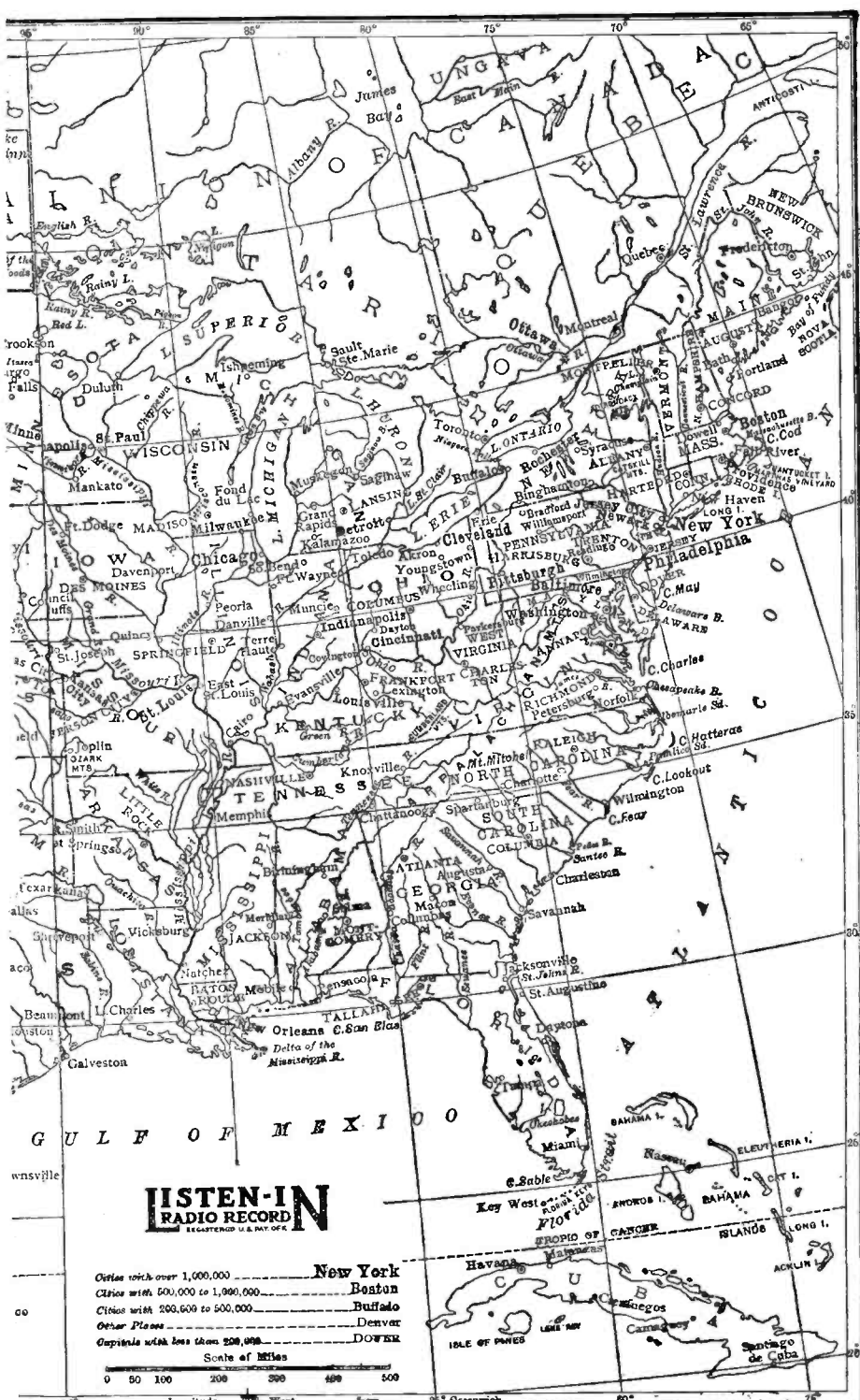


LISTEN-**I**
RAUDIO RECORD **N**
REGISTERED U.S. PAT. OFF.



LISTEN-IN RADIO RECORD

ESTABLISHED U.S. PAT. OFF.

- Cities with over 1,000,000
- Cities with 500,000 to 1,000,000
- Cities with 200,000 to 500,000
- Other Places
- Capitals with less than 250,000

- New York
- Boston
- Buffalo
- Denver
- DOWNEY

Scale of Miles



Longitude 30° West from 86° Greenwich 80°

LISTEN-IN
RADIO RECORD
REGISTERED U.S. PAT. OFF.
THE ONLY "LISTEN-IN" BOOK

PUBLISHED BY
LISTEN-IN PUBLISHING COMPANY
110 MAIN STREET, CAMBRIDGE, MASS.

INTRODUCTION

The notable advance in the quality and quantity of Radio Broadcasting during the past year, and the variety of programs offered, has led to a demand by the radio public for a means of keeping permanent records of such broadcasts.

The "LISTEN-IN" has been compiled for this purpose, and will enable radio enthusiasts to record the programs and various stations heard. This will result in the owners of receiving sets taking a greater interest in the programs offered, and will aid them in communicating their interest to the broadcasting stations. This is of the utmost importance, as these stations depend entirely upon the listening public for suggestions in regard to programs.

The article which appears in this book, "How to Receive Radio Broadcasts," should be carefully read by every person interested in radio. Whether he already owns a set, or wishes to construct one, this article will be of the greatest assistance.

The radio owner who knows very little about radio will find it a great help to record dial adjustments of each station heard, and to write remarks as to quality of reception, weather conditions, etc. For the real fans, who make their own sets, a record of changes in "hook-up," together with a memorandum of results, will enable them to check up any improvements.

The map of the United States on the inside front cover should be consulted whenever in doubt as to the location of any city from which broadcasts are heard. This will result in an ever-increasing knowledge of this country.

Radio Broadcasting is in its infancy. A permanent history of the development of one of the world's greatest inventions can be written by using the "LISTEN-IN."

COPYRIGHT, 1923
ROY C. BAKER

Printed in United States of America

LISTEN-IN RADIO RECORD

REGISTERED U.S. PAT. OFF.

FOR KEEPING A RECORD OF STATIONS HEARD, DIAL
SETTINGS, PROGRAMS, RECEIVING CONDITIONS,
MARKET REPORTS, COOKING RECEIPTS, Etc.

Price
75
cents



*Removable
list of
Broadcasting
Stations
enables you
to keep this
book up to
date*

Flexible cloth binding, gold stamping, 160 pages, printed on Bond paper, contains complete list of Broadcasting Stations of the World, many radio hints and tips and double page map of United States.

Certificate with each book entitles you to a new list of Broadcasting Stations at any time free of charge.

PUBLISHED BY

LISTEN-IN PUBLISHING COMPANY

110 MAIN STREET, CAMBRIDGE, MASS.



SAVE THIS CARD

When the list of Broadcasting Stations in this book becomes out of date, mail this card to the Publishers and you will receive one of our latest lists which can be inserted in your Listen-In book in place of the old list.

Please send me (without charge) your latest list of Broadcasting Stations.

Name

Address

.....

1C
STAMP
HERE

LISTEN-IN PUBLISHING CO.

110 MAIN STREET

CAMBRIDGE, MASS.

HOW TO GET THE MOST OUT OF YOUR RADIO SET

Assuming that the reader has a satisfactory radio receiver, the question arises "What am I going to do with it?"

A glance at the varied programs of the broadcasting stations shows an almost unlimited field of subjects—music of all kinds, lectures on every conceivable subject, opera, plays, entertainment for the children—in fact there is a wealth of material coming through the air which you can have by merely listening to it.

If you have just become a B. C. L. (broadcast listener) your first effort will be to get as many stations and as great a distance as possible. This will help you to get acquainted with the adjustments of your set and also give you a practical demonstration of the most wonderful invention of the age.

The time will come when the B. C. L. will wish to listen to certain specific programs. This can best be accomplished by consulting the daily papers, when available and arranging therefrom a program. Record in this book the various numbers, together with the stations and the time of broadcast. The program should be arranged in chronological order, so that at the proper time the station can be tuned in by means of the dial adjustments, which should be recorded in the list of stations. When daily papers are not available, note should be made when future programs are announced over the radio, recording numbers which you may wish to hear together with the time and station name.

The police reports issued daily by many stations are not only interesting but provide a means whereby the B. C. L. can render service to the community. Thousands of automobiles and many missing persons have been traced through information broadcasted. In many cases substantial rewards have been paid to B. C. L.'s. who have been able to supply the authorities with the necessary information which has enabled them to recover valuable property.

Market and weather reports are especially valuable to the large farm population. In fact this service rendered by the broadcasting stations is perhaps the most valuable feature of radio today, aside from the entertainment derived by everyone.

To the B. C. L. who subscribes to the Radio magazines, a scrap book, in which can be kept pictures of stations and artists heard, together with interesting clippings, will add a great deal to the enjoyment of his programs.

