.).....	10	248	1,210
KGO	Oakland, Calif.	General Electric Co.....	4,000	371.2	810
KGTT	San Francisco, Calif.	Glad Tidings Tabernacle.....	50	200.8	1,450
KGU	Honolulu, Hawaii, 236 South King Street.	Marion A. Mulroney.....	500	270	1,100
KGW	Portland, Oreg.	Portland Morning Oregonian	500	491.5	510
KGY	Lacey, Wash.	St. Martins College.....	50	240	1,230
KHI	Los Angeles, Calif.	Times-Mirror Co.....	500	405.2	740
KHQ	Spokane, Wash., Devlon Building.	Loch Warner.....	500	273	1,160
KJBS	San Francisco, Calif., 1260 Bush Street.	Julius Brubton & Sons Co.....	5	220	1,380
KJR	Seattle, Wash., 611 Terminal Sales Building.	Northwest Radio Service Co.....	1,000	384.4	780
KLDS	Independence, Mo.	Reorganized Church of Jesus Christ of Latter Day Saints.	1,000	440.9	680
KLS	Oakland, Calif., 2201 Telegraph Avenue.	Werner Bros. Radio Supplies Co.	250	250	1,200
KLX	Oakland, Calif.	Oakland Tribune.....	500	408.2	560
KLZ	Denver, Colo., 1534 Glenarm Place.	Reynolds Radio Co.....	250	250	1,120
KMA	Shenandoah, Iowa	May Seed & Nursery Co.....	500	232	1,190
KMJ	Fresno, Calif., Taftzume and Fulton Streets.	Fresno Bee.....	50	234	1,260
KMMJ	Clay Center, Neb.	M. M. Johnson Co.....	1,000	228.9	1,310
KMO	Tacoma, Wash., 138 Pacific Avenue.	Love Electric Co.....	100	230	1,200
KMOX	Kirkwood, Mo. (St. Louis, Mo.)	Voice of St. Louis (Inc.).....	1,500	250.2	1,070
KMTK	Los Angeles, Calif., 1617 North Wilton St.	K. M. Turner Radio Corp. (Oliver S. Garretson).	500	238	1,260
KNRC	Los Angeles, Calif., 1630 South Los Angeles Street.	Clartace B. Juneau.....	250	245.2	1,440
KNX	Los Angeles, Calif.	Los Angeles Evening Express.....	1,000	334.9	600
KOA	Denver, Colo.	General Electric Co.....	5,000	322.4	930
KOAC	Corvallis, Oreg.	Oregon Agricultural College.....	500	280.2	1,070
KOB	State College, N. Mex.	New Mexico College of Agriculture and Mechanic Arts.	1,000	345.6	600
KOCH	Omaha, Neb.	Omaha Central High School.....	250	258	1,100
KOCW	Chickasha, Okla.	Oklahoma College for Women.....	200	252	1,100
KOIL	Council Bluffs, Iowa	Monarch Manufacturing Co.....	500	273	1,060
KOWW	Walla Walla, Wash.	Blue Mountain Radio Association (Frank A. Moore).	500	258	1,170
KPO	San Francisco, Calif.	Hale Bros.....	1,000	428.3	700
KPPC	Pasadena, Calif.	Pasadena Presbyterian Church.....	50	229	1,310
KPRC	Houston, Tex.	Post Dispatch.....	500	290.9	1,010
KPSN	Pasadena, Calif.	Pasadena Star News.....	1,000	315.6	950
KQP	Portland, Oreg., 418 Ninth St.	H. H. Read.....	500	212.6	1,410
KQV	Pittsburgh, Pa., 719 Liberty Avenue.	Doubleday-Bill Electric Co.....	500	273	1,030
KQW	San Jose, Calif.	First Baptist Church.....	500	201	1,300
KRE	Berkeley, Calif.	Berkley Daily Gazette.....	100	256	1,170
KSAC	Manhattan, Kans.	Kansas State Agricultural College.	500	310.7	650
KSD	St. Louis, Mo.	Post Dispatch.....	500	545.1	550
KSL	Salt Lake City, Utah.	Radio Service Corporation of Utah.	1,000	209.8	1,000
KSO	Clarinda, Iowa	A. A. Berry Seed Co.....	500	242	1,210

BROADCASTING STATIONS, ALPHABETICALLY BY CALL SIGNALS—continued

Call Signal	Location of station	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
KTAB	Oakland, Calif.	Tenth Avenue Baptist Church.	1,000	240	1,250
KTBI	Los Angeles, Calif.	Bible Institute of Los Angeles.	750	253.9	1,020
KTRR	Portland, Oreg., 172 Tenth street.	Brown's Radio Shop (M. E. Brown).	50	263	1,140
KTCI	Seattle, Wash.	American Radio Telephone Co.	1,000	304.9	980
KTHS	Hot Springs, Ark.	New Arlington Hotel Co.	500	374.8	800
KTN	Muscatine, Iowa	Norman Baker.	500	236	1,175
KTW	Sonile, Wash.	First Presbyterian Church.	1,000	454.3	650
KUO	San Francisco, Calif.	Examiner Printing Co.	150	250	1,200
KUOM	Missoula, Mont.	University of Montana.	250	244	1,230
KUSD	Vermillion, S. Dak.	University of South Dakota.	100	278	1,050
KUT	Austin, Tex.	University of Texas.	500	231	1,300
KVOO	Bristow, Okla.	Voice of Oklahoma (Inc.)	500	374.8	800
KWCR	Cedar Rapids, Iowa, 1444 Second Avenue East.	Harry F. Paar.	500	273	1,060
KWG	Stockton, Calif., 530 East Market Street.	Portable Wireless Telephone Co.	50	215	1,210
KWKO	Kansas City, Mo., Werby Building.	Wilson Duncan Studios.	100	236	1,270
KWKR	Kennonwood, La. (Yours Hotel, Shreveport, La.).	W. G. Patterson.	500	261	1,150
KWSC	Pullman, Wash.	State College of Washington.	500	348.6	560
KWWG	Brownsville, Tex.	City of Brownsville, Board of City Development.	500	273	1,080
KYW	Chicago, Ill.	Westinghouse Electric & Manufacturing Co.	3,000	631.4	560
KZIR	Manila, P. I., 20 Plaza Moraga.	J. Heck (Inc.)	20	248.9	1,200
KZKZ	Manila, P. I., 109 Plaza Moraga.	Electrical Supply Co.	100	270	1,110
KZM	Oakland, Calif., Thirteenth and Harrison Streets.	Preston D. Allen.	100	240	1,250
KZRO	Manila, P. I., Manila Hotel.	Far Eastern Radio (Inc.)	500	222	1,350
KZUV	Baguio, P. I., Outlook Drive.	F. Johnson Eisner.	500	260	1,330
NAA	Arlington, Va.	United States Navy Department.	1,000	431.5	600
WAAD	Cincinnati, Ohio.	Ohio Mechanics Institute.	25	258	1,160
WAAF	Chicago, Ill.	Chicago Daily Drovers Journal.	500	275	1,080
WAAW	Omaha, Nebr.	Omaha Grain Exchange.	500	273	1,080
WABB	Harrisburg, Pa.	Harrisburg Radio Co.	10	204	1,470
WABC	Asheville, N. C.	Asheville Battery Co.	20	254	1,180
WABI	Bangor, Me.	First Universalist Church.	100	240	1,250
WABO	Rochester, N. Y.	Lake Avenue Baptist Church (Heckton Electric Co.).	100	273	1,080
WABQ	Haverford, Pa.	Haverford College Radio Club.	100	261	1,150
WARL	Toledo, Ohio.	Scott High School.	50	203	1,140
WABW	Wooster, Ohio.	College of Wooster.	50	206.5	1,450
WABX	Mount Clemens, Mich. (near).	Henry B. Joy.	500	260	1,220
WABY	Philadelphia, Pa., 813 Kimball Street.	John Magaldi, Jr.	50	242	1,240
WABZ	New Orleans, La.	Coliseum Place Baptist Church.	50	275	1,030
WADC	Akron, Ohio.	Allen Theatre (Allen T. Simmons).	500	258	1,160
WAFD	Port Huron, Mich.	Albert B. Parfet Co.	500	275	1,030
WAGM	Royal Oak, Mich.	Robert L. Miller.	50	225.4	1,330
WAHG	Richmond Hill, N. Y.	A. H. Grabe & Co.	500	315.6	950
WAIT	Taunton, Mass.	A. H. Wait & Co.	10	229	1,310
WAIG	Columbus, Ohio.	American Insurance Union.	500	251.9	1,030
WAMD	Minneapolis, Minn., Hotel Madison.	Hubbard & Co.	500	244	1,220
WAPI	Auburn, Ala.	Alabama Polytechnic Institute.	500	248	1,210
WARC	Medford Hillsides, Mass.	American Radio & Research Corporation.	100	261	1,160
WATT	Boston, Mass. (portable).	Edison Electric Illuminating Co. of Boston.	100	243.8	1,230
WBAA	West Lafayette, Ind.	Purdue University.	250	272	1,100
WBAAK	Harrisburg, Pa.	Pennsylvania State Police.	500	275	1,080
WBAL	Baltimore, Md.	Consolidated Gas, Electric Light & Power Co.	1,000	246.8	1,220
WBBO	Decatur, Ill.	James Millikin University.	100	270	1,110
WBAP	Fort Worth, Tex.	Star Telegram.	1,500	475.9	620
WBAX	Wilkes-Barre, Pa., 68 Olden Street.	John H. Steager, Jr.	100	256	1,170
WBBL	Richmond, Va.	Grace Covenant Presbyterian Church.	100	229	1,310
WBHM	Chicago, Ill., 1534 Howard Street.	Atlas Investment Co.	1,500	220	1,320
WBIP	Petoskey, Mich.	Petoskey High School.	200	238	1,250
WBRR	Rensselaer, N. Y.	People's Pulpit Association.	500	273	1,100
WBBS	New Orleans, La.	First Baptist Church.	50	252	1,190
WBHW	Nashua, Va.	Rutherford Junior High School.	50	223	1,350
WBHY	Charleston, S. C.	Washington Light Infantry.	10	208	1,120

