

RADIO SERVICE BULLETIN

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ABBREVIATIONS AND SYMBOLS

The necessary corrections to the List of Commercial and Government Radio Stations of the United States and to the International Lists of Radio Stations appearing in this bulletin under the heading "Alterations and Corrections," are published after the stations affected in the following order:

Name	= Name of station.
Loc.	= Geographical location: W=west longitude, N=north latitude, S=south latitude, E=east longitude.
Call	= Call signal (letters) assigned.
Type	= Type of wave classified as follows: A1=continuous wave (tube), A arc=continuous wave, A2=interrupted continuous wave, A3=phone, B=spark.
Fy.	= Frequency in kilocycles; normal frequency in italics; wave length in meters in parentheses.
Power	= Height (meters) of antenna and intensity of current (meter-amperes) at its base (sample of manner in which published—100/100) or the normal radiated power expressed in meter-amperes (sample of manner in which published—100 m. amp.).
Service	= Nature of service maintained: PG=general public (ship to shore), PR=limited public (limited to public, correspondence between fixed stations), P=private (limited commercial and special), O=Government business exclusively.
Class	= FX=fixed station (point-to-point service), RG=radio-compass station, FA=aeronautical station, AB=aviation beacon, RF=circular radiobeacon, B=ship station, FC=coast station, A=aircraft.
Hours	= Hours of operation: N=continuous service, X=no regular hour, Y=sunrise to sunset.
Accts.	= Message accounts settled by.
M. R. T. Co.	= Mackay Radio & Telegraph Co.
R. C. A.	= Radio Corporation of America.
R. M. C. A.	= Radiomarine Corporation of America.
T. R. T. Co.	= Tropical Radio Telegraph Co.
C. w.	= Continuous wave.
I. c. w.	= Interrupted continuous wave.
A. C.	= Alternating current.
V. t.	= Vacuum tube.
M. A.	= Meter-amperes.
U. S. L.	= Applies only to the list of Commercial and Government Radio Stations of the United States.
	= Equipped with a radio compass (direction finder).

NEW STATIONS

Commercial land stations, alphabetically, by names of stations

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Fixed and Land Stations, published by the Berne bureau]

Station	Class	Call signal	Frequency in kilocycles, meters in parentheses	Service	Hours	Licensee
Arlington, Mass. (police). ¹	FX	WPED	1,712 (175.23)	P	N	Town of Arlington, police department.
Brooklyn, N. Y. (police). ²	FX	WPEE	2,450 (122.4)	P	N	City of New York, police department.
Chicago, Ill. (municipal airport). ³	FA	WGEH	278 (1,080)	P	N	City of Chicago.
Dearborn, Mich. ⁴	FA, FX	WQDW	do.	P	X	Ford Motor Co.
Fresno, Calif. (police). ⁵	FX	KGZA	2,416 (124.17)	P	N	City of Fresno.
Houston, Tex. (police). ⁶	FX	KGZB	1,712 (175.23)	P	N	City of Houston.
New York, N. Y. (Bronx police). ⁷	FX	WPEF	2,450 (122.4)	P	N	City of New York, police department.
New York, N. Y. (police). ⁸	FX	WPEG	do.	P	N	Do.
San Diego, Calif. (municipal airport). ⁹	FA	KGYK	278 (1,080)	P	X	City of San Diego.
Shreveport, La. ¹⁰	FX	KGPY	1,574 (190.6)	P	N	State of Louisiana, Bureau of Identification and Investigation.
Wichita, Kans. (police station). ¹¹	FX	KGZP	2,452 (122.34)	P	N	City of Wichita.
<i>Portable</i>						
United States (throughout). ¹²	FX	KQTO	3,160 (94.9), 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 3,182.5 (94.26), 5,570 (53.86), 5,660 (53).	P	X	Aeronautical Radio (Inc.).

¹ Loc. (approximate) 71° 09' 00" W., 42° 25' 00" N.; type, A3.

² Loc. 73° 54' 41" W., 40° 40' 20" N.; type, A3.

³ Loc. (approximate) 87° 46' 30" W., 41° 48' 00" N.; type, A3.

⁴ Loc. 83° 14' 09" W., 42° 18' 20" N.; type, A3.

⁵ Loc. (approximate) 119° 44' 00" W., 36° 44' 00" N.; type, A3.

⁶ Loc. (approximate) 95° 24' 00" W., 29° 47' 00" N.; type, A3.

⁷ Loc. 73° 55' 32" W., 40° 48' 37" N.; type, A3.

⁸ Loc. 74° 03' 35" W., 40° 42' 22" N.; type, A3.

⁹ Loc. (approximate) 117° 10' 30" W., 32° 44' 00" N.; type, A3.

¹⁰ Loc. 93° 43' 58" W., 32° 30' 54" N.; type, A3.

¹¹ Loc. (approximate) 97° 20' 00" W., 37° 41' 00" N.; type, A3.

¹² Type, A3.

Commercial ship stations, alphabetically, by names of vessels

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Ship Stations, published by the Berne bureau]

Name of vessel	Call signal	Rates, all services (cents)	Service	Hours	Owner	Message account settled by—
California	WGDL		P	X	San Francisco Bar Pilots' Association.	Owner.
Eastern Sword	KDKB	8	PG	X	Sword S. S. Line (Inc.).	M. R. T. Co.
Lidiv	WGEK		P		New York Telephone Co.	Do.
Major John W. McKie	WGEX			X	Inland Waterways Corporation.	Owner.
Mercury Sun	WGEP	8	PG	X	Motor Tankship Corporation.	
Nova Julia	WGEU				Frank and Leonard Favalaro.	
St. Rita	WGET				do.	
Stranger	WGEL				Fred E. Lewis	M. R. T. Co.
Sue J	WSUJ	8	PG	X	Jesse H. Jay	Owner.
Talamanca (R. C.)	KDCC	8	PG	N	United Mail S. S. Co.	T. R. T. Co.

Commercial aircraft stations, alphabetically, by names of craft

[Additions to the List of Radio Stations of the United States, edition of June 30, 1931, and to the International List of Aircraft Stations, published by the Berne bureau]

Station	Call signal	Frequency, in kilocycles, meters in parentheses	Service	Hours	Licensee
NC-434-H	KHSYB	3,106 (96.59), 3,160 (94.9), 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 3,182.5 (94.26), 5,570 (53.86), 5,660 (53.)	P	X	National Air Transport (Inc.)
NC-732-N	KHXEV	3,106 (96.59), 3,238 (92.64), 3,244 (92.47), 3,452 (86.9), 3,460 (86.7), 3,468 (86.5), 3,484 (86.1), 4,915 (61.03), 5,600 (53.57), 5,630 (53.29)	P	X	American Airways (Inc.)
NC-733-N	KHXFU	do	P	X	Do.
NC-734-N	KHXGT	do	P	X	Do.
NC-735-N	KHXHS	do	P	X	Do.
NC-736-N	KHXIR	do	P	X	Do.
NC-737-N	KHXJQ	do	P	X	Do.
NC-738-N	KHXKP	do	P	X	Do.
NC-739-N	KHXLO	do	P	X	Do.
NC-740-N	KHXMN	do	P	X	Do.
NC-741-N	KHXNM	do	P	X	Do.
NC-742-N	KHXOL	do	P	X	Do.
NC-743-N	KHXKP	do	P	X	Do.
NC-744-N	KHXQJ	do	P	X	Do.
NC-745-N	KHXRI	do	P	X	Do.
NC-746-N	KHXSH	do	P	X	Do.
NC-747-N	KHXTG	do	P	X	Do.
X-982-M	KHXUF	3,106 (96.59), 3,238 (92.64), 3,244 (92.47), 3,452 (86.9), 3,460 (86.7), 3,468 (86.5), 3,484 (86.1), 4,915 (61.03), 5,600 (53.57), 5,630 (53.29)	P	X	Do.

