

DEPARTMENT OF COMMERCE

RADIO SERVICE BULLETIN

ISSUED MONTHLY BY RADIO DIVISION

Washington, May 31, 1927—No. 122

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

NEW STATIONS

Commercial land stations, alphabetically, by names of stations

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

Station	Call signal	Wave lengths	Service	Hours	Station controlled by—
A. & P. Nakeen No. 7 (moored snow in Alaska)	KQFQ		FX	X	Naknek Packing Corporation.
Boca de Quadra, Alaska	KZS		FX	X	A. A. McCue.
Breckenridge, Tex. ¹	KSU	1775	FX	X	Phillips Petroleum Co.
Cumberland, Md.	WKZ	97.60	FX	X	Potomac Edison Co.
Lake Bay, Alaska ¹	KZC	600, 600, 700, 900	FX	X	F. C. Barnes Co.
Nyac, Alaska	KUY	82	FX	X	New York-Alaska Gold Dredging Co.
Portable ²	KQET	133.62	FX	.....	The Tufts Co.
Do.	KGEV	133.62	FX	.....	Do.
Do.	KGFR	133.62	FX	.....	Do.
Do.	KGFS	133.62	FX	.....	Do.
Do.	KGFT	60, 133.62	FX	.....	Do.
San Juan, P. R. ³	WGT	21.75	FX	N	Radio Corporation of America.
Santa Barbara, Calif. ⁴	KGFY	69.73	FX	X	Arthur J. Grier.
Santa Cruz Island, Calif. ⁴	KGFU	69.73	FX	X	Do.
Williamsport, Md. ⁵	WHP	87.48	FX	X	Potomac Edison Co.

¹ System, composite v. t. telegraph.² System, Westinghouse v. t. telephone and telegraph.³ Range, 150; system, E. & C., 1,000.⁴ System, composite v. t. telegraph; hours, 9 a. m. to 5 p. m.⁵ Range, 4,000; system, R. C. A. v. t. telegraph.⁶ System, composite v. t. telephone.*Commercial ship stations, alphabetically, by names of vessels*

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

Name of vessel	Call signal	Rates	Service	Hours	Owner of vessel	Station controlled by—
Astoria	KGEP	\$	PG	X	Haramond Lumber Co.	
Berkshire	KUVG	\$	PG	X	Berkshire S. S. Co.	F. T. Co.
Blanche	WNBP		P	X	North American Fisheries.	
Katherine	WNBN			.....	Peter H. McCue.	
Papoose	WNBS	\$	PG	X	Petroleum Navigation Co.	
Point Montara	KOON	\$	PG	X	Swayne & Hoyt.	
Theodore Roosevelt ¹	KGFT		PG	X	Cleveland-Eriead S. S. Co.	
Wabash ²	WNBU		PG	X	Wabash Railway Co.	
West Cape	WXEO	\$	PG	X	McCormick S. S. Co.	
Xanifa	WNBY			.....	Franklin M. Singer.	

¹ Rates, Great Lakes service, 4 cents per word.*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
KGEF	Astoria	b	Berkshire
KQET	Portable	b	Nyac, Alaska
KGEV	Do	c	Boca de Quadra, Alaska
KQFQ	A. & P. Nakeen No. 7 (moored snow in Alaska)	c	Lake Bay, Alaska
KGFR	Portable	c	San Juan, P. R.
KGFS	Do	c	Williamsport, Md.
KGFT	Do	c	Cumberland, Md.
KGFU	Santa Cruz Island, Calif.	c	Katherine
KGFV	Theodore Roosevelt	b	Blanche
KGFT	Santa Barbara, Calif.	c	Papoose
KOON	Point Montara	b	Wabash
KSU	Breckenridge, Tex.	c	Xanifa
			West Cape

Broadcasting stations, alphabetically, by names of States and cities

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

State and city	Call signal	State and city	Call signal
California: Los Angeles (portable).....	KGFO	New Jersey: Cliffside.....	WCDA

Broadcasting stations, alphabetically, by call signals

Call signal	Location of station (address)	Owner of station	Power (watts)	Wave length	Frequency (kilocycles)
KGFO	Los Angeles, Calif. (portable), (2055 North Thirteenth St., Terre Haute, Ind.).	Brant Radio Power Co....	100	204	1,470
WCDA	Cliffside, N.J.....	Italian Educational Broadcast Corporation.	250	211.1	1,420

Government ship stations, alphabetically, by names of stations

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

Station	Call signal	Wave length	Service	Hours	Station controlled by—
Quam.....	NHP	.....	O	X	U. S. Navy.
Luzon.....	NHT	.....	O	X	Do.
Mindanao.....	NHU	.....	O	X	Do.
Oahu.....	NHS	.....	O	X	Do.
Panay.....	NHR	.....	O	X	Do.
Tutuila.....	NHQ	.....	O	X	Do.

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
NHP	Quam.....	b NHS	Oahu.....
NHQ	Tutuila.....	b NHT	Luzon.....
NHR	Panay.....	b NHU	Mindanao.....

Special land stations, alphabetically, by names of stations

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

Station	Call signal	Station controlled by—
Cleveland, Ohio.....	8XF	Radio Air Service Corporation, 1220 Huron Road,
Coteyville, N.J.....	2XAL	Experimenter Publishing Co., Roosevelt Hotel, New York, N.Y.
Houston, Tex.....	5XJ	Anderson, Clayton & Co., Cotton Exchange Building.
Rocky Point, N.Y.....	2XR	Radio Corporation of America.
Seattle, Wash.....	7XO	Northwest Radio Service Co., 614 Terminal Sales Building.

Special land stations, grouped by districts

Call signal	District and station	Call signal	District and station
2XAL 2XR	Second district: Coteyville, N.J. Rocky Point, N.Y.	5XJ 7XO 8XF	Fifth district: Houston, Tex. Seventh district: Seattle, Wash. Eighth district: Cleveland, Ohio.

ALTERATIONS AND CORRECTIONS

COMMERCIAL LAND STATIONS

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

CARAMDAN (CAMARINES SUR), P. I.—Loc. $123^{\circ} 51' 30''$ E., $12^{\circ} 46' 07''$ N.
POTTSVILLE, Pa.—Strike out all particulars.

COMMERCIAL SHIP STATIONS, ALPHABETICALLY, BY NAMES OF VESSELS

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

ARRAROKA.—Owner of vessel, McCormick S. S. Co.
AGWIMOON.—Name changed to Altair.
A. M. BYERS.—Equipped with radiocompass.
AMIO.—Equipped with radiocompass.
BERKSHIRE (KFIE).—Owner of vessel, Merchants & Miners Transportation Co.
BULKO.—Owner of vessel, Sabine Towing Co.
CAROLINAS.—Name changed to Maltran.
CHARLES C. WEST.—Equipped with radiocompass.
CITY OF RAYVILLE.—Station controlled by R. C. A.
COLUSA.—Name changed to Santa Cecilia.
CRAIGSMERE.—Station controlled by I. W. T. Co.
DONNA LANE.—Owner of vessel, Utopian Fisheries (Inc.).
GLADYSBE.—Owner of vessel, United States Shipping Board; station controlled by I. W. T. Co.
IPSWICH.—Owner of vessel, Columbia River S. S. Corporation.
KERMIT.—Name changed to Nebraskan.
LAKE CHELAN.—Owner of vessel, Lake Chelan S. S. Co.
LYNWOOD E. GEER.—Equipped with radiocompass.
MONTPELIER.—Name changed to Nevadan.
MYSTIC.—Owner of vessel, Munson S. S. Lines.
NEBRASKAN.—Owner of vessel, C. H. Sprague.
NORTHERN LIGHT.—Equipped with radiocompass.
NOURMAHAL.—Station controlled by owner of vessel.
PITTSBURGH BRIDGE.—Name changed to Mala; station controlled by F. T. Co.
RUSHVILLE.—Owner of vessel, Rushville S. S. Corporation.
SAGAMI.—Station controlled by R. C. A.
SEABORN.—Station controlled by Marconi International Marine Co.
STANDARD ARROW.—Equipped with radiocompass.
TUXPANOIL.—Owner of vessel, Oil Transport Co.
WEST IMBODEN.—Station controlled by I. W. T. Co.
WILLIAM McLAUGHLIN.—Correct orthography, William McLaughlin; equipped with radiocompass.
W. M. TUPPER.—Station controlled by R. C. A.
Strike out all particulars of the following-named vessels: Avalon (KIZL), Cretan, Dorchester (KQD), Kroonland, Quantico.

COMMERCIAL LAND AND SHIP STATIONS, ALPHABETICALLY, BY CALL SIGNALS

KDRC, read Altair; KUKL, read Mala; KULB, read Maltran; WIN, read Santa Cecilia; WLZ, read Nevadan; WMV, read Nebraskan; WPBB, read William McLaughlin; strike out all particulars following the call signals, KIZL, KQC, KQD, KQQ, KSH, WDS.

GOVERNMENT SHIP STATIONS, ALPHABETICALLY BY NAMES OF STATIONS

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

KUKUL.—Equipped with radiocompass.
WINONA.—Name changed to Kimball.

GOVERNMENT LAND AND SHIP STATIONS, ALPHABETICALLY, BY CALL SIGNALS

NIXM, read Kimball.

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BROADCASTING STATIONS, BY CALL SIGNALS

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

WCAC (Storrs, Conn.)—Read Mansfield, Conn.

WCGU (Lakewood, N. J.)—Changed to Coney Island (Brooklyn), N. Y.

WGL (New York, N. Y.)—Changed to Secaucus, N. J.

Strike out all particulars of the following-named stations, WPAK (Fargo, N. Dak.)
WGBX (Orono, Me.).

Note.—For further changes see new complete list of stations in this Bulletin.

MISCELLANEOUS

BROADCASTING STATIONS ALPHABETICALLY BY STATES AND CITIES

[Effective June 15, 1927]

