



# **BURGESS INDEX of RADIO BROADCASTING STATIONS**

Record and Atlas

*Published by*

**BURGESS BATTERY COMPANY**



**PRICE 25¢**



---

CONCERNING

# BURGESS BATTERIES

The unique position of esteem and confidence occupied by Burgess Radio Batteries is a natural development of the conservative policy which has characterized the manufacture, advertising and sale of Burgess products.

Of interest, perhaps, to the thinking battery buyer is the fact that no Burgess product is advertised or sold until its merit has been proven, not only by our own rigid tests, but also those of the foremost radio engineers, manufacturers and experimenters in the country.

Through friendly criticism and suggestions, together with extensive research and engineering by the C. F. Burgess Laboratories, the efficiency of Burgess Batteries has increased to a degree which we believe is not equalled elsewhere.

*Ask Any Radio Engineer*

## BURGESS BATTERY COMPANY

ENGINEERS . . . **DRY BATTERIES** . . . MANUFACTURERS  
FLASHLIGHT . . . RADIO . . . IGNITION . . . TELEPHONE

GENERAL SALES OFFICE: HARRIS TRUST BUILDING, CHICAGO  
LABORATORIES AND WORKS: MADISON, WIS., FREEPORT, ILL.

### BRANCHES

NEW YORK      BOSTON      KANSAS CITY      MINNEAPOLIS  
WASHINGTON      PITTSBURGH      ST. LOUIS      NEW ORLEANS

### IN CANADA

PLANTS: NIAGARA FALLS AND WINNIPEG  
BRANCHES: TORONTO, MONTREAL, ST. JOHN

# UNITED STATES BROADCASTING STATIONS

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
KDKA	E. Pittsburgh, Pa.	Westinghouse El. Mfg. Co.	309.1	(1)			
KDLR	Devils Lake, N. Dak.	Radio Electric Co. and Wilson Insurance Agency	230.6	5			
KDYL	Salt Lake City, U.	Newhouse Hotel	246	100			
KEX	Portland, Oreg.	Western Broadcasting Co.	447	(1)			
KFAB	Lincoln, Nebr.	Nebraska Buick Auto Co.	340.7	5000			
KFAD	Phoenix, Ariz.	McArthur Bros. Co. and Electrical Equip. Co.	273	100			
KFAF	San Jose, Cal.	Alfred E. Fowler	217.3	50			
KFAU	Boise, Idaho	Boise High School	280.2	750			
KFBB	Havre, Mont.	F. A. Buttrey Co.	275	50			
KFBC	San Diego, Cal.	W. K. Azbill and Union League Club of San Diego County	380	100			
KFBK	Sacramento, Cal.	Kimball-Upson Co.	248	100			
KFBL	Everett, Wash.	Leese Brothers	224	100			
KFBS	Trinidad, Colo.	School Dist. No. 1.	238	15			
KFBU	Laramie, Wyo.	The Cathedral	374.8	1000			
KFGB	Phoenix, Ariz.	Nielson Radio Supply Co.	238	50			
KFCR	Santa Barbara, Cal.	Santa Barbara Broadcasting Co.	413	15			
KFDD	Boise, Idaho	St. Michaels Cathedral	278	50			
KFDM	Beaumont, Tex.	Magnolia Petroleum Co.	315.6	500			
KFDX	Shreveport, La.	First Baptist Church	250	100			
KFDY	Brockings, S. D.	S. D. State College	273	100			
KFDZ	Minneapolis, Minn.	Harry O. Iverson	231	10			
KFEC	Portland, Oreg.	Meier & Frank Co.	248	50			
KFEL	Denver, Colo.	Eugene P. O Fallon (Inc.)	254	50			
KFEQ	Oak, Nebr.	Scroggin & Co., Bank	267.7	2000			
KFEY	Kellogg, Idaho	Bunker Hill & Sullivan Mng. & Concentrating Co.	233	10			
KFFP	Moberly, Mo.	First Baptist Church	242	50			
KFH	Wichita, Kans.	Hotel Lassen	268	50			
KFHA	Gunnison, Colo.	West. St. Coll. of Colo.	252	50			
KFHL	Oakaloosa, Iowa	Penn College	240	10			
KFI	Los Angeles, Cal.	Earle C. Anthony (Inc.)	467	4000			
KFIF	Portland, Oregon	Benson Poly. Institute	248	100			

**NRRI** Madison, Wis. Master Naval Reserve Control Station. Burgess Battery Company.

**9EK** Madison, Wis. (Amateur Station.) Burgess Battery Company.

**9XH** Madison, Wis. (Amateur Station.) Burgess Battery Company.

**4DM** Burgess Island, Bokeelia, Fla. (Am. Sta.) Burgess Battery Company.

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
KFIO	Spokane, Wash.	North Central High School	272.6	100			
KFIQ	Yakima, Wash.	First Methodist Church	256.3	100			
KFIU	Juneau, Alaska	Alaska Electric Light & Power Company	225.4	10			
KFIZ	Fond du Lac, Wis.	Fond du Lac Commonwealth Reporter	272.6	100			
KFJB	Marshalltown, Iowa	Marshall Electric Co.	247.8	10			
KFJF	Okla. City, Okla.	National Radio Mfg. Co.	260.7	500			
KFJI	Astoria, Oregon	E. F. Marsh	245.8	10			
KFJM	Grand Forks, N. D.	University of North Dakota	277.6	100			
KFJR	Portland, Oregon	Ashley C. Dixon & Son	263	100			
KFJY	Fort Dodge, Iowa	Tunwall Radio Co.	245.8	50			
KFJZ	Ft. Worth, Texas	W. E. Branch	254.1	50			
KFKA	Greeley, Colo.	Colo. St. Teachers College	272.6	50			
KFKB	Milford, Kans.	J. R. Brinkley, M. D.	431.4	1000			
KFKU	Lawrence, Kans.	University of Kansas	275.1	500			
KFKX	Hastings, Nebr.	Westinghouse E. & Mfg. Co.	288.3	5000			
KFKZ	Kirkville, Mo.	State Teachers College	225.4	10			
KFLR	Albuquerque, N. M.	University of New Mexico	254.1	100			
KFLU	San Benito, Texas	San Benito Radio Club	236	10			
KFLV	Rockford, Ill.	Swedish Evan. Miss. Ch.	228.9	100			
KFLX	Galveston, Texas	George R. Clough	239.9	10			
KFMR	Sioux City, Iowa	Morningside College	260.7	100			
KFMX	Northfield, Minn.	Carleton College	336.9	50			
KFNF	Shenandoah, Iowa	Henry Field Seed Co.	461.3	1000			
KFOA	Seattle, Wash.	Rhodes Dept. Store	454.3	1000			
KFOB	Burlingame, Calif.	KFOB Incorporated	225.4	50			
KFON	Long Beach, Calif.	Nichols & Warinner, Inc.	232.4	500			
KFOO	Salt Lake City, Utah	Latter Day Saints University	236.1	250			
KFOR	David City, Nebr.	D. C. Tire & Electric Co.	230.6	50			
KFOT	Wichita, Kans.	College Hill Radio Club	230.6	50			
KFOX	Omaha, Nebr.	Technical High School	247.8	100			
KFOY	St. Paul, Minn.	Beacon Radio Service	252	50			
KFPL	Dublin, Texas	G. C. Baxter	252	15			
KFPM	Greenville, Texas	New Furniture Co.	241.8	10			
KFPR	Los Angeles, Calif.	Los A. Co. Forestry Dept.	230.6	500			
KFPW	Cartersville, Mo.	St. Johns M. E. Ch. South	258.5	20			
KFPY	Spokane, Wash.	Symon's Investment Co.	272.6	250			
KFQA	St. Louis, Mo.	The Principia	260.7	100			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
KFOB	Fort Worth, Texas	Lone Star Broadcast Co.	508.2	1000			
KFQD	Anchorage, Alaska	Chovin Supply Co.	300	100			
KFQP	Iowa City, Iowa	George S. Carson, Jr.	223.7	10			
KFQU	Holy City, Calif.	W. E. Riker	230.6	100			
KFQW	Seattle, Wash.	Carl F. Knierlm	215.7	50			
KFQX	Seattle, Wash.	Alfred M. Hubbard	210	15			
KFQZ	Hollywood, Calif.	Taft Products Co.	225.4	50			
KFRB	Beeville, Texas	Hall Brothers	247.8	250			
KFRC	San Francisco, Calif.	Don Lee, Inc.	267.7	50			
KFRU	Columbia, Mo.	Stephens College	499.7	500			
KFSD	San Diego, Calif.	Airfan Radio Corp.	245.8	1000			
KFSG	Los Angeles, Calif.	Echo Pk. Evang. Asso.	275.1	500			
KFUL	Galveston, Texas	T. Goggan & Bros. Co.	258.5	50			
KFUM	Colo. Springs, Colo.	W. D. Corley	239.9	100			
KFUO	St. Louis, Mo.	Concordia Seminary	545.1	500			
KFUP	Denver, Colo.	Fitzsimmons General Hosp.	234.2	50			
KFUR	Ogden, Utah	Peery Building Co.	223.7	50			
KFUS	Oakland, Calif.	Louis L. Sherman	256.3	50			
KFUT	Salt Lake City, Utah	University of Utah	263	100			
KFVD	Venice, Calif.	W. J. and C. I. McWhinnie	208	50			
KFVE	St. Louis, Mo.	Benson Broadcasting Corp.	239.9	5000			
KFVG	Independence, Kans.	1st Meth. Epis. Church	236.1	15			
KFVI	Houston, Texas	56th Cavalry Brigade Headquarters Troop	239.9	10			
KFVN	Fairmont, Minn.	Carl E. Bagley	227.1	50			
KFVR	Denver, Colo.	Olinger Corp'n Broadcast- ing	243.8	50			
KFVS	C. Girardeau, Mo.	Cape G. Battery Station	223.7	50			
KFVY	Albuquerque, N. M.	Radio Supply Co.	249.9	10			
KFWB	Hollywood, Calif.	Warner Bros. Pictures (Inc.)	252	500			
KFWC	San Bernardino, Cal.	L. E. Wall	291.1	5			
KFWF	St. Louis, Mo.	St. Louis Truth Center	214.2	250			
KFWH	Eureka, Calif.	F. Wellington Morse, Jr.	254.1	100			
KFWI	San Fran., Calif.	Radio Entertainments (Inc.)	249.9	500			
KFWM	Oakland, Calif.	Oakland Education Society	325.9	500			
KFWO	Avalon, Calif.	Lawrence Mott	211.1	500			
KFWU	Pineville, La.	Louisiana College	238	100			
KFWV	Portland, Oregon	KFWV Broadcast Studios	212.6	100			
KFXB	Big Bear Lake, Calif.	Bertram C. Heller	202.6	500			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
KFXD	Logan, Utah	Service Radio Co.	205.4	10			
KFXF	Denver, Colo.	Pikes Peak Broadcasting Company	430.1	500			
KFXH	El Paso, Texas	Bledsoe Radio Co.	241.8	50			
KFXJ	Near Edgewater, Colo.	R. C. Howell	215.7	15			
KFXR	Oklahoma C'y, Okla.	Classen Film Finishing Co.	214.2	15			
KFXY	Flagstaff, Ariz.	Harry M. Costigan	205.4	50			
KFYF	Oxnard, Calif.	Carl's Radio Den	214.2	10			
KFYJ	Houston, Texas (portable)	Houston Chronicle Publishing Company	238	10			
KFYO	Texarkana, Texas	Buchanan Vaughan Co.	209.7	10			
KFYR	Bismarck, N. D.	Hoskins-Meyer Inc.	247.8	10			
KGAR	Tucson, Ariz.	Tucson Citizen	243.8	100			
KGBS	Seattle, Wash.	A. C. Dailey	227.1	10			
KGBU	Ketchikan, Alaska	Alaska Radio & Service Co.	228.9	500			
KGBX	St. Joseph, Mo.	Foster Hall Tire Co., Inc.	347.8	30			
KGBY	Shelby, Mont.	Albert C. Dunning	202.6	10			
KGBZ	York, Nebr.	Federal Live Stock Remedy Co.	333.1	100			
KGCA	Decorah, Iowa	Charles Walter Greenley	280.2	15			
KGCB	Oklahoma C'y, Okla.	Wallace Radio Institute	331	50			
KGCG	Newark, Ark.	Moore Motor Co.	239.9	100			
KGCH	Wayne, Nebr.	Wayne Hospital	434.5	500			
KGCI	San Antonio, Texas	Searcy M. Rhodes	239.9	15			
KGCL	Seattle, Wash.	Louis Wasmer & Archie Taft	238	10			
KGCN	Concordia, Kans.	Alva E. Smith	210	50			
KGCR	Brookings, S. D.	Cutler's Radio Broadcasting Service, Inc.	252	15			
KGCU	Mandan, N. D.	Mandan Radio Association	285	100			
KGCX	Vida, Mont.	First State Bank	240	7½			
KGDA	Doll Rapids, S. D.	Home Auto Co.	254.1	15			
KGDE	Barrett, Minn.	Jaren Drug Co.	232.4	50			
KGDI	Seattle, Wash.	Northwest Radio Service Co.	416.4	50			
KGDJ	Cresco, Iowa	R. Rathert	202.6	10			
KGDM	Stockton, Calif.	Victor G. Koping	217.3	5			
KGDO	Dallas, Texas	C. H. & Henry Garrett	285	100			
KGDP	Pueblo, Colo.	Pueblo Council, Boy Scouts of America	260.7	10			
KGDW	Humboldt, Neb.	Frank J. Rut	241.8	100			
KGDX	Shreveport, La.	William Antony	291.1	500			
KGDY	Oldham, S. D.	J. A. Loesch	210	15			
KGEF	Alva, Okla.	Earl E. Hampshire	205.4	25			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG			
KGEH	Eugene, Ore.	Eugene Broadcasting Station	236.1	50				
KGEL	Jamestown, N. D.	Ernest W. Ellison	225	50				
KGEM	El Centro, Calif.	Irey & F. M. Bowles	281	15				
KGEO	Grand Island, Nebr.	Raymond D. Chamberlain	271	50				
KGEQ	Minneapolis, Minn.	Fred W. Herrmann	330	50				
KGES	Long Beach, Calif.	C. Merwin Dobyns	325.9	100				
KGEU	Lower Lake, Calif.	L. W. Clement	222	50				
KGEX	Muscatine, Iowa	Central Radio Co.	256	100				
KGEY	Denver, Colo.	J. W. Dietz	240	15				
KGEZ	Kalispell, Mont.	Flathead Broadcasting Assn.	352	100				
KGFA	Seattle, Wash.	Bert F. Fisher	305.9	1000				
KGFG	Oklahoma City, Okla.	Full Gospel Church	384	50				
KGFH	La Crescenta, Calif.	Frederick Robinson	218.8	100				
KGO	Oakland, Calif.	General Electric Co.	361.2	5000				
KGRC	San Antonio, Tex.	Gene Roth & Co.	315	50				
KGRS	Amarillo, Texas	Gish Radio Service	234.2	100				
KGTT	San Francisco, Calif.	Glad Tidings Temple & Bible Institute	206.8	50				
KGU	Honolulu, Hawaii	Marian A. Mulrony	270.1	500				
KGW	Portland, Oregon	Oregonian Publishing Co.	491.5	1000				
KGY	Lacey, Wash.	St. Martins College	277.6	50				
KHJ	Los Angeles, Calif.	Times-Mirror Co.	405.2	500				
KHQ	Spokane, Wash.	Louis Wasmer	394.5	1000				
KICK	Anita, Iowa	Atlantic Automobile Co.	272.6	100				
KJBS	San Francisco, Calif.	J. Brunton & Sons Co.	220.4	5				
KJR	Seattle, Wash.	Northwest Radio Service Co.	384.4	1000				
KKP	Seattle, Wash.	Harbor Dept., City of Seattle	260	15				
KLDS	Independence, Mo.	Reorganized Church of Jesus Christ	440.9	1000				
KLS	Oakland, Calif.	Warner Bros. Radio Supply Company	249.9	250				
KLX	Oakland, Calif.	Oakland Tribune	508.2	500				
KLZ	Denver, Colo.	Reynolds Radio Co.	384.4	500				
KMA	Shenandoah, Iowa	May Seed & Nursery Co.	461.3	500				
KMED	Medford, Ore.	W. J. Virgin	250	50				
KMIC	Inglewood, Calif.	J. R. Fouch	387	500				
KMJ	Fresno, Calif.	Fresno Bee	234.2	50				
KMMJ	Clay Center, Nebr.	M. M. Johnson Co.	228.9	1000				
KMO	Tacoma, Wash.	KMO, Incorporated	249.9	100				
KMOX	St. Louis, Mo.	Voice of St. Louis	280.2	1500				