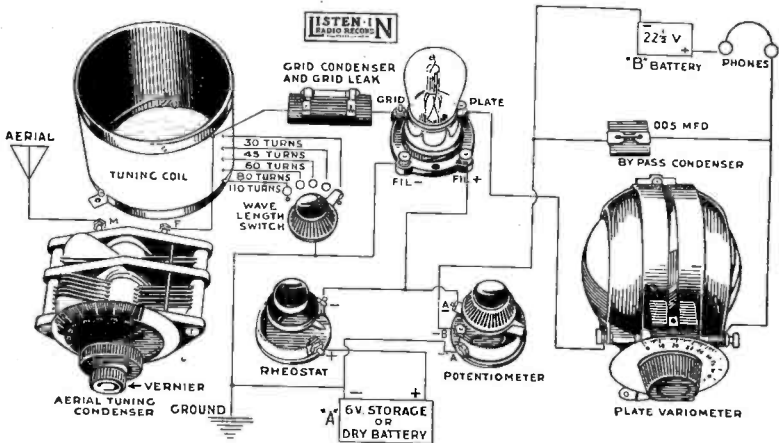
While it is not the intention of the publishers to give any definite instructions on how to use this book, it is hoped that these remarks will help in making the book of more interest and more value to you. Keep it near your set and use it.

HOW TO RECEIVE RADIO BROADCASTS

By LLOYD C. GREENE

Radio Editor of the Boston Globe

Since the advent of radiophone broadcasting some eighteen months ago many different types of radio receiving equipment have been offered to the novice radiophan. In nearly all of the more popular designs of receivers the regenerative circuit of Armstrong has been employed in one form or another. Of these perhaps the one most widely in use at the present time is the so-called single circuit receiver. The popularity of this type is due principally to simplicity in design and operation combined with a high degree of receiving efficiency. Although its selectivity has been questioned by admirers of coupled circuit receivers it will be found that a properly designed single circuit receiver, even in the hands of a novice, is a very effective tuning device. Interference experienced today in most instances is perhaps due to the great number of broadcasting stations operating on the same wave length rather than to faulty receiver design. No receiving tuner, whether it be of the single or double circuit type, will prevent two broadcasting stations operating identically on the same wave length from causing interference in the receiving set, unless the signal intensity of one station is great enough to drown out entirely, signals from the other station.



LLOYD C GREENE CONCERT RECEIVER
FIG 1

The size of the antenna materially affects the tuning qualities of the receiving set. This is especially noticeable in the case of a single circuit receiver. For selective tuning the receiving antenna should consist of a single copper wire not exceeding 75 feet in length, nor 30 feet in height. More distant reception may be had if a long antenna (175 feet) is used but at the expense of selectivity.

It was my good fortune to be in a particularly advantageous position when the wave of interest in radio broadcasting swept across the country. As Radio Editor of the *Boston Globe*, I could study the thousands of letters that came in from radio fans all over New England, telling their troubles. It was easy to see what were the most common difficulties of novices in setting up their instruments and in getting clear results. Over and over again we would hear from readers who were unable to overcome this or that obstacle, and in time from readers who had found ways of

meeting these common difficulties. It was conspicuously apparent that the demand was for a simple instrument which one could easily assemble and which could be used successfully by the growing army of radio users who did not profess to be experts. They all wanted something simple but really effective. It had to be an instrument of extreme sensitivity, selectivity, and operating simplicity.

So with the background of my own experimenting and the knowledge of difficulties which the amateurs of New England had encountered, I published in the *Boston Globe* the plans of what is now called the Greene Concert Receiver. This receiver has apparently filled the bill. If it had not been the solution of the problem, there would not have been the increasing, ever growing demand for copies of the *Globe* which carried those plans.

Radio had grown apace but the confusion of types of instruments and of "expert advice" had most of the fans stumbling around in a sea of perplexity. They were waiting for some inexpensive, simple, and yet efficient receiving set and my one object all the time was to give to them in the Concert Receiver an instrument embodying these virtues.

For the information of those who may desire to set up the circuit of the Greene Concert Receiver, the following data is furnished: Figure 1 illustrates the circuit arrangement and the necessary apparatus, which should be of as good quality as can be afforded. In fact "the best is the cheapest" applies to radio perhaps more than to any other invention.

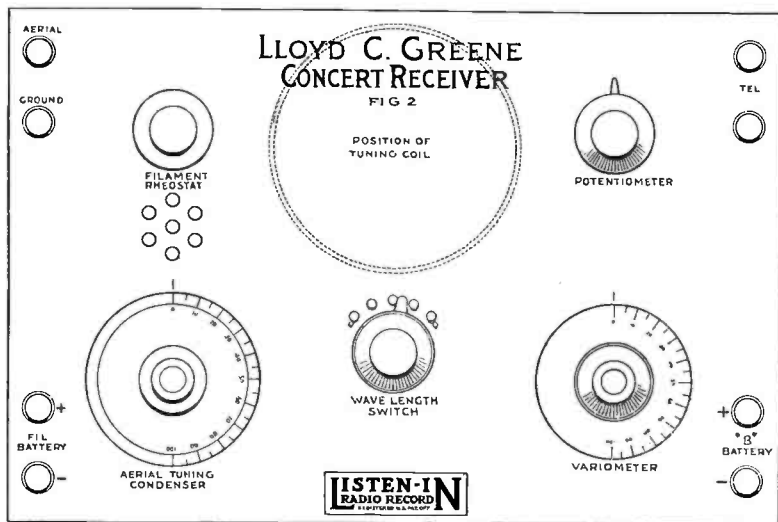
The aerial lead-in wire is connected to the movable plates of the aerial tuning condenser at *M*. This is important. The tuning condenser should not have a capacity greater than .00025 microfarads at maximum. From the fixed plates (*F*) a wire is connected to one side of the grid condenser and grid leak; from the other side of the grid condenser and leak, connection is made to the grid post of the vacuum tube socket. Going back to the fixed plates of the aerial tuning condenser, connect a wire from (*F*) to the beginning of the tuning coil winding. The tuning coil consists of a tube form (micarta, bakelite, or hard rubber) six inches long and four inches in diameter upon which 110 turns of No. 22 double cotton covered copper wire is wound. Tap this coil at the 30th, 45th, 60th, 80th, and 110th turn. Bring the taps to the switch points of the wave length switch as indicated in Figure 1. Now connect the switch lever to the ground and also to the negative side of the vacuum tube filament socket. No difficulty should be experienced with the remainder of the wiring if the diagram is carefully followed. Where connections are made between wires a soldered joint should be made. Connections need not be soldered to binding posts. The diagram shows a six-volt storage battery for filament lighting of either type, UV-200 or C300 detector tubes. If it is desired to use a WD 11 detector tube of course a dry cell should be used in place of the storage battery. The "B" battery voltage will vary with the type of vacuum tube used as follows: UV tubes 18 to 22½ volts; WD 11 tubes 22½ to 45 volts. The best operating voltage is found by experiment.

Figure 2 illustrates the relative positions of the various controls when the receiver is assembled into a panel instrument and it is important that this layout be followed.

HOW TO OPERATE THE RECEIVER

Before inserting the vacuum tube in its socket make sure all connections are correct, and that the filament rheostat is in the "off" position. The rheostat is "off" when turned in an anti-clockwise direction as far as it will go. When the vacuum tube is lighted by turning the rheostat knob in a clockwise direction care should be

taken not to burn the filament any brighter than is necessary to hear signals. When the WD 11 tube is used it burns so dimly at normal filament temperature that it is difficult to observe any glow at all. Let us suppose that the rheostat is turned half way on. Set the variometer at 50 on a 100 degree dial and set the wave length switch on the fourth switch point counting from the right. If no broadcasting is heard turn the variable condenser, first in one direction and then reverse. Turn it carefully, don't spin it. If nothing is heard try the third tap on the switch varying the condenser as before. When a signal is "picked up" try increasing the turns in use on the tuning coil by moving the switch a point to the left at the same time decreasing the aerial tuning condenser. If the station can be heard by using more turns on



the coil and less capacity the sharpness of tuning at that particular wave length setting is increased. When the signal has been tuned to give the loudest response in the telephone receivers try rotating the variometer in a clockwise direction and then in the reverse. If the filament temperature is too low no increase in signal strength will result. Slowly increase the filament of the vacuum tube until the desired effect is obtained when the variometer is rotated. If a "squeal" is heard in the telephones as the point of loudest signals is approached in the variometer adjustment, turn it in the reverse direction slightly and resort to the potentiometer adjustment as a final means of obtaining the loudest signal without any "squeals" which will not be heard when the set is properly operated except when produced by broadcasting stations or a nearby oscillating receiver. This sort of interference cannot be eliminated by any receiver.

"Body capacity" which causes detuning when the hand is near the control dials can be eliminated by covering the back of the panel with copper foil. This shield should be connected to the ground binding post. Care must be taken that the shield does not come in contact with any of the connections of the apparatus other than the ground. Correctly designed and well constructed parts tend to reduce "body capacity."

Should it be desirable to operate a loud speaker it will be necessary to add one or two stages of audio amplification to this set. Amplifiers for this purpose may be purchased or if desired can be easily constructed. The necessary apparatus and directions can be obtained at any radio supply store.

RADIO TIPS

A short antenna is preferable to one of great length when selective tuning is desired.

A single copper wire 75 feet long supported at an average height of 30 feet is very satisfactory for broadcast reception.

The antenna should be insulated from its supports by means of porcelain or electrose insulators.