BROADCASTING STATIONS, ALPHABETICALLY BY CALL SIGNALS—continued

Call signal	Location of station	Owner of station	Power (watts)	Wave length	Frequency (radio-cycles)
WBBZ	Chicago, Ill. (portable), 1500 North American Building.	C. L. Garrett.....	50	215.7	1,300
WBCN	Chicago, Ill., 725 West Sixty-fifth Street.	Foster & McDonnell.....	500	266	1,180
WBDC	Grand Rapids, Mich.....	Baxter Laundry Co.....	500	256	1,170
WBES	Takoma Park, Md.....	Bilim Electrical School.....	100	222	1,350
WBNY	New York, N. Y., 145 West Forty-sixth Street.	Shirley Kats.....	500	209.7	1,430
WBQ	Richmond Hill, N. Y.....	A. H. Grebe & Co.....	100	236	1,270
WBPI	Newark, N. J., 1 Bond Street.....	J. H. Nelson.....	500	253	1,140
WBRC	Birmingham, Ala., 1913 Fifth Avenue north.	Bell Radio Corp.....	50	248	1,210
WBRE	Wilkes-Barre, Pa., 17 West Northampton Street.	Baltimore Radio Exchange.....	100	231	1,300
WBT	Charlotte, N. C.....	Charlotte Chamber of Commerce.....	250	275	1,090
WBZ	Springfield, Mass.....	Westinghouse Electric & Manufacturing Co.....	2,000	331.1	900
WBZA	Boston, Mass.....	do.....	250	242	1,240
WCAC	Mansfield, Conn.....	Connecticut Agricultural College.....	500	275	1,090
WCAD	Canton, N. Y.....	St. Lawrence University.....	250	263	1,140
WCAE	Pittsburgh, Pa.....	Kaufmann & Neer Co.....	500	461.3	650
WCAJ	University Place, Nebr.....	Nebraska Wesleyan University.....	500	234	1,350
WCAL	Northfield, Minn.....	St. Olaf College.....	500	336.9	820
WCAG	Baltimore, Md., 842 North Howard Street.	Albert A. and A. Stanley Brager.....	100	275	1,090
WCAP	Washington, D. C.....	Chesapeake & Potomac Telephone Co.....	500	468.5	640
WCAR	San Antonio, Tex.....	Southern Radio Corporation of Texas.....	500	263	1,140
WCAT	Rapid City, S. Dak.....	South Dakota State School of Mines.....	50	240	1,250
WCAY	Philadelphia, Pa.....	Universal Broadcasting Co. (Durham & Co.).....	500	278	1,090
WCAX	Burlington, Vt.....	University of Vermont.....	100	250	1,200
WCBA	Allentown, Pa.....	Charles W. Heimbach.....	15	234	1,150
WCBD	Zion, Ill.....	Wilbur G. Vollm.....	5,000	344.6	870
WCBE	New Orleans, La., 1219 North Rampart Street.	Uhalt Bros. Radio Co.....	5	253	1,140
WCBH	Oxford, Miss. (near).....	University of Mississippi.....	50	242	1,240
WCBM	Baltimore, Md., Charles Street and North Avenue.	Hotel Obatesau (Charles Schwartz).....	50	220	1,310
WCBO	Nashville, Tenn.....	First Baptist Church.....	100	236	1,270
WCBR	Providence, R. I. (portable), 42 Doyle Avenue.	Charles H. Meister.....	50	203.4	1,460
WCCO	St. Paul-Minneapolis, Minn.....	Washburn-Crosby Co.....	5,000	416.4	720
WCDE	Eglin, Fla. (near).....	Liberty Weekly.....	1,000	275	1,090
WCLO	Camp Lake, Wis.....	C. E. Whitmore.....	50	231	1,300
WCLO	Juliet, Ill., 104 Summit Street.....	Harold M. Cough.....	100	214.2	1,400
WCII	Portland, Me.....	Congress Square Hotel Co.....	500	256	1,170
WCIO	Springfield, Ohio.....	Wittenberg College.....	100	248	1,210
WOWS	United States (portable), 69 Exchange Street, Providence, R. I. (South).	Charles W. Seiter.....	100	202.7	1,430
WOX	Pontiac, Mich.....	Detroit Free Press.....	5,000	516.9	580
WDAD	Nashville, Tenn., 160 Eighth Avenue North.	Dad's Auto Accessories (Inc.).....	150	236	1,330
WDAE	Tampa, Fla.....	Tampa Daily Times.....	250	273	1,100
WDAF	Kansas City, Mo.....	Kansas City Star.....	300	265.6	820
WDAG	Amarillo, Tex., 605 East Fourth Street.	J. Laurence Martin.....	100	233	1,140
WDAAH	El Paso, Tex.....	Trinity Methodist Church (South).....	50	267.7	1,120
WDAY	Fargo, N. Dak., 119 Broadway.....	Radio Equipment Corporation.....	50	261	1,150
WDBO	Lancaster, Pa.....	Kirk, Johnson & Co.....	50	228	1,160
WDBE	Atlanta, Ga., 35 Cane Street.....	Gillham-Schoen Electric Co.....	100	270	1,110
WDBJ	Roanoke, Va., 106 Church Avenue SW.	Richardson-Wayland Electrical Corporation.....	50	229	1,310
WDBK	Cleveland, Ohio, 129½ Union Avenue.	M. F. Brox Furniture, Hardware and Radio Store.....	100	227	1,330
WDBO	Winter Park, Fla.....	Rollins College.....	600	210	1,250
WDBZ	Kingston, N. Y.....	Boy Scouts of America, Ulster County Council.....	10	233	1,200
WDOD	Chattanooga, Tenn., 540 McCallie Avenue.	Chattanooga Radio Co.....	500	216	1,170
WDRG	New Haven, Conn., 115 Crown Street.	Doolittle Radio Corporation.....	100	228	1,120
WDWF	Cranton, R. I.....	Dates W. Flint.....	500	410.9	580
WDZ	Tuscola, Ill.....	James L. Bush.....	10	278	1,080
WRAP	New York, N. Y., 453 West Street.	American Telephone & Telegraph Co.....	5,000	451.6	610

