

# DEPARTMENT OF COMMERCE

# RADIO SERVICE BULLETIN

ISSUED MONTHLY BY BUREAU OF NAVIGATION

Washington, May 1, 1925—No. 97

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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 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. PG = General public. PR = Limited public. RC = Radio compass 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. W. T. Co.	= Independent Wireless Telegraph Co.
K. & C.	= Kilbourne & Clark Manufacturing Co.
R. C. A.	= Radio Corporation of America.
S. O. R. S.	= Ship Owners' Radio Service.
W. S. A. Co.	= Wireless Specialty Apparatus Co.
C. w.	= Continuous wave.
I. c. w.	= Interrupted continuous wave.
V. t.	= Vacuum tube.
FX	= Fixed station.
U. S. L.	= After operating company denotes that the change applies only to the List of Radio Stations of the United States.
Kc.	= Kilocycles.
Fy.	= Frequency.
A. c.	= Alternating current.

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DEPARTMENT OF COMMERCE  
BUREAU OF NAVIGATION  
RADIO SERVICE

## 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, 1924, and to the International List of Radiotelegraph Stations published by the Berns bureau]

Station	Call signal	Wave lengths	Service	Hours	Station controlled by—
Heeeta Island, Alaska <sup>1</sup>	KGG	600, 675.....	P	X	A. & P. Products Corporation.
Sharon, Pa. <sup>2</sup>	WHD	49.....	FX	X	Westinghouse Electric & Manufacturing Co.

<sup>1</sup> Loc. O 138° 30' 29", N 55° 44' 20"; range, 150; system, R. C. A., 1,000.

<sup>2</sup> Loc. (approximate) O 80° 31' 00", N 41° 18' 00"; range, 150; system, Westinghouse 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, 1924, and to the International List of Radiotelegraph Stations published by the Berns bureau]

Name of vessel	Call signal	Rates	Service	Hours	Owner of vessel	Station controlled by—
Beta <sup>1</sup>	WQD	8	PG	X	Beta S. S. Corporation.....	R. C. A.
Bethlehem	WLV		PG	X	Bethlehem Transportation Corporation.	
Cambria	WPY		PG	X	do	
Central West <sup>1</sup>	WPW		PG	X	Paisley S. S. Co.	Owner of vessel.
Cleveland Cliffs S. S. Co. vessels, general call.	KDYY				Cleveland Cliffs S. S. Co.	Do.
Colonel <sup>1</sup>	WPT		PG	X	Fontana S. S. Co.	Do.
Commercial Courier.	KWJ	8	PG	X	Commercial Courier S. S. Co.	R. C. A.
Idalia <sup>1</sup>	KPYM	8	PG	X	R. R. Parker	Owner of vessel.
John Anderson	WPS		PG	X	Morrow S. S. Co.	
Lackawanna	WLT		PG	X	Bethlehem Transportation Corporation.	
Lebanon	WLE		PG	X	do	
Lehigh	WLN		PG	X	do	
Maryland	WLU		PG	X	do	
Redman <sup>1</sup>	WEB	8	PG	X	Redman S. S. Corporation	I. W. T. Co.
Saucon	WLIH		PG	X	Bethlehem Transportation Corporation.	
Senator <sup>1</sup>	WPV		PG	X	Fontana S. S. Co.	Owner of vessel.
Silverbrook <sup>2</sup>	KIBC	8	PG	X	Mountain Oil & Refining Co.	I. W. T. Co.
Steelton	WLN		PG	X	Bethlehem Transportation Corporation.	
United Fruit S. S. Corporation vessels, general call.	KUS				United Fruit S. S. Corporation	T. R. T. Co.
Winona	KIZR				U. S. S. B.	
Yosemite <sup>1</sup>	WPU		PG	X	Fontana S. S. Co.	Owner of vessel.

<sup>1</sup> Range, 200; system, Navy, 1,000; w. l., 600, 700, 800, 875.

<sup>2</sup> Range, 200; system, Wireless Improvement Co., 1,000; w. l., 600, 700, 800, 875; rates, Great Lakes service, 4 cents per word.

<sup>3</sup> Range, 100; system, Telefunken, 1,000; w. l., 20, 40, 60, 800, 700, 800.

<sup>4</sup> Range, 150; system, R. C. A., 1,000; w. l., 600, 700, 800.

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*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
EDYY	Cleveland Cliffs S. S. Co. vessels, general call..... b	WLN	Lehigh..... b
KFVM	Idalia..... b	WLT	Lackawanna..... b
EGG	Hecla Island, Alaska..... c	WLU	Maryland..... b
EIBC	Silverbrook..... b	WLV	Bethlehem..... b
KIER	Winoga County..... b	WLX	Steelton..... b
KUS	United Fruit S. S. Co. vessels, general call..... b	WPT	Colonel..... b
KWJ	Commercial Courier..... b	WPU	Yosemite..... b
WRB	Redman..... b	WPV	Senator..... b
WHD	Sharon, Pa..... c	WPW	Central West..... b
WLH	Saucon..... b	WPY	Camden..... b
WLK	Lebanon..... b	WQD	John Anderson..... b
			Beta..... b

*Commercial airplane stations, alphabetically by names of stations*

[Additions to the List of Radio Stations of the United States, edition of June 30, 1924, and to the International List of Radiotelegraph Stations published by the Home Bureau]

Station	Call signal	Wave length	Service	Hours	Station controlled by—
Yorktown.....	KFZC				General Airway Service.

*Broadcasting stations, alphabetically by names of States and cities*

[Additions to the List of Radio Stations of the United States, edition of June 30, 1924]

State and city	Call signal	State and city	Call signal
Arkansas: Arkadelphia.....	KFWD	Missouri:	
California:		Kirksville.....	KFVO
Sacramento.....	KFVK	St. Louis.....	KFVE
San Jose.....	KFVJ	Do.....	KPWF
Illinois:		New Jersey: Paterson.....	WODA
Chicago.....	WPKB	Pennsylvania:	
Do.....	WIBO	Elkins Park.....	WIBQ
Do.....	WMBB	Harrisburg.....	WBAK
Joliet.....	WIBD	Tennessee:	
La Salle.....	WIBC	Chattanooga.....	WDOD
Kansas: Independence.....	KFVG	Knoxville.....	WNAV
Louisiana: New Orleans.....	WSMB	Washington: Vancouver.....	KFVL
Massachusetts:		West Virginia: Martinsburg.....	WIBE
Boston.....	WNAB	Wisconsin:	
New Bedford.....	WIBH	Ashland.....	WJBD
Michigan: Bay City.....	W8KC	Wheatland.....	WIBF
Minnesota: Waconia.....	KFVN		

