

RADIO

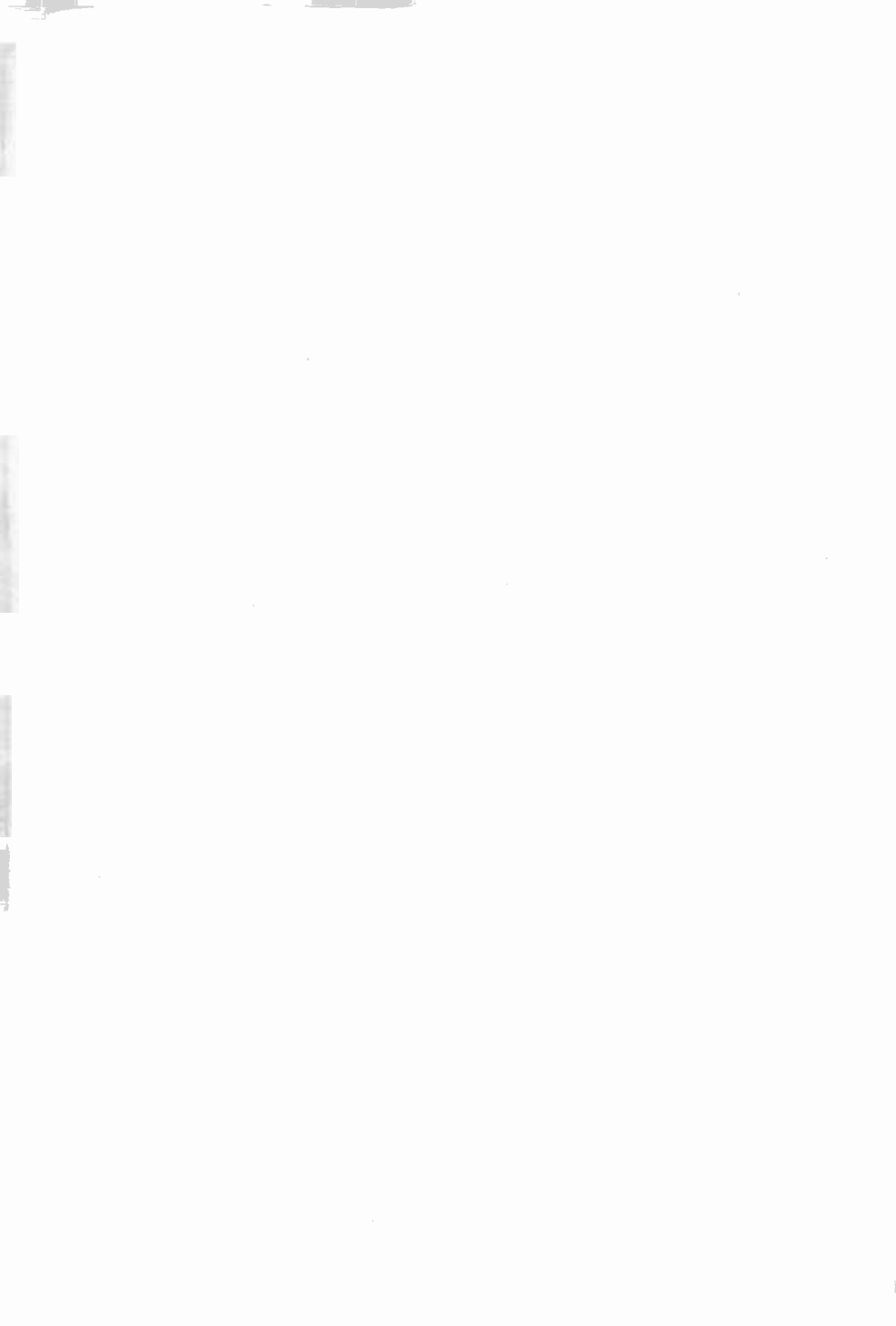
DUSTON'S

LOG and CALL Book

With PROGRAMME DIRECTORY



*With Helpful Suggestions on Construction
... and Operation of Radio Receivers ...*



DUSTON'S
**RADIO LOG AND
CALL BOOK**
with PROGRAM DIRECTORY

by **MERLE DUSTON**

TABLE OF CONTENTS

- Pages 1 to 22 —Broadcasting Stations by Call Letters.
Pages 22 to 26—Stations by Cities.
Pages 26, 27 —Stations by Wave Length (500 watts or over).
Pages 24, 25 —Broadcast Map.
Pages 28 to 34—Foreign Stations.
Pages 35 to 38—Programme Directory.
Pages 39 to 46—Care and Operation of Receiver and Accessories.
Pages 47, 48 —Log.



FOREWORD

IT HAS been the intention to make this "Radio Log and Call" book as easy to use, and as comprehensive as possible. For that reason, all stations having a power of under 50 watts, have been omitted. It is rare indeed when a broadcast listener, tunes in one of these smaller stations.

In giving the program of the various stations, most of the Class "B" stations, have been included. These programs have been fairly well standardized, but of course, some of them may change their hours of broadcasting from time to time, so that one hundred per cent accuracy cannot be had.

If any errors are noted, the author would be pleased to receive corrections, and same will be included in future editions.

BROADCASTING STATIONS

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
AT9	U. S. Government	Fort Bragg, N. C.	750	435	690				
KDKA X	Westinghouse Electric & Manufacturing Co.	E. Pittsburg, Pa.	50000	309.1	970	6	1520	30	
KDYL	Intermountain Broad- casting Corp.	Salt Lake City, Utah	100	246	1220				
KFAB	Nebraska Buick Auto Co.	Lincoln, Nebr.	5000	340.7	880				
KFAD	McArthur Bros. Merc. Co.	Phoenix, Ariz.	100	273	1100				
KFAF	A. E. Fowler	San Jose, Calif.	50	217.3	1380				
KFAU	Boise High School	Boise, Idaho	1000	280	1070				
KFBB	F. A. Buttrey & Co.	Havre, Mont.	50	375	1090				
KFBC	W. K. Azbilt	San Diego, Calif.	100	380	789				
KFBK	Sacramento Bee	Sacramento, Calif.	100	535	560				
KFBL	Leese Bros.	Everett, Wash.	100	224	1340				
KFBU	N. S. Bishop	Laramie, Wyo.	1500	374.8	800				
KFCB	Nielson Radio Supply Co.	Phoenix, Ariz.	125	238	1260				
KFDD	St. Michael's Cathedral	Boise, Idaho	50	275	1090				
KFDM	Magnolia Petrolia Co.	Beaumont, Texas	500	315.6	950				
KFDX	First Baptist Church	Shreveport, La.	1000	236	1270				
KFDY	South Dakota College of Agriculture	Brookings, S. Dak.	500	299.8	1000				
KFEC	Meyer & Frank Co.	Portland, Ore.	150	252	1190				
KFEL	E. P. O'Fallon (Inc.) Argonaut Hotel	Denver, Colo.	250	254	1180				
KFEQ	J. L. Scroggin	Oak, Nebr.	2500	268	1120				
KFFP	First Baptist Church	Moberley, Mont.	50	242	1240				
KFH	Hotel Lassen	Wichita, Kans.	500	268	1120				
KFHA	Western State Col. of Colo.	Gunnison, Colo.	50	252	1190				
KFI	Earl C. Anthony, Inc.	Los Angeles, Calif.	5000	467	642				
KFIF	Benson Polytechnic Inst.	Portland, Oregon	150	248	1210				
KFIO	N. Central High School	Spokane, Wash.	100	272.6	1100				
KFIQ	First Methodist Church	Yakima, Wash.	100	256.3	1170				
KFIZ	Daily Commonwealth Reporter	Fond du Lac, Wis.	100	273	1100				

BROADCASTING STATIONS

3

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'nghth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
KFJF	National Radio Mfg. Co.	Oklahoma, Okla.	1000	261	1150				
KFJM	University of N. Dak.	Grand Forks, N. D.	100	278	1080				
KFJR	A. C. Dixon & Son	Portland, Oregon	100	263	1140				
KFJY	Tunwall Radio Co.	Fort Dodge, Iowa	100	246	1220				
KFJZ	W. E. Branch	Fort Worth, Texas	100	254	1180				
KFKA	Colo. State Teachers Col.	Greeley, Colo.	100	273	1100				
KFKB	J. R. Brinkley	Milford, Kans.	1000	431.4	695				
KFKU	University of Kansas	Lawrence, Kans.	500	275	1090				
KFKX	Westinghouse Electric & Manufacturing Co.	Hastings, Nebr.	5000	288.3	1040				
KFKZ	State Teachers College	Kirksville, Mo.	75	226	1330				
KFLR	University of New Mexico	Albuquerque, N. M.	100	254	1180				
KFLV	Swedish Eva. Mission Ch.	Rockford, Ill.	100	229	1310				
KFLX	Geo. K. Clough	Galveston, Texas	250	239.9	1250				
KFLZ	Atlantic Automobile Co.	Anira, Iowa	100	273	1250				
KFMR	Morningside College	Sioux City, Iowa	100	261	1150				
KFMX	Carlton College	Northfield, Minn.	500	336.9	890				
KFNF	Henry Field Seed Co.	Shenandoah, Iowa	1000	461.3	650				
KFOA	Rhoades Department Store	Seattle, Wash.	1000	454.3	660				
KFOB	Burlingame KFOB Corp.	Burlingame, Calif.	50	226	1330				
KFON	Nichols & Warriner, Inc.	Long Beach, Calif.	500	223	1290				
KFOO	Latter Day Saints Univ.	Salt Lake City, Utah	250	236	1270				
KFOR	David City Tire & Elec. Co.	David City, Nebr.	100	226	1330				
KFOT	College Hill Radio Club	Wichita, Kans.	50	231	1300				
KFOX	Technical High School	Omaha, Nebr.	100	248	1210				
KFOY	Beacon Radio Service	St. Paul, Minn.	250	252	1190				
KFPR	Los Angeles Co. Forest Dpt.	Los Angeles, Calif.	500	231	1300				
KFPW	St. John M. E. Church	Cartersville, Mo.	100	258	1160				
KFPY	Symons Investment Co.	Spokane, Wash.	250	272.6	1100				
KFQA	The Principia	St. Louis, Mo.	5000	280	1070				
KFQB	Lonestar Broadcast Co.	Fort Worth, Texas	3000	508.2	590				

BROADCASTING STATIONS

CALL	STATION OWNER	LOCATION	P'wrt W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
KFQD	Anchorage Radio Club	Anchorage, Alaska	100	300	1000				
KFQU	W. Riker	Alma, Calif.	250	230.	61300				
KFQW	Photo & Radio Electric	Seattle, Wash.	100	215.	71390				
KFQZ	Taft Radio Co.	Hollywood, Calif.	500	226	1330				
KFRB	Hall Bros.	Beeville, Texas	250	248	1210				
KFRC	Don Lee, Inc.	San Francisco, Calif.	250	268	1120				
KFRU	Stephens College	Columbia, Mo.	500	499.7	600				
KFRW	Western B'dcast'g. Corp.	Olympia, Wash.	50	218.	81370				
KFSD	Air Fan Radio Corp.	San Diego, Calif.	1000	246	1220				
KFSG	Angeles Temple	Los Angeles, Calif.	500	275	1090				
KFUL	Thos. Goggan & Bros.	Galveston, Texas	50	258	1160				
KFUM	Corley Mountain Highway	Colo. Springs, Colo.	100	240	1250				
KFUO	Concordia Seminary	St. Louis, Mo.	500	545.1	550				
KFUP	Fitzsimmons Gen'l. Hosp.	Denver, Colo.	50	234	1280				
KFUR	Perry Bldg. Co.	Ogden, Utah	100	224	1340				
KFUS	The Gopple Radio	Oakland, Calif.	50	256	1170				
KFUT	University of Utah	Salt Lake City, Utah	100	263	1140				
KFVD	McWhinnie Electric Co.	Venice, Calif.	250	208	1441				
KFVE	Benson Broadcasting Co.	University City, Mo.	5000	240	1250				
KFVI	KFVI Broadcasting Corp.	Houston, Texas	250	240	1250				
KFVN	Carl E. Bagley	Fairmont, Minn.	50	227	1320				
KFVR	Olinger Broadcasting Corp.	Denver, Colo.	50	244	1230				
KFVS	Hirsch Battery Station	Cape Girardeau, Mo.	50	224	1340				
KFVY	Radio Supply Co.	Albuquerque, N. M.	100	250	1200				
KFWB	Warner Bros. Pictures, Inc.	Hollywood, Calif.	500	252	1190				
KFWC	L. E. Wall	San Bernardino, Cal	200	291.	11030				
KFWF	St. Louis Truth Center	St. Louis, Mo.	500	214.	21400				
KFWH	F. Wellington Morse, Jr.	Eureka, Calif.	100	254	1180				
KFWI	Radio Entertainments, Inc.	S.SanFrancisco,Cal.	500	250	1200				
KFWM	Oakland Educ. Society	Oakland, Calif.	1000	325.9	920				
KFWO	Lawrence Mott	Avalon, Calif.	500	211.	11420				

BROADCASTING STATIONS

5

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
KFWU	Louisiana College	Pineville, La.	100	238	1260				
KFWV	KFWV B'dcasting Studio	Portland, Oregon	100	212.6	1410				
KFXB	B. O. Heller	Big Bear Lake, Calif.	500	202.6	1480				
KFXF	Pike's Peak Broadcast Co.	Denver, Colo.	1000	431.1	697				
KFXH	Bledsoe Radio Co.	El Paso, Texas	50	242	1240				
KFXY	Mary Costigan	Flagstaff, Ariz.	50	214.2	1400				
KGAR	Tucson Citizen	Tucson, Ariz.	100	243.8	1230				
KGBO	Alaska Radio & Service Co.	Ketchikan, Alaska	500	228.9	1310				
KGBS	Cutler Radio & Broadcast- ing Service, Inc.	Seattle, Wash.	100	227	1320				
KGBY	A. C. Dunning	Shelby, Nebr.	50	202.6	1480				
KGBZ	Dr. G. R. Miller	York, Nebr.	100	333	900				
KGCB	Wallace Radio Inst.	Oklahoma City, Ok.	50	331	905				
KGCG	Moore Motor Co.	Newark, Ark.	100	240	1250				
KGCI	S. M. Rhodes	San Antonio, Texas	100	240	1250				
KGCH	Wayne Hospital	Wayne, Nebr.	500	434.5	690				
KGCN	A. E. Smith	Concordia, Kans.	50	210	1428				
KGCU	Mandan Radio Association	Mandan, N. Dak.	100	285	1052				
KGDI	N'western Radio Service Co	Seattle, Wash.	50	416.4	720				
KGDE	Jaren Drug Co.	Barret, Minn.	50	232.4	1290				
KGDO	C. H. & Henry Garret	Dallas, Texas	100	285	1050				
KGDW	F. J. Rest	Humboldt, Nebr.	100	241.8	1240				
KGDX	W. E. Antony	Shreveport, La.	500	291.1	1030				
KGDZ	Luthern College	Decorah, Iowa	50	441	695.6				
KGEA	Puget Sound Radio Co.	Seattle, Wash.		345	869				
KGO	General Electric Co.	Oakland, Calif.	5000	361.2	830				
KGRS	Gish Radio Service	Amarillo, Texas	100	234	1280				
KGTT	Glad Tidings Tabernacle	San Francisco, Calif.	50	206.8	1450				
KGU	Marion A. Mulrony	Honolulu, Hawaii	500	270	1110				
KGW	Oregonian Publishing Co.	Portland, Oregon	1000	491.5	610				
KGY	St. Martin's College	Lacey, Wash.	50	277.6	1080				

BROADCASTING STATIONS

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
KHJ	Times Mirror Co.	Los Angeles, Calif.	500	405.2	740				
KHQ	Louis Wasmer	Spokane, Wash.	1000	394.5	760				
KIAF	Steel Co.	Sihtipoc, Minn.	500	421	709				
KICK	Atlantic Automobile Co.	Anita, Iowa	100	273	1100				
KJR	Northwest Radio Serv. Co.	Seattle, Wash.	1000	384.4	780				
KLBC		Muncie, Ind.		223.7	1340				
KLBE		Brooklyn, N. Y.		230.6	1300				
KLBF		Kansas City, Mo.		211.1	1420				
KLBZ		Manitowoc, Wis.		254.1	1180				
KLDS	Re-organized Church of Jesus Christ of Latter Day Saints	Independence, Mo.	1000	440.9	680				
KLS	Warner Bros. Radio Sup. Co.	Oakland, Calif.	250	249.9	1200				
KLX	Tribune Publishing Co.	Oakland, Calif.	500	508.2	590				
KLZ	Reynolds Radio Co.	Denver, Colo.	500	384.4	780				
KMA	May Seed & Nursery Co.	Shenandoah, Iowa	500	461.3	650				
KMED	W. J. Virgin	Medford, Ore.	50	250	1199				
KMJ	Fresno Bee	Fresno, Calif.	50	234	1280				
KMJP	Kansas City Journal-Post	Kansas City, Mo.	1000	440.9	680				
KMMJ	M. M. Johnson	Clay Center, Nebr.	1000	229	1310				
KMO	Love Electric Co.	Tacoma, Wash.	100	250	1200				
KMOX	Voice of St. Louis	St. Louis, Mo.	1500	280.2	1070				
KMTR	Echophone Mfg. Co.	Los Angeles, Calif.	500	370.2	810				
KNRC	Kierulff & Ravencroft	Santa Monica, Calif.	500	238	1260				
KNX	Los Angeles Express	Los Angeles, Calif.	1000	336.9	890				
KOA	General Electric Co.	Denver, Colo.	5000	322.4	930				
KOAC	Oregon Agri. College	Corvallis, Ore.	500	280.2	1170				
KOB	New Mexico College of Agriculture & Mechani- cal Arts	State College, N. M.	1500	348.6	860				
KOCH	Central High School	Omaha, Nebr.	500	258	1160				
KOCW	Okla. College for Women	Chickasha, Okla.	500	252	1190				