BROADCASTING STATIONS, ALPHABETICALLY BY CALL SIGNALS—continued

Call signs	Location of station	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
WEAI	Ithaca, N. Y.	Cornell University	500	254	1,160
WEAM	North Plainfield, N. J.	Borough of North Plainfield	250	261	1,160
WEAN	Providence, R. I.	Shepard Co.	500	270	1,110
WEAO	Columbus, Ohio	Ohio State University	400	203.5	1,020
WEAR	Cleveland, Ohio	Goodyear Tire & Rubber Co.	750	282.4	770
WEAU	Sioux City, Iowa	Davidson Bros. Co.	100	275	1,090
WEBG	Superior, Wisc., 1225 Tower Street	Walter C. Bridges	100	242	1,240
WEBD	Anderson, Ind.	Electrical Equipment & Service Co.	15	340	1,230
WEBE	Cambridge, Ohio	Roy W. Waller	10	234	1,260
WEBM	Chicago, Ill.	Edgewater Beach Hotel Co.	1,500	370.2	810
WEBJ	New York, N. Y.	Third Avenue Ry. Co.	500	273	1,100
WEBL	United States (portable)	Radio Corporation of America	100	225	1,330
WEBM	Do.	do.	100	225	1,330
WEBQ	Harrisburg, Ill.	Joseph R. Tate	10	225	1,330
WEBR	Buffalo, N. Y., 54 Niagara Street	H. H. Howell	100	214	1,230
WEBW	Beloit, Wis.	Beloit College	500	268	1,120
WEBZ	Savannah, Ga., 11 East York Street	Savannah Radio Corporation	50	203	1,140
WEER	Boston, Mass.	Edison Electric Illuminating Co. of Boston	500	348.6	860
WEHS	Evanston, Ill.	Robert E. Hughes	10	292.6	1,480
WEMC	Berrien Springs, Mich.	Emmanuel Missionary College	500	285.5	1,030
WENR	Chicago, Ill., 4701 Belmont Avenue	All American Radio Corporation	1,000	266	1,130
WEW	St. Louis, Mo.	St. Louis University	1,000	268	1,210
WFAA	Dallas, Tex.	Dallas News & Dallas Journal	500	475.9	630
WFAM	St. Cloud, Minn.	Times Publishing Co.	10	273	1,100
WFAV	Lincoln, Nebr.	University of Nebraska	200	275	1,090
WFBC	Knoxville, Tenn.	First Baptist Church	50	250	1,200
WFBD	Philadelphia, Pa.	Gethsemane Baptist Church	5	254	1,250
WFBE	Seymour, Ind.	Van De Wall Music & Radio Co.	10	225	1,330
WFBO	Altoona, Pa.	William F. Gable Co.	100	278	1,080
WFDH	New York, N. Y., Hotel Majestic	Concourse Radio Corporation	500	273	1,100
WFBI	Camden, N. J., 516 Broadway	Gulvin Radio Supply Co.	250	235	1,220
WPBS	Collegeville, Minn.	St. John's University	100	216	1,270
WFBL	Syracuse, N. Y.	Oconagon Hotel Co.	100	232	1,180
WFBM	Indianapolis, Ind.	Merchants Heat & Light Co.	250	225	1,120
WFBR	Baltimore, Md., Fifth Regimental Armory	Fifth Infantry Maryland National Guard	100	254	1,180
WFHZ	Galesburg, Ill.	Knox College	30	254	1,180
WFDF	Flint, Mich., Police Building	Frank D. Palais	100	234	1,280
WPI	Philadelphia, Pa.	Strawbridge & Clothier	500	294.8	760
WFKB	Chicago, Ill., 4630 Woodlawn Avenue	Francis K. Bridgeman	500	217.3	1,380
WFRL	Brooklyn, N. Y., 1421 East Tenth Street	Robert M. Lacey and James A. Dargner (Flatbush Radio Laboratories)	100	205.4	1,460
WGAL	Lancaster, Pa., 23 East Orange Street	Lancaster Electric Supply & Construction Co.	10	245	1,210
WGBB	Freeport, N. Y., 217 Bedell Street	Harry H. Carmen	100	244	1,230
WGCB	Memphis, Tenn.	First Baptist Church	10	278	1,090
WGBF	Evansville, Ind., 307 South Seventh Street	Flake Furniture Co.	500	236	1,270
WGBI	Scranton, Pa., 608 Linden Street	Frank S. Megargee	10	240	1,210
WGBM	Providence, R. I., 92 Dover Street	Theodore N. Sasty	30	234	1,280
WGBR	Marsfield, Wis., 731 West Fifth Street	George B. Ives	10	229	1,310
WGDR	New York, N. Y.	Gimbel Bros.	500	315.6	950
WGDU	Fullerton-by-the-Sea, Fla.	Florida Cities Finance Co.	500	275	1,080
WGDX	Orono, Me.	University of Maine	100	252	1,100
WGCP	Newark, N. J., 325 Central Avenue	D. W. May (Inc.)	500	232	1,190
WGDS	Oak Park, Ill.	Oak Leaves Broadcasting Station (Coyne Electrical School)	500	250	1,200
WGEB	Clearwater, Fla.	The George H. Bowles Developments	500	266	1,130
WGHP	Detroit, Mich., 110 Rowena Street	George H. Phelps	1,500	270	1,110
WGMU	Richmond Hill, N. Y. (portable)	A. H. Grebe & Co.	100	236	1,270
WGQN	Chicago, Ill.	The Tribune (Drake Hotel-Whitestone Co.)	1,000	302.8	990
WGRT	Buffalo, N. Y., 1738 Elmwood Avenue	Federal Radio Corporation (Federal Telephone Manufacturing Corporation)	750	319	940
WGST	Athens, Ga.	Georgia School of Technology	500	230	1,110
WGTV	Schenectady, N. Y.	General Electric Co.	5,000	279.5	790
WHA	Madison, Wis.	University of Wisconsin	750	331.4	560

BROADCASTING STATIONS, ALPHABETICALLY BY CALL SIGNALS—continued

Call signal	Location of station	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
WHAD	Milwaukee, Wis.	Marquette University and Milwaukee Journal	500	275	1,050
WHAM	Rochester, N. Y.	University of Rochester (Eastman School of Music)	100	278	1,050
WHAP	New York, N. Y., 426 West Thirty-first Street	Wm. H. Taylor Finance Corporation	500	240	1,250
WHAR	Atlantic City, N. J.	Seaside Hotel	500	275	1,000
WHAS	Louisville, Ky.	Courier-Journal and Louisville Times	500	299.5	750
WHAT	Minneapolis, Minn., 2210 North Bryant Avenue	George W. Young	600	263	1,140
WHAV	Wilmington, Del., 403 Delaware Avenue	Wilmington Electrical Specialty Co.	100	260	1,130
WHAZ	Troy, N. Y.	Rensselaer Polytechnic Institute	1,000	370.5	790
WHB	Kansas City, Mo.	Sweeney School Co.	500	365.4	830
WHBA	Oil City, Pa.	Shaffer Music House	10	250	1,200
WHBC	Canton, Ohio, 827 McKinley Avenue NW	Rev. E. P. Graham	10	254	1,180
WHBD	Bellefontaine, Ohio	Charles W. Howard	20	222	1,350
WHBF	Rock Island, Ill.	Bearnsley Specialty Co.	100	223	1,350
WHBG	Harrisburg, Pa., 1510 North Fourth Street	John S. Skane	20	231	1,300
WHBH	Culver, Ind.	Culver Military Academy	100	222	1,350
WHBJ	Fort Wayne, Ind., 2315 South Calhoun Street	Lauer Auto Co.	50	234	1,250
WHBK	Ellsworth, Me.	Franklin Street Garage	10	231	1,300
WIBB	Chicago, Ill. (portable)	C. L. Carell	50	215.7	1,350
WIBM	Do.	do	50	215.7	1,350
WHBN	St. Petersburgh, Fla.	First Avenue Methodist Church	10	238	1,250
WHBP	Johnstown, Pa., 101 Main Street	Johnstown Automobile Co.	100	250	1,170
WHHQ	Memphis, Tenn., Bellevue and Peabody Avenues	Men's Fellowship Class of St. John's M. E. Church, South	50	233	1,290
WIBHU	Anderson, Ind., 1002 Meridian Street	Rivers Theatre and Bing's Clothing	10	218.8	1,370
WIBHW	Philadelphia, Pa., 4915 Chestnut Street	D. R. Klemke	100	215.7	1,350
WHBY	West Des Moines, Ia.	St. Norbert's College	50	250	1,200
WHDH	Minneapolis, Minn., 818 Superior Boulevard	William Hood Dunwoody Industrial Institute	500	275	1,050
WHEO	Rochester, N. Y., 36 South Avenue	Hickson Electric Co.	100	258	1,160
WHK	Cleveland, Ohio, 1031 Weston Hotel	Radio Air Service Corporation	1,000	272.6	1,100
WHN	New York, N. Y., 1540 Broadway	George Schubel	500	261.3	830
WHO	Des Moines, Iowa	Bankers Life Co.	5,000	220	570
WHT	Dosfield, Ill., 410 North Michigan Boulevard, Chicago, Ill.	Radio-Phone Broadcasting Corporation	5,000	235	1,200
WIAD	Philadelphia, Pa., 6318 North Park Avenue	Howard R. Miller	100	230	1,200
WIBA	Burlington, Iowa	Home Electric Co.	100	254	1,180
WIBA	Madison, Wis., 337 West Gilman Street	Capital Times Studio	100	235	1,270
WIBD	Elkins Park, Pa.	St. Paul's Protestant Episcopal Church	50	222	1,340
WIBH	New Bedford, Mass., 65 Hillman Street	Elite Radio Stores (James T. Moriarity)	50	209.7	1,430
WIBI	Flushing, N. Y., 49 Boettner Avenue	Frederick H. Zittel, Jr.	50	218.8	1,370
WIBJ	Chicago, Ill. (portable), 1506 North American Building	C. L. Carell	50	215.7	1,350
WIBM	Chicago, Ill. (portable), 35 West Randolph Street	Billy Maine	10	215.7	1,300
WIBO	Chicago, Ill., 6310 Broadway	Nelson Bros. (Russo & Florio Orchestral Exchange)	1,000	228	1,330
WIBR	Weirton, W. Va.	Thurman A. Owings	50	245	1,220
WIBS	Elizabeth, N. J. (portable)	New Jersey National Guard, Fifty-seventh Infantry Brigade	10	202.6	1,450
WIBU	Poynette, Wis.	The Electric Farm	20	222	1,350
WIBW	Logansport, Ind., Barnes Building	L. L. Dill	100	220	1,350
WIBX	Utica, N. Y., 235 Genesee Street	Grid-Leak (Inc.)	150	225.4	1,400
WIBZ	Montgomery, Ala., 217 Catoma Street	A. D. Trim	10	231	1,300
WIL	St. Louis, Mo., 918 Pine Street	St. Louis Star and Beacon Radio Co.	250	273	1,100
WIOD	Miami Beach, Fla.	Carl G. Fisher	1,000	247.9	1,210

