

DEPARTMENT OF COMMERCE

RADIO SERVICE BULLETIN

ISSUED MONTHLY BY BUREAU OF NAVIGATION

Washington, April 30, 1926—No. 109

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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.		
I. W. T. Co.	= 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.		
K. c.	= 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.		

RADIO SERVICE BULLETIN

NEW STATIONS

Commercial land stations, alphabetically by names of stations

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

Station	Call signal	Wave lengths	Service	Hours	Station controlled by—
Detroit, Mich. ¹	WCK	144.8	FX	X	Detroit Police Department.
Infanta, P. I. ² (Province of Tayabas)	KZBP	620, 800, 1,000, 1,200, 1,400, 1,600, 1,800, 1,950, 2,100	PG		Philippine Insular Government.
Killisnoo, Alaska ³	KQU	600, 625	FX	X	Killisnoo Fisheries (Inc.).
Los Angeles, Calif. ⁴	KLIX	119.9, 600	P	X	George C. Fitchner (Los Angeles Athletic Club).
Oakland, Calif. ⁵	KEB	18.62, 21.8	PX	X	General Electric Co.
Port Hedron, Alaska ⁶	KGL	600, 700	P	X	North Pacific Sea Products Co.
Portlock, Alaska ⁷	KJY	700	FX	X	Henry J. Lookow, Trustee.
Do. ⁷	KLQ	700	FX	X	Do.
Rocky Point, N. Y. ⁸	WLL	18	FX	N	R. C. A.
Shelby, Mont. ⁹	KVX	1,600	FX	X	Illinois Pipe Line Co.
Yuntutaga Beach, Alaska ¹⁰	KYJ	600, 700, 1,000	P	X	General Petroleum Corporation.

¹ Loc. (approximately) O 83° 03' 00", N 40° 20' 00"; range, 150; system, Western Electric Co. v. t. telephone and telegraph.
² Loc. O 121° 38' 54" E., N 14° 41' 53"; range, 300; system, F. T. Co. arc; hours, 8 a. m.-12 noon and 2-5.30 p. m. daily; 9-11 a. m. and 2-3.30 p. m. Sundays and holidays; rates, ship service, 6 cents per word.
³ Loc. (approximately) O 151° 34' 00", N 57° 28' 00"; range, 300; system, Navy-Marconi, 1,000.
⁴ Range, 100; system, composite v. t. telephone and telegraph.
⁵ Loc. O 122° 12' 20", N 37° 12' 20"; system, General Electric Co. v. t. telegraph.
⁶ Loc. (approximately) O 151° 00' 00", N 57° 30' 00"; range, 150; system, K. & C., 1,000.
⁷ Range, 300; system, K. & C., 1,000.
⁸ Loc. O 72° 54' 40", N 40° 55' 45"; range, 6,000; system, General Electric Co. v. t. telegraph.
⁹ Loc. (approximately) O 111° 51' 40", N 48° 10' 00"; system, composite v. t. telegraph.
¹⁰ Loc. (approximately) O 141° 30' 00", N 00° 00' 00"; range, 300; system, F. T. Co. arc.

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	Range	Service	Hours	Owner of vessel	Station controlled by—
Arbitus	KDWC	8	PG	X	Union Shipbuilding Co.	
Bristol	KRGC	8	PG	X	Coastwise Transportation Corporation.	
Chatham	KGAN	8	PG	N	Merchants and Miners Transportation Co.	
Commercial Pioneer	KUNC	8	PG	X	Lake Gunn Navigation Co.	R. C. A.
Lake Elmhurst ¹	KOFQ	8	PG	X	Green S. B. Co. of Savannah.	Do.
Manhattan Island ²	WFOI	8	PG	X	Finkbine-Guild Transportation Co.	I. W. T. Co.
Missouri ³	WFX		PG	N	Michigan Transit Co.	R. C. A.
Point Bonita	KIFQ	8	PG	X	Swayns & Hoyt	F. T. Co.
Point Reyes	KUCI	8	PG	X	do.	Do.
Portland	WDU		PG	X	Michigan Transit Co.	R. C. A.
Riposo	KGAG	8	PG	X	H. B. Baruch	
Seneca	KGAP		PG	X	Nicholson Transit Co.	I. R. T. Co.
Sieles	KGAI		PG	X	John H. French	
Sultans ⁴	KGAH		PG	X	Nicholson Transit Co.	Do.
Sumar	KGAQ		PG	X	David C. Whitney	R. C. A.
Wachtenaw ⁵	WFOO	8	PG	X	California Petroleum Corporation.	F. T. Co.
West Hepburn	KINP	8	PG	X	Sudden & Christensen	
West Wind	KJH	8	PG	X	do.	
William P. Noltingham	KGAG		PG	X	Washington Tug & Barge Co.	

¹ Range, 200; system, Navy-Marconi, 1,000; w. l., 600, 700, 800.
² Range, 200; system, K. & C., 1,000; w. l., 600, 700, 800.
³ Range, 150; system, R. C. A., 1,000; w. l., 714, 875; rates, Great Lakes service 4 cents per word.
⁴ Range, 150; system, Navy-Lowenstein, 1,000; w. l., 714, 800, 875; rates, Great Lakes service 4 cents per word.

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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
KDWV	Arbutus.....b	KOFQ	Lake Elmhurst.....b
KEB	Oakland, Calif.....c	KQU	Kiliknoo, Alaska.....c
KEGO	Bristol.....b	KUCJ	Holyoke Bridge.....b
KGAG	William P. Nottingham.....b	KUNC	Commercial Pioneer.....b
KOAR	Sultana.....b	KVX	Shelby, Mont.....c
KOAI	Siels.....b	KYJ	Yacutaga Beach, Alaska.....c
KOAN	Chatham.....b	RZBP	Infanta, P. I. (Province of Tayabas)....c
KGAO	Riposo.....b	WCK	Detroit, Mich.....c
KOAP	Senora.....b	WDU	Puritan.....b
KOAP	Sucora.....b	WFOI	Manhattan Island.....b
KOL	Port Hobson, Alaska.....c	WFK	Missouri.....b
KHX	Los Angeles, Calif.....c	WEW	General call signal for any or all mer- chant vessels.
KIFQ	Point Barlow.....b	WLL	Rocky Point, N. Y.....c
KINP	West Heplum.....b	WPOO	Washington.....b
KJH	West Wind.....b	WTM	General call signal for any or all com- mercial coast stations.
KJY	Perthock, Alaska.....c		
KLQ	Do.....c		

Commercial airplane 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 Bureau]

Station	Call signal	Wave length	Service	Hours	Station controlled by—
Josephine Ford.....	KNN				Byrd expedition.