BROADCASTING STATIONS

7

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngh	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
KOIL	Monarch Mfg. Co.	Council Bluffs, Iowa	500	305.9	980				
KOIN	KOIN, Inc.	Portland, Oregon	1000	319	1000				
KOMO	Am. Radio Tel. Co. (Birt F. Fisher)	Seattle, Wash.	1000	305.9	980				
KOWW	Blue Mountain Radio Asso.	Walla Walla, Wash.	500	256	1170				
KPO	Hale Bros.	San Francisco, Calif.	1000	428.3	700				
KPPC	Pasadena Pres, Church	Pasadena, Calif.	50	229	1310				
KPRC	Post Dispatch	Houston, Texas	750	296.9	1010				
KPSM		Prescott, Ariz.		215	1400				
KPSN	Pasadena Star News	Pasadena, Calif.	1000	315.6	950				
KQV	Doubleday-Hill Elec. Co.	Pittsburg, Pa.	500	409	733				
KQW	First Baptist Church	San Jose, Calif.	500	333	900				
KRAC	Caodo Radio Club	Shreveport, La.	500	220	1360				
KRCA		Los Angeles, Calif.	100	305	983				
KRE	Berkeley Daily Gazette	Berkeley, Calif.	150	256	1170				
KROW	Oregon Broadcast Co.	Portland, Oregon	50	231	1290				
KRLD	Dallas Radio Lab.	Dallas, Texas	500	357.1	836.6				
KRSC	Radio Sales Corp.	Seattle, Wash.	50	499.7	600				
KSAC	Kansas Agric. College	Manhattan, Kans.	500	340.7	880				
KSBA	Shreveport Brdctng. Asso.	Shreveport, La.	1000	206.7	1150				
KSD	Post Dispatch	St. Louis, Mo.	500	545.1	550				
KSEI	KSEI Broadcasting Asso.	Pocatello, Idaho	500	260.7	1150				
KSL	Desert News	Salt Lake City, Utah	1000	299.8	1000				
KSMR	Santa Maria Val. R. R. Co.	Santa Maria, Calif.	500	282.8	1060				
KSO	A. A. Berry Seed Co.	Clarinda, Iowa	500	405.2	740				
KSOO	Sioux Falls Broadcast Asso.	Sioux Falls, S. D.	100	360	833				
KTAB	Associated Broadcasters	Oakland, Calif.	1000	302.8	990				
KTBI	Bible Inst. of Los Angeles	Los Angeles, Calif.	750	293.9	1020				
KTBR	Brown's Radio Shop	Portland, Oregon	50	263	1140				
KTHS	New Arlington Hotel	Hot Springs, Ark.	1000	374.8	800				
KTNT	Norman Baker	Muscatine, Iowa	1000	333.1	900				

BROADCASTING STATIONS

CALL	STATION OWNER	LOCATION	Pwr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
KTW	First Presbyterian Church	Seattle, Wash.	1500	454.3	660				
KUOA	University of Arkansas	Fayetteville, Ark.	750	299.8	1000				
KUOM	University of Montana	Missoula, Mont.	500	244	1230				
KUSD	University of South Dak.	Vermillion, S. Dak.	200	278	1080				
KUT	University of Texas	Austin, Texas	500	231	1300				
KVOO	Southwestern Sales Corp.	Bristow, Okla.	1000	374.8	800				
KVOS	L. L. Jackson	Seattle, Wash.	500	331.1	900				
KWCR	H. F. Paar	Cedar Rapids, Iowa	500	296	1010				
KWG	Portable Wireless Tel. Co.	Stockton, Calif.	50	248	1210				
KWKC	Wilson Duncan Studios	Kansas City, Mo.	100	236	1270				
KWKH	W.K. Henderson Iron Wks.	Shreveport, La.	1000	312.6	960				
KWSC	Washington State College	Pullman, Wash.	500	348.6	860				
KWUC	Western Union College	LeMars, Iowa	50	252	1190				
KWWG	City of Brownsville	Brownsville, Texas	500	278	1080				
KXL	Broadcasters of Portland	Portland, Oregon	50	400	750				
KXRO	Drott Laboratories	Seattle, Wash.	85	240	1250				
KYA	Pacific Broadcasting Co.	San Francisco, Calif.	1000	399.8	750				
KYW	Westinghouse El.&Mfg. Co.	Chicago, Ill.	4500	535.4	560				
KZKZ	Radio Corp. of Philippines	Manila, P. I.	500	272	1100				
KZRQ	Far Eastern Radio, Inc.	Manila, P. I.	500	400	749.8				
KZM	Hotel Oakland	Oakland, Calif.	100	240	1250				
NAA	U. S. Navy	Radio, Va.	1000	434.5	1290				
PWX	International Tel.&Tel. Co.	Havana, Cuba	500	400	750				
WAAF	Chicago Daily Drovers' Journal	Chicago, Ill.	500	278	1080				
WAAM	I. R. Nelson Co.	Newark, N. J.	500	263	1140				
WAAT	Frank Y. Bremer	Jersey City, N. J.	500	235	1276				
WAAW	Omaha Grain Exchange	Omaha, Nebr.	500	384.4	780				
WABC	Atlantic Broadcasting Co.	New York, N. Y.	5000	315.6	950				
WABF	Markle Broadcasting Corp.	Pringleboro, Pa.	500	410.7	730				
WABI	First Univ. Church	Bangor, Maine	100	240	1250				

7 2548 100

6 25 35 40

10 - 20 - 21

X

BROADCASTING STATIONS

9

CALL	STATION OWNER	LOCATION	P'wrt Wts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WABO	Lake Ave. Baptist Church	Rochester, N. Y.	100	278	1080				
WABQ	United Broadcasting Co.	Philadelphia, Pa.	500	260.7	1150				
WABR	Scott High School	Toledo, Ohio	50	263	1140				
WABW	College of Wooster	Wooster, Ohio	50	206.8	1450				
WABX	Henry B. Joy	Mt. Clemens, Mich.	500	246	1220				
WABY	John Magamdi, Jr.	Philadelphia, Pa.	50	242	1240				
WABZ	Coliseum Pl. Baptist Ch.	New Orleans, La.	50	275	1090				
WADC	Allen Theatre	Akron, Ohio	1000	258	1160				
WAFD	Addison Hotel	Detroit, Mich.	500	275	1090				
WAGM	R. L. Miller	Royal Oak, Mich.	50	225	1330				
WAIU	American Insurance Union	Columbus, Ohio	1000	293.9	1020				
WAOK	A. H. Andraesen	Ozone Park, N. Y.	100	247.8	1210				
WAMD	Radisson Radio Corp.	Minneapolis, Minn.	5000	244	1230				
WAPI	Alabama Poly. Inst.	Auburn, Ala.	1000	461.3	650				
WARC	Am. Radio & Res. Corp.	Medford Hillside, Mass.	100	261	1150				
WARS	Amateur Radio Spec. Co.	Brooklyn, N. Y.	500	295	1014				
WASH	Baxter Laundry	Grand Rapids, Mich.	500	256	1170				
WATT	Edison Electric Illum. Co.	Boston, Mass.	100	243.8	1230				
WBAA	Purdue University	Lafayette, Ind.	500	273	1100				
WBAK	Penn. State Police	Harrisburg, Pa.	500	275	1090				
WBAL	Glen Morris	Baltimore, Md.	5000	246	1220				
WBAO	James Milliken University	Decatur, Ill.	100	270	1110				
WBAP	Wortham-Carter Publish- ing Co.	Ft. Worth, Texas	3300	475.9	630				
WBAR	Kopp Radio Co.	Sisih, Wis.	500	270.1	1110				
WBAX	John H. Stenger, Jr.	Wilkes Barre, Pa.	100	256	1170				
WBAW	Waldrum Drug Co. & Briad Electric Co.	Nashville, Tenn.	100	236.1	1270				
WBBC	Brooklyn Broadcasting Co.	Brooklyn, N. Y.	500	249.9	1200				
WBBL	Grace Covenant Church	Richmond, Va.	100	229	1310				
WBBM	Atlas Investment Co.	Chicago, Ill.	10000	226	1330				

BROADCASTING STATIONS

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WBBP	Petoskey High School	Petoskey, Mich.	200	238	1260				
WBBR	Peoples Pulpit Association	Rossville, N. Y.	500	416.4	720				
WBBW	Ruffner Junior High School	Norfolk, Va.	50	222	1350				
WBBZ	C. L. Carrell	Chicago, Ill.	100	215.7	1390				
WBCN	Foster & McDonnell	Chicago, Ill.	500	266	1130				
WBES	Bliss Electrical School	Tacoma Park, Md.	100	222	1350				
WBET	Boston Transcript	Boston, Mass.	100	384.4	780				
WBKN	Arthur Faske	Brooklyn, N. Y.	100	291.1	1020				
WBMC	Malbrook Co.	Woodside, N. Y.	500	293.9	1020				
WBNY	Shirley Kalz	New York, N. Y.	2000	322.4	930				
WBOQ	Atlantic Broadcasting Corp.	Richmond Hill, N. Y.	500	236	1270				
WBRC	Bell Radio Corporation, Age-Herald Bldg.	Birmingham, Ala.	250	248	1210				
WBRE	Baltimore Radio Exchange	Wilkes Barre, Pa.	100	231	1300				
WBRL	Booth Radio Lab.	Tilton, N. Y.	500	420	713				
WBRS	Universal Radio Mfg. Co.	Brooklyn, N. Y.	100	394	761				
WBS	D. W. May, Inc.	Newark, N. J.	100	252	1190				
WBSO	Babson's Sta. Org.	Wellesley Hills, Mass.	100	242	1240				
WBT	C. C. Coddington	Charlotte, N. C.	250	275	1090				
WBZ	Westinghouse El.&Mfg. Co.	Springfield, Mass.	5000	333.1	900				
WBZA	Westinghouse El.&Mfg. Co.	Boston, Mass.	500	333.1	900				
WCAC	Conn. Agric. College	Storrs, Conn.	500	275	1090				
WCAD	St. Lawrence University	Canton, N. Y.	500	263	1140				
WCAE	Kaufman & Baer Co.	Pittsburg, Pa.	500	461.3	650				
WCAH	Entrekin Electric Co.	Columbus, Ohio	500	265.3	1130				
WCAJ	Nebr. Wesleyan University	University Pl. Nebr.	500	254	1180				
WCAL	St. Olaf College	Northfield, Minn.	500	336.9	890				
WCAM	City of Camden	Camden, N. J.	1000	336.9	890				
WCAO	Metropolitan Club	Baltimore, Md.	100	275	1090				
WCAR	Southern Radio Corp'n., of Texas	San Antonio, Texas	2000	263	1140				

⁴
202530

4 0 0 0

6 202520

BROADCASTING STATIONS

11

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WCAT	South Dakota State School of Mines	Rapid City, S. D.	50	240	1250				
WCAU	Universal Broadcasting Co.	Philadelphia, Pa.	500	278	1080				
WCAX	University of Vermont	Burlington, Vt.	100	252	1190				
WCAZ	Carthage College	Carthage, Ill.	50	245.8	1220				
WCBA	Queen City Radio Station	Allentown, Pa.	200	254.1	1180				
WCBD	Wilbur C. Voliva	Zion, Ill.	5000	344.6	870				
WCBH	University of Mississippi	Oxford, Miss.	50	242	1240				
WCBM	Charles Chateau	Baltimore, Md.	100	228.9	1310				
WCBR	C. H. Messter	Providence, R. I.	100	234.3	1280				
WCBS	H. L. Dewing	Providence, R. I.	250	242	1239				
WCCO	Washburn Crosby Co.	St. Paul and Minneapolis, Minn.	5000	416.4	720				
WCFL	Chicago Fed. of Labor	Chicago, Ill.	1000	491.5	610				
WCGU	Chas. G. Unger	Lakewood, N. J.	500	350.6	857				
WCI	Luthern Association	Ithaca, N. Y.		266	1130				
WCLO	C. E. Whitmore	Camp Lake, Wis.	1000	231	1300				
WCLS	Boston Store	Joliet, Ill.	150	214.2	1400				
WCMA	Culver Military Academy	Culver, Ind.	500	258.5	1160				
WCOA	City of Pensacola	Pensacola, Fla.	500	252	1190				
WCOM	172nd Field Artillery	Manchester, N. H.	100	252	1190				
WCRW	C. R. White	Chicago, Ill.	50	416.4	720				
WCSH	Congress Square Hotel Co.	Portland, Maine	500	500	600				
WCOT	Jacob Conn	Olneyville, R. I.	100	265.3	1130				
WCSO	Wittenburg College	Springfield, Ohio	100	248	1200				
WCWK	Keen Service	Fort Wayne, Ind.	250	234.2	1280				
WCWS	Bridgeport Broadcasting Station	Bridgeport, Conn.	500	232.4	1290				
WCX	Detroit Free Press	Detroit, Mich.	5000	516.6	580				
WDAD	Dad's Auto Accessories, Inc	Nashville, Tenn.	1000	226	1330				
WDAE	Tampa Daily Times	Tampa, Fla.	250	273	1100				
WDAF	Kansas City Star	Kansas City, Mo.	1000	365.6	820				

7 195035

6 486252

7

BROADCASTING STATIONS

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WDAG	J. Lawrence Martis	Amarillo, Texas	100	263	1140				
WDAH	Trinity Methodist Church	El Paso, Texas	100	268	1120				
WDAY	Radio Equipment Corp.	Fargo, N. Dak.	250	261	1150				
WDBE	Silham-Schoen Elec. Co.	Atlanta, Ga.	100	270	1110				
WDBJ	Richardson Wayland El. Cp.	Roanoke, Va.	50	229	1310				
WDBK	M. F. Broz Furniture	Cleveland, Ohio	100	227	1320				
WDBO	Rollins College	Winter Park, Fla.	500	240	1250				
WDBZ	Kingston Radio Club	Kingston, N. Y.	850	232.4	1290				
WDEL	Wilmington Elec. Spec. Co.	Wilmington, Del.	100	266	1130				
WDGY	Twin City B'dcast'g. Sta.	Minneapolis, Minn.	500	263	1140				
WDOD	Chattanooga Radio Co.	Chattanooga, Tenn.	1000	256	1170				
WDRC	Doolittle Radio Corp.	New Haven, Conn.	500	268	1120				
WDWF	Dutee W. Flint	Cranston, R. I.	500	440.9	680				
WDWM	Radio Indus. Broadcast Co.	Newark, N. J.	500	280.2	1070				
WDZ	James L. Bush	Tuscola, Ill.	100	278	1080				
WDXL	DXL Radio Corp.	Detroit, Mich.	250	296.9	1010				
WEAF	B'dcasting Co. of America	New York, N. Y.	5000	491.5	610				
WEAI	Cornell University	Ithaca, N. Y.	500	254	1180				
WEAM	Borough of N. Plainfield	N. Plainfield, N. J.	250	261	1150				
WEAN	Shepard Co.	Providence, R. I.	500	367	817				
WEAO	Ohio State University	Columbus, Ohio	750	293.9	1020				
WEAR	Goodyear Tire & Rubber Co.	Cleveland, Ohio	1000	389.4	770				
WEAU	Davidson Bros. Co.	Sioux City, Iowa	100	275	1090				
WEBC	W. C. Bridges	Superior, Wis.	100	242	1240				
WEBH	Edgewater Beach Hotel	Chicago, Ill.	2000	370.2	810				
WEBJ	Third Ave. Railway Co.	New York, N. Y.	500	272.6	1100				
WEBL	R.C.A. U.S.	Portable	100	226	1320				
WEBR	H. H. Howell	Buffalo, N. Y.	100	244	1230				
WEBW	Beloit College	Beloit, Wis.	750	268	1120				
WEDC	E. Denmark Broadcast Sta	Chicago, Ill.	1000	249.9	1200				

