

**UNITED STATES DEPARTMENT OF COMMERCE  
RADIO DIVISION**

# 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.
- 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.
- Hours =Hours of operation: N=continuous service, X=no regular hour, Y=sunrise to sunset.
- Accounts =Message accounts settled by.
- I. R. T. Co. =Intercity Radio Telegraph Co.
- I. W. T. Co. =Independent Wireless Telegraph Co.
- 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.
- O. w. =Continuous wave.
- I. c. w. =Interrupted continuous wave.
- A. c. =Alternating current.
- V. t. =Vacuum tube.
- M. a. =Meters-amperes.
- U. S. L. =Applies only to the list of Commercial and Government Radio Stations of the United States.
- Δ =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, 1929, 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  |
|---|--------|-------------|---|---------|-------|--|
| Avalon (Catalina Island), Calif. <sup>1</sup> | FX     | KGTM        | 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (42.24), 8,075 (37.43), 12,180 (24.63) | FA      | X     | Western Air Express (Inc.).                            |
| Chicago, Ill. <sup>2</sup>                    | FX     | WPGB        | 1,722 (175.2)   | P       | X     | Chicago Police Department.                             |
| Do. <sup>2</sup>                              | FX     | WPDC        | do.   | P       | X     | Do.  |
| Do. <sup>2</sup>                              | FX     | WPDD        | do.   | P       | X     | Do.  |
| Larena, P. I. <sup>3</sup>                    | FC     | KAJ         | 263.2 (1,140), 310 (940), 402.7 (745), 500 (600), 545 (550)                             | FG      |       | Philippina Insular Government.                         |
| Monterey, Calif. <sup>4</sup>                 | FA, FX | KGKV        | 278 (1,080)   | P       | N     | Monterey Peninsula Airport.                            |
| Seattle, Wash. <sup>5</sup>                   | FX, FC | KGPA        | 1,596 (187.97), 2,416 (124.17)  | P       | X     | Seattle Police Department and Seattle Fire Department. |
| <i>Portable</i>                               |        |             |   |         |       |  |
| Third Radio Zone No. 43. <sup>6</sup>         | FX     | KGKN        | 1,690 (187.5), 1,652 (181.6), 1,664 (189.29), 1,680 (178.6), 1,704 (176.06)             | P       | X     | Geophysical Research Corporation.                      |
| Third Radio Zone No. 49. <sup>6</sup>         | FX     | KGKS        | do.   | P       | X     | Do.  |
| Third Radio Zone No. 50. <sup>6</sup>         | FX     | KGKT        | do.   | P       | X     | Do.  |
| Third Radio Zone No. 51. <sup>6</sup>         | FX     | KGKU        | do.   | P       | X     | Do.  |

<sup>1</sup> Type, A1 and A3.

<sup>2</sup> Type, A3.

<sup>3</sup> Type, A1 and A2; hours, daily 8 to 12 a. m., 2 to 5.30 p. m., Sundays and holidays 9 to 11 a. m., 2 to 3.30 p. m.; ship schedule 30-40 minutes of every hour; rates, 6 cents per word.

<sup>4</sup> Type, A1.

<sup>5</sup> Type, A2.

*Commercial ship stations, alphabetically, by name of vessels*

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, 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 accounts settled by— |
|--------------------|-------------|-----------------------------|---------|-------|-----------------------------------|------------------------------|
| Antares            | WODK        | 8                           | PG      | X     | H. M. Chance                      | Owner.                       |
| Betty Weems        | WODN        | 8                           | PG      | X     | Baltimore & Carolina Line (Inc.). |                              |
| Bicol <sup>1</sup> | KZAC        | 4                           | PG      | X     | Manila Railroad Co.               |                              |
| Dora Weems         | WACZ        | 8                           | PG      | X     | Baltimore & Carolina Line (Inc.). |                              |
| Frances Weems      | WODM        | 8                           | PG      | X     | do.                               |                              |
| Georganna Weems    | WODP        | 8                           | PG      | X     | do.                               |                              |
| Harriett           | WODI        |                             |         |       | H. Leslie Atlas                   |                              |
| Jean Weems         | WODQ        | 8                           | PG      | X     | Baltimore & Carolina Line (Inc.). |                              |
| Marjory Weems      | WODR        | 8                           | PG      | X     | do.                               |                              |
| Nancy Weems        | WODL        | 8                           | PG      | X     | do.                               |                              |
| Naushon            | WODS        | 8                           | PG      |       | New England S. S. Co.             | H. M. O. A.                  |
| Phantom III        | WODG        |                             |         |       | Thorne Donnelly                   | Owner.                       |
| Sahlou             | WODH        |                             |         |       | Dr. H. F. Hornbeck                |                              |
| Sugbu <sup>2</sup> | KZBB        | 4                           | PG      | X     | La Naviera Filipina (Inc.).       |                              |

<sup>1</sup> Type, A2; fy., 455 (600), 500 (600), 5,615 (53.43).

<sup>2</sup> Type, A2; fy., 400 (750), 462 (650), 500 (600).

*Commercial land and ship stations, alphabetically, by call signals*

| Call signal | Name of station                         | Call signal | Name of station        |
|-------------|---|-------------|------------------------|
| KAJ         | Larena, P. I. ....                      | WODI        | Harriett .....         |
| KGKR        | Third Radio Zone No. 48 (portable) ..fx | WODK        | Antares .....          |
| KGKS        | Third Radio Zone No. 49 (portable) ..fx | WODL        | Nancy Weems .....      |
| KGKT        | Third Radio Zone No. 50 (portable) ..fx | WODM        | Frances Weems .....    |
| KGKU        | Third Radio Zone No. 51 (portable) ..fx | WODN        | Betty Weems .....      |
| KGKV        | Monterey, Calif. ....                   | WODP        | Georgeanna Weems ..... |
| KGPA        | Seattle, Wash. ....                     | WODQ        | Jean Weems .....       |
| KGTM        | Avalon (Catalina Island), Calif. ....   | WODR        | Marjory Weems .....    |
| KZAO        | Bicol. ....                             | WODS        | Naushon .....          |
| KZBB        | Sugbu. ....                             | WPDB        | Chicago, Ill. ....     |
| WACZ        | Dora Weems .....                        | WPDC        | do .....               |
| WODG        | Phantom III. ....                       | WPDD        | do .....               |
| WODH        | Sahlou. ....                            |             |                        |

*Commercial aircraft stations, alphabetically, by names of craft*

[Additions to the List of Radio Stations of the United States, edition of June 30, 1929, and to the International List of Aircraft Stations published by the Berne bureau]

| Station              | Call signal | Frequency in kilocycles, meters in parentheses | Service | Hours | Owner   |
|----------------------|-------------|--|---------|-------|---|
| NC-100K <sup>1</sup> | KHEP        | 3,106 (96.58) .....                            |         |       | R. H. Jackson, Jr., 415 North Carroll Street, Madison, Wis. |
| NC-144M              | KHFO        | .....  |         |       | Pan American Airways.                                       |
| NC-145M              | KHFP        | .....  |         |       | Do.   |
| NC-146M              | KHPQ        | .....  |         |       | Do.   |
| NC-196H <sup>1</sup> | KHGA        | 3,106 (96.58) .....                            | PG      | N     | Curtiss Flying Service.                                     |
| NC-300N              | KHFR        | .....  |         |       | Pan American Airways.                                       |
| NC-8022 <sup>1</sup> | KHGB        | 3,106 (96.58) .....                            | PG      | N     | Curtiss Flying Service.                                     |
| (Unnamed)            | KHEO        | .....  |         |       | New York, Rio & Buenos Aires Line (Inc.).                   |

<sup>1</sup> Type, A1 and A3.