BROADCASTING STATIONS, ALPHABETICALLY BY CALL SIGNALS—continued

Call signal	Location of station	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
WIF	Philadelphia, Pa.	Gimbels Bros.	500	508.2	500
WJAD	Waco, Tex., 501 Austin Street	Frank P. Jackson	500	382.7	650
WJAG	Norfolk, Nebr.	Norfolk Daily News	200	270	1,110
WJAK	Kankakee, Ind., 151 Washington Street	Rev. Clifford L. White	50	254	1,180
WJAM	Cedar Rapids, Iowa	D. M. Perham	100	268	1,120
WJAR	Providence, R. I.	The Omlet Co.	500	305.9	980
WJAS	Pittsburgh, Pa., 901 Liberty Avenue	Pittsburgh Radio Supply House	500	275	1,000
WJAX	Jacksonville, Fla.	City of Jacksonville	1,000	356.9	800
WJAZ	Mount Prospect, Ill., 312 South Michigan Avenue	Zenith Radio Corporation	1,500	322.4	930
WJBA	Joliet, Ill., 301 Whitley Avenue	D. H. Lentz, Jr.	50	206.8	1,450
WJBD	St. Petersburg, Fla., 1922 Central Avenue	L. W. McClung	10	254	1,180
WJBC	La Salle, Ill., Second and Joliet Streets	Hummer Furniture Co.	100	234	1,280
WJBG	Charlotte, N. C., 7 West Fourth Street	Interstate Radio (Inc.)	10	224	1,340
WJBI	Red Bank, N. J., 61 Broad Street	Robert S. Johnson	250	218.8	1,370
WJBK	Ypsilanti, Mich., 801 Congress Street	Ernest F. Goodwin	10	233	1,290
WJBL	Decatur, Ill., 301 North Water Street	William Gushard Dry Goods Co.	500	270	1,110
WJBO	New Orleans, La., 119 South St. Patrick Street	Valdemar Jensen	100	258	1,120
WJBU	Lewisburg, Pa.	Bucknell University	100	211.1	1,420
WJJD	Moschechart, Ill.	Loyal Order of Moose	500	370.2	810
WJR	Pontiac, Mich.	Jewett Radio & Phonograph Co.	5,000	516.9	550
WJY	New York, N. Y.	Radio Corporation of America	1,000	405.2	740
WJZ	Do.	(1) do.	500	454.3	600
WKAF	Milwaukee, Wis., 130 Second Street	WKAF Broadcasting Corporation	500	281	1,150
WKAQ	San Juan, P. R., Telephone Building	Radio Corporation of Porto Rico	500	340.7	850
WKAR	East Lansing, Mich.	Michigan State College	1,000	263.5	1,000
WKAV	Lancaster, N. H.	Lancaster Radio Club	50	224	1,340
WKBB	Joliet, Ill., 607 Jefferson Street	Sanders Bros.	100	214.2	1,400
WKBE	Webster, Mass., 29 Emerald Avenue	E. & B. Electric Co.	100	231	1,300
WKBG	Chicago, Ill. (portable), 36 South State Street	C. L. Carroll	100	215.7	1,350
WKRO	Cincinnati, Ohio, 507 East Pearl Street	Kodel Radio Corporation	1,000	325.9	920
WKY	Oklahoma City, Okla., 1911 West Ash Street	E. C. Hull and H. S. Richards	100	275	1,090
WLAL	Tulsa, Okla.	First Christian Church	100	260	1,200
WLAP	Louisville, Ky., 306 West Breckinridge Street	W. V. Jordan	20	275	1,090
WLBL	Stevens Point, Wis.	Wisconsin Department of Markets	500	278	1,080
WLIR	Elgin, Ill. (near)	Liberty Weekly	4,000	302.8	990
WLIT	Philadelphia, Pa.	Lit Bros.	500	284.5	760
WLS	Crete, Ill.	Sears, Roebuck & Co.	5,000	344.6	870
WLSI	Cranston, R. I., 635 Westminster Street, Providence, R. I.	Lincoln Studios	500	440.0	650
WLTS	Chicago, Ill.	Lane Technical High School	100	258	1,160
WLW	Harrison, Ohio (Alfred and Cook Streets, Cincinnati, Ohio)	Crosley Radio Corporation	500	422.3	710
WLWL	New York, N. Y., 415 West Fifty-ninth Street	Missionary Society of St. Paul the Apostle	5,000	285.3	1,040
WMAC	Cazenovia, N. Y.	Clive B. Meredith	100	275	1,000
WMAF	Dartmouth, Mass.	Rotland Hills Radio Corporation	1,000	410.0	650
WMAK	Lockport, N. Y.	Norton Laboratories	500	206	1,150
WMAL	Washington, D. C., 712 Eleventh Street NW	M. A. Leese Optical Co.	15	212.6	1,410
WMAN	Columbus, Ohio	First Baptist Church (W. E. Haskett)	50	278	1,060
WMAQ	Chicago, Ill.	Chicago Daily News	1,000	447.5	670
WMAY	St. Louis, Mo.	Kingshighway Presbyterian Church	100	248	1,210
WMAZ	Macon, Ga.	Mercer University	500	261	1,160
WMBB	Chicago, Ill., 6301 Cottage Grove	American Bond & Mortgage Co.	500	250	1,300
WMBC	Detroit, Mich., Hotel Addison	Michigan Broadcasting Co.	100	254.4	1,170
WMBP	Miami Beach, Fla.	Fleetwood Hotel	500	356.4	760
WMC	Memphis, Tenn.	Commercial Appeal	500	499.7	600

¹ Variable.