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG	
KMTR	Hollywood, Calif.	Echophone Mfg. Co.	372.2	500		
KNRC	Santa Monica, Calif.	Clarence B. Juneau	238	500		
KNX	Los Angeles, Calif.	L. A. Evening Express	336.9	1000		
KOA	Denver, Colo.	General Electric Co.	322.4	5000		
KOAC	Corvallis, Oregon	Oregon Agricultural College	280.2	500		
KOB	State College, N. M.	N. Mex. College of Agriculture and Mechanical Arts	348.6	1000		
KOCH	Omaha, Nebr.	Omaha Central High School	258.5	250		
KOCW	Chickasha, Okla.	Oklahoma College for Women	252	200		
KOIL	Council Bluffs, Iowa	Moria Motor Oil Co.	305.9	500		
KOIN	Portland, Oregon	KOIN, Incorporated	319	1000		
KOMO	Seattle, Wash.	Birt P. Fisher	305.9	1000		
KOWW	Walla Walla, Wash.	Frank A. Moore	285.5	500		
KPJM	Prescott, Ariz.	Wilburn Radio Service	215	15		
KPO	San Francisco, Calif.	Hale Brothers & The Chronicle	428.3	1000		
KPPC	Pasadena, Calif.	Pasadena Preby. Church	228.9	50		
KPRC	Houston, Texas	Post Dispatch	296.9	500		
KPSN	Pasadena, Calif.	Pasadena Star-News	315.6	1000		
KQV	Pittsburgh, Pa.	Doubleday-Hill Electric Co.	275.1	500		
KQW	San Jose, Calif.	First Baptist Church	331.1	500		
KRAC	Shreveport, La.	Caddo Radio Club	220	50		
KRE	Berkeley, Calif.	Berkeley Daily Gazette	256.3	100		
KRLD	Dallas, Tex.	Dallas Radio Labs., Inc.	357.1	500		
KRSC	Seattle, Wash.	Radio Sales Corp.	499.7	50		
KSAC	Manhattan, Kans.	Kansas St. Agric. College	340.7	500		
KSBA	Shreveport, La.	W. C. Patterson	260.7	1000		
KSD	St. Louis, Mo.	Post Dispatch	545.1	500		
KSEI	Pocatello, Idaho	KSEI Broadcasting Ass'n	260.7	500		
KSL	Salt Lake City, Utah	Radio Service Corp. of Utah	299.8	1000		
KSMR	Santa Maria, Calif.	Santa Maria Valley R. R.	282.8	100		
KSO	Clarinda, Iowa	Berry Seed Co.	405.2	500		
KSOO	Sioux Falls, S. D.	Sioux Falls Broadcast Assn.	360	100		
KTAB	Oakland, Calif.	Associated Broadcasters	302.8	1000		
KTAP	San Antonio, Texas	Robert B. Bridge	263	10		
KTBI	Los Angeles, Calif.	Bible Institute	293.9	750		
KTBR	Portland Oregon	Brown's Radio Shop	263	50		
KTHS	Hot Springs, Ark.	New Arlington Hotel Co.	374.8	500		
KTNT	Muscatine, Iowa	Norman Baker	333.1	1000		

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG	
KTUE	Houston, Texas	Uhalt Electric	263	5		
KTW	Seattle, Wash.	First Presbyterian Church	454.3	1000		
KUOA	Fayetteville, Ark.	University of Arkansas	299.8	750		
KUOM	Missoula, Mont.	University of Montana	243.8	500		
KUSD	Vermillion, S. D.	University of South Dakota	277.6	100		
KUT	Austin, Texas	University of Texas	230.6	500		
KVI	Tacoma, Wash.	Puget Sound Radio Broad- casting Co.	342.5	15		
KVOO	Bristow, Okla.	Southwestern Sales Corp.	374.8	500		
KVOS	Seattle, Wash.	L. L. Jackson & L. Kessler	333.1	500		
KWCR	Cedar Rapids, Iowa	H. F. Paar	296	500		
KWG	Stockton, Calif.	Portable Wire Tele. Co.	247.8	50		
KWKC	Kansas City, Mo.	Wilson Duncan Studios	236.1	100		
KWSC	Pullman, Wash.	State College of Washington	348.6	500		
KWTC	Santa Ana, Calif.	Dr. John Wesley Hancock	263	15		
KWUC	Lemars, Iowa	Western Union College	252	50		
KWWG	Brownsville, Texas	City of Brownsville	277.6	500		
KXL	Portland, Ore.	KXL Broadcasters	400	50		
KXRO	Seattle, Wash.	Brott Laboratories	240	85		
KYA	San Francisco, Calif.	Pacific Broadcasting Co.	413	1000		
KYW	Chicago, Ill.	Westinghouse E. & Mfg. Co.	535.4	3500		
KZM	Oakland, Calif.	Preston D. Allen	239.9	100		
WAAD	Cincinnati, Ohio	Ohio Mechanics Institute	258.5	25		
WAAF	Chicago, Ill.	Chicago Daily Drovers Journal	277.6	250		
WAAM	Newark, N. J.	Isalah R. Nelson	263	500		
WAAT	Jersey City, N. J.	Frank B. Bremer	235	10		
WAAW	Omaha, Nebr.	Omaha Grain Exchange	384.4	500		
WABB	Harrisburg, Pa.	Harrisburg Radio Co.	204	10		
WABF	Pringleboro (Kings- ton), Pa.	Markle Broadcasting Corp.	410.7	500		
WABI	Bangor, Me.	First University Church	239.9	100		
WABO	Rochester, N. Y.	Erickson Electric Co., Inc.	277.6	100		
WABQ	Philadelphia, Pa.	United Broadcasting Co.	260.7	500		
WABR	Toledo, Ohio	Scott High School	263	50		
WABW	Wooster, Ohio	College of Wooster	206.8	50		
WABX	Mt. Clemens, Mich.	Henry B. Joy	245.8	500		
WABY	Philadelphia, Pa.	John Magaldi, Jr.	241.8	50		
WABZ	New Orleans, La.	Coliseum Pl. Bapt. Ch.	275.1	50		
WADC	Akron, Ohio	Allen T. Simmons	258.5	500		