*Commercial aircraft stations, alphabetically, by call signals*

| Call signal | Name of station | Call signal | Name of station |
|-------------|-----------------|-------------|-----------------|
| KHEO        | (Unnamed.)      | KHFQ        | NC-146M.        |
| KHEP        | NC-100K.        | KHFR        | NC-300N.        |
| KHFO        | NC-144M.        | KHGA        | NC-196H.        |
| KHFP        | NC-145M.        | KHGB        | NC-8022.        |

*Government land stations, alphabetically, by name of station*

[Addition to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, 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       |
|--|-------|-------------|--|---------|-------|-------------|
| San Francisco, Calif. (Twelfth Naval District Reserve Unit). | fx    | NDH         | .....  | O       | ..... | U. S. Navy. |

*Government land and ship station, alphabetically, by call signal*

| Call signal | Name of station  |
|-------------|--|
| NDEH        | San Francisco, Calif. (Twelfth Naval District Reserve Unit). |

*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, 1929]

| Station                                 | Call signal    | Frequency in kilocycles, meters in parentheses   | Power (watts) | Owner   |
|---|----------------|--|---------------|---|
| Illinois: Elgin.....                    | W9XAM          | 4,975 (62.56).....   | 500           | Elgin National Watch Co.  |
| New York:<br>Mitchel Field.....         | W2XBG          | 414 (725).....   | 1,000         | Daniel Guggenheim Fund for the Promotion of Aeronautics, 598 Madison Avenue, New York, N. Y.              |
| Roosevelt Field.....                    | W2XCU          | 2,326 (128.97).....  | 100           | Roosevelt Field (Inc.), Mineola, N. Y.  |
| Ohio: Cleveland.....                    | W8XJ           | 1,608 (186.57), 1,688 (177.73), 2,362 (130.32), 2,734 (109.73), 3,088 (97.15), 3,452 (86.90), 3,492 (85.91), 4,108 (73.02), 4,180 (71.77), 4,765 (62.95), 4,785 (62.69), 5,510 (54.44), 5,570 (53.86), 6,155 (48.74), 6,235 (47.35). | 200           | R. G. A.-Ohio Co.   |
| <i>Portable</i>                         |                |  |               |   |
| Washington: Seattle<br>Truck No. 2..... | WYKAR<br>W10XX | 920 (326).....<br>3142 (95.45), 5,660 (53).....  | 500<br>50     | Fishers' Blend Station (Inc.)<br>Boeing Air Transport (Inc.),<br>200 West Michigan St.,<br>Seattle, Wash. |
| Truck No. 3.....                        | W10XY          | 3,142 (95.43), 5,660 (53).....   | 50            | Do.   |
| <i>Aircraft</i>                         |                |  |               |   |
| Aircraft (any of<br>N.A.T. (Inc.)).     | W10XW          | 1,608 (186.57), 1,688 (177.73), 2,362 (130.32), 2,734 (109.73), 3,076 (97.53), 3,452 (86.90), 3,492 (85.91), 4,108 (73.02), 4,180 (71.77), 4,765 (62.95), 4,785 (62.69), 5,510 (54.44), 5,540 (54.15), 5,570 (53.86), 5,630 (53.28). | 100           | National Air Transport (Inc.).  |
| NC-8013.....                            | W10XV          | 4,785 (62.69).....   | 50            | Roosevelt Field (Inc.), Mineola, N. Y.  |
| Parachute.....                          | W10XT          | 2,368 (126.68).....  | 1             | Do.   |

*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, 1929]

| Station                           | Call signal | Frequency in kilocycles, meters in parentheses | Power (watts) | Owner                            |
|-----------------------------------|-------------|--|---------------|----------------------------------|
| Massachusetts: East Spring-field. | W1XAE       | 9,570 (31.35).....                             | 10,000        | Westinghouse Electric & Mfg. Co. |

Visual 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, 1929]

| Station     | Call signal | Frequency in kilocycles, meters in parentheses                               | Power (watts) | Owner  |
|-------------|-------------|--|---------------|--|
| Airplane... | W10XU       | 2,000 (150) to 2,100 (142.9).....  | 10            | Jenkins Laboratories, 1519 Connecticut Ave., Washington, D. C.<br>C. Francis Jenkins, 1519 Connecticut Ave., Washington, D. C. |
| Do.....     | W10XZ       | 1,608 (186.57), 2,325 (129.03), 3,068 (97.15), 4,785 (62.69), 6,335 (47.35). | 6             |  |

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

| Call signal | District and station                         | Call signal   | District and station  |
|-------------|--|---|---|
| W1XAZ       | First district: East Springfield, Mass..     | W10XT<br>W10XU<br>W10XV<br>W10XW<br>W10XX<br>W10XY<br>W10XZ | Aircraft:<br>Parachute.<br>Airplane.<br>NC-8013.<br>Aircraft (any of N. A. T. (Inc.)).<br>Truck No. 2.<br>Truck No. 3.<br>Airplane. |
| W2XBG       | Second district:<br>Mitchel Field, N. Y..... |   |   |
| W2XCV       | Roosevelt Field, N. Y.....                   |   |   |
| W7XAR       | Seventh district: Seattle, Wash. (portable). |   |   |
| W8XJ        | Eighth district: Cleveland, Ohio.....        |   |   |
| W9XAM       | Ninth district: Elgin, Ill.....              |   |   |

RADIOBEACON STATIONS

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Stations Performing Special Services published by the Berne bureau]

*Huron Island Light Station, Mich.*—Loc. 87° 59' 55" W., 46° 57' 48" N. Transmits every 180 seconds, groups of 1 dash, 1 dot, and 1 dash for 60 seconds, silent 120 seconds, thus:



Fy., 302 (993 m.); hours, continuously during thick or foggy weather and daily in clear weather from 11.45 to 12 a. m., 3 to 3.30 and 9 to 9.30 a. m. and p. m., central standard time.

*Eagle Harbor Light Station, Mich.*—Loc. 88° 09' 32" W., 47° 27' 35" N. Transmits every 180 seconds, groups of 1 dot, and 3 dashes for 60 seconds, silent 120 seconds, thus:



Fy., 302 (993 m.); hours, continuously during thick or foggy weather and daily in clear weather from 11.45 to 12 a. m., 3.30 to 4 and 9.30 to 10 a. m. and p. m., central standard time.

*Michigan Island Light Station, Wis.*—Loc. 90° 29' 48" W., 46° 52' 17" N. Transmits every 180 seconds, groups of 1 dot, and 2 dashes for 60 seconds, silent 120 seconds, thus:



Fy., 286 (1,049 m.); hours, continuously during thick or foggy weather and daily in clear weather from 11.45 to 12 a. m., 2 to 2.30 and 8 to 8.30 a. m. and p. m., central standard time.

