

CRPL-F180 PART A

FOR OFFICIAL USE

PART A
IONOSPHERIC DATA

ISSUED
AUGUST 1959

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F180
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CENTRAL RADIO PROPAGATION LABORATORY
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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 numerical 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 Zurich sunspot numbers were used in constructing the contour charts:

| Month | Predicted Sunspot Number | | | | | | | | | | |
|-----------|--------------------------|------|------|------|------|------|------|------|------|------|------|
| | 1960 | 1959 | 1958 | 1957 | 1956 | 1955 | 1954 | 1953 | 1952 | 1951 | 1950 |
| December | 137 | 150* | 150* | 150 | 42 | 11 | 15 | 33 | 53 | 86 | |
| November | 137 | 150* | 150* | 147 | 35 | 10 | 16 | 38 | 52 | 87 | |
| October | 139 | 150* | 150* | 135 | 31 | 10 | 17 | 43 | 52 | 90 | |
| September | 141 | 150* | 150* | 119 | 30 | 8 | 18 | 46 | 54 | 91 | |
| August | 142 | 150* | 150* | 105 | 27 | 8 | 18 | 49 | 57 | 96 | |
| July | 141 | 150* | 150* | 95 | 22 | 8 | 20 | 51 | 60 | 101 | |
| June | 143 | 150* | 150* | 89 | 18 | 9 | 21 | 52 | 63 | 103 | |
| May | 146 | 150* | 150* | 77 | 16 | 10 | 22 | 52 | 68 | 102 | |
| April | 150* | 150* | 150* | 68 | 13 | 10 | 24 | 52 | 74 | 101 | |
| March | 150* | 150* | 150* | 60 | 14 | 11 | 27 | 52 | 78 | 103 | |
| February | 150* | 150* | 150* | 53 | 14 | 12 | 29 | 51 | 82 | 103 | |
| January | 136 | 150* | 150* | 150* | 48 | 12 | 14 | 30 | 53 | 85 | 105 |

*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

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 143 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:
Townsville, Australia

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

Universidad Mayor de San Andres:
La Paz, Bolivia

British Department of Scientific and Industrial Research,
Radio Research Board:
Inverness, Scotland
Slough, England

Defence Research Board, Canada:
Churchill, Canada
Ottawa, Canada
Resolute Bay, Canada

Radio Wave Research Laboratories, National Taiwan University,
Taipeh, Formosa, China:
Formosa, China

Instituto Geofisico de Los Andes Colombianos:
Bogota, Colombia

General Direction of Posts and Telegraphs, Helsinki, Finland:
Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:
Sodankyla, Finland

Ionospheric Institute, Breisach, Germany:
Freiburg, Germany

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

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

National Institute of Geophysics, City University, Rome, Italy:
Rome, Italy

Ministry of Postal Services, Radio Research Laboratories,
Tokyo, Japan:
Akita, Japan
Tokyo (Kokubunji), Japan
Wakkanai, Japan
Yamagawa, Japan

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

Norwegian Defence Research Establishment, Kjeller per
Lillestrom, Norway:
Oslo, Norway
Tromso, Norway

South African Council for Scientific and Industrial Research:
Capetown, Union of South Africa
Johannesburg, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:
Kiruna, Sweden
Lycksele, Sweden
Upsala, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm,
Sweden:
Lulea, Sweden

United States Army Signal Corps:
Ft. Monmouth, New Jersey
Grand Bahama I.
Okinawa I.
St. John's, Newfoundland
Thule, Greenland

National Bureau of Standards (Central Radio Propagation
Laboratory):

Byrd Station, Antarctica
Chimbote, Peru
Fairbanks (College), Alaska (Geophysical Institute of the
University of Alaska)
Little America, Antarctica
Point Barrow, Alaska
Pole Station, Antarctica
Talara, Peru (Instituto Geofisico de Huancayo)
Wilkes Station, Antarctica

TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by CRPL and the U. S. Army Signal Corps. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. These data are in place of the standard ionogram reductions formerly provided by this Station. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed for an IBM 650 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

| <u>Quantity</u> | <u>Units</u> | <u>Remarks</u> |
|----------------------|---|---|
| Electron Density (N) | $\times 10^3 = \text{electrons/cm}^3$ | Body of table; given at each 10 km of height. |
| NMAX | $\times 10^3 = \text{electrons/cm}^3$ | Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level). |
| QUALIFICATION | (Alphabetic) | A standard scaling letter qualifying the observation when necessary. |
| HMIN | Kilometers | The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve. |
| HMAX | Kilometers | The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile. |
| SHMAX | $\times 10^{10} = \text{electrons/cm}^2$ column. | Obtained by integration of the profile between the limits HMIN and HMAX. |

Two tabulations of arithmetic mean electron densities are also given for each hour. An average for the undisturbed ionosphere includes the soundings taken when the magnetic character figure K_p is less than 4+; the remaining data are combined to form a disturbed average. The latter may have little physical significance because the number of disturbed hours is usually small and the behavior of the ionosphere during disturbed hours is not consistent. On these tabulations the number of profiles in each average is given by CNT.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region. Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the integrated electron densities estimated to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

ELECTRON DENSITY

PUERTO RICO

60 W

1 MAY 1959

ELECTRON DENSITY

PUERTO RICO

O W

1 MAY 1959

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

| QUAL | | | | | | | S | A | A | | | |
|-------|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| | HMIN | 246 | 236 | 277 | 300 | 311 | 280 | 270 | 115 | 112 | 109 | 110 |
| HMAX | 343 | 359 | 424 | 443 | 440 | 401 | 369 | 334 | 342 | 350 | 354 | 361 |
| SHMAX | 602 | 688 | 639 | 567 | 553 | 557 | 621 | 1175 | 1752 | 2286 | 2495 | 2805 |

| OUAL | A | A | A | A | A | R | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|-----|
| HMIN | 111 | 111 | 110 | 110 | 107 | 110 | 226 | 239 | 260 | 276 | 276 | 254 |
| HMAX | 361 | 341 | 376 | 380 | 377 | 382 | 384 | 417 | 412 | 405 | 393 | |
| SHMAX | 2807 | 2064 | 2892 | 2809 | 2488 | 2175 | 1496 | 1580 | 1396 | 1373 | 1259 | |

| KM | 002 | 008 | 059 | 081 | 093 | 097 | 01 | 117 | 174 | 220 | 271 | |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 450 | | | 698 | | | | | | | | | |
| 440 | | | 697 | 735 | | | | | | | | |
| 430 | | 735 | 689 | 729 | | | | | | | | |
| 420 | | 734 | 669 | 710 | | | | | | | | |
| 410 | | 726 | 638 | 679 | 774 | | | | | | | |
| 400 | | 707 | 593 | 637 | 774 | | | | | | | |
| 390 | | 679 | 545 | 579 | 765 | | | | | | | |
| 380 | | 643 | 483 | 508 | 737 | | | | | | | |
| 370 | | 596 | 417 | 427 | 696 | 917 | | | | | | |
| 360 | | 917 | 540 | 344 | 344 | 648 | 911 | | | | 2430 | |
| 350 | 1073 | 911 | 471 | 278 | 251 | 580 | 888 | 1640 | 2096 | 2192 | 2414 | |
| 340 | 1071 | 891 | 403 | 205 | 161 | 500 | 850 | 1096 | 1640 | 2084 | 2170 | 2371 |
| 330 | 1044 | 854 | 329 | 127 | 90.5 | 411 | 794 | 1095 | 1624 | 2047 | 2125 | 2302 |
| 320 | 982 | 805 | 255 | 75.6 | 47.2 | 327 | 716 | 1085 | 1588 | 1977 | 2057 | 2220 |
| 310 | 886 | 739 | 179 | 47.2 | | 225 | 619 | 1064 | 1522 | 1896 | 1959 | 2075 |
| 300 | 768 | 661 | 112 | 1.3 | | 127 | 508 | 1027 | 1437 | 1786 | 1839 | 1934 |
| 290 | 608 | 603 | 63.8 | | | 60.0 | 375 | 982 | 1341 | 1652 | 1708 | 1766 |
| 280 | 446 | 446 | 19.3 | | | 3.1 | 179 | 933 | 1228 | 1501 | 1556 | 1574 |
| 270 | 262 | 323 | | | | | 12.4 | 675 | 1107 | 1341 | 1386 | 1404 |
| 260 | 112 | 198 | | | | | | 807 | 982 | 1175 | 1224 | 1240 |
| 250 | 43.3 | 90.5 | | | | | | 732 | 861 | 1019 | 1065 | 1066 |
| 240 | | 40.2 | | | | | | 652 | 745 | 861 | 917 | 917 |
| 230 | | | | | | | | 565 | 657 | 729 | 781 | 794 |
| 220 | | | | | | | | 477 | 573 | 625 | 667 | 681 |
| 210 | | | | | | | | 380 | 508 | 540 | 573 | 601 |
| 200 | | | | | | | | 286 | 439 | 471 | 508 | 527 |
| 190 | | | | | | | | 205 | 368 | 406 | 446 | 472 |
| 180 | | | | | | | | 154 | 310 | 351 | 394 | 427 |
| 170 | | | | | | | | 123 | 254 | 300 | 348 | 385 |
| 160 | | | | | | | | 101 | 211 | 258 | 307 | 344 |
| 150 | | | | | | | | 88.3 | 179 | 219 | 272 | 302 |
| 140 | | | | | | | | 81.2 | 156 | 190 | 237 | 262 |
| 130 | | | | | | | | 76.7 | 140 | 165 | 202 | 232 |
| 120 | | | | | | | | 72.3 | 129 | 152 | 184 | 210 |
| 110 | | | | | | | | | 112 | 124 | 124 | 127 |

| KM | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 420 | | | | | | | | | | | | | 1583 | 1669 | |
| 410 | | | | | | | | | | | | | 1580 | 1668 | 1669 |
| 406 | | | | | | | | | | | | | 1561 | 1653 | 1666 |
| 390 | | | | | | | | | | | | | 1615 | 1644 | 1555 |
| 380 | | | | | | | | | | | | | 1876 | 1640 | 1527 |
| 370 | 2500 | | | | | | | | | | | | 2064 | 1876 | 1638 |
| 360 | 2500 | | | | | | | | | | | | 2059 | 1865 | 1621 |
| 350 | 2482 | 2294 | 2314 | 2140 | | | | | | | | | 2037 | 1837 | 1583 |
| 340 | 2434 | 2283 | 2238 | 2073 | | | | | | | | | 1996 | 1794 | 1529 |
| 330 | 2355 | 2181 | 2137 | 1980 | | | | | | | | | 1936 | 1735 | 1455 |
| 320 | 2240 | 2057 | 2018 | 1870 | | | | | | | | | 1855 | 1659 | 1360 |
| 310 | 2103 | 1907 | 1872 | 1747 | | | | | | | | | 1764 | 1565 | 1251 |
| 300 | 1942 | 1735 | 1702 | 1604 | | | | | | | | | 1654 | 1466 | 1119 |
| 290 | 1789 | 1556 | 1540 | 1446 | | | | | | | | | 1515 | 1341 | 975 |
| 280 | 1593 | 1376 | 1374 | 1298 | | | | | | | | | 1381 | 1216 | 814 |
| 270 | 1411 | 1175 | 1182 | 1143 | | | | | | | | | 1240 | 1096 | 661 |
| 260 | 1221 | 1004 | 1019 | 1004 | | | | | | | | | 975 | 807 | 310 |
| 250 | 1035 | 861 | 875 | 875 | | | | | | | | | 834 | 679 | 179 |
| 240 | 903 | 745 | 764 | 764 | | | | | | | | | 716 | 540 | 97.2 |
| 230 | 781 | 657 | 665 | 670 | | | | | | | | | 608 | 417 | 40.2 |
| 220 | 679 | 587 | 594 | 594 | | | | | | | | | 506 | 318 | |
| 210 | 591 | 524 | 536 | 527 | | | | | | | | | 417 | 240 | |
| 200 | 514 | 484 | 490 | 467 | | | | | | | | | 348 | 189 | |
| 190 | 462 | 457 | 450 | 417 | | | | | | | | | 291 | 147 | |
| 180 | 413 | 421 | 413 | 375 | | | | | | | | | 245 | 117 | |
| 170 | 373 | 368 | 373 | 331 | | | | | | | | | 209 | 95.5 | |
| 160 | 320 | 286 | 323 | 286 | | | | | | | | | 174 | 81.3 | |
| 150 | 272 | 240 | 290 | 251 | | | | | | | | | 151 | 73.1 | |
| 140 | 232 | 219 | 251 | 227 | | | | | | | | | 136 | 68.7 | |
| 130 | 212 | 210 | 217 | 212 | | | | | | | | | 125 | 65.4 | |
| 120 | 200 | 201 | 203 | 200 | | | | | | | | | 118 | 62.0 | |
| 110 | | R3.8 | 49.6 | 5.6 | | | | | | | | | 112 | 12.4 | |

ELECTRON DENSITY

PUERTO RICO

60 W

2 MAY 1959

ELECTRON DENSITY

PUERTO RICO

Q W

2 MAY 1959

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

ELECTRON DENSITY

PUERTO RICO 60 W 3 MAY 1959
 TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100
 DUAL
 WMIN 243 255 256 236 268 265 288 109 110 110 110 110

ELECTRON DENSITY

| PUERTO RICO | | 60 W | | | | | | | | | | 3 MAY 1959 | |
|-------------|------|------|------|------|------|------|------|------|------|------|-------|------------|-------------------------------|
| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | |
| OUAL | | | | | | | .8 | | | | | | |
| HMIN | 110 | 110 | 110 | 110 | 110 | 110 | 240 | 255 | 274 | 280 | 285 | 275 | |
| HMAX | 352 | 357 | 362 | 364 | 356 | 353 | 370 | 404 | 409 | 408 | 416 | 367 | |
| SHMAX | 2508 | 2567 | 2614 | 2550 | 2207 | 1887 | 1261 | 1325 | 1186 | 1125 | 1131 | 1009 | |
| KM | | | | | | | | | | | | | |
| 420 | | | | | | | | | | | | | 1528 |
| 410 | | | | | | | | | | | | | 1523 |
| 400 | | | | | | | | | | | | | 1445 1465 1519 1494 |
| 390 | | | | | | | | | | | | | 1430 1434 1482 1438 1528 |
| 380 | | | | | | | | | | | | | 1400 1383 1411 1357 1520 |
| 370 | | | | | | | | | | | | | 1500 1353 1304 1316 1251 1483 |
| 360 | 2227 | 2294 | 2259 | 2176 | 1969 | 1756 | 1490 | 1283 | 1208 | 1191 | 1111 | 1411 | |
| 350 | 2226 | 2286 | 2243 | 2107 | 1964 | 1755 | 1460 | 1205 | 1096 | 1065 | 946 | 1316 | |
| 340 | 2205 | 2251 | 2203 | 2061 | 1939 | 1738 | 1397 | 1115 | 960 | 896 | 754 | 1184 | |
| 330 | 2151 | 2186 | 2135 | 1998 | 1884 | 1701 | 1323 | 1004 | 794 | 735 | 573 | 1004 | |
| 320 | 2059 | 2085 | 2049 | 1915 | 1808 | 1636 | 1230 | 875 | 631 | 557 | 362 | 794 | |
| 310 | 1952 | 1962 | 1932 | 1808 | 1717 | 1556 | 1131 | 742 | 477 | 362 | 198 | 573 | |
| 300 | 1826 | 1816 | 1799 | 1682 | 1606 | 1456 | 1016 | 596 | 310 | 179 | 974.2 | 3359 | |
| 290 | 1669 | 1650 | 1636 | 1556 | 1474 | 1341 | 875 | 446 | 161 | 77.6 | 43.3 | 127 | |
| 280 | 1519 | 1478 | 1465 | 1411 | 1341 | 1216 | 716 | 286 | 54.8 | 3.0 | | 49.6 | |
| 270 | 1341 | 1308 | 1309 | 1240 | 1191 | 1096 | 573 | 161 | | | | | |
| 260 | 1198 | 1143 | 1111 | 1080 | 1050 | 950 | 403 | 49.6 | | | | | |
| 250 | 1065 | 975 | 960 | 950 | 903 | 820 | 219 | | | | | | |
| 240 | 932 | 834 | 820 | 834 | 774 | 691 | 12.4 | | | | | | |
| 230 | 824 | 716 | 707 | 735 | 661 | 573 | | | | | | | |
| 220 | 732 | 636 | 616 | 643 | 565 | 477 | | | | | | | |
| 210 | 650 | 569 | 547 | 567 | 492 | 403 | | | | | | | |
| 200 | 573 | 522 | 492 | 502 | 432 | 341 | | | | | | | |
| 190 | 502 | 477 | 442 | 441 | 380 | 286 | | | | | | | |
| 180 | 442 | 439 | 397 | 389 | 335 | 244 | | | | | | | |
| 170 | 397 | 401 | 354 | 344 | 296 | 205 | | | | | | | |
| 160 | 354 | 358 | 320 | 310 | 262 | 176 | | | | | | | |
| 150 | 314 | 321 | 286 | 279 | 228 | 152 | | | | | | | |
| 140 | 278 | 281 | 245 | 246 | 198 | 134 | | | | | | | |
| 130 | 243 | 243 | 217 | 217 | 177 | 125 | | | | | | | |
| 120 | 224 | 221 | 205 | 202 | 164 | 116 | | | | | | | |
| 110 | 49.6 | 46.2 | 49.0 | 49.6 | 40.2 | 40.2 | | | | | | | |

ELECTRON DENSITY

PUERTO RICO 60 W 4 MAY 1959
TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

| DUAL | | | | | | | S | A | A | A |
|-------|------|------|------|------|------|------|------|------|------|------|
| HMIN | 257 | 234 | 242 | 248 | 254 | 262 | 269 | 110 | 112 | 109 |
| HMAX | 363 | 365 | 361 | 368 | 398 | 400 | 367 | 319 | 351 | 339 |
| SHMAX | 932 | 937 | 671 | 581 | 590 | 589 | 538 | 876 | 1701 | 1735 |
| KM | | | | | | | | | | 2240 |
| 400 | | | | | 698 | 716 | | | | |
| 390 | | | | | 694 | 712 | | | | |
| 380 | | | | | 681 | 697 | | | | |
| 370 | 1500 | 1191 | 939 | 794 | 658 | 673 | 814 | | | |
| 360 | 1499 | 1189 | 939 | 789 | 623 | 643 | 810 | | | 1907 |
| 350 | 1471 | 1172 | 928 | 772 | 582 | 598 | 793 | | | 1903 |
| 340 | 1407 | 1139 | 898 | 739 | 529 | 546 | 762 | | | 1881 |
| 330 | 1308 | 1090 | 851 | 695 | 471 | 477 | 716 | | | 1840 |
| 320 | 1184 | 1027 | 794 | 634 | 403 | 396 | 657 | 960 | 1322 | 1530 |
| 310 | 1004 | 939 | 707 | 557 | 335 | 310 | 562 | 955 | 1288 | 1495 |
| 300 | 794 | 820 | 616 | 467 | 262 | 226 | 446 | 937 | 1245 | 1446 |
| 290 | 540 | 679 | 508 | 380 | 198 | 143 | 310 | 906 | 1189 | 1376 |
| 280 | 274 | 540 | 389 | 274 | 135 | 79.7 | 152 | 665 | 1129 | 1295 |
| 270 | 112 | 389 | 262 | 161 | 75.6 | 44.9 | 12.4 | 807 | 1057 | 1205 |
| 260 | 30.9 | 240 | 135 | 79.7 | 40.2 | | | 739 | 969 | 1107 |
| 250 | | | 112 | 54.8 | 21.7 | | | 652 | 875 | 975 |
| 240 | | | 49.6 | | | | | 551 | 774 | 848 |
| 230 | | | | | | | | 446 | 679 | 716 |
| 220 | | | | | | | | 344 | 582 | 596 |
| 210 | | | | | | | | 262 | 487 | 498 |
| 200 | | | | | | | | 198 | 408 | 423 |
| 190 | | | | | | | | 148 | 335 | 362 |
| 180 | | | | | | | | 115 | 268 | 300 |
| 170 | | | | | | | | 89.2 | 219 | 246 |
| 160 | | | | | | | | 77.2 | 170 | 175 |
| 150 | | | | | | | | 70.5 | 140 | 148 |
| 140 | | | | | | | | 67.6 | 125 | 132 |
| 130 | | | | | | | | 64.7 | 118 | 123 |
| 120 | | | | | | | | 61.8 | 104 | 117 |
| 110 | | | | | | | | 59.2 | 97.2 | 100 |

ELECTRON DENSITY

| PUERTO RICO | | 60 W | | | | | | | | | | 4 MAY 1959 | |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------------|--------------------------|
| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | |
| QUAL | N | | | | | | R | | | | | | |
| HMIN | 112 | 112 | 110 | 110 | 110 | 114 | 115 | 252 | 291 | 323 | 328 | 305 | |
| HMAX | 364 | 369 | 364 | 357 | 363 | 363 | 370 | 411 | 440 | 460 | 476 | 456 | |
| SHMAX | 2340 | 2454 | 2286 | 2226 | 2076 | 1912 | 1548 | 1317 | 1104 | 1153 | 1289 | 1261 | |
| KM | | | | | | | | | | | | | |
| 480 | | | | | | | | | | | | | 1556 |
| 470 | | | | | | | | | | | | | 1552 |
| 460 | | | | | | | | | | | | | 1446 1528 1500 |
| 450 | | | | | | | | | | | | | 1435 1483 1497 |
| 440 | | | | | | | | | | | | | 1316 1400 1414 1474 |
| 430 | | | | | | | | | | | | | 1307 1341 1330 1430 |
| 420 | | | | | | | | | | | | | 1316 1280 1257 1216 1365 |
| 410 | | | | | | | | | | | | | 1316 1234 1154 1080 1277 |
| 400 | | | | | | | | | | | | | 1308 1169 1038 932 1167 |
| 390 | | | | | | | | | | | | | 1288 1086 903 754 1038 |
| 380 | | | | | | | | | | | | | 1256 982 754 591 903 |
| 370 | 1938 | 2000 | 2000 | | 1786 | 1612 | 1341 | 1208 | 861 | 608 | 403 | 754 | |
| 360 | 1936 | 1992 | 1998 | 1907 | 1785 | 1611 | 1335 | 1154 | 729 | 432 | 240 | 593 | |
| 350 | 1917 | 1963 | 1975 | 1902 | 1770 | 1599 | 1316 | 1088 | 596 | 286 | 127 | 432 | |
| 340 | 1686 | 1913 | 1926 | 1876 | 1735 | 1574 | 1284 | 1004 | 457 | 143 | 63.8 | 274 | |
| 330 | 1813 | 1829 | 1842 | 1830 | 1682 | 1530 | 1240 | 909 | 323 | 54.8 | 12.4 | 143 | |
| 320 | 1737 | 1732 | 1739 | 1759 | 1599 | 1478 | 1179 | 804 | 198 | | | | 77.6 |
| 310 | 1635 | 1623 | 1618 | 1669 | 1506 | 1414 | 1111 | 691 | 112 | | | | 33.2 |
| 300 | 1515 | 1501 | 1487 | 1556 | 1400 | 1331 | 1035 | 573 | 53.1 | | | | |
| 290 | 1381 | 1368 | 1341 | 1433 | 1270 | 1228 | 952 | 457 | | | | | |
| 280 | 1240 | 1228 | 1182 | 1203 | 1131 | 1107 | 859 | 335 | | | | | |
| 270 | 1111 | 1107 | 1027 | 1159 | 1004 | 990 | 770 | 209 | | | | | |
| 260 | 975 | 975 | 889 | 1019 | 875 | 875 | 679 | 90.5 | | | | | |
| 250 | 854 | 854 | 768 | 889 | 764 | 754 | 562 | | | | | | |
| 240 | 747 | 754 | 672 | 768 | 661 | 643 | 487 | | | | | | |
| 230 | 665 | 665 | 602 | 661 | 573 | 549 | 389 | | | | | | |
| 220 | 602 | 601 | 550 | 582 | 502 | 462 | 302 | | | | | | |
| 210 | 550 | 550 | 508 | 519 | 446 | 400 | 240 | | | | | | |
| 200 | 504 | 499 | 469 | 468 | 397 | 346 | 198 | | | | | | |
| 190 | 464 | 451 | 432 | 426 | 354 | 300 | 169 | | | | | | |
| 180 | 412 | 409 | 393 | 385 | 317 | 259 | 141 | | | | | | |
| 170 | 366 | 372 | 358 | 344 | 286 | 225 | 121 | | | | | | |
| 160 | 325 | 341 | 321 | 310 | 253 | 198 | 104 | | | | | | |
| 150 | 289 | 306 | 278 | 280 | 222 | 173 | 92.1 | | | | | | |
| 140 | 253 | 269 | 240 | 250 | 196 | 154 | 82.8 | | | | | | |
| 130 | 231 | 238 | 215 | 221 | 175 | 139 | 77.6 | | | | | | |
| 120 | 205 | 219 | 201 | 202 | 163 | 129 | 72.5 | | | | | | |
| 110 | 187 | 194 | 176 | 182 | 142 | 104 | 62.5 | | | | | | |

ELECTRON DENSITY

PUERTO RICO 60 W 5 MAY 1959

| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| QUAL | | | | | | | B | | | A | | |
| HMIN | 297 | 236 | 203 | 294 | | 221 | 299 | 106 | 110 | | 109 | 110 |
| HMAX | 414 | 334 | 400 | 412 | | 417 | 436 | 363 | 327 | | 331 | 337 |
| MEAN | 350 | 285 | 250 | 310 | | 320 | 350 | 160 | 170 | | 165 | 170 |
| STD | 100 | 80 | 60 | 80 | | 80 | 100 | 50 | 50 | | 50 | 50 |

| SIMAX | 1187 | 1112 | 1183 | 850 | 795 | 700 | 1394 | 1836 | 2281 | 2472 | |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| KM | | | | | | | | | | | |
| 440 | | | | | | | 774 | | | | |
| 430 | | | | | | | 772 | | | | |
| 420 | 1816 | | 1143 | | 735 | | 763 | | | | |
| 410 | 1812 | | 1142 | | 733 | | 745 | | | | |
| 400 | 1773 | | 960 | 1130 | | 723 | 719 | | | | |
| 390 | 1690 | | 957 | 1100 | | 700 | 683 | | | | |
| 380 | 1568 | | 948 | 1054 | | 672 | 643 | | | | |
| 370 | 1394 | | 933 | 982 | | 639 | 591 | 1096 | | | |
| 360 | 1201 | | 912 | 896 | | 599 | 534 | 1095 | | | |
| 350 | 1004 | | 887 | 781 | | 554 | 462 | 1089 | | | |
| 340 | 774 | 1756 | 856 | 643 | 508 | 389 | 1075 | | 2327 | 2327 | |
| 330 | 477 | 1753 | 816 | 498 | 457 | 302 | 1052 | 1816 | 2327 | 2327 | |
| 320 | 240 | 1720 | 769 | 362 | 408 | 198 | 1161 | 1811 | 2305 | 2286 | |
| 310 | 97.2 | 1650 | 721 | 198 | 362 | 112 | 976 | 1786 | 2246 | 2222 | |
| 300 | 30.9 | 1543 | 661 | 60.0 | 318 | 12.4 | 934 | 1741 | 2148 | 2125 | |
| 290 | | 1411 | 601 | | 278 | | 889 | 1676 | | 2014 | 2004 |
| 280 | | 1221 | 534 | | 240 | | 834 | 1584 | | 1838 | 1855 |
| 270 | | 982 | 465 | | 198 | | 777 | 1479 | | 1650 | 1855 |
| 260 | | 643 | 396 | | 161 | | 710 | 1354 | | 1446 | 1501 |
| 250 | | 310 | 327 | | 123 | | 643 | 1201 | | 1260 | 1321 |
| 240 | | 714 | 255 | | 79.7 | | 565 | 1035 | | 1073 | 1127 |
| 230 | | 179 | | | 46.5 | | 485 | 889 | | 903 | 960 |
| 220 | | 97.2 | | | | 403 | 729 | | | 768 | |
| 210 | | 44.9 | | | | 329 | 585 | | | 643 | |
| 200 | | | | | | 268 | 457 | | | 549 | |
| 190 | | | | | | 214 | 362 | | | 471 | |
| 180 | | | | | | 165 | 286 | | | 412 | |
| 170 | | | | | | 132 | 232 | | | 357 | |
| 160 | | | | | | 110 | 192 | | | 317 | |
| 150 | | | | | | 98.4 | 163 | | | 278 | 294 |
| 140 | | | | | | 92.0 | 143 | | | 243 | 260 |
| 130 | | | | | | 87.8 | 136 | | | 216 | 235 |
| 120 | | | | | | 79.7 | 128 | | | 200 | 219 |
| 110 | | | | | | 54.8 | 12.4 | | | 71.4 | 144 |

ELECTRON DENSITY

PUERTO RICO 60 W 5 MAY 1959

| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| DUAL | A | | | | | | B | | | | | |
| HMIN | 110 | 110 | 110 | 110 | 108 | 110 | 239 | 247 | 275 | 275 | 258 | |
| HMAX | 356 | 352 | 356 | 354 | 347 | 360 | 379 | 415 | 413 | 386 | 370 | |
| SHMAX | 2668 | 2571 | 2653 | 2472 | 2276 | 2282 | 1465 | 1538 | 1346 | 1166 | 1062 | |
| KM | | | | | | | | | | | | |
| 420 | | | | | | | 1612 | 1697 | | | | |
| 410 | | | | | | | 1610 | 1696 | | | | |
| 400 | | | | | | | 1594 | 1677 | | | | |
| 390 | | | | | | | 1564 | 1633 | 1786 | | | |
| 380 | | | | | | | 1669 | 1512 | 1564 | 1779 | | |
| 370 | | | | | | | 1661 | 1457 | 1474 | 1738 | 1612 | |
| 360 | 2327 | 2396 | 2396 | 2260 | 2128 | | 1633 | 1376 | 1354 | 1657 | 1594 | |
| 350 | 2323 | 2395 | 2390 | 2257 | 2227 | 2117 | 1586 | 1281 | 1208 | 1542 | 1539 | |
| 340 | 2293 | 2370 | 2354 | 2299 | 2219 | 2082 | 1514 | 1157 | 1050 | 1394 | 1455 | |
| 330 | 2295 | 2310 | 2283 | 2168 | 2179 | 2023 | 1425 | 1004 | 834 | 1182 | 1341 | |
| 320 | 2149 | 2025 | 2181 | 2064 | 2091 | 1933 | 1319 | 834 | 608 | 917 | 1191 | |
| 310 | 2032 | 2075 | 2046 | 1934 | 1982 | 1830 | 1198 | 679 | 375 | 643 | 982 | |
| 300 | 1892 | 1907 | 1889 | 1799 | 1846 | 1708 | 1050 | 524 | 209 | 417 | 774 | |
| 290 | 1735 | 1727 | 1719 | 1636 | 1685 | 1556 | 889 | 362 | 97•2 | 198 | 540 | |
| 280 | 1556 | 1537 | 1537 | 1478 | 1524 | 1394 | 698 | 219 | 43•3 | 49•6 | 262 | |
| 270 | 1394 | 1359 | 1341 | 1312 | 1359 | 1212 | 508 | 127 | | | 112 | |
| 260 | 1224 | 1175 | 1184 | 1159 | 1167 | 1050 | 323 | 67•6 | | | 26•3 | |
| 250 | 1080 | 1019 | 1035 | 1004 | 990 | 875 | 161 | 19•3 | | | | |
| 240 | 932 | 875 | 903 | 875 | 834 | 716 | 12•4 | | | | | |
| 230 | 814 | 764 | 794 | 754 | 704 | 596 | | | | | | |
| 220 | 716 | 672 | 701 | 665 | 599 | 492 | | | | | | |
| 210 | 637 | 608 | 622 | 582 | 516 | 410 | | | | | | |
| 200 | 573 | 554 | 549 | 508 | 446 | 342 | | | | | | |
| 190 | 519 | 508 | 487 | 446 | 394 | 286 | | | | | | |
| 180 | 462 | 457 | 432 | 394 | 344 | 240 | | | | | | |
| 170 | 412 | 408 | 385 | 348 | 300 | 203 | | | | | | |
| 160 | 362 | 362 | 344 | 310 | 268 | 164 | | | | | | |
| 150 | 314 | 314 | 310 | 281 | 243 | 141 | | | | | | |
| 140 | 270 | 279 | 276 | 251 | 209 | 127 | | | | | | |
| 130 | 240 | 246 | 243 | 219 | 179 | 121 | | | | | | |
| 120 | 224 | 226 | 225 | 203 | 167 | 115 | | | | | | |
| 110 | 40•2 | 112 | 49•6 | 49•6 | 71•8 | 12•4 | | | | | | |

ELECTRON DENSITY

PUERTO RICO 60 W 6 MAY 1959

| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| QUAL | | | | | | | B | A | | | E | |
| HMIN | 262 | 257 | 252 | 242 | 241 | 216 | 219 | 114 | 110 | 109 | 109 | |
| HMAX | 375 | 354 | 342 | 329 | 326 | 321 | 307 | 301 | 302 | 330 | 351 | |

ELECTRON DENSITY

PUERTO RICO 60 W. 6 MAY 1959

ELECTRON OENSITY

PUERTO RICO

60 W

7 MAY 1959

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

| | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|------|------|------|---|---|
| OUAL | A | A | A | A | A | A | A | A | A | A | A |
| HMIN | 241 | 221 | 204 | 240 | 253 | 248 | 110 | 110 | 112 | | |
| HMAX | 350 | 326 | 346 | 361 | 360 | 348 | 340 | 346 | 369 | | |
| SHMAX | 889 | 733 | 686 | 528 | 407 | 501 | 1893 | 2103 | 2543 | | |

KM

370 716 2193

360 716 661 2183

350 1367 854 709 652 735 1876 2146 410

340 1352 852 690 624 731 1556 1872 2082 400

330 1307 1167 837 659 583 715 1549 1847 1986 390

320 1230 1156 809 618 521 686 1531 1798 1866 380

310 1131 1118 768 560 446 647 1500 1719 1727 370

300 990 1050 716 485 362 591 1457 1623 1572 360

290 820 960 643 398 262 516 1397 1507 1411 350

280 643 834 565 310 161 427 1333 1371 1240 340

270 432 679 477 219 83.8 298 1256 1228 1065 330

260 219 524 380 127 43.3 152 1162 1107 932 320

250 77.6 310 294 63.8 26.3 1061 971 814 310

240 143 209 3.1 960 844 716 300 1907 1685 1474 1269

230 65.7 127 844 735 643 290 1692 1501 1327 1145

220 71.4 726 650 588 280 1468 1324 1175 1004

210 40.2 619 573 544 270 1260 1127 1050 886

200 524 519 500 260 1073 975 917 768 152 12.4

190 439 467 462 250 917 834 804 670 45.6

180 373 417 421 240 784 726 707 591

170 320 367 377 230 694 643 616 514

160 272 310 331 220 615 579 540 453

150 233 258 286 210 553 524 477 396

140 198 219 240 200 200 498 472 417 341

130 177 195 214 190 446 417 366 286

120 164 184 200 180 407 366 323 236

110 60.0 71.4 170 372 318 286 192

100 160 339 274 253 161

90 150 310 243 224 142

80 140 278 223 196 130

70 130 243 210 174 122

60 120 221 198 162 116 40.2

50 110

ELECTRON OENSITY

PUERTO RICO

60 W

7 MAY 1959

TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

| | | | | | | | | | | | |
|-------|------|---|------|------|------|---|------|------|------|------|------|
| OUAL | A | A | A | A | A | A | A | A | A | A | A |
| HMIN | 111 | | 112 | 113 | 110 | | 245 | 259 | 281 | 280 | 289 |
| HMAX | 354 | | 372 | 380 | 397 | | 396 | 424 | 406 | 411 | 420 |
| SHMAX | 2582 | | 2739 | 2589 | 2650 | | 1824 | 1953 | 1307 | 1323 | 1227 |

KM

430 1969

420 1967 1816 1669

410 1951 1876 1815 1653

400 2128 1969 1917 1869 1796 1607

390 2123 1965 1866 1827 1744 1528

380 2430 2128 2099 1942 1796 1747 1657 1431

370 2430 2117 2055 1899 1709 1631 1542 1283

360 2409 2085 1985 1835 1607 1483 1394 1143

350 2357 2032 1907 1751 1487 1281 1201 960

340 2269 1942 1806 1643 1341 1073 1004 735

330 2146 1841 1682 1515 1175 834 774 524

320 2004 1727 1556 1371 982 573 524 323

310 1855 1608 1407 1201 754 335 286 161

300 1907 1685 1474 1004 557 143 143 71.4

290 1692 1474 1269 1004 557 143 143 71.4

280 1468 1254 1145 794 335 60.0 63.8 12.4

270 1324 1127 1050 573 179 3.1

260 1260 1127 1050 886 362 77.6

250 975 917 768 152 12.4

240 834 804 670 45.6

230 726 707 591

220 643 616 514

210 579 540 453

200 524 477 396

190 472 417 341

180 417 366 286

170 366 323 236

160 318 286 192

150 274 253 161

140 243 224 142

130 223 196 130

120 210 174 122

110 198 162 116

100 186 143 77.6

90 1215 1117 909 993

80 1208 1078 807 936

70 1185 1027 691 867

60 1161 1050 1070

50 1145 990 1039

40 1119 1114 1096

30 1092 1089

20 1061 1050 1070

10 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 1185 1027 691 867

600 1161 1050 1070

500 1145

400 1119 1114 1096

300 1092 1089

200 1061 1050 1070

100 1145

1000 896 403 679

900 1215 1117 909 993

800 1208 1078 807 936

700 118

ELECTRON DENSITY

| PUERTO RICO | | | | 60 W | | | | 9 MAY 1955 | | | | |
|-------------|------|------|------|------|------|------|------|------------|------|------|------|------|
| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
| QUAL | A | | | | | | | 8 | A | | | A |
| HMIN | 287 | 289 | 244 | 219 | 253 | 264 | 250 | 110 | 109 | 109 | | |
| HMAX | 425 | 411 | 369 | 373 | 371 | 389 | 378 | 317 | 310 | 354 | | |
| HMAX | 772 | 655 | 661 | 607 | 357 | 390 | 408 | 879 | 1013 | 1640 | | |

ELECTRON DENSITY

ELECTRON DENSITY

| PUERTO RICO | | | | 60 W | | | | 10 MAY 1955 | | | | |
|-------------|------|------|------|------|------|------|------|-------------|------|------|------|------|
| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
| QUAL | A | J | J | | | S | | A | A | B | B | |
| HMIN | 273 | 248 | 247 | 259 | 284 | 252 | 256 | 115 | 110 | 110 | | |
| HMAX | 384 | 384 | 403 | 393 | 418 | 417 | 395 | 380 | 334 | 380 | | |
| HMAX | 685 | 670 | 650 | 481 | 494 | 459 | 569 | 1499 | 1542 | 2146 | | |

ELECTRON DENSITY

ELECTRON DENSITY

PUERTO RICO 60 W 11 MAY 1959

| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|
| S A A | | | | | | | | | | | | |
| QUAL | | | | | | | | | | | | |
| HMIN 275 246 219 237 290 295 270 109 109 108 | | | | | | | | | | | | |
| HMAX 388 365 334 374 434 430 404 340 340 347 | | | | | | | | | | | | |
| SHMAX 818 806 582 555 471 486 596 1111 1395 1632 | | | | | | | | | | | | |
| KM | | | | | | | | | | | | |
| 440 573 | | | | | | | | | | | | |
| 430 573 608 | | | | | | | | | | | | |
| 420 564 603 | | | | | | | | | | | | |
| 410 547 589 643 | | | | | | | | | | | | |
| 400 520 566 642 | | | | | | | | | | | | |
| 390 1215 485 532 636 | | | | | | | | | | | | |
| 380 1207 698 442 490 623 | | | | | | | | | | | | |
| 370 1175 1119 697 389 441 602 | | | | | | | | | | | | |
| 360 1116 1117 687 341 278 576 | | | | | | | | | | | | |
| 350 1038 1096 667 286 316 544 | | | | | | | | | | | | |
| 340 928 1055 896 635 226 248 504 982 1119 1313 | | | | | | | | | | | | |
| 330 794 997 894 593 170 179 462 977 1115 1301 | | | | | | | | | | | | |
| 320 631 909 875 540 112 119 408 960 1102 1279 | | | | | | | | | | | | |
| 310 462 807 841 471 68.6 67.6 351 927 1080 1248 | | | | | | | | | | | | |
| 300 286 679 778 403 42.5 33.2 292 888 1050 1205 | | | | | | | | | | | | |
| 290 135 557 698 327 226 843 1012 1161 | | | | | | | | | | | | |
| 280 49.6 417 596 248 143 788 960 1096 | | | | | | | | | | | | |
| 270 262 477 170 12.4 729 903 1013 | | | | | | | | | | | | |
| 260 119 348 104 665 840 926 | | | | | | | | | | | | |
| 250 40.2 219 60.0 601 770 824 | | | | | | | | | | | | |
| 240 112 19.3 540 701 716 | | | | | | | | | | | | |
| 230 56.5 482 622 625 | | | | | | | | | | | | |
| 220 5.5 423 549 540 | | | | | | | | | | | | |
| 210 362 477 465 | | | | | | | | | | | | |
| 200 298 412 406 | | | | | | | | | | | | |
| 190 240 355 357 | | | | | | | | | | | | |
| 180 191 300 314 | | | | | | | | | | | | |
| 170 156 249 272 | | | | | | | | | | | | |
| 160 133 212 236 | | | | | | | | | | | | |
| 150 114 184 195 | | | | | | | | | | | | |
| 140 99.8 161 168 | | | | | | | | | | | | |
| 130 92.6 143 157 | | | | | | | | | | | | |
| 120 86.7 134 150 | | | | | | | | | | | | |
| 110 40.2 83.8 127 | | | | | | | | | | | | |

ELECTRON DENSITY

PUERTO RICO 60 W 11 MAY 1959

| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|
| OUAL A A | | | | | | | | | | | | |
| HMIN 110 113 110 110 110 110 110 110 110 110 110 110 110 | | | | | | | | | | | | |
| HMAX 385 398 383 402 396 380 413 434 440 435 435 435 435 | | | | | | | | | | | | |
| SHMAX 2214 2429 2097 2301 2211 1649 1374 1274 1263 1274 1237 1237 1237 | | | | | | | | | | | | |
| KM | | | | | | | | | | | | |
| 440 1446 1612 1697 1640 | | | | | | | | | | | | |
| 430 1445 1599 1694 1637 | | | | | | | | | | | | |
| 420 1316 1429 1561 1610 | | | | | | | | | | | | |
| 410 1306 1341 1404 1522 1472 | | | | | | | | | | | | |
| 400 1756 1611 1556 1306 1341 1404 1522 1472 | | | | | | | | | | | | |
| 390 1612 1751 1583 1603 1554 1285 1263 1291 1420 1365 | | | | | | | | | | | | |
| 380 1610 1733 1583 1542 1473 1252 1173 1157 1226 | | | | | | | | | | | | |
| 370 1595 1700 1570 1551 1466 1204 1073 990 1080 1065 | | | | | | | | | | | | |
| 360 1567 1649 1534 1503 1489 1153 946 814 903 875 | | | | | | | | | | | | |
| 350 1515 1582 1478 1456 1406 1088 807 625 716 679 | | | | | | | | | | | | |
| 340 1458 1505 1420 1390 1388 1354 1004 667 432 477 477 | | | | | | | | | | | | |
| 330 1386 1418 1356 1314 1283 917 524 274 262 274 274 | | | | | | | | | | | | |
| 320 1304 1319 1274 1222 1255 1201 814 375 135 112 112 | | | | | | | | | | | | |
| 310 1211 1211 1182 1133 1169 1105 716 240 54.8 54.8 54.8 | | | | | | | | | | | | |
| 300 1105 1109 110 110 110 110 110 110 110 110 110 110 | | | | | | | | | | | | |
| 290 109 109 109 109 109 109 109 109 109 109 109 109 | | | | | | | | | | | | |
| 280 1087 1325 2070 1328 999 777 449 462 544 478 478 478 | | | | | | | | | | | | |
| ELECTRON DENSITY | | | | | | | | | | | | |

PUERTO RICO 60 W 12 MAY 1959

| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|
| S B W | | | | | | | | | | | | |
| QUAL | | | | | | | | | | | | |
| HMIN 297 244 212 318 231 314 279 116 110 108 107 109 | | | | | | | | | | | | |
| HMAX 414 358 343 476 399 470 502 448 401 390 431 415 | | | | | | | | | | | | |
| SHMAX 1158 1114 859 814 728 669 1177 1029 1194 1166 | | | | | | | | | | | | |
| KM | | | | | | | | | | | | |
| 510 661 | | | | | | | | | | | | |
| 500 661 | | | | | | | | | | | | |
| 490 655 | | | | | | | | | | | | |
| 480 875 | | | | | | | | | | | | |
| 470 873 | | | | | | | | | | | | |
| 460 86 | | | | | | | | | | | | |

ELECTRON OENSITY

ELECTRON OENSITY

| PUERTO RICO | | | | | | | | | | | 60 W | | | | | | | | | | | 13 MAY 1959 | | | | |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|-------------|------|------|------|------|
| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 | TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | |
| QUAL | | | | | | | | | | | | | QUAL | | | | | | | | | | | | | |
| HMIN | 256 | 253 | 282 | 289 | 283 | 265 | 280 | 112 | 109 | 110 | 109 | 110 | HMIN | 110 | 110 | 110 | 108 | 110 | 109 | 113 | 228 | 285 | 292 | 270 | 297 | |
| HMAX | 376 | 391 | 435 | 424 | 427 | 428 | 389 | 304 | 362 | 408 | 359 | 364 | HMAX | 350 | 372 | 373 | 368 | 383 | 381 | 374 | 427 | 436 | 425 | 417 | 430 | |
| SHMAX | 427 | 408 | 388 | 349 | 344 | 329 | 361 | 661 | 1145 | 1778 | 1544 | 1886 | SHMAX | 1886 | 2060 | 1870 | 1706 | 1800 | 1674 | 1354 | 1179 | 1111 | 1111 | 1079 | 1010 | |
| KM | | | | | | | | | | | | | KM | | | | | | | | | | | | | |
| 440 | | 417 | | | | | | | | | | | 440 | | | | | | | | | | | | | |
| 430 | | 416 | 432 | 389 | 348 | | | | | | | | 430 | | | | | | | | | | | | | |
| 420 | | 409 | 431 | 388 | 341 | | | | | | | | 420 | | | | | | | | | | | | | |
| 410 | | 398 | 425 | 382 | 342 | | | | | | | | 410 | | | | | | | | | | | | | |
| 400 | | 477 | 380 | 413 | 372 | 331 | | | | | | | 400 | | | | | | | | | | | | | |
| 390 | | 477 | 357 | 394 | 356 | 318 | 446 | | | | | | 390 | | | | | | | | | | | | | |
| 380 | 608 | 473 | 333 | 369 | 335 | 301 | 444 | | | | | | 380 | 1500 | 1341 | 1315 | 1316 | 1215 | 1014 | 1027 | 1205 | 1191 | 1050 | | | |
| 370 | 606 | 463 | 303 | 339 | 312 | 279 | 437 | 735 | 939 | | | | 370 | 1500 | 1341 | 1290 | 1306 | 1308 | 1214 | 953 | 917 | 1107 | 1124 | 946 | | |
| 360 | 592 | 446 | 269 | 298 | 282 | 254 | 424 | 735 | 926 | 1119 | 1419 | | 360 | 1492 | 1332 | 1288 | 1285 | 1281 | 1201 | 882 | 781 | 960 | 1016 | 814 | | |
| 350 | 566 | 424 | 233 | 254 | 248 | 227 | 405 | 733 | 909 | 1115 | 1408 | | 350 | 1556 | 1472 | 1311 | 1268 | 1252 | 1253 | 1172 | 802 | 655 | 807 | 889 | 679 | |
| 340 | 528 | 395 | 195 | 209 | 209 | 196 | 383 | 727 | 890 | 1100 | 1385 | | 340 | 1547 | 1440 | 1279 | 1235 | 1204 | 1127 | 716 | 524 | 643 | 742 | 508 | | |
| 330 | 482 | 358 | 157 | 161 | 170 | 167 | 354 | 718 | 870 | 1071 | 1350 | | 330 | 1520 | 1397 | 1234 | 1181 | 1153 | 1143 | 1069 | 625 | 389 | 477 | 596 | 362 | |
| 320 | 417 | 318 | 119 | 115 | 121 | 135 | 317 | 705 | 846 | 1036 | 1296 | | 320 | 1475 | 1341 | 1173 | 1123 | 1088 | 1075 | 997 | 540 | 262 | 274 | 462 | 209 | |
| 310 | 348 | 272 | 87.2 | 71.4 | 90.5 | 106 | 272 | 735 | 688 | 818 | 990 | 1240 | | 310 | 1409 | 1263 | 1109 | 1056 | 1012 | 996 | 917 | 437 | 161 | 135 | 323 | 90.5 |
| 300 | 270 | 224 | 60.0 | 44.9 | 57.9 | 78.9 | 219 | 734 | 667 | 787 | 939 | 1165 | | 300 | 1332 | 1188 | 1035 | 978 | 932 | 905 | 826 | 353 | 77.6 | 56.5 | 179 | 30.9 |
| 290 | 198 | 179 | 35.5 | 3.1 | 30.9 | 56.5 | 152 | 722 | 643 | 750 | 881 | 1088 | | 290 | 1240 | 1105 | 952 | 900 | 850 | 824 | 735 | 262 | 33.2 | | 92.8 | |
| 280 | 117 | 127 | | | 40.2 | 12.4 | 697 | 616 | 708 | 820 | 1004 | | 280 | 1119 | 1004 | 875 | 818 | 764 | 735 | 643 | 192 | | | 52.2 | | |
| 270 | 63.8 | 75.6 | | | 5.5 | | 656 | 588 | 665 | 754 | 909 | | 270 | 1016 | 900 | 794 | 739 | 687 | 650 | 557 | 138 | | | | | |
| 260 | 26.3 | 42.5 | | | | | 608 | 558 | 621 | 685 | 818 | | 260 | 907 | 804 | 716 | 665 | 619 | 567 | 477 | 97.2 | | | | | |

ELECTRON OENSITY

ELECTRON OENSITY

| PUERTO RICO | | | | | | | | | | | 60 W | | | | | | | | | | | 14 MAY 1959 | | | |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|-------------|------|------|------|
| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 | TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 |
| QUAL | | | | | | | | | | | | | QUAL | | | | | | | | | | | | |
| HMIN | 289 | 254 | 229 | 223 | 220 | 237 | 258 | 115 | 110 | 110 | 110 | 110 | HMIN | 110 | 109 | 110 | 108 | 108 | 110 | 114 | 260 | 280 | 287 | 269 | |
| HMAX | 407 | 354 | 329 | 334 | 354 | 367 | 362 | 312 | 380 | 414 | | | HMAX | 383 | 375 | 385 | 382 | 377 | 389 | 399 | 406 | 405 | 422 | 389 | |
| SHMAX | 973 | 729 | 579 | 404 | 416 | 316 | 370 | 1069 | 2115 | 2824 | | | SHMAX | 2515 | 2466 | 2503 | 2321 | 2162 | 1912 | 1774 | 1362 | 1023 | 1225 | 905 | |
| KM | | | | | | | | | | | | | KM | | | | | | | | | | | | |
| 420 | | | | | | | | | | | | | 420 | | | | | | | | | | | | |
| 410 | | 1367 | | | | | | | | | | | 410 | | | | | | | | | | | | |
| 400 | | 1361 | | | | | | | | | | | 400 | | | | | | | | | | | | |
| 390 | | 1333 | | | | | | | | | | | 390 | | | | | | | | | | | | |
| 380 | | 1282 | | | | | | | | | | | 380 | | | | | | | | | | | | |
| 370 | | 1205 | | | | | | | | | | | 370 | | | | | | | | | | | | |
| 360 | 1107 | 1290 | | | | | | | | | | | 360 | | | | | | | | | | | | |
| 350 | 975 | 1287 | | | | | | | | | | | 350 | | | | | | | | | | | | |
| 340 | 814 | 1253 | | | | | | | | | | | 340 | | | | | | | | | | | | |
| 330 | 625 | 1182 | 917 | 677 | 513 | 364 | 483 | | | | | | 330 | | | | | | | | | | | | |
| 320 | 417 | 1073 | 909 | 657 | 485 | 335 | 453 | 960 | 1240 | 1333 | | | 320 | | | | | | | | | | | | |
| 310 | 240 | 917 | 879 | 613 | 446 | 294 | 412 | 960 | 1186 | 1256 | | | 310 | | | | | | | | | | | | |
| 300 | 90.5 | 716 | 827 | 549 | 400 | 254 | 348 | 954 | 1131 | 1175 | | | 300 | | | | | | | | | | | | |
| 290 | 12.4 | 508 | 754 | 477 | 346 | 207 | 278 | 940 | 1069 | 1096 | | | 290 | | | | | | | | | | | | |
| 280 | 286 | 667 | 389 | 292 | 161 | 205 | 917 | 997 | 1004 | | | | 280 | | | | | | | | | | | | |
| 270 | 127 | 557 | 302 | 235 | 115 | 112 | 887 | 924 | 924 | | | | 270 | | | | | | | | | | | | |
| 260 | 49.6 | 417 | 209 | 179 | 77.6 | 26.3 | 850 | 850 | 842 | | | | 260 | | | | | | | | | | | | |
| 250 | | 286 | 127 | 122 | 49.6 | 7 | 799 | 781 | 768 | | | | 250 | | | | | | | | | | | | |
| 240 | | 112 | 71.4 | 74.5 | 12.4 | 4 | 739 | 716 | 698 | | | | 240 | | | | | | | | | | | | |
| 230 | | 12.4 | 42.5 | 47.2 | | | 665 | 649 | 643 | | | | 230 | | | | | | | | | | | | |
| 220 | | | | | 1.3 | | 591 | 591 | 591 | | | | 220 | | | | | | | | | | | | |
| 210 | | | | | | 508 | 540 | 545 | | | | | 210 | | | | | | | | | | | | |
| 200 | | | | | | 439 | 490 | 504 | | | | | 200 | | | | | | | | | | | | |
| 190 | | | | | | 368 | 446 | 465 | | | | | 190 | | | | | | | | | | | | |
| 180 | | | | | | 310 | 401 | 426 | | | | | 180 | | | | | | | | | | | | |
| 170 | | | | | | 258 | 362 | 384 | | | | | 170 | | | | | | | | | | | | |
| 160 | | | | | | 215 | 325 | 343 | | | | | 160 | | | | | | | | | | | | |
| 150 | | | | | | 187 | 286 | 303 | | | | | 150 | | | | | | | | | | | | |
| 140 | | | | | | 158 | 255 | 266 | | | | | 140 | | | | | | | | | | | | |
| 130 | | | | | | 137 | 222 | 237 | | | | | 130 | | | | | | | | | | | | |
| 120 | | | | | | 112 | 200 | 219 | | | | | 120 | | | | | | | | | | | | |
| 110 | | | | | | 60.0 | 97.2 | | | | | | 110 | 60.0 | 149 | 60.0 | 143 | 127 | 12.4 | 71.4 | | | | | |

| PUERTO RICO | | | | | | | | | | | 60 W | | | | | | | | | | | 14 MAY 1959 | | |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|-------------|--|--|
| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900</th | | | |

ELECTRON DENSITY

PUERTO RICO

60 W

15 MAY 1959

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

| | S | S | A | A | A | A |
|-------|-----|-----|-----|-----|-----|-----|
| OUAL | 274 | 269 | 244 | 225 | 233 | 234 |
| HMIN | 406 | 385 | 371 | 361 | 352 | 339 |
| HMAX | 902 | 806 | 842 | 769 | 629 | 475 |
| SHMAX | 902 | 806 | 842 | 769 | 629 | 475 |
| KM | | | | | | |

| | | | | | | |
|-----|------|------|-------|-------|-------|--|
| 440 | | | | | | |
| 430 | | | | | | |
| 420 | | | | | | |
| 410 | 1290 | | | | | |
| 400 | 1285 | | | | | |
| 390 | 1255 | 1215 | | | | |
| 380 | 1191 | 1212 | 1143 | | | |
| 370 | 1115 | 1185 | 1143 | 1027 | | |
| 360 | 1004 | 1127 | 1130 | 1027 | 917 | |
| 350 | 875 | 1050 | 1096 | 1016 | 917 | |
| 340 | 716 | 939 | 1037 | 987 | 903 | |
| 330 | 557 | 807 | 960 | 939 | 870 | |
| 320 | 389 | 643 | 865 | 875 | 820 | |
| 310 | 251 | 492 | 754 | 785 | 747 | |
| 300 | 152 | 335 | 631 | 688 | 661 | |
| 290 | 77.6 | 189 | 508 | 573 | 551 | |
| 280 | 40.2 | 83.8 | 375 | 456 | 432 | |
| 270 | 12.4 | 240 | 323 | 323 | 323 | |
| 260 | 112 | 219 | 198 | 198 | 198 | |
| 250 | 49.6 | 119 | 974.2 | 974.2 | 974.2 | |
| 240 | 67.6 | 43.3 | 46.5 | 327 | 540 | |
| 230 | 33.2 | | | 262 | 477 | |
| 220 | | | | 205 | 403 | |
| 210 | | | | 161 | 342 | |
| 200 | | | | 124 | 286 | |
| 190 | | | | 101 | 236 | |
| 180 | | | | 83.8 | 198 | |
| 170 | | | | 71.4 | 167 | |
| 160 | | | | 63.3 | 141 | |
| 150 | | | | 56.5 | 122 | |
| 140 | | | | 50.8 | 108 | |
| 130 | | | | 47.1 | 96.6 | |
| 120 | | | | 43.9 | 90.8 | |
| 110 | | | | 40.8 | 85.0 | |

ELECTRON DENSITY

PUERTO RICO

60 W

15 MAY 1959

TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

| | B | C | D | E | F | G | H | I | J | K | L |
|-------|------|------|------|------|------|------|-----|-----|-----|-----|-----|
| OUAL | 109 | 110 | 108 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| HMIN | 384 | 385 | 379 | 389 | 395 | 401 | | | | | |
| HMAX | 2564 | 2641 | 2564 | 2330 | 2220 | 2170 | | | | | |
| SHMAX | 2564 | 2641 | 2564 | 2330 | 2220 | 2170 | | | | | |
| KM | | | | | | | | | | | |

| | | | | | | | | | | | |
|-----|------|------|------|------|------|------|--|--|--|--|--|
| 470 | | | | | | | | | | | |
| 460 | | | | | | | | | | | |
| 450 | | | | | | | | | | | |
| 440 | | | | | | | | | | | |
| 430 | | | | | | | | | | | |
| 420 | | | | | | | | | | | |
| 410 | | | | | | | | | | | |
| 400 | | | | | | | | | | | |
| 390 | 1907 | 2032 | | | | | | | | | |
| 380 | 1905 | 2029 | 1907 | 1692 | 1652 | 1610 | | | | | |
| 370 | 1890 | 2011 | 1900 | 1672 | 1622 | 1574 | | | | | |
| 360 | 1858 | 1975 | 1978 | 1639 | 1578 | 1517 | | | | | |
| 350 | 1810 | 1920 | 1840 | 1591 | 1512 | 1453 | | | | | |
| 340 | 1735 | 1842 | 1786 | 1454 | 1438 | 1374 | | | | | |
| 330 | 1650 | 1754 | 1708 | 1446 | 1350 | 1286 | | | | | |
| 320 | 1556 | 1643 | 1621 | 1359 | 1250 | 1196 | | | | | |
| 310 | 1446 | 1515 | 1523 | 1260 | 1131 | 1096 | | | | | |
| 300 | 1330 | 1381 | 1411 | 1143 | 1072 | 995 | | | | | |
| 290 | 1216 | 1240 | 1296 | 1038 | 926 | 886 | | | | | |
| 280 | 1096 | 1107 | 1179 | 939 | 826 | 794 | | | | | |
| 270 | 982 | 960 | 1061 | 834 | 739 | 698 | | | | | |
| 260 | 875 | 834 | 950 | 747 | 665 | 616 | | | | | |
| 250 | 778 | 735 | 844 | 672 | 596 | 547 | | | | | |
| 240 | 701 | 650 | 747 | 608 | 540 | 481 | | | | | |
| 230 | 631 | 585 | 672 | 557 | 490 | 429 | | | | | |
| 220 | 578 | 536 | 608 | 516 | 446 | 385 | | | | | |
| 210 | 532 | 499 | 551 | 480 | 405 | 347 | | | | | |
| 200 | 492 | 468 | 503 | 446 | 368 | 310 | | | | | |
| 190 | 457 | 441 | 459 | 414 | 335 | 276 | | | | | |
| 180 | 426 | 414 | 417 | 383 | 304 | 243 | | | | | |
| 170 | 395 | 382 | 379 | 350 | 274 | 212 | | | | | |
| 160 | 358 | 348 | 345 | 314 | 246 | 182 | | | | | |
| 150 | 321 | 316 | 313 | 278 | 216 | 156 | | | | | |
| 140 | 278 | 279 | 286 | 243 | 193 | 137 | | | | | |
| 130 | 240 | 246 | 253 | 216 | 176 | 125 | | | | | |
| 120 | 224 | 226 | 228 | 204 | 167 | 117 | | | | | |
| 110 | 71.4 | 49.6 | 161 | 49.6 | 49.6 | 40.2 | | | | | |