Never erect an antenna parallel nor near high tension or power wires and under no circumstances should an antenna cross over or under such wires.

Every antenna should be provided with an approved type of lightning protective device.

An antenna should be strung taut to avoid swaying in the wind. This is especially important if the antenna is located near metal objects such as metal roofs or garages. In such cases a slight swaying of the antenna will frequently cause signals to fade out, due to detuning.

A good connection to earth is equally as important as a good antenna.

A good ground for the receiving apparatus can be made by clamping the ground wire from the receiver to a water pipe whose surface has been sandpapered clean. The ground wire need not be insulated.

Do not charge a storage battery at a higher rate than that recommended by the manufacturer of the battery. An excessive charging rate is recognized by overheating of the battery during charge. The temperature of the electrolyte should never exceed 110 degrees Fahrenheit.

Make sure that the charging source is properly connected to the storage battery. Connect plus to plus and minus to minus. The polarity of the battery is usually stamped upon its terminals. The positive terminal of the battery charging device is always so marked.

Always disconnect the storage battery from the receiving apparatus before putting the battery on charge.

Do not allow the storage battery to run down too far before charging. A hydrometer test should show at minimum a specific gravity of 1.175. When the hydrometer reads 1.270 to 1.300 the battery is fully charged.

Care should be taken that the electrolyte (liquid) is kept at least one-fourth inch above the plate elements in the battery. Add only distilled water and this always just before placing the battery on charge.

The Plate or "B" battery should be renewed when (if a 22½ volt unit) its voltage on voltmeter test has decreased to 18 volts.

Never connect a new "B" battery in circuit with an old one. This is a false economy as the new battery will soon fall to the level of the old one.

A weak or run-down "B" battery is frequently the cause of objectionable noises in the telephone receivers. A poor "B" battery is often the guilty perpetrator of many of the disturbances attributed to "static."

A good storage "B" battery has more than once proven the solution to "static elimination conundrums."

Vacuum tubes are of two kinds—detectors and amplifiers. Although detector tubes function very poorly as amplifiers, amplifiers will function fairly well when used as detectors.

Never burn the filament of a vacuum tube brighter than is necessary for good reception. A three per cent increase above normal temperature will decrease the filament life fifty per cent.

LIST OF UNITED STATES BROADCASTING STATIONS

Station	Owner and Location	W. L.	Station	Owner and Location	W. L.
KDKA	Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.	326	KFI	Earle C. Anthony (Inc.)... Los Angeles, Calif.	469
KDPH	Westinghouse Elec. & Mfg. Co., Cleveland, O.	270	KFIF	Benson Polytechnic Institute... Portland, Ore.	360
KDPT	Southern Electrical Co.... San Diego, Calif.	244	KFIO	North Central High School... Spokane, Wash.	252
KDYL	Newhouse Hotel... Salt Lake City, Utah	360	KFJQ	First Methodist Church... Yakima, Wash.	242
KDYM	Savoy Theater... San Diego, Calif.	280	KFIU	Alaska Elec. Lt. & Power Co., Juneau, Alaska	226
KDYG	Oregon Inst. of Technology... Portland, Ore.	360	KFIX	Reorganized Church of Jesus Christ of Latter Day Saints, Independence, Mo.	240
KDYW	Smith Hughes & Co.... Phoenix, Ariz.	360	KFIZ	Daily Commonwealth and Oscar A. Huelman, Fond du Lac, Wis.	273
KDZB	Frank E. Siefert... Bakersfield, Calif.	240	KFJB	Marshall Electric Co.... Marshalltown, Iowa	248
KDZE	Rhode Department Store... Seattle, Wash.	270	KFJC	Seattle Post Intelligencer... Seattle, Wash.	270
KDZF	Automobile Club of Southern Calif., Los Angeles, Calif.	278	KFJF	National Radio Mfg. Co.... Oklahoma, Okla.	252
KDZR	Bellingham Pub. Co.... Bellingham, Wash.	261	KFJL	Liberty Theater... Astoria, Ore.	252
KFAD	McArthur Bros. Mercantile Co., Phoenix, Ariz.	360	KFJK	Delano Radio & Electric Co., Bristol, Ohio	233
KFAE	State College of Washington... Pullman, Wash.	330	KFJL	Hardsag Mfg. Co.... Ottumwa, Iowa	242
KFAF	Western Radio Corp.... Denver, Colo.	360	KFJM	Univ. of N. Dakota, Grand Forks, N. D.	280
KFAJ	University of Colorado... Boulder, Colo.	360	KFJQ	Electric Construction Co., Valley Radio Division, Grand Forks, N. D.	280
KFAR	Studio Lighting Service Co., Hollywood, Calif.	280	KFJR	Ashley C. Dixon & Son... Stevensville, Mont.	258
KFAW	The Radio Den... Santa Ana, Calif.	268	KFJV	Le Grande Radio Co.... Towanda, Kansas	226
KFAY	Virgin's Radio Service... Medford, Ore.	283	KFJY	Iowa State Teach. College, Cedar Falls, Ia.	280
KFBB	F. A. Buttrey & Co.... Havre, Mont.	360	KFJZ	Tunwall Radio Co.... Fort Dodge, Iowa	246
KFBC	W. K. Azbill... San Diego, Calif.	278	KFJZ	Texas National Guard, 112th Cavalry, Fort Worth, Tex.	254
KFBE	Heuben H. Horn... San Luis Obispo, Calif.	360	KFKA	Colorado State Teach. College, Greeley, Colo.	273
KFBG	First Presbyterian Church... Tacoma, Wash.	360	KFKB	Brinkley-Jones Hospital Assn., Milford, Kans.	286
KFBK	Kimball-Unson Co.... Sacramento, Calif.	283	KFKQ	Conway Radio Laboratories... Conway, Ark.	250
KFBL	Leese Bros.... Everett, Wash.	224	KFKV	F. F. Gray... Butte, Mont.	283
KFBS	Trinidad Gas & Electric Supply Co. and The Chronicle News, Trinidad, Colo.	280	KFKX	Westinghouse Elec. & Mfg. Co., Hastings, Neb.	291
KFBU	The Cathedral... Laramie, Wyo.	283	KFKZ	Nassour Bros. Radio Co., Colo. Springs, Colo.	234
KFCB	Nielsen Radio Supply Co.... Phoenix, Ariz.	238	KFLA	Abner R. Wilson... Butte, Mont.	283
KFCF	Frank A. Moore... Walla Walla, Wash.	360	KFLB	Signal Electric Mfg. Co.... Menominee, Mich.	248
KFCG	Elect. Service Station... Billings, Mont.	360	KFLC	Paul E. Greenlaw... Franklinton, La.	234
KFCL	Leslie E. Rice... Los Angeles, Calif.	236	KFLE	National Educational Service... Denver, Colo.	268
KFCM	Richmond Radio Shop... Richmond, Calif.	244	KFLQ	Bizzell Radio Shop... Little Rock, Ark.	261
KFCP	Ralph W. Flygare... Ogden, Utah	360	KFLR	Korber Wireless Station, Albuquerque, N. Mexico	254
KFCV	Fred Mahaffey, Jr.... Houston, Tex.	360	KFLU	Rio Grande Radio Supply House, San Benito, Tex.	236
KFCW	Western Union College... Le Mars, Iowa	252	KFLV	Swedish Evangelical Mission Church, Rockford, Ill.	229
KFCZ	Omaha Central High School... Omaha, Neb.	258	KFLW	Missoula Elect. Co.... Missoula, Mont.	234
KFDD	St. Michael's Cathedral... Boise, Idaho	252	KFLX	George R. Clough... Galveston, Tex.	240
KFDF	University of Arizona... Tucson, Ariz.	268	KFLY	Fargo Radio Supply Co.... Fargo, N. Dak.	231
KFDJ	Oregon Agricultural College... Corvallis, Ore.	360	KFLZ	Atlantic Automobile Co.... Atlantic, Iowa	273
KFDL	Knight Campbell Music Co.... Denver, Colo.	226	KFMB	Christian Churches of Little Rock, Little Rock, Ark.	254
KFDM	Magnolia Petroleum Co.... Beaumont, Tex.	306	KFMQ	University of Arkansas... Fayetteville, Ark.	263
KFDX	First Baptist Church... Shreveport, La.	360	KFMR	Morningside College... Sioux City, Iowa	261
KFDY	South Dakota State College of Agriculture, Brookings, S. D.	273	KFMT	George W. Young... Minneapolis, Minn.	231
KFDZ	Harry O. Iverson... Minneapolis, Minn.	231	KFMW	M. G. Sateren... Houghton, Mich.	226
KFEC	Meier & Frank Co.... Portland, Ore.	248	KFMX	Carleton College... Northfield, Minn.	283
KFEJ	Jay Gresson... Tacoma, Wash.	360	KFNF	Henry Field Seed Co.... Sheunadoah, Iowa	266
KFEL	Winner Radio Corp.... Denver, Colo.	254	KFNG	Wooten's Radio Shop... Coldwater, Miss.	254
KFEQ	Sterggin & Co. Bank... Oak, Neb.	268	KFNJ	Warrensburg Elec. Shop, Warrensburg, Mo.	234
KFER	Auto Electric Service Co.... Fort Dodge, Iowa	231	KFNL	Radio Broadcast Assn... Paso Robles, Calif.	240
KFEF	Augsburg Seminary... Minneapolis, Minn.	261	KFNV	L. A. Drake... Santa Rosa, Calif.	261
KFEY	Bunker Hill & Sullivan Mining & Concentrat- ing Co., Kellogg, Idaho	360	KFNY	Montana Phonograph Co.... Helena, Mont.	231
KFFB	Jenkins Furniture Co.... Boise, Idaho	240	KFQZ	Royal Radio Co.... Burlington, Calif.	231
KFFE	Eastern Oregon Radio Co.... Pendleton, Ore.	360	KFOD	Rhodes Co.... Seattle, Wash.	455
KFFP	First Baptist Church... Moberly, Mo.	266	KFOC	First Christian Church... Whittier, Calif.	236
KFFR	Nevada State Journal... Sparks, Nev.	226	KFOD	The Radio Shop... Wallace, Idaho	224
KFFV	Graceland College... Lamoni, Iowa	360	KFOF	Rohrer Elec. Co.... Marshfield, Ore.	240
KFFY	Pincus & Murphey... Alexandria, La.	275	KFOJ	Moberly H. Sch. Radio Club... Moberly, Mo.	246
KFGC	Louisiana State University, Baton Rouge, La.	254	KFOL	Leslie M. Schaffnuch... Marengo, Iowa	234
KFGD	Chickasha Radio & Elec. Co., Chickasha, Okla.	248	KFOO	Echophone Radio Shop... Long Beach, Calif.	234
KFGH	Leland Stanford Junior University, Stanford University, Calif.	273	KFOU	Latter Day Saints University, Salt Lake City, Utah	261
KFGL	Snell & Irby... Arlington, Ore.	234	KFOR	David City Tire & Elec. Co., David City, Neb.	226
KFGQ	Crary Hardware Co.... Boone, Iowa	226	KFOT	College Hill Radio Club... Wichita, Kans.	231
KFGX	First Presbyterian Church... Orange, Tex.	250	KFOU	Hommel Mfg. Co.... Richmond, Calif.	254
KFGZ	Emmanuel Missionary College, Berrien Springs, Mich.	268	KFOV	David Elect. Corp.... Sioux City, Iowa	234
KFHA	Western State Coll. of Colo., Gunnison, Colo.	252	KFOX	Technical High School... Omaha, Neb.	248
KFHH	Ambrose A. McCue... Neah Bay, Wis.	261	KFOY	Beacon Radio Service... St. Paul, Minn.	226
KFHJ	Fallon & Co.... Santa Barbara, Calif.	360			
KFHL	Penn College... Oskaloosa, Iowa	240			
KFHR	Star Electric & Radio Co.... Seattle, Wash.	240			
KFHS	Clifford J. Dow... Lihue, Hawaii	275			