*Rock of Ages Light Station, Mich.*—Loc. 89° 18' 52" W., 47° 52' 00" N. Transmits every 180 seconds, groups of 2 dashes, and 2 dots for 60 seconds, silent 120 seconds thus:



Fy., 286 (1,049 m.); hours, continuously during thick or foggy weather and daily in clear weather from 11.45 to 12 a. m., 1.30 to 2 and 7.30 to 8 a. m. and p. m., central standard time.

## 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, 1929, and to the International List of Fixed and Land Stations, published by the Berne bureau]

- ALBUQUERQUE, N. MEX. (KGSB).—Type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- AMARILLO, TEX.—Type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- BOSTON, MASS. (WMP).—Loc., changed to Framingham, Mass.
- BROWNSVILLE, TEX.—Type, A1 and A3; fy., 278 (1,080), 2,662 (112.70), 3,070 (97.71), 5,690 (52.72), 8,015 (37.43).
- CHICAGO, ILL. (WJA).—Fy., change 9,755 (30.75) to 7,955 (37.72).
- CLEVELAND, OHIO (WRBH).—Type, A3; fy., 1,712 (175.23); hours, X.
- DEL RIO, TEX.—Loc., changed to Seligman, Ariz.; type, add A2 and A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- EL PASO, TEX. (KGSB).—Type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- GUAM, GUAM (KDC).—Type, A1, A2, and A3; fy., change 22,600 (13.274) to 22,660 (13.239).
- HIALEAH, FLA., RADIO.—Fy., change 53.45 (5,612) to 55 (5,450).
- HOLBROOK, ARIZ.—Type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- HONOLULU, HAWAII (KGS).—Fy., change 22,640 (13.251) to 22,660 (13.239).
- INDIANAPOLIS, IND. (WMDZ).—Type, A3.
- KAHUKU, HAWAII (KGI).—Owner, R. C. A. Communications (Inc.).
- KAHUKU, HAWAII (KLE).—Owner, R. C. A. Communications (Inc.).
- KANSAS CITY, MO.—Type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- KINGMAN, ARIZ. (KGTL).—Type, A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- LAS VEGAS, NEV.—Type, add A1 and A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- LITTLE NECK, N. Y. (WJP).—Fy., add 15,850 (18.927).
- LITTLE NECK, N. Y. (WJQ).—Fy., add 15,670 (19.145).
- LORDSBURG, N. MEX.—Loc., changed to Denver, Colo.; fy., add A2 and A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- LOS ANGELES, CALIF. (KGTL).—Type, add A2 and A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- LOS ANGELES, CALIF. (KGX).—Fy., change 22,640 (13.251) to 22,660 (13.239).
- MARION, MASS. (WRQ).—Owner, R. C. A. Communications (Inc.).
- MARQUETTE, MICH.—Loc., changed to Ishpeming, Mich.
- MIAMI, FLA. (WNDA).—Type, A3.
- MUSSELROCK, CALIF. (KGQ).—Fy., change 22,640 (13.251) to 22,660 (13.239).
- NEW BRUNSWICK, N. J. (WAZ).—Owner, R. C. A. Communications (Inc.).
- NEW YORK, N. Y. (WGA).—Fy., add 7,437.5 (40.34), 14,875 (20.175); change 22,640 (13.251) to 22,660 (13.239).
- OAKLAND, CALIF. (KGSB).—Type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- PALO ALTO, CALIF. (NEAR), RADIO (KFS).—Fy., change 109 (2,752) to 107 (2,804).
- PASADENA, CALIF.—Loc., (approximately) 118° 00' 00" W., 34° 10' 00" N.
- PHILADELPHIA, PA., RADIO (WNW).—Type, A1 and A2; hours, N.
- PHILADELPHIA, PA. (WPDP).—Type, A3; fy., 1,712 (175.23); hours, X.
- PHOENIX, ARIZ. (KGSB).—Type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- PORT ARTHUR, TEX. RADIO.—Service, add PR.
- PUEBLO, COLO.—Type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- ROCKY POINT, N. Y. (WQG).—Owner, R. C. A. Communications (Inc.).
- SALT LAKE CITY, UTAH (KGTH).—Type, add A2 and A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- SAN DIEGO, CALIF. (KGSX).—Type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).
- SEATTLE, WASH. (KGR).—Fy., add 7,437.5 (40.34), 14,875 (20.175); change 22,640 (13.251) to 22,660 (13.239).

TUCKERTON, N. J. (WCI).—Owner, R. C. A. Communications (Inc.).  
 TUCKERTON, N. J. (WGG).—Owner, R. C. A. Communications (Inc.).  
 TULARE, CALIF.—Loc. (approximately), 120° 15' 00" W., 36° 10' 40" N.; type, A1 and A3; fy., 1,712 (175.23); hours, X.  
 WICHITA, KANS.—Type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).  
 YUMA, ARIZ.—Loc., changed to Dodge City, Kans.; type, add A3; fy., 278 (1,080), 3,070 (97.71), 3,460 (86.70), 6,350 (47.24), 8,015 (37.43), 12,180 (24.63).  
 Strike out all particulars of the following-named stations: Jackson Heights, N. Y.; Honolulu, Hawaii (KYB); Kaumapalapau, Hawaii; Pirate Cove, Alaska; Port Warde, Alaska; Vancouver, Wash.

## 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, 1929, and to the International List of Ship Stations, published by the Berne bureau]

CAMPEADOR.—Owner, Panabutan Lumber & Plantation Co.  
 CARPLAKA.—Owner, American Scantic Line.  
 CEDARHURST.—Owner, Spencer Kellogg & Sons.  
 CHIPPEWA.—Owner, Standard Dredging Co.  
 DOROTHY CAHILL.—Owner, Christenson S. S. Co.  
 EDITOR.—Accounts, R. M. C. A.  
 E. J. NICKLOS.—Owner, Continental S. S. Co.  
 ELTON HOYT II.—Owner, Interlake S. S. Co.  
 FAYETTE BROWN.—Owner, Interlake S. S. Co.  
 F. ESCANO.—Hours, X.  
 GARNET HULINGS.—Owner, Continental S. S. Co.  
 GEORGIAN (WACF).—Name changed to San Gabriel.  
 HARRY W. CROFT.—Owner, Interlake S. S. Co.  
 HARVEY H. BROWN.—Owner, Interlake S. S. Co.  
 INVINCIBLE.—Accounts, R. M. C. A.  
 JEFF DAVIS.—Accounts, R. M. C. A.  
 JOHN W. WEEKS.—Owner, Inland Waterways Corporation.  
 LUZON.—Fy., add 429 (700); owner, Compania Maritima.  
 ORLEANS.—Name changed to San Pedro.  
 OSCEOLA.—Name changed to Commercial Floridian; owner, Commercial Courier S. S. Co.  
 POTTER.—Accounts, R. M. C. A.  
 REDBIRD.—Name changed to Mundolphin.  
 RUTH ALEXANDER.—Owner, Dollar S. S. Line.  
 SALVATION LASS.—Owner, Mississippi Shipping Co.  
 SAN CARLOS.—Hours, X.  
 SAUGERTIES.—Owner, Mississippi Shipping Co.  
 W. B. FOSHAY.—Owner, Citizens Light, Power & Water Co.  
 WEST KEATS.—Name changed to San Vincente.  
 WEST MINGO.—Name changed to San Clemente.  
 WEST NOSSKA.—Accounts, R. M. C. A.  
 WEST SAGINAW.—Accounts, R. M. C. A.  
 WILLWELLO.—Name changed to San Felipe.  
 YLOILO.—Hours, X.  
 Strike out all particulars of the following-named vessels: Achilles, Carissima, Don Jose, Gloucester (KFYQ), Lanai, Louise (KFYP), Makaweli, Makena, Menominee, Mount Clay, Narwhal, Oceania Vance, Ouananiche, Princess Montagu, Samson (KGCY), Sunoco, Tamarack, IV, Virginia Express, Virginia Limited, Westerly, Wisconsin (KURS), Zaila.