State and city	Call signal	Wave length	Frequency (cycles)	Power (watts)	State and city	Call signal	Wave length	Frequency (cycles)	Power (watts)
Alabama:					California—Contd.				
Auburn.....	WAPI	401.8	810	1,000	Pasadena.....	KPPC	221.9	1,310	50
Birmingham.....	WBRO	243.5	1,200	250	Do.....	KPSN	315.6	950	1,000
Do.....	WKBO	218.8	1,370	10	Sacramento.....	KPBK	521.4	560	100
Gadsden.....	WJBY	234.2	1,280	50	San Bernardino.....	KFWC	222.1	1,130	100
Montgomery.....	WIBZ	230.6	1,300	15	San Diego.....	KFBC	247.5	1,210	100
Alaska:					Do.....	KFSD	440.9	680	500
Anchorage.....	KPQD	344.6	870	100	San Francisco.....	KFRO	454.5	660	500
Juneau.....	KFIU	223.4	1,330	10	Do.....	KFWI	267.7	1,120	500
Ketchikan.....	KGBU	228.9	1,310	500	Do.....	KGTT	205.5	1,450	50
Arizona:					Do.....	KJBS	220.4	1,300	50
Flagstaff.....	KFKY	205.4	1,420	25	Do.....	KPO	422.3	710	1,000
Phoenix.....	KFAD	272.6	1,100	500	Do.....	KYA	309.1	970	500
Do.....	KFCB	243.8	1,230	125	San Jose.....	KQW	291.9	1,010	500
Prescott.....	KPJM	214.2	1,400	15	Santa Ana.....	KWTC	340.7	880	5
Tucson.....	KOAR	234.2	1,280	100	Santa Barbara.....	KFCR	211.1	1,420	50
Arkansas:					Santa Maria.....	KSMR	272.6	1,100	100
Fayetteville.....	KUOA	290.9	1,010	500	Santa Monica.....	KNRC	374.8	800	500
Hot Springs.....	KTHS	340.7	980	750	Stockton.....	KODM	217.8	1,380	10
Newark.....	KGCC	223.7	1,340	100	Do.....	KWG	344.6	870	50
California:					Venice.....	KFVD	208.2	1,440	250
Alma (Holy City).....	KFQU	240.9	1,200	100	Yuba City.....	KUFM	211.1	1,420	15
Avlon.....	KFWO	218.5	1,370	250	Colorado:				
Berkeley.....	KRR	236.3	1,170	100	Colorado Springs.....	KPUM	230.1	1,270	100
Burbank.....	KELW	223.9	1,310	250	Denver.....	KFEL	247.9	1,210	250
El Centro.....	KGEN	223.4	1,330	15	Do.....	KFUP	227.1	1,320	100
Eureka.....	KFWH	254.1	1,160	100	Do.....	KFVR	475.9	630	250
Fresno.....	KMJ	345.6	820	50	Do.....	KFXF	282.8	1,060	500
Hollywood.....	KFQZ	222.4	1,290	100	Do.....	KGY	201.2	1,490	15
Do.....	KFWB	361.2	530	500	Do.....	KLZ	287.1	1,120	250
Inglewood.....	KMIO	223.7	1,340	250	Do.....	KOA	325.9	820	5,000
La Crescenta.....	KOPH	231.7	1,340	100	Durango.....	KOLO	199.9	1,500	5
Long Beach.....	KFON	241.8	1,240	500	Edgewater (near).....	KPKJ	215.7	1,380	15
Do.....	KOER	215.7	1,350	100	Fort Morgan.....	KGRW	215.8	1,370	10
Los Angeles.....	KFI	163.5	640	5,000	Oresey.....	KPKA	399.8	750	200
Do.....	KFPR	222.4	1,290	250	Gunnison.....	KFHA	254.1	1,180	50
Do.....	KFSQ	273.1	1,050	500	Pueblo.....	KGDP	223.7	1,340	ID
Do.....	KFXB	212	1,190	500	Trinidad.....	KFBZ	238	1,260	15
Do.....	KOEF	263	1,140	500	Do.....	KOFL	222.1	1,360	50
Do.....	KOFJ	208.2	1,440	100	Yuma.....	KGER	204	1,470	10
Do.....	KHJ	400.2	740	500	Connecticut:				
Do.....	KMTR	236	570	500	Bridgewater.....	WICC	214.2	1,450	250
Do.....	KNX	336.9	880	500	Danbury.....	WCWS	201.2	1,490	100
Do.....	KRLQ	215.7	1,390	250	Hartford.....	WTIC	461.3	680	500
Do.....	KTBI	288.3	1,040	500	Mansfield.....	WCAC	275.1	1,060	500
Lower Lake.....	KGEU	227.1	1,320	50	New Haven.....	WDKO	275.1	1,090	250
Oakland.....	KFUS	266.3	1,170	50	Delaware: Wilmington.....	WDEL	263.3	1,130	100
Do.....	KFWM	236.1	1,270	500	Dist. of Columbia:				
Do.....	KGO	384.4	750	5,000	Washington.....	WMAL	224.9	1,310	100
Do.....	KLS	245.8	1,220	250	Do.....	WRC	455.5	640	500
Do.....	KIX	408.2	590	500	Do.....	WRRH	319	940	50
Do.....	KTAB	290.2	1,070	500	Florida:				
Do.....	KZM	245.8	1,220	100	Boca Raton.....	WFLA	212.6	1,410	1,000
Oxnard.....	KFYF	238	1,260	25	Clearwater.....	WFNN	365.6	920	500
					Jacksonville.....	WJAX	336.9	990	1,000

Night.

Day.

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BROADCASTING STATIONS, ALPHABETICALLY, BY STATES AND CITIES—continued

State and city	Call signal	Wave length in meters	Freq. (cycles/sec.)	Power (watts)	State and city	Call signal	Wave length in meters	Freq. (cycles/sec.)	Power (watts)
Florida—Continued.					Illinois—Continued.				
Lakeland.....	WMBL	226.9	1,210	60	Peoria Heights.....	WMBD	225.4	1,400	250
Miami.....	WQAM	222.4	930	750	Quincy.....	WTAD	226.1	1,270	250
Miami Beach.....	WIOD	247.8	1,210	1,000	Rockford.....	KFLV	267.7	1,120	100
Do.....	WMBF	251.4	780	500	Rock Island.....	WHBF	222.1	1,520	100
Pensacola.....	WCDA	249.9	1,210	500	Springfield.....	WCBS	220.7	1,430	250
St. Petersburg.....	WHRN	261.9	1,010	10	St. Louis.....	WTAX	222.4	1,300	100
Do.....	WJBB	294.6	670	250	Tucson.....	WDZ	227.6	1,050	100
Tampa.....	WDAB	267.7	1,120	500	Urbana.....	WRM	272.6	1,100	500
Do.....	WMRR	252.1	1,190	100	Waukegan.....	WPEP	215.7	1,300	250
Winter Park.....	WDBO	250.9	1,250	500	Zion.....	WCBD	244.8	570	1,000
Georgia:					Indiana:				
Atlanta.....	WGST	270.1	1,110	500	Anderson.....	WHRU	220.4	1,360	15
Do.....	WSB	475.9	610	1,000	Brockville.....	WKBV	217.3	1,350	100
Macon.....	WMAZ	270.1	1,110	500	Crown Point.....	WLBT	222.4	930	50
Hawaii: Honolulu.....	EQU	270.1	1,110	500	Culver.....	WCMA	252.5	1,170	250
Idaho:					Evanston.....	WOBF	258.1	1,270	250
Bolivar.....	KFAU	245.6	1,050	2,000	Fort Wayne.....	WCWR	229.9	1,310	500
Ketchum.....	KPEY	222.6	1,290	10	Do.....	WOWO	228.8	1,310	1,000
Pocatello.....	KSEI	233.1	900	250	Indianapolis.....	WFRM	225.6	1,380	250
Illinois:					Do.....	WKRF	242	1,180	250
Alwood.....	WLBO	272.6	1,050	25	Kokomo.....	WJAK	234.2	1,280	50
Bethalto (Chicago).....	WORD	272.1	1,000	5,000	Laporte.....	WRAT	258.5	1,440	100
Do.....	WTAR	275.1	1,050	3,500	Muncie.....	WJJC	209.1	1,430	50
Belvidere.....	WLBR	222.4	930	15	South Bend.....	WSBT	221.1	1,160	250
Bloomington.....	WMBY	199.9	1,500	15	Terre Haute.....	WRPI	208.2	1,440	100
Do.....	WNBL	199.9	1,500	15	Vandalia.....	WRBC	218	1,380	250
Carthage.....	WCAZ	340	850	50	West Lafayette.....	WBAA	272.6	1,100	250
Chicago.....	KYW	328	870	2,500	Iowa:				
Do.....	WAAP	260.4	770	500	Ames.....	WOI	261.8	1,120	\$2,000
Do.....	WBBM	260.4	770	1,000	Anita.....	KICK	461.3	650	100
Do.....	WBCN	250.3	1,040	220	Boone.....	KFGQ	250.7	1,400	10
Do.....	WCFL	461.8	620	1,500	Burlington.....	WIAS	474.9	680	100
Do.....	WCWR	221.7	1,240	500	Cedar Rapids.....	KWCR	254.4	750	250
Do.....	WEBH	251.8	620	2,000	Do.....	WJAM	254.4	750	100
Do.....	WEFC	241.8	1,260	500	Clarinda.....	KBO	227.1	1,280	500
Do.....	WEFR	251.8	1,260	500	Council Bluffs.....	KOIL	277.5	1,080	1,200
Do.....	WFKE	221.7	1,240	500	Cresco.....	KODJ	262.8	1,180	10
Do.....	WGES	241.8	1,260	500	Davenport.....	WOC	242.7	880	5,000
Do.....	WHRG	215.7	1,280	200	Decorah.....	KOCA	262.8	1,420	10
Do.....	WIBO	478.4	720	500	Do.....	KWLC	247.8	1,220	50
Do.....	WJBT	339.4	770	100	Des Moines.....	WHO	325.4	580	5,000
Do.....	WKBI	322.4	850	50	Do.....	KFJY	229.9	1,280	100
Do.....	WLTS	450.6	620	100	Do.....	KGFB	221.7	1,340	10
Do.....	WMAQ	447.8	670	1,000	Iowa City.....	WHUI	245.3	1,120	500
Do.....	WMBB	252	1,190	500	Le Mars.....	KWUC	243.8	1,380	1,500
Do.....	WMDI	260	1,140	500	Marshalltown.....	KFJB	247.8	1,240	15
Do.....	WFCC	223.7	1,240	500	Muscatine.....	KPNP	221.1	1,420	100
Do.....	WQJ	447.5	670	100	Do.....	KTNT	258.2	1,170	1,500
Do.....	WSAX	254	1,170	100	Oaklahoma.....	KFHL	212.6	1,110	10
Do.....	WSBC	221.4	1,240	500	Shawnee.....	KFNF	220.1	1,120	1,000
Do.....	WWAE	221.4	1,240	500	Do.....	KMA	220.1	1,120	500
Chicago Heights.....	WIBZ	208.2	1,450	100	Sioux City.....	KFMR	462.8	580	100
Crest (Chicago).....	WLS	314.8	670	5,000	Do.....	KCBJ	263.5	1,250	500
Decatur.....	WBAO	267.7	1,120	100	Kansas:				
Do.....	WJBL	212.6	1,410	250	Concordia.....	KGCN	206.2	1,440	50
Deerfield (Chicago).....	WHT	410.4	720	5,000	Independence.....	KFVG	225.4	1,250	50
East Wenatchee.....	WLBI	213	1,260	250	Lawrence.....	KFKU	254.3	1,180	500
Elgin-near (Chicago).....	WON	203.9	960	15,000	Do.....	WREN	224.1	1,180	750
Do.....	WLIS	205.9	960	500	Manhattan.....	KBAC	223.1	900	500
Evanson.....	WEBS	215.7	1,290	100	Millard.....	KFKD	211.8	1,240	1,600
Forest Park.....	WNRA	208.2	1,440	200	Wichita.....	KFHK	245.8	1,220	500
Galesburg.....	WFHZ	247.8	1,280	50	Kentucky:				
Do.....	WKRS	217.3	1,260	100	Hopkinsville.....	WFTW	245.8	1,220	100
Do.....	WLDO	217.3	1,260	100	Louisville.....	WHAS	461.3	650	500
Do.....	WFRM	217.8	1,210	50	Do.....	WLAT	267.7	1,120	30
Harrisburg.....	WERQ	221.7	1,340	15	Louisiana:				
Homewood (Chicago).....	WOK	252	1,190	5,000	New Orleans.....	WABZ	247.8	1,210	50
Juliet.....	WCLS	215.7	1,290	150	Do.....	WCDE	227.1	1,220	5
Do.....	WJUA	222.4	960	50	Do.....	WIBO	223	1,140	100
La Salle.....	WKBN	215.7	1,190	150	Do.....	WJRW	225	1,260	30
Macomb.....	WJBC	227.1	1,220	100	Do.....	WKRT	222	1,190	50
Mount Prospect (Chicago).....	WJJD	363.9	820	1,000	Do.....	WGMB	322.4	960	500
WJAZ	263	1,140	1,000	Shreveport.....	WWL	274.1	1,260	100	