ELECTRON DENSITY

PUERTO RICO

60 W

16 MAY 1959

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

| | A | A | A | A | A | A |
|-------|------|-----|-----|-----|-----|-----|
| OUAL | 267 | 255 | 349 | 298 | 275 | 347 |
| HMIN | 394 | 386 | 499 | 436 | 419 | 500 |
| HMAX | 1061 | 984 | 920 | 926 | 980 | 838 |
| SHMAX | 1061 | 984 | 920 | 926 | 980 | 838 |
| KM | | | | | | |

| | | | | | | |
|-----|------|------|------|------|------|------|
| 500 | 1096 | 982 | | | | |
| 490 | 1089 | 975 | | | | |
| 480 | 1067 | 960 | | | | |
| 470 | 1029 | 909 | | | | |
| 460 | 973 | 863 | | | | |
| 450 | 903 | 805 | | | | |
| 440 | 818 | 1191 | 732 | | | |
| 430 | 726 | 1187 | 643 | | | |
| 420 | 619 | 1166 | 1167 | 551 | | |
| 410 | 508 | 1124 | 1160 | 457 | | |
| 400 | 1420 | 398 | 1063 | 1138 | 362 | |
| 390 | 1418 | 1191 | 286 | 982 | 1100 | 270 |
| 380 | 1397 | 1188 | 170 | 875 | 1050 | 186 |
| 370 | 1353 | 1172 | 102 | 754 | 975 | 104 |
| 360 | 1279 | 1441 | 54.8 | 643 | 886 | 60.0 |
| 350 | 1191 | 1096 | 5.5 | 508 | 784 | 19.3 |
| 340 | 1080 | 1042 | 375 | 667 | | |
| 330 | 932 | 960 | 251 | 540 | | |
| 320 | 754 | 861 | 135 | 417 | | |
| 310 | 573 | 742 | 67.6 | 298 | | |
| 300 | 403 | 596 | 12.4 | 179 | | |
| 290 | 240 | 446 | | 97.2 | | |
| 280 | 97.2 | 298 | | 44.9 | | |
| 270 | 40.2 | 127 | | | | |
| 260 | 49.6 | | | | | |
| 250 | | | | | | |
| 240 | | | | | | |
| 230 | | | | | | |
| 220 | | | | | | |
| 210 | | | | | | |
| 200 | | | | | | |
| 190 | | | | | | |
| 180 | | | | | | |
| 170 | | | | | | |
| 160 | | | | | | |
| 150 | | | | | | |
| 140 | | | | | | |
| 130 | | | | | | |
| 120 | | | | | | |
| 110 | | | | | | |

| | B | C | D | E | F | G | H | I | J | K | L |
|-------|------|------|------|------|------|------|------|-----|------|-----|------|
| OUAL | 107 | 109 | 110 | 107 | 109 | 110 | 114 | 246 | 261 | 271 | 298 |
| HMIN | 386 | 370 | 368 | 358 | 366 | 354 | 365 | 368 | 416 | 428 | 443 |
| HMAX | 2834 | 2603 | 2421 | 2013 | 1858 | 1720 | 1455 | 923 | 1111 | 969 | 1040 |
| SHMAX | 2834 | 2603 | 2421 | 2013 | 1858 | 1720 | 1455 | 923 | 1111 | 969 | 1040 |
| KM | | | | | | | | | | | |

| | | | | | | | | | | | |
|-----|------|-------|-------|------|------|-------|-------|------|------|------|------|
| 450 | | | | | | | | | | | |
| 440 | | | | | | | | | | | |
| 430 | | | | | | | | | | | |
| 420 | | | | | | | | | | | |
| 410 | | | | | | | | | | | |
| 400 | | | | | | | | | | | |
| 390 | 2128 | | | | | | | | | | |
| 380 | 2125 | | | | | | | | | | |
| 370 | 2105 | 2193 | 1969 | | | | | | | | |
| 360 | 2068 | 2182 | 1963 | 1640 | 1498 | 1556 | 1339 | 1234 | 982 | 770 | 691 |
| 350 | 2010 | 2146 | 1939 | 1635 | 1483 | 1554 | 1325 | 1207 | 900 | 688 | 557 |
| 340 | 1936 | 2087 | 1894 | 1613 | 1456 | 1537 | 1295 | 1161 | 804 | 591 | 625 |
| 330 | 1846 | 1998 | 1830 | 1575 | 1415 | 1501 | 1251 | 1088 | 707 | 487 | 511 |
| 320 | 1739 | 1882 | 1756 | 1517 | 1360 | 1446 | 1184 | 1004 | 608 | 380 | 335 |
| 310 | 1618 | 1760 | 1657 | 1453 | 1287 | 1371 | 1111 | 889 | 498 | 262 | 65.7 |
| 300 | 1487 | 1620 | 1543 | 1368 | 1205 | 1286 | 1032 | 768 | 375 | 161 | 12.4 |
| 290 | 1347 | 1462 | 1416 | 1263 | 1115 | 1171 | 934 | 619 | 251 | 88.3 | 12.4 |
| 280 | 1204 | 1291 | 1278 | 1162 | 1004 | 1061 | 834 | 462 | 138 | 49.6 | |
| 270 | 1073 | 1127 | 1111 | 1050 | 886 | 893 | 726 | 286 | 65.7 | | |
| 260 | 939 | 960 | 975 | 928 | 781 | 824 | 625 | 112 | | | |
| 250 | 807 | 824 | 834 | 820 | 679 | 716 | 524 | 44.9 | | | |
| 240 | 709 | 707 | 716 | 716 | 591 | 616 | 437 | | | | |
| 230 | 631 | 616 | 629 | 616 | 514 | 532 | 362 | | | | |
| 220 | 573 | 547 | 562 | 547 | 457 | 459 | 298 | | | | |
| 210 | 529 | 505 | 508 | 487 | 410 | 400 | 245 | | | | |
| 200 | 494 | 474 | 469 | 443 | 373 | 351 | 203 | | | | |
| 190 | 458 | 437 | 427 | 407 | 339 | 306 | 167 | | | | |
| 180 | 424 | 417 | 396 | 372 | 307 | 262 | 139 | | | | |
| 170 | 389 | 385 | 362 | 339 | 270 | 228 | 116 | | | | |
| 160 | 344 | 482 | 481 | 150 | 329 | 310 | 282 | 278 | 202 | 170 | 87.5 |
| 150 | 389 | 437 | 443 | 140 | 294 | 274 | 240 | 237 | 175 | 150 | 80.4 |
| 140 | 344 | 389 | 407 | 130 | 260 | 243 | 216 | 206 | 159 | 137 | 75.4 |
| 130 | 303 | 347 | 372 | 120 | 234 | 225 | 204 | 189 | 150 | 124 | 65.7 |
| 120 | 269 | 310 | 341 | 110 | 179 | 183.8 | 149.6 | 161 | 127 | 12.4 | |
| 110 | 179 | 183.8 | 149.6 | 161 | 127 | 12.4 | | | | | |

ELECTRON DENSITY

PUERTO RICO 60 W 17 MAY 1959

| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| QUAL | | J | A | A | | A | A | A | A | - | | |

| | | | | | | | | | | | | |
|-------|------|------|------|-----|------|------|------|------|------|------|------|------|
| HMIN | 276 | 255 | 263 | 260 | 269 | 280 | 256 | 109 | 107 | 107 | 105 | 109 |
| HMAX | 397 | 377 | 391 | 386 | 410 | 409 | 344 | 320 | 343 | 342 | 371 | 372 |
| SHMAX | 786 | 642 | 658 | 511 | 503 | 532 | 528 | 899 | 1316 | 1455 | 1998 | 2216 |
| KM | | | | | | | | | | | | |
| 410 | | | | | | | | | | | | |
| 400 | 1072 | | 834 | | 637 | 657 | | | | | | |
| 390 | 1068 | | 834 | | 698 | 620 | 645 | | | | | |
| 380 | 1045 | 917 | 826 | 695 | 590 | 624 | | | | | | |
| 370 | 1004 | 913 | 807 | 681 | 553 | 595 | | | | | | |
| 360 | 946 | 892 | 775 | 654 | 503 | 559 | | | | | | |
| 350 | 867 | 852 | 731 | 612 | 446 | 508 | 834 | 1004 | 1143 | 1399 | 1688 | |
| 340 | 774 | 794 | 679 | 557 | 382 | 439 | 833 | 1004 | 1142 | 1375 | 1640 | |
| 330 | 667 | 716 | 608 | 492 | 310 | 562 | 819 | 999 | 1135 | 1341 | 1584 | |
| 320 | 540 | 619 | 524 | 417 | 240 | 278 | 792 | 875 | 989 | 1116 | 1291 | 1513 |
| 310 | 375 | 508 | 437 | 335 | 179 | 198 | 750 | 871 | 973 | 1084 | 1240 | 1425 |
| 300 | 219 | 389 | 323 | 262 | 117 | 117 | 698 | 859 | 950 | 1045 | 1175 | 1321 |
| 290 | 104 | 274 | 209 | 179 | 75.6 | 60.0 | 616 | 839 | 925 | 992 | 1109 | 1212 |
| 280 | 40.2 | 161 | 119 | 104 | 47.7 | 3.1 | 487 | 811 | 890 | 929 | 1027 | 1084 |
| 270 | 83.8 | 49.6 | 53.1 | 6.8 | | | 310 | 778 | 850 | 861 | 943 | 960 |
| 260 | 33.2 | | | | | | 71.4 | 733 | 804 | 787 | 850 | 844 |
| 250 | | | | | | | | 672 | 742 | 716 | 762 | 745 |
| 240 | | | | | | | | 599 | 679 | 650 | 679 | 652 |
| 230 | | | | | | | | 508 | 608 | 590 | 608 | 585 |
| 220 | | | | | | | | 408 | 540 | 536 | 547 | 532 |
| 210 | | | | | | | | 318 | 469 | 492 | 497 | 492 |
| 200 | | | | | | | | 240 | 389 | 454 | 451 | 459 |
| 190 | | | | | | | | 174 | 318 | 417 | 410 | 427 |
| 180 | | | | | | | | 131 | 258 | 381 | 373 | 395 |
| 170 | | | | | | | | 109 | 215 | 340 | 335 | 357 |
| 160 | | | | | | | | 99.9 | 174 | 298 | 296 | 314 |
| 150 | | | | | | | | 95.0 | 138 | 253 | 259 | 274 |
| 140 | | | | | | | | 91.9 | 126 | 215 | 228 | 237 |
| 130 | | | | | | | | 88.8 | 121 | 182 | 198 | 215 |
| 120 | | | | | | | | 85.7 | 117 | 169 | 185 | 201 |
| 110 | | | | | | | | 49.6 | 112 | 127 | 143 | 97.2 |

ELECTRON DENSITY

PUERTO RICO 60 W 17 MAY 1959

| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| QUAL | | A | A | A | A | A | A | A | A | - | | |
| HMIN | 110 | 110 | 110 | 114 | 112 | | | | | | | |
| HMAX | 379 | 383 | 383 | 384 | 390 | 396 | | | | | | |
| SHMAX | 2668 | 2568 | 2514 | 2083 | 1892 | 1711 | 1025 | 1091 | 1057 | 1104 | 973 | |
| KM | | | | | | | | | | | | |
| 410 | | | | | | | | | | | | |
| 400 | 440 | | 1215 | 1393 | 1389 | | | | | | | |
| 390 | 420 | | 1210 | 1384 | 1366 | 1420 | | | | | | |
| 380 | 410 | | 1190 | 1351 | 1322 | 1416 | | | | | | |
| 370 | 400 | | 1154 | 1283 | 1256 | 1386 | | | | | | |
| 360 | 390 | | 1215 | 1102 | 1205 | 1169 | 1324 | | | | | |
| 350 | 380 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 340 | 370 | | 1215 | 1198 | 949 | 975 | 931 | 1127 | | | | |
| 330 | 360 | | 1215 | 1202 | 1143 | 1104 | 1104 | 1104 | 1104 | 1104 | 1104 | |
| 320 | 350 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 310 | 340 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 300 | 330 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 290 | 320 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 280 | 310 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 270 | 300 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 260 | 290 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 250 | 280 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 240 | 270 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 230 | 260 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 220 | 250 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 210 | 240 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 200 | 230 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 190 | 220 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 180 | 210 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 170 | 200 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 160 | 190 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 150 | 180 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 140 | 170 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 130 | 160 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 120 | 150 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |
| 110 | 140 | | 1215 | 1214 | 1031 | 1107 | 1061 | 1240 | | | | |

ELECTRON DENSITY

PUERTO RICO 60 W 18 MAY 1959

| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| QUAL | | A | A | A | A | A | A | A | A | - | | |
| HMIN | 281 | 239 | 268 | 273 | 293 | 266 | | | | | | |
| HMAX | 395 | 355 | 433 | 448 | 436 | 375 | | | | | | |
| SHMAX | 1017 | 846 | 940 | 928 | 787 | 700 | | | | | | |
| KM | | | | | | | | | | | | |
| 450 | | | | | | | | | | | | |
| 440 | 982 | 957 | 982 | | | | | | | | | |
| 430 | 982 | 944 | 980 | | | | | | | | | |
| 420 | 975 | 920 | 964 | | | | | | | | | |
| 410 | 958 | 885 | 933 | | | | | | | | | |
| 400 | 1446 | 934 | 843 | 889 | | | | | | | | |
| 390 | 1443 | 903 | 787 | 834 | | | | | | | | |
| 380 | 1419 | 854 | 716 | 754 | 1050 | | | | | | | |
| 370 | 1370 | 799 | 643 | 661 | 1047 | | | | | | | |
| 360 | 1296 | 1215 | 698 | 587 | 551 | 1027 | | | | | | |
| 350 | 1197 | 1213 | 616 | 469 | 437 | 982 | | | | | | |
| 340 | 1080 | 1191 | 529 | 389 | 318 | 917 | | | | | | |
| 330 | 896 | 1147 | 437 | 302 | 209 | 834 | | | | | | |
| 320 | 679 | 1080 | 344 | 226 | 132 | 726 | | | | | | |
| 310 | 446 | 993 | 240 | | | | | | | | | |

ELECTRON DENSITY

| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| QUAL | | A | A | A | A | A | A | A | - | | | |
| HMIN | 110 | 110 | 110 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 |
| HMAX | 379 | 383 | 383 | 384 | 390 | 396 | | | | | | |
| SHMAX | 2513 | 2640 | 2579 | 2403 | 2575 | 2250 | | | | | | |
| KM | | | | | | | | | | | | |
| 420 | | | | | | | | | | | | |
| 410 | 400 | | 1727 | 1612 | 1446 | 1528 | | | | | | |
| 400 | 390 | | 1726 | 1602 | 1439 | 1526 | | | | | | |
| 390 | 380 | | 1716 | 1572 | 1413 | 1502 | | | | | | |
| 380 | 370 | | 1669 | 1569 | 1699 | 1669 | | | | | | |
| 370 | 360 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 360 | 350 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 350 | 340 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 340 | 330 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 330 | 320 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 320 | 310 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 310 | 300 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 300 | 290 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 290 | 280 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 280 | 270 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 270 | 260 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 260 | 250 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 250 | 240 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 240 | 230 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 230 | 220 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 220 | 210 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 210 | 200 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 200 | 190 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 190 | 180 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 180 | 170 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 170 | 160 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 160 | 150 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 150 | 140 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 140 | 130 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 130 | 120 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 120 | 110 | | 1669 | 1669 | 1669 | 1669 | | | | | | |
| 110 | 100 | | 1669 | 1669 | 1669 | 1669 | | | | | | |

ELECTRON DENSITY

PUERTO RICO 60 W 19 MAY 1959
TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100
QUAL A A

| | |
|-----|----------------------------|
| 420 | 1290 |
| 410 | 1288 |
| 400 | 1270 |
| 390 | 1235 1316 |
| 380 | 1183 1315 1027 |
| 370 | 1116 1297 1119 1018 |
| 360 | 1027 1252 1119 993 960 |
| 350 | 917 1180 1093 949 952 |
| 340 | 781 1096 1050 889 925 .735 |
| 330 | 643 960 990 818 875 735 |
| 320 | 492 814 900 716 810 727 |
| 310 | 335 643 794 608 707 704 |
| 300 | 179 446 679 497 590 671 |
| 290 | 83.8 229 524 389 462 628 |
| 280 | 40.2 83.8 375 286 323 567 |
| 270 | 12.4 229 179 179 492 335 |
| 260 | 97.2 102 77.6 408 240 732 |
| 250 | 40.2 49.6 310 112 650 834 |
| 240 | 219 567 745 784 1016 |
| 230 | 135 484 652 670 896 |
| 220 | 79.7 403 565 582 767 |
| 210 | 42.5 329 477 508 631 |
| 200 | 262 403 451 519 |
| 190 | 209 341 394 441 |
| 180 | 161 286 357 389 |
| 170 | 132 240 310 348 |
| 160 | 112 205 266 313 |
| 150 | 97.2 176 237 279 |
| 140 | 91.6 153 196 248 |
| 130 | 86.1 139 172 221 |
| 120 | 74.5 130 127 194 |
| 110 | 49.6 12.4 |

ELECTRON DENSITY

| | | |
|-------------|---|-------------|
| PUERTO RICO | 60 W | 19 MAY 1959 |
| TIME | 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 | |
| QUAL | | |

ELECTRON DENSITY

PUERTO RICO 60 W 20 MAY 1959
TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

| QUAL | | | | | S | A | A | A | A | A |
|-------|------|------|------|------|------|------|-----|------|------|------|
| HMIN | 280 | 264 | 246 | 228 | 230 | 231 | 103 | 110 | 114 | |
| HMAX | 404 | 368 | 366 | 372 | 355 | 380 | 361 | 353 | 376 | |
| SHMAX | 1020 | 836 | 810 | 756 | 508 | 465 | 680 | 1997 | 2286 | |
| KM | | | | | | | | | | |
| 410 | 1341 | | | | | | | | | |
| 400 | 1340 | | | | | | | | | |
| 390 | 1322 | | | | | | | | | |
| 380 | 1284 | | | 834 | | 540 | | | | 1727 |
| 370 | 1225 | 1290 | 1096 | 834 | - | 536 | 661 | | | 1724 |
| 360 | 1150 | 1281 | 1092 | 827 | 643 | 525 | 661 | 1555 | 1706 | |
| 350 | 1050 | 1246 | 1073 | 812 | 642 | 505 | 656 | 1555 | 1673 | |
| 340 | 917 | 1184 | 1035 | 788 | 632 | 479 | 642 | 1544 | 1612 | |
| 330 | 754 | 1096 | 979 | 754 | 613 | 446 | 619 | 1521 | 1547 | |
| 320 | 590 | 975 | 909 | 711 | 585 | 403 | 587 | 1485 | 1463 | |
| 310 | 389 | 820 | 814 | 658 | 548 | 356 | 548 | 1433 | 1376 | |
| 300 | 209 | 643 | 704 | 594 | 497 | 305 | 497 | 1367 | 1274 | |
| 290 | 77.6 | 446 | 562 | 521 | 446 | 251 | 446 | 1294 | 1172 | |
| 280 | | 219 | 417 | 446 | 380 | 203 | 389 | 1211 | 1068 | |
| 270 | | 60.0 | 262 | 362 | 310 | 155 | 330 | 1115 | 960 | |
| 260 | | | 112 | 262 | 226 | 107 | 280 | 1022 | 865 | |
| 250 | | | 40.2 | .161 | 127 | 68.6 | 236 | 926 | 778 | |
| 240 | | | | 71.4 | 60.0 | 40.2 | 195 | 824 | 703 | |
| 230 | | | | 21.7 | 3.1 | | 164 | 726 | 637 | |
| 220 | | | | | | 136 | | 636 | 583 | |
| 210 | | | | | | 115 | | 567 | 536 | |
| 200 | | | | | | 97.2 | | 503 | 492 | |
| 190 | | | | | | 83.8 | | 451 | 451 | |
| 180 | | | | | | 72.6 | | 405 | 414 | |
| 170 | | | | | | 64.1 | | 362 | 377 | |
| 160 | | | | | | 57.5 | | 324 | 339 | |
| 150 | | | | | | 52.6 | | 286 | 303 | |
| 140 | | | | | | 47.5 | | 250 | 269 | |
| 130 | | | | | | 42.3 | | 219 | 232 | |
| 120 | | | | | | 29.8 | | 202 | 143 | |
| 110 | | | | | | 12.4 | | 40.2 | | |

ELECTRON DENSITY

PUERTO RICO 60 W 20 MAY 1959
TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

ELECTRON DENSITY

PUERTO RICO

60 W

21 MAY 1959

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

| | | | A | | A | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| OUAL | | | | | | | | | | | |
| HMIN | 282 | 257 | 248 | 241 | 249 | 239 | 239 | 110 | 109 | 110 | 110 |
| HMAX | 409 | 372 | 369 | 380 | 371 | 366 | 357 | 319 | 320 | 365 | 359 |
| SHMAX | 1094 | 956 | 885 | 795 | 693 | 574 | 652 | 1059 | 1351 | 1994 | 1967 |
| KM | | | | | | | | | | | |
| 410 | 1473 | | | | | | | | | | |
| 400 | 1463 | | | | | | | | | | |
| 390 | 1429 | | | | | | | | | | |
| 380 | 1371 | 1341 | | 960 | 939 | | | | | | |
| 370 | 1286 | 1341 | 1143 | 953 | 938 | 774 | | 1420 | 1845 | | |
| 360 | 1186 | 1325 | 1136 | 933 | 929 | 768 | 794 | 1419 | 1583 | 1834 | |
| 350 | 1050 | 1287 | 1114 | 896 | 905 | 744 | 791 | 1411 | 1576 | 1807 | |
| 340 | 889 | 1224 | 1075 | 849 | 865 | 707 | 781 | 1394 | 1550 | 1764 | |
| 330 | 698 | 1143 | 1021 | 787 | 807 | 658 | 762 | 1370 | 1498 | 1704 | |
| 320 | 492 | 1038 | 952 | 716 | 733 | 594 | 734 | 1096 | 1215 | 1337 | 1446 |
| 310 | 286 | 889 | 861 | 625 | 643 | 524 | 695 | 1090 | 1210 | 1293 | 1365 |
| 300 | 135 | 729 | 742 | 529 | 529 | 446 | 653 | 1059 | 1195 | 1249 | 1277 |
| 290 | 60.0 | 524 | 608 | 417 | 403 | 362 | 594 | 1029 | 1170 | 1191 | 1187 |
| 280 | 310 | 462 | 323 | 286 | 270 | 508 | 977 | 1135 | 1127 | 1096 | 1186 |
| 270 | 119 | 286 | 233 | 170 | 186 | 408 | 917 | 1096 | 1050 | 987 | 1065 |
| 260 | 40.2 | 112 | 135 | 77.6 | 112 | 286 | 842 | 1037 | 960 | 885 | 931 |
| 250 | 26.3 | 60.0 | 60.0 | 12.4 | 143 | 762 | 960 | 867 | 794 | 794 | |
| 240 | | | | 5.5 | 12.4 | 670 | 865 | 774 | 710 | 679 | |
| 230 | | | | | | 582 | 764 | 670 | 643 | 582 | |
| 220 | | | | | | 487 | 643 | 594 | 580 | 514 | |
| 210 | | | | | | 389 | 532 | 529 | 524 | 459 | |
| 200 | | | | | | 294 | 439 | 477 | 477 | 421 | |
| 190 | | | | | | 219 | 367 | 427 | 430 | 389 | |
| 180 | | | | | | 170 | 310 | 372 | 389 | 354 | |
| 170 | | | | | | 139 | 262 | 320 | 348 | 310 | |
| 160 | | | | | | 117 | 223 | 276 | 316 | 266 | |
| 150 | | | | | | 103 | 190 | 237 | 281 | 190 | |
| 140 | | | | | | 94.8 | 165 | 207 | 237 | 170 | |
| 130 | | | | | | 90.0 | 142 | 181 | 202 | 158 | |
| 120 | | | | | | 85.3 | 132 | 167 | 186 | 152 | |
| 110 | | | | | | 49.6 | 71.4 | 12.4 | 12.4 | 145 | |

ELECTRON OENSITY

PUERTO RICO

60 W

21 MAY 1959

TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

| | | A | A | A | A | S | A | A | | |
|-------|------|---|------|------|------|------|------|------|------|-----|
| OUAL | | | | | | | | | | |
| HMIN | 109 | | 109 | 110 | 110 | 114 | 259 | 246 | 302 | 276 |
| HMAX | 365 | | 362 | 383 | 392 | 395 | 380 | 403 | 438 | 479 |
| SHMAX | 2368 | | 2173 | 2210 | 2069 | 1886 | 1552 | 1048 | 1032 | 907 |
| KM | | | | | | | | | | |
| 480 | | | | | | | | | | 917 |
| 470 | | | | | | | | | | 913 |
| 460 | | | | | | | | | | 900 |
| 450 | | | | | | | | | | 878 |
| 440 | | | | | | | | | | |
| 430 | | | | | | | | | | |
| 420 | | | | | | | | | | |
| 410 | | | | | | | | | | |
| 400 | | | | | | | | | | |
| 390 | | | | | | | | | | |
| 380 | | | | | | | | | | |
| 370 | | | | | | | | | | |
| 360 | | | | | | | | | | |
| 350 | | | | | | | | | | |
| 340 | | | | | | | | | | |
| 330 | | | | | | | | | | |
| 320 | | | | | | | | | | |
| 310 | | | | | | | | | | |
| 300 | | | | | | | | | | |
| 290 | | | | | | | | | | |
| 280 | | | | | | | | | | |
| 270 | | | | | | | | | | |
| 260 | | | | | | | | | | |
| 250 | | | | | | | | | | |
| 240 | | | | | | | | | | |
| 230 | | | | | | | | | | |
| 220 | | | | | | | | | | |
| 210 | | | | | | | | | | |
| 200 | | | | | | | | | | |
| 190 | | | | | | | | | | |
| 180 | | | | | | | | | | |
| 170 | | | | | | | | | | |
| 160 | | | | | | | | | | |
| 150 | | | | | | | | | | |
| 140 | | | | | | | | | | |
| 130 | | | | | | | | | | |
| 120 | | | | | | | | | | |
| 110 | | | | | | | | | | |

ELECTRON OENSITY

PUERTO RICO

60 W

22 MAY 1959

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100

| | | S | S | A | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| OUAL | | | | | | | | | | | |
| HMIN | 331 | 300 | 267 | 231 | 232 | 253 | 254 | 110 | 110 | 110 | 111 |
| HMAX | 470 | 433 | 386 | 353 | 334 | 390 | 366 | 336 | 309 | 322 | 369 |
| SHMAX | 876 | 781 | 866 | 708 | 471 | 407 | 510 | 1185 | 1136 | 1491 | 2002 |
| KM | | | | | | | | | | | |
| 470 | 1027 | | | | | | | | | | |
| 460 | 1020 | | | | | | | | | | |
| 450 | 999 | | | | | | | | | | |
| 440 | 964 | 1004 | | | | | | | | | |
| 430 | 917 | 1004 | | | | | | | | | |
| 420 | 854 | 990 | | | | | | | | | |
| 410 | 778 | 960 | | | | | | | | | |
| 400 | 694 | 911 | | | | | | | | | |
| 390 | 599 | 847 | 1167 | | 492 | | | 1555 | | | |
| 380 | 500 | 764 | 1163 | | 489 | | | 1555 | | | |
| 370 | 398 | 679 | 1142 | | 478 | 643 | | 1420 | 1549 | | |
| 360 | 278 | 573 | 1101 | 982 | 460 | 641 | | 1416 | 1531 | | |
| 350 | 161 | 477 | 1042 | 981 | 435 | 633 | | 1402 | 1501 | | |
| 340 | 77.6 | 353 | 960 | 968 | 735 | 403 | 616 | 1027 | 1378 | 1461 | |
| 330 | 240 | 865 | 930 | 734 | 365 | 592 | 1026 | 1393 | 1345 | 1400 | |
| 320 | 135 | 742 | 884 | 720 | 318 | 562 | 1018 | 1393 | 1296 | 1333 | |
| 310 | 65.7 | 608 | 818 | 691 | 267 | 522 | 1002 | 1191 | 1383 | 1245 | 1256 |
| 300 | 3.1 | 462 | 726 | 647 | 214 | 471 | 980 | 1184 | 1358 | 1178 | 1180 |
| 290 | 286 | 619 | 587 | 165 | 403 | 949 | 1158 | 1319 | 1109 | 1096 | |
| 280 | 143 | 497 | 508 | 117 | 318 | 913 | 1111 | 1265 | 1031 | 1013 | |
| 270 | 40.2 | 371 | 403 | 79.7 | 209 | 870 | 1050 | 1195 | 952 | 917 | |
| 260 | 26.3 | 262 | 274 | 43.3 | 71.4 | 817 | 969 | 1119 | 867 | 834 | |
| 250 | | 152 | 152 | | | 754 | 875 | 1016 | 786 | 747 | |
| 240 | | 65.7 | 60.0 | | | 679 | 774 | 896 | 710 | 672 | |
| 230 | | | | | | 582 | 670 | 754 | 643 | 602 | |
| 220 | | | | | | 477 | 565 | 631 | 590 | 546 | |
| 210 | | | | | | 362 | 469 | 524 | 540 | 496 | |
| 200 | | | | | | 278 | 396 | 441 | 492 | 460 | |
| 190 | | | | | | 219 | 335 | 383 | 446 | 427 | |
| 180 | | | | | | 172 | 286 | 335 | 403 | 397 | |
| 170 | | | | | | 141 | 240 | 294 | 357 | 365 | |
| 160 | | | | | | 120 | 198 | 259 | 314 | 332 | |
| 150 | | | | | | 104 | 167 | 226 | 274 | 294 | |
| 140 | | | | | | 94.8 | 147 | 186 | 237 | 256 | |
| 130 | | | | | | 90.0 | 136 | 170 | 213 | 229 | |
| 120 | | | | | | 85.3 | 127 | 149 | 187 | 189 | |
| 110 | | | | | | 12.4 | 12.4 | 12.4 | 12.4 | 12.4 | |

ELECTRON DENSITY

PUERTO RICO

60 W

22 MAY 1959

| | | A | A | A | A | A | A |
|-------|------|------|------|------|------|------|------|
| OUAL | | | | | | | |
| HMIN | 112 | 110 | 110 | 110 | 110 | 114 | 249 |
| HMAX | 396 | 385 | 390 | 390 | 395 | 380 | 429 |
| SHMAX | 2529 | 2425 | 2553 | 2553 | 2553 | 2553 | 439 |
| KM | | | | | | | |
| 450 | | | | | | | 1697 |
| 440 | | | | | | | 1555 |
| 430 | | | | | | | 1555 |
| 420 | | | | | | | 1555 |
| 410 | | | | | | | 1555 |
| 400 | | | | | | | 1555 |
| 390 | | | | | | | 1555 |
| 380 | | | | | | | 1555 |
| 370 | | | | | | | 1555 |
| 360 | | | | | | | 1555 |
| 350 | | | | | | | 1555 |
| 340 | | | | | | | 1555 |
| 330 | | | | | | | 1555 |
| 320 | | | | | | | 1555 |
| 310 | | | | | | | 1555 |
| 300 | | | | | | | 1555 |
| 290 | | | | | | | 1555 |
| 280 | | | | | | | 1555 |
| 270 | | | | | | | 1555 |
| 260 | | | | | | | 1555 |
| 250 | | | | | | | 1555 |
| 240 | | | | | | | 1555 |
| 230 | | | | | | | 1555 |
| 220 | | | | | | | 1555 |
| 210 | | | | | | | 1555 |
| 200 | | | | | | | 1555 |
| 190 | | | | | | | 1555 |
| 180 | | | | | | | 1555 |
| 170 | | | | | | | 1555 |
| 160 | | | | | | | 1555 |
| 150 | | | | | | | 1555 |
| 140 | | | | | | | 1555 |
| 130 | | | | | | | 1555 |
| 120 | | | | | | | 1555 |
| 110 | | | | | | | 1555 |

ELECTRON DENSITY

PUERTO RICO 60 W 23 MAY 1959

| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| QUAL | | | | | | | | | | | | |
| HMIN | 259 | 226 | 226 | 233 | 215 | 261 | 248 | 109 | 109 | 109 | 109 | 109 |
| HMAX | 361 | 327 | 337 | 365 | 350 | 383 | 379 | 297 | 312 | 336 | 363 | 356 |
| SHMAX | 1045 | 946 | 784 | 753 | 593 | 539 | 683 | 967 | 1508 | 1912 | 2458 | 2404 |
| KM | | | | | | | S | | | | | |
| 390 | | | | | | | 735 | | | | | |
| 380 | | | | | | | 735 | 854 | | | | |
| 370 | 1786 | | 1004 | | | | 725 | 850 | | 2032 | | |
| 360 | 1785 | | 1002 | | | | 702 | 834 | | 2031 | 2128 | |
| 350 | 1756 | | 986 | 754 | | | 667 | 807 | | 2012 | 2123 | |
| 340 | 1679 | 1167 | 951 | 749 | 619 | 772 | | 1697 | 1971 | 2094 | | |
| 330 | 1555 | 1583 | 1161 | 899 | 731 | 551 | 716 | | 1694 | 1907 | 2039 | |
| 320 | 1383 | 1574 | 1131 | 834 | 702 | 477 | 650 | 1669 | 1675 | 1814 | 1951 | |
| 310 | 1143 | 1529 | 1076 | 745 | 661 | 385 | 573 | 1668 | 1637 | 1704 | 1846 | |
| 300 | 875 | 1447 | 996 | 643 | 608 | 294 | 477 | 1191 | 1649 | 1582 | 1712 | |
| 290 | 573 | 1327 | 889 | 524 | 547 | 198 | 362 | 1184 | 1603 | 1509 | 1446 | 1570 |
| 280 | 286 | 1162 | 767 | 389 | 469 | 107 | 240 | 1162 | 1526 | 1425 | 1316 | 1416 |
| 270 | 112 | 960 | 625 | 274 | 389 | 54•8 | 127 | 1117 | 1423 | 1316 | 1191 | 1257 |
| 260 | 12•4 | 679 | 477 | 161 | 294 | | 65•7 | 1050 | 1298 | 1191 | 1073 | 1111 |
| 250 | 335 | 298 | 83•8 | 198 | | | 12•4 | 969 | 1143 | 1061 | 960 | 960 |
| 240 | 112 | 143 | 43•3 | 112 | | | | 865 | 975 | 931 | 854 | 820 |
| 230 | 40•2 | 49•6 | 63•8 | | | | | 735 | 820 | 807 | 770 | 707 |
| 220 | | | 33•2 | | | | | 590 | 691 | 691 | 694 | 622 |
| 210 | | | | | | | | 432 | 562 | 590 | 622 | 557 |
| 200 | | | | | | | | 298 | 456 | 516 | 553 | 508 |
| 190 | | | | | | | | 219 | 371 | 446 | 477 | 464 |
| 180 | | | | | | | | 168 | 304 | 383 | 411 | 417 |
| 170 | | | | | | | | 135 | 246 | 330 | 356 | 375 |
| 160 | | | | | | | | 114 | 205 | 286 | 302 | 327 |
| 150 | | | | | | | | 99•8 | 171 | 248 | 262 | 276 |
| 140 | | | | | | | | 93•4 | 149 | 211 | 226 | 231 |
| 130 | | | | | | | | 88•6 | 137 | 183 | 201 | 208 |
| 120 | | | | | | | | 83•8 | 128 | 166 | 184 | 157 |
| 110 | | | | | | | | 40•2 | 71•4 | 83•8 | 112 | 71•4 |

ELECTRON DENSITY

PUERTO RICO 60 W 23 MAY 1959

| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 |
|-------|------|------|------|------|------|------|------|-------|------|------|------|------|
| QUAL | | | | | | | | | | | | |
| HMIN | 110 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 |
| HMAX | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 |
| SHMAX | 2166 | 2493 | 2597 | | | | | | | | | |
| KM | | | | | | | | | | | | |
| 440 | | | | | | | | | | | | |
| 430 | | | | | | | | | | | | |
| 420 | | | | | | | | | | | | |
| 410 | | | | | | | | | | | | |
| 400 | | | | | | | | | | | | |
| 390 | 1697 | 1645 | 765 | 527 | 403 | 937 | | 1474 | 1727 | | | |
| 380 | 1689 | 784 | 590 | 477 | 955 | | 1491 | | | | | |
| 370 | 1645 | | 765 | 527 | 403 | 937 | | 1448 | 1719 | | | |
| 360 | 1565 | 1528 | 734 | 462 | 310 | 904 | | 1412 | 1693 | | | |
| 350 | 1446 | 1528 | 696 | 380 | 226 | 860 | | 1096 | 1367 | 1642 | | |
| 340 | 1291 | 1503 | 648 | 302 | 149 | 805 | | 1096 | 1367 | 1642 | | |
| 330 | 1096 | 1437 | 1240 | 590 | 219 | 883 | 739 | 1092 | 1307 | 1575 | | |
| 320 | 875 | 1341 | 1235 | 527 | 143 | 44•9 | 665 | 1119 | 1079 | 1240 | 1497 | |
| 310 | 608 | 1201 | 1206 | 454 | 83•8 | 582 | | 1119 | 1055 | 1171 | 1404 | |
| 300 | 362 | 1004 | 1150 | 382 | 47•2 | 487 | | 1107 | 1097 | 1106 | 1301 | |
| 290 | 161 | 794 | 1068 | 310 | | | | 398 | 1393 | 1076 | 973 | 1013 |
| 280 | 573 | 949 | 233 | | | | | 302 | 1380 | 1033 | 922 | 931 |
| 270 | 310 | 820 | 167 | | | | | 219 | 1341 | 977 | 863 | 854 |
| 260 | 127 | 679 | 104 | | | | | 143 | 1274 | 910 | 800 | 781 |
| 250 | 49•6 | 508 | 60•0 | | | | | 1119 | 1079 | 1272 | 747 | |
| 240 | | 348 | 12•4 | | | | | 524•2 | 1065 | 762 | 650 | 664 |
| 230 | | 198 | | | | | | 106 | 189 | 245 | 302 | 327 |
| 220 | | 90•5 | | | | | | 698 | 590 | 524 | 569 | 545 |
| 210 | | 30•9 | | | | | | 477 | 508 | 472 | 524 | 505 |
| 200 | | | | | | | | 327 | 417 | 422 | 484 | 474 |
| 190 | | | | | | | | 229 | 342 | 377 | 438 | 443 |
| 180 | | | | | | | | 165 | 280 | 335 | 394 | 407 |
| 170 | | | | | | | | 127 | 229 | 290 | 344 | 366 |
| 160 | | | | | | | | 106 | 189 | 245 | 302 | 327 |
| 150 | | 92•1 | 166 | 207 | | | | 160 | 331 | 310 | 272 | 301 |
| 140 | | 82•8 | 131 | 171 | 222 | 240 | | 150 | 293 | 270 | 223 | 269 |
| 130 | | 77•9 | 122 | 149 | 196 | 215 | | 140 | 260 | 229 | 195 | 237 |
| 120 | | 72•9 | 115 | 136 | 184 | 198 | | 130 | 229 | 201 | 177 | 207 |
| 110 | | 12•4 | 40•2 | 112 | 127 | 60•0 | | 120 | 207 | 188 | 169 | 188 |

| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 |
|-------|------|------|------|------|------|------|------|-------|------|------|------|------|
| QUAL | | | | | | | | | | | | |
| HMIN | 110 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 |
| HMAX | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 |
| SHMAX | 2166 | 2493 | 2597 | | | | | | | | | |
| KM | | | | | | | | | | | | |
| 440 | | | | | | | | | | | | |
| 430 | | | | | | | | | | | | |
| 420 | | | | | | | | | | | | |
| 410 | | | | | | | | | | | | |
| 400 | | | | | | | | | | | | |
| 390 | 1697 | 1645 | 765 | 527 | 403 | 937 | | 1474 | 1727 | | | |
| 380 | 1689 | 784 | 590 | 477 | 955 | | 1491 | | | | | |
| 370 | 1645 | | 765 | 527 | 403 | 937 | | 1448 | 1719 | | | |
| 360 | 1565 | 1528 | 734 | 462 | 310 | 904 | | 1412 | 1693 | | | |
| 350 | 1446 | 1528 | 696 | 380 | 226 | 860 | | 1096 | 1367 | 1642 | | |
| 340 | 1291 | 1503 | 648 | 302 | 149 | 805 | | 1096 | 1367 | 1642 | | |
| 330 | 1096 | 1437 | 1240 | 590 | 219 | 883 | 739 | 1092 | 1307 | 1575 | | |
| 320 | 875 | 1341 | 1235 | 527 | 143 | 44•9 | 665 | 1119 | 1079 | 1240 | 1497 | |
| 310 | 608 | 1201 | 1206 | 454 | 83•8 | 582 | | 1119 | 1055 | 1171 | 1404 | |
| 300 | 362 | 1004 | 1150 | 382 | 47•2 | 487 | | 1107 | 1097 | 1106 | 1301 | |
| 290 | 161 | 794 | 1068 | 310 | | | | 398 | 1393 | 1076 | 973 | 1013 |
| 280 | 573 | 949 | 233 | | | | | 302 | 1380 | 1033 | 922 | 931 |
| 270 | 310 | 820 | 167 | | | | | 219 | 1341 | 977 | 863 | 854 |
| 260 | 127 | 679 | 104 | | | | | 143 | 1274 | 910 | 800 | 781 |
| 250 | 49•6 | 508 | 60•0 | | | | | 1119 | 1079 | 1272 | 747 | |
| 240 | | 348 | 12•4 | | | | | 524•2 | 1065 | 762 | 650 | 664 |
| 230 | | 198 | | | | | | 106 | 189 | 245 | 302 | 327 |
| 220 | | 90•5 | | | | | | 698 | 590 | 524 | 569 | 545 |
| 210 | | 30•9 | | | | | | 477 | 508 | 472 | 524 | 505 |
| 200 | | | | | | | | 327 | 417 | 422 | 484 | 474 |
| 190 | | | | | | | | 229 | 342 | 377 | 438 | 443 |
| 180 | | | | | | | | 165 | 280 | 335 | 394 | 407 |
| 170 | | | | | | | | 127 | 229 | 290 | 344 | 366 |
| 160 | | | | | | | | 106 | 189 | 245 | 302 | 327 |
| 150 | | | | | | | | 92•1 | 166 | 207 | 209 | 206 |
| 140 | | | | | | | | 82•8 | 131 | 171 | 222 | 240 |
| 130 | | | | | | | | 77•9 | 122 | 149 | 196 | 215 |
| 120 | | | | | | | | 72•9 | 115 | 136 | 184 | 198 |
| 110 | | | | | | | | 12•4 | 40•2 | 112 | 127 | 60•0 |

| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| QUAL | | | | | | | | | | | | |
| HMIN | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 | 109 |
| HMAX | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 | 344 |
| SHMAX | 2144 | 2236 | 2432 | 2242 | 1925 | | | | | | | |
| KM | | | | | | | | | | | | |
| 440 | | | | | | | | | | | | |
| 430 | | | | | | | | | | | | |
| 420 | | | | | | | | | | | | |
| 410 | | | | | | | | | | | | |
| 400 | | | | | | | | | | | | |
| 390 | 1697 | 1645 | 765 | 527 | 403 | 937 | | 1474 | 1727 | | | |
| 380 | 1689 | 784 | 590 | 477 | 955 | | 1491 | | | | | |
| 370 | 1645 | | 765 | 527 | 403 | 937 | | 1448 | 1719 | | | |
| 360 | 1565 | 1528 | 734 | 462 | 310 | 904 | | 1412 | 1693 | | | |
| 350 | 1446 | 1528 | 696 | 380 | 226 | 860 | | 1096 | 1367 | 1642 | | |
| 340 | 1291 | 1503 | 648 | 302 | 149 | 805 | | 1096 | 1367 | 1642 | | |
| 330 | 1096 | 1437 | 1240 | 590 | 219 | 883 | 739 | 1092 | 1307 | 1575 | | |
| 320 | 875 | 1341 | 1235 | 527 | 143 | 44•9 | 665 | 1119 | 1079 | 1240 | 1497 | |
| 310 | 608 | 1201 | 1206 | 454 | 83•8 | 582 | | 1119 | 1055 | 1171 | 1404 | |
| 300 | 362 | 1004 | 1150 | 382 | 47•2 | 487 | | 1107 | 1097 | 1106 | 1301 | |
| 290 | | | | | | | | | | | | |

ELECTRON DENSITY

| PUERTO RICO | | | | | | | | | | 60 W | | 25 MAY 1955 | | | | |
|-------------|------|------|------|------|------|------|------|------|------|------|------|-------------|------|---|---|---|
| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 | B | A | A | A |
| DUAL | | | | | | | | | | | | | | | | |
| HMIN | 265 | 218 | 239 | 296 | 291 | 289 | 290 | | | 108 | 110 | 111 | | | | |
| HMAX | 381 | 312 | 379 | 454 | 413 | 434 | 377 | | | 313 | 313 | 345 | | | | |
| SHMAX | 1198 | 875 | 737 | 733 | 611 | 697 | 552 | | | 975 | 1200 | 1744 | 1892 | | | |

ELECTRON DENSITY

| PUERTO RICO | | | | 60 W | | | | 25 MAY 1959 | | | | | | |
|--------------|------|------|------|------|------|------|------|-------------|------|------|------|------|-----|-----|
| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | | |
| DUAL HMIN | 110 | 110 | 109 | 110 | 110 | 110 | 110 | A | B | 260 | 288 | 280 | 269 | 260 |
| WMAX | 361 | 362 | 351 | 361 | 360 | 356 | | | | 392 | 413 | 402 | 382 | 361 |

| KM | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|-----|------|------|------|------|------|------|------|------|------|------|---------------------|
| 420 | | | | | | | | | | 1612 | |
| 410 | | | | | | | | | | 1610 | 1697 |
| 400 | | | | | | | | | | 1473 | 1591 1697 |
| 390 | | | | | | | | | | 1473 | 1548 1678 1612 |
| 380 | | | | | | | | | | 1458 | 1480 1632 1611 |
| 370 | | | | | | | | | | 1421 | 1383 1558 1587 1640 |
| 360 | | | | | | | | | | 1363 | 1265 1456 1528 1640 |
| 350 | 1815 | 1785 | 1845 | 1688 | 1631 | 1552 | | | | 1277 | 1127 1341 1433 1617 |
| 340 | 1815 | 1771 | 1829 | 1662 | 1602 | 1531 | | | | 1175 | 939 1175 1298 1555 |
| 330 | 1797 | 1737 | 1786 | 1620 | 1555 | 1492 | | | | 1061 | 735 1004 1143 1556 |
| 320 | 1734 | 1682 | 1702 | 1562 | 1483 | 1430 | | | | 917 | 508 754 939 1324 |
| 310 | 1658 | 1593 | 1607 | 1480 | 1399 | 1349 | | | | 774 | 310 508 716 1119 |
| 300 | 1555 | 1496 | 1487 | 1383 | 1296 | 1258 | | | | 619 | 143 310 477 875 |
| 290 | 1433 | 1388 | 1341 | 1280 | 1186 | 1143 | | | | 446 | 26•3 112 262 643 |
| 280 | 1303 | 1274 | 1208 | 1175 | 1065 | 1027 | | | | 274 | 112 389 |
| 270 | 1159 | 1164 | 1154 | 1061 | 931 | 903 | | | | 127 | 12•4 161 |
| 260 | 1016 | 1038 | 1034 | 939 | 807 | 784 | | | | 12•4 | |
| 250 | 885 | 917 | 903 | 824 | 691 | 679 | | | | | |
| 240 | 774 | 814 | 781 | 726 | 599 | 582 | | | | | |
| 230 | 679 | 724 | 670 | 643 | 527 | 492 | | | | | |
| 220 | 608 | 643 | 594 | 573 | 472 | 426 | | | | | |
| 210 | 550 | 573 | 531 | 514 | 428 | 362 | | | | | |
| 200 | 511 | 514 | 485 | 462 | 389 | 310 | | | | | |
| 190 | 477 | 462 | 446 | 417 | 355 | 256 | | | | | |
| 180 | 435 | 417 | 410 | 373 | 321 | 215 | | | | | |
| 170 | 394 | 373 | 375 | 335 | 286 | 176 | | | | | |
| 160 | 354 | 341 | 342 | 300 | 255 | 150 | | | | | |
| 150 | 314 | 315 | 313 | 266 | 219 | 125 | | | | | |
| 140 | 274 | 282 | 286 | 231 | 183 | 111 | | | | | |
| 130 | 240 | 248 | 250 | 203 | 159 | 100 | | | | | |
| 120 | 222 | 223 | 223 | 187 | 148 | 100 | | | | | |
| 110 | 204 | 204 | 202 | 127 | 60•0 | 40•2 | 12•4 | | | | |

ELECTRON DENSITY

PUERTO RICO 60 W . 26 MAY 1959
 TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100
 QUALE A A A A A A A
 HMIN 241 219 218 218 197 240 110 108 109 108
 HMAX 262 210 220 220 201 251

ELECTRON DENSITY

| | | | | | | | | | | | |
|-------------|---|--------|------|-----|-----|-----|-----|--|--|--|--|
| PUERTO RICO | 60 W | 26 MAY | 1959 | | | | | | | | |
| TIME | 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 | | | | | | | | | | |
| OUAL | A | A | B | A | A | A | A | | | | |
| HMIN | 109 110 109 106 110 | | 110 | 239 | 271 | 278 | 270 | | | | |

| | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|----------------|
| HMAX | 352 | 319 | 322 | 344 | 353 | 354 | 323 | 339 | 362 | 365 |
| HMAX | 1011 | 736 | 612 | 588 | 499 | 440 | 1381 | 1884 | 2290 | 2331 |
| KM | | | | | | | | | | |
| 370 | | | | | | | | | | 1786 2032 |
| 360 | 1583 | | | | 679 | 661 | | | | 1785 2028 |
| 350 | 1583 | | | 794 | 678 | 666 | | | | 1775 1998 |
| 340 | 1558 | | | 792 | 665 | 647 | | | | 1612 1750 1939 |
| 330 | 1499 | 1027 | 779 | 634 | 617 | | 1446 | 1605 | 1711 | 1686 |
| 320 | 1404 | 1265 | 1026 | 750 | 585 | 578 | 1445 | 1584 | 1654 | 1727 |
| 310 | 1274 | 1250 | 1004 | 706 | 527 | 521 | 1427 | 1543 | 1584 | 1584 |
| 300 | 1094 | 1200 | 953 | 649 | 459 | 446 | 1385 | 1483 | 1501 | 1432 |
| 290 | 896 | 1107 | 875 | 580 | 389 | 362 | 1316 | 1416 | 1404 | 1291 |
| 280 | 643 | 990 | 767 | 500 | 318 | 270 | 1229 | 1341 | 1301 | 1127 |
| 270 | 389 | 834 | 643 | 417 | 248 | 189 | 1119 | 1249 | 1201 | 993 |
| 260 | 179 | 643 | 492 | 327 | 189 | 112 | 990 | 1153 | 1096 | 875 |
| 250 | 65·7 | 446 | 348 | 240 | 140 | 60·0 | 847 | 1050 | 993 | 774 |
| 240 | | 251 | 209 | 135 | 106 | 3·1 | 704 | 928 | 885 | 694 |
| 230 | | | 104 | 97·2 | 65·7 | 78·9 | 573 | 807 | 774 | 631 |
| 220 | | | 12·4 | 26·3 | 12·4 | 56·5 | 484 | 688 | 667 | 582 |
| 210 | | | | | | 41·5 | 423 | 573 | 573 | 544 |
| 200 | | | | | | 8·9 | 375 | 484 | 492 | 508 |
| 190 | | | | | | | 335 | 417 | 429 | 473 |
| 180 | | | | | | | 300 | 366 | 372 | 434 |
| 170 | | | | | | | 266 | 323 | 325 | 389 |
| 160 | | | | | | | 232 | 282 | 286 | 344 |
| 150 | | | | | | | 195 | 244 | 250 | 300 |
| 140 | | | | | | | 164 | 214 | 219 | 255 |
| 130 | | | | | | | 141 | 191 | 197 | 222 |
| 120 | | | | | | | 129 | 171 | 181 | 207 |
| 110 | | | | | | | 104 | 142 | 152 | 180 |

| | | | | | | | | | | | | |
|------|------|------|------|------|------|--|------|------|-----------------|------|------|------|
| HMAX | 365 | 368 | 360 | 361 | 374 | | 387 | 399 | 409 | 385 | 385 | 375 |
| SMAX | 2503 | 2773 | 2594 | 2620 | 2456 | | 2104 | 1607 | 1480 | 1205 | 1455 | 1177 |
| 410 | | | | | | | | | | 1786 | | |
| 400 | | | | | | | | | | 1756 | 1776 | |
| 390 | | | | | | | 1756 | 1747 | 1743 | 1876 | 2032 | |
| 380 | | | | | 2032 | | 1752 | 1717 | 1686 | 1871 | 2027 | 1876 |
| 370 | 2294 | 2430 | | 2327 | 2030 | | 1735 | 1665 | 1605 | 1827 | 1991 | 1870 |
| 360 | 2289 | 2422 | 2500 | 2327 | 2014 | | 1704 | 1591 | 1495 | 1741 | 1920 | 1824 |
| 350 | 2255 | 2387 | 2481 | 2312 | 1979 | | 1658 | 1490 | 1367 | 1604 | 1812 | 1732 |
| 340 | 2188 | 2326 | 2424 | 2271 | 1926 | | 1598 | 1376 | 1221 | 1429 | 1669 | 1598 |
| 330 | 2079 | 2232 | 2329 | 2204 | 1846 | | 1519 | 1240 | 1027 | 1240 | 1490 | 1420 |
| 320 | 1948 | 2122 | 2190 | 2107 | 1754 | | 1427 | 1096 | 834 | 1004 | 1265 | 1167 |
| 310 | 1786 | 1985 | 2032 | 1990 | 1646 | | 1330 | 946 | 625 | 716 | 1004 | 917 |
| 300 | 1612 | 1820 | 1828 | 1846 | 1528 | | 1208 | 774 | 417 | 417 | 735 | 643 |
| 290 | 1429 | 1631 | 1623 | 1685 | 1386 | | 1080 | 608 | 219 | 179 | 446 | 375 |
| 280 | 1257 | 1446 | 1404 | 1501 | 1240 | | 949 | 462 | 71 ^a | 26.3 | 179 | 179 |
| 270 | 1065 | 1240 | 1201 | 1321 | 1096 | | 824 | 335 | | | | 60.0 |
| 260 | 931 | 1034 | 1004 | 1143 | 939 | | 704 | 209 | | | | |
| 250 | 804 | 875 | 820 | 960 | 794 | | 585 | 97.2 | | | | |
| 240 | 707 | 754 | 691 | 794 | 679 | | 487 | 12.4 | | | | |
| 230 | 629 | 643 | 590 | 667 | 582 | | 403 | | | | | |
| 220 | 562 | 565 | 524 | 567 | 503 | | 329 | | | | | |
| 210 | 508 | 497 | 473 | 497 | 451 | | 272 | | | | | |
| 200 | 465 | 466 | 438 | 446 | 405 | | 223 | | | | | |
| 190 | 428 | 415 | 411 | 407 | 362 | | 183 | | | | | |
| 180 | 397 | 391 | 391 | 372 | 318 | | 152 | | | | | |
| 170 | 365 | 370 | 368 | 339 | 282 | | 124 | | | | | |
| 160 | 331 | 344 | 339 | 310 | 250 | | 101 | | | | | |
| 150 | 290 | 307 | 307 | 282 | 219 | | 88.3 | | | | | |
| 140 | 245 | 272 | 272 | 248 | 187 | | 81.0 | | | | | |
| 130 | 215 | 229 | 237 | 214 | 159 | | 75.2 | | | | | |
| 120 | 202 | 206 | 211 | 194 | 148 | | 71.4 | | | | | |
| 110 | 40.2 | 40.2 | 179 | 170 | 12.4 | | 12.4 | | | | | |

ELECTRON DENSITY

| PUERTO RICO | | | | 60° W | | | | 27 MAY 1959 | | | | |
|-------------|------|------|------|-------|------|------|------|-------------|------|------|------|------|
| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 |
| QUAL | | | | | | | S | A | A | A | A | |
| HMIN | 255 | 253 | 222 | 208 | 235 | 230 | 260 | | | 105 | 110 | |
| HMAX | 362 | 338 | 338 | 355 | 350 | 349 | 356 | | | 336 | 347 | |
| SHMAX | 1070 | 972 | 1068 | 838 | 763 | 563 | 582 | | | 1778 | 1982 | |

ELECTRON DENSITY

ELECTRON DENSITY

| PUERTO RICO | | | | 60°W | | | | 28 MAY 1959 | | | | |
|-------------|------|------|------|------|------|------|------|-------------|-------|------|------|------|
| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | -0800 | 0900 | 1000 | 1100 |
| DUAL | | | | | | | | A | | | | |
| HMIN | 267 | 258 | 246 | 231 | 231 | 237 | 229 | 115 | 109 | 109 | 110 | 107 |
| HMAX | 320 | 354 | 343 | 348 | 322 | 320 | 324 | 200 | 205 | 206 | 270 | 271 |

ELECTRON DENSITY

ELECTRON DENSITY

PUERTO RICO 60 W 29 MAY 1959

| | TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 | A | A | A | A | A | A | A | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|---|---|---|---|---|---|--|
| QUAL | | | | | | | | | | | | | | | | | | | | | |
| HMIN | 255 | 233 | 222 | 211 | 251 | 265 | 258 | 109 | 108 | 105 | | | | | | | | | | | |
| HMAX | 352 | 322 | 327 | 335 | 341 | 364 | 343 | 319 | 337 | 327 | | | | | | | | | | | |
| SHMAX | 820 | 771 | 663 | 506 | 301 | 419 | 394 | 1001 | 1519 | 1587 | | | | | | | | | | | |
| KM | 370 | | | | | | | | | | | | | | | | | | | | |
| | 360 | 1528 | | | | | | | | | | | | | | | | | | | |
| | 350 | 1527 | | | | | | | | | | | | | | | | | | | |
| | 340 | 1492 | | | | | | | | | | | | | | | | | | | |
| | 330 | 1400 | 1446 | 982 | 714 | 596 | 585 | 699 | 1468 | 1446 | | | | | | | | | | | |
| | 320 | 1269 | 1445 | 978 | 700 | 540 | 516 | 661 | 1072 | 1442 | 1442 | | | | | | | | | | |
| | 310 | 1096 | 1415 | 957 | 671 | 462 | 432 | 608 | 1066 | 1395 | 1422 | | | | | | | | | | |
| | 300 | 854 | 1341 | 921 | 628 | 382 | 335 | 524 | 1042 | 1324 | 1384 | | | | | | | | | | |
| | 290 | 573 | 1224 | 868 | 573 | 286 | 229 | 417 | 1004 | 1240 | 1326 | | | | | | | | | | |
| | 280 | 310 | 1050 | 784 | 497 | 198 | 127 | 298 | 954 | 1119 | 1248 | | | | | | | | | | |
| | 270 | 112 | 834 | 679 | 417 | 112 | 54.8 | 127 | 889 | 990 | 1160 | | | | | | | | | | |
| | 260 | 43.3 | 508 | 551 | 327 | 49.6 | 26.3 | 802 | 861 | 1061 | | | | | | | | | | | |
| | 250 | | 240 | 389 | 240 | | | 704 | 742 | 949 | | | | | | | | | | | |
| | 240 | | 71.4 | 219 | 161 | | | 596 | 634 | 834 | | | | | | | | | | | |
| | 230 | | 89.8 | 83.8 | | | | 487 | 548 | 716 | | | | | | | | | | | |
| | 220 | | 46.5 | | | | | 398 | 482 | 616 | | | | | | | | | | | |
| | 210 | | | | 318 | | | 432 | 524 | | | | | | | | | | | | |
| | 200 | | | | | 258 | | 389 | 459 | | | | | | | | | | | | |
| | 190 | | | | | | 215 | | 350 | 409 | | | | | | | | | | | |
| | 180 | | | | | | | 179 | | 310 | 369 | | | | | | | | | | |
| | 170 | | | | | | | | 151 | | 270 | 332 | | | | | | | | | |
| | 160 | | | | | | | | | 129 | | 227 | 300 | | | | | | | | |
| | 150 | | | | | | | | | 110 | | 174 | 266 | | | | | | | | |
| | 140 | | | | | | | | | | 96.3 | | 147 | 234 | | | | | | | |
| | 130 | | | | | | | | | | 87.4 | | 139 | 202 | | | | | | | |
| | 120 | | | | | | | | | | 68.9 | | 133 | 179 | | | | | | | |
| | 110 | | | | | | | | | | 40.2 | | 127 | 164 | | | | | | | |

ELECTRON DENSITY

PUERTO RICO 60 W 29 MAY 1959

| | TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | A | A | A | A | A | A | A | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| QUAL | | | | | | | | | | | | | | | | | | | | | |
| HMIN | | 112 | | | | | | | | | | | | 109 | 110 | 110 | 250 | 269 | 269 | 281 | 253 |
| HMAX | | | 340 | | | | | | | | | | | 364 | 365 | 365 | 394 | 399 | 386 | 397 | 374 |
| SHMAX | | | | 1713 | | | | | | | | | | 2026 | 1792 | 1629 | 1404 | 1355 | 1144 | 1166 | 1233 |
| KM | 370 | | | | | | | | | | | | | 400 | | | | | | | |
| | 360 | | | | | | | | | | | | | 390 | | | | | | | |
| | 350 | | | | | | | | | | | | | 380 | | | | | | | |
| | 340 | | | | | | | | | | | | | 370 | | | | | | | |
| | 330 | | | | | | | | | | | | | 360 | | | | | | | |
| | 320 | | | | | | | | | | | | | 350 | | | | | | | |
| | 310 | | | | | | | | | | | | | 340 | | | | | | | |
| | 300 | | | | | | | | | | | | | 330 | | | | | | | |
| | 290 | | | | | | | | | | | | | 320 | | | | | | | |
| | 280 | | | | | | | | | | | | | 310 | | | | | | | |
| | 270 | | | | | | | | | | | | | 300 | | | | | | | |
| | 260 | | | | | | | | | | | | | 290 | | | | | | | |
| | 250 | | | | | | | | | | | | | 280 | | | | | | | |
| | 240 | | | | | | | | | | | | | 270 | | | | | | | |
| | 230 | | | | | | | | | | | | | 260 | | | | | | | |
| | 220 | | | | | | | | | | | | | 250 | | | | | | | |
| | 210 | | | | | | | | | | | | | 240 | | | | | | | |
| | 200 | | | | | | | | | | | | | 230 | | | | | | | |
| | 190 | | | | | | | | | | | | | 220 | | | | | | | |
| | 180 | | | | | | | | | | | | | 210 | | | | | | | |
| | 170 | | | | | | | | | | | | | 200 | | | | | | | |
| | 160 | | | | | | | | | | | | | 190 | | | | | | | |
| | 150 | | | | | | | | | | | | | 180 | | | | | | | |
| | 140 | | | | | | | | | | | | | 170 | | | | | | | |
| | 130 | | | | | | | | | | | | | 160 | | | | | | | |
| | 120 | | | | | | | | | | | | | 150 | | | | | | | |
| | 110 | | | | | | | | | | | | | 140 | | | | | | | |

ELECTRON DENSITY

PUERTO RICO 60 W 30 MAY 1959

| | TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 | A | A | A | A | A | A | A | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---|---|----|---|---|---|--|
| QUAL | | | | | | | | | | | | | | | | | | | | | |
| HMIN | 239 | 229 | 207 | 218 | 249 | 239 | 246 | 113 | 109 | 108 | 110 | 105 | | | | | | | | | |
| HMAX | 340 | 310 | 292 | 340 | 346 | 372 | 357 | 327 | 324 | 343 | 355 | 373 | | | | | | | | | |
| SHMAX | 1037 | 725 | 546 | 481 | 359 | 424 | 421 | 916 | 1260 | 1656 | 1893 | 2174 | | | | | | | | | |
| KM | 380 | | | | | | | | | | | | | 1815 | | | | | | | |
| | 370 | | | | | | | | | | | | | 1815 | | | | | | | |
| | 360 | | | | | | | | | | | | | 1815 | | | | | | | |
| | 350 | | | | | | | | | | | | | 1815 | | | | | | | |
| | 340 | | 1815 | | | | | | | | | | | 1815 | | | | | | | |
| | 330 | | 1788 | | | | | | | | | | | 1815 | | | | | | | |
| | 320 | | 1707 | | | | | | | | | | | 1815 | | | | | | | |
| | 310 | | 1572 | 1500 | | | | | | | | | | 1815 | | | | | | | |
| | 300 | | 1383 | 1473 | 1050 | | | | | | | | | 1815 | | | | | | | |
| | 290 | | 1143 | 1383 | 1049 | 503 | 335 | 257 | 367 | 774 | 1071 | 1265 | 1162 | | | | | | | | |
| | 280 | | 875 | 1254 | 1027 | 427 | 248 | 198 | 310 | 739 | 1024 | 1143 | 1131 | 1019 | | | | | | | |
| | 270 | | 573 | 1050 | 968 | 344 | 152 | 138 | 240 | 698 | 967 | 1038 | 1016 | 889 | | | | | | | |
| | 260 | | 310 | 754 | 883 | 262 | 75.6 | 80.7 | 143 | 648 | 903 | 917 | 907 | 767 | | | | | | | |
| | 250 | | 112 | 446 | 767 | 179 | 12.4 | 49.6 | 44.9 | 590 | 834 | 794 | 804 | 670 | | | | | | | |
| | 240 | | 12.4 | 590 | 104 | 6.6 | | | | 534 | 754 | 679 | 707 | 582 | | | | | | | |
| | 230 | | 112 | 124 | 4 | | | | | 465 | 661 | 573 | 625 | 519 | | | | | | | |
| | 220 | | 40.2 | | | | | | | 396 | 565 | 495 | 540 | 477 | | | | | | | |
| | 210 | | | | | | | | | 329 | 469 | 432 | 471 | 440 | | | | | | | |
| | 200 | | | | | | | | | 274 | 382 | 380 | 411 | 408 | | | | | | | |
| | 190 | | | | | | | | | 227 | 320 | 339 | 362 | 373 | | | | | | | |
| | 180 | | | | | | | | | 187 | 274 | 298 | 318 | 331 | | | | | | | |
| | 170 | | | | | | | | | 156 | 240 | 262 | 281 | 290 | | | | | | | |
| | 160 | | | | | | | | | 134 | 213 | 231 | 235 | 235 | | | | | | | |
| | 150 | | | | | | | | | 117 | 182 | 209 | 205 | 198 | | | | | | | |
| | 140 | | | | | | | | | 130 | 156 | 165 | 193 | 184 | | | | | | | |
| | 130 | | | | | | | | | 90.1 | 135 | 141 | 185 | 174 | | | </ | | | | |