BROADCASTING STATIONS

18

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WEEI	Edison Elec. Illum. Co.	Boston, Mass.	500	348.6	860		6	4	6770
WEKD	Foulkrod Radio Eng. Co.	Philadelphia, Pa.		249.9	1200				
WEMC	Emanuel Missionary Col.	Berrien Spgs., Mich.	5000	316	950				
WENR	All American Radio Corp.	Chicago, Ill.	1000	266	1130				
WEPS	R. G. Matheson	Gloucester, Mass.	100	295	1016				
WEW	St. Louis University	St. Louis, Mo.	1000	360	833				
WFAA	Dallas News & Dallas Jrn'l.	Dallas, Texas	500	476	630				
WFAV	University of Nebr. Dept. of Elec. Engineering	Lincoln, Nebr.	500	275	1090				
WFBC	First Baptist Church	Knoxville, Tenn.	50	250	1200				
WFBE	Garfield Hotel	Cincinnati, Ohio	500	232.4	1290				
WFBG	Wm. F. Gable Co.	Altoona, Pa.	100	278	1080				
WFBJ	St. John's University	Collegeville, Minn.	100	236	1270				
WFBL	Onandaga Hotel Co.	Syracuse, N. Y.	1250	252	1190				
WFBM	Merchants Ht. & Lt. Co.	Indianapolis, Ind.	250	268	1120				
WFBR	Fifth Infantry, M.N.G.	Baltimore, Md.	100	254	1180				
WFCI	W.F.C.I. Co.	Pawtucket, R. I.	100	258.5	1160				
WFDF	F. D. Fallain	Flint, Mich.	100	234	1280				
WFI	Strawbridge & Clothier	Philadelphia, Pa.	500	394.5	760				
WFKB	Francis K. Bridgman, Inc.	Chicago, Ill.	500	217.3	1380				
WFRL	Flatbush Radio Lab.	Brooklyn, N. Y.	100	229.5	910				
WGBB	Harry H. Carman	Freeport, N. Y.	150	244	1240				
WGBF	The Fink Furniture Co.	Evansville, Ind.	500	236	1270				
WGBI	Scranton Bd'casters, Inc.	Scranton, Pa.	100	239.9	1250				
WGBS	Gimbel Bros.	New York, N. Y.	500	315.6	950				
WGBU	Florida Cities Finance Co.	Fulford-by-the-Sea, Florida	500	278	1080				
WGBX	University of Maine	Orono, Maine	500	234.2	1280				
WGCP	D. W. May	New York, N. Y.	500	252	1190				
WGES	Coyne Electrical School	Chicago, Ill.	1000	315.6	950				
WGHB	G. H. Bowles Devel. Co.	Clearwater, Fla.	500	266	1130				

BROADCASTING STATIONS

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WGHP	Fort Harrison Hotel, Edward A. Haley	Detroit, Mich.	1500	270	1110				
WGL	International Broadcasting Co.	New York, N. Y.	1000	442.4	678	20			
WGM	V. T. Elton Spencer	Jeanette, Pa.	150	201	1116	20			
WGMU	A. H. Grebe & Co. (Port.)	Richmond Hill, N. Y.	100	236	1270				
WGN	Chicago Tribune (Drake Hotel)	Chicago, Ill.	1500	302.8	990				
WGR	Federal Radio Corp.	Buffalo, N. Y.	750	319	940				
WGST	Georgia School Technology	Atlanta, Ga.	500	270	1110				
WGWB	Broadcast Corp. of Wis.	Milwaukee, Wis.	1000	384.4	780				
WGY	General Electric Company	Schenectady, N. Y.	5000	279.5	790	6	30	42	45
WHA	University of Wisconsin	Madison, Wis.	750	535.4	560				
WHAD	Marquette University	Milwaukee, Wis.	500	275	1090				
WHAM	University of Rochester	Rochester, N. Y.	100	278	1080				
WHAP	Wm. H. Taylor Fin. Corp.	New York, N. Y.	1000	431	697				
WHAR	Seaside House	Atlantic City, N. J.	1000	275	1090				
WHAS	Courier Journal & Louis- ville Times	Louisville, Ky.	500	399.8	750				
WHAZ	Rensselaer Polytechnic Inst	Troy, N. Y.	1000	379.5	790				
WHB	Sweeney School Company	Kansas City, Mo.	500	365.6	820				
WHBD	Chamber of Commerce	Bellefontaine, Ohio	100	222.1	1350				
WHBF	Beardsley Specialty Co.	Rock Island, Ill.	100	222	1350				
WHBL	James H. Slusser (Port.)	Logansport, Ind.	50	215.7	1390				
WHBM	C. L. Carrel	Chicago, Ill.	100	215.7	1390				
WHBP	Johnstown Automobile Co.	Johnstown, Pa.	100	256	1170				
WHBQ	St. John's M. E. Church	Memphis, Tenn.	50	233	1290				
WHBW	D. R. Kienzle	Philadelphia, Pa.	100	215	1390				
WHBY	St. Norbert's College	W. DePere, Wis.	50	250	1200				
WHDI	William Hood Dunwoody Industrial Institute	Minneapolis, Minn.	1500	278	1080				
WHEC	Hickson Electric Co.	Rochester, N. Y.	100	258	1160				
WHFC	Triangle Broadcasters	Chicago, Ill.	200	258	1160				

BROADCASTING STATIONS

15

CALL	STATION OWNER	LOCATION	P ^{wr} W ^{ts}	Wave L ^{ngth}	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WHK	Radio Air Service Corp.	Cleveland, Ohio	1000	273	1100				
WHN	Loew's State Brdcast'g. Sta.	New York, N. Y.	1000	361.2	830				
WHO	Bankers Life Company	Des Moines, Iowa	5000	526	570				
WHOG	Huntington Association	Huntington, Ind.		241.8	1240				
WHT	Radiphone Brdcast'g. Corp.	Chicago, Ill.	5000	238	1260				
WIAD	Howard R. Miller	Philadelphia, Pa.	100	250	1200				
WIAS	Home Electric Company	Burlington, Iowa	100	254	1180				
WIBA	Capital Times Studio & Strand Theatre Corp.	Madison, Wis.	100	236	1270				
WIBG	St. Paul's Protest. Esp. Ch.	Elkins Park, Pa.	50	222	1350				
WIBI	F. B. Zittel, Jr.	Flushing, N. Y.	50	218.8	1370				
WIBJ	C. L. Carrell (Port. Sta.)	Chicago, Ill.	500	215.7	1390				
WIBO	Nelson Brothers	Chicago, Ill.	1000	226	1330				
WIBM	C. L. Carrell	Chicago, Ill.	100	215.7	1390				
WIBR	Thurman A. Owings	Weirton, W. Va.	50	246	1220				
WIBS	T. J. Hunter	Elizabeth, N. J.	150	202.6	1480				
WIBW	Dr. L. L. Dill	Logansport, Ind.	100	220	1360				
WIBX	WIBX (Inc.)	Utica, N. Y.	150	234.2	1280				
WICC	Bridgeport Brdcast'g. Sta.	Bridgeport, Conn.	500	285	1052				
WIL	Benson Radio Co.	St. Louis, Mo.	250	258	1162				
WIOD	C. G. Fisher Co.	Miami Beach, Fla.	1000	247.8	1210				
WIP	Gimbel Bros.	Philadelphia, Pa.	500	508.2	590				
WJAD	Frank P. Jackson	Waco, Texas	750	352.7	850				
WJAG	Norfolk Daily News	Norfolk, Nebr.	200	270	1110				
WJAF	J. S. Fernberg Radio Co.	Ferndale, Mich.	100	407	736.7				
WJAK	Kokomo Trib. (J.A. Kautz)	Kokomo, Ind.	50	254	1180				
WJAM	D. M. Perham	Cedar Rapids, Iowa	100	268	1120				
WJAR	The Outlet Company	Providence, R. I.	500	485	618				
WJAS	Pittsburg Radio Sup. House	Pittsburg, Pa.	500	275	1090				
WJAX	City of Jacksonville	Jacksonville, Fla.	1000	336.9	890				
WJAY	Am. Broadcasting Corp.	Cleveland, Ohio	5000						

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WJAZ	Am. Radio Bdcst'g. Corp.	Chicago, Ill.	10000	329.5	910				
WJBA	D. H. Lentz, Jr.	Joliet, Ill.	50	206.8	1450				
WJBB	Financial Journal	St. Petersburg, Fla.	250	254.1	1180				
WJBC	Hummer Furniture Co.	La Salle, Ill.	500	234	1280				
WJBI	R. S. Johnson	Red Bank, N. J.	250	218.8	1370				
WJBL	Wm. Gushard D. G. Co.	Decatur, Ill.	500	270	1110				
WJBO	Valdemar Jensen	New Orleans, La.	100	268	1120				
WJBR	Gensch & Stearns	Omro, Wis.	100	227.1	1320				
WJBT	J. S. Boyd	Chicago, Ill.	500	468	640				
WJBU	Bucknell University	Lewisburg, Pa.	100	211.1	1420				
WJBY	G. J. Cook	Woodhaven, N. Y.	100	288.3	1040				
WJBV	W.J.B.Y. Corp.	Gasden, Ala.		260	1153				
WJBZ	R. G. Palmer	Chicago Heights, Ill.	100	419.3	715				
WJJD	Supreme Lodge, L. O. O. M.	Mooseheart, Ill.	1000	370.2	810				
WJR	Richard Oakland Co.	Pontiac & Detroit, Mich.	5000	516.9	580		7	43	65 65
WJUG	Uda B. Ross	New York, N. Y.	500	516.9	580				
WJY	R. C. A.	New York, N. Y.	1000	405.2	740				
WJZ	R. C. A.	New York, N. Y.	5000	454.3	660		7	45	70 70
WKAF	WKAF Broadcasting Co.	Milwaukee, Wis.	500	261	1150				
WKAQ	Radio Corp. of Porto Rico	San Juan, Porto Rico	500	340.7	880				
WKAR	Michigan State College	E. Lansing, Mich.	1000	285.5	1050				
WKAU	Laconia Radio Club	Laconia, N. H.	100	224	1340				
WKBA	Arrow Battery Co.	Chicago, Ill.	200	209	1430				
WKBB	Sanders Bros.	Joliet, Ill.	150	282	1060				
WKBE	K. & B. Electric Co.	Webster, Mass.	100	270	1110				
WKBG	C. L. Carrell (Portable)	Chicago, Ill.	100	215.7	1390				
WKBH	Callaway Music Co.	La Crosse, Wis.	500	249.9	1200				
WKBI	F. L. Schoenwolf	Chicago, Ill.	50	220.4	1360				
WKBK	Gospel Tabernacle	St. Petersburg, Fla.	250	280	1071				
WKBM	Radio Broadcasting Co.	Newburgh, N. Y.	100	285.5	1050				
WKBN	Radio Elec. Service	Youngstown, Ohio	50	360	832.8				

BROADCASTING STATIONS

17

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WKBO	Camith Corp.	Jersey City, N. J.	500	303.9	986.6				
WKBP	Inquirer & News	Battle Creek, Mich.	50	265	1131				
WKBQ	Starlight Amusement Park	New York, N. Y.	50	285	1152				
WKBR	C. J. Heiser	Auburn, N. Y.	100	225	1333				
WKBS	P. N. Nelson	Galesburg, Ill.	200	361.2	830				
WKBT	First Baptist Church	New Orleans, La.	50	252	1190				
WKBU	H. K. Armstrong	Newcastle, Pa.	50	238	1260				
WKBY	Knox Battery Co.	Brookville, Ind.	75	236.1	1270				
WKBW	Churchill Association	Buffalo, N. Y.	1000	362.5	825				
WKBY	Fernwood Quick	Danville, Pa.	50	222	1360				
WKJC	Kirk Johnson & Co.	Lancaster, Pa.	50	258	1160				
WKRC	Kodel Radio Corp.	Cincinnati, Ohio	1000	325.9 522.3	920 710				
WKY	Hull & Richards	Oklahoma, Okla.	100	275	1090				
WLAC	Life & Casualty Ins. Co.	Nashville, Tenn.	150	225.4	1330				
WLAL	First Christian Church	Tulsa, Okla.	100	250	1200				
WLB	University of Minnesota	Minneapolis, Minn.	500	278	1080				
WLBA	Phila. School of Wireless Tel	Philadelphia, Pa.	50	236.1	1270				
WLBC	D. A. Burton	Muncie, Ind.	50	223.7	1340				
WLBG	R. A. Gamble	Pittsburg, Pa.	100	332.3	900				
WLBI	Aloysius Yarc	E. Wenona, Ill.	250	296.9	1010				
WLBJ	Harry Grossman	Cleveland, Ohio	100	300	1000				
WLBL	Wis. Dept. of Markets	Stephens Point, Wis.	750	278	1080				
WLBO	F. A. Trebe, Jr.	Galesburg, Ill.	100	243	1240				
WLBT	Harold Wendell	Crown Point, Ind.	100	230	1304				
WLBV	J. F. Weimer	Mansfield, Ohio	50	230.6	1300				
WLBW	Petroleum Tel. Co.	Oil City, Pa.	250	321	934				
WLBX	J. N. Brahy	L. I. City, N. Y.	250	230.6	1300				
WLBZ	Aimone Elec.	Iron Mt. Mich.	50	249.9	1200				
WLBZ	T. L. Guernsey	Dover, Maine	250	299	1003				
WLCI		Ithaca, N. Y.	50	266	1127				

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WLIB	Liberty Weekly	Chicago, Ill.	4000	302.8	990				
WLIT	Lit Brothers	Philadelphia, Pa.	500	394.5	760				
WLS	Sears, Roebuck, & Co.	Chicago, Ill.	5000	344.6	870				
WLSL	Lincoln Studios, Inc.	Providence, R. I.	500	440.9	680				
WLTS	Lane Tech. High School	Chicago, Ill.	100	258	1160				
WLW	Crosley Radio Corporation	Cincinnati, Ohio	5000	422.3	710				
WLWL	Missionary Society of St. Paul the Apostle	New York, N. Y.	5000	384.4	1780				
WMAC	Clive B. Meredith	Cazenovia, N. Y.	500	275	1090				
WMAF	Round Hill's Radio Corp.	Dartmouth, Mass.	1000	440.9	680				
WMAK	Lafayette Bdcst'g. Sta.	Buffalo, N. Y.	500	266	1130				
WMAL	M. A. Leese Optical Co.	Washington, D. C.	100	293	1020				
WMAN	First Baptist Church	Columbus, Ohio	50	278	1080				
WMAQ	Chicago Daily News	Chicago, Ill.	1000	447.5	670				
WMAY	Kings Highway Presbyteri- an Church	St. Louis, Mo.	100	248	1210				
WMAZ	Mercer University	Macon, Ga.	500	261	1150				
WMBA	Leroy J. Beebe	Newport, R. I.	100	249.9	1200				
WMBB	American Bond & Mort- gage Company	Chicago, Ill.	500	250	1200				
WMBC	Mich. Bdcst'g. Co. (Inc.)	Detroit, Mich.	100	256	1170				
WMBF	Fleetwood Hotel	Miami Beach, Fla.	500	348.4	780				
WMBI	Moody Bible Institute	Chicago, Ill.	500	288.3	1040				
WMBS	Mack's Battery Co.	Harrisburg, Pa.	500	360	833				
WMC	Commercial Appeal	Memphis, Tenn.	1000	499.7	600				
WMCA	McAlpin Hotel Co.	New York, N. Y.	500	340.7	880				
WMSG	Madison Square Garden	New York, N. Y.	500	302.8	900				
WMVM	E. S. Malone, Jr.	Newark, N. J.	500	475.9	630				
WNAB	Shepard Stores	Boston, Mass.	100	280.2	1070				
WNAC	Shepard Stores	Boston, Mass.	500	430.1	697				
WNAD	University of Oklahoma	Norman, Okla.	500	254	1180				
WNAL	R. V. Rockwell	Omaha, Nebr.	500	258	1160				

212130

646060

31630

BROADCASTING STATIONS

19

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngh	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WNAP	Wittenberg College	Springfield, Mass.	100	248	1210				.
WNAT	Lenning Bros. Company	Philadelphia, Pa.	100	250	1200				
WNAX	Dak. Radio Apparatus Co.	Yankton, S. D.	100	244	1230				
WNBH	New Bedford Hotel	New Bedford, Mass.	250	248	1210				
WNJ	Radio Shop of Newark	Newark, N. J.	500	350	856				
WNOX	Peoples Tel. & Tel. Co.	Knoxville, Tenn.	5000	268	1120				
WNYC	City of New York	New York, N. Y.	1000	526	570				
WOAI	Southern Equipment Co.	San Antonio, Texas	5000	394.5	760				
WOAN	Vaughan School of Music	Lawrenceburg, Tenn	500	356.4	8412				
WOAX	Franklin J. Wolff	Trenton, N. J.	500	240	1250				
WOC	Palmer School Chiropractic	Davenport, Iowa	5000	483.6	620				
WOCB	Orlando Broadcast Co.	Orlando, Fla.	50	293.7	1021				
WODA	O'Dea Temple of Music	Paterson, N. J.	1000	390.9	767				
WOI	Iowa State College	Ames, Iowa	750	270	1110				
WOK	Neutrowound Radio Mfg. Company	Homewood, Ill.	20000	217.3	1380				
WOKO	Dyckman Radio	New York, N. Y.	50	233	1290				
WOKT	Titus Corp.	Rochester, N. Y.	1000	340	881.8				
WOMT	Mikadow Theatre	Manitowoc, Wis.	50	254.1	1180				
WOO	John Wannamaker	Philadelphia, Pa.	500	508.2	590				
WOOD	Hotel Rowe	Furnwood, Mich.	5000	242	1240				
WOQ	Unity School Christianity	Kansas City, Mo.	1000	278	1080				
WOR	L. Bamberger & Co.	Newark, N. J.	500	405.2	740				6 42 59 65
WORD	Peoples Pulpit Association	Chicago, Ill.	5000	275	1090				4 9 12 20
WOS	Mo. State Mktg. Bureau	Jefferson City, Mo.	500	440.9	680				
WOW	Woodmen of the World	Omaha, Nebr.	1000	526	570				
WOWO	Main Auto Supply Co.	Fort Wayne, Ind.	1000	227	1320				
WPAB	Radio Corp. of Virginia	Norfolk, Va.	100	319	940				
WPAP	Palisades Am. Park	Palisades, N. J.	500	361.2	830				
WPAK	N. Dak. Agric. College	Agric. College, N.D.	100	275	1090				
WPCC	No. Shore Cong. Church	Chicago, Ill.	500	258	1160				