BROADCASTING STATIONS, ALPHABETICALLY BY CALL SIGNALS—continued

Call signal	Location of station	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
WMCA	Hoboken, N. J.	Hotel McAlpin	500	340.7	550
WNAB	Benton, Miss.	Sleight Brothers	100	250	1,200
WNAC	Do.	do.	500	280.2	1,070
WNAD	Norman, Okla.	University of Oklahoma	500	154	1,150
WNAL	Omaha, Nebr.	Omaha Central High School	50	258	1,150
WNAT	Philadelphia, Pa., 827 Spring Garden Street	Lennig Bros. Co.	100	250	1,210
WNAX	Yankton, S. Dak.	Dakota Radio Apparatus Co.	100	246	1,220
WNBLI	New Bedford, Mass.	New Bedford Hotel (Irving J. Vermilyea and A. J. Loper).	250	248	1,210
WNJ	Newark, N. J., 59 Lehigh Avenue	Radio Shop of Newark (Herman Lubinsky).	150	252	1,190
WNOX	Knoxville, Tenn., 313 Commerce Avenue	Peoples Telephone & Telegraph Co.	100	268	1,120
WNYC	New York, N. Y.	City of New York (Department of Plant and Structures).	1,000	226	570
WOAI	San Antonio, Tex., 324 North Navarro Street	Southern Equipment Co.	2,000	394.5	700
WOAN	Lawrenceburg, Tenn.	James D. Vaughn	500	242.5	1,050
WOAW	Omaha, Nebr.	Woodmen of the World	1,000	520	570
WOAX	Trenton, N. J., 600 Ingham Avenue	Franklyn J. Wolf	500	240	1,230
WOOC	Davenport, Iowa, 1002 Brady Street	Palmer School of Chiropractic	5,000	451.5	620
WOOL	Jamestown, N. Y.	Hotel Jamestown	15	276	1,000
WODA	Paterson, N. J., 115 Ellison Street	O'Dea Temple of Music	250	234	1,340
WOI	Ames, Iowa	Iowa State College	150	220	1,110
WOK	Homewood, Ill. (1721 Prairie Avenue, Chicago, Ill.)	Neuroaround Radio Manufacturing Co.	5,000	217.3	1,380
WOKO	New York, N. Y., 113 Dyckman Street	Otto Baur	50	233	1,230
WOO	Philadelphia, Pa.	John Wanamaker	500	308.2	660
WOOD	Grand Rapids, Mich., 311 Diamond Avenue SE	Grand Rapids Radio Co.	500	212	1,240
WOQ	Kansas City, Mo.	Unity School of Christianity	1,000	278	1,080
WOR	Newark, N. J.	L. Bamberger & Co.	500	403.2	740
WORD	Batavia, Ill.	Peoples Pulpit Association	5,000	275	1,000
WOS	Jefferson City, Mo.	Missouri State Marketing Bureau	500	440.0	680
WOWL	New Orleans, La., 901 Carondelet Street	Owl Battery Co.	10	270	1,110
WOWO	Port Wayne, Ind., 213 West Main Street	Main Auto Supply Co.	500	237	1,020
WPAK	Agricultural College, N. Dak.	North Dakota Agricultural College	50	275	1,000
WPCC	Chicago, Ill.	North Shore Congregational Church	500	258	1,160
WPG	Atlantic City, N. J.	Municipality of Atlantic City	500	209.8	1,000
WPRC	Harrisburg, Pa., Fifth and Keller Streets	Wilson Printing & Radio Co.	100	315.7	1,390
WPSO	State College, Pa.	Pennsylvania State College	500	231	1,160
WQAA	Parkersburg, Pa.	Horace A. Beale, Jr.	500	120	1,260
WQAC	Aransas, Tex.	Gish Radio Service	100	234.2	1,250
WQAE	Springfield, Vt.	Moore Radio News Station	50	246	1,220
WQAM	Milwaukee, Wis., 42 Northwest Fourth Street	Electrical Equipment Co.	100	231	1,140
WQAN	Scranton, Pa.	Scranton Times	100	250	1,200
WQAO	New York, N. Y.	Calvary Baptist Church	100	160	833
WQJ	Chicago, Ill., Radio Gardens	Calumet Kalibro Broadcasting Co.	500	447.5	670
WRAP	Laporte, Ind.	The Radio Club (Inc.)	100	224	1,340
WRAM	Galesburg, Ill.	Lombard College	100	214	1,230
WRAY	Yellow Springs, Ohio	Antioch College	100	263	1,140
WRAW	Reading, Pa., 460 Schuylkill Avenue	Avenue Radio & Electric Shop	10	238	1,290
WRAX	Gloucester City, N. J., 410 Jersey Avenue	Flaxon's Garage	500	208	1,120
WRBC	Valparaiso, Ind.	Immanuel Lutheran Church	500	273	1,080
WRC	Washington, D. C.	Radio Corporation of America	1,000	463.5	640
WRDQ	Raleigh, N. C., 2225 Fayetteville Street	Wynne Radio Co.	100	252	1,190
WREC	Coldwater, Mich.	Wooden's Radio & Electric Co.	15	234	1,180
WREO	Lansing, Mich.	Reo Motor Car Co.	500	285.5	1,050
WRHF	Washington, D. C., 515 Eleventh Street NW	Washington Radio Hospital Fund	50	255	1,170
WRHM	Minneapolis, Minn.	Rosedale Hospital	50	252	1,190
WRK	Hamilton, Ohio	Deron Bros. Electrical Co.	100	250	1,110
WRM	Urbana, Ill.	University of Illinois	500	273	1,190

BROADCASTING STATIONS, ALPHABETICALLY BY CALL SIGNALS—continued

Call signal	Location of station	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
WRMU	MU-1—yacht (Richmond Hill, N. Y.).	A. H. Grebe & Co.	100	296	1,270
WRNY	New York, N. Y., 43 Park Place.	Experimenter Publishing Co.	500	256	1,160
WRR	Dallas, Tex.	City of Dallas	500	246	1,220
WBST	Bay Shore, N. Y., 5 First Avenue.	Raditel Manufacturing Co.	250	215.7	1,350
WRVA	Richmond, Va., Twenty-second and Cary Streets.	Larus & Bro. Co.	1,000	256	1,170
WRW	Tarrytown, N. Y.	Tarrytown Radio Research Laboratory.	500	273	1,100
WSAI	Mason, Ohio (Cincinnati, Ohio).	United States Playing Card Co.	5,000	225.9	920
WSAJ	Grove City, Pa.	Grove City College	250	229	1,310
WSAN	Allentown, Pa.	Allentown Call	100	229	1,310
WSAR	Fall River, Mass., 46 North Main Street.	Dougherty & Welch Electrical Co.	100	254	1,150
WSAU	Chestnut, N. H.	Camp Marienfeld	10	229	1,310
WSAX	Chicago, Ill. (portable), 332 South Michigan Avenue.	Zenith Radio Corporation	100	268	1,120
WSAZ	Findlay, Ohio.	Chase Electrical Shop	50	244	1,220
WSB	Atlanta, Ga.	Atlanta Journal	1,000	425.3	700
WSBO	Chicago, Ill., 1219 South Wabash Avenue.	World Battery Co.	1,000	209.7	1,430
WSBP	St. Louis, Mo.	Silk-Siner & Fuller	250	273	1,100
WSBT	South Bend, Ind.	South Bend Tribune	250	275	1,060
WSDA	New York, N. Y., One hundred and twentieth Street and Lenox Avenue.	The City Temple (Seventh Day Adventist Church).	250	263	1,160
WSKO	Day City, Mich.	World's Star Knitting Co.	100	261	1,150
WSM	Nashville, Tenn.	National Life & Accident Insurance Co.	1,000	282.5	1,060
WSMB	New Orleans, La., Maison Blanche Building.	Enger Amusement Co. & Maison Blanche Co.	500	319	940
WSMII	Owosso, Mich.	Stattock Music House	50	240	1,220
WSMIE	Dayton, Ohio, 19 East Third Street.	S. M. K. Radio Corporation	500	275	1,000
WSOE	Milwaukee, Wis., 415 Marshall Street.	School of Engineering of Milwaukee.	500	246	1,220
WSRO	Hamilton, Ohio.	Radio Co. (Harry W. Fahrlander).	100	252	1,190
WSSII	Boston, Mass.	Tremont Temple Baptist Church.	100	261	1,150
WSUI	Iowa City, Iowa.	State University of Iowa	500	482.6	600
WSVS	Buffalo, N. Y., Seneca and Hydraulis Streets.	Seneca Vocational School	50	218.8	1,370
WTAB	Fall River, Mass.	Fall River Daily Herald	100	266	1,150
WTAD	Carthage, Ill.	Robert E. Crampton	50	230	1,270
WTAG	Worcester, Mass.	Worcester Telegram Publishing Co.	500	258	1,120
WTAL	Toledo, Ohio, 316 Jackson Street.	Toledo Radio & Electric Co.	10	232	1,190
WTAP	Cleveland, Ohio.	Wilkard Storage Battery Co.	3,000	380.4	770
WTAQ	Cambridge, Ill.	Cambridge Radio & Electric Co.	50	242	1,240
WTAR	Osceola, Wis.	S. H. Van Gordon & Son	100	254	1,180
WTAW	Norfolk, Va.	Reliance Electric Co.	100	261	1,150
	College Station, Tex.	Agricultural and Mechanical College of Texas	500	270	1,110
WTAX	Streator, Ill.	Williams Hardware Co.	50	231	1,300
WTAZ	Lambertville, N. J.	Thomas J. McGuire	15	261	1,150
WTJC	Hartford, Conn.	Travelers Insurance Co.	500	475.9	630
WWAD	Philadelphia, Pa., 2215 North Broad Street.	Wright & Wright	250	250	1,200
WWAE	Plainfield, Ill.	Electric Park	500	242	1,240
WWAO	Boughton, Mich.	Michigan College of Mines	250	263	1,160
WWGL	Richmond Hill, N. Y., 5501 One hundred and twenty-fourth Street.	Radio Engineering Corporation	500	212.6	1,410
WWI	Dearborn, Mich.	Ford Motor Co.	500	266	1,130
WWJ	Detroit, Mich.	Detroit News	1,000	232.7	850
WWL	New Orleans, La.	Loyola University	100	273	1,000