ELECTRON DENSITY

| PUERTO RICO | | | | | | | | | | | 60 W | | | | | | | | | | | 31 MAY 1959 | | | | | | | | | | |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|---|---|---|---|---|---|---|---|---|-------------|---|---|---|---|---|---|---|---|--|--|
| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | | |
| QUAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HMIN | 255 | 243 | 280 | 268 | 230 | 235 | 229 | 110 | 107 | 109 | 110 | 110 | | | | | | | | | | | | | | | | | | | | |
| HMAX | 371 | 321 | 418 | 362 | 331 | 333 | 299 | 298 | 326 | 333 | 387 | 392 | | | | | | | | | | | | | | | | | | | | |
| SHMAX | 940 | 584 | 781 | 597 | 626 | 573 | 458 | 910 | 1276 | 1330 | 2154 | 2363 | | | | | | | | | | | | | | | | | | | | |
| KM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 420 | | 1027 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 410 | | 1021 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 400 | | 999 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 390 | | 960 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 380 | 1473 | 903 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 370 | 1473 | 834 | 1072 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 360 | 1453 | 735 | 1072 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 350 | 1399 | 625 | 1048 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 340 | 1311 | 508 | 990 | 1096 | 917 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 330 | 1191 | 1240 | 375 | 896 | 1096 | 916 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 320 | 1034 | 1240 | 251 | 781 | 1076 | 897 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 310 | 834 | 1211 | 152 | 643 | 1019 | 854 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | 608 | 1133 | 88.3 | 462 | 934 | 786 | 1004 | 1004 | 1022 | 1068 | 1084 | 1119 | | | | | | | | | | | | | | | | | | | | |
| 290 | 362 | 1004 | 49.6 | 274 | 820 | 707 | 992 | 1000 | 994 | 966 | 982 | 1004 | | | | | | | | | | | | | | | | | | | | |
| 280 | 198 | 814 | 112 | 679 | 608 | 949 | 982 | 960 | 905 | 875 | 896 | | | | | | | | | | | | | | | | | | | | | |
| 270 | 90.5 | 590 | 26.3 | 508 | 497 | 875 | 947 | 917 | 841 | 784 | 802 | | | | | | | | | | | | | | | | | | | | | |
| 260 | 43.3 | 286 | 335 | 362 | 735 | 90 | 870 | 781 | 698 | 709 | | | | | | | | | | | | | | | | | | | | | | |
| 250 | 65.7 | | 161 | 209 | 446 | 841 | 822 | 716 | 622 | 636 | | | | | | | | | | | | | | | | | | | | | | |
| 240 | | | 67.6 | 83.8 | 143 | 770 | 766 | 650 | 557 | 569 | | | | | | | | | | | | | | | | | | | | | | |
| 230 | | | 3.1 | | 12.4 | 675 | 709 | 587 | 503 | 522 | | | | | | | | | | | | | | | | | | | | | | |
| 220 | | | | | | 585 | 643 | 529 | 462 | 477 | | | | | | | | | | | | | | | | | | | | | | |
| 210 | | | | | | 477 | 565 | 477 | 427 | 443 | | | | | | | | | | | | | | | | | | | | | | |
| 200 | | | | | | 362 | 667 | 422 | 399 | 411 | | | | | | | | | | | | | | | | | | | | | | |
| 190 | | | | | | 274 | 380 | 371 | 375 | 381 | | | | | | | | | | | | | | | | | | | | | | |
| 180 | | | | | | 219 | 304 | 328 | 350 | 352 | | | | | | | | | | | | | | | | | | | | | | |
| 170 | | | | | | 179 | 251 | 293 | 317 | 321 | | | | | | | | | | | | | | | | | | | | | | |
| 160 | | | | | | 149 | 213 | 256 | 276 | 289 | | | | | | | | | | | | | | | | | | | | | | |
| 150 | | | | | | 127 | 186 | 222 | 234 | 254 | | | | | | | | | | | | | | | | | | | | | | |
| 140 | | | | | | 108 | 161 | 189 | 207 | 219 | | | | | | | | | | | | | | | | | | | | | | |
| 130 | | | | | | 94.2 | 141 | 160 | 192 | 194 | | | | | | | | | | | | | | | | | | | | | | |
| 120 | | | | | | 86.8 | 127 | 148 | 181 | 182 | | | | | | | | | | | | | | | | | | | | | | |
| 110 | | | | | | 12.4 | 97.2 | 60.0 | 112 | 49.6 | | | | | | | | | | | | | | | | | | | | | | |

ELECTRON DENSITY

| PUERTO RICO | | | | | | | | | | | 60 W | | | | | | | | | | | 31 MAY 1959 | | | | | | | | | | | |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|---|---|---|---|---|---|---|---|---|-------------|---|---|---|---|---|---|---|---|--|--|--|
| TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | | | |
| QUAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HMIN | 109 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | | | | | | | | | | | | | | | | | | | | | |
| HMAX | 403 | 389 | 367 | 368 | 374 | 368 | 366 | 415 | 399 | 402 | 406 | 406 | | | | | | | | | | | | | | | | | | | | | |
| SHMAX | 2489 | 2653 | 2509 | 2309 | 2203 | 1850 | 1419 | 1444 | 1074 | 982 | 942 | 855 | | | | | | | | | | | | | | | | | | | | | |
| KM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 420 | | 1039 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 410 | 1392 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 400 | 1381 | 1315 | 1414 | 1285 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 390 | 1358 | 1333 | 1299 | 1378 | 1251 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 380 | 1324 | 1306 | 1261 | 1304 | 1186 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 370 | 1924 | 2215 | 2327 | 2161 | 1967 | 1640 | 1446 | 1278 | 1258 | 1195 | 1208 | 1084 | | | | | | | | | | | | | | | | | | | | | |
| 360 | 1819 | 2156 | 2321 | 2151 | 1947 | 1634 | 1443 | 1221 | 1188 | 1119 | 1084 | 960 | | | | | | | | | | | | | | | | | | | | | |
| 350 | 1695 | 2072 | 2288 | 2111 | 1906 | 1611 | 1422 | 1156 | 1105 | 1016 | 931 | 820 | | | | | | | | | | | | | | | | | | | | | |
| 340 | 1555 | 1963 | 2228 | 2040 | 1843 | 1571 | 1381 | 1073 | 993 | 885 | 754 | 679 | | | | | | | | | | | | | | | | | | | | | |
| 330 | 1401 | 1831 | 2139 | 1929 | 1756 | 1505 | 1320 | 971 | 875 | 735 | 557 | 508 | | | | | | | | | | | | | | | | | | | | | |
| 320 | 1254 | 1669 | 2032 | 1799 | 1656 | 1429 | 1247 | 865 | 716 | 573 | 362 | 335 | | | | | | | | | | | | | | | | | | | | | |
| 310 | 1080 | 1483 | 1889 | 1652 | 1524 | 1341 | 1133 | 745 | 562 | 417 | 189 | 161 | | | | | | | | | | | | | | | | | | | | | |
| 300 | 946 | 1301 | 1705 | 1483 | 1371 | 1240 | 1027 | 619 | 417 | 339 | 307 | 187 | | | | | | | | | | | | | | | | | | | | | |
| 290 | 820 | 1056 | 1512 | 1303 | 1212 | 1107 | 907 | 487 | 262 | 214 | 195 | 173 | | | | | | | | | | | | | | | | | | | | | |
| 280 | 716 | 946 | 1301 | 1127 | 1065 | 990 | 871 | 335 | 295 | 256 | 236 | 214 | | | | | | | | | | | | | | | | | | | | | |
| 270 | 629 | 794 | 1096 | 946 | 903 | 861 | 643 | 352 | 315 | 295 | 256 | 136 | | | | | | | | | | | | | | | | | | | | | |
| 260 | 569 | 679 | 896 | 794 | 754 | 729 | 667 | 308 | 608 | 608 | 508 | 398 | | | | | | | | | | | | | | | | | | | | | |
| 250 | 522 | 590 | 729 | 667 | 608 | 508 | 497 | 295 | 508 | 497 | 429 | 417 | | | | | | | | | | | | | | | | | | | | | |
| 240 | 486 | 524 | 596 | 565 | 508 | 486 | 477 | 295 | 408 | 407 | 411 | 339 | | | | | | | | | | | | | | | | | | | | | |
| 230 | 459 | 477 | 508 | 497 | 427 | 321 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| AVERAGE ELECTRON DENSITY | | KP BELOW 4.5 | | AVERAGE ELECTRON DENSITY | | KP BELOW 4.5 | | AVERAGE ELECTRON DENSITY | | KP BELOW 4.5 | | AVERAGE ELECTRON DENSITY | | KP BELOW 4.5 | | | | | | | | | |
|--------------------------|---|--------------|---|--------------------------|---|--------------|---|--------------------------|---|--------------|---|--------------------------|---|--------------|------|------|------|------|------|------|------|------|------|
| PUERTO RICO | | 60 W | | MAY 1959 | | MAY 1959 | | PUERTO RICO | | MAY 1959 | | MAY 1959 | | MAY 1959 | | | | | | | | | |
| TIME | 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 | TIME | 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 | TIME | 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 | TIME | 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 | TIME | 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 | TIME | 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 | TIME | 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 | | | | | | | | | | |
| COUNT | 25 | 26 | 27 | 26 | 27 | 26 | 27 | 24 | 23 | 22 | 22 | COUNT | 24 | 23 | 24 | 20 | 14 | 24 | 25 | 24 | 26 | 26 | |
| HMIN | 2.67 | 2.50 | 2.43 | 2.43 | 2.51 | 2.53 | 2.50 | 1.11 | 1.09 | 1.09 | 1.09 | HMIN | 1.10 | 1.09 | 1.09 | 1.10 | 1.21 | 1.25 | 1.27 | 1.27 | 1.28 | 1.28 | |
| NMAX | 1.371 | 1.230 | 0.999 | 0.854 | 0.765 | 0.693 | 0.735 | 1.005 | 1.253 | 1.485 | 1.681 | NMAX | 2012 | 2071 | 2048 | 1922 | 1738 | 1654 | 1485 | 1470 | 1446 | 1446 | |
| HMAX | 3.84 | 3.59 | 3.66 | 3.76 | 3.74 | 3.82 | 3.26 | 3.26 | 3.46 | 3.66 | 3.66 | HMAX | 365 | 366 | 371 | 369 | 370 | 371 | 378 | 405 | 404 | 414 | |
| SHMAX | 9.22 | 7.86 | 7.25 | 6.50 | 5.42 | 5.31 | 1.057 | 1.361 | 1.792 | 2.210 | 2.331 | SHMAX | 2363 | 2426 | 2458 | 2302 | 2119 | 1955 | 1628 | 1313 | 1263 | 1151 | |
| SHMIN | 4.789 | 4.254 | 3.544 | 3.038 | 2.700 | 2.479 | 5.24 | 5.24 | 5.31 | 5.31 | 5.31 | SHMIN | 8039 | 8269 | 8235 | 7723 | 7022 | 6620 | 5872 | 5428 | 5285 | 5072 | |
| KM | 95.0 | 133 | 105 | 88.5 | 80.4 | 71.0 | 68.2 | 64.7 | 74.7 | 91.7 | 120 | KM | 95.0 | 178 | 184 | 187 | 174 | 158 | 151 | 141 | 152 | 164 | |
| KM | 90.0 | 170 | 134 | 114 | 103 | 91.0 | 81.7 | 87.5 | 83.0 | 95.8 | 118 | KM | 90.0 | 229 | 237 | 223 | 203 | 191 | 190 | 195 | 210 | 215 | 214 |
| KM | 85.0 | 218 | 172 | 146 | 132 | 117 | 111 | 107 | 123 | 151 | 198 | KM | 85.0 | 293 | 303 | 285 | 260 | 249 | 232 | 250 | 269 | 276 | 274 |
| KM | 80.0 | 279 | 221 | 186 | 149 | 149 | 133 | 136 | 158 | 193 | 253 | KM | 80.0 | 375 | 388 | 393 | 365 | 333 | 319 | 297 | 320 | 343 | 351 |
| KM | 75.0 | 356 | 282 | 238 | 216 | 191 | 183 | 174 | 202 | 247 | 324 | KM | 75.0 | 480 | 497 | 502 | 467 | 407 | 377 | 409 | 438 | 449 | 397 |
| KM | 70.0 | 453 | 360 | 303 | 275 | 243 | 233 | 222 | 258 | 316 | 413 | KM | 70.0 | 612 | 633 | 640 | 596 | 542 | 519 | 483 | 520 | 555 | 568 |
| KM | 65.0 | 574 | 457 | 385 | 348 | 308 | 294 | 282 | 328 | 403 | 526 | KM | 65.0 | 776 | 804 | 811 | 755 | 687 | 659 | 612 | 657 | 699 | 715 |
| KM | 60.0 | 719 | 576 | 484 | 437 | 386 | 345 | 326 | 355 | 415 | 510 | KM | 60.0 | 978 | 1012 | 1021 | 951 | 865 | 811 | 869 | 890 | 889 | 801 |
| KM | 55.0 | 888 | 717 | 601 | 540 | 478 | 451 | 421 | 461 | 503 | 897 | KM | 55.0 | 1216 | 1259 | 1268 | 1182 | 1074 | 1029 | 952 | 1010 | 1058 | 1081 |
| KM | 50.0 | 1069 | 875 | 730 | 651 | 577 | 539 | 536 | 644 | 795 | 1021 | KM | 50.0 | 1268 | 1312 | 1321 | 1232 | 1119 | 1072 | 991 | 1050 | 1096 | 1125 |
| KM | 49.0 | 1105 | 908 | 756 | 673 | 597 | 556 | 556 | 671 | 827 | 1061 | KM | 49.0 | 1320 | 1367 | 1376 | 1282 | 1165 | 1116 | 1031 | 1050 | 1134 | 1165 |
| KM | 48.0 | 1140 | 940 | 782 | 694 | 616 | 571 | 575 | 697 | 861 | 1100 | KM | 48.0 | 1374 | 1422 | 1431 | 1334 | 1212 | 1126 | 1070 | 1127 | 1197 | 1204 |
| KM | 47.0 | 1173 | 873 | 807 | 715 | 635 | 586 | 594 | 724 | 895 | 1141 | KM | 47.0 | 1428 | 1478 | 1486 | 1386 | 1259 | 1111 | 1029 | 1124 | 1174 | 1140 |
| KM | 46.0 | 1205 | 1004 | 832 | 736 | 653 | 600 | 613 | 751 | 928 | 1180 | KM | 46.0 | 1482 | 1542 | 1438 | 1306 | 1250 | 1152 | 1208 | 1244 | 1269 | 1270 |
| KM | 45.0 | 1235 | 1035 | 826 | 755 | 670 | 613 | 630 | 777 | 962 | 1219 | KM | 45.0 | 490 | 1357 | 1597 | 1490 | 1353 | 1294 | 1246 | 1377 | 1303 | 1215 |
| KM | 44.0 | 1285 | 1065 | 879 | 772 | 687 | 647 | 623 | 700 | 966 | 1258 | KM | 44.0 | 480 | 1591 | 1647 | 1652 | 1541 | 1339 | 1231 | 1308 | 1349 | 1251 |
| KM | 43.0 | 1285 | 1092 | 900 | 787 | 701 | 632 | 663 | 830 | 1029 | 1294 | KM | 43.0 | 470 | 1644 | 1702 | 1706 | 1592 | 1445 | 1382 | 1269 | 1318 | 1285 |
| KM | 42.0 | 1304 | 1118 | 918 | 799 | 712 | 639 | 677 | 855 | 1061 | 1329 | KM | 42.0 | 460 | 1744 | 1759 | 1642 | 1544 | 1490 | 1424 | 1386 | 1407 | 1346 |
| KM | 41.0 | 1319 | 1141 | 934 | 809 | 721 | 643 | 690 | 870 | 1093 | 1362 | KM | 41.0 | 450 | 1747 | 1807 | 1809 | 1689 | 1532 | 1465 | 1341 | 1382 | 1405 |
| KM | 40.0 | 1327 | 1159 | 946 | 814 | 725 | 644 | 694 | 800 | 1012 | 1391 | KM | 40.0 | 440 | 1795 | 1857 | 1856 | 1734 | 1573 | 1503 | 1373 | 1406 | 1371 |
| KM | 39.0 | 1327 | 1174 | 955 | 815 | 725 | 642 | 707 | 922 | 1150 | 1417 | KM | 39.0 | 430 | 1880 | 1945 | 1940 | 1814 | 1644 | 1569 | 1428 | 1454 | 1409 |
| KM | 38.0 | 1310 | 1183 | 958 | 811 | 725 | 646 | 711 | 735 | 1117 | 1439 | KM | 38.0 | 420 | 1917 | 1982 | 1974 | 1847 | 1673 | 1597 | 1449 | 1456 | 1455 |
| KM | 37.0 | 1289 | 1185 | 958 | 802 | 707 | 622 | 711 | 757 | 1197 | 1456 | KM | 37.0 | 410 | 1947 | 2014 | 2002 | 1874 | 1697 | 1619 | 1465 | 1493 | 1416 |
| KM | 36.0 | 1246 | 1178 | 945 | 782 | 695 | 665 | 690 | 704 | 1216 | 1468 | KM | 36.0 | 400 | 1947 | 2014 | 2002 | 1874 | 1697 | 1619 | 1465 | 1493 | 1416 |
| KM | 35.0 | 1182 | 925 | 759 | 645 | 581 | 571 | 595 | 690 | 1230 | 1473 | KM | 35.0 | 390 | 1971 | 2038 | 2023 | 1985 | 1751 | 1635 | 1475 | 1548 | 1396 |
| KM | 34.0 | 1093 | 1123 | 895 | 722 | 632 | 545 | 545 | 669 | 875 | 1093 | KM | 34.0 | 380 | 1986 | 2055 | 2035 | 1905 | 1725 | 1644 | 1472 | 1396 | 1360 |
| KM | 33.0 | 976 | 1069 | 852 | 672 | 672 | 590 | 505 | 637 | 822 | 1041 | KM | 33.0 | 370 | 1993 | 2022 | 1899 | 1717 | 1632 | 1456 | 1343 | 1339 | |
| KM | 32.0 | 836 | 996 | 795 | 613 | 540 | 456 | 593 | 980 | 1239 | 1430 | KM | 32.0 | 360 | 1993 | 2052 | 1959 | 1787 | 1694 | 1527 | 1309 | 1228 | |
| KM | 31.0 | 676 | 902 | 723 | 543 | 479 | 399 | 539 | 967 | 1226 | 1390 | KM | 31.0 | 340 | 1914 | 1977 | 1933 | 1823 | 1653 | 1376 | 1185 | 997 | |
| KM | 30.0 | 505 | 627 | 537 | 471 | 337 | 470 | 946 | 1200 | 1336 | 1484 | KM | 30.0 | 330 | 1846 | 1899 | 1856 | 1754 | 1595 | 1501 | 1314 | 1080 | |
| KM | 29.0 | 340 | 645 | 538 | 381 | 339 | 394 | 733 | 916 | 1160 | 1268 | KM | 29.0 | 320 | 1754 | 1797 | 1756 | 1664 | 1545 | 1475 | 1348 | 1344 | |
| KM | 28.0 | 195 | 494 | 432 | 300 | 266 | 212 | 312 | 877 | 1106 | 1235 | KM | 28.0 | 310 | 1640 | 1767 | 1636 | 1539 | 1427 | 1336 | 1285 | 1229 | |
| KM | 27.0 | 95.7 | 34.2 | 32.1 | 22.1 | 19.1 | 16.0 | 22.3 | 830 | 1041 | 1105 | KM | 27.0 | 310 | 1640 | 1767 | 1636 | 1539 | 1427 | 1336 | 1285 | 1229 | |
| KM | 26.0 | 37.8 | 30.1 | 22.1 | 15.0 | 12.1 | 11.1 | 14.2 | 772 | 965 | 1021 | KM | 26.0 | 300 | 1514 | 1540 | 1502 | 1435 | 1323 | 1236 | 1057 | 888 | |
| KM | 25.0 | 11.0 | 10.5 | 1.4 | 9.4 | 59.6 | 71.2 | 78.4 | 704 | 876 | 895 | KM | 25.0 | 290 | 1514 | 1577 | 1592 | 1486 | 1357 | 1272 | 1039 | 900 | |
| KM | 24.0 | 4.4 | 44.5 | 77.0 | 50.3 | 27.0 | 36.1 | 57.6 | 624 | 781 | 806 | KM | 24.0 | 280 | 1230 | 1242 | 1207 | 1167 | 1088 | 1010 | 839 | 779 | |
| KM | 23.0 | 14.4 | 36.4 | 22.7 | 8.4 | 13.0 | 54.3 | 683 | 693 | 710 | 661 | KM | 23.0 | 270 | 1090 | 1090 | 1061 | 1031 | 966 | 895 | 727 | 52.8 | |
| KM | 22.0 | 1.4 | 8.9 | 7.8 | 3.5 | 4.9 | 6.1 | 44.3 | 587 | 604 | 625 | KM | 22.0 | 260 | 1720 | 1723 | 1723 | 1694 | 1544 | 1442 | 1232 | 844 | |
| KM | 21.0 | 3.1 | 2.0 | 1.5 | 1.5 | 1.5 | 4.7 | 35.3 | 496 | 528 | 551 | KM | 21.0 | 250 | 1444 | 1444 | 1444 | 1428 | 1305 | 1287 | 1145 | 5.4 | |
| KM | 20.0 | 0.3 | 0.3 | 0.3 | 4.0 | 27.7 | 41.4 | 46.4 | 486 | 511 | 535 | KM | 20.0 | 180 | 1405 | 1405 | 1405 | 1405 | 1321 | 1241 | 1119 | 5.4 | |
| KM | 19.0 | 0.0 | 0.0 | 0.0 | 3.4 | 21.5 | 34.4 | 40.6 | 44.3 | 50.7 | 55.2 | KM | 19.0 | 160 | 1332 | 1329 | 1329 | 1329 | 1254 | 1178 | 1020 | 2.7 | |
| KM | 18.0 | 0.0 | 0.0 | 0.0 | 3.0 | 16.8 | 28.7 | 35.8 | 40.2 | 42.0 | 52.4 | KM | 18.0 | 160 | 1505 | 1505 | 1505 | 1505 | 1429 | 1327 | 1180 | 2.7 | |
| KM | 17.0 | 0.0 | 0.0 | 0.0 | 2.6 | 13.6 | 23.9 | 30.6 | 34.2 | 36.1 | 50.5 | KM | 17.0 | 150 | 291 | 291 | 291 | 291 | 223 | 223 | 154 | 16.4 | |
| KM | 16.0 | 0.0 | 0.0 | 0.0 | 2.3 | 11.5 | 20.1 | 26.2 | 30.1 | 31.9 | 52.0 | KM | 16.0 | 140 | 261 | 261 | 261 | 261 | 256 | 256 | 223 | 14.4 | |
| KM | 15.0 | 0.0 | 0.0 | 0.0 | 2.1 | 10.1 | 17.0 | 22.5 | 26.2 | 27.8 | 51.0 | KM | 15.0 | 130 | 232 | 228 | 227 | 210 | 177 | 127 | 66.8 | | |
| KM | 14.0 | 0.0 | 0.0 | 0.0 | 1.9 | 9.1 | 14.6 | 19.3 | 22.8 | 24.1 | 49.7 | KM | 14.0 | 120 | 211 | 211 | 211 | 195 | 164 | 119 | 62.2 | | |
| KM | 13.0 | 0.0 | 0.0 | 0.0 | 1.7 | 8.5 | 13.8 | 17.2 | | | | | | | | | | | | | | | |

| AVERAGE ELECTRON DENSITY | | | | | | | | | | | | KP ABOVE 4.5 | | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|--------------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|
| PUERTO RICO | | | | | | | | | | | | MAY 1959 | | | | | | | | | | | | | |
| TIME | 0000 | 0100 | 0200 | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 | TIME | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | 2300 |
| COUNT | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 1 | COUNT | 2 | 2 | 3 | 3 | 3 | 2 | 6 | 4 | 4 | 4 | 5 |
| KP | 173 | 119 | 106 | 109 | 97.3 | 87.7 | 87.0 | 82.6 | 80.0 | 78.0 | 70.0 | 55.7 | HMIN | 109 | 109 | 108 | 109 | 109 | 110 | 112 | 265 | 276 | 308 | 292 | |
| DATE | 279 | 238 | 252 | 273 | 261 | 277 | 218 | 110 | 108 | 109 | 109 | 109 | NMAX | 1232 | 1338 | 1467 | 1446 | 1348 | 1413 | 1407 | 1310 | 1476 | 1595 | 1755 | 1585 |
| HMIN | 1695 | 1483 | 994 | 868 | 727 | 808 | 1040 | 1070 | 964 | 1297 | 492 | NMAX | 384 | 395 | 455 | 388 | 370 | 379 | 375 | 425 | 435 | 445 | 444 | 426 | |
| NMAX | 394 | 347 | 389 | 420 | 412 | 422 | 403 | 366 | 351 | 353 | 392 | 415 | SHINF | 1825 | 1983 | 2355 | 1966 | 1714 | 1864 | 1598 | 1300 | 1323 | 1239 | 1375 | 1238 |
| HMAM | 1125 | 986 | 811 | 768 | 764 | 582 | 771 | 1256 | 1356 | 1236 | 196 | 1166 | SHINF | 5300 | 5755 | 6492 | 6046 | 5518 | 5850 | 5567 | 5738 | 6326 | 5709 | | |
| SHINF | 5906 | 5169 | 3630 | 3316 | 3211 | 2631 | 3049 | 4189 | 4372 | 3956 | 5935 | 2553 | KM | 950 | 120 | 134 | 174 | 139 | 125 | 131 | 153 | 185 | 211 | 229 | 191 |
| KM | 950 | 1173 | 119 | 106 | 109 | 97.3 | 87.7 | 87.0 | 82.6 | 80.0 | 78.0 | 55.7 | 900 | 154 | 171 | 223 | 178 | 160 | 178 | 168 | 197 | 237 | 271 | 294 | |
| 900 | 222 | 153 | 136 | 140 | 125 | 112 | 113 | 118 | 113 | 100 | 174 | 71.5 | 800 | 251 | 282 | 284 | 228 | 220 | 216 | 252 | 303 | 346 | 376 | 313 | |
| 850 | 284 | 196 | 174 | 179 | 160 | 143 | 144 | 151 | 145 | 128 | 223 | 91.6 | 750 | 322 | 360 | 456 | 373 | 336 | 312 | 352 | 410 | 493 | 563 | 509 | |
| 800 | 364 | 251 | 228 | 204 | 237 | 184 | 194 | 186 | 164 | 286 | 117 | 119 | 700 | 410 | 458 | 571 | 475 | 428 | 474 | 520 | 624 | 711 | 770 | 645 | |
| 750 | 464 | 321 | 291 | 261 | 233 | 235 | 247 | 237 | 210 | 365 | 149 | 149 | 650 | 519 | 579 | 705 | 602 | 542 | 600 | 569 | 654 | 783 | 890 | 962 | |
| 700 | 591 | 410 | 358 | 331 | 294 | 321 | 303 | 268 | 465 | 190 | 230 | 166 | 600 | 651 | 726 | 850 | 755 | 682 | 752 | 716 | 968 | 1095 | 1183 | 1005 | |
| 650 | 747 | 521 | 449 | 461 | 417 | 369 | 373 | 396 | 385 | 361 | 588 | 239 | 590 | 681 | 758 | 880 | 789 | 713 | 785 | 748 | 846 | 1008 | 1137 | 1229 | |
| 600 | 934 | 658 | 553 | 570 | 520 | 456 | 461 | 496 | 485 | 431 | 738 | 297 | 580 | 711 | 791 | 912 | 824 | 745 | 820 | 782 | 881 | 1048 | 1181 | 1276 | |
| 550 | 1150 | 823 | 667 | 687 | 634 | 548 | 558 | 606 | 538 | 911 | 363 | 363 | 570 | 742 | 825 | 944 | 778 | 778 | 855 | 816 | 916 | 1082 | 1224 | 1322 | |
| 540 | 1195 | 859 | 689 | 711 | 658 | 566 | 577 | 633 | 632 | 562 | 948 | 376 | 560 | 774 | 860 | 977 | 896 | 811 | 892 | 951 | 951 | 1128 | 1267 | 1368 | |
| 530 | 1240 | 896 | 711 | 733 | 681 | 584 | 596 | 657 | 658 | 586 | 985 | 390 | 550 | 806 | 896 | 1010 | 934 | 846 | 929 | 988 | 987 | 1168 | 1310 | 1414 | |
| 520 | 1286 | 933 | 733 | 756 | 704 | 602 | 615 | 681 | 686 | 611 | 1023 | 403 | 540 | 839 | 931 | 1044 | 972 | 881 | 966 | 925 | 1022 | 1208 | 1352 | 1459 | |
| 510 | 1332 | 972 | 754 | 777 | 727 | 618 | 634 | 705 | 713 | 636 | 1061 | 416 | 530 | 872 | 968 | 1078 | 1011 | 916 | 1004 | 962 | 1027 | 1156 | 1217 | 1260 | |
| 500 | 1376 | 1010 | 774 | 796 | 749 | 661 | 672 | 729 | 741 | 661 | 1098 | 428 | 520 | 905 | 1004 | 1044 | 1049 | 952 | 1042 | 1000 | 1091 | 1244 | 1430 | 1343 | |
| 490 | 1420 | 1050 | 791 | 815 | 770 | 648 | 667 | 752 | 769 | 687 | 1135 | 440 | 510 | 939 | 1040 | 1147 | 1088 | 989 | 1080 | 1039 | 1124 | 1220 | 1465 | 1580 | |
| 480 | 1462 | 1089 | 805 | 831 | 790 | 660 | 681 | 775 | 798 | 713 | 1171 | 451 | 500 | 973 | 1076 | 1181 | 1127 | 1025 | 1118 | 1077 | 1156 | 1234 | 1498 | 1615 | |
| 470 | 1502 | 1129 | 815 | 846 | 809 | 725 | 785 | 826 | 796 | 762 | 1205 | 462 | 490 | 1006 | 1112 | 1215 | 1165 | 1151 | 1156 | 1186 | 1281 | 1387 | 1527 | 1646 | |
| 460 | 1540 | 1168 | 820 | 856 | 825 | 769 | 770 | 817 | 853 | 764 | 1238 | 474 | 480 | 1038 | 1146 | 1248 | 1203 | 1097 | 1192 | 1153 | 1213 | 1412 | 1552 | 1672 | |
| 450 | 1574 | 1207 | 822 | 862 | 839 | 783 | 707 | 880 | 876 | 800 | 1270 | 479 | 470 | 1069 | 1180 | 1281 | 1239 | 1132 | 1227 | 1190 | 1238 | 1455 | 1571 | 1692 | |
| 440 | 1605 | 1245 | 818 | 850 | 864 | 850 | 884 | 712 | 864 | 907 | 914 | 1298 | 487 | 460 | 1100 | 1211 | 1311 | 1274 | 1225 | 1259 | 1354 | 1584 | 1702 | 1537 | |
| 430 | 1631 | 1281 | 813 | 860 | 858 | 676 | 714 | 869 | 931 | 838 | 1323 | 489 | 450 | 1128 | 1240 | 1340 | 1307 | 1198 | 1292 | 1260 | 1277 | 1474 | 1577 | 1664 | |
| 420 | 1651 | 1315 | 803 | 848 | 848 | 662 | 714 | 883 | 955 | 860 | 1345 | 492 | 440 | 1154 | 1267 | 1367 | 1337 | 1228 | 1289 | 1291 | 1291 | 1380 | 1577 | 1654 | |
| 410 | 1665 | 1347 | 790 | 828 | 859 | 640 | 714 | 895 | 977 | 881 | 1363 | 492 | 430 | 1177 | 1290 | 1390 | 1364 | 1256 | 1321 | 1295 | 1472 | 1546 | 1652 | 1664 | |
| 400 | 1661 | 1376 | 777 | 799 | 847 | 610 | 710 | 905 | 996 | 906 | 1376 | 491 | 420 | 1197 | 1309 | 1411 | 1387 | 1281 | 1367 | 1347 | 1294 | 1455 | 1490 | 1611 | |
| 390 | 1638 | 1402 | 760 | 760 | 822 | 636 | 783 | 707 | 796 | 914 | 1012 | 489 | 410 | 1213 | 1323 | 1427 | 1406 | 1302 | 1383 | 1369 | 1450 | 1572 | 1620 | | |
| 380 | 1590 | 1423 | 741 | 710 | 794 | 532 | 698 | 921 | 1025 | 930 | 1384 | 487 | 400 | 1225 | 1332 | 1439 | 1419 | 1314 | 1395 | 1387 | 1266 | 1367 | 1502 | | |
| 370 | 1515 | 1437 | 730 | 654 | 748 | 487 | 687 | 96 | 1035 | 942 | 1377 | 483 | 370 | 1231 | 1336 | 1445 | 1427 | 1330 | 1399 | 1354 | 1385 | | | | |
| 360 | 1414 | 1445 | 695 | 695 | 695 | 676 | 729 | 1041 | 930 | 965 | 840 | 1047 | 478 | 380 | 1231 | 1332 | 1445 | 1426 | 1334 | 1395 | 1354 | | | | |
| 350 | 1297 | 1444 | 705 | 524 | 630 | 384 | 670 | 920 | 1042 | 951 | 1332 | 471 | 370 | 1222 | 1320 | 1435 | 1417 | 1330 | 1381 | 1404 | 1193 | 1285 | | | |
| 340 | 1148 | 1429 | 697 | 455 | 556 | 388 | 623 | 928 | 1039 | 950 | 1294 | 463 | 360 | 1204 | 1297 | 1413 | 1400 | 1318 | 1357 | 1389 | 1071 | 967 | 867 | | |
| 330 | 950 | 1396 | 686 | 386 | 477 | 299 | 591 | 951 | 1030 | 943 | 1244 | 455 | 350 | 1177 | 1263 | 1375 | 1370 | 1293 | 1328 | 1316 | 970 | 854 | | | |
| 320 | 739 | 1341 | 669 | 315 | 395 | 259 | 551 | 919 | 1013 | 922 | 1184 | 446 | 340 | 1133 | 1216 | 1329 | 1326 | 1258 | 1273 | 1319 | 905 | 944 | 542 | | |
| 310 | 551 | 1266 | 642 | 259 | 316 | 505 | 913 | 993 | 993 | 993 | 1118 | 436 | 330 | 1084 | 1163 | 1271 | 1271 | 1209 | 1223 | 1262 | 810 | 550 | 497 | | |
| 300 | 384 | 1159 | 605 | 208 | 243 | 188 | 447 | 903 | 965 | 840 | 1047 | 426 | 320 | 1030 | 1097 | 1197 | 1203 | 1148 | 1161 | 1190 | 706 | 405 | 994 | | |
| 290 | 233 | 1027 | 558 | 168 | 175 | 159 | 388 | 691 | 927 | 785 | 969 | 415 | 310 | 967 | 1023 | 1121 | 1126 | 1070 | 1089 | 1108 | 587 | 707 | 854 | | |
| 280 | 315 | 857 | 496 | 115 | 128 | 816 | 127 | 309 | 883 | 740 | 888 | 405 | 300 | 900 | 946 | 1037 | 1038 | 991 | 1012 | 1020 | 474 | 165 | 234 | | |
| 270 | 316 | 662 | 427 | 890 | 810 | 581 | 940 | 231 | 838 | 830 | 839 | 692 | 290 | 833 | 865 | 940 | 953 | 908 | 925 | 924 | 362 | 904 | 67.0 | | |
| 260 | 8.0 | 456 | 348 | 54. | 53. | 50. | 58. | 0 | 162 | 791 | 774 | 646 | 280 | 765 | 788 | 852 | 870 | 811 | 836 | 820 | 26.8 | 45.6 | 6.5 | | |
| 250 | 273 | 262 | 287 | 26.3 | 25.0 | 121 | 733 | 713 | 593 | 667 | 667 | 368 | 270 | 699 | 705 | 789 | 724 | 746 | 746 | 719 | 24.3 | | | | |
| 240 | 131 | 171 | 3.1 | 12.4 | 11.6 | 94.8 | 658 | 649 | 543 | 602 | 368 | 340 | 260 | 638 | 634 | 692 | 709 | 646 | 662 | 621 | 814 | 13.0 | | | |
| 230 | 43.8 | 94.2 | 4.0 | 3.1 | 12.4 | 11.6 | 94.8 | 658 | 649 | 545 | 546 | 361 | 250 | 583 | 576 | 640 | 404 | 396 | 381 | 328 | 293 | 154 | | | |
| 220 | 2.4 | 39.0 | 7.7 | 0.0 | 4.0 | 4.2 | 52.2 | 56.7 | 585 | 545 | 546 | 355 | 240 | 539 | 528 | 567 | 475 | 428 | 436 | 372 | 299 | 127 | | | |
| 210 | 140 | 140 | 103 | 103 | 103 | 152 | 220 | 251 | 278 | 278 | 278 | 278 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | | |
| 200 | 140 | 40.2 | 36.0 | 44.6 | 44.6 | 41.8 | 456 | 350 | 345 | 345 | 345 | 345 | 220 | 469 | 461 | 485 | 473 | 425 | 425 | 408 | 408 | 408 | 408 | | |
| 190 | 140 | 25.0 | 21.2 | 20.5 | 20.5 | 24.7 | 347 | 390 | 340 | 340 | 340 | 340 | 210 | 443 | 439 | 453 | 438 | 387 | 387 | 387 | 387 | 387 | 387 | | |
| 180 | 140 | 20.9 | 16.7 | 24.6 | 31.7 | 36.0 | 33.4 | 322 | 322 | 322 | 322 | 322 | 200 | 421 | 421 | 424 | 407 | 358 | 329 | 185 | | | | | |
| 170 | 140 | 17.8 | 13.7 | 20.2 | 28.7 | 326 | 322 | 322 | 322 | 322 | 322 | 322 | 190 | 401 | 404 | 396 | 381 | 328 | 293 | 154 | | | | | |
| 160 | 140 | 15.8 | 11.7 | 17.5 | 25.4 | 29.0 | 31 | | | | | | | | | | | | | | | | | | |

TABLES OF IONOSPHERIC DATA

FEBRUARY 1959 - NOVEMBER 1952

Table 1

| Thule, Greenland (76.6°N, 68.7°W) | | | | | | | February 1959 | | |
|-----------------------------------|--------|------|-------|--------|--------|-----|---------------|-----------|--|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | --- | 270 | | | | | | | |
| 01 | (6.5) | 270 | | | | | | (2.75) | |
| 02 | (3.85) | 270 | | | | | | (2.58) | |
| 03 | (4.7) | 265 | | | | | | --- | |
| 04 | (4.5) | 270 | | | | | | --- | |
| 05 | (4.5) | 280 | --- | --- | | | | (2.50) | |
| 06 | --- | 270 | --- | --- | | | | --- | |
| 07 | (3.8) | 260 | --- | --- | | | | --- | |
| 08 | (7.0) | 260 | 127 | ---- | | | | (2.80) | |
| 09 | (6.65) | 265 | <151 | (1.90) | | | | 2.78 | |
| 10 | 6.5 | 270 | (131) | 1.68 | | | | 2.92 | |
| 11 | --- | 255 | --- | 121 | (1.62) | | | (2.85) | |
| 12 | (7.2) | 265 | (127) | (2.05) | | | | (2.70) | |
| 13 | (7.0) | 260 | 129 | (1.75) | | | | (2.85) | |
| 14 | 6.5 | 255 | 121 | (1.50) | | | | 2.75 | |
| 15 | (6.7) | 260 | 123 | ---- | | | | (2.72) | |
| 16 | (6.2) | 260 | --- | --- | | | | (2.62) | |
| 17 | (6.35) | 250 | --- | --- | | | | (2.60) | |
| 18 | (5.75) | 260 | | | | | | --- | |
| 19 | (6.7) | 265 | | | | | | (2.70) | |
| 20 | (6.9) | 260 | | | | | | (2.65) | |
| 21 | (5.6) | 270 | | | | | | (2.50) | |
| 22 | (5.3) | 260 | | | | | | --- | |
| 23 | (6.1) | 260 | | | | | | (2.62) | |

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

| Fairbanks, Alaska (64.9°N, 147.8°W) | | | | | | | February 1959 | | |
|-------------------------------------|--------|------|-----|------|------|--------|---------------|-----------|--|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | (2.3) | | | | | 3.5 | | (2.50) | |
| 01 | (3.4) | | | | | 3.4 | | (2.50) | |
| 02 | (3.3) | | | | | 3.5 | | (2.40) | |
| 03 | (3.65) | | | | | 2.9 | | (2.35) | |
| 04 | (2.85) | | | | | 3.4 | | (2.35) | |
| 05 | (3.3) | | | | | 4.0 | | (2.38) | |
| 06 | (3.7) | | | | | 3.9 | | (2.48) | |
| 07 | (3.5) | | | | | 2.4 | | (2.60) | |
| 08 | (5.0) | | | | | (2.85) | | | |
| 09 | 5.0 | | | | | 2.80 | | | |
| 10 | 7.25 | | --- | 129 | 1.50 | 2.90 | | | |
| 11 | 7.7 | | 124 | 1.70 | | 2.85 | | | |
| 12 | 8.1 | | 119 | 1.80 | | 2.82 | | | |
| 13 | 9.2 | | 125 | 1.80 | | 2.85 | | | |
| 14 | 9.8 | | 125 | 1.70 | | 2.80 | | | |
| 15 | 10.15 | | --- | E | | 2.85 | | | |
| 16 | 10.35 | | --- | E | | 2.88 | | | |
| 17 | 9.4 | | | | | 2.90 | | | |
| 18 | (7.3) | | | | | (2.80) | | | |
| 19 | (5.0) | | | | | (2.75) | | | |
| 20 | (4.1) | | | | 2.1 | (2.85) | | | |
| 21 | (3.45) | | | | 2.2 | (2.75) | | | |
| 22 | (2.9) | | | | 2.5 | (2.62) | | | |
| 23 | (2.85) | | | | 2.6 | (2.70) | | | |

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

| Okinawa I. (26.3°N, 127.8°E) | | | | | | | February 1959 | | |
|------------------------------|---------|-------|--------|--------|--------|------|---------------|-----------|--|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | (12.7) | 235 | | | | | | (2.85) | |
| 01 | (10.6) | 240 | | | | | | (2.78) | |
| 02 | 9.3 | 240 | | | | | | 2.88 | |
| 03 | 7.6 | 235 | | | | | | 2.90 | |
| 04 | 6.5 | 220 | | | | | | 3.00 | |
| 05 | 5.2 | 220 | | | | | | 2.80 | |
| 06 | 4.4 | (280) | | | | | | 2.70 | |
| 07 | 6.2 | 280 | --- | --- | | | | 2.80 | |
| 08 | 11.0 | 235 | <117 | 2.70 | | | | 3.15 | |
| 09 | 13.35 | 230 | 109 | 3.18 | | | | 3.10 | |
| 10 | 14.0 | 230 | 109 | (3.60) | | | | 3.00 | |
| 11 | 14.9 | 220 | 109 | (3.90) | | | | 2.90 | |
| 12 | 14.9 | 220 | (109) | (4.00) | 4.5 | | | 2.75 | |
| 13 | (345) | 15.75 | <220 | 107 | (4.10) | 4.4 | | 2.70 | |
| 14 | (350) | 16.0 | 220 | --- | (109) | 4.3 | | 2.65 | |
| 15 | 340 | 16.65 | 220 | 109 | (3.80) | >3.9 | | 2.60 | |
| 16 | (335) | 16.5 | 230 | 109 | (3.40) | 3.6 | | 2.65 | |
| 17 | 16.55 | 240 | (1115) | 2.90 | 3.0 | | | 2.65 | |
| 18 | 16.9 | 245 | | | | | | 2.70 | |
| 19 | 17.45 | 245 | | | | | | 2.70 | |
| 20 | >18.15 | 260 | | | | | | (2.70) | |
| 21 | (18.15) | 230 | | | | | | (2.80) | |
| 22 | (17.0) | 220 | | | | | | (2.82) | |
| 23 | (15.0) | 230 | | | | | | (2.85) | |

Time: 135.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

| Point Barrow, Alaska (71.3°N, 156.8°W) | | | | | | | February 1959 | | |
|--|------|------|-----|------|-----|-----|---------------|-----------|--|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | | | | | | | |
| 01 | | | | | | | | | |
| 02 | | | | | | | | | |
| 03 | | | | | | | | | |
| 04 | | | | | | | | | |
| 05 | | | | | | | | | |
| 06 | | | | | | | | | |
| 07 | | | | | | | | | |
| 08 | | | | | | | | | |
| 09 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |
| 18 | | | | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 4

| Ft. Monmouth, New Jersey (40.4°N, 74.1°W) | | | | | | | February 1959 | | |
|---|------|------|-----|------|-----|-----|---------------|-----------|--|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | | | | | | | |
| 01 | | | | | | | | | |
| 02 | | | | | | | | | |
| 03 | | | | | | | | | |
| 04 | | | | | | | | | |
| 05 | | | | | | | | | |
| 06 | | | | | | | | | |
| 07 | | | | | | | | | |
| 08 | | | | | | | | | |
| 09 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |
| 18 | | | | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 6

| Talara, Peru (4.6°S, 81.3°W) | | | | | | | February 1959 | | |
|------------------------------|------|------|-----|------|-----|-----|---------------|-----------|--|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | | | | | | | |
| 01 | | | | | | | | | |
| 02 | | | | | | | | | |
| 03 | | | | | | | | | |
| 04 | | | | | | | | | |
| 05 | | | | | | | | | |
| 06 | | | | | | | | | |
| 07 | | | | | | | | | |
| 08 | | | | | | | | | |
| 09 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |
| 18 | | | | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 7

| Point Barrow, Alaska (71.3°N, 156.8°W) | | | | | | | January 1959 | |
|--|--------|-------|-----|------|------|--------|--------------|-----------|
| Time | h'F2 | f0F2 | h'F | foF1 | h'E | foE | foEs | (N3000)F2 |
| 00 | (4.3) | 285 | | | 4.8 | (2.88) | | |
| 01 | (4.3) | 300 | | | 4.9 | (2.80) | | |
| 02 | (4.4) | 290 | | | 4.4 | (2.80) | | |
| 03 | (4.45) | 310 | | | 3.4 | (2.75) | | |
| 04 | (4.4) | 305 | | | 2.3 | (2.65) | | |
| 05 | (4.4) | 345 | | | 2.3 | (2.60) | | |
| 06 | (4.6) | 340 | | | 2.8 | (2.65) | | |
| 07 | (4.6) | 330 | | | 2.5 | (2.70) | | |
| 08 | --- | >4.8 | 335 | --- | 3.0 | (2.70) | | |
| 09 | (5.15) | 310 | --- | --- | 3.6 | (2.80) | | |
| 10 | 5.8 | 310 | --- | --- | 3.0 | 2.80 | | |
| 11 | (7.2) | 275 | --- | --- | | (2.98) | | |
| 12 | 7.75 | (260) | --- | --- | | 2.92 | | |
| 13 | 9.1 | 265 | --- | --- | | 2.88 | | |
| 14 | 10.1 | 250 | | | | 2.85 | | |
| 15 | 10.0 | 250 | | | | 2.90 | | |
| 16 | 10.15 | 240 | | | | 3.00 | | |
| 17 | 8.55 | 250 | | | | 2.95 | | |
| 18 | (6.65) | 265 | | | | 2.90 | | |
| 19 | (4.55) | 280 | | | >2.3 | (2.80) | | |
| 20 | (4.4) | 295 | | | 2.6 | 2.90 | | |
| 21 | (4.3) | 300 | | | 3.0 | 2.85 | | |
| 22 | (4.45) | 290 | | | 3.7 | 2.80 | | |
| 23 | (4.0) | 310 | | | 3.9 | (2.65) | | |

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 9

| Ft. Monmouth, New Jersey (40.4°N, 74.1°W) | | | | | | | January 1959 | |
|---|-------|------|-------|------|-------|------|--------------|-----------|
| Time | h'F2 | f0F2 | h'F | foF1 | h'E | foE | foEs | (N3000)F2 |
| 00 | 6.0 | 270 | | | | 2.80 | | |
| 01 | 6.0 | 270 | | | | 2.80 | | |
| 02 | 5.95 | 270 | | | | 2.82 | | |
| 03 | 5.8 | 265 | | | | 2.80 | | |
| 04 | 5.2 | 260 | | | | 2.75 | | |
| 05 | 5.0 | 260 | | | | 2.80 | | |
| 06 | 4.7 | 255 | | | | 2.90 | | |
| 07 | 5.5 | 250 | | | | 2.95 | | |
| 08 | 9.4 | 230 | <120 | 2.50 | | 3.20 | | |
| 09 | 12.2 | 230 | | 121 | 3.00 | 3.05 | | |
| 10 | 14.0 | 225 | | 117 | 3.30 | 3.05 | | |
| 11 | 14.3 | 225 | | 117 | >3.50 | 2.95 | | |
| 12 | 14.1 | 230 | | 115 | 3.60 | 2.85 | | |
| 13 | 13.8 | 230 | | 117 | 3.50 | 2.80 | | |
| 14 | 13.7 | 230 | | 115 | 3.38 | 2.80 | | |
| 15 | 13.6 | 235 | | 119 | 3.10 | 2.85 | | |
| 16 | 13.15 | 235 | (121) | 2.70 | | 2.05 | | |
| 17 | 12.75 | 235 | | | | 2.85 | | |
| 18 | 11.35 | 230 | | | | 2.90 | | |
| 19 | 9.95 | 230 | | | | 2.85 | | |
| 20 | 8.65 | 240 | | | | 2.85 | | |
| 21 | 7.6 | 250 | | | | 2.80 | | |
| 22 | 7.1 | 255 | | | | 2.85 | | |
| 23 | 6.4 | 260 | | | | 2.85 | | |

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 11

| Talara, Peru (4.6°S, 81.3°W) | | | | | | | January 1959 | |
|------------------------------|--------|---------|------|-------|------|--------|--------------|-----------|
| Time | h'F2 | f0F2 | h'F | foF1 | h'E | foE | foEs | (N3000)F2 |
| 00 | 11.75 | 250 | | | 3.9 | 2.80 | | |
| 01 | 10.1 | 240 | | | 4.4 | 2.90 | | |
| 02 | 9.0 | 245 | | | 4.3 | 2.95 | | |
| 03 | 8.05 | 240 | | | 4.1 | 3.05 | | |
| 04 | 6.9 | 230 | | | 3.9 | 3.20 | | |
| 05 | 5.4 | 230 | | | 3.8 | 3.15 | | |
| 06 | 4.9 | 260 | --- | --- | 2.2 | 2.70 | | |
| 07 | 9.2 | 260 | 121 | 2.50 | 4.2 | 2.80 | | |
| 08 | 12.2 | 240 | 110 | 3.25 | 4.5 | 2.80 | | |
| 09 | 13.5 | 230 | 110 | 3.75 | 4.2 | 2.62 | | |
| 10 | 14.1 | 220 | 109 | 4.10 | 5.0 | 2.48 | | |
| 11 | 14.2 | 210 | 109 | 4.30 | 4.9 | 2.30 | | |
| 12 | (4.90) | 14.2 | 210 | 109 | 4.40 | 2.25 | | |
| 13 | 500 | 14.1 | 205 | 6.6 | 107 | 4.40 | | |
| 14 | 490 | 14.2 | 200 | 6.4 | 109 | 4.30 | 4.6 | 2.05 |
| 15 | (4.90) | 14.1 | 205 | (6.2) | 107 | 4.05 | 4.6 | 2.10 |
| 16 | (500) | 14.0 | 230 | --- | 109 | 3.80 | 5.0 | 2.20 |
| 17 | --- | (13.25) | 250 | 111 | 3.40 | 4.2 | (2.20) | |
| 18 | 13.1 | 270 | <122 | 2.70 | 4.4 | 2.20 | | |
| 19 | 12.9 | 305 | --- | --- | 4.4 | 2.30 | | |
| 20 | (12.9) | 360 | | | 3.1 | (2.20) | | |
| 21 | (13.8) | 350 | | | 2.2 | (2.25) | | |
| 22 | (13.5) | (310) | | | 2.6 | (2.35) | | |
| 23 | 12.55 | 270 | | | 3.8 | (2.68) | | |

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 8

| St. John's, Newfoundland (47.6°N, 52.7°W) | | | | | | | January 1959 | |
|---|------|------|-------|------|-------|------|--------------|-----------|
| Time | h'F2 | f0F2 | h'F | foF1 | h'E | foE | foEs | (N3000)F2 |
| 00 | | | 5.8 | <300 | | | | 2.55 |
| 01 | | | 5.8 | 300 | | | | 2.58 |
| 02 | | | 5.6 | 300 | | | | 2.65 |
| 03 | | | 5.4 | 270 | | | | 2.65 |
| 04 | | | 4.9 | 260 | | | | 2.70 |
| 05 | | | 4.6 | 265 | | | | 2.70 |
| 06 | | | 4.2 | 250 | | | | 2.85 |
| 07 | | | 6.0 | 255 | (133) | 1.80 | | 2.95 |
| 08 | | | 9.7 | 240 | <131 | 2.50 | | 3.05 |
| 09 | | | 12.4 | 240 | (123) | 2.90 | | 3.10 |
| 10 | | | 13.2 | 235 | 119 | 3.20 | | 3.00 |
| 11 | | | 14.0 | 235 | 119 | 3.30 | | 3.00 |
| 12 | | | 13.8 | 235 | 121 | 3.35 | | 2.90 |
| 13 | | | 13.85 | 240 | 121 | 3.22 | | 2.88 |
| 14 | | | 13.6 | 240 | 120 | 3.00 | | 2.85 |
| 15 | | | 13.2 | 240 | (125) | 2.60 | | 2.85 |
| 16 | | | 12.8 | 240 | <137 | 2.10 | | 2.90 |
| 17 | | | 11.55 | 235 | | | | 2.82 |
| 18 | | | 10.0 | 230 | | | | 2.85 |
| 19 | | | (8.5) | 240 | | | | (2.80) |
| 20 | | | 7.65 | 260 | | | | 2.75 |
| 21 | | | 7.0 | 270 | | | | 2.70 |
| 22 | | | 6.5 | 280 | | | | 2.70 |
| 23 | | | (6.0) | 290 | | | | (2.60) |

Time: 60.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 10

| Grand Bahama I. (26.6°N, 78.2°W) | | | | | | | January 1959 | |
|----------------------------------|------|------|-------|------|-------|------|--------------|-----------|
| Time | h'F2 | f0F2 | h'F | foF1 | h'E | foE | foEs | (N3000)F2 |
| 00 | | | 6.6 | 250 | | | | 2.95 |
| 01 | | | 5.9 | 250 | | | | 2.95 |
| 02 | | | 5.2 | 240 | | | | 3.05 |
| 03 | | | 4.5 | 250 | | | | 2.90 |
| 04 | | | 4.4 | 275 | | | | 2.68 |
| 05 | | | 4.5 | 275 | | | | 2.70 |
| 06 | | | 4.5 | 260 | | | | 2.85 |
| 07 | | | 6.95 | 250 | <171 | 1.82 | | 3.10 |
| 08 | | | 10.5 | 230 | 111 | 2.75 | | 3.30 |
| 09 | | | 12.0 | 230 | 109 | 3.20 | | 3.20 |
| 10 | | | 12.05 | 220 | 105 | 3.60 | 3.7 | 3.05 |
| 11 | | | 13.1 | 215 | 105 | 3.82 | 4.0 | 2.90 |
| 12 | | | 13.4 | 220 | 105 | 3.95 | 4.0 | 2.80 |
| 13 | | | 13.0 | 225 | 106 | 3.92 | 4.0 | 2.72 |
| 14 | | | 12.6 | 220 | 107 | 3.80 | | 2.70 |
| 15 | | | 12.7 | 230 | <111 | 3.60 | | 2.65 |
| 16 | | | 12.4 | 240 | (111) | 3.25 | | 2.70 |
| 17 | | | 12.15 | 240 | <119 | 2.60 | | 2.65 |
| 18 | | | 11.35 | 230 | | | | 2.8 |
| 19 | | | 9.65 | 225 | | | | 2.85 |
| 20 | | | 8.9 | 240 | | | | 2.85 |
| 21 | | | 8.0 | 240 | | | | 1.9 |
| 22 | | | 7.1 | 250 | | | | 2.82 |
| 23 | | | 6.6 | 250 | | | | 2.1 |

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 12

| Chimbote, Peru (9.1°S, 78.6°W) | | | | | | | January 1959 | |
|--------------------------------|------|------|-------|-------|-------|------|--------------|-----------|
| Time | h'F2 | f0F2 | h'F | foF1 | h'E | foE | foEs | (N3000)F2 |
| 00 | | | >9.9 | 320 | | | | 2.65 |
| 01 | | | >9.0 | 275 | | | | 2.80 |
| 02 | | | 8.5 | 265 | | | | 2.80 |
| 03 | | | 8.0 | 250 | | | | 3.05 |
| 04 | | | 6.25 | 235 | | | | 3.12 |
| 05 | | | 5.5 | 235 | | | | 3.10 |
| 06 | | | 6.25 | 290 | (129) | 1.55 | | 2.80 |
| 07 | | | 10.15 | 260 | (121) | 2.70 | 4.0 | 2.80 |
| 08 | | | 12.5 | 245 | 119 | 3.40 | 4.5 | 2.65 |
| 09 | | | 13.25 | 230 | 117 | 3.90 | 6.7 | 2.55 |
| 10 | | | 14.0 | 220 | 117 | 4.18 | 7.2 | 2.35 |
| 11 | | | 13.9 | 220 | 117 | 4.35 | 8.2 | 2.20 |
| 12 | | | >13.3 | 215 | --- | <117 | (4.40) | 7.7 |
| 13 | | | 530 | 13.05 | 215 | 6.6 | (4.38) | 5.8 |
| 14 | | | 530 | 12.2 | 210 | 6.4 | 118 | (4.25) |
| 15 | | | 500 | 12.3 | 215 | 6.1 | 117 | 4.00 |
| 16 | | | (535) | | | | | |

Table 13

| Resolute Bay, Canada (74.7°N, 94.9°W) | | | | | | | October 1958 | |
|---------------------------------------|-------|------|-----|------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | 6.4 | 260 | --- | --- | | | (2.5) | |
| 01 | 6.8 | 250 | --- | --- | | | (2.5) | |
| 02 | 6.2 | 260 | --- | --- | | | (2.5) | |
| 03 | (5.7) | 260 | --- | --- | | | --- | |
| 04 | (5.8) | 270 | --- | --- | 1.8 | | --- | |
| 05 | 5.0 | 270 | --- | --- | 3.2 | | --- | |
| 06 | 5.4 | 280 | --- | --- | 1.4 | 2.0 | --- | |
| 07 | 6.3 | 270 | --- | --- | 1.5 | 3.0 | (2.6) | |
| 08 | (7.0) | 260 | 130 | 1.8 | 2.2 | | (2.7) | |
| 09 | 7.1 | 260 | 115 | 2.0 | | | 2.6 | |
| 10 | 8.0 | 250 | 110 | 2.2 | | | 2.7 | |
| 11 | 8.0 | 260 | 110 | 2.3 | | | 2.6 | |
| 12 | 8.1 | 250 | 110 | 2.3 | | | 2.7 | |
| 13 | 8.0 | 250 | 115 | 2.3 | | | 2.7 | |
| 14 | 8.0 | 260 | 110 | 2.2 | | | 2.55 | |
| 15 | 8.4 | 270 | 120 | 2.0 | | | 2.6 | |
| 16 | 8.0 | 270 | 130 | 1.8 | | | 2.55 | |
| 17 | 8.1 | 260 | --- | 1.6 | | | 2.55 | |
| 18 | 8.0 | 260 | --- | 1.4 | | | (2.4) | |
| 19 | 6.8 | 270 | --- | 1.3 | | | --- | |
| 20 | 7.0 | 270 | --- | --- | | | (2.4) | |
| 21 | 6.8 | 260 | --- | --- | | | 2.5 | |
| 22 | 7.0 | 250 | --- | --- | | | (2.5) | |
| 23 | 7.0 | 270 | --- | --- | | | (2.4) | |

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 15

| Kiruna, Sweden (67.8°N, 20.3°E) | | | | | | | October 1958 | |
|---------------------------------|-------|------|-----|------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | 6.4 | 350 | | | 4.7 | | (2.4) | |
| 01 | 7.0 | 345 | | | 4.6 | | (2.4) | |
| 02 | 7.0 | 330 | | | 3.2 | | 2.4 | |
| 03 | 7.0 | 310 | | | 3.0 | | 2.5 | |
| 04 | 6.6 | 305 | --- | --- | 2.8 | | 2.5 | |
| 05 | 6.0 | 285 | --- | --- | 2.2 | | 2.6 | |
| 06 | 6.0 | 280 | --- | 1.7 | | | 2.6 | |
| 07 | 7.0 | 260 | --- | 1.8 | | | 2.8 | |
| 08 | 8.2 | 250 | --- | 2.1 | | | 2.8 | |
| 09 | 10.2 | 245 | 120 | 2.4 | | | 2.8 | |
| 10 | 11.4 | 245 | 120 | 2.6 | | | 2.8 | |
| 11 | 12.8 | 245 | 110 | 2.6 | | | 2.8 | |
| 12 | 12.9 | 240 | 115 | 2.7 | | | 2.8 | |
| 13 | 13.0 | 240 | 115 | 2.6 | | | 2.8 | |
| 14 | 12.6 | 240 | 115 | 2.4 | | | 2.8 | |
| 15 | 11.8 | 245 | --- | 2.1 | | | 2.8 | |
| 16 | 11.5 | 240 | --- | 1.8 | | | 2.8 | |
| 17 | 11.0 | 235 | --- | 1.6 | 3.0 | | 2.8 | |
| 18 | 9.0 | 240 | | | 3.2 | | 2.8 | |
| 19 | 7.2 | 250 | | | 3.6 | | 2.7 | |
| 20 | 6.4 | 280 | | | 3.5 | | 2.6 | |
| 21 | 6.2 | 305 | | | 3.8 | | 2.5 | |
| 22 | (6.0) | 340 | | | 4.0 | | (2.6) | |
| 23 | (5.4) | 340 | | | 5.0 | | (2.4) | |

Time: 15.0°E.

Sweep: 0.8 Mc to 14.0 Mc in 30 seconds.

Table 17

| Lulea, Sweden (65.6°N, 22.1°E) | | | | | | | October 1958* | |
|--------------------------------|-------|-------|-----|------|------|-----|---------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | (5.6) | (340) | | | 3.0 | | (2.2) | |
| 01 | (5.8) | (330) | | | 2.8 | | (2.3) | |
| 02 | (5.6) | (305) | | | <2.2 | | (2.3) | |
| 03 | (5.4) | 320 | | | 1.9 | | (2.3) | |
| 04 | (6.1) | 280 | | | <1.5 | | (2.4) | |
| 05 | (5.8) | 275 | --- | --- | <1.4 | | (2.5) | |
| 06 | (6.3) | 260 | 155 | 1.8 | | | 2.6 | |
| 07 | 7.7 | 260 | 150 | 2.2 | | | 2.7 | |
| 08 | 6.5 | 250 | 130 | 2.5 | | | 2.8 | |
| 09 | 10.1 | (250) | 130 | 2.8 | | | 2.8 | |
| 10 | 10.8 | 250 | 125 | 2.9 | | | 2.7 | |
| 11 | 11.3 | 245 | 120 | 3.0 | | | (2.7) | |
| 12 | 12.0 | 240 | 120 | 3.0 | | | (2.7) | |
| 13 | 11.7 | 240 | 120 | 2.9 | | | (2.7) | |
| 14 | 11.8 | 240 | 130 | 2.7 | | | (2.7) | |
| 15 | 11.5 | 240 | 130 | 2.4 | | | (2.85) | |
| 16 | 10.5 | 250 | 150 | 2.0 | | | 2.8 | |
| 17 | 9.6 | 250 | --- | --- | <1.8 | | 2.8 | |
| 18 | 9.8 | 240 | --- | --- | <1.5 | | 2.8 | |
| 19 | 8.3 | 250 | --- | --- | <1.9 | | 2.7 | |
| 20 | (6.2) | 280 | | | 2.3 | | (2.55) | |
| 21 | (5.6) | 300 | | | <2.4 | | (2.5) | |
| 22 | (5.4) | 335 | | | 3.1 | | (2.4) | |
| 23 | (5.6) | 330 | | | 2.6 | | (2.3) | |

Time: 15.0°E.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

*Observations taken 18 days only.