1 Night.

1 Day.

BROADCASTING STATIONS ALPHABETICALLY BY STATES AND CITIES—continued

State and city	Call signal	Wavelength	Frequency (kilocycles)	Power (watts)	State and city	Call signal	Wavelength	Frequency (kilocycles)	Power (watts)
Louisiana—Contd.					Mississippi:				
Shreveport—Con.	KSBA	267.7	1,120	1,000	Columbus.....	WCOC	230.6	1,300	100
Do.....	KWKH	394.5	760	1,000	Oxford.....	WCBII	241.8	1,240	100
Maine:					Missouri:				
Bangor.....	WABI	380.4	770	100	Cap Girardeau.....	KFVS	221.7	1,340	60
Dover-Foxcroft.....	WLHZ	208.2	1,440	250	Carterville.....	KFPW	263.1	1,140	50
Portland.....	WCOSH	361.2	530	500	Columbia.....	KFRU	249.9	1,200	500
Maryland:					Independence.....	KLDS	238	1,200	1,500
Baltimore.....	WCAO	284.4	780	220	Jefferson City.....	WOS	394.5	780	500
Do.....	WBOM	284.4	780	100	Kansas City.....	KWKO	222.1	1,280	100
Do.....	WFDR	225.4	1,330	100	Do.....	WDAF	370.2	810	1,000
Glen Morris (Baltimore).	WBAL	285.5	1,030	3,000	Do.....	WHB	336.9	890	500
Takoma Park.....	WBES	206.0	1,010	100	Do.....	WLBF	209.7	1,430	50
Massachusetts:					Do.....	WOQ	234.9	890	250
Boston.....	WBAN	302.8	990	100	Do.....	KFRZ	225.4	1,230	15
Do.....	WBET	241.8	1,240	500	Kirkwood (St. Louis).....	KMOK	290.6	1,000	5,000
Do.....	WBZA	333.1	900	500	St. Joseph.....	KFEQ	230.6	1,300	1,000
Do.....	WEER	447.5	670	500	Do.....	KOBX	268.3	1,040	100
Do.....	WLBM	211.1	1,420	50	St. Louis.....	KFOA	322.4	930	50
Do.....	WNAC	362.7	850	500	Do.....	KFUO	543.1	850	500
Do.....	WSSB	220.6	1,000	100	Do.....	KFVE	234.2	1,280	1,000
Chelsea.....	WRSC	205.6	1,400	15	Do.....	KFWF	214.2	1,400	250
Dartmouth.....	WMAF	428.3	700	500	Do.....	KSD	545.1	550	500
Fall River.....	WSAR	252	1,190	100	Do.....	WEW	232.7	830	1,000
Gloster.....	WEPS	206.9	1,010	100	Do.....	WIL	258.6	1,180	250
New Bedford.....	WNBH	203.7	1,150	250	Do.....	WMAY	247.8	1,210	100
Quincy.....	WRES	217.8	1,380	50	Montana:				
Somerville.....	WAGB	215.7	1,390	5	Helena.....	KFBB	275.1	1,000	50
Springfield.....	WBZ	333.1	900	15,000	Do.....	KGEZ	203.4	1,440	100
Taunton.....	WAIT	214.2	1,400	10	Do.....	KUOM	374.8	900	500
Weber.....	WKBE	228.9	1,310	100	Vida.....	KGCX	243.6	1,230	10
Wellesley Hills.....	WDSO	384.4	780	100	Nebraska:				
Worcester.....	WTAG	288.3	1,040	500	Central City.....	KGRS	204	1,470	10
Michigan:					Clay Center.....	KMMJ	228.9	1,310	500
Battle Creek.....	WKDP	212.6	1,410	50	Grand Island.....	KGOO	203.4	1,400	100
Bay City.....	WSKC	491.6	610	250	Hastings.....	KFKX	529	670	2,500
Berrien Springs.....	WEMC	238	1,360	1,000	Humboldt.....	KGDW	204.8	1,450	100
Detroit.....	WAFD	218.8	1,370	250	Lincoln.....	KFAB	309.1	970	2,000, 5,000
Do.....	WBMI	211.1	1,420	100	Do.....	KFOR	217.3	1,380	100
Do.....	WMBO	211.1	1,420	100	Lincoln (University Place).....	WCAJ	348.6	860	500
Do.....	WTHO	215.8	1,370	250	Do.....	WJAG	222.1	1,350	250
Do.....	WWJ	374.8	800	1,000	Do.....	KFOX	228.7	1,160	100
East Lansing.....	WKAR	230.6	1,300	1,000	Do.....	KOCH	218.6	1,100	250
Escanaba.....	WRAK	221.8	1,060	50	Do.....	WAAW	374.8	860	500
Flint.....	WFDF	148.6	860	100	Do.....	WNAL	268.5	1,160	250
Furnewood.....	WOOD	260.7	1,150	500	Do.....	WOW	608.2	690	1,000
Grand Rapids.....	WASH	256.1	1,170	250	Do.....	KGBY	222.5	1,450	50
Iron Mountain.....	WLBY	209.7	1,430	50	Do.....	KGCH	231.6	1,020	250
Lansing.....	WREO	230.6	1,300	500	Do.....	KGBZ	212.6	1,410	100
Leiper.....	WMPC	234.2	1,280	30	New Hampshire:				
Ludington.....	WKRZ	199.9	1,500	15	Laconia.....	WKAU	223.7	1,340	50
Monroe.....	WKBL	206.4	1,460	15	Manchester.....	WCOM	238	1,260	100
Mount Clemens.....	WGIP	243.8	1,230	1,500	Tilton.....	WBRL	222.4	1,290	500
Petoskey.....	WBPP	230.6	1,250	100	New Jersey:				
Pontiac.....	WCX	440.6	680	5,000	Atlantic City.....	WHAR	272.6	1,100	250
Royal Oak.....	WJR	225.4	1,330	50	Do.....	WPG	272.6	1,100	2,500
Ypsilanti.....	WAQM	225.4	1,330	15	Bound Brook.....	WJZ	454.1	660	30,000
Minnesota:					Camden.....	WCAM	223.7	1,340	500
Barrett.....	KGDE	205.6	1,460	50	Cliffside.....	WODA	211.1	1,420	250
Collegeville.....	WFBI	272.6	1,100	100	Do.....	WPAP	394.5	780	500
Hallock.....	KGFE	223.7	1,340	50	Coteysville.....	WQAO	309.1	970	500
Minneapolis.....	KFDZ	215.7	1,390	10	Elizabeth.....	WHNY	309.1	970	500
Do.....	KGEQ	202.6	1,460	50	Hoboken.....	WIBS	204	1,470	150
Do.....	WAMD	225.4	1,330	600	Jersey City.....	WMCA	270.2	810	500
Do.....	WDGY	260.7	1,150	500	Do.....	WAAT	246.8	1,220	300
Do.....	WHDY	245.8	1,220	500	Do.....	WKHO	218.6	1,170	500
Do.....	WLB	245.8	1,220	500	Lambertville.....	WTAZ	220.4	1,300	15
Do.....	WGMS	245.8	1,220	500	Middletown Park.....	WTRL	206.8	1,450	15
Do.....	WRHM	260.7	1,150	1,000	Newark.....	WAAM	348.6	860	500
Northfield.....	KFMX	230.1	1,270	500	Do.....	WDWM	234.1	1,270	500
Do.....	WCAL	230.1	1,270	100	Do.....	WGCP	260.2	1,070	500
St. Cloud.....	WFAM	252	1,100	10	Do.....	WNI	280.2	1,070	500
St. Paul.....	KFOY	285.6	1,050	250	Do.....	WOR	422.3	710	500
Do.....	WMBE	205.2	1,440	10	Do.....	WEAM	239.9	1,250	250
St. Paul-Minneapolis (Anoka).	WCCO	403.2	740	5,000	North Plainfield.....				

BROADCASTING STATIONS ALPHABETICALLY BY STATES AND CITIES—continued

State and city	Call signal	Wavelength	Frequency (Kilocycles)	Power (watts)	State and city	Call signal	Wavelength	Frequency (Kilocycles)	Power (watts)
New Jersey—Con.					North Dakota—Con.				
Paterson	WODA	203.9	1,000	1,000	Fargo	WDAY	261.2	250	250
Red Bank	WJRI	207.7	1,120	250	Grand Forks	KFJM	223.1	500	500
Seabrook	WOL	206.8	1,170	500	Mandan	KOCU	228.2	1,440	500
Trenton	WOAN	213.9	1,210	500	Ohio:				
Utica City	WBMS	207.7	1,120	100	Akron	WAOC	223.9	1,220	1,000
New Mexico:					Ashland	WLSP	202.5	1,480	15
Albuquerque	KYLR	410.4	700	100	Aspinwall	WJPW	205.2	1,440	80
State College	KOB	204.3	700	5,000	Bellefontaine	WHDD	222.1	1,350	100
New York:					Cambridge	WEBE	247.8	1,210	10
Astoria	WGBS	248.6	800	500	Chautauq	WHBC	235.1	1,250	10
Athens	WMBO	220.4	1,100	100	Cincinnati	WAAD	207.7	1,120	25
Bay Shore	WFST	211.1	1,050	250	Do	WFRE	245.8	1,120	250
Brooklyn:					Do	WKRC	222.1	1,350	500
Do	WABC	227.1	1,120	500	Cleveland	WDBK	227.1	1,350	250
Do	WBBC	227.1	1,120	500	Do	WEAR	209.8	750	1,000
Do	WBRN	211.1	1,050	100	Do	WHK	265.3	1,120	500
Do	WFHL	218.8	1,170	250	Do	WIAY	265.3	1,120	500
Do	WMBQ	201.1	1,170	100	Do	WTAM	250.8	700	1,500
Do	WTBC	204.1	1,120	50	Columbus	WAUW	222.5	1,350	5,000
Buffalo:					Do	WGCI	215.4	950	250
Do	WEHR	241.8	1,240	250	Do	WEAO	252.5	1,000	700
Do	WGR	202.8	900	750	Do	WMAN	224.2	1,350	50
Do	WKBW	227.2	1,120	500	Dayton	WSME	256.6	1,010	200
Do	WPDQ	205.4	1,050	50	Hamilton	WSRO	284.4	700	100
Do	WSVS	205.4	1,050	50	Harrison (Cincin-	WLW	205.3	700	400
Canton	WCAD	205.8	900	500	nati)				5,000
Cazenovia	WMAC	205.4	1,120	500	Muskegon	WLBY	205.8	1,120	50
Coney Island (Brooklyn)	WCQU	211.1	1,120	500	Mason (Cincin-	WEAI	361.2	620	5,000
Endicott	WNBF	205.8	1,150	50	nati)				
Flushing	WIBI	207.7	1,120	100	Springfield	WOSO	256.3	1,170	500
Fompson	WGFB	215.8	1,220	450	Steubenville	WIRB	249.2	1,350	50
Ithaca:					Toledo	WABR	220.2	1,370	50
Do	WEAI	452.4	600	250	Do	WTAL	280.2	1,170	100
Jamaica	WLCI	247.8	1,220	50	Wooster	WABW	247.8	1,120	50
Jamestown	WMBJ	206.8	1,150	10	Yellow Springs	WRAV	348.7	600	100
Kingsboro	WOUL	222.7	1,240	25	Youngstown	WKBN	214.2	1,400	50
Lockport	WDBZ	215.7	1,120	50	Do	WMBW	214.2	1,400	50
Long Island City	WLRX	204.1	1,170	250	Oklahoma:				
Newburgh	WKBM	204.2	1,140	100	Alva	KOFF	205.4	1,120	25
New York:					Bristow	KVOO	249.2	1,120	1,000
Do	WEAF	491.5	940	5,000	Chisholm	KOCW	223.1	1,350	250
Do	WEBJ	371.2	840	200	Norman	WNAD	229.5	1,350	500
Do	WHAP	210.1	1,270	1,000	Oklahoma	KPJF	272.2	1,120	70
Do	WLIN	204.5	760	500	Do	KFXR	216.2	1,120	15
Do	WHPP	212.2	1,150	10	Do	KGCB	211.2	1,120	50
Do	WKBM	218.8	1,240	500	Do	KGFG	211.7	1,000	50
Do	WLWL	202.9	1,030	1,000	Do	WKY	208.8	1,040	150
Do	WMSG	205.1	1,270	500	Oregon:				
Do	WNYC	153.4	900	500	Astoria	KFJI	249.9	1,350	15
Do	WPCH	309.1	920	500	Corvallis	KOAC	270.1	1,120	500
Do	WSDA	227.1	1,170	250	Eugene	KGEH	201.2	1,120	50
Do	WOKO	215.7	1,120	250	Medford	KMED	267.1	1,120	50
Peekskill	WABC	225.8	120	2,000	Portland	KEX	208.9	1,350	2,000
Ridgewood Hill (New York City)					Do	KFEC	214.2	1,120	50
Do	WBQO	215.9	950	500	Do	KFIP	214.2	1,400	50
Rochester	WBAB	232.4	1,220	100	Do	KFJR	202.5	1,000	100
Do	WHAM	277.6	1,160	500	Do	KFWV	225.9	1,350	50
Do	WBEC	222.4	1,170	100	Do	KGW	201.1	610	1,000
Do	WNHQ	202.5	1,120	15	Do	KLIT	206.2	1,420	50
Do	WOKT	208.7	1,120	500	Do	KTBR	222.5	1,000	50
Rutledge	WBAB	256.2	1,120	1,000	Do	KWBS	199.9	1,000	15
Schenectady	WQY	278.5	720	20,000	Do	KXL	220.4	1,350	50
Syracuse:					Do	KOIN	219	900	1,000
Do	WFBL	208.5	1,160	750	Sylvan (Portland):				
Troy	WSYH	215.4	1,320	500	Allentown	WCBA	221.1	1,220	100
Utica	WHAZ	372.5	760	400	Do	WBAN	222.1	1,220	100
Woodhaven	WIBX	236	1,220	150	Allison	WFBG	200.2	1,120	100
Woodside	WBOM	205.8	1,220	500	East Pittsburgh	KDKA	315.6	930	20,000
North Carolina:					Grove City	WISG	446.9	650	50
Asheville	WWNC	206.8	1,010	1,000	Harrisburg	WBAY	221.7	1,240	250
Charlotte	WBT	205.5	1,100	500	Do	WBAM	209.5	1,000	500
Greensboro	WNHC	221.7	1,340	500	Do	WMBS	231.2	1,350	50
Raleigh	WRCC	217.8	1,380	250	Do	WPRC	202.2	1,400	100
North Dakota:					Do	WGM	203.2	1,440	50
Andrea	KGFN	192.9	1,400	15	Do	WHBP	228.9	1,350	250
Bismarck	KFYR	229.9	1,250	250	Do	WOAL	222	1,190	15
Devils Lake	KDLR	230.6	1,300	15	Do	WKJC	203	1,190	50