## RADIO SERVICE BULLETIN

Stations broadcasting market or weather reports, music, concerts, lectures, etc., alphabetically by call signals

Call signal	Location of station	Station operated and controlled by—	Power (watts)	Wave length	Frequency (kilo-cycles)
KFVE	St. Louis, Mo., 6800 Delmar Boulevard.	Film Corporation of America.	500	240	1,250
KFVG	Independence, Kans.	First Methodist Episcopal Church.	10	236	1,270
KFVJ	San Jose, Calif.	First Baptist Church.	500	226	1,330
KFVK	Sacramento, Calif.	Chamber of Commerce.	500	248	1,210
KFVL	Vancouver, Wash.	Vancouver Barracks (United States Army).	5	231	1,300
KFVN	Welcome, Miss.	Capt. E. Bagley.	10	227	1,290
KFVO	Kirksville, Mo., 315 East Randolph Street.	F. M. Henry.	5	236	1,270
KFWD	Arkadelphia, Ark.	Arkansas Light & Power Co.	500	264	1,130
KFWF	St. Louis, Mo., 4030 Lindell Street.	St. Louis Truth Center.	250	214.2	1,400
WBAK	Harrisburg, Pa.	Pennsylvania State Police.	500	275	1,090
WDOD	Chattanooga, Tenn., 540 McCallie Avenue.	Chattanooga Radio Co.	50	254	1,170
WFKB	Chicago, Ill., 4536 Woodlawn Avenue.	Francis K. Bridgman.	100	217.3	1,330
WIBD	Joliet, Ill., 221 Van Buren Street.	X-L Radio Service.	50	200	1,500
WIBE	Martinsburg, W. Va., Appalo Theater.	Martinsburg Radio Broadcasting Co.	5	209.7	1,430
WIBF	Wheatland, Wis., 209 Wisconsin Street, Kenosha, Wis.	S. P. Miller Dance Activities.	50	231	1,300
WIBG	Elkins Park, Pa.	St. Paul's Protestant Episcopal Church.	50	222	1,350
WIBH	New Bedford, Mass., 58 Hillman Street.	Elite Radio Stores (James T. Moriarty).	5	209.7	1,430
WIBO	Chicago, Ill., 6310 Broadway.	Nelson Bros. (Russo and Florito Orchestral Exchange).	10	226	1,330
WIBC	La Salle, Ill., Second and Joliet Streets.	Hammer Furniture Co.	100	234	1,260
WIBD	Ashland, Wis.	Ashland Broadcasting Committee.	150	223	1,290
WMBB	Chicago, Ill., 6201 Cottage Grove.	Trisnon Ball Room (Woodlawn Theater Co.).	500	250	1,200
WNAB	Boston, Mass.	Shepard Stores.	100	250	1,200
WNAV	Knoxville, Tenn., 313 Commerce Avenue.	Peoples Telephone & Telegraph Co.	500	233	1,260
WODA	Paterson, N. J., 115 Ellison Street.	James K. O'Dea Radio and Victrola Shop.	25	202.6	1,480
WSEK	Bay City, Mich.	World's Star Knitting Co.	50	251	1,190
WBMB	New Orleans, La., Maison Blanche Building.	Saenger Amusement & Maison Blanche Co.	500	219	1,400

Government land stations, alphabetically by names of stations

[Additions to the list of Radio Stations of the United States, edition of June 30, 1924, and to the International List of Radiotelegraph Stations published by the Berne bureau.]

Station	Call signal	Wave length	Service	Hours	Station controlled by—
Boston, Mass.	NCP		O	N	U. S. Coast Guard Service.
Cape Lewis, Del.	NWE		O	N	Do.
Cape May, N. J.	NCY		O	N	Do.
Gloucester, Mass.	NGL		O	N	Do.
New London, Conn.	NLG		O	N	Do.
Rockaway Beach, N. Y.	NOG		O	N	Do.

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*Government ship stations, alphabetically by names of stations*

[Additions to the list of Radio Stations of the United States, edition of June 30, 1924, and to the International List of Radiotelegraph Stations published by the Berns bureau]

Station	Call signal	Wave length	Service	Hours	Station controlled by—
CG-278.....	NACM		0	X	U. S. Coast Guard Service.
CG-279.....	NAGF		0	X	Do.
CG-280.....	NECL		0	X	Do.
CG-281.....	NADM		0	X	Do.
CG-282.....	NEQG		0	X	Do.
CG-283.....	NEQN		0	X	Do.
CG-284.....	NISD		0	X	Do.
CG-285.....	NOCK		0	X	Do.
CG-286.....	NACX		0	X	Do.
CG-287.....	NAGJ		0	X	Do.
CG-288.....	NECP		0	X	Do.
CG-289.....	NEQR		0	X	Do.
CG-290.....	NADQ		0	X	Do.
CG-291.....	NAPJ		0	X	Do.
CG-292.....	NEGL		0	X	Do.
CG-293.....	NADG		0	X	Do.
CG-294.....	NAQG		0	X	Do.
CG-295.....	NEQV		0	X	Do.
CG-296.....	NIVG		0	X	Do.
CG-297.....	NOCP		0	X	Do.
CG-298.....	NAFG		0	X	Do.
CG-299.....	NAQK		0	X	Do.
CG-300.....	NECQ		0	X	Do.
CG-301.....	NADJ		0	X	Do.
CG-302.....	NAFN		0	X	Do.

NOTE.—All of the above-named Coast Guard vessels are equipped as follows: Range, 50; system, Western Electric Co. v. t. telegraph and telephone; w. l. 130,143.

*Government land and ship stations, alphabetically by call signals*

[h=ship station; e=land station]

Call signal	Name of station	Call signal	Name of station
NACM	CG-278..... b	NECL	CG-280..... b
NACX	CG-286..... b	NECP	CG-288..... b
NADG	CG-293..... h	NECQ	CG-300..... b
NADJ	CG-301..... b	NEGG	CG-282..... b
NADM	CG-281..... b	NEGL	CG-292..... b
NADQ	CG-290..... b	NEQN	CG-283..... b
NAFG	CG-298..... b	NEQR	CG-289..... b
NAFN	CG-302..... b	NEQV	CG-295..... b
NAGF	CG-279..... b	NGL	Gloucester, Mass..... e
NAGJ	CG-287..... b	NISD	CG-284..... b
NAPJ	CG-291..... b	NIVG	CG-296..... b
NAQG	CG-294..... b	NLO	New London, Conn..... e
NAQK	CG-299..... b	NOCK	CG-285..... b
NCQ	Rockaway Beach, N. Y..... e	NOCP	CG-297..... b
NCP	Boston, Mass..... e	NWE	Cape Lewis, Del..... e
NCY	Cape May, N. J..... e		

*Special land stations, alphabetically by names of stations*

[Additions to the List of Radio Stations of the United States, edition of June 30, 1924]

Station	Call signal	Station controlled by—
Bajavia, Ill.....	9XB	Peoples Pulpit Assn. (Ralph H. Leffler).
Boesman, Mont.....	7XB	Montana State College.
Bridgeport, Conn.....	1XF	George F. Nothung, 176 Waldemere Ave.
Hilo, Hawaii.....	6XAZ	Mutual Telephone Co.
Honolulu, Hawaii.....	6XAY	Do.
Missoula, Mont.....	7XA	University of Montana.
San Francisco, Calif.....	6XAR	Julius Brunton & Sons Co.