Table 14

| Tromso, Norway (69.7°N, 19.0°E) | | | | | | | October 1958 | |
|---------------------------------|------|------|-------|-------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | | | (6.3) | (350) | | | 4.7 | ---- |
| 01 | | | (5.2) | 360 | | | 4.0 | ---- |
| 02 | | | (6.6) | 340 | | | 4.0 | ---- |
| 03 | | | (6.6) | 330 | | | 4.0 | ---- |
| 04 | | | (5.7) | 305 | | | 3.2 | ---- |
| 05 | | | 6.1 | 300 | | | 3.0 | 2.50 |
| 06 | | | (6.2) | 285 | | | 1.40 | 2.3 |
| 07 | | | 7.8 | 260 | | | 2.60 | ---- |
| 08 | | | 8.5 | 255 | | | 2.20 | 2.70 |
| 09 | | | 10.2 | 255 | | | 2.45 | 2.70 |
| 10 | | | 11.8 | 250 | | | 2.65 | 2.70 |
| 11 | | | 11.8 | (250) | | | 2.70 | 2.70 |
| 12 | | | 12.9 | (255) | | | 2.70 | 2.70 |
| 13 | | | 13.0 | 13.0 | | | 2.70 | 2.70 |
| 14 | | | 12.0 | 12.0 | | | 2.50 | 2.70 |
| 15 | | | 11.0 | 240 | | | 2.20 | 2.75 |
| 16 | | | 10.9 | 245 | | | 1.90 | 2.85 |
| 17 | | | (9.4) | 250 | | | 1.70 | 2.9 |
| 18 | | | (5.6) | 255 | | | 3.0 | ---- |
| 19 | | | (6.2) | 290 | | | 3.6 | ---- |
| 20 | | | (6.1) | 300 | | | 3.8 | ---- |
| 21 | | | (5.3) | 320 | | | 4.9 | ---- |
| 22 | | | (5.9) | (340) | | | 4.2 | ---- |
| 23 | | | (5.6) | 340 | | | 4.2 | ---- |

Time: 15.0°E.

Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 16

| Sodankyla, Finland (67.4°N, 26.6°E) | | | | | | | October 1958 | |
|-------------------------------------|------|------|-------|------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | | | (5.5) | 345 | | | 4.3 | (2.50) |
| 01 | | | (5.1) | 350 | | | 4.2 | (2.50) |
| 02 | | | --- | 330 | | | 4.2 | ---- |
| 03 | | | --- | 320 | | | 3.7 | ---- |
| 04 | | | --- | 310 | | | 3.6 | ---- |
| 05 | | | --- | 300 | | | 3.7 | ---- |
| 06 | | | (4.7) | 300 | | | 3.6 | (2.60) |
| 07 | | | 6.9 | 270 | | | 3.9 | 2.80 |
| 08 | | | 7.6 | 260 | | | 4.2 | 2.85 |
| 09 | | | 9.5 | 250 | | | 4.4 | 2.05 |
| 10 | | | 10.8 | 250 | | | 4.5 | 2.80 |
| 11 | | | 11.6 | 250 | | | 4.4 | 2.85 |
| 12 | | | 12.8 | 245 | | | 4.4 | 2.85 |
| 13 | | | 13.6 | 240 | | | 4.4 | 2.85 |
| 14 | | | 13.2 | 240 | | | 4.4 | 2.85 |
| 15 | | | 12.8 | 250 | | | 4.2 | 2.85 |
| 16 | | | 12.6 | 240 | | | 4.2 | 2.90 |
| 17 | | | 11.8 | 240 | | | 4.0 | 2.90 |
| 18 | | | 11.0 | 245 | | | 4.0 | 2.90 |
| 19 | | | 9.6 | 245 | | | 4.0 | 2.85 |
| 20 | | | 8.3 | 260 | | | 4.0 | 2.80 |
| 21 | | | 6.9 | 290 | | | 4.0 | 2.70 |
| 22 | | | (6.3) | 320 | | | 4.0 | ---- |
| 23 | | | (6.0) | 350 | | | 4.2 | (2.50) |

Time: 30.0°E.

Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 18

| Lycksele, Sweden (64.6°N, 18.6°E) | | | | | | | October 1958 | |
|-----------------------------------|------|------|------|------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | | | 5.9 | 330 | | | 3.3 | 2.4 |
| 01 | | | 5.4 | 330 | | | 3.2 | 2.4 |
| 02 | | | 5.6 | 300 | | | 3.1 | 2.4 |
| 03 | | | 5.6 | 300 | | | 3.1 | 2.4 |
| 04 | | | 5.2 | 280 | | | 2.8 | 2.4 |
| 05 | | | 5.0 | 260 | | | 2.5 | 2.4 |
| 06 | | | 5.6 | 265 | | | 2.8 | 2.6 |
| 07 | | | 7.4 | 250 | | | 2.85 | 2.7 |
| 08 | | | 8.5 | 240 | | | 2.8 | 2.8 |
| 09 | | | 11.0 | 240 | | | 2.50 | 2.8 |
| 10 | | | 11.9 | 240 | | | 2.70 | 3.0 |
| 11 | | | 12.8 | 235 | | | 2.80 | 3.3 |
| 12 | | | 12.6 | 235 | | | 2.85 | 3.2 |
| 13 | | | 12.9 | 235 | | | 2.75 | 3.1 |
| 14 | | | 12.8 | 235 | | | 2.60 | 2.8 |
| 15 | | | 12.0 | 235 | | | 2.30 | 2.8 |
| 16 | | | 12.0 | 235 | | | 1.80 | 2.8 |
| 17 | | | 11.2 | 235 | | | 2.6 | 2.8 |
| 18 | | | 10.2 | 235 | | | 2.7 | 2.8 |
| 19 | | | 8.9 | 235 | | | 2.6 | 2.7 |
| | | | | | | | | |

Table 19

| Nurmijarvi, Finland (60.5°N, 24.6°E) | | | | | | | October 1958 | |
|--------------------------------------|-------|------|-----|------|--------|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
| 00 | 6.2 | | | | 2.55 | | | |
| 01 | 5.8 | | | | 2.50 | | | |
| 02 | 5.3 | | | | 2.32 | | | |
| 03 | (4.9) | | | | (2.40) | | | |
| 04 | (5.1) | | | | (2.55) | | | |
| 05 | 4.6 | | | | 2.50 | | | |
| 06 | (4.8) | | | | (2.50) | | | |
| 07 | 6.6 | | | | 2.75 | | | |
| 08 | 7.9 | | --- | | 2.78 | | | |
| 09 | 10.2 | | --- | | 2.80 | | | |
| 10 | 11.7 | | --- | | 2.80 | | | |
| 11 | 12.2 | | --- | | 2.75 | | | |
| 12 | 12.3 | | --- | | 2.70 | | | |
| 13 | 13.5 | | --- | | 2.70 | | | |
| 14 | 12.2 | | --- | | 2.70 | | | |
| 15 | 11.9 | | --- | | 2.70 | | | |
| 16 | 12.2 | | --- | | 2.78 | | | |
| 17 | 11.9 | | --- | | 2.75 | | | |
| 18 | 11.7 | | --- | | 2.75 | | | |
| 19 | 10.5 | | --- | | 2.80 | | | |
| 20 | 9.1 | | --- | | 2.75 | | | |
| 21 | 7.8 | | --- | | 2.62 | | | |
| 22 | 7.0 | | --- | | 2.60 | | | |
| 23 | 6.3 | | --- | | 2.50 | | | |

Time: 30.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 21

| Upsala, Sweden (59.8°N, 17.6°E) | | | | | | | October 1958 | |
|---------------------------------|-------|------|-----|--------|------|------|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
| 00 | 5.5 | 310 | | | 3.4 | 2.4 | | |
| 01 | 5.2 | 320 | | | 3.1 | 2.4 | | |
| 02 | 4.9 | 310 | | | 3.1 | 2.4 | | |
| 03 | 4.8 | 295 | | | 3.1 | 2.4 | | |
| 04 | 4.8 | 290 | | | 3.5 | 2.5 | | |
| 05 | 4.6 | 280 | --- | --- | 3.5 | 2.5 | | |
| 06 | 5.6 | 260 | --- | E | 3.4 | 2.7 | | |
| 07 | 7.5 | 250 | 140 | 1.90 | 4.5 | 2.8 | | |
| 08 | 9.6 | 240 | 120 | 2.45 | 4.7 | 2.9 | | |
| 09 | 10.9 | 240 | 115 | 2.80 | 5.0 | 2.8 | | |
| 10 | (325) | 12.8 | 240 | (5.40) | 110 | 2.95 | 4.8 | 2.8 |
| 11 | 13.5 | 240 | --- | 110 | 3.10 | 5.1 | 2.8 | |
| 12 | (300) | 13.2 | 235 | (5.65) | 110 | 3.15 | 5.3 | 2.7 |
| 13 | 13.0 | 240 | --- | 110 | 3.00 | 5.3 | 2.7 | |
| 14 | 13.3 | 240 | --- | 115 | 2.85 | 3.5 | 2.8 | |
| 15 | 13.0 | 240 | --- | 115 | 2.55 | 3.2 | 2.8 | |
| 16 | 12.7 | 240 | 130 | 2.20 | 3.0 | 2.8 | | |
| 17 | 11.5 | 240 | --- | E | 3.1 | 2.85 | | |
| 18 | 10.3 | 235 | --- | E | 3.0 | 2.8 | | |
| 19 | 9.2 | 240 | --- | --- | 2.7 | 2.8 | | |
| 20 | 7.8 | 240 | --- | --- | 3.2 | 2.8 | | |
| 21 | 6.7 | 250 | --- | --- | 3.1 | 2.6 | | |
| 22 | 6.4 | 285 | --- | --- | 3.0 | 2.5 | | |
| 23 | 6.1 | 290 | --- | --- | 3.1 | 2.5 | | |

Time: 15.0°E.

Sweep: 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 23

| De Bilt, Holland (52.1°N, 5.2°E) | | | | | | | October 1958 | |
|----------------------------------|-------|-------|------|------|------|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | foEs | (M3000)F2 |
| 00 | 330 | 6.3 | | | 2.65 | | | |
| 01 | 340 | 6.0 | | | 2.65 | | | |
| 02 | (340) | 5.8 | | | 2.60 | | | |
| 03 | (335) | 5.6 | | | 2.65 | | | |
| 04 | <310 | 5.3 | | | 2.70 | | | |
| 05 | (305) | 4.7 | | | 2.75 | | | |
| 06 | (280) | 6.0 | --- | --- | 2.90 | | | |
| 07 | 260 | 9.0 | 230 | --- | 3.10 | | | |
| 08 | (245) | 11.0 | 230 | --- | 3.10 | | | |
| 09 | --- | 12.4 | 225 | --- | 3.10 | | | |
| 10 | --- | >13.1 | 225 | --- | 2.95 | | | |
| 11 | --- | >13.1 | 225 | --- | 2.85 | | | |
| 12 | --- | >13.2 | 225 | --- | 2.85 | | | |
| 13 | --- | >12.9 | 230 | --- | 2.85 | | | |
| 14 | --- | >12.9 | 230 | --- | 2.85 | | | |
| 15 | --- | >12.8 | 240 | --- | 2.90 | | | |
| 16 | (225) | 12.5 | 240 | --- | 2.95 | | | |
| 17 | 240 | 11.5 | --- | --- | 3.00 | | | |
| 18 | 250 | 10.4 | --- | --- | 3.00 | | | |
| 19 | 250 | 9.0 | --- | --- | 3.00 | | | |
| 20 | 260 | 8.0 | --- | --- | 2.85 | | | |
| 21 | 290 | 7.2 | --- | --- | 2.75 | | | |
| 22 | 300 | 6.8 | --- | --- | 2.80 | | | |
| 23 | 320 | 6.4 | --- | --- | 2.75 | | | |

Time: 0.0°.

Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

Table 20

| Oslo, Norway (60.0°N, 11.1°E) | | | | | | | October 1958 | |
|-------------------------------|-------|------|-----|------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
| 00 | 6.0 | 305 | | | | | | 2.40 |
| 01 | 5.5 | 310 | | | | | | 2.40 |
| 02 | 5.1 | 320 | | | | | | 2.30 |
| 03 | 5.1 | 315 | | | | | | 2.40 |
| 04 | 4.9 | 300 | | | | | | 2.55 |
| 05 | 4.8 | 275 | | | | | 1.5 | 2.55 |
| 06 | 4.6 | 270 | | | | | | 2.55 |
| 07 | 6.9 | 255 | | | | | 1.80 | 2.70 |
| 08 | 8.4 | 250 | | | | | 2.20 | 2.80 |
| 09 | (250) | 10.6 | 250 | | | | | 2.75 |
| 10 | --- | 11.6 | 250 | | | | 2.95 | 2.80 |
| 11 | --- | 11.3 | 245 | | | | 3.10 | 3.1 |
| 12 | --- | 11.8 | 240 | | | | 3.15 | 2.70 |
| 13 | --- | 12.8 | 240 | | | | 3.15 | 2.70 |
| 14 | 240 | 11.7 | 250 | | | | 3.00 | 2.70 |
| 15 | 245 | 12.4 | 250 | | | | 2.80 | 2.70 |
| 16 | 12.3 | 250 | | | | | 2.40 | 2.70 |
| 17 | 11.9 | 250 | | | | | 1.85 | 2.70 |
| 18 | 11.1 | 250 | | | | | | 2.70 |
| 19 | 10.3 | 245 | | | | | | 2.4 |
| 20 | 7.3 | 250 | | | | | | (2.75) |
| 21 | 6.6 | 260 | | | | | | (2.55) |
| 22 | 6.5 | 275 | | | | | | 2.50 |
| 23 | 6.4 | 300 | | | | | | 2.55 |

Time: 15.0°E.

Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 22

| Inverness, Scotland (57.4°N, 4.2°W) | | | | | | | October 1958 | |
|-------------------------------------|-------|------|-----|------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
| 00 | 6.0 | 305 | | | | | | 2.35 |
| 01 | 6.0 | 300 | | | | | | 2.35 |
| 02 | >5.5 | 320 | | | | | | 2.40 |
| 03 | 5.5 | 310 | | | | | | 2.45 |
| 04 | 5.4 | 295 | | | | | | 2.50 |
| 05 | 4.9 | 270 | | | | | | 2.45 |
| 06 | 5.2 | 265 | | | | | 1.5 | 2.50 |
| 07 | 6.9 | 250 | | | | | 1.90 | 2.85 |
| 08 | 9.0 | 250 | | | | | 2.45 | 2.90 |
| 09 | 11.0 | 240 | | | | | 2.80 | 2.80 |
| 10 | 11.7 | 240 | | | | | 3.05 | 2.80 |
| 11 | 12.3 | 240 | | | | | 3.25 | 2.80 |
| 12 | 12.6 | 235 | | | | | 3.30 | 2.75 |
| 13 | 13.0 | 235 | | | | | 3.25 | 2.75 |
| 14 | 12.8 | 240 | | | | | 3.20 | 2.70 |
| 15 | 12.4 | 245 | | | | | 2.90 | 2.75 |
| 16 | 12.3 | 250 | | | | | 2.50 | 2.80 |
| 17 | 12.0 | 245 | | | | | 2.00 | 2.80 |
| 18 | 10.6 | 240 | | | | | | 2.75 |
| 19 | 9.7 | 235 | | | | | | 2.75 |
| 20 | (7.6) | 245 | | | | | | 2.70 |
| 21 | >7.0 | 250 | | | | | | --- |
| 22 | >7.0 | 265 | | | | | | 1.6 |
| 23 | >6.6 | 295 | | | | | | 2.40 |

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 24

| Slough, England (51.5°N, 0.6°W) | | | | | | | October 1958 | |
|---------------------------------|--------|------|-----|------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
| 00 | >6.0 | 300 | | | | | | 2.40 |
| 01 | 6.6 | 300 | | | | | | 2.40 |
| 02 | 6.2 | 300 | | | | | | 2.40 |
| 03 | 6.0 | 295 | | | | | | 2.45 |
| 04 | (5.8) | 265 | | | | | 1.3 | (2.55) |
| 05 | 5.1 | 240 | | | | | 2.2 | 2.50 |
| 06 | 5.8 | 260 | | | | | 1.60 | 2.60 |
| 07 | 8.3 | 245 | | | | | 2.25 | 2.95 |
| 08 | 11.0 | 235 | | | | | 2.80 | 2.95 |
| 09 | (11.8) | 235 | | | | | 3.10 | 3.3 |
| 10 | 13.2 | 230 | | | | | 3.30 | 2.80 |
| 11 | 13.4 | 230 | | | | | 3.45 | 3.6 |
| 12 | (13.6) | 230 | | | | | 3.50 | 2.75 |
| 13 | 13.5 | 230 | | | | | 3.50 | 2.70 |
| 14 | (13.2) | 235 | | | | | 3.35 | (2.65) |
| 15 | (13.1) | 240 | | | | | 3.05 | 2.75 |
| 16 | (12.8) | 240 | | | | | 2.60 | 2.75 |
| 17 | (12.2) | 240 | | | | | 1.95 | 2.50 |
| 18 | (11.1) | 240 | | | | | 2.4 | 2.80 |
| 19 | >9.5 | 240 | | | | | 2.4 | (2.80) |
| 20 | (8.6) | 235 | | | | | 1.8 | (2.70) |
| 21 | (7.5) | 250 | | | | | 1.6 | 2.60 |
| 22 | (7.0) | 250 | | | | | 1.6 | 2.50 |

Table 25

| Ottawa, Canada | (45.4°N, 75.9°W) | October 1958 | | | | | | |
|----------------|------------------|--------------|-----|------|-----|-----|---------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | 6.6 | 290 | | | | | --- | |
| 01 | 6.4 | 290 | | | | | --- | |
| 02 | 6.3 | 290 | | | | | --- | |
| 03 | 5.8 | 290 | | | | | (2.5) | |
| 04 | 5.8 | 290 | | | | | --- | |
| 05 | 5.2 | 280 | | | | | --- | |
| 06 | 6.1 | 270 | | | | | 1.7 | |
| 07 | 8.5 | 250 | | | | | 120 2.3 | (2.95) |
| 08 | 10.9 | 240 | | | | | 110 3.0 | (3.1) |
| 09 | 12.6 | 230 | | | | | 110 3.2 | (3.0) |
| 10 | 13.4 | 230 | | | | | 110 3.6 | 2.9 |
| 11 | 13.6 | 230 | | | | | 110 3.8 | 2.85 |
| 12 | 13.6 | 230 | | | | | 110 3.8 | 2.7 |
| 13 | 13.6 | 230 | | | | | 110 3.8 | 2.7 |
| 14 | 13.4 | 230 | | | | | 110 3.6 | 2.7 |
| 15 | 13.2 | 240 | | | | | 110 3.2 | (2.7) |
| 16 | 13.0 | 240 | | | | | 110 2.9 | (2.8) |
| 17 | 12.5 | 240 | | | | | 120 2.1 | --- |
| 18 | 11.8 | 240 | | | | | --- | 2.0 |
| 19 | 10.2 | 250 | | | | | --- | --- |
| 20 | 9.3 | 250 | | | | | --- | --- |
| 21 | 8.5 | 260 | | | | | --- | --- |
| 22 | 8.0 | 270 | | | | | (2.6) | --- |
| 23 | 7.2 | 270 | | | | | --- | --- |

Time: 75.0°W.

Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 27

| Monte Capellino, Italy | (44.6°N, 9.0°E) | October 1958 | | | | | | |
|------------------------|-----------------|--------------|------|------|-----|-----|------|-----------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | 7.0 | | | | | | 2.60 | |
| 01 | 7.4 | | | | | | 2.56 | |
| 02 | 7.1 | | | | | | 2.54 | |
| 03 | 6.8 | | | | | | 2.61 | |
| 04 | 6.5 | | | | | | 2.65 | |
| 05 | 6.4 | | | | | | 2.64 | |
| 06 | 6.2 | | | | | | 2.62 | |
| 07 | 8.6 | | | | | | 1.9 | 2.84 |
| 08 | 11.6 | | | | | | 2.6 | 2.86 |
| 09 | 14.0 | | | | | | 3.1 | 2.83 |
| 10 | 14.4 | | | | | | 3.4 | 2.74 |
| 11 | 14.6 | | | | | | 3.6 | 2.60 |
| 12 | 14.5 | | | | | | 3.7 | 2.59 |
| 13 | 14.4 | | | | | | 3.6 | 2.56 |
| 14 | 14.0 | | | | | | 3.5 | 2.53 |
| 15 | 14.0 | | | | | | 3.3 | 2.62 |
| 16 | 13.5 | | | | | | 2.9 | 2.66 |
| 17 | 13.4 | | | | | | 2.2 | 2.71 |
| 18 | 12.4 | | | | | | | 2.72 |
| 19 | 11.0 | | | | | | | 2.56 |
| 20 | 8.9 | | | | | | | 2.68 |
| 21 | 8.4 | | | | | | | 2.58 |
| 22 | 8.0 | | | | | | | 2.68 |
| 23 | 7.4 | | | | | | | 2.72 |

Time: 15.0°E.

Table 29

| Tokyo, Japan | (35.7°N, 139.5°E) | October 1958 | | | | | | |
|--------------|-------------------|--------------|-----|------|-----|-----|------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
| 00 | (7.8) | 295 | | | | | (2.65) | |
| 01 | 7.6 | 295 | | | | | 2.65 | |
| 02 | 7.1 | 275 | | | | | 2.65 | |
| 03 | 6.7 | 295 | | | | | 2.65 | |
| 04 | 6.3 | 275 | | | | | 2.60 | |
| 05 | 6.3 | 300 | | | | | 2.55 | |
| 06 | 8.9 | 250 | | | | | 2.95 | |
| 07 | 12.1 | 240 | | | | | 2.80 | 3.00 |
| 08 | 13.7 | 240 | | | | | 3.25 | 3.6 |
| 09 | 14.1 | 235 | | | | | (245) 14.4 | 2.90 |
| 10 | 14.7 | 240 | | | | | (245) 14.6 | 2.80 |
| 11 | 14.4 | 230 | | | | | 14.6 | 2.75 |
| 12 | (330) | 14.4 | 245 | | | | 14.2 | 2.70 |
| 13 | 350 | 14.4 | 240 | | | | 14.0 | 2.60 |
| 14 | (330) | 14.1 | 250 | | | | 13.7 | 2.55 |
| 15 | 13.7 | 250 | | | | | 13.4 | 2.55 |
| 16 | 13.3 | 250 | | | | | 8.8 | 2.75 |
| 17 | 12.6 | 255 | | | | | 8.1 | 2.75 |
| 18 | (11.1) | 250 | | | | | 7.6 | 2.65 |
| 19 | (9.8) | 255 | | | | | 7.3 | 2.65 |
| 20 | 9.2 | 260 | | | | | 7.0 | 2.65 |
| 21 | (9.1) | 270 | | | | | 6.7 | 2.65 |
| 22 | (8.8) | 275 | | | | | 6.4 | 2.65 |
| 23 | (8.1) | 280 | | | | | 6.1 | 2.65 |

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 26

| Wekkana, Japan | (45.4°N, 141.7°E) | October 1958 | | | | | | |
|----------------|-------------------|--------------|-----|------|-----|-----|------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
| 00 | | | | | | | 6.9 | 2.95 |
| 01 | | | | | | | 6.8 | 2.95 |
| 02 | | | | | | | 6.8 | 2.95 |
| 03 | | | | | | | 6.5 | 3.00 |
| 04 | | | | | | | 6.5 | 2.95 |
| 05 | | | | | | | 6.6 | 2.95 |
| 06 | | | | | | | 9.2 | 2.45 |
| 07 | | | | | | | 12.1 | 2.35 |
| 08 | | | | | | | 13.7 | 2.35 |
| 09 | | | | | | | 14.3 | 2.30 |
| 10 | | | | | | | 14.2 | 2.30 |
| 11 | | | | | | | 14.3 | 2.30 |
| 12 | | | | | | | 13.8 | 2.30 |
| 13 | | | | | | | 13.6 | 2.35 |
| 14 | | | | | | | 13.3 | 2.40 |
| 15 | | | | | | | 13.0 | 2.45 |
| 16 | | | | | | | 12.6 | 2.45 |
| 17 | | | | | | | 11.8 | 2.45 |
| 18 | | | | | | | 10.3 | 2.45 |
| 19 | | | | | | | 9.2 | 2.50 |
| 20 | | | | | | | 8.6 | 2.55 |
| 21 | | | | | | | 7.8 | 2.70 |
| 22 | | | | | | | 7.5 | 2.70 |
| 23 | | | | | | | 7.3 | 2.90 |

Time: 135.0°E.

Sweep: 1.0 Mc to 20.7 Mc in 1 minute.

Table 28

| Akita, Japan | (39.7°N, 140.1°E) | October 1958 | | | | | | |
|--------------|-------------------|--------------|-----|------|-----|-----|------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
| 00 | | | | | | | 7.5 | 300 |
| 01 | | | | | | | 7.3 | 295 |
| 02 | | | | | | | 7.0 | 295 |
| 03 | | | | | | | 6.7 | 295 |
| 04 | | | | | | | 6.5 | 290 |
| 05 | | | | | | | 6.4 | 300 |
| 06 | | | | | | | 9.1 | 245 |
| 07 | | | | | | | 12.0 | 240 |
| 08 | | | | | | | 13.9 | 240 |
| 09 | | | | | | | (245) 14.4 | 240 |
| 10 | | | | | | | (245) 14.6 | 240 |
| 11 | | | | | | | 14.6 | 240 |
| 12 | | | | | | | 14.2 | 240 |
| 13 | | | | | | | 14.0 | 240 |
| 14 | | | | | | | 13.7 | 245 |
| 15 | | | | | | | 13.4 | 245 |
| 16 | | | | | | | 13.2 | 245 |
| 17 | | | | | | | 12.1 | 250 |
| 18 | | | | | | | 10.8 | 250 |
| 19 | | | | | | | 9.5 | 255 |
| 20 | | | | | | | 8.8 | 250 |
| 21 | | | | | | | 8.5 | 260 |
| 22 | | | | | | | 8.1 | 280 |
| 23 | | | | | | | 7.6 | 290 |

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 30

| Yamagawa, Japan | (31.2°N, 130.6°E) | October 1958 | | | | | | |
|-----------------|-------------------|--------------|-----|------|-----|-----|--------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
| 00 | | | | | | | (10.4) | 250 |
| 01 | | | | | | | 9.4 | 250 |
| 02 | | | | | | | 8.6 | 245 |
| 03 | | | | | | | 7.9 | 245 |
| 04 | | | | | | | 6.8 | 250 |
| 05 | | | | | | | 6.0 | 250 |
| 06 | | | | | | | 6.7 | 260 |
| 07 | | | | | | | 10.6 | 235 |
| 08 | | | | | | | 12.9 | 230 |
| 09 | | | | | | | 13.9 | 225 |
| 10 | | | | | | | 14.5 | 225 |
| 11 | | | | | | | 14.5 | 220 |
| 12 | | | | | | | 14.9 | 225 |
| 13 | | | | | | | 15.0 | 225 |
| 14 | | | | | | | (15.0) | 230 |
| 15 | | | | | | | 14.9 | 240 |
| 16 | | | | | | | 14.4 | 240 |
| 17 | | | | | | | 14.0 | 250 |
| 18 | | | | | | | 13.4 | 250 |
| 19 | | | | | | | 12.5 | 250 |
| 20 | | | | | | | 12.4 | 250 |
| 21 | | | | | | | (12.2) | 250 |
| 22 | | | | | | | (11.4) | 250 |
| 23 | | | | | | | (11.0) | 250 |

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 1 minute.

Table 31

| Bunia, Belgian Congo (1.5°N, 30.2°E) | | | | | | | October 1958 | |
|--------------------------------------|-------|--------|------|-------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | 270 | 12.6 | | | | | 2.54 | |
| 01 | 260 | 12.6 | | | | | 2.59 | |
| 02 | 240 | 11.7 | | | | 1.6 | 2.74 | |
| 03 | 230 | 9.7 | | | | 2.0 | 2.87 | |
| 04 | 260 | 8.6 | | | | 3.0 | 2.82 | |
| 05 | 260 | 11.1 | 250 | --- | 120 | 2.9 | 3.9 | 2.79 |
| 06 | (265) | 12.2 | 250 | --- | 120 | 3.5 | 4.2 | 2.50 |
| 07 | --- | 13.4 | 240 | --- | 120 | 3.9 | | 2.27 |
| 08 | --- | 14.0 | 240 | --- | 115 | 4.0 | | 2.16 |
| 09 | (450) | 14.5 | 250 | --- | 110 | 4.1 | | 2.08 |
| 10 | (465) | 14.8 | 250 | --- | 110 | 4.2 | | 2.00 |
| 11 | 485 | 15.0 | 250 | (7.0) | 110 | 4.1 | | <2.04 |
| 12 | 510 | 15.0 | 250 | --- | 115 | 4.0 | | <2.03 |
| 13 | 510 | >14.6 | 245 | --- | 115 | 3.6 | | 2.00 |
| 14 | 550 | >14.6 | 260 | --- | 120 | 3.2 | 3.7 | <1.98 |
| 15 | 530 | >14.4 | 260 | --- | 120 | 2.6 | 3.0 | 1.94 |
| 16 | (340) | >14.4 | 345 | --- | --- | --- | 2.4 | <1.87 |
| 17 | 450 | --- | | | | | | --- |
| 18 | 390 | --- | | | | | | --- |
| 19 | 300 | --- | | | | | | --- |
| 20 | 260 | --- | | | | | | --- |
| 21 | 240 | (12.7) | | | | | | (2.23) |
| 22 | 250 | >12.0 | | | | | | <2.28 |
| 23 | 270 | 13.0 | | | | | | 2.41 |

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 33

| Elisabethville, Belgian Congo (11.6°S, 27.5°E) | | | | | | | October 1958 | |
|--|-------|-------|------|------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | 260 | 8.8 | | | | | 2.47 | |
| 01 | 270 | 8.8 | | | | 1.8 | 2.54 | |
| 02 | 250 | 8.0 | | | | 1.7 | 2.66 | |
| 03 | 245 | 7.0 | | | | 1.8 | 2.70 | |
| 04 | 255 | 8.3 | | | 140 | 2.0 | 2.5 | 2.71 |
| 05 | 250 | 10.6 | 250 | --- | 120 | 2.9 | 3.0 | 2.71 |
| 06 | 250 | 11.6 | 240 | --- | 115 | 3.5 | | 2.60 |
| 07 | (260) | 12.1 | 240 | --- | 110 | 3.8 | | 2.48 |
| 08 | (320) | 12.6 | 245 | --- | 110 | 4.0 | | 2.30 |
| 09 | (400) | 12.8 | 250 | --- | 110 | 4.0 | | 2.24 |
| 10 | 400 | 13.0 | 250 | --- | 110 | 4.1 | | 2.22 |
| 11 | 420 | 13.5 | 250 | 6.6 | 110 | 4.1 | | 2.19 |
| 12 | 420 | 13.8 | 250 | 6.6 | 110 | 4.0 | | 2.18 |
| 13 | 410 | 13.5 | 240 | --- | 110 | 3.8 | 4.2 | 2.18 |
| 14 | 400 | 13.4 | 250 | --- | 115 | 3.5 | 4.5 | 2.19 |
| 15 | 370 | 13.0 | 265 | --- | 120 | 2.8 | 3.8 | 2.23 |
| 16 | 300 | 13.3 | --- | --- | | 3.0 | | 2.28 |
| 17 | 300 | 14.0 | | | | 3.0 | | 2.41 |
| 18 | 295 | >13.8 | | | | 2.6 | | <2.36 |
| 19 | 260 | 14.6 | | | | | | <2.52 |
| 20 | 250 | 14.2 | | | | | | <2.55 |
| 21 | 245 | 13.4 | | | | | | 2.54 |
| 22 | 240 | 11.5 | | | | | | 2.59 |
| 23 | 240 | 9.6 | | | | | | 2.51 |

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 35

| Townsville, Australia (19.3°S, 146.7°E) | | | | | | | October 1958 | |
|---|------|--------|-----|------|-----|--------|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | | --- | 250 | | | | | |
| 01 | | >7.0 | 250 | | | | | |
| 02 | | >7.0 | 280 | | | | | |
| 03 | | >7.0 | 300 | | | | | |
| 04 | | >7.0 | 290 | | | | | |
| 05 | | >7.0 | 300 | | | | | |
| 06 | | --- | 275 | | 140 | 2.00 | | |
| 07 | | >11.5 | 250 | | 110 | 2.95 | 3.2 | ---- |
| 08 | | >13.0 | 240 | | 110 | 3.50 | 3.8 | 3.00 |
| 09 | | 13.5 | 230 | | 110 | 3.80 | 4.8 | 2.85 |
| 10 | | 13.8 | 225 | | 110 | 4.00 | 5.1 | 2.75 |
| 11 | | 13.8 | 220 | | 110 | 4.00 | 5.2 | 2.60 |
| 12 | | 13.8 | 225 | | 110 | 4.10 | 5.1 | 2.60 |
| 13 | | 13.6 | 220 | | 105 | 4.10 | 5.3 | 2.55 |
| 14 | | 13.4 | 220 | | 110 | 4.00 | 4.3 | 2.50 |
| 15 | | (13.0) | 240 | | 110 | 3.80 | 4.3 | 2.50 |
| 16 | | >12.0 | 245 | | 110 | 3.50 | 4.0 | (2.55) |
| 17 | | >11.5 | 250 | | 110 | 2.95 | 3.4 | |
| 18 | | --- | 205 | | 130 | (1.90) | | |
| 19 | | --- | 290 | | | 2.6 | | |
| 20 | | --- | 300 | | | 2.0 | | |
| 21 | | --- | 300 | | | | | |
| 22 | | --- | 290 | | | | | |
| 23 | | --- | 275 | | | | | |

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 32

| Leopoldville, Belgian Congo (4.4°S, 15.2°E) | | | | | | | October 1958 | |
|---|-------|-------|-------|------|-----|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | 250 | 14.0 | | | | | | 2.50 |
| 01 | 250 | 12.7 | | | | | | 2.52 |
| 02 | 250 | 11.0 | | | | | | 2.62 |
| 03 | 230 | 9.0 | | | | | | 2.80 |
| 04 | 220 | 6.8 | | | | | | 2.90 |
| 05 | 250 | 8.0 | (250) | --- | 140 | 2.1 | 3.0 | 2.79 |
| 06 | 250 | 10.4 | 245 | --- | 120 | 3.0 | 3.7 | 2.67 |
| 07 | (250) | 11.3 | 235 | --- | 115 | 3.6 | 4.1 | 2.45 |
| 08 | --- | 12.5 | 230 | --- | 115 | 4.0 | | 2.25 |
| 09 | --- | 13.2 | 250 | --- | 110 | 4.1 | | 2.20 |
| 10 | --- | 14.0 | 250 | --- | 110 | 4.2 | | 2.14 |
| 11 | 450 | 14.3 | 250 | --- | 110 | 4.2 | | 2.12 |
| 12 | 460 | 15.1 | 250 | --- | 110 | 4.2 | | 2.07 |
| 13 | 450 | 15.6 | 245 | --- | 110 | 4.0 | | 2.09 |
| 14 | 450 | 15.2 | 245 | --- | 110 | 3.7 | | 2.06 |
| 15 | 440 | >15.0 | 250 | --- | 120 | 3.3 | 3.8 | 2.08 |
| 16 | 420 | 14.9 | 270 | --- | 120 | 2.6 | 3.0 | 2.11 |
| 17 | 320 | >15.0 | --- | --- | | | | 2.7 |
| 18 | 385 | --- | | | | | | 2.0 |
| 19 | 320 | --- | | | | | | 2.0 |
| 20 | 255 | >17.0 | | | | | | <2.29 |
| 21 | 230 | >17.0 | | | | | | (2.41) |
| 22 | 230 | 16.8 | | | | | | <2.53 |
| 23 | 230 | 13.8 | | | | | | 2.44 |

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 34

| La Paz, Bolivia (16.5°S, 68.0°W) | | | | | | | October 1958 | |
|----------------------------------|------|------|--------|------|-------|-------|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | | | (11.3) | | 265 | | | (2.70) |
| 01 | | | 11.4 | | 235 | | | 2.82 |
| 02 | | | 9.1 | | 225 | | | 2.90 |
| 03 | | | 8.6 | | 235 | | | 2.88 |
| 04 | | | 7.9 | | 230 | | | 2.90 |
| 05 | | | 7.1 | | 230 | | | 3.08 |
| 06 | | | 7.35 | | 260 | --- | --- | 2.88 |
| 07 | | | 11.0 | | 250 | 115 | 2.75 | 3.1 |
| 08 | | | 13.3 | | 235 | 111 | 3.35 | 2.85 |
| 09 | | | 14.8 | | 230 | 111 | (3.82) | 5.0 |
| 10 | | | 15.3 | | 220 | 106 | (4.10) | 6.9 |
| 11 | | | --- | | >220 | --- | 8.0 | (2.20) |
| 12 | | | >14.0 | | >220 | --- | 7.7 | (2.08) |
| 13 | | | (13.2) | | (215) | --- | 7.7 | (2.05) |
| 14 | | | (13.0) | | >220 | --- | 7.5 | (2.05) |
| 15 | | | (13.0) | | 220 | --- | 7.8 | (2.10) |
| 16 | | | (13.0) | | 240 | 105 | (3.60) | 7.2 |
| 17 | | | (12.8) | | 250 | 107 | (3.15) | 6.4 |
| 18 | | | (12.2) | | 280 | (120) | (2.40) | 4.8 |
| 19 | | | (11.4) | | 365 | | | (2.00) |
| 20 | | | (9.7) | | 440 | | | (1.95) |
| 21 | | | (10.1) | | 420 | | | (2.10) |
| 22 | | | (10.5) | | 360 | | | 2.7 |
| 23 | | | 10.9 | | 300 | | | 3.1 |

Time: 60.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 36

| Rarotonga I. (21.2°S, 159.8°W) | | | | | | | October 1958 | |
|--------------------------------|------|------|--------|------|------|-----|--------------|-----------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
| 00 | | | (11.5) | | 250 | | | (2.60) |
| 01 | | | (10.1) | | 250 | | | (2.40) |
| 02 | | | (9.9) | | 300 | | | (2.40) |
| 03 | | | (9.8) | | 300 | | | (2.40) |
| 04 | | | 9.7 | | 300 | | | 2.50 |
| 05 | | | (10.2) | | 290 | 110 | 1.4 | 2.60 |
| 06 | | | 12.2 | | 250 | 115 | 2.6 | 2.00 |
| 07 | | | 13.1 | | 250 | 110 | 3.3 | 3.3 |
| 08 | | | 13.4 | | 240 | 110 | 3.7 | 2.65 |
| 09 | | | --- | | 13.9 | 230 | 110 | 4.0 |
| 10 | | | (390) | | 14.6 | 230 | 110 | 4.2 |
| 11 | | | 400 | | 15.3 | 220 | 110 | 4.3 |
| 12 | | | 400 | | 15.4 | 220 | 110 | 4.3 |
| 13 | | | 400 | | 15.4 | 230 | 110 | 4.2 |
| 14 | | | 400 | | 15.1 | 230 | 110 | 4.0 |
| 15 | | </td | | | | | | |

Table 37
Johannesburg, Union of S. Africa (26.2°S, 28.0°E)

October 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|------|--------|------|-------|------|------|------|--------|-----------|
| 00 | 7.8 | <260 | | | <1.6 | 2.75 | | |
| 01 | 7.3 | 255 | | | | 2.75 | | |
| 02 | 6.6 | <250 | | | | 2.60 | | |
| 03 | 6.2 | <260 | | | <1.1 | 2.60 | | |
| 04 | 6.0 | 270 | | | <1.1 | 2.60 | | |
| 05 | 6.0 | 270 | E | | | 2.65 | | |
| 06 | 8.7 | 250 | | | 2.2 | 3.00 | | |
| 07 | --- | 11.1 | 235 | | 3.1 | 2.95 | | |
| 08 | --- | 12.4 | 230 | | 3.5 | 2.85 | | |
| 09 | --- | 12.9 | 225 | | 3.9 | 2.70 | | |
| 10 | --- | 13.2 | 220 | | 4.0 | 2.60 | | |
| 11 | (390) | 13.4 | 220 | --- | 4.4 | 2.55 | | |
| 12 | (395) | 13.3 | 225 | --- | 4.5 | 2.45 | | |
| 13 | (400) | 13.2 | (225) | --- | 4.1 | 4.6 | 2.45 | |
| 14 | (395) | 13.0 | 230 | --- | 4.0 | 4.7 | 2.40 | |
| 15 | (390) | 12.8 | 235 | --- | 3.9 | 4.2 | 2.45 | |
| 16 | --- | 12.8 | 240 | | 3.5 | 4.0 | 2.45 | |
| 17 | 12.6 | 250 | | | 2.9 | 3.5 | 2.50 | |
| 18 | 12.4 | 265 | | | 2.0 | 2.5 | 2.60 | |
| 19 | (11.8) | 250 | | | | 2.0 | (2.65) | |
| 20 | (11.1) | 255 | | | | 1.7 | (2.70) | |
| 21 | (10.6) | 250 | | | | 1.6 | (2.75) | |
| 22 | (9.8) | 255 | | | | <1.7 | (2.80) | |
| 23 | 8.8 | 250 | | | | <1.8 | 2.80 | |

Time: 30.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 39

October 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|------|-------|------|-----|------|------|------|------|-----------|
| 00 | 6.7 | 300 | | | | 2.0 | 2.40 | |
| 01 | 6.0 | 290 | | | | 2.0 | 2.45 | |
| 02 | 5.8 | 300 | | | <1.4 | 2.40 | | |
| 03 | 5.2 | 300 | | --- | 1.4 | 2.50 | | |
| 04 | 5.0 | 300 | | --- | | 2.50 | | |
| 05 | 6.0 | 270 | | | 120 | 1.9 | 2.70 | |
| 06 | --- | 6.9 | 250 | --- | 105 | 2.6 | 2.80 | |
| 07 | --- | 7.5 | 240 | --- | 105 | 3.1 | 2.70 | |
| 08 | (460) | 7.9 | 230 | 5.4 | 105 | 3.4 | 2.65 | |
| 09 | 420 | 8.2 | 220 | 5.8 | 105 | 3.6 | 2.60 | |
| 10 | 450 | 8.5 | 220 | 5.9 | 105 | 3.7 | 2.50 | |
| 11 | 450 | 8.5 | 220 | 6.2 | 105 | 3.8 | 2.50 | |
| 12 | 460 | 8.6 | 220 | 6.0 | 105 | 3.8 | 2.45 | |
| 13 | 440 | 8.8 | 220 | 6.1 | 105 | 3.8 | 2.45 | |
| 14 | 430 | 8.9 | 230 | 5.8 | 105 | 3.7 | 2.45 | |
| 15 | (420) | 9.1 | 240 | 5.3 | 105 | 3.4 | 2.50 | |
| 16 | --- | 9.0 | 240 | --- | 105 | 3.1 | 2.50 | |
| 17 | 8.8 | 260 | --- | 110 | 2.6 | 2.50 | | |
| 18 | 8.7 | 260 | | | 120 | 2.0 | 2.50 | |
| 19 | 8.8 | 280 | | | 130 | 1.4 | 2.50 | |
| 20 | 8.1 | 270 | --- | --- | <1.3 | 2.40 | | |
| 21 | 7.8 | 280 | | | | 1.9 | 2.40 | |
| 22 | 7.6 | 290 | | | | 1.5 | 2.40 | |
| 23 | 7.0 | 300 | | | | 2.1 | 2.40 | |

Time: 165.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.

Table 41

September 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|------|-------|------|-----|------|------|------|--------|-----------|
| 00 | (6.8) | 330 | | | | 3.6 | (2.50) | |
| 01 | (7.1) | 335 | | | | 3.6 | (2.45) | |
| 02 | --- | 350 | | | | 3.6 | ---- | |
| 03 | --- | 330 | | --- | | 3.6 | ---- | |
| 04 | (5.3) | 310 | | --- | | 3.6 | (2.45) | |
| 05 | 5.3 | 300 | | --- | E | 3.6 | 2.65 | |
| 06 | 6.2 | 275 | | --- | E | 3.8 | 2.70 | |
| 07 | 6.9 | 260 | | | 120 | 2.50 | 4.4 | 2.70 |
| 08 | 7.7 | 250 | | | 115 | 2.75 | 4.4 | 2.65 |
| 09 | 8.2 | 245 | --- | 110 | 3.00 | 4.4 | 2.65 | |
| 10 | 8.9 | 250 | --- | 110 | 3.10 | 4.7 | 2.65 | |
| 11 | 9.9 | 230 | --- | 110 | 3.20 | 5.0 | 2.65 | |
| 12 | 9.6 | 230 | --- | 110 | 3.30 | 5.1 | 2.65 | |
| 13 | 9.2 | 240 | --- | 110 | 3.30 | 5.0 | 2.60 | |
| 14 | 9.3 | 240 | --- | 110 | 3.20 | 5.0 | 2.65 | |
| 15 | 9.0 | 245 | --- | 110 | 3.05 | 4.6 | 2.65 | |
| 16 | 8.9 | 250 | --- | 115 | 2.90 | 4.4 | 2.70 | |
| 17 | 9.0 | 250 | | | 120 | 2.50 | 4.2 | 2.70 |
| 18 | 8.5 | 265 | | | 120 | 2.20 | 4.2 | 2.75 |
| 19 | 8.6 | 260 | --- | E | 3.9 | 2.80 | | |
| 20 | 7.8 | 260 | --- | E | 3.9 | 2.75 | | |
| 21 | 7.5 | 270 | --- | E | 3.6 | 2.75 | | |
| 22 | 6.8 | 300 | | | | 3.8 | 2.60 | |
| 23 | (6.3) | 315 | | | | 3.6 | (2.50) | |

Time: 30.0°E.
Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 38

October 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|------|------|------|-------|-------|-----|-----|-------|-----------|
| 00 | | | 7.2 | <260 | | | <1.8 | 2.70 |
| 01 | | | 6.6 | <280 | | | <1.7 | 2.60 |
| 02 | | | 6.2 | <295 | | | <1.8 | 2.55 |
| 03 | | | 5.8 | <290 | | | <1.6 | 2.55 |
| 04 | | | 5.8 | <290 | | | <1.6 | 2.55 |
| 05 | | | 5.6 | <300 | | | <1.6 | 2.55 |
| 06 | | | 6.6 | 280 | | | <1.8 | 2.70 |
| 07 | | | 9.5 | 245 | | | 2.6 | 2.95 |
| 08 | | | 11.3 | 240 | | | 3.2 | (2.90) |
| 09 | | | 12.6 | 235 | | | | 2.75 |
| 10 | | | 13.1 | (235) | | | (4.1) | 2.65 |
| 11 | | | 13.5 | --- | | | | 2.55 |
| 12 | | | 13.6 | --- | | | | 2.50 |
| 13 | | | (370) | 13.6 | --- | | | 2.45 |
| 14 | | | (400) | 13.5 | --- | | | 2.40 |
| 15 | | | (380) | 13.2 | --- | | | 2.40 |
| 16 | | | 13.0 | (250) | | | 3.8 | 2.45 |
| 17 | | | 12.8 | 250 | | | 3.1 | 2.50 |
| 18 | | | 12.4 | 255 | | | 2.7 | 2.60 |
| 19 | | | >11.6 | 255 | | | <1.9 | <2.0 |
| 20 | | | >10.2 | 245 | | | | (2.70) |
| 21 | | | >9.4 | (245) | | | | (2.70) |
| 22 | | | 9.1 | <260 | | | | 2.75 |
| 23 | | | 8.0 | <255 | | | | <1.8 |

Time: 30.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 40

October 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 |
|------|------|------|-------|-------|-----|-------|------|-----------|
| 00 | | | (4.8) | 345 | | | 1.4 | (2.30) |
| 01 | | | (4.4) | 335 | | | 1.5 | (2.30) |
| 02 | | | (4.4) | 355 | | | 1.8 | (2.35) |
| 03 | | | --- | (4.3) | 325 | | 1.9 | (2.2) |
| 04 | | | --- | (4.6) | 295 | | 2.0 | (2.55) |
| 05 | | | --- | (5.7) | 275 | (4.0) | 2.5 | (2.60) |
| 06 | | | (405) | (6.5) | 265 | 4.0 | 3.0 | (2.65) |
| 07 | | | (390) | (7.9) | 260 | 4.0 | 3.1 | (2.60) |
| 08 | | | 370 | 8.5 | 245 | 4.2 | 3.2 | 2.55 |
| 09 | | | (480) | (9.3) | 245 | 4.4 | 3.3 | (2.55) |
| 10 | | | 460 | (8.9) | 240 | 4.6 | 3.4 | (2.55) |
| 11 | | | 460 | 8.8 | 235 | 5.0 | 3.3 | 2.40 |
| 12 | | | (500) | (8.8) | 235 | (5.0) | 3.3 | (2.50) |
| 13 | | | 435 | (8.6) | 230 | 4.9 | 3.3 | (2.50) |
| 14 | | | (495) | (8.6) | 235 | 4.9 | 3.2 | (2.45) |
| 15 | | | (470) | 8.6 | 240 | 4.4 | 3.1 | 2.45 |
| 16 | | | (480) | (8.9) | 255 | 4.5 | 3.0 | (2.45) |
| 17 | | | (475) | 8.4 | 265 | 4.1 | 2.5 | 2.45 |
| 18 | | | --- | (8.5) | 280 | --- | 2.3 | (2.40) |
| 19 | | | --- | (9.4) | 290 | --- | 2.0 | (2.45) |
| 20 | | | (8.6) | 295 | | | 1.7 | (2.45) |
| 21 | | | (7.6) | 300 | | | 1.4 | (2.35) |
| 22 | | | (6.0) | 320 | | | 1.4 | (2.40) |
| 23 | | | (5.2) | 320 | | | 1.3 | (2.30) |

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

Table 42

September 1958

| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|------|-----|-------|-----|------|------|-----------|
| 00 | | | 5.8 | 300 | | | 2.2 | 2.4 |
| 01 | | | 5.5 | 315 | | | 2.4 | 2.4 |
| 02 | | | 5.0 | 315 | | | 2.4 | 2.4 |
| 03 | | | 5.0 | 295 | | | 2.5 | 2.5 |
| 04 | | | 5.0 | 300 | | | 2.2 | 2.5 |
| 05 | | | 5.7 | 270 | | | 2.5 | 2.6 |
| 06 | | | --- | (325) | 7.4 | 245 | 4.60 | 2.50 |
| 07 | | | --- | (350) | 7.9 | 240 | 4.90 | 2.85 |
| 08 | | | 365 | 8.4 | 230 | 5.15 | 3.00 | 3.3 |
| 09 | | | 380 | 9.0 | 220 | 5.30 | 3.10 | 3.4 |
| 10 | | | 380 | 9.0 | 220 | 5.30 | 3.10 | 3.4 |
| 11 | | | 405 | 9.5 | 230 | 5.50 | 3.30 | 2.6 |
| 12 | | | 370 | 9.2 | 230 | 5.70 | 3.40 | 3.7 |
| 13 | | | 365 | 9.1 | 230 | 5.30 | 3.30 | 2.6 |
| 14 | | | 380 | 9.1 | 235 | 5.25 | 3.20 | 3.2 |
| 15 | | | 380 | 9.0 | 240 | 5.20 | 3.00 | 3.1 |
| 16 | | | --- | 8.6 | 240 | --- | 2.60 | 3.1 |
| 17 | | | --- | 8.6 | 250 | --- | 2.20 | 2.4 |
| 18 | | | 8.6 | 255 | | | 1.60 | 2.6 |
| 19 | | | 7.9 | 255 | | | 2.4 | 2.7 |
| 20 | | | 7.7 | 260 | | | 2.3 | 2.6 |
| 21 | | | 6.8 | 265 | | | | 2.2 |
| 22 | | | 5.8 | 200 | | | | 2.6 |
| 23 | | | 5.9 | 310 | | | | 2.45 |

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

Time: 30.0°E.
Sweep: 1.4 Mc to 22.0 Mc in

Table 43

| Oslo, Norway (60.0°N, 11.1°E) | | | | | | | | September 1958 | |
|-------------------------------|------|-------|-----|------|------|-----|------|----------------|------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | 6.3 | 310 | | | | 2.45 | |
| 01 | | | 5.7 | 310 | | | 1.3 | 2.40 | |
| 02 | | | 5.7 | 310 | | | | 2.30 | |
| 03 | | | 5.2 | 300 | | | | 2.40 | |
| 04 | | | 5.1 | 300 | | | | 2.45 | |
| 05 | | | 5.1 | 300 | | --- | 1.40 | 1.4 | 2.55 |
| 06 | | | 6.1 | 260 | --- | 110 | 1.90 | 2.70 | |
| 07 | | | 7.0 | 250 | --- | 110 | 2.45 | 2.70 | |
| 08 | | | 7.9 | 250 | --- | 110 | 2.85 | 2.70 | |
| 09 | | | 8.6 | 240 | --- | 110 | 3.15 | 3.2 | 2.70 |
| 10 | | | 9.0 | 240 | --- | 110 | 3.40 | 2.55 | |
| 11 | | (500) | 9.0 | 240 | --- | 105 | 3.55 | 2.55 | |
| 12 | | (490) | 9.2 | 240 | 5.50 | 110 | 3.55 | 2.55 | |
| 13 | | | 9.5 | 240 | --- | 105 | 3.60 | 2.55 | |
| 14 | | | 9.2 | 240 | --- | 105 | 3.50 | 2.55 | |
| 15 | | | 9.2 | 245 | --- | 105 | 3.30 | 2.55 | |
| 16 | | | 9.2 | 250 | --- | 105 | 3.10 | 2.60 | |
| 17 | | | 9.0 | 250 | | 100 | 2.60 | 2.60 | |
| 18 | | | 9.6 | 255 | | 110 | 2.00 | 2.4 | 2.70 |
| 19 | | | 9.4 | 250 | --- | --- | 2.3 | 2.70 | |
| 20 | | | 9.2 | 250 | | | 3.2 | 2.70 | |
| 21 | | | 7.2 | 260 | | | | 2.55 | |
| 22 | | | 6.9 | 280 | | | | 2.45 | |
| 23 | | | 6.6 | 300 | | | | 2.45 | |

Time: 15.0°E.

Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 45

| Churchill, Canada (58.8°N, 94.2°W) | | | | | | | | September 1958 | |
|------------------------------------|------|-------|-----|------|-----|-----|------|----------------|-------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | 5.8 | 310 | --- | --- | 4.6 | | |
| 01 | | | 5.8 | 300 | --- | 1.6 | 4.6 | | |
| 02 | | | 5.8 | 320 | --- | 1.8 | 6.0 | | |
| 03 | | | 5.3 | 320 | --- | 1.6 | 4.5 | | |
| 04 | | | 5.0 | 330 | | 120 | 2.0 | 4.1 | |
| 05 | | | 5.2 | 330 | | 120 | 2.1 | 4.0 | |
| 06 | | | 5.4 | 300 | --- | 120 | 2.4 | 3.8 | --- |
| 07 | | | 6.4 | 270 | 4.1 | 120 | 2.8 | 3.3 | --- |
| 08 | | (640) | 7.4 | 260 | --- | 110 | 3.1 | 4.0 | (2.0) |
| 09 | | G | 7.7 | 240 | 4.9 | 115 | 3.3 | 4.4 | 2.6 |
| 10 | | (640) | 7.7 | 240 | 4.9 | 110 | 3.4 | 4.4 | 2.6 |
| 11 | | | 540 | 8.5 | 240 | 5.0 | 110 | 3.6 | 4.0 |
| 12 | | | 470 | 8.6 | 240 | 5.4 | 110 | 3.7 | 4.1 |
| 13 | | | 440 | 8.9 | 230 | 5.2 | 110 | 3.6 | 4.2 |
| 14 | | | 410 | 8.9 | 230 | 5.2 | 110 | 3.4 | 3.6 |
| 15 | | | 430 | 9.0 | 230 | 4.8 | 110 | 3.2 | 2.6 |
| 16 | | | 460 | 9.0 | 240 | 4.4 | 110 | 3.0 | 2.5 |
| 17 | | | 9.0 | 250 | 4.1 | 120 | 2.7 | 2.6 | |
| 18 | | | 7.9 | 280 | --- | 120 | 2.4 | 3.0 | 2.7 |
| 19 | | | 6.8 | 300 | | 130 | 2.0 | 2.7 | --- |
| 20 | | | 5.8 | 320 | | 125 | 2.0 | 4.0 | |
| 21 | | | 5.8 | 300 | | 125 | 2.0 | 4.7 | --- |
| 22 | | | 5.7 | 320 | | 130 | 2.0 | 4.4 | --- |
| 23 | | | 5.3 | 300 | --- | 2.0 | 4.4 | | |

Time: 90.0°W.

Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 47

| Wakkanai, Japan (45.4°N, 141.7°E) | | | | | | | | September 1958 | |
|-----------------------------------|------|------|-------|------|-----|--------|--------|----------------|--|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | 7.3 | 305 | | | | 2.50 | |
| 01 | | | 7.2 | 300 | | | 2.4 | 2.45 | |
| 02 | | | 7.0 | 300 | | | 2.4 | 2.50 | |
| 03 | | | 6.8 | 300 | | | 2.4 | 2.50 | |
| 04 | | | 6.6 | 295 | | | 1.8 | 2.50 | |
| 05 | | | 7.5 | 295 | --- | | | 2.65 | |
| 06 | | | 9.8 | 245 | --- | 2.30 | 3.0 | 2.90 | |
| 07 | | | 11.5 | 240 | --- | 3.00 | 3.5 | 2.90 | |
| 08 | | | 12.1 | 240 | --- | 3.35 | | 2.90 | |
| 09 | | | 12.0 | 235 | --- | 3.55 | | 2.80 | |
| 10 | | | 11.8 | 230 | --- | 3.70 | | 2.70 | |
| 11 | | | 11.8 | 225 | --- | 3.80 | | 2.60 | |
| 12 | | | 11.6 | 230 | --- | 3.80 | | 2.60 | |
| 13 | | | 11.4 | 240 | --- | (3.70) | | 2.60 | |
| 14 | | | 11.4 | 240 | --- | 3.60 | | 2.60 | |
| 15 | | | 10.9 | 250 | | 3.45 | 3.5 | 2.65 | |
| 16 | | | 10.8 | 250 | | 3.00 | 3.5 | 2.65 | |
| 17 | | | 10.5 | 260 | | 2.35 | 3.5 | 2.70 | |
| 18 | | | 10.2 | 260 | | 3.5 | | 2.70 | |
| 19 | | | 9.3 | 260 | | 3.2 | | 2.70 | |
| 20 | | | 8.8 | 260 | | 3.0 | | 2.65 | |
| 21 | | | 8.3 | 270 | | 2.5 | | 2.60 | |
| 22 | | | (7.9) | 290 | | | (2.55) | | |
| 23 | | | 7.6 | 300 | | | 2.55 | | |

Time: 135.0°E.

Sweep: 1.0 Mc to 20.7 Mc in 1 minute.

Table 44

| Uppsala, Sweden (59.8°N, 17.6°E) | | | | | | | | September 1958 | |
|----------------------------------|------|------|-----|------|-----|-----|------|----------------|-----|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | | | | | | 5.0 | 310 |
| 01 | | | | | | | | 5.5 | 315 |
| 02 | | | | | | | | 5.1 | 325 |
| 03 | | | | | | | | 5.0 | 310 |
| 04 | | | | | | | | 4.8 | 305 |
| 05 | | | | | | | | 5.2 | 280 |
| 06 | | | | | | | | 6.6 | 260 |
| 07 | | | | | | | | (350) | 7.5 |
| 08 | | | | | | | | 350 | 245 |
| 09 | | | | | | | | 340 | 240 |
| 10 | | | | | | | | 375 | 9.2 |
| 11 | | | | | | | | 360 | 9.4 |
| 12 | | | | | | | | 375 | 9.6 |
| 13 | | | | | | | | 380 | 9.5 |
| 14 | | | | | | | | 375 | 9.4 |
| 15 | | | | | | | | 370 | 9.4 |
| 16 | | | | | | | | 345 | 9.2 |
| 17 | | | | | | | | --- | 9.4 |
| 18 | | | | | | | | 17 | 250 |
| 19 | | | | | | | | 18 | 9.4 |
| 20 | | | | | | | | 19 | 260 |
| 21 | | | | | | | | 20 | 1.0 |
| 22 | | | | | | | | 21 | 2.6 |
| 23 | | | | | | | | 22 | 6.6 |

Time: 15.0°E.

Sweep: 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 46

| De Bilt, Holland (52.1°N, 5.2°E) | | | | | | | | September 1958 | |
|----------------------------------|------|------|-------|------|-----|-----|------|----------------|------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | 310 | 6.3 | | | | | 2.55 |
| 01 | | | 310 | 6.2 | | | | | 2.60 |
| 02 | | | (310) | 6.0 | | | | | 2.60 |
| 03 | | | 300 | 5.3 | | | | | 2.60 |
| 04 | | | (300) | 5.0 | | | | | 2.65 |
| 05 | | | <290 | 5.6 | | | | | 2.80 |
| 06 | | | 250 | 7.0 | --- | --- | --- | 2.8 | 3.00 |
| 07 | | | 240 | 7.6 | 240 | --- | --- | 3.2 | 3.00 |
| 08 | | | (310) | 8.2 | 230 | 5.7 | 115 | 3.3 | 3.2 |
| 09 | | | 355 | 9.1 | 230 | 5.7 | 120 | 3.8 | 3.9 |
| 10 | | | 310 | 10.0 | 230 | 6.0 | 115 | 3.6 | 3.8 |
| 11 | | | 350 | 10.3 | 230 | 6.7 | 115 | 4.0 | 3.8 |
| 12 | | | 340 | 10.6 | 225 | 6.6 | 115 | 4.0 | 3.4 |
| 13 | | | 350 | 10.4 | 230 | 6.8 | 105 | 4.0 | 3.3 |
| 14 | | | (350) | 10.2 | 230 | 6.6 | 110 | 3.8 | 2.75 |
| 15 | | | 300 | 10.0 | 240 | 5.7 | 115 | 3.7 | 2.75 |
| 16 | | | 250 | 10.3 | 240 | 5.7 | 120 | 3.2 | 2.80 |
| 17 | | | 250 | 10.2 | --- | --- | --- | 2.8 | 2.85 |
| 18 | | | 250 | 9.2 | | | | | 2.90 |
| 19 | | | 250 | 8.0 | | | | | 2.75 |
| 20 | | | 270 | 7.3 | | | | | 2.70 |
| 21 | | | 300 | 7.0 | | | | | 2.65 |
| 22 | | | 300 | 6.4 | | | | | 2.60 |
| 23 | | | 305 | 6.4 | | | | | 2.60 |

Time: 0.0°.

Sweep: 1.0 Mc to 16.0 Mc in 40 seconds.

