# PART A

# IONOSPHERIC DATA

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CENTRAL RADIO PROPAGATION LABORATORY
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NATIONAL BUREAU OF STANDARDS
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# SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.
(2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numberical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D.C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If the count is four or less, the data are considered insufficient and no median value is computed.

2. For the F2 layer, h'F or foEs, if the count is from five to nine, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as the count is at least five, the median is not considered doubtful. A count of at least 5 is considered sufficient for an h'Es median.

3. For all layers, if more than half of the data used to compute the medians are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F2 or h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.

b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.

c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.

d. The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.

# PREDICTED AND OBSERVED SUNSPOT NUMBERS

The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

| Month | Predicted Sunspot Number | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1959 | 1958 | 1957 | 1956 | 1955 | 1954 | 1953 | 1952 | 1951 | 1950 | 1949 |
| December | | 150* | 150* | 150 | 42 | 11 | 15 | 33 | 53 | 86 | 108 |
| November | | 150* | 150* | 147 | 35 | 10 | 16 | 38 | 52 | 87 | 112 |
| October | | 150* | 150* | 135 | 31 | 10 | 17 | 43 | 52 | 90 | 114 |
| September | | 150* | 150* | 119 | 30 | 8 | 18 | 46 | 54 | 91 | 115 |
| August | 142 | 150* | 150* | 105 | 27 | 8 | 18 | 49 | 57 | 96 | 111 |
| July | 141 | 150* | 150* | 95 | 22 | 8 | 20 | 51 | 60 | 101 | 108 |
| June | 143 | 150* | 150* | 89 | 18 | 9 | 21 | 52 | 63 | 103 | 108 |
| May | 146 | 150* | 150* | 77 | 16 | 10 | 22 | 52 | 68 | 102 | 108 |
| April | 150* | 150* | 150* | 68 | 13 | 10 | 24 | 52 | 74 | 101 | 109 |
| March | 150* | 150* | 150* | 60 | 14 | 11 | 27 | 52 | 78 | 103 | 111 |
| February | 150* | 150* | 150* | 53 | 14 | 12 | 29 | 51 | 82 | 103 | 113 |
| January | 150* | 150* | 150* | 48 | 12 | 14 | 30 | 53 | 85 | 105 | 112 |

*This number is believed representative of solar activity at a maximum portion of the current sunspot cycle.

The latest available information follows concerning the corresponding observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1958.

Observed Sunspot Number

| Month | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1954 | | | | 3 | 4 | 4 | 5 | 7 | 8 | 8 | 9 | 12 |
| 1955 | 14 | 16 | 19 | 23 | 29 | 35 | 40 | 46 | 55 | 64 | 73 | 81 |
| 1956 | 89 | 98 | 109 | 119 | 127 | 137 | 146 | 150 | 151 | 156 | 160 | 164 |
| 1957 | 170 | 172 | 174 | 181 | 186 | 188 | 191 | 194 | 197 | 200 | 201 | 200 |
| 1958 | 199 | 201 | 201 | 197 | 191 | 187 | 185 | 184 | | | | |

# WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 137 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:
- Hobart, Tasmania
- Townsville, Australia

Commonwealth of Australia, Department of the Interior:
- Macquarie I.

Australian Department of Supply and Shipping, Bureau of Mineral Resources, Geology and Geophysics:
- Watheroo, Western Australia

University of Graz:
- Graz, Austria

Meteorological Service of the Belgian Congo and Ruanda-Urundi:
- Leopoldville, Belgian Congo

Universidad Mayor de San Andres:
- La Paz, Bolivia

Defence Research Board, Canada:
- Alert, Canada

Danish National Committee of URSI:
- Godhavn, Greenland

French National Center for Telecommunications Studies:
- Dakar, French West Africa
- Djibouti, French Somaliland
- Tananarive, Madagascar

The Royal Netherlands Meteorological Institute:
- De Bilt, Holland

Indian Council of Scientific and Industrial Research, Radio Research Committee, New Delhi, India:
- Bombay (All India Radio)
- Kodaikanal (India Meteorological Department)
- Madras (All India Radio)
- Tiruchy (All India Radio)

Geophysical and Geodetic Institute, Genoa, Italy:
Monte Capellino, Italy

Christchurch Geophysical Observatory, New Zealand Department of Scientific and Industrial Research:
Campbell I.
Cape Hallett (Adare), Antarctica
Christchurch, New Zealand

South African Council for Scientific and Industrial Research:
Marion I.

United States Army Signal Corps:
Adak, Alaska
Cape Canaveral, Florida
Fletchers Ice I.
Ft. Monmouth, New Jersey
Grand Bahama I.
Okinawa I.
St. John's, Newfoundland
Thule, Greenland

National Bureau of Standards (Central Radio Propagation Laboratory):
Anchorage, Alaska
Chimbote, Peru
Point Barrow, Alaska
Talara, Peru (Instituto Geofisico de Huancayo)
Washington, D. C.

# TABLES OF IONOSPHERIC DATA

December 1950 - October 1952

Table 1

Anchorage, Alaska (61.2°N, 149.9°W) December 1950

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | (3.0) | | | | | | (2.60) |
| 01 | | (3.0) | | | | | 3.3 | 2.50 |
| 02 | | (3.3) | | | | | | (2.42) |
| 03 | | (3.25) | | | | | | (2.48) |
| 04 | | (3.6) | | | | | | 2.50 |
| 05 | | 3.7 | | | | | | 2.55 |
| 06 | | (3.6) | | | | | | 2.55 |
| 07 | | (3.85) | | | | | | (2.50) |
| 08 | | (4.5) | | | | | | (2.70) |
| 09 | | (6.9) | | | --- | ---- | | (2.90) |
| 10 | | 9.4 | | | --- | 2.15 | | 3.10 |
| 11 | | 11.4 | | | 132 | 2.30 | | 3.10 |
| 12 | | 12.7 | | | 127 | 2.30 | | 3.05 |
| 13 | | 13.5 | | | 137 | 2.20 | | 3.05 |
| 14 | | 13.2 | | | <130 | 2.05 | | 3.05 |
| 15 | | 12.35 | | | --- | ---- | | 3.00 |
| 16 | | 11.25 | | | | | | 3.00 |
| 17 | | 9.8 | | | | | | 3.05 |
| 18 | | 7.8 | | | | | | 3.00 |
| 19 | | 5.9 | | | | | | 3.10 |
| 20 | | 4.4 | | | | | | 2.92 |
| 21 | | 3.9 | | | | | | 2.95 |
| 22 | | (3.2) | | | | | | 2.75 |
| 23 | | 2.9 | | | | | | 2.65 |

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Washington, D.C. (38.7°N, 77.1°W) December 1950

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 5.7 | 260 | | | | | 2.75 |
| 01 | | 5.6 | 270 | | | | | 2.80 |
| 02 | | 5.4 | 270 | | | | | 2.80 |
| 03 | | 5.1 | 260 | | | | | 2.85 |
| 04 | | 4.9 | 260 | | | | | 2.80 |
| 05 | | 4.5 | 260 | | | | | 2.70 |
| 06 | | 4.4 | 270 | | | | | 2.80 |
| 07 | | 5.4 | 260 | | | | | 2.85 |
| 08 | | 9.1 | 235 | | 129 | 2.30 | 2.6 | 3.10 |
| 09 | --- | 11.4 | 230 | | 115 | 2.85 | | 3.10 |
| 10 | --- | 13.0 | 230 | | 111 | 3.25 | 3.4 | 3.00 |
| 11 | --- | 14.0 | 230 | | 113 | 3.40 | | 2.95 |
| 12 | --- | 13.7 | 230 | | 111 | 3.50 | | 2.85 |
| 13 | --- | 13.4 | 230 | | 113 | 3.40 | | 2.80 |
| 14 | | 13.2 | 230 | | 113 | 3.25 | | 2.75 |
| 15 | | 13.0 | 240 | | 116 | 2.90 | | 2.75 |
| 16 | | 12.75 | 235 | | 123 | 2.35 | | 2.80 |
| 17 | | 11.8 | 235 | | | | | 2.80 |
| 18 | | 10.5 | 230 | | | | | 2.85 |
| 19 | | 9.2 | 230 | | | | | 2.85 |
| 20 | | 8.0 | 240 | | | | | 2.85 |
| 21 | | 6.9 | 245 | | | | | 2.80 |
| 22 | | 6.4 | 260 | | | | | 2.75 |
| 23 | | 6.0 | 265 | | | | | 2.80 |

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

Adak, Alaska (51.9°N, 176.6°W) November 1950

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 3.5 | <320 | | | | | 2.50 |
| 01 | | 3.5 | <335 | | | | | 2.45 |
| 02 | | 3.4 | <350 | | | | | 2.50 |
| 03 | | 3.3 | <350 | | | | | 2.45 |
| 04 | | 3.3 | <340 | | | | | 2.42 |
| 05 | | 3.3 | <335 | | | | 1.2 | 2.42 |
| 06 | | 3.5 | <290 | | | | 1.7 | 2.60 |
| 07 | | 6.6 | 240 | | 145 | 1.62 | 2.6 | 2.90 |
| 08 | | 10.4 | 230 | | 115 | 2.30 | 2.4 | 3.15 |
| 09 | | 13.75 | 225 | | 113 | 2.65 | 3.4 | 3.10 |
| 10 | | 15.25 | 225 | | 113 | 2.90 | 3.4 | 3.10 |
| 11 | | 15.9 | 225 | | 111 | 3.05 | | 3.10 |
| 12 | | 16.0 | 220 | | 115 | 3.02 | 3.2 | 3.00 |
| 13 | --- | 15.45 | 225 | | <117 | 3.00 | | 3.00 |
| 14 | | 15.1 | 230 | | 119 | 2.72 | | 3.00 |
| 15 | | 14.3 | 220 | | 123 | 2.30 | 2.3 | 3.00 |
| 16 | | 12.9 | 220 | | 125 | ---- | 1.8 | 3.00 |
| 17 | | 10.7 | 220 | | | | 1.6 | 3.05 |
| 18 | | 8.35 | 215 | | | | 1.8 | 3.05 |
| 19 | | 5.8 | 230 | | | | 1.8 | 3.15 |
| 20 | | 4.1 | 240 | | | | 1.2 | 3.05 |
| 21 | | 3.6 | (260) | | | | | 2.88 |
| 22 | | 3.35 | 280 | | | | | 2.72 |
| 23 | | 3.4 | <305 | | | | | 2.60 |

Time: 180.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 4

Point Barrow, Alaska (71.3°N, 156.8°W) October 1950

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | (4.9) | 310 | | | | 3.5 | (2.60) |
| 01 | | (5.4) | 290 | | | | 3.9 | (2.60) |
| 02 | | (5.0) | 315 | | | | 3.7 | (2.70) |
| 03 | | (5.0) | 340 | | | | 3.8 | (2.50) |
| 04 | | (4.9) | (340) | | | | >2.1 | (2.40) |
| 05 | | >5.0 | 370 | | | | 2.5 | (2.50) |
| 06 | | (5.4) | 330 | | | | >2.6 | (2.50) |
| 07 | | (5.7) | 320 | | --- | ---- | 2.8 | (2.60) |
| 08 | | (6.5) | 300 | | (119) | 2.58 | | (2.75) |
| 09 | | 7.4 | 275 | | 119 | 2.40 | | 2.88 |
| 10 | | 7.95 | 250 | | 115 | 2.55 | | 2.90 |
| 11 | --- | 8.8 | 250 | --- | 115 | 2.65 | | 2.90 |
| 12 | --- | 9.4 | 250 | --- | <123 | 2.62 | | 2.90 |
| 13 | --- | 9.05 | 250 | --- | 118 | 2.62 | | 2.85 |
| 14 | --- | 10.0 | 250 | --- | (119) | 2.50 | | 2.82 |
| 15 | --- | 10.65 | 250 | --- | <125 | 2.25 | | 2.88 |
| 16 | --- | 10.5 | 245 | --- | <131 | (2.05) | | 2.05 |
| 17 | --- | 10.2 | 240 | --- | <140 | 1.70 | | 2.05 |
| 18 | | 8.0 | 260 | | | | | 2.80 |
| 19 | | (6.4) | 270 | | | | 2.4 | (2.75) |
| 20 | | (5.0) | 280 | | | | 2.7 | (2.00) |
| 21 | | (5.5) | 295 | | | | 3.6 | (2.75) |
| 22 | | (5.1) | 320 | | | | 3.2 | (2.70) |
| 23 | | (5.5) | <295 | | | | 3.0 | (2.70) |

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

Thule, Greenland (76.6°N, 68.7°W) September 1950

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 6.45 | 260 | | | | | 2.58 |
| 01 | | (6.5) | 265 | | --- | ---- | | (2.60) |
| 02 | | (6.65) | 255 | | --- | ---- | | (2.70) |
| 03 | | (6.3) | 260 | | --- | ---- | | (2.70) |
| 04 | | (5.7) | 260 | | (139) | 1.90 | | (2.70) |
| 05 | | 6.15 | 260 | | <138 | 2.10 | | 2.72 |
| 06 | --- | 6.35 | 260 | | 121 | 2.28 | | 2.70 |
| 07 | --- | 6.7 | 250 | --- | 119 | 2.50 | | 2.00 |
| 08 | --- | >7.2 | 250 | --- | 117 | 2.70 | | 2.75 |
| 09 | --- | 6.7 | 240 | --- | 111 | 2.82 | | 2.65 |
| 10 | (580) | 7.4 | 245 | 4.0 | 111 | 2.90 | | 2.62 |
| 11 | (640) | 7.6 | 240 | 4.4 | 111 | 3.00 | | 2.60 |
| 12 | (540) | 7.2 | 240 | 4.4 | 111 | 3.00 | | 2.60 |
| 13 | 490 | 7.4 | (235) | 4.4 | 113 | 2.95 | | 2.62 |
| 14 | (450) | 7.15 | 240 | 4.1 | 117 | 2.90 | | 2.58 |
| 15 | --- | 7.7 | 250 | --- | 119 | 2.75 | | 2.60 |
| 16 | --- | 7.15 | 255 | --- | 120 | 2.58 | | 2.65 |
| 17 | --- | 7.65 | 270 | --- | 127 | 2.38 | | 2.65 |
| 18 | --- | 7.5 | 270 | | 129 | 2.12 | | 2.70 |
| 19 | | 7.2 | <270 | | --- | (2.00) | | 2.70 |
| 20 | | 7.4 | 280 | | --- | ---- | | 2.62 |
| 21 | | 7.1 | 270 | | --- | ---- | | 2.62 |
| 22 | | 7.65 | 270 | | --- | ---- | | 2.70 |
| 23 | | (7.2) | 260 | | --- | ---- | | (2.78) |

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 6

Godhavn, Greenland (69.3°N, 53.5°W) September 1950

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | (6.35) | | | | | | (2.55) |
| 01 | | (6.2) | | | | | | (2.60) |
| 02 | | (5.5) | | | | | | (2.50) |
| 03 | | (5.4) | | | | | | (2.60) |
| 04 | | (5.3) | | | | | | (2.50) |
| 05 | | (4.9) | | | | | | (2.65) |
| 06 | | (5.65) | | --- | <131 | (1.90) | | (2.75) |
| 07 | | (5.45) | | --- | <110 | (2.30) | | (2.00) |
| 08 | | 6.65 | | (4.3) | (115) | 2.75 | | 2.80 |
| 09 | | 7.1 | | (4.4) | (113) | 2.90 | | 2.80 |
| 10 | | (7.05) | | (4.7) | 112 | 3.05 | | 2.65 |
| 11 | | 8.3 | | 4.6 | 109 | 3.12 | | 2.50 |
| 12 | | 8.0 | | (4.6) | 109 | 3.20 | | 2.65 |
| 13 | | 7.6 | | 4.8 | 109 | 3.15 | | 2.60 |
| 14 | | (7.2) | | 4.8 | 109 | 3.15 | | (2.60) |
| 15 | | (7.25) | | 4.4 | 110 | 3.08 | | (2.60) |
| 16 | | (7.0) | | 4.4 | 112 | 2.82 | | 2.60 |
| 17 | | (7.25) | | 4.0 | (119) | 2.70 | 3.2 | 2.60 |
| 18 | | 7.1 | | --- | <125 | (2.50) | | 2.50 |
| 19 | | (7.1) | | | (125) | ---- | | (2.65) |
| 20 | | (6.95) | | | --- | ---- | | 2.65 |
| 21 | | (7.1) | | | | | | (2.60) |
| 22 | | (7.0) | | | | | | (2.52) |
| 23 | | (6.0) | | | | | | (2.55) |

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 7

Ft. Monmouth, New Jersey (40.4°N, 74.1°W) September 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 7.2 | 290 | | | | | 2.60 |
| 01 | | 6.8 | 290 | | | | | 2.60 |
| 02 | | 6.65 | 300 | | | | | 2.55 |
| 03 | | 6.4 | 290 | | | | | 2.55 |
| 04 | | 6.0 | 290 | | | | | 2.50 |
| 05 | | 5.65 | 280 | | | | | 2.60 |
| 06 | | 6.95 | 260 | | 124 | ---- | | 2.95 |
| 07 | --- | 9.3 | 240 | --- | 119 | 2.95 | | 3.00 |
| 08 | --- | 10.3 | 230 | --- | 115 | 3.42 | | 2.95 |
| 09 | --- | 10.2 | 225 | --- | 115 | (3.60) | | 2.85 |
| 10 | (465) | 10.6 | 220 | 5.3 | 114 | >3.90 | | 2.70 |
| 11 | (480) | 10.8 | 220 | --- | 111 | (4.00) | | 2.65 |
| 12 | (420) | 10.05 | 225 | 6.2 | 113 | (4.00) | | 2.50 |
| 13 | (470) | 10.7 | 230 | --- | 111 | 4.00 | | 2.55 |
| 14 | (435) | 10.7 | 230 | 6.1 | 111 | 3.90 | | 2.55 |
| 15 | (425) | 10.55 | 235 | --- | 111 | 3.70 | | 2.60 |
| 16 | --- | 10.5 | 245 | --- | 115 | 3.30 | | 2.60 |
| 17 | --- | 10.3 | 250 | | 119 | 2.70 | | 2.65 |
| 18 | | 10.1 | 260 | | --- | ---- | | 2.70 |
| 19 | | 9.6 | 260 | | --- | ---- | | 2.65 |
| 20 | | 8.7 | 260 | | --- | ---- | | 2.60 |
| 21 | | 8.3 | 280 | | --- | ---- | | 2.60 |
| 22 | | 7.0 | 285 | | | | | 2.60 |
| 23 | | 7.55 | 205 | | | | | 2.60 |

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 8

Fletchers Ice I. (79.0°N, 122.0°W)* August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | --- | 6.1 | (270) | --- | (111) | (2.50) | | 2.58 |
| 01 | --- | 6.3 | <280 | --- | (111) | ---- | | 2.65 |
| 02 | --- | 6.05 | <280 | --- | (113) | (2.10) | | 2.60 |
| 03 | --- | 6.0 | <280 | --- | (110) | 2.12 | | 2.60 |
| 04 | --- | 6.1 | <290 | --- | (111) | ---- | | 2.60 |
| 05 | --- | 6.3 | (275) | --- | 111 | 2.35 | | 2.62 |
| 06 | --- | 6.2 | (270) | --- | (111) | 2.38 | | 2.60 |
| 07 | (405) | 6.0 | <270 | 4.0 | 109 | 2.50 | | 2.60 |
| 08 | <395 | 5.95 | (260) | 4.0 | 109 | (2.62) | | 2.60 |
| 09 | 440 | 6.0 | (250) | 4.3 | (109) | ---- | | 2.52 |
| 10 | 440 | 5.9 | <250 | 4.4 | 105 | (2.80) | | 2.50 |
| 11 | 440 | 6.0 | 235 | 4.5 | 105 | (3.05) | | 2.55 |
| 12 | 450 | 6.2 | (230) | 4.6 | 103 | ---- | | 2.45 |
| 13 | 470 | 6.0 | (220) | 4.6 | 103 | ---- | | 2.50 |
| 14 | 500 | 5.8 | (230) | 4.6 | 101 | ---- | | 2.40 |
| 15 | 400 | 5.95 | <235 | 4.8 | 103 | ---- | | 2.40 |
| 16 | 480 | 6.0 | (240) | 4.7 | 103 | ---- | | 2.45 |
| 17 | 500 | 6.1 | <250 | 4.7 | 103 | ---- | | 2.40 |
| 18 | 400 | 5.8 | <250 | 4.7 | 105 | (3.15) | | 2.40 |
| 19 | 480 | 5.75 | 245 | 4.5 | 105 | (3.10) | | 2.40 |
| 20 | 450 | 6.0 | (250) | 4.3 | 109 | 2.95 | | 2.50 |
| 21 | 465 | 6.0 | <260 | 4.3 | 109 | (2.80) | | 2.50 |
| 22 | 450 | 6.0 | (265) | 4.1 | 109 | (2.62) | | 2.50 |
| 23 | --- | 6.0 | (270) | 3.9 | 109 | (2.50) | | 2.50 |

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.
*Preliminary estimated average position.

Table 9

Thule, Greenland (76.6°N, 68.7°W) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | --- | (6.0) | 265 | | 111 | 2.00 | | 2.68 |
| 01 | --- | 6.3 | 270 | | 112 | 2.05 | | 2.70 |
| 02 | --- | (6.0) | 260 | | 109 | (2.20) | | 2.05 |
| 03 | --- | 6.0 | 250 | --- | 109 | 2.38 | | 2.75 |
| 04 | --- | 5.8 | 250 | --- | 111 | 2.50 | | 2.62 |
| 05 | --- | 5.6 | 240 | --- | 109 | 2.65 | | 2.65 |
| 06 | (450) | 5.8 | 240 | 4.4 | 107 | 2.80 | | 2.60 |
| 07 | 495 | >6.0 | 240 | 4.5 | 103 | 3.00 | | 2.50 |
| 08 | 460 | 5.9 | 235 | 4.6 | 101 | 3.10 | | 2.55 |
| 09 | 560 | 6.0 | 225 | 4.6 | 101 | 3.20 | | 2.50 |
| 10 | 515 | 6.0 | 220 | 4.8 | 101 | 3.30 | | 2.50 |
| 11 | 495 | 5.9 | 210 | 4.0 | 100 | 3.30 | | 2.55 |
| 12 | 515 | 6.7 | 220 | 4.8 | 99 | 3.30 | | 2.50 |
| 13 | 480 | 6.2 | 220 | 4.7 | 99 | 3.30 | | 2.50 |
| 14 | 490 | 6.05 | 220 | 4.8 | 101 | 3.20 | | 2.45 |
| 15 | 475 | 6.4 | 230 | 4.7 | 103 | 3.15 | 3.9 | 2.40 |
| 16 | 475 | 6.3 | 240 | 4.4 | (107) | 3.05 | 4.1 | 2.50 |
| 17 | 445 | 6.45 | 240 | 4.0 | 103 | 2.90 | 3.4 | 2.52 |
| 18 | (440) | 6.2 | 250 | --- | 109 | 2.75 | 3.0 | 2.55 |
| 19 | --- | 6.1 | 250 | --- | 109 | 2.52 | | 2.58 |
| 20 | --- | 6.0 | 260 | | 112 | 2.40 | | 2.58 |
| 21 | --- | 5.9 | 260 | | 107 | 2.22 | 2.7 | 2.70 |
| 22 | --- | 6.3 | 265 | | 114 | 2.05 | | 2.60 |
| 23 | --- | 6.2 | 270 | | 111 | 2.05 | | 2.65 |

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 10

De Bilt, Holland (52.1°N, 5.2°E) August 1958

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | 325 | 6.7 | | | | | | 2.55 |
| 01 | 330 | 6.2 | | | | | | 2.60 |
| 02 | 325 | 5.9 | | | | | | 2.60 |
| 03 | 325 | 5.6 | | | | | | 2.60 |
| 04 | 320 | 5.2 | | | --- | --- | | 2.65 |
| 05 | 205 | 6.0 | 275 | --- | --- | --- | | 2.00 |
| 06 | 310 | 6.4 | 250 | 4.6 | --- | 2.9 | 3.2 | 2.85 |
| 07 | (425) | 7.2 | 240 | 5.0 | 120 | 3.1 | 4.1 | 2.85 |
| 08 | 325 | 7.7 | 235 | 5.3 | 110 | 3.6 | 4.0 | 2.90 |
| 09 | 370 | 7.8 | 225 | 6.0 | 110 | 3.6 | 4.2 | 2.00 |
| 10 | 375 | 8.2 | 230 | 6.0 | --- | 3.0 | 4.2 | 2.75 |
| 11 | 400 | 8.3 | 225 | 6.0 | --- | --- | 4.5 | 2.75 |
| 12 | 400 | 8.2 | 200 | 6.0 | --- | --- | | 2.70 |
| 13 | 385 | 8.3 | 225 | 6.2 | --- | --- | 4.2 | 2.65 |
| 14 | 380 | 8.1 | 230 | 6.0 | --- | --- | 3.8 | 2.70 |
| 15 | 375 | 7.9 | 235 | 5.0 | 100 | 3.7 | 3.9 | 2.70 |
| 16 | 350 | 8.0 | 240 | 5.4 | 110 | 3.4 | | 2.75 |
| 17 | 340 | 8.0 | 250 | 5.5 | --- | 3.0 | 3.3 | 2.00 |
| 18 | 270 | 8.2 | 260 | --- | --- | --- | 3.5 | 2.05 |
| 19 | 275 | 8.2 | | | --- | --- | | 2.85 |
| 20 | 280 | 7.9 | | | | | 4.0 | 2.00 |
| 21 | 290 | 7.4 | | | | | | 2.70 |
| 22 | 300 | 7.3 | | | | | | 2.70 |
| 23 | 300 | 7.1 | | | | | | 2.65 |

Time: 0.0°.
Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

Table 11

St. John's, Newfoundland (47.6°N, 52.7°W) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 6.2 | 300 | | | | 2.2 | 2.50 |
| 01 | | 6.0 | 300 | | | | 2.7 | 2.50 |
| 02 | | 5.6 | 300 | | | | 2.4 | 2.50 |
| 03 | | 5.0 | 305 | | | | 1.9 | 2.50 |
| 04 | | 4.9 | 295 | | <121 | ---- | 1.6 | 2.70 |
| 05 | | 5.55 | 260 | | (120) | 2.20 | | 2.85 |
| 06 | (600) | 6.2 | 240 | 4.5 | 111 | 2.80 | 2.9 | 2.90 |
| 07 | (375) | 6.65 | 230 | 5.0 | 105 | 3.30 | 3.3 | 2.85 |
| 08 | 400 | 6.7 | 225 | 5.2 | 105 | 3.58 | 3.7 | 2.80 |
| 09 | 480 | 6.95 | <220 | 5.4 | 104 | 3.80 | 3.9 | 2.60 |
| 10 | 430 | 7.1 | 220 | 5.6 | 103 | 4.00 | | 2.60 |
| 11 | 480 | 7.1 | 220 | 5.8 | 101 | 4.10 | | 2.55 |
| 12 | 480 | 7.2 | 220 | 5.8 | 105 | 4.02 | | 2.50 |
| 13 | 485 | 7.3 | 220 | 5.0 | 105 | 4.00 | | 2.50 |
| 14 | 460 | 7.4 | 220 | 5.7 | 109 | 3.90 | | 2.50 |
| 15 | 410 | 7.4 | 220 | 5.5 | 107 | 3.60 | | 2.60 |
| 16 | 400 | 7.6 | 230 | 5.2 | 105 | 3.30 | | 2.55 |
| 17 | (405) | 7.5 | 240 | --- | 111 | 2.95 | 3.0 | 2.62 |
| 18 | | 7.8 | 270 | | 119 | 2.20 | 2.7 | 2.70 |
| 19 | | 7.95 | 270 | | <120 | ---- | 3.0 | 2.65 |
| 20 | | 7.9 | 275 | | | | 3.1 | 2.60 |
| 21 | | 7.6 | 275 | | | | 1.4 | 2.55 |
| 22 | | 7.0 | 290 | | | | | 2.55 |
| 23 | | 6.4 | 300 | | | | | 2.45 |

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 12

Graz, Austria (47.1°N, 15.5°E) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | >6.6 | 330 | | | | | |
| 01 | | >6.4 | 350 | | | | | |
| 02 | | >4.9 | 350 | | | | | |
| 03 | | >4.7 | 340 | | | | | |
| 04 | | >4.7 | 335 | | | | | |
| 05 | | >4.7 | 300 | | | | | |
| 06 | | >6.7 | 250 | | | | | |
| 07 | --- | >7.8 | 240 | (4.8) | 105 | --- | 4.2 | |
| 08 | --- | >8.4 | 230 | (5.1) | 110 | 3.4 | 4.1 | |
| 09 | 330 | >8.6 | 220 | --- | 110 | 3.7 | 4.4 | |
| 10 | 360 | >8.8 | 220 | (6.0) | 120 | 3.8 | 4.5 | |
| 11 | 370 | >8.7 | 210 | --- | 105 | | 4.3 | |
| 12 | 400 | >8.8 | 220 | --- | | | 4.4 | |
| 13 | 390 | (8.9) | 220 | (6.1) | | | 4.1 | |
| 14 | 390 | 0.8 | 220 | (6.0) | | | 3.6 | |
| 15 | 380 | (8.8) | 230 | (6.0) | 125 | | 3.7 | |
| 16 | 400 | 8.4 | 230 | --- | --- | 3.5 | 3.6 | |
| 17 | (340) | 8.5 | 240 | --- | | --- | 3.6 | |
| 18 | --- | (8.4) | 260 | --- | | | | |
| 19 | | >8.3 | 270 | | | | | |
| 20 | | >8.2 | 290 | | | | 4.1 | |
| 21 | | >6.8 | 200 | | | | 4.1 | |
| 22 | | >6.8 | 300 | | | | | |
| 23 | | >6.6 | 330 | | | | | |

Time: 15.0°E.
Sweep: 2.0 Mc to 20.0 Mc in 50 seconds.

Table 13

Grand Bahama I. (26.6°N, 78.2°W) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 7.5 | 300 | | | | 2.8 | 2.60 |
| 01 | | 7.5 | 290 | | | | 2.2 | 2.65 |
| 02 | | 7.0 | 285 | | | | 2.4 | 2.65 |
| 03 | | 6.8 | 280 | | | | | 2.60 |
| 04 | | 6.4 | 280 | | | | | 2.60 |
| 05 | | 6.1 | 260 | | | | | 2.68 |
| 06 | | 6.95 | 260 | | <129 | (1.95) | 2.0 | 2.90 |
| 07 | --- | 8.5 | 235 | --- | (109) | 2.85 | 3.2 | 3.00 |
| 08 | --- | 9.5 | 220 | --- | 107 | 3.45 | 3.9 | 2.85 |
| 09 | (420) | 9.9 | 215 | 5.7 | 105 | 3.78 | 4.5 | 2.70 |
| 10 | 380 | 10.4 | 210 | 6.2 | 103 | 4.05 | 4.6 | 2.60 |
| 11 | 390 | 10.75 | <220 | 6.5 | 103 | 4.25 | 4.8 | 2.55 |
| 12 | 375 | 10.9 | 215 | 6.3 | 105 | 4.40 | 4.7 | 2.55 |
| 13 | 390 | 10.8 | 220 | 6.3 | 105 | 4.40 | 4.6 | 2.55 |
| 14 | 400 | 10.4 | 220 | 6.3 | 103 | 4.28 | 4.5 | 2.55 |
| 15 | 380 | 10.1 | 220 | 6.0 | 103 | 4.05 | 4.4 | 2.60 |
| 16 | 370 | 9.8 | (225) | (5.6) | (105) | 3.75 | 4.1 | 2.60 |
| 17 | --- | 9.5 | (240) | | (109) | 3.25 | 3.8 | 2.65 |
| 18 | | 9.2 | 250 | | (112) | 2.55 | 3.2 | 2.70 |
| 19 | | 8.9 | 255 | | --- | ---- | 3.2 | 2.70 |
| 20 | | 8.2 | 255 | | | | 2.5 | 2.60 |
| 21 | | 7.9 | 275 | | | | 2.4 | 2.60 |
| 22 | | 7.7 | 290 | | | | 2.8 | 2.60 |
| 23 | | 7.6 | 305 | | | | 3.1 | 2.55 |

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 14

Okinawa I. (26.3°N, 127.8°E) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 11.5 | 290 | | | | | 2.60 |
| 01 | | 11.5 | 280 | | | | | 2.70 |
| 02 | | 10.8 | 250 | | | | | 2.75 |
| 03 | | 9.3 | 255 | | | | | 2.65 |
| 04 | | 8.1 | 270 | | | | | 2.65 |
| 05 | | 7.1 | 280 | | | | | 2.55 |
| 06 | | 7.55 | 270 | | | | | 2.05 |
| 07 | | 9.4 | 235 | | --- | ---- | 3.3 | 3.05 |
| 08 | --- | 9.55 | 225 | | (111) | 3.45 | >3.6 | 2.98 |
| 09 | --- | 9.4 | 220 | --- | (110) | ---- | 4.1 | 2.70 |
| 10 | (390) | 10.1 | 210 | --- | (109) | ---- | 4.8 | 2.55 |
| 11 | 380 | 11.6 | (220) | (6.6) | 109 | ---- | 4.8 | 2.55 |
| 12 | 395 | 12.3 | 225 | (6.7) | --- | ---- | 4.7 | 2.60 |
| 13 | 400 | 12.5 | (230) | (6.7) | (109) | (4.35) | 5.2 | 2.55 |
| 14 | 400 | 13.05 | 225 | 6.5 | 109 | (4.32) | 5.1 | 2.50 |
| 15 | 390 | >13.5 | 230 | (6.3) | 109 | (4.20) | 4.9 | 2.60 |
| 16 | 365 | 13.6 | <240 | 6.3 | 111 | 3.85 | 5.2 | 2.60 |
| 17 | 340 | 13.3 | 240 | --- | 110 | 3.50 | 5.0 | 2.65 |
| 18 | 320 | >12.7 | 255 | --- | --- | ---- | 5.3 | 2.70 |
| 19 | | >11.55 | 275 | | | | 5.2 | 2.72 |
| 20 | | >11.2 | 200 | | | | 4.7 | (2.60) |
| 21 | | >11.25 | 300 | | | | | 2.50 |
| 22 | | >10.9 | 295 | | | | | 2.65 |
| 23 | | >11.2 | 295 | | | | | 2.50 |

Time: 135.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 15

Talara, Peru (4.6°S, 81.3°W) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 10.5 | 230 | | | | | 2.70 |
| 01 | | 10.5 | 240 | | | | | 2.00 |
| 02 | | 10.2 | 240 | | | | | 2.98 |
| 03 | | 9.0 | 235 | | | | | 3.12 |
| 04 | | 7.2 | 230 | | | | | 3.10 |
| 05 | | 5.4 | 230 | | | | | 3.15 |
| 06 | | 4.2 | 250 | | | | | 2.80 |
| 07 | | 7.35 | 260 | | 125 | 2.35 | 2.6 | 2.05 |
| 08 | | 9.4 | 240 | | 111 | 3.20 | 3.4 | 2.75 |
| 09 | | 10.4 | <230 | | 109 | 3.70 | | 2.40 |
| 10 | | 11.0 | 210 | | 107 | 4.00 | | 2.25 |
| 11 | | 11.6 | 210 | | 108 | 4.20 | | 2.15 |
| 12 | | 11.9 | 205 | | 107 | 4.30 | | 2.10 |
| 13 | --- | 12.1 | <205 | --- | 107 | 4.30 | | 2.05 |
| 14 | --- | 12.0 | 200 | --- | 107 | 4.20 | | 2.05 |
| 15 | --- | 11.0 | 210 | --- | 105 | 3.95 | | 2.00 |
| 16 | | 11.4 | 220 | | 107 | 3.60 | 4.0 | 2.00 |
| 17 | | 11.2 | 245 | | 111 | 3.10 | | 2.05 |
| 18 | | 11.0 | 280 | | 125 | 2.35 | 2.4 | 2.05 |
| 19 | | 10.5 | 370 | | | | | 2.05 |
| 20 | | 10.3 | 405 | | | | | 2.10 |
| 21 | | 10.6 | 350 | | | | | 2.35 |
| 22 | | (10.8) | 275 | | | | | (2.65) |
| 23 | | 10.9 | 235 | | | | | 2.70 |

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 16

Chimbote, Peru (9.1°S, 78.6°W) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 8.6 | 240 | | | | | 2.70 |
| 01 | | 8.9 | 240 | | | | | 2.90 |
| 02 | | 0.3 | 235 | | | | | 3.05 |
| 03 | | 7.65 | 230 | | | | | 3.10 |
| 04 | | 6.65 | 230 | | | | | 3.05 |
| 05 | | 5.6 | 240 | | | | | 3.00 |
| 06 | | 4.7 | 260 | | | | | 2.72 |
| 07 | | 8.0 | 260 | | 129 | 2.40 | 4.5 | 2.05 |
| 08 | | 10.2 | 240 | | 117 | 3.20 | 5.4 | 2.75 |
| 09 | | 11.05 | 230 | | 113 | 3.65 | 7.4 | 2.45 |
| 10 | | 11.3 | 220 | | 112 | 4.00 | 0.0 | 2.30 |
| 11 | --- | 11.3 | 210 | | 111 | 4.15 | 0.0 | 2.20 |
| 12 | --- | 11.3 | 210 | --- | 111 | 4.25 | 8.1 | 2.10 |
| 13 | --- | 11.15 | 210 | 6.9 | 111 | 4.20 | 0.0 | 2.10 |
| 14 | --- | 10.9 | 210 | --- | 111 | 4.10 | 7.0 | 2.05 |
| 15 | --- | 10.4 | 210 | --- | 111 | 3.90 | 7.0 | 2.05 |
| 16 | --- | 10.3 | 225 | --- | 115 | 3.50 | 5.1 | 2.08 |
| 17 | | 10.05 | 255 | | 119 | 3.00 | 4.8 | 2.10 |
| 18 | | 9.55 | 300 | | <144 | 2.10 | | 2.10 |
| 19 | | 8.9 | 400 | | | | | 2.00 |
| 20 | | 8.25 | 410 | | | | | 2.10 |
| 21 | | 8.6 | 340 | | | | | 2.30 |
| 22 | | 8.5 | 270 | | | | 1.8 | 2.60 |
| 23 | | 8.25 | 240 | | | | | 2.70 |

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 17

La Paz, Bolivia (16.5°S, 68.0°W) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 8.0 | 220 | | | | | 2.90 |
| 01 | | 8.2 | 220 | | | | | 2.95 |
| 02 | | 7.3 | 225 | | | | | 3.00 |
| 03 | | 6.5 | 225 | | | | | 3.00 |
| 04 | | 6.0 | 240 | | | | | 2.85 |
| 05 | | 5.35 | 250 | | | | | 2.90 |
| 06 | | 5.2 | 255 | | | | | 2.98 |
| 07 | | 7.0 | 275 | | (135) | 1.90 | | 2.90 |
| 08 | | 10.55 | 245 | | 111 | 2.90 | | 2.95 |
| 09 | | 12.3 | 230 | | 109 | 3.50 | 4.6 | 2.75 |
| 10 | | >13.0 | 220 | | 109 | (3.85) | 5.0 | 2.48 |
| 11 | | (13.2) | 215 | | 109 | (4.15) | 5.0 | (2.30) |
| 12 | | (12.4) | 210 | | 105 | (4.20) | 5.2 | (2.25) |
| 13 | --- | 11.95 | 210 | | 108 | (4.22) | 5.1 | 2.20 |
| 14 | --- | >11.8 | 200 | --- | 105 | ---- | 4.9 | 2.15 |
| 15 | --- | 11.6 | 210 | --- | 107 | (3.95) | 5.0 | 2.15 |
| 16 | | 11.5 | 225 | | 107 | (3.65) | 5.2 | 2.15 |
| 17 | | 10.9 | 245 | | 109 | (3.05) | 5.1 | 2.18 |
| 18 | | 10.6 | 280 | | <121 | 2.20 | 4.5 | 2.20 |
| 19 | | 9.7 | 345 | | | | | 2.20 |
| 20 | | 8.95 | 360 | | | | | 2.10 |
| 21 | | 8.75 | 300 | | | | | 2.30 |
| 22 | | 9.0 | 255 | | | | 3.2 | 2.50 |
| 23 | | 9.0 | 230 | | | | 3.4 | 2.78 |

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 18

Watheroo, W. Australia (30.3°S, 115.9°E) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | >4.3 | <240 | | | | | 3.30 |
| 01 | | >4.3 | (245) | | | | | 3.10 |
| 02 | | (4.5) | <245 | | | | | 3.20 |
| 03 | | >4.3 | (245) | | | | | <3.30 |
| 04 | | >4.3 | <250 | | | | | 3.15 |
| 05 | | 4.4 | (245) | | | | | 3.20 |
| 06 | | >4.3 | (230) | | --- | ---- | | <3.20 |
| 07 | | >6.5 | 230 | | 160 | 2.05 | | 3.40 |
| 00 | | >10.5 | 220 | | 100 | 2.90 | | <3.55 |
| 09 | | >10.5 | 215 | | 100 | 3.30 | | <3.65 |
| 10 | --- | >10.5 | 210 | --- | 100 | 3.70 | | <3.65 |
| 11 | --- | >10.5 | 210 | --- | 100 | 3.80 | | <3.60 |
| 12 | <295 | >10.5 | <215 | 6.5 | 100 | 3.95 | | <3.40 |
| 13 | <300 | >10.5 | (215) | 6.4 | 100 | 3.90 | 4.0 | <3.30 |
| 14 | <305 | >10.5 | <205 | (7.1) | 100 | 3.85 | 4.0 | <3.10 |
| 15 | <305 | >10.5 | 215 | 6.4 | 100 | 3.70 | 3.8 | <3.10 |
| 16 | <300 | >10.5 | 220 | 6.2 | 100 | 3.25 | 3.4 | <3.15 |
| 17 | --- | >10.5 | 225 | --- | 110 | <2.70 | | <3.20 |
| 18 | | >8.4 | 225 | | 160 | 1.70 | | ---- |
| 19 | | >6.5 | 215 | | --- | ---- | 1.4 | <3.50 |
| 20 | | >4.3 | 225 | | | | | <3.40 |
| 21 | | >4.5 | (230) | | | | | <3.10 |
| 22 | | >4.3 | (235) | | | | | 3.10 |
| 23 | | >4.3 | <240 | | | | | <3.20 |

Time: 120.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 19

Hobart, Tasmania (42.9°S, 147.2°E) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | (5.4) | 280 | | | | | (2.50) |
| 01 | | (4.6) | 290 | | | | 1.4 | ---- |
| 02 | | >4.5 | 280 | | | | | (2.60) |
| 03 | | >4.5 | 280 | | | | | ---- |
| 04 | | 4.5 | 280 | | | | | (2.70) |
| 05 | | >4.4 | 270 | | | | | 2.70 |
| 06 | | 4.0 | 260 | | | | | 2.75 |
| 07 | | (5.7) | 250 | | --- | 1.75 | | (3.00) |
| 00 | | >8.3 | 230 | | 120 | 2.55 | | 3.25 |
| 09 | | >10.1 | 230 | | 120 | 3.00 | | 3.15 |
| 10 | | 11.2 | 230 | | 110 | 3.35 | | 3.10 |
| 11 | | 11.9 | 230 | | 110 | 3.60 | | 3.00 |
| 12 | | >12.0 | 230 | | 120 | 3.65 | | 2.95 |
| 13 | | >11.5 | 230 | | 120 | 3.65 | | 2.85 |
| 14 | | >11.5 | 230 | | 110 | 3.50 | | 2.85 |
| 15 | | >11.0 | 230 | | 120 | 3.20 | | (2.90) |
| 16 | | >10.5 | 230 | | 120 | 2.00 | | ---- |
| 17 | | >10.1 | 230 | | 120 | 2.35 | | (2.95) |
| 18 | | (9.0) | 230 | | | | | (2.90) |
| 19 | | (8.8) | 240 | | | | | 2.85 |
| 20 | | (7.6) | 240 | | | | | 2.80 |
| 21 | | 6.8 | 250 | | | | | 2.70 |
| 22 | | >6.0 | 260 | | | | | 2.70 |
| 23 | | (5.7) | 270 | | | | | (2.70) |

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 20

Christchurch, New Zealand (43.6°S, 172.8°E) August 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 5.0 | 290 | | | | <1.7 | 2.60 |
| 01 | | 5.7 | 290 | | | | <1.7 | 2.60 |
| 02 | | 5.6 | 300 | | | | <1.5 | 2.60 |
| 03 | | 5.4 | 300 | | | | <1.4 | 2.60 |
| 04 | | 5.3 | 280 | | | | <1.4 | 2.70 |
| 05 | | 4.9 | 250 | | | | <1.2 | 2.70 |
| 06 | | 4.4 | 250 | | | | <1.7 | 2.60 |
| 07 | | 5.2 | 260 | | --- | --- | <1.9 | 2.00 |
| 08 | | 8.3 | 240 | | 115 | 2.5 | | 3.20 |
| 09 | --- | (10.5) | 240 | | 110 | 3.0 | | (3.10) |
| 10 | --- | >11.2 | 230 | | 110 | 3.3 | | 3.10 |
| 11 | --- | 11.5 | 230 | | 105 | 3.6 | | 3.05 |
| 12 | --- | >12.1 | 230 | | 105 | 3.7 | 3.8 | 2.90 |
| 13 | --- | 11.7 | 230 | | 105 | 3.7 | | 2.90 |
| 14 | --- | 11.4 | 240 | | 105 | 3.6 | | 2.90 |
| 15 | --- | 10.0 | 240 | | 110 | 3.4 | | 2.95 |
| 16 | | (9.7) | 240 | | 110 | 3.0 | | (3.00) |
| 17 | | --- | 250 | | --- | 2.5 | | ---- |
| 18 | | (9.0) | 240 | | --- | --- | <2.3 | (2.90) |
| 19 | | 8.4 | 250 | | | | <2.0 | 2.85 |
| 20 | | 7.6 | 240 | | | | <2.0 | 2.75 |
| 21 | | 7.0 | 260 | | | | (1.9) | 2.80 |
| 22 | | 6.6 | 280 | | | | <2.0 | 2.65 |
| 23 | | 6.3 | 200 | | | | <2.2 | 2.65 |

Time: 100.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 21

Thule, Greenland (76.6°N, 68.7°W) July 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | (400) | 5.5 | 250 | --- | 111 | (2.35) | | (2.50) |
| 01 | (400) | (5.4) | 245 | --- | 109 | (2.32) | | (2.65) |
| 02 | (545) | 5.5 | 245 | --- | 109 | (2.40) | | 2.50 |
| 03 | (460) | (5.5) | 235 | 4.0 | 107 | 2.52 | | (2.70) |
| 04 | 530 | (5.3) | 230 | 4.0 | 105 | 2.65 | | 2.48 |
| 05 | 530 | 5.4 | 230 | (4.2) | 105 | 2.00 | | 2.65 |
| 06 | 510 | 5.1 | 220 | 4.4 | 103 | 3.00 | | (2.40) |
| 07 | 520 | 5.4 | 220 | 4.5 | 101 | 3.10 | | 2.50 |
| 08 | 490 | 5.6 | 220 | 4.6 | 101 | 3.20 | | 2.48 |
| 09 | 500 | 5.6 | 210 | 4.7 | 101 | 3.30 | | 2.48 |
| 10 | <540 | 5.5 | 210 | 4.7 | 101 | (3.35) | | G |
| 11 | 540 | 5.5 | (215) | 4.7 | 99 | 3.40 | | 2.18 |
| 12 | 505 | 5.6 | 210 | 4.8 | 99 | 3.40 | | 2.35 |
| 13 | 570 | 5.5 | 220 | 4.7 | 99 | 3.40 | | 2.25 |
| 14 | 520 | 5.4 | (220) | 4.7 | 101 | 3.30 | | (2.30) |
| 15 | 540 | (5.4) | 215 | 4.6 | 101 | 3.20 | | 2.35 |
| 16 | 520 | 5.6 | 220 | 4.5 | 101 | 3.20 | | 2.40 |
| 17 | 500 | 5.5 | 220 | 4.3 | 101 | 3.05 | | (2.40) |
| 18 | 460 | 5.6 | 220 | 4.1 | 101 | 2.95 | | 2.50 |
| 19 | <465 | (5.6) | 220 | 4.1 | 104 | 2.00 | | (2.50) |
| 20 | 435 | 5.8 | 230 | 3.9 | 109 | (2.70) | | 2.60 |
| 21 | (440) | (5.8) | 255 | (3.7) | 109 | (2.50) | | (2.60) |
| 22 | (450) | (6.0) | 245 | --- | 111 | (2.35) | | (2.70) |
| 23 | (460) | 6.0 | 250 | --- | 112 | (2.30) | | 2.68 |