*Special land stations, grouped by districts*

Call signal	District and station	Call signal	District and station
1XF	First district: Bridgeport, Conn.		
6XAR	Sixth district: San Francisco, Calif.	7XA	Seventh district: Missoula, Mont.
6XAY	Honolulu, Hawaii.	7XB	Bozeman, Mont.
6XAZ	Hilo, Hawaii.	7XZ	Seattle, Wash.
		9XB	Ninth district: Batavia, 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, 1924, and to the International List of Radiotelegraph Stations, published by the Berne bureau]

ALLENTOWN, PA.—Range, 100; w. l., 137.  
 BIRMINGHAM, ALA.—W. l., 600, 1,100, 1,800.  
 BOLINAS, CALIF. (KPH).—Range, 300-1,000; system, R. C. A., 480; R. C. A., 1,000 and General Electric Co. v. t. telegraph; w. l., 600, 706, 2,200.  
 BURRWOOD, LA.—Range, 300; system, composite, 1,000; w. l., 600, 675, 1,713; hours, 7 a. m.—midnight.  
 CHICAGO, ILL. (WGO).—W. l., add 1,578.  
 ENSENADO, P. R.—System, Navy—R. C. A., 1,000; w. l., 600, 1,800; hours, week days 7 a. m.—1 p. m., Sundays 7 a. m.—6 p. m.  
 HIDDEN INLET, ALASKA.—W. l., 600, 706, 725.  
 LIBBYVILLE, ALASKA.—Range, 150-300; w. l., 600, 900, 1,680, 3,300.  
 MACKINAC ISLAND, MICH.—W. l., 600, 1,578.  
 MEMPHIS, TENN.—W. l., 600, 1,100.  
 MOBILE, ALA. (WPP).—W. l., 600, 1,100, 1,200, 1,800.  
 NEW ORLEANS, LA.—W. l., add 675, strike out 1,713.  
 PIRATE COVE, ALASKA.—W. l., 600, 725, 1,650.  
 PORT ARTHUR, TEX. (WPA).—W. l., 600, 925, 2,050.  
 PORT WALTER, ALASKA.—W. l., 600, 650; service, P.  
 ROCKY POINT, N. Y.—W. l., 1,760.  
 SEATTLE, WASH. (KVW).—W. l., 600, 1,874.  
 TREE POINT LIGHTHOUSE STATION, ALASKA.—Read Mary Island Lighthouse, Alaska; w. l., 600, 625.  
 WILMINGTON, CALIF. (KSE).—System, General Electric Co., 1,000; w. l., 600, 706.  
 YAKUTAT, ALASKA.—W. l., 600, 1,641.  
 Strike out all particulars of the following-named stations: Avalon, Calif.; Kusilof, Alaska; Lost Harbor, Alaska; Oberlin, Ohio; San Francisco, Calif. (KHH); Unga, Alaska; Wilmington, Calif. (KEB).

**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, 1924, and to the International List of Radiotelegraph Stations, published by the Berne bureau]

ADLER.—Station operated and controlled by R. C. A.  
 ADMIRAL FISKE.—W. l., 600, 706, 800.  
 ADMIRAL ROGERS.—W. l., 600, 706.  
 AGWISTONE.—W. l., 450, 600, 706, 800.  
 ALADDIN.—System, R. C. A., 1,000; w. l., 450, 600, 706, 800.  
 A. L. KENT.—W. l., 600, 706, 800.  
 ALPHA.—Range, 300; w. l., 600, 706, 800.  
 A. M. SCOTT.—Range, 300; system, Navy-Lowenstein, 1,000; w. l., 600, 1,100; station operated and controlled by Inland Waterways Corp. (Mississippi Warrior Service).  
 ANDREA F. LUCKENBACH.—Station operated and controlled by R. C. A.  
 APEX.—W. l., 600, 706, 800.  
 ARDMORE.—System, I. W. T. Co., 1,000; w. l., 600, 706, 800, 2,100, 2,400.  
 BAKERSFIELD.—W. l., 600, 706, 800; station operated and controlled by I. W. T. Co.  
 BARBARA C.—W. l., 600, 706, 800.  
 BAYWAY.—W. l., 450, 600, 706, 800.