LIST OF UNITED STATES BROADCASTING STATIONS

Station	Owner and Location	W. L.	Station	Owner and Location	W. L.
KFOZ	Leon Hudson Real Est. Co., Ft. Smith, Ark.	233	KIQJ	C. O. Gould.....Stockton, Calif.	273
KFPB	Edwin J. Brown.....Seattle, Wash.	224	KJR	Northwest Radio Service Co., Seattle, Wash.	283
KFPG	Garretson & Dennis.....Los Angeles, Calif.	238	KJS	Bible Inst. of Los Angeles, Los Angeles, Calif.	360
KFPH	Harold C. Mallander.....Salt Lake City, Utah	242	KLS	Warner Bros. Radio Sup. Co., Oakland, Calif.	360
KFPL	C. C. Baxter.....Dublin, Tex.	242	KLX	Tribune Publishing Co.....Oakland, Calif.	509
KFPM	New Furniture Co.....Greenville, Tex.	242	KLZ	Reynolds Radio Co.....Denver, Colo.	283
KFPN	Missouri Natl. Guard, 70th Inf. Brigade, Jefferson City, Mo.	242	KMJ	San Joaquin L. & Power. Corp., Fresno, Cal.	248
KFPQ	Colorado National Guard, 45th Divisional Tank Co., Denver, Colo.	231	KNO	Love Electric Co.....Tacoma, Wash.	360
KFPV	G. & G. Radio & Elec. Shop, Olympia, Wash.	236	KNT	Walter Hemrich.....Kukak Bay, Alaska	263
KFPR	Los Angeles County Forestry Department, Los Angeles, Calif.	231	KNX	Elec. Lighting Sup. Co., Los Angeles, Calif.	360
KFFT	Cope & Johnson.....Salt Lake City, Utah	268	KNY	Radio Supply Co.....Los Angeles, Calif.	256
KFPY	Heintz & Kohlmoos.....San Francisco, Calif.	236	KOB	New Mexico College of Agriculture and Mechanic Arts, State College, N. Mex.	360
KFPZ	St. John's Church.....Cartersville, Mo.	268	KOP	Detroit Police Department.....Detroit, Mich.	286
KFPX	First Presbyterian Church.....Pine Bluff, Ark.	242	KPO	Hale Bros.....San Francisco, Calif.	423
KFPY	Symons Investment Co.....Spokane, Wash.	283	KQP	Apple City Radio Club.....Hood River, Ore.	360
KFQA	The Principia.....St. Louis, Mo.	261	KQV	Dunbledy-Hill Electric Co., Pittsburgh, Pa.	270
KFQB	Searchlight Publishing Co.....Fort Worth, Tex.	254	KQW	Charles D. Herrold.....San Jose, Calif.	360
KFQC	Kidd Brothers Radio Shop.....Taft, Calif.	227	KRE	Berkeley Daily Gazette.....Berkeley, Calif.	275
KFQD	Chovin Supply Co.....Anchorage, Alaska	280	KSD	Post Dispatch.....St. Louis, Mo.	546
KFQE	Dickenson-Henry Radio Laboratories, Colorado Springs, Colo.	224	KSS	Prest and Dean.....Long Beach, Calif.	360
KFQF	Donald A. Boulton.....Minneapolis, Minn.	224	KTW	First Presbyterian Church.....Seattle, Wash.	360
KFQG	Southern California Radio Assn., Los Angeles, Calif.	226	KUD	Examiner Printing Co., San Francisco, Calif.	360
KFQH	Radio Service Co.....Burlingame, Calif.	231	KUS	City Die Works.....Los Angeles, Calif.	360
KFQI	Thomas H. Ince Corp.....Culver City, Calif.	234	KUVQ	Kreetan Co.....Drummond Island, Mich.	450
KFQJ	Harbour-Longmire Co.....Oklahoma, Okla.	236	KWG	Portable Wireless Tel. Co., Stockton, Calif.	360
KFQK	Democrat Leader.....Fayette, Mo.	236	KWH	Los Angeles Examiner.....Los Angeles, Calif.	360
KFQL	Oklahoma Free State Fair Assn., Muskogee, Okla.	252	KXD	Modesto Herald.....Modesto, Calif.	252
KFQM	Texas Highway Bulletin.....Austin, Tex.	268	KYQ	The Electric Shop.....Honolulu, Hawaii	270
KFQN	Third Baptist Church.....Portland, Ore.	283	KYW	Westinghouse Elec. & Mfg. Co., Chicago, Ill.	536
KFRD	Meier Radio Shop.....Russell, Kans.	261	KZM	Preston D. Allen.....Oakland, Calif.	360
KFRF	George S. Carson, Jr.....Iowa City, Iowa	224	KZN	The Desert News.....Salt Lake City, Utah	262
KFRG	Walter L. Ellis.....Oklahoma, Okla.	250	WAAB	Valdemar Jensen.....New Orleans, La.	268
KFRH	Texas National Guard, 36th Signal Company, Denison, Tex.	252	WAAC	Tulane University.....New Orleans, La.	360
KFRJ	W. Riker.....Holy City, Calif.	234	WAAD	Ohio Mechanics Institute.....Cincinnati, Ohio	360
KFRK	Omaha Grain Exch.....Omaha, Neb.	231	WAAF	Chicago Daily Drivers Journal, Chicago, Ill.	286
KFRL	Photo Radio and Elect. Shop, North Bend, Wash.	248	WAAM	I. R. Nelson Co.....Newark, N. J.	263
KFRM	Alfred M. Hubbard.....Seattle, Wash.	233	WAAN	University of Missouri.....Columbia, Mo.	254
KFRN	Farmers State Bank.....Belden, Neb.	273	WAAP	Omaha Grain Exchange.....Omaha, Neb.	286
KFRP	Taft Radio Co.....Hollywood, Calif.	240	WABB	Harrisburg Sporting Goods Co., Harrisburg, Pa.	266
KFRQ	Marwin S. Olson.....Carver, Minn.	240	WABD	Parker High School.....Dayton, Ohio	283
KFRR	Hall Bros.....Beville, Tex.	248	WABE	Y. M. Christian Assn.....Washington, D. C.	283
KFRS	Radicaort Studio.....San Francisco, Calif.	280	WABH	Lake Shore Tire Co.....Sandusky, Ohio	240
KFRV	The Radio Shop.....Grafton, N. D.	240	WABI	Bangor Railway & Electric Co., Bangor, Me.	240
KFRW	W. R. Brown.....Alexandria, La.	273	WABK	First Baptist Church.....Worcester, Mass.	252
KFRX	Cleveland High School.....St. Louis, Mo.	240	WABL	Connecticut Agricultural College, Storrs, Conn.	283
KFRY	Reynolds Radio Co., 1534 Glenarm St., Denver, Colo.	224	WABM	F. E. Doherty Automotive & Radio Equipment Co., Saginaw, Mich.	254
KFRZ	Guy Simmons, Jr., 515 Clifton St., Conway, Ark.	250	WABN	Ott Radio Co.....La Crosse, Wis.	244
KFR1	Men's Club of First Presbyterian Church, Grand Forks, N. Dak.	240	WABO	Lake Ave. Baptist Church, Rochester, N. Y.	252
KFR2	Lieut. James P. Boland, U. S. A., Fort Hill, Okla.	263	WABP	Robert F. Weinig.....Dover, Ohio	266
KFR3	M. Laurence Short.....Hanford, Calif.	224	WABQ	Haverford College Radio Club, Haverford, Pa.	261
KFR4	Curtis Printing Co., 1109 Eighth Ave., Ft. Worth, Tex.	246	WABR	Scott High School.....Toledo, Ohio	270
KFR5	Echo Park Evangelistic Assn., Los Angeles, Calif.	278	WABT	Holiday Hall Elec. Co., Washington, Pa.	252
KFR6	Van Blaricom Co.....Helena, Mont.	261	WABU	Victor Talking Machine Co., Camden, N. J.	226
KFR7	Tacoma Daily Ledger.....Tacoma, Wash.	252	WABV	College of Wooster.....Wooster, Ohio	234
KFR8	Hallock & Watson Radio Service, Portland, Ore.	360	WABW	Henry B. Joy.....Mount Clemens, Mich.	270
KFR9	General Electric Co.....Oakland, Calif.	312	WABY	John Magaldi, Jr.....Philadelphia, Pa.	242
KG0	Marion A. Mulroney.....Honolulu, Hawaii	360	WABZ	Coliseum Pl. Bapt. Church, New Orleans, La.	263
KG1	Portland Morning Oregonian, Portland, Ore.	492	WBAA	Purdue University.....West Lafayette, Ind.	283
KG2	St. Martin's College.....Lacey, Wash.	258	WBAH	The Dayton Co.....Minneapolis, Minn.	417
KG3	Times-Mirror Co.....Los Angeles, Calif.	395	WBAN	Wireless Phone Corp.....Paterson, N. J.	244
KG4	Louis Wasner (Excelsior Motorcycle & Bicycle Co.), Seattle, Wash.	360	WBAO	James Millikin University.....Decatur, Ill.	360
KG5			WBAP	Worham-Carter Publishing Co. (Star-Telegram), Fort Worth, Tex.	476
KG6			WBAV	Erner & Hopkins Co.....Columbus, Ohio	423
KG7			WBAX	John H. Stenger, Jr.....Wilkes-Barre, Pa.	360
KG8			WBAY	Western Electric Co.....New York, N. Y.	492
KG9			WBBD	Barbey Battery Service.....Reading, Pa.	234
KH0			WBBF	Georgia Sch. of Technology.....Atlanta, Ga.	270
KH1			WBGG	Irring Vermilyea.....Mattapoisett, Mass.	248
KH2			WBHH	J. Irving Bell.....Port Huron, Mich.	246
KH3			WBHL	Grace Covenant Church.....Richmond, Va.	283
KH4			WBHN	Frank Atlas Produce Co.....Lincoln, Ill.	226
KH5			WBNN	A. B. Blake.....Wilmington, N. C.	275
KH6			WBPP	Petoskey High School.....Petoskey, Mich.	246
KH7			WBRR	Peoples Pulpit Assn.....Rossville, N. Y.	273