## COMMERCIAL LAND AND SHIP STATIONS, ALPHABETICALLY, BY CALL SIGNALS

KEDR, read San Felipe; KFTK, read Mundolphin; KGSH, read Dodge City, Kans.; KGSL, read Seligman, Ariz.; KGSP, read Denver, Colo.; KGG, read Musselrock, Calif. (disregard notice in Bulletin for last month to change KGO to read Musselrock); KIDZ, read San Pedro; KORB, read San Clemente; KUGN, read Commercial Floridian; KUQK, read San Vincente; WACF, read San Gabriel; WAN, read Ishpeming, Mich.; WMP, read Framingham, Mass.; strike out all particulars following the call signals: KDBX, KDVP, KEG, KFBW, KFJS, KFYP, KFYQ, KGAQ, KGCJ, KGCQ, KGCY, KLH, KODL, KOX, KRQ, KURS, KYB, KZBW, WBDO, WECH, WECL, WHCS, WKDG, WKDP, WMAI, WMAO, WODJ, WTBU.

## 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, 1929, and to the International List of Aircraft Stations, published by the Berne bureau]

- C-4458 (KHAJ).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 C-5170 (KHAG).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 C-5358 (KHAI).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-4 (KHCA).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-5 (KHCB).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-6 (KHCC).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-7 (KHCD).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-8 (KHCE).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-9 (KHCF).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-10 (KHCG).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-11 (KHCH).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-12 (KHCI).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-14 (KH CJ).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 F-15 (KHCK).—Type, add A1 and A3; fy., 3,070 (97.71), 3,106 (96.58), 6,350 (47.24).  
 NC-75K (KHFK).—Type, A1, A2, and A3; fy., 333 (900), 375 (800), 414 (725), 457 (655), 500 (600), 2,662 (112.70), 3,070 (97.71), 3,106 (96.58), 5,690 (52.72).  
 NC-142M (KHFN).—Type, A1, A2, and A3; fy., 333 (900), 375 (800), 414 (725), 457 (655), 500 (600), 2,662 (112.70), 3,070 (97.71), 3,106 (96.58), 5,690 (52.72).  
 NC-810H (KHFD).—Fy., 333 (900), 500 (600), 2,662 (112.70), 3,070 (97.71), 5,690 (52.72).  
 NC-813H (KH FJ).—Type, A1, A2, and A3; fy., 333 (900), 375 (800), 414 (725), 500 (600), 2,662 (112.70), 3,070 (97.71), 3,106 (96.58), 5,690 (52.72).  
 NC-814H (KHFI).—Type, A1, A2, and A3; fy., 333 (900), 375 (800), 414 (725), 500 (600), 2,662 (112.70), 3,070 (97.71), 3,106 (96.58), 5,690 (52.72).  
 NC-9157 (KHEC).—Type, A1 and A3; fy., 333 (900), 375 (800), 414 (725), 500 (600), 3,106 (96.58).  
 NC-9688 (KHFL).—Type, A1 and A2; fy., 333 (900), 375 (800), 414 (725), 457 (655), 500 (600), 2,662 (112.70), 3,070 (97.71), 3,106 (96.58), 5,690 (52.72).  
 NC-9779 (KHRC).—Fy., 333 (900), 375 (800), 414 (725), 457 (655), 500 (600), 2,506 (119.7), 3,106 (96.58), 4,036 (74.33).  
 New York, N. Y. (WKDX).—Type, A1 and A3.  
 Strike out all particulars of the following-named station: NC-197H (KHFG).

## 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, 1929, and the International List of Broadcasting Stations published by the Berne bureau]

- KFBB (Havre, Mont.).—Loc., changed to Great Falls, Mont.  
 KFXM (Ontario, Calif.).—Owner, J. C. and E. W. Lee.  
 KG CX (Vida, Mont.).—Loc., changed to Wolf Point, Mont.; fy., 1,310 (229); power, 100 night, 250 day.  
 KGDR (San Antonio, Tex.).—Owner, Milam Radio Co. (Inc.).  
 KGDY (Oldham, S. Dak.).—Owner, J. Albert Loesch and George W. Wright.  
 KGGM (Albuquerque, N. Mex.).—Power, 250.  
 KGHI (Little Rock, Ark.).—Fy., 1,200 (250); power, 100.  
 KMJ (Fresno, Calif.).—Owner, James McClatchy Co.  
 KOIL (Council Bluffs, Iowa).—Power, 1,000.



KPCB (Seattle, Wash.).—Owner, Westcoast Broadcasting Co.  
 KPQ (Seattle, Wash.).—Owner, Westcoast Broadcasting Co.  
 KTAT (Fort Worth, Tex.).—Loc., changed to Birdville, Tex.  
 WBBM—WJBT (Glenview, Ill.).—Power, 25,000.  
 WBRC (Birmingham, Ala.).—Power, 500 night, 1,000 day.  
 WBSO (Wellesley Hills, Mass.).—Fy., 920 (326).  
 WFBL (Syracuse, N. Y.).—Owner, The Onondaga Co.; fy., 900 (333); power, 750.  
 WGST (Atlanta, Ga.).—Power, 250.  
 WHAS (Jefferson, Ky.).—Fy., 820 (366); power, 10,000.  
 WHBD (Bellefontaine, Ohio).—Loc., changed to Mount Orab, Ohio.  
 WIOD (Miami Beach, Fla.).—Add call signal WMBF.  
 WJDW (Emory, Va.).—Call changed to WEHC.  
 WKBV (Brookville, Ind.).—Loc., changed to Connersville, Ind.; power, 100 night, 150 day.  
 WKRC (Cincinnati, Ohio).—Owner, J. S. Boyd.  
 WLBZ (Bangor, Me.).—Power, 500.  
 WMT (Waterloo, Iowa).—Fy., 600 (500); power, 250.  
 WNAT (Philadelphia, Pa.).—Owner, Albert A. Walker.  
 WNBW (Carbondale, Pa.).—Power, 10.  
 WOI (Ames, Iowa).—Power, 3,500 normally, 5,000 experimentally.  
 WTAM (Cleveland, Ohio).—Loc., changed to Brecksville Village, Ohio; fy., 1,070 (280.4); power, 25,000 normally, 50,000 experimentally.  
 WTOG (Savannah, Ga.).—Fy., 1,260 (238.1); power, 500.  
 Strike out all particulars of the following-named stations: KWYO (Laramie, Wyo.); WMBM (Memphis, Tenn.).