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- BRIDGETOWN.—W. 1., 600, 706, 800.  
 CALAWAH.—W. 1., 600, 706, 800, 2,100, 2,400.  
 CALVIN AUSTIN.—W. 1., 600, 706, 800.  
 CAMBRIDGE.—W. 1., add 875.  
 CAMDEN (KRC).—W. 1., 600, 706, 800.  
 CANANOVA.—W. 1., 600, 706, 800.  
 CAPTAIN A. F. LUCAS.—W. 1., 600, 706, 800.  
 CAROLYN FRANCES.—Name changed to *Charles Brower*.  
 CARRABULLE.—W. 1., 600, 706, 800.  
 CARRILLO.—W. 1., 600, 706, 800.  
 CASEY.—Station operated and controlled by I. W. T. Co.  
 CATHLAMET.—Station operated and controlled by I. W. T. Co.  
 CHARLES R. McCORMICK.—W. 1., 600, 706, 800.  
 CHILKAT.—W. 1., 600, 706.  
 CITY OF ATLANTA.—W. 1., 600, 706, 800.  
 CLARE.—Range, 150; w. 1., 600, 706, 800.  
 CONCORD.—W. 1., add 875.  
 CROSS KEYS.—W. 1., 450, 60, 706, 800, 875.  
 CUBA (KDLK).—Range, 300; system, R. C. A., 1,000; w. 1., 600, 706, 800.  
 D. G. SCOFIELD.—W. 1., 600, 706, 800, 1,800.  
 DOROTHY LUCKENBACH.—Station operated and controlled by R. C. A.  
 ECLIPSE.—W. 1., 450, 600, 706, 800.  
 EDGAR F. LUCKENBACH.—W. 1., 600, 706, 800; station operated and controlled by R. C. A.  
 EDWARD LUCKENBACH.—Station operated and controlled by R. C. A.  
 EVERGREEN CITY.—W. 1., 600, 706, 800.  
 F. J. LUCKENBACH.—Station operated and controlled by R. C. A.  
 FLORENCE LUCKENBACH.—Station operated and controlled by R. C. A.  
 GLENPOOL.—W. 1., 450, 600, 706, 800.  
 GOVERNOR DINGLEY.—W. 1., 600, 706, 800.  
 GRATIA.—Vezino de Vezino, owner of vessel.  
 HARRY LUCKENBACH.—Station operated and controlled by R. C. A.  
 H. H. ROGERS.—W. 1., 450, 600, 706, 800.  
 HORACE LUCKENBACH.—Station operated and controlled by R. C. A.  
 INDIAN.—W. 1., 600, 706, 800.  
 JACOB LUCKENBACH.—Station operated and controlled by R. C. A.  
 J. L. LUCKENBACH.—Station operated and controlled by R. C. A.  
 JOHN A. KLING.—Station operated and controlled by R. C. A.  
 JOHN W. BOARDMAN.—W. 1., add 1,790.  
 JONANCY.—System, R. C. A. v. t. telegraph; w. 1., 600, 706, 800, 875.  
 JULIA LUCKENBACH.—Station operated and controlled by R. C. A.  
 KATHINA LUCKENBACH.—Station operated and controlled by R. C. A.  
 K. I. LUCKENBACH.—Station operated and controlled by R. C. A.  
 KISHACQUILLAS.—W. 1., 600, 706, 800.  
 LAKE FARISTELL.—Name changed to *King*; King S. S. Corporation owner of vessel.  
 LAKE FLOVILLA.—Name changed to *Queen*; Queen S. S. Corporation owner of vessel.  
 LAKE FRESCO.—Name changed to *Jack*; Jack S. S. Corporation owner of vessel.  
 LAKE FROHNA.—Name changed to *Ace*; Ace S. S. Corporation owner of vessel.  
 LAKE HARMINIA.—Name changed to *Ethyl*; E. I. du Pont de Nemours & Co. owner of vessel.  
 LENA LUCKENBACH.—Station operated and controlled by R. C. A.  
 LEWIS LUCKENBACH.—Station operated and controlled by R. C. A.  
 LIBBY MAINE.—W. 1., 600, 706, 800; station operated and controlled by owner of vessel.  
 LIEUT. COL. ROBERT G. GILDART.—W. 1., 600, 1,100; Inland Waterways Corporation owner of vessel (Mississippi-Warrior service).  
 LILLIAN LUCKENBACH.—Station operated and controlled by R. C. A.  
 MAJOR WHEELER.—W. 1., add 450.  
 MARY LUCKENBACH.—W. 1., 450, 600, 706, 800.  
 MOHEGAN.—W. 1., add 875.  
 MOJAVE.—W. 1., 600, 706, 800, 2,100, 2,400.  
 MOSELLA.—W. 1., 600, 706, 2,100, 2,400.  
 MUNAIRES.—W. 1., 600, 706, 800.  
 MUNALBRO.—W. 1., 600, 706, 800.  
 NATIRAR.—Station operated and controlled by I. W. T. Co.  
 NEW HAMPSHIRE.—W. 1., add 875.

- ONEIDA (KESJ).—W. 1., 600, 706, 800; station operated and controlled by owner of vessel.  
 ORIENT.—Oriental Navigation Co. owner of vessel.  
 ORINOCO.—Oriental Navigation Co. owner of vessel.  
 OSAGE.—W. 1., 600, 706, 800.  
 OZARK.—Station operated and controlled by I. W. T. Co. (U. S. L.).  
 PAUL LUCKENBACH.—Station operated and controlled by R. C. A.  
 PRESIDENT HARDING.—System, add Federal arc; w. l., 600, 706, 800, 1,800, 2,100, 2,400.  
 PROVIDENCE.—W. 1., add 875.  
 REDWOOD.—System, R. C. A., 1,000; w. l., 600, 706, 800.  
 ROBERT LUCKENBACH.—Station operated and controlled by R. C. A.  
 ROBIN GOODFELLOW.—Station operated and controlled by I. W. T. Co.  
 ROCHESTER.—W. 1., 450, 600, 706, 800.  
 SAN LORENZO.—W. 1., 600, 706, 800.  
 SANTA CECILIA.—W. 1., 450, 600, 706, 800.  
 SANTA OLIVIA.—W. 1., add 875.  
 SANTA ROSA.—W. 1., 600, 706, 800.  
 S. O. Co. No. 95.—Range, 150; system, R. C. A., 1,000; w. l., 600, 706, 800.  
 SOCONY 88.—W. 1., 600, 800.  
 SOUTHLANDS.—Station operated and controlled by I. W. T. Co.  
 STANDTUG No. 1.—Name changed to *Satoco*.  
 STAR OF HOLLAND.—System, Navy-Lowenstein, 1,000; w. l., 600, 706, 800; rates, 8 cents per word.  
 STAR OF ITALY.—W. 1., 600, 706, 800.  
 STEELMOTOR.—W. 1., 600, 706; rates, Great Lakes service 4 cents per word, other services 8 cents per word; station operated and controlled by R. C. A.  
 STEELVENDOR.—W. 1., 600, 706; rates, Great Lakes service 4 cents per word, other services 8 cents per word; station operated and controlled by R. C. A.  
 TIVIES.—W. 1., 600, 706, 800.  
 TOPA TOPA.—Station operated and controlled by I. W. T. Co.  
 TUSITALA.—Station operated and controlled by R. C. A.  
 WALTER A. LUCKENBACH.—Station operated and controlled by R. C. A.  
 WILDWOOD.—W. 1., 600, 706, 800.  
 WILLIAM ISOM.—W. 1., 600, 706, 800.  
 W. M. TUPPER.—Range, 200; system, I. W. T. Co., 1,000; w. l., 600, 706, 800; rates, 8 cents per word.  
 W. S. MILLER.—W. 1., 600, 706, 800; S. O. Co. of Calif. owner of vessel.  
 Strike out all particulars of the following-named vessels: Osprey, Rappahannock, Robert B. Wallace, W. S. Porter.

COMMERCIAL LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS

- KEGR, read Ace; KESK, read Queen; KFHO, read Charles Brower; KJJ, read Mary Island Lighthouse, Alaska; KOQM, read *Satoco*; KUNB, read Ethyl; WLEE, read King; WNAU, read Jack; strike out all particulars following the call signals, KDA, KEB, KHH, KKAO, KUJN, KVI, KWS, WEI, WLK, WQQ, WTM.