Table 48

| Rome, Italy (41.8°N, 12.5°E) | | | | | | | | September 1958 | |
|------------------------------|------|------|--------|------|-----|-----|------|----------------|--------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | 8.0 | 300 | | | | | 2.50 |
| 01 | | | 7.9 | 300 | | | | | 2.55 |
| 02 | | | 7.8 | 310 | | | | | 2.50 |
| 03 | | | 7.7 | 290 | | | | | 2.55 |
| 04 | | | 7.0 | 280 | | | | | 2.50 |
| 05 | | | 6.7 | 280 | | | | | 2.60 |
| 06 | | | 7.7 | 250 | | | | 140 | 1.9 |
| 07 | | | (9.8) | 240 | --- | 120 | 2.6 | | (3.05) |
| 08 | | | (10.6) | 2 | | | | | |

Table 49

| Akita, Japan (39.7°N, 140.1°E) | | | | | | | | September 1958 | |
|--------------------------------|-------|------|-----|-------|--------|-----|------|----------------|--|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | 8.0 | 300 | | | | | | 2.55 | |
| 01 | 7.8 | 300 | | | | | | 2.55 | |
| 02 | 7.6 | 300 | | | | | | 2.60 | |
| 03 | 7.2 | 295 | | | | | | 2.55 | |
| 04 | 7.1 | 300 | | | | | | 2.50 | |
| 05 | 7.6 | 300 | | | | | | 2.60 | |
| 06 | 10.4 | 250 | | | 2.30 | | | 2.95 | |
| 07 | --- | 12.0 | 240 | --- | 3.00 | 3.2 | 3.00 | | |
| 08 | (260) | 12.5 | 240 | --- | 3.40 | 4.0 | 2.95 | | |
| 09 | (295) | 12.4 | 240 | --- | 3.70 | 4.3 | 2.80 | | |
| 10 | 335 | 12.6 | 230 | 6.0 | 3.90 | 4.0 | 2.70 | | |
| 11 | 345 | 12.8 | 230 | 5.9 | (3.95) | | | 2.65 | |
| 12 | 360 | 12.8 | 240 | 6.8 | (4.00) | | | 2.60 | |
| 13 | 360 | 12.7 | 245 | (6.7) | (4.00) | | | 2.60 | |
| 14 | 350 | 12.4 | 240 | 6.7 | 3.75 | | | 2.60 | |
| 15 | 350 | 12.2 | 245 | (5.6) | 3.50 | 3.7 | | 2.60 | |
| 16 | --- | 11.6 | 250 | | 3.00 | 3.6 | 2.65 | | |
| 17 | | 11.5 | 255 | | 2.40 | 3.6 | 2.70 | | |
| 18 | | 10.9 | 255 | | | 3.0 | 2.80 | | |
| 19 | | 9.8 | 255 | | | 3.0 | 2.75 | | |
| 20 | | 9.0 | 270 | | | 2.6 | 2.60 | | |
| 21 | | 8.7 | 280 | | | 2.5 | 2.60 | | |
| 22 | | 8.7 | 290 | | | 2.4 | 2.60 | | |
| 23 | | 8.4 | 295 | | | | 2.60 | | |

Time: 135.0°E.

Sweep: 1.6 Mc to 20.0 Mc in 20 seconds.

Table 51

| Yamagawa, Japan (31.2°N, 130.6°E) | | | | | | | | September 1958 | |
|-----------------------------------|--------|--------|-----|------|------|-----|--------|----------------|--------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | (10.4) | 255 | | | | | | 2.8 | (2.75) |
| 01 | (9.9) | 255 | | | | | | | (2.70) |
| 02 | (9.0) | 265 | | | | | | | (2.70) |
| 03 | 8.6 | 250 | | | | | | 2.80 | |
| 04 | 7.8 | 250 | | | | | | 2.75 | |
| 05 | 7.4 | 255 | | | | | | 2.75 | |
| 06 | 8.7 | 270 | | | | | | 2.90 | |
| 07 | 11.6 | 240 | | | 2.60 | 3.1 | 3.20 | | |
| 08 | --- | 12.3 | 230 | --- | 3.25 | 3.8 | 3.10 | | |
| 09 | --- | 12.0 | 220 | --- | 3.65 | 4.4 | 2.90 | | |
| 10 | --- | 12.7 | 210 | --- | 3.90 | 4.7 | 2.70 | | |
| 11 | --- | 13.6 | 215 | --- | 4.00 | 4.4 | 2.70 | | |
| 12 | --- | 14.0 | 210 | --- | 4.10 | 4.6 | 2.65 | | |
| 13 | --- | 14.3 | 225 | --- | 4.10 | 4.4 | 2.65 | | |
| 14 | --- | 14.2 | 230 | --- | 4.05 | 4.4 | 2.60 | | |
| 15 | --- | 14.4 | 240 | --- | 3.85 | 4.4 | 2.60 | | |
| 16 | --- | 13.8 | 245 | --- | 3.55 | 3.8 | 2.70 | | |
| 17 | --- | 13.5 | 250 | --- | 2.95 | 4.0 | 2.75 | | |
| 18 | --- | 13.0 | 255 | --- | 2.00 | 3.6 | 2.80 | | |
| 19 | --- | 12.4 | 255 | --- | | 4.0 | 2.80 | | |
| 20 | --- | (11.9) | 270 | --- | | 3.3 | (2.65) | | |
| 21 | --- | (11.9) | 275 | --- | | 3.0 | (2.65) | | |
| 22 | --- | (11.6) | 270 | --- | | 3.1 | (2.70) | | |
| 23 | --- | (10.9) | 255 | --- | | 2.8 | (2.75) | | |

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 1 minute.

Table 53

| Leopoldville, Belgian Congo (4.4°S, 15.2°E) | | | | | | | | September 1958 | |
|---|-------|--------|------|------|-----|-----|------|----------------|--|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | 220 | 12.8 | | | | | | 2.56 | |
| 01 | 240 | 11.6 | | | | | | 2.53 | |
| 02 | 240 | 9.6 | | | 1.5 | | | 2.62 | |
| 03 | 230 | 8.1 | | | 1.6 | | | 2.76 | |
| 04 | 230 | 6.0 | | | 1.6 | | | 2.97 | |
| 05 | 260 | 7.1 | --- | --- | --- | 2.8 | | 2.88 | |
| 06 | 260 | 10.5 | 245 | --- | 120 | 3.0 | 3.5 | 2.77 | |
| 07 | (260) | 11.6 | 235 | --- | 110 | 3.6 | 4.2 | 2.57 | |
| 08 | --- | 12.6 | 230 | --- | 110 | 4.0 | 4.6 | 2.40 | |
| 09 | (340) | 13.3 | 230 | --- | 110 | 4.0 | 5.0 | <2.29 | |
| 10 | 415 | 13.6 | 240 | --- | 110 | 4.2 | | 2.20 | |
| 11 | 445 | 14.0 | 245 | --- | 110 | --- | | 2.16 | |
| 12 | 450 | 14.2 | 250 | 6.7 | 110 | 4.2 | | <2.14 | |
| 13 | 450 | 14.8 | 247 | 6.5 | 110 | 4.0 | | 2.06 | |
| 14 | 460 | 15.0 | 245 | 6.0 | 110 | 3.8 | | 2.08 | |
| 15 | 435 | 15.0 | 250 | --- | 120 | 3.4 | 3.6 | 2.06 | |
| 16 | 405 | 15.0 | 270 | --- | 120 | 2.6 | 3.4 | 2.14 | |
| 17 | 330 | >14.8 | 300 | --- | | 3.0 | | <2.20 | |
| 18 | 360 | (16.0) | | | | 3.0 | | (2.18) | |
| 19 | 310 | --- | | | | 2.0 | | --- | |
| 20 | 240 | --- | | | | --- | | --- | |
| 21 | 230 | >16.8 | | | | --- | | <2.43 | |
| 22 | 220 | 17.0 | | | | --- | | (2.48) | |
| 23 | 230 | 14.1 | | | | | | 2.56 | |

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 50

| Tokyo, Japan (35.7°N, 139.5°E) | | | | | | | | September 1958 | |
|--------------------------------|------|------|--------|------|-----|-----|--------|----------------|--------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | (8.4) | 300 | | | | | (2.55) |
| 01 | | | 8.0 | 310 | | | | | 2.50 |
| 02 | | | 7.8 | 300 | | | | | 2.50 |
| 03 | | | 7.2 | 280 | | | | | 2.55 |
| 04 | | | 7.1 | 300 | | | | | 2.50 |
| 05 | | | 7.6 | 305 | | | | | 2.55 |
| 06 | | | --- | 10.7 | 250 | | | | 2.95 |
| 07 | | | --- | 12.4 | 245 | --- | | 2.40 | 2.95 |
| 08 | | | 00 | 12.6 | 235 | --- | 3.00 | 3.2 | 3.05 |
| 09 | | | (365) | 12.4 | 230 | --- | 3.70 | 4.1 | 2.70 |
| 10 | | | (460) | 12.8 | 230 | --- | 3.90 | 4.2 | 2.60 |
| 11 | | | 350 | 13.3 | 230 | --- | (4.10) | | 2.60 |
| 12 | | | 370 | 13.3 | 240 | --- | 4.05 | | 2.55 |
| 13 | | | 370 | 13.4 | 240 | 6.6 | 4.00 | | 2.55 |
| 14 | | | 360 | 13.3 | 250 | 6.4 | 3.85 | | 2.55 |
| 15 | | | 350 | 12.8 | 250 | --- | 3.60 | | 2.60 |
| 16 | | | (350) | 12.4 | 255 | | 3.20 | 3.4 | 2.60 |
| 17 | | | --- | 12.1 | 255 | | 2.50 | 3.4 | 2.70 |
| 18 | | | 11.4 | 260 | | | | 3.2 | 2.75 |
| 19 | | | (10.0) | 265 | | | | 3.0 | (2.65) |
| 20 | | | (9.4) | 290 | | | | 3.0 | (2.55) |
| 21 | | | (9.2) | 300 | | | | 2.8 | (2.55) |
| 22 | | | (9.1) | 300 | | | | 2.4 | (2.60) |
| 23 | | | 9.0 | 300 | | | | | 2.60 |

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 52

| Formosa, China (25.0°N, 121.5°E) | | | | | | | | September 1958 | |
|----------------------------------|------|------|-------|-------|-------|-------|------|----------------|--------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | >16.5 | 260 | | | | | 2.80 |
| 01 | | | >16.4 | 240 | | | | | 2.80 |
| 02 | | | 13.2 | 230 | | | | | 3.00 |
| 03 | | | >11.1 | 220 | | | | | 3.10 |
| 04 | | | 9.3 | 230 | | | | | 2.90 |
| 05 | | | 8.3 | 240 | | | | | 2.90 |
| 06 | | | 10.6 | 260 | | | | 2.0 | 3.00 |
| 07 | | | 11.6 | 230 | | | | | 3.15 |
| 08 | | | --- | 12.1 | 230 | | | | 4.5 |
| 09 | | | --- | 12.9 | 230 | --- | | | 4.9 |
| 10 | | | --- | 14.2 | (230) | --- | | | 5.2 |
| 11 | | | --- | >15.9 | (230) | --- | | | >4.6 |
| 12 | | | (400) | 16.5 | (240) | --- | | | 2.50 |
| 13 | | | 400 | 17.4 | <250 | --- | | | 2.45 |
| 14 | | | 400 | 17.2 | (240) | (7.0) | --- | | 2.50 |
| 15 | | | 380 | 17.3 | (240) | --- | | | 4.5 |
| 16 | | | (350) | 17.3 | 240 | --- | | | 4.3 |
| 17 | | | --- | 17.1 | (260) | --- | | | 4.2 |
| 18 | | | | 16.6 | 280 | --- | | | 4.0 |
| 19 | | | | >16.6 | 310 | --- | | | 3.8 |
| 20 | | | | >16.0 | 310 | --- | | | 3.4 |
| 21 | | | | 16.4 | 280 | --- | | | 2.60 |
| 22 | | | | 18.8 | 270 | --- | | | (2.70) |
| 23 | | | | >17.4 | 260 | --- | | | (2.80) |

Time: 120.0°E.

Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 54

| Rarotonga I. (21.2°S, 159.8°W) | | | | | | | | September 1958 | |
|--------------------------------|------|------|--------|---------|-----|-----|------|----------------|--------|
| Time | h'F2 | foF2 | h'F | foF1 | h'E | foE | foEs | (M3000)F2 | |
| 00 | | | (10.9) | 250 | | | | | (2.65) |
| 01 | | | (9.6) | 250 | | | | | 2.70 |
| 02 | | | 8.6 | 250 | | | | | 2.60 |
| 03 | | | 8.0 | 270 | | | | | 2.55 |
| 04 | | | 7.5 | 270</td | | | | | |

Table 55

| Johannesburg, Union of S. Africa (26.2°S, 28.0°E) | | | | | | | September 1958 |
|---|-------|-------|-----|------|-------|--------|-------------------|
| Time | h°F2 | foF2 | h°F | foF1 | h°E | foE | foEs (M3000)F2 |
| 00 | 6.6 | 245 | | | <1.3 | 2.80 | |
| 01 | 5.8 | <250 | | | 2.75 | | |
| 02 | 5.4 | (255) | | | 2.70 | | |
| 03 | 5.1 | (250) | | | 2.70 | | |
| 04 | 4.9 | (255) | | | 2.75 | | |
| 05 | 4.6 | 260 | | | 2.75 | | |
| 06 | 6.2 | 270 | | 1.7 | 2.90 | | |
| 07 | 9.8 | 230 | | | 2.8 | 3.15 | |
| 08 | 12.0 | 230 | --- | | 3.4 | 3.00 | |
| 09 | 12.8 | 225 | --- | | 3.8 | 2.90 | |
| 10 | 13.0 | 220 | --- | | 4.0 | 2.80 | |
| 11 | 13.2 | 215 | --- | | 4.1 | 2.65 | |
| 12 | 12.8 | 215 | --- | | (4.1) | 2.55 | |
| 13 | (350) | 12.6 | 210 | --- | 4.1 | 2.45 | |
| 14 | 385 | 12.6 | 210 | 6.5 | 4.0 | 2.45 | |
| 15 | 12.4 | 225 | --- | | 3.8 | 4.0 | 2.45 |
| 16 | 12.0 | 235 | | | 3.5 | 3.6 | 2.50 |
| 17 | 11.9 | 250 | | | 2.9 | 2.60 | |
| 18 | 11.9 | 260 | | | 1.9 | 2.70 | |
| 19 | 11.4 | 250 | | | <1.5 | 2.70 | |
| 20 | 10.6 | 245 | | | <1.5 | (2.80) | |
| 21 | >9.8 | 245 | | | <1.5 | 2.85 | |
| 22 | 9.2 | 245 | | | <1.5 | 2.90 | |
| 23 | 7.8 | 240 | | | <1.4 | 2.90 | |

Time: 30.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 57

| Campbell I. (52.5°S, 169.2°E) | | | | | | | September 1958 |
|-------------------------------|-------|------|-----|-------|------|--------|-------------------|
| Time | h°F2 | foF2 | h°F | foF1 | h°E | foE | foEs (M3000)F2 |
| 00 | 7.0 | 280 | | | 2.0 | 2.50 | |
| 01 | 6.6 | 280 | | | >2.1 | 2.50 | |
| 02 | 6.5 | 270 | | --- | 2.0 | 2.55 | |
| 03 | 6.0 | 270 | | --- | <1.7 | 2.55 | |
| 04 | 5.6 | 260 | | --- | <1.2 | 2.50 | |
| 05 | 5.6 | 260 | | --- | 1.3 | 2.65 | |
| 06 | 6.7 | 250 | | 120 | 2.0 | 2.90 | |
| 07 | 8.6 | 240 | --- | 110 | 2.6 | 3.00 | |
| 08 | >10.0 | 230 | --- | 105 | 3.1 | 2.95 | |
| 09 | 10.3 | 220 | --- | 105 | 3.4 | 2.85 | |
| 10 | 10.2 | 220 | --- | 105 | 3.6 | 2.70 | |
| 11 | 290 | 10.8 | 220 | 5.6 | 105 | 3.6 | 2.70 |
| 12 | 280 | 11.2 | 220 | (5.4) | 105 | 3.7 | 2.70 |
| 13 | (270) | 11.0 | 220 | 5.5 | 105 | 3.6 | 2.70 |
| 14 | (400) | 11.0 | 220 | 5.2 | 105 | 3.4 | (2.70) |
| 15 | >10.5 | 230 | --- | 110 | 3.2 | (2.55) | |
| 16 | >10.5 | 240 | --- | 110 | 2.8 | (2.65) | |
| 17 | >10.2 | 250 | --- | 120 | 2.1 | (2.55) | |
| 18 | >10.0 | 250 | --- | 1.5 | | 2.65 | |
| 19 | >9.5 | 250 | | | <1.3 | 2.60 | |
| 20 | 8.5 | 250 | | | <1.2 | 2.60 | |
| 21 | 8.0 | 270 | | | <1.2 | 2.55 | |
| 22 | 7.1 | 280 | | | <1.4 | 2.50 | |
| 23 | 7.4 | 300 | | | 2.0 | 2.55 | |

Time: 165.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.

Table 59

| Bogota, Colombia (4.5°N, 74.2°W) | | | | | | | February 1958 |
|----------------------------------|-------|-------|-------|------|------|------|-------------------|
| Time | h°F2 | foF2 | h°F | foF1 | h°E | foE | foEs (M3000)F2 |
| 00 | 13.4 | 225 | | | 2.2 | 3.10 | |
| 01 | 11.0 | 215 | | | | 3.20 | |
| 02 | 8.6 | 210 | | | | 3.10 | |
| 03 | 6.0 | 235 | | | | 2.85 | |
| 04 | 5.5 | 250 | | | 3.2 | 2.88 | |
| 05 | 5.3 | (260) | | | 2.4 | 2.70 | |
| 06 | 6.4 | 290 | --- | ---- | 2.1 | 2.80 | |
| 07 | 11.0 | 250 | <120 | 2.62 | 3.1 | 3.00 | |
| 08 | 13.8 | 240 | 117 | 3.35 | | 3.00 | |
| 09 | 14.8 | 225 | 113 | 3.75 | | 2.95 | |
| 10 | 14.7 | 215 | 111 | 4.02 | | 2.80 | |
| 11 | 15.0 | 210 | 111 | 4.20 | 4.2 | 2.75 | |
| 12 | 15.0 | 210 | --- | 111 | 4.25 | 2.65 | |
| 13 | (405) | 15.1 | (210) | --- | 4.20 | 4.4 | 2.60 |
| 14 | (400) | 15.1 | 230 | --- | 112 | 4.02 | 4.3 |
| 15 | (390) | 15.5 | 230 | --- | 111 | 3.80 | 2.60 |
| 16 | --- | 15.0 | 240 | --- | 113 | 3.50 | 3.7 |
| 17 | 14.8 | 250 | 117 | 2.95 | 3.4 | 2.60 | |
| 18 | 15.2 | 265 | --- | ---- | 2.2 | 2.70 | |
| 19 | 16.75 | 270 | --- | ---- | 2.0 | 2.70 | |
| 20 | 17.5 | 270 | | | | 2.70 | |
| 21 | 17.65 | 245 | | | | 2.80 | |
| 22 | 16.1 | 240 | | | | 2.90 | |
| 23 | 16.35 | 240 | | | | 3.10 | |

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 56

| Capetown, Union of S. Africa (34.1°S, 18.3°E) | | | | | | | September 1958 |
|---|------|------|-----|------|-------|--------|-------------------|
| Time | h°F2 | foF2 | h°F | foF1 | h°E | foE | foEs (M3000)F2 |
| 00 | | | | | 6.0 | <255 | |
| 01 | | | | | 5.5 | <275 | |
| 02 | | | | | 5.0 | <295 | |
| 03 | | | | | 5.0 | <280 | |
| 04 | | | | | 4.8 | <280 | |
| 05 | | | | | 4.6 | <280 | |
| 06 | | | | | 4.2 | <290 | |
| 07 | | | | | 7.5 | 245 | |
| 08 | | | | | 10.6 | 240 | |
| 09 | | | | | 12.3 | 240 | |
| 10 | | | | | 13.0 | 230 | |
| 11 | | | | | 13.4 | --- | |
| 12 | | | | | >13.3 | --- | |
| 13 | | | | | 13.2 | --- | |
| 14 | | | | | (350) | 13.2 | |
| 15 | | | | | (320) | 13.0 | |
| 16 | | | | | | 12.8 | 240 |
| 17 | | | | | | 12.5 | 245 |
| 18 | | | | | | (12.0) | 250 |
| 19 | | | | | | >10.9 | 245 |
| 20 | | | | | | 10.1 | (240) |
| 21 | | | | | | >9.7 | (245) |
| 22 | | | | | | 8.8 | (240) |
| 23 | | | | | | 7.2 | <245 |

Time: 30.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 58

| Scott Base (77.8°S, 166.0°E) | | | | | | | September 1958 |
|------------------------------|------|------|-----|------|-------|-----|-------------------|
| Time | h°F2 | foF2 | h°F | foF1 | h°E | foE | foEs (M3000)F2 |
| 00 | | | | | 6.2 | 290 | |
| 01 | | | | | (4.8) | 300 | |
| 02 | | | | | 5.2 | 300 | |
| 03 | | | | | 5.5 | 310 | |
| 04 | | | | | (4.6) | 270 | |
| 05 | | | | | (5.4) | 280 | |
| 06 | | | | | 5.8 | 260 | |
| 07 | | | | | 6.8 | 260 | |
| 08 | | | | | 7.7 | 250 | |
| 09 | | | | | 7.8 | 250 | |
| 10 | | | | | 8.7 | 250 | |
| 11 | | | | | 8.6 | 250 | |
| 12 | | | | | 8.4 | 250 | |
| 13 | | | | | 9.5 | 250 | 4.2 (115) |
| 14 | | | | | 9.8 | 260 | |
| 15 | | | | | 9.9 | 260 | (4.2) (115) |
| 16 | | | | | 10.0 | 270 | |
| 17 | | | | | 10.0 | 270 | |
| 18 | | | | | 10.0 | 260 | |
| 19 | | | | | 10.0 | 260 | |
| 20 | | | | | 9.9 | 260 | |
| 21 | | | | | 7.4 | 260 | |
| 22 | | | | | 7.6 | 260 | |
| 23 | | | | | 5.8 | 270 | |

Time: 165.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.

Table 60

| Little America (78.2°S, 162.2°W) | | | | | | | February 1958 |
|----------------------------------|------|------|-----|------|--------|--------|-------------------|
| Time | h°F2 | foF2 | h°F | foF1 | h°E | foE | foEs (M3000)F2 |
| 00 | | | | | (5.1) | 300 | |
| 01 | | | | | (5.0) | 295 | |
| 02 | | | | | (4.6) | (310) | (3.3) |
| 03 | | | | | (4.6) | (330) | 105 |
| 04 | | | | | (5.25) | <300 | 106 |
| 05 | | | | | (5.3) | 280 | (2.70) |
| 06 | | | | | (5.6) | 280 | |
| 07 | | | | | (530) | (6.2) | 270 |
| 08 | | | | | (455) | (6.9) | 260 |
| 09 | | | | | (480) | (6.9) | 250 |
| 10 | | | | | (505) | (6.55) | 245 |
| 11 | | | | | 450 | (6.1) | 245 |
| 12 | | | | | (470) | (6.7) | <240 |
| 13 | | | | | (480) | (6.5) | 240 |
| 14 | | | | | (450) | (6.4) | 250 |
| 15 | | | | | (500) | (6.0) | 240 |
| 16 | | | | | (495) | (6.0) | 250 |
| 17 | | | | | 445 | (6.55) | 260 |
| 18 | | | | | 450 | (7.0) | 270 |
| 19 | | | | | (500) | (6.8) | <270 |
| 20 | | | | | (525) | (7.15) | 280 |
| 21 | | | | | --- | (6.5) | 290 |
| 22 | | | | | --- | (6.0) | 300 |
| 23 | | | | | --- | (4.2) | 300 |

Time: 165.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 61

| Byrd Station (80.0°S, 120.0°W) | | | | | | | | February 1958 | | |
|--------------------------------|-------|--------|-------|-------|-------|--------|------|---------------|--|--|
| Time | h°F2 | foF2 | h°F | foF1 | h°E | foE | foEs | (M3000)F2 | | |
| 00 | (435) | (5.75) | 330 | --- | 117 | (2.45) | 3.2 | (2.42) | | |
| 01 | (480) | (5.5) | 350 | --- | 118 | 2.70 | | (2.40) | | |
| 02 | <510 | (5.85) | (375) | --- | 111 | --- | 3.8 | (2.38) | | |
| 03 | <615 | 5.4 | (380) | --- | (112) | 2.95 | 3.4 | 2.38 | | |
| 04 | --- | 5.3 | <340 | --- | --- | 2.55 | 3.2 | 2.60 | | |
| 05 | --- | 5.6 | (290) | --- | 111 | (2.70) | | 2.62 | | |
| 06 | --- | 5.65 | (285) | --- | (111) | 2.68 | | 2.62 | | |
| 07 | --- | 5.8 | <255 | --- | <117 | (2.70) | | 2.65 | | |
| 08 | --- | 6.1 | 260 | --- | 108 | 2.80 | | 2.68 | | |
| 09 | (450) | 6.5 | 250 | (4.8) | (109) | 2.92 | | 2.60 | | |
| 10 | (445) | 6.7 | 250 | 4.5 | 109 | 2.92 | | 2.60 | | |
| 11 | 470 | 6.8 | 250 | 4.8 | 109 | 2.92 | | 2.48 | | |
| 12 | 530 | 6.6 | 250 | 4.3 | 107 | 2.92 | | 2.50 | | |
| 13 | 455 | 6.8 | 250 | (4.5) | 109 | 2.90 | | 2.50 | | |
| 14 | 460 | 6.7 | 255 | (4.4) | 107 | 3.00 | | 2.52 | | |
| 15 | 460 | 6.5 | (280) | (4.5) | 109 | 3.20 | | 2.55 | | |
| 16 | 430 | (6.35) | 280 | (4.5) | 109 | 3.15 | | (2.55) | | |
| 17 | (490) | (6.35) | 280 | 4.6 | 111 | 3.00 | | (2.55) | | |
| 18 | (440) | (6.2) | 280 | (4.6) | 109 | 3.00 | | (2.40) | | |
| 19 | (500) | (6.0) | 290 | 4.3 | 111 | 2.90 | 3.5 | (2.38) | | |
| 20 | <465 | (6.3) | 295 | (4.1) | (117) | 2.60 | | (2.35) | | |
| 21 | (420) | (6.65) | 320 | --- | <115 | --- | 3.8 | (2.40) | | |
| 22 | --- | (6.8) | 315 | (3.8) | 109 | --- | 4.0 | (2.32) | | |
| 23 | (430) | (6.2) | (340) | --- | 114 | --- | 4.1 | (2.40) | | |

Time: 120.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 63

| Wilkes Station (66.2°S, 110.5°E) | | | | | | | | January 1958 | | |
|----------------------------------|-------|--------|-------|-------|-----|--------|------|--------------|--|--|
| Time | h°F2 | foF2 | h°F | foF1 | h°E | foE | foEs | (M3000)F2 | | |
| 00 | --- | (5.0) | 320 | --- | 105 | ---- | 4.7 | (2.65) | | |
| 01 | --- | (5.0) | 325 | --- | 102 | ---- | 5.8 | (2.48) | | |
| 02 | --- | (5.2) | (320) | --- | 101 | ---- | 5.9 | (2.60) | | |
| 03 | --- | (5.4) | (300) | --- | --- | (2.35) | 5.9 | (2.50) | | |
| 04 | (435) | (5.7) | (270) | (3.8) | 103 | (2.65) | 5.6 | (2.55) | | |
| 05 | 490 | (5.9) | (255) | (4.3) | 101 | (2.90) | 6.0 | (2.45) | | |
| 06 | <545 | (5.8) | 240 | (4.5) | 101 | 3.28 | 5.3 | (2.30) | | |
| 07 | 580 | (5.8) | 230 | 4.6 | 101 | 3.42 | 5.4 | (2.20) | | |
| 08 | 605 | (5.8) | 220 | (4.8) | 101 | (3.60) | 4.0 | (2.22) | | |
| 09 | 580 | (5.9) | 230 | (4.9) | 101 | (3.75) | 4.0 | (2.22) | | |
| 10 | 615 | (6.0) | <230 | (4.9) | 101 | (3.80) | | (2.15) | | |
| 11 | 590 | (6.4) | <235 | 5.1 | 101 | 3.88 | | (2.20) | | |
| 12 | 580 | (6.1) | (230) | (5.0) | 101 | (3.90) | | (2.15) | | |
| 13 | 560 | (6.2) | (230) | (5.0) | 101 | (3.80) | | (2.20) | | |
| 14 | 565 | (5.85) | 210 | (4.9) | 101 | 3.78 | | (2.20) | | |
| 15 | 560 | (6.3) | 220 | (4.8) | 101 | 3.62 | | (2.25) | | |
| 16 | 560 | (6.1) | 220 | (4.8) | 101 | 3.45 | | (2.15) | | |
| 17 | 540 | (6.1) | 220 | (4.5) | 101 | (3.25) | 3.6 | (2.22) | | |
| 18 | 540 | (5.7) | 240 | 4.2 | 101 | 3.00 | 3.5 | (2.30) | | |
| 19 | 485 | (6.0) | 250 | (4.0) | 103 | (2.70) | 4.0 | (2.40) | | |
| 20 | (480) | (6.05) | 280 | --- | 103 | (2.45) | 5.0 | 2.40 | | |
| 21 | --- | (5.8) | 290 | --- | 103 | (2.10) | 4.0 | (2.50) | | |
| 22 | --- | 5.4 | 300 | --- | 103 | (1.72) | 5.2 | 2.55 | | |
| 23 | --- | (5.3) | 300 | --- | 103 | ---- | 4.4 | (2.58) | | |

Time: 105.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 65

| Byrd Station (80.0°S, 120.0°W) | | | | | | | | January 1958 | | |
|--------------------------------|------|--------|-------|-------|-----|--------|------|--------------|--|--|
| Time | h°F2 | foF2 | h°F | foF1 | h°E | foE | foEs | (M3000)F2 | | |
| 00 | 515 | (5.6) | (290) | (3.7) | 107 | 2.65 | 4.0 | (2.22) | | |
| 01 | 550 | (5.25) | <320 | 3.7 | 104 | (2.80) | 3.0 | (2.15) | | |
| 02 | 575 | (5.1) | <295 | (3.9) | 104 | 3.00 | 3.6 | (2.15) | | |
| 03 | 560 | 5.3 | (310) | 4.2 | 101 | (3.10) | | 2.18 | | |
| 04 | 560 | 5.5 | 270 | 4.4 | 101 | 3.10 | | 2.25 | | |
| 05 | 560 | 5.4 | 265 | 4.5 | 101 | 3.20 | | 2.20 | | |
| 06 | 590 | 5.6 | 255 | 4.7 | 103 | 3.10 | | 2.20 | | |
| 07 | 600 | 5.7 | 250 | 4.8 | 101 | 3.30 | | 2.30 | | |
| 08 | 560 | 6.0 | 250 | 4.9 | 101 | 3.40 | | 2.30 | | |
| 09 | 550 | 6.25 | 245 | 5.1 | 101 | 3.40 | | 2.35 | | |
| 10 | 540 | 6.5 | 240 | 5.0 | 101 | 3.45 | | 2.30 | | |
| 11 | 490 | 6.9 | 235 | 5.1 | 101 | 3.45 | | 2.30 | | |
| 12 | 515 | 7.0 | 240 | 5.1 | 101 | 3.42 | | 2.30 | | |
| 13 | 500 | 7.2 | 240 | 5.0 | 101 | 3.45 | | 2.30 | | |
| 14 | 500 | 7.05 | 250 | 4.9 | 101 | 3.40 | | 2.30 | | |
| 15 | 490 | 7.05 | 250 | 5.0 | 101 | 3.40 | | 2.30 | | |
| 16 | 550 | 6.6 | 260 | 4.9 | 101 | 3.40 | | 2.25 | | |
| 17 | 530 | 6.5 | 260 | 5.0 | 101 | 3.40 | | 2.25 | | |
| 18 | 540 | (6.6) | 270 | 4.7 | 101 | 3.30 | | (2.25) | | |
| 19 | 540 | (6.25) | 280 | (4.5) | 101 | (3.00) | 3.0 | (2.20) | | |
| 20 | 540 | (6.2) | 275 | (4.4) | 101 | 2.90 | 3.4 | (2.25) | | |
| 21 | 510 | (6.2) | (275) | (4.2) | 101 | (2.80) | 3.6 | (2.25) | | |
| 22 | 510 | (6.0) | (290) | (4.1) | 101 | (2.75) | 3.7 | (2.20) | | |
| 23 | 480 | (6.25) | <300 | (4.0) | 105 | (2.70) | 3.8 | (2.25) | | |

Time: 120.0°W.

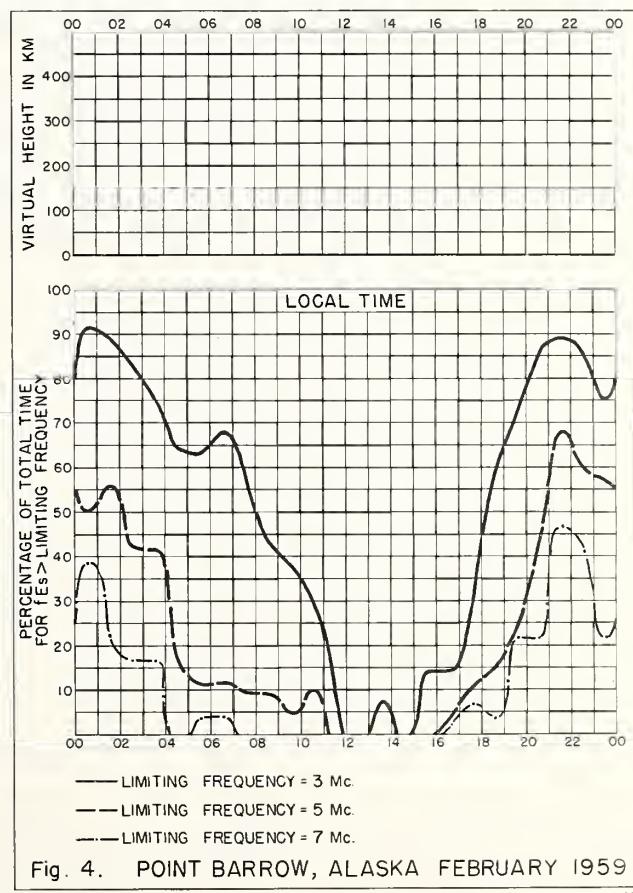
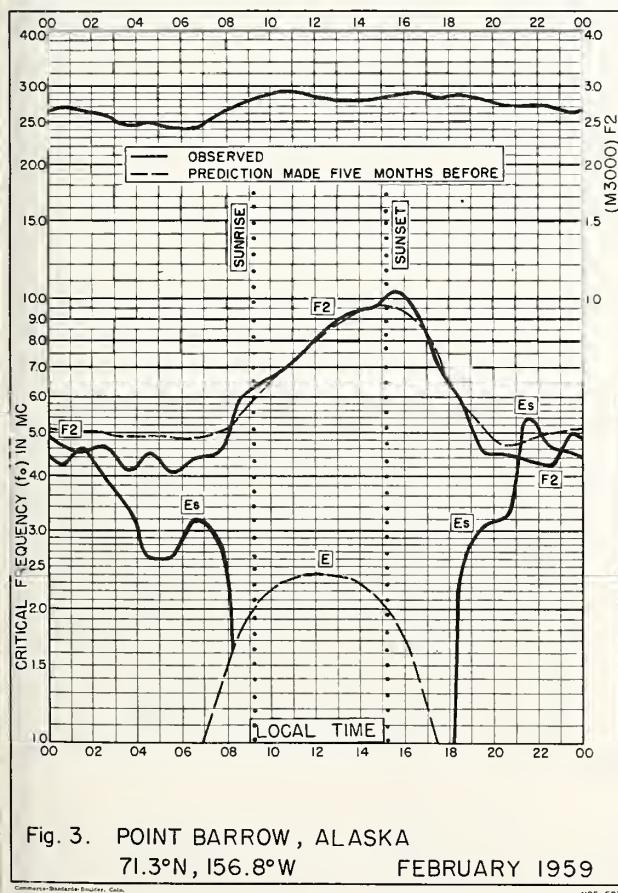
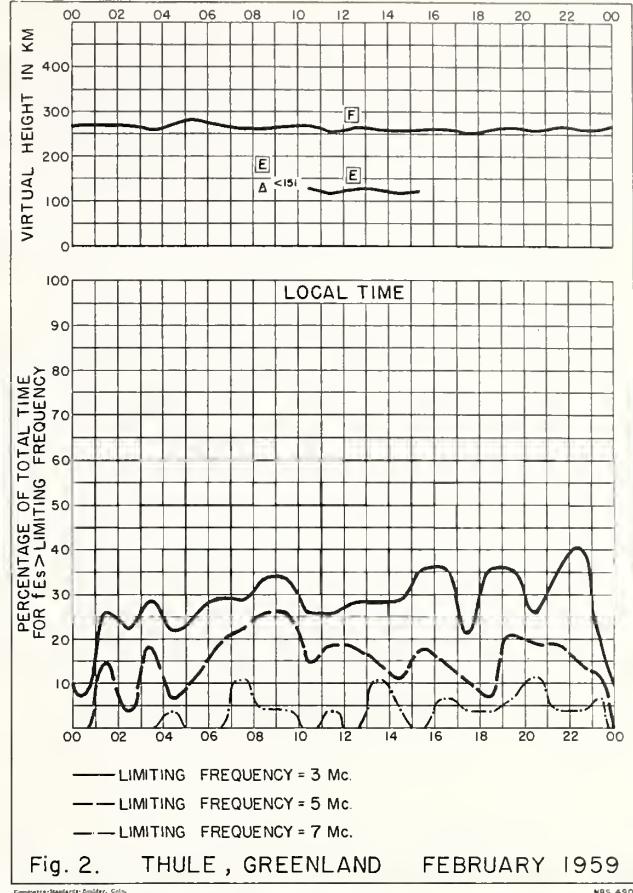
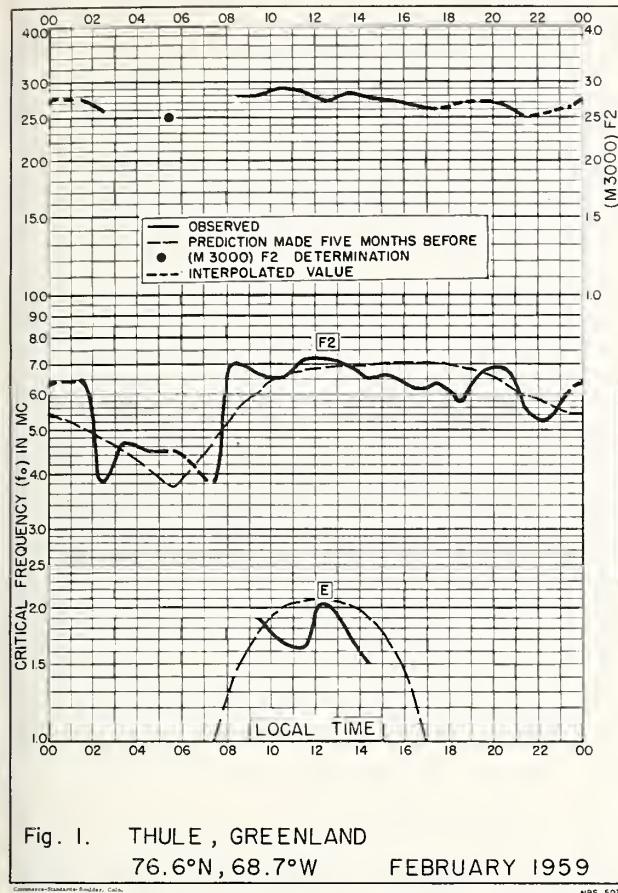
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

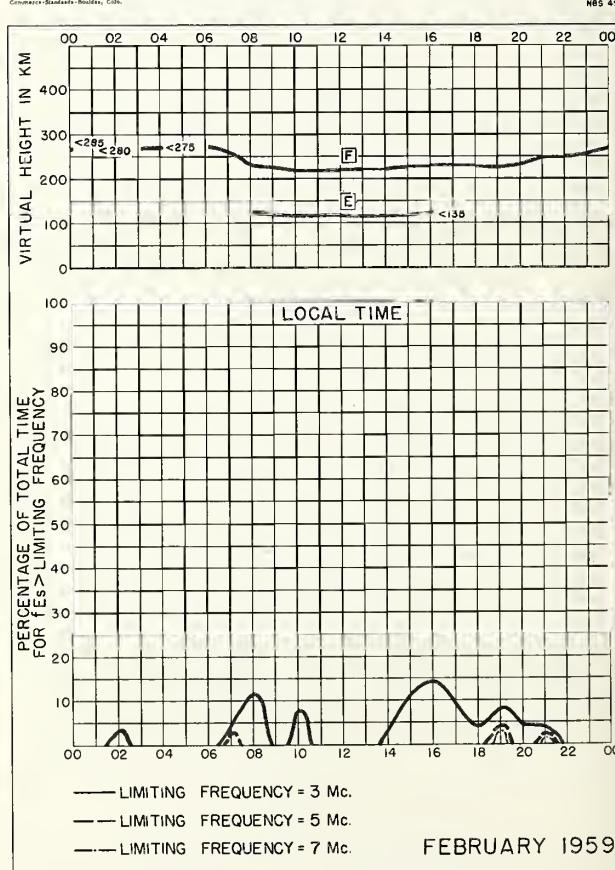
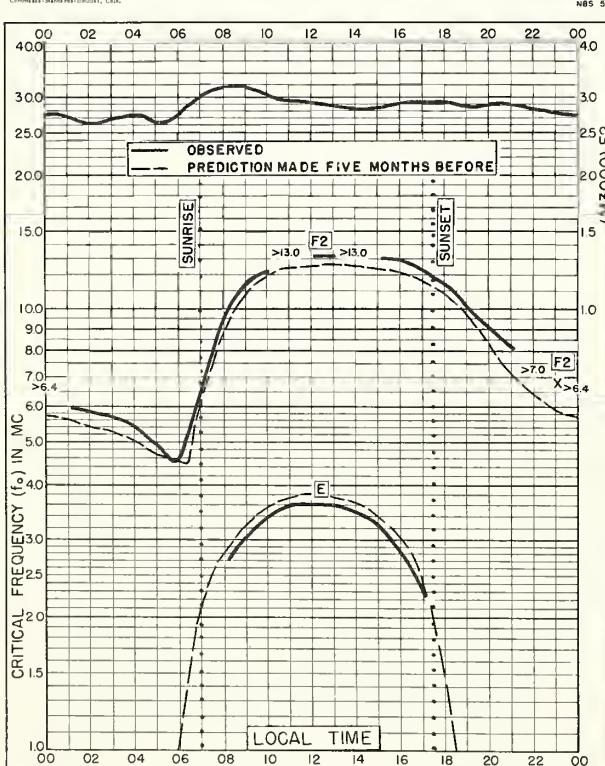
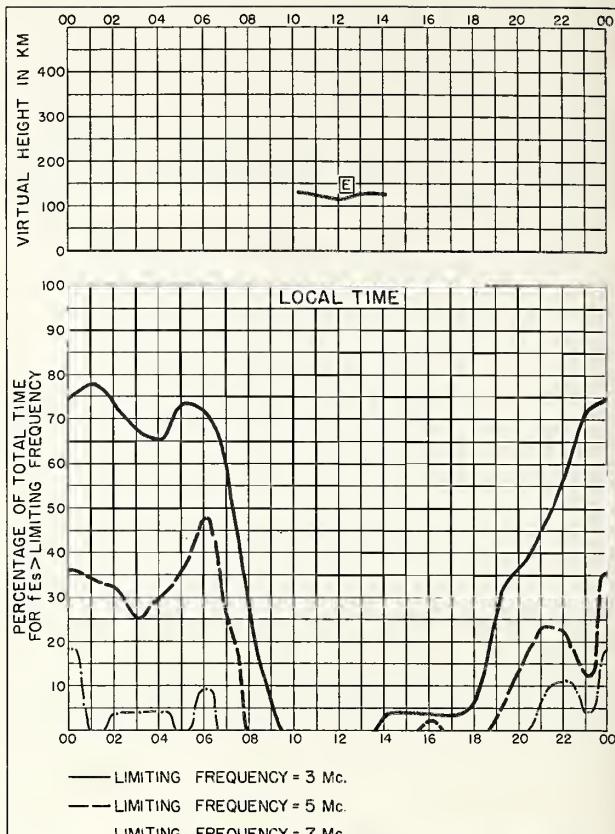
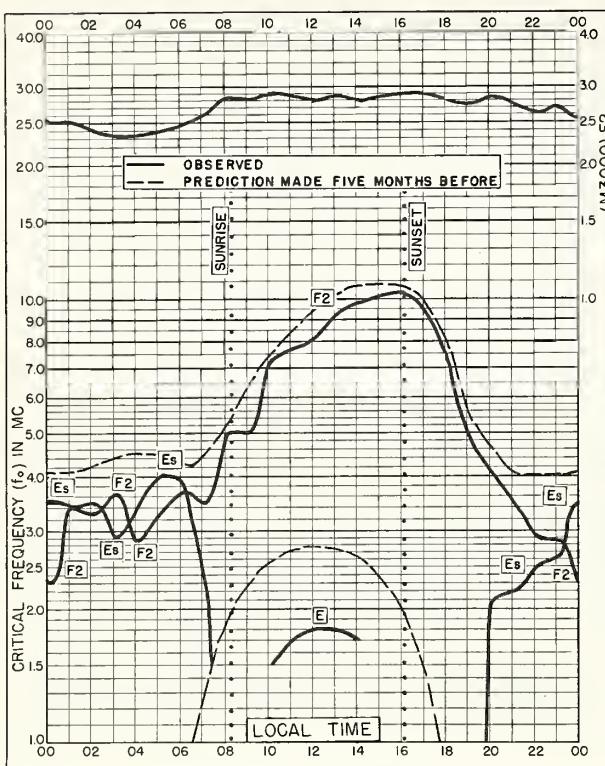
Table 66

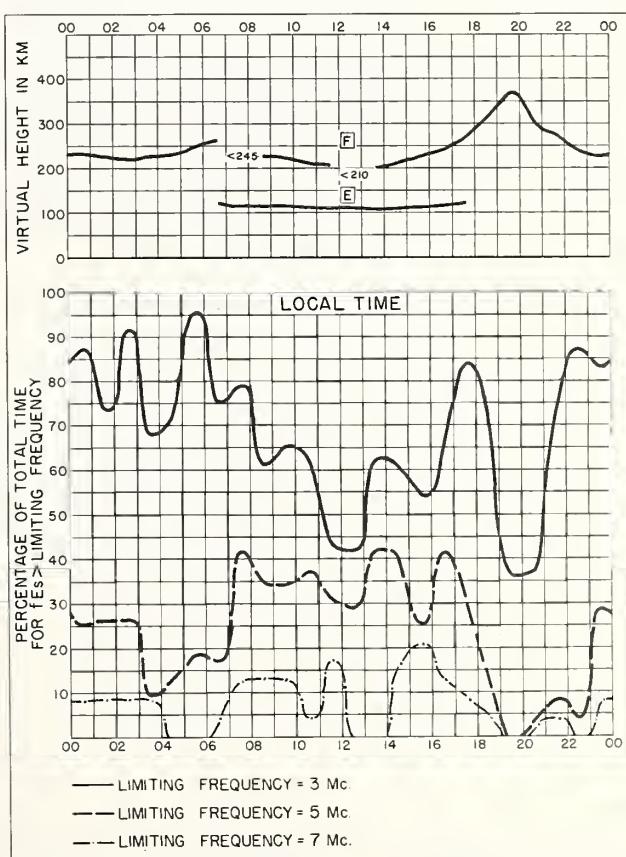
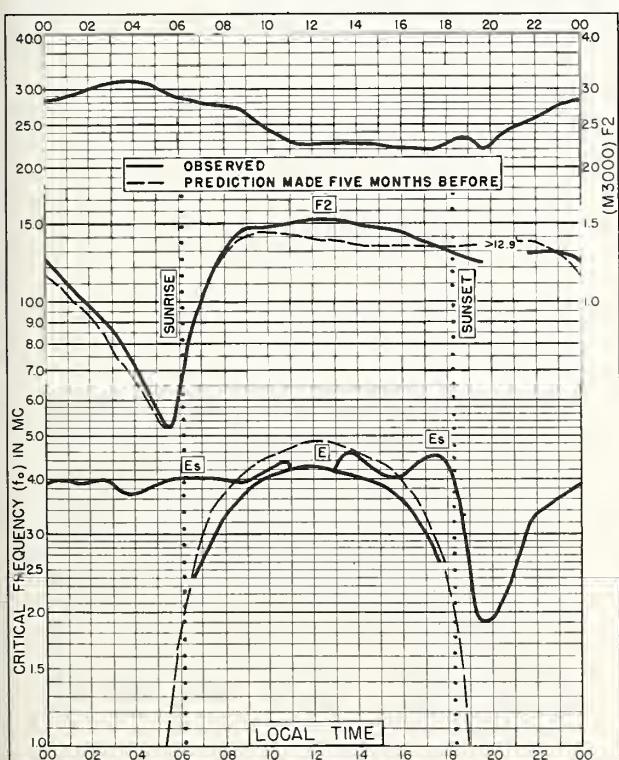
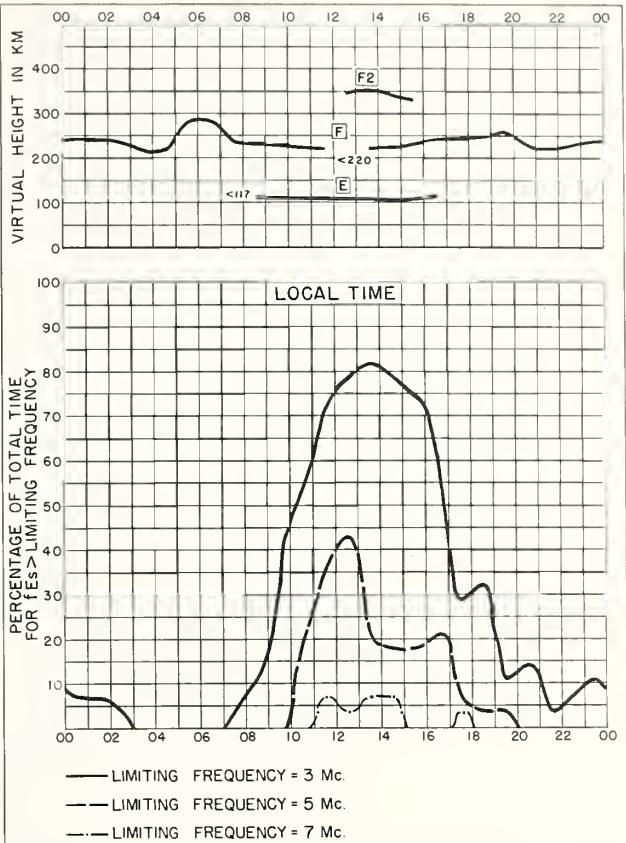
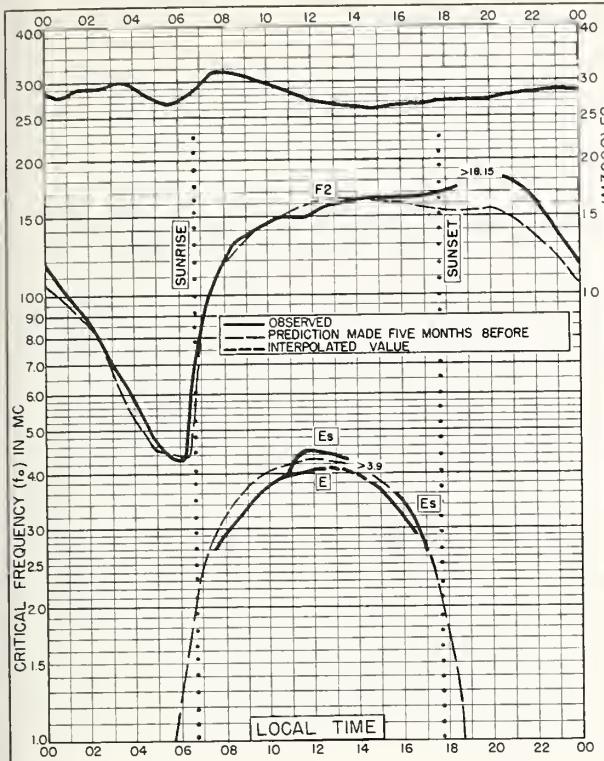
| Pole Station (90.0°S) | | | | | | | | January 1958 | | |
|-----------------------|-------|--------|-------|------|-----|--------|------|--------------|--|--|
| Time | h°F2 | foF2 | h°F | foF1 | h°E | foE | foEs | (M3000)F2 | | |
| 00 | 600 | 6.1 | 255 | 4.7 | 107 | (3.05) | 4.6 | 2.30 | | |
| 01 | 570 | 6.0 | <255 | 4.6 | 105 | 3.02 | 5.6 | 2.25 | | |
| 02 | 550 | (6.4) | 255 | 4.5 | 105 | (3.00) | 5.4 | 2.25 | | |
| 03 | 595 | (5.8) | 255 | 4.5 | 106 | (3.05) | 4.2 | 2.10 | | |
| 04 | 565 | 6.0 | 260 | 4.5 | 108 | (3.10) | 3.7 | 2.20 | | |
| 05 | 550 | 6.0 | 250 | 4.4 | 108 | (3.00) | 5.4 | 2.20 | | |
| 06 | 570 | 6.1 | 250 | 4.3 | 107 | (3.05) | 3.6 | 2.15 | | |
| 07 | 570 | 6.0 | 250 | 4.3 | 107 | (3.05) | | 2.20 | | |
| 08 | 625 | (5.75) | <250 | 4.2 | 107 | 3.00 | | (2.12) | | |
| 09 | 580 | (5.4) | 240 | 4.2 | 106 | (3.10) | | (2.10) | | |
| 10 | 600 | 5.0 | <250 | 4.2 | 107 | 3.30 | 3.4 | (2.12) | | |
| 11 | <655 | 4.7 | 255 | 4.2 | 105 | (3.30) | 3.6 | (2.00) | | |
| 12 | 660 | 4.95 | <260 | 4.3 | 105 | (3.22) | | 2.15 | | |
| 13 | 605 | 5.35 | (275) | 4.4 | 105 | (3.25) | | 2.20 | | |
| 14 | 610 | 5.7 | 265 | 4.5 | 107 | (3.20) | 4.5 | 2.30 | | |
| 15 | 575 | 6.2 | 260 | 4.6 | 107 | (3.00) | 4.4 | 2.35 | | |
| 16 | 510 | 6.2 | 260 | 4.5 | 105 | (3.10) | 5.3 | 2.38 | | |
| 17 | 570 | 6.1 | 255 | 4.4 | 106 | (3.00) | 5.6 | 2.30 | | |
| 18 | (550) | 5.55 | 260 | 4.4 | 109 | (3.00) | 5.6 | 2.35 | | |
| 19 | 610 | 5.5 | 260 | 4.5 | 109 | (3.00) | | 2.30 | | |
| 20 | 580 | 5.75 | 255 | 4.5 | 107 | (3.20) | 4.3 | 2.30 | | |
| 21 | (540) | 6.2 | 260 | 4.7 | 109 | (3.05) | 3.6 | 2.40 | | |
| 22 | 560 | 6.2 | 250 | 4.7 | 107 | (3.08) | 4.2 | 2.45 | | |
| 23 | (550) | 6.0 | 250 | 4.7 | 109 | (3.10) | 4.2 | 2.30 | | |

Time: 0.0°.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.







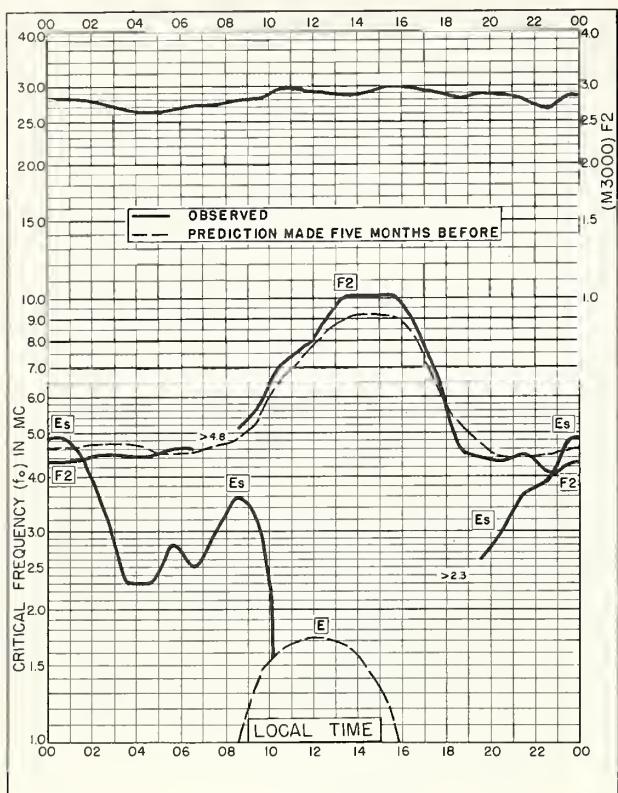


Fig. 13. POINT BARROW, ALASKA
71.3°N, 156.8°W JANUARY 1959

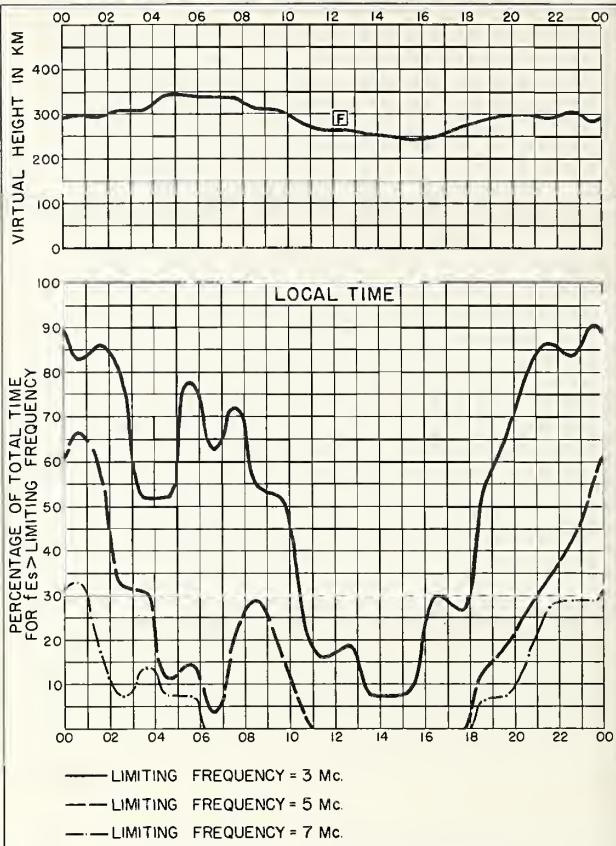


Fig. 14. POINT BARROW, ALASKA JANUARY 1959

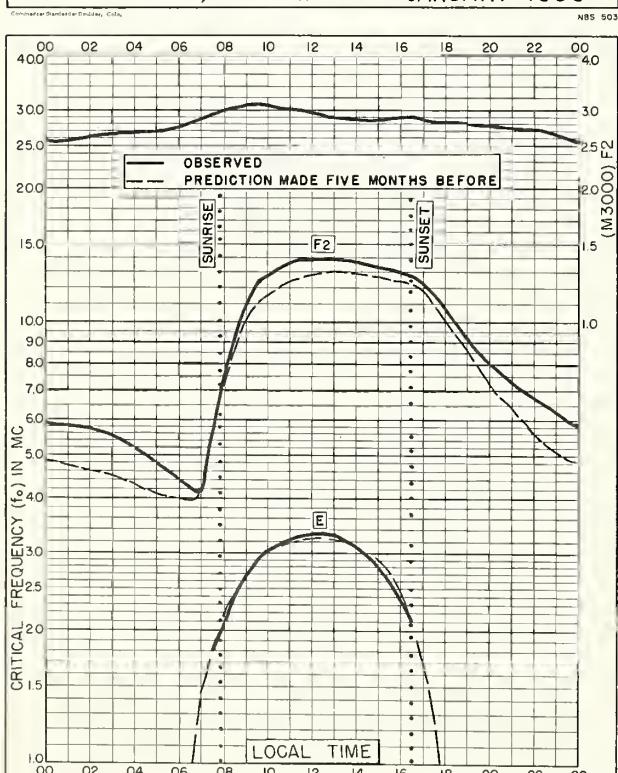
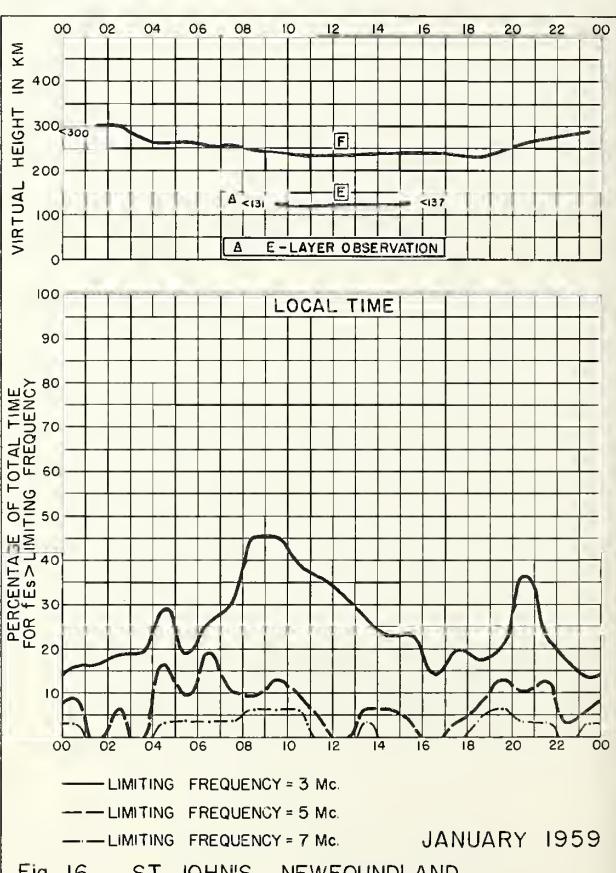