#### GOVERNMENT LAND STATION, ALPHABETICALLY, BY NAME OF STATION

[Alteration and correction to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Fixed and Land Stations, published by the Berne bureau]

MADISON, Wis. (Ninth District Reserve District).—Loc., changed to Kansas City, Mo. (Ninth District Reserve Unit).

#### 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, 1929, and to the International List of Ship Stations, published by the Berne bureau]

KITTIWAKE.—Type, A1.

#### GOVERNMENT LAND AND SHIP STATION, ALPHABETICALLY BY CALL SIGNAL

NDP, read Kansas City, Mo. (Ninth District Reserve Unit); NONN, strike out all particulars; WZE, read Kakanak, Alaska) disregard notice in Bulletin for the last month to strike out all particulars).

#### EXPERIMENTAL 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, 1929]

##### CALIFORNIA:

Hollywood (W6XBQ).—Strike out all particulars.  
 Oakland (W6XAJ).—Strike out all particulars.  
 San Francisco (W6XBJ).—Strike out all particulars.  
 San Leandro (W6XBY).—Strike out all particulars.  
 Palo Alto (W6XV).—Fy., 99 (3,030), 150 (2,000), 375 (800) 500 (600), 23,060 (13,010), 24,000 (12.5), 25,000 (12), 27,200 (11.029), 28,500 (10.526), 30,000 (10), 75,000 (4).

COLORADO: Denver (W9XA).—Fy., 830 (360).

MASSACHUSETTS: Pittsfield (W1XU).—Strike out all particulars.

##### MICHIGAN:

Dearborn (W8XL).—Strike out all particulars.  
 Fordson (W8XR).—Strike out all particulars.

## NEW JERSEY:

Jersey City (W2XBY).—Type, A3; fy., 1,604 (187.03), 2,398 (125.1), 3,256 (92.5), 4,795 (62.57), 6,425 (46.7), 8,650 (34.68), 12,850 (23.35), 17,300 (17.341), 34,300 (8.75).

Jersey City (W2XCD).—Loc., changed to Passaic, N. J.

## NEW YORK:

Great Neck (W2XAN).—Strike out all particulars.

South Schenectady (W2XAD).—Fy., 15,340 (19.557); relay broadcasting only.

South Schenectady (W2XAF).—Fy., 9,530 (31.48); relay broadcasting only.

Yorktown Heights (W2XCF).—Strike out all particulars.

WASHINGTON: Everett (W7XS).—Strike out all particulars.

## PORTABLE:

CALIFORNIA (W6XG).—Fy., 790 (380).

CALIFORNIA: Los Angeles (W6XBF).—Strike out all particulars.

ILLINOIS: Chicago (W9XAK).—Fy., add 2,416 (124.17), 2,452 (122.35).

MASSACHUSETTS: Boston (W1XAG).—Strike out all particulars.

PORTABLE (W10XM).—Read Truck No. 1 (portable); fy., 3,142 (95.48), 5,660 (53).

## AIRCRAFT:

C-268 (W7XAA).—Strike out all particulars.

NC-9779 (W10XL).—Fy., 1,608 (186.5), 2,326 (128.97), 3,088 (97.15), 4,785 (62.69), 6,335 (47.35).

X-855E (W10XF).—Fy., 400 (750), 1,608 (186.57), 6,335 (47.35).

767 (W2XCA).—Fy., 2,302 (130.32), 4,108 (73.02), 5,510 (54.44), 6,155 (48.74).

## RELAY BROADCASTING STATION, BY NAME OF STATION

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1929]

NEW YORK: New York (W2XBR).—Read New York, N. Y. (portable).

## 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, 1929]

NEW JERSEY: Bound Brook (W2XBW).—Call changed to W3XAK.

NEW YORK: New York (W2XR).—Fy., 2,100 (142.9) to 2,200 (136.4), 2,850 (105.3) to 2,950 (101.69).

## 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, 1929, and to the International List of Stations Performing Special Services published by the Berne bureau]

*Detour Light Station, Mich.*—The diaphone and the radiobeacon are now synchronized for distance-finding purposes. The diaphone characteristic recurs at minute intervals and is so timed that every third minute the beginning of the diaphone blast or group of blasts occurs at the instant the radiobeacon starts to transmit on its "on" period. Likewise the end of the minute of radiobeacon transmission agrees exactly with the starting of the next characteristic blast or group of blasts of the diaphone. Masters of vessels equipped with a radio receiver capable of receiving at approximately 300 kilocycles (1,000 meters) such as the receiver of a radiocompass, may listen to the radiobeacon and with a watch note the time in seconds which elapses after the start or stop of an "on" period of the radiobeacon until the first sound of the diaphone blast or group of blasts is heard. By allowing approximately five seconds per mile the distance of the observer from the fog signal may be estimated. The error will usually be not more than 10 per cent of the total distance.

The Superintendent of Lighthouses, Detroit, Mich., would greatly appreciate reports from any vessel masters who may have an opportunity to make use of this method of determining "distance off".

## MISCELLANEOUS

## GENERAL ORDERS OF THE FEDERAL RADIO COMMISSION

*Alaskan station licenses extended (General Order No. 73, October 10, 1929).*— It is ordered: That all existing licenses and/or special authorizations covering the operation of coastal and point-to-point transmitting stations located in the Territory of Alaska, heretofore extended by the commission's General Order No. 72, are hereby extended to and will expire December 31, 1929.

*Provided, however, That this order shall not be deemed or construed as a finding or decision by the commission or as any evidence whatsoever that the continued use or operation of any such station after December 31, 1929, serves or will serve public interest, convenience, or necessity, or that public interest, convenience, or necessity would be served by the granting of any pending application for license or renewal of license, and the holder of any license or special authorization subject to this order who continues to use or operate any station during the period covered by this order shall be deemed to have consented to such condition.*

*Allocation of frequencies between 1,500 and 6,000 kilocycles (General Order No. 74, October 11, 1929).*—General Order No. 55 is hereby amended to read as follows:

The commission, in order to carry out the provisions of the radio act of 1927, having determined that public interest, convenience, or necessity requires the allocation of certain frequencies, within the band of frequencies between 1,500 and 6,000 kilocycles, to those services and classes of stations hereinafter enumerated, hereby enters the following order.

It is ordered:

**PARAGRAPH I.** That of those channels between 1,500 and 6,000 kilocycles, the following are hereby allocated to those services and classes of stations enumerated herein, for assignment to individual stations in conformity with this order. Each channel is specified by its center frequency.