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, 1924]

- KDLR (Devils Lake, N. Dak.).—Station operated and controlled by Radio Electric Co. and Wilson Insurance Agency.  
 KFAB (Lincoln, Nebr.).—Power, 500.  
 KFAD (Phoenix, Ariz.).—Power, 100; w. l., 273, fy. kc., 1,100.  
 KFBC (San Diego, Calif.).—Power, 10; w. l., 224, fy. kc., 1,340.  
 KFDZ (Minneapolis, Minn.).—Power, 10.  
 KFEL (Denver, Colo.).—Station operated and controlled by W. L. Winner Radio Shop, 435 Fourteenth Street.  
 KFGD (Chickasha, Okla.).—Power, 200.  
 KFKX (Hastings, Nebr.).—Power, 2,000.  
 KFOO (Salt Lake City, Utah).—Power, 250.  
 LFON (Long Beach, Calif.).—W. 1., 233, fy. kc., 1,290.  
 KFQA (St. Louis, Mo.).—Power, 100.  
 KFQB (Fort Worth, Tex.).—Power, 150.  
 KFQU (Holy City, Calif.).—W. 1., 222, fy. kc., 1,350.



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- KFUR (Ogden, Utah).—Station operated and controlled by Peery Building Co.  
 KFUS (Oakland, Calif.).—W. l., 234, fy. kc., 1,280.  
 KFVF (Hollywood, Calif.).—Power, 50.  
 KGU (Honolulu, Hawaii).—W. l., 270, fy. kc., 1,110.  
 KGY (Lacey, Wash.).—Fy. kc., 1,220.  
 KMJ (Fresno, Calif.).—Address, Tuolumne and Fulton Streets.  
 KMO (Tacoma, Wash.).—Power, 100.  
 KOA (Denver, Colo.).—Power, 2,000.  
 KQW (San Jose, Calif.).—W. l., 226, fy. kc., 1,330.  
 KWG (Stockton, Calif.).—W. l., 248, fy. kc., 1,210.  
 KZM (Oakland, Calif.).—W. l., 242, fy. kc., 1,240.  
 WABA (Lake Forest, Ill.).—Power, 200.  
 WABZ (New Orleans, La.).—W. l., 275, fy. kc., 1,090.  
 WAAB (New Orleans, La.).—W. l., 268, fy. kc., 1,120.  
 WBAK (Harrisburg, Pa.).—W. l., 202.3, fy. kc., 1,199.  
 WBBG (Mattapoisett, Mass.).—Power, 250.  
 WBZ (Springfield, Mass.).—Power, 2,000.  
 WCAJ (University Place, Nebr.).—W. l., 254, fy. kc., 1,180.  
 WCAO (Baltimore, Md.).—Power, 100.  
 WCBZ (Chicago Heights, Ill.).—Station operated and controlled by Neuro-wound Radio Manufacturing Co., 1721 Prairie Avenue; w. l., 217.3, fy. kc., 1,380.  
 WDBS (Dayton, Ohio).—Call signal changed to WSMK; power, 500.  
 WDBZ (Kingston, N. Y.).—Power, 10.  
 WEAA (Flint, Mich.).—Power, 100.  
 WEAJ (New York, N. Y.).—Power, 2,500.  
 WEAN (Providence, R. I.).—Power, 250.  
 WEAY (Houston, Tex.).—W. l., 270, fy. kc., 1,110.  
 WEBQ (Harrisburg, Ill.).—Station operated and controlled by Joseph R. Tate.  
 WENR (Chicago, Ill.).—Power, 10; w. l., 266, fy. kc., 1,130.  
 WFBZ (Galesburg, Ill.).—Power, 20.  
 WGAQ (Shreveport, La.).—Power, 250; w. l., 273, fy. kc., 1,100.  
 WGBF (Evansville, Ind.).—W. l., 236, fy. kc., 1,270.  
 WGBS (New York, N. Y.).—Power, 500.  
 WGBY (New Lebanon, Ohio).—W. l., 250, fy. kc., 1,200.  
 WGY (Schenectady, N. Y.).—Power, 2,000.  
 WHA (Madison, Wis.).—Power, 750.  
 WHK (Cleveland, Ohio).—Power, 250.  
 WHAP (Brooklyn, N. Y.).—Power, 100.  
 WKAR (East Lansing, Mich.).—Power, 750.  
 WLW (Harrison, Ohio).—Power, 500–5,000.  
 WOC (Davenport, Iowa).—Power, 2,000.  
 WOAI (San Antonio, Tex.).—Power, 1,000.  
 WORD (Batavia, Ill.).—Power, 2,000; w. l., 275, fy. kc., 1,000.  
 WRC (Washington, D. C.).—Power, 1,000.  
 WSAI (Cincinnati, Ohio).—Changed to Mason, Ohio; power, 500–5,000.  
 WSB (Atlanta, Ga.).—Power, 500.  
 WTAF (New Orleans, La.).—Call signal changed to WOWL, station operated and controlled by Owl Battery Co.; power, 100; w. l., 270, fy. kc., 1,110.  
 WTAY (Oak Park, Ill.).—Call signal changed to WGES; station operated and controlled by Coyne Electrical School.  
 WWAQ (Houghton, Mich.).—W. l., 263, fy. kc., 1,140.  
 Strike out all particulars of the following-named stations: KFCL (Los Angeles, Calif.); KFR (Sparks, Nev.); KFGX (Orange, Tex.); KFHJ (Santa Barbara, Calif.); KFPH (Salt Lake City, Utah); KFPX (Pine Bluff, Ark.); KQW (Austin, Tex.); KRF (Alexandria, La.); KFRN (Hanford, Calif.); KFUV (Moberly, Mo.); KJQ (Stockton, Calif.); KYQ (Honolulu, Hawaii); WBAN (Paterson, N. J.); WBBH (Port Huron, Mich.); WDBD (Martinsburg, W. Va.); WDBT (Hattiesburg, Miss.); WEAP (Mobile, Ala.); WEBY (Roslindale, Mass.); WFBT (Pitman, N. J.); WBBE (Sewickley, Pa.); WOAF (Tyler, Tex.).

## 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, 1924, and to the International List of Radiotelegraph Stations, published by the Bureau)

CAVITE, P. I.—Service, O.

ST. JOHN, VIRGIN ISLANDS.—W. l., 1,684 should be in italics.

## 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, 1924, and to the International List of Radiotelegraph Stations, published by the Berns bureau]

Strike out all particulars of the following-named vessels: Comfort, Delaware; Newport News, Pensacola, S. C. 156, S. C. 188, S. C. 191, S. C. 287, Traffic.

## GOVERNMENT LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS

Strike out all particulars following the call signals, NDO, NEK, NGN, NHZ, NOLF, NOMJ, NOMM, NOSQ, NVA.