1 Type, A3.

Government land stations, alphabetically, by names of stations

[Addition to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Fixed and Land Stations published by the Berne bureau]

Station	Class	Call signal	Frequency, in kilocycles; meters in parentheses	Service	Hours	Owner
Charleston Lightship No. 53, S. C. ¹	FC	WRI	500 (600)	O		Department of Commerce, Bureau of Lighthouses.
Galveston, Tex. (section base 1).	FC	NOY		O		U. S. Coast Guard.

¹ Type A2; hours, operates first 15 minutes every hour from 8 a. m. to 9.15 p. m.

Marine radiobeacon stations

[Addition to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Stations Performing Special Services, published by the Berne bureau]

Scotland Lightship, N. J.—Loc., 73° 55' 10" W., 40° 26' 39" N.; transmits every 180 seconds, groups of 1 dash, 1 dot, 1 dash and 1 dot, for 60 seconds, silent 120 seconds, thus:

- . . . - . . .
Silent

60 seconds
120 seconds

Fy., 307 (977); hours, transmits daily in clear weather from 8 to 9 a. m. and p. m. (75th meridian time), and continuously during thick or foggy weather.

Commercial and Government land, ship, aircraft, radiobeacon, and direction-finding stations, alphabetically by call signals

Call signal	Name of station	Call signal	Name of station
KDCC	Talamanca.....b	KHXQJ	NC-744-N.....a
KGPY	Shreveport, La.....fx	KHXRI	NC-745-N.....a
KGPZ	Wichita, Kans.....fx	KHXSH	NC-746-N.....a
KGTO	United States throughout (portable).....fx	KHXTG	NC-747-N.....a
		KHXUF	X-982-M.....a
KGYK	San Diego, Calif. (municipal airport).....fa	NOY	Galveston, Tex. (section base 1).....fc
		WGDL	California.....b
KGZA	Fresno, Calif.....fx	WGEH	Chicago, Ill. (municipal airport).....fa
KGZB	Houston, Tex.....fx	WGEL	Stranger.....b
KHSYB	NC-434-H.....a	WGEP	Mercury Sun.....b
KHXEV	NC-732-N.....a	WGEQ	Major John W. McKie.....b
KHXFU	NC-733-N.....a	WGET	St. Rita.....b
KHXGT	NC-734-N.....a	WGEU	Nova Julia.....b
KHXHS	NC-735-N.....a	WGEX	Lidiv.....b
KHXIR	NC-736-N.....a	WPED	Arlington, Mass.....fx
KHXJQ	NC-737-N.....a	WPPE	Brooklyn, N. Y.....fx
KHXKP	NC-738-N.....a	WPFF	New York (Bronx), N. Y.....fx
KHXLO	NC-739-N.....a	WPFG	New York, N. Y.....fx
KHXMN	NC-740-N.....a	WQDW	Dearborn, Mich.....fa, fx
KHXNM	NC-741-N.....a	WRI	Charleston Lightship No. 58, S. C.....fc
KHXOL	NC-742-N.....a	WSUJ	Sue-J.....b
KHXPK	NC-743-N.....a		

Broadcasting stations, by name of State and city

[Addition to the List of Radio Stations of the United States, edition of June 30, 1931]

State and city (Transmitter location; studio location in parentheses)	Call signal	Frequency in kilocycles, meters in parentheses	Power (watts)
Pennsylvania: York.....	WGEO	1,000 (300).....	11,000

Broadcasting stations, by call signals

Call signal	Location of transmitter, studio location in parentheses (mail address)	Licensee	Frequency in kilo- cycles, meters in parentheses	Power (watts)
WGEO	York, Pa., Continental Square.....	York Broadcasting Co..	1,000 (300).....	11,000

Daytime.

Experimental stations, alphabetically, by names of stations

Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931]

Station	Call signal	Frequency in kilocycles, meters in parentheses	Power (watts)	License and post-office address
California: Los Angeles	W6XL	1,594 (188.21), 2,398 (125.1), 3,492.5 (85.89), 4,797.5 (62.53), 6,425 (46.69), 8,655 (34.66), 12,862.5 (23.32), 17,310 (17.33), 23,100 (12.99), 25,700 (11.67), 26,000 (11.54), 27,100 (11.07), 34,600 (8.67), 41,000 (7.32), 51,400 (5.83), 60,000 (5), 400,000 (.75), 401,000 (.74) and above.	150	Ray-O-Vision Corporation of America (Ltd.), 940 North Orange Boulevard.
Oakland (airport)	W6XE	3,160 (94.9), 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 3,182.5 (94.26), 5,570 (53.86), 5,690 (53).	10	Aeronautical Radio (Inc.).
Illinois: Lansing	W9XH	389 (770)	1,000	Ford Motor Co.
Michigan: Dearborn	W8XC	do	1,000	Do.
Do	W8XE	do	1,000	Do.
<i>Portable</i>				
Connecticut: Hartford	W10XN	2,326 (128.97), 2,344 (127.98), 3,228 (92.64), 3,244 (92.47), 3,452 (86.9), 3,460 (86.7), 3,468 (86.5), 3,484 (86.1), 4,140 (72.46), 5,800 (53.57), 5,630 (53.28), 6,260 (47.92), 6,275 (47.81).	50	Aeronautical Radio (Inc.).
New York: Peeksville-Syracuse.				

Relay broadcasting stations, alphabetically, by names of stations

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931]

Station	Call signal	Frequency in kilocycles, meters in parentheses	Power (watts)	Owner
<i>Portable</i>				
Florida: Miami	W4XA	2,368 (126.69)	15	Miami Broadcasting Co. (Inc.), 325 Northeast First Avenue.

Experimental, relay broadcasting, and visual broadcasting stations grouped by districts, alphabetically, by call signals

Call signal	District and station	Call signal	District and station
W4XA	Fourth District: Miami, Fla.	W9XH	Ninth district: Lansing, Ill.
W6XE	Sixth district: Oakland, Calif. (airport).		<i>Portable</i>
W6XL	Los Angeles, Calif.		
W8XC	Eighth district: Dearborn, Mich.	W10XN	Peeksville, N. Y., Syracuse, N. Y., and Hartford, Conn.
W8XE	Do.		