2-13-20

5
25
2013. BROADCASTING STATIONS

CALL	STATION OWNER	LOCATION	P ^{wr} W ^{ts}	Wave L ^{ngth}	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WPCH	Concourse Radio Corp.	New York, N. Y.	1000	272.6	1110				
WPDQ	Hiram L. Turner	Buffalo, N. Y.	250	205.4	1460				
WPEP	Maurice Mayer	Waukegan, Ill.	500	212.6	1410				
WPG	Municipality of Atlantic City, New Jersey	Atlantic City, N. J.	5000	299.8	1000		6	6	12 20
WPRC	Wilson Ptg. & Radio Co.	Harrisburg, Pa.	100	215.7	1390				
WPSC	Penn. State College	State College, Pa.	500	261	1150				
WQAA	Horace A. Beale, Jr.	Parkersburg, Pa.	500	220	1360				
WQAE	Moore Radio News Stand	Springfield, Vt.	50	246	1220				
WQAM	Electrical Equipment Co.	Miami, Fla.	750	285.5	1050				
WQAN	Scranton Times	Scranton, Pa.	100	250	1200				
WQAO	Calvary Baptist Church	New York, N. Y.	500	361	833				
WQJ	Calumet Rainbow Broad- casting Company	Chicago, Ill.	500	447.5	670				
WRAF	Radio Club, Inc.	LaPorte, Ind.	100	224	1340				
WRAH	S. N. Read	Providence, R. I.	450	235	1270				
WRAK	Economy Light Co.	Escanaba, Mich.	100	256	1170				
WRAM	Lombard College	Galesburg, Ill.	100	244	1230				
WRAV	Antioch College	Yellow Springs, O.	100	263	1140				
WRAX	Flexons Garage	Gloucester City, N. Y.	500	268	1120				
WRBC	Immanuel Luth. Church	Valparaiso, Ind.	500	278	1080				
WRC	Radio Corp. of America	Washington, D. C.	1000	468.5	640				
WRCO	Wynne Radio Co.	Raleigh, N. C.	100	252	1090				
WREO	Reo Motor Car Co.	Lansing, Mich.	500	285.5	1050				
WRES	WRES, Inc.	Wollaston, Mass.	100	300	1000				
WRHF	Washington Radio Hosp.		50	256	1170				
WRHM	Rosedale Hospital	Minneapolis, Minn.	50	252	1190				
WRK	Doron Bros. Elec. Co.	Hamilton, Ohio	200	270	1110				
WRM	University of Illinois	Urbana, Ill.	1000	273	1100				
WRMU	A. H. Grebe & Co.	New York, N. Y.	100	236	1270				
WRNY	Experimenter Publishing Co..	Coytesville, N. Y.	500	373.8	802				

BROADCASTING STATIONS

21

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WRR	City of Dallas	Dallas, Texas	500	246	1220				
WRST	Radiotel Mfg. Co.	Bay Shore, N. Y.	500	215.7	1390				
WRVA	Larus & Brother Co.	Richmond, Va.	1000	256	1170				
WRW	Tarrytown Radio Lab.	Tarrytown, N. Y.	500	272.6	1100				
WSAI	U. S. Playing Card Co.	Cincinnati, Ohio	5000	325.9	920				
WSAJ	Grove City College	Grove City, Pa.	250	229	1310				
WSAN	Allentown Call Pub. Co.	Allentown, Pa.	100	229	1310				
WSAR	Doughty & Welsh Elec'l. Co.	Fall River, Mass.	100	322	930				
WSAX	Zenith Radio Corporation	Chicago, Ill.	100	268	1120				
WSAZ	Chase Elec. Shop	Pomeroy, Ohio	50	244	1230				
WSB	Atlanta Journal	Atlanta, Ga.	1000	428.3	700				
WSBC	World Battery Co.	Chicago, Ill.	2000	268.3	1040				
WSBF	Stix, Baer & Fuller Dry Goods Company	St. Louis, Mo.	250	273	1100				
WSBT	South Bend Tribune	South Bend, Ind.	250	315	951.8				
WSDA	The City Temple	New York, N. Y.	250	263	1140				
WSKC	World's Star Knitting Co.	Bay City, Mich.	500	261	1150				
WSM	National Life & Accident Insurance Company	Nashville, Tenn.	1000	282.8	1060				
WSMB	Saenger Amusement & Maison Blanche Co.	New Orleans, La.	500	319	940				
WSMK	S. K. Radio Corporation	Dayton, Ohio	500	275.2	1090				
WSOE	School of Eng. of Milw.	Milwaukee, Wis.	1000	246	1220				
WSOM	Union Course Lab.	Woodhaven, N. Y.	500	288.3	1040				
WSRO	Radio Co. (Harry W. Fahrlander)	Hamilton, Ohio	100	252	1190				
WSSH	Tremont Temple Baptist Church	Boston, Mass.	100	261	1150				
WSVS	Seneca Vocational School	Buffalo, N. Y.	50	218.8	1370				
WSWS	Bligh-Whittington Co.	Batavia, Ill.	1000	275.1	1090				
WSUI	State University of Iowa	Iowa City, Iowa	500	483.6	620				
WSY	Alabama Poly. Inst.	Auburn, Ala.	500	250	1200				
WSYR	C. B. Meredith	Syracuse, N. Y.	500	352.7	850				

6 1930 35

BROADCASTING STATIONS

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
WTAB	F. River Dly. Hr'd. Pub. Co.	Fall River, Mass.	100	266	1130		6	35	45
WTAD	R. E. Compton	Quincy, Ill.	500	236	1270				
WTAG	Worcester Telegram	Worcester, Mass.	500	545.1	550				
WTAL	Toledo Broadcast Co.	Toledo, Ohio	100	252	1190				
WTAM	Willard Storage Battery Co.	Cleveland, Ohio	3500	389.4	770		6	35	50
WTAQ	S. H. VanGordon & Son	Osseo, Wis.	100	254	1180				
WTAR	Reliance Electric Co.	Norfolk, Va.	100	261	1150				
WTAW	Agricultural & Mechanical College of Texas	College Sta. Texas	500	270	1110				
WTAX	Williams Hardware Co.	Streator, Ill.	50	231	1300				
WTHO	J. A. Fernberg	Ferndale, Mich.	750	407	736.7				
WTIC	Travelers Insurance Co.	Hartford, Conn.	500	475.9	630				
WTRC	Republican Club	Brooklyn, N. Y.	50	239.9	1250				
WWAE	Electric Park	Plainfield, Ill.	10000	384.8	780				
WWI	Ford Motor Co.	Dearborn, Mich.	500	266	1130				
WWJ	Detroit News	Detroit, Mich.	1000	352.7	850				
WWL	Loyola University	New Orleans, La.	100	275	1090				
WWNC	Asheville Chamber of Com.	Asheville, N. C.	50	275	1090				
WWPR	Detroit Police Dept.	Detroit, Mich.	500	300	1000				
WWRL	Woodside Radio Lab.	Woodside, L. I.	100	258.5	1160				
WWVA	John Stroebel, Jr.	Wheeling, W. Va.	100	384.6	860				

U. S. BROADCASTING STATIONS BY CITIES

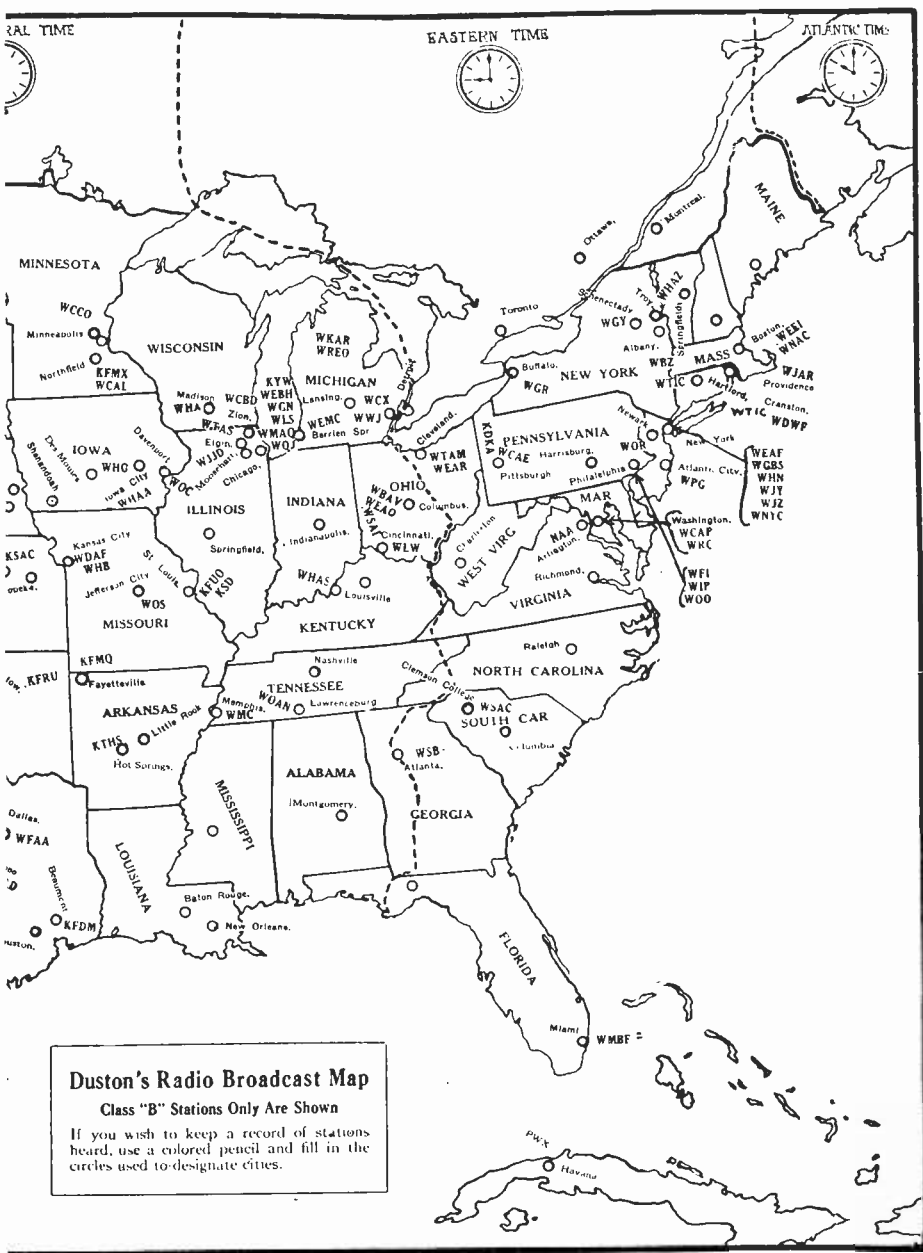
Location	Calls
Agricultural College, N. D.	WPAK
Akron, Ohio	WADC
Albuquerque, N. Mex.	KFLR, KFVY
Allentown, Pa.	WCBA, WSN
Altoona, Pa.	WFBG
Amarillo, Texas	WDAG, WOAC
Ames, Iowa	WOI
Anchorage, Alaska	KFOD
Arlington, Va.	NHA
Atlanta, Ga.	WDBE, WGST, WSB
Anita, Iowa	KFLZ
Asheville, N. C.	WABC
Atlantic City, N. J.	WHAR, WPG
Auburn, Ala.	WAPI, WSY
Auburn, N. Y.	WKBR
Austin, Texas	KUT
Baltimore, Md.	WBAL, WCAO, WCBM, WFBR
Bangor, Maine	WABI
Barret, Minn.	KGDE
Battle Creek, Mich.	WKBP

Location	Calls
Bay City, Mich.	WSKC
Bay Shore, N. Y.	WRST
Beaumont, Texas	KFDM
Beeville, Texas	KFRB
Bellefontaine, Ohio	WHBD
Beloit, Wis.	WEBW
Berkeley, Calif.	KRE
Berrien Springs, Mich.	WEMC
Big Bear Lake, Calif.	KFXB
Birmingham, Ala.	WBRC
Boise, Idaho	KFAU, KFDD
Boston, Mass.	WATT, WBZA, WEEI, WNAB, WNAC, WSSH
Bristow, Okla.	KVOO
Brookings, S. D.	KFDY
Brooklyn, N. Y.	WFRL, WHAP
Brookville, Ind.	WKBY
Brownsville, Texas	KWWG
Buffalo, N. Y.	WERB, WGR, WPDO, WSVS
Burlingame, Calif.	KFOB

Location	Calls
Burlington, Iowa	WIAS
Burlington, Vermont	WCAX
Camden, N. J.	WCAM
Camp Lake, Wis.	WCLO
Canton, N. Y.	WCAD
Cape Girardeau, Mo.	KFVS
Cartersville, Mo.	KFPV
Carthage, Ill.	WTAD
Cazenovia, N. Y.	WMAC
Cedar Rapids, Iowa	KWCR, WJAM
Charlotte, N. C.	WBT
Chattanooga, Tenn.	WDOD
Chicago, Ill.	KYW, WAAF, WBBZ
WBCN, WCFL, WCRW, WEBB, WEDC, WENR, WFKB, WGES, WGN, WHBM, WHT, WIBJ, WIBM, WIBO, WJAZ, WKBA, WKGB, WKBI, WLS, WLTS, WMAA, WMBB, WQJ, WSAK, WSSC	
Chickasaw, Okla.	KOCH
Chico, Calif.	KFWH
Cincinnati, Ohio	WKRC, WLW, WSAI
Clarinda, Iowa	KSO
Clay Center, Nebr.	KMMJ
Clearwater, Fla.	WGHB
Cleveland, Ohio	KDPM, WDBK, WEAR, WHK, WJAY, WTAM
College Station, Texas	WTAW
Collegeville, Minn.	WFBJ
Colorado Springs, Colo.	KFUM, KFXF
Columbia, Mo.	KFRU
Columbus, Ohio	WAIU, WCAH, WEAQ, WMAN
Corvallis, Oregon	KOAC
Council Bluffs, Iowa	KOIL
Cranston, R. I.	WDWF
Crown Point, Ind.	WLBT
Culver, Ind.	WCMA
Dallas, Texas	WFAA, WRR
Dartmouth, Mass.	WMAF
Davenport, Iowa	WOC
David City, Nebr.	KFOR
Dayton, Ohio	WSMK
Dearborn, Mich.	WWI
Decatur, Ill.	WBAO, WJBL
Denver, Colo.	KFEL, KFUP, KFVR, KFXJ, KLZ, KOA
Des Moines, Iowa	WHO
Detroit, Mich.	WCX, WDXL, WGHP, WJR, WWJ, WMBG
Dover, Maine	WLBZ
East Lansing, Mich.	WKAR
East Pittsburg, Pa.	KDKA
Elizabeth, N. J.	WIBS
Elkins Park, Pa.	WIBG
El Paso, Texas	KFXH, WDAH
Evanston, Ill.	WEHS
Everett, Wash.	KFBL
Fairmont, Minn.	KFVN
Fall River, Mass.	WSAR, WTAB
Fargo, N. D.	WDAY
Fayetteville, Ark.	KUOA
Flagstaff, Ariz.	KFXV
Ferndale, Mich.	WJAF
Flint, Mich.	WFDF
Flushing, N. Y.	WIBI
Fond du Lac, Wis.	KFIZ
Fort Bragg, N. C.	ATQ
Fort Dodge, Iowa	KFJY
Fort Wayne, Ind.	WCWK, WOWO
Fort Worth, Texas	KBAP, KFQB, KFRO
Freeport, N. Y.	WGBB
Fresno, Calif.	KMJ
Galesburg, Ill.	WKBS, WRAM
Galveston, Texas	KFLX, KFUL
Grand Forks, N. D.	KFJM
Grand Rapids, Mich.	WASH, WOOD
Greeley, Colo.	KFKA
Greencastle, Ind.	WLAX
Gridley, Calif.	KFU
Grove City, Pa.	WSAJ
Hamilton, Ohio	WRK, WSRO