RADIO SERVICE BULLETIN

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BROADCASTING STATIONS ALPHABETICALLY BY STATES AND CITIES—continued

State and city	Call signal	Wave length	Frequency (kilocycles)	Power (watts)	State and city	Call signal	Wave length	Frequency (kilocycles)	Power (watts)
Pennsylvania—Con.					Texas—Continued.				
Lewisburg.....	WJBU	214.2	1,400	100	Austin.....	KUT	232.4	1,200	500
Monessen.....	WMRJ	232.4	1,200	50	Bertram.....	KFDM	374.5	800	500
Oil City.....	WHBA	200.7	1,150	10	Brownsville.....	KWWO	277.6	1,050	500
Do.....	WLBW	250.9	1,050	500	College Station.....	WTAW	300.1	970	500
Parkersburg.....	WQAA	215.7	1,300	500	Dallas.....	KRLD	461.2	650	500
Philadelphia.....	WBQ	277.6	1,050	500	Do.....	WPAA	490.7	600	500
Do.....	WABY	247.8	1,210	50	Do.....	WRR	322.7	850	500
Do.....	WCAU	260.7	1,150	500	Dublin.....	KFPL	278.1	1,050	50
Do.....	WFI	405.2	740	500	El Paso.....	KFXH	241.8	1,240	100
Do.....	WFKD	205.4	1,150	10	Do.....	WDAB	214.2	1,280	100
Do.....	WHRW	220.4	1,300	50	Fort Stockton.....	KGFI	220.4	1,350	50
Do.....	WIAD	220.4	1,300	50	Fort Worth.....	KFJZ	219.9	1,200	50
Do.....	WIF	508.2	550	500	Do.....	KFQB	260.7	1,150	1,000
Do.....	WLIT	405.2	740	500	Do.....	WBAP	490.7	600	1,500
Do.....	WNAT	265.8	1,040	100	Galveston.....	KFLX	270.1	1,150	100
Do.....	WOO	508.2	550	500	Do.....	KFUL	258.5	1,100	500
Do.....	WPSW	202.6	1,450	50	Greenville.....	KFPM	230.6	1,200	50
Do.....	WRAX	288.3	1,040	250	Houston.....	KFVI	234.1	1,200	50
Pittsburgh.....	KQV	270.1	1,110	500	Do.....	KPRC	201.9	1,020	500
Do.....	WCAC	510.2	580	500	Do.....	KTUE	212.0	1,410	5
Do.....	WIAS	270.1	1,110	500	Do.....	KTAF	228.9	1,310	10
Do.....	WMBU	217.3	1,350	50	Do.....	KTSA	265.3	1,120	2,000
Pringleboro (Kingston).....	WABF	205.4	1,400	250	San Antonio.....	KGCI	202.6	1,450	15
Reading.....	WRAW	238	1,250	50	Do.....	KGDR	202.6	1,480	15
Scranton.....	WGHI	230.6	1,300	100	Do.....	KORG	220.4	1,360	50
Do.....	WQAN	230.6	1,300	100	Do.....	KTAF	228.9	1,310	10
State College.....	WPSC	292.8	1,000	500	Do.....	KTSA	265.3	1,120	2,000
Washington.....	WNBO	211.1	1,420	15	Do.....	WOAI	302.8	950	2,000
Wilkes-Barre.....	WBAX	242.9	1,200	100	San Benito.....	KFLU	226.1	1,270	15
Do.....	WBHK	242.9	1,200	100	Waco.....	WJAD	447.5	670	500
Philippines Islands:					Utah:				
Manila.....	KZIB	219.9	1,200	20	Ogden.....	KFUR	225.4	1,330	50
Do.....	KZKZ	250.1	1,110	100	Salt Lake City.....	KDYI	258.5	1,160	100
Do.....	KZRQ	359.3	710	600	Do.....	KFUT	499.7	600	50
Porto Rico: San Juan	WKAQ	340.7	850	500	Do.....	KSL	502.8	950	1,000
Rhode Island:					Vermont:				
Cranston.....	WDWF	384.4	780	500	Burlington.....	WCAX	254.1	1,180	100
Olneyville.....	WLBI	225.4	1,350	50	Springfield.....	WQAE	249.9	1,200	50
Pawtucket.....	WCOT	225.4	1,350	50	Virginia:				
Providence.....	WFCI	225.4	1,350	50	Arlington.....	NAA	434.5	600	1,000
Do.....	WEAN	319	940	500	Norfolk.....	WBBW	256.1	1,270	50
Do.....	WJAR	483.6	620	500	Do.....	WPAB	209.7	1,450	100
Do.....	WRAH	190.9	1,300	250	Do.....	WTAR	275.1	1,090	500
South Carolina:					Petersburg.....	WLBO	214.2	1,400	100
Charleston.....	WBRY	490.7	600	75	Richmond.....	WBBL	247.8	1,210	100
South Dakota:					Do.....	WMBO	204.8	1,450	15
Brookings.....	KFDY	394.5	780	500	Do.....	WRVA	254.1	1,180	1,000
Do.....	KGCR	203.2	1,440	15	Roanoke.....	WDBJ	230.6	1,300	250
Dell Rapids.....	KGDA	234.2	1,280	15	Virginia Beach.....	WBSA	218.8	1,370	250
Mitchell.....	KGFF	212.6	1,410	10	Washington:				
Oldham.....	KGDY	204.6	1,450	15	Everett.....	KFBL	222.7	1,340	50
Rapid City.....	WCAT	247.8	1,210	100	Lacey.....	KGY	243.8	1,250	50
Sioux Falls.....	KSOO	200.7	1,430	250	Pullman.....	KWBC	324.5	700	500
Vermillion.....	KUSD	483.6	620	250	Seattle.....	KFOA	447.5	670	1,000
Yankton.....	WNAX	302.8	920	250	Do.....	KFQW	217.3	1,380	100
Tennessee:					Do.....	KGBS	202.6	1,480	100
Chattanooga.....	WDOD	254.1	1,180	500	Do.....	KOCL	230.6	1,300	50
Knoxville.....	WFBC	234.2	1,280	50	Do.....	KJR	343.6	850	2,500
Do.....	WNBJ	201.8	1,450	50	Do.....	KKP	255.5	1,130	15
Do.....	WNOX	255.3	1,130	1,000	Do.....	KOMO	305.9	980	1,000
Lawrenceburg.....	WOAN	255.5	1,050	250	Do.....	KPCB	230.6	1,300	50
Memphis.....	WGBC	277.6	1,080	15	Do.....	KROX	211.1	1,420	50
Do.....	WHBQ	232.4	1,390	100	Do.....	KRSC	211.1	1,420	50
Do.....	WMBW	200.7	1,430	10	Do.....	KTCL	277.6	1,080	500
Do.....	WMC	510.9	580	500	Do.....	KTW	304.6	780	1,000
Nashville.....	WNBR	228.9	1,310	20	Do.....	KUJ	199.9	1,300	10
Do.....	WBW	247.8	1,210	100	Do.....	KVOS	294.7	1,420	50
Do.....	WDAD	225.4	1,350	500	Spokane.....	KFIO	243.8	1,220	100
Do.....	WLAC	225.4	1,350	500	Do.....	KFPP	245.8	1,220	250
Springfield.....	WSM	319	940	2,000	Do.....	KGA	260.7	1,120	2,000
Whitehaven (Memphis).....	WSIX	212.6	1,410	150	Do.....	KHQ	370.2	810	1,000
Texas:					Tacoma.....	KMO	254.1	1,150	250
Amesillo.....	KGRS	243.8	1,230	150	Do.....	KVI	234.2	1,250	50
Do.....	WDAG	251	1,140	250	Walla Walla.....	KOWW	299.8	1,000	500
West Virginia:					Yakima.....	KFIQ	208.2	1,440	100
Huntington.....	WSAZ	241.5	1,240	100	Wheeling.....	WWVA	359.4	770	100

BROADCASTING STATIONS ALPHABETICALLY BY STATES AND CITIES—continued

State and city	Call signal	Wave length	Frequency (kilocycles)	Power (watts)	State and city	Call signal	Wave length	Frequency (kilocycles)	Power (watts)
Wisconsin:					Portable—Continued				
Beloit	WEBW	268.5	1,100	500	Illinois:				
Camp Lake	WLLO	227.1	1,320	100	Chicago	WBBZ	204	1,470	100
Eau Claire	WTAQ	254.1	1,180	500	Do.	WHBL	204	1,470	100
Fond du Lac	KFIZ	267.7	1,120	100	Do.	WIBM	201.2	1,490	100
Kenosha	WRDR	222.4	930	15	Do.	WIBW	201.2	1,490	100
La Crosse	WKBN	220.4	1,300	500	Do.	WKBG	201.2	1,490	100
Madison	WHA	319	1,140	750	Do.	WLBN	204	1,470	50
Do.	WIBA	229.9	1,250	500	Do.	WMBR	204	1,470	100
Manitowoc	WOMT	222.1	1,350	50	Massachusetts: Bos-				
Milwaukee	WOWE	215.8	1,270	500	ton	WATT	201.2	1,490	100
Do.	WHAD	200.9	1,020	500	New York:				
Do.	WBOE	270.1	1,110	500	Farmingdale	WLBI	201.2	1,490	30
Do.	WTMJ	250.9	1,020	500	MU-1 (yacht)	WRMU	201.2	1,490	100
Omaha	WJBR	227.1	1,220	100	Richmond Hill	WGOM	201.2	1,490	100
Peyton	WIBU	217.2	1,350	20	Pennsylvania:				
Racine	WRRR	322.4	930	50	Bethanyak	WALK	201.2	1,490	50
Stevens Point	WLRL	310	940	1,000	Newcastle	WKBU	204	1,470	50
Superior	WEBC	241.8	1,240	250	Rhode Island:				
West De Pere	WHRV	240.8	1,200	20	Newport	WMBA	204	1,470	100
Wyoming: Laramie	KFBU	125.3	700	500	Providence	WCER	201.2	1,490	300
Portable									
California: Los Angeles	KGFO	204	1,470	100					

BROADCASTING STATIONS BY WAVE LENGTHS

(Effective June 15, 1927)

Wave length	Frequency (kilocycles)	Power (watts)	Call signal	Location	Wave length	Frequency (kilocycles)	Power (watts)	Call signal	Location
545.1	550	500	KFUO	St. Louis, Mo.	481.3	650	100	KICK	Anita, Iowa.
	500	KSD	Do.			500	KRLD	Dallas, Tex.	
	750	WMAK	Lockport, N. Y.			500	WBAS	Louisville, Ky.	
535.4	600	100	KFBK	Sacramento, Calif.	454.3	600	500	WTIC	Hartford, Conn.
	250	WCAH	Columbus, Ohio.			500	KFRC	San Francisco, Calif.	
	5,000	WIIO	Des Moines, Iowa.			30,000	WJZ	Brace Brook, N. J.	
	500	WNYC	New York, N. Y.			500	KFOA	Seattle, Wash.	
525	570	2,500	KFKX	Helena, Mont.	447.5	670	1,000	WEKI	Boston, Mass.
		500	KMTR	Los Angeles, Calif.			500	WFAD	Waco, Tex.
	2,500	KYW	Chicago, Ill.			1,000	WMAQ	Chicago, Ill.	
510.9	550	500	WCAE	Pittsburgh, Pa.			500	WQJ	"Do."
	500	WMC	Memphis, Tenn.			500	KFMF	Sioux City, Iowa.	
508.2	500	500	KLX	Oakland, Calif.	440.9	630	100	KFSD	San Diego, Calif.
		500	KIP	Philadelphia, Pa.			500	WFSD	Elkins Park, Pa.
	500	WOO	Do.			500	WIBG		
	1,000	WOW	Omaha, Nebr.			5,000	WCX	Pontiac, Mich.	
499.7	600	50	KFUT	Salt Lake City, Utah.	434.5	600	1,000	WJR	Arlington, Va.
	1,500	WBAP	Fort Worth, Tex.		423.3	700	100	NAA	Laramie, Wyo.
	75	WBZY	Charleston, S. C.			500	KPBU	Dartmouth, Mass.	
	500	WFAA	Dallas, Tex.			500	WMAP	(Cincin-	
491.6	610	1,000	KOW	Portland, Oreg.	422.3	710	1,000	WLW	nati), Ohio.
	1,000	WAPI	Auburn, Ala.			500	KPO	San Francisco, Calif.	
	6,000	WEAF	New York, N. Y.			500	WOR	Newark, N. J.	
	250	WSKC	Bay City, Mich.			500	KFLR	Albuquerque, N. Mex.	
481.6	620	250	KUSD	Vermillion, S. Dak.	415.4	720	100		
	1,500	WCFL	Chicago, Ill.			5,000	WHT	Deerfield, Ill. (Ohi-	
	250	WEAI	Ithaca, N. Y.			500	WIBO	ago).	
	500	WJAR	Providence, R. I.			500	KHJ	Chicago, Ill.	
	100	WLTS	Champaign, Ill.			500	KFI	Los Angeles, Calif.	
475.9	630	250	KFVR	Denver, Colo.	403.2	740	500	WUCO	Philadelphia, Pa.
	1,000	WIAS	Burlington, Iowa.			5,000		Anoka (St. Paul,	
	1,000	WSB	Atlanta, Ga.			500	WLIT	Minneapolis),	
465.5	640	5,000	KFI	Los Angeles, Calif.			500		Minneapolis, Minn.
	600	WRC	Washington, D. C.					Philadelphia, Pa.	