ALTERATIONS AND CORRECTIONS

COMMERCIAL LAND STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Fixed and Land Stations, published by the Berne bureau]

- BEVERLY HILLS, CALIF.—Type, add A2; fy., strike out 1,552 (193.3), 1,554 (193.05), 1,556 (192.8), add 1,526 (196.59).
- BIRMINGHAM, ALA.—Fy., add 3,105 (96.61), 3,120 (96.15), 4,780 (62.76), 5,525 (54.3), 6,210 (48.3), 6,250 (48).
- BOCA DE QUADRA, ALASKA.—*Read* Boca De Quadra, Alaska radio; class, add FC.; loc. (approximate) 130° 44' 00'' W., 55° 04' 45'' N.; type, add A3; fy., add 256 (1,170), 274 (1,095), 425 (705), 500 (600), 2,512 (119.42); service, add PG; hours, strike out X, add 7 a. m. to 10 p. m. daily.
- BURBANK CALIF. (LOS ANGELES) KGUR.—Fy., add 3,238 (92.64), 3,244 (92.47), 3,452 (86.9), 3,460 (86.7), 3,468 (86.5), 5,600 (53.57).
- FORT WAYNE, IND., WPDZ.—Power, 12.2/3.1.
- FORT WORTH, TEX. (MEACHAM FIELD).—Fy., add 3,182.5 (94.26); power, 18/3.
- FRESNO, CALIF. (CHANDLER FIELD).—Fy., add 3,182.5 (94.26).
- HALEAH, FLA., RADIO.—Fy., add 3,105 (96.61), 3,120 (96.15), 4,785 (62.69), 6,210 (48.3), 6,310 (47.54), 8,280 (36.23), 11,040 (27.17), 11,250 (26.67), 16,560 (18.116), 16,980 (17.668), 21,675 (13.841), 22,080 (13.587).
- HILLSBORO, OREG., RADIO KEK.—Fy., add 3,105 (96.61), 3,120 (96.15), 6,210 (48.3), 6,560 (45.73), 11,040 (27.17), 11,320 (26.5), 16,560 (18.116), 22,080 (13.587), 21,775 (13.777).
- HONOLULU, HAWAII.—Loc. (approximate) 157° 51' 00'' W., 21° 18' 00'' N.; fy., strike out 2,452 (122.35), add 2,450 (122.4).
- LAWRENCEVILLE, N. J. (RADIOTELEPHONE).—Fy., strike out 10,550 (28.44), add 10,675 (28.1); power, 18.3/9.
- LOS ANGELES, CALIF. KGVW.—Fy., add 1,526 (196.59).
- MIAMI, FLA. (MUNICIPAL AIRPORT) WEEM.—Power, 18/3.
- PONCA CITY, OKLA. (MUNICIPAL AIRPORT) KGUZ.—Power, 18/3.
- REDDING, CALIF. (MUNICIPAL AIRPORT).—Fy., add 3,182.5 (94.26); power, 18/3.
- ROGERS CITY, MICH., RADIO.—Power, 50/14.
- ST. GEORGE, N. Y. (STATEN ISLAND) RADIOTELEPHONE.—Type, add A1; power, 14/2.
- SAN FRANCISCO, CALIF., KGPD.—Fy., strike out 1,596 (187.97), 2,410 (124.5), add 2,470 (121.5).
- SAN FRANCISCO, CALIF., KOQ.—Fy., add 10,100 (29.97).
- SAN JOSE, CALIF.—Fy., strike out 2,410 (124.5), add 2,470 (121.5); power, 25/1.5.
- SEATTLE, WASH., RADIOTELEPHONE.—Loc., changed to Edmonds, Wash. (near radiotelephone; loc., 122° 23' 36'' W., 47° 48' 15'' N.; fy., strike out 2,530 (118.57), add 2,590 (115.8).
- TULSA, OKLA. (MUNICIPAL AIRPORT) KNAU.—Fy., add 3,182.5 (94.26); power, 18/3.
- WASHINGTON, D. C.—Fy., add 2,422 (123.86).
- WICHITA, KANS., KGTE.—Power, 18/3.

COMMERCIAL SHIP STATIONS, ALPHABETICALLY, BY NAMES OF VESSELS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Ship Stations, published by the Berne bureau]

- ABERCOS.—Fy., add 355 (845).
- ALA.—Owner, American Diamond Lines (Inc.).
- ALTAIR.—Owner, Standard-Vacuum Transportation Co. (Inc.).
- AMERICAN IMPORTER.—Fy., add 8,330 (36.01), 11,230 (26.71), 16,580 (18.094), 16,660 (18.007), 16,860 (17.794); hours, strike out X, add N.
- ANTINOUS.—Fy., add 355 (845).
- ARGON.—Owner, Standard-Vacuum Transportation Co. (Inc.).
- ATLAS.—Owner, Standard-Vacuum Transportation Co. (Inc.).
- AURORA.—Owner, Standard-Vacuum Transportation Co. (Inc.).
- BAYONNE.—Owner, Standard-Vacuum Transportation Co. (Inc.).
- BELFLOWER.—Fy., add 355 (845).
- BERURY.—Fy., strike out 159 (1,885), add 355 (845).
- BIRKENHEAD.—Owner, Standard-Vacuum Transportation Co. (Inc.).
- BRAVE COEUR.—Fy., add 355 (845).
- BROAD ARROW.—Owner, Standard-Vacuum Transportation Co. (Inc.).

- BRUSH.—Fy., add 355 (845).
 CAPULIN.—Fy., add 355 (845).
 CARDONIA.—Fy., add 355 (845); accts., R. M. C. A.
 CATHLAMET.—Hours, strike out N.
 C. B. WATSON.—Owner, Sabine Transportation Co. (Inc.).
 CHALENA.—Type, A1, A2; fy., 143 (2,100), 153 (1,960), 157 (1,910), 160 (1,875), 400 (750), 410 (730), 425 (705), 468 (640), 500 (600); service, PG; hours, N (first-class), X (third-class).
 CHARLES H. CRAMP.—Fy., strike out 151 (1,985).
 CHARLES M. EVEREST.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 CHILCOP.—Hours, strike out N.
 CITY OF PANAMA.—Name changed to Santa Catalina.
 CITY OF SAN FRANCISCO.—Name changed to Santa Monica.
 CLAIRTON.—Fy., add 355 (845).
 COAHOMA COUNTY.—Owner, American Diamond Lines (Inc.); accts., M. R. T. Co.
 COLD HARBOR.—Fy., add 355 (845).
 COLLINGSWORTH.—Fy., add 355 (845).
 COMET.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 COMMACK.—Fy., add 355 (845).
 COMMERCIAL GUIDE.—Fy., strike out 400 (750), 468 (640).
 CRAWFORD.—Fy., add 355 (845).
 CRIPPLE CREEK.—Fy., add 355 (845).
 DAYLIGHT.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 DEER LODGE.—Fy., add 355 (845).
 DIAMOND HEAD.—Fy., strike out 468 (640); hours, strike out N.
 DIXIE ARROW.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 EDMONT.—Fy., add 355 (845).
 EDITOR.—Fy., add 355 (845).
 ELMSPORT.—Fy., add 355 (845).
 EL SALVADOR.—Name changed to Santa Ana.
 ENDICOTT.—Fy., add 355 (845).
 FAIRFAX.—Fy., strike out 151 (1,985), and 454 (660), 468 (640).
 GARGOYLE.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 GUARDIAN.—Owner, All America Cables (Inc.).
 GUATEMALA.—Name changed to Santa Cecilia.
 HANLEY.—Fy., strike out 151 (1,985).
 HASTINGS.—Accts., M. R. T. Co.
 HATTERAS.—Fy., add 355 (845).
 HIGH.—Fy., add 355 (845).
 HYBERT.—Fy., add 355 (845).
 INDIA ARROW.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 JADDEN.—Fy., add 355 (845).
 JALAPA.—Fy., add 355 (845).
 JAPAN ARROW.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 KERHONKSON.—Fy., add 355 (845).
 LORAIN.—Fy., add 355 (845).
 MANOA.—Accts., R. M. C. A.
 MARGARET DOLLAR.—Fy., strike out 151 (1,985), 159 (1,885).
 MCKEESPORT.—Fy., add 355 (845).
 MELODIE.—Accts., R. M. C. A.
 MERCER.—Fy., add 355 (845).
 NORCO.—Owner, Citizens Light, Power & Water Co.
 OAKPARK.—Fy., add 355 (845).
 OLEAN.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 PATRICK HENRY.—Fy., strike out 159 (1,885), add 355 (845).
 PAULSBORO.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 ROBIN HOOD.—Fy., strike out 454 (660).
 ROCHESTER.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 SCOTTSBURG.—Fy., add 355 (845).
 SEATTLE.—Accts., Tacoma Oriental S. S. Co.
 STEEL VOYAGER.—Fy., strike out 151 (1,985).
 SUNUGENTCO.—Name changed to Admiral Laws.
 SURAILCO.—Name changed to Admiral Cole.
 SWIFTWIND.—Owner, Malay S. S. Co. (Inc.).
 SYLVAN ARROW.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 TIGER.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 TOMALVA.—Owner, American Diamond Lines (Inc.); accts., M. R. T. Co.
 TOPA TOPA.—Fy., strike out 159 (1,885), add 355 (845).