Location	Calls
Harrisburg, Pa.	WBAK, WPRC
Hartford, Conn.	WTIC
Hastings, Nebr.	KFKX
Havana, Cuba	PWX
Haverford, Pa.	WABQ
Havre, Mont.	KFBB
Hillsdale, Mass.	WARC
Hollywood, Calif.	KFQZ, KFVB
Holy City, Calif.	KFQU
Homewood, Ill.	WOK
Honolulu, Hawaii	KGU
Hot Springs, Ark.	KTHS
Houston, Texas	KFVI, KPRC
Humboldt, Nebr.	KGDW
Independence, Mo.	KLDS
Indianapolis, Ind.	WFBM
Iowa City, Iowa	WSUI
Iron Mountain, Mich.	WLBY
Ithaca, N. Y.	WEAI
Jacksonville, Fla.	WJAX
Jefferson City, Mo.	WOS
Jersey City, N. J.	WKBO
Johnstown, Pa.	WHBP
Joliet, Ill.	WCLS, WJBA, WKBB
Kansas City, Mo.	KMJP, KWKC, WDAF, WHB, WOQ
Ketchikan, Alaska	KQBO
Kingston, N. Y.	WDBZ
Knoxville, Tenn.	WFBC, WNOX
Kokomo, Ind.	WJAK
Lacey, Wash.	KGY
Laconia, N. H.	WKAV
LaCrosse, Wis.	WKBB
Lancaster, Pa.	WKJC
Lansing, Mich.	WREO
Laporte, Ind.	WRAF
Laramie, Wyo.	KFBU
LaSalle, Ill.	WJBC
Lawrence, Kans.	KFKU
Lawrenceburg, Tenn.	WOAN
Le Mars, Iowa	KWUC
Lewisburg, Pa.	WJBU
Lincoln, Nebr.	KFAB, WFAV
Logan, Utah	KFXD
Logansport, Ind.	WHBL, WIBW
Long Beach, Calif.	KFON
Long Island City, N. Y.	WLBX
Los Angeles, Calif.	KFI, KFPG, KFPR, KFSG, KHJ, KNX, KTB
Louisville, Ky.	WHAS, WLAP
Macon, Ga.	WMAZ
Madison, Wis.	WHA, WIBA
Manhattan, Kans.	KSAC
Manila, P. I.	KZKZ, KZRO
Mansfield, Ohio	WLBV
Medford Hillside, Mass.	WARC
Medford, Ore.	KMED
Memphis, Tenn.	WHBO, WMC
Miami, Fla.	WGPU, WQAM
Miami Beach, Fla.	WIOD, WMBF
Milwaukee, Wis.	WHAD, WKAF, WSOE
Minneapolis, Minn.	KFMJ, WAMD, WCCO
W.D.G.Y. WHDI, WLB, WRHM	
Missoula, Mont.	KUOM
Moberly, Mo.	KFFP
Moosheart, Ill.	WJJD
Mt. Clemens, Mich.	WABX
Muscateine, Iowa	KFYD, KTNT
Nashville, Tenn.	WBAW, WDAD, WLAC, WSM
Newark, N. J.	WAAM, WBS, WNJ, WOR
New Bedford, Mass.	WNBH
New Haven, Conn.	WDRG
New Orleans, La.	WABZ, WJBO, WSMB, WWL
Newport, R. I.	WMBA
New York, N. Y.	WBNY, WEFB, WBJ, WFBH, WGCP, WGBS, WGL, WHAP, WHN, WJY, WJZ, WLWL, WMCA, WMSG, WNYC, WRMU, WRNY, WSDA
Norfolk, Nebr.	WJAG





Location	Calls	Location	Calls
Norfolk, Va.	WTAR	Santa Maria, Calif.	KSMR
Norman, Okla.	WNAD	Savannah, Ga.	WEBZ
Northfield, Minn.	KFMX, WCAL	Schenectady, N. Y.	WGY
North Plainfield, N. J.	WEAM	Scranton, Pa.	WGBI, WQAN
Oak, Nebr.	KFEQ	Seattle, Wash.	KFOA, KJR, KOMO, KTW
Oakland, Calif.	KFUS, KFWM, KGO, KLS, KLX, KTAB, KZM	Shenandoah, Iowa	KFNF, KMA
Ogden, Utah	KFUR	Shreveport, La.	KFDX, KSBA, KWKH
Oil City, Pa.	WLBW	Sihipoc, Minn.	KIAF
Oklahoma City, Okla.	KFJF, WKY	Sioux City, Iowa	KFMR, WEAU
Olneyville, R. I.	WCOT	Sisiht, Wis.	WBAR
Olympia, Wash.	KFRW	South Bend, Ind.	WSBT
Omaha, Nebr.	KFOX, WAAW, WNAL, WOAW	Spokane, Wash.	KFIO, KFPY, KHQ
Omro, Wis.	WJBR	Springfield, Mass.	WBZ
Orlando, Fla.	WOCB	Springfield, Ohio	WCSS, WNAP
Orono, Maine	WGBX	Springfield, Vermont	WQAE
Osseo, Wis.	WTAQ	State College, N. Mex.	KOB
Oxford, Miss.	WCBH	State College, Pa.	WPSC
Ozone Park, N. Y.	WAOK	Stevens Point, Wis.	WHBB, WLBL
Parkersburg, Pa.	WQAA	St. Louis, Mo.	KFOA, KFUA, KFUF, KMOX, KSD, WEW, WIL, WMAY, WSBF
Pasadena, Calif.	KPPC, KPSN	St. Petersburg, Fla.	WJBB, WKBJ
Paterson, N. J.	WODA	Storrs, Conn.	WCAC
Pensacola, Fla.	WCOA	St. Paul, Minn.	KFOY
Petoskey, Mich.	WBPP	Streator, Ill.	WTAX
Philadelphia, Pa.	WABQ, WABY, WCAU, WFI, WHBW, WIAD, WIP, WLBA, WLIT, WNAT, WOO	Superior, Wis.	WEEC
Phoenix, Ariz.	KFAD, KFCE	Syracuse, N. Y.	WFBL
Pittsburg, Pa.	KQV, WCAE, WJAS	Tacoma, Wash.	KMO
Pineville, La.	KFWU	Tacoma Park, Md.	WBES
Plainfield, Ill.	WWAE	Tampa, Fla.	WDAE
Pomeroy, Ohio	WSAZ	Toledo, Ohio	WABR, WTAL
Port Huron, Mich.	WAFD	Trenton, N. J.	WOAX
Portland, Maine	WCHS	Troy, N. Y.	WHAZ
Portland, Oregon	KFEC, KFIF, KFJR	Tulsa, Okla.	WLAL
Providence, R. I.	KFWV, KGW, KOIN, KROW, KTRP, WLSL, WRAH	Tuscola, Ill.	WDZ
Pullman, Wash.	KWSC	University Place, Nebr.	WCAJ
Portable	WEBL	Upland, Calif.	KFWC
Radio, Va.	NAA	Urbana, Ill.	WRM
Raleigh, N. C.	WRCO	Utica, N. Y.	WBIX
Rapid City, S. D.	WCAT	Valparaiso, Ind.	WRBC
Richmond, Va.	WBBL, WRVA	Vermillion, S. D.	KUSD
Richmond Hill, N. Y.	WBOQ, WGMU	Waco, Texas	WJAD
Roanoke, Va.	WDBJ	Walla Walla, Wash.	KOWW
Rochester, N. Y.	WABO, WHAM, WHCC	Washington, D. C.	WCAP, WMAL, WRC
Rockford, Ill.	KFLV	Webster, Mass.	WKBE
Rock Island, Ill.	WHBF	West De Pere, Wis.	WHBY
Rossville, N. Y.	WBRR	West Lafayette, Ind.	WBAA
Royal Oak, Mich.	WAGM	Wichita, Kans.	KFH, KFOT
Salt Lake City, Utah	KDYL, KFOO, KFUT, KSL	Wilkes-Barre, Pa.	WBAX, WBRE
Sacramento, Calif.	KFBK	Wilmington, Delaware	WDEL
San Antonio, Texas	KGCI, WCAR, WOAI	Winter Park, Florida	WDBO
San Diego, Calif.	KFBC, KFSD	Woodhaven, N. Y.	WDSM
San Francisco, Calif.	KFRC, KFWI, KGTT, KJS, KPO, KUO	Wooster, Ohio	WABW
San Jose, Calif.	KFAF, KQW	Worcester, Mass.	WTAG
San Juan, P. R.	WKAQ	Yakima, Wash.	KFIO
		Yankton, S. D.	WNAX
		Yellow Springs, Ohio	WRAV
		Youngstown, N. D.	WKBN
		Zion, Ill.	WCBD

CLASS "B" BROADCASTING STATIONS BY WAVE LENGTHS

Wave Length	Power Watts	Call Letters	Location	Wave Length	Power Watts	Call Letters	Location
204	500	WABB	Harrisburg, Pa.	231	500	KUT	Austin, Texas
205.4	500	KFVD	Venice, Calif.	232.4	500	WCWS	Bridgeport, Conn.
214.2	500	KFWF	St. Louis, Mo.	232.4	500	KFON	Long Beach, Calif.
215.7	500	WHBW	Philadelphia, Pa.	234	1000	WFBE	Cincinnati, Ohio
217.3	1000	WOK	Homewood, Ill.	234.2	500	WCWK	Ft. Wayne, Ind.
217.3	500	WFKB	Chicago, Ill.	234.2	500	WGBX	Oromo, Maine
220	500	WQAA	Parkersburg, Pa.	234.2	500	WHBJ	Ft. Wayne, Ind.
222	500	KZRO	Manila, P. I.	235	500	WAAT	Jersey City, N. J.
226	1000	WIBO	Chicago, Ill.	236.1	500	KFDX	Shreveport, La.
226	1500	WBMM	Chicago, Ill.	236.1	500	WBOQ	Richmond Hill, N. Y.
227	5000	WOWO	Fort Wayne, Ind.	236.1	500	WCAM	Camden, N. J.
228.9	500	KGBO	Ketchikan, Alaska	236.1	500	WGBF	Evansville, Ind.
229	500	KMMJ	Clay Center, Nebr.	238	3500	WHT	Chicago, Ill.
231	500	KFPR	Los Angeles, Calif.	239.9	500	WDBO	Winter Park, Fla.

CLASS "B" BROADCASTING STATIONS BY WAVE LENGTHS

(Continued)

Wave Length	Power Watts	Call Letters	Location	Wave Length	Power Watts	Call Letters	Location
240	500	KFVE	St. Louis, Mo.	275	500	WCAC	Mansfield, Conn.
240	500	WOAX	Trenton, N. J.	275	5000	WSWS	Chicago, Ill.
242	1000	WOOD	Grand Rapids, Mich.	277.6	500	WAAF	Chicago, Ill.
243.8	500	WGBB	Freeport, N. Y.	277.6	500	WLB	Minneapolis, Minn.
244	1000	WAMD	Minneapolis, Minn.	278	1000	WOQ	Kansas City, Mo.
245	5000	WBAL	Baltimore, Md.	278	500	WRBC	Valparaiso, Ind.
245.8	1000	KFSD	San Diego, Calif.	278	500	WLBL	Stevens Point, Wis.
245.8	500	WABX	Mount Clemens, Mich.	278	500	KWCR	Cedar Rapids, Iowa
245.8	500	WRR	Dallas, Texas	278	500	WHDI	Minneapolis, Minn.
246	500	WSOE	Milwaukee, Wis.	278	500	WGBU	Fulford-by-the-Sea, Fla.
248	1000	WIOD	Miami, Fla.	278	500	KWVG	Brownsville, Texas
249.9	500	KMO	Tacoma, Wash.	278	500	WCAU	Philadelphia, Pa.
249.9	500	WKBH	La Crosse, Wis.	280	1000	KFAU	Boise, Idaho
249.9	500	WNAT	Philadelphia, Pa.	280	5000	KFOA	St. Louis, Mo.
250	500	WMBB	Chicago, Ill.	280	5000	KMOX	St. Louis, Mo.
250	500	KFWI	San Francisco, Calif.	280.2	500	KOAC	Corvallis, Oregon
250	1000	WEDC	Chicago, Ill.	282.8	1000	WSM	Nashville, Tenn.
252	500	KOCW	Chickasha, Okla.	282.8	500	WOAN	Lawrenceburg, Tenn.
252	500	WCOA	Pensacola, Fla.	285.5	500	WREO	Lansing, Mich.
252	500	WFBL	Syracuse, N. Y.	285.5	1000	WKAR	E. Lansing, Mich.
252	500	WGCP	Newark, N. J.	285.5	500	KOWW	Walla Walla, Wash.
252	500	KFWB	Hollywood, Calif.	285.5	750	WQAM	Miami, Fla.
254	500	WNAD	Norman, Okla.	286	500	WEAI	Ithaca, N. Y.
254.1	500	WCAJ	University Place, Nebr.	288	1000	WSEC	Chicago, Ill.
254.1	500	WEAI	Ithaca, N. Y.	288.3	500	WMBI	Chicago, Ill.
256	1000	WDOD	Chattanooga, Tenn.	288.3	1000	WBCB	Chicago, Ill.
256	1000	WRVA	Richmond, Va.	288.3	2000	KFKX	Hastings, Nebr.
256.3	500	WASH	Grand Rapids, Mich.	293.9	500	WEAO	Columbus, Ohio
258	500	WADC	Akron, Ohio	293.9	750	KTBI	Los Angeles, Calif.
258.5	500	KOCH	Omaha, Nebr.	293.9	750	WAIU	Columbus, Ohio
258.5	500	WCMA	Culver, Ind.	296.9	500	KPRC	Houston, Texas
258.5	500	WNAL	Omaha, Nebr.	297	750	KPRC	Houston, Texas
258.5	500	WTCC	Chicago, Ill.	299.8	750	KUOA	Fayetteville, Ark.
260.7	500	WKAF	Milwaukee, Wis.	299.8	1000	KSL	Salt Lake City, Utah
260.7	500	WSKC	Bay City, Mich.	299.8	5000	WPG	Atlantic City, N. J.
260.7	500	WPSC	State College, Pa.	302.8	1000	KTAB	Oakland, Calif.
261	500	WMAZ	Macon, Ga.	302.8	500	WMSG	New York, N. Y.
261	500	KFJF	Oklahoma City, Okla.	303	1000	WGN	Chicago, Ill.
261	1000	WABQ	Haverford, Pa.	303	4000	WLIB	Chicago, Ill.
263	500	WDGJ	Minneapolis, Minn.	305.9	500	KFDY	Brookings, S. D.
263	500	WAAM	Newark, N. J.	305.9	500	KOIL	Council Bluffs, Iowa
263	1500	WCAR	San Antonio, Texas	306	1000	KOMO	Seattle, Wash.
265.3	500	WCAH	Columbus, Ohio	309.1	10000	KDKA	E. Pittsburg, Pa.
266	1000	WMAK	Lockport, N. Y.	312	1000	KSBA	Shreveport, La.
266	1000	WENR	Chicago, Ill.	312.3	1000	KWKH	Shreveport, La.
266	500	WGHB	Clearwater, Fla.	315	500	WGES	Chicago, Ill.
266	500	WBCN	Chicago, Ill.	315	500	WGBS	New York, N. Y.
267.7	500	KFH	Wichita, Kansas	315	500	WSBT	South Bend, Ind.
267.7	700	WEBW	Beloit, Wis.	315.6	500	KFWM	Oakland, Calif.
268	2500	KFEQ	Oak, Nebr.	315.6	1000	KPSN	Pasadena, Calif.
268	500	WRAX	Gloucester City, N. J.	315.6	500	KFDM	Beaumont, Texas
268	500	WNOX	Knoxville, Tenn.	315.6	5000	WABC	Richmond Hill, N. Y.
270	500	WJBL	Decatur, Ill.	316	4000	WEMC	Berrien Springs, Mich.
270	1500	WGHP	Detroit, Mich.	319	500	WSMB	New Orleans, La.
270	500	WGST	Atlanta, Ga.	319	750	WGR	Buffalo, N. Y.
270	750	WOI	Ames, Iowa	319	1000	KOIN	Portland, Oregon
270	500	WTAW	College Station, Tex.	322	2000	WBNY	New York
270	500	KGU	Honolulu, Hawaii	322.4	5000	KOA	Denver, Colo.
270.1	500	WBAR	Sisilt, Wis.	325.9	5000	WSAI	Mason, Ohio
272.6	500	WPCB	New York, N. Y.	325.9	1000	WKRC	Cincinnati, Ohio
272.6	500	WEBJ	New York, N. Y.	326	500	KFWM	Oakland, Calif.
272	500	KZKZ	Manila, P. I.	326	1000	WKRC	Cincinnati, Ohio
273	500	WRM	Urbana, Ill.	326	1000	WCAY	Milwaukee, Wis.
273	1000	WHK	Cleveland, Ohio	329.5	10000	WJAZ	Chicago, Ill.
275	500	WSMK	Dayton, Ohio	333.1	500	KQW	San Jose, Calif.
275	5000	WORD	Batavia, Ill.	331.1	2000	WBEZ	Springfield, Mass.
275	500	WJAS	Pittsburg, Pa.	333	1000	KTNT	Muscateine, Iowa
275	500	WHAR	Atlantic City, N. J.	333.1	500	WBZA	Boston, Mass.
275	500	WHAD	Milwaukee, Wis.	336.9	500	KFMX	Northfield, Minn.
275	500	WFAV	Lincoln, Nebr.	336.9	1000	KNX	Los Angeles, Calif.
275	500	KFKU	Lawrence, Kans.	336.9	500	WCAL	Northfield, Minn.
275	500	KFSG	Los Angeles, Calif.	336.9	1000	WJAX	Jacksonville, Fla.
275	500	KOV	Pittsburg, Pa.	340.7	500	WMCA	Hoboken, N. J.
275	1000	WAFD	Detroit, Mich.	340.7	500	WKAQ	San Juan, P. R.
275	500	WBAK	Harrisburg, Pa.	340.7	500	KSAC	Manhattan, Kans.