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 22

St. John's, Newfoundland (47.6°N, 52.7°W) July 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 6.0 | 300 | | | | | 2.52 |
| 01 | | 5.7 | 300 | | | | 1.4 | 2.50 |
| 02 | | (5.15) | 300 | | | | | 2.50 |
| 03 | | (4.1) | 310 | | | | | (2.60) |
| 04 | --- | 4.4 | <300 | | 113 | 1.80 | | 2.70 |
| 05 | --- | 5.0 | 255 | --- | <119 | 2.50 | 2.6 | 2.80 |
| 06 | 500 | 5.4 | 240 | 4.4 | 111 | 3.00 | 3.0 | 2.70 |
| 07 | 445 | 5.6 | 230 | 4.0 | 108 | 3.35 | 3.4 | 2.60 |
| 08 | 490 | 6.0 | 220 | 5.0 | 105 | 3.60 | 3.6 | 2.60 |
| 09 | <500 | 6.2 | 210 | 5.4 | 101 | 3.90 | | 2.60 |
| 10 | 510 | 6.2 | 220 | 5.4 | 101 | 3.95 | | 2.55 |
| 11 | 510 | 6.5 | 210 | 5.5 | 101 | (4.00) | 4.2 | 2.50 |
| 12 | 500 | 6.9 | 210 | 5.8 | 101 | 4.00 | | 2.50 |
| 13 | 510 | 7.0 | 210 | 5.5 | 101 | 4.00 | | 2.45 |
| 14 | 475 | 7.0 | 220 | 5.5 | 101 | 3.90 | | 2.50 |
| 15 | 445 | 7.0 | 220 | 5.3 | 104 | 3.70 | | 2.50 |
| 16 | 410 | 7.3 | 230 | 5.0 | 109 | 3.42 | | 2.55 |
| 17 | 370 | 7.35 | 240 | 4.0 | 109 | 3.10 | 3.4 | 2.60 |
| 18 | (300) | 7.7 | 260 | | 119 | 2.60 | 3.2 | 2.65 |
| 19 | . | 7.45 | 280 | | <139 | 2.00 | 2.2 | 2.70 |
| 20 | | 7.6 | 280 | | | | | 2.62 |
| 21 | | 7.35 | 280 | | | | | 2.60 |
| 22 | | 6.9 | 300 | | | | | 2.52 |
| 23 | | 6.4 | 300 | | | | | 2.50 |

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 23

Cape Canaveral, Florida (28.4°N, 00.6°W) July 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 7.1 | (310) | | | | 3.6 | 2.60 |
| 01 | | 7.0 | 300 | | | | 3.0 | 2.60 |
| 02 | | 6.6 | 205 | | | | | 2.65 |
| 03 | | 6.25 | 300 | | | | | 2.60 |
| 04 | | 6.0 | (310) | | | | | 2.60 |
| 05 | | 6.0 | (305) | | | | | 2.65 |
| 06 | --- | 6.2 | <270 | --- | --- | ---- | 3.6 | 2.85 |
| 07 | --- | 7.2 | 240 | --- | 111 | 2.85 | 4.6 | 2.90 |
| 08 | (460) | 7.55 | 220 | 5.0 | 109 | (3.45) | 4.2 | 2.75 |
| 09 | 435 | 7.75 | <215 | 5.3 | 107 | (3.80) | 4.6 | 2.60 |
| 10 | 440 | 8.25 | (210) | 5.5 | 107 | (4.00) | 4.5 | 2.55 |
| 11 | 415 | 8.9 | (210) | 5.8 | 105 | 4.20 | 5.0 | 2.55 |
| 12 | 420 | 8.8 | (210) | 5.7 | 105 | 4.20 | 5.2 | 2.50 |
| 13 | 410 | 9.15 | <215 | 5.6 | 107 | 4.25 | 4.6 | 2.55 |
| 14 | 420 | 9.1 | (215) | 5.5 | 107 | 4.15 | 4.5 | 2.55 |
| 15 | 410 | 8.95 | (220) | 5.5 | 109 | 4.05 | 4.4 | 2.58 |
| 16 | 415 | 8.4 | 220 | 5.5 | 109 | 3.85 | 4.1 | 2.58 |
| 17 | <395 | 8.4 | <230 | 5.0 | 111 | 3.40 | 3.8 | 2.65 |
| 18 | (400) | 7.85 | (240) | --- | <114 | 2.92 | 3.3 | 2.65 |
| 19 | | 8.3 | 280 | | --- | ---- | 3.5 | 2.75 |
| 20 | | 7.8 | (260) | | | | 3.0 | 2.65 |
| 21 | | 7.6 | <285 | | | | | 2.55 |
| 22 | | 7.3 | <300 | | | | 3.2 | 2.60 |
| 23 | | 7.1 | (310) | | | | 3.7 | 2.60 |

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 24

Townsville, Australia (19.3°S, 146.7°E) July 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | >5.1 | 250 | | | | | (3.10) |
| 01 | | >4.5 | 250 | | | | | 3.00 |
| 02 | | 4.3 | 250 | | | | | 3.00 |
| 03 | | 3.9 | 250 | | | | | 3.00 |
| 04 | | 3.4 | 260 | | | | | 2.70 |
| 05 | | 3.6 | 290 | | | | | 2.80 |
| 06 | | 3.7 | 280 | | --- | <1.70 | | 2.90 |
| 07 | | >7.0 | 250 | | 150 | 2.10 | 2.7 | (3.15) |
| 08 | --- | >10.0 | 250 | --- | 110 | 2.90 | | (3.20) |
| 09 | (250) | 12.0 | 240 | --- | 110 | 3.30 | | 3.10 |
| 10 | 250 | >12.0 | 225 | --- | 110 | 3.60 | 3.7 | 3.05 |
| 11 | (270) | 11.8 | 220 | --- | 110 | 3.80 | | 2.90 |
| 12 | (280) | 11.5 | 215 | --- | 110 | 3.80 | | 2.90 |
| 13 | --- | 11.2 | 210 | --- | 110 | 3.80 | | 2.85 |
| 14 | (290) | 10.9 | 230 | 6.4 | 110 | 3.70 | 4.0 | 2.85 |
| 15 | --- | >10.5 | 220 | --- | 110 | 3.50 | 3.7 | (2.75) |
| 16 | --- | >10.5 | 240 | --- | 110 | 3.20 | 3.5 | (2.80) |
| 17 | | >10.2 | 250 | | 110 | 2.70 | 3.6 | ---- |
| 18 | | >9.5 | 250 | | --- | 1.75 | 3.8 | |
| 19 | | >7.5 | 250 | | | | 3.5 | |
| 20 | | >6.5 | 250 | | | | 1.8 | ---- |
| 21 | | >6.3 | 250 | | | | | ---- |
| 22 | | >6.4 | 250 | | | | | ---- |
| 23 | | >5.7 | 250 | | | | | (2.95) |

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 25

Monte Capellino, Italy (44.6°N, 9.0°E) June 1958

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 7.2 | | | | | | |
| 01 | | 7.2 | | | | | | |
| 02 | | 7.1 | | | | | | |
| 03 | | 7.0 | | | | | | |
| 04 | | 6.0 | | | | | | |
| 05 | | 6.8 | | | | 1.7 | | |
| 06 | | 7.4 | | | | 2.7 | | |
| 07 | | 8.0 | | | | --- | | |
| 08 | | 9.0 | | | | --- | | |
| 09 | | 8.5 | | | | --- | | |
| 10 | | 9.2 | | | | --- | | |
| 11 | | 9.3 | | | | --- | | |
| 12 | | 8.9 | | | | --- | | |
| 13 | | 9.1 | | | | 4.2 | | |
| 14 | | 9.0 | | | | --- | | |
| 15 | | 8.7 | | | | --- | | |
| 16 | | 0.7 | | | | --- | | |
| 17 | | 8.6 | | | | --- | | |
| 18 | | 0.5 | | | | --- | | |
| 19 | | (8.4) | | | | --- | | |
| 20 | | 7.3 | | | | | | |
| 21 | | 6.9 | | | | | | |
| 22 | | 7.2 | | | | | | |
| 23 | | 7.4 | | | | | | |

Time: Local.

Table 26

La Paz, Bolivia (16.5°S, 68.0°W) June 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 0.0 | 230 | | | | | 2.90 |
| 01 | | 7.9 | 220 | | | | | 2.95 |
| 02 | | 7.65 | 225 | | | | | 2.90 |
| 03 | | 6.9 | 230 | | | | | 2.95 |
| 04 | | 5.7 | 235 | | | | | 3.00 |
| 05 | | 5.15 | 250 | | | | | 3.00 |
| 06 | | 4.65 | 250 | | | | | 2.90 |
| 07 | | 6.6 | 290 | | <149 | 1.00 | | 2.80 |
| 00 | | 10.0 | 250 | | 111 | 2.75 | | 2.90 |
| 09 | | 11.95 | 230 | | 109 | 3.25 | | 2.00 |
| 10 | | 12.6 | 225 | | 109 | 3.65 | 4.0 | 2.55 |
| 11 | --- | >12.1 | 220 | | 109 | 3.90 | 5.0 | (2.30) |
| 12 | --- | (12.0) | 215 | --- | 109 | 4.00 | 5.0 | (2.30) |
| 13 | --- | (11.6) | 215 | --- | 105 | ---- | 4.9 | (2.25) |
| 14 | --- | 11.4 | 210 | --- | 107 | ---- | 5.2 | 2.25 |
| 15 | --- | 10.0 | 220 | --- | 109 | 3.70 | 5.1 | 2.20 |
| 16 | --- | 10.3 | 235 | | 109 | 3.40 | 5.2 | 2.20 |
| 17 | | 10.4 | 260 | | 111 | (2.00) | 4.9 | 2.20 |
| 18 | | 9.6 | 290 | | <149 | 1.90 | 4.0 | 2.30 |
| 19 | | 9.0 | 330 | | | | | 2.30 |
| 20 | | 8.9 | 310 | | | | | 2.35 |
| 21 | | 0.75 | 200 | | | | | 2.42 |
| 22 | | 8.6 | 245 | | | | 2.4 | 2.50 |
| 23 | | 8.0 | 230 | | | | | 2.80 |

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 27

Monte Capellino, Italy (44.6°N, 9.0°E) May 1958

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 6.9 | | | | | | |
| 01 | | 7.0 | | | | | | |
| 02 | | 7.2 | | | | | | |
| 03 | | 6.9 | | | | | | |
| 04 | | 6.5 | | | | | | |
| 05 | | 6.6 | | | | ---- | | |
| 06 | | 7.2 | | | | 2.30 | | |
| 07 | | 7.6 | | | | 2.90 | | |
| 08 | | 8.6 | | | | ---- | | |
| 09 | | 9.0 | | | | ---- | | |
| 10 | | 9.2 | | | | ---- | | |
| 11 | | 9.4 | | | | 4.20 | | |
| 12 | | 9.7 | | | | 4.20 | | |
| 13 | | 10.2 | | | | 4.10 | | |
| 14 | | 10.0 | | | | 4.10 | | |
| 15 | | 9.7 | | | | 3.95 | | |
| 16 | | 9.5 | | | | 3.70 | | |
| 17 | | 9.4 | | | | ---- | | |
| 18 | | 9.2 | | | | ---- | | |
| 19 | | 8.5 | | | | ---- | | |
| 20 | | 7.2 | | | | | | |
| 21 | | 6.9 | | | | | | |
| 22 | | 6.8 | | | | | | |
| 23 | | 6.9 | | | | | | |

Time: Local.

Table 28

La Paz, Bolivia (16.5°S, 68.0°W) May 1958*

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 8.0 | 225 | | | | | 2.75 |
| 01 | | 9.0 | 225 | | | | | 2.05 |
| 02 | | 8.3 | 235 | | | | | 2.05 |
| 03 | | 7.5 | 230 | | | | | 3.00 |
| 04 | | 6.4 | 235 | | | | | 2.95 |
| 05 | | 5.8 | 235 | | | | | 3.00 |
| 06 | | 5.4 | 240 | | | | | 3.00 |
| 07 | | 0.1 | 260 | | <151 | 2.00 | | 2.75 |
| 00 | | 11.6 | 245 | | 111 | 2.05 | | 2.00 |
| 09 | | (13.5) | 235 | | 109 | 3.40 | 3.8 | (2.70) |
| 10 | | (13.2) | 225 | | 107 | ---- | 5.0 | (2.50) |
| 11 | | >13.0 | 215 | | 107 | ---- | 6.8 | (2.30) |
| 12 | --- | (12.8) | (210) | | 106 | ---- | 5.2 | (2.25) |
| 13 | | (12.1) | <220 | | 109 | ---- | 6.3 | (2.20) |
| 14 | | (11.9) | (220) | | 107 | ---- | 6.7 | (2.15) |
| 15 | | >11.8 | 225 | | (109) | ---- | 6.7 | (2.20) |
| 16 | | >11.0 | 245 | | 108 | ---- | 5.2 | (2.15) |
| 17 | | (11.65) | 260 | | 111 | 2.82 | 5.2 | (2.15) |
| 18 | | (11.15) | 300 | | <155 | 2.05 | 4.0 | (2.25) |
| 19 | | (10.5) | 360 | | | | | (2.22) |
| 20 | | (9.9) | 335 | | | | | (2.15) |
| 21 | | (10.05) | 275 | | | | | (2.38) |
| 22 | | 10.05 | 240 | | | | 3.0 | 2.62 |
| 23 | | 9.55 | 235 | | | | | 2.70 |

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.
*Observations taken 1 through 6 and 26 through 31 only.

Table 29

Monte Capellino, Italy (44.6°N, 9.0°E) April 1958

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 7.2 | | | | | | |
| 01 | | 7.2 | | | | | | |
| 02 | | 7.2 | | | | | | |
| 03 | | 6.5 | | | | | | |
| 04 | | 6.6 | | | | | | |
| 05 | | 6.4 | | | | | | |
| 06 | | 6.5 | | | | 1.85 | | |
| 07 | | 7.8 | | | | 2.50 | | |
| 08 | | (8.6) | | | | 3.20 | | |
| 09 | | 10.7 | | | | 3.60 | | |
| 10 | | 11.0 | | | | 3.80 | | |
| 11 | | 11.5 | | | | 4.00 | | |
| 12 | | 12.6 | | | | 4.10 | | |
| 13 | | 12.5 | | | | 4.10 | | |
| 14 | | 12.0 | | | | 3.90 | | |
| 15 | | 11.0 | | | | 3.70 | | |
| 16 | | 11.0 | | | | 3.50 | | |
| 17 | | 10.8 | | | | 3.10 | | |
| 18 | | 10.1 | | | | 2.30 | | |
| 19 | | (9.1) | | | | | | |
| 20 | | (7.4) | | | | | | |
| 21 | | (7.0) | | | | | | |
| 22 | | 7.0 | | | | | | |
| 23 | | 6.8 | | | | | | |

Time: Local.

Table 30

La Paz, Bolivia (16.5°S, 68.0°W) April 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 10.55 | 230 | | | | 3.5 | 2.70 |
| 01 | | 11.0 | 230 | | | | 3.8 | 2.82 |
| 02 | | 10.2 | 230 | | | | 2.0 | 2.88 |
| 03 | | 8.5 | 230 | | | | 3.0 | 2.90 |
| 04 | | 7.6 | 240 | | | | | 2.85 |
| 05 | | 6.9 | 245 | | | | 3.9 | 2.90 |
| 06 | | 6.6 | 240 | | --- | ---- | 3.2 | 2.95 |
| 07 | | 8.8 | 270 | | 131 | 2.10 | 3.8 | 2.90 |
| 00 | | 12.5 | 245 | | 115 | 3.00 | 3.6 | 2.95 |
| 09 | | >14.8 | 235 | | 111 | 3.50 | 5.0 | 2.80 |
| 10 | | 16.0 | 225 | | 109 | (3.80) | 5.5 | (2.55) |
| 11 | | (16.0) | 220 | | 110 | ---- | 7.0 | ---- |
| 12 | | >14.65 | 215 | | --- | ---- | 7.0 | ---- |
| 13 | | (13.8) | 220 | | 109 | ---- | 6.7 | ---- |
| 14 | | >13.0 | 220 | | 109 | ---- | 7.0 | (2.15) |
| 15 | | >12.9 | 225 | | 111 | ---- | 6.8 | (2.20) |
| 16 | | >13.0 | 245 | | 109 | ---- | 6.9 | (2.12) |
| 17 | | >13.0 | (260) | | 109 | ---- | 6.4 | (2.20) |
| 18 | | >12.0 | 285 | | 117 | 2.15 | 5.2 | (2.10) |
| 19 | | (10.8) | 370 | | | | | (2.12) |
| 20 | | (9.5) | 380 | | | | | (2.08) |
| 21 | | (10.4) | 290 | | | | 2.5 | (2.25) |
| 22 | | 10.6 | 250 | | | | 3.2 | 2.60 |
| 23 | | 10.65 | 240 | | | | 3.5 | (2.55) |

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 31

La Paz, Bolivia (16.5°S, 68.0°W) March 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | (11.2) | 235 | | | | 4.4 | (2.80) |
| 01 | | 10.9 | 225 | | | | 3.4 | 2.95 |
| 02 | | 9.0 | 230 | | | | 3.9 | 2.95 |
| 03 | | 7.4 | 230 | | | | 3.5 | 2.80 |
| 04 | | 7.1 | 240 | | | | 3.2 | 2.80 |
| 05 | | 7.4 | 240 | | | | 4.0 | 3.00 |
| 06 | | 6.95 | 245 | | --- | ---- | 3.7 | 2.95 |
| 07 | | 10.05 | 260 | | <130 | 2.22 | 4.6 | 2.90 |
| 00 | | >13.05 | 245 | | 121 | 3.15 | 5.2 | 2.95 |
| 09 | | 14.8 | 240 | | 115 | 3.60 | 5.3 | 2.78 |
| 10 | | >15.8 | 230 | | 111 | ---- | 6.5 | (2.50) |
| 11 | | (16.0) | 225 | | 111 | ---- | 7.4 | (2.38) |
| 12 | | >13.9 | <225 | | 109 | ---- | 7.0 | (2.25) |
| 13 | | (13.0) | (215) | | --- | ---- | 8.3 | (2.15) |
| 14 | | (12.6) | (220) | | 111 | ---- | 8.2 | (2.10) |
| 15 | | (13.0) | (240) | | --- | ---- | 8.0 | (2.15) |
| 16 | | (13.0) | <240 | | 106 | ---- | 7.9 | (2.10) |
| 17 | | (12.0) | (260) | | 110 | ---- | 8.0 | (2.10) |
| 18 | | (11.6) | 280 | | --- | 2.60 | 6.8 | (2.12) |
| 19 | | >11.25 | 325 | | | | | (2.10) |
| 20 | | >9.85 | 385 | | | | | (2.10) |
| 21 | | (9.8) | 350 | | | | | (2.20) |
| 22 | | >10.5 | 280 | | | | 3.8 | (2.40) |
| 23 | | >11.05 | 250 | | | | 4.4 | (2.68) |

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 32

La Paz, Bolivia (16.5°S, 68.0°W) February 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | (11.1) | 305 | | | | | (2.78) |
| 01 | | 10.5 | 280 | | | | | (2.65) |
| 02 | | 9.35 | <280 | | | | 3.9 | (2.60) |
| 03 | | 9.45 | 255 | | | | 3.0 | 2.70 |
| 04 | | 8.5 | 270 | | | | 3.6 | 2.70 |
| 05 | | 7.8 | 250 | | | | 2.2 | 2.70 |
| 06 | | 7.1 | <245 | | | | 4.5 | 2.80 |
| 07 | | 9.4 | 265 | | (123) | 2.35 | 4.5 | 2.80 |
| 00 | | 12.0 | 240 | | 111 | 3.20 | 5.2 | 2.60 |
| 09 | | 13.5 | 230 | | 112 | 3.70 | 7.6 | 2.60 |
| 10 | | (12.9) | 215 | | --- | ---- | 0.2 | (2.30) |
| 11 | | >13.5 | 210 | | --- | ---- | 8.6 | (2.10) |
| 12 | | (12.0) | <210 | | --- | ---- | 8.3 | (2.10) |
| 13 | | (12.2) | (205) | | --- | ---- | 8.4 | (2.10) |
| 14 | --- | 12.2 | <210 | | 111 | ---- | 8.5 | (2.15) |
| 15 | --- | (11.6) | (205) | | 105 | ---- | 7.7 | (2.12) |
| 16 | --- | 12.7 | <230 | | 109 | ---- | 8.0 | (2.20) |
| 17 | --- | 13.0 | 240 | | 109 | (3.45) | 7.8 | (2.18) |
| 18 | | (13.0) | 270 | | --- | 2.95 | 5.8 | ---- |
| 19 | | >13.0 | 290 | | --- | 2.00 | 4.3 | (2.10) |
| 20 | | >12.0 | 390 | | | | | (1.95) |
| 21 | | (12.2) | 345 | | | | | (2.00) |
| 22 | | >12.2 | 335 | | | | 3.1 | ---- |
| 23 | | (11.7) | 300 | | | | | (2.35) |

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 33

La Paz, Bolivia (16.5°S, 68.0°W) January 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 8.9 | 450 | | | | 3.2 | (2.25) |
| 01 | | 9.25 | 405 | | | | 3.2 | (2.25) |
| 02 | | >9.0 | 350 | | | | 3.1 | (2.42) |
| 03 | | 8.7 | 305 | | | | 3.4 | 2.50 |
| 04 | | 8.25 | 260 | | | | 3.6 | 2.70 |
| 05 | | 7.15 | 230 | | | | 3.0 | 2.80 |
| 06 | | 7.1 | 275 | | 135 | 1.62 | 3.9 | 2.60 |
| 07 | | 9.65 | 260 | | 121 | 2.60 | 4.8 | 2.65 |
| 00 | | 11.7 | 240 | | 111 | 3.30 | 6.9 | 2.40 |
| 09 | | 12.8 | 230 | | 109 | (3.80) | 7.4 | 2.30 |
| 10 | | >12.8 | 220 | --- | 109 | (4.10) | 8.0 | 2.10 |
| 11 | | (13.0) | 215 | 7.0 | 109 | (4.30) | 8.2 | (2.00) |
| 12 | --- | 11.9 | 210 | 7.1 | 111 | (4.50) | 8.1 | (2.00) |
| 13 | (590) | (11.5) | 210 | 6.8 | 107 | (4.50) | 8.2 | (2.00) |
| 14 | (550) | (11.0) | 205 | 6.5 | 109 | (4.40) | 7.4 | (2.00) |
| 15 | --- | >12.0 | 215 | 6.4 | 107 | (4.20) | 7.6 | (2.10) |
| 16 | --- | 12.0 | 225 | | 109 | (3.90) | 7.3 | 2.05 |
| 17 | --- | >12.05 | 240 | | 109 | (3.60) | 7.0 | 2.05 |
| 18 | --- | (12.6) | 265 | | 111 | (3.00) | 6.4 | (2.00) |
| 19 | | >11.4 | 305 | | <149 | 2.00 | 4.5 | (1.90) |
| 20 | | >9.7 | 415 | | | | | ---- |
| 21 | | >9.0 | (490) | | | | | ---- |
| 22 | | >8.9 | 445 | | | | 2.4 | (1.90) |
| 23 | | 9.0 | 455 | | | | 2.9 | (2.10) |

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 34

La Paz, Bolivia (16.5°S, 68.0°W) December 1957

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 8.6 | 460 | | | | 3.0 | 2.15 |
| 01 | | 8.3 | 425 | | | | 3.4 | (2.30) |
| 02 | | 8.5 | 430 | | | | 4.0 | 2.35 |
| 03 | | 8.75 | 380 | | | | 3.8 | 2.58 |
| 04 | | 8.3 | 325 | | | | 3.8 | 2.68 |
| 05 | | 7.7 | 260 | | | | 3.7 | 2.65 |
| 06 | | 7.9 | 280 | | (119) | 1.85 | 3.4 | 2.70 |
| 07 | | 10.15 | 260 | | 113 | 2.90 | 4.8 | 2.65 |
| 00 | | 11.8 | 240 | | 111 | 3.55 | 3.9 | 2.45 |
| 09 | --- | 12.0 | 235 | --- | 111 | (4.00) | 5.2 | 2.35 |
| 10 | --- | 13.0 | 230 | --- | 111 | (4.25) | 7.0 | 2.25 |
| 11 | 605 | 13.1 | <225 | 6.9 | 109 | (4.40) | 7.4 | 2.15 |
| 12 | 605 | 13.0 | 220 | 6.6 | 111 | (4.50) | 8.0 | 2.10 |
| 13 | 655 | 12.9 | 220 | 6.5 | 111 | (4.50) | 7.4 | 2.05 |
| 14 | 625 | 12.7 | 215 | 6.2 | (111) | (4.40) | 7.7 | 2.05 |
| 15 | (650) | >12.2 | 215 | 6.0 | (109) | (4.20) | 7.7 | 2.05 |
| 16 | --- | 11.0 | 230 | --- | 109 | (3.90) | 7.6 | 2.00 |
| 17 | --- | 11.8 | 250 | --- | 109 | (3.50) | 6.8 | 2.05 |
| 18 | | 12.0 | 275 | | 111 | (2.90) | 5.4 | 2.05 |
| 19 | | >11.1 | 325 | | --- | 1.95 | 4.0 | (2.00) |
| 20 | | 10.4 | 420 | | | | | 1.95 |
| 21 | | >9.4 | 460 | | | | | 1.98 |
| 22 | | 9.3 | 475 | | | | 2.2 | 2.00 |
| 23 | | >9.0 | 460 | | | | 2.2 | 2.05 |

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 35

Alert, Canada (82.5°N, 62.6°W) September 1957

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 6.0 | 300 | | --- | 1.7 | 1.7 | |
| 01 | | 5.6 | 300 | | --- | 1.8 | | |
| 02 | | 5.7 | 300 | | --- | 1.9 | 1.9 | |
| 03 | | 6.4 | 290 | | --- | 1.9 | | |
| 04 | | 7.0 | 290 | | 150 | 2.0 | | |
| 05 | | 6.5 | 290 | | 140 | 2.0 | | |
| 06 | | 6.3 | 300 | | 125 | 2.1 | | |
| 07 | --- | 6.1 | 290 | --- | 120 | 2.2 | | |
| 08 | --- | 6.3 | 280 | --- | 105 | 2.4 | | |
| 09 | --- | 6.6 | 290 | --- | 120 | 2.5 | | |
| 10 | --- | 6.4 | 300 | --- | 110 | 2.6 | | |
| 11 | (500) | 6.4 | 280 | 3.8 | 120 | 2.6 | | |
| 12 | --- | 6.4 | 290 | --- | 110 | 2.6 | | |
| 13 | --- | 7.0 | 290 | --- | 110 | 2.5 | | |
| 14 | --- | 7.0 | 300 | 3.7 | 105 | 2.4 | | |
| 15 | --- | 7.1 | 300 | --- | 105 | 2.4 | | |
| 16 | --- | 6.8 | 300 | --- | 120 | 2.3 | | |
| 17 | | 7.2 | 300 | | 105 | 2.2 | | |
| 18 | | 7.2 | 300 | | 110 | 2.0 | | |
| 19 | | 6.3 | 300 | | --- | 1.9 | | |
| 20 | | 6.4 | 300 | | --- | 1.9 | | |
| 21 | | 6.6 | 300 | | --- | 1.8 | | |
| 22 | | 6.1 | 300 | | --- | 1.7 | 1.7 | |
| 23 | | 5.6 | 300 | | --- | 1.7 | 1.8 | |

Time: 75.0°W.
Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 36

Cape Hallett (72.3°S, 170.3°E) August 1957

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 4.1 | 290 | | --- | --- | <1.2 | ---- |
| 01 | | 3.0 | 290 | | --- | (1.5) | | (2.60) |
| 02 | | 3.7 | 300 | | --- | 1.6 | | (2.65) |
| 03 | | 3.6 | (305) | | --- | --- | <1.2 | ---- |
| 04 | | 3.4 | 280 | | --- | --- | <1.2 | ---- |
| 05 | | (4.3) | 290 | | --- | --- | <1.2 | ---- |
| 06 | | 4.6 | 270 | | --- | 1.5 | | ---- |
| 07 | | 5.4 | 265 | | 120 | 1.6 | | ---- |
| 08 | | 5.8 | 265 | | 110 | 1.7 | | (2.90) |
| 09 | | 6.6 | 250 | | 112 | 2.0 | | (3.05) |
| 10 | | 6.9 | 245 | | 115 | 2.1 | | ---- |
| 11 | | 7.0 | 245 | | 111 | 2.2 | | (3.00) |
| 12 | | 7.8 | 240 | | 113 | 2.2 | | ---- |
| 13 | | 6.4 | 245 | | 114 | 2.2 | | 2.90 |
| 14 | | 7.0 | 250 | | 109 | 2.0 | | 2.05 |
| 15 | | 7.0 | 250 | | 116 | 1.0 | <4.0 | (2.90) |
| 16 | | 6.8 | 250 | | --- | 1.5 | <2.6 | 2.70 |
| 17 | | 6.9 | 245 | | --- | --- | <1.4 | 2.70 |
| 18 | | 7.6 | 250 | | | | <1.3 | (2.75) |
| 19 | | 7.4 | 240 | | | | <1.2 | 2.75 |
| 20 | | 7.3 | 250 | | | | <1.2 | (2.70) |
| 21 | | 5.6 | 250 | | | | <1.1 | 2.65 |
| 22 | | 5.2 | 260 | | | | | ---- |
| 23 | | 4.7 | 280 | | | | <1.1 | 2.60 |

Time: 165.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 37

Monte Capellino, Italy (44.6°N, 9.0°E) July 1957

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 7.8 | | | | | | |
| 01 | | 7.5 | | | | | | |
| 02 | | 7.2 | | | | | | |
| 03 | | 7.0 | | | | | | |
| 04 | | 6.6 | | | | | | |
| 05 | | 6.4 | | | | 1.8 | | |
| 06 | | 7.4 | | | | 2.5 | | |
| 07 | | 8.0 | | | | 3.1 | | |
| 08 | | 8.3 | | | | 3.5 | | |
| 09 | | 8.4 | | | | 3.7 | | |
| 10 | | 9.0 | | | | 3.8 | | |
| 11 | | 9.0 | | | | 3.9 | | |
| 12 | | 9.0 | | | | 3.9 | | |
| 13 | | 9.1 | | | | 3.9 | | |
| 14 | | 9.2 | | | | 3.8 | | |
| 15 | | 8.9 | | | | 3.8 | | |
| 16 | | 8.9 | | | | 3.7 | | |
| 17 | | 8.3 | | | | 3.5 | | |
| 18 | | 8.3 | | | | 3.1 | | |
| 19 | | 8.6 | | | | 2.5 | | |
| 20 | | 8.4 | | | | | | |
| 21 | | (7.2) | | | | | | |
| 22 | | 7.8 | | | | | | |
| 23 | | (7.9) | | | | | | |

Time: 15.0°E.

Table 38

Marion I. (46.8°S, 37.9°E) July 1957

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 2.6 | <320 | | | | | 2.70 |
| 01 | | 2.4 | <310 | | | | | 2.60 |
| 02 | | 2.6 | <320 | | | | | 2.75 |
| 03 | | 2.7 | <295 | | | | | 2.80 |
| 04 | | 2.9 | (260) | | | | | 2.90 |
| 05 | | 5.5 | <245 | | | --- | | 3.20 |
| 06 | | 7.9 | 230 | | | 2.6 | | 3.35 |
| 07 | --- | 9.3 | 225 | | | 2.8 | | 3.25 |
| 08 | (250) | 10.7 | 225 | --- | | 3.1 | 3.2 | 3.15 |
| 09 | (240) | 11.9 | 230 | --- | | 3.3 | 3.6 | 3.10 |
| 10 | --- | 12.3 | 230 | --- | | 3.3 | 3.8 | 3.00 |
| 11 | (250) | 12.3 | 235 | --- | | 3.2 | 3.8 | 3.00 |
| 12 | --- | 11.8 | 230 | --- | | --- | 3.5 | 3.05 |
| 13 | | 11.8 | 225 | | | --- | | 3.00 |
| 14 | | 10.0 | 220 | | | --- | | 3.20 |
| 15 | | 8.0 | 215 | | | | 3.0 | 3.20 |
| 16 | | 6.2 | 230 | | | | 2.2 | 3.25 |
| 17 | | 3.8 | 220 | | | | | 3.40 |
| 18 | | (2.2) | <270 | | | | | (3.20) |
| 19 | | (2.0) | <315 | | | | | (2.90) |
| 20 | | 2.0 | <320 | | | | | 2.80 |
| 21 | | 2.0 | <345 | | | | | 2.70 |
| 22 | | 2.2 | <310 | | | | | 2.80 |
| 23 | | 2.3 | <310 | | | | | 2.80 |

Time: 0.0°.
Sweep: 1.6 Mc to 20.0 Mc in 18 seconds.

Table 39

Monte Capellino, Italy (44.6°N, 9.0°E) June 1957

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 8.4 | | | | | | |
| 01 | | 8.2 | | | | | | |
| 02 | | 7.8 | | | | | | |
| 03 | | 7.4 | | | | | | |
| 04 | | 7.0 | | | | | | |
| 05 | | 7.1 | | | | 2.0 | | |
| 06 | | 8.1 | | | | 2.8 | | |
| 07 | | 8.5 | | | | 3.2 | | |
| 08 | | 8.8 | | | | 3.5 | | |
| 09 | | 8.6 | | | | 3.7 | | |
| 10 | | 9.2 | | | | 3.8 | | |
| 11 | | 9.2 | | | | 3.9 | | |
| 12 | | 9.3 | | | | 4.0 | | |
| 13 | | 8.8 | | | | 3.9 | | |
| 14 | | 9.0 | | | | 3.9 | | |
| 15 | | 8.8 | | | | 3.8 | | |
| 16 | | 8.5 | | | | 3.7 | | |
| 17 | | 8.4 | | | | 3.5 | | |
| 18 | | 8.3 | | | | 3.1 | | |
| 19 | | 8.1 | | | | 2.5 | | |
| 20 | | 8.5 | | | | | | |
| 21 | | 8.0 | | | | | | |
| 22 | | 8.4 | | | | | | |
| 23 | | 8.5 | | | | | | |

Time: 15.0°E.

Table 40

Monte Capellino, Italy (44.6°N, 9.0°E) May 1957

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 8.0 | | | | | | |
| 01 | | 7.9 | | | | | | |
| 02 | | 7.5 | | | | | | |
| 03 | | 7.4 | | | | | | |
| 04 | | 7.2 | | | | | | |
| 05 | | 7.4 | | | | 1.6 | | |
| 06 | | 8.4 | | | | 2.5 | | |
| 07 | | 8.8 | | | | 3.1 | | |
| 08 | | 9.0 | | | | 3.4 | | |
| 09 | | 9.0 | | | | 3.6 | | |
| 10 | | 9.4 | | | | 3.7 | | |
| 11 | | 9.8 | | | | 3.8 | | |
| 12 | | 10.0 | | | | 3.9 | | |
| 13 | | 9.8 | | | | 3.9 | | |
| 14 | | 10.0 | | | | 4.0 | | |
| 15 | | 10.0 | | | | 3.8 | | |
| 16 | | 9.7 | | | | 3.7 | | |
| 17 | | 9.5 | | | | 3.4 | | |
| 18 | | 9.6 | | | | 2.9 | | |
| 19 | | 9.2 | | | | 2.2 | | |
| 20 | | 9.0 | | | | | | |
| 21 | | 8.4 | | | | | | |
| 22 | | 8.4 | | | | | | |
| 23 | | 8.2 | | | | | | |

Time: 15.0°E.

Table 41

Monte Capellino, Italy (44.6°N, 9.0°E) April 1957

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 7.7 | | | | | | |
| 01 | | 7.4 | | | | | | |
| 02 | | 7.3 | | | | | | |
| 03 | | 7.0 | | | | | | |
| 04 | | 6.8 | | | | | | |
| 05 | | 6.4 | | | | | | |
| 06 | | 7.0 | | | | 2.1 | | |
| 07 | | 8.2 | | | | 2.9 | | |
| 08 | | 9.2 | | | | 3.3 | | |
| 09 | | 10.0 | | | | 3.5 | | |
| 10 | | 10.6 | | | | 3.6 | | |
| 11 | | 11.2 | | | | 3.7 | | |
| 12 | | 11.8 | | | | 3.8 | | |
| 13 | | 11.8 | | | | 3.8 | | |
| 14 | | 11.8 | | | | 3.7 | | |
| 15 | | 11.2 | | | | 3.6 | | |
| 16 | | 10.8 | | | | 3.4 | | |
| 17 | | 10.4 | | | | 3.0 | | |
| 18 | | 10.4 | | | | 2.3 | | |
| 19 | | 9.8 | | | | | | |
| 20 | | 8.9 | | | | | | |
| 21 | | 8.5 | | | | | | |
| 22 | | 8.2 | | | | | | |
| 23 | | 8.2 | | | | | | |

Time: Local.

Table 42

Macquarie I. (54.5°S, 159.0°E) October 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | (6.5) | 320 | | | | 2.2 | (2.55) |
| 01 | | 6.2 | 300 | | | | | 2.50 |
| 02 | | 5.8 | 300 | | | | | 2.50 |
| 03 | | 5.3 | 300 | | | | | 2.50 |
| 04 | | 5.0 | 300 | | | | | 2.55 |
| 05 | | 5.3 | 300 | | | 1.75 | | 2.70 |
| 06 | | 6.5 | 260 | | | 2.15 | | 2.85 |
| 07 | | 7.0 | 250 | | | 2.85 | | 2.80 |
| 08 | | 7.6 | (250) | | | ---- | | 2.80 |
| 09 | | 7.6 | --- | | | ---- | | 2.60 |
| 10 | | >7.7 | --- | | | ---- | | 2.55 |
| 11 | | >7.7 | --- | | | ---- | | 2.55 |
| 12 | | >7.7 | --- | | | ---- | | 2.50 |
| 13 | | 7.8 | --- | | | ---- | | 2.50 |
| 14 | | 8.0 | --- | | | ---- | | 2.55 |
| 15 | | 7.9 | --- | | | ---- | | 2.55 |
| 16 | | 7.9 | --- | | | ---- | | 2.65 |
| 17 | | >7.7 | (280) | | | 2.50 | | 2.65 |
| 18 | | 7.9 | (290) | | | 2.00 | | 2.75 |
| 19 | | 8.0 | 270 | | | E | | 2.55 |
| 20 | | (8.0) | 280 | | | ---- | 2.8 | ---- |
| 21 | | (7.6) | 300 | | | | 3.2 | (2.40) |
| 22 | | 7.0 | 310 | | | | 3.6 | 2.40 |
| 23 | | (7.0) | 320 | | | | 3.0 | (2.50) |

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 43

Macquarie I. (54.5°S, 159.0°E) September 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 5.0 | 290 | | | | 2.1 | 2.80 |
| 01 | | 5.0 | 290 | | | | 2.9 | 2.75 |
| 02 | | 4.4 | 300 | | | | 1.8 | 2.70 |
| 03 | | 4.6 | 300 | | | | 2.1 | (2.80) |
| 04 | | 4.2 | 290 | | | | | 2.70 |
| 05 | | 4.8 | 280 | | | ---- | | 2.80 |
| 06 | | 5.6 | 270 | | | 1.80 | | 2.95 |
| 07 | | 6.6 | 260 | | | 2.30 | | 3.00 |
| 08 | | 6.8 | 260 | | | ---- | | 2.95 |
| 09 | | 7.2 | 260 | | | ---- | | 3.00 |
| 10 | | >7.7 | (270) | | | ---- | | 2.90 |
| 11 | | >7.7 | 260 | | | ---- | | 2.95 |
| 12 | | >7.7 | 270 | | | ---- | | 2.90 |
| 13 | | 8.0 | 260 | | | ---- | | 2.80 |
| 14 | | 8.2 | 270 | | | ---- | | 2.90 |
| 15 | | 8.3 | (260) | | | ---- | | 3.00 |
| 16 | | >7.7 | 260 | | | 2.05 | | 2.90 |
| 17 | | 7.7 | 270 | | | 2.10 | | 2.90 |
| 18 | | >7.6 | 260 | | | <1.60 | | 2.65 |
| 19 | | 7.0 | 250 | | | ---- | | 2.75 |
| 20 | | 7.1 | 270 | | | ---- | | 2.80 |
| 21 | | 6.2 | 270 | | | | | 2.80 |
| 22 | | 5.6 | 290 | | | | 2.1 | 2.85 |
| 23 | | 5.2 | 290 | | | | 2.1 | 2.75 |

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 44

Macquarie I. (54.5°S, 159.0°E) August 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 3.9 | 290 | | | | 2.7 | 2.8 |
| 01 | | 3.7 | 290 | | | | 2.6 | 2.8 |
| 02 | | 3.0 | 300 | | | | 2.6 | 2.8 |
| 03 | | 3.0 | 290 | | | | 1.8 | 2.85 |
| 04 | | 3.7 | 290 | | | | 1.9 | 2.9 |
| 05 | | 3.1 | 270 | | | | | 2.8 |
| 06 | | 2.9 | 260 | | | | | 2.9 |
| 07 | | 4.7 | 260 | | | 1.70 | | 3.0 |
| 08 | | 6.1 | 250 | | | 1.90 | | 3.2 |
| 09 | | 6.9 | 250 | | | ---- | | 3.2 |
| 10 | | >7.7 | 250 | | | ---- | | 3.1 |
| 11 | | 7.9 | 260 | | | ---- | | 3.1 |
| 12 | | 7.9 | 260 | | | ---- | | 3.1 |
| 13 | | 8.1 | 250 | | | ---- | | 3.1 |
| 14 | | (8.0) | 250 | | | ---- | | (3.0) |
| 15 | | 8.1 | 250 | | | ---- | | 3.15 |
| 16 | | 8.0 | 250 | | | 1.95 | | 3.05 |
| 17 | | 7.9 | 240 | | | ---- | | 3.05 |
| 18 | | 6.9 | 250 | | | | | 2.9 |
| 19 | | 5.9 | 250 | | | | | 2.85 |
| 20 | | 5.6 | 260 | | | | 1.9 | 2.9 |
| 21 | | 5.2 | 260 | | | | 2.2 | 2.9 |
| 22 | | 4.9 | 280 | | | | 2.4 | 2.8 |
| 23 | | 4.8 | 290 | | | | 2.2 | 2.8 |

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 45

Djibouti, French Somaliland (11.5°N, 43.1°E) July 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | --- | 360 | | | | 2.6 | ---- |
| 01 | | --- | 350 | | | | 4.1 | ---- |
| 02 | | --- | 320 | | | | 4.5 | ---- |
| 03 | | --- | 270 | | | | 4.2 | ---- |
| 04 | | --- | 230 | | | | 4.2 | ---- |
| 05 | | 5.7 | 220 | | | | 2.5 | (3.29) |
| 06 | | 6.6 | 250 | | 150 | 1.50 | 4.2 | 3.11 |
| 07 | --- | 8.6 | 230 | | 115 | 2.60 | 4.8 | 3.08 |
| 08 | (260) | 9.8 | 220 | --- | 115 | 3.20 | 5.0 | 2.86 |
| 09 | (310) | 10.2 | 210 | 5.6 | 117 | 3.60 | 9.0 | 2.62 |
| 10 | (345) | 10.5 | 210 | 5.5 | 115 | 3.85 | 9.6 | 2.37 |
| 11 | (350) | 10.2 | 210 | 5.7 | 116 | 4.00 | 10.0 | 2.26 |
| 12 | 395 | 10.0 | 200 | 5.7 | 117 | 4.00 | 10.0 | 2.29 |
| 13 | 390 | 10.6 | 200 | 5.8 | 115 | 4.00 | 10.0 | 2.32 |
| 14 | 400 | 10.8 | 205 | 5.8 | 117 | 3.90 | 10.0 | 2.38 |
| 15 | 400 | 11.0 | 215 | 5.6 | 117 | 3.70 | 9.8 | 2.36 |
| 16 | 360 | 12.6 | 220 | 5.5 | 119 | 3.50 | 9.0 | 2.58 |
| 17 | 400 | (12.4) | 230 | | 115 | 3.00 | 7.0 | (2.52) |
| 18 | --- | (10.5) | 270 | | 122 | ---- | 4.7 | (2.44) |
| 19 | --- | (8.4) | 320 | | | | 4.6 | (2.18) |
| 20 | | (9.0) | 360 | | | | 2.0 | (2.40) |
| 21 | | --- | 380 | | | | 2.1 | ---- |
| 22 | | --- | 380 | | | | 2.6 | |
| 23 | | --- | 370 | | | | 3.5 | ---- |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 46*

Campbell I. (52.5°S, 169.2°E) July 1956

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | | | | | | | |
| 01 | | | | | | | | |
| 02 | | | | | | | | |
| 03 | | | | | | | | |
| 04 | | | | | | | | |
| 05 | <270 | 3.4 | | | | | | 2.9 |
| 06 | (260) | 3.0 | | | | | | 2.9 |
| 07 | 260 | 3.4 | | | | | | 2.85 |
| 08 | 240 | 5.7 | | | <125 | 1.8 | 1.8 | 3.2 |
| 09 | 240 | 7.2 | --- | --- | 120 | 2.4 | | 3.3 |
| 10 | 240 | 8.1 | 230 | 3.5 | 120 | 2.6 | | 3.3 |
| 11 | 240 | 8.6 | 240 | 3.8 | 120 | 2.8 | | 3.2 |
| 12 | 240 | 8.9 | 230 | 3.7 | 120 | 2.8 | | 3.2 |
| 13 | 240 | 8.9 | 230 | 3.5 | 120 | 2.7 | | 3.2 |
| 14 | 240 | 8.9 | 230 | 3.1 | 120 | 2.5 | | 3.2 |
| 15 | 230 | 8.8 | --- | --- | 120 | 2.1 | | 3.2 |
| 16 | 230 | 7.6 | | | <190 | 1.7 | | 3.2 |
| 17 | 240 | 6.8 | | | | | | 3.0 |
| 18 | 240 | 5.6 | | | | | | 2.9 |
| 19 | 270 | 4.4 | | | | | | 2.8 |
| 20 | 260 | 4.4 | | | | | | 2.8 |
| 21 | <290 | 4.1 | | | | | | 2.7 |
| 22 | <290 | 4.2 | | | | | | 2.7 |
| 23 | <300 | 3.8 | | | | | 2.5 | 2.8 |

Time: 165.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.
*Observations taken on a 19-hour working schedule.