- VACUUM.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 VOLUNTEER.—Fy., add 355 (845).
 WACOSTA.—Owner, Waterman S. S. Corporation.
 WALTER A. LUCKENBACH.—Fy., strike out 159 (1,885), add 160 (1,875).
 WEST ARROW.—Accts., M. R. T. Co.
 WEST CADDOA.—Fy., strike out 159 (1,885), add 355 (845).
 WEST CRESSY.—Fy., add 355 (845).
 WEST EKONK.—Fy., add 355 (845); accts., R. M. C. A.
 WEST HARCUVAR.—Fy., add 355 (845).
 YANKEE ARROW.—Owner, Standard-Vacuum Transportation Co. (Inc.).
 YORBA LINDA.—Owner, Standard-Vacuum Transportation Co. (Inc.). Strike out all particulars of the following-named stations: Alameda, Munleon.

COMMERCIAL AIRCRAFT STATIONS, ALPHABETICALLY, BY NAMES OF CRAFT

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1931, and to the International List of Aircraft Stations, published by the Berne bureau]

- NC-326-N KHVJQ.—Type, A3; fy., 3,105 (96.61).
 NC-330-N KHVKP.—Type, A3; fy., 3,105 (96.61).
 NC-412-H KHXDW.—Type, A3; fy., 3,106 (96.59), 3,238 (92.64), 3,244 (92.47), 3,452 (86.9), 3,460 (86.7), 3,468 (86.5), 3,484 (86.1), 4,915 (61.03), 5,600 (53.57), 5,630 (53.29).
 NC-415-H KHXCX.—Type, A3; fy., 3,106 (96.59), 3,238 (92.64), 3,244 (92.47), 3,452 (86.9), 3,460 (86.7), 3,468 (86.5), 3,484 (86.1), 4,915 (61.03), 5,600 (53.57), 5,630 (53.29).
 NC-6769 KHVLO.—Type, A3; fy., 3,105 (96.61).
 NC-6880 KHVMN.—Type, A3; fy., 3,105 (96.61).
 NC-7048 KHVNM.—Type, A3; fy., 3,105 (96.61).
 NC-10356 KHVIR.—Type, A3; fy., 3,105 (96.61).
 NR-914 (Aloha) KHNBY.—Type, A3; fy., 3,105 (96.61).
 S-40.—Name changed to NC-81-V.
 Strike out all particulars of the following-named stations: C-743-K, C-5390, NC-10338.

GOVERNMENT LAND STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Fixed and Land Stations, published by the Berne bureau]

- DIAMOND SHOALS LIGHTSHIP, N. C.—Fy., add 500 (600).
 MOUNT RAINIER NATIONAL PARK, WASH. (LONGMIRE) RADIOTELEPHONE KGYA.—Loc., 121° 48' 38" W., 46° 45' 45" N.; type, A1, A3; fy., 3,265 (91.88), 3,385 (88.62), 3,445 (87.08), 4,135 (72.55).
 MOUNT RAINIER NATIONAL PARK, WASH. (LONGMIRE) RADIOTELEPHONE KGYB.—Loc. 121° 48' 38" W., 46° 45' 45" N.; type, A1, A3; fy., 3,265 (91.88), 3,385 (88.62), 3,445 (87.08), 4,135 (72.55).
 MOUNT RAINIER NATIONAL PARK, WASH. (PARADISE) RADIOTELEPHONE.—Loc. 121° 44' 11" W., 46° 47' 15" N.; type, A1, A3; fy., 3,265 (91.88), 3,385 (88.62), 3,445 (87.08), 4,135 (72.55).
 MOUNT RAINIER NATIONAL PARK, WASH. (SUNRISE) RADIOTELEPHONE.—Loc., 121° 38' 18" W., 46° 55' 00" N.; type, A1, A3; fy., 3,265 (91.88), 3,385 (88.62), 3,445 (87.08), 4,135 (72.55).
 MOUNT RAINIER NATIONAL PARK, WASH. (WHITE RIVER ENTRANCE) RADIOTELEPHONE.—Loc., 121° 33' 15" W., 46° 54' 09" N.; type, A1, A2; fy., 3,265 (91.88), 3,385 (88.62), 3,445 (87.08), 4,135 (72.55).
 MOUNT RAINIER NATIONAL PARK, WASH. (CARBON RIVER ENTRANCE) RADIOTELEPHONE.—Loc., 121° 54' 55" W., 46° 59' 45" N.; type, A1, A3; fy., 3,265 (91.88), 3,385 (88.62), 3,445 (87.08), 4,135 (72.55).
 WILMINGTON, DEL. (FOURTH DISTRICT U. S. N. R.).—Loc., changed to Pittsburgh, Pa. (alternate reserve station).

GOVERNMENT SHIP STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Ship Stations, published by the Berne bureau]

- AMARANTH.—Fy., strike out 180 (1,665), 190 (1,580), 423 (710); add 157 (1,910), 410 (730), 425 (705).

HYACINTH.—Fy., strike out 180 (1,665), 190 (1,580), 423 (710); add 200 (1,500), 410 (730), 425 (705).
 MARIGOLD.—Fy., strike out 180 (1,665), 190 (1,580), 423 (170); add 157 (1,910), 410 (730), 425 (705).
 SUMAC.—Fy., strike out 180 (1,665), 190 (1,580), 423 (710); add 200 (1,500), 410 (730), 425 (705).
 Strike out all particulars of the following-named stations: Bruce, Hart, McDermut, Preston, Rizal.

MARINE RADIOBEACON STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Stations Performing Special Services, published by the Berne bureau]

COLUMBIA RIVER LIGHTSHIP, OREG.—Fy., strike out 310 (968); add 304 (987).