CLASS "B" BROADCASTING STATIONS BY WAVE LENGTHS

(Continued)

Wave Length	Power Watts	Call Letters	Location	Wave Length	Power Watts	Call Letters	Location
340.7	1000	KFAB	Lincoln, Nebr.	422.3	1000	WKRC	Cincinnati, Ohio
344.6	5000	WLS	Chicago, Ill.	422.3	5000	WLW	Cincinnati, Ohio
344.6	5000	WCBD	Zion, Ill.	428.3	1000	WSB	Atlanta, Ga.
348.4	500	WMBF	Miami Beach, Fla.	428.3	1000	KPO	San Francisco, Calif.
348.6	500	WEEI	Boston, Mass.	430.1	1000	KFXF	Colorado Springs, Colo.
348.6	500	KWSC	Pullman, Wash.	431	1000	WHAP	New York, N. Y.
348.6	1000	KOB	State College, N. Mex.	431	500	WNAC	Boston, Mass.
350	500	CZE	Mexico City, Mex.	434.5	1000	NAA	Washington, D. C.
352.7	500	WJAD	Waco, Texas	434.5	500	KGCH	Wayne, Nebr.
352.7	1500	WWJ	Detroit, Mich.	435	750	AT9	Ft. Bragg, N. C.
356.4	500	WOAN	Lawrenceburg, Tenn.	440.9	500	WLSI	Providence, R. I.
360	1000	WEW	St. Louis, Mo.	440.9	1000	KLDS	Independence, Mo.
361.2	5000	KGO	Oakland, Calif.	440.9	500	WDWF	Cranston, R. I.
361.2	500	WHN	New York, N. Y.	440.9	1000	WMAF	Dartmouth, Mass.
361.2	500	WPAP	Cliffside, N. Y.	440.9	500	WOS	Jefferson City, Mo.
361.2	500	WQAO	Cliffside, N. Y.	447.5	500	WQJ	Chicago, Ill.
365.6	500	WHB	Kansas City, Mo.	447.5	1000	WMAQ	Chicago, Ill.
365.6	1000	WDAF	Kansas City, Mo.	454.3	5000	WJZ	New York, N. Y.
367	500	WEAN	Providence, R. I.	454.3	1000	KTW	Seattle, Wash.
370.2	2000	WEBH	Chicago, Ill.	454.3	1000	KFOA	Seattle, Wash.
370.2	1000	WJJD	Mooseheart, Ill.	461.3	500	WCAE	Pittsburg, Pa.
370.2	500	KMTR	Hollywood, Calif.	461.3	1000	KFNF	Shenandoah, Iowa
373.8	500	WRNY	New York, N. Y.	461.3	1000	WAPI	Auburn, Ala.
374.8	750	KTHS	Hot Springs, Ark.	461.3	500	KMA	Shenandoah, Iowa
374.8	500	KVOO	Bristow, Okla.	467	5000	KFI	Los Angeles, Calif.
375	1500	KFBU	Laramie, Wyo.	468.5	500	WJBT	Chicago, Ill.
379.5	1000	WHAZ	Troy, N. Y.	468.5	1000	WRC	Washington, D. C.
379.5	5000	WGY	Schenectady, N. Y.	475.9	500	WTIC	Hartford, Conn.
384.4	500	KLZ	Denver, Colo.	475.9	1500	WBAP	Ft. Worth, Texas
384.4	500	WMBF	Miami Beach, Fla.	475.9	750	WFAA	Dallas, Texas
384.4	10000	WBAE	Electric Park, Ill.	483.6	500	WJAR	Providence, R. I.
384.4	500	WAAW	Omaha, Nebr.	483.6	5000	WOC	Davenport, Iowa
385	1000	KJR	Seattle, Wash.	483.6	500	WSUI	Iowa City, Iowa
389.4	5000	WLWL	New York, N. Y.	491.5	1000	KGW	Portland, Oregon
389.4	750	WEAR	Cleveland, Ohio	491.5	5000	WEAF	New York, N. Y.
389.4	3500	WTAM	Cleveland, Ohio	491.5	750	WCFL	Chicago, Ill.
390.9	500	WODA	Patterson, N. J.	499.7	500	WCSS	Portland, Maine
394.5	5000	WOAI	San Antonio, Texas	499.7	500	WMC	Memphis, Tenn.
394.5	500	WLIT	Philadelphia, Pa.	499.7	500	KFRU	Columbia, Mo.
394.5	500	WFI	Philadelphia, Pa.	508.2	3000	KFQB	Fort Worth, Texas
394.5	1000	KHQ	Spokane, Wash.	508.2	500	WIP	Philadelphia, Pa.
399.8	500	WHAS	Louisville, Ky.	508.2	500	WOO	Philadelphia, Pa.
400	500	KZKQ	Manila, P. I.	508.2	500	KLX	Oakland, Calif.
400	3500	WHT	Deerfield, Ill.	516.9	500	CJCA	Edmonton, Alta., Can.
400	500	PWX	Havana, Cuba	516.9	5000	WJR	Pontiac & Detroit, Mich.
405	500	KSO	Clarinda, Iowa	516.5	5000	WCX	Pontiac—Detroit, Mich.
405.2	500	WOR	Newark, N. J.	522.3	1000	WKRC	Cincinnati, Ohio
405.2	500	KHJ	Los Angeles, Calif.	526	1000	WNYC	New York, N. Y.
405.2	1000	WJY	New York, N. Y.	526	5000	WHO	Des Moines, Iowa
409	500	KQV	Pittsburg, Pa.	535.4	3500	KYW	Chicago, Ill.
409	500	WBRL	Tilton, N. H.	535.4	750	WHA	Madison, Wis.
416	1000	WCRW	Chicago, Ill.	545.1	500	WTAG	Worcester, Mass.
416.4	500	WBBR	Rossville, N. Y.	545.1	750	KSD	St. Louis, Mo.
416.4	5000	WCCO	St. Paul—Minneapolis	545.1	500	KFUO	St. Louis, Mo.

BROADCASTING STATIONS OUTSIDE OF THE UNITED STATES

CANADA

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis-tance	Dial 1	Dial 2	Dial 3
CFAC	Calgary Herald	Calgary, Alta.	1000	434.5	685				
CFCA	Star Pub. & Prg. Co.	Toronto, Ont.	1000	356.9	840				
CFCF	Marconi Wireless Tel. Co. of Canada	Montreal, Que.	1650	410.7	731				
CFCH	Abitibi Power Co.	Iroquois Falls, Ont.	250	499.7	600				

BROADCASTING STATIONS OUTSIDE OF THE UNITED STATES

CANADA—Continued

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
CFCK	Radio Supply Co.	Edmonton, Alta.	100	516.9	820				
CFCN	W. W. Grant, Ltd.	Calgary, Alta.	1800	434.5	690				
CFCQ	Radio Specialties, Ltd.	Vancouver, B. C.	50	410.7	731				
CFCT	Deauville Station	Victoria, B. C.	500	329.5	910				
CFCU	J. V. Elliott, Ltd.	Hamilton, Ont.	500	340.7	882				
CFCY	Island Radio Co.	Charlottetown, P.E.I.	50	312.3	96				
CFGC	Brant Radio Co.	Brantford, Ont.	50	297	1010				
CFKC	1st Congregational Church	Vancouver, B. C.	75	247.8	1210				
CFLC	Wallace Russ	Prescott, Ont.	50	297	1010				
CFQC	Electric Shop, Ltd.	Saskatoon, Sask.	500	329.5	910				
CFRC	Queen's University	Kingston, Ont.	500	267.7	1210				
CFXC	Westminster Trust Co.	Barnaby, B. C.	50	291.1	1030				
CFYC	Commerical Radio, Ltd.	Barnaby, B. C.	500	410.7	731				
CHIC	Northern Elec. Co.	Toronto, Ont.	500	356.9	840				
CHNC	Toronto Radio Research	Toronto, Ont.	500	356.9	840				
CHNS	Northern Elec. Co.	Halifax, Ont.	100	322	931				
CHSC	H. V. Stonin	Unity, Sask.	250	356.9	840				
CHUC	International Bible Assoc.	Saskatoon, Sask.	500	329.5	910				
CHXC	J. R. Booth	Ottawa, Ont.	250	434.5	685				
CHYC	Northern Elec. Co.	Montreal, Que.	750	410.9	731				
CJBC	Jarvis St. Baptist Church	Toronto, Ont.	500	356.9	840				
CJCA	Edmonton Journal	Edmonton, Alta.	500	516.9	580				
CJCD	T. Eaton Co., Ltd.	Toronto, Ont.	50	356.9	840				
CJCQ		King, Ont.	1000	291.1	1030				
CHCM		Calgary, Alta.	750	434.5	960				
CJGC	London Free Press	London, Ont.	500	329.5	910				
CJKC	Pyramid Temple Society	Burnaby, B. C.	500	410.7	731				
CJOC	J. E. Parmer	Lethbridge, Ont.	50	267.7	1120				

CANADA—Continued

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
CJOR	G. C. Chandler	Sea Island, B. C.	50	291.1	1030				
CJRM	J. Richardson & Sons	Moose Jaw, Sask.	50	296.9	1010				
CJSC	Evening Telegram	Toronto, Ont.	500	356.9	840				
CJWC	Wheaton Elec. Co.	Saskatoon, Sask.	250	329.5	910				
CJYC	DeForest Radio Corp.	Scarboro, Ont.	500	291.1	1030				
CKAC	La Presse, Ltd.	Montreal, Que.	7500	410.7	731				
CKCD	Vancouver Daily Province	Vancouver, B. C.	1000	410.7	731				
CKCK	Leader Pub. Co., Ltd.	Regina, Sask.	500	312.3	961				
CKCL	Dominion Battery Co.	Toronto, Ont.	840	356.9	840				
CKCO	Dr. G. M. Geldert	Ottawa, Ont.	100	434.5	685				
CKCV	G. A. Vandry	Quebec, Que.	50	340.7	880				
CKCW	Canadian Broadcasting Cp.	Burlington Jct., Ont.	5000	329.5	910				
CKFC	First Congreg. Church	Vancouver, B. C.	50	410.7	731				
CKNC	Canadian Nat. Carbon Co.	Toronto, Ont.	750	356.9	840				
CKNG	Canadian Bdcst'g. Corp.	Toronto, Ont.	5000	329.5	910				
CKOC	Wentworth Radio Sup. Co.	Hamilton, Ont.	50	340.7	882				
CKSH	City of Hyacinthe	St. Hyacinthe, Que.	50	312.3	960				
CKY	Manitoba Tel. System	Winnipeg, Man.	500	384.4	780				
CNRA	Canadian Nat'l. Railways	Moncton, N. B.	500	322	931				
CNRC	Canadian Nat'l. Railways	Calgary, Alta.	1000	435.8	690				
CNRE	Canadian Nat'l. Railways	Edmonton, Alta.	500	516.9	820				
CNRM	Canadian Nat'l. Railways	Montreal, Que.	1500	411	731				
CNRO	Canadian Nat'l. Railways	Ottawa, Ont.	500	435	690				
CNRR	Canadian Nat'l. Railways	Regina, Sask.	1000	312.3	961				
CNRS	Canadian Nat'l. Railways	Saskatoon, Sask.	500	329.5	910				
CNRT	Canadian Nat'l. Railways	Toronto, Ont.	1000	357	840				
CNRV	Canadian Nat'l. Railways	Vancouver, B. C.	500	291.1	1030				
CNRW	Canadian Nat'l. Railways	Winnipeg, Man.	500	384.4	780				

AUSTRALIA

CALL	STATION OWNER	LOCATION	P'wr W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
4QG	Queensland Government	Brisbane	5000	353	850				
2BL	Broadcasters, Ltd.	Sydney	5000	353	850				
2FC	Farmers & Co., Ltd.	Sydney	10000	1100	272				
3AR	Asso. Radio Co. of Aust.	Melbourne	1600	484	620				
3LO	Broadcasting Co. of Aust.	Melbourne	5000	371	810				
2UW	Otto Sandel	Perth	500	263	1140				
5CL	Central Broadcasters	Adelaide	5000	395	961				
6WF	Westralian Farms, Ltd.	Perth	5000	1250	240				

GREAT BRITAIN

2BD	Aberdeen Steam Laundry	Aberdeen	1500	491.8	610				
6BM	British Broadcasting Co.	Bournemouth	1500	306.1	980				
5IT	British Broadcasting Co.	Birmingham	1500	491.8	610				
2LO	British Broadcasting Co.	London	1500	361.4	830				
5NO	British Broadcasting Co.	Newcastle	1500	317	960				
5WA	British Broadcasting Co.	Cardiff	1500	353	850				
2ZY	British Broadcasting Co.	Manchester	1500	375	800				
5NG	British Broadcasting Co.	Nottingham	1500	288.5	1040				
2LS	British Broadcasting Co.	Bradford-Leeds	310	297	1010				
6LV	British Broadcasting Co.	Liverpool	200	288.5	1040				
6FL	British Broadcasting Co.	Sheffield	200	288.5	1040				
5PY	British Broadcasting Co.	Plymouth	200	288.5	1040				
2BE	Belfast University	Belfast		435	690				
5SC	British Broadcasting Co.	Glasgow	1500	405.4	740				
2EH	British Broadcasting Co.	Edinburgh	200	288.5	1040				

CONTINENTAL EUROPE

AUSTRIA

OHW	Radio Verkehrs	Vienna	10000	488	620				
-----	----------------	--------	-------	-----	-----	--	--	--	--

BELGIUM

SRB	Radio Belgique	Brussels	1500	481	624				
	Radio Wallonie	Liege		205	1460				

CONTINENTAL EUROPE—Continued

FRANCE

CALL	STATION OWNER	LOCATION	P ^{wr} W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
YN	French Government	Lyons	500	476.2	630				
	Dubanchet & Trolliet	Lyons	2000	291.3	1030				
MRD	Government	Toulouse	2000	294.1	1020				
	La Radio	Toulouse	2000	389.6	770				
FPTT	Superior School	Paris	500	459.4	660				

GERMANY

	Postal Authorities	Berlin	2250	507	590				
	Mittel Deutscher Rundfunk	Breslau	4000	357.1	840				
	S.W. Deutsche Rundfunk	Frankfurt-on-the Main		394.7	760				
	Nordischer Rundfunk AG	Hamburg	2000	428.6	700				
	Ostmarken Rundfunk	Konigsburg	300	241.9	1250				
	Mitteldeutsche Rundfunk	Leipsig	300	322.6	930				
	Nordischer Rundfunk	Hanover	1500	297	1010				
	Suddeutsche Rundfunk	Stuttgart		379.7	790				

ITALY

	Unione Radiofonica	Milan	1200	315.8	950				
IRO	UnioneRadiofonica Italiana	Rome	2600	422.6	710				

PORTUGAL

PAA	Grandes Armazens De Chiado	Lisbon	500	320	940				
-----	-------------------------------	--------	-----	-----	-----	--	--	--	--

SPAIN

EAU10	Don Juan Iaborra	Cadiz	1000	330	910				
EAU4	Don Antonio Castilla	Madrid	1000	275.2	1090				
EAU6	Radio Iberica	Madrid	1000	577					
EAU15	Asso. of Radio	Madrid	1000	490	612				
EAU25	Cia Iberica De Telecomuni- cacion	Malaga	1000	254.2	1180				
EAU19	Don Arbuero Cima	Oviedo	1000	201.3	1480				
EAU21	Don M. G. Ballesta	Seville	1000						

SWEDEN

CALL	STATION OWNER	LOCATION	P ^{wr} W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
SASE	Radiovanst	Boden	1000	454.5	660				
SASB	Radiovanst	Goteburg	500	260.9	1150				
SASC	Radiovanst	Malmo	500	229	1310				
SASD	Radiovanst	Sundsvall	500	545.6	550				

SWITZERLAND

RGZ	Zurich University	Zurich	500	500	600				
	Radio Club of Berne	Berne	1500	411	730				
	Gen. Post and Tel. Office	Berne	1500	302					
	Radio Broadcast Society	Geneva	500	760					
HB2	Romande De Radiotele- phonic	Lausanne	600	850					

HAWAII

KGU	Marion K. A. Mulrony	Honolulu	1500	270	1110				
-----	----------------------	----------	------	-----	------	--	--	--	--

PORTO RICO

WKAQ	Radio Corp. of Porto Rico	San Juan	500	340	881.8				
------	---------------------------	----------	-----	-----	-------	--	--	--	--

CUBA

7SR	Salvador	Rionda	500	350	856.6				
2BY	F. W. Borton	Havana	100	260	1153				
2HP	Credito Const. Co.	Havana	100	295	1010				
2OK	Mario G. Velez	Havana	100	360	833				
6JK	F. H. Jones	Tuinucu	100	272	1110				
6KW	F. H. Jones	Tuinucu	100	340	881.8				
6BY	Jose Ganduve	Cientuegos	200	260	1153				
8BY	Alberto Ravello	Santiago	100	250	1200				
2EP	El Pais	Habana	400	355	844.6				
6KW	F. H. Jones	Santa Clara	100	340	881.8				
2LR	Jose Lara	Habana	50	235	1276				
2OL	Colombia Cycle & Radio Co	Habana	100	225	1340				
PWX	Cuban Tel. Co.	Habana	500	400	749.6				

MEXICO

CYA	E. R. Gomez	Mexico City	500	300	999.4				
CYB	El Buen Tono	Mexico City	500	275	1090				

MEXICO—Continued

CALL	STATION OWNER	LOCATION	P ^{wr} W'ts	Wave L'ngth	Freq. Kilo.	Dis- tance	Dial 1	Dial 2	Dial 3
CYC	Angel Fernandez	Vera Cruz	50	1337	890				
CYF	Federico Zonilla	Oaxaco	100	265	1131				
CYH	High Life	Mexico City	100	375	799.5				
CYJ		Mexico City		400	750				
CYL	Radul Azcaragga	Mexico City	500	480	625				
CYM	R. Reyes	Monterey	100	275	1090				
CYO	M. Zetina	Mexico City	100	425	705.5				
CYR	C. Llamas	Mazatlan	250	475	631.2				
CYQ	C. Sagaon	Tampico	100	322	931.1				
CYU	A. del. P. Zaenez	Puebla	100	312	961				
CYX	El. Excelsior	Mexico City	500	325	922.5				
CYY	Socialistic Party	Yucatan	100	548	547.1				
CZE	Dept. of Education	Mexico City	500	350	856.6				
CZF	Telephone Co.	Chihuahua	250	325	922.5				
FAM	Fed. Mil. Co.	Guadala Sara	1000	490	611.9				

SOUTH AMERICA —ARGENTINA

LOO		Buenos Aires	1000	250	1200				
LOR	Argentine Asso. of Brdcst'rs	Buenos Aires	500	400	750				
LOW	Grand Splendid Theatre	Buenos Aires	1000	325	922				
LOT			1000	272.7	1100				
LOY	Radio Nacional	Buenos Aires	100	313	960				
LOV	F. Brusa	Buenos Aires	1000	352	850				
LOX	Radio Cultura	Buenos Aires	500	375	800				
TCR	Francisco Brusa	Buenos Aires	100	300	1000				
B1	Francisco Brusa	Buenos Aires							

BRAZIL

SPE	Dept. National Telegraph	Rio de Janeiro	500	312	960				
	Radio Sociedade	Rio de Janeiro	1000	400	750				
	National Telegraph	Bello Horizonte	500	400	750				
	Sociedade do Bahia	Bahia	500	250	1200				

PROGRAMME DIRECTORY

KDKA—Pittsburgh, Pa.