LIST OF UNITED STATES BROADCASTING STATIONS

Station	Owner and Location	W. L.	Station	Owner and Location	W. L.
WBBS	First Baptist Church.....New Orleans, La.	252	WDBF	Robert G. Phillips.....Youngstown, Ohio	246
WBST	Lloyd Brothers.....Philadelphia, Pa.	234	WDBH	C. T. Sherer Co.....Worcester, Mass.	268
WBWU	Jenks Motor Sales Co.....Moumthou, Ill.	224	WDBI	Radio Specialty Co.....St. Petersburg, Fla.	226
WBVV	Johnstown Radio Co.....Johnstown, Pa.	248	WDEJ	Richardson-Wayland Electrical Corp., Roanoke, Va.	229
WBWW	Ruffner Junior High School.....Norfolk, Va.	222	WDBK	M. F. Broz Furniture, Hardware & Radio Co. Cleveland, Ohio	248
WBXY	Washington Light Infantry, Charleston, S. C.	268	WDBN	Maine Elec. Lt. & Power Co., Bangor, Me.	252
WBZZ	Noble B. Watson.....Indianapolis, Ind.	227	WDBO	Rollins College.....Winter Park, Fla.	240
WBL	T & H Radio Co.....Anthony, Kans.	254	WDBP	Superior State Normal School, Superior, Wis.	261
WBS	D. W. May, Inc.....Newark, N. J.	360	WDBQ	Morton Radio Supply Co.....Salem, N. J.	234
WBT	Southern Radio Co.p.....Charlotte, N. C.	360	WDBR	Tremont Temple Bapt. Church, Boston, Mass.	256
WBZ	Westinghouse Elec. & Mfg. Co., Springfield, Mass.	337	WDBS	S. M. K. Radio Corp.....Dayton, Ohio	283
WCAD	St. Lawrence University.....Canton, N. Y.	280	WDBT	Taylor's Book Store.....Hattiesburg, Miss.	236
WCAE	Kaufmann & Baer Co.....Pittsburgh, Pa.	462	WDBV	Strand Theater.....Fort Wayne, Ind.	258
WCAE	Clyde R. Randall.....New Orleans, La.	268	WDBW	The Radio Den.....Columbia, Tenn.	268
WCAH	Entrekin Electric Co.....Columbus, Ohio	286	WDBX	Otto Baur.....New York, N. Y.	233
WCAJ	Menrasia Wesleyan University, University Place, Nebr.	283	WDBY	North Shore Cong'l Church.....Chicago, Ill.	258
WCAK	Alfred P. Daniel.....Houston, Tex.	263	WDBZ	Boy Scouts of America (Ulster County Council), Kingston, N. Y.	233
WCAL	St. Olaf College.....Northfield, Minn.	360	WDM	Church of the Covenant.....Washington, D. C.	234
WCAO	Sanders & Stayman Co.....Baltimore, Md.	360	WDZ	James L. Bush.....Tuscola, Ill.	278
WCAP	Chesapeake & Potomac Telephone Co., Washington, D. C.	469	WEAA	Frank D. Fallain.....Flint, Mich.	280
WCAR	Southern Radio Corporation of Texas, San Antonio, Tex.	360	WEAF	American Tel. & Tel. Co.....New York, N. Y.	492
WCAS	William Hood Dunwoody Industrial Insti- tute, Minneapolis, Minn.	280	WEAH	Wichita Board of Trade.....Wichita, Kans.	280
WCAT	South Dakota State School of Mines, Rapid City, So. Dak.	240	WEAI	Cornell University.....Ithaca, N. Y.	286
WCAU	Durham & Co.....Philadelphia, Pa.	286	WEAJ	Univ. of South Dakota, Vermillion, S. Dak.	283
WCAV	J. C. Dice Electric Co.....Little Rock, Ark.	360	WEAM	Borough of North Plainfield, North Plainfield, N. J.	286
WCAX	University of Vermont.....Burlington, Vt.	360	WEAN	Shepard Co.....Providence, R. I.	273
WCAY	Milwaukee Civic Broadcasting Station, Milwaukee, Wis.	266	WEAO	Ohio State University.....Columbus, Ohio	360
WCAZ	Carthage College.....Carthage, Ill.	246	WEAP	Mobile Radio Co.....Mobile, Ala.	360
WCBA	Charles W. Heinbach.....Allentown, Pa.	280	WEAU	Davidson Bros. Co.....Sioux City, Iowa	275
WCBC	University of Michigan.....Ann Arbor, Mich.	280	WEAY	Iris Theater.....Houston, Tex.	360
WCBD	Wilbur G. Voliva.....Zion, Ill.	343	WEB	Benwood Co.....St. Louis, Mo.	273
WCBE	Uhart Radio Co.....New Orleans, La.	245	WEBA	The Electric Shop.....Highland Park, N. J.	242
WCBF	Paul J. Miller.....Pittsburgh, Pa.	236	WEBC	Walter C. Bridges.....Superior, Wis.	242
WCBG	Howard S. Williams.....Mayfield, Ky.	268	WEBD	Electrical Equip. & Serv. Co., Anderson, Ind.	246
WCBH	University of Mississippi.....Oxford, Miss.	242	WEBH	Edgewater Beach Hotel Co.....Chicago, Ill.	370
WCBI	Nicoll, Duncan & Rush.....Bemis, Tenn.	244	WEBJ	Third Avenue Railway.....N. Y. City, N. Y.	360
WCBJ	J. C. Mans.....Jennings, La.	244	WEBK	Grand Rapids Radio Co., Grand Rapids, Mich.	280
WCBK	E. Richard Hall.....St. Petersburg, Fla.	266	WEBO	H. W. Fahrlander.....Hamilton O.	280
WCBL	Northern Radio Mfg. Co.....Houlton, Me.	229	WEBP	Spanish Fort Amusem't Pk., New Orleans, La.	280
WCBM	Charles Schwarz.....Baltimore, Md.	229	WEBQ	Tate Radio Co.....Harrisburg, Ill.	280
WCBN	James P. Boland, Lieut. U. S. A., Fort Benjamin Harrison, Ind.	266	WEBR	Howell Electrical Co.....Buffalo, N. Y.	270
WCBO	Radio Shop, Inc.....Memphis, Tenn.	250	WEBT	Dayton Co-op. Indust. H. S., Dayton, Ohio	270
WCBP	First Baptist Church.....Nashville, Tenn.	236	WEBU	De Land Piano & Music Co., De Land, Fla.	258
WCBR	Charles H. Messter.....Providence, R. I.	246	WEBW	Beloit College.....Beloit, Wis.	283
WCBS	Clark University.....Worcester, Mass.	238	WEBX	John E. Cain, Jr., Nashville, Tenn., R. R. No. 9, Franklin Pike	263
WCBU	Arnold Wireless Supply Co.....Arnold, Pa.	254	WEBY	Hobart Radio Co.....Roslindale, Mass.	226
WCBV	Tulahoma Radio Club.....Tulahoma, Tenn.	252	WEZ	Savannah Radio Corp.....Savannah, Ga.	280
WCBW	George P. Rankin, Jr., man, Macon, Ga.	226	WEI	Edison Elec. Co.....Boston, Mass.	280
WCBX	Radio Shop of Newark.....Newark, N. J.	233	WEV	Hurlburt-Still Electrical Co.....Houston, Tex.	263
WCBY	Forks Electrical Shop, Buck Hill Falls, Pa.	268	WEW	St. Louis University.....St. Louis, Mo.	280
WCBZ	Coppotelli Bros. Music House, Chicago Heights, Ill.	248	WFAA	Dallas News and Dallas Journal, Dallas, Tex.	476
WCDD	Gold Medal Radio Sta., St. Paul and Minneapolis	417	WFAM	Times Publishing Co.....St. Cloud, Minn.	273
WCDE	Stix-Baer & Fuller Dry Goods Co., St. Louis, Mo.	360	WFAN	Hutchinson Electric Service Co., Hutchinson, Minn.	286
WCDF	Detroit Free Press.....Detroit, Mich.	517	WFAV	University of Nebraska.....Lincoln, Nebr.	275
WCDA	Tampa Daily Times.....Tampa, Fla.	360	WFBH	Concourse Radio Co.p.....N. Y. City, N. Y.	236
WCDA	Kansas City Star.....Kansas City, Mo.	411	WFBF	Galvin Radio Supply Co.....Camden, N. J.	236
WCDA	J. Laurence Martin.....Amarilla, Tex.	263	WFBG	St. Johns University.....Collegeville, Minn.	256
WCDA	Trinity Meth. Ch. (South), El Paso, Tex.	268	WFBK	Dartmouth College.....Hanover, N. H.	286
WCDA	Lit Brothers.....Philadelphia, Pa.	395	WFL	Onondaga Hotel.....Syracuse, N. Y.	286
WCDA	Sam Waite's Radio Shop.....Worcester, Mass.	360	WFBM	Merchants Heat & Light Co., 519 Guar- anty Bldg., Indianapolis, Ind.	268
WCDA	Slucom & Kilburn.....New Bedford, Mass.	360	WFBN	Radio Sales & Service Co., 1 Broad St., Bridgewater, Mass.	226
WCDA	Radio Equip. Corp..... Fargo, N. Dak.	244	WFBQ	Wynne Radio Co., 226 Fayetteville St., Raleigh, N. C.	252
WCDA	A. H. Waite & Co.....Taunton, Mass.	229	WFBR	Fifth Infantry, Maryland N. G., Fifth Regiment Army, Baltimore, Md.	254
WCDA	Kirk, Johnson & Co.....Lancaster, Pa.	258	WFBT	Gloucester County Civ. League, Pitman, N. J.	231
WCDA	Herman E. Burns.....Martinsburg, W. Va.	268	WFBV	Comth. Radio Assn.....Boston, Mass.	395
			WFBW	Strawbridge & Clothier.....Philadelphia, Pa.	395
			WGAL	Lancaster Supply & Cons. Co., Lancaster, Pa.	248
			WGAN	Cecil E. Lloyd.....Pensacola, Fla.	360