RADIO-COMPASS STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Stations Performing Special Services, published by the Berne bureau]

Strike out all particulars of the following-named station: North Island, S. C.

COMMERCIAL AND GOVERNMENT LAND, SHIP, AIRCRAFT, RADIOBEACON, AND RADIO-COMPASS STATIONS, ALPHABETICALLY BY CALL SIGNALS

KDBS, *read* Admiral Cole; KDNX, *read* Admiral Laws; KHANM, *read* NC-81-V; KJEU, *read* Santa Ana; KOW, *read* Edmonds, Wash. radiotelephone (near); KZS, *read* Boca De Quadra, Alaska radio; NDC, *read* Pittsburgh, Pa. (Alternate Reserve Station); WADT, *read* Santa Cecilia; WMDW, *read* Santa Monica; WMDY, *read* Santa Catalina; strike out all particulars following the call signals KHLEV, KHLHS, KHNQJ, KINJ, NENV, NEVV, NIGG, NUNJ, NUPS, NZW, WCCQ.

BROADCASTING STATIONS, BY CALL SIGNALS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and the International List of Broadcasting Stations, published by the Berne bureau]

KARK (Little Rock, Ark.).—Licensee, Arkansas Radio & Equipment Co.
 KFXD (Nampa, Idaho).—Licensee, Frank E. Hurt; power, 100.
 KGKX (Sandpoint, Idaho).—Licensee, W. W. Von Cannon, trustee.
 KLRA (Little Rock, Ark.).—Transmitter loc., changed to North Little Rock, Ark. (near); (approximate) 92° 15' 00'' W., 34° 46' 30'' N.; post-office address and studio changed to Albert Pike Hotel, Little Rock, Ark.
 KSMR (Santa Maria, Calif.).—Call changed to KERN.
 KXRO (Aberdeen, Wash.).—Power, 50.
 WDAS (Philadelphia, Pa.).—Licensee, WDAS Broadcasting Station (Inc.).
 WFLA (Clearwater, Fla.).—Power, 250 night, 500 day.
 WGBS (New York, N. Y.).—Call changed to WINS.
 WFEA (Manchester, N. H.).—Transmitter loc., changed to Merrimack, N. H.; licensee, New Hampshire Broadcasting Co.
 WJTL (Oglethorpe University, Ga.).—Transmitter loc., changed to Atlanta, Ga.; 84° 23' 10'' W., 33° 46' 16'' N.; studio remains at Oglethorpe University, Ga.
 WMSG (New York, N. Y.).—Transmitter loc. (approximate), 73° 51' 00'' W., 40° 50' 30'' N.; post-office address, 1100 East One hundred and seventy-seventh St.
 WOS (Jefferson City, Mo.).—Licensee, John D. Heiny.
 WRBJ (Hattiesburg, Miss.).—Call changed to WPFB.
 WSPA (Spartanburg, S. C.).—Loc., 81° 49' 02'' W., 34° 57' 32'' N.
 WSUN (Clearwater, Fla.).—Power, 250 night, 500 day.

EXPERIMENTAL STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1931]

CALIFORNIA: Bolinas W6XI.—Fy., strike out all frequencies, add 6,845 (43.83), 6,860 (43.73), 9,010 (33.3), 9,480 (31.65), 10,390 (28.87), 10,410 (28.82), 10,620 (28.25), 11,950 (25.1), 13,690 (21.91), 13,780 (21.77), 15,460 (19.405), 18,020 (16.648), 18,060 (16.611), 27,080 (11.078).

HAWAII: Kahuku K6XO.—Fy., strike out all frequencies, add 6,890 (43.54), 7,520 (39.89), 11,680 (25.68), 15,985 (18.768), 16,030 (18.715).

LOUISIANA: Shreveport W5XA.—Fy., strike out 1,604 (187.03), 3,256 (92.5), 4,795 (62.57), 8,650 (34.68), 12,850 (23.35), 17,300 (17.341), add 1,594 (188.21), 3,492.5 (85.89), 4,797.5 (62.535), 8,655 (34.66), 12,862.5 (23.32), 17,310 (17.331)

NEW YORK:

Rocky Point W2XBJ.—Fy., strike out 6,740 (44.51), 13,900 (21.58), 14,815 (20.25), 17,900 (16.76), 18,980 (15.015), add 6,935 (43.26), 13,840 (21.68), 15,970 (18.785), 20,180 (14.866).

South Schenectady W2XAG.—Fy., strike out 550 (545), 1,150 (260.9), 1,500 (200).

OHIO: Lakewood W8XB.—Insert in list grouped by districts and alphabetically by call signals.

Portable

California No. 1 W6XF.—Fy., add 8,655 (34.66).

Aircraft

No. 1928 (NC-5211) W10XAQ.—Fy., add 1,604 (187.03), 4,795 (62.57), 8,650 (34.68), 17,300 (17.341), 23,100 (12.987), 25,700 (11.673), 26,000 (11.538), 27,100 (11.070), 34,600 (8.67), 41,000 (7.32), 51,400 (5.83), 60,000 (5) to 400,000 (.75), 401,000 (.74) and above.

VISUAL BROADCASTING STATIONS BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1931]

ILLINOIS: Chicago W9XAP.—Licensee, National Broadcasting Co. (Inc.).

NEW YORK: New York W2XBS.—Insert in list grouped by districts and alphabetically by call signals.

MISCELLANEOUS

CHANGES IN THE LIST OF VESSELS EQUIPPED WITH A RADIO COMPASS

The following-named vessels are additions to the lists published in Commercial and Government Radio Stations of the United States, edition June 30, 1931, and the International List of Ships Stations published by the Berne bureau.

These changes have been made in the 1931 edition of the list first named.

Name	Call signal	Owner
COMMERCIAL		
Agwiworld.....	KDMD	American Trust Co. (Inc.).
Crusader.....	KGFC	Abram K. Macomber.
Golden Bear.....	KEXX	Oceanic & Oriental Navigation Co.
Golden Rod.....	KIKX	Do.
Golden West.....	KOZS	Do.
Huguenot.....	KIVQ	American Trust Co. (Inc.).
Onondaga.....	KDJR	Ford Motor Co.

FREQUENCY MEASUREMENTS OF BROADCASTING STATIONS DURING NOVEMBER

During this month the Radio Division of the Department of Commerce measured the frequency of 383 broadcasting stations representing an increase over the next highest month, viz., October, when 381 were measured. One hundred and fifty-three, or 40 per cent deviated less than 50 cycles; 86, or 22.5 per cent

deviated less than 100 cycles; 76, or 20 per cent, deviated less than 200 cycles. The others, numbering 68, or 17.5 per cent, went over 200 cycles. A considerable gain over previous monthly lists is indicated in the class deviating less than 50 cycles.