Governmental 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 Bureau]

Station	Call signal	Wave length	Service	Hours	Station controlled by—
Barataria, La. (Grande Isle) ¹	NVG	150,143.....	O	X	U. S. Coast Guard.
Camp Devens, Mass.....	WUA		PX	X	U. S. Army.

¹ System, Western Electric v. t. telephone and telegraph.

Government ship 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 Bureau]

Station	Call signal	Wave length	Service	Hours	Station controlled by—
Albatross II.....	NORP		O	X	Bureau of Fisheries. ¹
Pensacola.....	NISJ		O		U. S. Navy.
Salt Lake City.....	NISK		O		Do.

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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
NIBJ	Pensacola.....b	NQO	General call signal for any or all naval coast stations.
NIBK	Salt Lake City.....b	NVG	Barataria, La. (Grande Isle).....c
NOB	General call signal for any or all war-ships.	WUA	Camp Devens, Mass.....c
NURP	Albatross II.....b		

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--
Atlanta, Ga.....	4XJ	Georgia Railway & Power Co., 622 Glenn Building.
Bandol, Calif.....	6XBU	Airways Radio Service (Inc.), 344 Crocker Street.
Charlotte, N. C.....	4XO	Chamber of Commerce.
Cincinnati, Ohio.....	8XAY	University of Cincinnati.
Las Vegas, Nev.....	6XBS	Airways Radio Service (Inc.), 344 Crocker Street.
Los Angeles, Calif. (portable).....	6XBF	Cresco (Inc.), 923 Cola Avenue.
Newark, N. J.....	2XAQ	L. Hamberger & Co.
New Orleans, La.....	5YF	Dugado Central Trades School, 615 City Park Avenue.
Rochester, N. Y.....	8XAC	Stramberg-Carlson Telephone Manufacturing Co., 1050 University Avenue.
Salt Lake City, Utah.....	6XBT	Airways Radio Service (Inc.), 344 Crocker Street.

Special land stations, grouped by districts

Call signal	District and station	Call signal	District and station
2XAQ	Second district: Newark, N. J.	6XBT	Sixth district—Continued.
4XJ	Fourth district:	6XBU	Salt Lake City, Utah.
4XO	Atlanta, Ga.		Bandol, Calif.
5YF	Charlotte, N. C.	6XAC	Eighth district:
6XBF	Fifth district: New Orleans, La.	8XAV	Rochester, N. Y.
6XBS	Sixth district:		Cincinnati, Ohio.
	Los Angeles, Calif. (portable).		
	Las Vegas, Nev.		

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 Bureau]

ALLENTOWN, PA.—W. 1, 136.9.

ANNETTE ISLAND, ALASKA.—Rates, 6 cents per word.

BOLINAS, CALIF. (KEL).—W. 1, 29.3.

BOLINAS, CALIF. (KPH).—W. 1, 800, 700, 2,200, 2,375.

CLEARWATER, CALIF. (KOK).—Rates, 10 cents (52 centimes) per word.

KAHOKEU, HAWAII (KIO).—W. 1, 90.04.

LAZY BAY, ALASKA.—W. 1, 600, 650, 1,650.

PALM BEACH, FLA.—System, Marconi, 1,000.

ROCHESTER, MICH.—W. 1, 37.43, 74.77, 715, 875, 1,764, 1,790, 2,150.

WAIKAWA, HAWAII.—W. 1, add 660.

Delete and all mentions of the following named stations: Tanatuk, Alaska

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COMMERCIAL SHIP STATIONS, ALPHABETICALLY BY NAMES OF VESSELS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1923, and to the International List of Radiotelegraph Stations, published by the Berne bureau]