(a) *Mobile services:*

1. Ship stations and/or coastal stations: 1,504\*, 1,503\*, 1,512\*, 1,516, 1,520, 1,524, 1,528, 1,532, 1,536, 1,540, 1,548, 1,552, 1,556, 1,560, 1,568, 1,572, 1,576, 1,580, 1,585, 1,592, 1,600, 1,672, 1,684, 1,708, 2,320, 2,332, 2,350, 2,380, 2,428, 2,446, 2,518, 2,524, 2,530, 2,536, 2,542, 2,554, 2,560, 2,566, 2,578, 2,584, 2,590, 2,596, 2,668, 2,692, 2,728, 2,740, 3,112, 3,118, 3,124, 3,130, 3,130, 3,420, 3,428, 3,436, 3,456, 3,464, 3,472, 3,480, 3,488, 3,496, 3,504, 3,512, 3,520, 3,528, 3,536, 3,544, 3,552, 3,560, 3,568, 3,576, 3,584, 3,592, 3,600, 3,608, 3,616, 3,624, 3,632, 3,640, 3,648, 3,656, 3,664, 3,672, 3,680, 3,688, 3,696, 3,704, 3,712, 3,720, 3,728, 3,736, 3,744, 3,752, 3,760, 3,768, 3,776, 3,784, 3,792, 3,800, 3,808, 3,816, 3,824, 3,832, 3,840, 3,848, 3,856, 3,864, 3,872, 3,880, 3,888, 3,896, 3,904, 3,912, 3,920, 3,928, 3,936, 3,944, 3,952, 3,960, 3,968, 3,976, 3,984, 3,992, 4,000, 4,008, 4,016, 4,024, 4,032, 4,040, 4,048, 4,056, 4,064, 4,072, 4,080, 4,088, 4,096, 4,104, 4,112, 4,120, 4,128, 4,136, 4,144, 4,152, 4,160, 4,168, 4,176, 4,184, 4,192, 4,200, 4,208, 4,216, 4,224, 4,232, 4,240, 4,248, 4,256, 4,264, 4,272, 4,280, 4,288, 4,296, 4,304, 4,312, 4,320, 4,328, 4,336, 4,344, 4,352, 4,360, 4,368, 4,376, 4,384, 4,392, 4,400, 4,408, 4,416, 4,424, 4,432, 4,440, 4,448, 4,456, 4,464, 4,472, 4,480, 4,488, 4,496, 4,504, 4,512, 4,520, 4,528, 4,536, 4,544, 4,552, 4,560, 4,568, 4,576, 4,584, 4,592, 4,600, 4,608, 4,616, 4,624, 4,632, 4,640, 4,648, 4,656, 4,664, 4,672, 4,680, 4,688, 4,696, 4,704, 4,712, 4,720, 4,728, 4,736, 4,744, 4,752, 4,760, 4,768, 4,776, 4,784, 4,792, 4,800, 4,808, 4,816, 4,824, 4,832, 4,840, 4,848, 4,856, 4,864, 4,872, 4,880, 4,888, 4,896, 4,904, 4,912, 4,920, 4,928, 4,936, 4,944, 4,952, 4,960, 4,968, 4,976, 4,984, 4,992, 5,000, 5,008, 5,016, 5,024, 5,032, 5,040, 5,048, 5,056, 5,064, 5,072, 5,080, 5,088, 5,096, 5,104, 5,112, 5,120, 5,128, 5,136, 5,144, 5,152, 5,160, 5,168, 5,176, 5,184, 5,192, 5,200, 5,208, 5,216, 5,224, 5,232, 5,240, 5,248, 5,256, 5,264, 5,272, 5,280, 5,288, 5,296, 5,304, 5,312, 5,320, 5,328, 5,336, 5,344, 5,352, 5,360, 5,368, 5,376, 5,384, 5,392, 5,400, 5,408, 5,416, 5,424, 5,432, 5,440, 5,448, 5,456, 5,464, 5,472, 5,480, 5,488, 5,496, 5,504, 5,512, 5,520, 5,528, 5,536, 5,544, 5,552, 5,560, 5,568, 5,576, 5,584, 5,592, 5,600, 5,608, 5,616, 5,624, 5,632, 5,640, 5,648, 5,656, 5,664, 5,672, 5,680, 5,688, 5,696, 5,704, 5,712, 5,720, 5,728, 5,736, 5,744, 5,752, 5,760, 5,768, 5,776, 5,784, 5,792, 5,800, 5,808, 5,816, 5,824, 5,832, 5,840, 5,848, 5,856, 5,864, 5,872, 5,880, 5,888, 5,896, 5,904, 5,912, 5,920, 5,928, 5,936, 5,944, 5,952, 5,960, 5,968, 5,976, 5,984, 5,992, 6,000.

2. Ship stations: 5,555, 5,615.

3. Coastal stations: 4,116, 4,148, 4,172, 4,188, 4,196, 4,756, 4,775, 5,675.

4. Mobile press stations: 5,645, east of Mississippi River; 5,555, west of Mississippi River.

5. Reserved for temporary mobile assignments only: 1,544, 1,564, 1,584, 2,368, 2,392, 2,476.

6. Portable stations: 1,600, 1,652, 1,664, 1,680, 1,704.

7. Emergency police: 1,712, 2,416, 2,452.

8. Emergency fire (marine): 1,596.

9. Reserved for special mobile services other than portable: 2,410, 2,422, 2,440, 2,458, 2,470.

10. Aircraft and/or aeronautical stations: 1,608, 1,642, 1,616, 1,620, 1,624, 1,628, 1,632, 1,636, 1,640, 1,644, 1,648, 1,656, 1,668, 1,676, 1,688, 2,302, 2,326, 2,344, 2,362, 2,374, 2,432, 2,506, 2,608, 2,614, 2,620, 2,626, 2,632, 2,638, 2,644, 2,650, 2,662, 2,680, 2,698, 2,722, 2,734, 3,070, 3,076, 3,082, 3,088, 3,100, 3,136, 3,142, 3,148, 3,152, 3,160, 3,168, 3,176, 3,184, 3,192, 3,200, 3,208, 3,216, 3,224, 3,232, 3,240, 3,248, 3,256, 3,264, 3,272, 3,280, 3,288, 3,296, 3,304, 3,312, 3,320, 3,328, 3,336, 3,344, 3,352, 3,360, 3,368, 3,376, 3,384, 3,392, 3,400, 3,408, 3,416, 3,424, 3,432, 3,440, 3,448, 3,456, 3,464, 3,472, 3,480, 3,488, 3,496, 3,504, 3,512, 3,520, 3,528, 3,536, 3,544, 3,552, 3,560, 3,568, 3,576, 3,584, 3,592, 3,600, 3,608, 3,616, 3,624, 3,632, 3,640, 3,648, 3,656, 3,664, 3,672, 3,680, 3,688, 3,696, 3,704, 3,712, 3,720, 3,728, 3,736, 3,744, 3,752, 3,760, 3,768, 3,776, 3,784, 3,792, 3,800, 3,808, 3,816, 3,824, 3,832, 3,840, 3,848, 3,856, 3,864, 3,872, 3,880, 3,888, 3,896, 3,904, 3,912, 3,920, 3,928, 3,936, 3,944, 3,952, 3,960, 3,968, 3,976, 3,984, 3,992, 4,000.

11. Aircraft stations: 3,166, national calling frequency for all transport and itinerant airplanes.

(b) *Fixed services:*

1. Point-to-point (shared between United States and Canada): 3,268, 3,274, 3,280, 3,286, 3,292, 3,304, 3,310, 3,316, 3,324, 3,332.