Fig. 15. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W JANUARY 1959



JANUARY 1959
Fig. 16. ST. JOHN'S, NEWFOUNDLAND

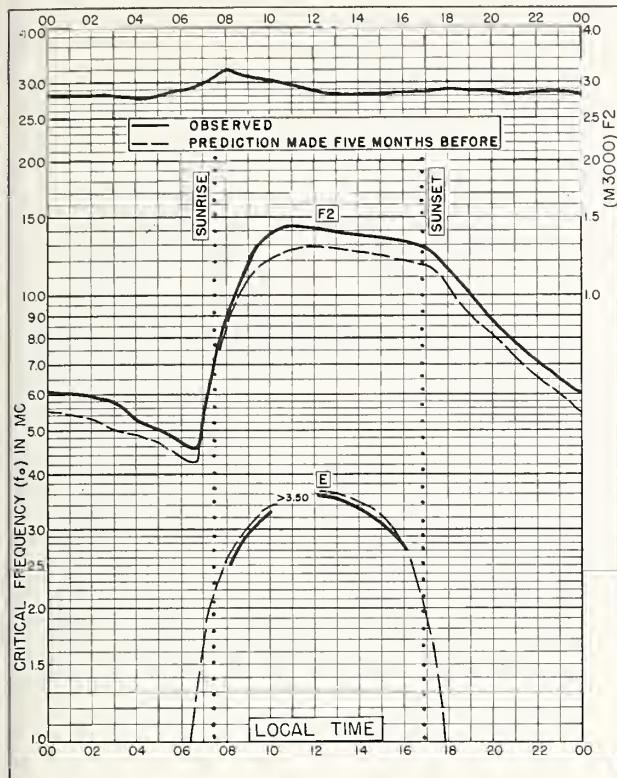


Fig. 17. FT. MONMOUTH, NEW JERSEY
40.4°N, 74.1°W JANUARY 1959

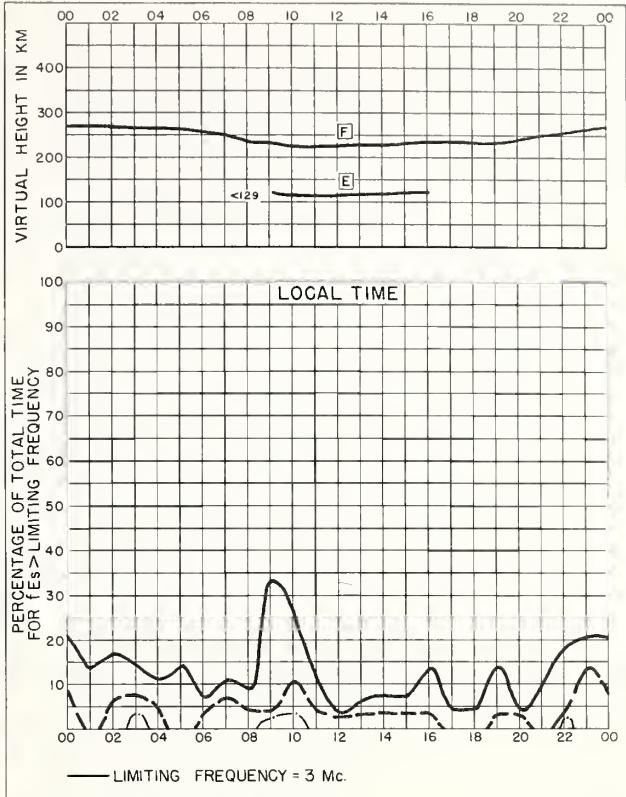


Fig. 18. FT. MONMOUTH, NEW JERSEY JANUARY 1959

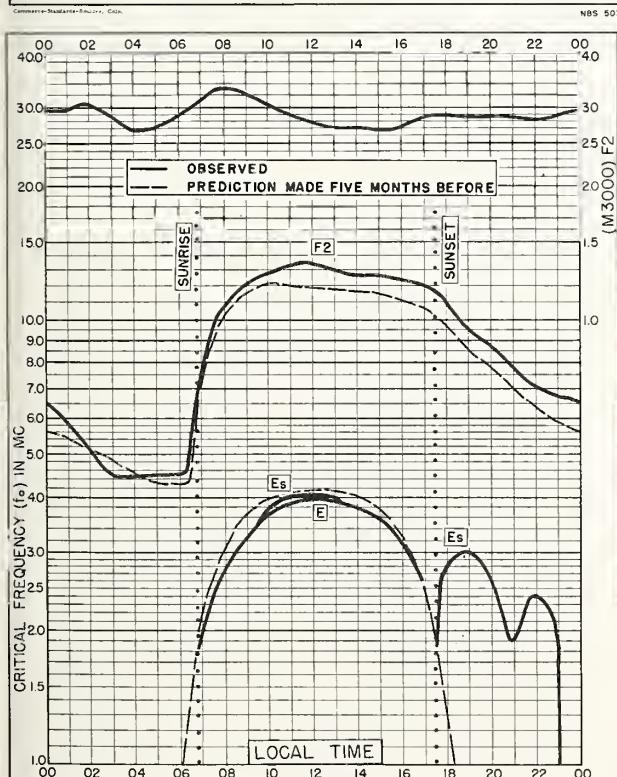


Fig. 19. GRAND BAHAMA I.
26.6°N, 78.2°W JANUARY 1959

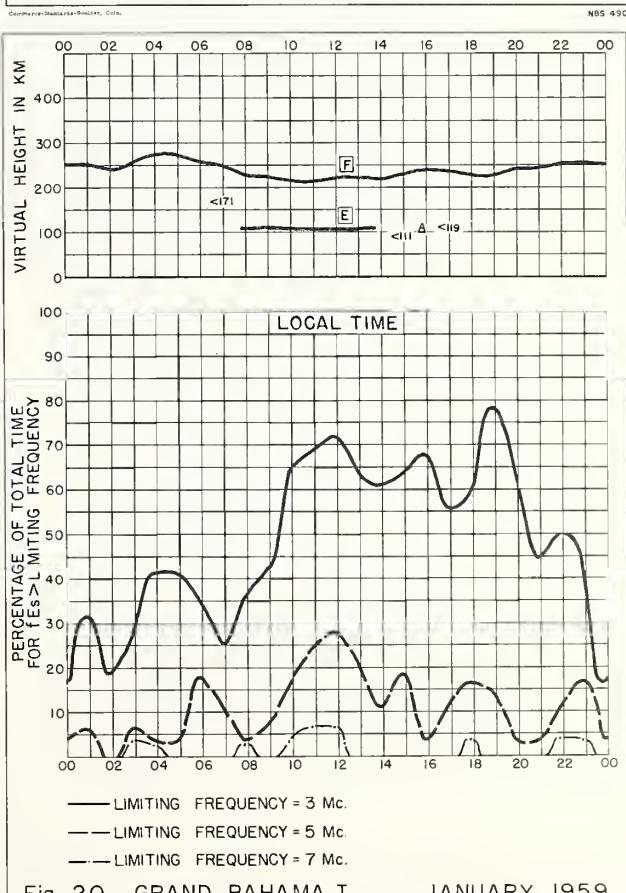


Fig. 20. GRAND BAHAMA I. JANUARY 1959

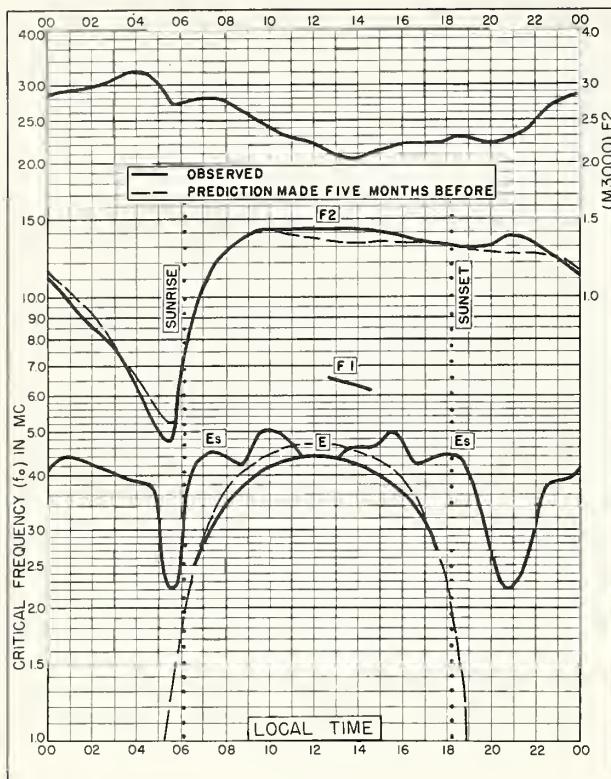


Fig. 21. TALARA, PERU
4.6°S, 81.3°W JANUARY 1959

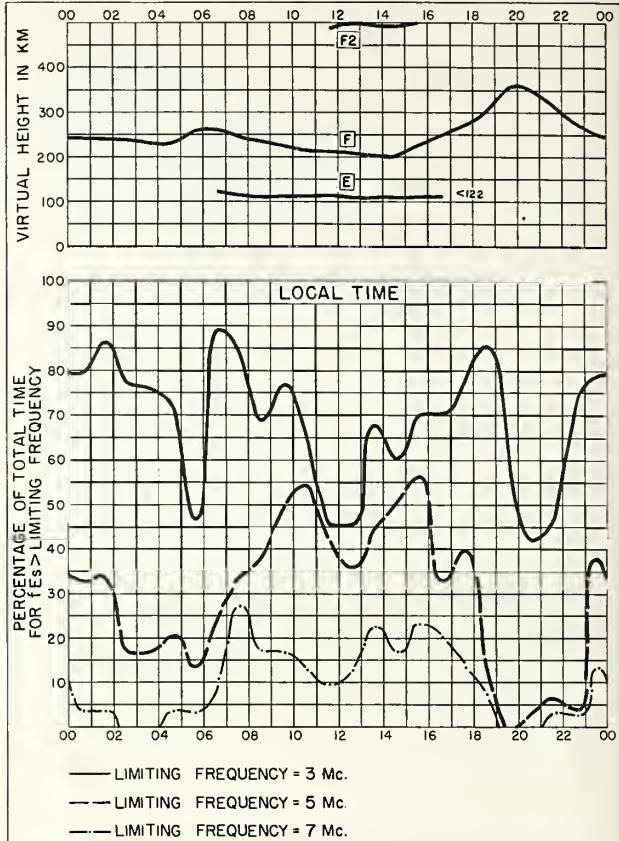


Fig. 22. TALARA, PERU JANUARY 1959

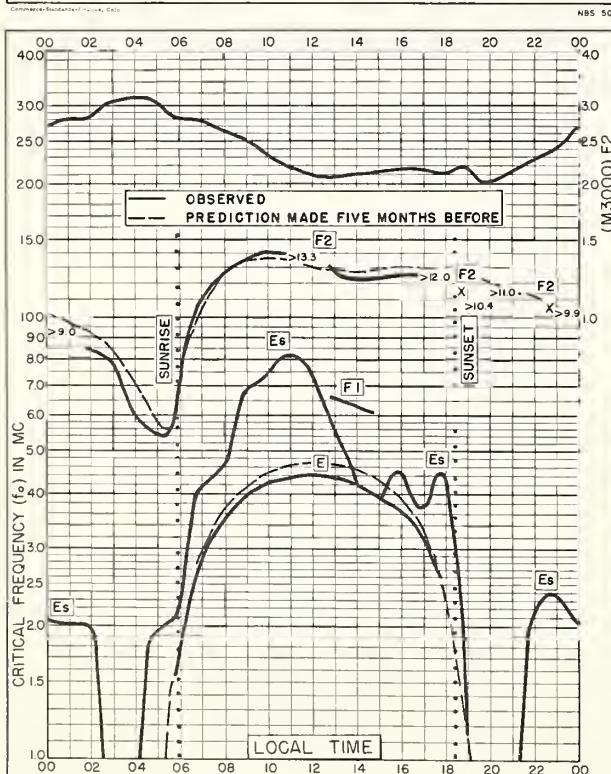


Fig. 23. CHIMBOTE, PERU
9.1°S, 78.6°W JANUARY 1959

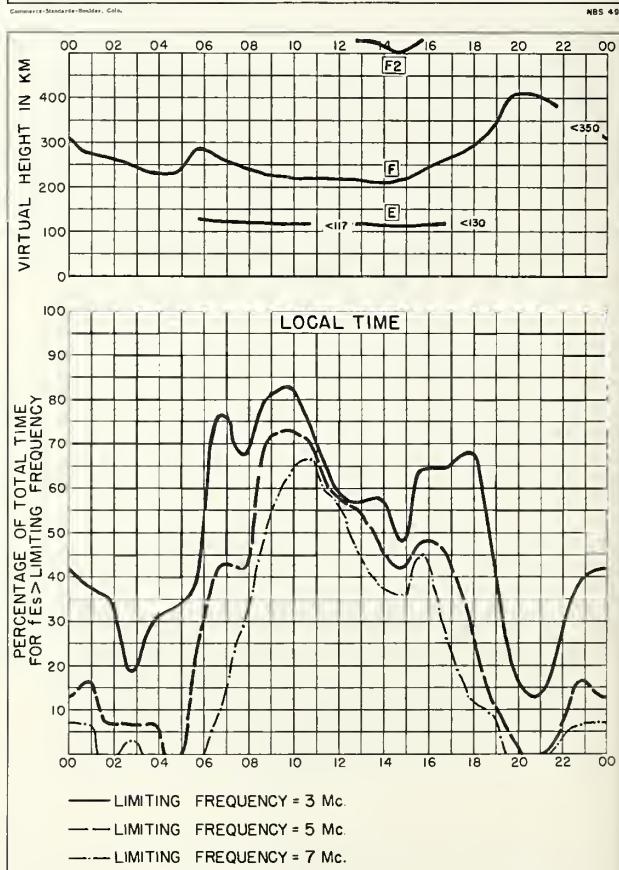


Fig. 24. CHIMBOTE, PERU JANUARY 1959

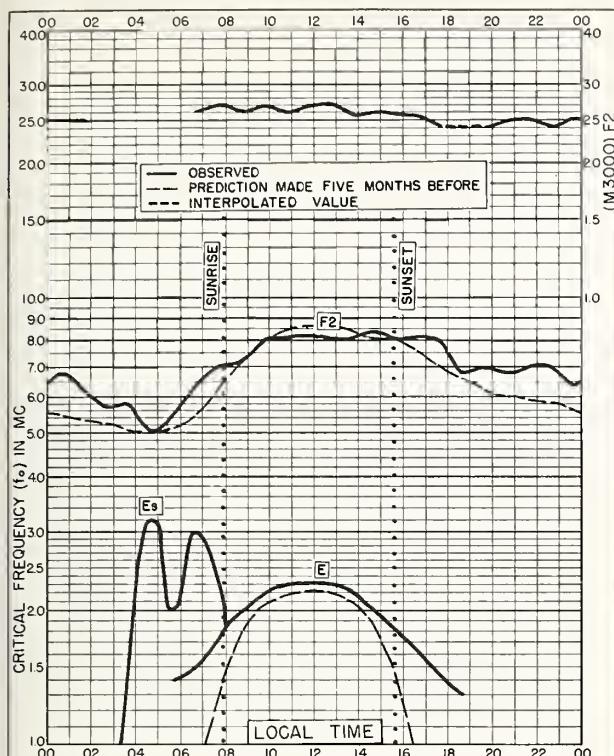


Fig. 25. RESOLUTE BAY, CANADA
74.7°N, 94.9°W OCTOBER 1958

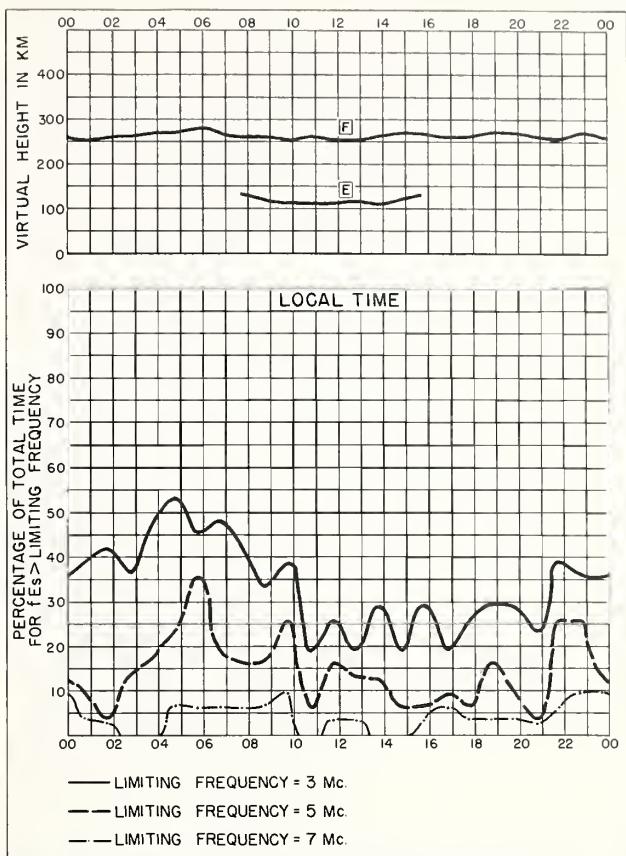


Fig. 26. RESOLUTE BAY, CANADA OCTOBER 1958

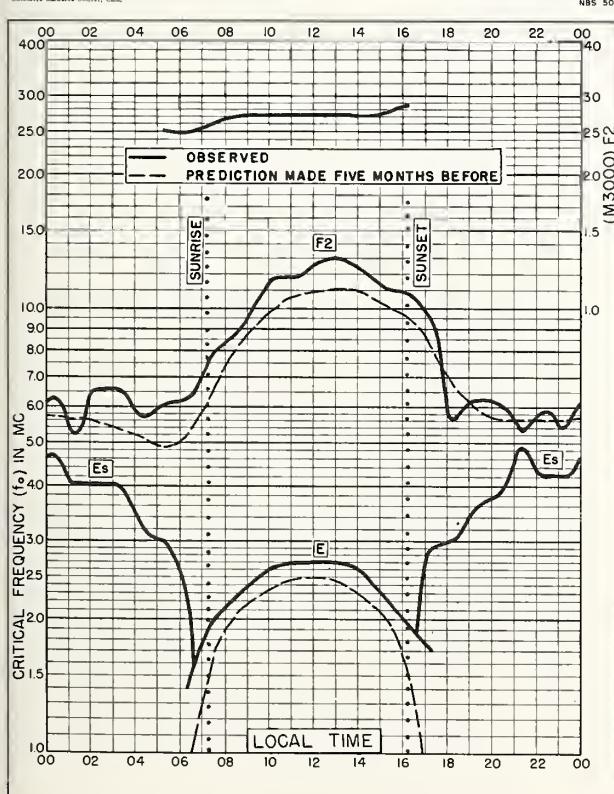


Fig. 27. TROMSO, NORWAY
69.7°N, 19.0°E OCTOBER 1958

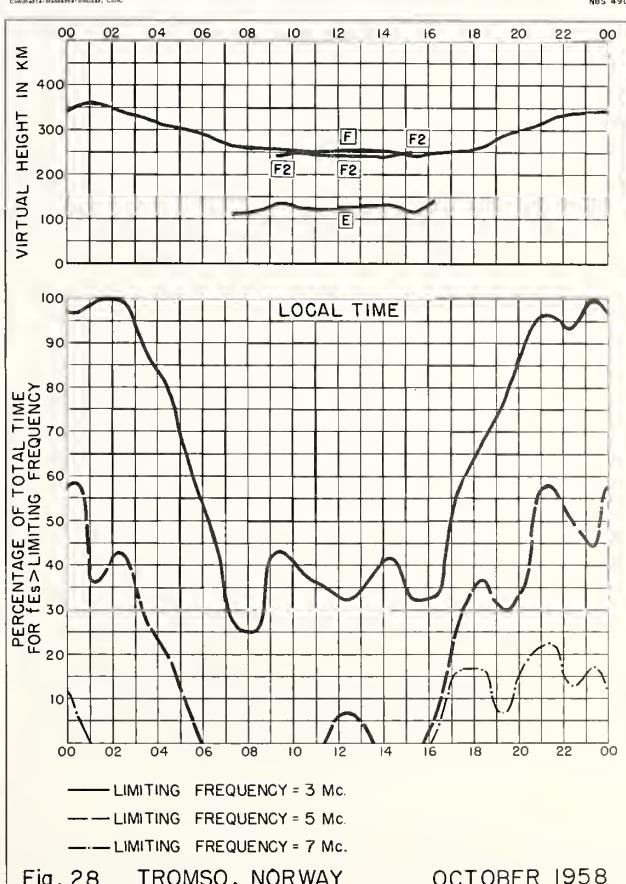
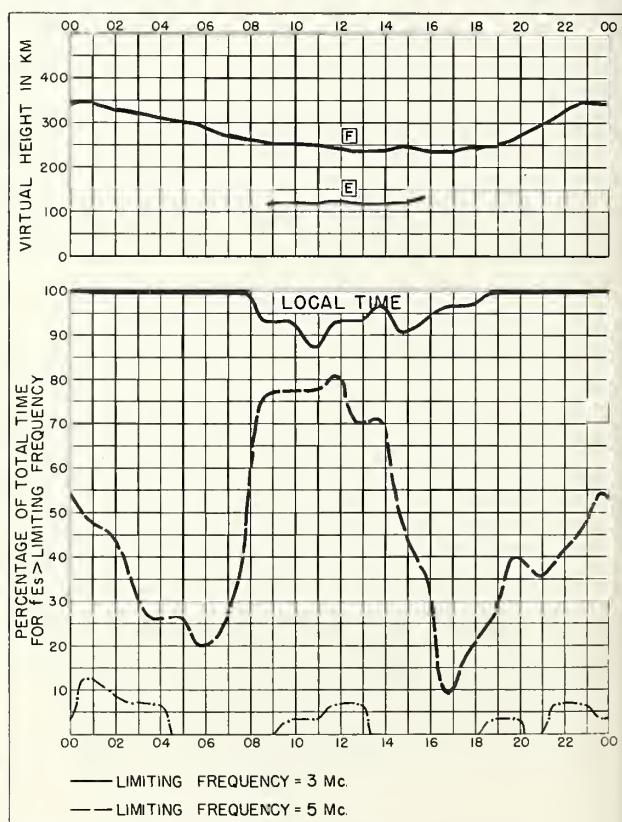
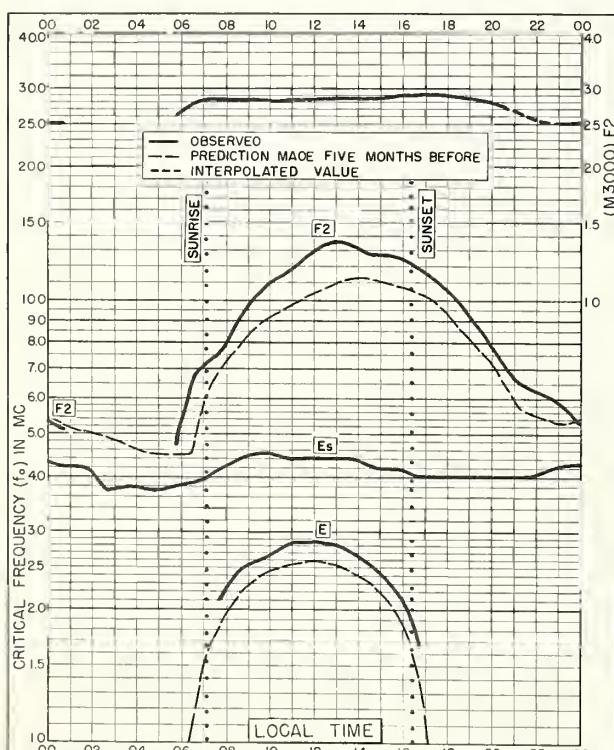
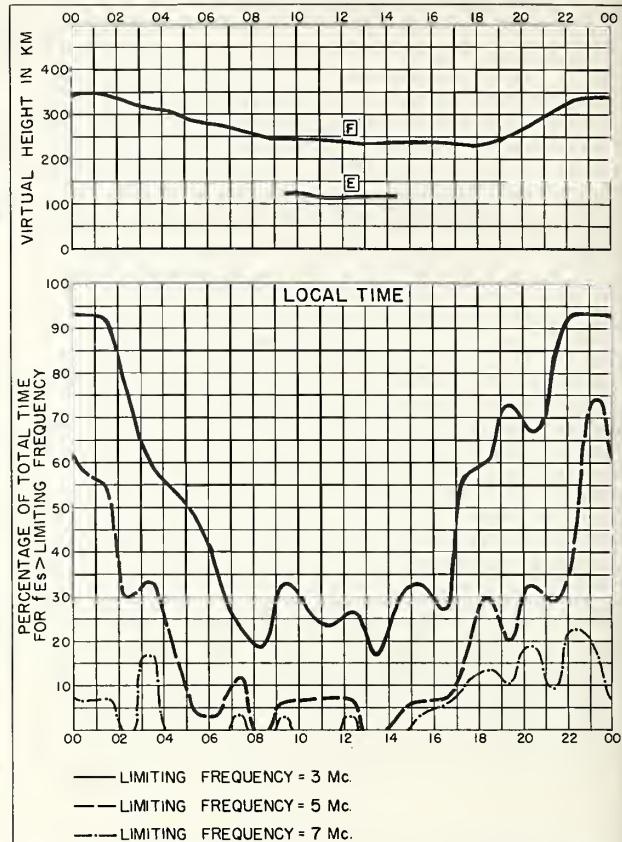
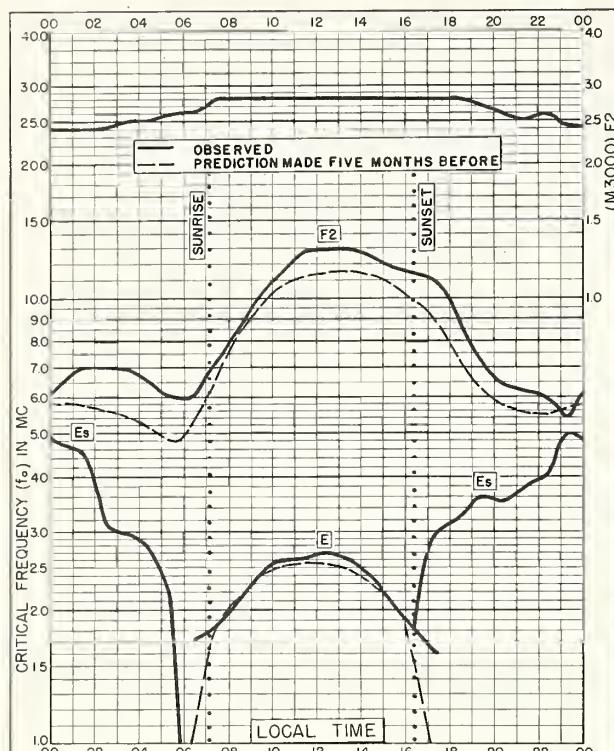


Fig. 28. TROMSO, NORWAY OCTOBER 1958



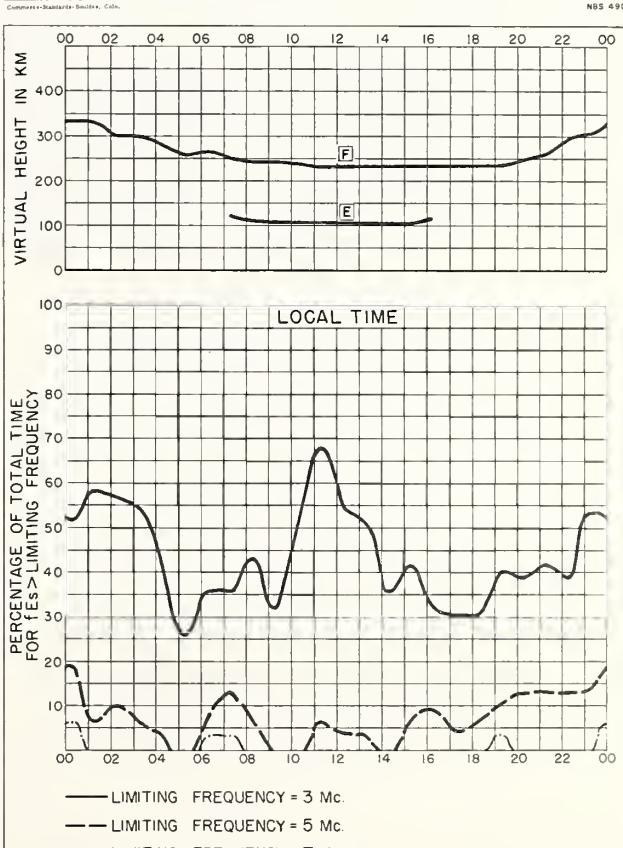
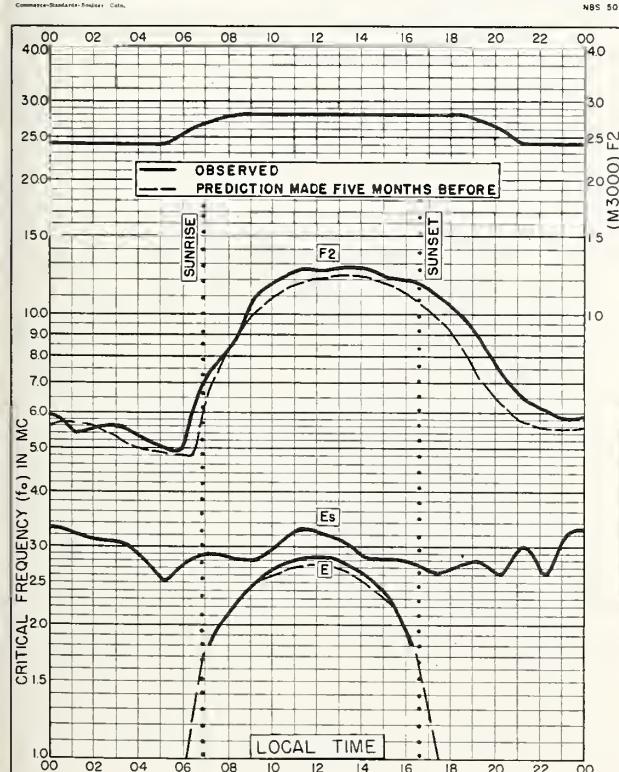
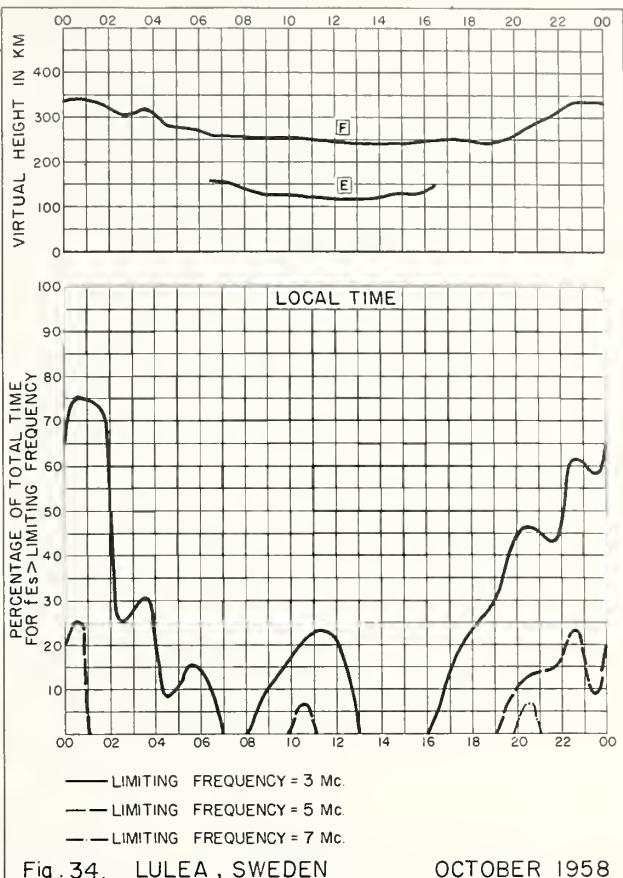
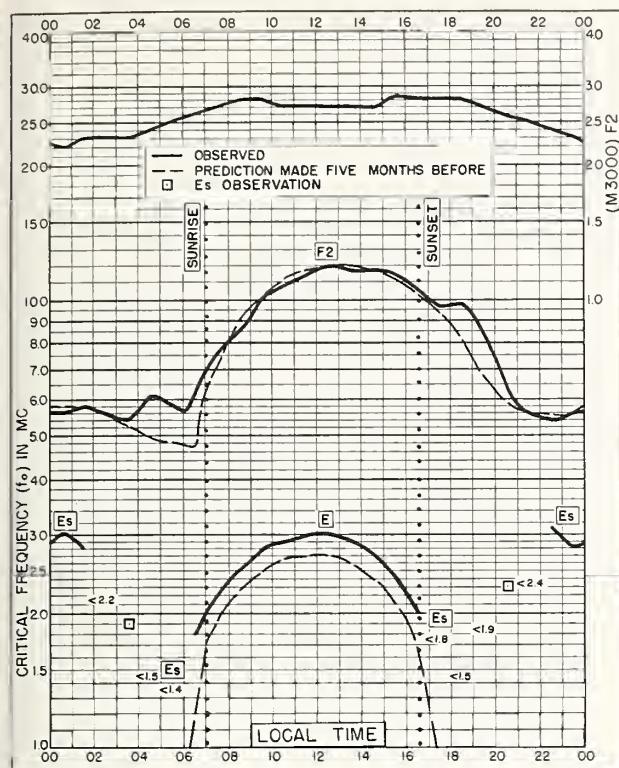