- ADLER.—W. l., 600, 706.
 A. E. R. SCHNEIDER.—System, Navy-Marconi, 1,000; w. l., 715, 800, 875; station controlled by I. R. T. Co.
 AGWISSEA.—Name changed to Cities Service Petrol; station controlled by I. W. T. Co.
 AGWIWORLD.—W. l., 600, 706, 800.
 ALASKAN.—W. l., 600, 706, 800.
 ALEX B. UHRIG.—W. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
 ALMERIA LYKES.—System, Navy-Marconi, 1,000; w. l., 600, 706, 800, 875.
 A. M. BYERS.—W. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word; owner of vessel, Reiss S. S. Co.
 ANACONDA.—W. l., 600, 706, 800.
 ANTIETAM.—W. l., 600, 706, 800.
 ARCON.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 BEARFORT.—Station controlled by R. C. A.
 BETHORE.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800.
 BROAD ARROW.—W. l., 450, 600, 706, 800.
 BRUNSWICK.—Range, 200; system, Navy-Siman, 1,000; w. l., 600, 706, 800.
 BUENAVENTURA.—System, Marconi, 1,000; w. l., 600, 706, 800.
 CAPE MAY.—Owner of vessel, Matson Navigation Co.
 CARPLANA.—W. l., add 450.
 CERRO-EBANO.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 CHARLES E. HARWOOD.—System, R. C. A. v. t. telegraph.
 CHARLES L. HUTCHINSON.—W. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
 CITY OF COLUMBUS.—W. l., 600, 706, 800.
 CORDOVA (WAR).—W. l., 600, 706, 800.
 COTTY SARK.—System, strike out v. t. telephone.
 DISTRICT OF COLUMBIA.—W. l., 600, 706, 800, 1,800, 2,100, 2,400.
 DUQUESNE.—System, Navy-Marconi, 1,000; w. l., 600, 706, 800.
 EASTERLING.—System, Navy-W. S. A. Co., 1,000.
 ELDRIDGE.—W. l., 600, 706, 800.
 ESTRADA PALMA.—W. l., 600, 706, 800.
 EURANA (KFDW).—W. l., 600, 706, 800.
 FABIA.—Range, 200; system, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 FEDERAL (KDWY).—W. l., 600, 706, 800; owner of vessel, Petroleum Navigation Co.
 FEDERAL (WDOO).—System, Navy-Marconi, 1,000; w. l., 600, 706, 800.
 FELIX TAUSSIG.—W. l., 600, 706, 800.
 F. H. WICKETT.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 FLORIDIAN.—System, Marconi, 1,000; w. l., 600, 706, 800.
 FORTUNA.—Station controlled by R. C. A.
 FREEPORT SULPHUR No. 2.—W. l., 600, 706, 800.
 GENERAL W. C. GORGAR.—Owner of vessel, Libby, McNeill & Libby.
 GEO. H. JONES.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 GEORGE W. BARNES.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 GEORGIAN.—System, Marconi, 1,000; w. l., 600, 706, 800.
 GULFCREST.—Range, 200; system, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 GULF OF MEXICO.—W. l., 600, 706, 800, 1,800, 1,900, 2,100, 2,400.
 GULF QUEEN.—W. l., 600, 706, 800.
 HAGAN.—W. l., 600, 706, 800.
 HAITI.—Station controlled by I. W. T. Co.
 HEFFRON.—W. l., 600, 706, 800.
 HULVER.—W. l., 600, 706, 800.
 IRENE.—W. l., 450, 600, 800.
 JAMES E. FERRIS.—W. l., 715, 800, 875.
 JAMES P. WALSH.—W. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
 J. A. MOFFETT, Jr.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.

- J. J. SULLIVAN.—W. l., 715, 800, 875.
 J. L. REISS.—W. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
 JOHN P. REISS.—Range, 200; w. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word; owner of vessel, Reiss S. S. Co.
 JOHN S. MANUEL.—W. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
 JOHN STANTON.—W. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
 JOSEPH G. BUTLER, JR.—W. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
 LABETTE.—W. l., 600, 706, 800.
 LAKE ORMOC.—Range, 200; system, Navy-Marconi, 1,000; w. l., 600, 706, 800.
 LAKINA.—Range, 200; system, K. & C., 120; w. l., 600, 706, 800.
 LARA.—W. l., add 750.
 LEHIGH (KINM).—W. l., 600, 706, 800.
 LEMUEL BURROWS.—Station controlled by R. C. A.
 MANUKAI.—W. l., 600, 706, 800.
 MARTIN MULLEN.—W. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
 MULTNOMAH.—W. l., 600, 706, 800.
 OAKPARK.—Station controlled by I. W. T. Co.
 PETER REISS.—W. l., 715, 800, 875; owner of vessel, Reiss S. S. Co.; rates, Great Lakes service, 4 cents per word.
 PRESIDENT JEFFERSON.—System, Wireless Improvement Co., 1,000 and F. T. Co. arc; w. l., add 800.
 PREBENT POLK.—System, Navy-Marconi, 1,000; w. l., 450, 600, 706, 800, 1,900, 2,000, 2,100, 2,400.
 RADIANT.—System, F. T. Co., 1,000; w. l., 600, 706, 800; station controlled by F. T. Co.
 RAYO.—W. l., 600, 706, 800.
 RELIEF.—Range, 150; system, Telefunken, 1,000; w. l., 600, 706, 800.
 RICHARD J. REISS.—W. l., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
 ROBIN GOODFELLOW.—W. l., 600, 706, 800.
 R. W. STEWART.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 SAN PEDRO.—W. l., 600, 706, 800.
 SCHENECTADY.—W. l., 600, 706, 800.
 SIDNEY M. HAUPTMAN.—Owner of vessel, Charles R. McCorinick Lumber Co.
 SOCONY 02.—W. l., 600, 706, 800.
 SOUTHERN CROSS.—System, F. T. Co. arc and Navy-Marconi, 1,000.
 STAR OF ALASKA.—W. l., 600, 706, 800.
 STAR OF FINLAND.—System, Marconi, 1,000; w. l., 600, 706, 800.
 STAR OF SHETLAND.—System, Marconi, 1,000; w. l., 600, 706, 800.
 STEEL SCIENTIST.—W. l., 600, 706, 800.
 SUCARSECO.—W. l., 600, 706, 800.
 SUCUBACO.—W. l., 600, 706, 800.
 SUDUFFCO.—W. l., 600, 706, 800.
 SUN.—W. l., 600, 706, 800.
 SWIFTSURE.—System, I. W. T. Co. arc and Navy, 1000; w. l., 600, 706, 800, 1,800, 2,100, 2,400.
 THOMAS H. WHEELER.—System, strike out R. C. A. v. t. telephone.
 TRINIDADIAN.—W. l., 600, 706, 800.
 VARA.—W. l., 600, 706, 800.
 VACUUM.—W. l., 600, 706, 750, 800, 900.
 WALTER JENNINGS.—System, R. C. A. v. t. telegraph; w. l., 600, 706, 750, 800, 900.
 W. C. TEAGLE.—W. l., 600, 706, 800.
 W. E. HUTTON.—System, Navy-W. S. A. Co., 1,000; w. l., 600, 706, 800.
 WEST CAHOKIA.—Name changed to Pacific Fir; owner of vessel Ocean Transport Co.; station controlled by I. W. T. Co.
 WEST CAMPGAW.—System, Navy-Lowenstein, 1,000; w. l., 600, 706, 800.
 WEST CAYOTE.—W. l., 600, 706, 800.
 WEST ELDAH.—System, Navy-Marconi, 1,000; w. l., 600, 706, 800.
 WESTERN ALLY.—Range, 300; system, Navy-Marconi, 1,000; w. l., 600, 706, 800; hours, X.
 WEST IRKIP.—Owner of vessel, Grace S. S. Co.
 WEST IRMO.—W. l., 600, 706, 800.