Table 47

Macquarie I. (54.5°S, 159.0°E) July 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 3.4 | 290 | | | | 3.5 | 2.7 |
| 01 | | 3.0 | 300 | | | | 2.5 | 2.8 |
| 02 | | 2.9 | 300 | | | | 2.2 | 2.8 |
| 03 | | 3.4 | 300 | | | | 2.2 | 2.8 |
| 04 | | 3.0 | 290 | | | | 2.2 | 2.8 |
| 05 | | 2.9 | 280 | | | | 1.9 | 2.9 |
| 06 | | 2.6 | 270 | | | | | 2.9 |
| 07 | | 2.5 | 260 | | | | | 2.9 |
| 08 | | 4.6 | 250 | | | 1.75 | 2.0 | 3.2 |
| 09 | | 6.3 | 240 | | | 2.00 | 2.2 | 3.3 |
| 10 | | 7.5 | 240 | | | ---- | | 3.2 |
| 11 | | 8.4 | 250 | | | ---- | | 3.1 |
| 12 | | 9.0 | 250 | | | ---- | | 3.1 |
| 13 | | 9.0 | 250 | | | ---- | | 3.2 |
| 14 | | 8.8 | 250 | | | ---- | 2.2 | 3.1 |
| 15 | | 8.8 | 240 | | | 2.00 | | 3.1 |
| 16 | | 7.4 | 240 | | | ---- | | 3.1 |
| 17 | | 5.6 | 250 | | | | | 2.9 |
| 18 | | 4.8 | 260 | | | | 2.2 | 2.85 |
| 19 | | 4.6 | 260 | | | | 2.2 | 2.9 |
| 20 | | 4.7 | 260 | | | | 2.2 | 2.9 |
| 21 | | 3.9 | 270 | | | | 2.2 | 2.9 |
| 22 | | 3.7 | 280 | | | | 2.2 | 2.8 |
| 23 | | 3.8 | 290 | | | | 2.4 | 2.8 |

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 48

Dakar, French W. Africa (14.7°N, 17.4°W) June 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 6.3 | 370 | | | | 3.4 | 2.54 |
| 01 | | 5.6 | 350 | | | | 4.5 | 2.54 |
| 02 | | 5.2 | 335 | | | | 3.6 | 2.50 |
| 03 | | 4.8 | 325 | | | | 3.4 | 2.58 |
| 04 | | 4.8 | 300 | | | | 3.2 | 2.65 |
| 05 | | 5.2 | 270 | | | | 3.8 | 2.65 |
| 06 | --- | 6.8 | 260 | ---- | 121 | 1.90 | 4.7 | 3.11 |
| 07 | 260 | 8.1 | 240 | (4.05) | 114 | 2.80 | 4.8 | 3.13 |
| 08 | 280 | 8.6 | 220 | 4.60 | 111 | 3.25 | 5.1 | 2.93 |
| 09 | 310 | 9.4 | 215 | 5.10 | 111 | 3.55 | 5.2 | 2.68 |
| 10 | 380 | 10.3 | 210 | 5.30 | 109 | 3.75 | 5.0 | 2.57 |
| 11 | 425 | 11.1 | 210 | 5.55 | 109 | 3.95 | 4.8 | 2.54 |
| 12 | 430 | 12.0 | 210 | 5.60 | 109 | 4.00 | 4.8 | 2.53 |
| 13 | 430 | 12.7 | 210 | 5.55 | 109 | 4.00 | 4.7 | 2.55 |
| 14 | 405 | 12.9 | 210 | 5.45 | 109 | 3.80 | 4.8 | 2.64 |
| 15 | 410 | 13.0 | 220 | 5.25 | 111 | 3.60 | 4.5 | 2.62 |
| 16 | 385 | 12.7 | 230 | 4.90 | 111 | 3.30 | 4.9 | 2.72 |
| 17 | 370 | 12.4 | 240 | 4.40 | 113 | 2.80 | 4.6 | 2.70 |
| 18 | --- | 12.0 | 270 | ---- | 121 | 2.10 | 3.4 | 2.74 |
| 19 | | 11.0 | 300 | | | | 4.6 | 2.54 |
| 20 | | 9.2 | 390 | | | | 4.3 | 2.37 |
| 21 | | 7.7 | 410 | | | | 2.7 | 2.36 |
| 22 | | 6.8 | 400 | | | | 2.9 | 2.41 |
| 23 | | 6.5 | 380 | | | | 3.6 | 2.50 |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 49

Djibouti, French Somaliland (11.5°N, 43.1°E) June 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | --- | 380 | | | | 2.7 | ---- |
| 01 | | --- | 365 | | | | 3.3 | |
| 02 | | --- | 330 | | | | 3.7 | ---- |
| 03 | | --- | 280 | | | | 3.9 | ---- |
| 04 | | (5.9) | 240 | | | | 2.6 | ---- |
| 05 | | 6.0 | 225 | | --- | ---- | 3.4 | 3.17 |
| 06 | --- | 7.3 | 250 | ---- | 125 | 1.70 | 4.1 | 3.10 |
| 07 | --- | 9.0 | 230 | ---- | 117 | 2.65 | 5.5 | 3.00 |
| 08 | (290) | 10.0 | 220 | ---- | 112 | 3.20 | 6.8 | 2.78 |
| 09 | (310) | 10.4 | 215 | 5.60 | 115 | 3.60 | 7.0 | 2.57 |
| 10 | 335 | 10.2 | 210 | 5.65 | 113 | 3.80 | 9.6 | 2.39 |
| 11 | 375 | 10.4 | 210 | 5.80 | 112 | 3.90 | 10.0 | 2.33 |
| 12 | 395 | 10.6 | 205 | 6.00 | 115 | 4.00 | 10.0 | 2.27 |
| 13 | 385 | 10.7 | 210 | 5.70 | 115 | 3.95 | 10.0 | 2.30 |
| 14 | 380 | 11.3 | 205 | 6.00 | 115 | 3.80 | 10.0 | 2.32 |
| 15 | 380 | 11.3 | 210 | 5.85 | 116 | 3.60 | 6.2 | 2.48 |
| 16 | 370 | 12.1 | 220 | 5.85 | 119 | 3.35 | 6.6 | 2.45 |
| 17 | 380 | 12.4 | 230 | ---- | 119 | 2.80 | 6.2 | 2.52 |
| 18 | (400) | 12.6 | 260 | ---- | 123 | 2.05 | 4.6 | 2.56 |
| 19 | | 10.5 | 310 | | | | 2.4 | 2.42 |
| 20 | | 9.5 | 340 | | | | 2.0 | 2.38 |
| 21 | | (8.4) | 380 | | | | 2.2 | (2.29) |
| 22 | | --- | 385 | | | | 2.4 | ---- |
| 23 | | --- | 375 | | | | 2.4 | ---- |

Time: Local time.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 50

Tananarive, Madagascar (18.9°S, 47.6°E) June 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 2.8 | 320 | | | | | 2.97 |
| 01 | | 2.6 | 275 | | | | | 3.04 |
| 02 | | 2.6 | --- | | | | | 2.92 |
| 03 | | 2.5 | --- | | | | | 2.98 |
| 04 | | 2.4 | --- | | | | | 2.76 |
| 05 | | 2.5 | --- | | | | | 2.92 |
| 06 | | 2.8 | --- | | | | | 2.92 |
| 07 | | (6.6) | 240 | | --- | 2.15 | 2.6 | 3.23 |
| 08 | (260) | 9.2 | 240 | ---- | 114 | 2.75 | | 3.14 |
| 09 | 265 | 10.2 | 230 | (5.10) | 111 | 3.20 | | 3.17 |
| 10 | 265 | 10.3 | 230 | 5.10 | 111 | 3.45 | | 3.13 |
| 11 | 280 | >10.0 | (225) | (5.15) | 109 | 3.55 | | 3.07 |
| 12 | 280 | 9.8 | (220) | 5.10 | 109 | 3.70 | | 3.02 |
| 13 | 285 | 9.6 | (215) | 5.15 | 109 | (3.55) | | 2.98 |
| 14 | 280 | 9.6 | (230) | (5.15) | 109 | 3.45 | | 3.00 |
| 15 | 270 | 8.9 | 235 | ---- | 113 | 3.30 | | 2.92 |
| 16 | 270 | 9.0 | 240 | ---- | 119 | 3.00 | | 2.99 |
| 17 | --- | 9.2 | 240 | | --- | 2.20 | 3.1 | 3.06 |
| 18 | | 8.2 | 225 | | | | 3.1 | 3.16 |
| 19 | | 5.0 | 220 | | | | 2.9 | 3.19 |
| 20 | | 3.7 | 240 | | | | 2.9 | 3.00 |
| 21 | | 4.0 | 250 | | | | 2.8 | 3.12 |
| 22 | | 3.8 | 240 | | | | 1.8 | 3.20 |
| 23 | | 3.3 | 245 | | | | 1.9 | 3.20 |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 51*

Campbell I. (52.5°S, 169.2°E) June 1956

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | | | | | | | |
| 01 | | | | | | | | |
| 02 | | | | | | | | |
| 03 | | | | | | | | |
| 04 | | | | | | | | |
| 05 | 250 | 3.7 | | | | | | 2.8 |
| 06 | <260 | 3.6 | | | | | | 2.8 |
| 07 | 250 | 3.7 | | | | | | 2.8 |
| 08 | 240 | 5.4 | | | 110 | 2.0 | | 3.2 |
| 09 | 230 | 7.1 | 230 | 2.9 | 105 | 2.2 | | 3.4 |
| 10 | 240 | 8.2 | 230 | 3.2 | 110 | 2.6 | | 3.3 |
| 11 | 240 | 9.1 | 240 | 3.5 | 110 | 2.8 | | 3.2 |
| 12 | 240 | 9.4 | 230 | 3.4 | 120 | 2.7 | | 3.25 |
| 13 | 240 | 9.2 | 230 | 3.4 | 120 | 2.6 | | 3.2 |
| 14 | 230 | 9.2 | 230 | 3.2 | 120 | 2.4 | | 3.2 |
| 15 | 220 | 8.9 | | | 110 | 2.0 | | 3.2 |
| 16 | 230 | 7.8 | | | | | | 3.1 |
| 17 | 240 | 6.4 | | | | | | 3.0 |
| 18 | 250 | 5.3 | | | | | | 2.8 |
| 19 | <270 | 4.9 | | | | | | 2.7 |
| 20 | <290 | 4.8 | | | | | | 2.7 |
| 21 | <300 | 4.2 | | | | | | 2.6 |
| 22 | <300 | 4.1 | | | | | | 2.6 |
| 23 | 300 | 3.4 | | | | | | 2.65 |

Time: 165.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.
*Observations taken on a 19-hour working schedule.

Table 52

Macquarie I. (54.5°S, 159.0°E) June 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 4.4 | 300 | | | | 4.5 | (2.75) |
| 01 | | 3.7 | 300 | | | | 4.0 | 2.7 |
| 02 | | 4.1 | 300 | | | | 2.7 | 2.7 |
| 03 | | 3.7 | 300 | | | | 2.9 | 2.7 |
| 04 | | 3.8 | 300 | | | | 2.5 | 2.8 |
| 05 | | 3.3 | 280 | | | | 2.2 | 2.8 |
| 06 | | 3.1 | 280 | | | | 2.2 | 2.9 |
| 07 | | 2.9 | 270 | | | | | 2.9 |
| 08 | | 4.6 | 250 | | | ---- | 2.2 | 3.1 |
| 09 | | 6.6 | 250 | | | 2.05 | 2.1 | 3.2 |
| 10 | | 7.5 | 250 | | | ---- | | 3.2 |
| 11 | | 8.9 | 250 | | | ---- | | 3.15 |
| 12 | | 9.5 | 250 | | | ---- | | 3.1 |
| 13 | | 9.4 | 240 | | | ---- | | 3.1 |
| 14 | | 9.5 | 250 | | | ---- | | 3.1 |
| 15 | | 9.2 | 240 | | | 1.95 | 2.0 | 3.1 |
| 16 | | 8.0 | 240 | | | | | 3.0 |
| 17 | | 5.0 | 240 | | | | >2.2 | 2.9 |
| 18 | | 5.0 | 250 | | | | 2.4 | 2.9 |
| 19 | | 4.4 | 300 | | | | 2.7 | 2.85 |
| 20 | | 3.7 | 280 | | | | 2.5 | 2.8 |
| 21 | | 4.4 | 300 | | | | 3.8 | 2.8 |
| 22 | | 4.3 | 300 | | | | 4.5 | 2.7 |
| 23 | | 4.1 | 300 | | | | 4.3 | (2.7) |

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 53

Oakar, French W. Africa (14.7°N, 17.4°W) May 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 8.8 | 325 | | | | 3.2 | 2.72 |
| 01 | | 8.0 | 290 | | | | 3.3 | 2.81 |
| 02 | | 6.8 | 280 | | | | 3.2 | 2.75 |
| 03 | | 7.2 | 270 | | | | 2.4 | 2.78 |
| 04 | | 6.6 | 260 | | | | 3.0 | 2.84 |
| 05 | | 5.8 | 250 | | | | 3.4 | 2.79 |
| 06 | | 7.2 | 255 | | --- | 1.90 | 4.4 | 3.10 |
| 07 | --- | 8.6 | 240 | ---- | 113 | 2.80 | 4.8 | 3.06 |
| 08 | 275 | 10.0 | 230 | 4.50 | 111 | 3.35 | 4.8 | 2.88 |
| 09 | 330 | 10.6 | 220 | 4.90 | 111 | 3.65 | 4.8 | 2.70 |
| 10 | 355 | 11.7 | 215 | 5.20 | 111 | 3.90 | 4.2 | 2.61 |
| 11 | 390 | 12.8 | 210 | 5.30 | 109 | 4.00 | 4.5 | 2.62 |
| 12 | 410 | 13.2 | 210 | 5.35 | 109 | 4.00 | | 2.62 |
| 13 | 410 | 13.4 | 210 | 5.25 | 109 | 4.00 | 4.3 | 2.56 |
| 14 | 410 | 13.5 | 215 | 5.20 | 109 | 3.85 | | 2.56 |
| 15 | 405 | 13.4 | 220 | 5.00 | 111 | 3.65 | 4.0 | 2.62 |
| 16 | 390 | 13.2 | 230 | 4.60 | 111 | 3.30 | 4.0 | 2.64 |
| 17 | 380 | 12.8 | 250 | (4.20) | 113 | 2.75 | 3.2 | 2.68 |
| 18 | 380 | 12.2 | 265 | | --- | 1.85 | 4.1 | 2.68 |
| 19 | | 11.8 | 310 | | | | 3.5 | 2.44 |
| 20 | | 11.2 | 395 | | | | 2.8 | 2.32 |
| 21 | | 9.6 | 400 | | | | 2.4 | 2.38 |
| 22 | | 9.0 | 375 | | | | | 2.48 |
| 23 | | 8.4 | 350 | | | | 3.0 | 2.58 |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 54

Ojibouti, French Somaliland (11.5°N, 43.1°E) May 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | >9.8 | 350 | | | | 4.0 | (2.59) |
| 01 | | (8.9) | 280 | | | | 3.8 | (2.75) |
| 02 | | (8.9) | 280 | | | | 3.8 | (2.82) |
| 03 | | (8.0) | 250 | | | | 4.2 | (3.00) |
| 04 | | 6.9 | 230 | | | | 2.8 | 3.01 |
| 05 | | 6.1 | 230 | | | | 2.5 | 2.98 |
| 06 | | 7.7 | 260 | | 129 | 1.70 | 2.5 | 3.05 |
| 07 | | 10.0 | 250 | | 117 | 2.70 | 4.4 | 2.96 |
| 08 | --- | 11.3 | 235 | ---- | 113 | 3.30 | 6.7 | 2.72 |
| 09 | --- | 11.7 | 220 | ---- | 111 | 3.65 | 8.1 | 2.48 |
| 10 | (310) | 11.4 | 220 | (5.60) | 111 | 3.90 | 9.7 | 2.34 |
| 11 | --- | 11.4 | 215 | 5.75 | 111 | 4.00 | 9.7 | 2.34 |
| 12 | --- | 11.6 | 220 | (5.80) | 109 | 4.00 | 9.9 | 2.34 |
| 13 | --- | 12.2 | 220 | (5.80) | 111 | 4.00 | 9.8 | 2.29 |
| 14 | (380) | 12.8 | 220 | (5.80) | 111 | 3.90 | 9.6 | 2.32 |
| 15 | (380) | >12.8 | 220 | 5.60 | 113 | 3.70 | 8.2 | 2.34 |
| 16 | --- | 13.0 | 235 | ---- | 119 | 3.35 | 7.4 | 2.37 |
| 17 | --- | >13.0 | 250 | | 119 | 2.80 | 7.3 | 2.38 |
| 18 | --- | 13.0 | 280 | | 123 | 1.85 | 4.5 | 2.36 |
| 19 | | (11.0) | 350 | | --- | ---- | 2.5 | 2.23 |
| 20 | | >10.1 | 380 | | | | 2.1 | 2.08 |
| 21 | | (10.2) | 390 | | | | 2.1 | (2.25) |
| 22 | | >9.9 | 380 | | | | 2.2 | (2.33) |
| 23 | | --- | 370 | | | | 2.5 | ---- |

Time: Local time.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 55

Tananarive, Madagascar (18.9°S, 47.6°E) May 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 3.3 | 270 | | | | 1.4 | 2.91 |
| 01 | | 3.1 | 300 | | | | | 2.87 |
| 02 | | 3.1 | (280) | | | | | 2.93 |
| 03 | | 2.9 | 280 | | | | | 2.97 |
| 04 | | 2.7 | --- | | | | | 2.78 |
| 05 | | 2.8 | --- | | --- | ---- | | 2.88 |
| 06 | | 3.5 | 280 | | --- | ---- | | 2.90 |
| 07 | --- | 8.4 | 240 | | 121 | 2.25 | 3.0 | 3.24 |
| 08 | 255 | 10.8 | 240 | ---- | 115 | 2.90 | | 3.21 |
| 09 | 260 | (11.0) | 230 | 5.10 | 111 | 3.35 | | 3.18 |
| 10 | 260 | >11.0 | 230 | 5.20 | 109 | >3.60 | | <3.13 |
| 11 | 265 | (11.0) | 220 | 5.15 | 109 | 3.80 | | (3.06) |
| 12 | 270 | 10.8 | 220 | 5.20 | 109 | 3.90 | | 3.01 |
| 13 | 270 | 10.9 | 225 | 5.25 | 109 | 3.85 | | 3.00 |
| 14 | 260 | 10.7 | 225 | 5.10 | 109 | 3.65 | | 2.92 |
| 15 | 275 | 10.6 | 230 | 5.20 | 111 | 3.40 | | 2.90 |
| 16 | (260) | >10.5 | 235 | | 119 | 3.00 | | <2.90 |
| 17 | | 10.5 | 240 | | --- | 2.40 | 3.1 | 3.00 |
| 18 | | 10.0 | 230 | | | | 3.1 | 3.05 |
| 19 | | 7.5 | 220 | | | | 3.0 | 3.04 |
| 20 | | 6.3 | 240 | | | | 2.9 | 3.06 |
| 21 | | 5.8 | 250 | | | | 2.9 | 3.06 |
| 22 | | 4.6 | 240 | | | | 2.6 | 3.24 |
| 23 | | 3.6 | 240 | | | | 1.3 | 3.11 |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 56

Macquarie I. (54.5°S, 159.0°E) May 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 4.4 | 280 | | | | 3.8 | (2.65) |
| 01 | | 4.4 | 320 | | | | 2.8 | (2.65) |
| 02 | | 4.4 | 300 | | | | 2.6 | 2.60 |
| 03 | | 4.7 | 290 | | | | 4.1 | 2.70 |
| 04 | | 3.6 | 280 | | | | | 2.75 |
| 05 | | 3.6 | 260 | | | | | 2.80 |
| 06 | | 3.6 | 250 | | | | | 2.85 |
| 07 | | 4.1 | 250 | | | | | 2.80 |
| 08 | | 5.3 | 250 | | | 2.00 | | 3.10 |
| 09 | | 6.6 | 250 | | | 2.10 | | 3.10 |
| 10 | | 7.7 | 250 | | | ---- | | 3.10 |
| 11 | | 8.8 | 250 | | | ---- | | 3.00 |
| 12 | | 9.0 | 250 | | | ---- | | 3.00 |
| 13 | | 9.3 | 250 | | | ---- | | 3.00 |
| 14 | | >9.2 | 250 | | | ---- | | 3.00 |
| 15 | | >8.8 | 250 | | | 2.10 | | 2.95 |
| 16 | | 8.5 | 240 | | | 1.80 | | 2.90 |
| 17 | | 8.4 | 240 | | | | | (3.00) |
| 18 | | 6.2 | 250 | | | | | 2.80 |
| 19 | | >5.3 | 260 | | | | 2.4 | (2.85) |
| 20 | | >6.0 | 280 | | | | 3.0 | ---- |
| 21 | | (4.6) | 270 | | | | 3.6 | (2.80) |
| 22 | | >4.8 | 280 | | | | 3.9 | ---- |
| 23 | | (4.8) | 300 | | | | 4.4 | (2.75) |

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 57

Dakar, French W. Africa (14.7°N, 17.4°W) April 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 12.6 | 290 | | | | | 3.03 |
| 01 | | 11.4 | 260 | | | | 3.3 | 3.13 |
| 02 | | 9.0 | 230 | | | | 3.3 | 3.09 |
| 03 | | 7.4 | 230 | | | | 3.2 | 2.94 |
| 04 | | 6.3 | 240 | | | | 3.4 | 2.84 |
| 05 | | 5.5 | 250 | | | | 3.3 | 2.69 |
| 06 | | 7.0 | 270 | | 119 | 1.80 | 3.8 | 2.96 |
| 07 | --- | 9.8 | 250 | ---- | 111 | 2.70 | 4.7 | 3.04 |
| 08 | 270 | 11.8 | 230 | 4.40 | 111 | 3.30 | 4.8 | 2.93 |
| 09 | 330 | 12.7 | 220 | 4.90 | 111 | 3.70 | 4.8 | 2.79 |
| 10 | 350 | 13.7 | 220 | 5.20 | 109 | 3.90 | 4.5 | 2.78 |
| 11 | 360 | 14.5 | 210 | 5.30 | 109 | 4.10 | 4.1 | 2.68 |
| 12 | 380 | 15.0 | 205 | 5.40 | 109 | 4.15 | | 2.66 |
| 13 | 400 | 14.7 | 210 | 5.30 | 109 | 4.00 | | 2.61 |
| 14 | 400 | 14.6 | 210 | 5.20 | 109 | 3.90 | | 2.63 |
| 15 | 390 | 14.9 | 220 | 5.00 | 111 | 3.70 | | 2.63 |
| 16 | 380 | 14.6 | 230 | 4.50 | 111 | 3.30 | 3.7 | 2.66 |
| 17 | 390 | 13.6 | 250 | (4.10) | 113 | 2.70 | 4.7 | 2.59 |
| 18 | 440 | 13.0 | 270 | | --- | 1.85 | 3.2 | 2.50 |
| 19 | | 12.5 | 340 | | | | | 2.39 |
| 20 | | 12.2 | 405 | | | | | 2.34 |
| 21 | | 11.8 | 390 | | | | | 2.41 |
| 22 | | 12.3 | 350 | | | | | 2.60 |
| 23 | | 12.4 | 325 | | | | | 2.82 |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 58

Djibouti, French Somaliland (11.5°N, 43.1°E) April 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 9.7 | 275 | | | | 3.6 | (2.81) |
| 01 | | (9.7) | 260 | | | | 3.5 | (2.77) |
| 02 | | 9.6 | 240 | | | | 3.9 | 2.94 |
| 03 | | 9.0 | 230 | | | | 4.0 | 3.04 |
| 04 | | 7.8 | 230 | | | | 3.8 | 3.18 |
| 05 | | 6.6 | 230 | | | | 4.0 | 3.15 |
| 06 | | 7.0 | 260 | | --- | 1.55 | 4.3 | 3.09 |
| 07 | | 10.2 | 250 | | 121 | 2.70 | 4.6 | 3.07 |
| 08 | 260 | 12.4 | 235 | | 119 | 3.30 | 8.6 | 2.82 |
| 09 | (260) | 13.0 | 220 | 5.10 | 111 | 3.70 | 9.6 | 2.46 |
| 10 | --- | 12.4 | 220 | (5.45) | 109 | 3.90 | 9.8 | 2.38 |
| 11 | --- | 12.2 | 210 | 5.60 | 111 | 4.10 | 9.7 | 2.37 |
| 12 | --- | 12.2 | 210 | (5.60) | 111 | 4.10 | 9.7 | 2.42 |
| 13 | --- | 12.6 | 215 | 5.50 | 111 | 4.20 | 9.8 | 2.36 |
| 14 | --- | 13.4 | 210 | 5.30 | 111 | 4.00 | 9.5 | 2.40 |
| 15 | (420) | 13.4 | 220 | (5.00) | 113 | 3.75 | 8.4 | 2.40 |
| 16 | (390) | 13.7 | 230 | ---- | 115 | 3.40 | 7.0 | 2.40 |
| 17 | --- | 13.5 | 250 | | 119 | 2.85 | 5.0 | (2.46) |
| 18 | | >12.7 | 280 | | 129 | 1.95 | 4.5 | (2.34) |
| 19 | | >10.2 | 370 | | | | 2.2 | (2.26) |
| 20 | | >10.0 | 390 | | | | 2.0 | (2.18) |
| 21 | | (10.7) | 370 | | | | 2.0 | (2.35) |
| 22 | | (11.6) | 330 | | | | 2.1 | ---- |
| 23 | | 10.1 | 300 | | | | 2.2 | (2.60) |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 59

Tananarive, Madagascar (18.9°S, 47.6°E) April 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 5.8 | 230 | | | | 2.2 | 3.10 |
| 01 | | 5.5 | 250 | | | | 2.8 | 2.95 |
| 02 | | 4.9 | (230) | | | | 2.9 | 3.00 |
| 03 | | 4.1 | 240 | | | | 2.7 | 2.90 |
| 04 | | 3.6 | 270 | | | | 2.8 | 2.80 |
| 05 | | 3.6 | 280 | | | | >2.0 | 2.80 |
| 06 | | 5.0 | 260 | | --- | ---- | 2.9 | 3.00 |
| 07 | (250) | 9.4 | 235 | | --- | 2.50 | 2.8 | 3.25 |
| 08 | 260 | 10.8 | 230 | ---- | --- | 3.00 | 3.0 | (3.10) |
| 09 | 255 | (11.2) | (230) | ---- | --- | 3.40 | 3.4 | ---- |
| 10 | (250) | (11.5) | (220) | 5.20 | 105 | 3.70 | | (3.10) |
| 11 | (270) | >11.0 | (225) | (5.35) | 104 | 3.80 | | (3.00) |
| 12 | (300) | >11.0 | 210 | (5.50) | 103 | >3.90 | | (2.90) |
| 13 | (280) | 11.2 | (220) | 5.85 | 103 | 3.90 | | (3.00) |
| 14 | --- | 11.3 | 220 | ---- | 104 | 3.75 | | 3.00 |
| 15 | --- | >11.0 | 230 | ---- | 104 | 3.55 | | <3.00 |
| 16 | | 11.2 | 230 | ---- | 106 | 3.10 | 3.2 | (2.95) |
| 17 | | 11.0 | 240 | | --- | 2.55 | 2.8 | 2.95 |
| 18 | | 10.8 | 235 | | --- | (1.75) | 3.2 | 3.00 |
| 19 | | 10.4 | 230 | | | | 3.1 | 3.00 |
| 20 | | 9.3 | 230 | | | | 2.9 | 3.00 |
| 21 | | 8.6 | 235 | | | | 2.0 | 3.10 |
| 22 | | 7.4 | 230 | | | | 2.8 | 3.20 |
| 23 | | 6.4 | 230 | | | | 2.5 | 3.15 |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 60

Macquarie I. (54.5°S, 159.0°E) April 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | (5.4) | (340) | | | | 4.4 | (2.45) |
| 01 | | 5.4 | (340) | | | | 3.9 | (2.45) |
| 02 | | (4.6) | (300) | | | | 4.2 | (2.40) |
| 03 | | 4.5 | (340) | | | | 3.7 | (2.60) |
| 04 | | 4.0 | 300 | | | | 2.4 | 2.60 |
| 05 | | 4.1 | 300 | | | | 2.0 | 2.55 |
| 06 | | 4.0 | 300 | | | | | 2.70 |
| 07 | | 5.4 | 280 | | | 1.85 | | 2.90 |
| 08 | | 6.6 | 250 | | | 2.25 | | 3.00 |
| 09 | --- | 7.6 | 250 | | | (2.80) | | 3.00 |
| 10 | (300) | >7.7 | 250 | --- | | ---- | | 2.80 |
| 11 | --- | 8.3 | 250 | --- | | ---- | | 2.85 |
| 12 | --- | >9.9 | 250 | --- | | ---- | | 2.75 |
| 13 | --- | >8.8 | 250 | --- | | ---- | | 2.80 |
| 14 | --- | >9.9 | 250 | --- | | ---- | | 2.80 |
| 15 | --- | 8.8 | 250 | --- | | 2.40 | | (2.90) |
| 16 | --- | >7.7 | 260 | | | 2.20 | | (2.80) |
| 17 | | >7.7 | 260 | | | 1.85 | | (2.70) |
| 18 | | >6.5 | 280 | | | ---- | | ---- |
| 19 | | >6.7 | (250) | | | | 2.9 | (2.80) |
| 20 | | 5.7 | (280) | | | | 3.8 | (2.55) |
| 21 | | (5.2) | (300) | | | | 4.4 | ---- |
| 22 | | (5.4) | (280) | | | | 4.7 | ---- |
| 23 | | (5.2) | (320) | | | | 3.7 | (2.45) |

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 61

Oakar, French W. Africa (14.7°N, 17.4°W) March 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 14.8 | 260 | | | | | 3.35 |
| 01 | | 14.2 | 230 | | | | | 3.38 |
| 02 | | 11.1 | 220 | | | | | 3.24 |
| 03 | | 8.2 | 220 | | | | 3.1 | 3.01 |
| 04 | | 6.6 | 240 | | | | | 2.99 |
| 05 | | 5.4 | 240 | | | | 3.4 | 2.88 |
| 06 | | 6.0 | 270 | | 121 | 1.50 | 3.5 | 2.98 |
| 07 | | 10.4 | 250 | | 115 | 2.45 | 3.9 | 3.22 |
| 08 | 260 | 12.7 | 230 | (4.50) | 109 | 3.10 | 4.4 | 3.26 |
| 09 | 285 | 14.0 | 220 | 4.80 | 109 | 3.55 | 4.2 | 3.10 |
| 10 | 320 | 14.8 | 210 | 5.10 | 109 | 3.85 | | 2.93 |
| 11 | 350 | 15.1 | 205 | 5.25 | 109 | 4.00 | | 2.74 |
| 12 | 370 | 15.2 | 205 | 5.30 | 109 | 4.00 | | 2.58 |
| 13 | 380 | 14.8 | 205 | 5.25 | 109 | 4.00 | | 2.64 |
| 14 | 375 | 15.0 | 210 | 5.15 | 109 | 3.80 | | 2.64 |
| 15 | 370 | 15.0 | 220 | (4.90) | 109 | 3.65 | | 2.64 |
| 16 | 370 | 14.7 | 230 | 4.50 | 111 | 3.30 | 3.3 | 2.71 |
| 17 | 400 | 14.5 | 240 | ---- | 111 | 2.70 | 3.7 | 2.67 |
| 18 | (425) | 14.2 | 270 | | --- | 1.90 | 3.6 | 2.58 |
| 19 | | 13.4 | 345 | | | | | 2.42 |
| 20 | | 13.5 | 350 | | | | | 2.50 |
| 21 | | 13.6 | 330 | | | | | 2.68 |
| 22 | | 14.2 | 320 | | | | 2.3 | 2.92 |
| 23 | | 14.7 | 290 | | | | | 3.11 |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 62

Ojibouti, French Somaliland (11.5°N, 43.1°E) March 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | (11.0) | 250 | | | | 4.0 | (3.08) |
| 01 | | >9.5 | 235 | | | | 2.4 | (3.08) |
| 02 | | 9.4 | 230 | | | | 2.4 | (3.02) |
| 03 | | 8.4 | 235 | | | | 2.3 | 3.03 |
| 04 | | 8.4 | 240 | | | | 2.6 | 3.07 |
| 05 | | 7.0 | 230 | | | | 4.2 | 3.24 |
| 06 | | 6.4 | 250 | | --- | 1.45 | 4.0 | 3.00 |
| 07 | | 9.6 | 250 | | 122 | 2.50 | 4.5 | 3.06 |
| 08 | (255) | 11.4 | 235 | ---- | 115 | 3.10 | 4.8 | 2.82 |
| 09 | (255) | 12.6 | 225 | ---- | 111 | 3.50 | 8.9 | 2.56 |
| 10 | (280) | 12.4 | 215 | (5.30) | 109 | 3.80 | 9.6 | 2.50 |
| 11 | (280) | 12.0 | 210 | 5.50 | 109 | 4.00 | 9.5 | 2.42 |
| 12 | --- | 12.2 | 205 | 5.50 | 109 | 4.00 | 9.4 | 2.40 |
| 13 | --- | 12.8 | 205 | 5.50 | 110 | 4.00 | 9.0 | 2.40 |
| 14 | (360) | 13.5 | 210 | (5.20) | 111 | 3.90 | 9.4 | 2.42 |
| 15 | (330) | 13.5 | 220 | 4.75 | 111 | 3.65 | 7.2 | <2.45 |
| 16 | (400) | 13.8 | 230 | ---- | 117 | 3.35 | 7.6 | 2.52 |
| 17 | (370) | >13.4 | 250 | | 121 | 2.80 | 6.0 | <2.46 |
| 18 | --- | >12.6 | 280 | | 139 | 1.90 | 4.6 | (2.35) |
| 19 | | >10.0 | 380 | | | | 2.3 | 2.23 |
| 20 | | 10.0 | 420 | | | | 2.1 | (2.11) |
| 21 | | (10.6) | 340 | | | | 2.2 | ---- |
| 22 | | >11.3 | 280 | | | | 2.3 | (2.80) |
| 23 | | >11.0 | 260 | | | | 4.5 | (2.86) |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 63

Tananarive, Madagascar (18.9°S, 47.6°E) March 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | 7.6 | 250 | | | | 2.8 | 3.00 |
| 01 | | 7.0 | 240 | | | | 1.7 | 3.00 |
| 02 | | 6.0 | 230 | | | | 1.5 | 3.00 |
| 03 | | 4.9 | 250 | | | | 1.6 | 2.80 |
| 04 | | 4.8 | (260) | | | | 1.6 | 2.80 |
| 05 | | 4.5 | (255) | | | | 1.5 | 2.85 |
| 06 | | 5.1 | 260 | | --- | 1.50 | 1.6 | 3.00 |
| 07 | | 8.4 | 230 | | 109 | 2.50 | 2.8 | 3.30 |
| 08 | 260 | 10.2 | 220 | ---- | --- | 3.15 | | 3.15 |
| 09 | 270 | >11.0 | 215 | (5.50) | 105 | 3.55 | | 3.10 |
| 10 | 270 | >11.0 | 210 | 5.50 | 103 | 3.80 | | <3.15 |
| 11 | 290 | 11.5 | 210 | (5.70) | 101 | (4.00) | | (3.05) |
| 12 | 300 | >11.5 | 205 | 5.80 | 101 | (4.10) | | (2.90) |
| 13 | 300 | >11.5 | 210 | (5.85) | 101 | (4.10) | | <3.00 |
| 14 | 305 | >11.5 | 210 | (5.80) | 101 | 4.00 | | <2.90 |
| 15 | 295 | (11.5) | 225 | 5.80 | 103 | 3.80 | | <3.00 |
| 16 | 290 | >11.0 | 230 | (5.35) | 107 | 3.35 | | (3.00) |
| 17 | --- | 11.3 | 240 | | 109 | 2.80 | | 3.00 |
| 18 | | 11.0 | 240 | | --- | 1.95 | 3.1 | (3.05) |
| 19 | | >10.5 | 240 | | | | 3.1 | (3.00) |
| 20 | | 10.0 | 240 | | | | 2.8 | 3.00 |
| 21 | | 9.5 | 245 | | | | 2.8 | 2.90 |
| 22 | | 8.7 | 250 | | | | 2.3 | 2.95 |
| 23 | | 8.1 | 260 | | | | 2.8 | 2.95 |

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 64

Macquarie I. (54.5°S, 159.0°E) March 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | >4.9 | 300 | | | | 3.6 | (2.40) |
| 01 | | 4.4 | 340 | | | | 4.2 | 2.45 |
| 02 | | 4.1 | 330 | | | | 2.8 | (2.50) |
| 03 | | 3.9 | 320 | | | | 2.2 | 2.50 |
| 04 | | 3.4 | 320 | | | | | 2.55 |
| 05 | | 3.7 | 290 | | | | | 2.65 |
| 06 | | >4.9 | 270 | | | 1.90 | | 2.90 |
| 07 | --- | >5.8 | 260 | --- | | ---- | | 2.95 |
| 08 | --- | 7.0 | 250 | --- | | ---- | | 2.90 |
| 09 | (340) | >7.2 | 240 | --- | | ---- | | 2.90 |
| 10 | 320 | 7.5 | 240 | 4.8 | | ---- | | 2.85 |
| 11 | 350 | 7.7 | 230 | 4.8 | | ---- | | 2.70 |
| 12 | 340 | >7.7 | 240 | 4.8 | | ---- | | 2.70 |
| 13 | 320 | >7.7 | 230 | 4.8 | | (3.35) | | 2.85 |
| 14 | 300 | >7.7 | 240 | 4.8 | | ---- | | 2.70 |
| 15 | 300 | >7.7 | 250 | 4.6 | | ---- | | (2.75) |
| 16 | (320) | >7.7 | 250 | 4.2 | | ---- | | (2.85) |
| 17 | (310) | >7.7 | 260 | | | ---- | | (2.75) |
| 18 | | >7.0 | 260 | | | 1.95 | | ---- |
| 19 | | >7.7 | 260 | | | ---- | | ---- |
| 20 | | >6.2 | 270 | | | | 2.1 | (2.70) |
| 21 | | >5.7 | 280 | | | | 3.7 | ---- |
| 22 | | >5.0 | (280) | | | | 4.8 | ---- |
| 23 | | (5.2) | 300 | | | | 4.9 | ---- |

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 65

Macquarie I. (54.5°S, 159.0°E) February 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | (4.9) | (300) | | | | 4.6 | ---- |
| 01 | | 4.7 | 300 | | | | (2.4) | (2.70) |
| 02 | | (4.7) | 300 | | | | | (2.60) |
| 03 | | 3.8 | 300 | | | | | (2.70) |
| 04 | | 3.3 | 300 | | | | | 2.80 |
| 05 | | 4.4 | 270 | | | 1.80 | | 2.90 |
| 06 | --- | 5.1 | 250 | | | 2.30 | | 3.05 |
| 07 | (320) | 5.8 | <250 | --- | | 2.70 | | 2.90 |
| 08 | 340 | 6.3 | 240 | 4.7 | | ---- | | 2.85 |
| 09 | 340 | 6.4 | 230 | 4.8 | | ---- | | 2.85 |
| 10 | 340 | 6.7 | (240) | 4.9 | | ---- | | 2.85 |
| 11 | 360 | 6.7 | (220) | 4.9 | | ---- | | 2.80 |
| 12 | 370 | 6.9 | (230) | 4.9 | | ---- | | 2.80 |
| 13 | 350 | 6.9 | --- | 4.9 | | ---- | | 2.70 |
| 14 | 380 | 6.8 | (220) | 4.9 | | ---- | | 2.75 |
| 15 | 350 | 7.0 | 230 | 4.8 | | ---- | | 2.75 |
| 16 | 330 | 7.2 | 240 | 4.6 | | ---- | | 2.80 |
| 17 | 300 | 7.2 | 250 | --- | | ---- | | 2.85 |
| 18 | (300) | >7.2 | (250) | --- | | ---- | | 2.90 |
| 19 | --- | 7.1 | 270 | --- | | 1.90 | 2.5 | 2.80 |
| 20 | --- | >7.0 | 260 | | | ---- | | (2.80) |
| 21 | --- | >6.5 | 260 | | | | | (2.80) |
| 22 | | >5.9 | (270) | | | | | ---- |
| 23 | | (5.4) | (300) | | | | 4.9 | (2.65) |

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 66

Macquarie I. (54.5°S, 159.0°E) January 1956

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | >5.3 | (280) | | | | 4.8 | ---- |
| 01 | | (5.3) | (310) | | | | | (2.55) |
| 02 | | (4.8) | (290) | | | | >2.8 | ---- |
| 03 | | (5.0) | --- | | | | | (2.75) |
| 04 | | (4.9) | --- | | | --- | | ---- |
| 05 | | 4.8 | --- | | | --- | (2.0) | 3.00 |
| 06 | --- | 5.0 | --- | | | --- | | 2.90 |
| 07 | (340) | 5.6 | --- | --- | | --- | | 2.85 |
| 08 | (330) | 5.8 | --- | 4.8 | | --- | (4.9) | 3.00 |
| 09 | 370 | 6.0 | --- | 4.9 | | --- | | 2.80 |
| 10 | 360 | >6.3 | --- | 4.9 | | --- | | 2.75 |
| 11 | 380 | 6.6 | --- | 4.9 | | --- | | 2.80 |
| 12 | 390 | 6.5 | --- | 4.9 | | --- | | 2.75 |
| 13 | 400 | 6.6 | --- | 5.0 | | --- | | 2.70 |
| 14 | 380 | 6.7 | --- | 4.9 | | --- | | 2.80 |
| 15 | 370 | 6.7 | --- | 4.8 | | --- | | 2.75 |
| 16 | 360 | >6.9 | --- | 4.8 | | --- | | 2.70 |
| 17 | 330 | 6.8 | --- | 4.4 | | --- | | 2.80 |
| 18 | 300 | 6.7 | (280) | --- | | --- | | 2.80 |
| 19 | (300) | >6.4 | (280) | --- | | --- | 4.8 | 2.85 |
| 20 | | >5.8 | (290) | | | --- | 4.8 | (2.80) |
| 21 | | >5.2 | --- | | | | 5.3 | ---- |
| 22 | | (5.1) | --- | | | | >5.4 | ---- |
| 23 | | --- | --- | | | | 4.9 | ---- |

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 67*

Campbell I. (52.5°S, 169.2°E) November 1955

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | | | | | | | |
| 01 | | | | | | | | |
| 02 | | | | | | | | |
| 03 | | | | | | | | |
| 04 | | | | | | | | |
| 05 | 270 | 4.6 | 240 | --- | 130 | 2.3 | | 3.0 |
| 06 | 290 | 5.2 | 250 | 3.6 | 125 | 2.7 | | 2.95 |
| 07 | 330 | 5.6 | 240 | 4.2 | 120 | 2.9 | | 3.0 |
| 08 | 350 | 6.0 | 240 | 4.6 | 120 | 3.1 | | 2.9 |
| 09 | 350 | 6.2 | 230 | 4.7 | 120 | 3.3 | | 2.9 |
| 10 | 340 | 6.6 | 230 | 4.8 | 120 | 3.4 | | 2.9 |
| 11 | 350 | 6.8 | 230 | 5.0 | 120 | 3.6 | | 2.9 |
| 12 | 350 | 6.9 | 230 | 4.9 | 120 | 3.6 | | 2.9 |
| 13 | 340 | 7.0 | 230 | 4.8 | 120 | 3.5 | | 2.9 |
| 14 | 340 | 7.0 | 230 | 4.7 | 120 | 3.3 | | 2.85 |
| 15 | 340 | 7.0 | 230 | 4.5 | 120 | 3.2 | | 2.9 |
| 16 | 330 | 7.1 | 240 | 4.3 | 125 | 2.9 | | 2.8 |
| 17 | 310 | 6.9 | 250 | 3.9 | 130 | 2.6 | | 2.9 |
| 18 | 290 | 7.0 | 240 | 3.5 | 135 | 2.4 | | 2.9 |
| 19 | 270 | 7.1 | | | | | | 2.9 |
| 20 | 270 | 7.0 | | | | | | 2.8 |
| 21 | 280 | 6.2 | | | | | | 2.8 |
| 22 | 290 | 5.8 | | | | | | 2.8 |
| 23 | 300 | 4.8 | | | | | | 2.8 |

Time: 165.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.
*Observations taken on a 19-hour working schedule.

Table 68

Bombay, India (19.0°N, 73.0°E) October 1955

| Time | * | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | | | | | | | |
| 01 | | | | | | | | |
| 02 | | | | | | | | |
| 03 | | | | | | | | |
| 04 | | | | | | | | |
| 05 | | | | | | | | |
| 06 | 270 | 4.8 | | | | | | 3.35 |
| 07 | 300 | 6.0 | | | | | | 3.10 |
| 08 | 330 | 7.4 | | | | | | 2.95 |
| 09 | 360 | 8.2 | | | | | | 2.80 |
| 10 | 380 | 9.2 | | | | | | 2.70 |
| 11 | 390 | 10.8 | | | | | | 2.65 |
| 12 | 420 | 11.2 | | | | | | 2.55 |
| 13 | 420 | 11.0 | | | | | | 2.55 |
| 14 | 450 | 11.2 | | | | | | 2.45 |
| 15 | 420 | 11.1 | | | | | | 2.55 |
| 16 | 390 | 10.7 | | | | | | 2.65 |
| 17 | 390 | 9.6 | | | | | | 2.65 |
| 18 | 360 | 9.6 | | | | | | 2.80 |
| 19 | 360 | 9.0 | | | | | | 2.80 |
| 20 | 330 | 7.5 | | | | | | 2.95 |
| 21 | 300 | 6.0 | | | | | | 3.10 |
| 22 | 270 | 5.2 | | | | | | 3.35 |
| 23 | | | | | | | | |

Time: 75.0°E.
Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.
*Height at 0.83 foF2.

Table 69

Madras, India (13.0°N, 80.2°E) October 1955

| Time | * | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | | | | | | | |
| 01 | | | | | | | | |
| 02 | | | | | | | | |
| 03 | | | | | | | | |
| 04 | | | | | | | | |
| 05 | | | | | | | | |
| 06 | 300 | 7.4 | | | | | | 3.10 |
| 07 | 320 | >8.8 | | | | | | 3.00 |
| 08 | 400 | 10.2 | | | | | | 2.55 |
| 09 | 410 | >10.0 | | | | | | (2.60) |
| 10 | 440 | >9.5 | | | | | | 2.50 |
| 11 | 440 | >9.2 | | | | | | 2.50 |
| 12 | 460 | 9.3 | | | | | | 2.40 |
| 13 | 440 | >9.6 | | | | | | 2.50 |
| 14 | 440 | 10.4 | | | | | | 2.50 |
| 15 | 440 | 11.5 | | | | | | 2.50 |
| 16 | (440) | 11.6 | | | | | | (2.50) |
| 17 | --- | >11.6 | | | | | | ---- |
| 18 | (400) | >11.2 | | | | | | (2.60) |
| 19 | 400 | >10.1 | | | | | | 2.60 |
| 20 | (380) | >9.5 | | | | | | (2.70) |
| 21 | (360) | >9.0 | | | | | | (2.80) |
| 22 | --- | (8.8) | | | | | | ---- |
| 23 | | | | | | | | |

Time: 75.0°E.
Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.
*Height at 0.83 foF2.