BROADCASTING STATIONS BY WAVE LENGTHS—continued.

Wave length	Frequency (kilocycles)	Power (watts)	Call signal	Location	Wave length	Frequency (kilocycles)	Power (watts)	Call signal	Location
299.8	730	200	KFKA	Greely, Colo.	333.1	900	100	KFJN	Grand Forks, N. Dak.
	500	1,000	KZRQ	Manila, P. I.		500	15,000	KBAC	Manhattan, Kans.
	3,000	WEAR	Cleveland, Ohio.			250	250	KSEI	Pocatello, Idaho.
	5,000	WTAM	Do.			500	WBZ	Springsfield, Mass.	
304.5	760	500	KFDY	Brookings, S. Dak.		500	WIBA	Boston, Mass.	
	5,000	KOB	State College, N. Mex.			500	WKRC	Cincinnati, Ohio.	
	1,000	KTW	Sentlo, Wash.		325.0	920	5,000	KOA	Denver, Colo.
	1,000	KWKH	Shreveport, La.			2,500	WABC	Richmond Hill (New York City), N. Y.	
	500	RWSC	Pullman, Wash.			500	WBOQ	Do.	
	500	WHN	New York, N. Y.			500	KFQA	St. Louis, Mo.	
	500	WOS	Jefferson City, Mo.		322.4	900	60	WJBA	Joliet, Ill.
	500	WPAP	Chicagoe, N. J.			50	WKBI	Chicago, Ill.	
	500	WQAO				50	WKDR	Kenosha, Wis.	
308.4	770	600	WAIF	Chicago, Ill.		50	WLBR	Belvidere, Ill.	
	100	WABI	Bangor, Me.			50	WLB	Crown Point, Ind.	
	1,000	WBBM	Chicago, Ill.			50	WRBS	Racine, Wis.	
	100	WJBT	Do.			50	WQAM	Miami, Fla.	
	100	WWVA	Wheeling, W. Va.			500	WEML	New Orleans, La.	
314.4	780	5,000	KGO	Oakland, Calif.		500	WTAX	Scranton, Ill.	
	250	KWCR	Cedar Rapids, Iowa.			500	KOIN	Sylvan (Portland), Oreg.	
	100	WJAM	Do.			500	WEAN	Providence, R. I.	
	100	WBSO	Wellesley Hills, Mass.			750	WHA	Madison, Wis.	
	250	WCAO	Baltimore, Md.			1,000	WLRI	Stevens Point, Wis.	
	100	WCBM	Do.			50	WREIF	Washington, D. C.	
	100	WDWF	Cranton, R. I.			2,000	WZM	Nashville, Tenn.	
	100	WLBI				500	KDKA	East Pittsburgh, Pa.	
	500	WMBF	Miami Beach, Fla.		315.6	950	30,000	KPEN	Pasadena, Calif.
	100	WSRO	Hamilton, Ohio.			1,000	KFAB	Lincoln, Nebr.	
	500	WGY	Schenectady, N. Y.			1,000	WVII	San Francisco, Calif.	
329.5	790	30,000	KFDM	Troy, N. Y.	309.1	970	2,000	WTAW	New York, N. Y.
	500	WHAZ	Beaumont, Tex.			5,000	WTAW	Cotyville, N. J.	
374.6	800	500	KFDM	Santa Monica, Calif.		500	KY	College Station, Tex.	
	500	ENRC	Minneapolis, Minn.			500	WPCH	Seattle, Wash.	
	500	KUOM	Omaha, Nebr.			500	WBNY	Elgin, Ill., near (Chicago).	
	500	WAAW	Detroit, Mich.			500	WGN	Do.	
	1,000	WWJ	Spokane, Wash.			500	WLJB	Salt Lake City, Utah.	
378.2	810	1,000	KHQ	Spokane, Wash.	305.9	960	1,000	KOMO	Boston, Mass.
	1,000	WDAP	Kansas City, Mo.			15,000	WASN	Buffalo, N. Y.	
	500	WEBH	New York, N. Y.			500	WGR	Yankton, S. Dak.	
	500	WMCA	Hoboken, N. J.			250	WNAX	San Antonio, Tex.	
381.6	820	50	KMJ	Fresno, Calif.	302.8	900	1,000	WOAI	Kirkwood (St. Louis), Mo.
	500	WCAD	Canton, N. Y.			2,000	KMOX	Walla Walla, Wash.	
	2,000	WERH	Chicago, Ill.			500	KOWW	Harrisburg, Pa.	
	500	WFHH	Clearwater, Fla.			500	WBAK	State College, Pa.	
	1,000	WJJD	Mooseheart, Ill.			500	WPSC	San Jose, Calif.	
361.2	830	500	KFWB	Hollywood, Calif.	299.8	1,000	5,000	KQCH	Fayetteville, Ark.
	500	WCSH	Portland, Me.			500	KUOA	Takoma Park, Md.	
	250	WDAY	Fargo, N. Dak.			500	WBES	Gouster, Mass.	
	5,000	WEAI	Mason (Cincinnati), Ohio.			100	WEPS	St. Petersburg, Fla.	
	500	WEW	St. Louis, Mo.		296.9	1,010	500	WIIBN	Dayton, Ohio.
	500	WNAC	Boston, Mass.			500	WQAM	Asheville, N. C.	
	5,000	WOC	Davenport, Iowa.			500	WWNC	Wayne, Nebr.	
	500	WRR	Dallas, Tex.			500	KPRC	Houston, Tex.	
348.6	840	2,500	KJR	Seattle, Wash.		500	WHAD	Milwaukee, Wis.	
	1,000	KYOO	Hastow, Okla.			500	WLBW	Oil City, Pa.	
	600	WAAM	Newark, N. J.			1,000	WLWL	New York, N. Y.	
	500	WCAJ	University Place (Lincoln), Nebr.		293.9	1,020	500	WODA	Petersen, N. J.
	100	WFDF	Flint, Mich.			500	WTMJ	Milwaukee, Wis.	
	200	WQBZ	Astoria, N. Y.			500	KTBG	St. Joseph, Mo.	
344.6	850	100	KFQD	Anchorage, Alaska.		1,000	500	WBCN	Los Angeles, Calif.
	50	KWQ	Stockton, Calif.			500	WENR	Chicago, Ill.	
	5,000	WCBD	Zion, Ill.			500	WRY	Oklahoma, Okla.	
	250	WJBD	St. Petersburg, Fla.		288.3	1,040	100	WNAT	Philadelphia, Pa.
	5,000	WLS	Crete (Chicago), Ill.			500	WRAX	Do.	
340.7	860	750	KTHS	Hot Springs, Ark.		500	500	WTAG	Worcester, Mass.
	50	KWTC	Santa Ana, Calif.			500	WFOY	Belo, Idaho.	
	50	WCAZ	Carthage, Ill.			500	500	KFAU	St. Paul, Minn.
	500	WKAQ	San Juan, P. R.			500	500		
	100	WRAV	Yellow Springs, Ohio.			500	500		
335.9	880	200	KNX	Los Angeles, Calif.		500	500		
	200	WJBB	Kansas City Mo.		285.5	1,030	2,000		
	1,000	WJAX	Jacksonville, Fla.			4,000			
	250	WQO	Kansas City, Mo.			250			

* Day.

* Night.

BROADCASTING STATIONS BY WAVE LENGTHS—continued

Wave length Frequency (kilocycles)	Power (watts)	Call signal	Location	Wave length Frequency (kilocycles)	Power (watts)	Call signal	Location
285.5	1,050	WBAL	Glen Morris (Baltimore), Md.	263	1,140	50	KPPW
	250	WOAN	Lawrenceburg, Tenn.		500	KGEY	Los Angeles, Calif.
282.8	1,000	KFJL	Portland, Ore.		250	WDAG	Amarillo, Tex.
	100	KFXF	Denver, Colo.		5,000	WJAZ	Mt. Prospect (Chicago), Ill.
	50	KTRR	Portland, Ore.		100	WJBO	New Orleans, La.
	50	WAIU	Columbus, Ohio.		500	WMBI	Chicago, Ill.
	750	WEAO	Do.	260.7	1,150	1,000	KFQB
	50	WRAK	Escanaba, Mich.		2,000	KGA	Fort Worth, Tex.
280.2	1,070	KTAR	Oakland, Calif.		500	WCAU	Spokane, Wash.
	50	WAAB	Toledo, Ohio.		500	WDGY	Philadelphia, Pa.
	100	WFDO	Altoona, Pa.		100	WHBA	Minneapolis, Minn.
	500	WQCP	Newark, N. J.		500	WNBH	Oil City, Pa.
	500	WNJ	Do.		500	WOOD	New Bedford, Mass.
	100	WTAL	Toledo, Ohio.		1,000	WRRM	Farmington, Mich.
	100	KOJL	Council Bluffs, Iowa.	258.5	1,160	100	KDYL
	500	KTCI	Seattle, Wash.		100	KFOX	Gilveston, Tex.
	500	KWWG	Brownsville, Tex.		500	KFUL	Omaha, Nebr.
	500	WARQ	Philadelphia, Pa.		200	KOCH	Philadelphia, Pa.
	100	WDZ	Tuscola, Ill.		400	WBT	Minneapolis, Minn.
	15	WQBC	Memphis, Tenn.		250	WCMA	Salt Lake City, Utah.
	500	WILAM	Rochester, N. Y.		500	WBKW	Omaha, Nebr.
	50	KFBH	Havre, Mont.		750	WFBL	Culver, Ind.
	15	KFPL	Dublin, Tex.		250	WIL	Bolton, Wis.
	500	KFSQ	Los Angeles, Calif.		250	WNAL	Syracuse, N. Y.
	500	WCAC	Mansfield, Conn.	250.3	1,170	500	KFUS
	250	WDHC	New Haven, Conn.		100	KRE	St. Louis, Mo.
	5,000	WORD	Batavia (Chicago), Ill.		5,000	KTNT	Omaha, Nebr.
	500	WTAR	Norfolk, Va.		250	WASH	Charleston, W. Va.
	3,500	WTAS	Batavia (Chicago), Ill.		1,000	WBDR	Springfield, Ohio.
	100	WWL	New Orleans, La.		600	WCBO	Secaucus, N. J.
272.6	1,100	KFAD	Phoenix, Ariz.		600	WVIL	Quincy, Colo.
	750	KFJP	Oklahoma City, Okla.		100	KFWH	Lawrence, Kans.
	100	KSMR	Santa Maria, Calif.		250	KMO	Bakersfield, Calif.
	200	WBAA	West Lafayette, Ind.		100	WCAX	Tacoma, Wash.
	100	WFHJ	Collegeville, Minn.		200	WDOD	Burlington, Vt.
	750	WILAR	Atlantic City, N. J.		60	WREC	Chattanooga, Tenn.
	2,500	WPG	Do.		750	WBEN	Whitehaven (Memphis), Tenn.
	200	WRM	Urbana, Ill.		1,000	WRVA	Lawrence, Kans.
	100	KFLX	Galveston, Tex.		500	WTAQ	Richmond, Va.
	1,000	KFNF	Shemeshodash, Iowa.	252	1,190	500	KFXB
	600	KGU	Honolulu, Hawaii.		250	KOCW	East Claire, Wis.
	600	KOAC	Corvallis, Ore.		100	WFAM	Los Angeles, Calif.
	500	KMA	Sioux City, Iowa.		15	WGAL	Cleekasha, Okla.
	500	KGV	Pittsburgh, Pa.		250	WKBF	St. Cloud, Minn.
	100	KZKZ	Minneapolis, Minn.		50	WKRT	Indianapolis, Ind.
	500	WOST	Atlanta, Ga.		50	WRCU	New Orleans, La.
	500	WJAS	Pittsburgh, Pa.		600	WMBB	Lancaster, Pa.
	500	WMAZ	Madison, Wis.		100	WMBR	Chicago, Ill.
	500	WROE	Milwaukee, Wis.		5,000	WOK	Tampa, Fla.
	100	KFIZ	Pond du Lac, Wis.				Hempstead (Chicago), Ill.
	100	KFLV	Rockford, Ill.				Fall River, Mass.
	500	KFWI	San Francisco, Calif.				Astoria, Ore.
	250	XLZ	Denver, Colo.				Port Worth, Tex.
	50	KMED	Medford, Ore.				Alma (Holy City), Calif.
	1,000	KBSA	Shreveport, La.				Columbia, Mo.
	25	WAAD	Cincinnati, Ohio				Manila, P. I.
	100	WBAA	Decatur, Ill.				Wilkes-Barre, Pa.
	100	WBKN	Brooklyn, N. Y.				Do.
	100	WJMS	Union City, N. J.				Pensacola, Fla.
	500	WDAE	Tampa, Fla.				West de Pere, Wis.
	100	WJBI	Flushing, N. Y.				Steubenville, Ohio.
	150	WJBL	Red Bank, N. J.				Springfield, Vt.
	30	WLAP	Louisville, Ky.				San Diego, Calif.
	100	WWRL	Woodsdale, N. Y.				Deer Park, Calif.
	15	KRP	Seattle, Wash.	247.8	1,210	100	KFBC
	2,000	KTSA	San Antonio, Tex.			250	KFRL
	100	WDEL	Wilmington, Del.			15	KFJB
	500	WHK	Cleveland, Ohio.			50	KWL
	500	WJAY	Do.			60	WABW
	1,000	WNOX	Knoxville, Tenn.			50	WABY
	2,500	WQI	Ames, Iowa.			50	WABZ
	5,000	WSUI	Iowa City, Iowa.			100	WBAW
						100	WBBL