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- WEST JESSUP.—Name changed to Laurel; owner of vessel, Forest Transportation Corporation.
- WEST JESTER.—Name changed to ORAN; owner of vessel, Oriental Navigation Co.; station controlled by R. C. A.
- WEST MONTOR.—Owner of vessel, California & Eastern S. S. Co.
- WEST NOTUS.—W. I., 600, 706, 800, 1,800, 2,400.
- WEST O'ROWA.—W. I., 600, 706, 800, 1,800, 2,100, 2,400.
- WESTPOOL.—W. I., 600, 700, 800.
- WEST PROSPECT.—W. I., 600, 706, 800, 1,800, 2,000, 2,100, 2,400.
- WEST TACOOK.—W. I., 450, 600, 706, 800.
- W. H. BECKER.—W. I., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
- W. H. LIBBY.—System, R. C. A. v. t. telegraph; w. I., 600, 706, 750, 800, 900.
- W. H. MCGEAN.—W. I., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
- WILLAMETTE.—W. I., 600, 706, 800.
- WILLIAM A. PAINE.—W. I., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
- WILLIAM K. FIELD.—W. I., 715, 800, 875; rates, Great Lakes service, 4 cents per word.
- W. L. CONNELLY.—W. I., 450, 600, 706, 800; owner of vessel, Sinclair Navigation Co.
- W. L. STEED.—System, R. C. A. v. t. telegraph; w. I., 600, 706, 750, 800, 900.
- WM. G. WARDEN.—System, R. C. A. v. t. telegraph; w. I., 600, 706, 750, 800, 900.
- W. M. IRISH.—W. I., 600, 706, 800.
- Strike out all particulars of the following-named vessels: Deerfield, Justice, Lake Medford, Lake Washburn, Otto M. Reiss, Pennant, Santurce, Yucatan.

COMMERCIAL LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS

- KDMB, read Cities Service Petrol; KOXS, read Laurel; KUDG, read Oran; KUPJ, read Pacific Fir; KRAE, call signal read KZBZ; strike out all particulars following the call signals, KEMV, KFYM, KGC, KME, KREI, KZOA, WLG, WNG, WTIU.

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, and list in Radio Service Bulletin No. 106, January 30, 1926]

- KFWW (San Diego, Calif.).—Call signal changed to KFSD.
- KQP (Portland, Oreg.).—Call signal changed to KOIN.
- WCBQ (Nashville, Tenn.).—Call signal changed to WBAW; owner of station, Braid Electric Co. and Waldrum Drug Co.
- WFBH (Richmond Hill, N. Y.).—Changed to New York, N. Y.
- WGWY (Minneapolis, Minn.).—Call signal changed to WDGY.
- WHAV (Wilmington, Del.).—Call signal changed to WDEL.
- WSRO (Hamilton, Ohio).—Address, 421 High Street.
- WWGL (Richmond Hill, N. Y.).—Call signal changed to WMSG; location, New York, N. Y.; owner of station, Madison Square Garden Broadcast Corporation.
- Strike out all particulars of the following-named stations: WFBD (Philadelphia, Pa.); WGBM (Providence, R. I.).

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]

- FORT ETHAN ALLEN, VT.—W. I., strike out.
- Strike out all particulars of the following-named stations: Fort Rodman, Mass.; Fort Levett, Me.; Fort Constitution, N. H.; Fort Andres, Mass.; Fort Terry, N. Y.

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]

- DAVIS.—Station controlled by U. S. Coast Guard.
- FRAW.—Station controlled by U. S. Coast Guard.

WAINWRIGHT.—Station controlled by U. S. Coast Guard.

WILKES.—Station controlled by U. S. Coast Guard.

Strike out all particulars of the following-named station, Patuxent, CG-126.

GOVERNMENT LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS

Strike out all particulars following the call signals, NANF, NOM, WUA, WUAV, WUCN, WUW, WZE.

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, 1923]

DEAL BEACH, N. J. (2XJ).—Read, *Ocean, N. J.*

Strike out all particulars of the following-named stations: Newark, N. J. (6XAB-airplane); Phoenix, Ariz. (6XBH); Portland, Oreg. (7XAF); Rochester, N. Y. (8XQ).

MISCELLANEOUS

VESSELS EQUIPPED WITH RADIOCOMPASS

The following-named vessels have been equipped with a radiocompass (direction finder): *American, Arizonan, Columbian, Floridian, Georgian, Gulfcrest, Hawaiian, Iowan, Kansan, Kentuckian, Marigold* (Bureau of Lighthouses), *Minnesotan, Montanan, Nebraskan, Ohioan, Oregonian, Panaman, Pennsylvanian, Quincy A. Shaw, Santa Elisa, Sumar, Texan, William P. Cowan.*

List of broadcasting stations in ninth radio district equipped with Pieta crystal oscillators calibrated to their assigned frequency

Call signal	Location	Owner	Wave length	Frequency
WEBQ	Harrisburg, Ill.	John Tate	226	1,330
WENR	Chicago, Ill.	All American Radio Corporation	264	1,139
WGN	do	Chicago Tribune	302.8	990
WIBO	do	Nelson Bros. (Huse & Florita Orchestral Exchange)	225	1,330
WLID	Elgin, Ill.	Liberty Weekly	302.8	990
WOO	Davenport, Iowa	Palmer School of Chiropractic	483.6	620

ALTERATION IN EASTERN LIMIT OF SCHEDULE OF INTERNATIONAL WATCHKEEPING PERIODS

The eastern limit of Zone B, Indian Ocean and eastern portion of Arctic Ocean, formerly constituted by the meridian 90° E., has been altered to the meridian 80° E.