Fig. 35. LYCKSELE, SWEDEN
64.6°N, 18.8°E OCTOBER 1958

Fig. 36. LYCKSELE, SWEDEN OCTOBER 1958

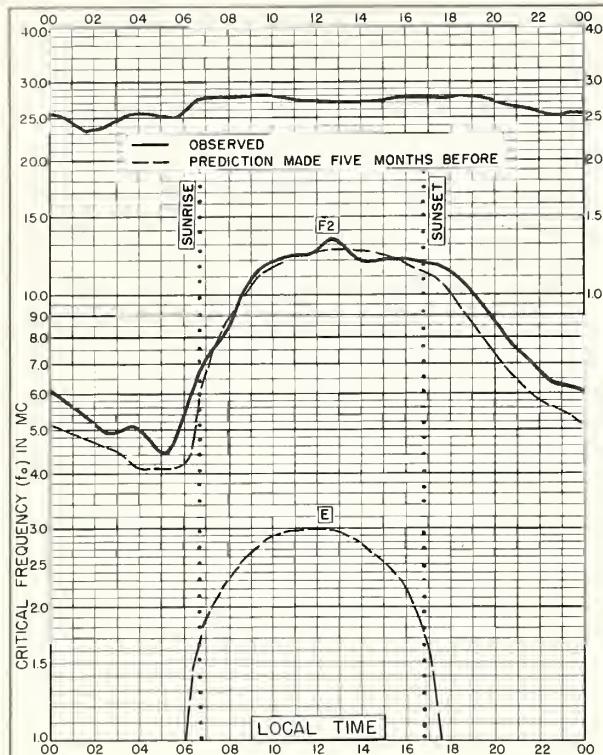


Fig. 37. NURMIJARVI, FINLAND
60.5°N, 24.6°E OCTOBER 1958

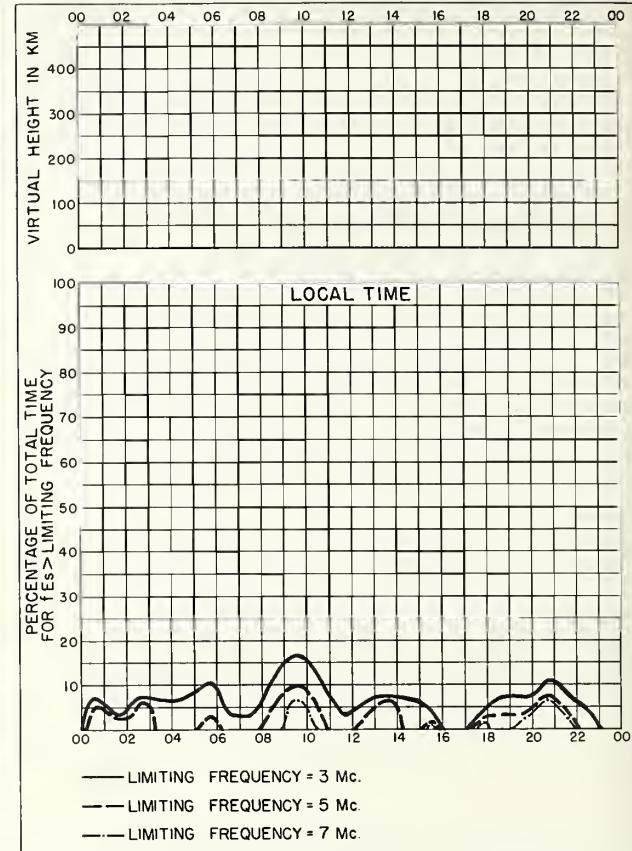


Fig. 38. NURMIJARVI, FINLAND OCTOBER 1958

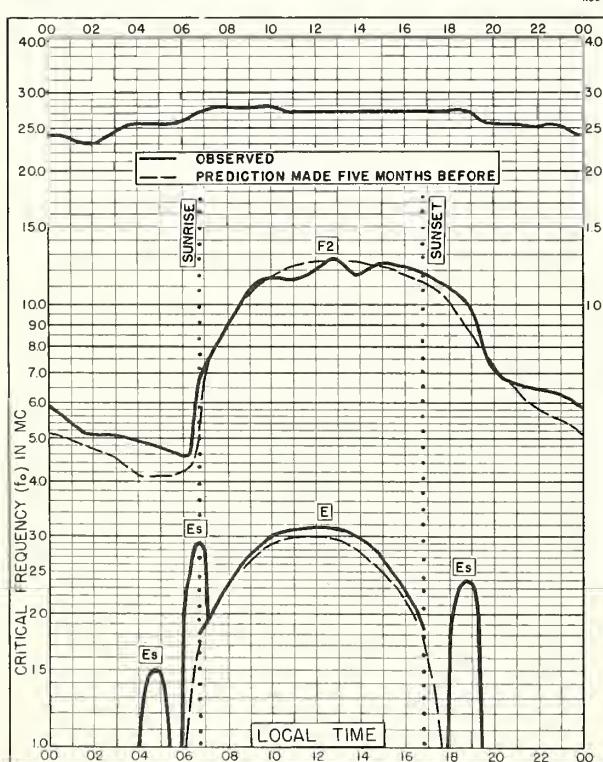


Fig. 39. OSLO, NORWAY
60.0°N, 11.1°E OCTOBER 1958

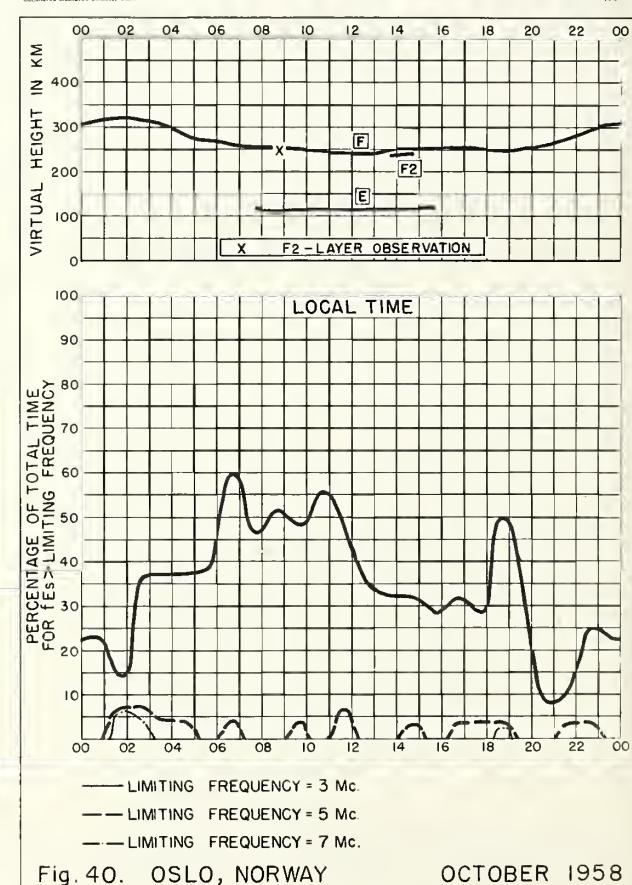


Fig. 40. OSLO, NORWAY OCTOBER 1958

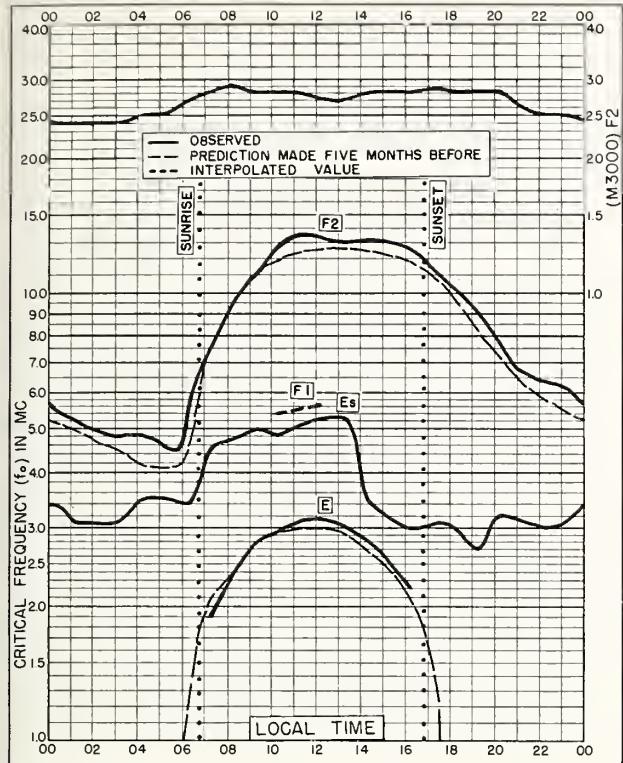


Fig. 41. UPSALA, SWEDEN
59.8°N, 17.6°E OCTOBER 1958

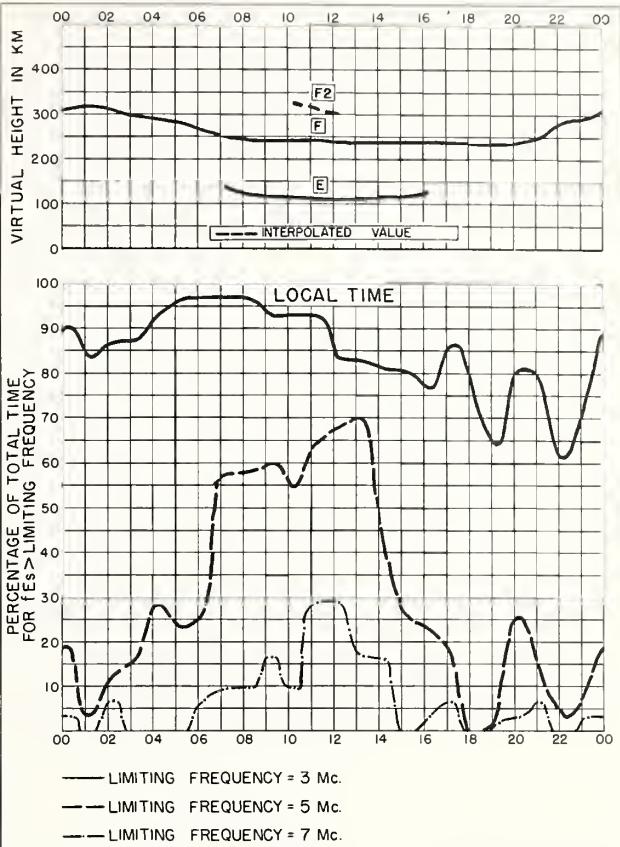


Fig. 42. UPSALA, SWEDEN OCTOBER 1958

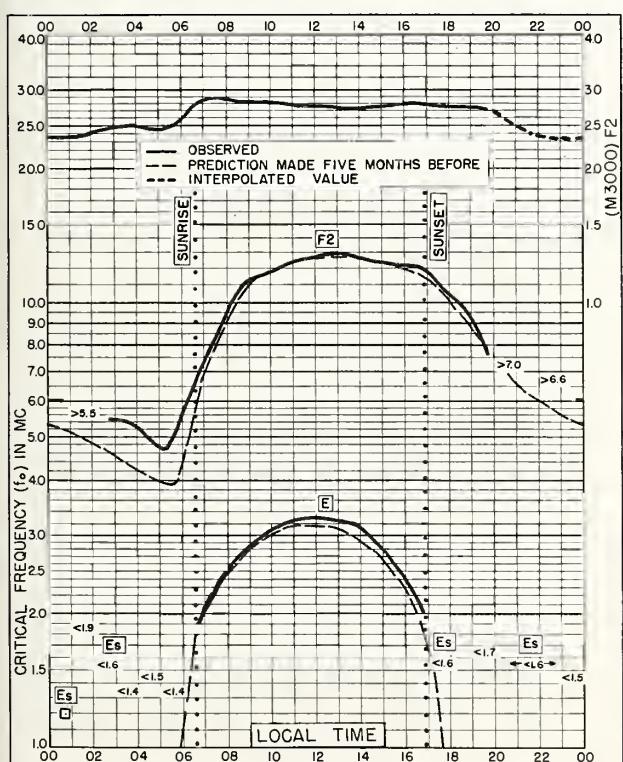


Fig. 43. INVERNESS, SCOTLAND
57.4°N, 4.2°W OCTOBER 1958

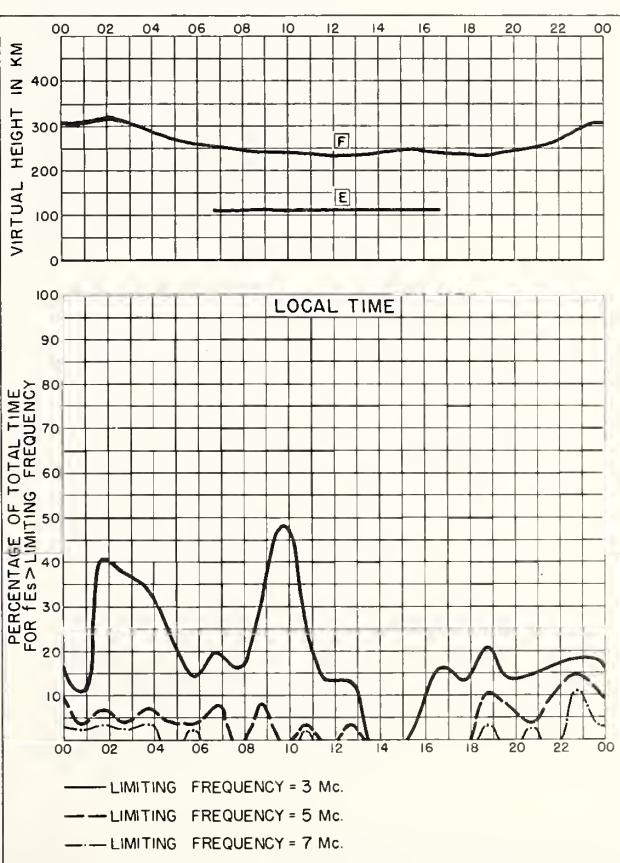


Fig. 44. INVERNESS, SCOTLAND OCTOBER 1958

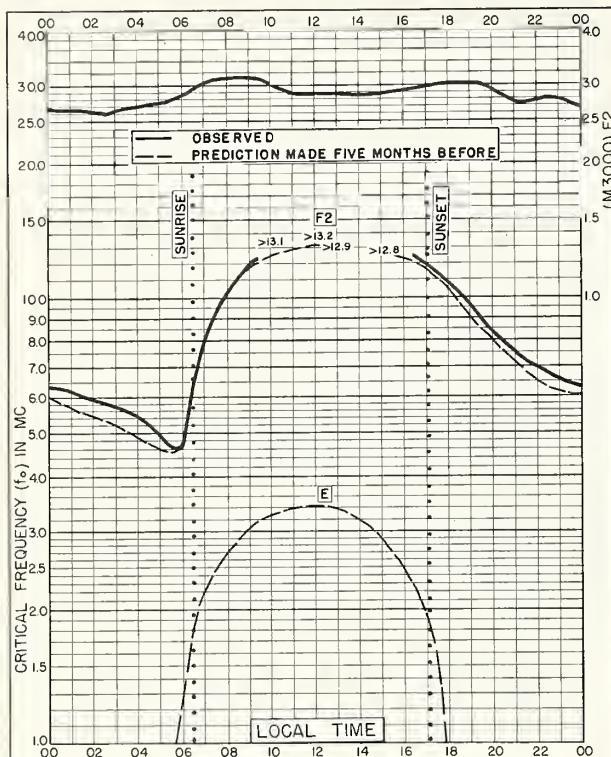


Fig. 45. De BILT, HOLLAND
52.1°N, 5.2°E OCTOBER 1958

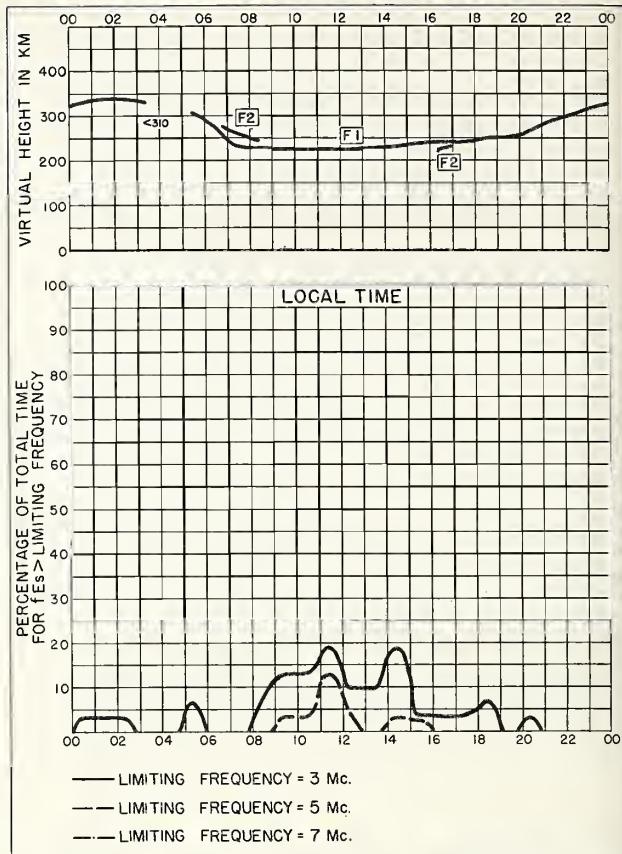


Fig. 46. De BILT, HOLLAND OCTOBER 1958

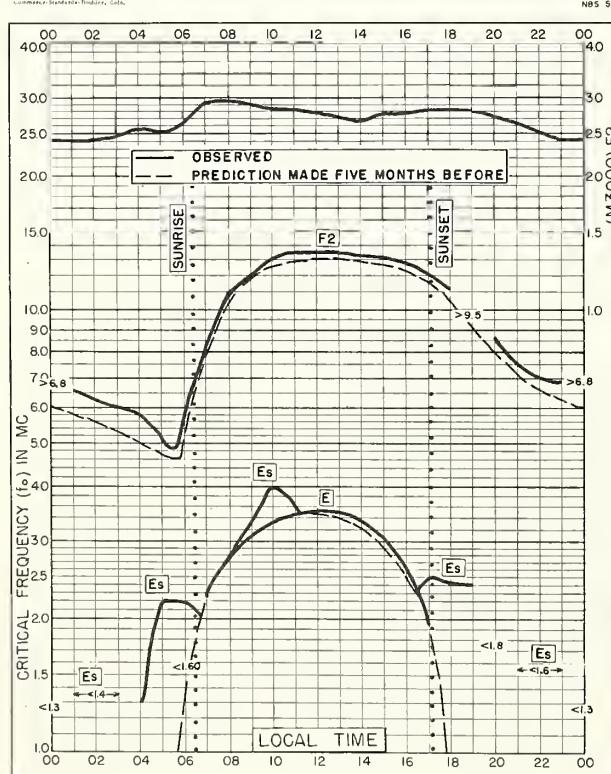


Fig. 47. SLOUGH, ENGLAND
51.5°N, 0.6°W OCTOBER 1958

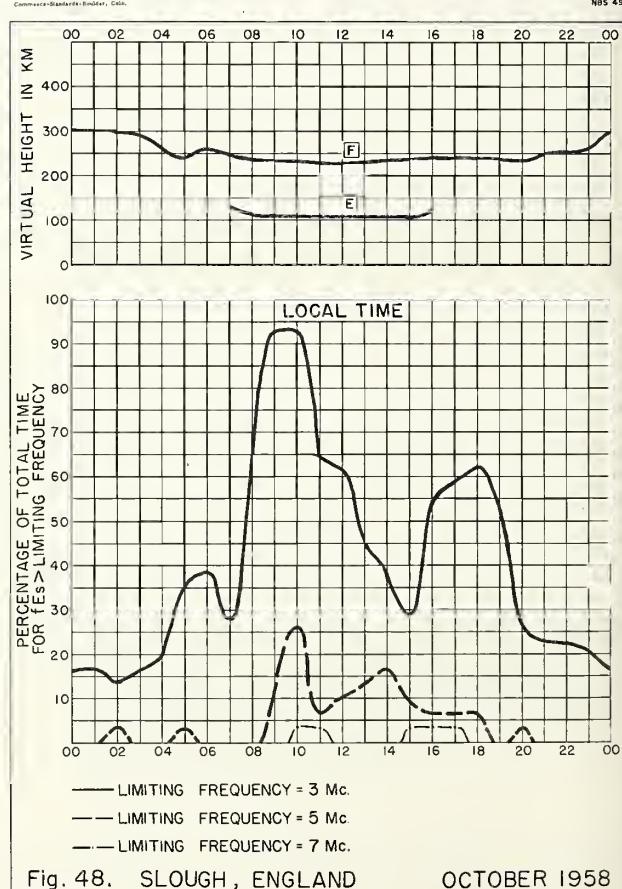


Fig. 48. SLOUGH, ENGLAND OCTOBER 1958

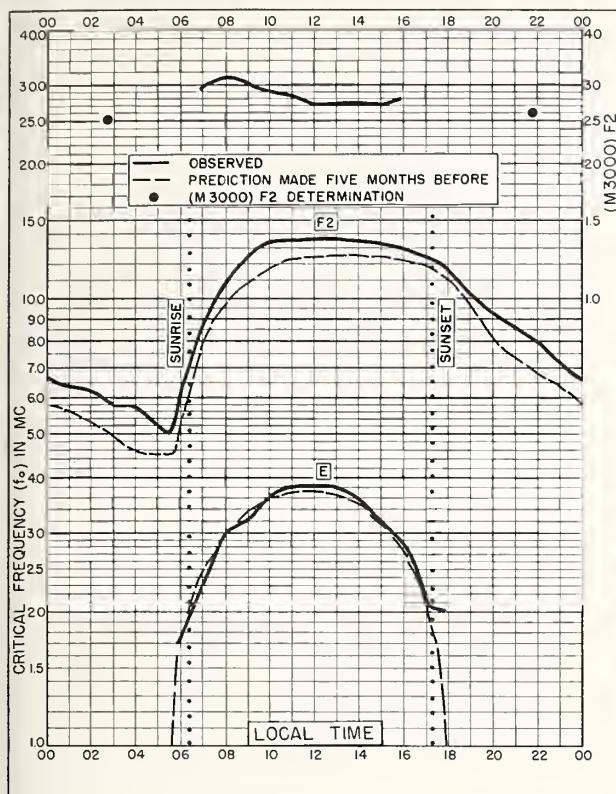


Fig. 49. OTTAWA, CANADA
45.4°N, 75.9°W OCTOBER 1958

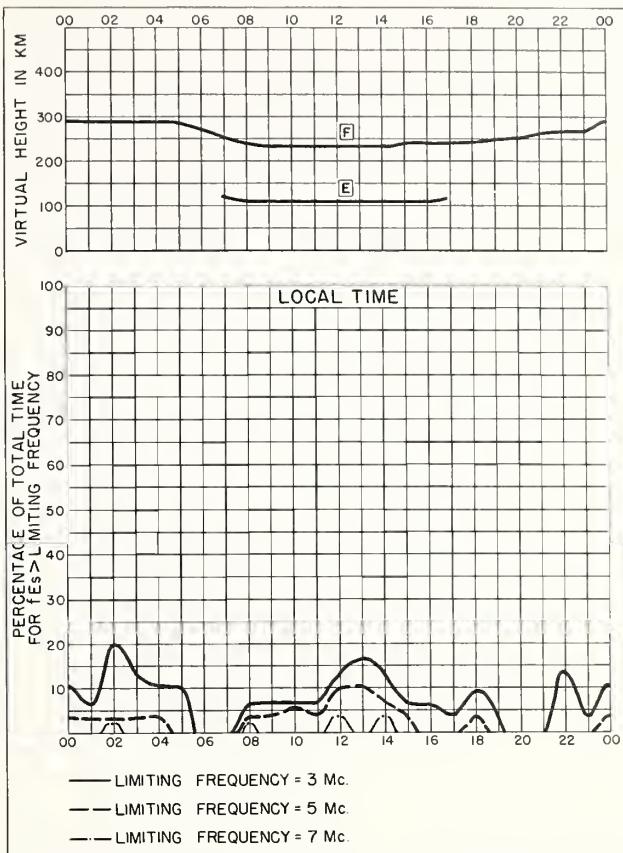


Fig. 50. OTTAWA, CANADA OCTOBER 1958

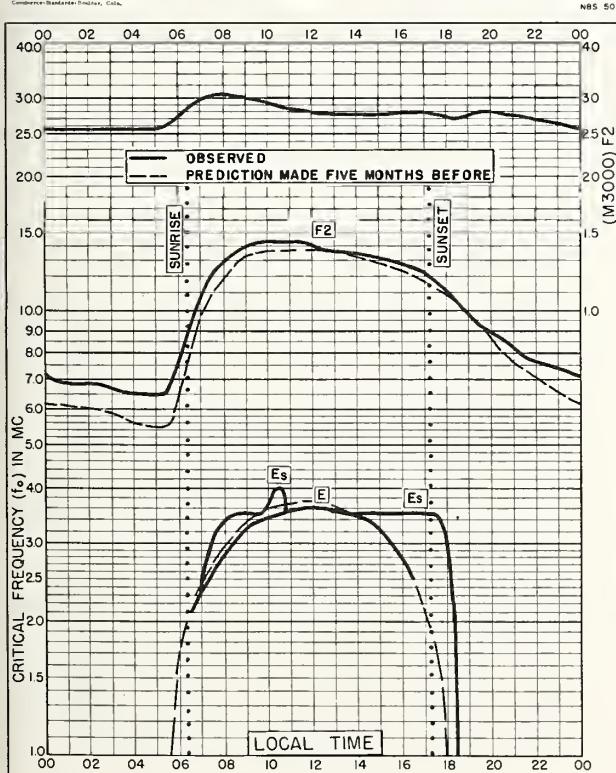


Fig. 51. WAKKANAI, JAPAN
45.4°N, 141.7°E OCTOBER 1958

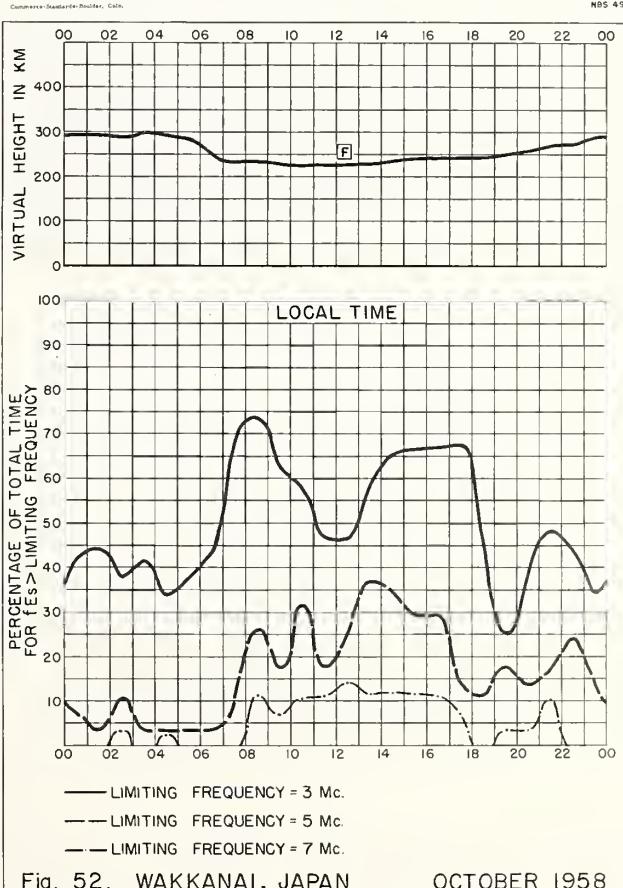


Fig. 52. WAKKANAI, JAPAN OCTOBER 1958

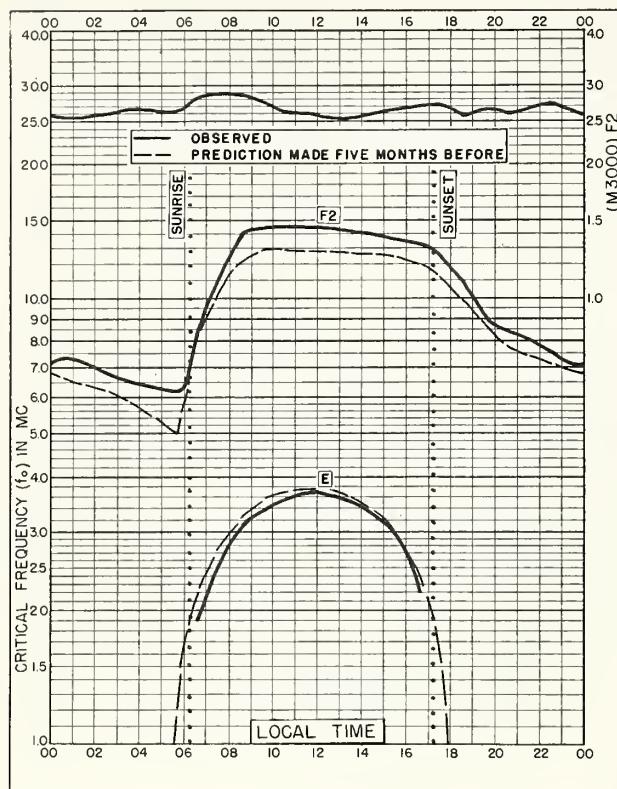


Fig. 53. MONTE CAPELLINO, ITALY
44.6°N, 9.0°E OCTOBER 1958

NBS 503

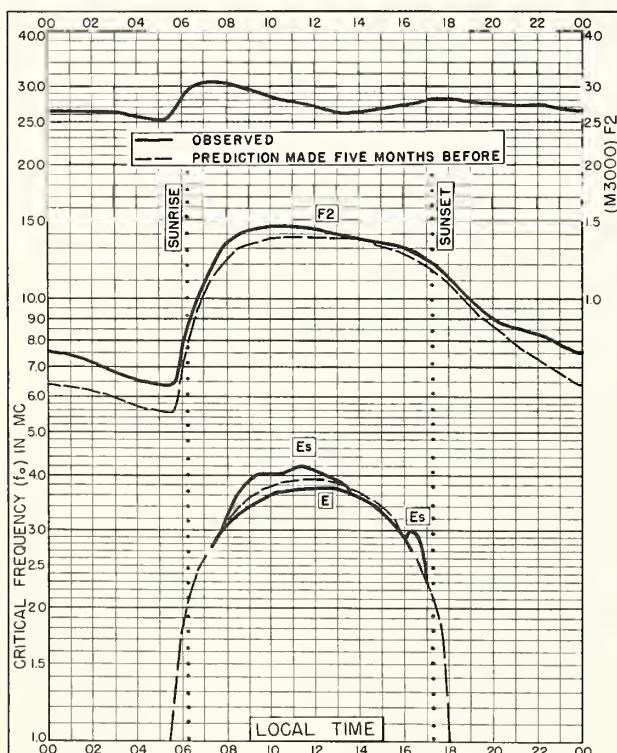


Fig. 54. AKITA, JAPAN
39.7°N, 140.1°E OCTOBER 1958

NBS 503

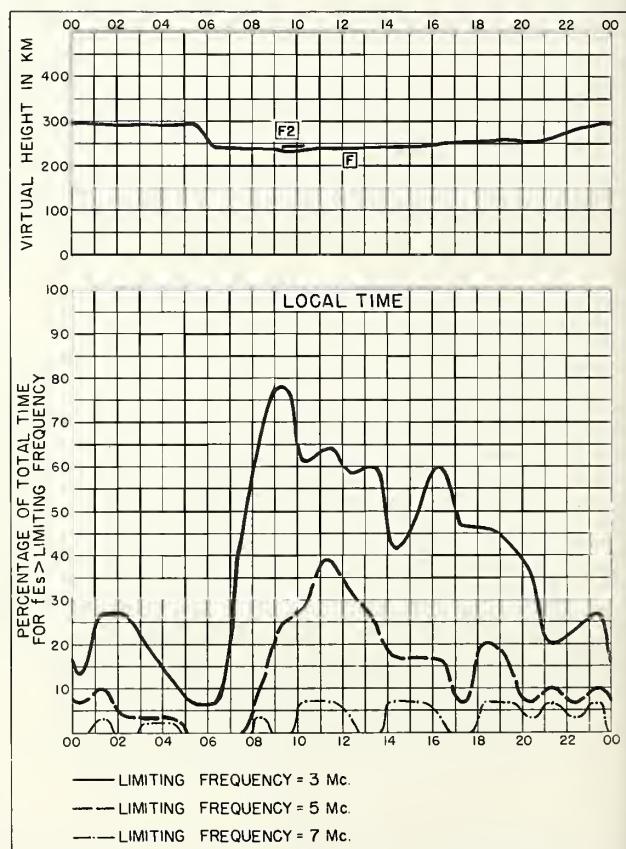


Fig. 55. AKITA, JAPAN OCTOBER 1958

NBS 490

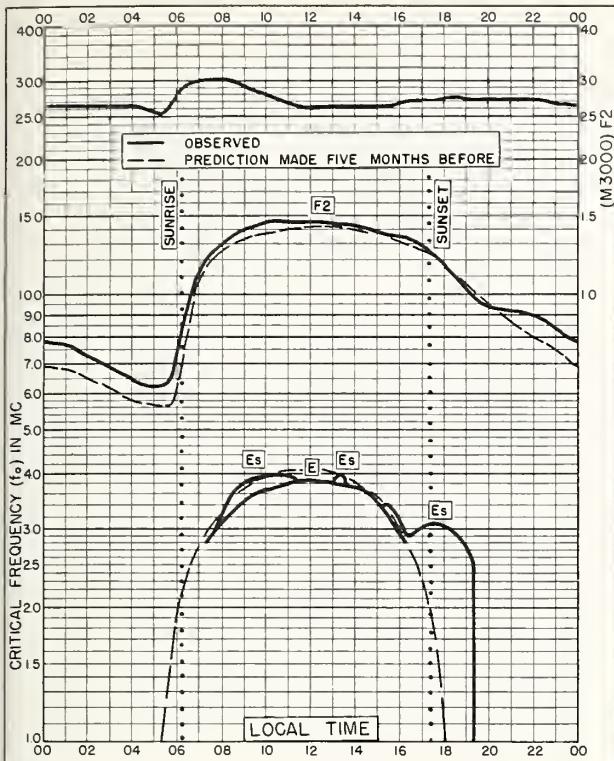


Fig. 56. TOKYO, JAPAN
35.7°N, 139.5°E OCTOBER 1958

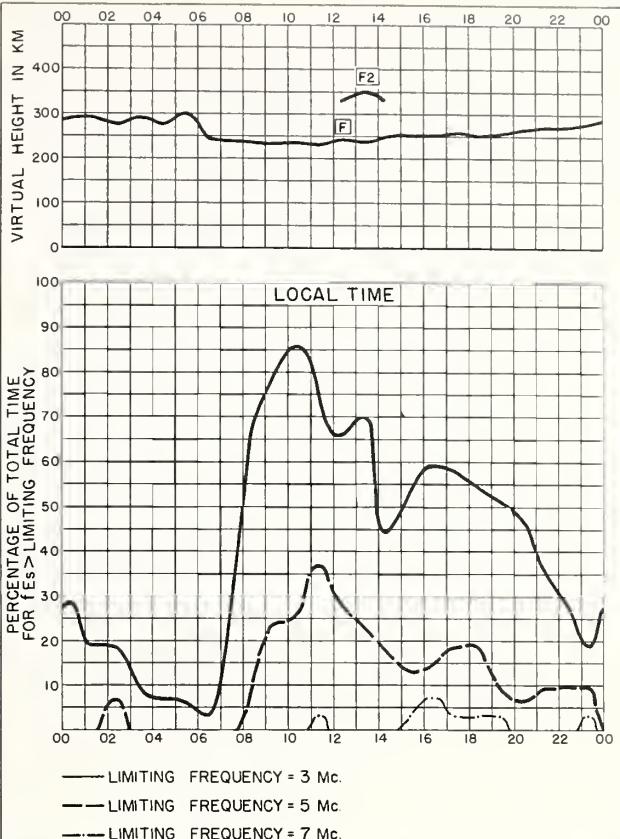


Fig. 57. TOKYO, JAPAN OCTOBER 1958

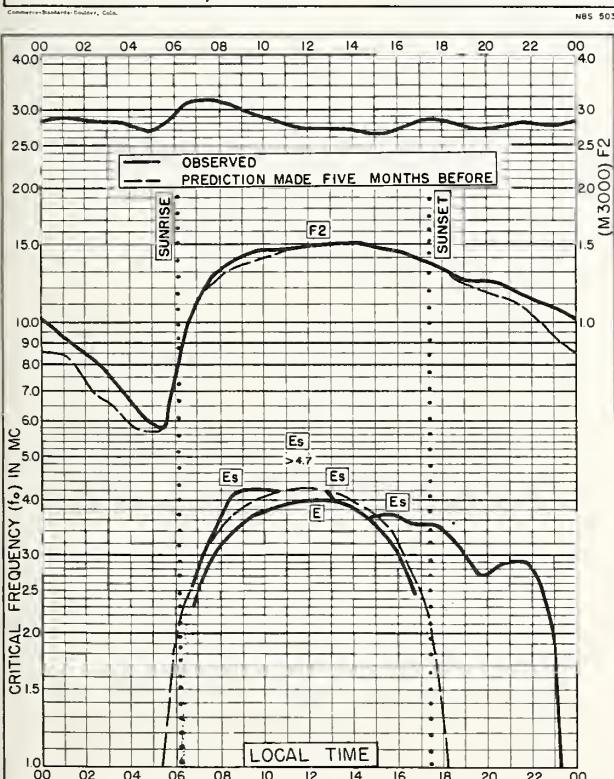


Fig. 58. YAMAGAWA, JAPAN
31.2°N, 130.6°E OCTOBER 1958

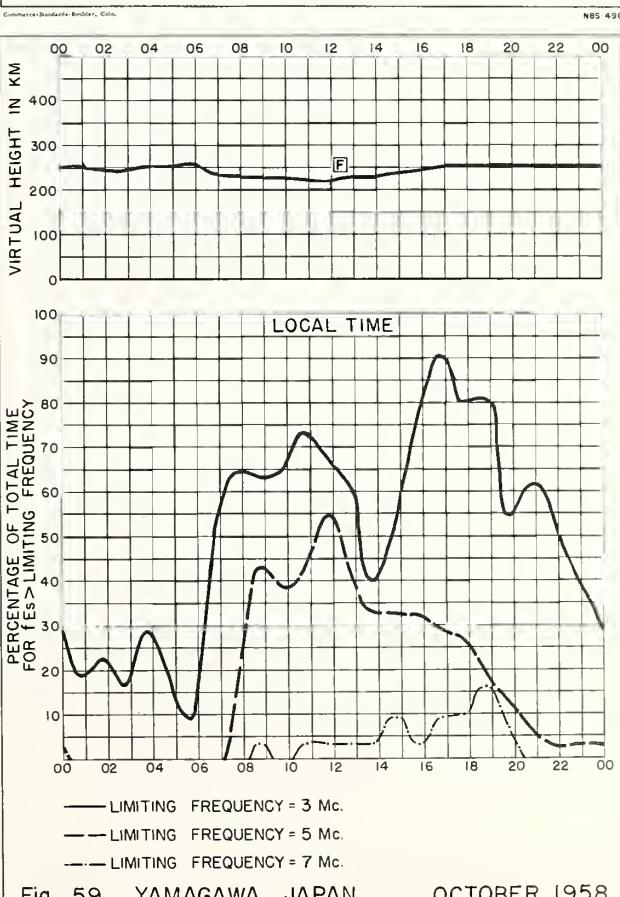
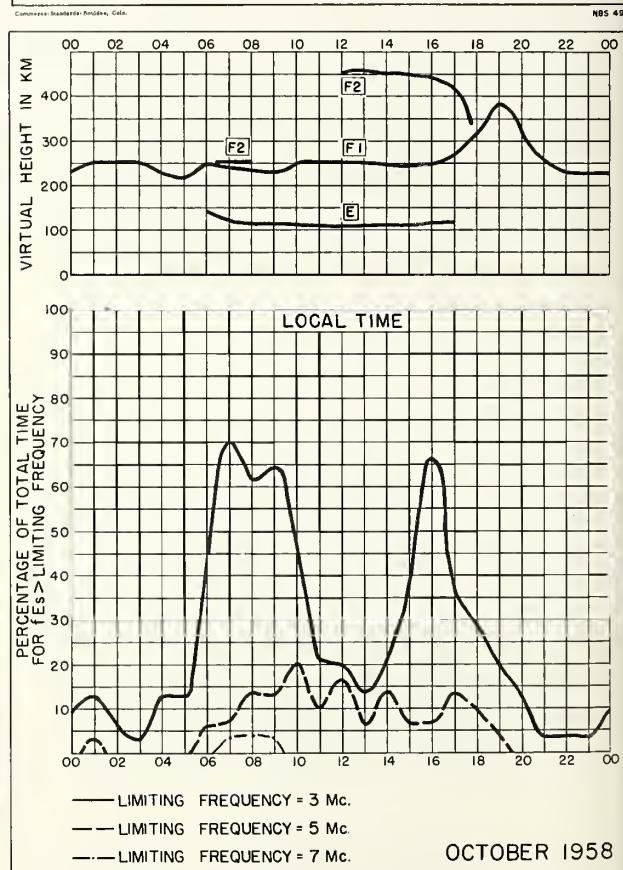
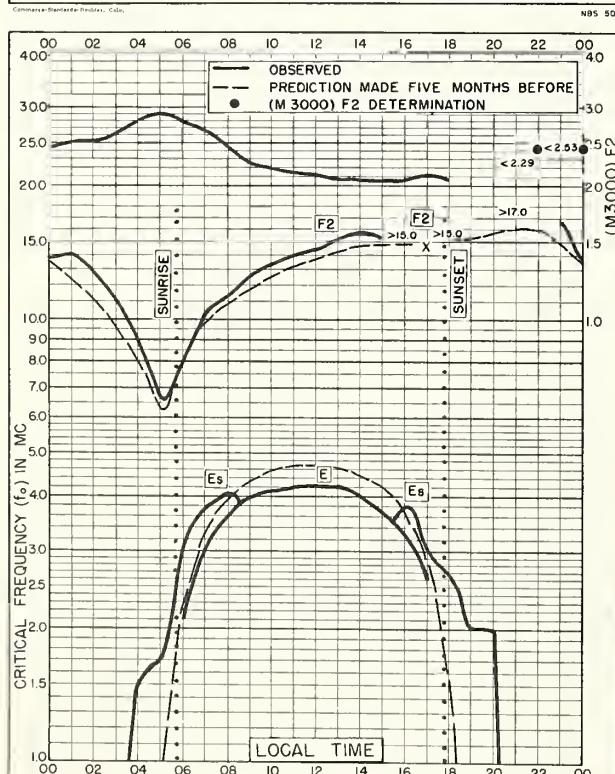
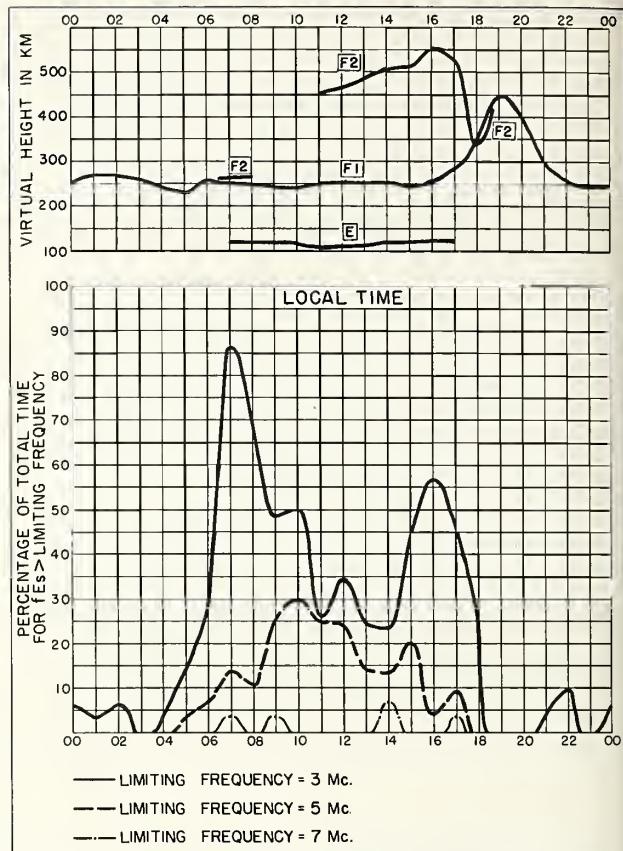
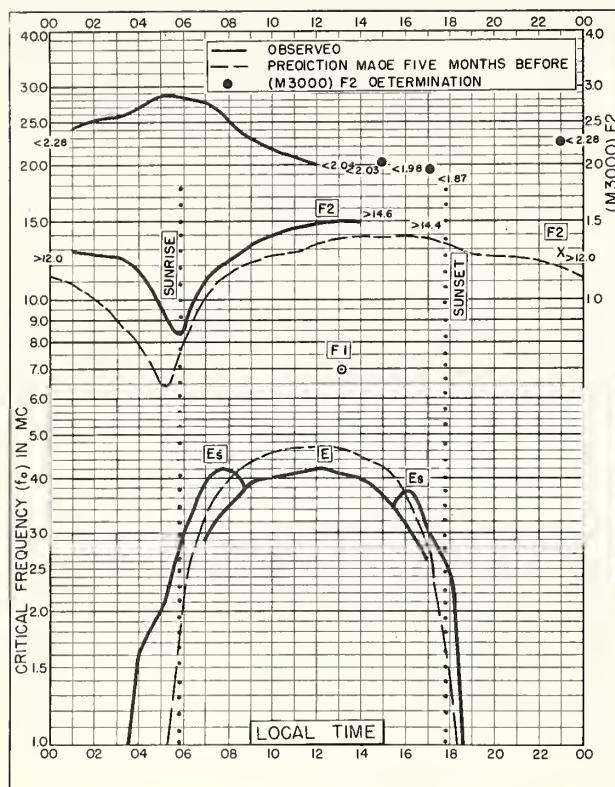


Fig. 59. YAMAGAWA, JAPAN OCTOBER 1958



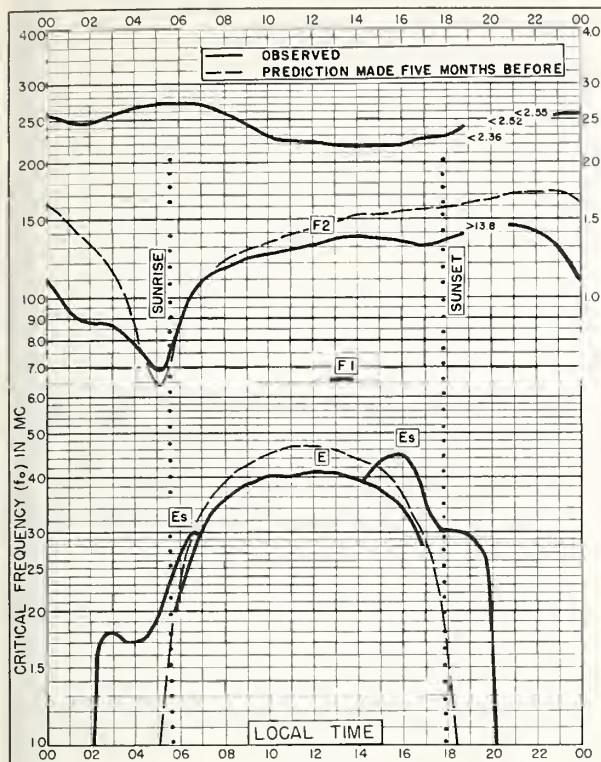
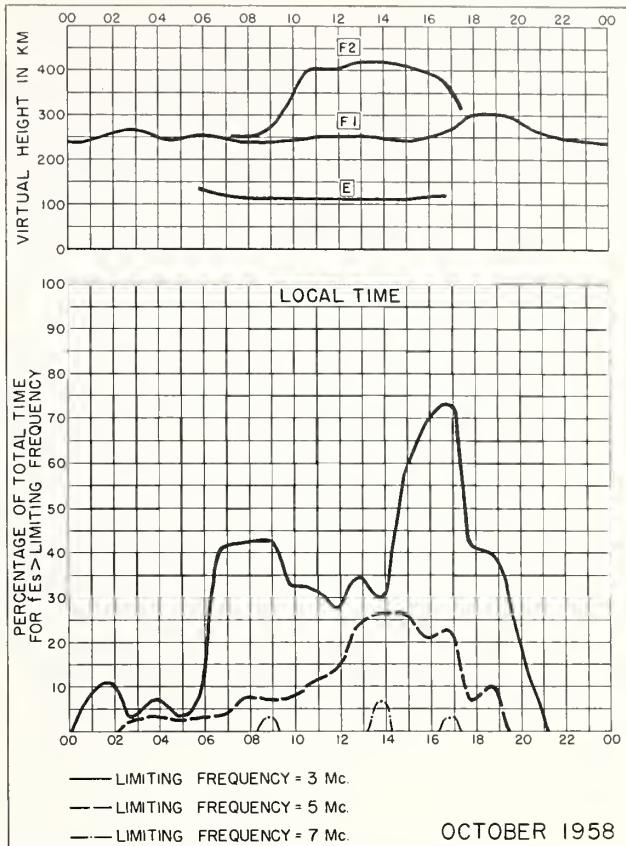


Fig. 64. ELISABETHVILLE, BELGIAN CONGO
II.6°S, 27.5°E OCTOBER 1958



OCTOBER 1958

Fig. 65. ELISABETHVILLE, BELGIAN CONGO

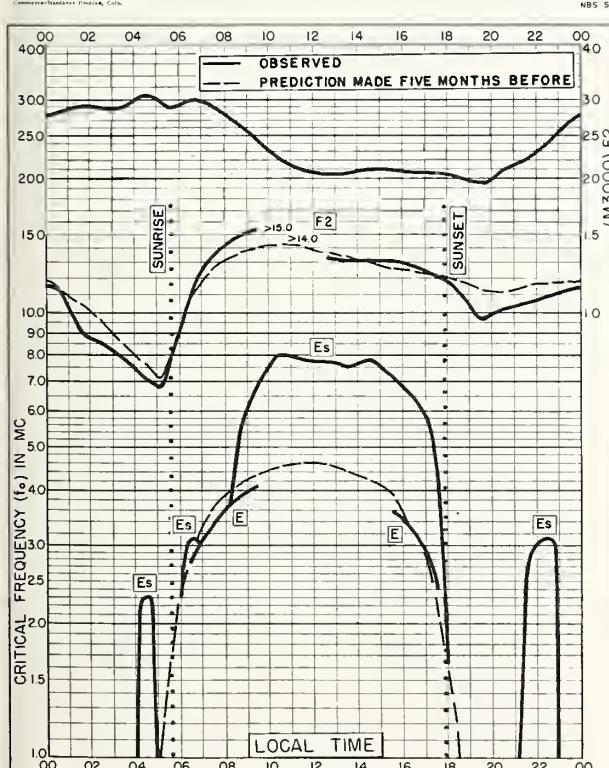
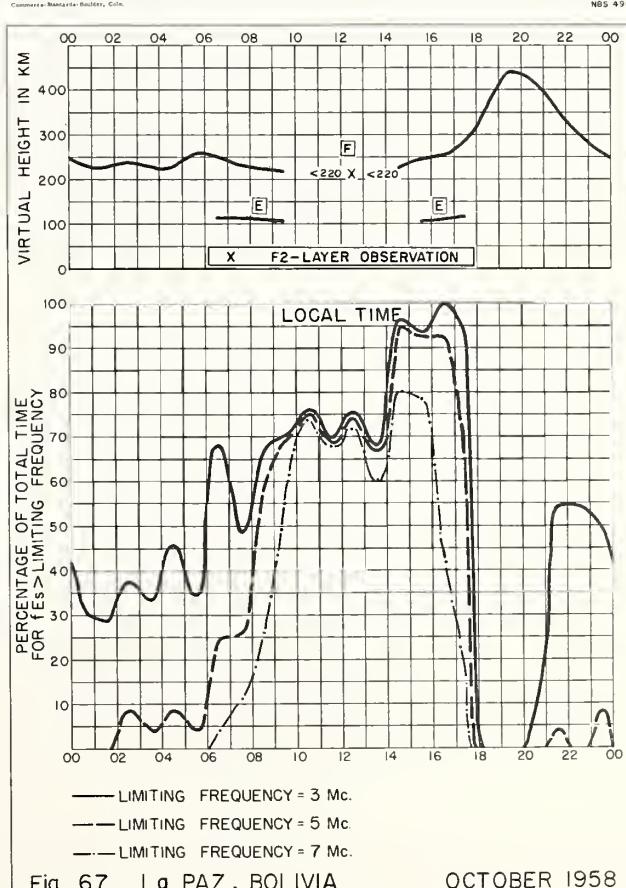


Fig. 66. La PAZ, BOLIVIA
16.5°S, 68.0°W OCTOBER 1958



OCTOBER 1958

Fig. 67. La PAZ, BOLIVIA

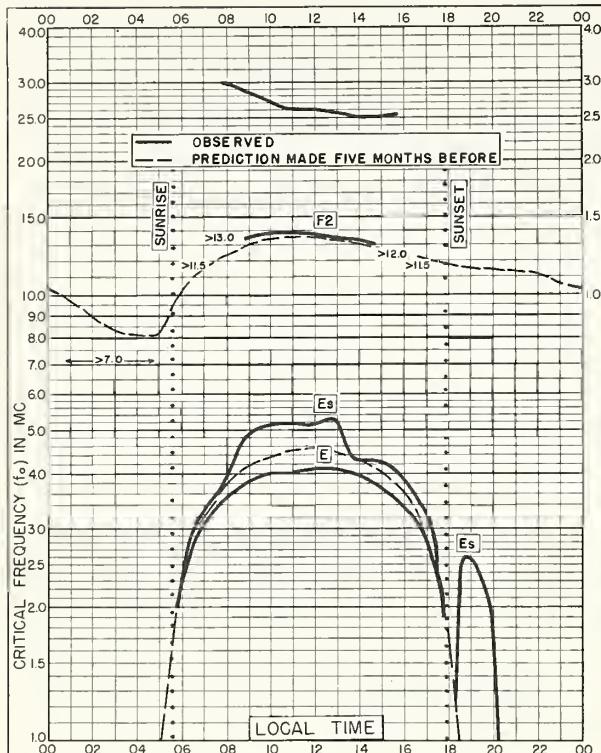


Fig. 68. TOWNSVILLE, AUSTRALIA

19.3°S, 146.7°E

OCTOBER 1958

Commerce-Standard-Baldwin, Calif.

NBS 503

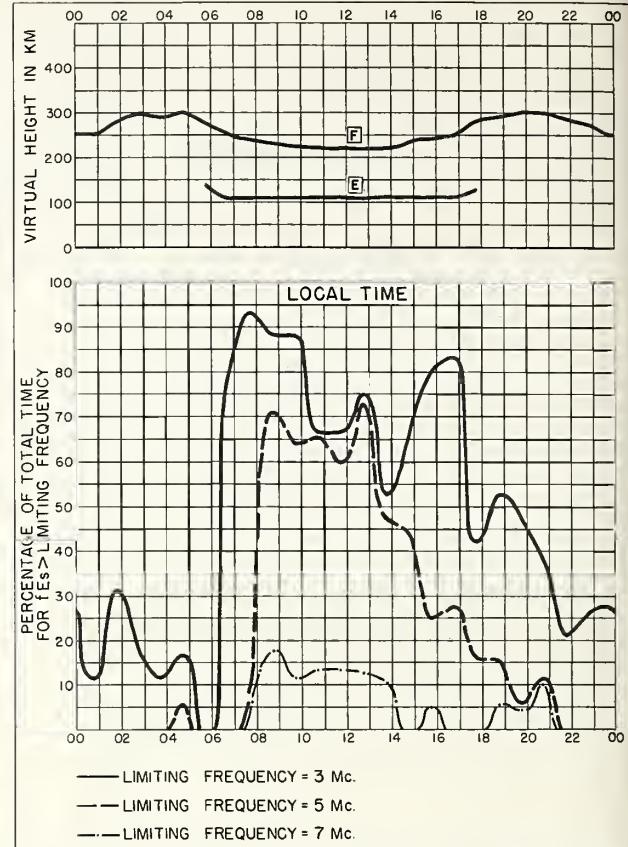


Fig. 69. TOWNSVILLE, AUSTRALIA OCTOBER 1958

Commerce-Standard-Baldwin, Calif.

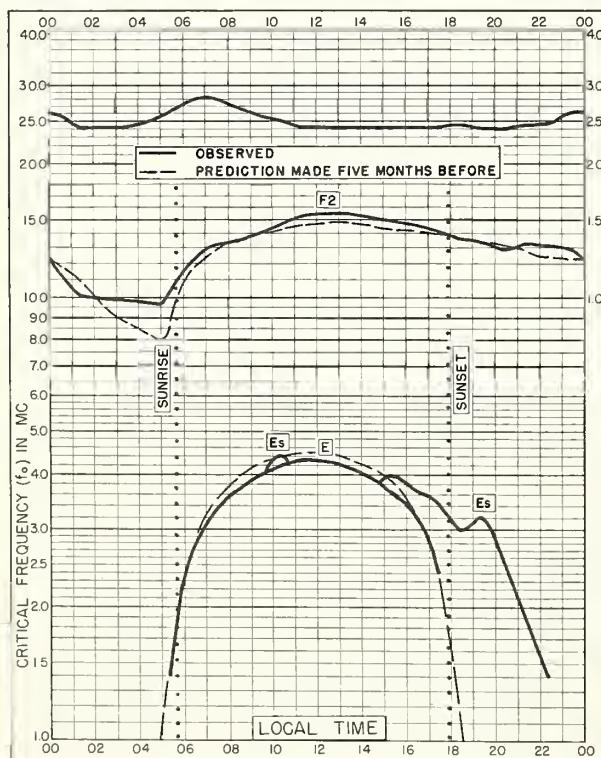


Fig. 70. RAROTONGA I.

21.2°S, 159.8°W

OCTOBER 1958

NBS 503

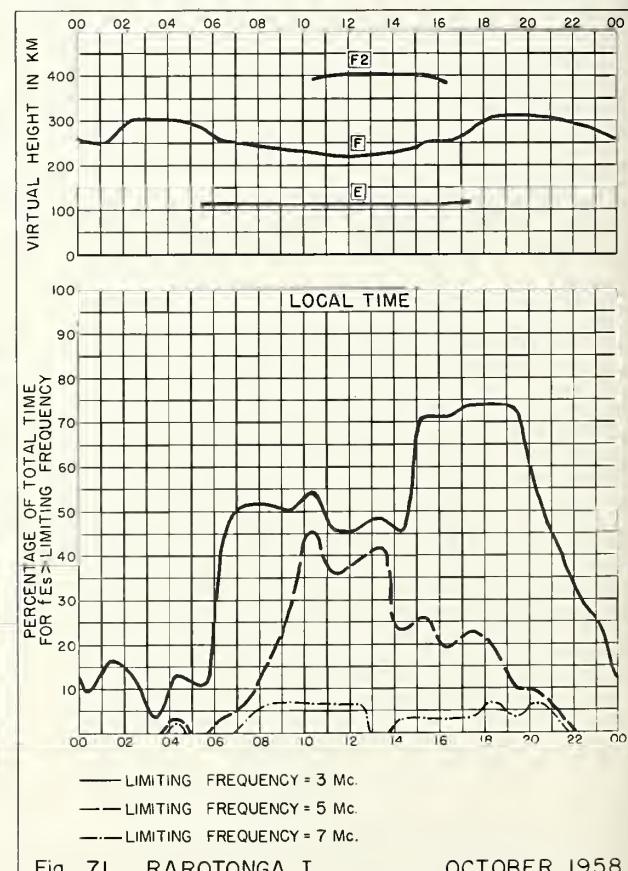
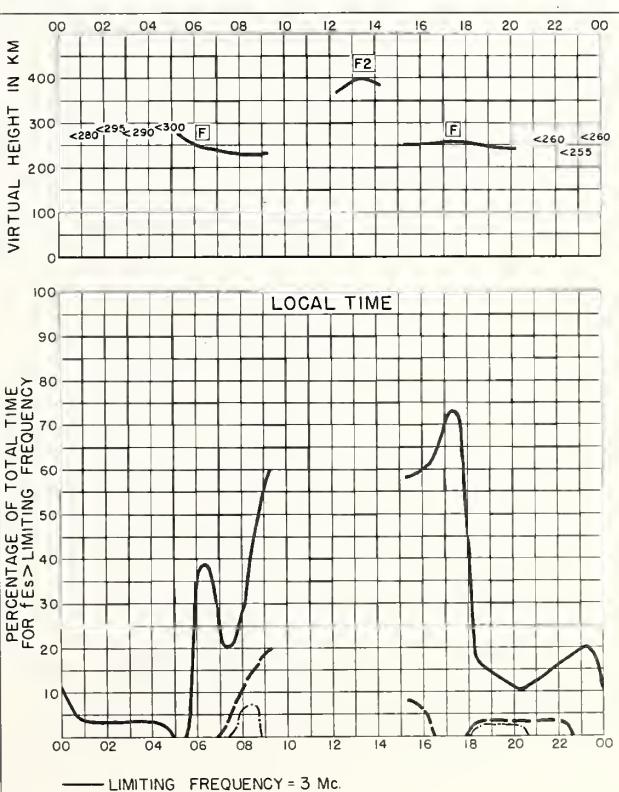
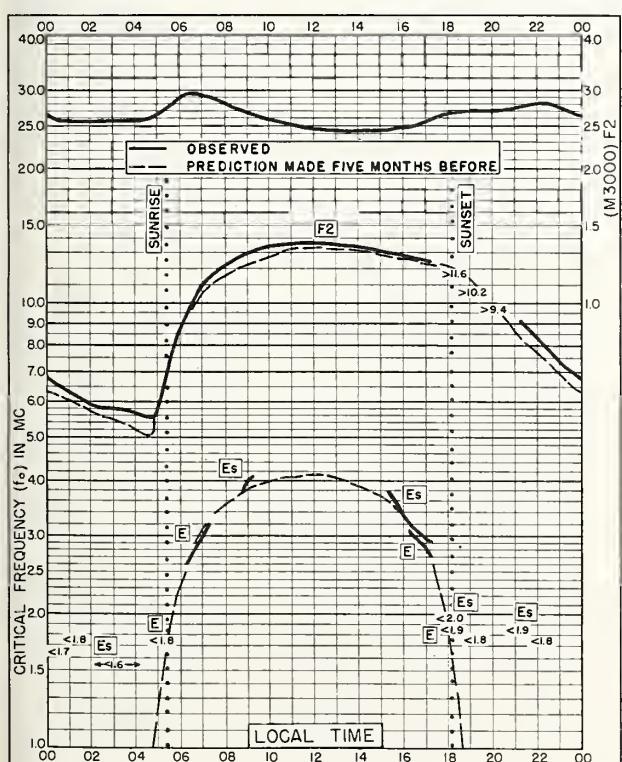
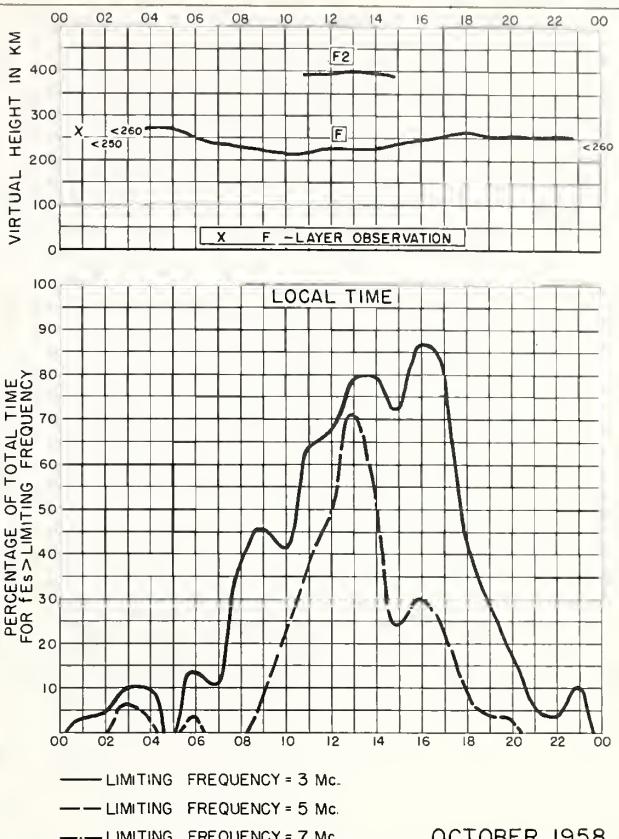
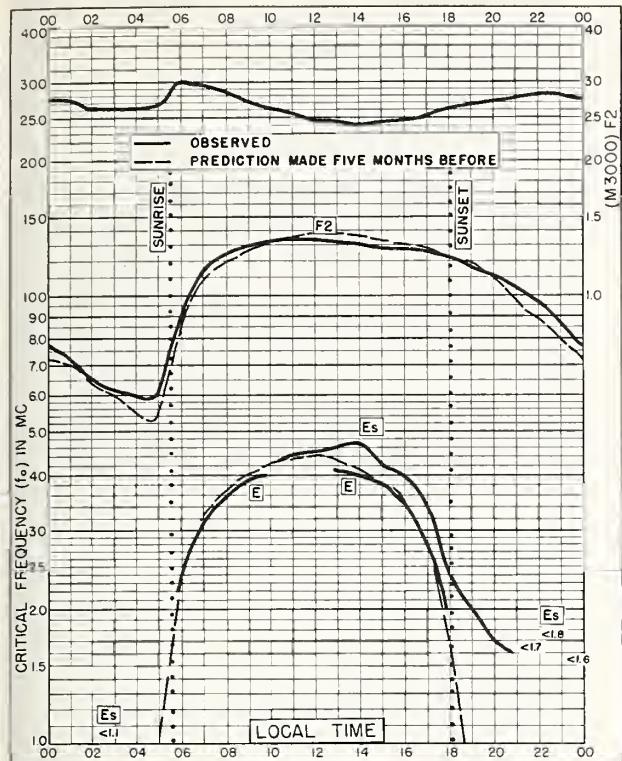
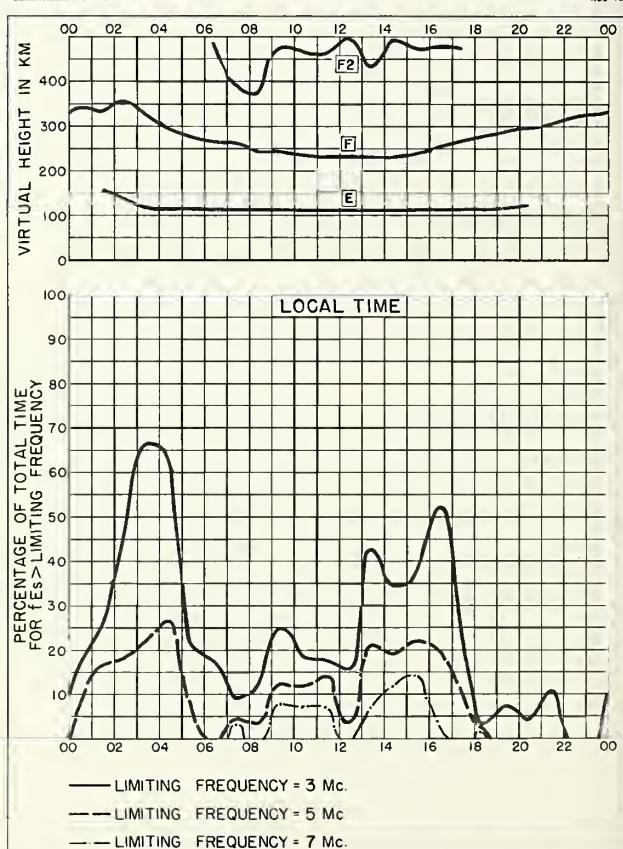
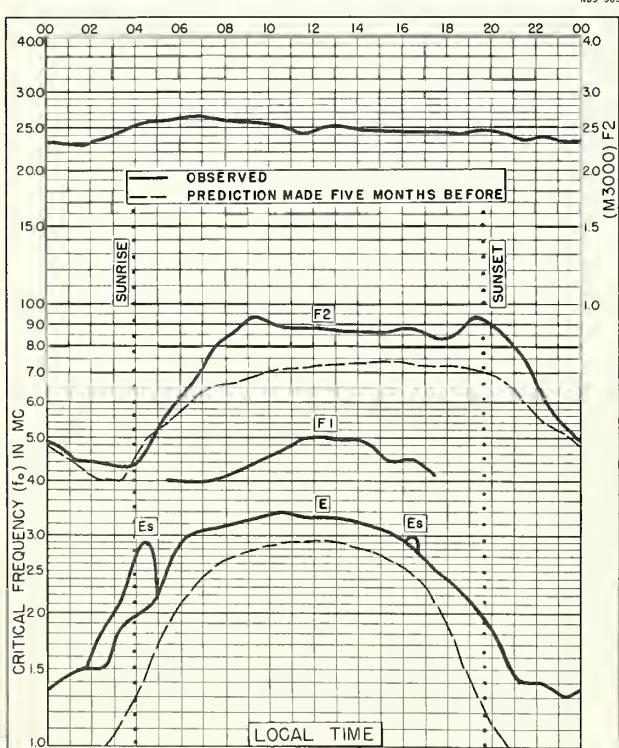
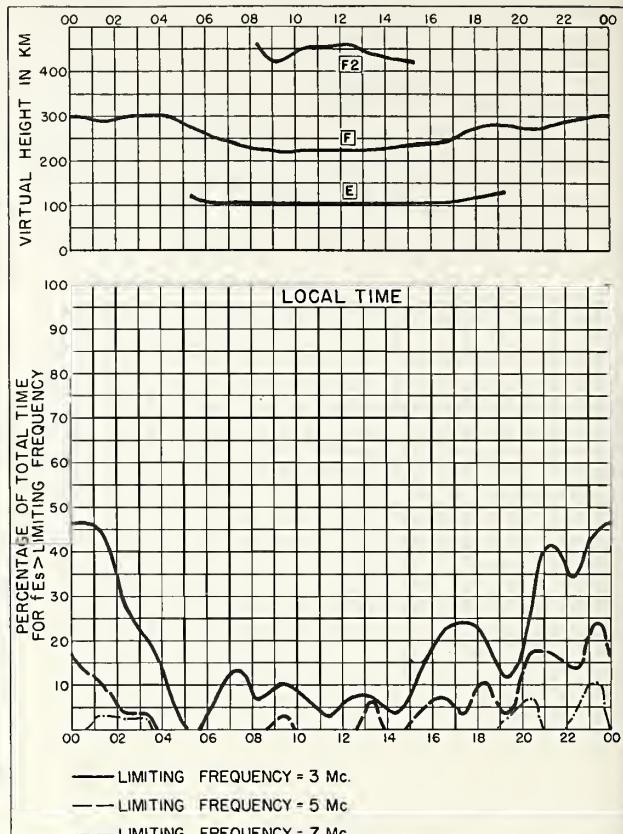
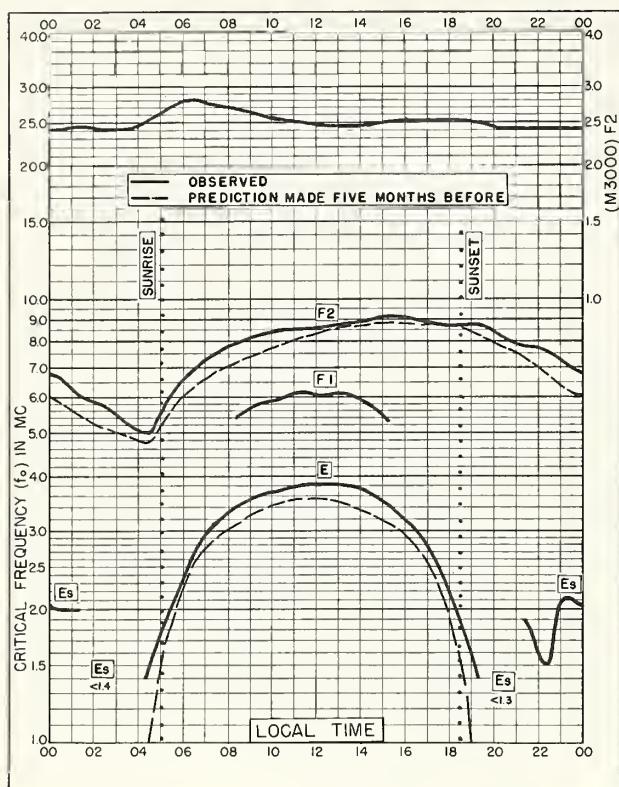


Fig. 71. RAROTONGA I.

OCTOBER 1958

Commerce-Standard-Baldwin, Calif.





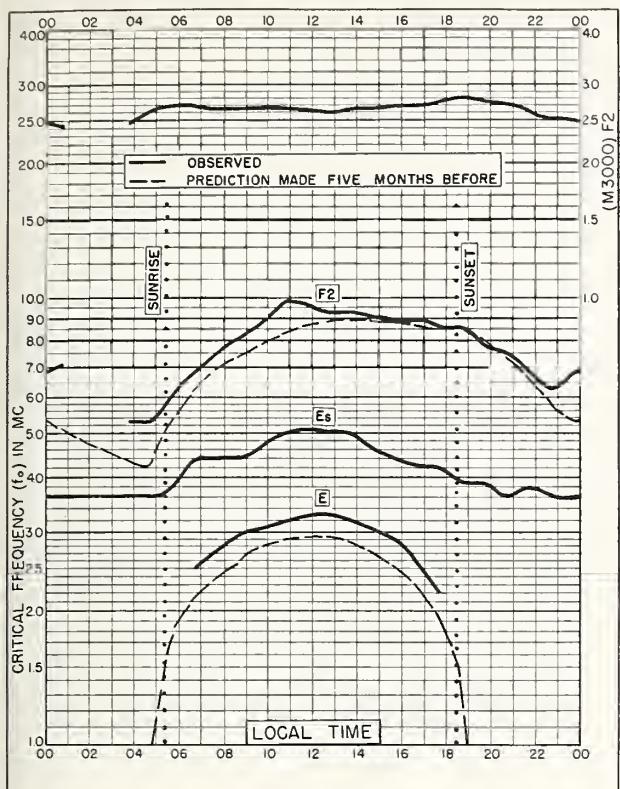


Fig. 80. SODANKYLA, FINLAND
67.4°N, 26.6°E SEPTEMBER 1958

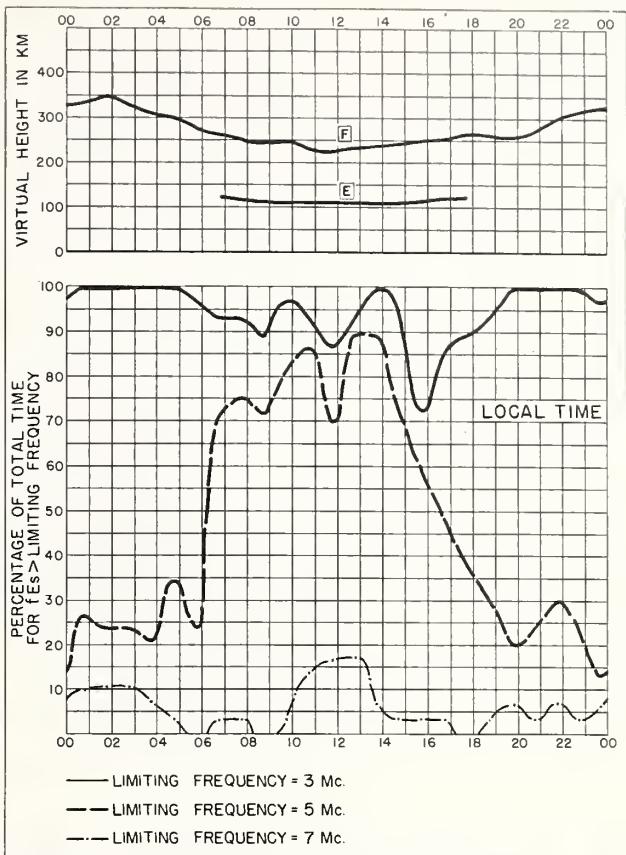


Fig. 81. SODANKYLA, FINLAND SEPTEMBER 1958

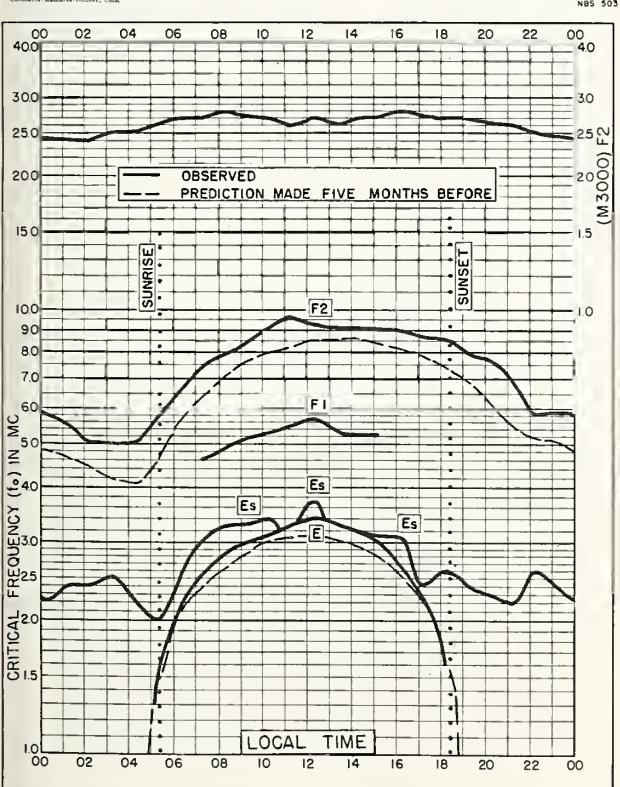


Fig. 82. LYCKSELE, SWEDEN
64.6°N, 18.8°E SEPTEMBER 1958

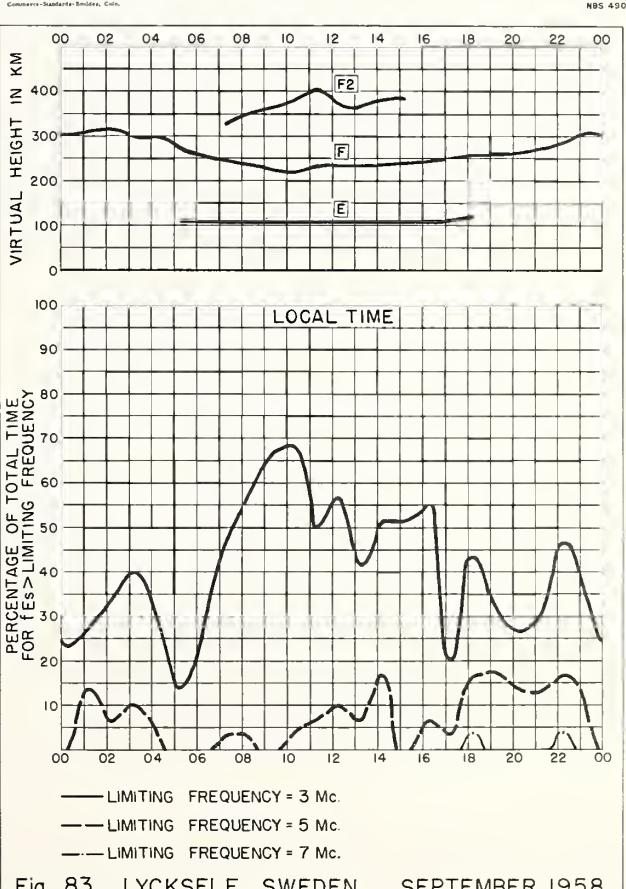


Fig. 83. LYCKSELE, SWEDEN SEPTEMBER 1958

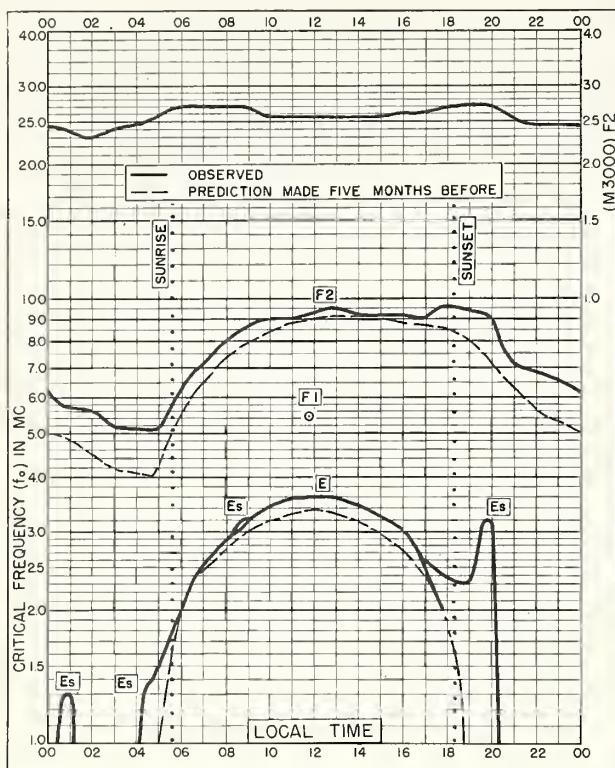


Fig. 84. OSLO, NORWAY
60.0°N, 11.1°E SEPTEMBER 1958

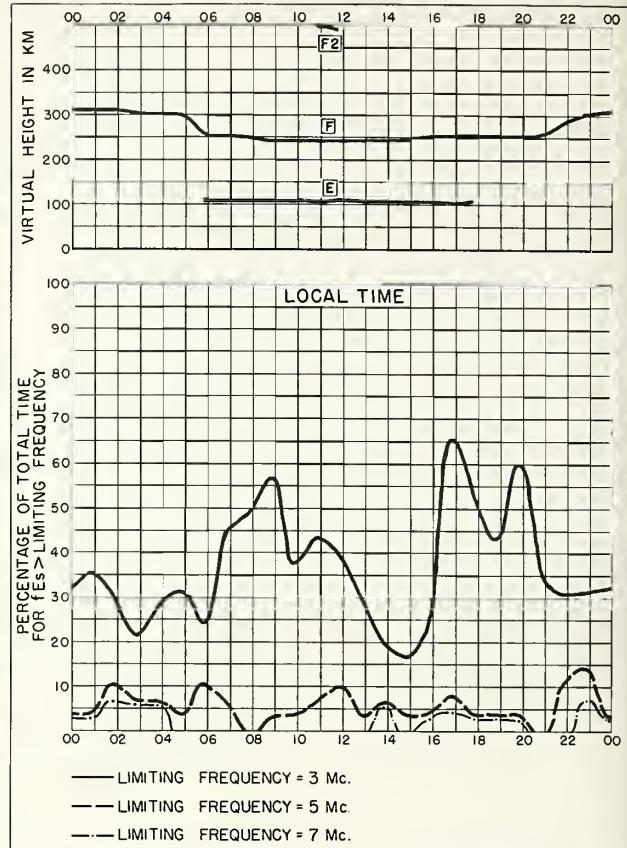


Fig. 85. OSLO, NORWAY SEPTEMBER 1958

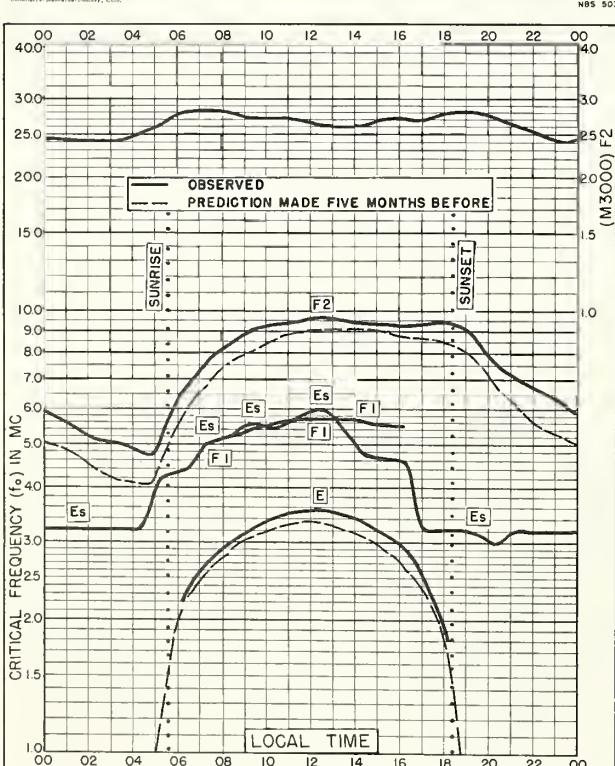


Fig. 86. UPSALA, SWEDEN
59.8°N, 17.6°E SEPTEMBER 1958

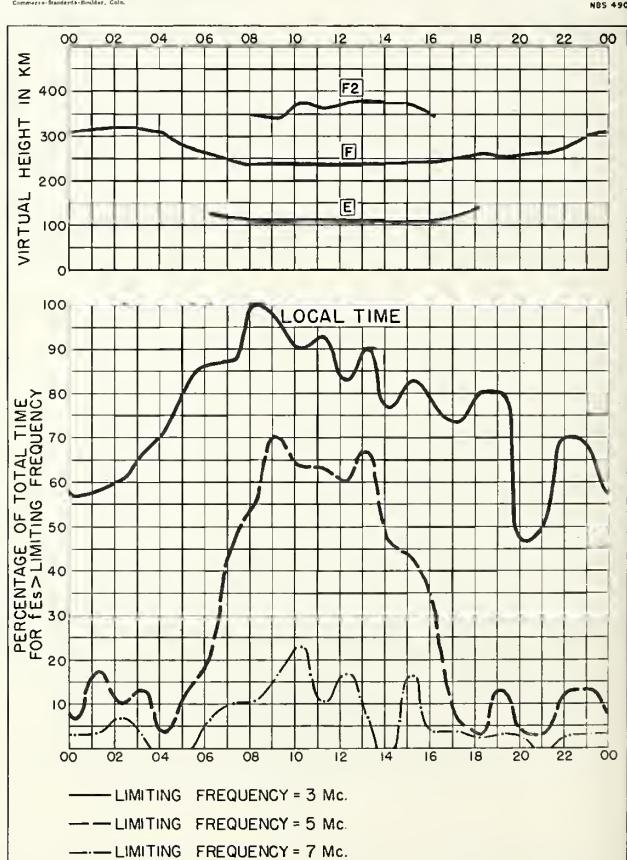
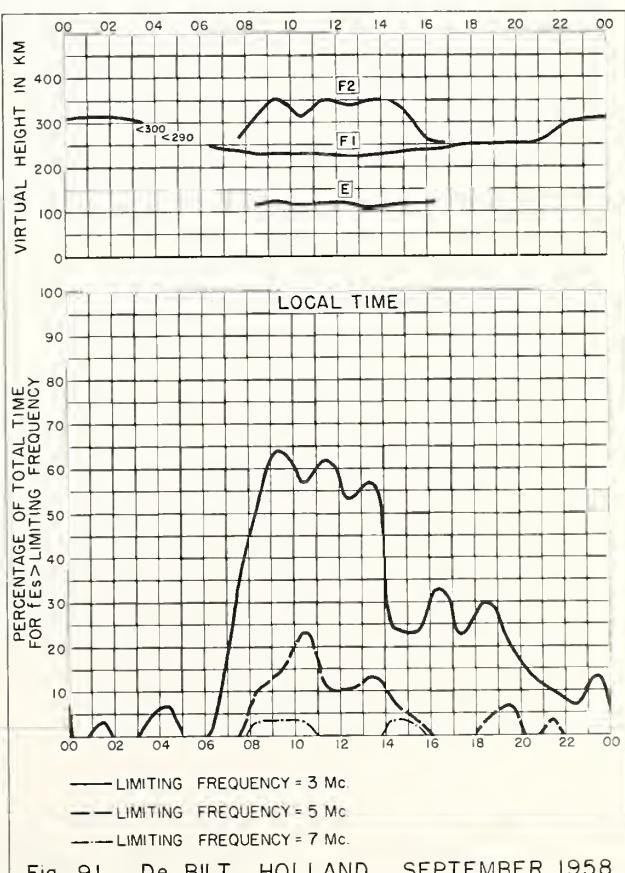
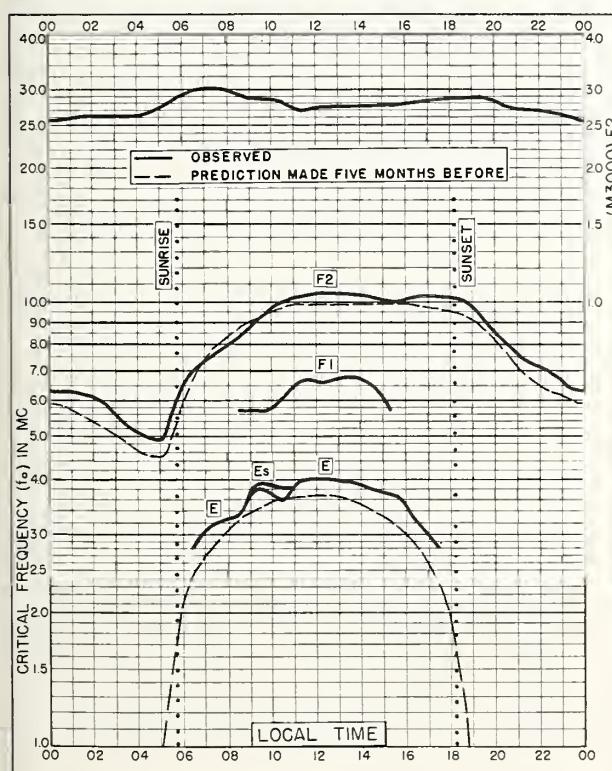
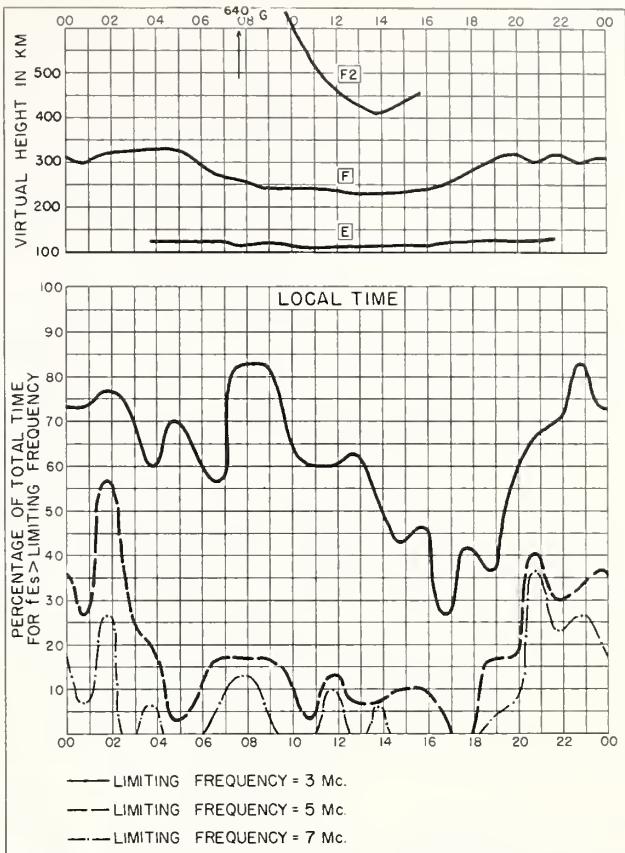
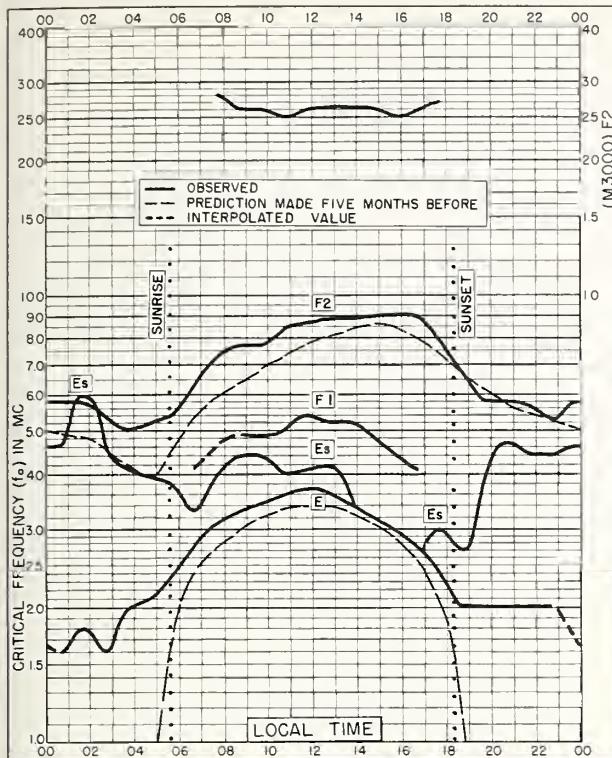