* Day.

* Night.

BROADCASTING STATIONS BY WAVE LENGTHS—continued.

Wave length	Frequency (kilocycles)	Power (watts)	Call signal	Location	Wave length	Frequency (kilocycles)	Power (watts)	Call signal	Location
247.5	1,210	100	WCAT	Rapid City, S. Dak.	234.2	1,280	1,000	KFVE	St. Louis, Mo.
	10	WEBE	Cambridge, Ohio.			100	KGAR	Tucson, Ariz.	
	50	WFBB	Galesburg, Ill.			100	KODA	Dell Rapids, S. Dak.	
	1,000	WIOD	Miami Beach, Fla.			100	KVI	Tacoma, Wash.	
	10	WLCI	Ithaca, N. Y.			100	WDAH	El Paso, Tex.	
	100	WMAY	St. Louis, Mo.			100	WFBC	Knoxville, Tenn.	
	50	WRAM	Galesburg, Ill.			50	WJAK	Kokomo, Ind.	
	500	KPM	Wichita, Kans.			50	WJBY	Gadsden, Ala.	
	100	KFIO	Spokane, Wash.			50	WMAN	Columbus, Ohio.	
	250	KFPY	Do.			250	WMBS	Harrisburg, Pa.	
	250	KLS	Oakland, Calif.			50	WMPO	Lapeer, Mich.	
	100	KZM	Do.			50	KFEEY	Kalispell, Idaho.	
	350	WAAT	Jersey City, N. J.			250	KFFP	Los Angeles, Calif.	
	250	WFBE	Cincinnati, Ohio.			100	KFQZ	Hollywood, Calif.	
	300	WFIW	Hopkinsville, Ky.			250	KUT	Austin, Tex.	
	450	WGBB	Freeport, N. Y.			100	WABO	Rochester, N. Y.	
	500	WHDI	Minneapolis, Minn.			500	WRRL	Tilton, N. H.	
	500	WLB	Do.			100	WHBQ	Memphis, Tenn.	
	500	WGMS	Do.			100	WHEC	Rochester, N. Y.	
	500	WSOM	Woodhaven, N. Y.			50	WMBJ	Monessen, Pa.	
	125	KFCB	Phoenix, Ariz.			500	WBBC	Chicago, Ill.	
	10	KGCK	Virden, Mont.			50	WWAE	Devils Lake, N. Dak.	
	150	KGRS	Amarillo, Tex.			100	KDLR	St. Joseph, Mo.	
	50	KGY	Lacey, Wash.			1,000	KFEO	Greenville, Tex.	
	500	KSCJ	Sioux City, Iowa.			100	KFFM	Austin, Tex.	
	1,000	KWUC	Le Mars, Iowa.			50	KOCL	Seattle, Wash.	
	250	WBRO	Birmingham, Ala.			50	KPCB	Do.	
	1,000	WGHP	Mount Clemens, Mich.			100	WCOD	Columbus, Miss.	
	1,000	KPKB	Mifflin, Kans.			250	WDBJ	Roanoke, Va.	
	500	KFON	Long Beach, Calif.			100	WGDI	Syracuse, N.Y.	
	100	KPXH	El Paso, Tex.			100	WIBZ	Montgomery, Ala.	
	500	WBET	Boston, Mass.			1,000	WKAR	East Lansing, Mich.	
	100	WCBN	Oxford, Miss.			100	WQAN	Scranton, Pa.	
	250	WEBG	Superior, Wis.			500	WHEO	Lansing, Mich.	
	100	WEDO	Chicago, Ill.			100	WSSB	Boston, Mass.	
	200	WEHR	Buffalo, N. Y.			250	KELW	Bethank, Calif.	
	500	WGFS	Chicago, Ill.			50	KFWV	Portland, Ore.	
	100	WSAZ	Huntington, W. Va.			500	KORU	Ketchikan, Alaska.	
	100	KFYJ	Fort Dodge, Iowa.			500	KMMJ	Clay Center, Nebr.	
	250	KFYR	Bismarck, N. Dak.			50	KPPC	Pasadena, Calif.	
	2,500	KEX	Portland, Ore.			100	KTAP	San Antonio, Tex.	
	1,000	WADC	Akron, Ohio.			500	WCWK	Fort Wayne, Ind.	
	100	WBEP	Petoskey, Mich.			250	WFBP	Johnstown, Pa.	
	500	WDBO	Winter Park, Fla.			100	WKBE	Webster, Mass.	
	250	WEAM	North Plainfield, N.J.			100	WMAL	Washington, D. C.	
	100	WIBA	Madison, Wis.			50	WMBL	Lakefield, Fla.	
	500	WNAD	Norman, Okla.			250	WNBR	Memphis, Tenn.	
	500	WOAK	Trenton, N. J.			1,000	WOWO	Fort Wayne, Ind.	
	15	KFBB	Trinidad, Colo.			100	KFUP	Denver, Colo.	
	50	KFVI	Houston, Tex.			500	KOBU	Lower Lake, Calif.	
	25	KFYF	Oxnard, Calif.			500	KBO	Cisnada, Iowa.	
	1,500	KLDI	Independence, Mo.			500	WARS	Brooklyn, N. Y.	
	100	WCOM	Manchester, N. H.			500	WBIC	Do.	
	1,000	WEMC	Bartlett Springs, Mich.			500	WCBE	New Orleans, La.	
	100	WIBX	Utica, N. Y.			100	WCLO	Camp Lake, Wis.	
	50	WJBW	New Orleans, La.			100	WDBK	Cleveland, Ohio.	
	250	WLBI	East Wenatchee, Wash.			100	WJBC	La Salle, Ill.	
	50	WRAW	Reading, Pa.			100	WJDR	Omro, Wis.	
	250	WRBC	Valparaiso, Ind.			250	WSDA	New York, N. Y.	
	250	KFDX	Shreveport, La.			10	KFIU	Juneau, Alaska.	
	15	KFLU	San Benito, Tex.			10	KFKZ	Kirkville, Mo.	
	500	KFMX	Northfield, Minn.			50	KFUR	Ogden, Utah.	
	100	KFUM	Colorado Springs, Colo.			50	KFVG	Independence, Kansas.	
	500	KPWM	Oakland, Calif.			10	KGEN	El Centro, Calif.	
	1,000	WBBW	Noeck, Va.			10	WAGM	Royal Oak, Mich.	
	500	WCAL	Northfield, Minn.			500	WAMD	Minneapolis, Minn.	
	500	WDWM	Newark, N. J.			50	WCOT	Ocieville, R. I.	
	250	WGKF	Evanston, Ill.			500	WDAD	Nashville, Tenn.	
	1,000	WILP	New York, N. Y.			500	WLAC	Indianapolis, Ind.	
	10	WHBG	Canton, Ohio.			250	WFBB	Baltimore, Md.	
	500	WMBO	New York, N. Y.			100	WFBR	Pawtucket, R. I.	
	250	WTAD	Quincy, Ill.			50	WFCI	Catonsville, N. Y.	
						500	WMAC	Syracuse, N. Y.	
						500	WSYR	Everett, Wash.	
						50	KFBL	Cape Girardeau, Mo.	
						50	KPV		

Day.

Night.