LIST OF UNITED STATES BROADCASTING STATIONS

Station	Owner and Location	W. L.	Station	Owner and Location	W. L.
WGAQ	Yauree Hotel.....Shreveport, La.	252	WMAN	Hesket Radio Station.....Columbus, Ohio	286
WGAZ	South Bend Tribune.....South Bend, Ind.	275	WMAQ	Chicago Daily News.....Chicago, Ill.	448
WGBA	Jones Elec. & Radio Mfg. Co.....Baltimore, Md.	254	WMAV	Alabama Polytechnic Institute.....Auburn, Ala.	250
WGBS	Gimbel Brothers.....New York, N. Y.	316	WMAZ	Kingshighway Presby. Church.....St. Louis, Mo.	280
WGI	American Radio & Research Corp. Medford Hillside, Mass.	360	WMC	Mercer University.....Macon, Ga.	261
WGL	Thomas F. J. Howlett.....Philadelphia, Pa.	360	WMM	"Commercial Appeal".....Memphis, Tenn.	500
WGN	Tribune.....Chicago, Ill.	370	WMU	Ainsworth-Gates Radio Co.....Cincinnati, Ohio	309
WGR	Federal Tel. & Tel. Co.....Buffalo, N. Y.	319	WNA	Doubleday-Hill Electric Co.....Washington, D. C.	261
WGY	General Electric Co.....Schenectady, N. Y.	380	WNAK	Shepard Stores.....Boston, Mass.	278
WHA	Univ. of Wisconsin.....Madison, Wis.	275	WNAW	University of Oklahoma.....Norman, Okla.	360
WHAH	State University of Iowa.....Iowa City, Iowa	484	WNAZ	Wittenberg College.....Springfield, Ohio	275
WHAD	Marquette University.....Milwaukee, Wis.	280	WNB	First Christian Church.....Butler, Mo.	231
WHAJ	University of Cincinnati.....Cincinnati, Ohio	222	WNBK	Lening Brothers.....Philadelphia, Pa.	360
WHAH	Hafer Supply Co.....Joplin, Mo.	283	WNBW	Henry Kunzmann.....Port Monroe, Va.	360
WHAM	University of Rochester.....Rochester, N. Y.	283	WNAX	Dakota Radio Apparatus Co.....Yankton, S. Dak.	244
WHAR	Seaside Hotel.....Atlantic City, N. J.	275	WNAE	Page Organ Co.....Lima, Ohio	266
WHAS	Courier-Journal and Louisville Times, Louisville, Ky.	400	WNAE	Midland College.....Fremont, Neb.	280
WHAZ	Wilmington Electrical Specialty Co., Wilmington, Del.	60	WNAF	Tyler Commercial College.....Tyler, Tex.	360
WHAZ	Rensselaer Polytechnic Institute, Troy, N. Y.	380	WNAF	Apollo Theater.....Belvidere, Ill.	273
WHB	Sweeney School Co.....Kansas City, Mo.	411	WNAJ	Southern Equipment Co.....San Antonio, Tex.	385
WHK	Radiovox Co.....Cleveland, Ohio.	283	WNAJ	Ervin Electrical Co.....Parsons, Kans.	258
WHN	George Schubel.....New York, N. Y.	360	WNAO	James D. Vaughn.....Lawrenceburg, Tenn.	360
WHO	Bankers Life Co.....Des Moines, Iowa	526	WNAO	Lyrandon Mfg. Co.....Mishawaka, Ind.	360
WHOB	A. A. Johnson Garage.....Rockford, Ill.	252	WNAV	Boyd M. Hamp.....Wilmington, Del.	360
WHOC	Galveston Tribune.....Galveston, Tex.	360	WNAW	Pennsylvania National Guard, 112th Infantry Erie, Pa.	242
WHOD	Hart R. Miller.....Philadelphia, Pa.	254	WNAW	Woodmen of the World.....Omaha, Neb.	526
WHOE	Journal-Stockman Co.....Omaha, Neb.	278	WNAZ	Franklyn J. Wolff.....Trenton, N. J.	240
WHOF	Chronicle Publishing Co.....Marion, Ind.	226	WOC	Palmer School of Chiropractic Davenport, Iowa	484
WHOG	Home Electric Co.....Burlington, Iowa	283	WOI	Iowa State College.....Ames, Iowa	360
WHOH	K. & L. Electric Co.....McKeesport, Pa.	234	WOO	John Wanamaker.....Philadelphia, Pa.	509
WHOL	Continental Electrical Supply Co. Washington, D. C.	360	WOQ	Western Radio Co.....Kansas City, Mo.	360
WHOB	Gimbel Brothers.....Philadelphia, Pa.	509	WOR	L. Bamberger & Co.....Newark, N. J.	405
WHOB	American Electric Co.....Lincoln, Neb.	229	WOS	Missouri State Marketing Bureau Jefferson City, Mo.	441
WHOB	Jackson's Radio Engineering Laboratories, Waco, Tex.	360	WPAB	Pennsylvania State College, State College, Pa.	283
WHOB	Norfolk Daily News.....Norfolk, Neb.	283	WPAC	Donauldson Radio Co.....Okmulgee, Okla.	360
WHOB	Clifford L. White.....Greentown, Ind.	254	WPBJ	Doolittle Radio Corp.....New Haven, Conn.	268
WHOB	D. M. Perham.....Cedar Rapids, Iowa	268	WPAK	North Dakota Agricultural College, Averly & Loeb Electric Co.....Columbus, Ohio	283
WHOB	Peoria Star.....Peoria, Ill.	280	WPAM	Auerbach & Guettel.....Topeka, Kans.	275
WHOB	The Outlet Co.....Providence, R. I.	360	WPAP	Ward Battery & Radio Co.....Beloit, Kans.	236
WHOB	Pittsburgh Radio Sup. House, Pittsburgh, Pa.	286	WPAU	Concordia College.....Moorehead, Minn.	286
WHOB	Union Trust Co.....Cleveland, Ohio	390	WPAZ	John R. Koch (Dr.).....Charleston, W. Va.	273
WHOB	Chicago Radio Laboratory.....Chicago, Ill.	268	WQAA	Horace A. Beale, Jr.....Parkersburg, Pa.	360
WHOB	Denison University.....Granville, Ohio	229	WQAC	Gish Radio Service.....Amarillo, Tex.	234
WHOB	Supreme Lodge, Loyal Order of Moose, Mooseheart, Ill.	278	WQAE	Moore Radio News Station.....Springfield, Vt.	275
WHOB	R. C. A.....New York, N. Y.	405	WQAF	Sandusky Register.....Sandusky, Ohio	240
WHOB	R. C. A.....New York, N. Y.	455	WQAM	Electrical Equipment Co.....Miami, Fla.	283
WHOB	H. F. Paar.....Cedar Rapids, Iowa	278	WQAN	Scanton Times.....Scranton, Pa.	280
WHOB	Charles Loeff (Crescent Park), East Providence, R. I.	240	WQAO	Calvary Baptist Church.....New York, N. Y.	360
WHOB	W. S. Radio Supply Co.....Wichita Falls, Tex.	360	WQAP	West Texas Radio Co. (Ablene Daily Reporter) Ablene, Tex.	360
WHOB	United Battery Service Co.....Montgomery, Ala.	226	WQAS	Prince-Walter Co.....Lowell, Mass.	266
WHOB	Dutee W. Flint.....Cranston, R. I.	360	WQAX	Radio Equipment Co.....Peoria, Ill.	248
WHOB	Radio Corp. of Porto Rico.....San Juan, P. R.	360	WQJ	Catmet Rainbow Broadcasting Co., Chicago, Ill.	448
WHOB	Michigan Agricul. College, E. Lansing, Mich.	284	WRAF	The Radio Club.....Laporte, Ind.	228
WHOB	Laconia Radio Club.....Laconia, N. H.	250	WRAL	Northern States Power Co., St. Croix Falls, Wis.	248
WHOB	Dutee W. Flint.....Cranston, R. I.	286	WRAM	Lombard College.....Galesburg, Ill.	244
WHOB	WKY Radio Shop.....Oklahoma, Okla.	360	WRAN	Black Hawk Electrical Co.....Waterloo, Iowa	236
WHOB	Naylor Electrical Co.....Tulsa, Okla.	360	WRAO	St. Louis Radio Service Co.....St. Louis, Mo.	360
WHOB	W. V. Jordan.....Louisville, Ky.	286	WRAW	Antioch College.....Yellow Springs, Ohio	242