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
WAFD	Detroit, Mich.	Albert B. Parfet Co.	312.3	500			
WAGM	Royal Oak, Mich.	Robert L. Miller	225.4	50			
WAGS	Somerville, Mass.	Willow Garages, Inc.	250	5			
WAHG	Richmond Hill, New York	A. H. Grebe & Co.	315.6	500			
WAIT	Taunton, Mass.	A. H. Waite	228.9	10			
WAIU	Columbus, Ohio	American Ins. Union	293.9	750			
WAMD	Minneapolis, Minn.	Radisson Radio Corp.	243.8	500			
WAOK	Ozone Park, N. Y.	A. H. Andreason	247.8				
WAPI	Auburn, Ala.	Ala. Polytechnic Institute	461.3	100			
WARC	Medford Hillside, Mass.	American Radio and Re- search Corporation	260.7	100			
WARS	Brooklyn, N. Y.	Amateur Radio Specialty Co.	295	500			
WASH	Grand Rapids, Mich.	Baxter Laundry Co.	256.3	500			
WATT	Boston, Mass. (portable)	1st Dist. Edison El. III. Co.	243.8	100			
WBAA	W. Lafayette, Ind.	Purdue University	272.6	250			
WBAK	Harrisburg, Pa.	Pennsylvania State Police	275.1	500			
WBAL	Baltimore, Md.	Cons. Gas & Elec. Co.	245.8	1000			
WBAO	Decatur, Ill.	James Milliken University	270.1	100			
WBAP	Fort Worth, Texas	Carter Publications, Inc.	475.9	1500			
WBAW	Nashville, Tenn.	Braid Elect. Co. & Waldron Drug. Co.	236.1	100			
WBAX	Wilkes-Barre, Pa.	John H. Stenger, Jr.	256.3	100			
WBBC	Brooklyn, N. Y.	Peter J. Tertan	249.9	100			
WBBL	Richmond, Va.	Grace Covenant Pres. Ch.	228.9	100			
WBBM	Chicago, Ill.	Atlas Investment Co.	225.4	1500			
WBBP	Petoskey, Mich.	Petoskey High School	238	200			
WBBR	Rossville, N. Y.	Peoples Pulpit Association	416.4	500			
WBBW	Norfolk, Va.	Ruffner Junior High School	221	50			
WBBY	Charleston, S. C.	Washington Lt. Infantry	267.7	10			
WBBZ	Chicago, Ill.	C. L. Carrell (portable)	215.7	50			
WBCN	Chicago, Ill.	Foster & McDonald	265.3	500			
WBES	Takoma Park, Md.	Bliss Electrical School	221.1	100			
WBET	Boston, Mass.	Boston Transcript	384.4	100			
WBKN	Brooklyn, N. Y.	Arthur Faske	291.1	100			
WBMH	Detroit, Mich.	Braums Music House	352.7	100			
WBMS	Unlon City, N. J.	Geo. Julius Schowerer	223.7	100			
WBNY	New York, N. Y.	Baruchrome Corp.	322.4	500			
WBOQ	Richmond Hill, N. Y.	Atlantic Broadcasting Corp.	236.1	500			
WBRC	Birmingham, Ala.	Birmingham Broadcasting Co.	247.8	50			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
WBRE	Wilkes-Barre, Pa.	Baltimore Radio Exchange	230.6	100			
WBRL	Tilton, N. H.	Booth Radio Laboratories	420	500			
WBRS	Brooklyn, N. Y.	Universal Radio Mfg. Co.	394.5	100			
WBSO	Wellesley Hills, Mass.	Babson's Statistical Organization	242	100			
WBT	Charlotte, N. C.	Chamber of Commerce	275.1	250			
WBZ	Springfield, Mass.	Westinghouse El.&Mfg.Co.	333.1	5000			
WBZA	Boston, Mass.	Westinghouse El.& Mfg.Co.	331.1	250			
WCAC	Mansfield, Conn.	Conn. Agricultural College	275.1	500			
WCAD	Canton, N. Y.	St. Lawrence University	263	250			
WCAE	Pittsburgh, Pa.	Kaufmann & Baer Co.	461.3	500			
WCAH	Columbus, Ohio	Entrekln Electric Co.	265.3	500			
WCAJ	Univ. Place, Nebr.	Nebr. Wesleyan University	254.1	500			
WCAL	Northfield, Minn.	St. Olaf College	336.9	500			
WCAM	Camden, N. J.	City of Camden	336.9	250			
WCAO	Baltimore, Md.	Monumental Radio, Inc.	275.1	100			
WCAR	San Antonio, Texas	South. Ra. Corp. of Texas	263	500			
WCAT	Rapid City, S. D.	So. Dakota State School of Mines	39.9	50			
WCAU	Philadelphia, Pa.	Universal Broadcasting Co.	277.6	500			
WCAX	Burlington, Vt.	University of Vermont	249.9	100			
WCAZ	Carthage, Ill.	Carthage College	245.8	50			
WCBA	Allentown, Pa.	Charles W. Helmbach	254.1	15			
WCBD	Zion, Ill.	Wilbur G. Voliva	344.6	5000			
WCBE	New Orleans, La.	Uhalt Bros. Radio Co.	263	5			
WCBH	Oxford, Miss. (near)	University of Mississippi	241.8	50			
WCBM	Baltimore, Md.	Hotel Chateau (C.Schwartz)	228.9	50			
WCBR	Providence, R. I. (portable)	Charles H. Messter	234.2	100			
WCBS	Portable, First Dist.	H. L. Dewing & C. H. Messter	241.8	250			
WCCO	St. Paul-Minneapolis, Minn. (Anoka)	Washburn-Crosby Co.	416.4	5000			
WCFL	Chicago, Ill.	Chicago Federation of Labor	491.5	1000			
WCFT	Tullahoma, Tenn.	Knights of Pythias Home	252	10			
WCGU	Lakewood, N. J.	Chas. G. Unger	350.6	500			
WCLO	Camp Lake, Wis.	C. E. Whitmore	230.6	50			
WCLS	Joliet, Ill.	WCLS, Inc.	214.2	150			
WCMA	Culver, Ind.	Culver Military Academy	258.5	500			
WCOA	Pensacola, Fla.	City of Pensacola	252	500			
WCOT	Olneyville, R. I.	Jacob Cornn	265.3	100			
WCRW	Chicago, Ill.	Clinton R. White	416.4	50			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
WCSH	Portland, Me.	H. P. Rines	499.7	500			
WCSS	Springfield, Ohio	Wittenberg College	247.8	100			
WCWK	Ft. Wayne, Ind.	Chester W. Keen	234.2	250			
WCWS	Bridgeport, Conn.	C. W. Selen (portable)	232.4	100			
WCX	Pontiac, Mich.	Det. Fr. Press & Jewett Co. (Combined with WJR)	516.9	5000			
WDAD	Nashville, Tenn.	Dad's Auto Access. (Inc.) and Life & Casualty Ins. Co.	225.4	150			
WDAE	Tampa, Fla.	Daily Times	273	250			
WDAF	Kansas City, Mo.	Kansas City Star	365.6	1000			
WDAG	Amarillo, Texas	J. Laurance Martin	263	100			
WDAH	El Paso, Texas	Trinity Methodist Church	267.7	50			
WDAY	Fargo, N. D.	Radio Equipment Corp.	260.7	50			
WDBE	Atlanta, Ga.	Gilham Elec. Co., Inc.	270.1	100			
WDEJ	Roanoke, Va.	Richardson-Wayland Electrical Corporation	228.9	50			
WDBK	Cleveland, Ohio	WDBK Broadcasting Station Co.	227.1	100			
WDBO	Winter Park, Fla.	Rollins College	239.9	500			
WDBZ	Kingston, N. Y.	Kingston Radio Club	232.4	10			
WDEL	Wilmington, Dela.	Wilmington Elec. Spec. Co.	265.3	100			
WDGY	Minneapolis, Minn.	George W. Young	263	500			
WDOD	Chattanooga, Tenn.	Chattanooga Radio Co.	256.3	500			
WDRC	New Haven, Conn.	Doolittle Radio Corporation	267.7	500			
WDWF	Cranston, R. I.	Dutée W. Flint (Combined with WLSI)	440.9	500			
WDWM	Newark, N. J.	Radio Industries Broadcast Co.	280.2	500			
WDXL	Detroit, Mich.	DXL Radio Corp.	296.9	250			
WDZ	Tuscola, Ill.	James L. Bush	277.6	100			
WDZA	Boston, Mass.	Westinghouse El. & Mfg. Co.	333.1				
WEAF	New York, N. Y.	Nat'l Broadcasting Co., Inc.	491.5	5000			
WEAI	Ithaca, N. Y.	Cornell University	254.1	500			
WEAM	N. Plainfield, N. J.	Borough of N. Plainfield	260.7	250			
WEAN	Providence, R. I.	Shepard Co.	367	500			
WEAO	Columbus, Ohio	Ohio State University	293.9	750			
WEAR	Cleveland, Ohio	Willard Storage Battery Co.	389.4	750			
WEAU	Sioux City, Iowa	Davidson Brothers Co.	275.1	100			
WEBC	Superior, Wis.	Walter C. Bridges	241.8	100			
WEBH	Chicago, Ill.	Edgewater Beach Hotel Co.	370.2	2000			
WEBJ	New York, N. Y.	Third Avenue Railway Co.	272.6	500			
WEBL	N. Y. (portable)	Radio Corp. of America	225.4	100			
WEBQ	Harrisburg, Ill.	Joseph R. Tate	225.4	10			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
WEBR	Buffalo, N. Y.	H. H. Howell	243.8	100			
WEBW	Beloit, Wis.	Beloit College	267.7	500			
WEDC	Chicago, Ill.	Emil Denmark Broadcast- ing Station	249.9	1000			
WEEI	Boston, Mass.	Edison El. Ill. Co. of Boston	348.6	500			
WEHS	Chicago, Ill.	A. T. Becker	202.6	100			
WEMC	Berrien Springs, Mich.	Emmanuel Miss. College	315.6	500			
WENR	Chicago, Ill.	All American Radio Corp.	265.3	1000			
WEPS	Gloucester, Mass.	Ralph Glendon Matheson	295	100			
WEW	St. Louis, Mo.	St. Louis University	360	1000			
WFAA	Dallas, Texas	Dallas News & Dallas Journal	475.9	500			
WFAM	St. Cloud, Minn.	Times Publishing Co.	272.6	10			
WFAV	Lincoln, Nebr.	University of Nebraska	275.1	500			
WFBC	Knoxville, Tenn.	First Baptist Church	249.9	50			
WFBE	Cincinnati, Ohio	Garfield Place Hotel Co.	232.4	500			
WFBG	Altoona, Pa.	William F. Gable Co.	277.6	100			
WFBJ	Collegeville, Minn.	St. John's University	236.1	100			
WFBL	Syracuse, N. Y.	The Onondaga Co.	252	100			
WFBM	Indianapolis, Ind.	Merchants H. & Lt. Co.	268	250			
WFBR	Baltimore, Md.	5th Inf. Md. Natl. Guard	254	100			
WFBZ	Galesburg, Ill.	Knox College	254.1	20			
WFCI	Pawtucket, R. I.	Frank Crook, Inc.	258.5	100			
WFDF	Flint, Mich.	Frank D. Fallain	234.2	100			
WFI	Philadelphia, Pa.	Strawbridge & Clothier	394.5	500			
WFKB	Chicago, Ill.	Vesta Battery Corp. (F. K. Bridgeman)	217.3	500			
WFKD	Philadelphia, Pa.	Foulkrod Radio Eng. Co.	249.9	10			
WFLA	Boca Raton, Fla.	Radio Corporation	440	1000			
WFRL	Brooklyn, N. Y.	Flatbush Radio Labora- tories	329.5	100			
WGAL	Lancaster, Pa.	Lan. El. Sup. & Cons. Co.	247.8	10			
WGBB	Freeport, N. Y.	Harry H. Carman	243.8	100			
WGBC	Memphis, Tenn.	First Baptist Church	277.6	10			
WGBF	Evansville, Ind.	Finke Furniture Co.	236.1	500			
WGBI	Scranton, Pa.	Scranton Broadcasters, Inc.	239.9	10			
WGBR	Marshfield, Wis.	Geo. S. Ives	228.9	15			
WGBS	Astoria, L. I.	Gimbel Bros.	315.6	500			
WGBU	Fulford-By-The-Sea, Florida	Florida Cities Finance Co.	277.6	500			
WGBX	Orono, Me.	University of Maine	234.2	500			
WGCP	Newark, N. J.	D. W. May (Inc.)	252	500			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG	
WGES	Chicago, Ill.	Coyne Electrical School	315.6	500		
WGHB	Clearwater, Fla.	Fort Harrison Hotel	265.3	500		
WGHP	Detroit, Mich.	George H. Phelps	270.1	1500		
WGL	New York	International Broadcasting Corp.	442.4	1000		
WGM	Jeanette, Pa.	Verne & Elton Spencer	269	10		
WGMU	Richmond Hill, N.Y. (portable)	A. H. Grebe & Co.	236.1	100		
WGN	Chicago, Ill.	The Chicago Tribune	302.8	1000		
WGR	Buffalo, N. Y.	Federal Tel. Mfg. Co.	319	750		
WGST	Atlanta, Ga.	Georgia School of Technology	270.1	500		
WGW	Milwaukee, Wis.	Radiocast Corp. of Wis.	384.4	1000		
WGY	Schenectady, N. Y.	General Electric Co.	379.5	5000		
WHA	Madison, Wis.	University of Wisconsin	535.4	750		
WHAD	Milwaukee, Wis.	Marquette University & Milwaukee Journal	275.1	500		
WHAM	Rochester, N. Y.	Eastman School of Music	277.6	100		
WHAP	New York, N. Y.	Wm. Taylor Finance Corp.	431.4	1000		
WHAR	Atlantic City, N. J.	F. D. Cooks Sons	275.1	500		
WHAS	Louisville, Ky.	Courier-Journal & Louisville Times	399.8	500		
WHAV	Wilmington, Del.	Wilmington Elec. Supply Co.	265.3	100		
WHAZ	Troy, N. Y.	Rensselaer Poly. Institute	379.5	1000		
WHB	Kansas City, Mo.	Sweeney School Co.	365.6	500		
WHBA	Oil City, Pa.	Shaffer Music House	249.9	10		
WHBC	Canton, Ohio	Rev. E. P. Graham	254.1	10		
WHBD	Bellefontaine, Ohio	Chamber of Commerce	221.1	20		
WHBF	Rock Island, Ill.	Beardsley Specialty Co.	221.1	100		
WHBG	Harrisburg, Pa.	John S. Skane	230.6	20		
WHBL	Chicago, Ill. (port.) 9th Dist.	C. L. Carrell	215.7	50		
WHBM	Chicago, Ill. (port.)	C. L. Carrell	215.7	20		
WHBN	St. Petersburg, Fla.	1st Ave. Methodist Church	238	10		
WHBP	Johnstown, Pa.	Johnstown Auto Co.	256.3	100		
WHBO	Memphis, Tenn.	St. John's M. E. Ch. South	232.4	50		
WHBU	Anderson, Ind.	Rivera Theatre and Bing's Clothing	218.8	10		
WHBW	Philadelphia, Pa.	D. R. Kienzle	215.7	100		
WHBY	West De Pere, Wis.	St. Norbert's College	249.9	50		
WHDI	Minneapolis, Minn.	Dunwoody Industrial Inst.	277.6	500		
WHEC	Rochester, N. Y.	Hickson Electric Co.	258.5	100		
WHFC	Chicago, Ill.	Triangle Broadcasters	258.5	150		
WHK	Cleveland, Ohio	The Radio Air Service Corp.	272.6	1000		