RADIOCOMPASS INSTALLATIONS ON VESSELS

The following-named vessels have been equipped with a radiocompass (direction finder): Amasa Stone, Arcturus (KFXV), Augustus B. Weflin, August Ziesing, Calamares, Carrillo, Charles M. Schwab, C. H. McCullough, jr., Col. James M. Schoonmaker, C. S. Robinson, D. O. Mills, E. A. S. Clarke, East Indian, Fayette Brown, Gargoyle, Harry W. Croft, Harvey H. Brown, Henry G. Dalton, Herman Frasch, Homer D. Williams, J. A. Campbell, James A. Farrell, James C. Wallace, Jay C. Morse, John Sherwin, Joseph Scilwood, Joshua A. Hatfield, Kroonland, M. A. Bradley, Pathfinder, Percival Roberts, jr., Philip D. Block, Samuel Mather (under construction), Shenango (owned by Shenango Furnace Co.) Richard Trimble, S. M. Spalding, Solano, The Harvester, Walter Jennings, Warrior, William A. McGonagle, William B. Dickson, William J. Filbert, William P. Palmer, William P. Snyder, William P. Snyder, jr., Wilpen, Youngstown.

BROADCASTING STATIONS EQUIPPED TO SUPPRESS HARMONICS

The following-named broadcasting stations are equipped to suppress harmonics: KGW, Portland, Oreg., Portland Morning Oregonian; KJR, Seattle, Wash., Northwest Radio Service Co.; KTW, Seattle, Wash., First Presbyterian Church; WLIT, Philadelphia, Pa., Lit Brothers.

CHANGES IN NAVAL RADIOCOMPASS STATIONS

The station at Cape Mala, Canal Zone, call signal NNT, is now open for service.

The position of the receiving loop of the New Dungeness (Wash.) call signal, NFT, has been changed to latitude $48^{\circ} 10' 32''$ N., longitude $123^{\circ} 07' 50''$ W.

Page 104 of the list of Commercial and Government Radio Stations of the United States should be changed accordingly.

RADIO FOG SIGNAL ESTABLISHED AT CHAC'H POINT, ILE D'OUESANT, FRANCE

This new fog signal, located in latitude $48^{\circ} 28'$ N., longitude $5^{\circ} 08'$ W. (approximately), northwest coast of France, transmits on a wave length of 1,000 meters (l. c. w.), range 50 to 200 miles, producing in the telephones the sound of the musical note D of the fifth octave of the pianoforte. At all times, no matter what the State of the weather may be, the fog signal is transmitted on high power, giving a minimum range of 200 miles, during the first five minutes of each hour. During fog the emissions are made in addition from the 15th to the 20th, from the 30th to the 35th, and from the 45th to the 50th minute of each hour, on low power, giving a minimum range of 50 miles. Each of the groups of fog signals, whether on high or low power, consists of three successive characteristic emissions, which are as follows:

<u>— . — .</u> (repeated 8 times)	<u>— — —</u> (repeated 24 times)
15 sec.	30 sec.
<u>— . — .</u> (repeated 8 times)	Silent
15 sec.	1 min.

Total duration, 2 minutes. The minimum ranges indicated above correspond to reception on a direction finder frame aerial, with sound amplifier.—From Notice to Mariners No. 1970, London, 1925.

GENERAL PUBLIC SERVICE STATION ESTABLISHED AT BREMERHAVEN, GERMANY

This station, call signal KBH, located at the mouth of the Weser, North Sea, in latitude $53^{\circ} 30' 26''$ N., longitude $8^{\circ} 36' 11''$ E., operates on 800, 860, and 1,700 meters; system, Telefunken spark, 1,000 and Telefunken v. t. telegraph; hours, N.; rate, 40 centimes per word, no minimum.

NOTE.—The coast station Bremerhaven Lloydhalle renders service only for the exchange of correspondence between "Norddeutscher Lloyd," and its ships and its call signal has been changed to KAB.

PORTUGAL STATIONS CLOSED

The coast stations at Lisbon and Porto have been closed.

TIME FOR TRANSMISSION OF METEOROLOGICAL BULLETIN BY KARLSBORG (SWEDEN)
STATION CHANGED

The meteorological bulletin at present transmitted by this station at 12.15 (G. M. T.) has been changed to 10.50. Note 14, page 190, of the International List of Radiotelegraph Stations (Berne), 1925, should be changed accordingly.

RADIOCOMPASS STATION ESTABLISHED AT LANDSORT, SWEDEN

A radiocompass station, call signal SAO, wave length 600 meters, range 100 miles, has been established close northeastward of Landsort Lighthouse. Bearings are furnished to ships within the sector 83 to 210° from the compass station. The Vaxholm station, call signal SAF, should be called first on 600 meters, as Landsort compass station does not transmit. Location (approximately) latitude 58° 44' 30" N., longitude 17° 52' 15" E.—*From Notice to Mariners No. 2019, London, 1925.*

ROUND ISLAND LIGHT STATION, ENGLAND, FOG SIGNAL DISCONTINUED

The radio fog signal established experimentally at Round Island Light Station, England, has been discontinued. Location (approximately) 49° 59' N. 6° 19' W. It is intended to establish a permanent radio fog signal at Round Island during the year 1926.—*From Notice to Mariners No. 1657, London, 1925.*

INTERNATIONAL ICE PATROL SERVICE

The Coast Guard cutters *Tampa* and *Madoc* have been detailed for the season of 1926 to carry on the international ice observation and ice patrol service provided for by the International Convention for the Safety of Life at Sea at London in 1913 and 1914.

The object of the ice patrol service is to locate the icebergs and field ice nearest to the trans-Atlantic steamship lane. It will be the duty of the patrol vessels to determine the southerly, easterly, and westerly limits of the ice and to keep in touch with these fields as they move to the southward in order that radio messages may be sent out daily, giving the whereabouts of the ice, particularly the ice that may be in the immediate vicinity of the regular trans-Atlantic steamship lanes.

During the months of March, April, May, and June, and as much longer as necessary, these two vessels will base on Halifax, Nova Scotia. The patrol will be continuous, and the vessel on patrol will not leave her station until relieved by the other vessel unless it is absolutely necessary to do so.

Having located the ice, the vessel on patrol will transmit four daily radio broadcasts; giving ice information for the benefit of shipping, each broadcast being repeated three times with an interval of two minutes between each repeat. Each broadcast will be preceded by the general call "QST" on 600 meters (500 kilocycles) wave length, immediately followed by the ice broadcast on the wave length specified, as follows:

G. C. T.	Time		
		75th meridian	Wave length
0000			Meters Kilocycles
1100		1900	1,713 175
1200		0600	706 425
2300		0700	1,713 175
		1800	706 425

NOTE.—Attention is invited to the change to 1,713 meters (175 kilocycles) from 1,021 meters (165 kilocycles) which was used during the season of 1925.

Ice information will be given by radio at any time to any ship with which the patrol vessel can communicate. Such information will be furnished as regular radio traffic (without charge) on commercial traffic frequencies (wave lengths). Ice-information broadcasts will be given in as plain, concise English as practicable and will state (a) position of patrol vessel, (b) location and description of ice, and (c) other data. The ice-patrol vessels' general radio call letters are NIDK. This is a special call for the vessel actually on patrol and should not be confused with the regular radio call letters assigned to the individual vessels.

The work of the United States Coast Guard cutters engaged on this ice patrol duty will be greatly facilitated if the principal trans-Atlantic steamships report the following data by radio to the patrol vessels: (a) Icebergs or obstructions sighted, giving date, time (G. C. T.), latitude, longitude, set and drift, and, in case it is an iceberg, the temperature of the water at the time should be included. (b) Surface temperature of the sea water every four hours when between latitude 30° N. and 45° N. and crossing longitude 43° W. and 58° W. when bound either east or west and giving time of observation (G. C. T.), the latitude and longitude, course and speed.

These data will facilitate the drawing of a temperature curve which will be useful in locating the branches of the Labrador current. It is requested that radio operators desist, as far as practicable, from operating at the above times in order to lessen radio interference.