Mon., Wed., Fri., Sat., 6:15-9:55 p. m.; Tues., Thurs., 6:15 p. m.-12:30 a. m.; Sun. 4-8:45 p. m. Eastern standard time.

KFAB—Lincoln, Neb.

Sun., 4-5 p. m.; daily ex. Sun., Thur., 9:30-11 a. m., 1:15-6:30 p. m., 8:10-10:30 p. m.; Thur., 9:30-9:55 a. m., 3-3:30 p. m. Central standard time.

KFI—Los Angeles, Cal.

Mon., Wed., Fri., 10:45-11:05 a. m., 7-11 p. m.; Tues., Thur., Sat., 7-11 p. m.; Sat., 11 p. m.-3 a. m.; Sun., 10-10:45 a. m., 4-5 p. m., 6:30-11 p. m. Pacific standard time.

KFKX—Hastings, Nebr.

Daily ex. Sun., Sat., 9:30 a. m., 10:30 a. m., 12:30 p. m., 3 p. m., 7 p. m., markets; Mon., Wed., Fri., 7-11 p. m., musical program; Sat. markets at 9:30, 10:30 a. m., 12:30 p. m. only; relay of KDKA "dinner program," 5:15-7 p. m. each week day. Central standard time.

KFOA—Seattle, Wash.

Daily ex. Sat., Sun., 10 a. m.; Mon., Wed., 10 a. m.-10 p. m.; Tues., Fri., 10 a. m.-11:30 p. m.; Thur., 10-5:30 p. m.; Sat., 4-11:30 p. m. Pacific standard time.

KGO—Oakland, Cal.

Daily ex. Sun., 11:30 a. m., luncheon concert program; Mon., 10:40 a. m., 3 p. m., 5:30-6 p. m., 8-10 p. m.; daily ex. Sat., Sun., 1:30 p. m., weather reports; Tues., Wed., Thur., Fri., Sat., 4-5:30 p. m.; Mon., Wed., Fri., 3 p. m.; Tues., Thur., Sat., 8-10 p. m.; Fri., 5:30-6 p. m.; Sun., 11 a. m., services; 3:30-5 p. m., musical; 7:45 p. m., services. Pacific standard time.

KJR—Seattle, Wash.

Daily ex. Sat., Sun., 10:30-11:30 a. m.; daily ex. Sun., 1-3 p. m., 5-6 p. m., 7-10 p. m., 10-12 p. m., musical program; Sun., 11 a. m., church service; 5 p. m., concert; 7:15 p. m., church service; 9-10:30 p. m., concert. Pacific standard time.

KOA—Denver, Colo.

Daily ex. Sun., 11:45 a. m., weather and news reports; 12:15 noon, luncheon musical; 3:15 p. m., relaxing exercises; daily ex. Sat., Sun., 6 p. m., news and markets; 6:30 p. m., dinner concerts; Tues., Thur., Fri., 3:30, 4, 4:14 p. m.; Mon., Wed., Fri., 7:30, 8 p. m.; Wed., Sat., 10 p. m., dance music; Sun., 11 a. m.; 7:45 p. m., church services; 4 p. m., musical hour. Mountain standard time.

KOB—New Mexico, N. M.

Daily 11:55 a. m.-12 p. m., time signals; 9:55-10 p. m., time signals; 12 noon, weather reports; Mon., Fri., 7:30-8:30 p. m., concerts, lectures. Mountain time.

KPO—San Francisco, Cal.

Daily ex. Sun., 7-8:15 a. m., health drill; 8-11 p. m., music; daily ex. Fri., Sun., 2:30-3:30 p. m., matinee; daily ex. Sat., Sun., 5:15-6:15 p. m., "Big Brother"; daily, 10:30 a. m., 6:30 p. m., weather forecast and "Ye Towne Crier," etc.; Sun., 9:45-10:45 a. m., church service; 5-10 p. m., musical. Pacific standard time.

KPSN—Pasadena, Cal.

Tues., Thurs., Sat., 8-9:30 p. m., studio concert; Sat., 9:30-10:30 p. m., dance orchestra; Sun., 9:30-10:30 a. m., 6-7 p. m., church services; 8:45-9:45 p. m., hotel concert. Pacific standard time.

KSL—Salt Lake City, Utah.

Daily ex. Sun., 2 p. m.-12 p. m.; Fri., 10 a. m.-12 p. m.; Sun., 2-10 p. m., classical and religious program. Mountain standard time.

KTAB—Oakland, Cal.

Daily ex. Sun., 9:30 a. m., prayer service; Mon., Tues., Thurs., Fri., 8-10 p. m., studio program; Sun., 9:45-12 noon; 7:45-9 p. m., church services; 9:30-11 p. m., concert. Pacific time.

KTCL—Seattle, Wash.

Daily ex. Sat., Sun., 9:30-10:30 a. m.; Mon., 7-9 p. m., musical; Tues., Thurs., 12:30-1:30 p. m., concert; Tues., 8-9 p. m.; Wed., 7:30-9:30 p. m., musical; Fri., 8-10 p. m., musical; Sat., no definite hours; Sun., 1-2 p. m., 3-4 p. m., 7:50-9:10-10:10 p. m. Pacific standard time.

KYW—Chicago, Ill.

Daily every hour ex. from 2 a. m.-8 a. m., news reports, music and readings. Central standard time.

NAA—Arlington, Va.

Daily 10:05 a. m., 3:45 p. m., 10:05 p. m., Tues., 7:30 p. m. Eastern standard time.

WBAP—Fort Worth, Texas.

Daily ex. Sat., Sun., 6 p. m., orchestra; 7:30 p. m., classical, varied, Hawaiian; 9:30 p. m., popular, classical, orchestral and varied; Mon., Wed., Fri., 11 p. m., popular music; Sat., 7:30 p. m., Sunday school class; Sun., 11 a. m., church; 12:30 p. m., kiddie's hour; 5 p. m., sacred; 11 p. m., popular. Central standard time.

WBBM—Chicago, Ill.

Mon., 4-7 p. m.; Tues., Wed., Thurs., Fri., 4-6 p. m., 7-12 p. m.; Sat., 4-6 p. m., 8 p. m.-2 a. m.; Sun., 12:30-2 p. m. Central standard time.

WBZ—E. Springfield, Mass.

Daily ex. Sun., 6:30-10:30 p. m., (Thurs. 11 p. m.); Sun., 10:50 a. m., 7 p. m., 8 p. m. Eastern standard time.

WCBD—Zion, Ill.

Tues., Thurs., 8-10:30 p. m., concert; Wed., 12:30-1 p. m., organ concert; Thurs., 2:30-3:45 p. m., sacred music and address; Sun., 9-10:45 a. m., Bible school; 2:30-6 p. m., service. Central standard time.

WCCO—Minneapolis, Minn.

Daily ex. Fri., Sun., 9:30 a. m., 9:35 a. m., 9:45 a. m., 10:30 a. m., 11:30 a. m., 12 noon, 1:30 p. m., 2 p. m., news, markets, weather, noon concert and woman's hour; Mon., 2:30-10 p. m.; Tues., 3-10 p. m.; Wed., 2:30-11:30 p. m.; Thurs., 3-10:05 p. m.; Fri., Sat., 6:15-10:05 p. m.;

Sat., 2:30 p. m.; Sun., 10:50 a. m., 1:45-9:15 p. m. Central standard time.

WCX—Detroit, Mich.

Daily ex. Sun., 4-4:30 p. m., 6-7 p. m.; Mon., Wed., Thurs., 8-9 p. m.; Tues., 10 p. m.-2 a. m.; Fri., 9-10 p. m., 10-11 p. m.; Sun., 10:15 a. m., church services; 3-4 p. m., organ recital. Eastern standard time.

WEAF—New York, N. Y.

Daily ex. Sun., 6:45-7:45 a. m., 6 p. m.-12 midnight; daily ex. Sun., 4-5 p. m.; Mon., Wed., Fri., 10:45 a. m.-12 noon; Tues., Thurs., 11 a. m.-12 noon; 7:20-10:15 p. m. Eastern standard time.

WEBH—Chicago, Ill.

Daily ex. Sun., Mon., 7-8 p. m., 9-10 p. m., 11 p. m.-1 a. m. (Sat., 11 p. m.-2 a. m.); Sun., 10:40 a. m.-12 noon, church services; 5-6 p. m., 7-9 p. m., musical program. Central standard time.

WENR—Chicago, Ill.

Daily ex. Sun., Mon., 6-7 p. m., dinner concert; 8-10 p. m., musical; Wed., Fri., Sat., 12 midnight-2 a. m., popular music; Sun., 2-4 p. m. classical; 9:30-11:30 p. m. popular music. Central standard time.

WGHP—Detroit, Mich.

Mon., Tues., Wed., 8-10 p. m., musical; Thurs., 10-12 p. m., the Midnight Mariners aboard the Skylark; Fri., 10-12 p. m., popular program.

WGN—Chicago, Ill.

Daily ex. Sun., 11:57 a. m., 12:30-3:30 p. m., 5:30-5:57 p. m., 6-7:30 p. m., 8:30-11:30 p. m.; Tues., Thurs., 12:30 p. m., farm talks; Sun., 12-1 p. m., 1-5 p. m., 9-10 p. m. Central standard time.

WGY—Schenectady, N. Y.

Daily ex. Sun., 11:55 a. m., 12:30 p. m., 12:45 p. m., 12:40 p. m., 6 p. m., 6:10 p. m., 6:15 p. m.; Mon., Tues., Thurs., Fri., 2 p. m.; Tues., Thurs., 2:30 p. m.; Mon., Tues., Thurs., 6:30-7 p. m.

WHAZ—Troy, N. Y.

Mon., 9-11:30 p. m.; second Mon. of each month, a special transcontinental and transatlantic test program from 12 midnight-1:30 a. m. Tues. Eastern standard time.

WHK—Cleveland, O.

Daily ex. Sun., 6:30-7:30 p. m.; Sun., 10:30 a. m.; Sun., 10:30 a. m., church; 6:15-7:15 p. m., 7:15-9 p. m., church, 9-9:30 p. m. Eastern standard time.

WHO—Des Moines, Ill.

Daily ex. Sun. 7-8 a. m., 9-10:30 a. m., 11:30 a. m.-12:30 p. m., 2-4 p. m., 7:30-9 p. m., 11 p. m. midnight, musical programs. Central standard time.

WHT—Chicago, Ill.

Sun., 12 noon-3:45 p. m., 5:30-11:30 p. m.; daily ex. Sun., 10 a. m.-2 p. m., 6-7:30 p. m.; daily ex. Sun., Mon., 7:45 p. m.-1 a. m. Central standard time.

WIBO—Chicago, Ill.

Daily 2-4 p. m., ; daily ex. Mon., 6-8 p. m., music; Wed., 10 p. m.-12 midnight; Fri., 10 p. m.-12 midnight; Tues., Thurs., 12 p. m.-3 a. m., midnight jamboree; Sun. 10-12 p. m., musical. Central standard time.

WJJD—Mooseheart, Ill.

Daily ex. Mon., Sun., 4, 6, 8, 10 p. m., 12 midnight, musical and talks; Sun., 7:45 a. m., Catholic church; 9:40 a. m., Protestant church; 3 p. m., musical. Central standard time.

WJR—Detroit, Mich.

Daily ex. Sun., 7-8 p. m., 9-10 p. m.; Mon., Wed., Sat., 11:30 p. m.-1 a. m.; Thurs, Sat., 10-11 p. m. Eastern standard time.

WJY—New York, N. Y.

Tues., Thurs., Fri., 7:30-11:30 p. m.; Sun., 8:15-10:30 p. m. Eastern standard time.

WJZ—New York, N. Y.

Daily ex. Sun., 10 a. m.-11:30 p. m., miscellaneous program; Sun., 9 a. m.-10:30 p. m., children's hour, church services and classical music. Eastern standard time.

WKAR—Lansing, Mich.

Daily ex. Sat., Sun., 7:15-8 p. m., Radio school, farm lectures; Mon., Wed., 8-9 p. m., dance program; Fri., 8-9 p. m., educational program by state government department.

Weather reports broadcasted at noon each day ex. Sun. Eastern standard time.

WKRC—Cincinnati, O.

Sun., 6:45-7:30 p. m., religious, 10-12 p. m., musical; Mon., Wed., 6-7, dance music; 8-10 p. m., 12 midnight frolic; Tues., Thurs., Sat., 10-12 p. m., dance and classical music. Central standard time.

WLIB—Chicago, Ill.

Daily ex. Sun., Mon., 7-8 p. m., 9-10 p. m., 11-12 p. m.; Sun., 4-5 p. m. Central standard time.

WLS—Chicago, Ill.

Daily ex. Sun., 9 a. m., 11 a. m., 12 p. m., 2 p. m., weather, markets; Mon., 6-7 p. m., dinner hour program; Tues., Thurs., 6:15-7:55 p. m., musical entertainment. Wed., Fri., 6:15-11 p. m., entertainment; Sat., 7-12 p. m.; Sun., 6-7:55 p. m. Central standard time.

WLW—Cincinnati, O.

Daily ex. Sat., Sun., 7:30 a. m., health exercises; 8 a. m., morning worship, auspices of Y. M. C. A.; Mon., 10:45 a. m.-12:15 p. m.; Fri., 10:45 a. m.-1:30 p. m.; Wed., 10:45 a. m.-12 p. m.; Thurs., 10:45-12:15 p. m.; Fri., 10:45 a. m.-1:30 p. m., silent night; Sat., 10:45 a. m.-10:30 p. m.; Sun., 9:30 a. m., S. S.; 10:45 a. m., weather, markets; 11 a. m.; 7:30 p. m., church services; 3 p. m., organ music; 8:30 p. m., concert. Central standard time.

WLWL—New York, N. Y.

Mon., Thurs., 9 p. m., music talks and songs; Tues., Fri., 11 a. m., shopping talks; Sun., 8 p. m., Paulist choristers, sermon, benediction. Eastern standard time.

WMAF—So. Dartmouth, Mass.

Eastern standard time.

WNYC—New York, N. Y.

Daily ex. Sun., 6-11 p. m.; Mon., Wed., Fri., 11 a. m.-12:30 p. m.; Sun., irregular.

WOAI—San Antonio, Tex.

Mon., Wed., Fri., 3 p. m., musical concert; Tues., Wed., Fri., 8:30-9:30 p. m., Sun., 7:45-8:45 p. m. Central standard time.

WOAW—Omaha, Neb.

Mon., Tues., Thurs., Fri., 6-7:30 p. m., dinner hour program, orchestra, miscellaneous music; 9-11 p. m., deluxe programs, musical features; daily ex. Sun., 8:15, 8:55, 10:30 a. m., 12:30, 1:45, 4 p. m., market report; Sat., regular programs till 7:30 p. m.; additional programs under the Omaha Chamber of Commerce; Sun., 9 a. m., 6, 8 p. m., religious services. Central standard time.

WOC—Davenport, Ia.

Mon., silent after 6 p. m.; Tues., 7:30-9 p. m., 9-10 p. m., musical; Wed., 9-10 p. m., musical; Thurs., 7-10 p. m., 11-12 p. m., dance orchestra; Fri., 8-9 p. m., musical; 11-12 p. m., dance orchestra. Central standard time.

WOK—Chicago, Ill.

Daily ex. Sun., Mon., 10 p. m.-1 a. m.; Fri., 5-7 p. m., Capitol Theatre organ; Sun., 6:30-8:30 p. m. Central standard time.

WOQ—Kansas City, Mo.

Tues., 8-9:30 p. m., devotional musical program; Thurs., 7-8 p. m., educational; 8-10 p. m., musical; Sat., 8-10 p. m., classical music; 10-11 p. m., special radio healing service; Sun., 11 a. m.-12:30 p. m., morning service; 7-9:30 p. m., evening service. Central standard time.

WORD—Chicago, Ill.

Tues., Wed., Fri., 7-8 p. m., 9-10 p. m., 11-12 p. m.; Thurs., Sat., 8-10 p. m.; Sun., 10-11 a. m., 7-8 p. m., 9-10:30 p. m. Central standard time.

WRC—Washington, D. C.

Mon., Wed., Fri., 10 a. m.-6:30 p. m.; Tues., 10 p. m.-1 a. m.; Thurs., 10 a. m.-12:30 a. m.; Sat., 12 noon-1 a. m. Eastern standard time.

WRVA—Richmond, Va.

Mon., Wed., Fri., 8:15-11 p. m. Eastern standard time.