CHANGES IN HOURS OF RADIO FOG SIGNALS

Lake Huron Lightship.—Signals will be transmitted daily in clear weather at the following hours (ninetieth meridian time): 2 to 2.30, 8 to 8.30 a. m. and 2 to 2.30, 8 to 8.30 p. m.

Whitefish Point Light Station.—Signals will be transmitted daily in clear weather at the following hours (ninetieth meridian time): 4 to 4.30, 10 to 10.30 a. m. and 4 to 4.30, 10 to 10.30 p. m.

Devils Island Light Station.—Signals will be transmitted daily in clear weather at the following hours (ninetieth meridian time): 12 to 12.30, 6 to 6.30 a. m. and 12 to 12.30, 6 to 6.30 p. m.

Cape Blanco, Oregon Light Station.—Signals will be transmitted daily in clear weather for the second 15 minutes of even hours beginning at 10.15 p. m. and ending at 6.30 a. m.

CHANGES IN TRANSMISSION OF WEATHER REPORTS, TIME SIGNALS, ETC., BY NAVAL STATIONS AT NEW ORLEANS, LA., AND BROWNSVILLE, TEX.

Weather bulletins, navigational warnings, and time signals are now transmitted from New Orleans (NAT) at 1500, 1600, 1700, and 2200, G. C. T., on

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Hydrographic information is now transmitted from Brownsville, daily, immediately after the weather bulletins, at 0000, 0500, and 1700, G. C. T. This information will cover the zone including that part of the Gulf of Mexico westward of a line joining Ship Shoal Light, La., and Cape Catoche, Yucatan.

PRICES NECK (R. I.) COMPASS STATION CHANGED

This station now transmits its bearings to vessels using alternating continuous wave (A. C. W.).

STATION ESTABLISHED AT KINGSTOWN BAY, WEST INDIES

This station, located at St. Vincent Island in approximately $61^{\circ} 14' W.$, $13^{\circ} 09' N.$, call letters GZS, operates on 900 meters, c. w.

HANSBOLM LIGHTHOUSE, JUTLAND, DENMARK, FOG SIGNAL ESTABLISHED

This station, located in approximately latitude $57^{\circ} 07' N.$, longitude $8^{\circ} 36' E.$, has a range of 30 miles and transmits on 1,000 meters. The fog signals consist of the transmission of the Morse letters HM HM HG (. . . . — — — .), followed by a group of 20 dots (. . . . etc.) every minute. The interval between each dot is 1.3 seconds. These signals will enable vessels fitted with a direction finder to determine the bearing of the lighthouse.

In addition, the distance of the position of the submarine fog signal can be determined if the submarine signals are used in conjunction with the radio fog signal. The distance is calculated by taking the number of the dot of the group of 20 dots which coincides with the beginning of the submarine signal when heard in the receivers. Example: If the beginning of the first submarine signal when received coincides with dot No. 15 of the radio signals, the distance of the ship from the position of the submarine fog signal is 15 miles.

ROST, LOFOTEN ISLANDS, NORWAY, COMPASS STATION ESTABLISHED

This station, located in latitude $67^{\circ} 30' 23'' N.$, longitude $12^{\circ} 04' 34'' E.$, call signal LFR, transmits on 600 meters, spark. For the present the service is experimental and the station will be open from 0700 to 2000, G. M. T. Bearings in the section 210 to 260° will be indicated as unreliable. If the observation does not give a sharp result, owing to indefinite minima, the bearing will be indicated as "approximate." No charge is made for this service.

Masters of vessels when certain of their positions are invited to forward requests for bearings in order that both the station and vessels may obtain the best possible information as to the reliability of the bearings supplied; also, when convenient, forward a report on the results to the Director of Telegraphs, Wireless Division, Oslo, Norway.

GENERAL CALL SIGNALS ASSIGNED

The following general call signals have been assigned:

NOB.—General call signal for any or all warships.

NQO.—General call signal for any or all naval coast stations.

WKW.—General call signal for any or all merchant vessels.

WTM.—General call signal for any or all commercial coast stations.

DISTRIBUTION OF WEATHER INFORMATION, FORECASTS, AND WARNINGS BY RADIO FOR THE BENEFIT OF NAVIGATION ON THE 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 during the navigation season (except as noted) 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, shipping, and aviation interests of the Great Lakes region and are made daily, except as noted, from stations at important

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.—Spark.

10 a. m. and 4 p. m., ninetieth meridian time (except Sundays).

Forecasts for the upper Lakes.

Storm warnings whenever issued.

Station WEBC.—Walter C. Bridges.

Radiophone.—Wave length, 242 meters; 100 watts.

11 a. m. and 5 p. m., ninetieth meridian time.¹

Forecasts for Duluth, Minnesota, and Wisconsin.²

Forecasts for upper Lakes.

Storm warnings whenever issued.

West De Pere, Wis.:

Station WIIBY.—St. Norberts College.

Radiophone.—Wave length, 250 meters; 50 watts.

5 p. m., ninetieth meridian time.¹

Forecasts for Green Bay and Wisconsin.²

Forecasts for the upper Lakes.

Storm warnings whenever issued.

Milwaukee, Wis.:

Station WHAD.—The Marquette University and Milwaukee Journal.

Radiophone.—Wave length, 275 meters; 500 watts.

11 a. m., ninetieth meridian time.¹

Forecasts for Wisconsin.²

Forecasts for the upper Lakes.

Storm warnings, whenever issued.

Station WSOE.—The School of Engineering of Milwaukee.

Radiophone.—Wave length, 246 meters; 500 watts.

2.45 and 5.45 p. m., ninetieth meridian time.¹

Forecasts for Milwaukee and Wisconsin.²

Forecasts for the upper Lakes.

Storm warnings whenever issued.

Great Lakes, Ill.:

Station NAJ.—United States Navy.

Radiotelegraph.—Wave length, 1,988 meters, C. W.

9.45 a. m. and 10 p. m., ninetieth meridian time.

Forecasts for upper and lower Lakes.

Storm warnings whenever issued.

Storm warnings issued in the afternoon are broadcast at 4 p. m., ninetieth meridian time.