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
WHN	New York, N. Y.	George Schubel	361.2	500			
WHO	Des Moines, Iowa	Bankers Life Co.	526	5000			
WHOG	Huntington, Ind.	Huntington Broadcasters	241.8	15			
WHT	Deerfield, Ill.	Asn. Radiophone B'c'g Corp.	238	5000			
WIAD	Philadelphia, Pa.	Howard R. Miller	249.9	100			
WIAS	Burlington, Iowa	Home Electric Co.	254.1	100			
WIBA	Madison, Wis.	Capital Times Studio	236.1	100			
WIBG	Elkin's Park, Pa.	St. Paul's Prot. Epis. Church	221.1	50			
WIBI	Flushing, N. Y.	Frederick B. Zittell, Jr.	218.8	50			
WIBJ	Chicago, Ill. (port.)	C. L. Carrell	215.7	50			
WIBO	Chicago, Ill.	Nelson Brothers	225.4	1000			
WIBR	Weirton, W. Va.	Thurman A. Owings	245.8	50			
WIBS	Elizabeth, N. J. (portable)	Thomas F. Hunter	202.6	10			
WIBU	Poynette, Wis.	The Electric Farm	221.1	20			
WIBW	Chicago, Ill. (portable)	C. L. Carrell	215.7	100			
WIBX	Utica, N. Y.	WIBX, Inc.	234.2	150			
WIBZ	Montgomery, Ala.	A. D. Trum	230.6	10			
WICC	Bridgeport, Conn.	Bridgeport Broadcasting Station	285	500			
WIL	St. Louis, Mo.	St. Louis Star and Benson Radio Co.	285.5	250			
WIOD	Miami, Fla.	Carl G. Fisher Co.	247.8	1000			
WIP	Philadelphia, Pa.	Gimbel Bros.	508.2	500			
WJAD	Waco, Texas	Frank P. Jackson	352.7	500			
WJAG	Norfolk, Nebr.	Daily News	270.1	200			
WJAK	Kokomo, Ind.	Kokomo Tribune	254.1	50			
WJAM	Cedar Rapids, Iowa	D. M. Perham	267.7	100			
WJAR	Providence, R. I.	The Outlet Co.	483.6	500			
WJAS	Pittsburgh, Pa.	Pitta. Ra. Supply House	275.1	500			
WJAX	Jacksonville, Fla.	City of Jacksonville	336.9	1000			
WJAY	Cleveland, Ohio	Radio Broadcasting Corp.	435.7	1000			
WJAZ	Mt. Prospect, Ill.	Zenith Radio Corporation	239.5	1500			
WJBA	Joliet, Ill.	D. H. Lentz, Jr.	206.8	50			
WJBB	St. Petersburg, Fla.	Financial Journal	254.1	10			
WJBC	La Salle, Ill.	Hummer Furniture Co.	234.2	100			
WJBI	Red Bank, N. J.	Robert S. Johnson	218.8	250			
WJBK	Ypsilanti, Mich.	Ernest F. Goodwin	232.4	10			
WJBL	Decatur, Ill.	W. Gushard Dry Goods Co.	270.1	500			
WJBO	New Orleans, La.	Valdemar Jensen	267.7	100			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
WJBR	Omro, Wis.	Omro Drug Store	227.1	50			
WJBT	Chicago, Ill.	John S. Boyd	468.5	500			
WJBU	Lewisburg, Pa.	Bucknell University	211.1	100			
WJBV	Woodhaven, N. J.	Union Course Laboratories	288.3	100			
WJBW	New Orleans, La.	C. Carlson, Jr.	270.1	30			
WJBY	Gadsden, Ala.	Electric Construction Co.	260	30			
WJBZ	Chicago Heights, Ill.	Roland G. Pamler	419.3	100			
WJJD	Moosehart, Ill.	Supreme Lodge, L.O.of M.	370.2	1000			
WJPA	Ashtabula, Ohio	J. P. Wilson	239.8	15			
WJR	Pontiac, Mich.	Jewett Radio & Phone Co.	516.9	5000			
WJUG	New York City	& Det. Free Press (comb. with Benjamin Ross	519.6	250			
WJY	New York, N. Y.	Radio Corp. of America	405.2	1000			
WJZ	New York, N. Y.	Radio Corp. of America	454.3	50000			
WKAF	Milwaukee, Wis.	WKAF Broadcasting Co.	260.7	500			
WKAQ	San Juan, P. R.	Radio Corp. of Porto Rico	340.7	500			
WKAR	E. Lansing, Mich.	Mich. Agric. College	285.5	1000			
WKAV	Laconia, N. H.	Laconia Radio Club (port.)	223.7	50			
WKBA	Chicago, Ill.	Arrow Battery Co.	209.7	200			
WKBB	Joliet, Ill.	Sanders Brothers	282.8	150			
WKBC	Birmingham, Ala.	H. L. Ausley	225.4	50			
WKBE	Webster, Mass.	K. & B. Electric Co.	270.1	100			
WKBG	Chicago, Ill. (port.)	C. L. Carroll	215.7	100			
WKBH	LaCrosse, Wis.	Galloway Music Co.	249.9	500			
WKBI	Chicago, Ill.	Fred L. Schoenwolf	220	50			
WKBJ	St. Petersburg, Fla.	Gospel Tabernacle, Inc.	280	50			
WKBK	Monroe, Mich.	Monrona Radio Mfg. Co.	252	15			
WKBM	Newburgh, N. Y.	John Willbur Jones	285.5	23			
WKBN	Youngstown, Ohio	Radio Electric Service Co.	360	50			
WKBO	Jersey City, N. J.	Camith Corporation	220.4	200			
WKBP	Battle Creek, Mich.	Battle Creek Enquirer & News	265	50			
WKBS	Galesburg, Ill.	Permill & Nelson	361.2	200			
WGBT	New Orleans, La.	First Baptist Church	252	50			
WKBV	New Castle, Pa. (portable)	Harry K. Armstrong	238	50			
WKBW	Brookville, Ind.	Knox Battery & Elec. Co.	236.1	75			
WKBX	Buffalo, N. Y.	Churchill Evangelistic Assn., Inc.	362.5	1000			
WKBY	Danville, Pa. (portable)	Fernwood Quick	220	50			
WKBZ	Ludington, Mich.	Karl L. Ashbacker	256.3	15			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
WKDR	Kenosha, Wis.	Edward A. Dato	428.3	10			
WKJC	Lancaster, Pa.	Kirk Johnson & Co.	258.5	50			
WKRC	Cincinnati, Ohio	Kodol Radio Corporation	422.3	1000			
WKY	Okla. City, Okla.	E. Hull & H. Richards	275.1	100			
WLAC	Nashville, Tenn.	Dad's Auto Access., Inc., and Life & Casualty Ins. Co.	225.4	150			
WLAL	Tulsa, Okla.	First Christian Church	249.9	100			
WLAP	Louisville, Ky.	W. V. Jordan	275.1	20			
WLB	Minneapolis, Minn.	University of Minn.	277.6	500			
WLBC	Muncie, Ind.	D. A. Burton	223.7	50			
WLBE	Brooklyn, N. Y.	J. H. Fruitman	230.6	15			
WLBF	Kansas City, Mo.	Everett L. Dillard	211.1	25			
WLBH	Farmingdale, N. Y.	Joseph L. Lombardi	230	30			
WLB I	East Wenona, Ill.	Aloysius Yarc	296.9	250			
WLB J	Cleveland, Ohio	Henry Grossman	300	100			
WLBL	Stevens Point, Wis.	Wis. Depart. of Markets	277.6	500			
WLBO	Galesburg, Ill.	F. A. Trebbe, Jr.	243	100			
WLBP	Ashland, Ohio	R. A. Fox	220.4	15			
WLBQ	Atwood, Ill.	E. Dale Trout	230.6	25			
WLB R	Belvidere, Ill.	Alford Radio Co.	335	15			
WLB T	Crown Point, Ind.	Harold Wendell	230	100			
WLB U	Canastota, N. Y.	M. B. Greiner	220				
WLB V	Mansfield, Ohio	J. F. Weimer	230.6	50			
WLB W	Oil City, Pa.	Petroleum Telephone Co.	321	250			
WLB X	Long Island City, N. Y.	John N. Brahy	230.6	250			
WLB Y	Iron Mountain, Mich.	Aimonc Electric Co.	249.9	50			
WLB Z	Dover Foxcraft, Me.	L. Guernsey	299	250			
WLCL	Ithaca, N. Y.	Lutheran Assn. of Ithaca	266	50			
WLIB	Elgin, Ill.	Liberty Magazine	302.8	4000			
WLIT	Philadelphia, Pa.	Lit Brothers	394.5	500			
WLS	Crete, Ill.	Sears, Roebuck & Co.	344.6	5000			
WLSI	Cranston, R. I.	Lincoln Studios, Inc. (Combined with WDWF)	440.9	500			
WLTS	Chicago, Ill.	Lane Technical High School	258.5	100			
WLW	Cincinnati, Ohio	Crosley Radio Corporation	422.3	5000			
WLWL	New York, N. Y.	Miss. Soc. of St. Paul the Apos.	384.4	5000			
WMAC	Cazenovia, N. Y.	Clive B. Meredith	275.1	100			
WMAF	Dartmouth, Mass.	Round Hills Radio Corp.	440.9	1000			
WMAK	Lockport, N. Y.	Norton Laboratories	265.3	500			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
WMAL	Washington, D. C.	M. A. Lesse Co.	293.9	100			
WMAN	Columbus, Ohio	W. E. Heskett (1st Baptist Church)	277.6	50			
WMAQ	Chicago, Ill.	The Chicago Daily News	447.5	1000			
WMAY	St. Louis, Mo.	Kingshighway Presby. Ch.	247.8	100			
WMAZ	Macon, Ga.	Mercer University	260.7	500			
WMBA	Newport, R. I.	L. J. Beebe	249.9				
WMBB	Chicago, Ill.	Amer. Bond & Mtg. Co.	249.9	500			
WMBC	Detroit, Mich.	Mich. Broadcasting Co.	256.3	100			
WMBD	Peoria Heights, Ill.	Radio Laboratory, Inc.	250	279			
WMBF	Miami Beach, Fla.	Fleetwood Hotel Corp.	384.4	500			
WMBI	Chicago, Ill.	Moody Bible Inst.	288.3	500			
WMBJ	Monessen, Pa.	Wm. R. McShaffrey	277.6	50			
WMBO	Auburn, N. Y.	Radio Service Laboratories	238	200			
WMC	Memphis, Tenn.	Commercial Appeal	499.7	1000			
WMCA	Hoboken, N. J.	Greeley Square Hotel Co.	340.7	500			
WMPC	Lapeer, Mich.	First Methodist Church	222	30			
WMRJ	Jamaica, N. Y.	Peter J. Prinz	227.1	5			
WMSG	New York, N. Y.	Madison Sq. Garden Broadcasting Co.	302.8	500			
WMVM	Newark, N. J.	Edward J. Malone	475.9	500			
WNAB	Boston, Mass.	Shepard Stores	280.2	100			
WNAC	Boston, Mass.	Shepard Stores	280.2	500			
WNAD	Norman, Okla.	University of Oklahoma	254.1	500			
WNAL	Omaha, Nebr.	R. J. Rockwell	258.5	50			
WNAT	Philadelphia, Pa.	Lennig Bros. Co.	249.9	100			
WNAX	Yankton, S. Dak.	Dak. Radio Apparatus Co.	243.8	100			
WNBH	New Bedford, Mass.	New Bedford Hotel	247.8	250			
WNJ	Newark, N. J.	Herman Lubinsky	252	500			
WNOX	Knoxville, Tenn.	Peoples Tel. & Tel. Co.	267.7	500			
WNRC	Greensboro, N. C.	Wayne M. Nelson	223.7	10			
WNYC	New York, N. Y.	City of N. Y., Dept. of Plant & Structures	526	1000			
WOAI	San Antonio, Tex.	Southern Equipment Co.	394.5	2000			
WOAN	Lawrenceberg, Tenn.	James D. Vaughn	356.4	500			
WOAX	Trenton, N. J.	Franklyn J. Wolff	239.9	500			
WOBB	Chicago, Ill.	Longacre Eng. & Constr. Co.	555.2	5			
WOC	Davenport, Iowa	Palmer Sch. of Chiroprac.	410	6000			
WOCB	Orlando, Fla.	Orlando Broadcasting Co.	293.7	50			
WOCL	Jamestown, N. Y.	A. E. Newton	275.1	15			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG	
WODA	Paterson, N. J.	O'Dea Temple of Music	390.9	250		
WOI	Ames, Iowa	Iowa State College	270.1	750		
WOK	Homewood, Ill.	Neutrowound Ra. Mfg. Co.	410	6000		
WOKO	Peekskill, N. Y.	Harold E. Smith	232.4	50		
WOKT	Rochester, N. Y.	Titus-Ets Corporation	340	1000		
WOMT	Manitowoc, Wis.	Mikadou Theatre	254.1	50		
WOO	Philadelphia, Pa.	John Wanamaker	508.2	500		
WOOD	Furnwood, Mich.	Grand Rapids Radio Co.	241.8	500		
WOQ	Kansas City, Mo.	Unity Sch. of Christianity	277.6	1000		
WOR	Newark, N. J.	L. Bamberger & Co.	405.2	500		
WORD	Batavia, Ill.	Peoples Pulpit Association	275.1	5000		
WOS	Jefferson City, Mo.	Mo. State Mktg. Bureau	440.9	500		
WOW	Omaha, Nebr.	Woodmen of the World	526	1000		
WOWO	Fort Wayne, Ind.	Main Auto Supply Co.	227.1	500		
WPAB	Norfolk, Va.	Radio Corp. of Va.	319	100		
WPAK	Agri. Coll., N. Dak.	N. Dak. Agric. College	275.1	50		
WPAP	Cliffside, N. J.	(See WQAO)	361.2	500		
WPCC	Chicago, Ill.	No. Shore Cong. Church	258.5	500		
WPCH	New York, N. Y.	Concourse Radio Corp.	272.6	500		
WPDQ	Buffalo, N. Y.	H. L. Turner	205.4	250		
WPEP	Waukegan, Ill.	Maurice Mayer	212.6	500		
WPG	Atlantic City, N. J.	Municipality of A. City	299.8	5000		
WPRC	Harrisburg, Pa.	Wilson Prtg. & Radio Co.	215.7	100		
WPSC	State College, Pa.	Pennsylvania State College	260.7	500		
WQAA	Parkersburg, Pa.	Horace A. Beale, Jr.	220	500		
WQAE	Springfield, Vt.	Moore Radio News Station	245.8	50		
WQAM	Miami, Fla.	Electrical Equipment Co.	285.5	750		
WQAN	Scranton, Pa.	Scranton Times	249.9	100		
WQAO	Cliffside, N. J.	Calvary Baptist Church (WPAP used when Palisades Amusement Park program is on)	361.2	1000		
WQJ	Chicago, Ill.	Calurnet-Rainbo Broadcasting Co.	447.5	1000		
WRAF	Laporte, Ind.	The Radio Club (Inc.)	223.7	100		
WRAH	Providence, R. I.	Stanley H. Read	235	150		
WRAK	Escanaba, Mich.	Economy Light Co.	256.3	100		
WRAM	Galesburg, Ill.	Lombard College	243.8	100		
WRAV	Yellow Springs, O.	Antioch College	263	100		
WRAW	Reading, Pa.	Ave. Radio & Elec. Shop.	238	10		

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
WRAX	Philadelphia, Pa.	Beracah Church, Inc.	267.7	500			
WRBC	Valparaiso, Ind.	Immanuel Lutheran Ch.	277.6	500			
WRC	Washington, D. C.	Radio Corp. of America	468.5	1000			
WRCO	Raleigh, N. C.	Wynne Radio Co.	252	100			
WREC	Coldwater, Miss.	Wooten's Radio & Electric Co.	254.1	10			
WREO	Lansing, Mich.	Reo Motor Car Co.	285.5	500			
WRES	Wollaston, Mass.	Harry Leonard Sawyer	300	100			
WRHF	Washington, D. C.	Radio Hospital Fund	256.3	50			
WRHM	Minneapolis, Minn.	Rosedale Hospital	252	50			
WRK	Hamilton, Ohio	Doron Bros. Elec. Co.	270.1	100			
WRM	Urbana, Ill.	University of Illinois	272.6	500			
WRMU	Richmond Hill, New York	A. H. Grebe & Co.	236.1	100			
WRNY	Caytesville, N. J.	Experimenter Publish. Co.	373.8	500			
WRR	Dallas, Tex.	City of Dallas	245.8	500			
WRRS	Racine, Wis.	Racine Radio Co.	360	10			
WRSC	Chelsea, Mass.	Radio Shop	270	15			
WRST	Bay Shore, N. Y.	Radiotel Manuf'g Co.	215.7	250			
WRVA	Richmond, Va.	Larus & Bros., Inc.	256.3	1000			
WSAE	Virginia Beach, Va.	Virginia Beach Broadcast- ing Co.	516.9	500			
WSAI	Mason, Cincinnati, Ohio	U. S. Playing Card Company	325.9	5000			
WSAJ	Grove City, Pa.	Grove City College	228.9	250			
WSAN	Allentown, Pa.	Allen. Call Publishing Co.	228.9	100			
WSAR	Fall River, Mass.	Doughty & Welch Elec. Co.	322	100			
WSAV	Houston, Tex.	Clifford W. Vick	247.8	100			
WSAX	Chicago, Ill.	Zenith Radio Corp. (port.)	267.7	100			
WSAZ	Pomeroy, Ohio	Chase Electric Shop	243.8	50			
WSB	Atlanta, Ga.	Atlanta Journal	428.3	1000			
WSBC	Chicago, Ill.	World Battery Co.	288.3	1000			
WSBF	St. Louis, Mo.	Stix, Baer & Fuller	272.6	250			
WSBT	South Bend, Ind.	South Bend Tribune	315.6	250			
WSDA	New York, N. Y.	Seventh Day Adventist Ch.	263	250			
WSIX	Springfield, Tenn.	Tire & Vulcanizing Co.	150	250			
WSKC	Bay City, Mich.	World's Star Kntg. Co.	260.7	100			
WSM	Nashville, Tenn.	Nat'l Life & Accident Co.	282.8	1000			
WSMB	New Orleans, La.	Saenger Amusement Co. & Maison Blanche Co.	319	500			
WSMH	Owasso, Mich.	Shattuck Music House	239.9	20			
WSMK	Dayton, Ohio	S. M. K. Radio Corp.	275.1	500			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG	
WSOE	Milwaukee, Wis.	Sch. of Engineering of Mil.	245.8	500		
WSRO	Hamilton, Ohio	Harry W. Fahrlander	252	100		
WSSH	Boston, Mass.	Tremont Temple Church	260.7	100		
WSUI	Iowa City, Iowa	State University of Iowa	483.6	500		
WSVS	Buffalo, N. Y.	Seneca Vocational School	218.8	50		
WSWS	Batavia, Ill.	Richmond, Harris & Co.	275.1	1000		
WSYR	Syracuse, N. Y.	Clive B. Meredith	352.7	500		
WTAD	Quincy, Ill.	Ill. Stock Medicine	236.1	50		
WTAG	Worcester, Mass.	Wor. Telegram Pub. Co.	545.1	500		
WTAL	Toledo, Ohio	Toledo Broadcasting Co.	252	10		
WTAM	Cleveland, Ohio	Willard Stor. Battery Co.	389.4	3500		
WTAQ	Eau Claire, Wis.	C. S. Van Gordon	254.1	100		
WTAR	Norfolk, Va.	Reliance Electric Co.	261	100		
WTAW	College Station, Texas	Agricultural and Mechan- ical College of Texas	270.1	500		
WTAX	Streator, Ill.	Williams Hardware Co.	230.6	50		
WTAZ	Lambertville, N. J.	Thomas J. McGuire	260.7	15		
WTHO	Ferndale, Mich.	W. J. Thomas Radio Co.	407	50		
WTIC	Hartford, Conn.	Travelers Insurance Co.	475.9	500		
WTRC	New York, N. Y.	20th Assembly Dist. Reg. Rep. Club	239.9	50		
WTRL	Midland Park, N. J.	Tech. Radio Lab.	280.2	15		
WWAE	Plainfield, Ill.	Electric Park	384.4	10		
WWJ	Detroit, Mich.	Detroit News	352.7	1000		
WWL	New Orleans, La.	Loyola University	275.1	100		
WWNC	Asheville, N. C.	Asheville Chamber of Com- merce	254.1	20		
WWPR	Detroit Mich.	Detroit Police Dept.	300	500		
WWRL	Woodside, N. Y.	Woodside Radio Labora- tories	258.5	100		
WWVA	Wheeling, W. Va.	John C. Stroebel	384.6	100		