Table 70

Tiruchy, India (10.8°N, 78.8°E) October 1955

| Time | * | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | | | | | | | | |
| 01 | | | | | | | | |
| 02 | | | | | | | | |
| 03 | | | | | | | | |
| 04 | | | | | | | | |
| 05 | | | | | | | | |
| 06 | 280 | 6.5 | | | | | | 3.25 |
| 07 | 320 | 9.0 | | | | | | 3.00 |
| 08 | 360 | 9.7 | | | | | | 2.80 |
| 09 | 400 | 9.8 | | | | | | 2.60 |
| 10 | 440 | 9.8 | | | | | | 2.50 |
| 11 | 440 | 9.3 | | | | | | 2.50 |
| 12 | 440 | 9.4 | | | | | | 2.50 |
| 13 | 440 | 9.6 | | | | | | 2.50 |
| 14 | 440 | 10.4 | | | | | | 2.50 |
| 15 | 440 | 10.5 | | | | | | 2.50 |
| 16 | 400 | 10.7 | | | | | | 2.60 |
| 17 | 400 | 10.6 | | | | | | 2.60 |
| 18 | 400 | 10.0 | | | | | | 2.60 |
| 19 | 400 | 9.5 | | | | | | 2.60 |
| 20 | 360 | 9.5 | | | | | | 2.80 |
| 21 | 360 | 9.0 | | | | | | 2.80 |
| 21:30 | 360 | 8.8 | | | | | | 2.80 |
| 23 | | | | | | | | |

Time: 75.0°E.
Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.
*Height at 0.83 foF2.

Table 71

Kodaikanal, India (10.2°N, 77.5°E) October 1955

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | 230 | 8.8 | | | | | | 3.3 |
| 01 | 220 | 8.7 | | | | | | 3.4 |
| 02 | 220 | 6.8 | | | | | | 3.4 |
| 03 | 220 | 5.2 | | | | | | 3.5 |
| 04 | 230 | 3.9 | | | | | | 3.5 |
| 05 | 225 | 3.6 | | | | | | 3.5 |
| 06 | 240 | 5.9 | | | | | | 3.4 |
| 07 | 250 | 8.8 | 220 | --- | 110 | 2.6 | | 3.3 |
| 08 | 275 | 10.1 | 200 | --- | 105 | 3.1 | 8.6 | 3.0 |
| 09 | 290 | 10.5 | 200 | --- | --- | --- | 10.0 | 2.7 |
| 10 | 300 | 10.1 | 190 | --- | --- | --- | 11.0 | 2.5 |
| 11 | 310 | 9.4 | 180 | --- | --- | --- | 11.0 | 2.5 |
| 12 | 320 | 9.4 | 190 | --- | --- | --- | 11.3 | 2.5 |
| 13 | 305 | 9.8 | 200 | --- | 105 | --- | 11.0 | 2.6 |
| 14 | 300 | 10.5 | 200 | --- | 105 | --- | 9.8 | 2.6 |
| 15 | (290) | 10.8 | 200 | --- | 105 | 3.1 | 9.0 | 2.6 |
| 16 | 220 | 11.2 | 220 | --- | 110 | --- | 8.0 | 2.7 |
| 17 | 245 | 11.3 | | | --- | --- | | 2.6 |
| 18 | 290 | 10.6 | | | | | | 2.5 |
| 19 | 320 | 9.5 | | | | | | 2.5 |
| 20 | 320 | 9.9 | | | | | | (2.6) |
| 21 | 280 | (10.4) | | | | | | (2.9) |
| 22 | 240 | (10.4) | | | | | | 3.05 |
| 23 | 240 | 9.6 | | | | | | 3.2 |

Time: 75.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 72

Leopoldville, Belgian Congo (4.3°S, 15.3°E) October 1952

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|---|---|---|---|---|---|---|---|---|
| 00 | 255 | 4.9 | | | | | | 2.7 |
| 01 | 260 | 5.0 | | | | | | 2.75 |
| 02 | 245 | 4.7 | | | | | | 2.9 |
| 03 | 225 | 4.4 | | | | | 2.0 | 3.1 |
| 04 | 220 | 3.2 | | | | | 2.4 | 3.3 |
| 05 | 230 | 5.0 | --- | --- | 130 | 2.0 | 2.6 | 3.2 |
| 06 | 245 | 6.5 | 225 | --- | 120 | 2.5 | 3.4 | 3.1 |
| 07 | 280 | 7.0 | 220 | --- | 110 | 3.0 | 3.8 | 2.8 |
| 08 | 320 | 8.0 | 215 | 4.5 | 110 | 3.3 | 4.2 | 2.6 |
| 09 | 390 | 9.0 | 215 | 4.6 | 110 | 3.5 | | 2.4 |
| 10 | 395 | 10.2 | 210 | 4.7 | 110 | 3.6 | | 2.4 |
| 11 | 370 | 10.8 | 210 | 4.6 | 110 | 3.6 | | 2.4 |
| 12 | 380 | 11.5 | 220 | 4.6 | 110 | 3.5 | | 2.4 |
| 13 | 360 | 12.2 | 220 | 4.6 | 110 | 3.4 | | 2.5 |
| 14 | 330 | 13.2 | 230 | 4.3 | 110 | 3.1 | 3.3 | 2.6 |
| 15 | 300 | 13.3 | 240 | --- | 110 | 2.6 | 3.8 | <2.7 |
| 16 | 275 | 13.0 | 240 | --- | 120 | 2.1 | 3.2 | 2.7 |
| 17 | 250 | 13.0 | | | | | 2.8 | 2.7 |
| 18 | 250 | 12.0 | | | | | 2.3 | 2.7 |
| 19 | 235 | 11.6 | | | | | | 2.7 |
| 20 | 225 | 10.9 | | | | | | 2.8 |
| 21 | 215 | 10.0 | | | | | | 3.0 |
| 22 | 210 | 8.6 | | | | | | 3.05 |
| 23 | 220 | 5.4 | | | | | | 2.7 |

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

USCOMM-NBS-BL

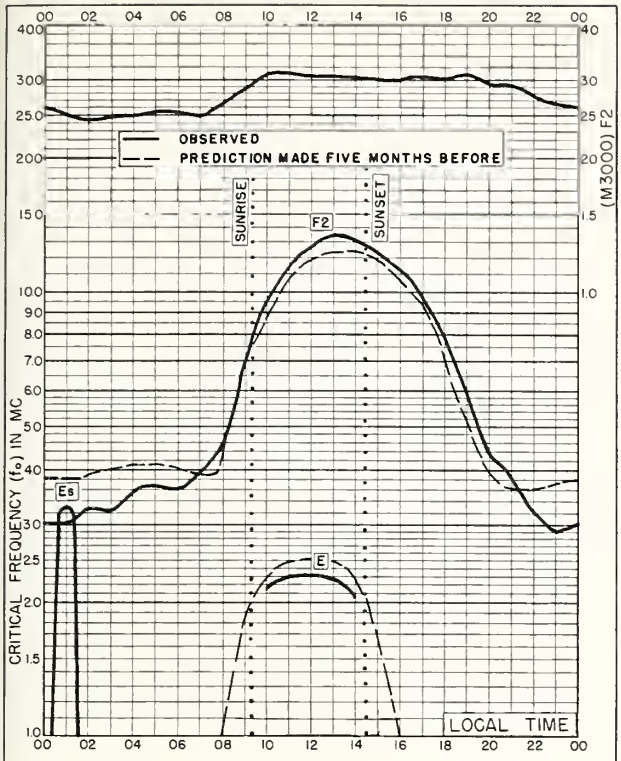


Fig. 1. ANCHORAGE, ALASKA
61.2°N, 149.9°W DECEMBER 1958

Commerce-Stanford-Boulder, Colo. NBS 503

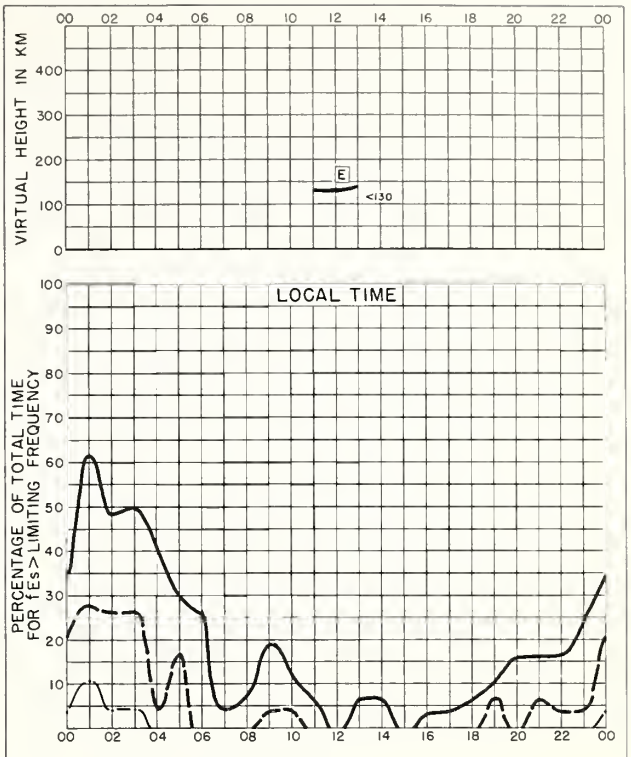


Fig. 2. ANCHORAGE, ALASKA DECEMBER 1958

Commerce-Stanford-Boulder, Colo. NBS 490

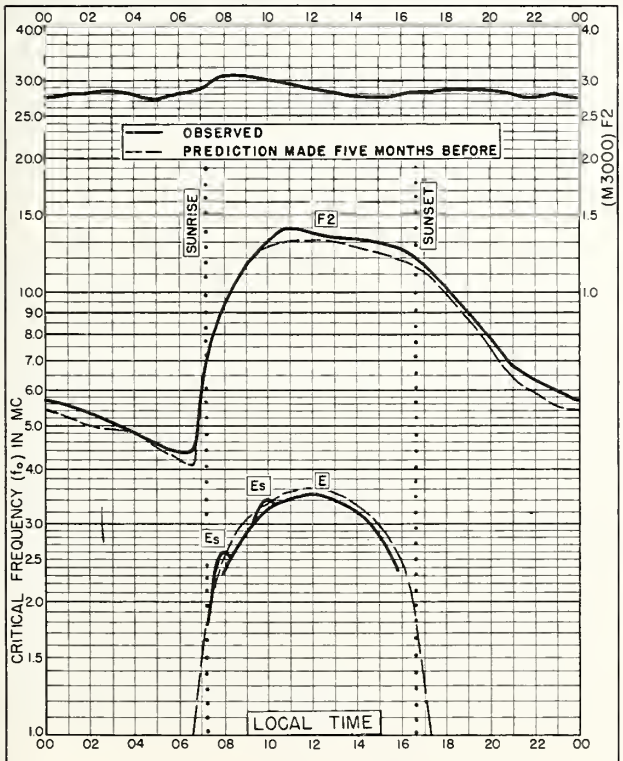


Fig. 3. WASHINGTON, D. C.
38.7°N, 77.1°W DECEMBER 1958

Commerce-Stanford-Boulder, Colo. NBS 503

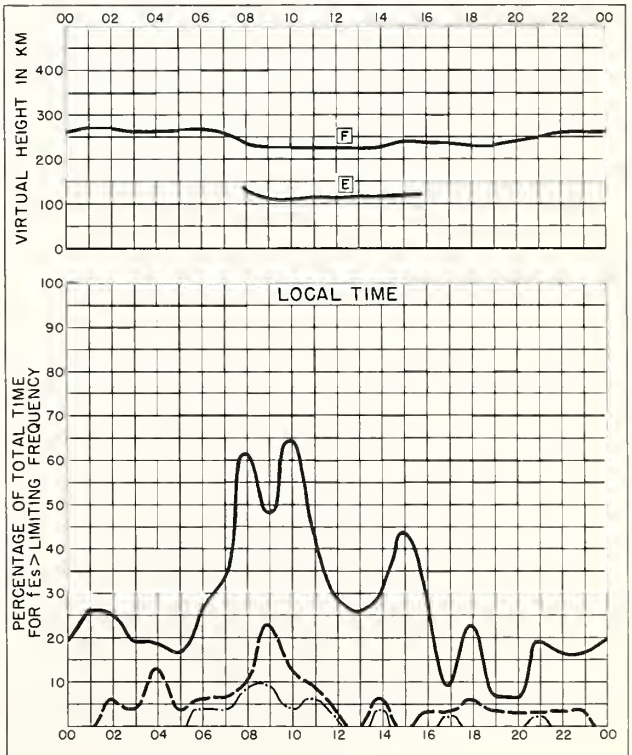


Fig. 4. WASHINGTON, D. C. DECEMBER 1958

Commerce-Stanford-Boulder, Colo. NBS 490

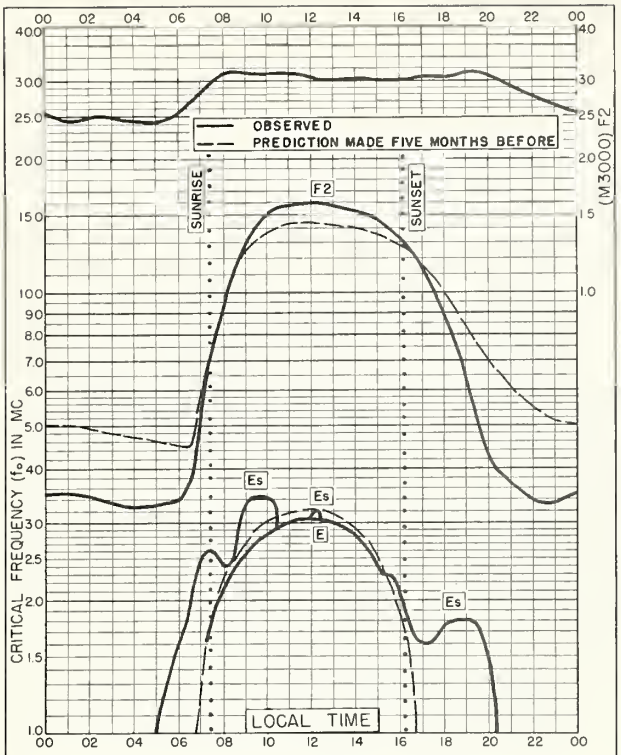


Fig. 5. ADAK, ALASKA
51.9°N, 176.6°W NOVEMBER 1958

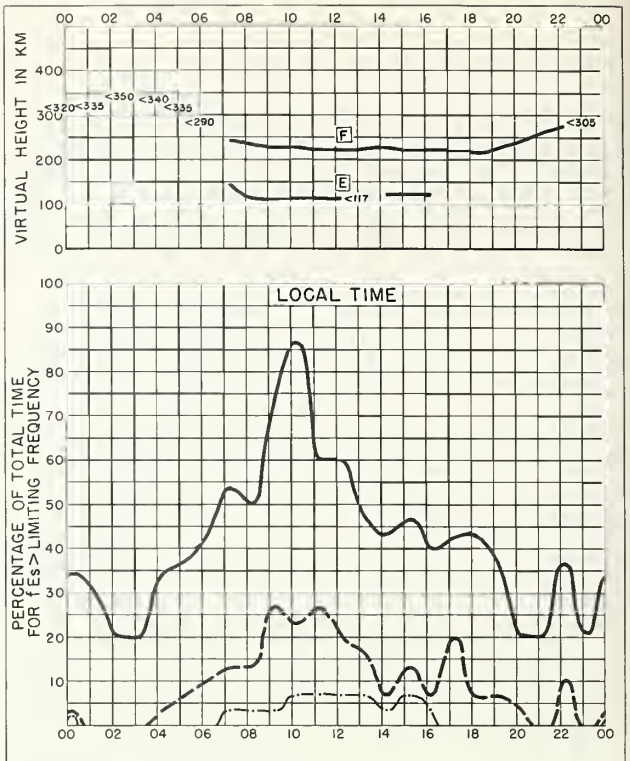


Fig. 6. ADAK, ALASKA NOVEMBER 1958

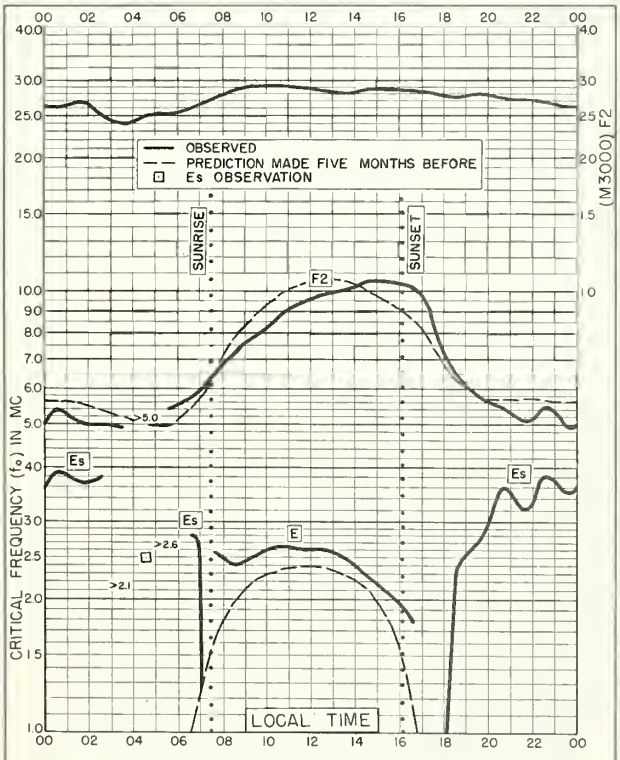


Fig. 7. POINT BARROW, ALASKA
71.3°N, 156.8°W OCTOBER 1958

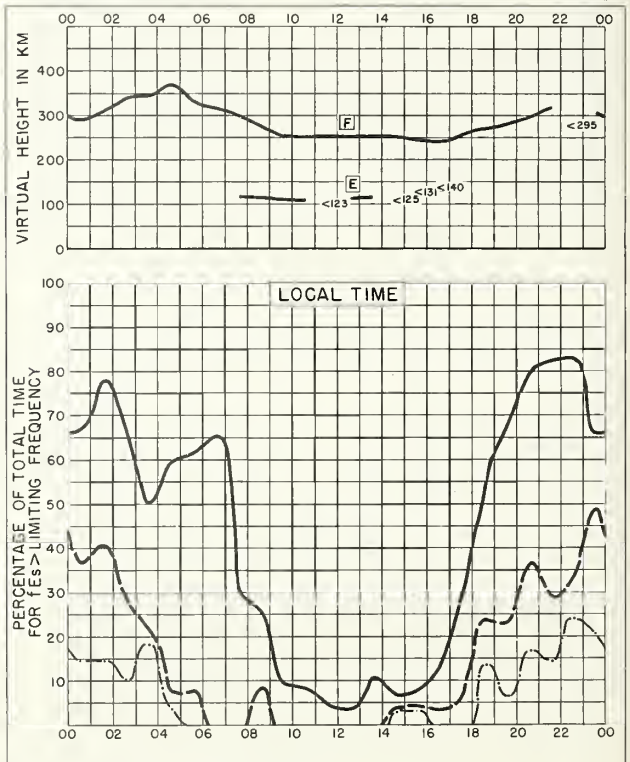


Fig. 8. POINT BARROW, ALASKA OCTOBER 1958

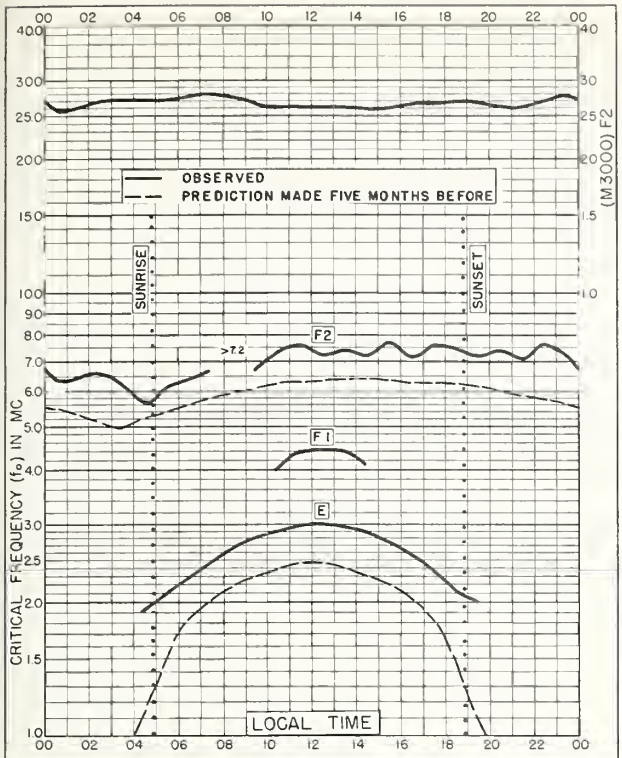


Fig. 9. THULE, GREENLAND
76.6°N, 68.7°W SEPTEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 503

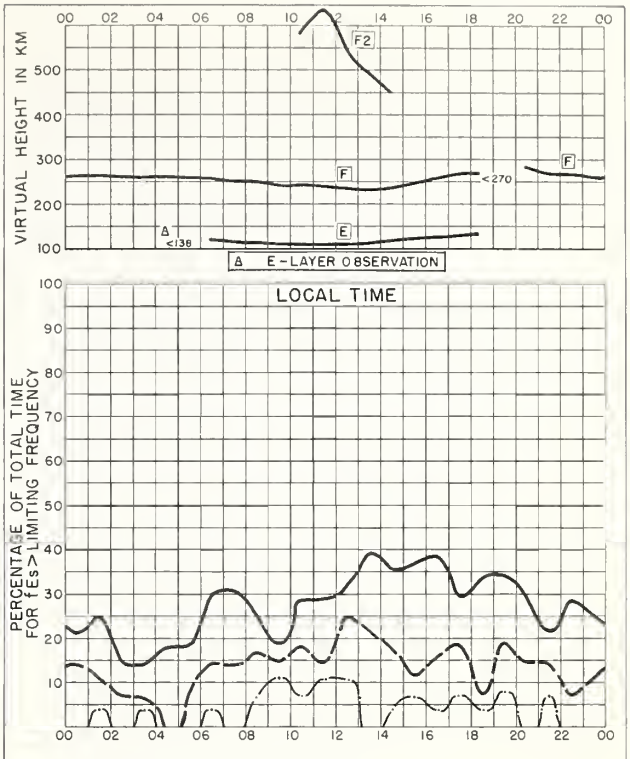


Fig. 10. THULE, GREENLAND SEPTEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 490

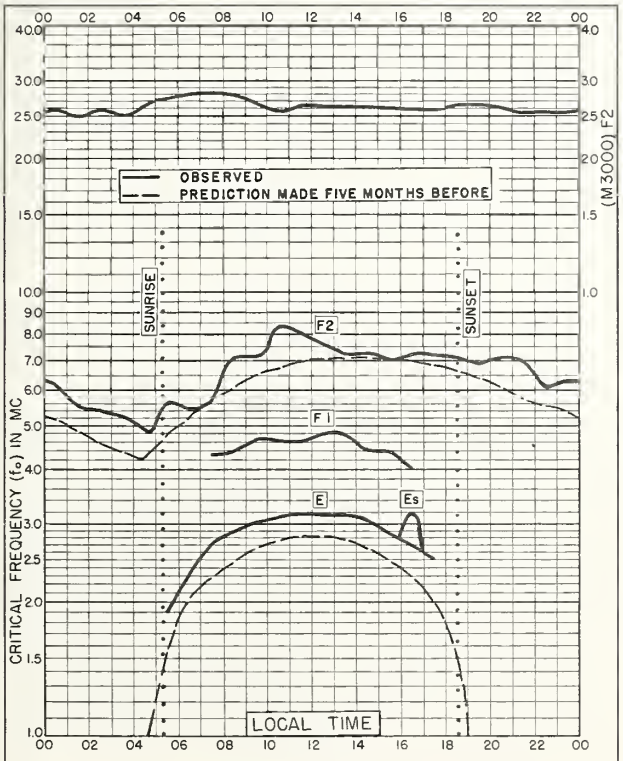


Fig. 11. GODHAVN, GREENLAND
69.3°N, 53.5°W SEPTEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 503

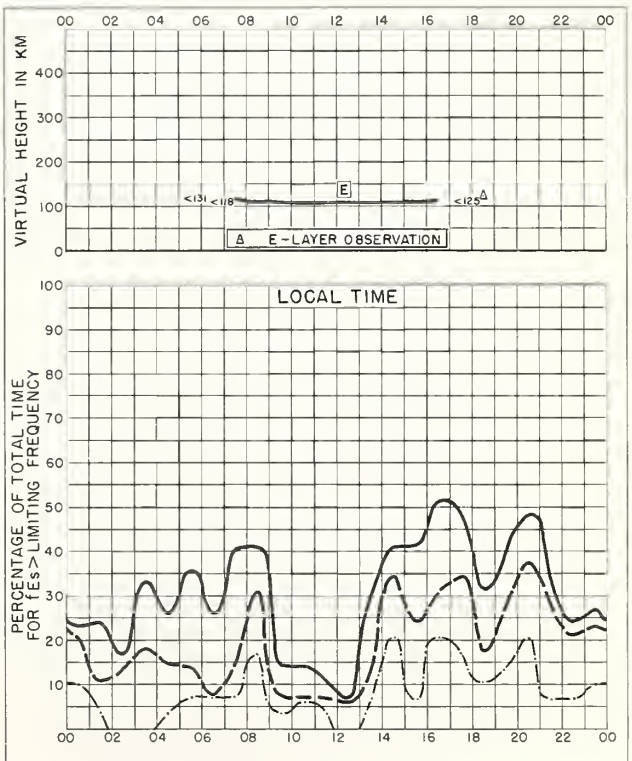


Fig. 12. GODHAVN, GREENLAND SEPTEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 490