2. Point-to-point (United States exclusive): 4,268, 4,276, 4,284, 4,296, 4,304, 4,312, 4,320, 4,328, 4,336, 4,344, 4,352, 4,360, 4,368, 4,376, 4,384, 4,392, 4,400, 4,408, 4,416, 4,424, 4,432, 4,440, 4,448, 4,456, 4,464, 4,472, 4,480, 4,488, 4,496, 4,504, 4,512, 4,520, 4,528, 4,536, 4,544, 4,552, 4,560, 4,568, 4,576, 4,584, 4,592, 4,600, 4,608, 4,616, 4,624, 4,632, 4,640, 4,648, 4,656, 4,664, 4,672, 4,680, 4,688, 4,696, 4,704, 4,712, 4,720, 4,728, 4,736, 4,744, 4,752, 4,760, 4,768, 4,776, 4,784, 4,792, 4,800, 4,808, 4,816, 4,824, 4,832, 4,840, 4,848, 4,856, 4,864, 4,872, 4,880, 4,888, 4,896, 4,904, 4,912, 4,920, 4,928, 4,936, 4,944, 4,952, 4,960, 4,968, 4,976, 4,984, 4,992, 5,000, 5,008, 5,016, 5,024, 5,032, 5,040, 5,048, 5,056, 5,064, 5,072, 5,080, 5,088, 5,096, 5,104, 5,112, 5,120, 5,128, 5,136, 5,144, 5,152, 5,160, 5,168, 5,176, 5,184, 5,192, 5,200, 5,208, 5,216, 5,224, 5,232, 5,240, 5,248, 5,256, 5,264, 5,272, 5,280, 5,288, 5,296, 5,304, 5,312, 5,320, 5,328, 5,336, 5,344, 5,352, 5,360, 5,368, 5,376, 5,384, 5,392, 5,400, 5,408, 5,416, 5,424, 5,432, 5,440, 5,448, 5,456, 5,464, 5,472, 5,480, 5,488, 5,496, 5,504, 5,512, 5,520, 5,528, 5,536, 5,544, 5,552, 5,560, 5,568, 5,576, 5,584, 5,592, 5,600, 5,608, 5,616, 5,624, 5,632, 5,640, 5,648, 5,656, 5,664, 5,672, 5,680, 5,688, 5,696, 5,704, 5,712, 5,720, 5,728, 5,736, 5,744, 5,752, 5,760, 5,768, 5,776, 5,784, 5,792, 5,800, 5,808, 5,816, 5,824, 5,832, 5,840, 5,848, 5,856, 5,864, 5,872, 5,880, 5,888, 5,896, 5,904, 5,912, 5,920, 5,928, 5,936, 5,944, 5,952, 5,960, 5,968, 5,976, 5,984, 5,992, 6,000.

3. General communication channels (other nations priority), provided that such use will not cause interference to services in other North American countries: 2,206, 2,212, 2,218, 2,224, 2,230, 2,236, 2,242, 2,248, 2,254, 2,260, 2,266, 2,272, 2,278, 2,284, 2,290, 2,296, 3,010, 3,016, 3,022, 3,028, 3,034, 3,040, 3,046, 3,052, 3,058, 3,196, 3,202, 3,208, 3,214, 3,220, 3,226, 4,004, 4,212, 4,220, 4,228, 4,324, 4,332, 4,340, 4,348, 4,356, 4,456, 4,464, 4,472, 4,480, 4,488, 4,496, 4,504, 4,512, 4,520, 4,528, 4,536, 4,544, 4,552, 4,560, 4,568, 4,576, 4,584, 4,592, 4,600, 4,608, 4,616, 4,624, 4,632, 4,640, 4,648, 4,656, 4,664, 4,672, 4,680, 4,688, 4,696, 4,704, 4,712, 4,720, 4,728, 4,736, 4,744, 4,752, 4,760, 4,768, 4,776, 4,784, 4,792, 4,800, 4,808, 4,816, 4,824, 4,832, 4,840, 4,848, 4,856, 4,864, 4,872, 4,880, 4,888, 4,896, 4,904, 4,912, 4,920, 4,928, 4,936, 4,944, 4,952, 4,960, 4,968, 4,976, 4,984, 4,992, 5,000, 5,008, 5,016, 5,024, 5,032, 5,040, 5,048, 5,056, 5,064, 5,072, 5,080, 5,088, 5,096, 5,104, 5,112, 5,120, 5,128, 5,136, 5,144, 5,152, 5,160, 5,168, 5,176, 5,184, 5,192, 5,200, 5,208, 5,216, 5,224, 5,232, 5,240, 5,248, 5,256, 5,264, 5,272, 5,280, 5,288, 5,296, 5,304, 5,312, 5,320, 5,328, 5,336, 5,344, 5,352, 5,360, 5,368, 5,376, 5,384, 5,392, 5,400, 5,408, 5,416, 5,424, 5,432, 5,440, 5,448, 5,456, 5,464, 5,472, 5,480, 5,488, 5,496, 5,504, 5,512, 5,520, 5,528, 5,536, 5,544, 5,552, 5,560, 5,568, 5,576, 5,584, 5,592, 5,600, 5,608, 5,616, 5,624, 5,632, 5,640, 5,648, 5,656, 5,664, 5,672, 5,680, 5,688, 5,696, 5,704, 5,712, 5,720, 5,728, 5,736, 5,744, 5,752, 5,760, 5,768, 5,776, 5,784, 5,792, 5,800, 5,808, 5,816, 5,824, 5,832, 5,840, 5,848, 5,856, 5,864, 5,872, 5,880, 5,888, 5,896, 5,904, 5,912, 5,920, 5,928, 5,936, 5,944, 5,952, 5,960, 5,968, 5,976, 5,984, 5,992, 6,000.

(c) *Special services:*

1. Amateur: The band of frequencies between 1,715 and 2,000 kilocycles, inclusive, and the band of frequencies between 3,504 and 4,000 kilocycles, inclusive.

2. Experimental visual broadcasting: The frequencies 2,600 to 2,200 kilocycles, inclusive, and 2,750 to 2,950 kilocycles, inclusive. The frequencies 2,200 to 2,300 kilocycles inclusive: *Provided*, That such use will not interfere with radio services in other North American countries.

3. General experimental: 1,604, 2,398, 4,795 (assigned to general experimental stations by all North American nations); 3,256 (shared between Canada and United States).

4. The following frequencies are to be assigned exclusively to stations devoted to promoting the interests of agriculture: 3,250 (shared between Canada and the United States); 4,244, 5,365 (United States exclusive channels).

5. The following frequencies are reserved for assignment to stations rendering emergency services: 3,160, 3,166, 3,172, 3,178, 3,184 (shared between United States and Newfoundland); 3,238, 3,244 (shared between United States and Canada).

6. In order to preserve a uniform channeling system, the commission urges upon Government services the desirability of operating upon the nearest standard channel, under the terms of General Order No. 62, to the frequency assigned it by the President, and for this purpose, considers Government services to be operating upon the following frequencies: 1,692, 1,696, 1,700, (2,610 to 2,020 and 2,240 to 2,230 kilocycles shared with visual broadcasting); 2,398, 2,314, 2,338, 2,356, 2,386, 2,404, 2,434, 2,464, 2,488, 2,494, 2,500,

\* To be reserved as interference guard band for broadcasting stations at all locations where the assignment to other services may result in interference with broadcasting stations.