BROADCASTING STATIONS BY WAVE LENGTHS—continued

Wavelength	Frequency (kilocycles)	Power (watts)	Call signal	Location	Wavelength	Frequency (kilocycles)	Power (watts)	Call signal	Location
230.7	1,340	100	KCGG	Newark, Ark.	214.2	1,400	50	KFEC	Portland, Oreg.
		10	KGDY	Pueblo, Colo.		50	KFIP	Do.	
		10	KGFB	Iowa City, Iowa.		50	KFWF	St. Louis, Mo.	
		100	KGPH	La Crescenta, Calif.		15	KPXR	Oklahoma, Okla.	
		50	KGFK	Hallock, Minn.		15	KPJM	Prescott, Ariz.	
		250	KMIC	Inglewood, Calif.		10	WAIT	Taunton, Mass.	
		600	WCAM	Camden, N. J.		250	WICC	Bridgewater, Conn.	
		500	WCRW	Chicago, Ill.		100	WJRU	Lewisburg, Pa.	
		15	WEBQ	Harrisburg, Ill.		50	WKBN	Youngstown, Ohio.	
		500	WFEB	Chicago, Ill.		100	WLBO	Petersburg, Va.	
		50	WKAU	Laconia, N. H.		50	WMBW	Youngstown, Ohio.	
		500	WNRO	Greensboro, N. C.	212.6	1,410	10	KFHL	Oskaloosa, Iowa.
		25	WOCL	Jamestown, N. Y.		100	KGBL	York, Neb.	
		500	WPCC	Chicago, Ill.		250	KGDX	Shreveport, La.	
		250	WRAJ	Grove City, Pa.		10	KGFP	Mitchell, S. Dak.	
222.1	1,350	100	KFWC	San Bernardino, Calif.			1,000	KTUE	Houston, Tex.
		50	KGFL	Trinidad, Colo.			50	WFLA	Boca Raton, Fla.
		100	KWKO	Kansas City, Mo.			250	WJRL	Decatur, Ill.
		100	WCBA	Altentown, Pa.			50	WBKP	Battle Creek, Mich.
		100	WRBD	Bellevfontaine, Ohio.			150	WSLX	Springfield, Tenn.
		100	WIBF	Rock Island, Ill.	211.1	1,420	50	KFCR	Santa Barbara, Calif.
		250	WJAG	Norfolk, Nebr.			15	KGFM	Yuba City, Calif.
		50	WOMT	Madiztowec, Wis.			100	KPNP	Muscatine, Iowa.
		100	WSAN	Allentown, Pa.			50	KROX	Seattle, Wash.
		250	WRBT	South Bend, Ind.			50	KRSO	Do.
220.4	1,360	15	KGFI	Fort Stockton, Tex.			100	WBMM	Detroit, Mich.
		50	KGRO	San Antonio, Tex.			100	WBRS	Brooklyn, N. Y.
		50	KJBS	San Francisco, Calif.			250	WCDA	Chesterfield, N. J.
		50	KRAC	Freeport, Ia.			500	WCGU	Coney Island, N. Y. (Brooklyn).
		50	KXL	Portland, Ore.			50	WLBM	Boston, Mass.
		15	WIRU	Anderson, Ind.			100	WMBC	Detroit, Mich.
		10	WHBW	Philadelphia, Pa.			15	WNBO	Washington, Pa.
		50	WIAD	Do.			250	WRST	Bay Shore, N. Y.
		15	WJBK	Ypsilanti, Mich.			10	KFGQ	Boone, Iowa.
		500	WKBH	La Crosse, Wis.	209.7	1,430	50	KSOO	Sioux Falls, S. Dak.
		100	WMBO	Auburn, N. Y.			100	KVOS	Seattle, Wash.
		15	WTAZ	Lambertville, N. J.			50	WLBC	Minneapolis, Ind.
		10	KGRW	Fort Morgan, Colo.			50	WLBY	Kansas City, Mo.
		250	KFWO	Avalon, Calif.			50	WLBY	Iron Mountain, Mich.
		250	WAFD	Detroit, Mich.			250	WCBS	Springfield, Ill.
		500	WBNY	New York, N. Y.			10	WMBM	Memphis, Tenn.
		250	WFRL	Brooklyn, N. Y.			50	WOKT	Rochester, N. Y.
		500	WGWB	Milwaukee, Wis.			100	WPAB	Norfolk, Va.
		10	WKBC	Birmingham, Ala.			100	WPRC	Harrisburg, Pa.
		500	WKBO	Jersey City, N. J.			100	KFJD	Yakima, Wash.
		100	WKBQ	New York, N. Y.			100	KGCN	Ventura, Calif.
		250	WBEA	Virginia Beach, Va.			15	KGCR	Concordia, Kas.
		250	WTHO	Detroit, Mich.	208.2	1,440	100	KGCC	Brookings, S. Dak.
		100	KFOR	Lincoln, Nebr.			100	KGJF	Mandan, N. Dak.
		100	KFQW	Seattle, Wash.			50	WGM	Los Angeles, Calif.
		10	KGDM	Stockton, Calif.			100	WJBZ	Chicago Heights, Ill.
		20	WIBU	Poynette, Wis.			100	JPW	Ashtabula, Ohio.
		100	WKBS	Galesburg, Ill.			100	WKBM	Newburgh, N. Y.
		100	WKBV	Brookville, Ind.			250	WLBZ	Dover-Foxcroft, Me.
		500	WKBW	Buffalo, N. Y.			10	WMBE	St. Paul, Minn.
		100	WLBO	Galesburg, Ill.			200	WNBA	Forest Park, Ill.
		50	WMBU	Pittsburgh, Pa.			100	WRAF	Port Huron, Mich.
		250	WRCO	Raleigh, N. C.			100	WRPI	Laporte, Ind.
		50	WRES	Quincy, Mass.			100	KGDW	Terre Haute, Ind.
215.7	1,370	10	KFDZ	Minneapolis, Minn.			15	KQDY	Humboldt, Nebr.
		15	KFXJ	Edgewater, Colo. (near).	200.8	1,450	50	KQTT	Oldham, S. Dak.
		50	KGCB	Oklahoma, Okla.			10	KLIT	San Francisco, Calif.
		100	KGER	Long Beach, Calif.			10	WHPP	Portland, Oreg.
		50	KGFO	Oklahoma, Okla.			10	WLBV	New York, N. Y.
		250	KRLO	Los Angeles, Calif.			10	WMBI	Mansfield, Ohio.
		5	WAGS	Somerville, Mass.			10	WMLJ	Jamestown, N. Y.
		150	WCLS	Joliet, Ill.			10	WNBF	Endicott, N. Y.
		50	WDBZ	Kingston, N. Y.			10	WNBJ	Knoxville, Tenn.
		100	WEHS	Evanston, Ill.			10	WMBG	Richmond, Va.
		200	WHFC	Chicago, Ill.			10	WTRL	Midland Park, N. J.
		100	WKBH	Joliet, Ill.			10	KFXY	Flagstaff, Ariz.
		250	WPEP	Waukegan, Ill.	205.4	1,460	25	KGDE	Barrett, Minn.
		250	WOKO	Poeksville, N. Y.			50	KOEO	Grand Island, Nebr.
		600	WQAA	Parkeburg, Pa.			100		

BROADCASTING STATIONS BY WAVE LENGTHS—continued

Wave length	Frequency (kilocycles)	Power (watts)	Call signal	Location	Wave length	Frequency (kilocycles)	Power (watts)	Call signal	Location
205.4	1,460	100	KGEZ	Kalispell, Mont.	232.6	1,490	25	WLRO	Atwood, Ill.
		25	KUFF	Alva, Okla.		15	WNBO	Rochester, N. Y.	
		250	WABF	Pringleboro (Kingston), Pa.		50	WPSW	Philadelphia, Pa.	
		10	WFBD	Philadelphia, Pa.	201.2	1,490	50	KOEH	Eugene, Oreg.
		15	WKBL	Monroe, Mich.		15	KOEY	Denver, Colo.	
		250	WMBD	Pearl Heights, Ill.		50	WALK	Bethayres, Pa. (portable).	
		50	WTDQ	Buffalo, N. Y.		100	WATT	Boston, Mass. (portable).	
		15	WRBC	Chester, Mass.		100	WCBR	Providence, R. I. (portable).	
		50	WBVS	Buffalo, N. Y.		100	WCWS	Danbury, Conn.	
204	1,470	100	KGFO	Los Angeles, Calif.		100	WGMI	Richmond Hill, N. Y. (portable).	
		10	KOEK	Yuma, Colo.		100	WHBM	Chicago, Ill. (portable).	
		10	KGES	Central City, Nebr.		100	WIBJ	Do.	
		100	WBZB	Chicago, Ill. Do.		100	WIBM	Do.	
		100	WHBL	Ellisboro, N. J.		100	WKRO	Deerfield Isle, N. Y. (portable).	
		100	WIBS	Chicago, Ill.		100	WLBU	New York, N. Y. (yacht MU-1, portable).	
		100	WIBW	New Castle, Pa.		100	WRMU	Anchorage, N. Dak.	
		50	WKRH	Chicago, Ill.		100	WIBA	Durango, Colo.	
		50	WLBN	Long Island City, N. Y.		100	KOLO	Seattle, Wash.	
		250	WLBX	Newport, R. I.		100	KUJ	Portland, Ore.	
		100	WMBA	Brooklyn, N. Y.		100	KWBS	Ludington, Mich.	
		100	WMBQ	Chicago, Ill. Do.		100	WKBZ	Bloomington, Ill.	
		100	WSAX	Brooklyn, N. Y.		100	WMBY	Do.	
		100	WMBH	Decorah, Iowa.		100	WNBL	Providence, R. I.	
		50	WTBC	Seattle, Wash.		250	WRAH		
202.6	1,450	100	KGBS	Shelby, Nebr.					
		50	KOBY	Decorah, Iowa.					
		10	KGCA	San Antonio, Tex.					
		15	KGCI	Cresco, Iowa.					
		10	KGDI	San Antonio, Tex.					
		15	KGDR	Minneapolis, Minn.					
		10	KOEQ	Ashland, Ohio.					

VESSELS EQUIPPED WITH A RADIOCOMPASS

The following-named vessels have been equipped with a radiocompass (direction finder): *Clarence A. Black, Eugene J. Buffington, Finland, Gen. Orlando M. Poe, Harvey D. Goulder, Henry Phipps, Howard L. Shaw, Joseph Wood, Norman B. Ream, Princeton, Richard V. Lindobury, Robert Fulton, Robert W. E. Bansen, Thomas Lynch, William A. Amberg, William Edenborn, William R. Linn.* They do not have radio transmitters for communication.

CHANGES IN LOCATION OF NAVAL RADIOCOMPASS STATION RECEIVERS

The list of Commercial and Government Radio Stations of the United States, page 114, should be changed as follows:

North Island, S. C.—Change position of receiver to latitude 33°13'18" N., longitude 79°11'10" W.

Folly Island, S. C.—Change position of receiver to latitude 32°41'00" N., longitude 79°53'22" W.

CHANGES IN RADIOBEACONS

Fire Pathon Bank Lightship, N. J.—Operating period changed to sound every 180 seconds, 60 seconds on, silent 120 seconds.

Cape Charles Lightship, Va.—Beacon established to operate only on request. Vessels desiring to obtain bearings on this station should call WWAY on 600 meters. The beacon will transmit on 1,000 meters every 180 seconds, groups of 1 dot, 2 dashes, 1 dot, repeated for 60 seconds, silent 120 seconds, thus:

— — . — + etc.
60 seconds. 120 seconds.

Location, 37° 05' N., 75° 41' W

Cape Lookout Shoals Lightship, N. C.—Beacon established to operate only on request. Vessels desiring to obtain bearings on this station should call WWBA on 600 meters. The beacon will transmit on 1,000 meters, groups of 1 dot, 1 dash, 1 dot, 1 dash, repeated for 60 seconds, silent 120 seconds, thus:

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

Location, $34^{\circ} 18' 30''$ N., $76^{\circ} 24' 30''$ W.

BAHAMA ISLANDS STATION REOPENED

The station at Bimini has been reopened and messages for this station will be accepted without restriction.

RADIOBEACON ESTABLISHED AT SCILLY ISLES

A radiobeacon, call signal GGG, will be established in the near future at Round Island Light Station, Scilly Isles, southwest coast of England, in $49^{\circ} 59'$ N., $6^{\circ} 19'$ W. The station will emit one transmission of 60 seconds' duration every 4 minutes during thick weather, as follows: The call signal emitted continuously at the rate of 15 words per minute for 48 seconds, followed by a continuous dash of 10 seconds' duration, followed by the call signal made once in 2 seconds, total 60 seconds, followed by a silent interval of 180 seconds. During clear weather three emissions of the complete signal as described above will be made every half hour, approximately. The wave length is 1,000 meters. Although this signal is to be permanent, it may be found necessary to make some adjustment after establishment, and the station should be considered as under test for a period of three months, during which time the signals may be subject to temporary interruptions.—*Notice to Mariners No. 24, Admiralty, London, 1927*

TIME SIGNALS TRANSMITTED BY CAPE D'AGUILAR, CHINA SEA, STATION

Radio time signals transmitted by Stonecutters Island station are also transmitted by Cape d'Aguilar station at the same times and on the same wave length, 2,000 meters, i. e. w. Particulars are as follows: Call signal, VPS; location, latitude $22^{\circ} 12' 39''$ N., longitude $114^{\circ} 15' 11''$ E.; time signal:

H. M. (G. M. T.)	H. M. (S. T.)
1 56—2 00	0 56—10 00
12 55—13 00	20 55—21 00

Time signals from the Royal Observatory, Hong Kong, are relayed from Cape d'Aguilar station at the times mentioned above. The time signals consist of dots (..... etc.) each of about 0.2 second's duration, sent every second, the 28th, 29th, 54th, 55th, 56th, 57th, 58th, and 59th seconds being omitted for the purpose of identifying the signals. Preliminary warning signals are transmitted between $1^{\text{h}} 54^{\text{m}} 00^{\text{s}}$ and $1^{\text{h}} 55^{\text{m}} 00^{\text{s}}$, and between $12^{\text{h}} 53^{\text{m}} 00^{\text{s}}$ and $12^{\text{h}} 54^{\text{m}} 00^{\text{s}}$, G. M. T., as follows: CQ. De VPS. TIME. WAIT.

LOST COMMERCIAL RADIO OPERATORS' LICENSES

Hereunder is a list of radio operators' licenses which have been reported as having been lost. Should any of them be found, they should be returned to the Department of Commerce, Radio Division, Washington, D. C., for cancellation. Supervisors and others concerned should see that lost licenses are not being used by unauthorized persons.