## ADDITION

## UNITED STATES BROADCASTING STATIONS

## By Location

ALABAMA  
AUBURN—WAPI  
BIRMINGHAM—WBRC-  
WKBC  
GADSDEN—WJBY  
MONTGOMERY—WIBZ

ALASKA  
ANCHORAGE—KFQD  
JUNEAU—KFUI  
KETCHIKAN—KGBU

ARIZONA  
FLAGSTAFF—KFXY  
PRESCOTT—KPJM  
PHOENIX—KFAD-KFCB  
TUCSON—KJAR

ARKANSAS  
FAYETTEVILLE—KQOA  
HOT SPRINGS—KTHS  
NEWARK—KGCC

CALIFORNIA  
AVALON—KFWO  
BERKELEY—KRE  
BIG BEAR LAKE—KFXB  
BURLINGAME—KFOB  
EUREKA—KFWH  
FRESNO—KMJ  
HOLLYWOOD—KFQZ-  
KFWB-KMTR  
HOLY CITY—KFQU  
INGLEWOOD—KMIC  
LONG BEACH—KFN-  
KGER

LOS ANGELES—KFI-  
KFPR-KFSG-KGEF-  
KHJ-KNX-KTBI  
LOWER LAKE—KGEU  
OAKLAND—KFUS-KFWM-  
KGO-KLS-KLX-KTAB-  
KZM  
OXNARD—KFYF  
PASADENA—KPPC-KPSN  
SACRAMENTO—KFBK  
SAN BERNADINO—KFWC  
SAN DIEGO—KFBC-KFSD  
SAN FRANCISCO—KFRC-  
KFWI-KGTT-KJBS-  
KPO-KYA

SAN JOSE—KFAF-KQW  
SANTA ANA—KWTC  
SANTA MARIA—KSMR  
SANTA MONICA—KNRC  
STOCKTON—KWG-KGDM  
VENICE—KFVD

COLORADO  
COLORADO SPRINGS—  
KFUM  
DENVER—KFEL-KFUP-  
KFVR-KFXF-KFXJ-  
KLZ-KOA  
GREELY—KFKA  
GUNNISON—KFHA  
PUEBLO—KGDP  
TRINIDAD—KFB5  
YUMA—KGEK

CONNECTICUT  
BRIDGEPORT—WCWS-  
WICC

HARTFORD—WTIC  
MANSFIELD—WCAC  
NEW HAVEN—WDRG  
DELAWARE  
WILMINGTON—WDEL-  
WHAU  
DISTRICT OF COLUMBIA  
WASHINGTON—WCAP-  
WMAL-WRC-WRHF

FLORIDA  
CLEARWATER—WGHB  
BOCA RATON—WFLA  
FULFORD-BY-THE-SEA—  
WGBU  
JACKSONVILLE—WJAX  
LAKELAND—WMBL  
MIAMI—WIOD-WQAM  
MIAMI BEACH—WMBF  
ORLANDO—WOCB  
PENSACOLA—WCOA  
ST. PETERSBURG—WHBN-  
WJBB-WKBJ  
TAMPA—WDAE  
WINTER PARK—WDBO

GEORGIA  
ATLANTA—WDBE-WGST-  
WSB  
MACON—WMAZ  
HAWAII  
HONOLULU—KGU

IDAHO  
BOISE—KFAU-KFDD  
KELLOGG—KFEY  
POCATELLO—KSEI

ILLINOIS  
ATWOOD—WLBQ  
BATAVIA—WORD-WSWS  
BELVIDERE—WLBK  
CARTHAGE—WCAZ-WTAD  
CHICAGO—KYW-WAAF-  
WBBM-WBBZ-WBCN-  
WCFL-WCRW-WEBH-  
WEDC-WEHS-WENR-  
WFKB-WGES-WGN-  
WHBL-WHBM-WHFC-  
WIBJ-WIBW-WIRO-  
WJBT-WKBA-WKBG-  
WKBL-WLTS-WMAQ-  
WMBB-WMBI-WOBB-  
WPCC-WJQ-WSAX-  
WSBC

CHICAGO HEIGHTS—WJBZ  
CRETE—WLS  
DECATUR—WBAO-WJBL  
DEERFIELD—WHT  
EAST WENONA—WLBI  
ELGIN—WLIB  
GALESBURG—WFBZ-  
WKBS-WRAM-WLBO  
HARRISBURG—WEBQ  
HOMEWOOD—WOK  
JOLIET—WCLS-WJBA-  
WKBB  
LA SALLE—WJBC  
MOOSEHEART—WJJD  
MOUNT PROSPECT—WJAZ  
PEORIA HEIGHTS—WMBD

PLAINFIELD—WWAE  
ROCKFORD—KFLV  
ROCK ISLAND—WHBF  
STREATOR—WTAX  
TUSCOLA—WDZ  
URBANA—WRM  
WAUKEGAN—WPEP  
ZION—WCBD

INDIANA  
ANDERSON—WHBU  
BROOKVILLE—WKBV  
CROWN POINT—WLBT  
CULVER—WCMA  
EVANSVILLE—WGBF  
FORT WAYNE—WCWK-  
WOWO  
HUNTINGTON—WHOG  
INDIANAPOLIS—WFBM  
KOKOMO—WJAK  
LAPORTE—WRAF  
MUNCIE—WLBC  
SEYMOUR—WFBE  
SOUTH BEND—WSBT  
VALPARAISO—WRBC  
WEST LAFAYETTE—  
WBAA

IOWA  
AMES—WOI  
ANITA—KICK  
BOONE—KFGQ  
BURLINGTON—WIAS  
CEDAR RAPIDS—KWCR-  
WJAM  
CLARINDA—KSO  
COUNCIL BLUFFS—KOIL  
CRESCO—KGDJ  
DAVENPORT—WOC  
DECORAH—KGA-KGDZ  
DES MOINES—WHO  
FORT DODGE—KFJY  
IOWA CITY—KFQP-WSUI  
LE MARS—KWUC  
MARSHALLTOWN—KFJB  
MUSCATINE—KTNT-  
KGEN  
OSKALOOSA—KFHL  
SHENANDOAH—KFN-  
KMA  
SIOUX CITY—KFMR-  
WEAU

KANSAS  
CONCORDIA—KGCN  
INDEPENDENCE—KFVG  
LAWRENCE—KFKU  
MANHATTAN—KSAC  
MILFORD—KFKB  
WICHITA—KFH-KFOT  
KENTUCKY  
LOUISVILLE—WHAS-  
WLP

LOUISIANA  
NEW ORLEANS—WABZ-  
WCBE-WJBO-WJBW-  
WKBT-WSMB-WWL  
PINEVILLE—KFWU  
SHREVEPORT—KFDX-  
KRAC-KSBA-KGDX

- MAINE**  
 BANGOR—WABI  
 FOXCROFT—WLBZ  
 ORONO—WGBX  
 PORTLAND—WCSH
- MARYLAND**  
 BALTIMORE—WBAL-  
 WCAO-WCBM-WFBR  
 TAKOMA PARK—WBES
- MASSACHUSETTS**  
 BOSTON—WATT-WBZA-  
 WDZA—WEEI—WNAE-  
 WNAC—WSSH—WBET  
 CHELSEA—WRSC  
 DARTMOUTH—WMAF  
 FALL RIVER—WSARS-  
 WTAB  
 GLOUCESTER—WEPS  
 MEDFORD HILLSIDES—  
 WARC  
 NEW BEDFORD—WNBH  
 SOMERVILLE—WAGS  
 SPRINGFIELD—WBZ  
 TAUNTON—WAIT  
 WEBSTER—WKBE  
 WELLESLEY HILLS—  
 WBSO  
 WOLLASTON—WRSE  
 WORCESTER—WTAG
- MICHIGAN**  
 BATTLE CREEK—WKBP  
 BAY CITY—WSKC  
 BERRIEN SPRINGS—  
 WEMC  
 DETROIT—WBHM-WCX-  
 WDXL—WGHP—WMB-  
 WWJ—WWPR  
 EAST LANSING—WKAR  
 ESCANABA—WRAK  
 FERNDALE—WTHO  
 FLINT—WFDF  
 FURNWOOD—WOOD  
 GRAND RAPIDS—WASH  
 IRON MOUNTAIN—WLBV  
 LANSING—WREO  
 LAFEE—WMPC  
 LUDINGTON—WKBZ  
 MONROE—WKBL  
 MT. CLEMENS—WABX  
 OWOSSO—WSMH  
 PETOSKEY—WBPP  
 PONTIAC—WCX combined  
 with WJR  
 PORT HURON—WAFD  
 ROYAL OAK—WAGM  
 YPSILANTI—WJBK
- MINNESOTA**  
 BARRETT—KGDE  
 COLLEGEVILLE—WFBJ  
 FAIRMONT—KFVN  
 MINNEAPOLIS—KFDZ-  
 KGEQ—WAMD—WCCO-  
 WDJQ—WHDJ—WLB-  
 WRHM  
 NORTHFIELD—KFMX-  
 WCAL  
 ST. CLOUD—WFAM  
 ST. PAUL—KFOY
- MISSISSIPPI**  
 COLDWATER—WREC  
 OXFORD—WCBH
- MISSOURI**  
 CAPE GIRARDEAU—KFVS  
 CARTERSVILLE—KFPW  
 COLUMBIA—KFBU  
 INDEPENDENCE—KLDS  
 JEFFERSON CITY—WOS  
 KANSAS CITY—KWKC-  
 WDAF—WHB—WLB-  
 WQQ  
 KIRKSVILLE—KFKZ  
 MOBERLY—KFPP  
 ST. LOUIS—KFQA—KFUO-  
 KFVE—KFWF—KMOX-  
 KSD—WEW—WIL—WMAV-  
 WSBF  
 ST. JOSEPH—KGBX
- MONTANA**  
 HARVE—KFBB  
 KALISPEL—KGES  
 MISSOULA—KUOM  
 SHELBY—KGBY  
 VIDA—KGCC
- NEBRASKA**  
 CENTRAL CITY—KGES  
 CLAY CENTER—KMMJ  
 DAVID CITY—KFOR  
 HASTINGS—KFKX  
 HUMBOLDT—KGDW  
 LINCOLN—KFAB—WFAV  
 NORFOLK—WJAG  
 OAK—KFEQ  
 OMAHA—KFOX—KOCH-  
 WAAW—WNAL—WOW  
 UNIVERSITY PLACE—  
 WCAJ  
 WAYNE—KGCH  
 YORK—KGBZ
- NEW HAMPSHIRE**  
 LOCANIA—WKAV  
 TILTON—WBRL
- NEW JERSEY**  
 ATLANTIC CITY—WHAR-  
 WPG  
 CAMDEN—WCAM  
 CLIFFSIDE—WPAP—WQAO  
 ELIZABETH—WIBS  
 HOBOKEN—WMCA  
 JERSEY CITY—WAAT-  
 WKBO  
 LAKEWOOD—WCGU  
 LAMBERTVILLE—WTAZ  
 MIDLAND PARK—WTRL  
 NEWARK—WAAM—WDWM-  
 WGGP—WMVM—WNJ-  
 WOR  
 N. BERGEN—WBMS  
 N. PLAINFIELD—WEAM  
 PATERSON—WODA  
 RED BANK—WJBI  
 TRENTON—WOAX  
 WOODHAVEN—WJBV
- NEW MEXICO**  
 ALBUQUERQUE—KFLR-  
 KFDY  
 STATE COLLEGE—KOB
- NEW YORK**  
 ASTORIA, L. I.—WGBS  
 AUBURN—WKBR—WMBO  
 BAY SHORE—WRST  
 BROOKLYN—WARS-  
 WBBC—WBKN—WBRS-  
 WFRL—WLBE
- BUFFALO—WEER—WGR-  
 WKBW—WPDQ—WVSV  
 CANASTOTA—WLBW  
 CANTON—WCAD  
 CAZENOVIA—WMAC  
 FARMINGDALE—WLBH  
 FLUSHING—WIBI  
 FREEPORT—WGBB  
 ITHACA—WEAI—WL-  
 CI  
 JAMAICA—WMRJ  
 JAMESTOWN—WOCL  
 KINGSTON—WBBZ  
 LOCKPORT—WMAK  
 LONG ISLAND—WLBX  
 NEWBURGH—WKBM  
 NEW YORK—WB-  
 NY  
 WCBW—WEAF—WEBJ-  
 WGL—WHP—WHN-  
 WBL—WJUG—WJY—WJZ-  
 WKBQ—WLWL—WMSG-  
 WNYC—WPCH—WSDA-  
 WTRC  
 OZONE PARK—WAOK  
 PEEKSKILL—WOKO  
 RICHMOND HILL—WAHG-  
 WBOQ—WGMU—WRMU  
 ROCHESTER—WABO-  
 WHAM—WHEC—WOKT  
 ROSSVILLE—WBRR  
 SCHENECTADY—WGY  
 SYRACUSE—WFBL—WSYR  
 TROY—WHAZ  
 UTICA—WIBX  
 WOODSIDE—WVRL**
- NORTH CAROLINA**  
 ASHEVILLE—WUNC  
 CHARLOTTE—WBT  
 GREENSBORO—WNRC  
 RALEIGH—WRCO
- NORTH DAKOTA**  
 AGRICULTURAL COL-  
 LEGE—WPAK  
 BISMARCK—KFYR  
 DEVIL'S LAKE—KDLR  
 FARGO—WDAY  
 GRAND FORKS—KFJM  
 JAMESTOWN—KGEL  
 MANDAN—KGCU
- OHIO**  
 AKRON—WADC  
 ASHLAND—WLPB  
 ASHTABULA—WJPW  
 BELLEFONTAINE—WHBD  
 CAMBRIDGE—WEBE  
 CANTON—WHBC  
 CINCINNATI—WAAD-  
 WAIU—WFBE—WKRC-  
 WLW—WSAI  
 CLEVELAND—WDBK-  
 WEAR—WHK—WJAY-  
 WTAM  
 COLUMBUS—WAIU-  
 WCAH—WEAO—WMAN  
 WLBJ  
 DAYTON—WSMK  
 HAMILTON—WEBK—WRK-  
 WSRO  
 MANSION CITY—WSAI  
 MANSFIELD—WLBV  
 POMEROY—WSAZ  
 SPRINGFIELD—WC-  
 SO  
 TOLEDO—WABR—WTAL  
 WOOSTER—WABW