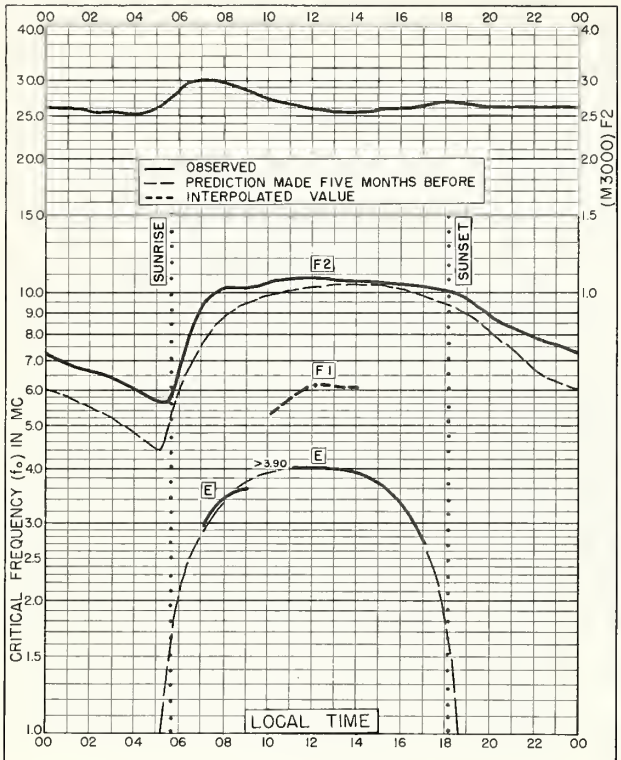


Fig. 13. FT. MONMOUTH, NEW JERSEY
40.4°N, 74.1°W SEPTEMBER 1958

NBS 503

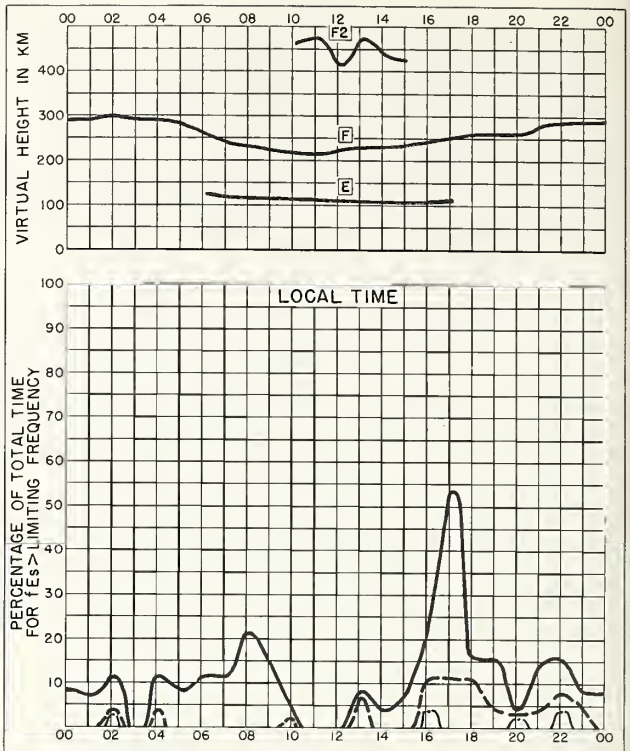


Fig. 14. FT. MONMOUTH, NEW JERSEY SEPTEMBER 1958

NBS 490

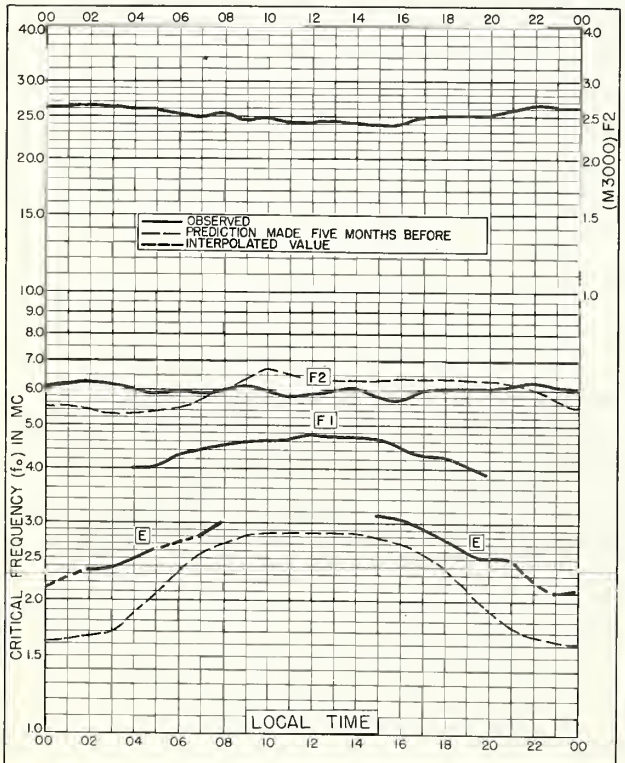


Fig. 15. FLETCHERS ICE I.
79.0°N, 122.0°W AUGUST 1958

NBS 503

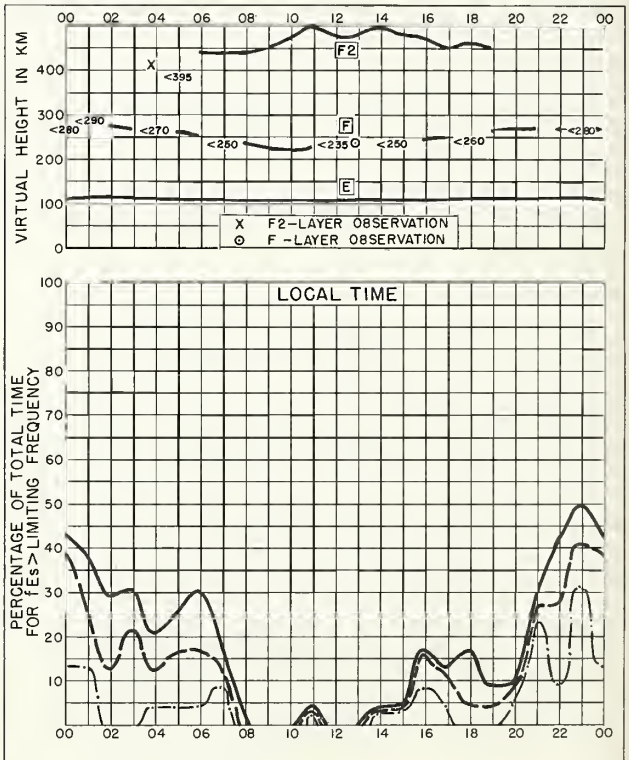


Fig. 16. FLETCHERS ICE I. AUGUST 1958

NBS 490

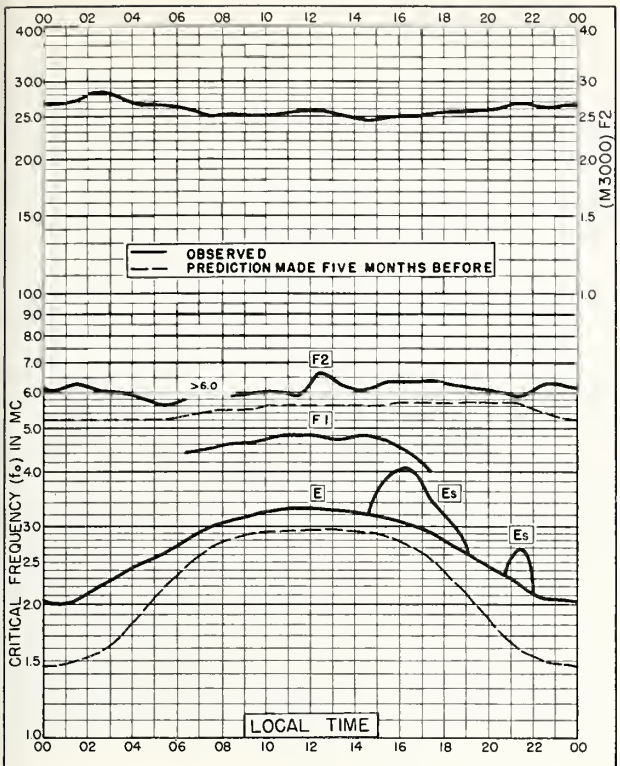


Fig. 17. THULE, GREENLAND
76.6°N, 68.7°W AUGUST 1958

NBS 503

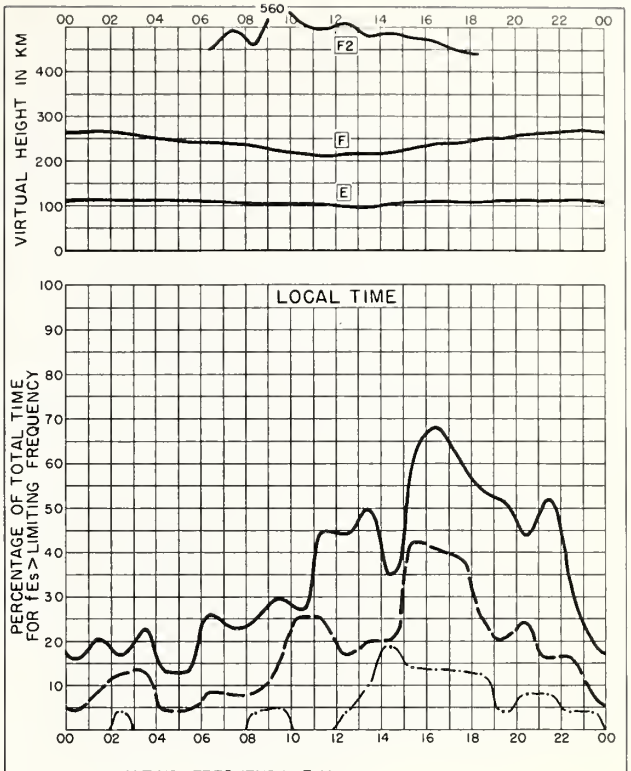


Fig. 18. THULE, GREENLAND AUGUST 1958

NBS 490

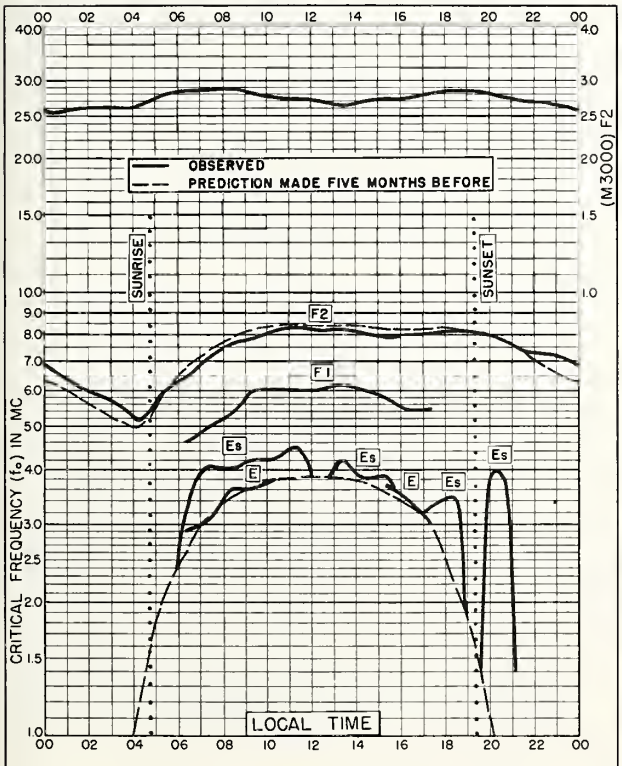


Fig. 19. De BILT, HOLLAND
52.1°N, 5.2°E AUGUST 1958

NBS 503

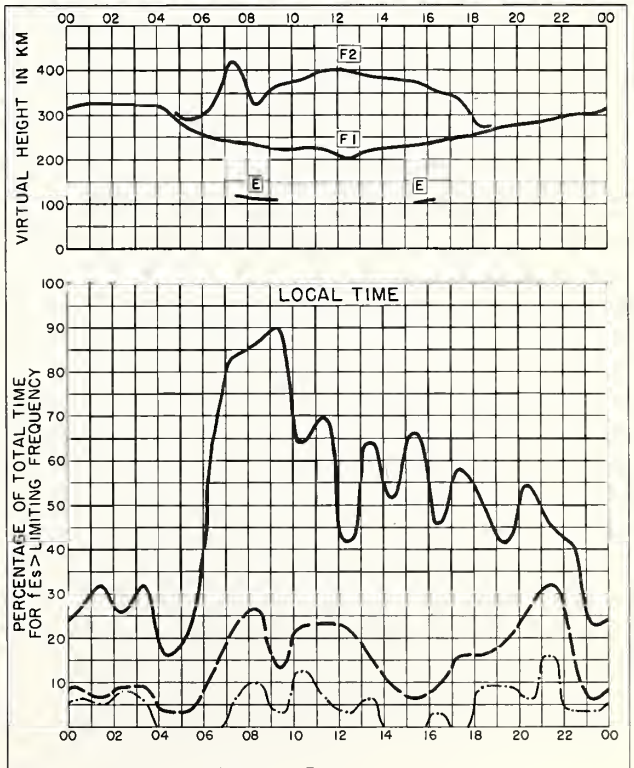


Fig. 20. De BILT, HOLLAND AUGUST 1958

NBS 490

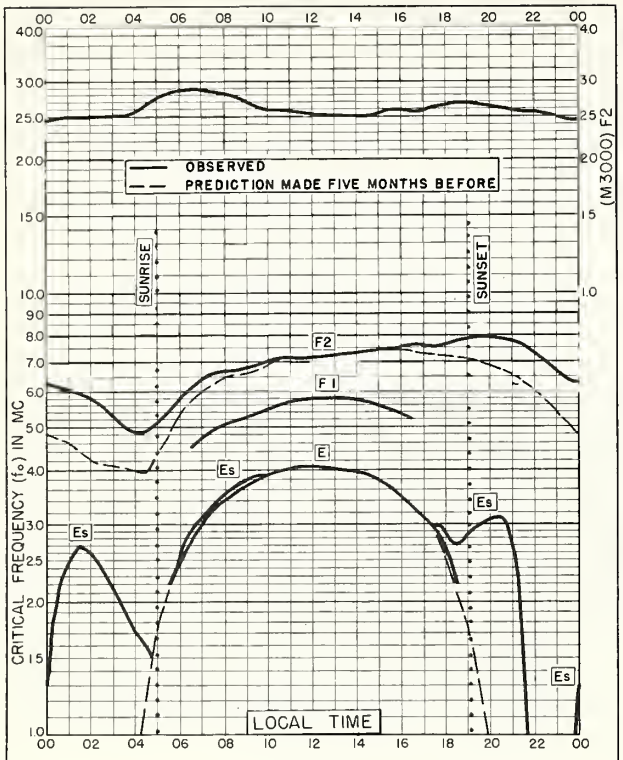


Fig. 21. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W AUGUST 1958

NBS 503

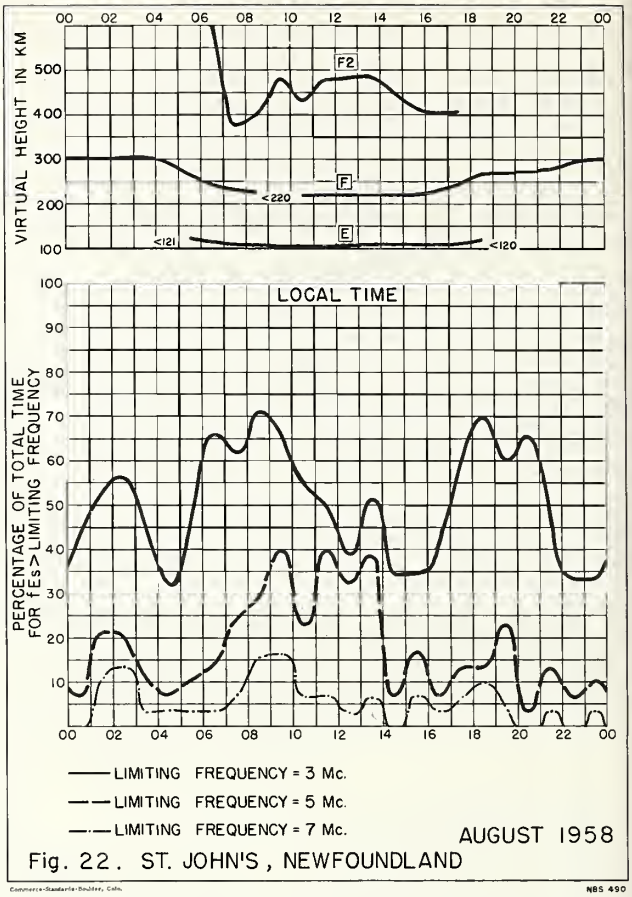


Fig. 22. ST. JOHN'S, NEWFOUNDLAND
AUGUST 1958

NBS 490

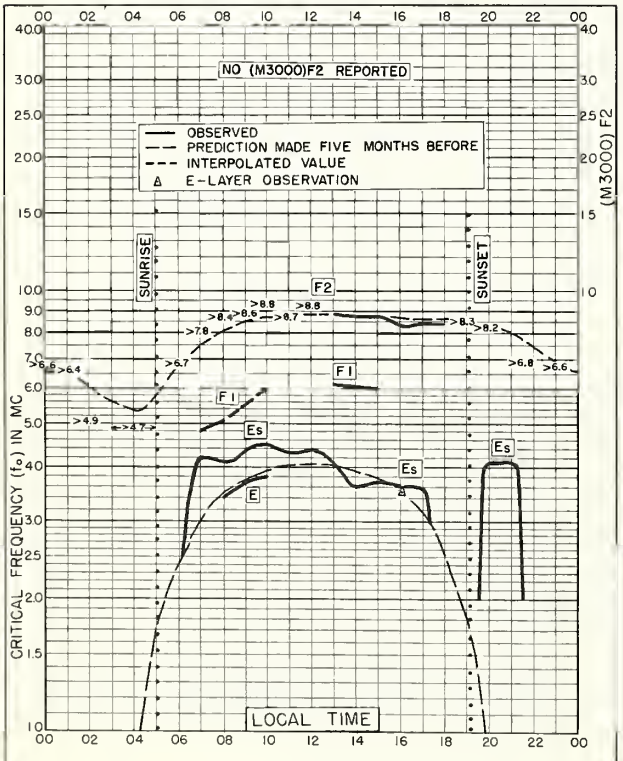


Fig. 23. GRAZ, AUSTRIA
47.1°N, 15.5°E AUGUST 1958

NBS 503

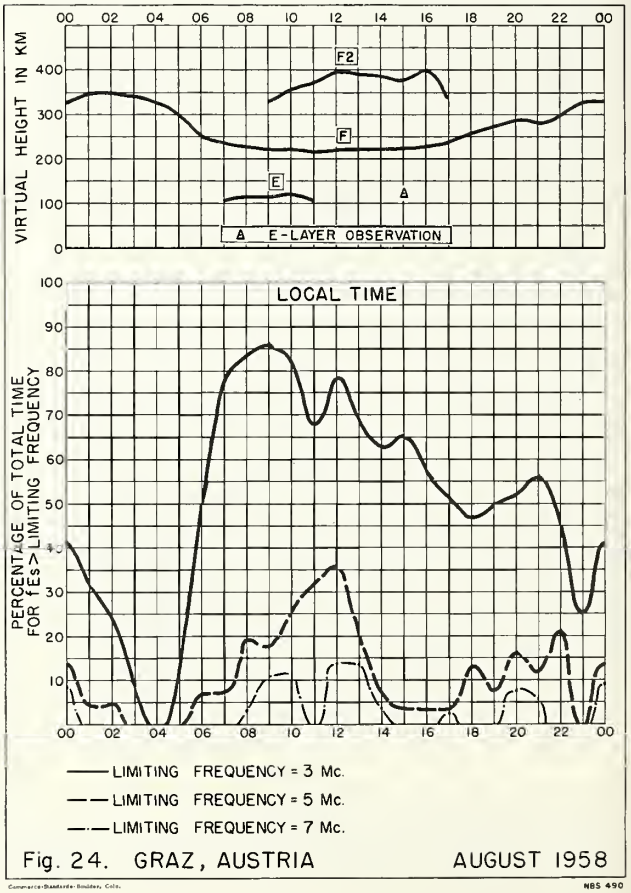


Fig. 24. GRAZ, AUSTRIA AUGUST 1958

NBS 490

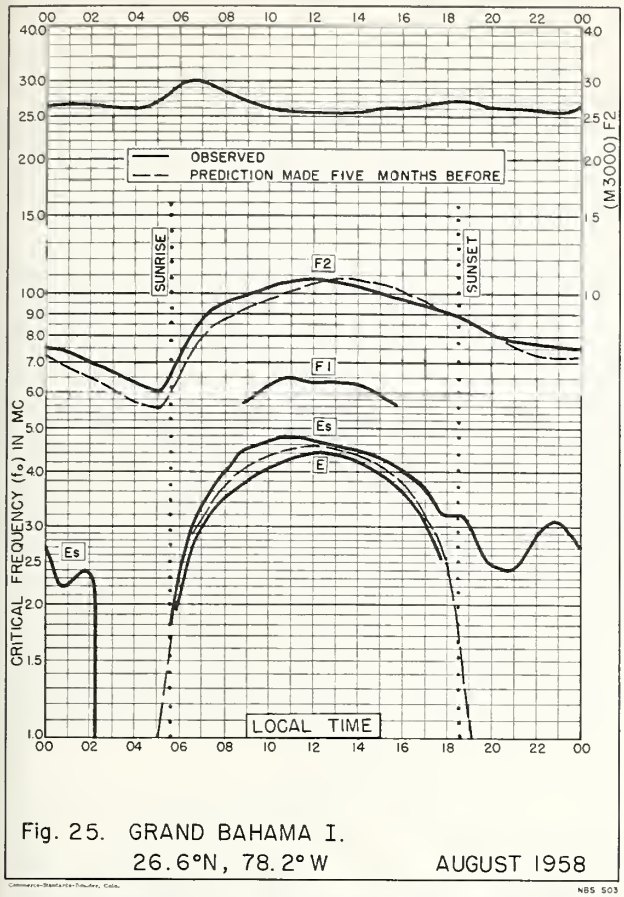


Fig. 25. GRAND BAHAMA I.
26.6°N, 78.2° W AUGUST 1958

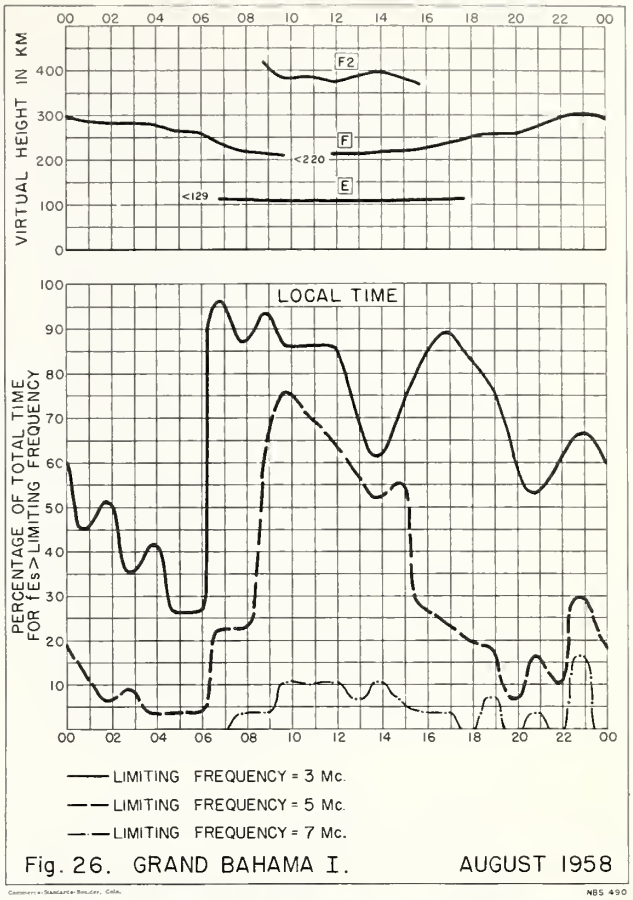


Fig. 26. GRAND BAHAMA I. AUGUST 1958

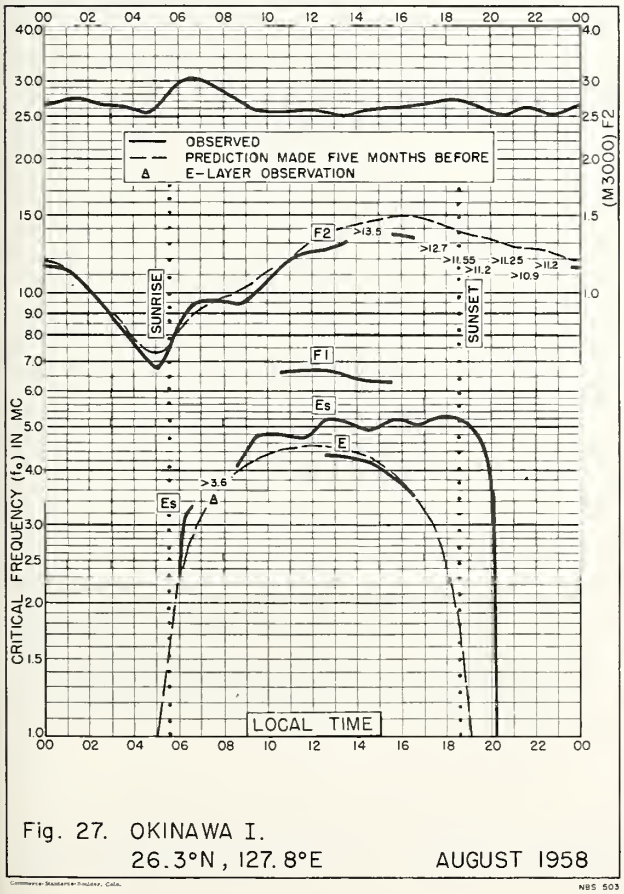


Fig. 27. OKINAWA I.
26.3°N, 127.8°E AUGUST 1958

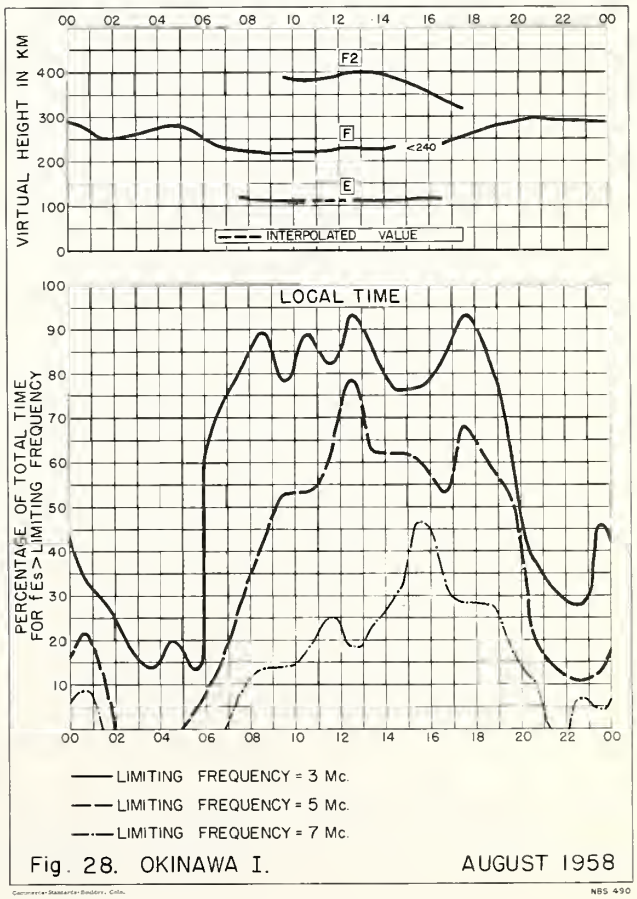


Fig. 28. OKINAWA I. AUGUST 1958

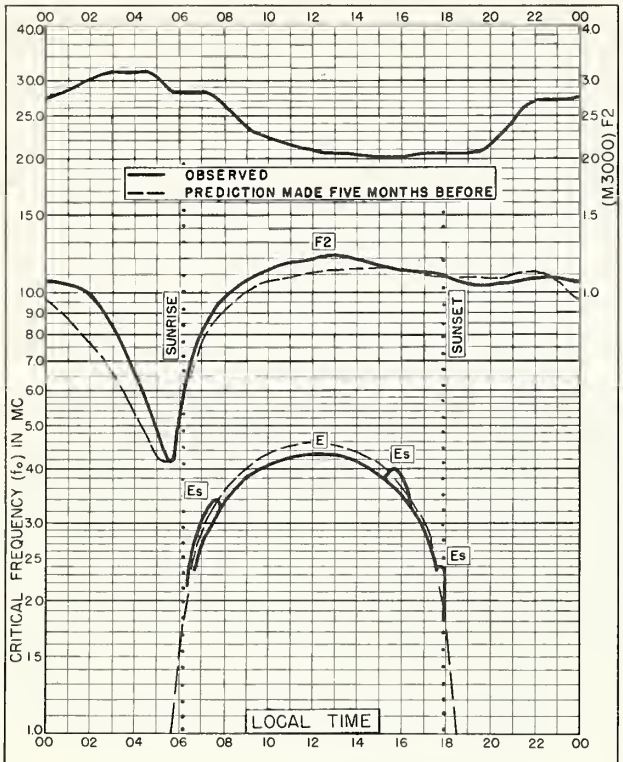


Fig. 29. TALARA, PERU
4.6°S, 81.3°W AUGUST 1958

NBS 503

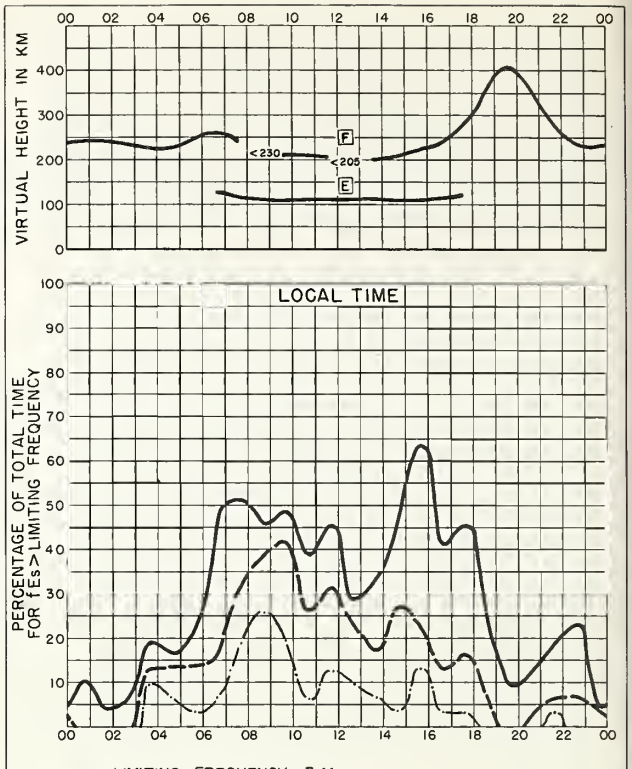


Fig. 30. TALARA, PERU AUGUST 1958

NBS 490

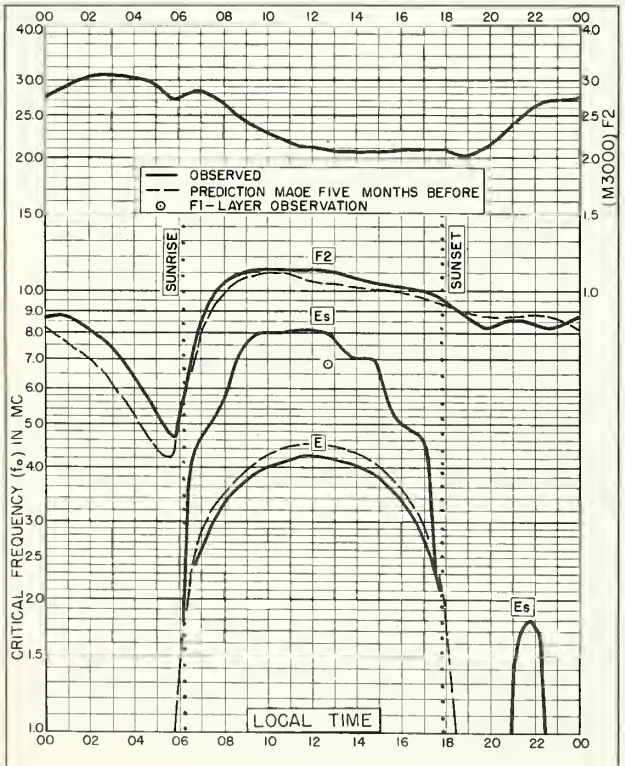


Fig. 31. CHIMBOTE, PERU
9.1°S, 78.6°W AUGUST 1958

NBS 503

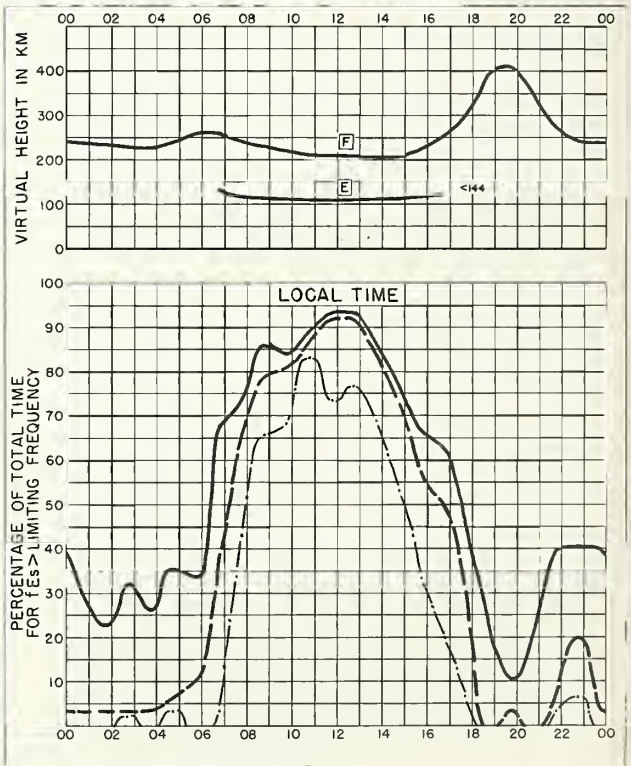


Fig. 32. CHIMBOTE, PERU AUGUST 1958

NBS 490

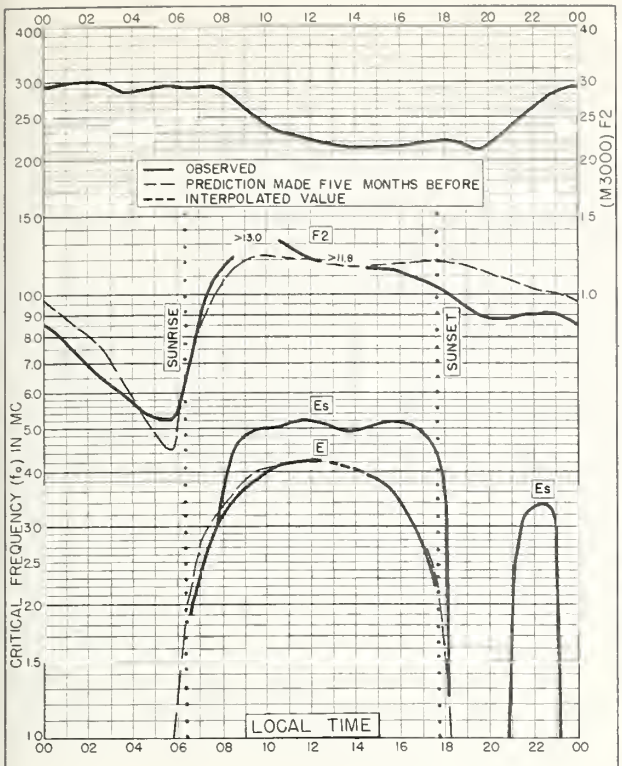


Fig. 33. La PAZ, BOLIVIA
16.5°S, 68.0°W AUGUST 1958

NBS 503

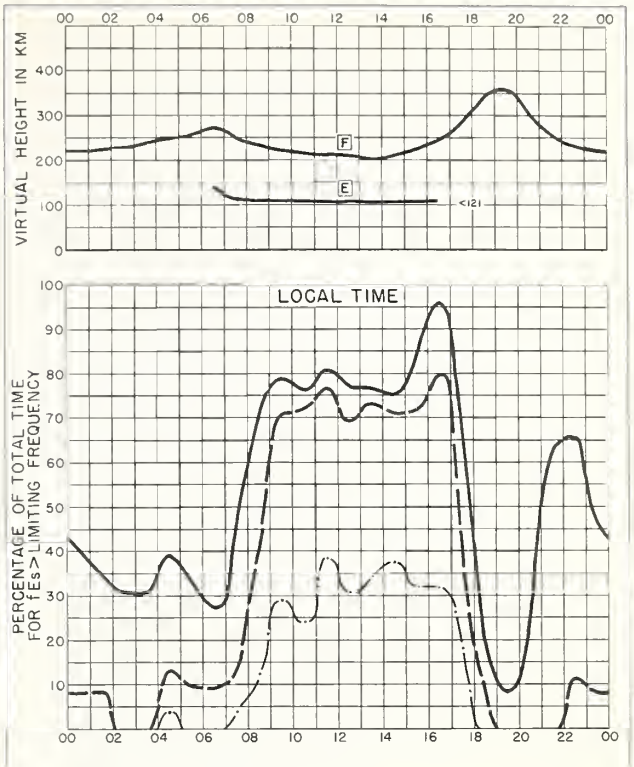


Fig. 34. La PAZ, BOLIVIA AUGUST 1958

NBS 490

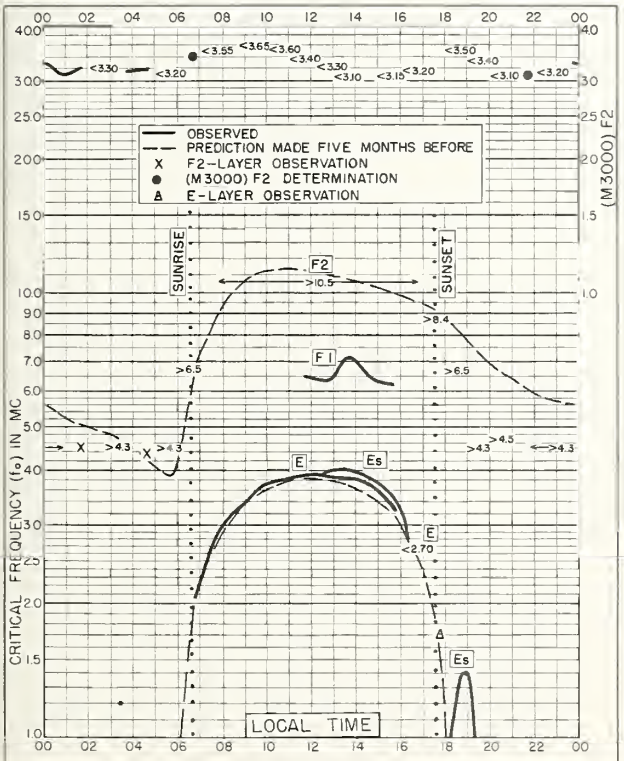


Fig. 35. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E AUGUST 1958

NBS 503

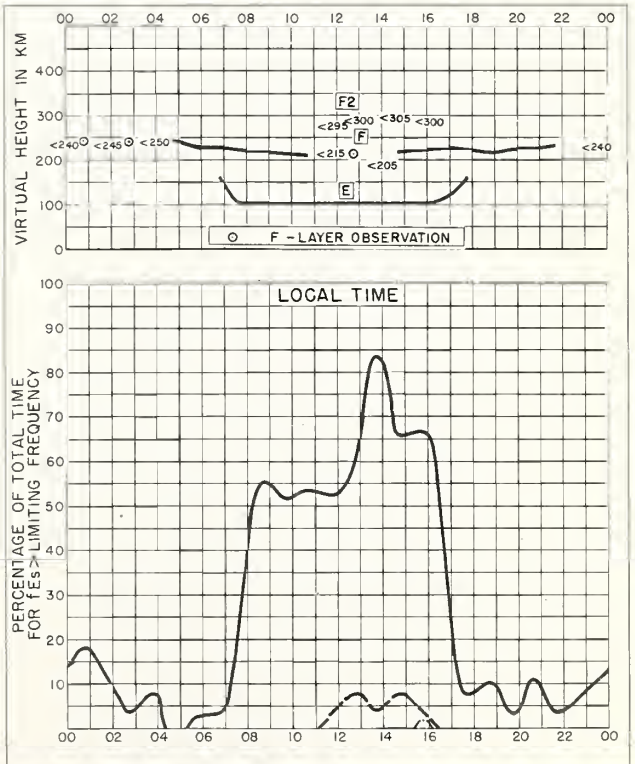


Fig. 36. WATHEROO, W. AUSTRALIA AUGUST 1958

NBS 490

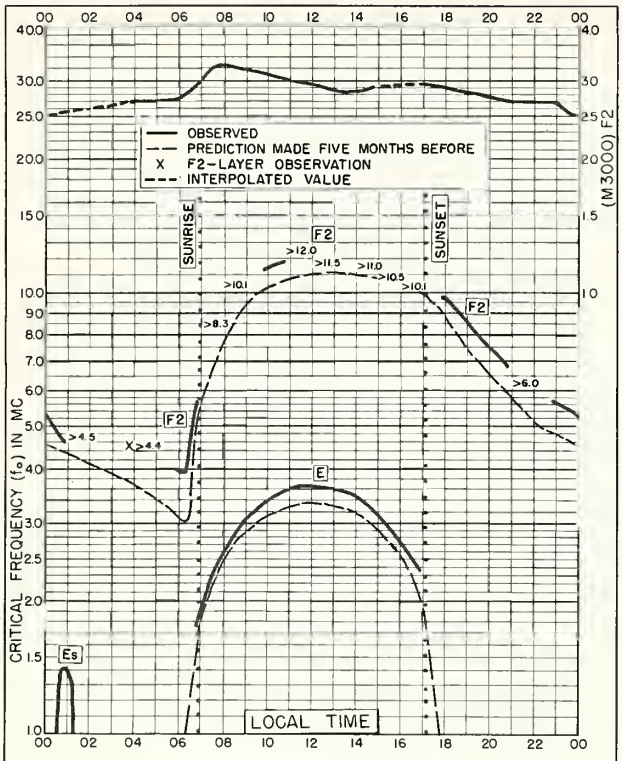


Fig. 37. HOBART, TASMANIA
42.9°S, 147.2°E AUGUST 1958

NBS 503

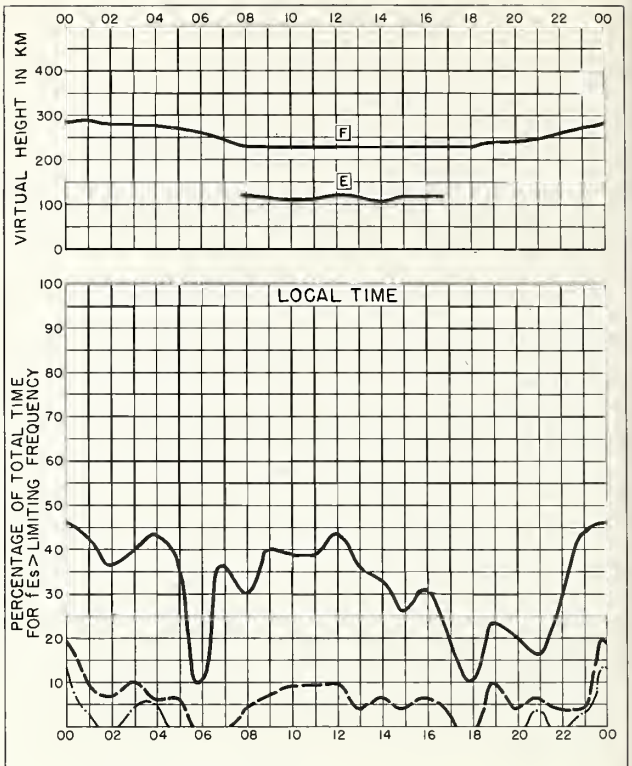


Fig. 38. HOBART, TASMANIA AUGUST 1958

NBS 490

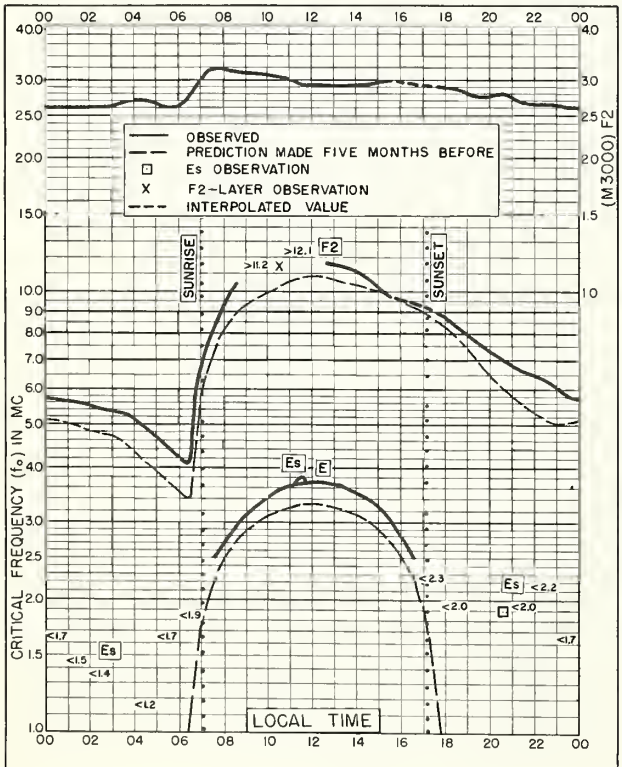


Fig. 39. CHRISTCHURCH, NEW ZEALAND
43.6°S, 172.8°E AUGUST 1958

NBS 503

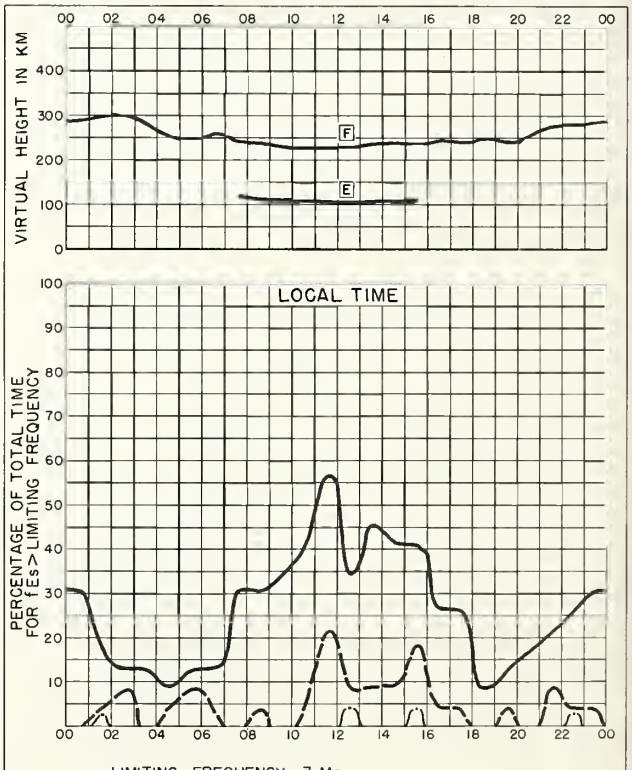


Fig. 40. CHRISTCHURCH, NEW ZEALAND AUGUST 1958

NBS 490

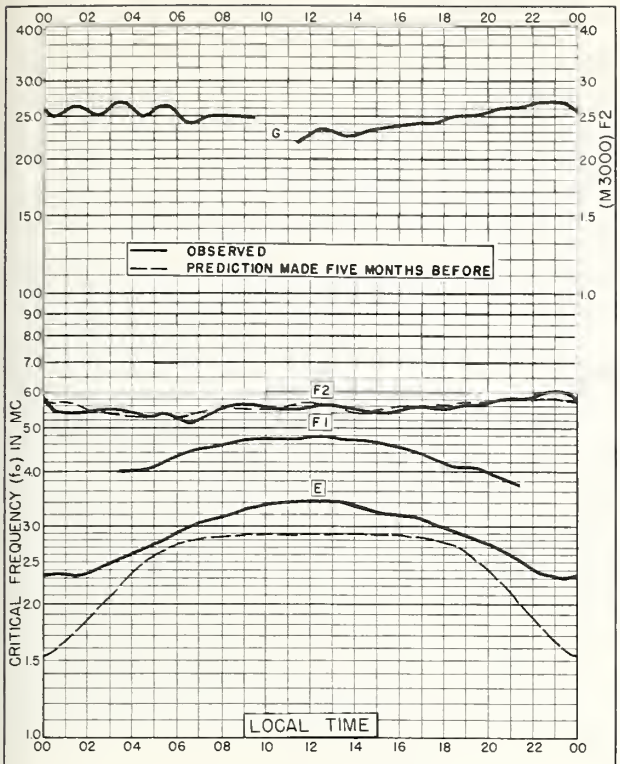


Fig. 41. THULE, GREENLAND
76.6°N, 68.7°W JULY 1958

NBS 503

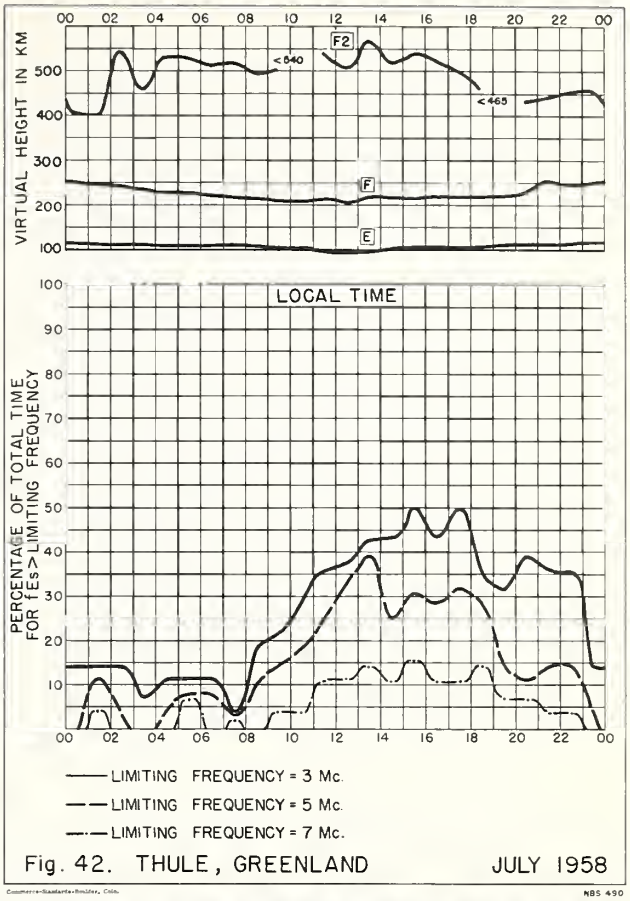


Fig. 42. THULE, GREENLAND JULY 1958

NBS 490

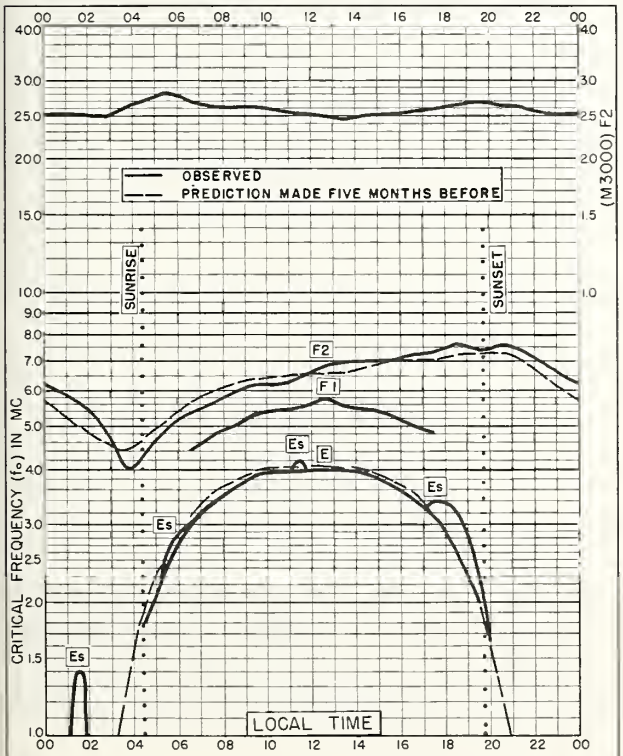


Fig. 43. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W JULY 1958

NBS 503

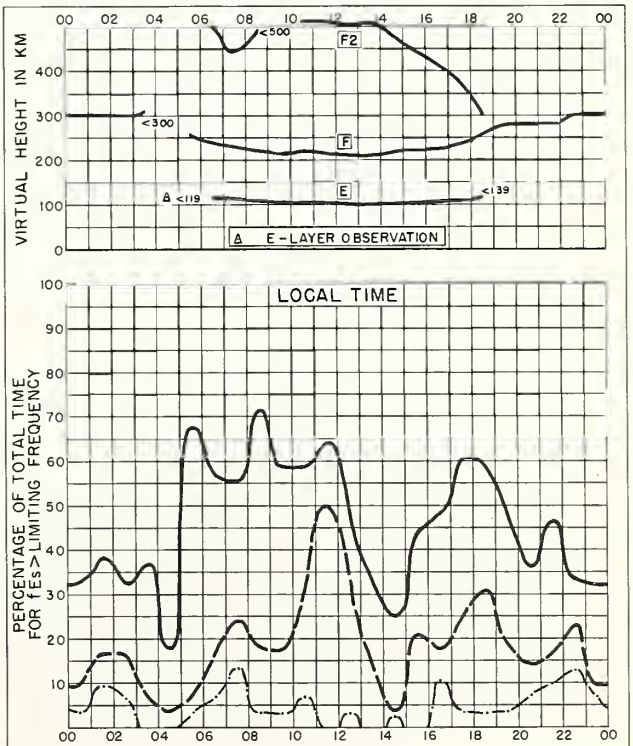


Fig. 44. ST. JOHN'S, NEWFOUNDLAND JULY 1958

NBS 490

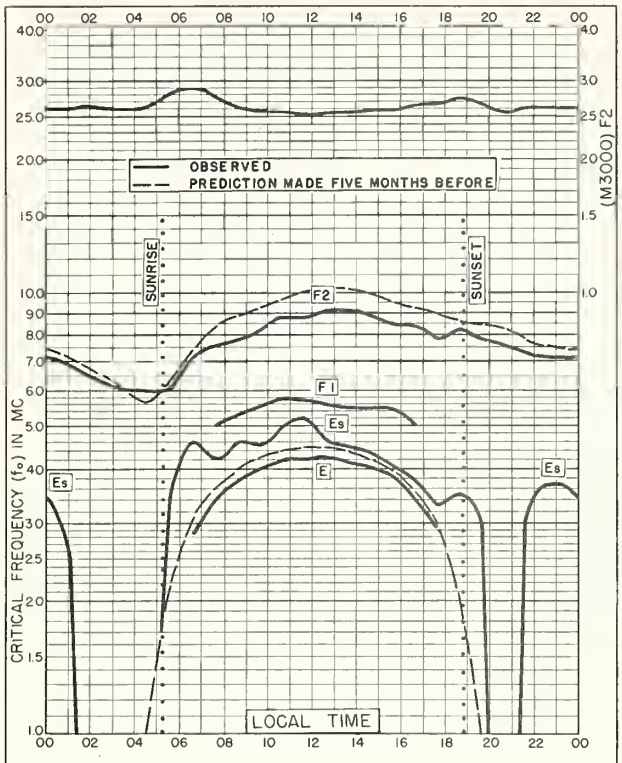


Fig. 45. CAPE CANAVERAL, FLORIDA
28.4°N, 80.6°W JULY 1958

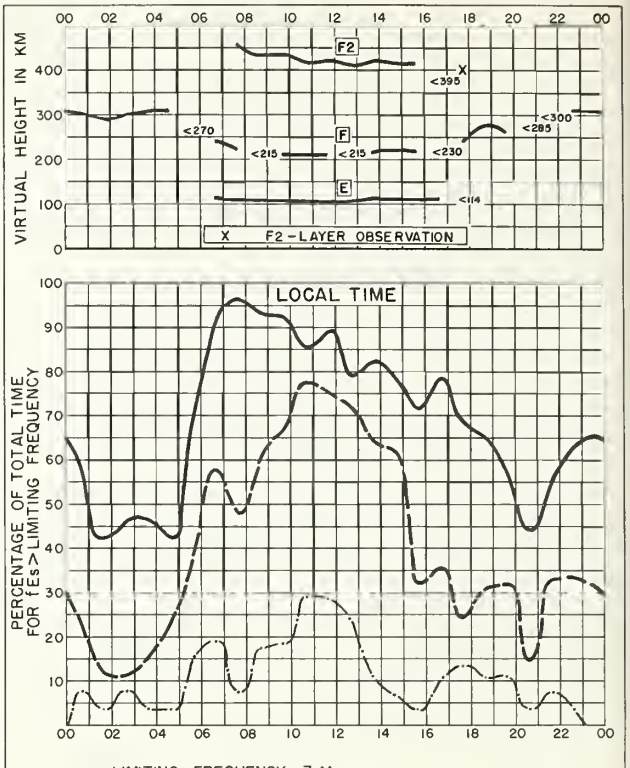


Fig. 46. CAPE CANAVERAL, FLORIDA JULY 1958

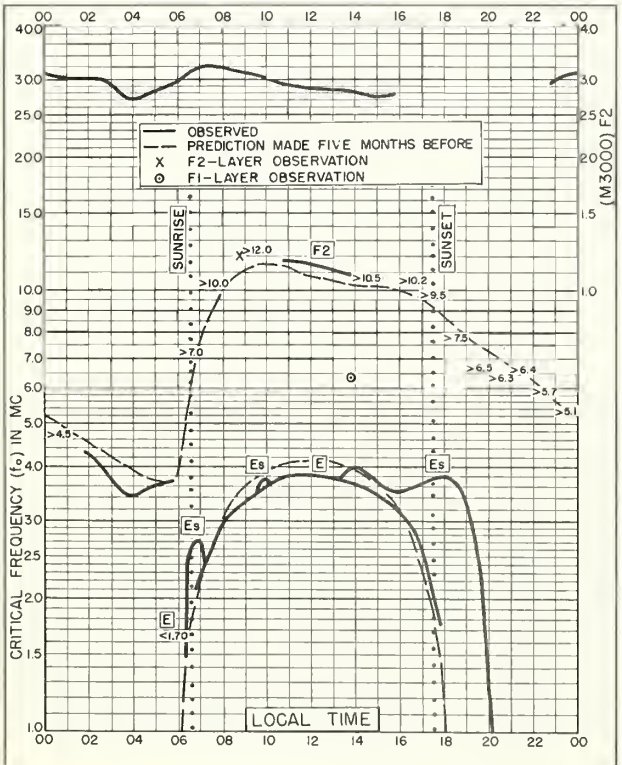