The following table gives the figures for the months December, 1930, to November, 1931, inclusive:

Month	Number stations measured	Less than 50 cycles	Less than 100 cycles	Less than 200 cycles	Over 200 cycles
December 1930	339		35 (13.5%)	66 (16.5%)	238 (70%)
January 1931	363		54 (15%)	102 (27%)	207 (58%)
February	367		99 (27%)	55 (15%)	213 (58%)
March	337	65 (19.3%)	63 (18.8%)	77 (22.8%)	132 (39.1%)
April	314	72 (22.9%)	54 (17.2%)	92 (29.3%)	96 (30.6%)
May	326	78 (23.9%)	89 (27.3%)	68 (20.9%)	91 (27.9%)
June	330	97 (29.4%)	71 (21.5%)	69 (20.9%)	93 (28.2%)
July	294	94 (32%)	70 (23.8%)	60 (20.4%)	70 (23.8%)
August	304	117 (38.5%)	64 (21%)	67 (22%)	56 (18.5%)
September	328	115 (35%)	72 (22%)	68 (21%)	73 (22%)
October	381	136 (35.7%)	97 (25.4%)	72 (18.9%)	76 (20%)
November	383	158 (40%)	86 (22.5%)	76 (20%)	68 (17.5%)

LESS THAN 50 CYCLES

Call signal	Transmitter location, studio location in parentheses	Call signal	Transmitter location, studio location in parentheses
KELW	Burbank, Calif.	KRMD	Shreveport, La.
KFAB	Lincoln, Nebr.	KSAC	Manhattan, Kans.
KFAC	Los Angeles, Calif.	KSD	St. Louis, Mo.
KFBK	Sacramento, Calif.	KSL	Salt Lake City, Utah.
KFDM	Beaumont, Tex.	KSO	Clarinda, Iowa.
KFEL	Denver, Colo.	KSTP	Radio Center, Minn. (St. Paul).
KFEQ	St. Joseph, Mo.	KTAR	Phoenix, Ariz.
KFI	Los Angeles, Calif.	KTBR	Portland, Ore.
KFJI	Astoria, Ore.	KTBS	Shreveport, La.
KFKX-KYW	Bloomington, Ill. (Chicago).	KTM	Santa Monica, Calif. (Los Angeles).
KFLV	Rockford, Ill.	KTRH	Houston, Tex.
KFOR	Lincoln, Nebr.	KTSM	El Paso, Tex.
KFPY	Spokane, Wash.	KVOO	Tulsa, Okla.
KFQU	Alma-Holy City, Calif.	KVOS	Bellingham, Wash.
KFSG	Los Angeles, Calif.	KWKH	Kennonwood, La. (Shreveport).
KFUO	Clayton, Mo.	KWLC	Decorah, Iowa.
KFVD	Culver City, Calif.	KXA	Seattle, Wash.
KFWB	Hollywood, Calif.	WAAB	Lexington, Mass.
KFXF	Denver, Colo.	WAAF	Chicago, Ill.
KFYR	Bismarck, N. Dak.	WAPI	Birmingham, Ala.
KGB	San Diego, Calif.	WASH	Grand Rapids, Mich.
KGBZ	York, Nebr.	WBAA	West Lafayette, Ind.
KGEF	Los Angeles, Calif.	WBAK	Harrisburg, Pa.
KGER	Long Beach, Calif.	WBEM	Glenview, Ill. (Chicago).
KGFJ	Los Angeles, Calif.	WBEN	Martinsville, N. Y. (Buffalo).
KGIZ	Grant City, Mo.	WBEO	Marquette, Mich.
KGNO	Dodge City, Iowa.	WBSS	Needham, Mass.
KGO	Oakland, Calif. (San Francisco).	WBT	Charlotte, N. C.
KGW	Faloma, Ore. (Portland).	WBZ	Millis Township, Mass. (Boston).
KHQ	Spokane, Wash.	WBZA	Do.
KLX	Oakland, Calif.	WCAM	Camden, N. J.
KLZ	Denver, Colo.	WCAO	Baltimore, Md.
KMED	Medford, Ore.	WCBM	Do.
KMJ	Fresno, Calif.	WCCO	Anoka, Minn. (Minneapolis).
KMO	Tacoma, Wash.	WCFL	Chicago, Ill.
KMOX	St. Louis, Mo.	WCKY	Crecent Springs, Ky. (Cvbington).
KMPC	Beverly Hills, Calif.	WCSS	Scarboro, Me. (Portland).
KMTR	Los Angeles, Calif.	WDAE	Tampa, Fla.
KOAC	Corvallis, Ore.	WDBJ	Roanoka, Va.
KOIL	Council Bluffs, Iowa.	WDEL	Wilmington, Del.
KOYO	Harbor Island, Wash. (Seattle).	WDOD	Brainerd, Tenn. (Chattanooga).
KPO	Phoenix, Ariz.	WDRC	Bloomfield, Conn. (Hartford).
KPPC	San Francisco, Calif.	WEAI	Ithaca, N. Y.
KRLD	Pasadena, Calif.	WEAN	Providence, R. I.
	Dallas, Tex.	WEDC	Chicago, Ill.
		WEEL	Weymouth Mass. (Boston).

LESS THAN 50 CYCLES—Continued

Call signal	Transmitter location, studio location in parentheses	Call signal	Transmitter location, studio location in parentheses
WENR	Downers Grove, Ill. (Chicago).	WLBZ	Bangor, Me.
WEVD	Forest Hills, N. Y. (New York City).	WLQE	Chelsea, Mass. (Boston).
WFAA	Grapevine, Tex. (Dallas).	WLS	Downers Grove, Ill. (Chicago).
WFBL	Collamer, N. Y. (Syracuse).	WLW	Mason, Ohio (Cincinnati).
WFI	Philadelphia, Pa.	WMAL	Washington, D. C.
WGCM	Mississippi City, Miss. (Gulfport).	WMBC	Detroit, Mich.
WGES	Chicago, Ill.	WMBI	Addison, Ill. (Chicago).
WGN	Elgin, Ill. (Chicago).	WNBH	Fair Haven, Mass. (New Bedford).
WGR	Amherst, N. Y. (Buffalo).	WOAI	Selma, Tex. (San Antonio).
WGY	Schenectady, N. Y.	WOC	Davenport, Iowa.
WHAM	Rochester, N. Y.	WODA	Paterson, N. J.
WHAS	Louisville, Ky.	WOKO	Albany, N. Y.
WHAZ	Troy, N. Y.	WOL	Washington, D. C.
WHB	Kansas City, Mo.	WOW	Omaha, Nebr.
WHDE	Gloucester, Mass. (Boston).	WPCC	Chicago, Ill.
WHN	New York, N. Y.	WPOR	Norfolk, Va.
WHO	Des Moines, Iowa.	WTAR	Raleigh, N. C.
WIBO	Desplaines, Ill. (Chicago).	WPTF	Vicksburg, Miss.
WIBW	Topeka, Kans.	WQBC	Philadelphia, Pa.
WILL	Urbana, Ill.	WRAX	Gainesville, Fla.
WIMM	Carrcroft-Edgemoor, Del. (Wilmington).	WRUF	Fall River, Mass.
WISN	Milwaukee, Wis.	WSAR	Atlanta, Ga.
WJAG	Norfolk, Nebr.	WSB	Nashville, Tenn.
WJAX	Jacksonville, Fla.	WSM	New Orleans, La.
WJBO	New Orleans, La.	WSMB	Iowa City, Iowa.
WJMS	Ironwood, Mich.	WSUI	Buffalo, N. Y.
WJZ	Bound Brook, N. J. (New York City).	WSSV	Quincy, Ill.
WKBF	Clermont, Ind. (Indianapolis).	WTAD	Worcester, Mass.
WKBH	La Crosse, Wis.	WTAG	Brecksville Village, Ohio (Cleveland).
WKRC	Cincinnati, Ohio.	WTAM	Brookfield, Wis. (Milwaukee).
WKZO	Kalamazoo, Mich.	WTMJ	Detroit, Mich.
WLAP	Louisville, Ky.	WWJ	