WHOB	Arthur E. Schilling.....Kalamazoo, Mich.	283	WRAW	Avenue Radio Shop.....Reading, Pa.	238
WHOB	Putnam Electric Co. (Greencastle community broadcasting station), Greencastle, Ind.	231	WRAX	Flexon's Garage.....Gloucester City, N. J.	268
WHOB	University of Minnesota.....Minneapolis, Minn.	360	WRBC	Immanuel Lutheran Church.....Valparaiso, Ind.	278
WHOB	Wisconsin Department of Markets Stevens Point, Wis.	278	WRD	Radio Corp. of America.....Washington, D. C.	469
WLS	Sears, Roebuck & Co.....Chicago, Ill.	345	WREO	Reo Motor Car Co.....Lansing, Mich.	288
WLW	Crosley Radio Corp.....Cincinnati, Ohio	423	WRK	Doron Bros. Electrical Co.....Hamilton, Ohio	360
WMA	Clive B. Meredith.....Cazenovia, N. Y.	261	WRL	Union College.....Schenectady, N. Y.	360
WMAF	Round Hills Radio Corp.....Dartmouth, Mass.	360	WRM	University of Illinois.....Urbana, Ill.	360
WMAH	General Supply Co.....Lincoln, Neb.	254	WRR	City of Dallas, Police and Fire Signal Department, Dallas, Tex.	360
WMAK	Norton Laboratories.....Lockport, N. Y.	273	WRW	Tarrytown Radio Research Laboratory, Tarrytown, N. Y.	273
WMAK	Trenton Hardware Co.....Trenton, N. J.	256			

LIST OF FOREIGN BROADCASTING STATIONS

Station	Owner and Location	W. L.	Station	Owner and Location	W. L.
ALASKA					
KFQD	Chovin Supply Co. Anchorage	280	CJGC	Free Press Printing Co. London	430
KFIU	Alaska Electric Light & Power Co. Juneau	226	CKQC	Radio Supply Co. (Ltd.) London	410
KNT	Walter Heinrich Kukak Bay	263	CHCO (?)	London Radio Shoppe. London	410
ARGENTINA					
LOZ	Radio Sud America Buenos Aires	375	CKCE	Canadian Independent Telephone Co. Toronto	450
		384	CFCA	Star Publishing & Printing Co. Toronto	400
LOX	Radio Cultura Buenos Aires	375	CJCD	T. Eaton Co. Toronto	410
TCR	Francisco J. Brusa Buenos Aires	325	CHCB	Marconi Toronto	440
		300	CHVC	Metropolitan Motors Toronto	410
LOR	Cia. Radio Argentina Buenos Aires	350	CJCN	Simons Agnew & Co. Toronto	410
		410	CJSC	Evening Telegram Toronto	430
		400	GFTC	Bell Telephone Co. Toronto	...
LOV	Ciara Buenos Aires	400	Manitoba		
B-1	Francisco J. Brusa Buenos Aires	...	CJCG	Manitoba Free Press. Winnipeg	410
LOW	Grand Splendid Theater Buenos Aires	...	CHCF	G. Melrose Bell. Winnipeg	430
LOY	Radio Nacional. Buenos Aires	...	CJNC	Tribune Newspaper Co. Winnipeg	400
	No data. Tucuman	...	CKZC	Salton Radio Engineering Co. Winnipeg	420
	No data. Rosario	...	CKY	Manitoba Telephone System. Winnipeg	450
AUSTRALIA					
2CF	Farmer & Co. (Ltd.) Sydney	1,120	Saskatchewan		
2BL	Broadcasting Sydney (Ltd.) Sydney	380	CKCK	G. Melrose Bell. Regina	420
2AB	Associated Radio Co. (Ltd.) Melbourne	480	CKKC	Leader Publishing Co. Regina	420
	South Australia Broadcasting (Ltd.) Adelaide	480	CFQC	The Electric Shop. Saskatoon	400
6WF	West Australian Farmers (Ltd.) Perth	1,250	Alberta		
AUSTRIA					
"Radio Wien"	Technologische Gewerbemuseum. Vienna	700	CGAC	G. Melrose Bell. Calgary	430
OHW	Radio Hekaphon. Vienna	600	CHBC	Albertan Publishing Co. Calgary	410
BELGIUM					
SRB	No data Brussels	405	CHCQ	Western Radio Co. Calgary	400
BAV	No data Brussels	900	CFAC	Calgary Herald Calgary	430
	Radio Electrique Brussels	1,100	CHCN	W. W. Grant Radio (Ltd.) Calgary	440
		265	CJCA	Edmonton Journal. Edmonton	450
BRAZIL					
No data	Praia Vermelha. Rio de Janeiro	...	CFCK	Radio Supply Co. Edmonton	410
No data	Marconi (Radio Sociedade do Rio de Janeiro)	...	CJCX	Percival Wesley Shackleton. Olds	400
		...	British Columbia		
No data	Radio Bondeirantes. Sao Paulo	...	CJCE	Sprott Shaw Radio Co. Vancouver	420
No data	National Telegraph Service. Belle Horizontes	...	CKCD	Daily Province. Vancouver	410
	Radio Sociedade do Bahia (projected station)	...	CFCD	Marconi Vancouver	440
		...	CGAC	G. Melrose Bell. Vancouver	430
CANADA					
Nova Scotia					
CFCS	Eastern Telephone & Telegraph Co. Halifax	410	CHCL	Vancouver Merchants Exchange. Vancouver	440
CFCE	Marconi Halifax	440	CJCB	J. G. Bennett. Nelson	400
CHAC	Radio Engineers Halifax	400	CFCL	Centennial Methodist Church. Victoria	400
New Brunswick					
CJCI	Maritime Radio Corp. St. John	400	CHCE	Western Canada Radio Supply (Ltd.) Victoria	400
CKCR	Jones Electric Co. St. John	400	CFDC	Sparks Co. Nanaimo	430
Province of Quebec					
CFCF	Marconi Montreal	440	CHILE		
CHYG	Northern Electric Co. Montreal	410	No data	Senor Placi do Munoz Rojas. Valparaiso	...
CJCB	Depuis Freres Montreal	420	ARC	Radio Corporation of Chile. Santiago	400
CKAC	La Presse Publishing Co. Montreal	430			460
CKCS	Bell Telephone Co. Montreal	400	ABC	Radio Corporation of Chile. Vina del Mar	400
CFUC	University of Montreal. Montreal	400	CHINA		
CFCJ	La Cie de L'Evnement. Quebec	410	...	Hongkong Hotel Co. Hongkong	...
CHCD	Canadian Wireless and Electric Co. Quebec	410	...	Radio Communication Co. (Orient) (Ltd.)	...
CFCQ	Semmelhaack-Dickson (Ltd.) Bellevue	450	...	The Evening News. Shanghai	...
		...	...	Macao (Portuguese) . . . . .	...
Ontario					
CFPC	International Radio Development Co. Fort Frances	400	CUBA		
CKOC	Wentworth Radio Supply Co. Hamilton	410	PWX	Cuban Telephone Co. Habana	400
CJCF	The News-Record (Ltd.) Kitchener	420	2DW	Pedro Zayas. Habana	300
CHXC	J. B. Booth, Jr. Ottawa	400	2AB	Alberte S. Bustamente. Habana	240
CFCH	Abilibi Power & Paper Co. Iroquois Falls	400	20K	Mario Garcia Velez. Habana	360
CFGR	Laurentide Air Service. Sudbury	410	2DY	Frederick W. Borton. Habana	260
CFRC	Queens University Kingston	450	2CX	Frederick W. Borton. Habana	320
CFGW	Radio Shop. London	420	2EV	Westinghouse Electric Co. Habana	220
		...	2TW	Roberto E. Ramirez. Habana	230
		...	2HC	Heraldo de Cuba Habana	275
		...	2LC	Luis Casas Habana	250
		...	2KD	E. Sanchez Fuentes. Habana	350
		...	2MN	'Fausto Simon. Habana	270
		...	2MG	Manuel G. Salas. Habana	280
		...	2JQ	Raul Perez Falcon. Habana	150
		...	2KP	Alvaro Daza Habana	200
		...	2HS	Julio Power. Habana	180
		...	2OL	Oscar Collado Habana	290
		...	2WW	Amadeo Saez. Habana	210
		...	5EV	Leopoldo V. Figueroa Colon	260
		...	6KW	Frank H. Jones. Tuinucu	340