Fig. 47. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E JULY 1958

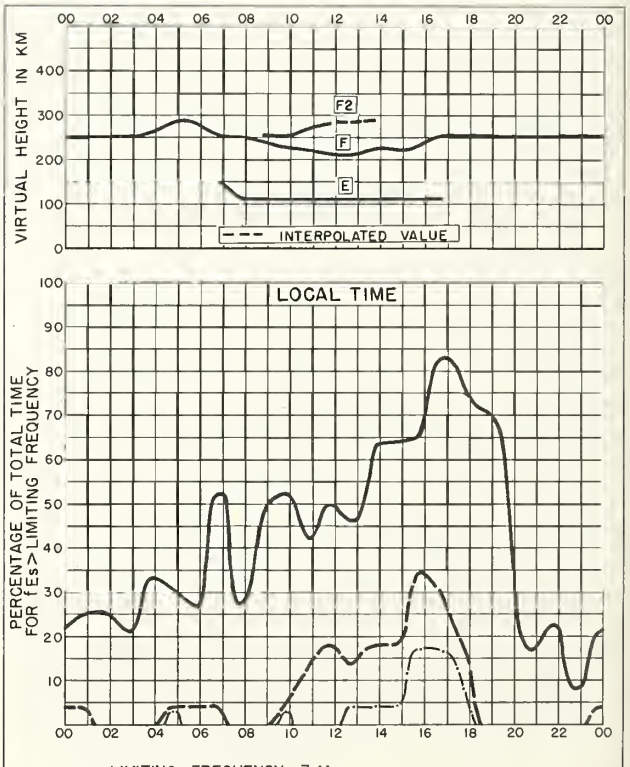


Fig. 48. TOWNSVILLE, AUSTRALIA JULY 1958

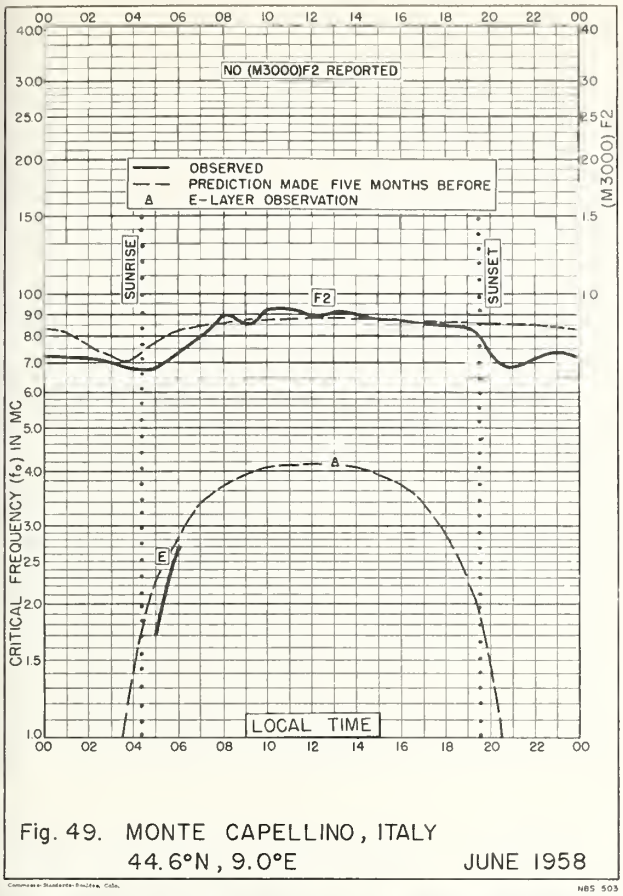


Fig. 49. MONTE CAPELLINO, ITALY
44.6°N, 9.0°E JUNE 1958

NBS 503

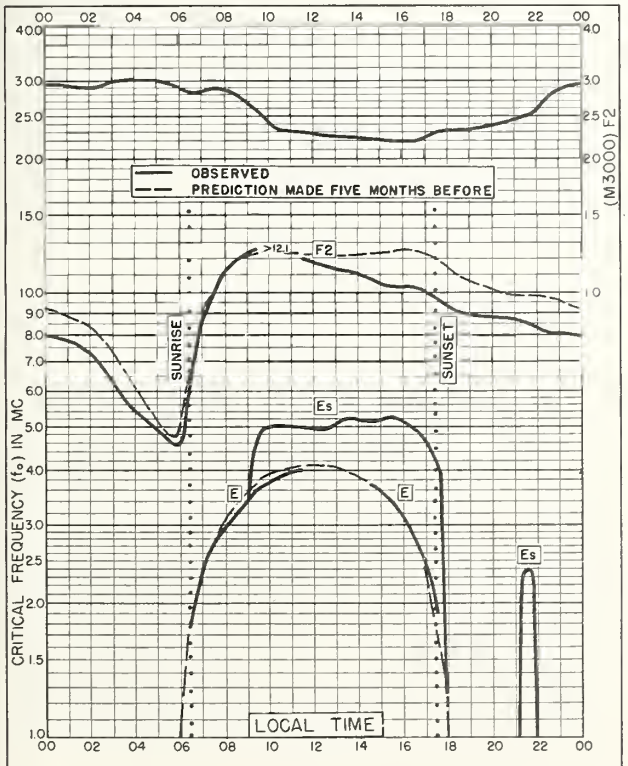


Fig. 50. La PAZ, BOLIVIA
16.5°S, 68.0°W JUNE 1958

NBS 503

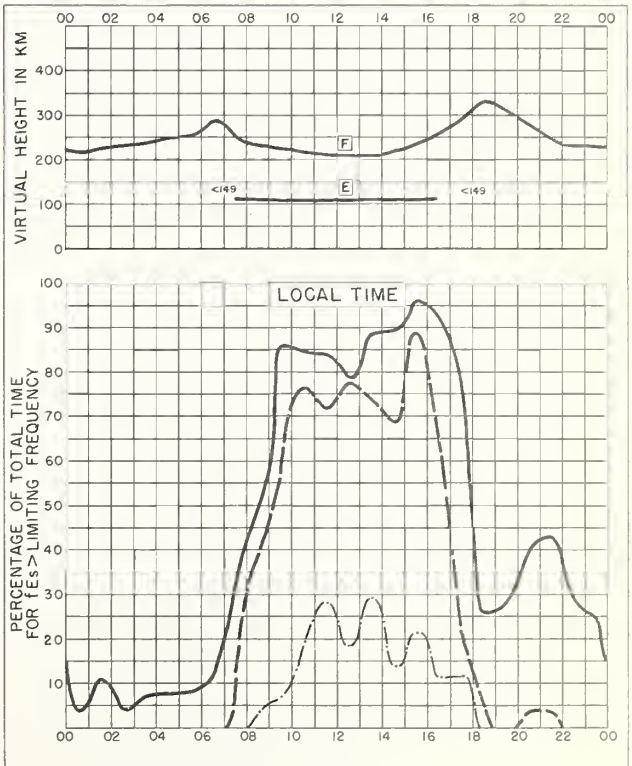


Fig. 51. La PAZ, BOLIVIA JUNE 1958

NBS 490

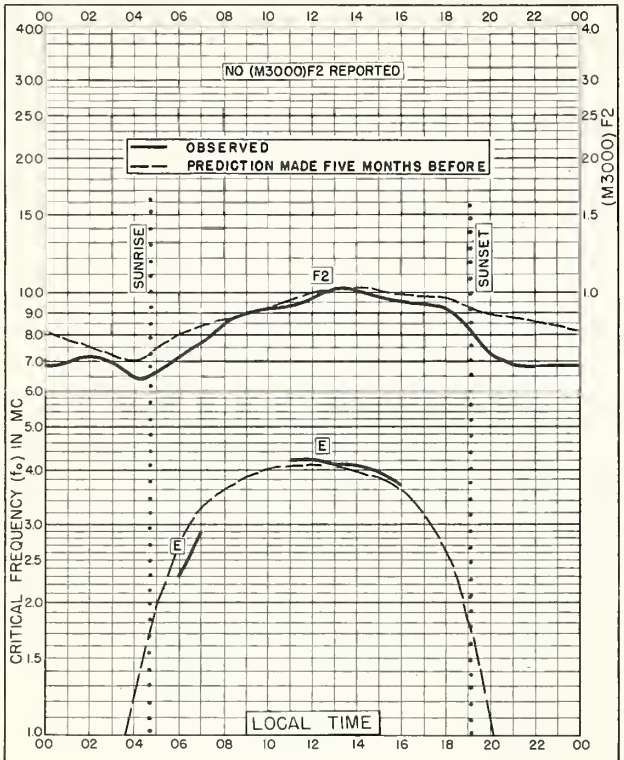


Fig. 52. MONTE CAPELLINO, ITALY
44.6°N, 9.0°E MAY 1958

NBS 503

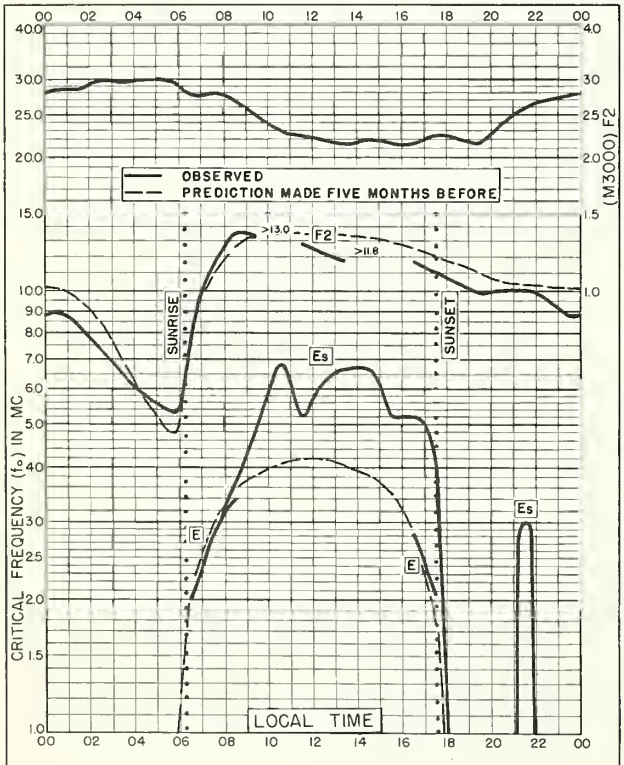


Fig. 53. La PAZ, BOLIVIA
16.5°S, 68.0°W MAY 1958

NBS 503

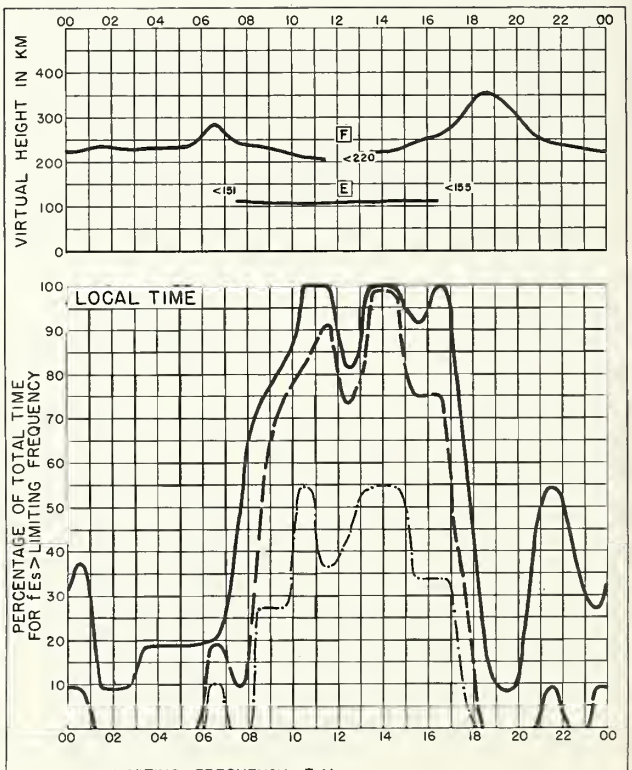


Fig. 54. La PAZ, BOLIVIA MAY 1958

NBS 490

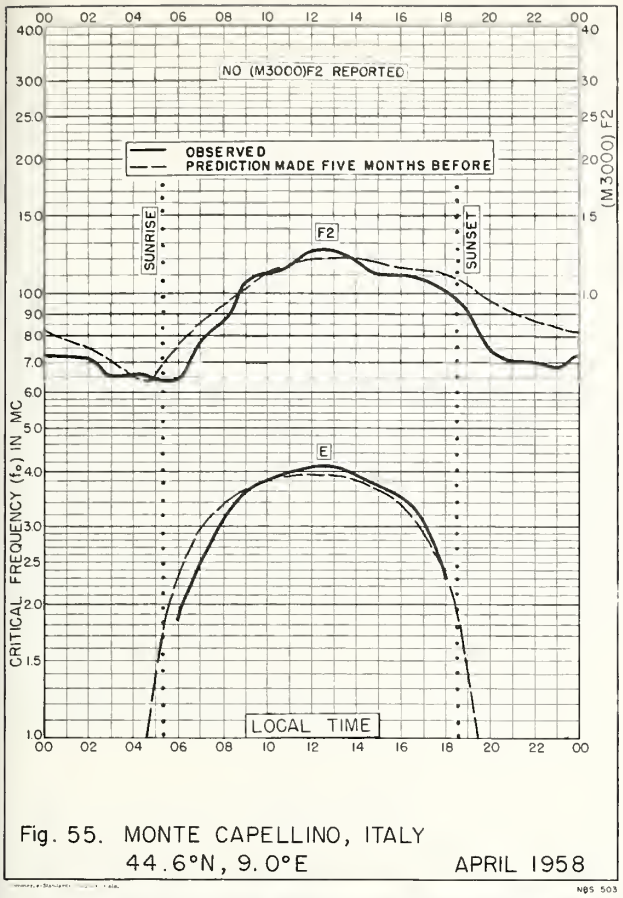


Fig. 55. MONTE CAPELLINO, ITALY
44.6°N, 9.0°E APRIL 1958

NBS 503

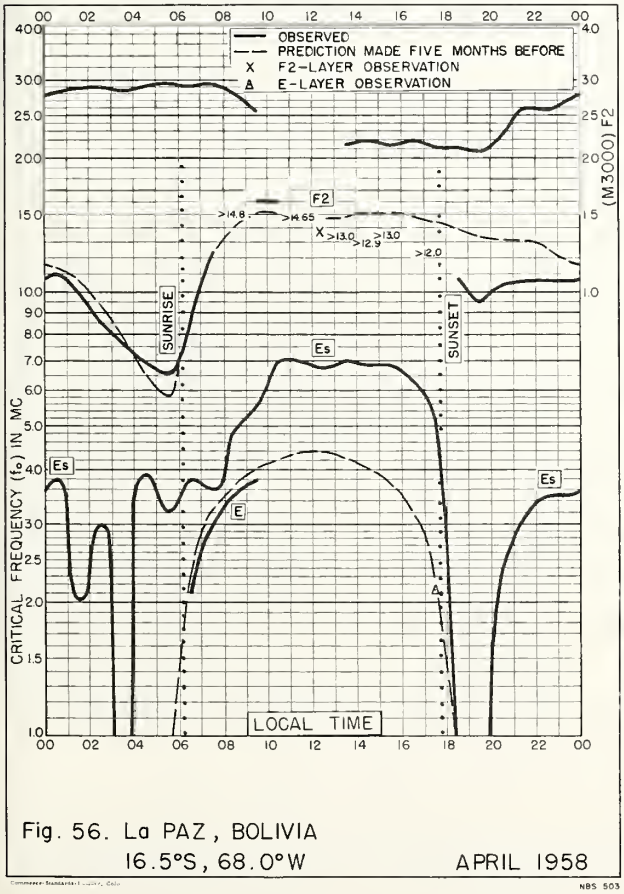


Fig. 56. La PAZ, BOLIVIA
16.5°S, 68.0°W APRIL 1958

NBS 503

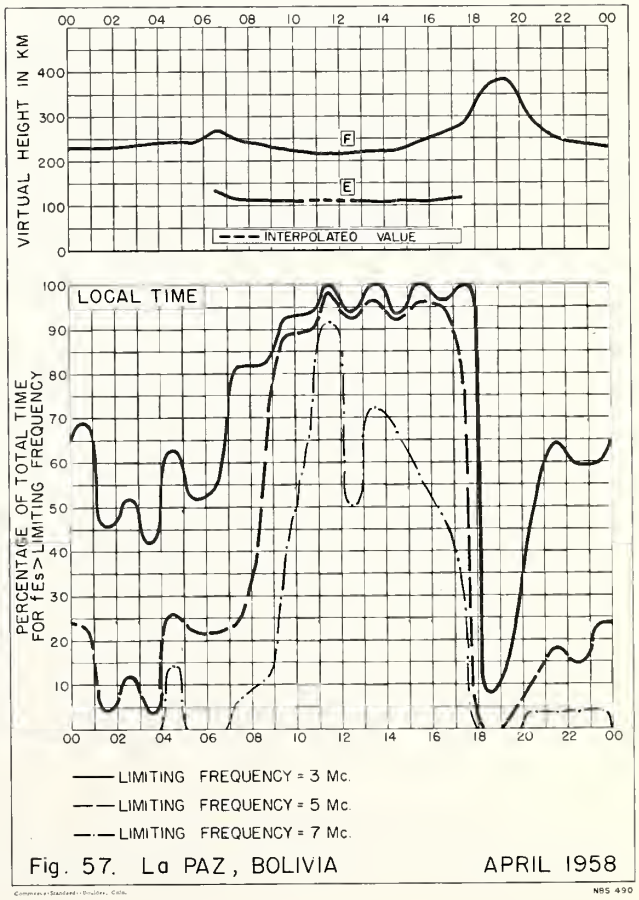


Fig. 57. La PAZ, BOLIVIA APRIL 1958

NBS 490

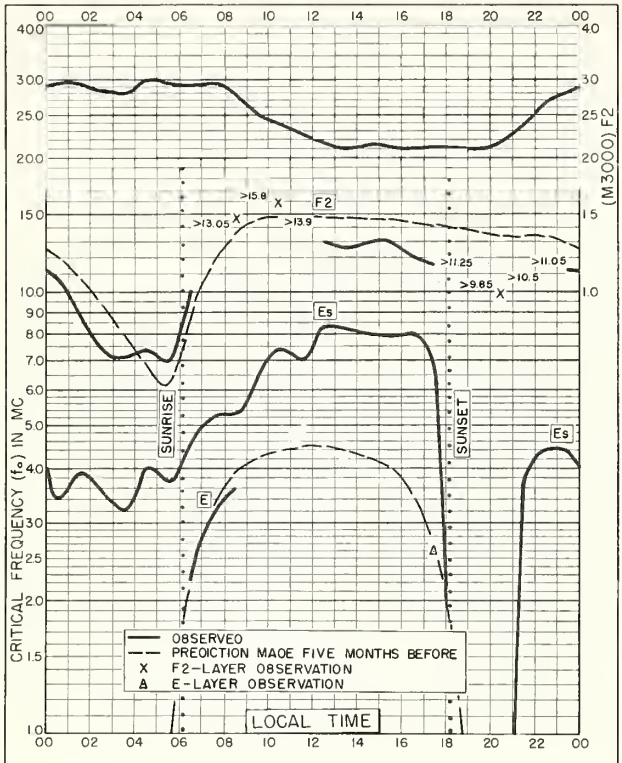


Fig. 58. La PAZ, BOLIVIA
16.5°S, 68.0°W
MARCH 1958

NBS 503

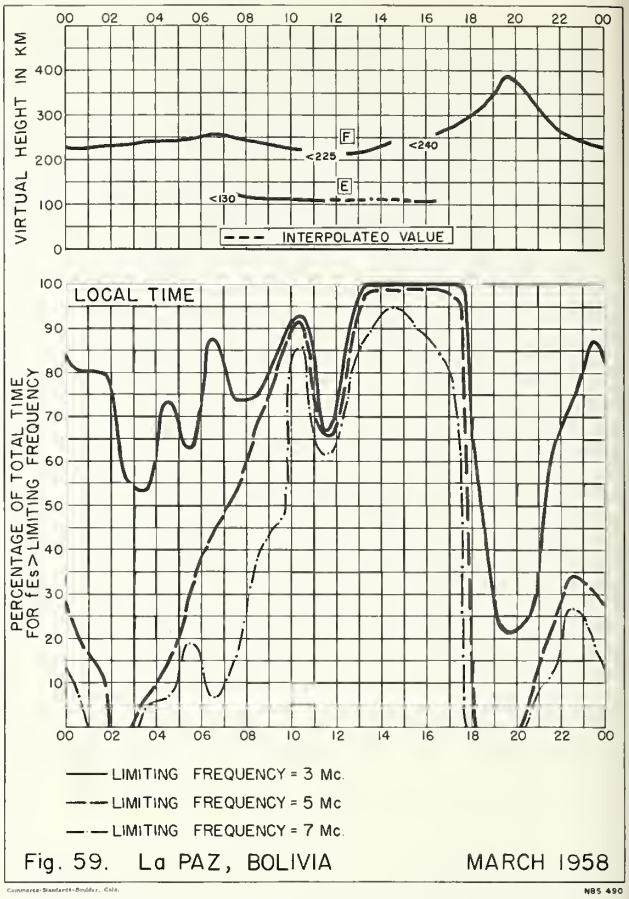


Fig. 59. La PAZ, BOLIVIA
MARCH 1958

NBS 490

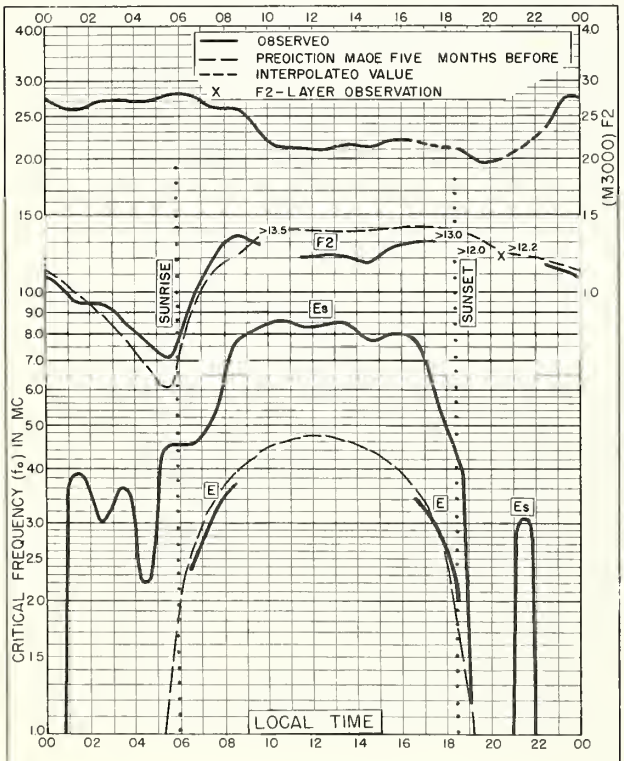


Fig. 60. La PAZ, BOLIVIA
16.5°S, 68.0°W
FEBRUARY 1958

NBS 503

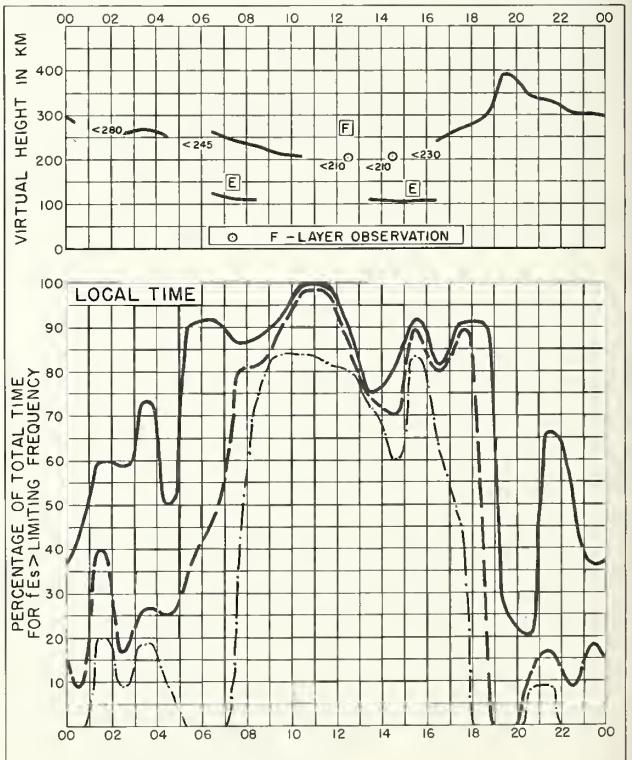


Fig. 61. La PAZ, BOLIVIA
FEBRUARY 1958

NBS 490

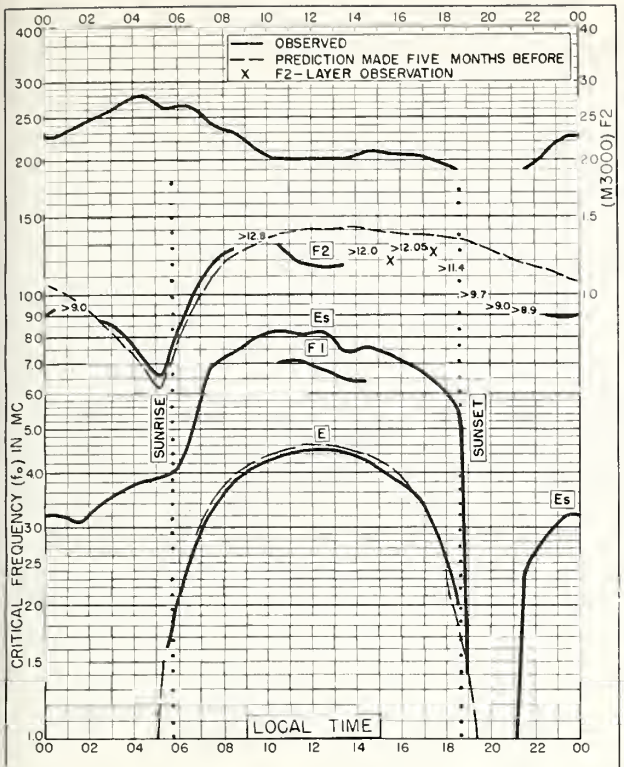


Fig. 62. La PAZ, BOLIVIA
16.5°S, 68.0°W JANUARY 1958

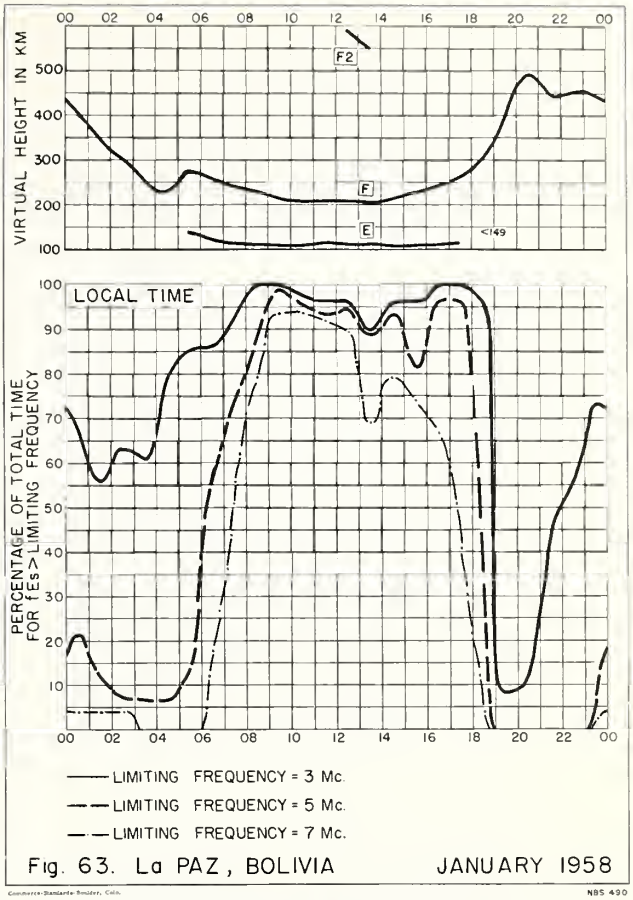


Fig. 63. La PAZ, BOLIVIA JANUARY 1958

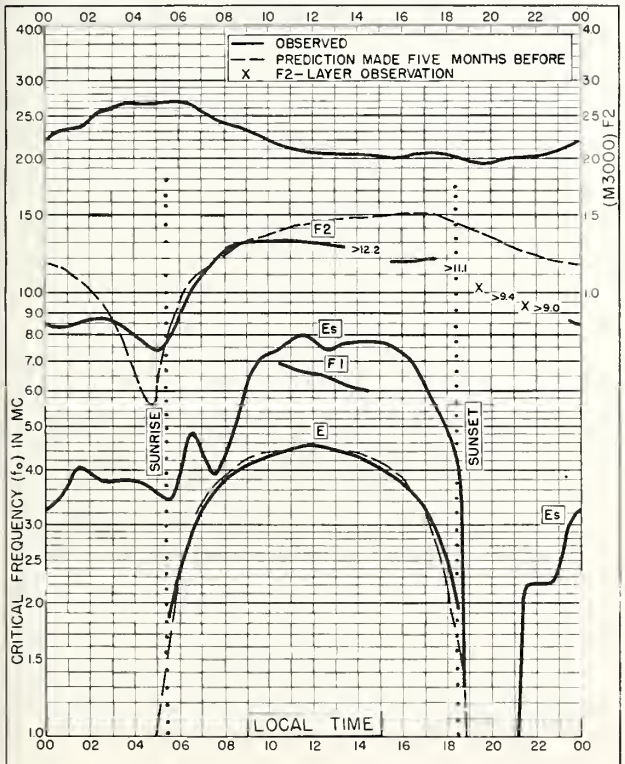


Fig. 64. La PAZ, BOLIVIA
16.5°S, 68.0°W DECEMBER 1957

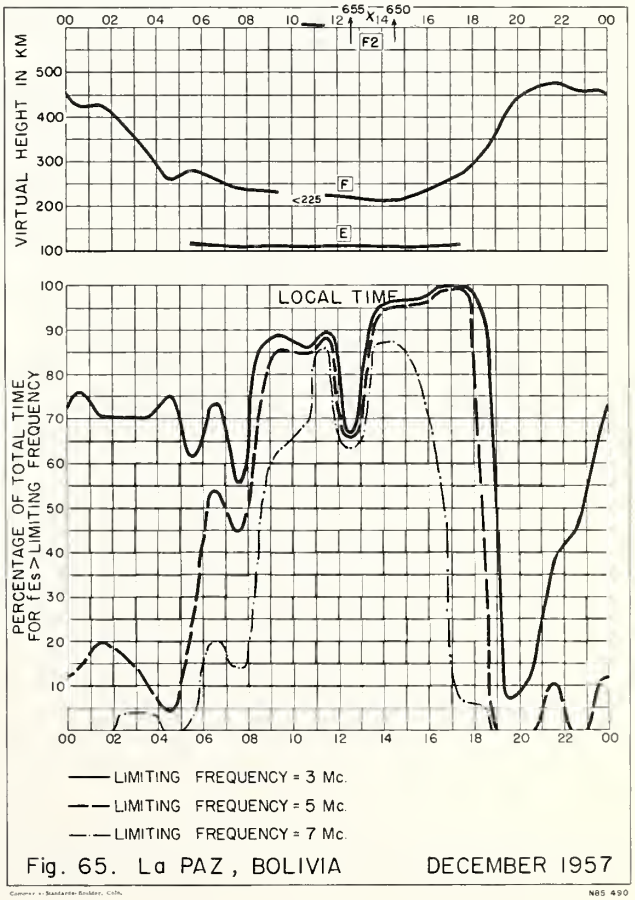


Fig. 65. La PAZ, BOLIVIA DECEMBER 1957

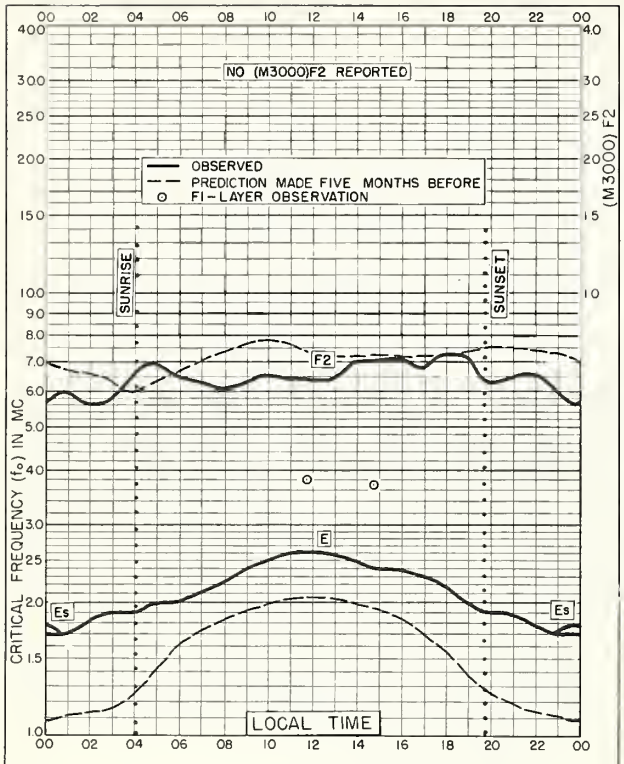


Fig. 66. ALERT, CANADA
82.5°N, 62.6°W SEPTEMBER 1957

NBS 503

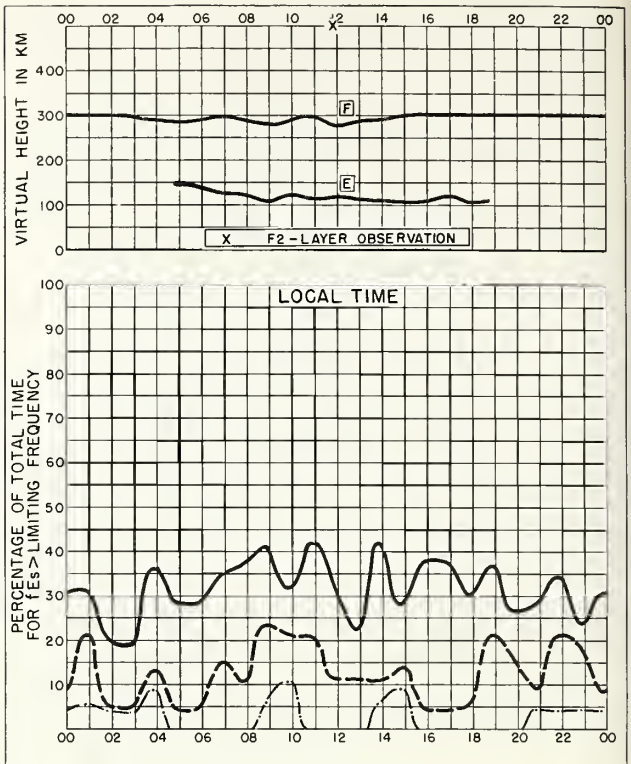


Fig. 67. ALERT, CANADA SEPTEMBER 1957

NBS 490

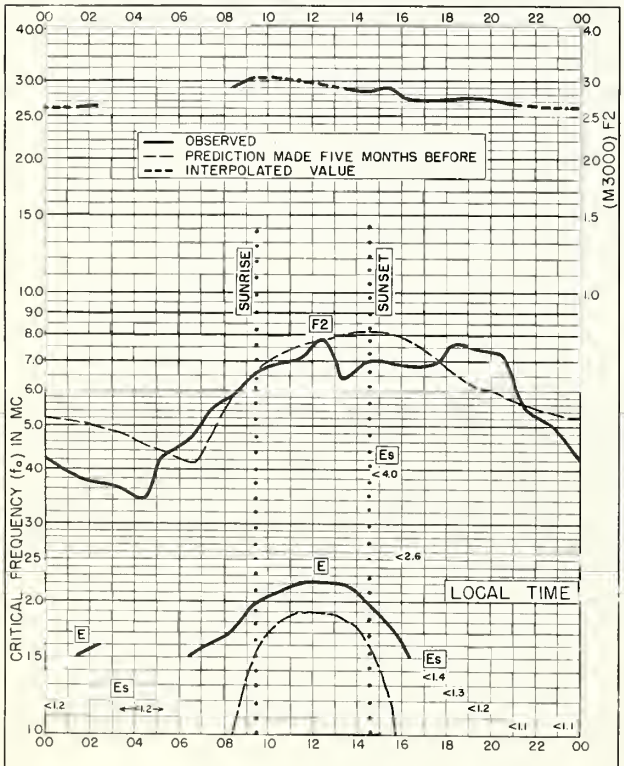


Fig. 68. CAPE HALLETT
72.3°S, 170.3°E AUGUST 1957

NBS 503

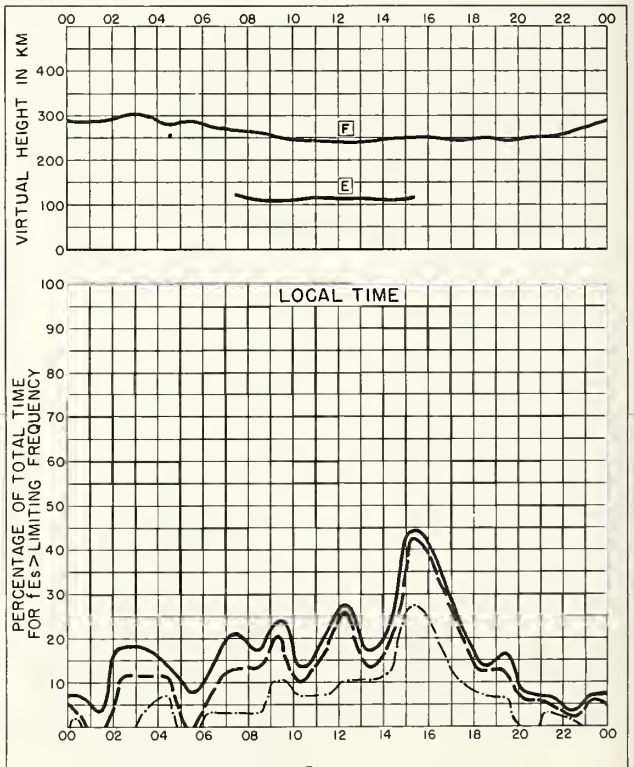


Fig. 69. CAPE HALLETT AUGUST 1957

NBS 490

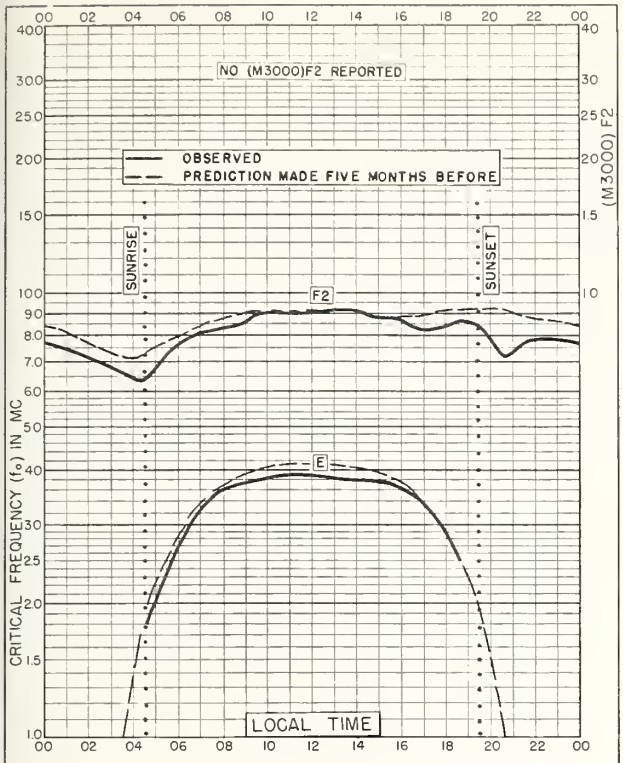


Fig. 70. MONTE CAPELLINO, ITALY
44.6°N, 9.0°E JULY 1957

NBS 503

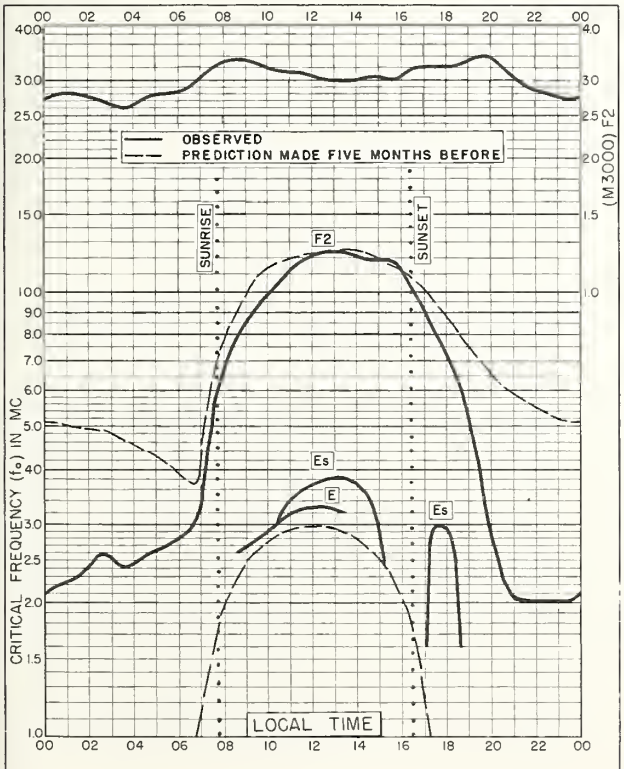


Fig. 71. MARION I.
46.8°S, 37.9°E JULY 1957

NBS 503

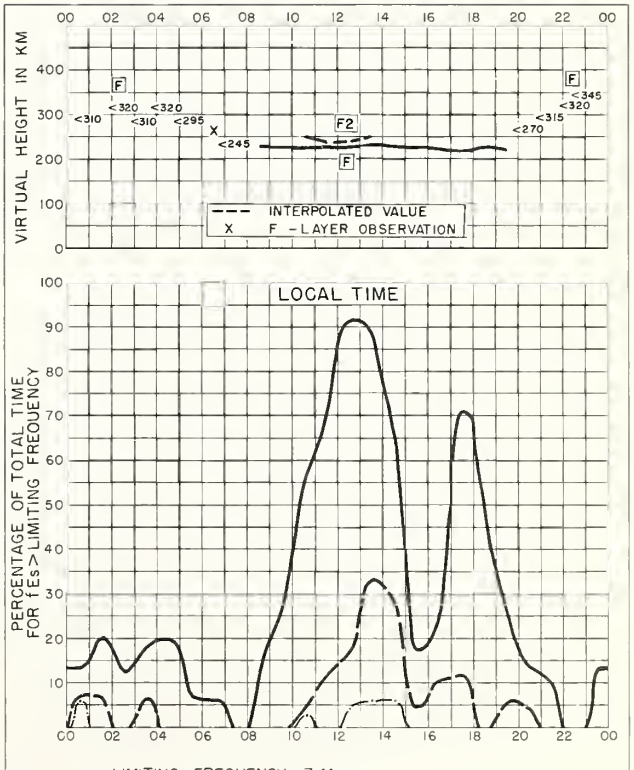


Fig. 72. MARION I. JULY 1957

NBS 490

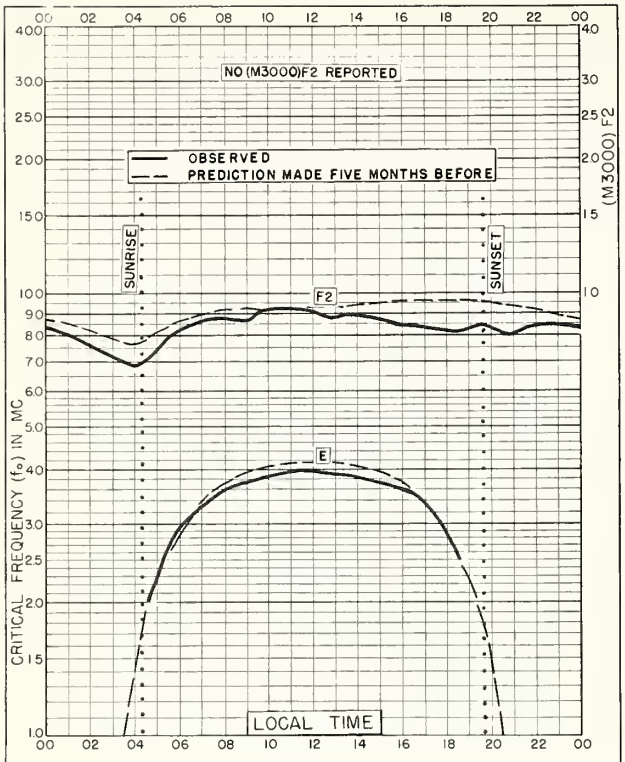


Fig. 73. MONTE CAPELLINO, ITALY
44.6°N, 9.0°E JUNE 1957

NBS 503

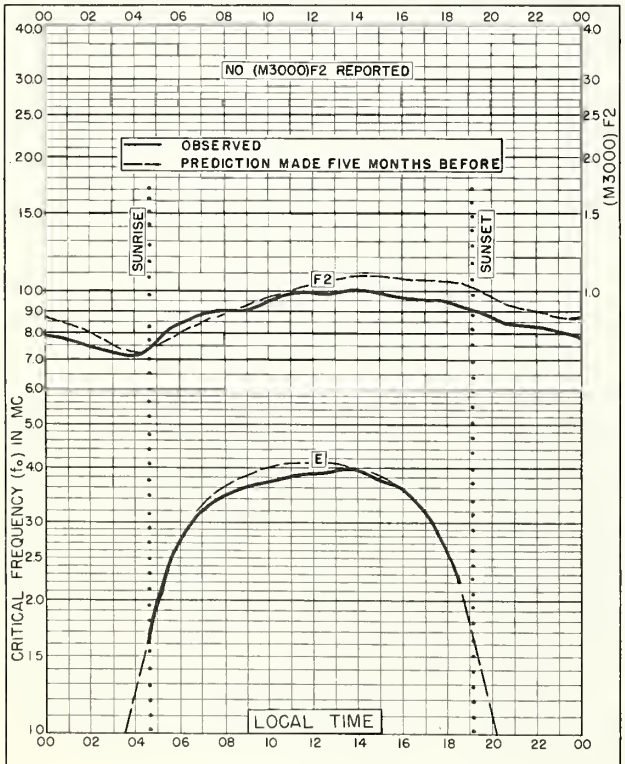


Fig. 74. MONTE CAPELLINO, ITALY
44.6°N, 9.0°E MAY 1957

NBS 503

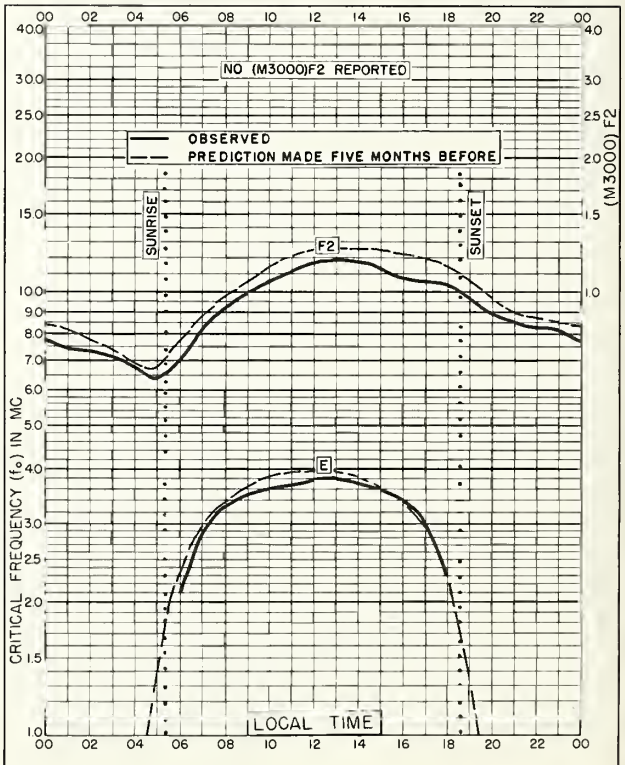


Fig. 75. MONTE CAPELLINO, ITALY
44.6°N, 9.0°E APRIL 1957

NBS 503

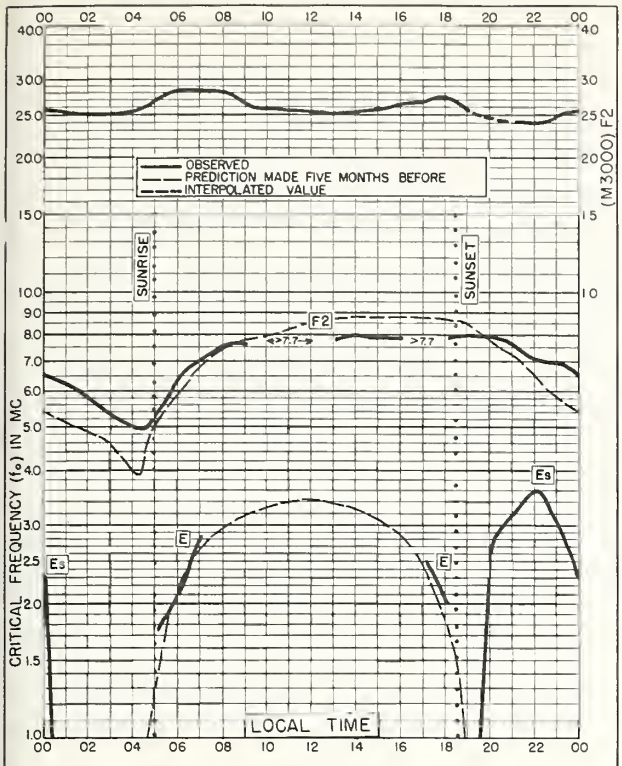


Fig. 76. MACQUARIE I.
54.5°S, 159.0°E OCTOBER 1956

NBS 503

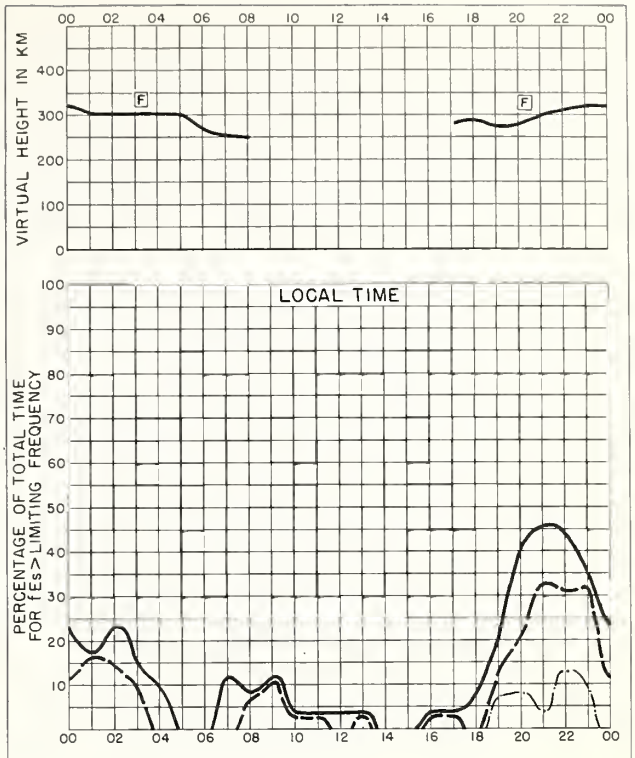


Fig. 77. MACQUARIE I. OCTOBER 1956

NBS 490

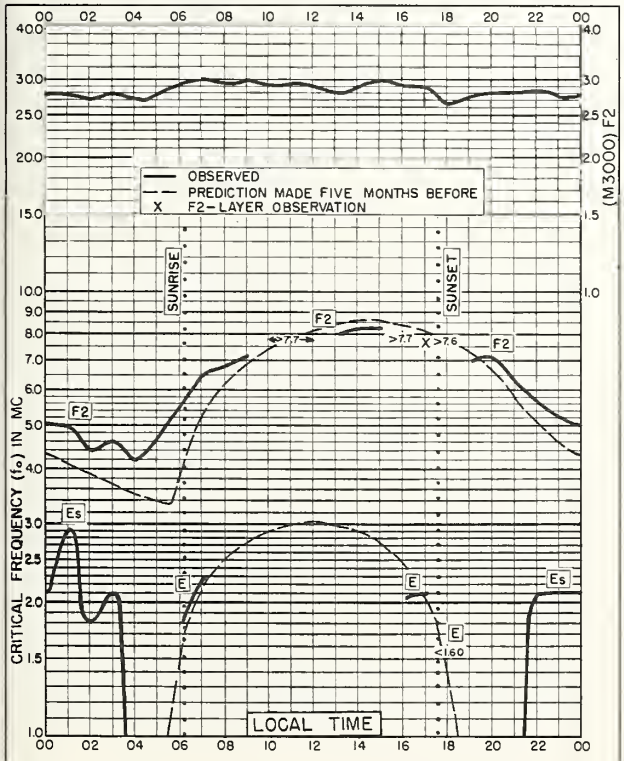


Fig. 78. MACQUARIE I.
54.5°S, 159.0°E SEPTEMBER 1956

NBS 503

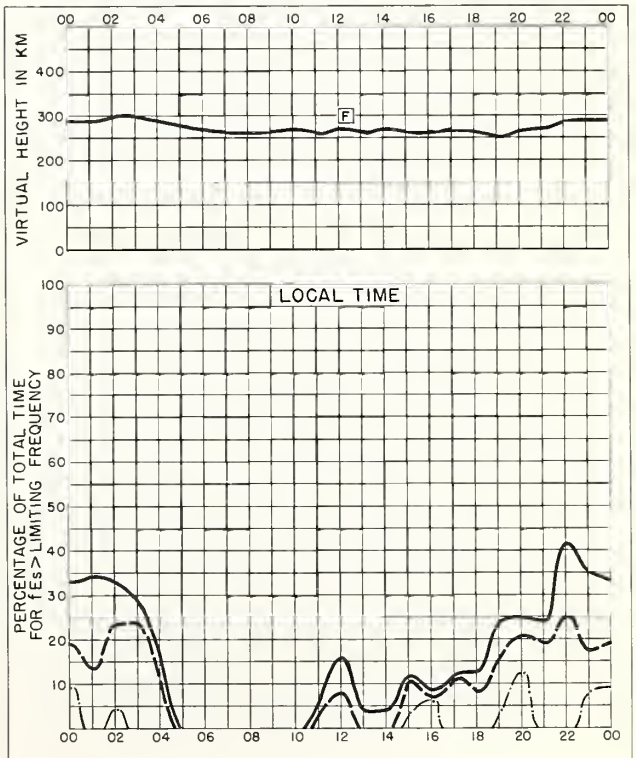


Fig. 79. MACQUARIE I. SEPTEMBER 1956

NBS 490

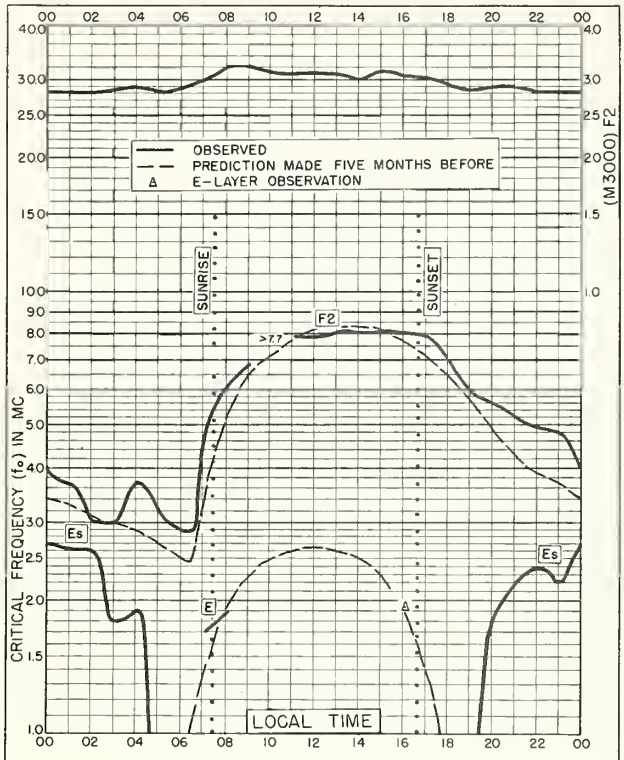


Fig. 80. MACQUARIE I.
54.5°S, 159.0°E AUGUST 1956

NBS 503

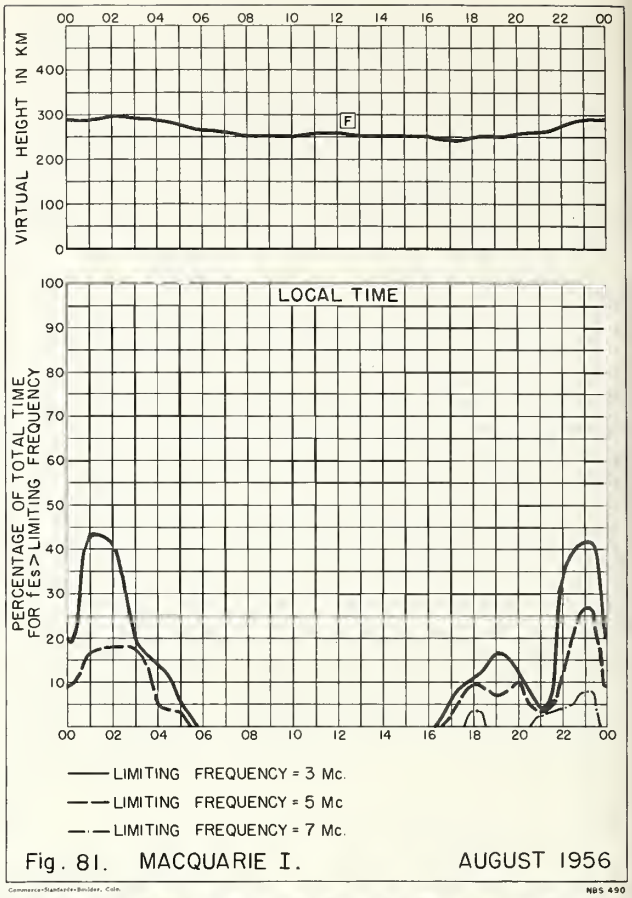


Fig. 81. MACQUARIE I. AUGUST 1956

Commerce-Standards-Boulder, Colo.