NEW METHOD OF MAINTAINING CONSTANT STATION FREQUENCY

Recognizing the basic importance of maintaining broadcast station frequencies constant, the Fourth National Radio Conference recommended "that the Department of Commerce require all stations to use some means of frequently checking their transmitted frequencies with a properly calibrated instrument." Experience has shown that the use of an ordinary frequency meter (wave meter) is not a satisfactory means of fulfilling this requirement. The most satisfactory constancy of frequency has been attained by stations which use a special frequency standard adjusted to the licensed frequency of the particular station. Two satisfactory forms of standard for this purpose have been developed by the Bureau of Standards. One of them is essentially a one-point wave meter, called a frequency indicator; it was briefly described in the October 1, 1925, RADIO SERVICE BULLETIN, page 13, and is fully described in Bureau of Standards Letter Circular 180, Specifications for Radio Frequency Indicator, Type B.

The second form of standard for use in maintenance of station frequencies is a piezo-electric quartz plate. The quartz plate may be used as a resonator or as an oscillator. As an oscillator, it may be used either as a master oscillator controlling the frequency of a station's output or as a frequency indicator. All three of these uses of a quartz plate are applicable to the work of maintaining station frequencies constant. The last mentioned, use as a frequency indicator, is particularly convenient and is the new method referred to in the title of this note. This use is briefly described on page 2 of Bureau of Standards Letter Circular 186, Specifications for Portable Piezo Oscillator, Bureau of Standards Type N.

The bureau has tested the applicability of the piezo oscillator as a frequency indicator in broadcasting stations and found it to be useful and satisfactory. It is necessary that the quartz plate in the piezo oscillator be ground so that one of its fundamentals or harmonics is either the exact licensed frequency of the broadcasting station or a frequency which differs from the station frequency by a small amount, such as 200 or 300 cycles. It is placed near the transmitting set, which (assuming the quartz plate is ground to the exact station frequency) is then adjusted to zero beat as determined by listening in the headphones connected in the plate circuit of the piezo oscillator. Should the station frequency vary by as small an amount as 100 cycles, it is immediately apparent by the production of a beat note of that frequency in the oscillator circuit. In case the quartz plate is ground so that its frequency differs slightly from the assigned frequency of the transmitting station—say, 300 cycles lower—the following procedure is adopted: The transmitting circuit is adjusted by passing through zero beat and then slightly increasing the frequency beyond this point until a beat note estimated to be 300 cycles is produced in the piezo-oscillator circuit. The first of these two methods is probably simpler, but the proper application of either one will give a means of maintaining an extremely accurate check of the transmitting-station frequency.

As compared with the use of a frequency meter or frequency indicator with visual indicating device, the piezo oscillator has two important advantages which are at once apparent. First, it is a particularly constant frequency standard, since when properly designed the frequency it delivers depends only on mechanical constants of the quartz plate. Second, the indicator is unaffected by amplitude or degree of modulation of the station's output. It indicates variations in frequency directly by the pitch of the beat note.

Persons interested in applying this device are advised to write to the Bureau of Standards, Washington, D. C., requesting a copy of Letter Circular 186, which states the conditions under which the bureau will test and adjust quartz plates.

While this application of piezo oscillators is new and has not yet had the advantage of prolonged trial under varied conditions, it seems likely that it will be very useful. If all radio transmitting stations were equipped with the device and used it properly, frequency variations and whistling interference due to beat frequencies would probably disappear.

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 frequency standards. There may be many other stations maintaining their frequency just as constant as these, but these are the only ones among those observed. There is, of course, no actual guaranty that the stations named below will maintain the constancy shown, but the data indicate the high degree of confidence that can be placed in them. The transmitted frequencies from these stations can be utilized for standardizing 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, Department of Commerce, Washington, D. C.

Station	Owner	Location	As-signed frequency (kilo-cycles)	Period covered by measurements (months)	Number of times measured	Deviations from assigned frequencies noted in measurements	
						Average	Greatest since Dec. 31, 1923
WQL	Radio Corporation of America	Coram Hill, Long Island, N. Y.	17.13	13	61	.0.2	.0.2
NSS	United States Navy	Annapolis, Md.	17.50	23	214	.2	.2
WCI	Radio Corporation of America	Harneght, N. J.	17.95	11	66	.2	.2
WGG	Do.	Tuckerton, N. J.	18.56	29	225	.2	.4
WII	Do.	New Brunswick, N. J.	21.80	9	76	.1	.2
WRT	Do.	do	22.60	8	27	.1	.1
WVA	United States Army	Annapolis, Md.	100	10	109	.2	.4
NAA	Do.	Arlington, Va.	113	3	25	.1	.3
WJR	Jewett Radio & Phonograph Co.	Pontiac, Mich. ¹	150	4	19	0	0
WCX	Detroit Free Press	New York, N. Y.	615	13	95	0	0
WEAF	American Telephone & Telegraph Co.	Washington, D. C.	640	25	125	.1	.2
WCAP	Chesapeake & Potomac Telephone Co.	do	640	25	100	.1	0
WRC	Radio Corporation of America	Atlanta, Ga.	700	26	132	.2	0
WSU	Atlanta Journal	Schenectady, N. Y.	700	21	153	.1	0
WOY	General Electric Co.	Springfield, Mass.	900	23	68	.1	.2
WBZ	Westinghouse Electric & Manufacturing Co.						

¹ Time signal frequency.² Same transmitting set for both call letters (WJR and WCX).

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

- R094 Wyncoate, G. Radio industry to-day.

R100.—Radio principles

- R113 Dellingar, J. H. Facts and fallacies of radio wave transmitter. *Radio News*, 7, p. 1132, February, 1926.
 R113 Lower, S. K. Notes on the conditions governing trans-Atlantic reception. *Experimental Wireless (London)*, 2, pp. 938-963, December, 1925.
 R113.3 Tilting of radio waves. *Popular Radio*, 9, p. 109, February, 1926.
 R113.3 Bidwell, C. C. Direction and intensity changes of radio waves. *Jour. Frank. Inst.*, 291, pp. 107-112, January, 1926.
 R113.9 Kruse, R. S. Horizontal reception. *QST*, 10, pp. 9-17, February, 1926.
 R124 Pickard, G. W. Closed tuned coil or loop aerial. U. S. Patent No. 1567542, issued December 29, 1926.
 R125.1 Leib, A. Radio direction finder. U. S. Patent No. 1563325, issued January 12, 1926.
 R125.1 Hand, E. H. Radiocompass reading device for ships. U. S. Patent No. 156744, issued January 12, 1926.
 R125.6 Stone-Stone, J. Radio transmitting system. U. S. Patent No. 1567204, issued December 22, 1925.
 R134 Colebrook, F. M. The rectification of small radio frequency potential difference by means of triode valves. *Experimental Wireless (London)*, 2, pp. 946-957, December, 1925.
 R134.4 Das Repräsentieren von thorium-röhren. *Der Radio Handlert*, 20, pp. 534-535, December 22, 1925.
 R134.8 Hatry, L. W. A new reflex circuit. *QST*, 10, pp. 17-20, January, 1926.
 R138 Ives, H. E. Positive rays produced in thermionic vacuum tubes containing alkali-metal vapors (with bibliography). *Jour. Frank. Inst.*, 291, pp. 47-69, January, 1926.
 R140 Gunn, R. Constant frequency source (harmonic suppressor). U. S. Patent No. 1565065, issued January 5, 1926.

R200.—Radio measurements and standardization

- R210 Etkin, H. A simple wavelength chart. *QST*, 10, p. 16, January, 1926.
 R230 Harper, W. W. Design of radio inductances. *Radio Broadcast*, 8, pp. 435-438, February, 1926.
 R250 Brauner, E. H. W. Measuring small changes of current. *Wireless World and Radio Review*, 18, p. 41, January 15, 1926.
 R261 Pitch, A. L. The measurement of impedances with the vacuum tube voltmeter. *Jour. Opt. Soc. of Amer. and Rev. of Sci. Instruments*, 12, pp. 71-73, January, 1926.
 R270 Diagramme des charges électriques mesuré à Meudon pendant le deuxième trimestre 1925. *L'Onde Électrique*, 4, pp. 555-557, December, 1925.
 R281,35 Coursey, P. R. Micro. *Experimental Wireless (London)*, 2, pp. 975-979, December, 1925.