LESS THAN 100 CYCLES

KDKA	Saxonburg, Pa. (Pittsburgh).	WDBO	Orlando, Fla.
KELW	Burbank, Calif.	WDSU	Gretna, La. (New Orleans).
KFBB	Great Falls, Mont.	WEAF	Bellmore, N. Y. (New York City).
KFJZ	Fort Worth, Tex.	WEPS-	Auburn, Mass. (Worcester).
KFKU	Lawrence, Kans.	WORC	
KFNF	Shenandoah, Iowa.	WFAN-	Philadelphia, Pa.
KFOX	Long Beach, Calif.	WIP	
KFSD	San Diego, Calif.	WFOK	Brooklyn, N. Y.
KGCA	Decorah, Iowa.	WHAP	New York, N. Y.
KHJ	Los Angeles, Calif.	WHK	Village of Seven Hills, Ohio (Cleveland).
KICK	Red Oak, Iowa.	WHP	Lemoyno, Pa. (Harrisburg).
KMA	Shenandoah, Iowa.	WJBW	New Orleans, La.
KMBC	Independence, Mo. (Kansas City)	WJJD	Mooseheart, Ill.
KMLB	Monroe, La.	WJKS	Gary, Ind.
KMMJ	Clay Center, Nebr.	WJR	Sylvan Lake Village, Mich. (Detroit).
KNX	Los Angeles, Calif. (Hollywood).	WJSV	Mount Vernon Hills, Va. (Alexandria)
KOA	Denver, Colo.	WKBB	Joliet, Ill.
KOH	Reno, Nev.	WKBI	Chicago, Ill.
KOL	Seattle, Wash.	WKBN	Youngstown, Ohio.
KPCB	Do.	WKY	Oklahoma City, Okla.
KSOO	Sioux Falls, S. Dak.	WLAC	Nashville, Tenn.
KTAB	Oakland, Calif. (San Francisco).	WMAQ	Addison, Ill. (Chicago).
KTAT	Birdville, Tex. (Fort Worth).	WMMN	Fairmont, W. Va.
KTFI	Twin Falls, Idaho.	WMPC	Lapeer, Mich.
KTHS	Hot Springs, Ark.	WMSG	New York, N. Y.
KUJ	Walla Walla, Wash.	WMT	Waterloo, Iowa.
KUOA	Fayetteville, Ark.	WNAX	Yankton, S. Dak.
KUWJ	Portland, Oreg.	WOI	Ames, Iowa.
KWK	Kirkwood, Mo. (St. Louis).	WOR	Kearny, N. J. (Newark).
KXO	El Centro, Calif.	WOWO	Fort Wayne, Ind.
KYA	San Francisco, Calif.	WPG	Atlantic City, N. J.
WAAM	Newark, N. J.	WRC	Washington, D. C.
WADC	Tallmadge, Ohio.	WREC	Whitehaven, Tenn. (Memphis).
WAWZ	Zarepath, N. J.	WRHM	Fridley, Minn. (Minneapolis).
WBAL	Glen Morris, Md. (Baltimore).	WRNY	Coyetsville, N. J. (New York City).
WBAP	Grapevine, Tex. (Fort Worth).	WRR	Dallas, Tex.
WBNX	New York, N. Y.	WSBO	Chicago, Ill.
WCAJ	Lincoln, Nebr.	WSFA	Montgomery, Ala.
WCAU	Byberry, Pa. (Philadelphia).	WTAQ	Washington, Wis. (Eau Claire).
WCDA	Cliffside, N. J. (New York City).	WTAW	College Station, Tex.
WCHI	Deerfield, Ill. (Chicago).	WTWC	Mount A von, Conn. (Hartford).
WCLS	Joliet, Ill.	WVVA	Wheeling, W. Va.
WCRW	Chicago, Ill.	WXYZ	Detroit, Mich.
WDAY	Fargo, N. Dak.		

LESS THAN 200 CYCLES

Call signal	Transmitter location, studio location in parentheses	Call signal	Transmitter location, studio location in parentheses
KBPS	Portland, Oreg.	WBCM	Bay City, Mich.
KDYL	Salt Lake City, Utah.	WCBA	Allentown, Pa.
KECA	Los Angeles, Calif.	WCBD	Zion, Ill.
KEX	Portland, Oreg.	WCBS	Springfield, Ill.
KFJB	Marshalltown, Iowa.	WCMA	Culver, Ind.
KFJF	Oklahoma City, Okla.	WCOA	Pensacola, Fla.
KFJR	Portland, Oreg.	WCOB	Harrisburg, Pa.
KFRG	San Francisco, Calif.	WDAF	Kansas City, Mo.
KFRU	Columbia, Mo.	WDZ	Tuscola, Ill.
KFWF	St. Louis, Mo.	WELK	Philadelphia, Pa.
KFWI	San Francisco, Calif.	WFBR	Baltimore, Md.
KFXM	San Bernardino, Calif.	WFIW	Hopkinsville, Ky.
KFXV	Flagstaff, Ariz.	WGAR	Cuyahoga Heights, Ohio (Cleveland).
KGA	Spokane, Wash.	WGAB	Evansville, Ind.
KGGC	San Francisco, Calif.	WHA	Madison, Wis.
KGGF	Coffeyville, Kans.	WHAD	Milwaukee, Wis.
KGGM	Albuquerque, N. Mex.	WHBY	West de Pere, Wis. (Green Bay).
KGJF	Little Rock, Ark.	WHFC	Cicero, Ill.
KGKO	Wichita Falls, Tex.	WIBA	Madison, Wis.
KGKY	Scottsbluff, Nebr.	WJAR	Providence, R. I.
KGNF	North Platte, Nebr.	WJAS	Pittsburgh, Pa.
KID	Idaho Falls, Idaho.	WJTL	Oglethorpe University, Ga.
KJR	Seattle, Wash.	WKBW	Amherst, N. Y. (Buffalo).
KLS	Oakland, Calif.	WMC	Bartlett, Tenn. (Memphis).
KRE	Berkeley, Calif.	WMCB	Hoboken, N. J. (New York City).
KREG	Santa Ana, Calif.	WOOD	Furnwood, Mich. (Grand Rapids).
KROW	Richmond, Calif. (Oakland).	WOQ	Kansas City, Mo.
KSCJ	Sioux City, Iowa.	WOS	Jefferson City, Mo.
KSEI	Pocatello, Idaho.	WPAP	Cliffside, N. J. (New York City).
KVI	Des Moines, Iowa (Tascoma).	WQAO	
KWQ	Stockton, Calif.	WPAW	Pawtucket, R. I.
KWSC	Pullman, Wash.	WPCH	Hoboken, N. J. (New York City).
KXL	Portland, Oreg.	WPRO	Providence, R. I.
KXYZ	Houston, Tex.	WREN	Lawrence, Kans.
WAAW	Omaha, Nebr.	WRVA	Mechanicsville, Va. (Richmond).
WABC	Wayne, N. J. (New York City).	WSAI	Mason, Ohio (Cincinnati).
WACO	Waco, Tex.	WWAE	Hammond, Ind.
WAIU	Columbus, Ohio.	WWL	New Orleans, La.
WBBC	Brooklyn, N. Y.		