NBS 490

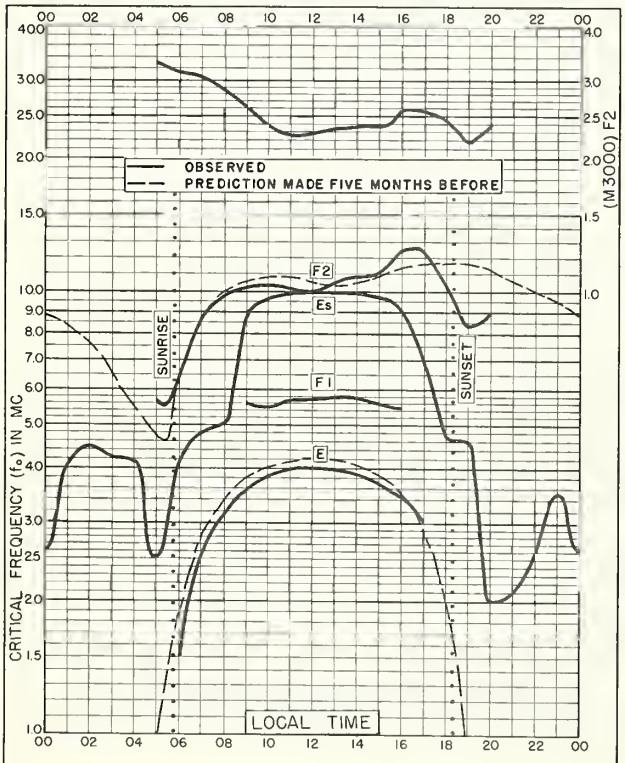


Fig. 82. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E JULY 1956

NBS 503

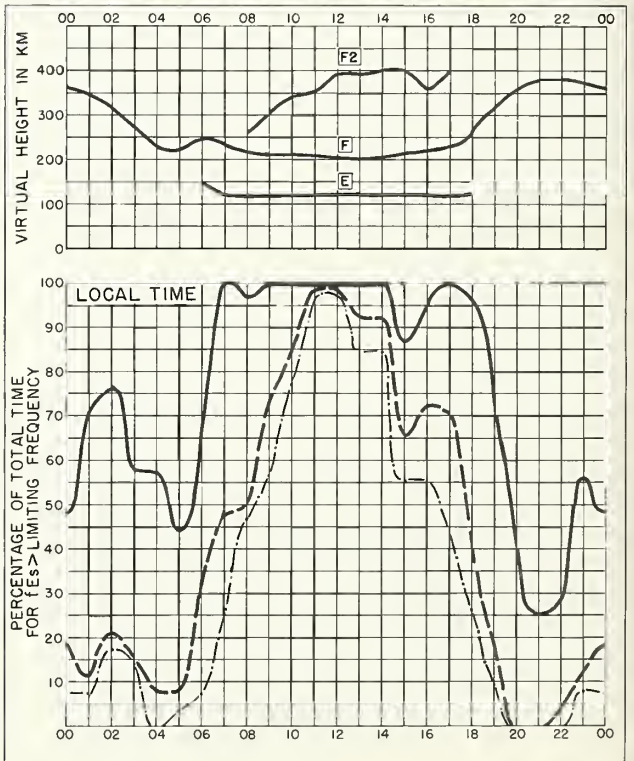


Fig. 83. DJIBOUTI, FRENCH SOMALILAND JULY 1956

Commerce-Standards-Boulder, Colo.