Chicago, Ill.:

Station WGO.—Radio Corporation of America.

Radiotelegraph.—Wave length, 890 meters, c. w.

11 a. m., 4 p. m., and 9 p. m., ninetieth meridian time.

Forecasts for Chicago and vicinity.

Aviation forecasts for Zones 4 and 8.

Forecasts for the upper and lower Lakes.

Storm and small craft warnings whenever issued.

Station KYW.—Westinghouse Electric and Manufacturing Co.

Radiophone.—Wave length, 535 meters; 3,500 watts.

11 a. m. and 11 p. m., ninetieth meridian time (except Monday nights).¹

Forecasts for Illinois, Indiana, Wisconsin, Minnesota, and upper and lower Michigan.²

Aviation forecasts for Zones 4 and 8.²

Forecasts for Lake Michigan.²

Storm warnings whenever issued.

Station WAAF.—The Daily Drivers Journal.

Radiophone.—Wave length, 278 meters; 200 watts.

10.30 a. m. and 12.30 p. m., ninetieth meridian time.¹

Forecasts for Illinois, Indiana, Wisconsin, Minnesota, and upper and lower Michigan.²

Aviation forecasts for Zones 4 and 8.²

Forecasts for upper and lower Lakes.

General forecast.²

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Chicago, Ill.—Continued.

Storm warnings whenever issued.

Station WEBH.—Edgewater Beach Hotel.

Radiophone.—Wave length, 370.2 meters; 2,000 watts.

9.10 p. m., ninetieth meridian time (except Sundays and Mondays).

8.30 p. m. on Sundays only.

Forecasts for Chicago, Illinois, Indiana, lower and upper Michigan, Wisconsin, and Minnesota, and general forecast.²

Forecasts for upper and lower Lakes.

Storm warnings whenever issued.

Deerfield, Ill.:

Station WHT.—Radiophone Broadcasting Corporation.

Radiophone.—Wave length, 238 meters; 3,500 watts (using 400 meters temporarily).

10.30 a. m. and 11 p. m., ninetieth meridian time (except Sundays and Mondays).

Forecasts for Chicago, Illinois, Indiana, lower and upper Michigan, and Wisconsin.²Aviation forecasts for Zones 4 and 8.²

Forecasts for upper and lower Lakes.

General weather forecast.²

Storm warnings whenever issued.

Crete, Ill.:

Station WLS.—Sears, Roebuck & Co.

Radiophone.—Wave length, 344.6 meters; 5,000 watts.9 a. m., ninetieth meridian time.¹

Repeated at 12 noon.

Forecasts for Chicago, Illinois, Indiana, Wisconsin, and upper and lower Michigan.²Aviation forecast for Zones 4 and 8.¹

Forecasts for upper and lower Lakes.

Storm warnings whenever issued.

Mackinac Island, Mich.:

Station WHQ.—Mackinac Radio Service.

Radiotelegraph.—Spark, or c. w.

10.15 a. m. and 4.15 p. m., ninetieth meridian time.

Forecasts for Lakes Huron, Michigan, and Superior.

Storm warnings whenever issued.

Rogers, Mich.:

Station WLC.—The Michigan Limestone and Chemical Co.

Radiotelegraph.—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.

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; 5,000 watts.4 p. m., seventy-fifth meridian time.¹Forecasts for lower Michigan and Detroit.²

Forecasts for the upper and lower Lakes.

Summary of weather conditions.²

Storm warnings whenever issued.

Station WWJ.—The Detroit Evening News.

Radiophone.—Wave length, 352.7 meters; 1,000 watts.10.25 a. m., 11.55 a. m., and 3.50 p. m., seventy-fifth meridian time.¹Forecasts for lower Michigan and Detroit.²

Forecasts for the upper and lower Lakes.

Summary of weather conditions.²

Storm warnings whenever issued.

Pontiac, Mich.:

Station WJR.—Jewett Radio Co.

Radiophone.—Wave length, 516.0 meters; 5,000 watts.

9.45 p. m., seventy-fifth meridian time.¹

Forecasts for upper and lower Michigan.²

Storm warnings whenever issued.

Cleveland, Ohio:

Station WEAR.—Goodyear Tire & Rubber Co.

Radiophone.—Wave length, 380.4 meters; 750 watts.

12 noon and 4 p. m., seventy-fifth meridian time.¹

Barometric pressure, state of weather, and wind direction and velocity at 8 a. m. at Cleveland, Toledo, and Erie.

State of weather, height of clouds, visibility, wind direction, velocity, temperature, and barometer reading at 10.30 a. m., for the benefit of aviation, are broadcast at 10.45 a. m., seventy-fifth meridian time.¹²

Forecasts for Ohio and Cleveland.²

Forecasts for the lower and upper Lakes.

Summary of weather conditions.²

Storm warnings whenever issued.

Station WTK.—Intercity Radio Telegraph Co.

Radiotelegraph.—Wave length, 715 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.

Pittsburgh, Pa.:

Station KDKA.—Westinghouse Electric Co.

Radiophone.—Wave length, 309 meters; variable.

12 noon, seventy-fifth meridian time.¹

Forecasts for Ohio and Pennsylvania.²

10 p. m., seventy-fifth meridian time (except Sundays).

Forecasts for Pennsylvania, New York, lower Michigan, Ohio, and Indiana.²

Storm warnings for upper and lower Lakes whenever issued.

Buffalo, N. Y.:

Station WAM.—Intercity Radio Telegraph Co.

Radiotelegraph.—Wave length, 715 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 5 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 Radio Corporation (Federal Telephone Mfg. Co.).

Radiophone.—Wave length, 319 meters; 750 watts.

12 noon and 11 p. m., except on Saturday nights, seventy-fifth meridian time.¹

Forecasts for Buffalo and western New York.²

Storm warnings whenever issued.

Rochester, N. Y.:

Station WHAM.—University of Rochester (Eastman School of Music).

Radiophone.—Wave length, 278 meters; 100 watts.