- YELLOW SPRINGS—WRAV  
YOUNGSTOWN—WKBN
- OKLAHOMA  
ALVA—KGFF  
BRISTOW—KVOO  
CHICKASHA—KOCW  
NORMAN—WNAD  
OKLAHOMA CITY—KFJF-  
KFXR-KGCB-WKY  
TULSA—WLAL
- OREGON  
ASTORIA—KFJI  
CORVALLIS—KOAC  
EUGENE—KGEH  
MEDFORD—KMED  
PORTLAND—KEX-KFEC-  
KFIF-KFJR-KFWV-  
KGW-KOIN-KOOW-  
KTBR-KXL
- PENNSYLVANIA  
ALLENTOWN—WCBA-  
WSAN  
ALTOONA—WFBG  
DANVILLE—WKBY  
EAST PITTSBURGH—  
KDKA  
ELKINS PARK—WIBG  
GROVE CITY—WSAJ  
HARRISBURG—WABB-  
WBAK-WHBG-WPRC  
HAVERFORD—WABQ  
JEANETTE—WGM  
JOHNSTOWN—WHBP  
LANCASTER—WGAL-  
WKJC  
LOUISBERG—WJBU  
MONESSEN—WMBJ  
NEW CASTLE—WKBU-  
WLBW  
OIL CITY—WHBA  
PARKSBURG—WQAA  
PHILADELPHIA—WABY-  
WABQ-WCAU-WFKD-  
WFI-WHBW-WIAD-  
WIP-WLIT-WNAT-  
WOO-WRAX  
PITTSBURGH—KQV-  
WCAE-WJAS  
PRINGLEBORO—WABF  
READING—WRAW  
SCRANTON—WGBI-WQAN  
STATE COLLEGE—WPBC  
WILKES-BARRE—WBAX-  
WBRE
- PORTO RICO  
SAN JUAN—WKAQ
- RHODE ISLAND  
CRANSTON—WDWF-WLSI  
NEWPORT—WMBA  
OLMEYVILLE—WCOT  
PAWTUCKET—WFCI  
PROVIDENCE—WCBR-  
WEAN-WRAH-WJAR
- SOUTH CAROLINA  
CHARLESTON—WBBY
- SOUTH DAKOTA  
BROOKINGS—KFDY-KGCR  
DOLL RAPIDS—KGDA  
RAPID CITY—WCZT  
SIOUX FALLS—KSOO  
VERMILION—KUSD  
YANKTON—WNAX
- TENNESSEE  
CHATTANOOGA—WDOD  
KNOXVILLE—WFBC-  
WNOX  
LAWRENCEBERG—WOAN  
MEMPHIS—WGBC-WHBQ-  
WMC  
NASHVILLE—WABW-  
WDAD-WLAC-WSM  
SPRINGFIELD—WSIX  
TULLAHOMA—WCFT
- TEXAS  
AMARILLO—KGRS-WDAG  
AUSTIN—KUT  
BEAUMONT—KFDM  
BEEVILLE—KFRB  
BROWNSVILLE—KWWG  
COLLEGE STATION—  
WTAW  
DALLAS—KGDO—KRLD-  
WFAA-WRR  
DUBLIN—KFPL  
EL PASO—KFXH-WDAH  
FORT WORTH—KFJZ-  
KFQB-WBAP  
GALVESTON—KFLX-KFUL  
GREENVILLE—KFBM  
HOUSTON—KFVI-KFYJ-  
KPRC-KTUE-WSAV  
SAN ANTONIO—KGCJ-  
KGOR-KTAP-WCAR-  
WOAI-KGRC  
SAN BENITO—KFLU  
TEXARKANA—KFYO  
WACO—WJAD
- UTAH  
LOGAN—KFKD  
OGDEN—KFUR  
SALT LAKE CITY—KDYL-  
KFOO-KFUT-KSL
- VERMONT  
BURLINGTON—WCAX  
SPRINGFIELD—WQAE
- VIRGINIA  
NORFOLK—WBBW-WPAB-  
WTAR  
RICHMOND—WBBL-WRVA  
ROANOKE—WDBJ  
VIRGINIA BEACH—WSAE
- WASHINGTON  
EVERETT—KFBL  
LACEY—KGY  
OLYMPIA—KFRW  
PULLMAN—KWSC  
SEATTLE—KFOA-KFQW-  
KFQX-KGBS-KGCL-  
KGDJ-KGEA-KJR-KKP-  
KOMO-KRSC-KRKO-  
KTW-KVOS  
SPOKANE—KPIO-KFPY-  
KHQ  
TACOMA—KMO-KVI  
WALLA WALLA—KOWW  
YAKIMA—KFJQ
- WEST VIRGINIA  
WEIRTON—WIBR  
WHEELING—WWVA
- WISCONSIN  
BELOIT—WEBW  
CAMP LAKE—WCLO  
EAU CLAIRE—WTAQ  
FOND DU LAC—KFIZ  
KENOSHA—WKDR  
LA CROSSE—WKBH  
MADISON—WHA-WIBA  
MANITOWOC—WOMT  
MARSHFIELD—WGBR  
MILWAUKEE—WGWB-  
WHAD-WKAF-WSOE  
OMRO—WJBR  
POYNETTE—WIBU  
RACINE—WRRS  
STEVENS POINT—WLBL  
SUPERIOR—WBCB  
WEST DE PERE—WHBY
- WYOMING  
LARAMIE—KFBU

## Canada—By Location—Owners Listed Under Call Letters

- ALBERTA  
CALGARY—CFAC-CFCN-  
CJTC-CNRC  
EDMONTON—CFCK-CHCY-  
CJCA-CNRE  
LETHBRIDGE—CJOC  
BRITISH COLUMBIA  
BURNABY—CFYC  
KAMLOOPS—CFJC  
SEA ISLAND—CJOR  
VANCOUVER—CFCQ-  
CFDC-CHPC-CKCD-  
CKFC-CNRV  
VICTORIA—CFCT
- MANITOBA  
WINNIPEG—CKY-CNRW  
NEW BRUNSWICK  
MONCTON—CNRA
- NOVA SCOTIA  
HALIFAX—CHNS
- ONTARIO  
BRANTFORD—CFGC  
BURKETON JCT.—CKCW  
COBALT—CKMC  
GEORGE—CKCR  
HAMILTON—CHCS-CKOC  
HUNTSVILLE—CHCO  
KITCHENER—CJCF  
KING—CJQC  
KINGSTON—CFMC-CFRG  
LONDON—CJGC  
OTTAWA—CHXC-CKCO-  
CNRO  
PRESTCOTT—CFLC  
SCARBORO STA.—CJYC  
TORONTO—CFCA-CHIC-  
CHNC-CJRC-CJCI-  
CJSC-CKCL-CKCX-  
CKNC-CNRT
- PRINCE EDWARD ISLAND  
CHARLOTTETOWN—CFCY  
SUMMERSIDE—CHLC
- QUEBEC  
MONTREAL—CFCF-CHYC-  
CKAC-CNRM  
QUEBEC—CHRC-CKCI-  
CKCV  
ST. HYACINTHE—CKSH  
SASKATCHEWAN  
REGINA—CHUC-CKCK-  
CNRR  
MOOSE JAW—CJRM  
SASKATOON—CFAC-  
CHUC-CJWC-CNRS

# CANADIAN BROADCASTING STATIONS

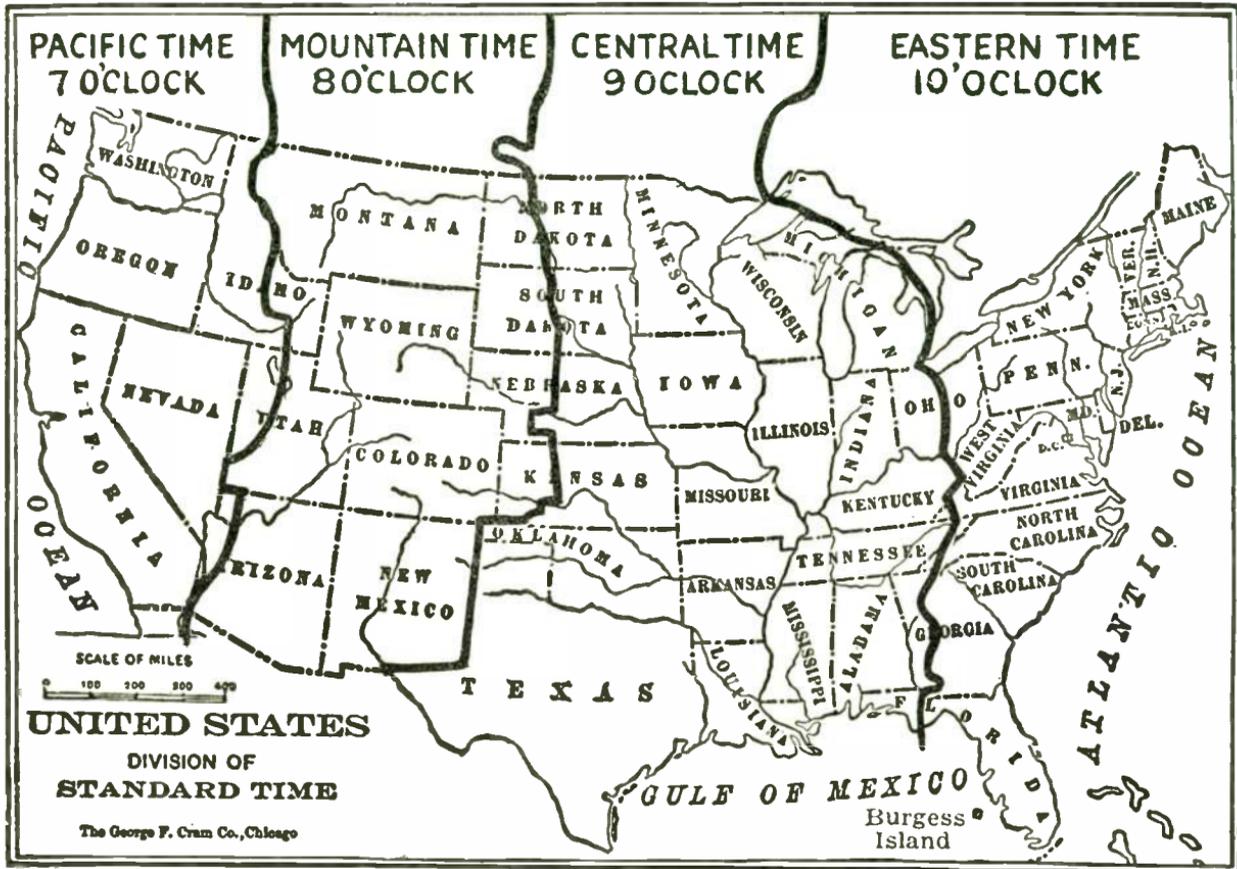
Call Letters—Meters Wave Length—Location—Owner

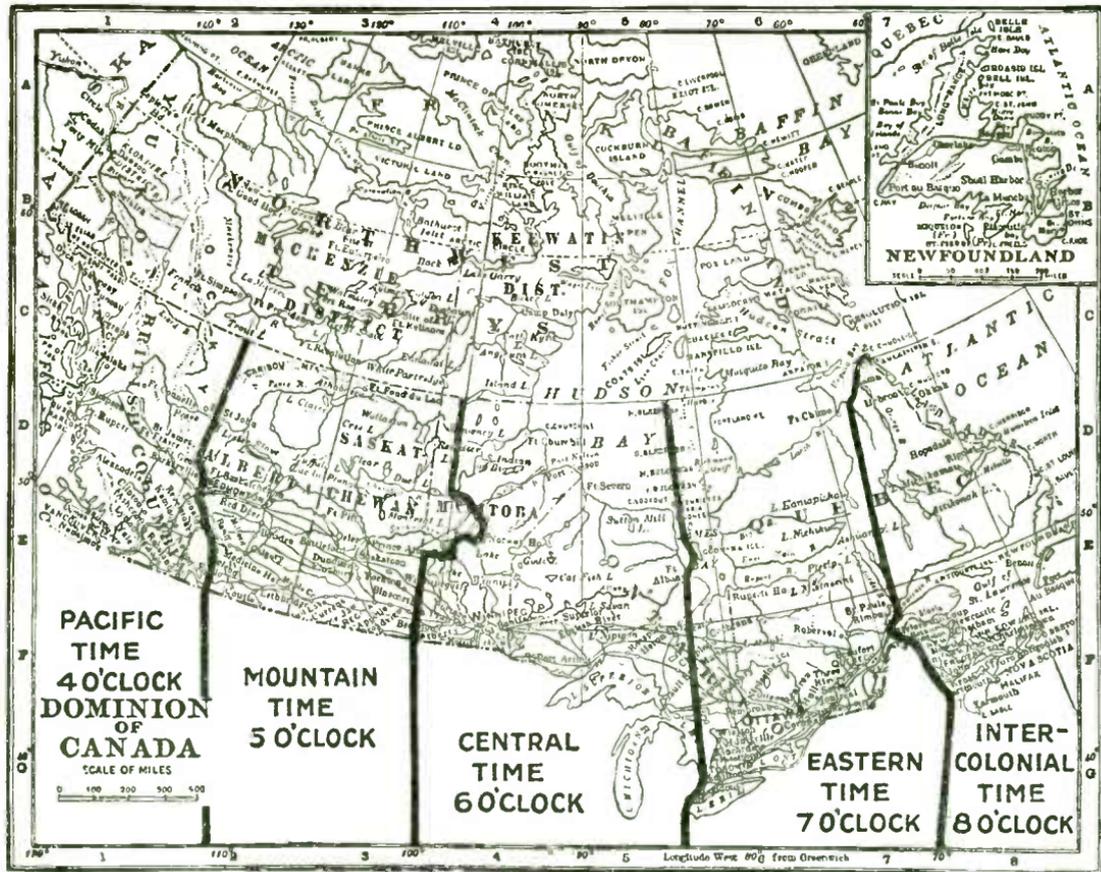
Alphabetically by call signal.