NBS 490

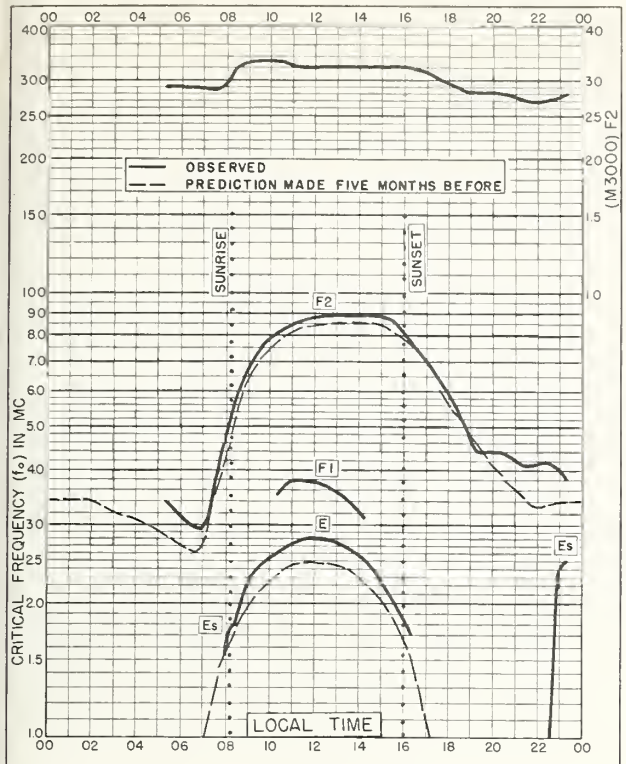


Fig. 84. CAMPBELL I.
52.5°S, 169.2°E JULY 1956

NBS 503

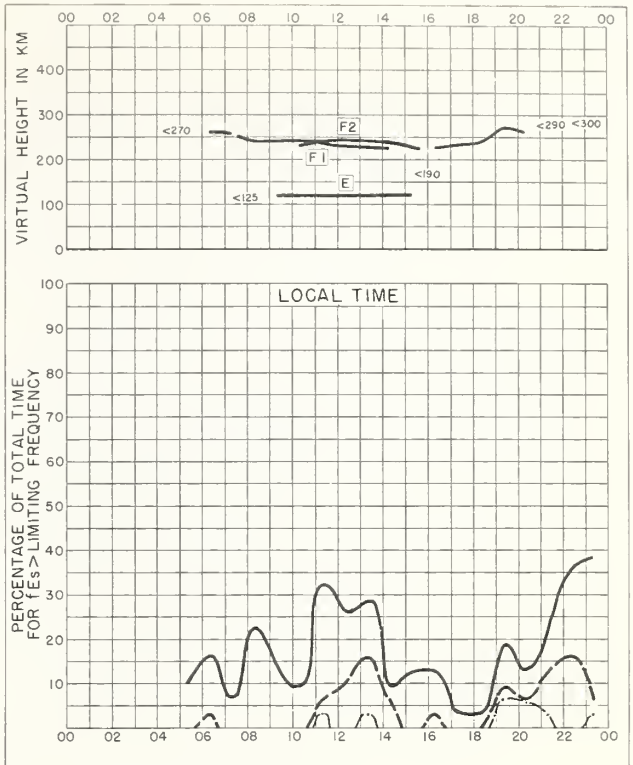


Fig. 85. CAMPBELL I. JULY 1956

NBS 490

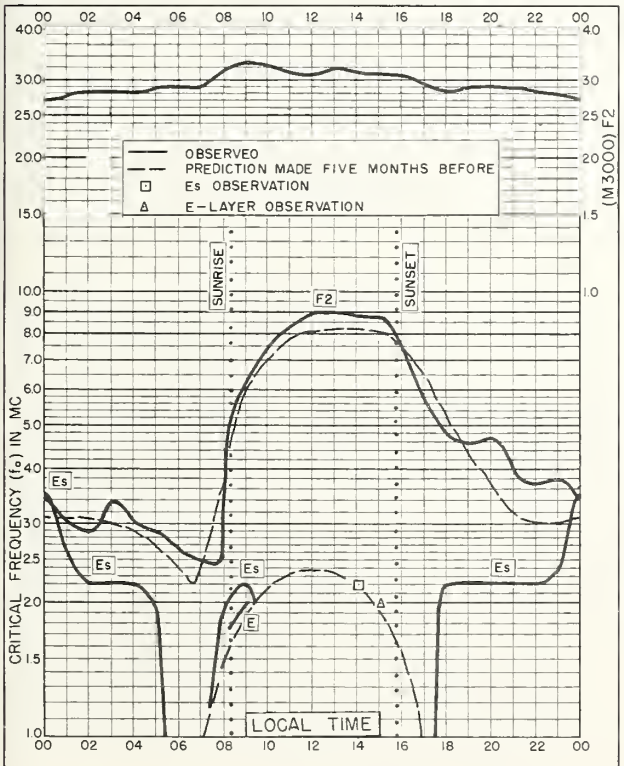


Fig. 86. MACQUARIE I.
54.5°S, 159.0°E JULY 1956

NBS 503

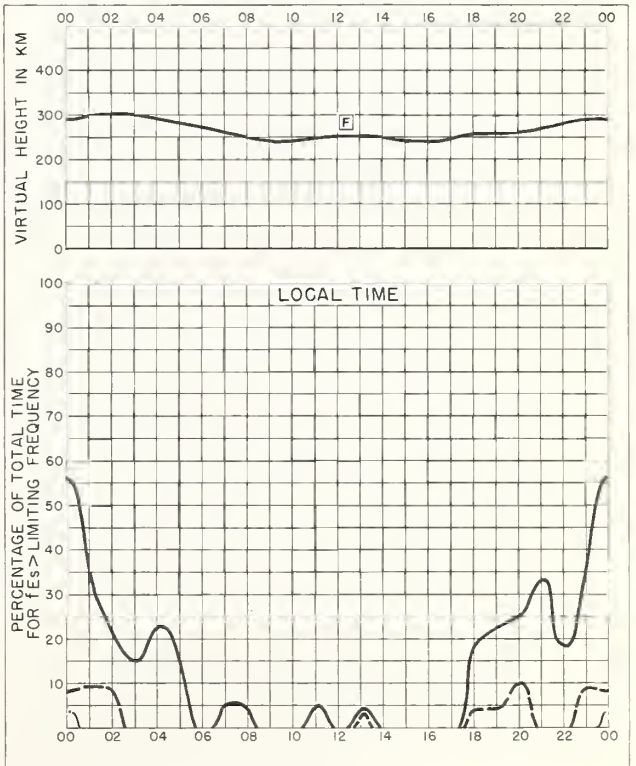


Fig. 87. MACQUARIE I. JULY 1956

NBS 490

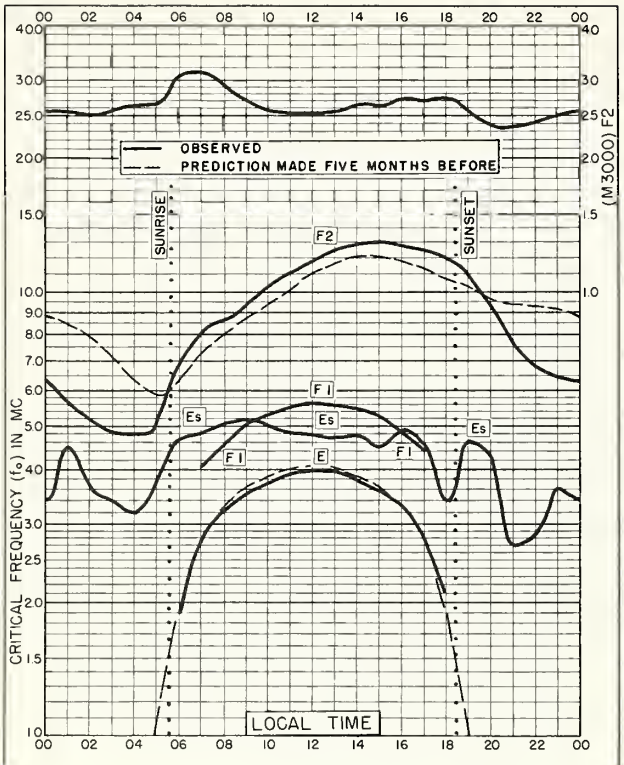


Fig. 88. DAKAR, FRENCH W. AFRICA
14.7°N, 17.4°W JUNE 1956

NBS 503

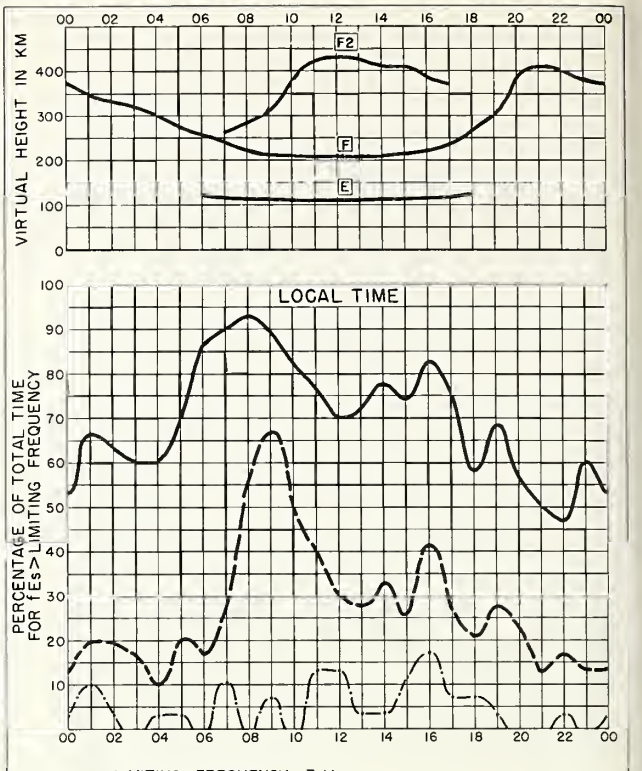


Fig. 89. DAKAR, FRENCH W. AFRICA JUNE 1956

NBS 490

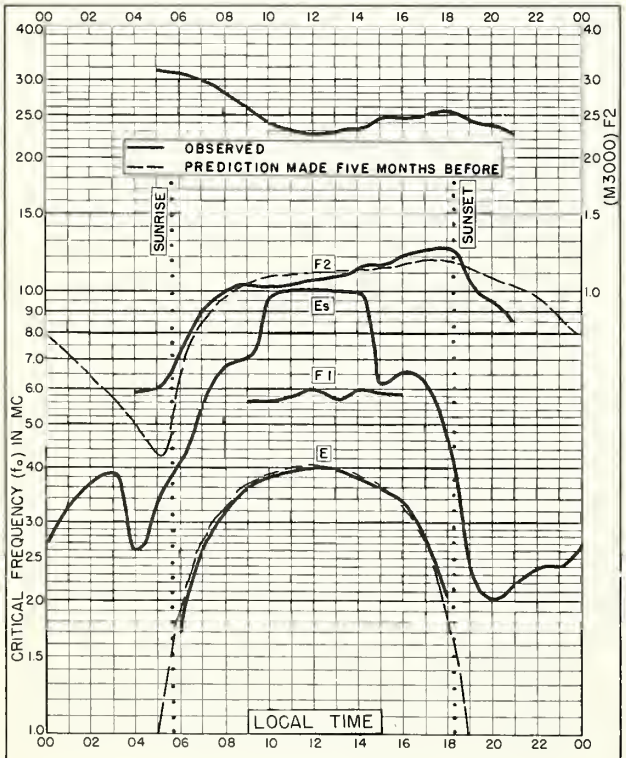


Fig. 90. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E JUNE 1956

NBS 503

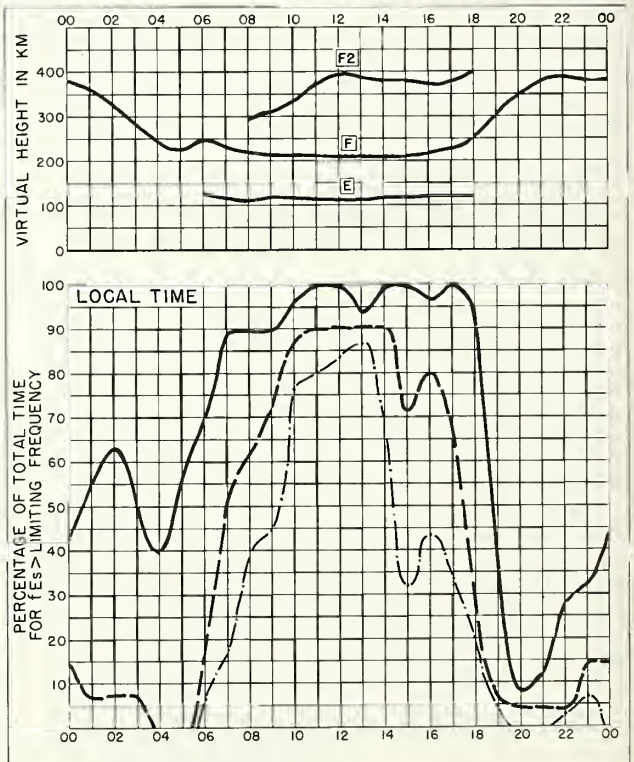


Fig. 91. DJIBOUTI, FRENCH SOMALILAND JUNE 1956

NBS 490

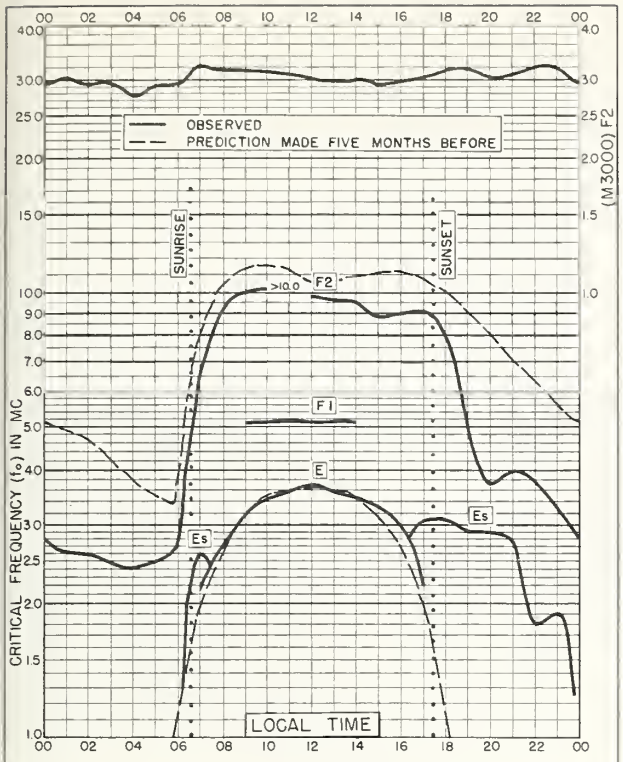


Fig. 92. TANANARIVE, MADAGASCAR
18.9°S, 47.6°E JUNE 1956

NBS 503

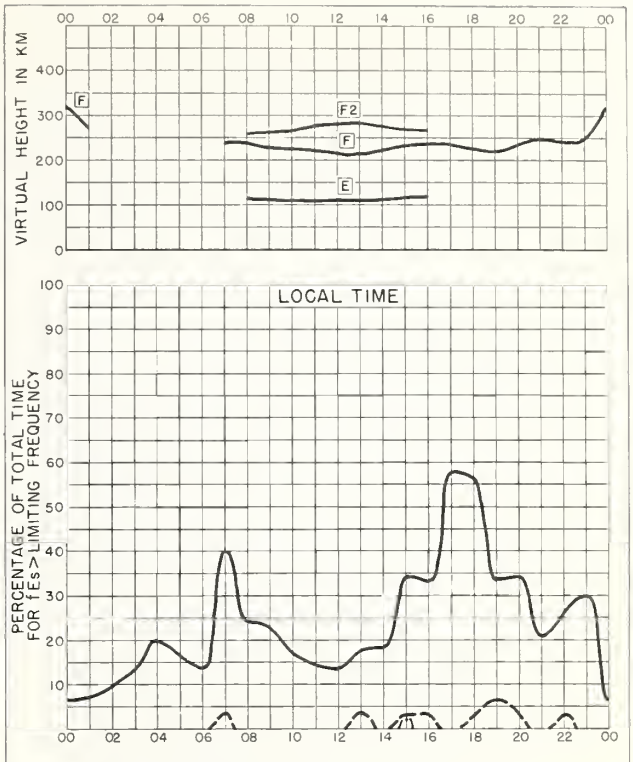


Fig. 93. TANANARIVE, MADAGASCAR JUNE 1956

NBS 490

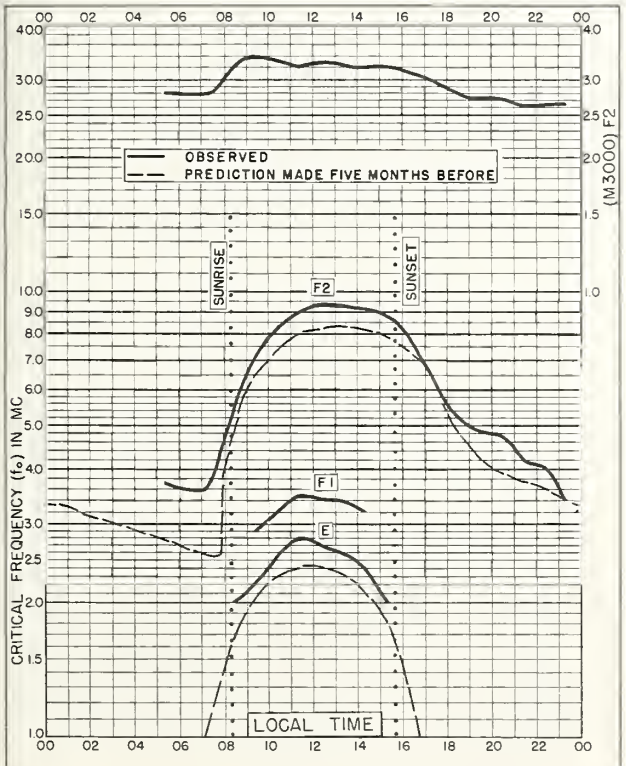


Fig. 94. CAMPBELL I.
52.5°S, 169.2°E JUNE 1956

NBS 503

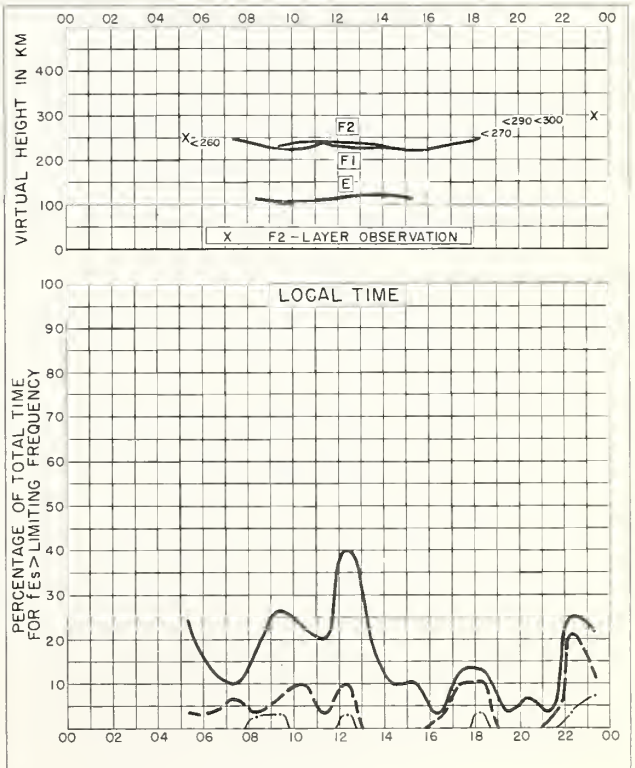


Fig. 95. CAMPBELL I. JUNE 1956

NBS 490

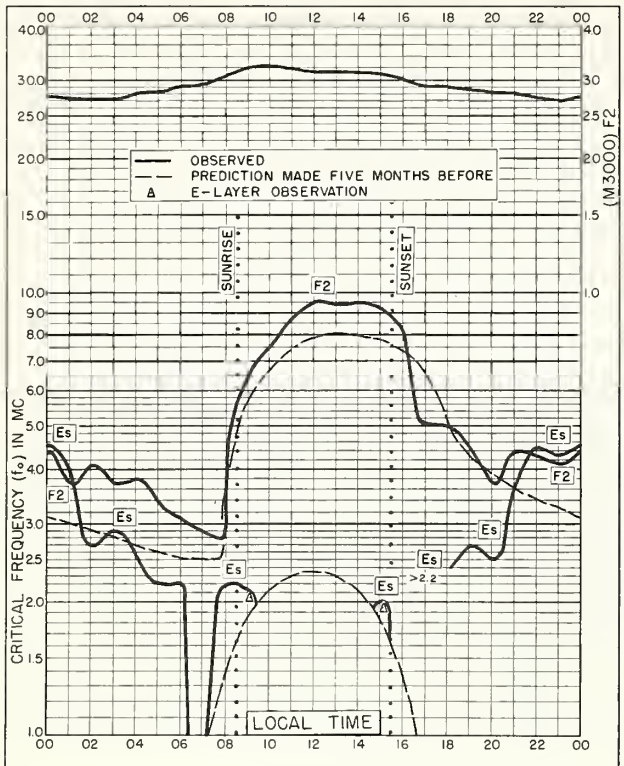


Fig. 96. MACQUARIE I.
54.5°S, 159.0°E JUNE 1956

NBS 503

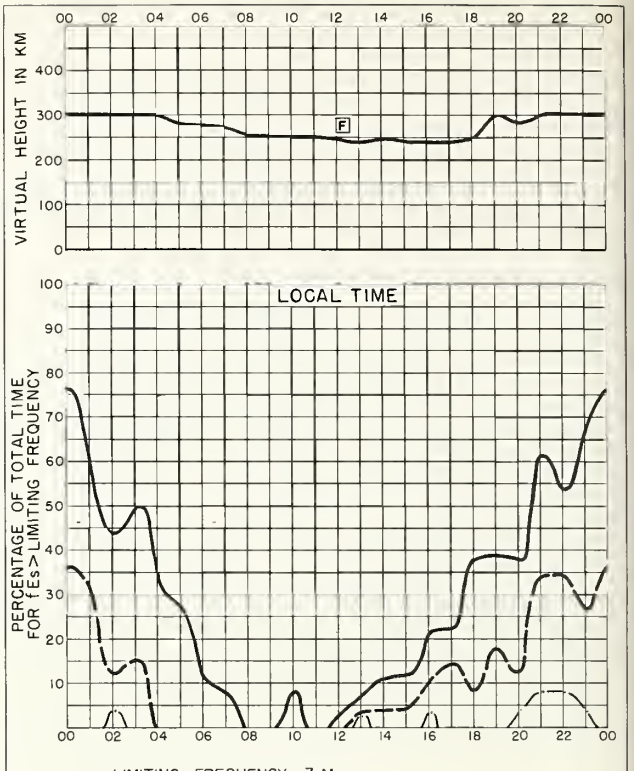


Fig. 97. MACQUARIE I. JUNE 1956

Commerce-Standards-Boulder, Colo. NBS 490

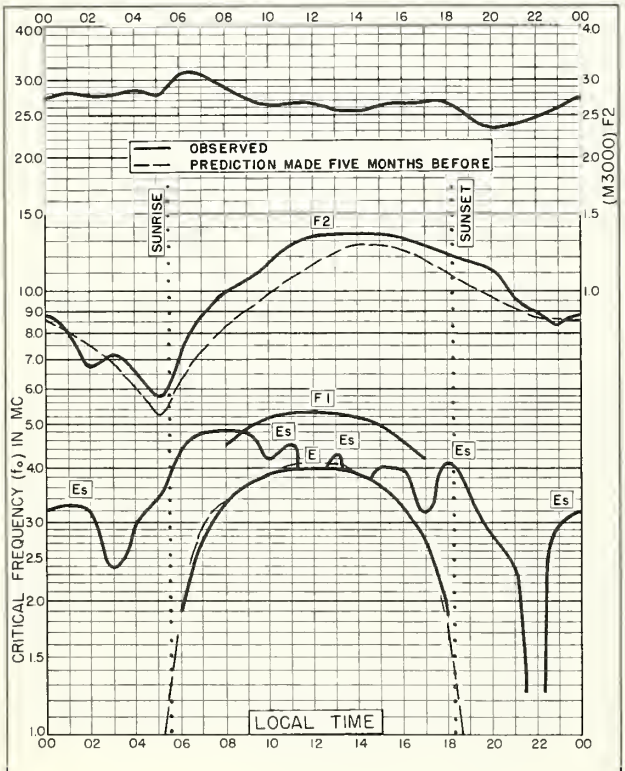


Fig. 98. DAKAR, FRENCH W. AFRICA
14.7°N, 17.4°W MAY 1956

NBS 503

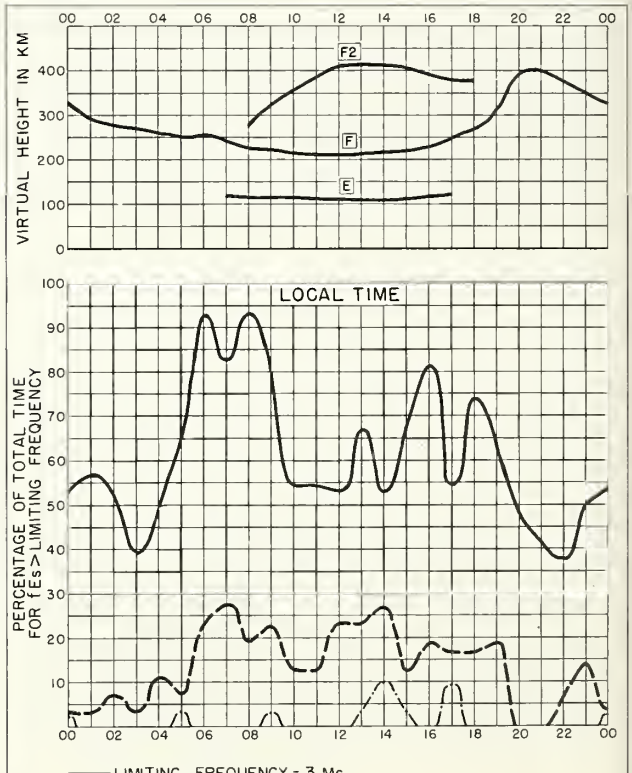


Fig. 99. DAKAR, FRENCH W. AFRICA MAY 1956

Commerce-Standards-Boulder, Colo. NBS 490

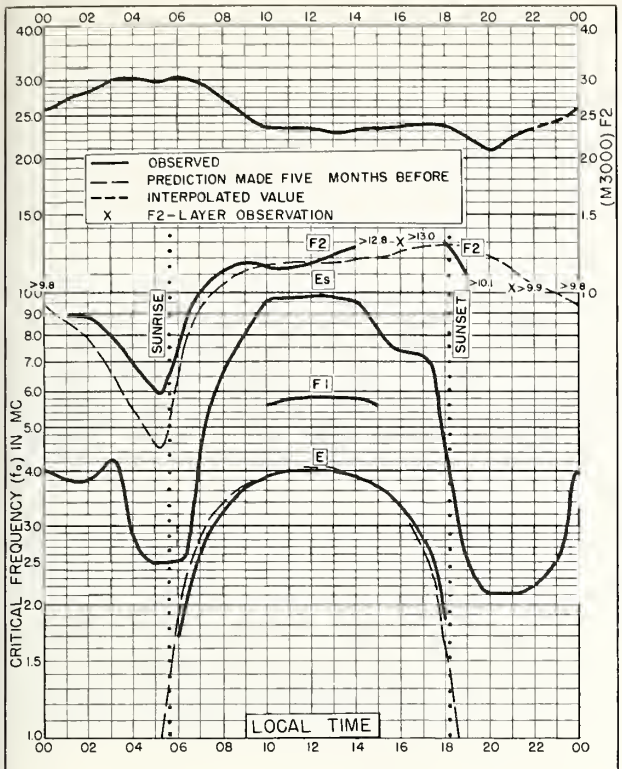


Fig. 100. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E MAY 1956

NBS 503

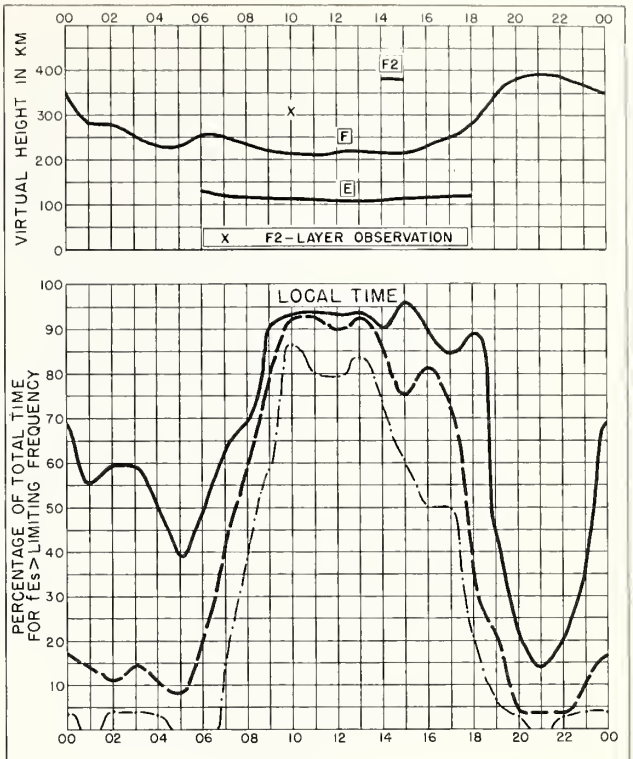


Fig. 101. DJIBOUTI, FRENCH SOMALILAND MAY 1956

NBS 490

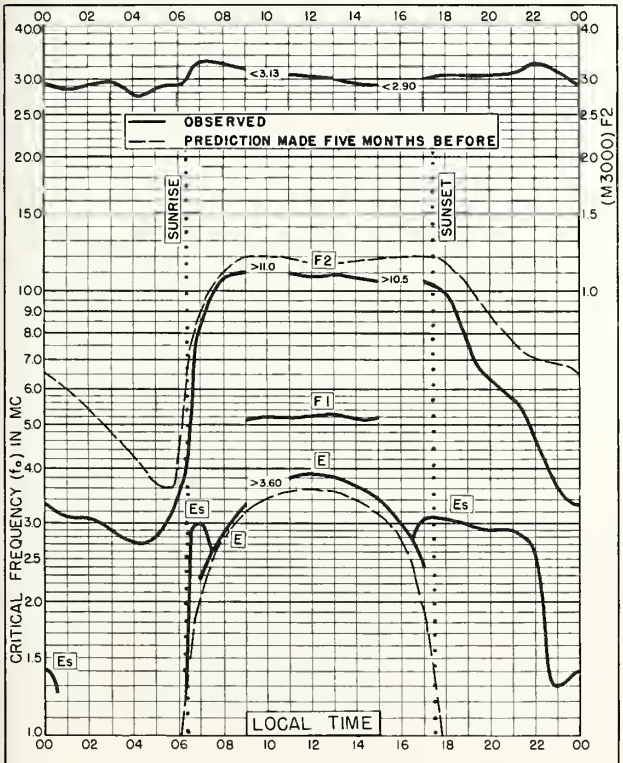


Fig. 102. TANANARIVE, MADAGASCAR
18.9°S, 47.6°E MAY 1956

NBS 503

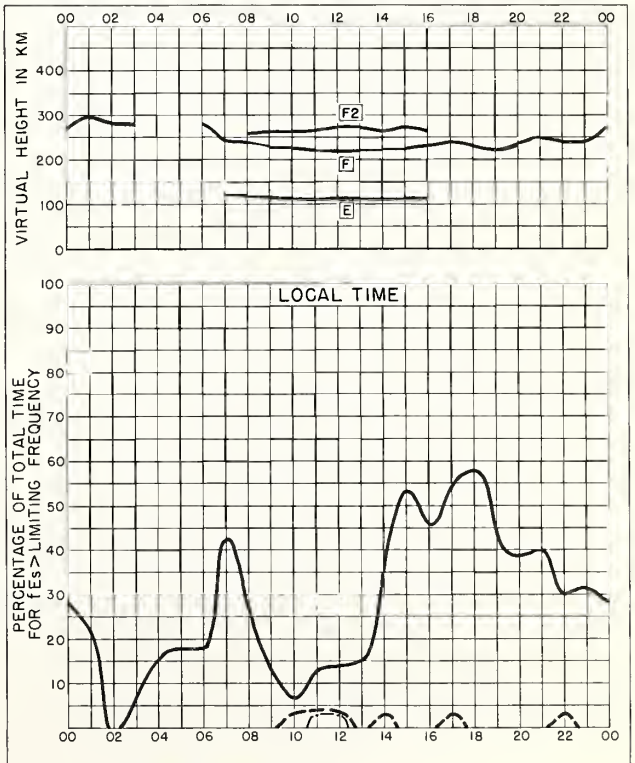


Fig. 103. TANANARIVE, MADAGASCAR MAY 1956

NBS 490

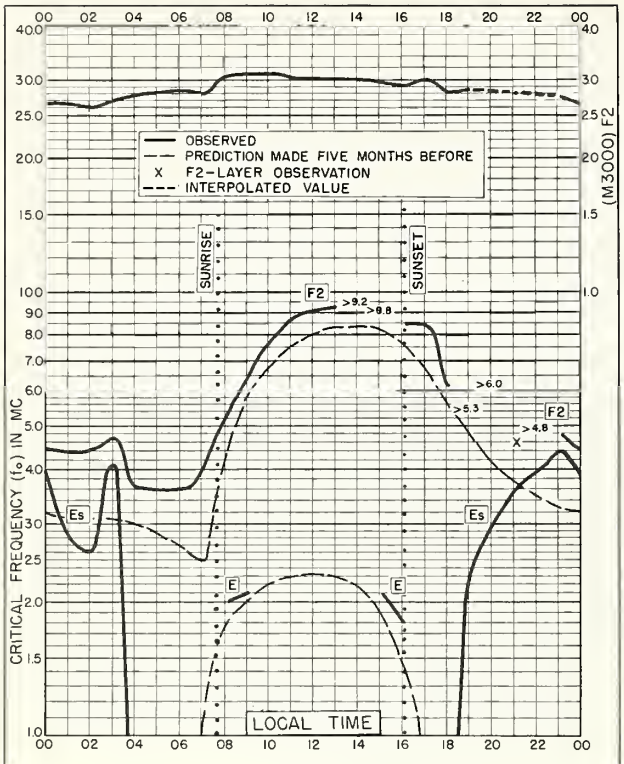


Fig. 104. MACQUARIE I.
54.5°S, 159.0°E MAY 1956

NBS 503

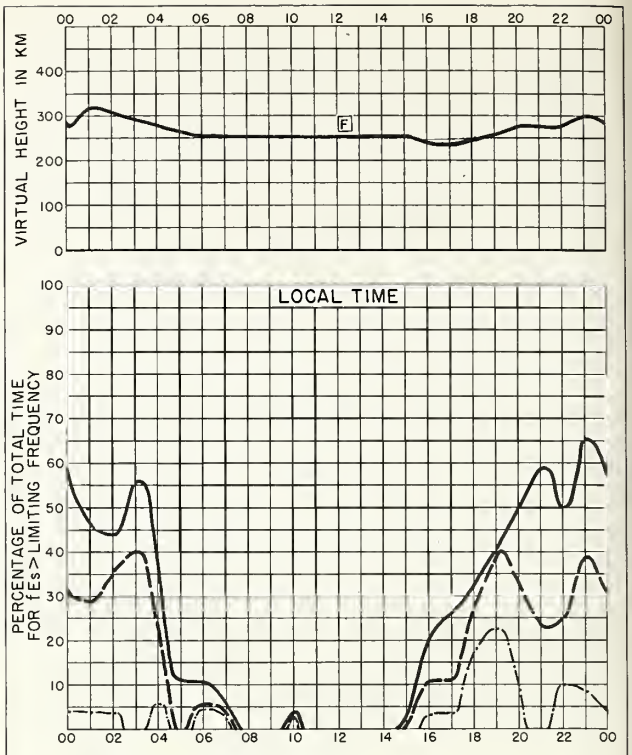


Fig. 105. MACQUARIE I. MAY 1956

NBS 490

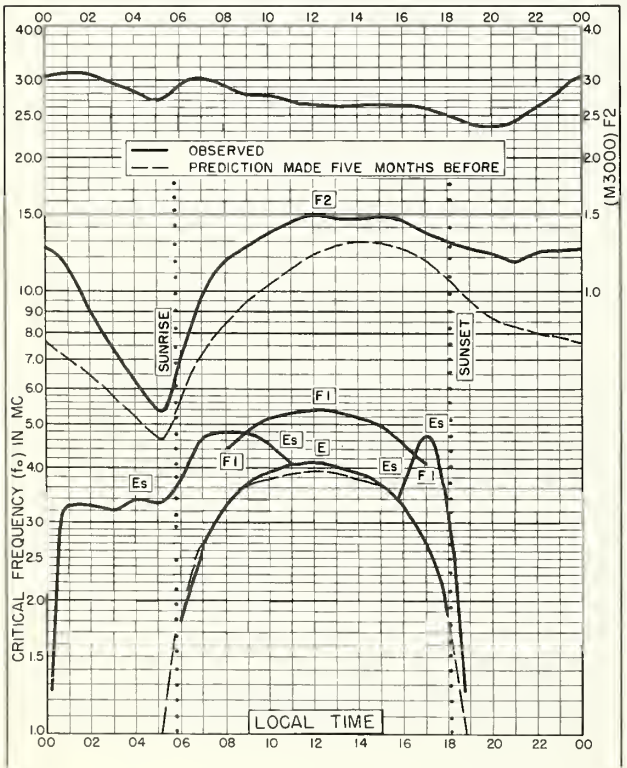


Fig. 106. DAKAR, FRENCH W. AFRICA
14.7°N, 17.4°W APRIL 1956

NBS 503

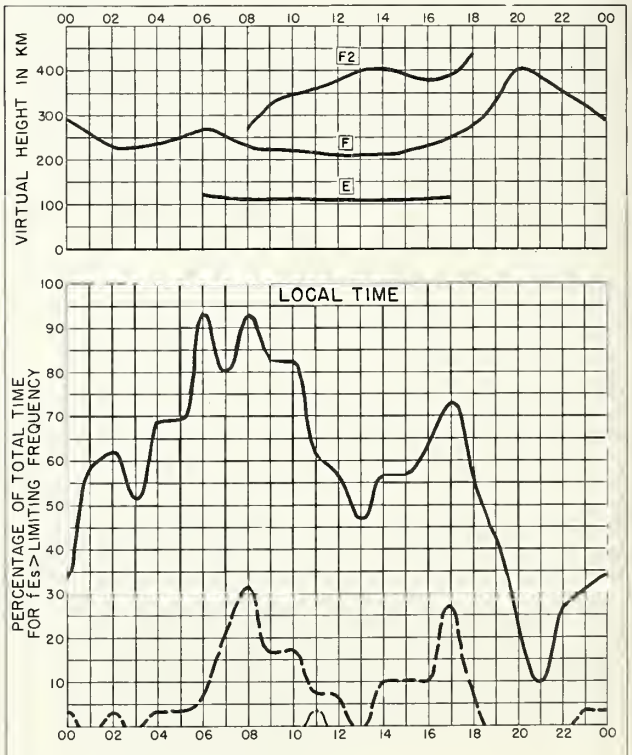


Fig. 107. DAKAR, FRENCH W. AFRICA APRIL 1956

NBS 490

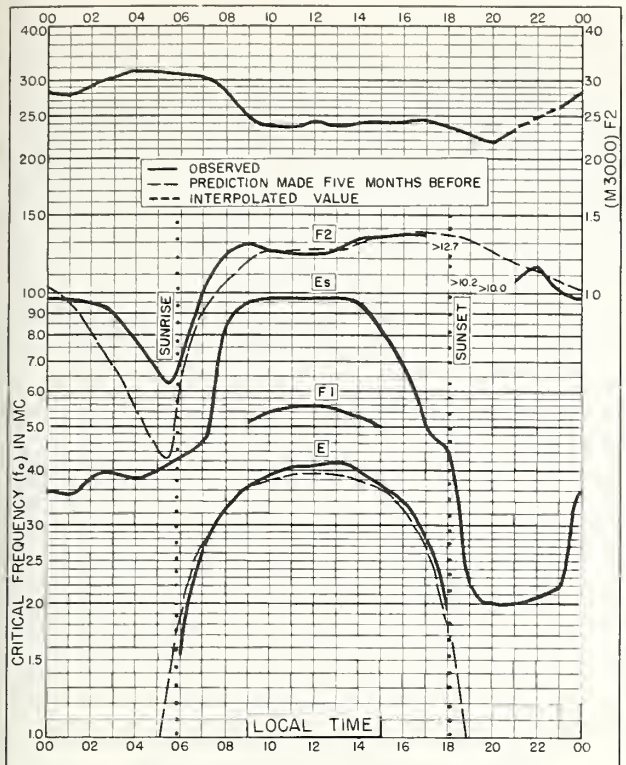


Fig. 108. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E APRIL 1956

NBS 503

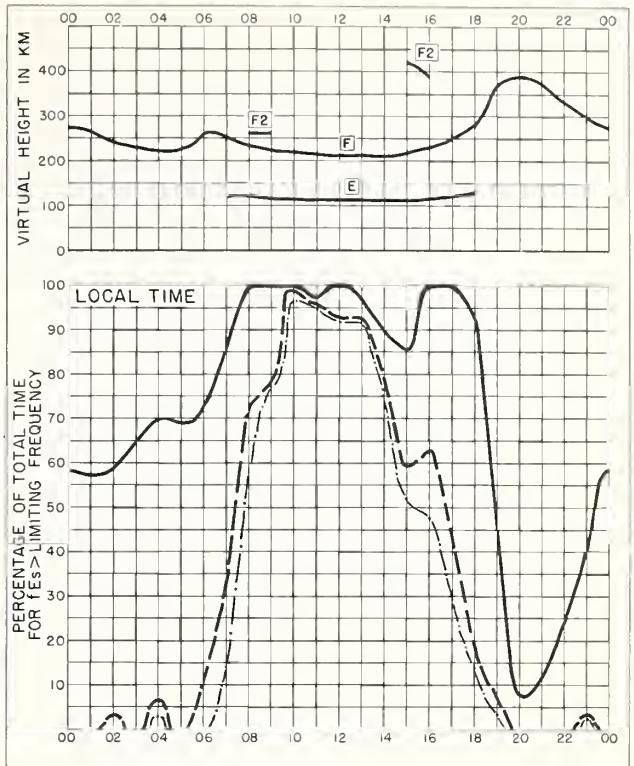


Fig. 109. DJIBOUTI, FRENCH SOMALILAND APRIL 1956

NBS 490

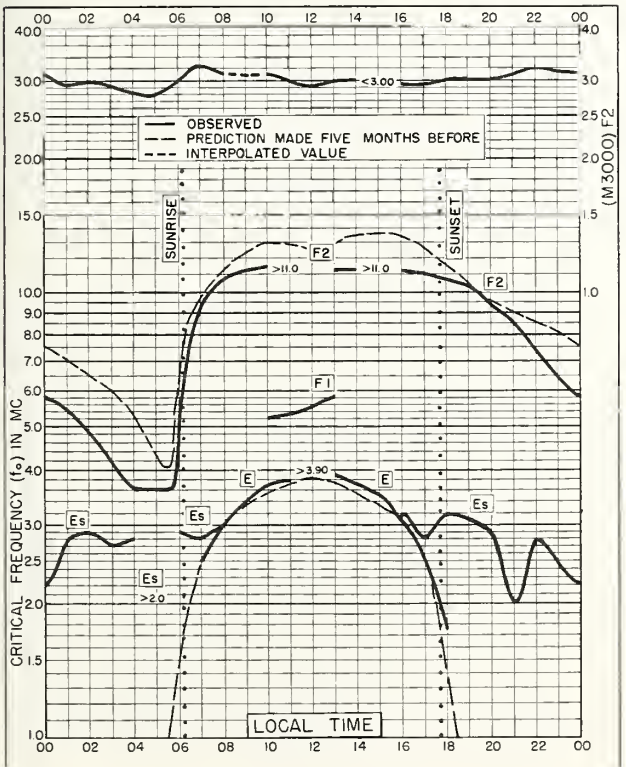


Fig. 110. TANANARIVE, MADAGASCAR
18.9°S, 47.6°E APRIL 1956

NBS 503

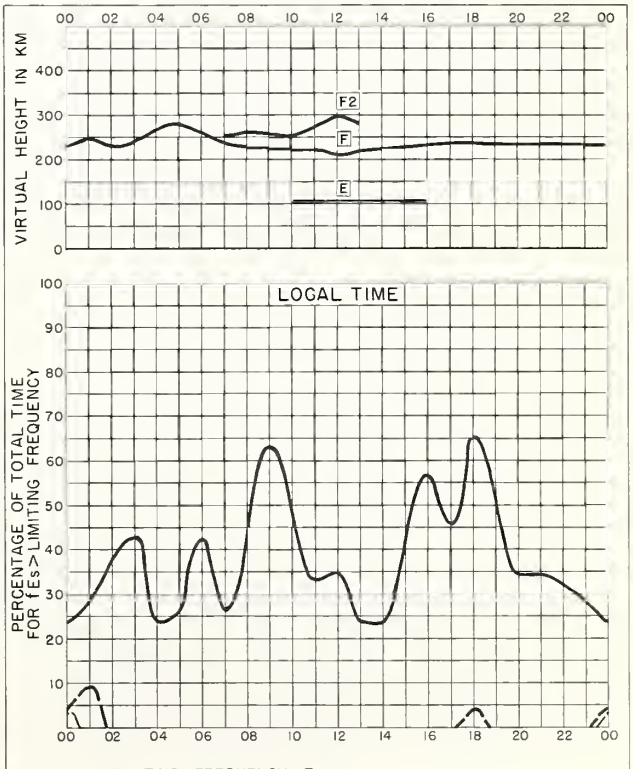


Fig. 111. TANANARIVE, MADAGASCAR APRIL 1956

NBS 490

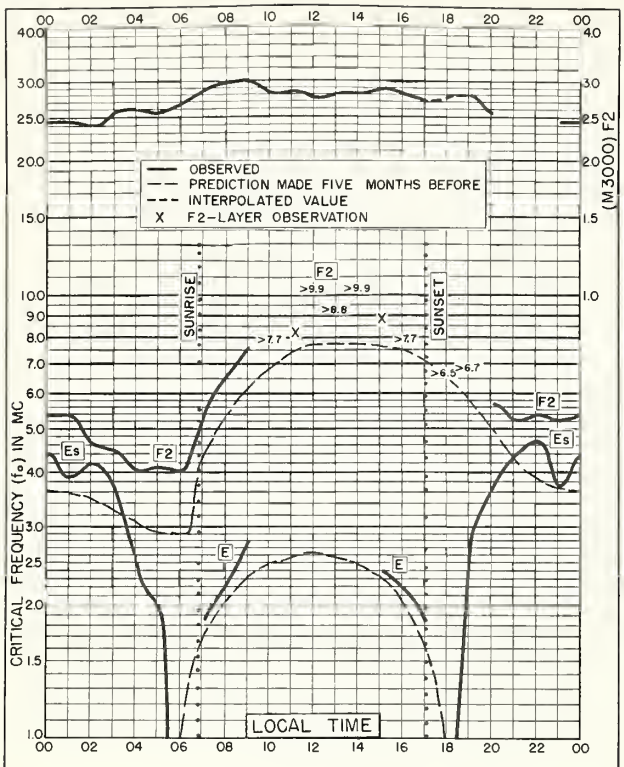


Fig. 112. MACQUARIE I.
54.5°S, 159.0°E APRIL 1956

NBS 503

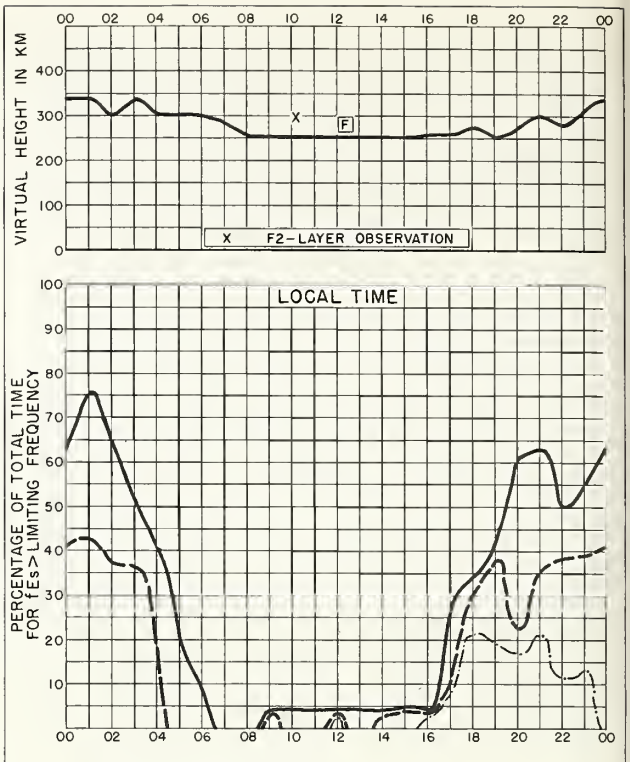


Fig. 113. MACQUARIE I. APRIL 1956

Commerce-Standards-Boulder, Colo.
NBS 490

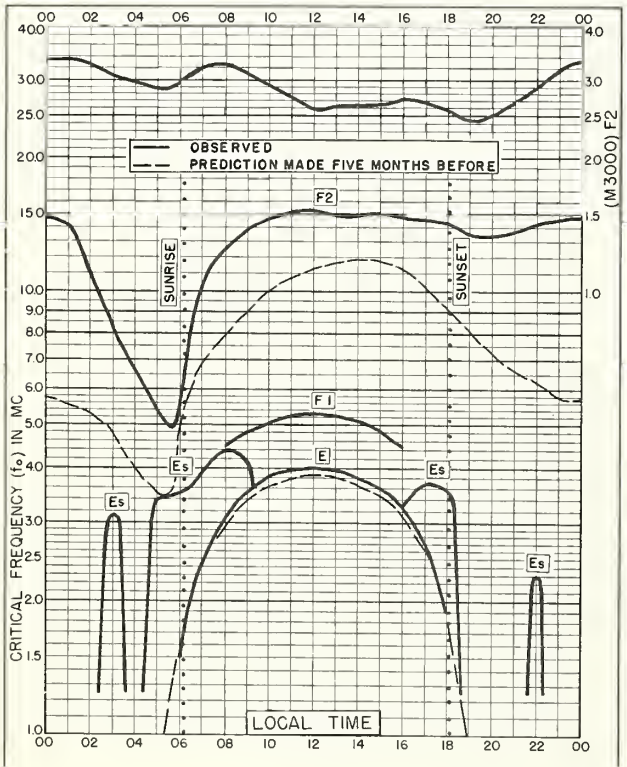


Fig. 114. DAKAR, FRENCH W. AFRICA
14.7°N, 17.4° W MARCH 1956

NBS 503

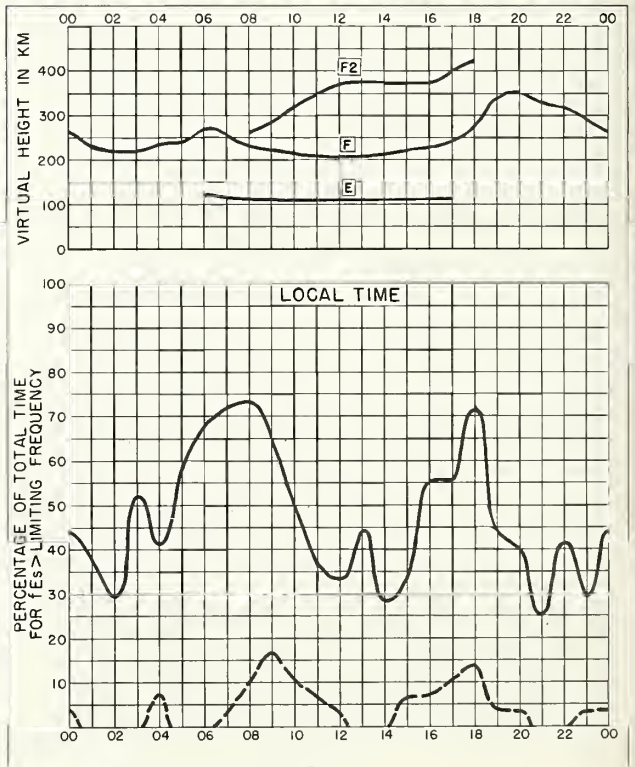


Fig. 115. DAKAR, FRENCH W. AFRICA MARCH 1956

Commerce-Standards-Boulder, Colo.
NBS 490

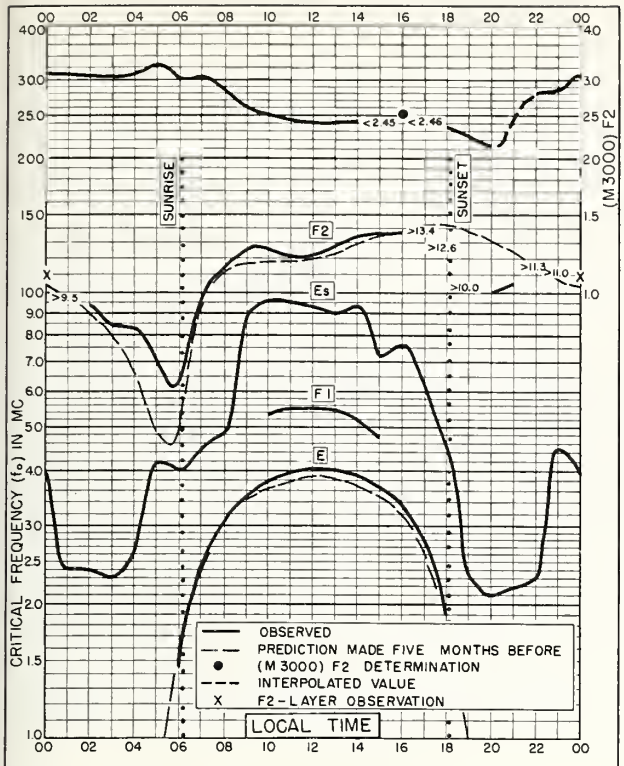


Fig. 116. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E MARCH 1956

NBS 503

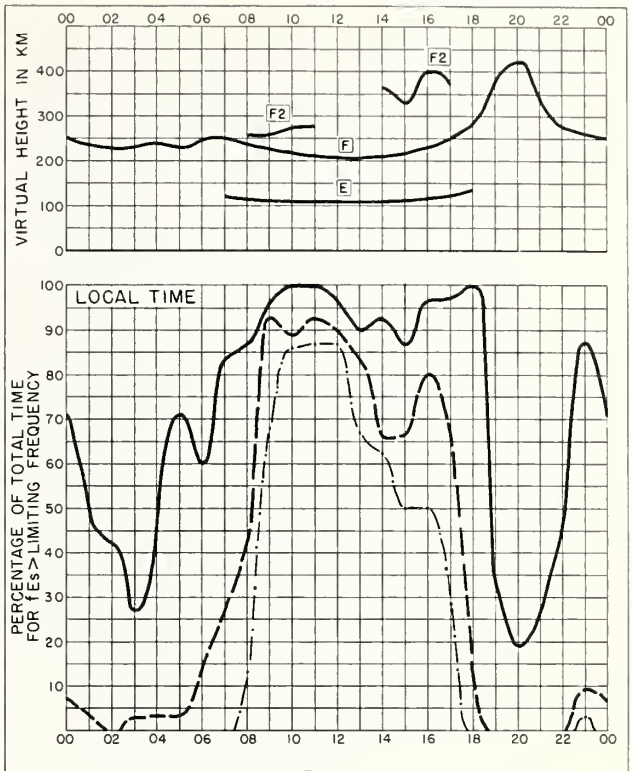


Fig. 117. DJIBOUTI, FRENCH SOMALILAND MARCH 1956

Commerce-Standards-Boulder, Colo.

NBS 490

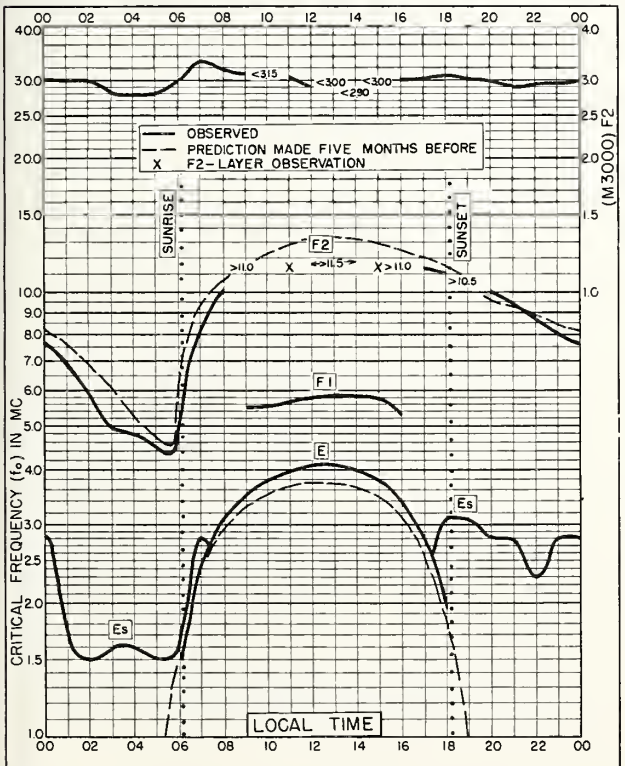


Fig. 118. TANANARIVE, MADAGASCAR
18.9°S, 47.6°E MARCH 1956

NBS 503

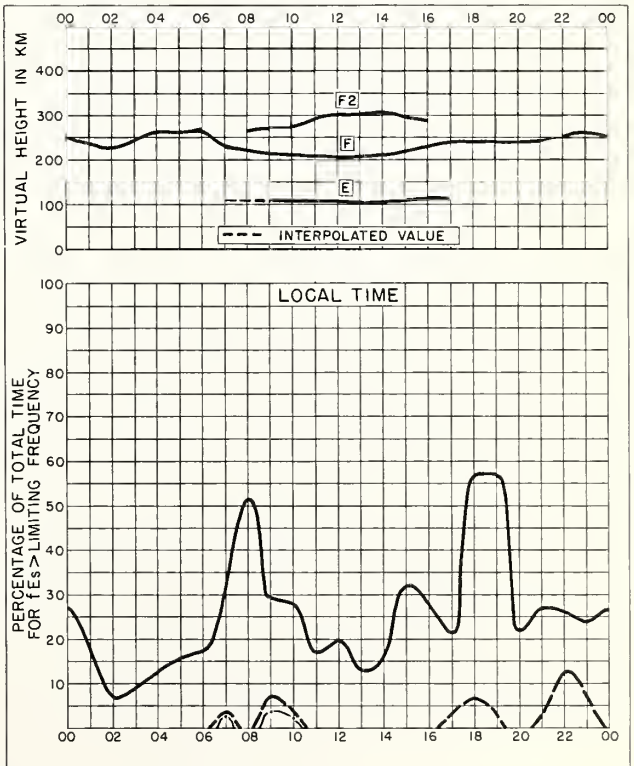


Fig. 119. TANANARIVE, MADAGASCAR MARCH 1956

Commerce-Standards-Boulder, Colo.

NBS 490

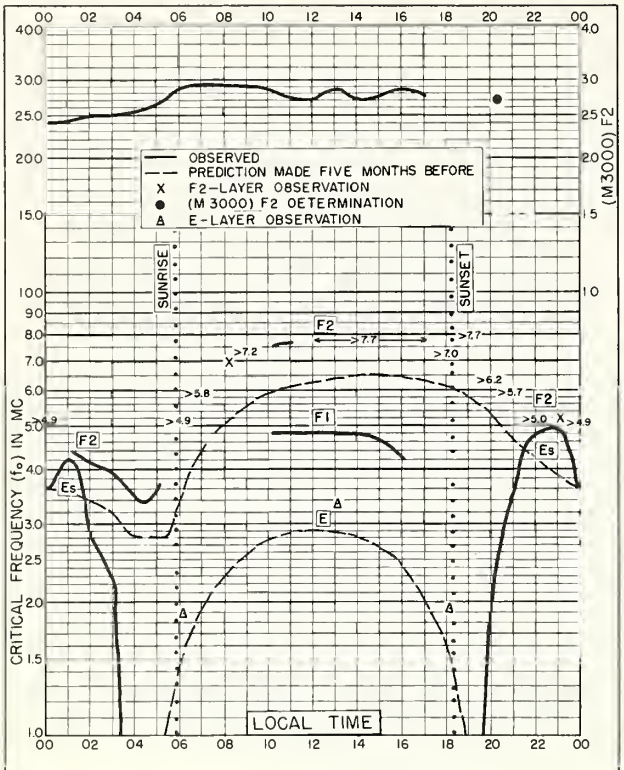


Fig. 120. MACQUARIE I.
54.5°S, 159.0°E MARCH 1956

NBS 503

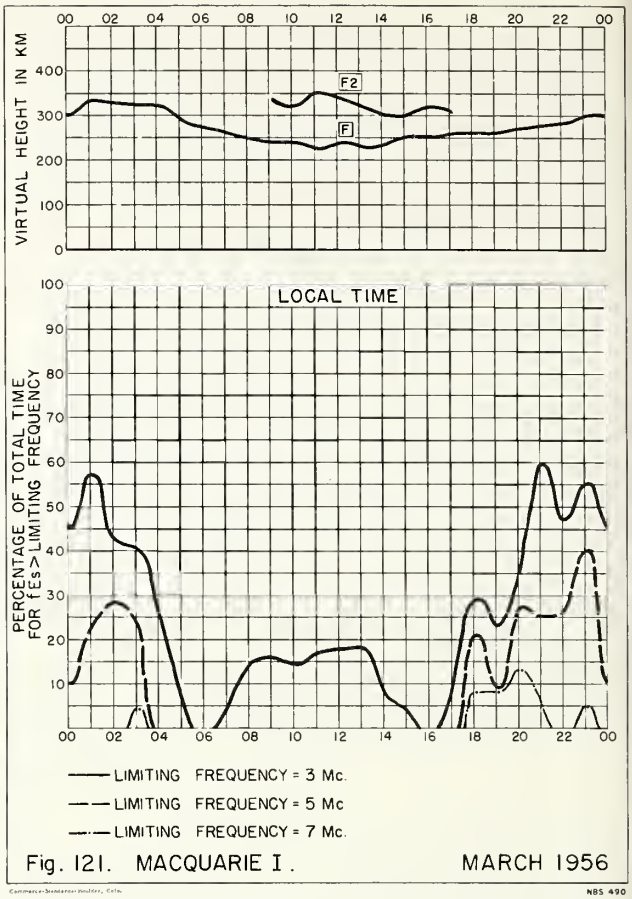


Fig. 121. MACQUARIE I. MARCH 1956

NBS 490

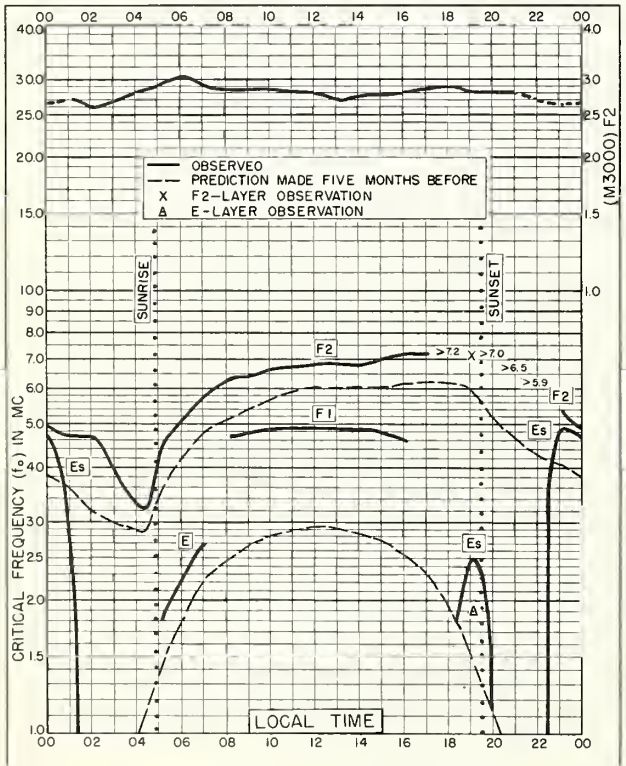


Fig. 122. MACQUARIE I.
54.5°S, 159.0°E FEBRUARY 1956

NBS 503

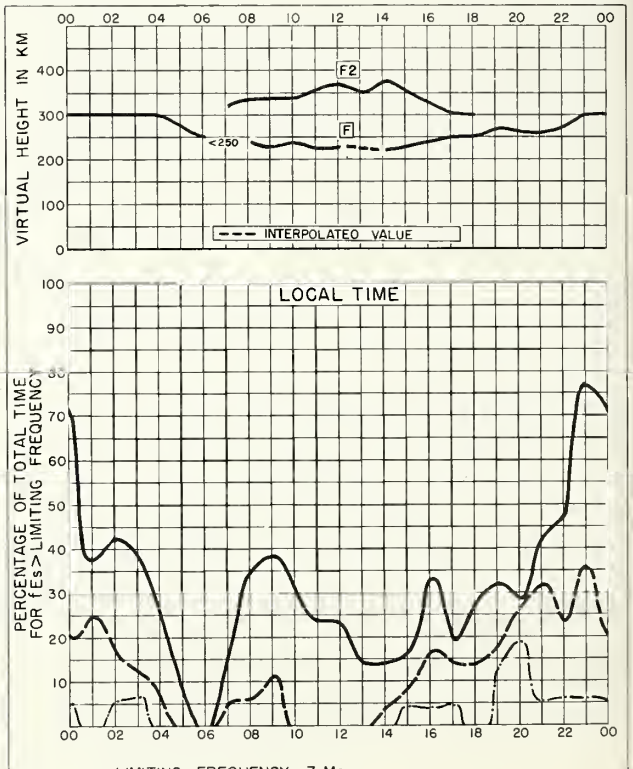


Fig. 123. MACQUARIE I. FEBRUARY 1956

NBS 490

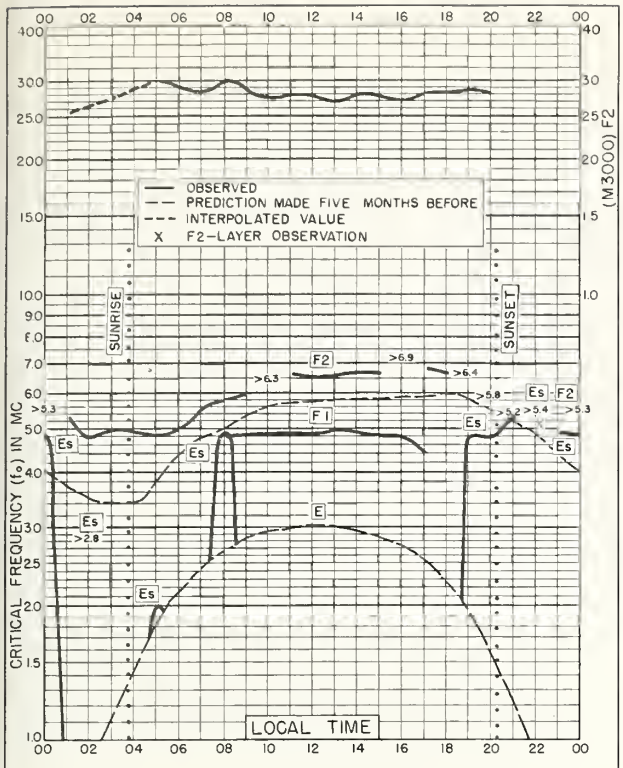


Fig. 124. MACQUARIE I.
54.5°S, 159.0°E JANUARY 1956

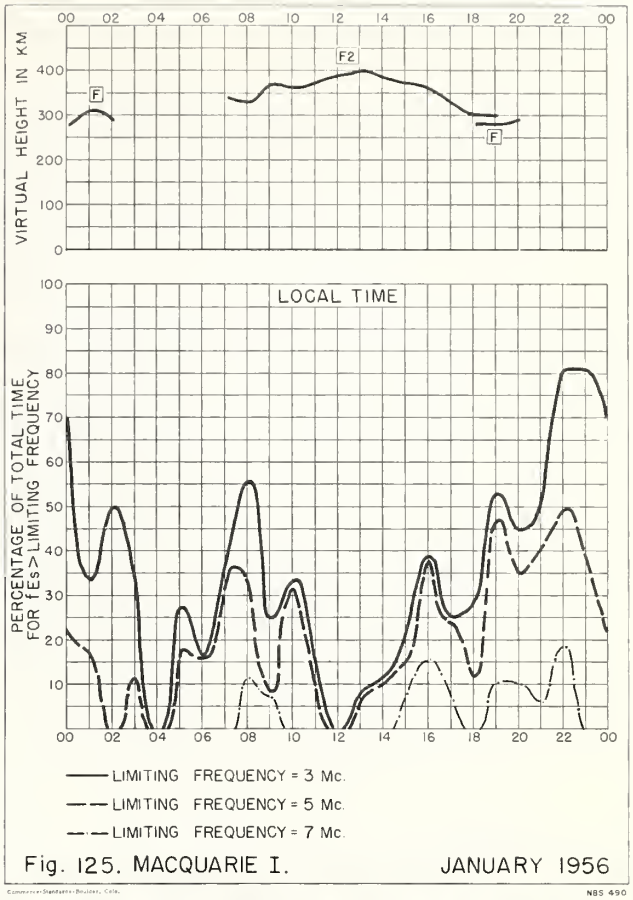


Fig. 125. MACQUARIE I. JANUARY 1956

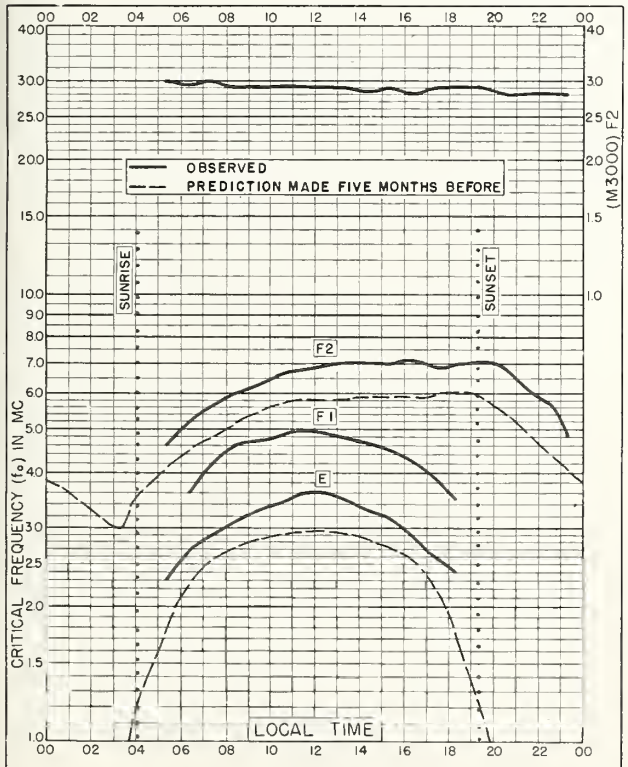


Fig. 126. CAMPBELL I.
52.5°S, 169.2°E NOVEMBER 1955

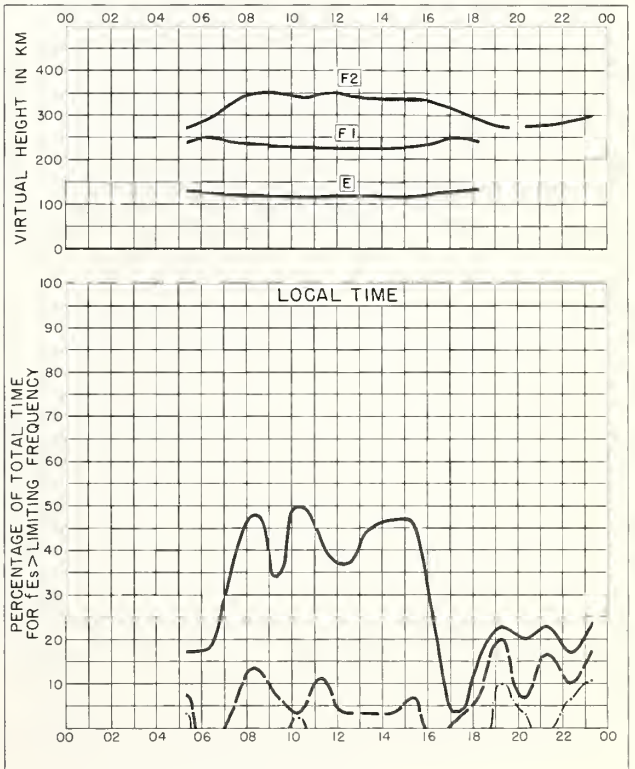


Fig. 127. CAMPBELL I. NOVEMBER 1955

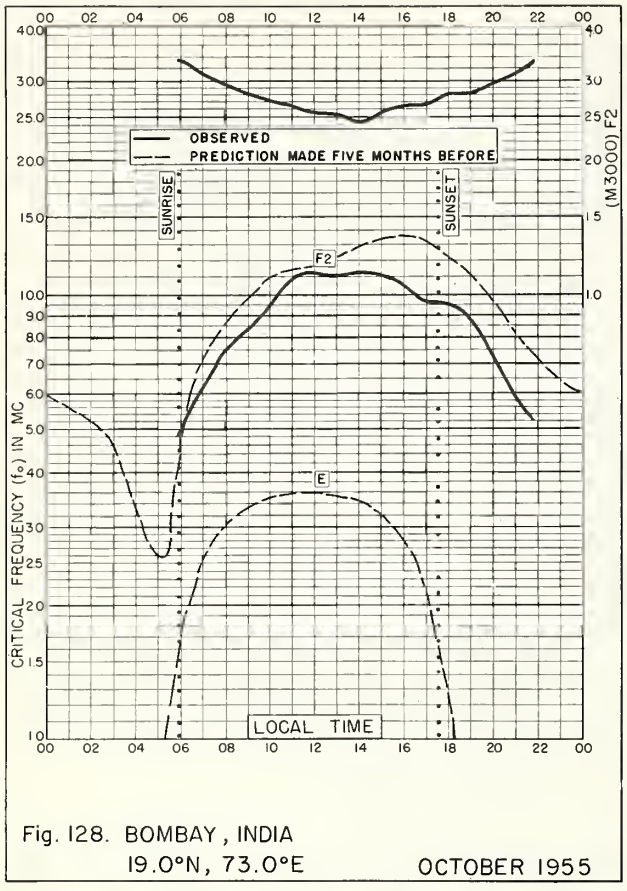


Fig. 128. BOMBAY, INDIA
19.0°N, 73.0°E OCTOBER 1955

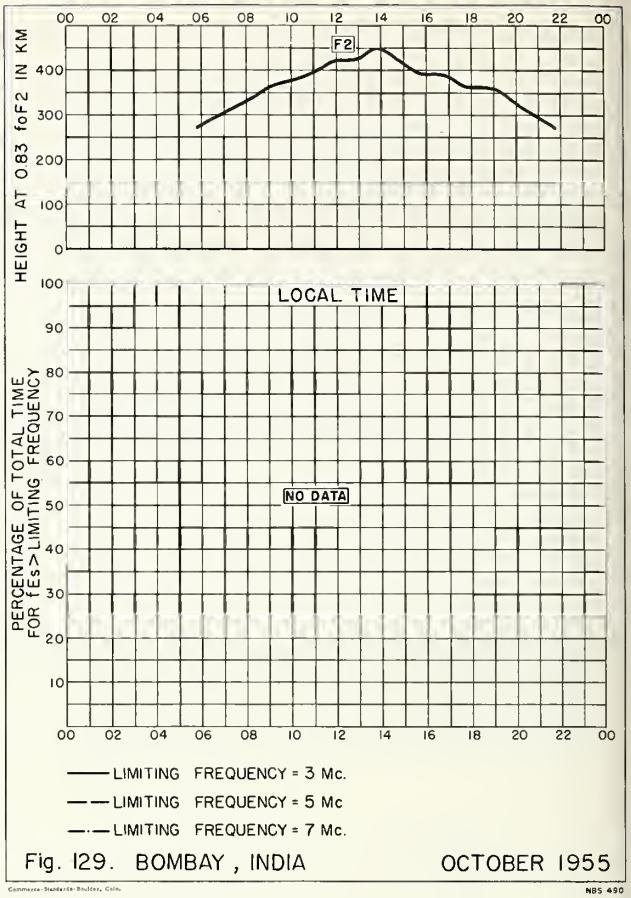


Fig. 129. BOMBAY, INDIA OCTOBER 1955

Commerce-Standards-Boulder, Colo. NBS 490

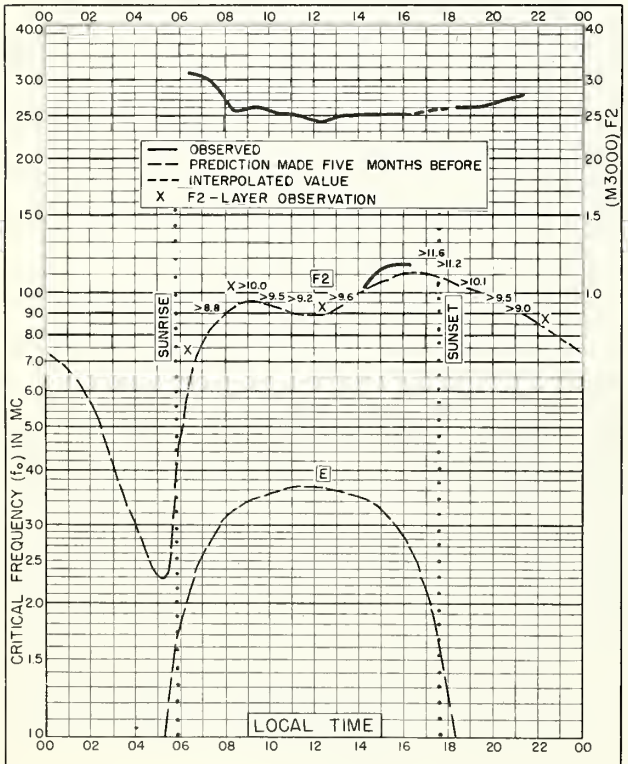


Fig. 130. MADRAS, INDIA
13.0°N, 80.2°E OCTOBER 1955

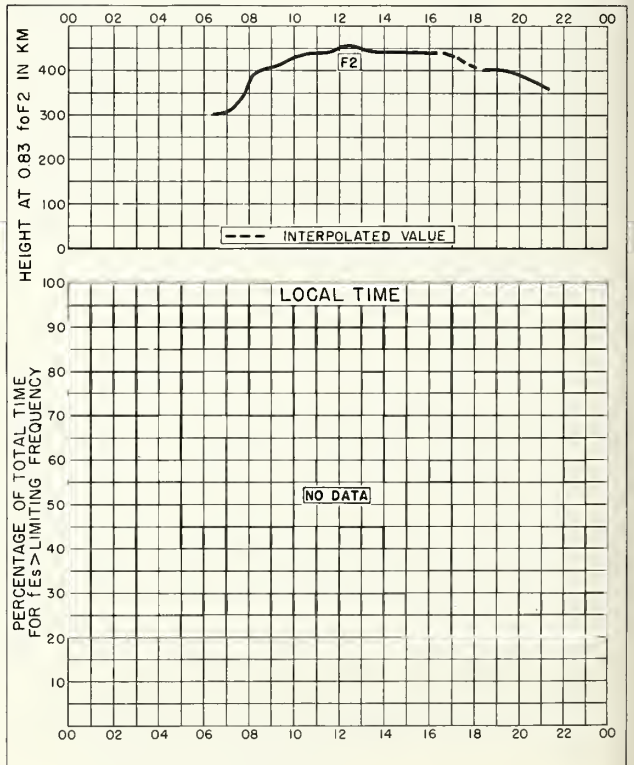


Fig. 131. MADRAS, INDIA OCTOBER 1955

Commerce-Standards-Boulder, Colo. NBS 490

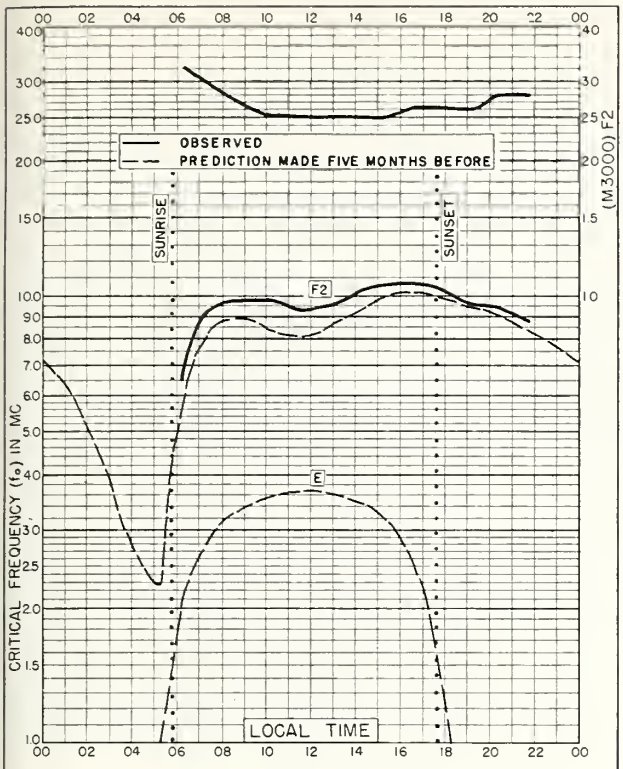


Fig. 132. TIRUCHY, INDIA
10.8°N, 78.8°E OCTOBER 1955

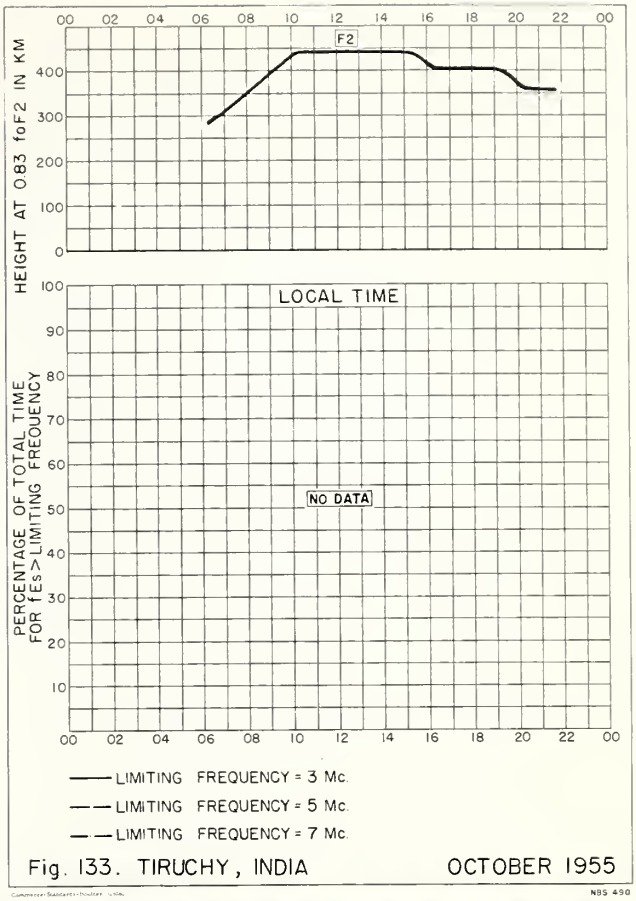


Fig. 133. TIRUCHY, INDIA OCTOBER 1955

NBS 490

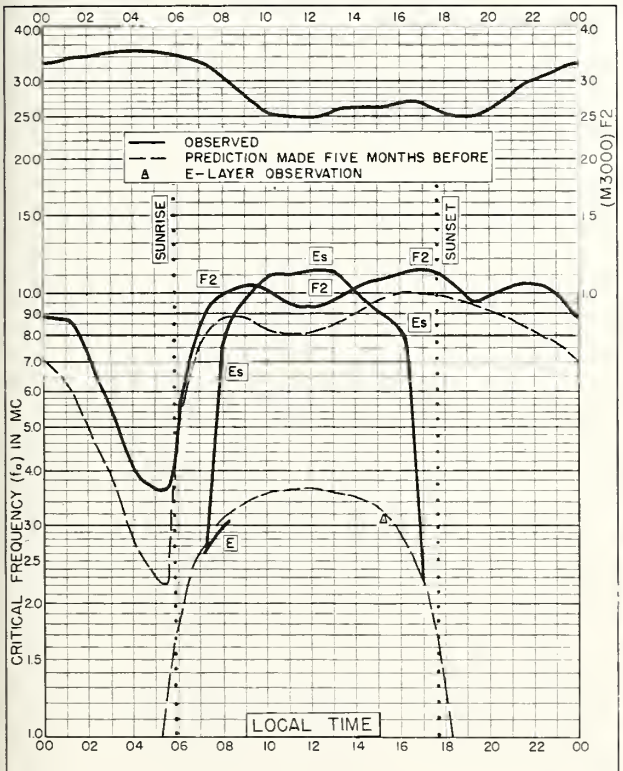


Fig. 134. KODAIKANAL, INDIA
10.2°N, 77.5°E OCTOBER 1955

NBS 503

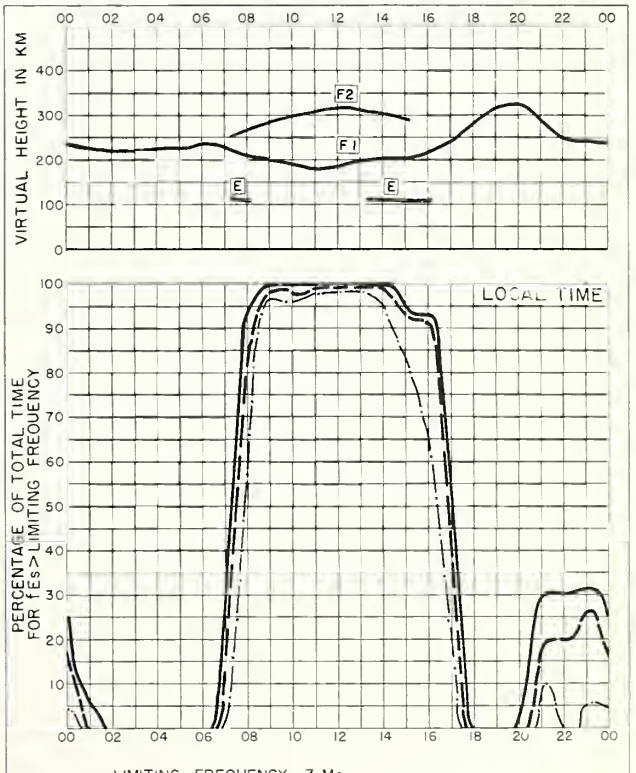


Fig. 135. KODAIKANAL, INDIA OCTOBER 1955

NBS 490

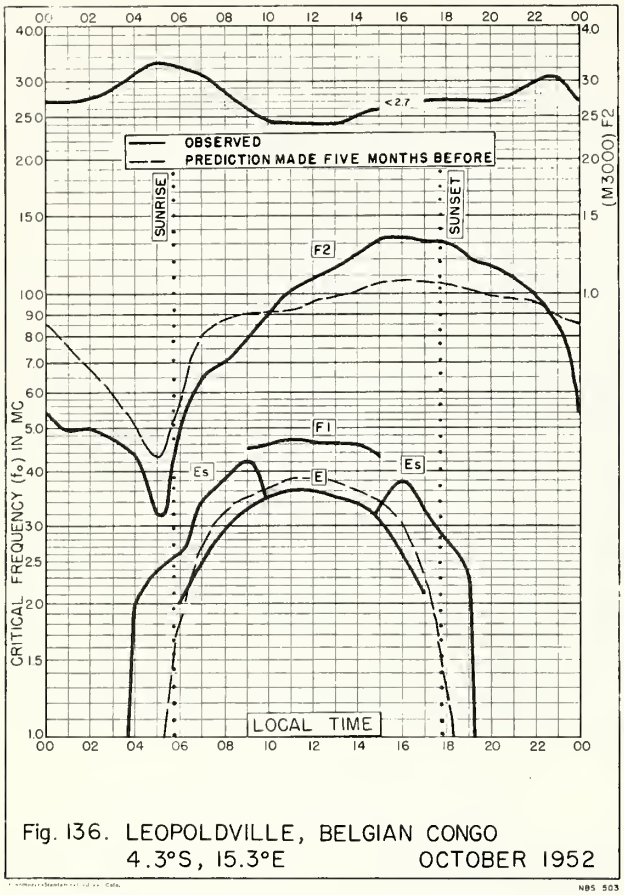


Fig. 136. LEOPOLDVILLE, BELGIAN CONGO
4.3°S, 15.3°E OCTOBER 1952

NBS 503

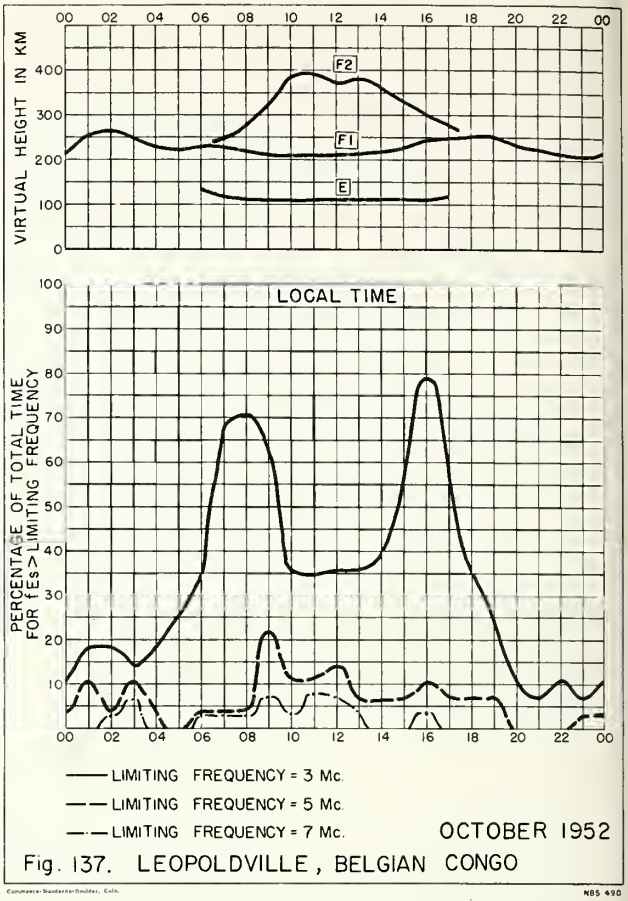


Fig. 137. LEOPOLDVILLE, BELGIAN CONGO OCTOBER 1952

NBS 490

## Index of Tables and Graphs of Ionospheric Data

## in CRPL-F175 (Part A)

Index (CRPL-F175 (Part A), continued)

Index (CRPL-F175 (Part A), concluded)

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