7.30 p. m., seventy-fifth meridian time.¹

Forecasts for western New York.²

Forecasts for lower Lakes.

Storm warnings whenever issued.

Station WHEC.—Hickson Electric Co.

Radiophone.—Wave length, 258 meters; 100 watts.

12 noon, seventy-fifth meridian time.¹

Forecasts for western New York.²

Forecasts for lower Lakes.

Storm warnings whenever issued.

—From Circular No. 16 Radio, U. S. Department of Agriculture, Weather Bureau.

¹ Daily, except Sundays and holidays.

² Broadcast made throughout the year.

POSSIBLE DISCONTINUANCE OF RADIO SIGNAL TRANSMISSIONS OF STANDARD FREQUENCY

Since March, 1923, the Bureau of Standards has been transmitting, twice a month, radio signals of definitely announced frequencies, for use by the public in standardizing frequency meters (wave meters) and transmitting and receiving apparatus. The signals are transmitted from the bureau station WWV, Washington, D. C., and from station 6XBM, Stanford University, California.

Since other means of freely disseminating the bureau's standards of frequency have become increasingly available, the bureau is considering the termination of the standard frequency transmissions. The other means referred to are the lists of standard frequency stations regularly published in the Radio Service Bulletin, the use of piezo oscillators, and the wide availability of reliable standards and testing service from a number of laboratories that do commercial testing of frequency meters. None of these means were available when the standard frequency transmissions were inaugurated.

The standard frequency transmission schedules already announced, extending through June, will be carried on as published. The Bureau of Standards is now announcing the possible termination of the service after that date in order that persons who depend upon the service in any special way may inform the bureau of any objection to its termination.

The bureau will be especially glad to hear from persons in the western part of the United States who have been utilizing the signals from Stanford University, since the listing of standard frequency stations on the west coast has not yet been begun. Any letters on this subject should be addressed to Bureau of Standards, Department of Commerce, Washington, D. C.

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 at the bureau. 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 fre- quency (kilo- cycles)	Period covered by measur- ements (months)	Number of times meas- ured	Deviations from assigned frequencies noted in measurements	
						Average	Greatest since Mar. 20, 1926
WQL	Radio Corporation of America.	Conam Hill, L. I., N. Y.	17.13	16	64	Per cent 0.2	Per cent (?)
WCI	Do.....	Barngat, N. J.	17.95	14	74	.2	0.1
WGG	Do.....	Truckertan, No. 1, N. J.	18.86	22	235	.2	.2
WII	Do.....	New Brunswick, N. J.	21.60	12	96	.1	.1
WRT	Do.....	do.	22.60	11	32	.1	.2
WVA	U. S. Army.....	Annapolis, Md.	100.60	13	128	.2	.5
NAA	U. S. Navy.....	Arlington, Va.	113.60	6	40	.2	.1
WJR	Detroit Free Press.....	Pontiac, Mich. ¹	580.60	7	22	0	.2
WCX	Jewett Radio & Phonograph Co.	New York, N. Y.	010.60	16	113	0	0
WEAF	American Telephone & Telegraph Co.	Washington, D. C.	640.00	21	135	.1	0
WCAF	Chesapeake & Potomac Telephone Co.	do.	640.00	28	123	.1	0
WRC	Radio Corporation of America.	Atlanta, Ga.	760.00	31	146	.2	.2
WSB	Atlanta Journal.....	Schenectady N. Y.	780.00	34	165	.1	.1
WGY	General Electric Co.						

¹ Not measured since Feb. 20.

² Time signal frequency.

* 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.

RC00.—Radio communication

- RC07.4 Canadian stations use these wave lengths (amateur, ship, and commercial wave lengths). Radio Broadcast, 9, p. 87; May, 1926.
 RC20 Lodge, O. Talks about radio (book). Published by G. H. Doran & Co., New York City, price \$2.50. Noted in Radio Broadcast, 9, p. 86; May, 1926.
 RC70 Felix, E. H. Easy methods of conquering the radio code. Radio Broadcast, 9, pp. 56-59; May, 1926.

RI00.—Radio principles

- RI10 Plickard, G. W. Changes in the polarization of radio waves. Radio News, 7, pp. 1540-1541; May, 1926.
 RI13 Smith-Rose, H. L. Distribution of wireless waves (how blind spots in broadcast transmission are produced). Wireless World and Radio Review, 15, pp. 401-405; March 17, 1926.
 RI13.1 Hall, O. The mystery of fading (some notes of observations taken on broadcast stations). Experimental Wireless (London), 3, pp. 211-214; April, 1926.
 RI13.5 Terrell, W. D. Does the aurora borealis affect radio reception? Popular Radio, 10, pp. 11-14; May, 1926.
 RI13.6 Thatcher, E. W. Short wave reflection phenomena. Radio (San Francisco), 8, pp. 21-24; April, 1926.
 RI14 Ellis, H. T. A static recorder. Bell System Tech. Jour., 3, pp. 283-291; April, 1926.
 RI14 Watson-Watt, R. A. The directional recording of atmospherics. Experimental Wireless (London), 3, pp. 234-238; April, 1926.
 RI20 Shannon, J. H. Sleet removal from antennas. Proc. Inst. of Radio Engrs., 14, pp. 181-196; April, 1926.
 RI20 Mackenzie, F. H. Radiometer. United States Patent No. 1581133, issued April 20, 1926.
 RI25.1 Walker, W. L. Apparatus for finding direction. United States Patent No. 1581622, issued April 20, 1926.