## 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, 1924]

SAN JOSE, CALIF. (portable, 6XE).—Station operated and controlled by Charles D. Herrold and Ray Newby, 1065 Bird Avenue.

SAN JOSE, CALIF. (6XF).—Station operated and controlled by Charles D. Herrold and Ray Newby, 1065 Bird Avenue.

SILVER LANE, CONN. (1XAQ).—Changed to Glastonbury, Conn., 122 Naubuc Avenue.

Strike out all particulars of the following-named stations: Bozeman, Mont. (7XBC); Cedar Rapids, Iowa (9XBK); Columbia, Mo. (9XBQ); Davenport, Iowa (9XG); Seattle, Wash. (7YM); Wooster, Ohio (8XI).

## MISCELLANEOUS

## USE OF 300 AND 450 METERS

Radio stations of the United States are no longer being licensed to use 300 and 450 meters, except broadcasting stations. The 450-meter wave may be used, however, by ship stations in communicating with foreign compass stations. Foreign ship stations should not attempt to communicate with stations of this country on either the 300 or 450 meter wave length.

## INCREASE IN TELEGRAPHIC RATES FOR CYRENAICA, ERITREA, AND TRIPOLI

The interior telegraphic rates applicable to radiograms for these countries has been raised to 1 franc 25 centimes per word (minimum 2 francs), for ordinary radiograms and 2 francs 75 centimes per word (minimum 6 francs), for urgent radiograms.

## INCREASE IN TELEGRAPHIC RATES FOR ITALY

The interior telegraphic rates applicable to radiograms for this country has been increased to 1 franc 25 centimes per word (minimum 2 francs), for ordinary radiograms and 2 francs 75 centimes per word (minimum 6 francs), for urgent radiograms, effective since March 16, 1925.

## GULF OF ST. LAWRENCE ICE PATROL

An ice patrol will be maintained in the Gulf of St. Lawrence from Cape Ray to Bird Rocks, Bird Rocks to vicinity of Heath Point, and Heath Point to Cape Ray from the opening of navigation in the spring until the route is clear of ice. Call letters VCQ have been assigned to the ice patrol vessel. This is a special call signal and will be used by any vessel which is engaged in the service.

A regular message embodying ice conditions, from Cape Race to Quebec, and recommendations as to route to be followed will be made up by the ice patrol every four hours, commencing as from midnight eastern standard time (seventy-fifth meridian), and kept on file for immediate transmission by radio to ships, upon request. This information will also be broadcast four times daily by the ice patrol at 8 a. m. and 8 p. m. on 600 meters, spark, and at 8.30 a. m. and 8.30 p. m. on 1,621 meters, i. c. w. The coast radio stations at Cape Race (VCE), North Sydney (VCO), and Grindstone (VCN) will copy this message and will be prepared to pass the same to ships requesting it. Cape Race will also include the message in his regular ice broadcast at 9.15 a. m. and 9.15 p. m. daily. Ships requiring the latest information on the Gulf route should communicate directly with the ice patrol vessel (VCQ) on 600 meters, spark. The work will be greatly facilitated if incoming ships will cooperate in supplying information regarding ice in their vicinity.—*Notice to Mariners.*

## RADIO SERVICE BULLETIN

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## COMPASS STATION ESTABLISHED AT BOMBAY HARBOR

It has been reported by the master of the American vessel *Jalapa* that a radio compass station has been temporarily established on Butcher Island, Bombay Harbor, in latitude 18° 57' 31" N., longitude 72° 54' 13" E. This station is established for experimental purposes, and vessels entering the port of Bombay are urged to assist in the experimental work by obtaining bearings, for which no charge is made. Call letters have not been assigned to the station, but the island can be raised by first calling VWB, Bombay. Masters of vessels are requested to forward in writing their true position at the time bearings are taken to the officer in charge, Bombay Radio, Butcher Island, Bombay.—*Notice to Mariners, Hydrographic Office, No. 16.*

## WAVE LENGTH USED BY TUCKERTON FOR TRANSMITTING WEATHER REPORTS

The station of the Radio Corporation of America at Tuckerton, N. J., uses 650 meters, i. c. w., for transmitting weather reports. For further information in this regard see Radio Service Bulletin for last month, No. 96.

## GOVERNMENT AND COMMERCIAL TRAFFIC BETWEEN VENEZUELAN STATION AND PORTO RICAN STATION

Beginning midnight, May 1, this year, a radio circuit will be inaugurated between the naval radio station at San Juan, P. R., and the Venezuelan radio station at Caracas, Venezuela, for the handling of Government and commercial dispatches between the United States and Venezuela.

Official dispatches of the Government of Venezuela and of the Government of the United States will be handled free of charge between San Juan, P. R., and Caracas, Venezuela. Government dispatches destined to other points within the United States or Venezuela will carry the appropriate land line or cable charges from the two points before mentioned.

The total rate on commercial dispatches between Caracas, Venezuela, and San Juan, P. R., is 24 cents per word, United States currency, 12 cents accruing to each station as its proportion. The charges for local delivery on such dispatches will be paid by the radio administration of destination from its proportion of the above-mentioned rate. The rates for commercial dispatches between other points in the United States and Venezuela will be those of the commercial land lines or cable between the point of origin in the United States and San Juan, P. R., plus the rate of 24 cents per word above mentioned, plus the rates of the land lines from the Venezuelan radio station at Caracas to destination, or vice versa.

## DISTRIBUTION OF WEATHER INFORMATION, FORECASTS, AND WARNINGS BY RADIO FOR THE BENEFIT OF NAVIGATION ON GREAT LAKES

Weather forecasts and information for such States as are contiguous to the Great Lakes, and forecasts and warnings for the Great Lakes, are broadcast by radio from a number of broadcasting stations cooperating with the United States Weather Bureau. The broadcasts of weather forecasts, warnings, and other pertinent information have been arranged so as to be of special benefit to navigation and shipping interests of the Great Lakes region and are made daily, except as noted, from stations at important Lake ports. The daily forecasts of wind and weather are made separately for the upper and lower Lakes and are broadcast accordingly, as indicated in the following schedules:

*Broadcasting stations and schedules***DULUTH, MINN.:**

Station WME.—Intercity Radio Telegraph Co.  
Radiotelegraph; wave length, 600 meters, spark.  
11 a. m. and 5 p. m., seventy-fifth meridian time.  
Forecasts for the upper Lakes.  
Storm warnings whenever issued.

**HOUGHTON, MICH.:**

Station WWAQ.—The Michigan College of Mines.  
Radiophone; wave length, 263 meters, 250 watts.  
12 noon, seventy-fifth meridian time.  
Forecasts for Upper Michigan (State) and Houghton.  
Storm warnings whenever issued.