2,512, 2,548, 2,572, 2,602, 2,656, 2,674, 2,686, 2,704, 2,710, 2,716, 2,746, (2,885, 2,915, shared with visual broadcasting), 2,956, 2,962, 2,968, 2,974, 2,980, 2,986, 2,992, 2,998, 3,004, 3,034,<sup>2</sup> 3,064, 3,094, 3,154, 3,190, 3,232, 3,262, 3,292, 3,340, 3,348, 3,356, 3,364, 3,372, 3,380, 3,388, 3,396, 3,404, 3,412, 3,444, 3,476, 3,500 to 4,000, 4,012, 4,020, 4,028, 4,036, 4,044, 4,052, 4,060, 4,068, 4,076, 4,084, 4,092, 4,100, 4,132, 4,156, 4,204, 4,236, 4,252, 4,260, 4,292, 4,300, 4,308, 4,316, 4,364, 4,372, 4,380, 4,388, 4,425, 4,435, 4,445, 4,525, 5,915, 5,930, 5,945, 5,960.

PARAGRAPH II. No license shall be granted to any applicant for a fixed station, coastal station, or aeronautical station, who is unable to satisfy the commission that he can maintain the assigned station frequency with an accuracy of 0.05 per cent or better at all times.

PARAGRAPH III. Licensees of fixed, coastal, or aeronautical stations shall obtain and use for tuning, and checking the tuning of their transmitters, suitable frequency-measuring equipment which shall be accurate within 0.025 per cent on the frequencies on which the transmitter is licensed to operate. The frequency-measuring equipment made available by the Department of Commerce shall be considered as standard for comparing and calibrating frequency-measuring equipment.

PARAGRAPH IV. Licensees must use radio transmitters, the emissions of which, by reason of actual decrement, high-speed signaling modulation, spacing waves, harmonics, frequency modulation, key clicks, and mush, do not cause interference detrimental to traffic and programs being carried out on other authorized channels of communications.

#### CHANGES IN THE LIST OF VESSELS EQUIPPED WITH A RADIOCOMPASS

The radiocompass has been removed from the *Herman Winter* and the *Sialia* (WBDI).

#### PROPOSALS MADE BY MEMBER COUNTRIES AT THE INTERNATIONAL RADIO CONVENTION, WASHINGTON, 1927, AVAILABLE FOR DISTRIBUTION

The Radio Division has on hand a supply of the propositions, published by the International Bureau of the Telegraph Union, Radiotelegraph Service, Berne, Switzerland, made in considering the regulations finally laid down at the Washington Convention, which will be furnished to anyone having need thereof free of charge. These proposals are in two volumes (Tome 1 and Tome 2), and are printed in the French language.

#### RATIFICATIONS OF THE INTERNATIONAL RADIO CONVENTION, 1927

The Cabinet Council of Bolivia approved the convention and the general and supplementary regulations thereto, by decree of June 14, 1928.

#### LIST OF LAND STATIONS OF THE WORLD IN ORDER OF FREQUENCIES FOR SALE BY THE BERNE BUREAU

This list may be obtained from the International Bureau of the Telegraph Union, Radiotelegraph Service, Berne, Switzerland, at 10 Swiss francs (gold), including all supplements and new lists to the end of the current year, postage included.

The price of the 1930 lists and supplements will be determined at the beginning of that year.

#### TRAFFIC LISTS TRANSMITTED BY PORTISHEAD RADIO, GREAT BRITAIN

Beginning December 1, this station, call signal GKU, will call ships for which it has radiotelegrams to transmit on the frequency of 149 kc. (2,015 m.), every 2 hours, instead of every 3 hours, at 30 minutes past the hour (0030, 0230, 0430, etc., G. M. T.) and arrange the times and frequencies on which traffic will be exchanged.

At other times the station may call individual ships for which it has traffic on the general calling frequency of 143 kc. (2,100 m.).

#### INTERFERENCE CAUSED TO BROADCAST RECEPTION BY SHIPS IN BRITISH PORTS

Serious interference with the reception of broadcast programs is caused by the testing of ship's radio apparatus while in ports of Great Britain. Arrangements have been made whereby British radio and shipping companies conduct tests only outside broadcasting hours and radio operators are reminded that every effort should be made to make any necessary tests or adjustments at times when broadcasting is not in progress. Whenever such tests or adjustments are being made the call signal of the ship should be transmitted at short intervals.

<sup>2</sup> Shared between Canada and other nations. (See (b) 3, above.)

## CHANGES IN THE LIST OF CANADIAN RADIOBEACONS

*Main Duck Island, Lake Ontario.*—Beacon established at the light station. Transmits call signal V (. . . —) G (— — .) D (— . .) for a period of 75 seconds, silent 105 seconds, thus:

|                          |             |
|--------------------------|-------------|
| . . . — — — . — — . etc. | Silent      |
| 75 seconds               | 105 seconds |

Operates on a frequency of 310 kc. (968 m.) continuously during thick or foggy weather and hourly in clear weather for 4 minutes and 15 seconds, commencing exactly on the hour.

Location, 76° 38' 20" W., 43° 55' 53" N.

*Long Point, Lake Erie.*—Beacon established at the light station. Transmits call signal V (. . . —) G (— — .) F (. . . —) for a period of 75 seconds, silent 105 seconds, thus:

|                          |             |
|--------------------------|-------------|
| . . . — — — . — — . etc. | Silent      |
| 75 seconds               | 105 seconds |

Operates on a frequency of 305 kc. (984 m.) continuously during thick or foggy weather and hourly in clear weather for four minutes and 15 seconds, commencing four minutes and 30 seconds past the hour.

Location, 80° 03' 20" W., 42° 33' 00" N.

*Southeast Shoal, Lake Erie.*—Beacon established at the light station. Transmits call signal V (. . . —) G (— — .) U (. . . —) for 75 seconds, silent 105 seconds, thus:

|                          |             |
|--------------------------|-------------|
| . . . — — — . — — . etc. | Silent      |
| 75 seconds               | 105 seconds |

Operates on a frequency of 290 kc. (1,034 m.) continuously during thick or foggy weather and hourly in clear weather for 4 minutes and 15 seconds, commencing exactly on the hour.

*Seal Island, West Point, Anticosti, Pointe des Monts, Cape Whittle, Cove Island and Michipicoten Island.*—The transmission period of these beacons has been increased to 75 seconds, and the silent period has been decreased to 105 seconds. The total length of the characteristic, viz., 3 minutes remains the same.

## CHANGES IN DAYLIGHT SAVING TIME IN FOREIGN COUNTRIES

Normal time was resumed in the British Isles, Spain, and Portugal on October 6. Daylight saving time was placed in effect in Chile on September 1, viz., 4 hours west of Greenwich.

## CAUTION REGARDING WEATHER REPORTS FROM SANTIAGO, CHILE

Weather reports from this station (CCS) are based on a general analysis of the meteorological situation deduced only from information furnished by the meteorological observation station within its territory and not from ships at sea.

Observations made at Valparaiso (letter symbols VP) are now transmitted from the Santiago central station.

## WEATHER REPORTS AND STORM SIGNALS TRANSMITTED BY SHANGHAI, CHINA, STATIONS

Weather reports and storm signals are transmitted by Zihawei Observatory, call signal 8ZW on a frequency of 12,820 kc. (23.4 m.), type, A1 at 0145, G.M.T. This station is reported to have a daylight range of over 2,000 miles.

Station Koukaza, call signal FFZ1, transmits weather reports on 10,526 kc. (28.5 m.), type, A1, at 0945 and 1130, G. M. T. The 1130 transmission is a repetition of the 0900 weather bulletins.