R300.—Radio apparatus and equipment

- R325.6 Kellogg, B. W. Radio transmission system. U. S. Patent No. 1569635, issued January 12, 1926.
 R325.6 Smith-Kosa, R. L. Aerial and earth systems (directional effects in small receiving aerials). *Wireless World and Radio Review*, 17, pp. 927-930, December 30, 1925.
 R330 Riley, J. New short wave tube (Du Forest Type H tube). *Radio News*, 7, p. 1130, February, 1926.
 R331 Reactivation of radio tubes. *Radio (Canada)*, 8, p. 28, December, 1925.
 R331 Garity, W. Audible electrode structure. U. S. Patent No. 1567260, issued December 29, 1926.
 R331 Zetka, J. B. Electro discharge device. U. S. Patent No. 1568020, issued December 29, 1926.
 R331 Laube, C. A. Body of high electron and light emission and process of making the same. U. S. Patent No. 1566015, issued January 12, 1926.
 R331 Griffith, T. H. Electron discharge device. U. S. Patent No. 1569630, issued January 12, 1926.
 R331 Lebbink, K. A. Electrode for discharge tubes. U. S. Patent No. 1570285, issued January 19, 1926.
 R333 Malliet, R. Etude analytique de l'émission et de la modulation par lampes triodes. *L'Onde Électrique*, 4, pp. 505-535, December, 1925.
 R333 van der Pol, B. Jr., and Posthumus, K. Au sujet du rendement des triodes. *L'Onde Électrique*, 4, pp. 535-539, December, 1925.
 R334 Warner, J. C. Electron discharge apparatus. U. S. Patent No. 1568701, issued January 5, 1926.
 R342 Brackett, Q. A. Receiving system. U. S. Patents Nos. 1567506 and 1567567, issued December 29, 1925.
 R342.2 Kröncke, H. A new resistance coupled amplifier. *Wireless World and Radio Review*, 17, p. 637, December 16, 1925.
 R342.6 Griffith, R. J. How to build the new Orthophase receiver (radio frequency amplification principle). *Popular Radio*, 9, pp. 142-155, February, 1926.
 R342.6 Fox, F. J. How to build a Grimes inverse coupler. *Radio Broadcast*, 8, pp. 439-444, February, 1926.
 R343 Slocumb, L. Q. Radio receiving apparatus. U. S. Patent No. 1568632, issued January 5, 1926.
 R343 Carl, L. T., and A. S. Radio receiving set. U. S. Patent No. 1569341, issued January 12, 1926.
 R343 Marco, F. J. Short wave, plug-in-coil receiver design. *QST*, 10, pp. 15-22, February, 1926.
 R343.7 McCullough, F. S. Thermionic tube. U. S. Patent No. 1565172, issued January 5, 1926.
 R343.7 Mavrogenis, A. Wireless apparatus. U. S. Patent No. 1570444, issued January 19, 1926.
 R343.7 Kruse, R. S. Battery substitutes. *QST*, 10, pp. 23-32, February, 1926.
 R344 Habana, W. E. E. High frequency generating system. U. S. Patent No. 1569181, issued January 12, 1926.
 R344 Knudson, V. O. Oscillation generator. U. S. Patent No. 1569079, issued January 12, 1926.
 R344.3 Reynolds, J. L. Calibrating receivers with crystals (crystal-controlled transmitters). *Radio News*, 7, pp. 1128-1129, February, 1926.
 R344.3 Practical crystal-controlled transmitters. *QST*, 10, pp. 21-25, January, 1926.
 R348 Espenschied, L. Repeater circuits. U. S. Patent No. 1568891, issued January 5, 1926.

- R348 Nyquist, H. Means for increasing power capacity of 22-type repeaters. U. S. Patent No. 1566342, issued December 22, 1925.
 R348 Aitel, H. A. Repeater circuit. U. S. Patent No. 1566551, issued January 6, 1926.
 R352 Niece, F. G. Rotary spark gap. U. S. Patent No. 1567078, issued December 29, 1925.
 R353 Miner, H. Rectifiers for high tension. Experimental Wireless (London), 1, pp. 983-988, December, 1925.
 R350 What set shall I buy? Popular Radio, 9, pp. 150-162, February, 1925.
 R374 Arundel, T. E. Radio reception apparatus. U. S. Patent No. 1569440, issued January 12, 1926.
 R375 Brackett, Q. A. Wireless receiving system. U. S. Patent No. 1569353, issued January 10, 1926.
 R381 Lindbergh, J. F. Condenser. U. S. Patents Nos. 1567067 and 1567094, issued December 29, 1925.
 R381 Masbury, R. E. Condenser and condenser casing. U. S. Patents Nos. 1569354 and 1569355, issued January 12, 1926.
 R381 Young, H. H., and Hyder, R. A. Support for electrical apparatus. U. S. Patent No. 1567563, issued December 29, 1925.
 R381 Berden, A. E. Condenser. U. S. Patent No. 1567409, issued December 29, 1925.
 R381 Rodman, J. P. Insulating structure for electrostatic condensers and the like. U. S. Patent No. 1567344, issued December 29, 1925.
 R381 Pfleiderer, H. Electrical condenser. U. S. Patent No. 1565918, issued January 5, 1926.
 R381 Miller, E. Arrangement for preventing marginal discharges. U. S. Patent No. 1567293, issued December 29, 1925.
 R351 Grimes, D. Condenser. U. S. Patent No. 1568274, issued January 5, 1926.
 R381 Spencer, E. W. Variable condenser. U. S. Patent No. 1569211, issued January 12, 1926.
 R381 Lampkin, G. Y. Vacuum tube resistor. Radio (San Francisco), 8, pp. 25-26, January, 1926.
 R381 Clayton, J. M. Calibrating your wave meter from a quartz crystal. QST, 10, pp. 39-41, February, 1926.
 R385.1 Ditcham, W. T. Wireless transmitter (key). U. S. Patent No. 1566557, issued December 22, 1925.
 R385.1 Curtis, A. M. Signaling system (keying system). U. S. Patent No. 1569003, issued January 12, 1926.
 R387.1 Smith-Rose, R. L., and Darfield, R. H. Screening in receiving aerials (effect of surrounding objects on currents induced in open and frame aerials). Wireless World and Radio Review, 18, pp. 61-63, January 13, 1926.
 R387.1 Oliver, D. A. The screening of small variable air condensers. Experimental Wireless (London), 1, pp. 970-974, December, 1925.
 R388 Paxton, C. B. Special cathode ray oscillographs. Radio News, 7, pp. 1132-1133, February, 1926.

H400.—Radio communication systems

- R402 Lyman, H. Getting down below 5 meters. QST, 10, p. 23, January, 1926.
 R412 Dow, J. R. Speech modulation methods. Radio (San Francisco), 8, pp. 31-32, January, 1926.
 R412 Coram, Jr. H. Translating device. U. S. Patent No. 1569563, issued January 12, 1926.
 R422 Kumelike, L. J. Radiofrequency transmission system. U. S. Patent No. 1567845, issued December 29, 1925.
 R422 Elliott, H. F. and Miller, J. A. Radiofrequency system. U. S. Patent No. 1567523, issued December 29, 1925.
 R430 Melziger, A. Bending arrangement. U. S. Patent No. 1566680, issued December 22, 1925.
 R450 Klonick, A. J. Simultaneous sending and receiving system. U. S. Patent No. 1570361, issued January 19, 1926.
 R460 Heising, R. A. Radio transmission system. U. S. Patent No. 1567734, issued December 29, 1925.
 R460 Farrington, J. F. Two-way communication system. U. S. Patent No. 1566469, issued December 22, 1925.

R500.—Application of radio

- R500 Clement, E. E. System for radio broadcast. U. S. Patent No. 1562530, issued January 5, 1926.
 R551 French time signals. Wireless World and Radio Review, 18, p. 20, January 6, 1926.
 R580 Trembley, H. P. Apparatus for treating diseases. U. S. Patent No. 1566534, issued December 22, 1925.
 R582 Voice picture transmitter. QST, 10, pp. 29-30, January, 1926.

R800.—Nonradio subjects

- 533.85 King, R. W. Gas pressure control. U. S. Patent No. 1566279, issued December 22, 1925.
 535.3 Compton, A. H. Photo-electric cell. U. S. Patent No. 1567424, issued December 29, 1925.
 535.3 Ruggles, W. A. Photo-electric device. U. S. Patent No. 1566214, issued January 5, 1926.
 535.3 Dinsdale, A. Photo-electric valves. Wireless World and Radio Review, 18, pp. 19-20, January 6, 1926.
 621.374.3 Keane, J. F. Radio battery charging switch means. U. S. Patent No. 1570499, issued January 19, 1926.
 621.374.2 Slepian, J. Radioreception (Whetstone bridge). U. S. Patent No. 1567764, issued December 29, 1925.
 621.385 Clark, A. B. Telephone repeater circuits. U. S. Patent No. 1566511, issued December 22, 1925.
 621.385 Nyquist, H. Four-wire repeater circuits. U. S. Patent No. 1567157, issued December 29, 1925.

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