**MILWAUKEE, WIS.:**

Station WCAY.—Milwaukee Civic Broadcasting Association.  
Radiophone; wave length, 266 meters, 250 watts.  
12.15 p. m., seventy-fifth meridian time.  
Forecasts for Wisconsin and upper Lakes.  
Storm warnings whenever issued.

Note.—Broadcasts made only Mondays, Wednesdays, and Fridays.

Station WHAD.—The Marquette University.  
Radiophone; wave length, 275 meters, 500 watts.  
12 noon, seventy-fifth meridian time.<sup>1</sup>  
Forecasts for Wisconsin and Milwaukee.  
Forecasts for the upper Lakes.  
Storm warnings whenever issued.

**GREAT LAKES, ILL.:**

Station NAJ.—United States Navy.  
Radiotelegraph; wave length, 1,986 meters, i. c. w.  
10.45 a. m. and 11 p. m., seventy-fifth meridian time.  
Forecasts for upper and lower Lakes.  
Storm warnings whenever issued.  
Storm warnings issued in the afternoon are broadcast at 5 p. m., seventy-fifth meridian time.

**CHICAGO, ILL.:**

Station WGO.—Radio Corporation of America.  
Radiotelegraph; wave length, 890 meters, c. w.  
12 noon, 5 p. m., and 10 p. m., seventy-fifth meridian time.  
Forecasts for Chicago and vicinity.  
Forecasts for the upper and lower Lakes.  
Storm and small craft warnings whenever issued.

Station KYW.—Westinghouse Electric & Manufacturing Co.  
Radiophone; wave length, 535.4 meters, 1,500 watts.  
1 p. m. and 11.30 p. m., seventy-fifth meridian time (except Monday nights).<sup>1</sup>  
Forecasts for Illinois, Indiana, Wisconsin, Minnesota, and Upper and Lower Michigan (State).  
Forecasts for Lake Michigan.  
Storm warnings whenever issued.

Station WAAF.—The Daily Drivers Journal.  
Radiophone; wave length, 278 meters, 200 watts.  
11.30 a. m. and 1.30 p. m., seventy-fifth meridian time.<sup>1</sup>  
Forecasts for Illinois, Indiana, Wisconsin, Minnesota, and Upper and Lower Michigan (State).  
Forecasts for upper and lower Lakes.  
Aviation forecasts for the zones 4 and 8.  
General forecast and summary of weather conditions.  
Storm warnings whenever issued.

Station WLS.—Sears, Roebuck & Co.  
Radiophone, wave length, 344.6 meters, 500 watts.  
10 a. m. and 7 p. m., seventy-fifth meridian time.<sup>1</sup>  
Repeated at 1.30 p. m. and 2 p. m. on Saturdays.  
Forecasts for Chicago, Illinois, Indiana, Wisconsin, Minnesota, upper and lower Michigan (State), and general weather forecast.  
Storm warnings whenever issued.

**ROGERS, MICH.:**

Station WLC.—The Michigan Limestone & Chemical Co.  
Radiotelegraph; wave length, 670 meters, spark and c. w.  
8.45 a. m., seventy-fifth meridian time: State of weather and wind direction and velocity at Mackinaw, Middle Island, Alpena, Tawas Point, Harbor Beach, and Port Huron; barometric pressure at Alpena and Port Huron.  
10.45 a. m. and 10.30 p. m., seventy-fifth meridian time: Weather forecast for Upper lakes; storm and advisory warnings whenever issued.

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**ROGERS, MICH.:—Continued.**

4.45 p. m. and 8.45 p. m., seventy-fifth meridian time: State of weather and wind direction and velocity at 4 and 8 p. m., respectively, at Middle Island and Alpena; storm and advisory warnings whenever issued.

NOTE.—Information concerning condition of sea along the west shore of Lake Huron and currents and fluctuations of water level in Lake Huron will be included in the broadcasts whenever the weather is thick.

**DETROIT, MICH.:**

Station WCX.—The Detroit Free Press.  
Radiophone; wave length, 516.9 meters, 500 watts.  
10.15 a. m. and 2.50 p. m., seventy-fifth meridian time.<sup>1</sup>  
Forecasts for lower Michigan (State) and Detroit.  
Forecasts for the upper and lower Lakes.  
Summary of weather conditions.  
Storm warnings whenever issued.

Station WWJ.—The Detroit Evening News.  
Radiophone; wave length, 352.7 meters, 500 watts.  
11.25 a. m. and 4.30 p. m., seventy-fifth meridian time.<sup>1</sup>  
Forecasts for lower Michigan (State) and Detroit.  
Forecasts for the upper and lower Lakes.  
Summary of weather conditions.  
Storm warnings whenever issued.

**CLEVELAND, OHIO:**

Station WEAR.—Goodyear Tire & Rubber Co.  
Radiophone; wave length 389.4 meters, 1,000 watts.  
12 noon and 4 p. m., seventy-fifth meridian time.<sup>1</sup>  
Barometric pressure, state of weather, and wind direction and velocity at 8 a. m. at Cleveland, Toledo, and Erie.  
Forecasts for Ohio and Cleveland.  
Forecasts for the lower and upper Lakes.  
Summary of weather conditions.  
Storm warnings whenever issued.

Station WTK.—Intercity Radio Telegraph Co.  
Radiotelegraph; wave length, 730 meters, spark and i. c. w.  
11.05 a. m. and 4 p. m., seventy-fifth meridian time.  
Barometric pressure, state of weather, and wind direction and velocity at 8 a. m. at Cleveland, Toledo, and Erie.  
Forecasts for the lower and upper Lakes.  
Summary of weather conditions.  
Storm warnings for Lake Erie and advisory messages for the Great Lakes whenever issued.

**BUFFALO, N. Y.:**

Station WAM.—Intercity Radio Telegraph Co.  
Radiotelegraph; wave length, 600, 730, and 1,800 meters, spark and i. c. w.  
10.45 a. m. and 9 p. m., seventy-fifth meridian time.  
Barometric pressure, state of weather, and wind direction and velocity at 8 a. m. and 8 p. m., respectively, at Buffalo and Oswego.  
Forecasts for the lower Lakes (10.45 a. m. only).  
Storm warnings whenever issued.

Station WGR.—Federal Telephone Manufacturing Corporation.  
Radiophone; wave length, 319 meters, 750 watts.  
12 noon, seventy-fifth meridian time.<sup>1</sup>  
Forecasts for Buffalo and western New York.

—From Weather Bureau Forecast Division.

NOTE.—This circular supersedes circular dated June 1, 1924.