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
CFAC	Calgary, Alta.	The Calgary Herald	434.5	500			
CFCA	Toronto, Ont.	Star Pub. & Prtg. Co.	356.9	500			
CFCF	Montreal, Que.	Canadian Marconi Co.	410.7	1650			
CFCH	Iroquois Falls, Ont.	Abitibi Power & Paper Co., Ltd.	499.7	250			
CFCK	Edmonton, Alta.	Radic Supply Co., Ltd.	516.9	100			
CFCN	Calgary, Alta.	W. W. Grant Radio, Ltd.	434.5	1800			
CFCQ	Vancouver, B. C.	Spratt-Shaw Radio Co.	410.7	20			
CFCT	Victoria, B. C.	Geo. W. Deaville	329.5	500			
CFCY	Charlottetown, P. E. I.	Island Radio Co.	312.3	50			
CFDC	Vancouver, B. C.	Western Auto Electric Co.	410.7	15			
CFGC	Brantford, Ont.	Brant Radio Sup. Co., Ltd.	297	50			
CFJC	Kamloops, B. C.	N. S. Dagleish & Sons, and Woller & Weller	267.7	50			
CFLC	Prescott, Ont.	Radio Assn. of Prescott	296.9	50			
CFMC	Kingston, Ont.	Monarch Battery Co.	267.7	20			
CFQC	Saskatoon, Sask.	The Electric Shop, Ltd.	329.5	500			
CFRC	Kingston, Ont.	Queen's University	267.7	500			
CFYC	Burnaby, B. C.	Radic Corp. of Vancouver	410.7	1000			
CHCO	Huntsville, Ont.	A. Staples	247.8	5			
CHCS	Hamilton, Ont.	The Hamilton Spectator	340.7	10			
CHCY	Edmonton, Alta.	Int'l Bible Students Assn.	516.9	250			
CHIC	Toronto, Ont.	Northern Electric Co., Ltd.	356.9	500			
CHLC	Summerside, P. E. I.	R. T. Holman, Ltd.	267.7	25			
CHNC	Toronto, Ont.	Toronto Radio Research Society	356.9	500			
CHNS	Halifax, N. S.	Halifax Herald and Carleton Hotel	322.4	100			
CHPC	Vancouver, B. C.	Central Presbyterian Church	410.7	1000			
CHRC	Quebec, Que.		340.7	5			
CHUC	Saskatoon, Sask.	Int'l Bible Students Assn.	329.5	500			
CHWC	Regina, Sask.		296.9	500			
CHXC	Ottawa, Ont.	J. R. Booth, Jr.	434.5	250			
CHYC	Montreal, P. Q.	No. Elec. Co., Ltd.	410.7	750			
CJBC	Toronto, Ont.	Jarvis St. Baptist Church	291.1	500			
CJCA	Edmonton, Alta.	Edmonton Journal, Ltd.	516.7	500			
CJCF	Kitchener, Ont.	O. Rump	247.8	25			

Call Sign.	LOCATION	NAME	Wave Length	Power (Watts)	LOG		
CJCI	Toronto, Ont.	Loyal Order of Moose	291.1				
CJCQ	King, Ont.	Standard Radio Mfg. Co., Ltd.	291.1	1000			
CJGC	London, Ont.	Lon. Free Press Prtg. Co.	329.5	500			
CJOC	Lethbridge, Alta.	J. E. Palmer	267.7	50			
CJOR	Sea Island, B. C.		291.1	50			
CJRM	Moose Jaw, Sask.	James Richardson & Sons	296.6	50			
CJSC	Toronto, Ont.	The Evening Telegram	356.9	500			
CJTC	Calgary, Alta.	Radio Service Repair Shop	434.5	250			
CJWC	Saskatoon, Sask.	Wheaton Electric Co., Ltd.	329.5	250			
CJYC	Scarboro Sta., Ont.	Universal Radio Co. of Canada, Ltd.	291.1	500			
CKAC	Montreal, P. Q.	LaPresse Pub. Co. Ltd.	410.7	1200			
CKCD	Vancouver, B. C.	Vancouver Daily Province	410.7	1000			
CKCI	Quebec, Que.	Le "Soleil," Ltd.	340.7	22.5			
CKCK	Regina, Sask.	Leader Pub. Co., Ltd.	296.9	500			
CKCL	Toronto, Ont.	The Dom. Battery Co., Ltd.	356.9	500			
CKCO	Ottawa, Ont.	Dr. G. M. Geldert	434.5	100			
CKCR	George, Ont.	John Patterson	267.7	25			
CKCV	Quebec, Que.	G. A. Vandry	340.7	50			
CKCW	Burketon Jct., Ont.	Canadian Broadcasting Corporation	329.5	5000			
CKCX	Toronto, Ont.	Int'l Bible Students Assn.	291.1	500			
CKFC	Vancouver, B. C.	First Congregational Ch.	410.7	50			
CKMC	Cobalt, Ont.	R. L. MacAdam	247.8	5			
CKNC	Toronto, Ont.	Canadian National Carbon Company, Ltd.	356.9	500			
CKOC	Hamilton, Ont.	Wentworth Radio Supply Co., Ltd.	340.7	50			
CKSH	St. Hyacinthe, Que.	City of St. Hyacinthe	312.3	50			
CKY	Winnipeg, Man.	Manitoba Tel. System	384.4	500			
CNRA	Moncton, N. B.	Canadian Nat'l Railways	322.4	500			
CNRC	Calgary, Alta.	Canadian Nat'l Railways	434.5	500 750			
CNRE	Edmonton, Alta.	Canadian Nat'l Railways	516.9	500			
CNRM	Montreal, P. Q.	Canadian Nat'l Railways	410.7	1000 1650			
CNRO	Ottawa, Ont.	Canadian Nat'l Railways	434.5	500			
CNRR	Regina, Sask.	Canadian Nat'l Railways	312.3	500			
CNRS	Saskatoon, Sask.	Canadian Nat'l Railways	329.5	500			
CNRT	Toronto, Ont.	Canadian Nat'l Railways	356.9	500			
CNRV	Vancouver, B. C.	Canadian Nat'l Railways	291.1	500			
CNRW	Winnipeg, Man.	Canadian Nat'l Railways	384.4	50			

Canadian Stations—by Location—Owners Listed Under Call Letters—See Page 23







## DRY CELL BATTERIES IN RADIO

Dry cell batteries are an important part of long distance radio receiving equipment because they are a convenient, economical, and safe source of electrical energy and Burgess Dry Cell Batteries are pre-eminently satisfactory for these purposes.

As is well known, a broadcasting station sends out enormous electrical energy which travels away from the sending antenna at a speed great enough to encircle the earth over seven times in one second. This energy gradually spreads out over an ever increasing circle around the antenna and its strength diminishes rapidly as the distance from the station increases.

With a suitable receiving antenna, either an indoor loop or outside aerial, some of the energy from the sending station can be collected. At distances from the sending station the collected energy is such an infinitesimal quantity that it cannot operate any of the electrical apparatus, such as telephones through which the signals should be heard. If the receiving set can add energy to that obtained from the antenna, it will be possible to operate not only telephones but loud speakers and other devices. Dry cell batteries provide this extra energy, and it is regulated through the receiving set by the sending station energy collected from the antenna.

The throttling or transformation of the battery energy into sound in the headsets, for example, is done by the vacuum tubes in a very involved manner. The "A" or filament battery donates its energy to the set by lighting the filament of the tube and providing a path for the energy from the "B" or plate battery to flow through the tube and to the phones or loud speaker.

For good results through the receiving set, the dry cell batteries must have certain characteristics, for example, a large energy capacity so that they can be used intensively or produce a loud sound, availability to hold their energy and not allow it to leak out even when they are in use, a constancy of delivery of energy so it can be easily and smoothly controlled by the receiving set, a smoothness of discharge into the set to prevent interference with the control.

The energy of a battery is proportional to its voltage and its current. The "A" battery energy is generally provided at a low voltage and a high current. The "B" battery energy, on the other hand, is supplied at a higher voltage and low current; both, however, are necessary in a receiving set. Increasing the "A" battery energy will put more into the set but it will not and cannot replace the "B" battery energy which must also be there in suitable quantity.

Some sets contain several tubes as detectors and amplifiers, but the general conditions above stated always hold true. The several tubes may make it possible to detect smaller antenna energy or obtain a better selection of incoming signals, but to obtain more sound, more energy will always be required, and this means either more batteries or more energy drawn from the batteries.

Dry cell batteries have certain characteristics which should be here mentioned. A dry cell consists of a zinc container filled with active chemicals, in the center of which is a brass-capped carbon rod. The zinc can is the negative (—) pole or electrode and the center carbon is the positive (+) pole or electrode. The voltage of a dry cell is about 1.5 volts when it is not in circuit (open circuit voltage) and it is lower when it is in circuit (closed circuit voltage), depending on the cell resistance and the resistance of the circuit to which it is connected.

## "A" BATTERIES

The first vacuum tubes required storage batteries on the "A" or filament circuit because of the large amount of energy required by these tubes. Many tubes are now on the market which operate the entire set on dry cell batteries. The voltage and current requirements of these tubes varies with their type, and information concerning them is furnished with the tube by the manufacturers.

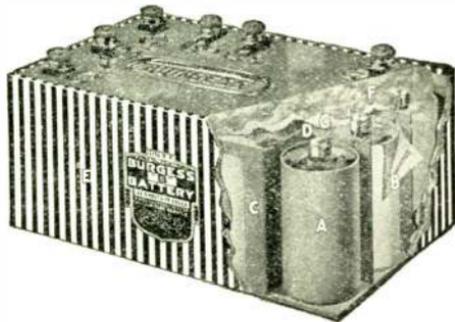
Originally, the ordinary six-inch Ignition Dry Cell was used as an "A" battery with these tubes and with fair success. The Burgess Battery Company, however, as soon as the dry cell vacuum tubes began to appear, saw the need of an improved dry "A" battery. This problem was solved and the Burgess No. 6 Radio "A" Battery is the result.

This battery is especially designed for the "A" circuit of dry cell vacuum tubes and tests have shown that for this purpose it will furnish approximately double the hours of service that will be furnished by an ordinary No. 6 Ignition Cell. Furthermore, after the voltage of this battery has dropped below the tube voltage rating, the battery can be used for ordinary dry cell work.

The unique characteristics of this battery are secured by a special mixture of chemicals, a low resistance lining between the chemicals and the zinc. This battery maintains a high average discharge voltage and currents as high as 0.25 ampere while in service and has but small depreciation or loss of energy when not in use.

## "B" BATTERIES

Burgess "B" Batteries are an assembly of small specially designed dry cells soldered together in series to produce the high voltage necessary for the vacuum tube. These batteries have been "the standard of quality in the radio field" since 1917, and the accompanying illustration shows some of the unique construction of these batteries.



"A" is the Burgess one-piece seamless zinc can which requires heavier, more pure and more uniform metal than a soldered can, all of which add to the life of the cell. Also, it prevents any leakage through a weak joint and eliminates voltage differences on the inside of the can, a condition which might cause stray currents and potential differences and results in noisy voltage fluctuations and short-lived battery.

"B" is the moisture-proof wrapper around each cell, one of the ways in which individual insulation is secured.

"C" is a sealing material between cells to provide additional insulation and prevent movement between cells.

"D" is the waterproof partition between cells, another feature in the individual cell insulation and a means of confining internal moisture due to cell discharge within the compartment.

"E" is the heavy waterproof non-metallic insulating material, the first line of defense against moisture getting into the battery. As it is non-conducting, it will not collect stray currents and produce capacity effects between adjacent batteries.

"F" is the heavy triple seal over the top, another factor of safety which adds to the strength of the battery and increases the moisture-proof qualities.

"G" is the webbing between seals, adding to the strength of the top.

The features which cannot be shown in the picture are as good as those enumerated above. They include a special mix or combination of chemicals, the results of much research work, a critical selection of raw materials, the best of manufacturing methods and a most rigid technical control.

All Burgess "B" Batteries embody the same features of construction. There is no difference in the quality of the energy furnished. The largest sizes of batteries give the greatest energy or hours of service. The higher voltage batteries are simply the equivalent of what a radio listener would get by connecting a number of "B" batteries in series. We advise in all cases that single units of 22.5 volts be used in place of the higher voltage units, as this permits a shifting of the various batteries as they become unequally discharged.

### "C" BATTERIES

Another type of battery which is coming into more general use is the "C" battery required on some vacuum tubes operating generally as amplifiers. A "C" battery is connected between the filament and the grid to give the grid a different potential or "bias." The requirements of a "C" circuit call for a steady voltage, a low resistance and a long-lived battery, which requirements are amply met in the Burgess "C" Batteries. These batteries are built with the same construction as the Burgess "B" Batteries and have been worked satisfactorily for all "C" use.

### RADIO DRY CELL BATTERIES FOR VACUUM TUBES

The tables in the following pages contain data on tubes and batteries obtained from various sources, including test data of the Burgess Battery Company.

For convenience, "B" batteries are classified into three groups according to their weight of 22.5 volt units. Reference in Table IV is to the following:

- 1 lb. class No. 4156 "B" battery.
- 2 lb. class No. 5156, 5158, 5308 "B" battery.
- 5 lb. class No. 2156, 2158, 2306, 2308 "B" battery.
- 7 lb. class No. 10308 "B" battery.

**TABLE I**  
**Dry Cell "A" Batteries for Various Vacuum Tubes**

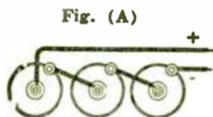
VACUUM TUBE CHARACTERISTICS.	CLASSIFICATION OF TUBES WITH RESPECT TO NECESSARY BATTERIES AND TUBE FILAMENT CURRENT		DRY CELL BATTERY TUBES			Storage Battery Tubes
			Low Current	High Current		
Vacuum Tube Style Number		UV-199 C-299 DV-3	WD 11 WD 12	UV-201A C-301A DV-2	UV-200 C-300	
Filament Working Volts		3.0 0.06	1.1	5.0	5.0	
Filament Amperes		(DV-3 0.07) (DV-3A 0.7)	0.25	0.25	1.0	
Rheostat Ohms		30	6	15 to 30	6	
"A" Battery Volts (Filament Battery)		4.5	1.5	6.0	6.0	
NUMBER OF BURGESS "A" BATTERIES REQUIRED	Number of Series No. 6 "A" Batteries to provide proper voltage		3	1	4	
	Number of Parallel No. 6 "A" Batteries to provide proper current capacity		1 for every 4 tubes	1 for every 1 tube	1 for every 1 tube	
	Smallest possible number of No. 6 "A" Batteries	for 1 tube	3 Fig.(A)	1 Fig.(C)	4 Fig.(B)	Not A Dry Cell
		for 2 tubes	3 Fig.(A)	2 Fig.(D)	8 Fig.(J)	
		for 3 tubes	3 Fig.(A)	3 Fig.(E)	12 Fig.(K)	
for 4 tubes		3 Fig.(A)	4 Fig.(F)	16 Fig.(L)		
Smallest possible number of No. 232 or No. 2370 Batteries in parallel.	for 1 tube	1 Fig.(C)	Not used with these Batteries.		Battery Tube.	
	for 2 tubes	2 Fig.(D)				
	for 3 tubes	3 Fig.(E)				
	for 4 tubes	4 Fig.(F)				
	for 5 tubes	5 Fig.(G)				
	for 6 tubes	6 Fig.(H)				

**TABLE II**  
**Approximate Hours of Service of "A" Batteries**  
 Number of batteries and connections as shown in Table I

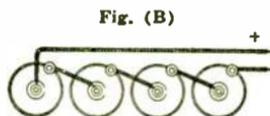
BURGESS BATTERIES	VACUUM TUBE STYLE NUMBER	UV-199 C-299 DV-3 DV-3A		WD-11 WD-12		UV-201 A C-301 A DV-2		UV-200 C-300
		Tube Amps.	Hrs.	Tube Amps.	Hrs.	Tube Amps.	Hrs.	
No. 6 "A"	1 tube	0.06	700	0.25	110	0.25	110	Not a Dry Battery
	2 tubes	0.12	300	0.50	110	0.50	110	
	3 tubes	0.18	180	0.75	110	0.75	110	
	4 tubes	0.24	150	1.00	110	1.00	110	
	5 tubes	0.30	240	1.25	110	1.25	110	
	6 tubes	0.36	180	1.50	110	1.50	110	
No. 232 No. 2370	1 tube	0.06	95	Not used with these Batteries				Tube
	2 tubes	0.12	95					
	3 tubes	0.18	95					
	4 tubes	0.24	95					
	5 tubes	0.30	95					
	6 tubes	0.36	95					

## SERIES CONNECTIONS

By connecting the (+) of one cell to the (—) of the next adds the voltages but does not affect the current which can be withdrawn.