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- R125.6 Foster, R. M. Directive diagrams of antenna arrays. *Bell System Tech. Jour.*, 5, pp. 502-507; April, 1926.
- R127 Murphy, W. H. Space characteristics of antennas (with equations). *Jour. Frank. Inst.*, 261, pp. 411-429; April, 1926.
- R131 Hull, A. W., and Willstons, N. H. Characteristics of shielded triodes (4 electrode tube). *Physical Review*, 21, pp. 422-438; April, 1926.
- R134.75 Best, G. M. Best's five-tube superheterodyne. *Radio (San Francisco)*, 8, pp. 10-14; April, 1926.
- R144 Butlerworth, S. Effective resistance of inductance coils at radio frequencies. *Experimental Wireless (London)*, 3, pp. 203-210; April, 1926.
- R145.5 Hurlstorn, L. Power loss in condensers. *Experimental Wireless (London)*, 3, pp. 225-233; April, 1926.
- R171 Krutz, F. Radio interference caused by poorly grounded cable sheath. *Electrical World*, 87, p. 718; Apr. 3, 1926.
- R171 Jakosky, J. J. Correction of radio interference from Cottrell precipitators (investigation made by the Western Precipitation Co. and the Research Corporation; develops successful correctors). *Chemical and Metallurgical Engineering*, 33, pp. 221-226; April, 1926.

R200.—Radio measurements and standardization

- R201 Sayce, L. A., and Taylor, J. An experimenter's wireless laboratory (measurements, methods, etc.). *Experimental Wireless (London)*, 3, pp. 243-248; April, 1926.
- R210 Heising, H. A. Resonance indicator. United States Patent No. 1579625, issued April 6, 1926.
- R213 Harris, S. A method of calibrating a low-frequency generator with a one-frequency source. *Proc. Inst. of Radio Engrs.*, 14, pp. 213-216; April, 1926.
- R220 Silver, M. M. Easy method for calculating coil inductance. *Popular Radio*, 10, p. 41; May, 1926.
- R249 Fowesby, A. L. M. Inductance coils quantitatively compared. *Experimental Wireless (London)*, 3, pp. 229-232; April, 1926.
- R261 Cosens, C. H. A valve voltmeter with self-contained batteries. *Jour. Sci. Instruments (London)*, 3, pp. 181-187; March, 1926.
- R275 Nelson, E. L. Modulation indicating system. United States Patent No. 1578845, issued March 30, 1926.
- R281 Lescarbours, A. C., and Kruse, R. S. Isolantite—a unique material. *QST*, 10, pp. 14-16; April, 1926.

R300. Radio apparatus and equipment

- R320.6 Haddock, A. Radiotransmitter (antenna switch). United States Patent No. 1579600, issued April 6, 1926.
- R330 Lucian, A. N. A 110-volt filamentless tube. *Radio News*, 7, pp. 1516-1517; May, 1926.
- R330 Donle, H. P. The new H-3 Double detector. *Radio News*, 7, pp. 1545-1549; May, 1926.
- R331 Schwerin, P. Vacuum tube. United States Patent No. 1581200, issued April 20, 1926.
- R331 Webster, R. Radio detector or amplification vacuum bulb. United States Patent No. 1581992; issued April 20, 1926.
- R331 Slepian, J. Oscillation generator system. United States Patent No. 1580147, issued April 13, 1926.
- R331 Olin, R. M., and Fink, W. P. Electron discharge device. United States Patent No. 1580650, issued April 13, 1926.
- R331 Barzani, C. B. How vacuum tubes are evacuated. *Radio News*, 7, pp. 1550-1551; May, 1926.
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- R340 Carlson, H. E. Radio cabinet. United States Patent No. 1578294, issued March 30, 1926.
- R340 Prindle, H. B. Cooling system for electrical devices. United States Patent No. 1580855, issued April 13, 1926.
- R340 Siemens, J. H. Electrical contact for terminals of vacuum tubes. United States Patent No. 1579156, issued March 30, 1926.
- R342 Föllmann, B. Stand der Verstärker-technik. *Elektrische Nachrichten Technik*, 3, pp. 88-94; 1926.
- R342.15 Kruse, R. S. Peaked audio amplifiers (transformers). *QST*, 10, pp. 29-32; April, 1926.
- R342.6 Hurlstorn, L. A. Means for eliminating magnetic coupling between coils. United States Patent No. 1577421, issued April 6, 1926.
- R342.6 Dryer, J. F., and Manson, H. H. The shielded neutrodyne receiver. *Proc. Inst. of Radio Engrs.*, 14, pp. 217-247; April, 1926.
- R342.7 Hull, A. W. Measurements of high frequency amplification with shielded grid triodes. *Physical Review*, 27, pp. 529-531; April, 1926.
- R342.7 Slepian, J. Electron tube. United States Patent No. 1580440, issued April 13, 1926.
- R343 Hahn, W. Fernsprechverkehr mit Schiffen in See und mit fahrenden Eisenbahnzügen. *Elektrische Nachrichten Technik*, 3, pp. 100-114; 1926.
- R343 Brennan, J. B. The Radio Broadcast local receiver. (5 tube receiver.) *Radio Broadcast*, 9, pp. 42-46; May, 1926.
- R343 MacGillivuddy, A. Building the Roberts circuit. *Radio News*, 7, pp. 1562-63; May, 1926.
- R343 Blatterman, A. S. The making of a single control receiver. *QST*, 10, pp. 17-22; April, 1926.
- R343.5 Ahrilt, C. T. Radio receiving system. United States Patent No. 1580350, issued April 13, 1926.
- R343.7 Cookday, L. M. How to build the improved Raytheon power pack. *Popular Radio*, 10, pp. 19-25; May, 1926.
- R343.7 Miller, J. Trickle chargers for your A battery. *Radio Broadcast*, 9, pp. 47-51; May, 1926.
- R343.7 Johnson, J. Current rectifying system (a. c. supply). United States Patent No. 1579941, issued April 6, 1926.
- R344 Snook, H. C. Oscillation generator. United States Patents Nos. 1579894 and 1579895, issued April 6, 1926.
- R344 Edgeworth, K. F. Frequency variations in thermionic generators. *Jour. Inst. of Elec. Engrs. (London)*, 64, pp. 349-357; March, 1926.
- R344 Rosenbaum, B. Oscillation generator. United States Patent No. 1580336, issued April 13, 1926.
- R344 Hammond, J. H., jr. System and method of production of continuous oscillations. United States Patent No. 1578513, issued March 30, 1926.
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