**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 this indicates 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. 92, Radio Signals of Standard Frequencies and Their Utilization. A copy of that letter circular can 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	Assigned frequency (kilocycles)	Period covered by measurements (months)	Number of times measured	Deviations from assigned frequencies noted in measurements	
						Average	Greatest since Mar. 20, 1925
WQL	Radio Corporation of America.	Coram Hill, Long Island, N. Y.	17.13	4	31	Per ct. 0.1	Per ct. 0.2
NSE	United States Navy	Annapolis, Md.	17.50	20	156	.2	.6
WCI	Radio Corporation of America.	Barnegat, N. J.	17.53	2	13	.2	.3
WGG	do.	Tuckerton No. 1, N. J.	18.88	20	159	.1	.4
WSO	do.	Marion, Mass.	25.80	29	122	.3	.2
WYA	United States Army	Annapolis, Md.	100	1	29	.1	.4
WEAF	American Telegraph & Telephone Co.	New York, N. Y.	610	4	45	.0	.0
WCAP	Chesapeake & Potomac Telephone Co.	Washington, D. C.	640	19	87	.1	.2
WRC	Radio Corporation of America.	do.	640	16	69	.1	.2
WSB	Atlanta Journal	Atlanta, Ga.	700	19	78	.1	.4
WGY	General Electric Co.	Schenectady, N. Y.	700	22	124	.1	.2
WBZ	Westinghouse Electric & Manufacturing Co.	Springfield, Mass.	900	12	35	.1	.4
KDKA	do.	East Pittsburgh, Pa.	970	19	168	.1	.3

## REFERENCES TO CURRENT RADIO PERIODICAL 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 the professional radio engineer which have recently appeared in technical periodicals. 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, Circular No. 138, a copy of which may be obtained for 10 cents from the Superintendent of Documents, Government Printing Office, Washington, D. C. Further information about these lists, availabilities of previous lists, and of the several periodicals is contained in the extended statement preceding the early lists and published in the Radio Service Bulletin prior to April, 1923, and also in May and September, 1923.

## R000.—Radio communication

- R000 Harrison, H. H. The art of communication engineering (abstract). *Jour. Inst. of Elec. Engrs.* (London), 63, pp. 305-308, March, 1925.
- R007.1 McBride, R. S. How the Government is regulating radio broadcasting. *Radio Broadcast*, 7, pp. 29-35, May, 1925.
- R020 Gernsbach, S. Radio review. Published by Conrad Co. (Inc.), New York, N. Y. Price, \$0.35 per copy.

## R100.—Radio principles

- R113 Appleton, E. V., and Barnett, M. A. F. Wireless wave propagation. *Electrician* (London), 94, p. 398, April 3, 1925.
- R113 Howe, G. W. O. Facts and fancies in long-distance transmission. *Electrician* (London), 94, p. 298, March 13, 1925.
- R113.5 Van Cleef, E. Do weather conditions influence radio? *Radio Broadcast*, 7, pp. 90-94, May, 1925.
- R113.6 Reinartz, J. L. The reflection of short waves. *QST*, 9, pp. 9-12, April, 1925.
- R113.8 Merritt, E., Bidwell, C. C., and Reich, H. J. Changes observed in the direction of radio signals at the time of the eclipse of January 24, 1925. *Jour. Frank. Inst.*, 199, pp. 485-492, April, 1925.
- R113.8 Eclipsa tests. *QST*, 9, no. 24-29, April, 1925.

- R127 Ledge, O. Factors that affect antenna capacity. *Popular Radio*, 7, pp. 427-435, May, 1925.
- R127 Van der Pol, B. Discussion on "On the radiation resistance of a single vertical antenna at wave lengths below the fundamental" and "On the optimum transmitting wave length for a vertical antenna over perfect earth," by S. Ballantine. *Proc. Inst. Radio Engrs.*, 13, pp. 251-255, April, 1925.
- R129 Mauborgne, J. O., and Hill, G. Antenna system. United States Patent No. 1530684, issued March 24, 1925.
- R130 Gosling, B. S., and Thompson, M. The development of valves for wireless. *World Power* (London), 3, pp. 195-203, April, 1925.
- R131 Everitt, H. W. Testing vacuum tubes. United States Patent No. 1530683, issued March 24, 1925.
- R132 Kafka, H. Die Leistwertdiagramme des Elektronenröhrenverstärkers im Wechselstromkreis. *Archiv für Elektrotechnik*, 14, pp. 347-354, 1925.
- R134.8 Nichols, E. C. Reflex circuits. *Radio* (San Francisco), 7, pp. 16-18, April, 1925.
- R144 Pedersen, P. O. An electrometer method for the measurement of radio frequency resistance. *Proc. Inst. Radio Engrs.*, 13, pp. 215-243, April, 1925.

## R200.—Radio measurements and standardization

- R213 Hand, A. A method of measuring radio frequency by means of a harmonic generator. *Proc. Inst. Radio Engrs.*, 13, pp. 207-213, April, 1925.
- R230 Sargent, E. M. A short cut in calculating inductances (chart of values for single layer coils). *Radio* (San Francisco), 7, pp. 34-36, April, 1925.
- R230 Davis, H. S. How to design radio coils (table). *Radio Broadcast*, 7, pp. 46-48, May, 1925.
- R270 Austin, L. W. Some trans-Pacific radio field intensity measurements. *Proc. Inst. Radio Engrs.*, 13, pp. 151-157, April, 1925.
- R275 Kuhlmann, C. Herstellung und Quantitative Messung modulierter Wellen sowie der Empfang derselben mit einem Schwingungskreis. *Jahrbuch der drahtlosen Telegraphie*, 25, pp. 43-55, 1925.

## R300.—Radio apparatus and equipment

- R331 Alexanderson, E. F. W. Electron discharge device. United States Patent No. 1535082, issued April 21, 1925.
- R334 Murray, C. Double filament vacuum tube. United States Patent No. 1530687, issued March 24, 1925.
- R340 Loewe, S., and Kunze, W. Ein Röhrenohmmeter. *Jahrbuch der drahtlosen Telegraphie*, 25, pp. 67-70, 1925.
- R342 Read, H. S. Vacuum tube circuits. United States Patent No. 1530629, issued March 24, 1925.
- R342.15 Hurd, V. D. A remarkable tuned radio-frequency transformer development (Browning-Drake transformer). *Radio* (San Francisco), 7, pp. 13-15, April 1925.
- R342.6 Hazeltine, L. A. Method and means for neutralizing capacity coupling in audions. United States Patent No. 1533858, issued April 14, 1925.
- R342.6 Batcher, H. R. The design of the Grebe synchrophase. *QST*, 9, pp. 13-16, April, 1925.
- R342.6 Browning, G. H. The regenformer. *QST*, 9, pp. 21-23, April, 1925.
- R342.7 Field, F. E. Amplifier circuits. United States Patent No. 1534172, issued April 21, 1925.
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