Name	Class	Number	Date issued	Port issued
Delgian, E. L.	First	6294	Oct. 10, 1925	Detroit.
Dennett, John A.	do	6252	Oct. 8, 1925	Do.
Egerton, Willie G.	Second	6210	Feb. 20, 1926	New Orleans.
Fowler, Roger N.	First	16227	Apr. 30, 1926	New York.
Greig, Leslie D.	Second	4467	Sept. 17, 1926	Chicago.
Halloran, Raymond	First	12221	Oct. 10, 1926	New York.
Hannah, Edward L.	do	11856	Mar. 12, 1925	San Francisco.
Hilcher, John F.	do	8261	Dec. 24, 1926	Chicago.
Herzschl, Townsend	do	16207	Aug. 7, 1926	New York.
Jacobson, Jesse J.	Second	2294	Feb. 7, 1927	Do.
Kleist, Alfred H.	First	6271	Apr. 10, 1925	Chicago.
Lehmann, Herman	do	16203	Sept. 25, 1925	New York.
Lyon, Michael D.	do	8214	Jan. 5, 1927	St. Louis.
Martin, William G., Jr.	do	16439	Nov. 17, 1926	New York.
Montaño, Alcio	do	8208	May 1, 1925	Detroit.
Montauz, Edwin O.	do	8123	Apr. 27, 1926	Chicago.
Moreson, Henry	do	11788	May 12, 1925	San Francisco.
Papper, T. B.	do	8255	Nov. 1, 1926	Chicago.
Phan, John A.	Second	4243	May 18, 1926	Do.
Power, Harland W.	First	16118	June 7, 1926	New York.
Rehlin, Carl	do	17602	Feb. 9, 1927	Do.
Sweeney, Ed C.	Second	4392	Apr. 9, 1925	Chicago.
Swart, H. L.	First	1246	Nov. 7, 1925	Washington.
Thompson, Kenneth	do	16214	July 16, 1926	New York.
Tomatis, Louis	do	16228	July 21, 1926	Do.
Variola, William J.	do	12285	Dec. 24, 1926	Do.
Wagner, Fred	do	14606	Feb. 2, 1927	Do.
Wall, George A.	do	12355	May 25, 1925	Do.

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

Announcing call letters frequently—General Order No. 8, May 5, 1927.—For the purpose of facilitating a more accurate check on station frequencies both by the Federal radio supervisors of the Department of Commerce and by the public, each radio broadcasting station licensed under the radio act of 1927 is hereby directed to announce its call letters and location as frequently as may be practicable while it is broadcasting, and in any event not less than once during each 15 minutes of transmission.

It is understood, however, that this requirement is waived when such announcement would interrupt a single consecutive speech or musical number, and in such cases, the announcement of the call letters and location shall be made at the beginning and end of such number. This order becomes effective at 12:01 a. m., Wednesday, May 11, 1927, and will remain in force until further notice.

Stations not to be sold or purchased without consent of the commission—General Order No. 9, May 13, 1927.—Section 12 of the Federal radio act provides that no station license shall be transferred or assigned either voluntarily or involuntarily without the consent in writing of the licensing authorities.

It is hereby ordered that any person desiring to purchase a broadcasting station shall make application for a new license to the commission on the application blank forms. In addition thereto the proposed seller or assignor of the station must also write a letter to the commission to the effect that he desires to sell or transfer this station to the applicant for the above-named license and wishes a license issued to this applicant in place and instead of himself. The commission may either grant or refuse the license or grant with modification as to frequency and power.

Applications for increase of power between 6 a. m. and 6 p. m. will be given consideration—General Order No. 10, May 15, 1927.—For the purpose of facilitating wider and better reception of daytime service programs, such as those of educational and religious institutions, civic organizations, and distributors of market and other news, the Federal Radio Commission will consider applications from holders of broadcasting station licenses, for the use, between the hours of 6 a. m. and 6 p. m., local time, only of a larger power output than is authorized by such licensee. Applications for this daytime privilege must be made to the commission in writing and shall specify the maximum daytime power to be used, the approximate daytime broadcasting schedule, and the reasons why, in the applicant's estimation, the granting of such privilege would be in the interest, convenience, or necessity of the public. In each case where such privilege is granted the Federal Radio Commission will notify the radio division of the Department of Commerce, requesting this division, through the Federal radio supervisors, to

check carefully the use of power by such station, both day and night. Any failure to revert to the power specified in the license between 6 p. m. and 6 a. m. will be held cause not only for immediate withdrawal of the daytime power privilege but for reduction of the maximum power authorized for use at night.

Temporary permits terminated June 1, 1927—New licenses issued as of June 1, 1927, for sixty days—General Order No. 11, May 21, 1927.—The Federal Radio Commission hereby orders that all temporary permits to operate radio broadcasting stations under the terms of the radio act of 1927 shall terminate at 3 o'clock, local standard time, on the morning of Wednesday, June 1, 1927, and that thereafter all radio broadcasting stations subject to the provisions of the radio act of 1927 shall be operated solely in accordance with the provisions of the licenses issued as of June 1, 1927, by the Federal Radio Commission.

The new licenses are all for 60 days, during which period the new allocations can be tested by actual practice. The law provides that any broadcaster who is dissatisfied with his allocation may have a public hearing before the commission, and at such a hearing his claim for a specific frequency or power will be considered in all its relations.

The commission recognizes that no scheme of reallocation which does not at the very outset eliminate at least 400 broadcasting stations can possibly put an end to interference. Accordingly, it regards the new allocations, not as creating in any sense an ideal broadcasting situation, but as providing for the first time a sound basis for radio service to the listener. With the cooperation of the public and the broadcasters, the commission believes that it will be possible to improve conditions progressively by an orderly process of actual experience.

Until such experience has been gained both the listeners and the broadcasters are urged to exercise patience. The listener will, of necessity, have to "relog" his receiving set and may find considerable difficulty in locating all the stations he desires to hear. The broadcasters will doubtless find that many of their listeners are at first somewhat bewildered by the changes in frequencies. It is the belief of the commission, however, that within a very few weeks the material reduction of local or regional interference, the redistribution of frequencies so as to clear most of the broadcasting channels, and the decrease of power for stations in residential districts will combine to render radio reception in general very much better than it has been in a long time.

Special attention is called to the fact that the commission has no unused frequencies to allocate. Every broadcasting channel is filled to its apparent capacity, and in some cases possibly overcrowded. Accordingly, any listener who wants a different allocation of frequency or power for his favorite station, or any broadcaster who seeks increased facilities for service, must be prepared to show specifically what other station should be required to give up its frequency, or have its power reduced, in order to make possible the desired reallocation.

Rules for hearings before Federal Radio Commission—General Order No. 12, May 27, 1927.—In all cases in which the 60-day license, effective June 1, offered the licensee is not in accord with the application, the applicant is hereby notified that the commission has not determined that public interest, convenience, or necessity would be served by the granting of such application.

Any applicant for license who is dissatisfied with the allocation as to frequency, power, or time division granted him in the 60-day license issued by the commission, which is effective June 1, and who desires a hearing upon his application, may notify the commission in writing of such desire by June 15, 1927.

The commission will thereupon fix a time and place for such hearing. Pending the hearing and the decision thereon by the commission, the applicant will be permitted to broadcast only under the terms and conditions and in accordance with his 60-day license issued by the commission.

The applicant for license may introduce, at the hearing before the Federal Radio Commission, any witnesses he may desire. In addition thereto, he may introduce any affidavits relating to relevant facts.

The fact in issue is whether or not public interest, convenience, or necessity will be served by granting to the applicant a license upon the wave length or frequency requested in the application, or in the application as amended in the request for hearing, and with the power therein requested and the place for said station therein designated.

All persons interested in the granting or refusal of the application and the frequency therein applied for, including other licensees authorized to use the frequency requested, licensees upon frequencies where interference is claimed, other applicants for the same frequency, and representatives of the public in general, may appear and will be heard upon any relevant matters.

The commission may likewise introduce witnesses or affidavits.

All applications for licenses or copies thereof on file with the commission may be introduced in evidence at the hearing. All temporary permits, temporary licenses or copies thereof, and other records on file with either the Federal Radio Commission or the Department of Commerce, may be introduced in evidence at the hearing without any further verification.

The witnesses introduced at the hearing before testifying will be sworn by a member of the commission. The commission will pass upon the relevancy and competency of the testimony offered to be introduced before it. After the conclusion of the hearing and within a reasonable time the commission will render its decision in writing.

The testimony and proceedings at these hearings will be taken down by short-hand reporters designated by the commission, so that the entire record of the proceedings and hearings may be preserved in case of appeal as provided by section 16 of the radio act of 1927. All hearings provided for by this order will be public and will be held at the offices of the Federal Radio Commission in Washington, D. C.

Provisions of General Order No. 11 amended to take effect June 15, 1927, in lieu of June 1, 1927.—General Order No. 13, May 28, 1927.—In consideration of the fact that a certain amount of time is required in many cases for making the changes of equipment required by changes of station frequency and for securing suitable control equipment to maintain frequency without serious variation, the Federal Radio Commission hereby amends General Order No. 11, dated May 21, 1927, to read as follows: "The Federal Radio Commission hereby orders that all temporary permits to operate radio broadcasting stations under the terms of the radio act of 1927 shall terminate at 3 o'clock, local standard time, on the morning of Wednesday, June 15, 1927, and that thereafter all radio broadcasting stations subject to the provisions of the radio act of 1927 shall be operated solely in accordance with the provisions of the licenses issued as of June 1, 1927, by the Federal Radio Commission."

The Federal Radio Commission hereby orders that all licenses for the period of 60 days, issued as of June 1, 1927, shall not become effective until 3 o'clock, local standard time, on the morning of Wednesday, June 15, 1927, and shall continue in effect, unless previously revoked or modified by order of the commission, for a period of 60 days after June 15, 1927.

RADIO ACT OF 1927 APPLICABLE TO THE VIRGIN ISLANDS

Jurisdiction over this territory in the same manner and to the same extent as Porto Rico is governed is provided in section 2 of the radio act of 1927.

CALIBRATION OF FREQUENCY STANDARDS FOR BROADCASTING STATIONS

The Bureau of Standards will calibrate a piezo oscillator, frequency indicator, or frequency meter for use in maintaining a radio broadcasting station on its assigned frequency, upon request of the owner of the station. A nominal fee is charged. Instruments should not be sent to the bureau for calibration without first writing and giving the call letters of the station and its assigned frequency and the type, make, and description of the device to be calibrated. Information as to the type and make of the device will assist in deciding whether the instrument can be accepted for test and may save returning the device to the maker for changes in construction. The bureau can accept for calibration only instruments which are properly constructed and likely to maintain their calibration.

Specifications for a piezo oscillator and for a frequency indicator can be obtained by addressing the Bureau of Standards. A more sensitive resonance indicator has recently been devised for the Bureau of Standards type B frequency indicator. The radio-frequency thermogalvanometer has been replaced by a crystal detector and direct-current milliammeter. The latter combination shows smaller changes in frequency than the thermogalvanometer.

NOTE ON THE STANDARD FREQUENCY TRANSMISSIONS

On the evening of May 20 the usual standard frequency signals were transmitted from station WWV of the Bureau of Standards. Through a mistake the fourth frequency sent out was 2,016 kilocycles instead of 2,025 kilocycles, as previously announced in the Radio Service Bulletin for March 31, 1927, and elsewhere, and as announced at the time of transmission.

STANDARD FREQUENCY STATIONS

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

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

Station	Owner	Location	Assigned frequency	Period covered by measurements	Number of times measured	Deviations from assigned frequencies noted in measurements	
						Average	Greatest since Apr. 25, 1927
NSS	United States Navy	Annapolis, Md.	Kilocycles	Months	60	Percent	Per cent
WC1	Radio Corporation of America	Tuckerton, N. J.	17.60	12	.0.2	0.1	.4
WSS	Do.	Rocky Point, N. Y.	18.60	8	.32	.1	.2
WGG ¹	Do.	Tuckerton (No. 1), N. J.	18.56	44	.233	.2	.....
WII	Do.	New Brunswick, N. J.	21.80	25	.140	.1	.2
WVA	United States Army	Annapolis, Md.	150	26	.197	.2	.3
NAA	United States Navy	Arlington, Va.	112	19	.99	.1	.2
WEAF	National Broadcasting Co.	New York, N. Y.	610	29	.164	0	0
WRC	Radio Corporation of America	Washington, D. C.	640	41	.205	.1	0
WJZ	Do.	Bound Brook, N. J.	800	12	.48	.2	.3
NAA	United States Navy	Washington, D. C.	900	3	.12	.1	.3
WGY	General Electric Co.	Schenectady, N. Y.	700	47	.209	.1	.3
WBZ	Westinghouse Electric & Manufacturing Co.	Springfield, Mass.	900	35	.98	.1	.1
KDKA	Do.	East Pittsburgh, Pa.	970	12	.52	.1	.1
WBAL	Consolidated Gas, Electric Light & Power Co.	Glen Morris, Md.	1,220	3	.11	0	.1

¹ Not measured since Mar. 25.

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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. 188, 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.

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