LIST OF CUBAN AMATEUR STATIONS

Call signal	Owner	Street address	Location	Frequency		Power (watts)
				Kilo-cycles	Meters	
CM-1FM	Julian Machado	Aramburu número 5	Guanajay	18,950	21.5	100
CM-2AR	Alfredo Rosell	Campanario número 145	Habana	14,347	20.9	7.5
CM-2AY	César Fernández	Real 101	Marianao	7,220	41.5	7.5
CM-2CF	Victor Coullard	Camp. Columbia 30-B	do	7,257	41.2	7.5
CM-2FC	Fernando Capestany	Godínez "E" Buena Vista	do	7,152	41.9	7.5
CM-2GR	Gustavo Rodríguez	19 número 494, Vedado	Habana	7,220	41.5	7.5
CM-2GU	Luis Guyón	Santa Emilia 112, Santos Suárez	do	7,135	42	20
CM-2GZ	Jorge L. González	Máximo Gómez 49, altos	do	7,300	41	7.5
CM-2IQ	José Fernández	Real 89	Marianao	7,257	41.2	7.5
CM-2JM	Justo Mahía	Sitios número 65	Habana	7,152	41.9	7.5
CM-2JT	José A. Terry	B entre 13 y Fuentes	Marianao	14,277	21	75
CM-2KW	Carlos Albuquerque	Goicuría número 24, Víbora	Habana	7,152	41.9	7.5
CM-2LA	Enrique Lasanta (C. L. R.)	8 entre 21 y 23, Vedado	do	7,000	42.8	250
CM-2MD	Marino Díaz Quiñones	Padre Varela número 120	do	7,300	41	20
CM-2MK	R. V. Watters	Avenida de Italia 29	do	7,170	41.8	100
CM-2MM	Antonio Sarasola	Emilio Sola 5, Pogolotti	Marianao	7,135	42	30
CM-2QY	Alberto Giró	3 * entre 14 y 16	do	7,220	41.5	15
CM-2RA	Rigoberto Alvarez	San José número 216	Habana	14,277	21	7.5
CM-2RC	Radio Club de Cuba	Genios 23 altos	do	7,220	41.5	15
CM-2RZ	Nestor Rodríguez	Cárdenas número 55	do	7,152	41.9	7.5
CM-2SC	José del Salto	General Suárez número 126	do	12,950	21.5	250
CM-2SF	Eusebio Solís	Artes 93, Casa Blanca	do	7,207	41.6	7.5
CM-2SH	Silvio Hernández	H número 184, Vedado	do	7,170	41.8	7.5
CM-2SV	Sergio Valdés Rodríguez	Aguiar número 19-A	do	7,135	42	10

LIST OF CUBAN AMATEUR STATIONS—Continued

Call signal	Owner	Street address	Location	Frequency		Power (watts)
				Kilo-cycles	Meters	
CM-2VM	Eliecer Valdés Mayo.....	Factoria número 27, altos.	do	7,220	41.5	7.5
CM-2WA	Ezequiel Santos.....	Cristina número 12.....	do	14,140	21.2	7.5
CM-2WD	Pedro Madiedo.....	Santa Rosa A.....	Marianao.....	7,135	42	10
CM-2WW	Amadeo Saenz de Calahorra.	Marina Número 2.....	Habana.....	7,130	42.1	50
CM-2XA	Alfredo Rosell.....	Campanario número 145.	do	7,292	41.1	150
CM-2XC	Alexander Strang.....	M. F. de Castro s/n.....	do	7,220	41.5	5
CM-2XK	Raúl Karman.....	Rayo 67.....	do	7,135	42	15
CM-5AZ	Ernesto V. Figueroa.....	Independencia 130.....	Matanzas.....	7,257	41.2	7.5
CM-5CX	José Alfonso.....	Diago número 73.....	Colon.....	14,277	21	50
CM-5EA	Eleazar A. Togores.....	Domingo Mujica número 61.	Matanzas.....	7,220	41.5	7.5
CM-5EN	Escuela Normal.....	Tello Lamar 41.....	do	7,257	41.2	7.5
CM-5FC	Félix U. Casas.....	Emilio Blanchet número 19.	do	7,207	41.6	7.5
CM-5FL	Francisco Díaz Agramonte.	Santa Catalina 16.....	Pedro Betancourt.	7,170	41.8	7.5
CM-5IM	Félix U. Casas.....	Tello Lamar 60.....	Matanzas.....	7,257	41.2	7.5
CM-5NI	Julio C. Oyarzabal.....	Martí número 52.....	Pedro Betancourt.	7,300	41	15
CM-5PM	Pastor Morejón.....	Maceo número 101.....	Matanzas.....	7,135	42	10
CM-5RY	Bernabé R. de la Torre.....	General Betancourt número 105.	do	14,277	21	7.5
CM-6BX	Luis D. Elizondo.....	Hourruitiner número 23.	Cienfuegos.....	7,292	41.1	10
CM-6CP	Carlos M. Carbonell.....	Gacel número 41.....	do	7,135	42	20
CM-6DW	Eduardo Terry.....	San Carlos 107.....	do	7,300	41	10
CM-6SG	Ramberto Sánchez.....	Candelaria número 16.....	Santa Clara.....	7,220	41.5	7.5
CM-7CX	Leonard B. Fox.....	Central Florida.....	Florida.....	7,220	41.5	15
CM-7DW	M. L. de Quintana.....	Central Tacajó.....	Tacajó.....	7,207	41.6	10
CM-7JQ	Leonard B. Fox.....	Central Florida.....	Florida.....	14,277	21	5
CM-7SH	Domingo Caymares.....	Augusto Arango 31.....	Nuevas.....	7,257	41.2	15
CM-8AZ	James Connor Blume.....	Estación Naval.....	Guantanamo.....	7,135	42	150
CM-8BY	Alberto Ravelo.....	Ave. Manduley ent. 1 y 3.	Santiago de Cuba.	7,300	41	30
CM-8HS	Guillermo Polanco.....	M. Corona, Baja 16.....	do	7,000	42.8	100
CM-8MN	Melchor Agüero.....	General Escario número 111.	do	7,135	42	50
CM-8OL	Luis C. Greco.....	San Bartolomé 32.....	do	7,300	41	50
CM-8UF	Earle D. Byer.....	Estación Naval.....	Guantanamo.....	14,277	21	300
CM-8YB	B. V. Greer.....	do.....	do	7,300	41	100

PRELIMINARY NOTE ON AN AUTOMATIC RECORDER GIVING A CONTINUOUS HEIGHT RECORD OF THE KENNELLY-HEAVISIDE LAYER

In a paper of the above title, by T. R. Gilliland and G. W. Kenrick, Research Paper 373, Bureau of Standards Journal of Research, November, 1931, a description is given of a preliminary installation of a recorder which gives a continuous automatic record of the height of the Kennelly-Heaviside layer. The pulse signal or group retardation method is employed with modifications which permit a continuous record to be made. Suggestions are made for improvements which might be incorporated in a permanent installation. Reprint copies of this paper will be available within a few weeks and may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C. The price will be quoted by that office on application.