WSAI—Cincinnati, O.

Mon., 8-12:30 p. m.; Tues., 5:30-10 p. m., 12-12:30 p. m.; Wed., 7:30-12 p. m.; Thurs., 6:30-10 p. m.; Sat., 7-10 p. m., 12 p. m.-1:30 a. m.; Sun., 3-4:30 p. m., 7:45-10:15 p. m. Central standard time.

WSB—Atlanta, Ga.

Daily ex. Sun., 12-1 p. m., music, weather; 2:30 p. m., reports; 5 p. m., 8-9 p. m. (ex. Wed.), 10:45-12 p. m., concerts; Sun., 5-6 p. m., 7:30-9:15 p. m., church services. Central standard time.

WSM—Nashville, Tenn.

Mon., Wed., Fri., Sat., 6:30 p. m., dinner music; 7 p. m., community program; Mon., Wed., Sat., 10 p. m., studio concert; Sun., 10:30 a. m. 7:30 p. m., church services. Central standard time.

WTAM—Cleveland, Ohio.

Daily ex. Sun., 12:15-1:30 p. m., 6-7 p. m.; Mon., Wed., Sat., 8-12 p. m., 6-7 p. m.; Mon., Wed., Sat., 8-12 p. m., 6-7 p. m. Eastern standard time.

WWAE—Plainfield, Ill.

Daily ex. Sun., 12:30-1:30 p. m., 9-12 midnight; Sun., 10:30-12:15 a. m., church; 3:30-4:30 p. m., musical. Central standard time.

WWJ—Detroit, Mich.

Sun., 10:30 a. m., church services; 2 p. m., orchestra concert; 7:20-10:15 p. m., varied musical program; Mon., Wed., Fri., 7:30-8:30 a. m., setting-up exercises; daily ex. Sun., Sat., 9:30 a. m., dinner menu; 10:25 a. m., weather; 11:55 a. m., time signals; 12 noon, concert; 3 p. m., concert; 6 p. m., dinner concert; 8-11 p. m., varied musical program. Eastern standard time.

CARE AND OPERATION

of RADIO RECEIVERS

and ACCESSORIES

Testing and Care of "A" Battery:

"A" Chargeable Storage Batteries—If a new storage battery has been purchased, and is given proper care, it should give many years of successful radio service. Many times radio fans have used an old car battery for their radio set.

If the battery was in poor condition before starting its radio service, reception will not be as satisfactory as it should be. This does not mean that a car battery cannot be used for radio work. A second hand car battery in good condition will sometimes give months of good radio service.

Some Things To do and Not to Do to Your Radio Battery.

1. **Keep the battery charged.** Test with a hydrometer and have it recharged when the reading is under 1150. Never leave battery standing in an uncharged condition for a long period of time. If battery is not going to be used for some time, give a good over-charge and disconnect all wires. Or take battery to a service station and have them take care of it until you again wish to use it. The liquid in a discharged battery will freeze in extremely cold weather.
2. **Keep the plates covered with liquid.** Add distilled water only, unless some of the acid has become spilled or the battery has been leaking. Then electrolyte, as originally used, should be added.
3. **Keep battery clean and terminals free from corrosion.** All battery terminals should be scraped clean and the wires securely fastened to the battery by means of a battery clip or terminal posts. If the terminal post or clips are then covered with vaseline, corrosion will not occur.
4. **Connect the battery to set and to the battery charger in the right manner.** Always be sure that the positive terminal of the battery is connected to the binding post marked positive or (+) on the set and the negative(—) of the "A" Battery to the (—) terminal on the set. On some battery chargers, either wire can be connected to the positive terminal but if they are marked, they should be connected to the right post. The red wire of the

battery charger is always the positive side. If the terminal on the battery is not marked in any way, you can find the polarity in the following manner: Fill a water glass two-thirds full of of strong solution of salt water and hold the two wires connected to the "A" battery about one half inch apart in this solution. The wire around which bubbles rise freely will be a negative lead.

5. **Don't lay tools or any other metal parts across terminals of the battery.** If metal is placed across the terminals of the battery, a heavy load is thrown on the plates and they will become buckled or warped.
6. **Keep all lighted matches or flames away from the vent holes of the storage battery.** Hydrogen gas is present around the top of the battery when it is being charged or discharged, and the battery is apt to explode if coming in contact with a flame.
7. Don't try to use one and a half volt tube, such as W. D. No. 11 and W. D. No. 12 with a six volt storage battery, unless you use only one cell of the battery and keep rheostat turned down low.
8. **Don't charge battery at too high a rate.** Generally ten amperes is the highest that a radio battery will stand, but ordinarily only a five to six ampere rate is used.
9. **Don't overcharge battery too often.** Sometimes a battery will need a good overcharge especially if the plates have become sulphated and the battery will not hold a charge. When you are giving the battery this overcharge, leave it connected to the battery charger from ten to twelve hours after the hydrometer shows the battery to be full.
10. **Don't get battery solution on drapes or rugs.** The acid in a battery will burn holes in any cloth with which it comes in contact. Many male radio fans have come near losing their "happy home" because the radio battery ruined a rug for the "Missus."

DRY "A" BATTERIES

Some radio tubes draw such a small amount of current that they can be run economically when using dry cells as an "A" battery. Tubes in the class with the W. D. 11 or 12 and the U. V. 199 and C. 299 are known as dry cell tubes.

Sometimes dry cell batteries are used to light the filament of tubes drawing one quarter of ampere at five volts such as the U. V. 201 "A" type bulb. This is an expensive and unsatisfactory practice and should not be done except on rare occasions when the set owner wishes to use a set for a short period of time and a storage battery is not available.

Positions of the dry cells make very little difference, so that in portable sets they may be placed either in a horizontal or vertical position. Use an ammeter to test dry cells. When they are new and fully charged,

most dry cells test thirty-five amperes and they should be discarded when testing under ten amperes.

TESTING AND CARE OF "B" BATTERIES.

Dry "B" Batteries—Are generally sold in blocks of 22½ or 45 volts.

In all well made batteries, the large size will last longer than the smaller ones when a heavy load is used. The shelf life of a battery is not very long, however, and so if only one or two tubes are used, and these infrequently, it is just as well to use a smaller size "B" battery. Small size batteries are also best when the radio fan wishes to build a portable radio set. When all of the batteries are placed inside of the cabinet, they should be both small and light.

Never test a "B" battery by placing a screw-driver or other piece of metal across the terminals to see if you get a spark. This will discharge the battery much more than many hours of service. When you wish to test the "B" battery, provide yourself with a good battery volt meter made for this purpose, and then be sure not to leave it connected across the battery for any length of time; just touch it on the terminals long enough to get a good reading.

CHARGEABLE "B" BATTERIES.

Most chargeable "B" batteries are similar in construction to the chargeable "A" batteries, except the cells are smaller and many more cells are necessary. All chargeable "B" batteries, except the Edison type, use the same kind of liquid and the same care much be given to them as is given the "A" battery. The battery must be kept charged, plates covered with liquid, and pure distilled water added to take care of evaporation.

Most battery chargers on the market will charge both "A" and "B" batteries. If you do not have a battery charger of this kind and wish to charge your "B" battery from an alternating current line, a very cheap electrolytic battery charger may be purchased which will take care of "B" batteries only. These chargers will not charge an "A" battery due to the fact that the charging rate is only one-quarter to one-half of an ampere, and it would take several days and sometimes weeks to properly charge a large battery.

When 110 volt direct current is available, the battery charger is unnecessary, and the "B" battery can be charged by connecting direct to the line, using a 25 watt lamp in series with the positive lead. The negative side of the 110 volt line must be connected to the negative side of the battery. If unable to tell the polarity of the electric line, use the test such as described under "A" batteries.

"C" BATTERIES.

When using very high plate voltage on the amplifier bulbs, it is sometimes best to use a "C" battery in the grid return. A "C" battery is not

generally added, unless 90 volts or over of "B" battery is used. When a high voltage is used on the plates, the "C" battery will oftentimes cut down the amount of "B" battery current being consumed without in any way decreasing the amplification. "C" battery will many times clean up a noisy signal. The table shown under "Tubes" gives the proper "C" battery voltage for the various bulbs.

CARE AND OPERATION OF RADIO TUBES

The tube is the heart of the radio set, so care must be taken to keep them working at their highest efficiency as well as to keep them from burning out.

All tubes should be burned as dimly as is possible and still receive the desired results.

When they are turned down low, the life of the tube will be prolonged and reception will generally be better. Tubes of the U. V. No. 199 type and 201-A type use a new type of filament having a thorium oxide coating and the electron omission will stop if the filament is heated too hot or too high a plate voltage is applied.

Sometimes the tube can be brought back to normal by lighting up the filament with the plate battery disconnected. Plate voltage on the detector should always be figured from the negative end of the "B" battery. In either the detector or amplifier the plate voltage is too high when a blue glow is present in the tube. The proper rheostat for the different tubes are as follows:

For 1—W. D. No. 11 or W. D. 12, use 6 ohm rheostat

For 1—U. V. 200 or C-200, use 6 ohm rheostat

For 2—or more of either of the above tubes, a 4 to 6 ohm rheostat should be used.

For 1—U. V. 201-A $\frac{1}{4}$ amp tube, use 20 ohm rheostat, and when two of these tubes are used, on the same rheostat, a 10 ohm rheostat unit will be about right. If using more than two bulbs on one rheostat, use either a 10 or 6 ohm.

For U. V. No. 199 and C-199, use 30 ohm rheostat for a $4\frac{1}{2}$ volt dry cell "A" battery. If a 6 volt storage battery is used to light No. 199 bulbs, care must be taken not to burn these too bright.

Keep prongs on the bottom of the tube clean. Always see that these prongs make good contact with the spring of the socket. If good contact is not had, many times the radio set will be noisy.

Try switching tubes around to increase efficiency of the set. Radio tubes are not all uniform, and many times certain tubes will work well as radio frequency amplifiers, but not so well as a detector or audio frequency amplifier. A soft amplifier tube also makes a wonderful

detector. Always try changing or varying the voltage of the "B" battery connected to the detector tube. On the regular 200 detector bulb, this varies from 18 to $22\frac{1}{2}$ volts, and when a 201-A type tube is used for detector, plate voltage as high as 45 volts can sometimes be used.

Plate "B" Battery consumption of various tubes when used for audio amplification and using 90 volts of "B" Battery.

TYPE OF TUBE	PLATE CURRENT
W. D. No. 11 or W. D. No. 12	4.5 Miliamperes
(When used with $4\frac{1}{2}$ volt "C" Battery,)	2.5 Miliamperes
U V No. 199 Type Bulb	4.0 Miliamperes
(When used with $4\frac{1}{2}$ volt "C" Battery,	2.2 Miliamperes
U V No. 201-A Type Bulb	6.0 Miliamperes
(When used with $4\frac{1}{2}$ volt "C" Battery,	2.0 Miliamperes

These are only approximate figures, as different tubes will vary to some extent, but the above can be used as an average for the ordinary tube.

FILAMENT VOLTAGE AND OTHER DATA ON VACUUM TUBES

In most cases, the information given below will apply to tubes made by independent manufacturers as well as to those distributed by the R. C. A. and Cunningham Company.

No. 201-A TYPE TUBE

Filament voltage	5 volts
Filament battery	6 volt storage or 4 dry cells
Plate voltage	
Detector	$16\frac{1}{2}$ to 45 volts
Amplifier	45 to 135 volts
Filament current consumption	.25 amperes
"C" Battery needed	
When using 45 to 67.5 volts plate battery, "C" battery should be	1.5 to 3 volts
When using 67.5 to $112\frac{1}{2}$ volts, "C" Battery should be	3.0 to 4.5 volts

When used as detector, it will require a .00025 Grid condenser and a grid leak or from $\frac{1}{2}$ to 5 megohms. Several different sizes of grid leaks should be tried to find which will give best results. After the right value is found, it can remain permanent until detector tube is changed.

No. 199 TYPE TUBES

Filament voltage	3 volts
Filament battery	3 dry cells or two cells storage battery
Plate voltage	
Detector	22½ to 45 volts
Amplifier	45 to 112½ volts
Filament current consumption	.06 amperes
"C" Battery needed for 45 to 67.5 volts plate battery, "C" Battery should be	1.5 to 3 volts

W D No. 11 or W D No. 12 TYPE TUBE

Filament voltage	1.5 volts
Filament battery	1 dry cell or 2 volt cell from storage battery.
	Note: If two volt cell from storage battery is used, care must be taken to keep the rheostat turned down low.
Plate voltage	
For Detector	22½ to 45 volts
For Amplifier	45 to 100 volts
Filament current consumption	.20 amperes at 1½ volts
"C" Battery needed	These will be same as for No. 199 Type tubes.

LOCATING TROUBLE IN A RADIO SET

Note: The following is taken from our book of Radio Theory Simplified, but due to the fact that the Log and Call Book is always handy when trouble is experienced in the receiver, we believe it a good thing to reprint here.

IF THE SET FAILS TO OPERATE AT ALL

See if the aerial and ground are connectel to their proper places.

Phone or loud speaker may be disconnected.

"A" and "B" batteries may be disconnected.

Leads from "B" battery may be reversed. Trace out and see that the positive side of the "B" battery is connected to the plate terminal of the audion bulb.

One of the tubes in the set may be burned out or the elements of the tube may be touching each other.

Check the set over and see if there are any loose connections.

A phone condenser may be shorted.

A transformer may be shorted or burned out.

One of the jacks in the set may be open. This oftentimes happens. To find out if it is causing the trouble press down on the leaves of the different jacks and see if a signal can be received.

Tubes may not be making contact in their sockets. Try pressing down on different tubes to see if this brings in signals.

Phone plug may not be making proper contact in jack due to its not being pushed in far enough.

Dead "B" batteries. These should be tested with a volt meter.

Variable condenser or secondary coils may be shorted.

IF NOISES ARE HEARD IN THE SET BUT NO SIGNALS CAN BE RECEIVED

Look for poor connection to aerial and ground.

Look for poor connection to "A" battery making filament current unsteady.

Set may be in an oscillating condition due to the tickler coil being too closely coupled.

Grid wire or return lead from grid to "A" battery may be open. This generally causes a very pronounced A-C hum or whistle.

Variable condenser may be shorted. (Keep variable condensers free from dust between plates.)

"B" battery voltage on the detector may be too high. Try changing Detector "B" battery voltage.

Jacks may be open.

Noises may be due to power leaks, x-ray machines, motors, arc lights, flickering, etc. To see if this is causing trouble, disconnect aerial and ground to see if noises disappear.

Lightning Arrestor may be shorted.

WEAK SIGNALS

Exhausted "A" or "B" battery.

"A" battery terminals may be reversed.

Poor bulbs.

Poor socket contacts.

Inefficient transformers.

Amplifier "B" battery voltage too low.

Detector "B" battery voltage too high or too low.

Poor phones or loud talker.

Poor grid condensed.

Grid leak not of proper value. Try changing to different sizes.

Phones or loud speaker leads may be reversed. Try changing around and see which gives best signals.

Set may not tune to wave length which it is desired to hear. Try adding loading coils.

Tickler coil connections may be reversed.

Phone condenser omitted.

Shellac or paraffin on coils. Use high dielectric varnish only.

Signals may be fading. Noticed especially in the summer time and on distant stations. Nothing can be done to rectify this trouble except that sometimes where the fading comes at long intervals variations may be followed by changing the tuning.

Poor aerial or ground. Fastened ground to water pipe or to pipe driven into moist earth.

Inefficient parts used in set.

Leads to primary of audio frequency transformer may be reversed.

Set untuned. Some radio frequency sets are very hard to tune, so do not become discouraged until sure you know how to operate.

NOISES PRESENT WITH SIGNALS

Static, especially in summer. Not much can be done to overcome static, except that shorter aerials or a loop may be used. Sets using radio frequency amplification do not amplify static to any great extent.

Power leak caused by defective transformer or poor insulator of high tension line. If sure this is causing trouble, notify local power company.

Battery charger operating close by.

Arc light flickering.

Passing street cars.

Noises caused by improperly operated nearby regenerative sets.

One broadcasting station heterodyning another.

If noises are caused by any of the reasons above, they should practically disappear when antenna and ground are disconnected.

Noisy or nearly exhausted "B" battery.

Excessive regeneration.

Amplifier tubes turned up too high.

Corroded connections caused by using acid flux in soldered joints.

If using reflex set crystal may not be making contact.

Radio or audio frequency transformers too close together. Spread apart and place at right angles to each other.

Noises are caused by vibration of UV 199 type Bulb. Use sponge rubber cushioned socket.

Leaking or broken down condensers.

Noise can be heard if set has a loose connection, especially when set into vibration.

Pencil marks or acid making low resistance path between terminals.

CAUSES OF DISTORTED SIGNALS

Defective bulbs.

Defective transformers.

Excessive regeneration. Loosened coupling of tickler and turned down detector bulb.

Excessive "B" battery voltage.

Overloading phones or loud speaker.

Loud speaker terminals reversed.

10/10

10/10

10/10

Larry Meyer

121
100
100
100
100

Other Radio Books by Merle Duston

**RADIO CONSTRUCTION
FOR THE AMATEUR**

Contains complete instructions for building various up-to-date radio receivers. Postage 4c extra. Price 25c ea.

RADIO THEORY SIMPLIFIED

This is a cloth-bound book of 192 pages which gives the theory of Radio Transmission and Reception written in plain understandable language. Over ninety illustrations. Postage 10c extra. Price 25c ea.