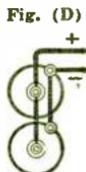


4.5 Volts



6.0 Volts

## PARALLEL CONNECTIONS



All 1.5 Volt.



By connecting the (+) of one cell to the (+) of the next and the (—) to the (—) has no effect on the voltages but increases the current which can be withdrawn.

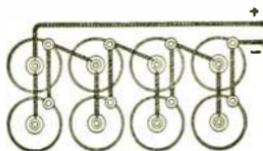
## PARALLEL-SERIES CONNECTIONS

Fig. (I)



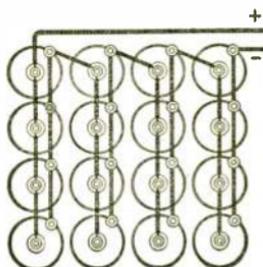
4.5 Volts

Fig. (J)



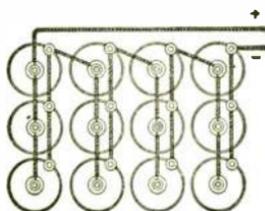
6.0 Volts

Fig. (L)



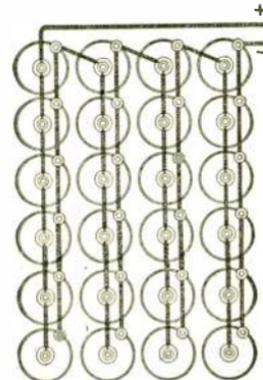
6.0 Volts

Fig. (K)



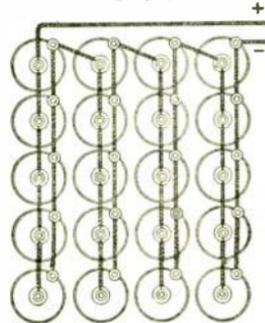
6.0 Volts

Fig. (N)



6.0 Volts

Fig. (M)



6.0 Volts

Parallel-series connections are combinations of parallel and series as indicated above. Table I shows how these connections are used on various tubes.

In determining the current drain for a radio receiver, rough estimates may be obtained by consideration of the average plate current drain of tubes. The only accurate method to determine the current drain is through the use of a milliammeter as discussed below.

Tubes	Av. Plate Voltage	"C" Voltage	Milliamperes Current Drain
UV-199, C-299	19.5	...	0.2
UV-199, C-299	39.0	...	0.9
UV-199, C-299	78	...	3.4
UV-199, C-299	78	3.0	2.2
UV-199, C-299	78	4.5	1.8
UX-201A, CX-301A	19.5	...	0.3
UX-201A, CX-301A	39.0	...	0.9
UX-201A, CX-301A	78	...	3.8
UX-201A, CX-301A	78	3.0	2.0
UX-201A, CX-301A	78	4.5	1.5
UX-200, CX-300A	19.5	...	1.25
UX-200, CX-300A	39	...	1.75

Power amplifiers are operated at a higher plate voltage and require the use of high "C" voltage batteries. The use of recommended "C" voltages should be adhered to at all times, for not only will improved reception result but also greater economy will be effected.

Tubes	Initial Plate Voltage	"C" Voltage	Milliamperes Current Drain
UX-112, CX-112	90	6	2.4
UX-112, CX-112	135	9	5.3
UX-120, CX-220	90	16.5	3.2
UX-120, CX-220	135	22.5	7.0
UX-171, CX-371	90	16.5	11.0
UX-171, CX-371	135	27.0	16.0

The Burgess No. 5156 is provided with sufficient taps to facilitate its use for high "C" voltages. This battery is marked plainly for "C" battery use. In combination with the Burgess No. 5540 the required high "C" voltages may be obtained.

Use a milliammeter to check the actual current drain of a radio set. It is not possible to accurately determine the current by considering the average drain of the tubes. Always use a milliammeter, for it is possible to adjust the "B" and "C" voltages for improved and economical reception. This meter likewise makes it possible to find and check defective units. When used, the milliammeter should be inserted directly in the circuit under observation.

TABLE IV  
Approximate Hours of Service of "B" Batteries

Average Service Hours at Various Current Drains	Current Milliamperes	Class of "B" Battery			
		7 Pound	5 Pound	2 Pound	1 Pound
2		2400 Hrs.	1800 Hrs.	900 Hrs.	350 Hrs.
5		2000 Hrs.	1000 Hrs.	300 Hrs.	100 Hrs.
8		1250 Hrs.	500 Hrs.	140 Hrs.	
10		1090 Hrs.	400 Hrs.	110 Hrs.	
15		600 Hrs.	230 Hrs.		
20		400 Hrs.	150 Hrs.		
30		215 Hrs.	75 Hrs.		

## TESTING RADIO BATTERIES

### "A" Batteries

"A" batteries should be tested with a voltmeter. It is true that dry cells are usually "flashed" to show the short circuit amperage but this is no indication of their capacity—in fact, some of the highest capacity dry cells have only a nominal flash of 25 to 30 amperes. When the closed circuit of the "A" battery is below the "end point" voltage of the tube it is no longer useful. The battery voltage will probably have dropped to 1.25 open circuit volts, but it can still be used for ignition and bell service.

A low voltage "A" battery usually results in weak signals. It is also indicated by the filament control which must be kept near the "on" position to obtain desired volume.

### "B" Batteries

The correct test of a "B" battery is the voltage test. While battery users and dealers are in the habit of testing dry batteries with an ammeter, this test is worthless on a "B" battery. The amperage indicates, to a certain extent, the internal resistance of a battery, but since the resistance of a 22.5-volt battery is about 5 ohms, and the resistance of a vacuum tube is from 10,000 to 30,000 ohms, it is apparent that an increase of, say five ohms, in the battery resistance will have no appreciable effect on the combined "B" battery and tube circuit. In other words, a drop in the amperage of a "B" battery, so long as the voltage is still satisfactory, means little regarding the usefulness of the battery.

The important thing to know is the voltage which the battery will deliver to the plate, and the voltage test is of real value only when made with a high grade, high resistance and accurate voltmeter. It is certain that when a "B" battery indicates a given voltage on a voltmeter of the latter type, it will deliver at least as much voltage to the tube.

While the nominal voltage rating of a fifteen-cell "B" battery is given as 22.5 volts, the actual voltage of a satisfactory "B" cell is slightly under 1.5 volts. Consequently the complete battery, when tested on a voltmeter, will not test quite 22.5 volts, but it should not be considered defective for this reason.

The minimum working voltage of a detector tube is about 17 volts. Therefore, a "B" battery should give results until its voltage drops to this figure. Even then it need not be discarded. It can be connected in series with other batteries and used on the amplifier tube. Here it should be serviceable until its voltage has dropped to about 10 volts. In this connection, however, one thing should be watched. Some "B" batteries become noisy when their voltage drops, and if this is the case, the battery should not be used. This is especially true of "B" batteries of ordinary construction, where no special moisture-proofing or insulation are provided to eliminate noisy voltage fluctuations.

A low voltage "B" battery usually produces weak or wavering signals.

### "C" Batteries

These batteries, like "B" batteries, should be tested by a high grade voltmeter and when their voltage has dropped to about 1.0 volt per cell they should be replaced.

A low voltage "C" battery usually produces distorted signals.

## "B" BATTERIES

### No. 4156—22.5 VOLTS

Size—Length,  $3\frac{3}{8}$ " ; width, 2" ; height,  $2\frac{1}{2}$ ". 15 cells.  
Weight, 1 pound.

Brass post and contacts.

Small, light weight battery of moderate current capacity and a shelf life of over six months. Signal Corps type BA-2. Excellent shelf life and light weight make it adaptable for aeroplane, portable and small cabinet sets.



### No. 5156—22.5 VOLTS

Size—Length,  $4\frac{1}{8}$ " width,  $2\frac{3}{8}$ " ; height,  $2\frac{3}{4}$ ".

15 cells. Weight, 1 pound, 9 ounces.

Brass posts, contacts and nuts at taps to give 18 and  $22\frac{1}{2}$  volts from the negative.

Small, moderate weight battery of medium current capacity and a shelf life of over eight months. Is for use in numerous standard console receiving sets.

Can also be used as grid bias or "C" battery where  $-4\frac{1}{2}$ ,  $-16\frac{1}{2}$  or  $-22\frac{1}{2}$  volts is required.



### No. 5158—22.5 VOLTS

#### VERTICAL TYPE

Size—Length,  $2\frac{1}{2}$ " ; width,  $2\frac{1}{2}$ " ; height, 6". 15 cells.  
Weight, 2 pounds.

Brass post and contact with insulated nut terminals.

This battery is designed especially for use in sets employing No. 6 dry cells for filament current. Its dimensions and weight are those of the ordinary No. 6 "A" battery, and this feature of similarity in size makes it possible to place both the "A" and the "B" batteries in the same cabinet without waste of space; to interchange the positions of these batteries in self-contained sets; and to set up a compact unit containing both the "A" and the "B" batteries.



### No. 2156—22.5 VOLTS

Size—Length,  $6\frac{3}{8}$ " ; width, 4" ; height, 3". 15 cells. Weight, 5 pounds.

Brass posts, contacts and nuts at negative, plus 18 and plus  $22\frac{1}{2}$ .

Large block type battery usually referred to as "Navy Type." Especially suited for stationary sets and building up high voltages. Shelf life over one year. Can also be used as grid bias or "C" battery where  $-4\frac{1}{2}$  or  $-22\frac{1}{2}$  volts is required.



## "B" BATTERIES



### No. 5308—45 VOLTS

#### VERTICAL TYPE

Size—Depth,  $2\frac{1}{2}$ " ; width,  $4\frac{1}{4}$ " ; height,  $5\frac{7}{8}$ ". 30 cells.  
Weight,  $3\frac{1}{4}$  pounds.

Brass posts and contact with insulated nut terminals to give 22.5 and 45 volts from the negative.

A smaller 45-volt battery of light weight for portable sets and convenient dimensions to combine with the No. 6 "A" battery. Shelf life over eight months.

### No. 2158—22.5 VOLTS

Size—Length,  $4\frac{1}{8}$ " ; width,  $3\frac{1}{8}$ " ; height, 7". 15 cells.  
Weight, 5 pounds.

Brass post and contact with insulated nut terminals.

Large battery of great current capacity and a shelf life of over one year. For multi-tube sets and regular heavy duty radio use.

The advantage of this battery is that it occupies minimum table space, will fit inside most receiving cabinets, and can be used in any position. Convenient in form for use with dry cell "A" batteries.



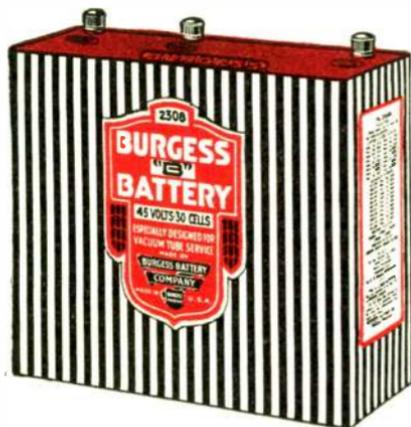
### No. 2306—45 VOLTS

Size — Length,  $7\frac{7}{8}$ " ; width,  $6\frac{5}{8}$ " ; height, 3". 30 cells.  
Weight, 9 pounds, 10 ounces.

Brass posts, contacts and nuts at negative, plus  $22\frac{1}{2}$  and plus 45. Double voltage battery equivalent to two No. 2156 wired in series. Shelf life over one year.



## "B" BATTERIES



### No. 2308—45 VOLTS

#### VERTICAL TYPE

Size—Depth,  $3\frac{1}{4}$ " ; width,  $8\frac{1}{8}$ " ; height, 7". 30 cells. Weight  $9\frac{1}{2}$  lbs.

Brass posts and contact with insulated nut terminals to give 22.5 and 45 volts from the negative.

For multi-tube sets and heavy radio duty. Great current capacity. Occupies minimum table space and fits in most receiving sets. Shelf life over one year.

### No. 10308—45 VOLTS

Size—Depth,  $4\frac{1}{4}$ " ; width, 8" ; height, 7". 30 cells. Weight, 14 lbs.

Brass posts and contact with insulated nut terminals to give 22.5 and 45 volts from the negative.

An "OVERSIZED" "B" battery for sets drawing over 20 milliamperes, and where space is not of importance, gives the longest service in use of any type of "B" battery made. Shelf life over one year.



## "A" BATTERIES



### No. 6 "A"—1.5 VOLTS

Size— $2\frac{1}{2}$ " diameter; width,  $2\frac{1}{2}$ ". 1 cell. Weight, 2 pounds.

Brass binding posts and nuts.

Designed especially for service on the "A" or filament circuit of dry cell vacuum tubes. Will give much more service than an ordinary No. 6 Ignition battery at approximately the same cost and has a rapid recovery to high voltage after short periods of rest with practically no voltage loss when not in use.

This battery is also usable for general purpose service after its voltage has dropped below the operating vacuum tube requirement.

## "C" BATTERIES

### No. 5360—4.5 VOLTS

Size—Length,  $2\frac{7}{8}$ "; width,  $1\frac{1}{8}$ "; height,  $2\frac{5}{8}$ ". 3 cells.

Weight, 4 ounces.

Binding post terminals, which, with small size, make convenient connections possible in the usual set not already provided with a "C" battery. Cells individually insulated, casing waterproofed. Shelf life over eight months.



### No. 2370—4.5 VOLTS

Size—Length, 4"; width,  $1\frac{3}{8}$ "; height, 3". 3 cells.

Weight, 1 pound.

Brass posts, contacts and nuts, to give 1.5, 3.0 and 4.5 volts. Largest sized cells. A popular battery because of its size and taps. Shelf life over one year. Can also be used as an "A" battery on some tubes.

### No. 5540— $7\frac{1}{2}$ VOLTS

Size—Length, 4"; width,  $\frac{7}{8}$ "; height,  $2\frac{7}{8}$ ". 5 cells.

Weight, 9 ounces.

Brass posts, contacts and nuts and one flexible wire terminal to give 1.5, 3.0, 4.5, 6.0 and 7.5 volts. For use in special cases where high "C" voltage is necessary. Shelf life over eight months.

#### Special "C" Battery Information

"B" Batteries No. 5156 and 2156 have taps to give  $4\frac{1}{2}$  and  $22\frac{1}{2}$  volts so they can be used as a "C" battery with power tubes.





## **BURGESS UNIPLEX IGNITION AND TELEPHONE BATTERIES**

ASK ANY RADIO ENGINEER