ADDITIONAL STATIONS

A series of horizontal dashed lines for writing.

INTERNATIONAL MORSE CODE AND CONVENTIONAL SIGNALS

TO BE USED FOR ALL GENERAL PUBLIC SERVICE RADIO COMMUNICATION

1. A dash is equal to three dots.
2. The space between parts of the same letter is equal to one dot.
3. The space between two letters is equal to three dots.
4. The space between two words is equal to five dots.

A	— · —
B	— · · · ·
C	— · — ·
D	— · · ·
E	·
F	· · · —
G	— · — ·
H	· · · ·
I	· ·
J	· — — —
K	— · — ·
L	— · · ·
M	— —
N	— ·
O	— — —
P	— · — ·
Q	— — · —
R	· — ·
S	· · · ·
T	—
U	— · —
V	· · · —
W	— · —
X	— · — ·
Y	— — · —
Z	— — · ·
<hr/>	
Å (German)	· — · —
Á or Ä (Spanish-Scandinavian)	· — · —
CH (German-Spanish)	— — —
Ê (French)	· · · · ·
Ñ (Spanish)	— — — —
Ö (German)	— — — ·
Ü (German)	· · — —
<hr/>	
1	— — — —
2	· · · —
3	· · — —
4	· · · · —
5	· · · · ·
6	— · · · ·
7	— · — · ·
8	— · — — ·
9	— — — · ·
0	— — — —

Period	· · · · ·
Semicolon	— · — · —
Comma	— · — · —
Colon	— · — · —
Interrogation	· · — — ·
Exclamation point	— — — — —
Apostrophe	· — — — —
Hyphen	— · — · —
Bar indicating fraction	— · — · —
Parenthesis	— — — — —
Inverted commas	· — — — —
Underline	— — — — —
Double dash	— — — — —
Distress Call	— — — — —
Attention call to precede every transmission	— — — — —
General inquiry call	— — — — —
From (de)	· · · · ·
Invitation to transmit (go ahead)	— · — — —
Warning—high power	— — — — —
Question (please repeat after) — interrupting long messages	· · — — —
Wait	· · · · ·
Break (Bk.) (double dash)	— — — — —
Understand	· · · · ·
Error	· · · · ·
Received (O. K.)	· · — — —
Position report (to precede all position messages)	— · — — —
End of each message (cross)	— — — — —
Transmission finished (end of work) (conclusion of correspondence)	— — — — —

INTERNATIONAL RADIOTELEGRAPHIC CONVENTION

LIST OF ABBREVIATIONS TO BE USED IN RADIO COMMUNICATION

ABBREVIATION	QUESTION	ANSWER OR NOTICE
PBB	Do you wish to communicate by means of the International Signal Code?	I wish to communicate by means of the International Signal Code.
QBA	What ship or coast station is that?	This is
QBE	What is your distance?	My distance is
QBC	What is your true bearing?	My true bearing is degrees.
QBD	Where are you bound for?	I am bound for
QBF	Where are you bound from?	I am bound from
QBG	What line do you belong to?	I belong to the Line.
QBH	What is your wave length in meters?	My wave length is meters.
QBJ	How many words have you to send?	I have words to send.
QBK	How do you receive me?	I am receiving well.
QBL	Are you receiving badly? Shall I send 20?	I am receiving badly. Please send 20.
	for adjustment?	for adjustment.
QRM	Are you being interfered with?	I am being interfered with.
QRN	Are the atmospherics strong?	Atmospherics are very strong.
QRO	Shall I increase power?	Increase power.
QRP	Shall I decrease power?	Decrease power.
QRQ	Shall I send faster?	Send faster.
QRS	Shall I send slower?	Send slower.
QRT	Shall I stop sending?	Stop sending.
QRU	Have you anything for me?	I have nothing for you.
QRY	Are you ready?	I am ready. All right now.
QRW	Are you busy?	I am busy (or: I am busy with.....). Please do not interfere.
QRX	Shall I stand by?	Stand by. I will call you when required.
QRY	When will be my turn?	Your turn will be No.
QRZ	Are my signals weak?	Your signals are weak.
QSA	Are my signals strong?	Your signals are strong.
QSB	Is my tone bad?	The tone is bad.
QSC	Is my spark bad?	The spark is bad.
QSD	Is my spacing bad?	Your spacing is bad.
QSF	What is your time?	My time is
	Is transmission to be in alternate order or in series?	Transmission will be in alternate order.
QSG	.....	Transmission will be in series of 5 messages.
QSH	.....	Transmission will be in series of 10 messages.
QSI	What rate shall I collect for?	Collect
QSK	Is the last radiogram canceled?	The last radiogram is canceled.
QSL	Did you get my receipt?	Please acknowledge.
QSM	What is your true course?	My true course is degrees.
QSN	Are you in communication with land?	I am not in communication with land.
QSO	Are you in communication with any ship or station (or: with.....)?	I am in communication with..... (through.....)
QSP	Shall I inform..... that you are calling him?	Inform..... that I am calling him.
QSQ	Is..... calling me?	You are being called by.....
QSE	Will you forward the radiogram?	I will forward the radiogram.
QST	Have you received the general call?	General call to all stations.
QSU	Please call me when you have finished (or: at..... o'clock)?	Will call when I have finished.
*QSV	Is public correspondence being handled?	Public correspondence is being handled. Please do not interfere.
QSW	Shall I increase my spark frequency?	Increase your spark frequency.
QSX	Shall I decrease my spark frequency?	Decrease your spark frequency.
QSY	Shall I send on a wave length of..... meters?	Let us change to the wave length of..... meters.
QSZ	.....	Send each word twice. I have difficulty in receiving you.
QTA	.....	Repeat the last radiogram.
QTE	What is my true bearing?	Your true bearing is degrees from.....
QTF	What is my position?	Your position is latitude longitude.

*Public correspondence is any radio work, official or private, handled on commercial wave lengths.

When an abbreviation is followed by a mark of interrogation, it refers to the question indicated for that abbreviation.