Fig. 87. UPSALA, SWEDEN SEPTEMBER 1958



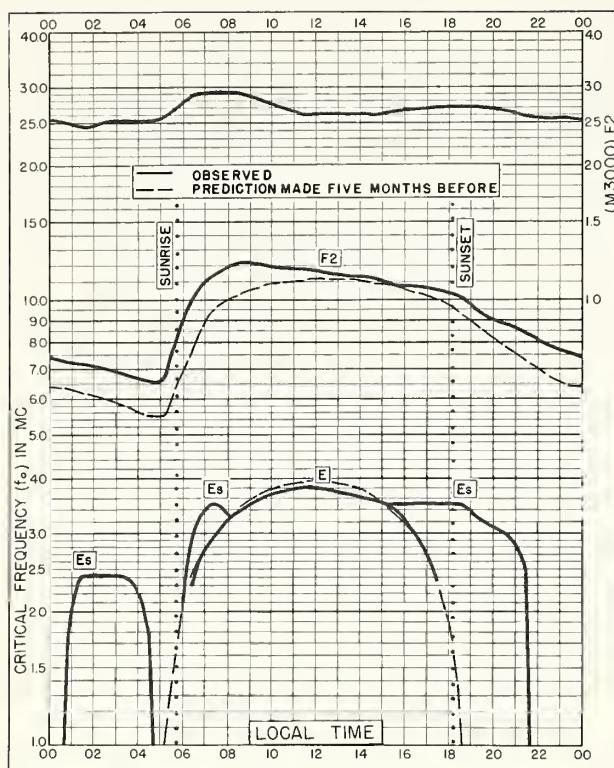


Fig. 92. WAKKANAI, JAPAN
45.4°N, 141.7°E SEPTEMBER 1958

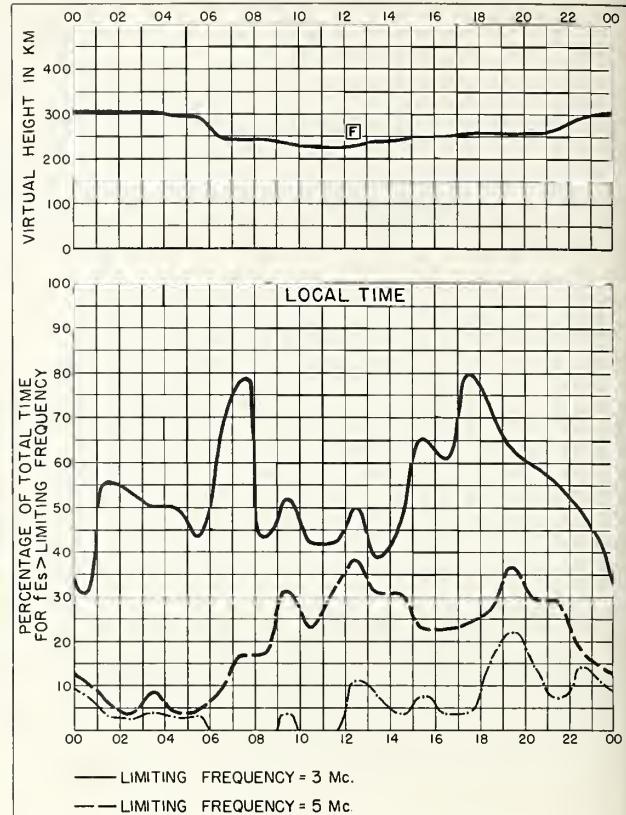


Fig. 93. WAKKANAI, JAPAN SEPTEMBER 1958

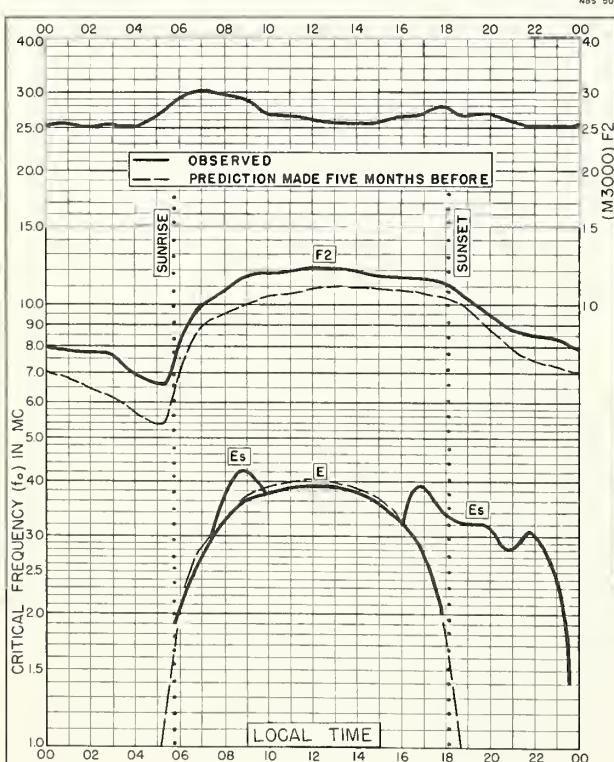


Fig. 94. ROME, ITALY
41.8°N, 12.5°E SEPTEMBER 1958

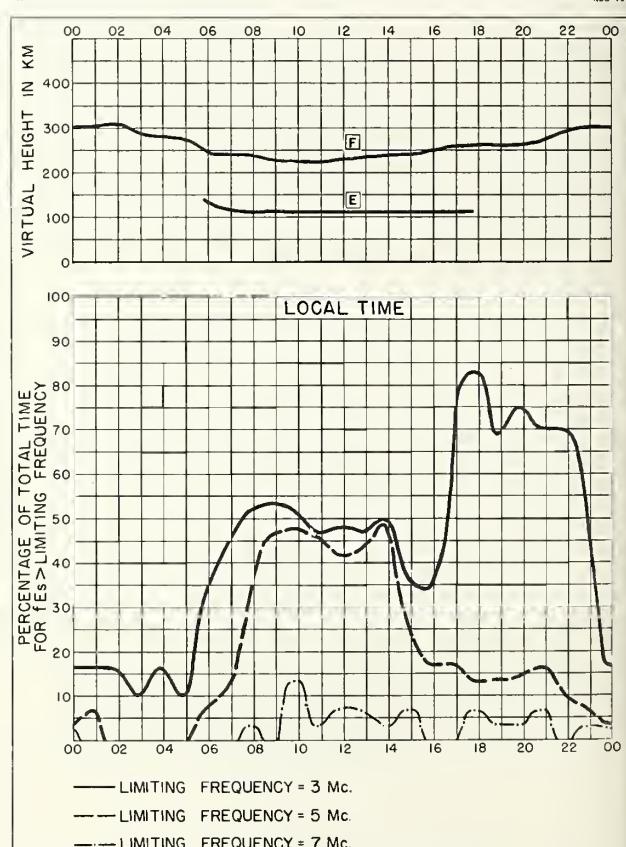


Fig. 95. ROME, ITALY SEPTEMBER 1958

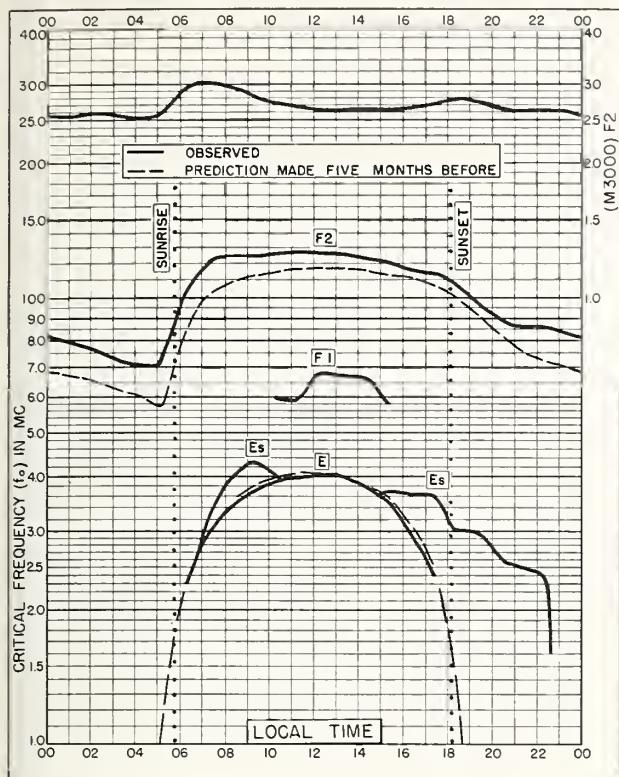


Fig. 96. AKITA, JAPAN
39.7°N, 140.1°E SEPTEMBER 1958

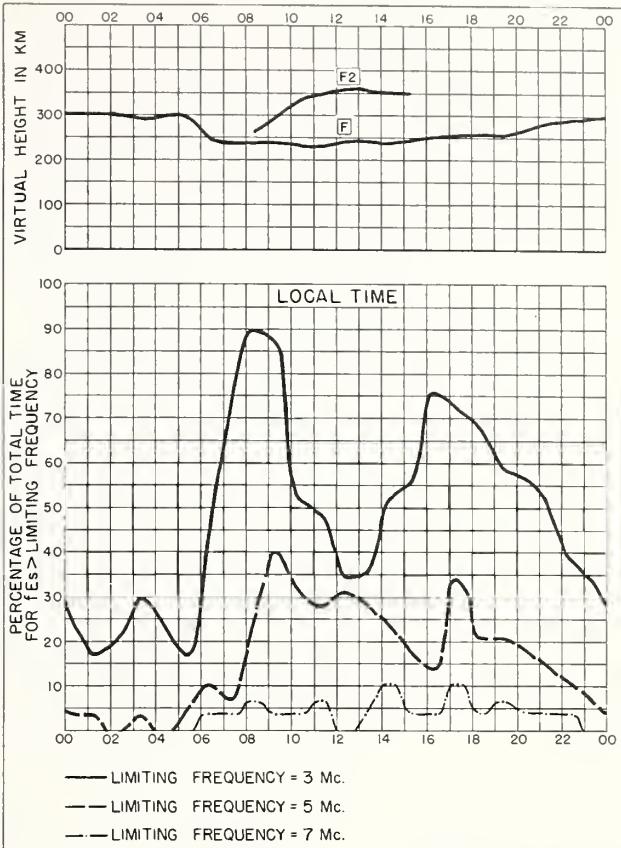


Fig. 97. AKITA, JAPAN SEPTEMBER 1958

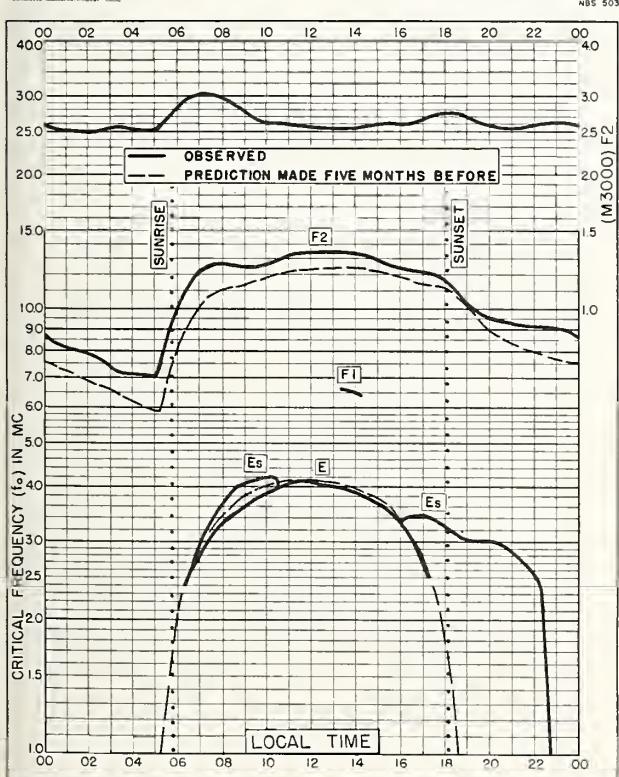


Fig. 98. TOKYO, JAPAN
35.7°N, 139.5°E SEPTEMBER 1958

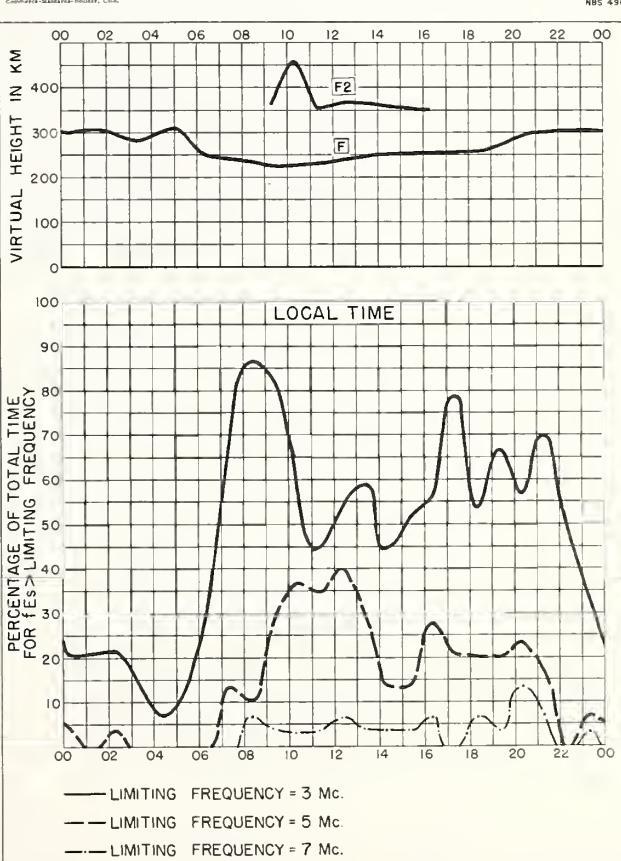


Fig. 99. TOKYO, JAPAN SEPTEMBER 1958

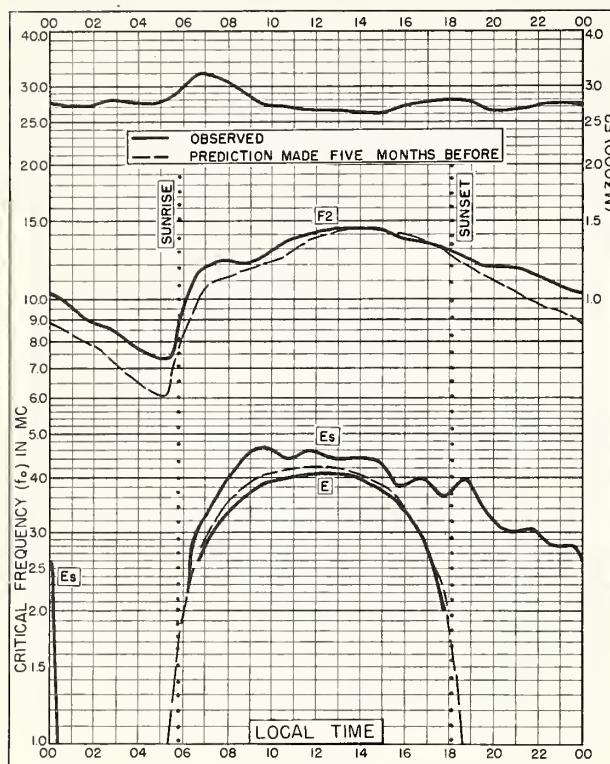


Fig. IOO. YAMAGAWA , JAPAN
31.2°N, 130.6°E SEPTEMBER 1958

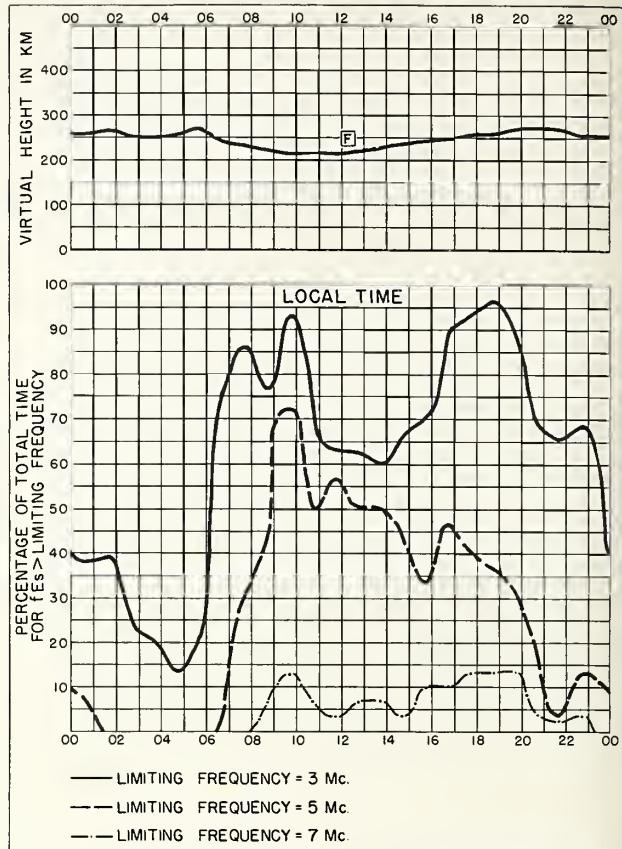


Fig. IOI. YAMAGAWA, JAPAN SEPTEMBER 1958

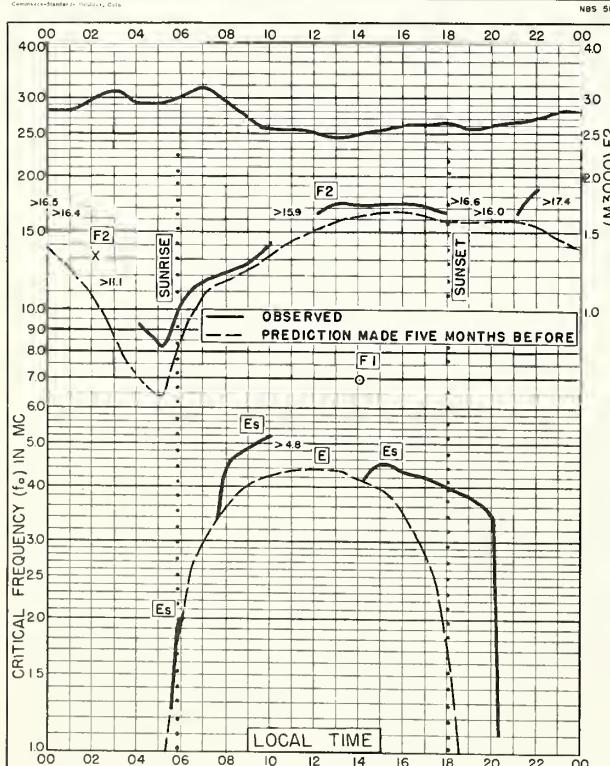


Fig. IO2. FORMOSA , CHINA
25.0°N, 121.5°E SEPTEMBER 1958

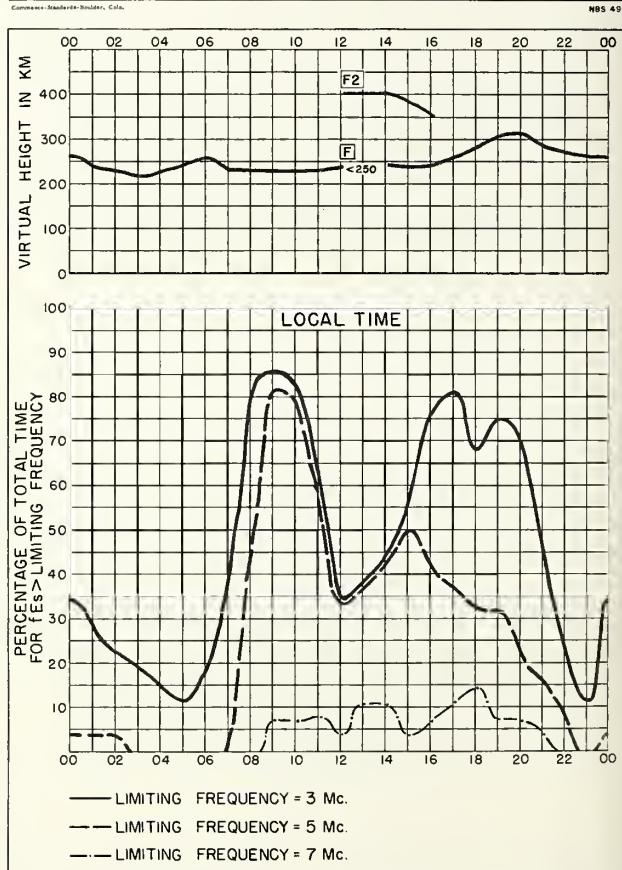


Fig. IO3. FORMOSA, CHINA SEPTEMBER 1958

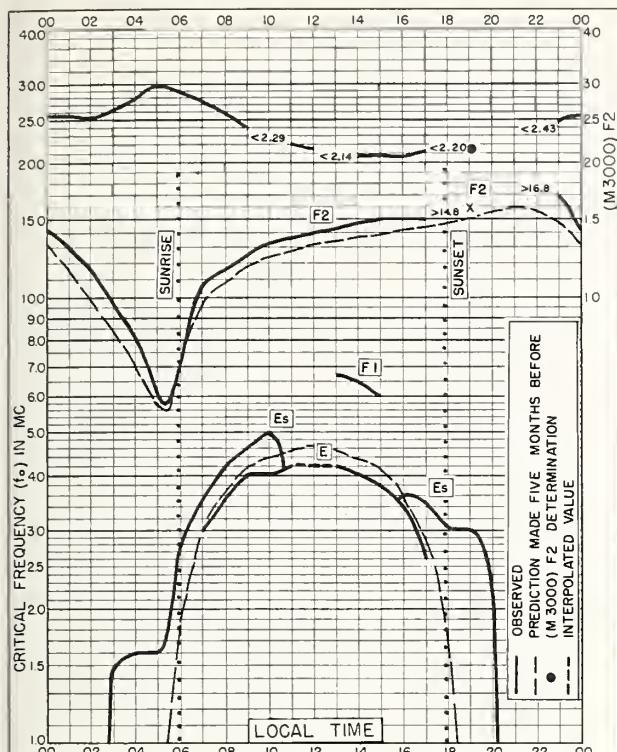


Fig. 104. LEOPOLDVILLE, BELGIAN CONGO
4.4°S, 15.2°E SEPTEMBER 1958

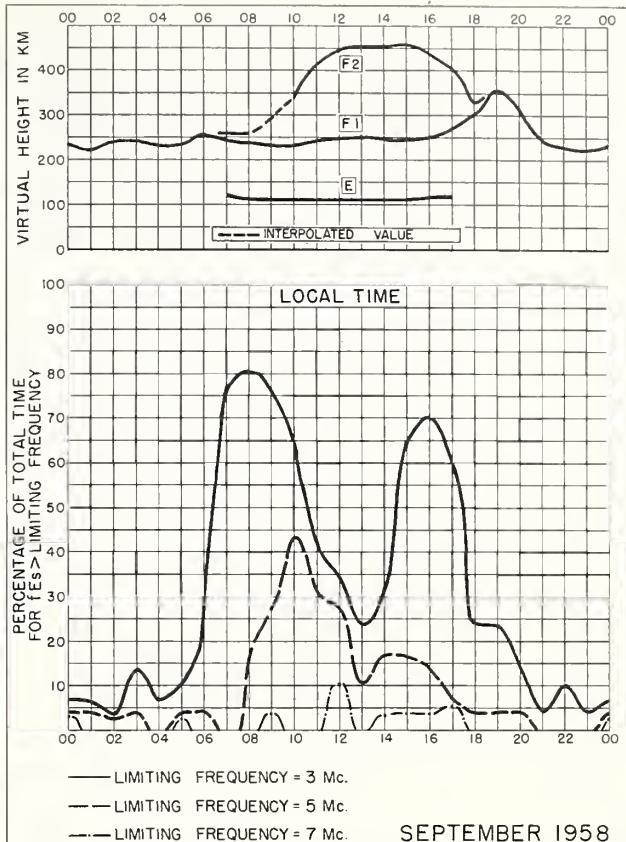


Fig. 105. LEOPOLDVILLE, BELGIAN CONGO SEPTEMBER 1958

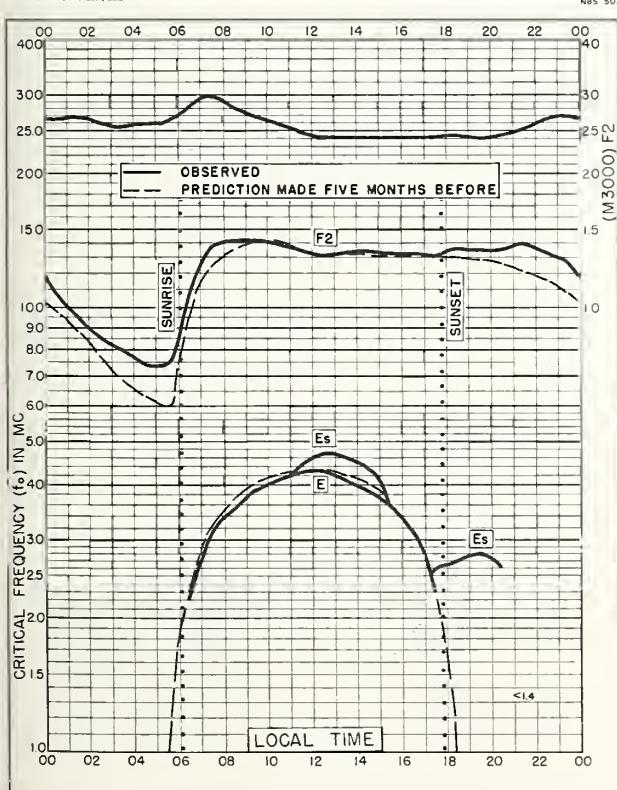


Fig. 106. RAROTONGA I.
21.2°S, 159.8°W SEPTEMBER 1958

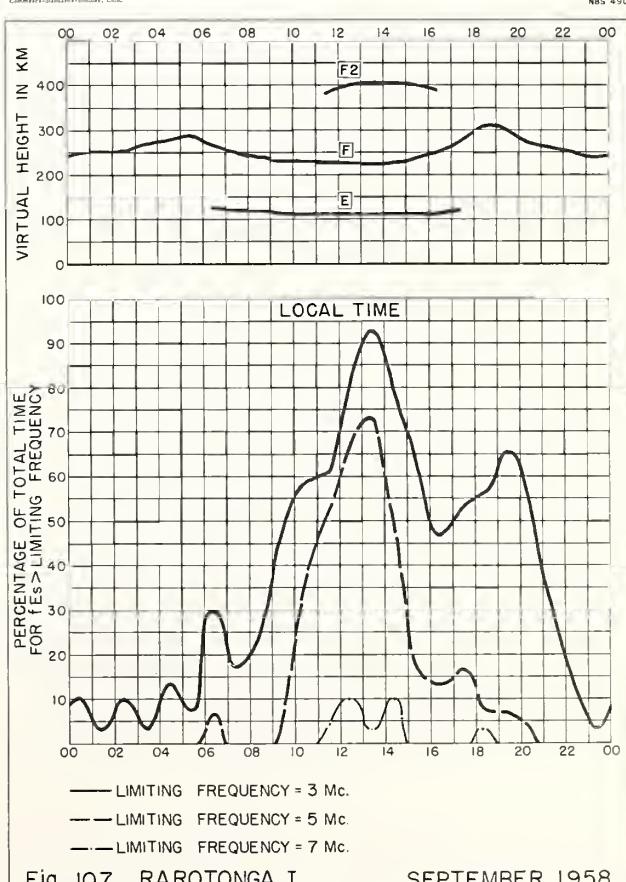
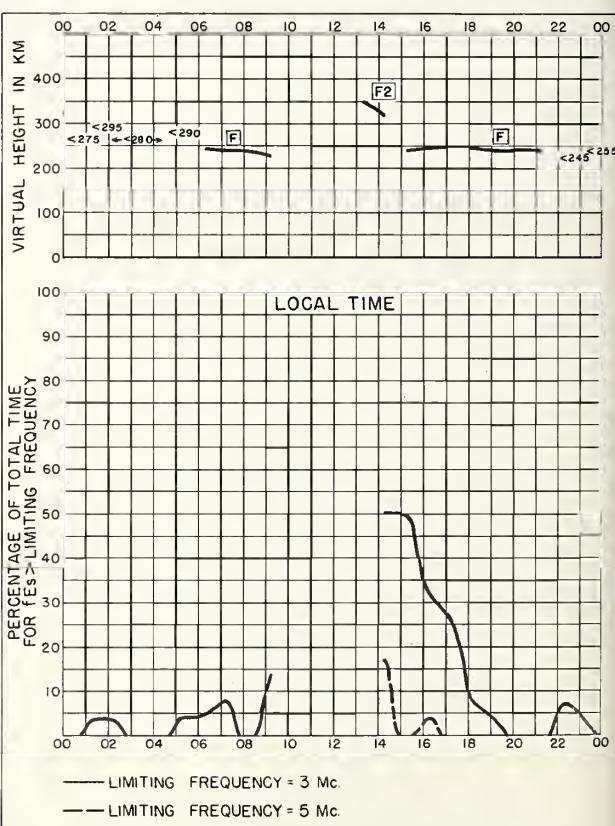
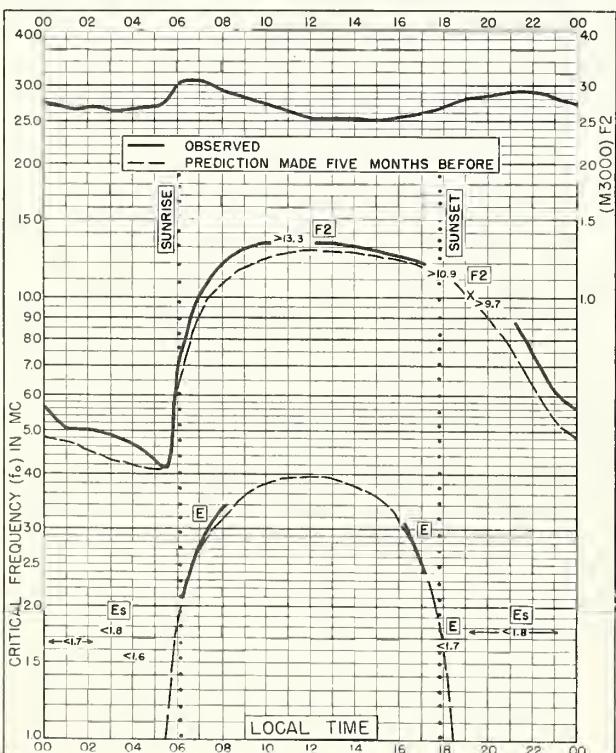
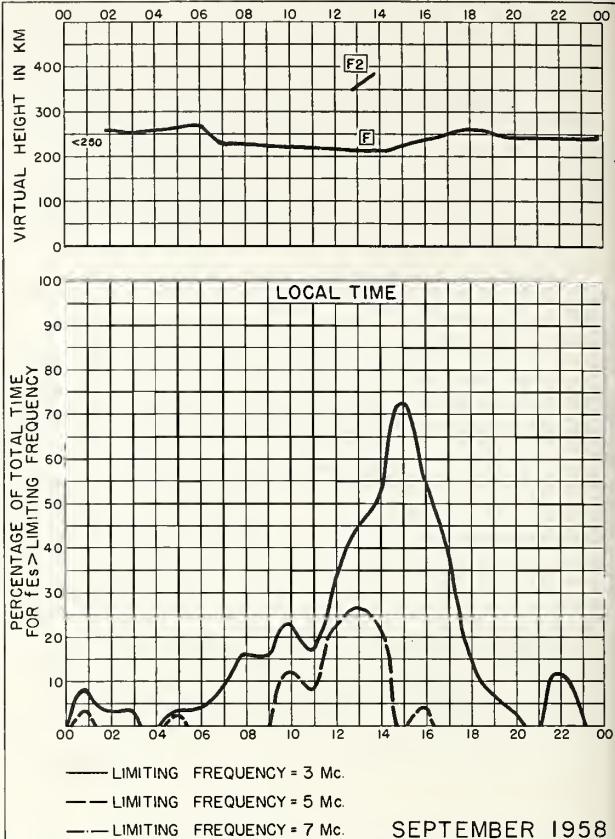
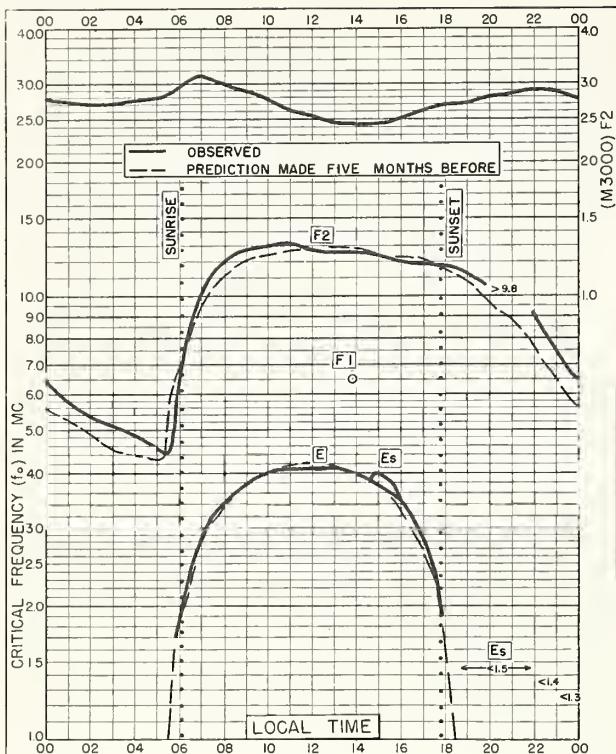


Fig. 107. RAROTONGA I. SEPTEMBER 1958



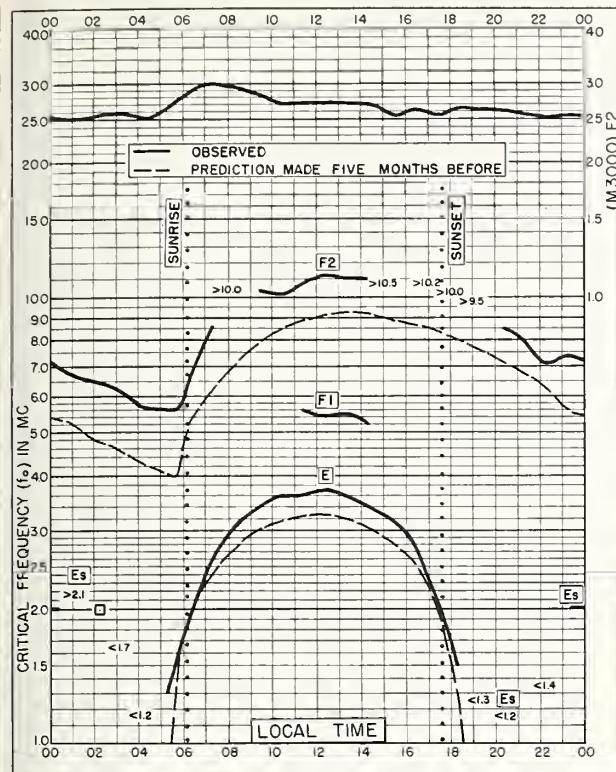


Fig. II2. CAMPBELL I.
52.5°S, 169.2°E SEPTEMBER 1958

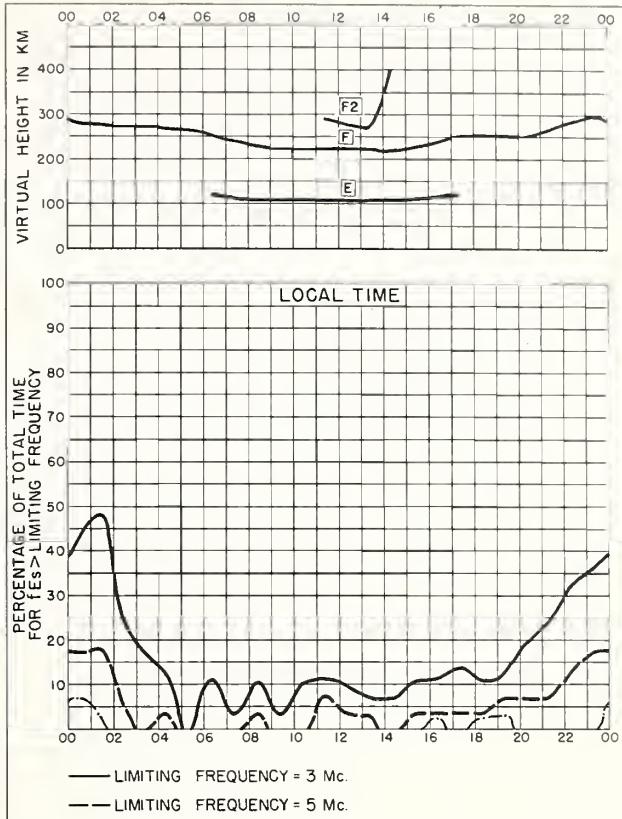


Fig. II3. CAMPBELL I. SEPTEMBER 1958

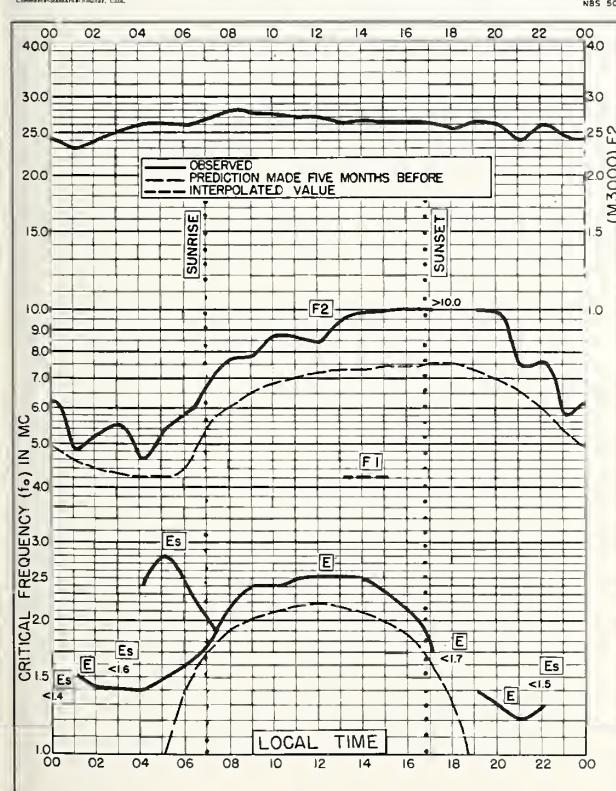
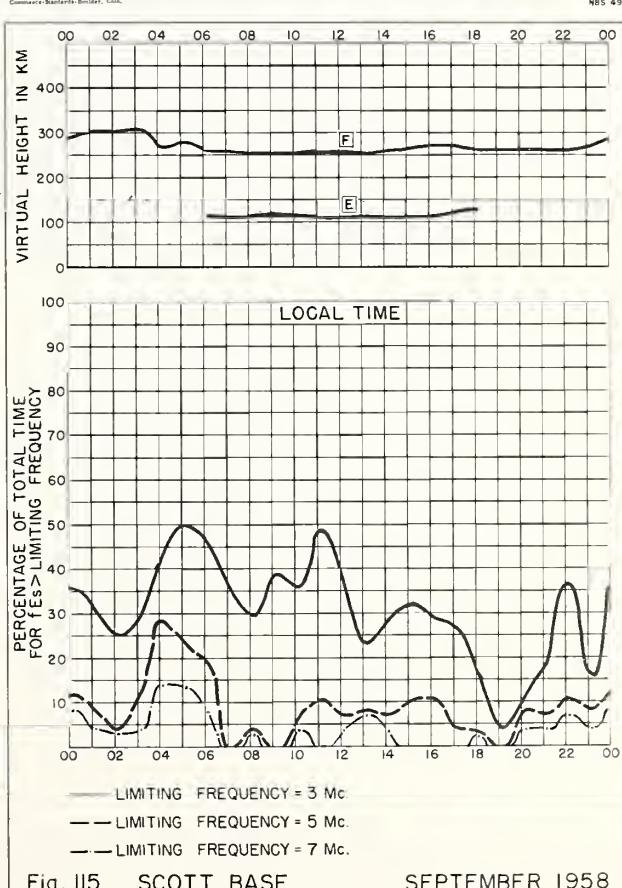


Fig. 114. SCOTT BASE
 77.8°S, 166.8°E SEPTEMBER 1958



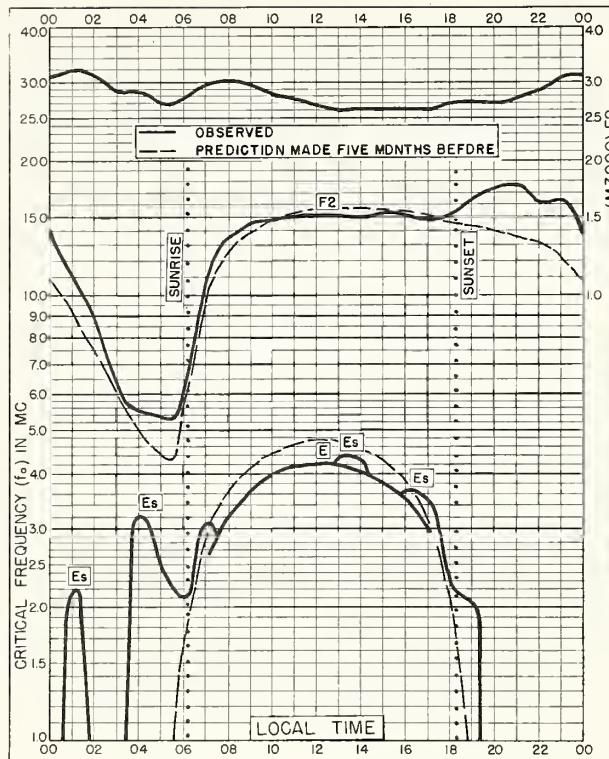


Fig. II6. BOGOTA, COLOMBIA

4.5°N, 74.2°W

FEBRUARY 1958

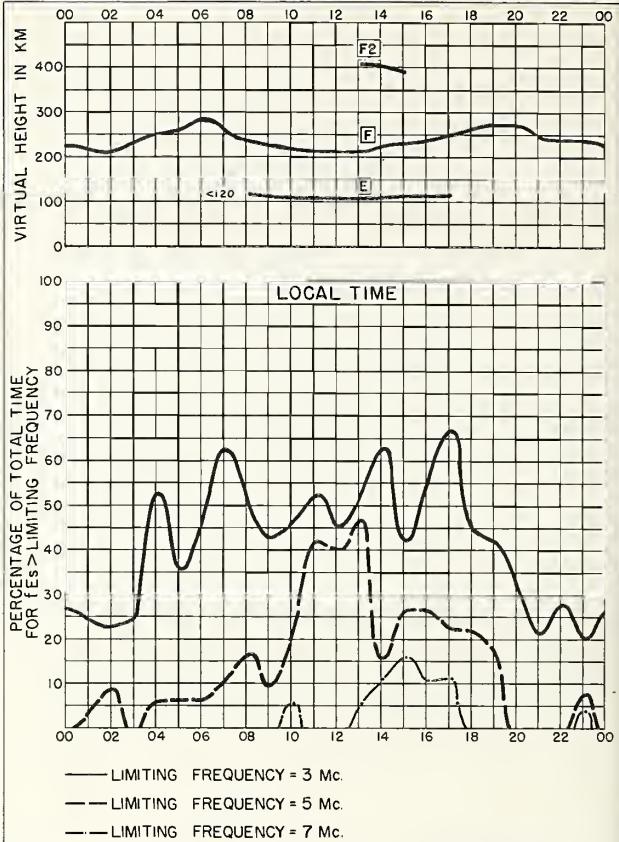


Fig. II7. BOGOTA, COLOMBIA

FEBRUARY 1958

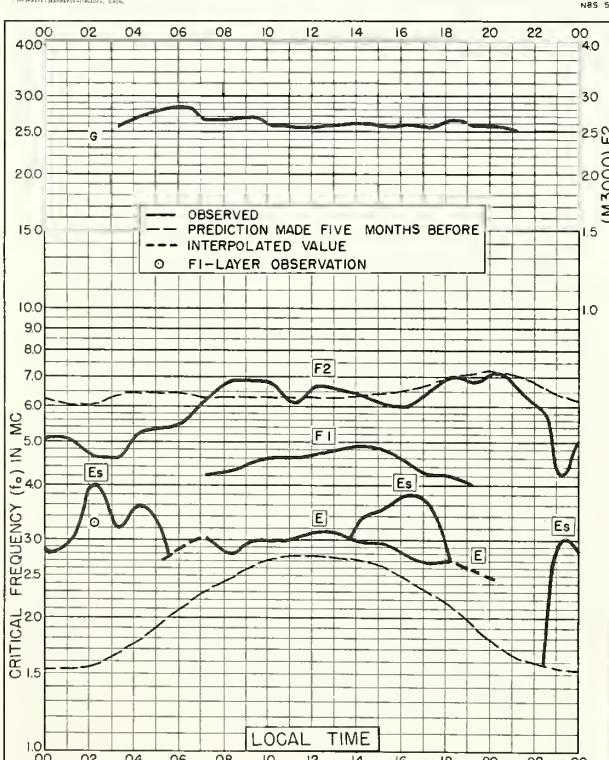


Fig. II8. LITTLE AMERICA

78.2°S, 162.2°W

FEBRUARY 1958

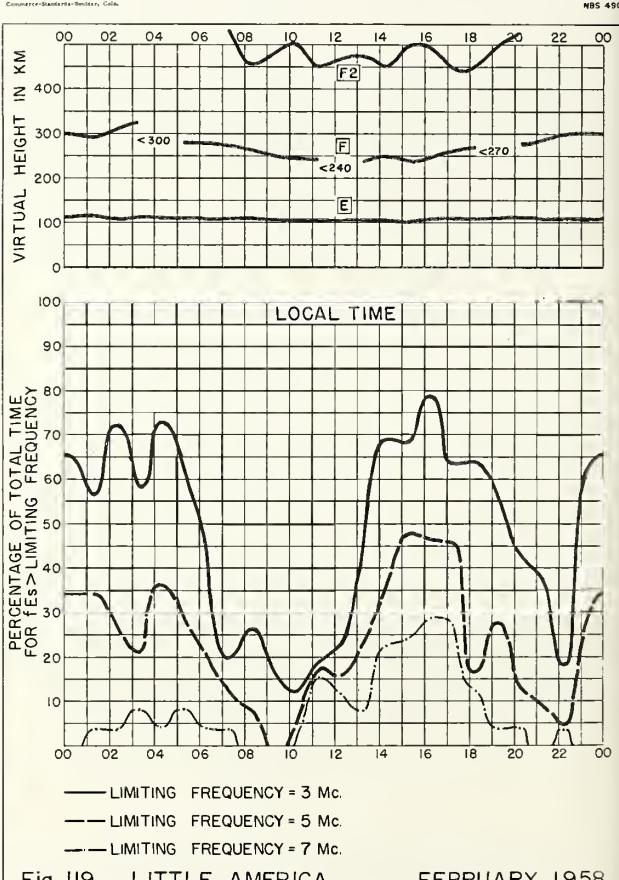


Fig. II9. LITTLE AMERICA

FEBRUARY 1958

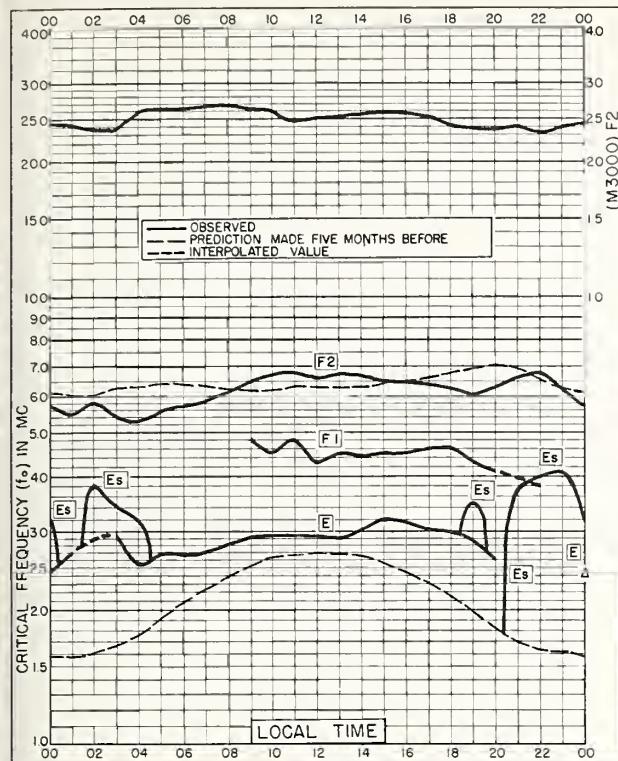


Fig. 120. BYRD STATION
80.0°S, 120.0°W FEBRUARY 1958

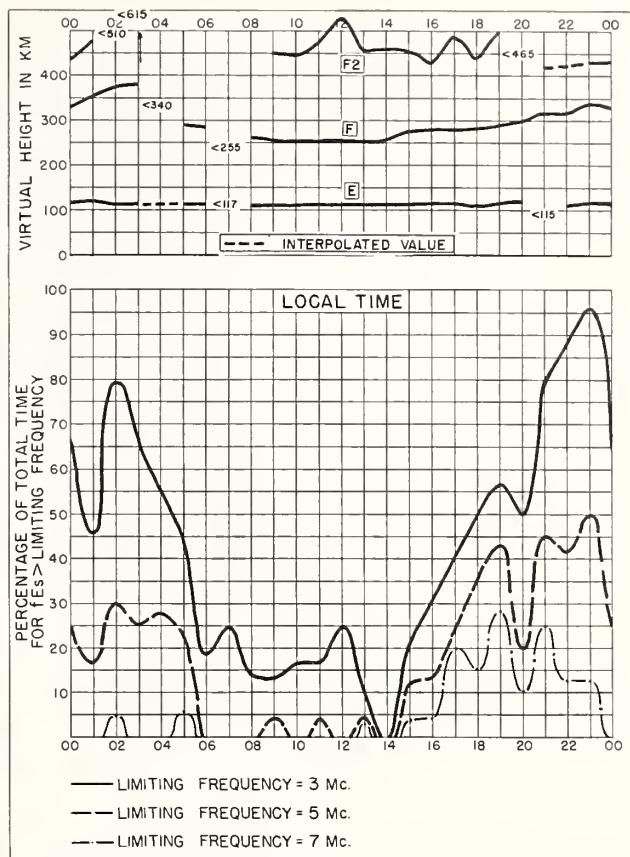


Fig. 121. BYRD STATION FEBRUARY 1958

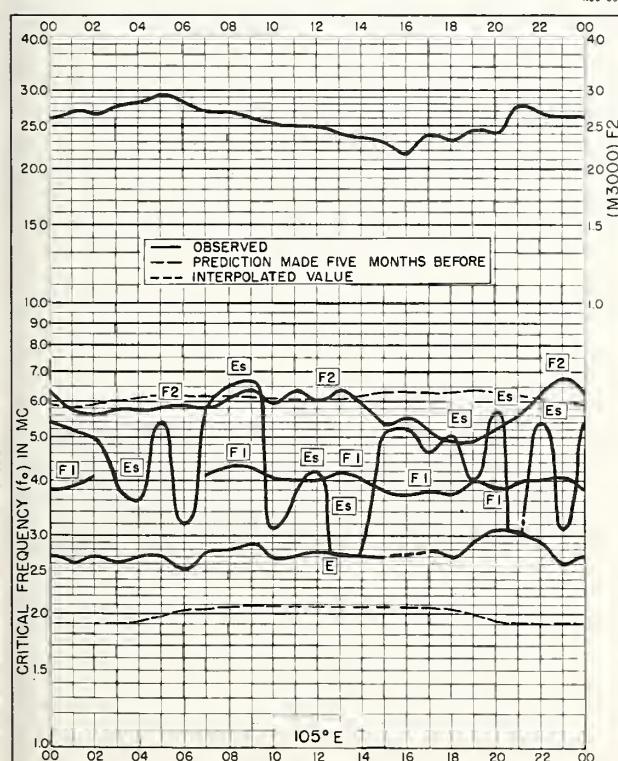


Fig. 122. POLE STATION
90.0°S FEBRUARY 1958

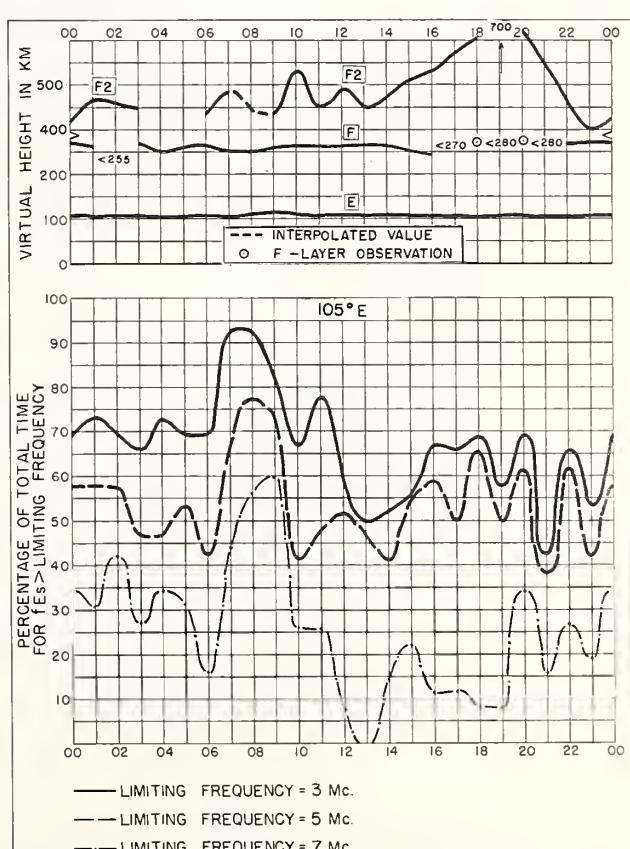


Fig. 123. POLE STATION FEBRUARY 1958

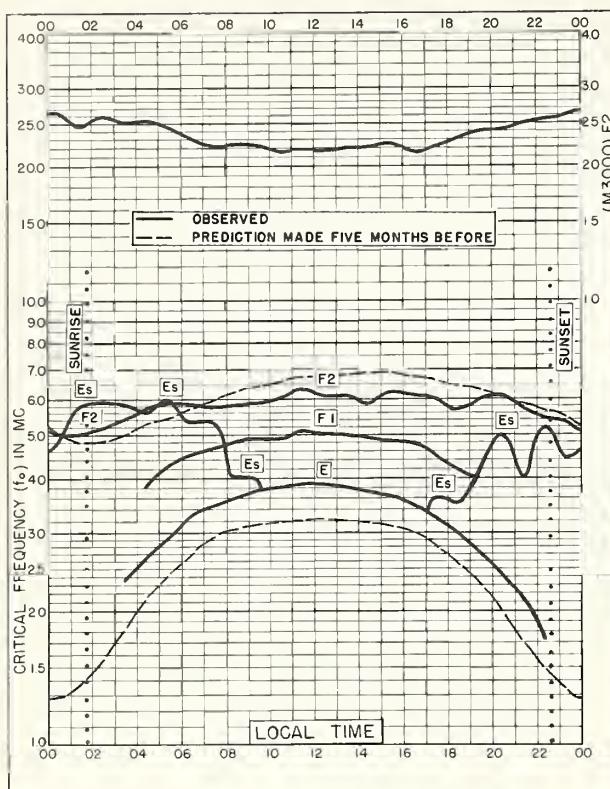


Fig. I24. WILKES STATION
66.2°S, 110.5°E JANUARY 1958

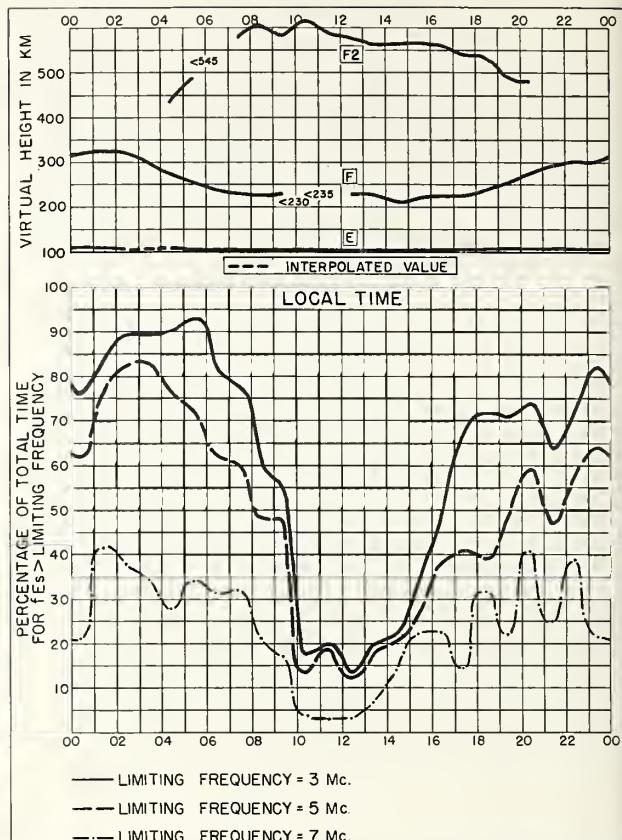


Fig. I25. WILKES STATION JANUARY 1958

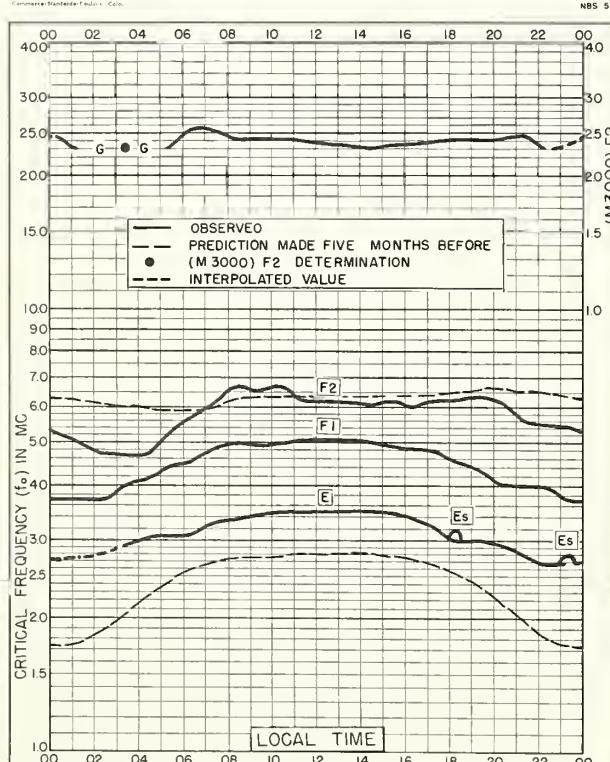


Fig. I26. LITTLE AMERICA
78.2°S, 162.2°W JANUARY 1958

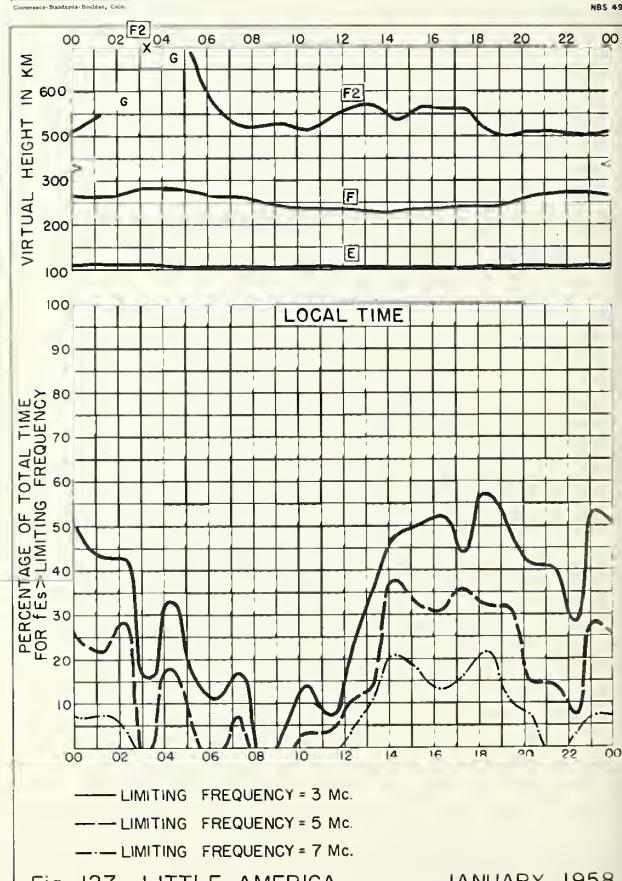


Fig. I27. LITTLE AMERICA JANUARY 1958

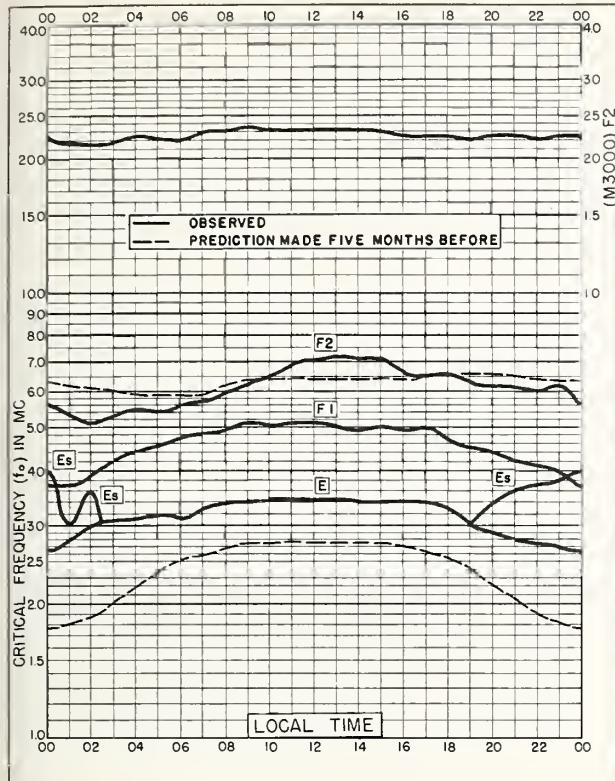


Fig. I28. BYRD STATION
80.0°S, 120.0°W JANUARY 1958

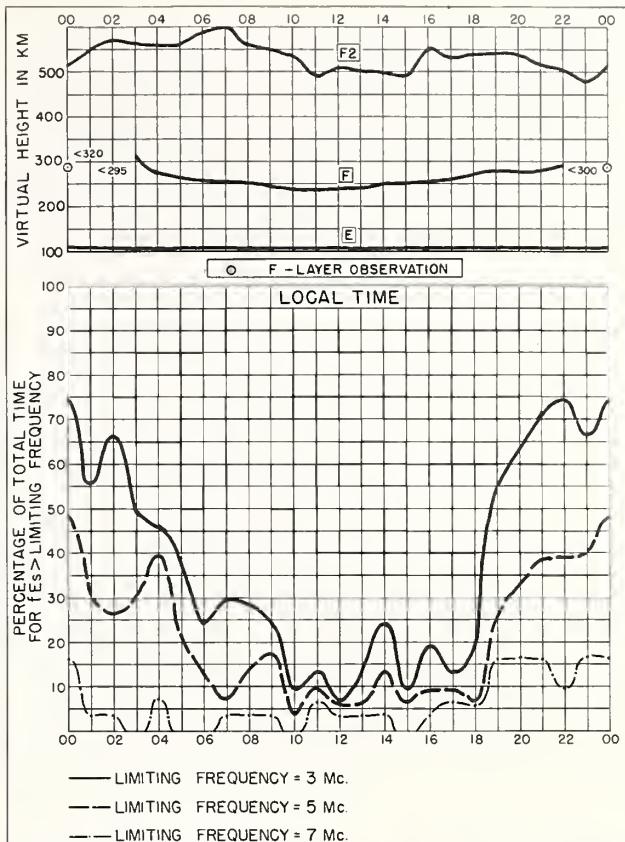


Fig. I29. BYRD STATION JANUARY 1958

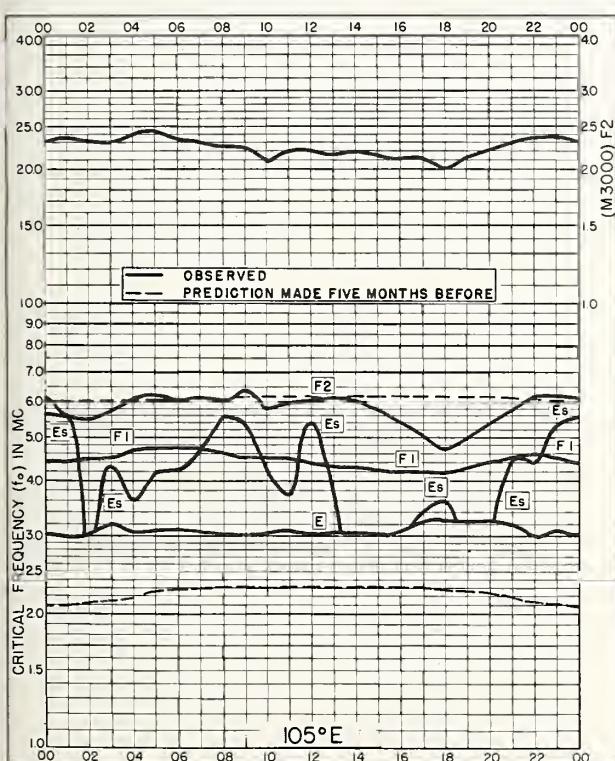


Fig. I30. POLE STATION
90.0°S JANUARY 1958

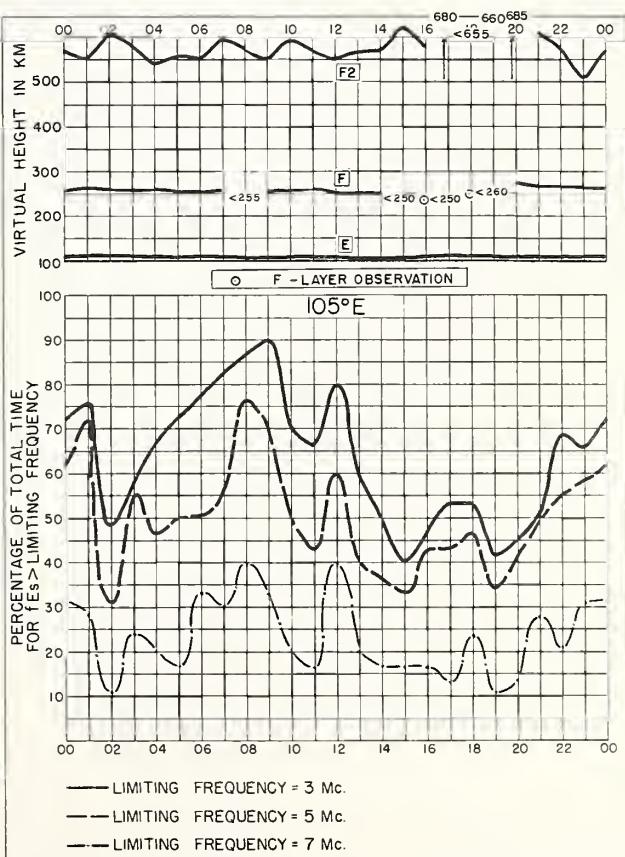


Fig. I31. POLE STATION JANUARY 1958

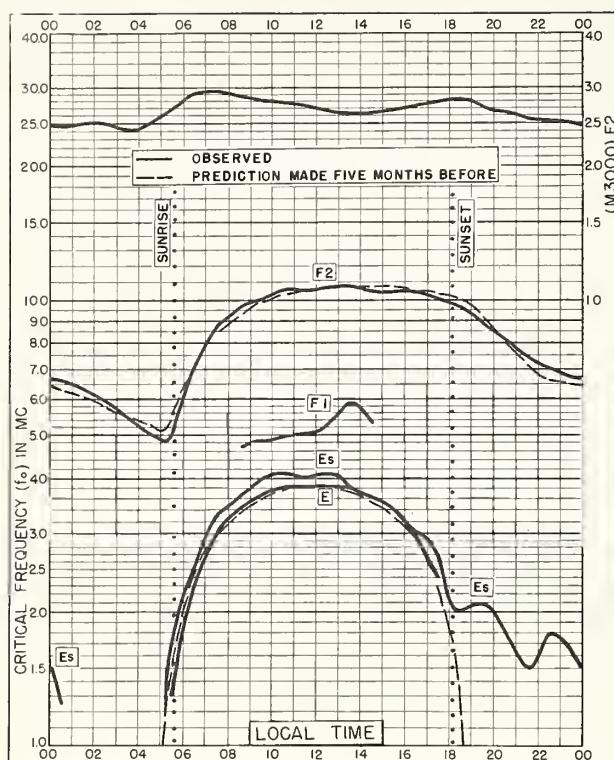


Fig. I32. FREIBURG, GERMANY
48.1°N, 7.6°E SEPTEMBER 1957

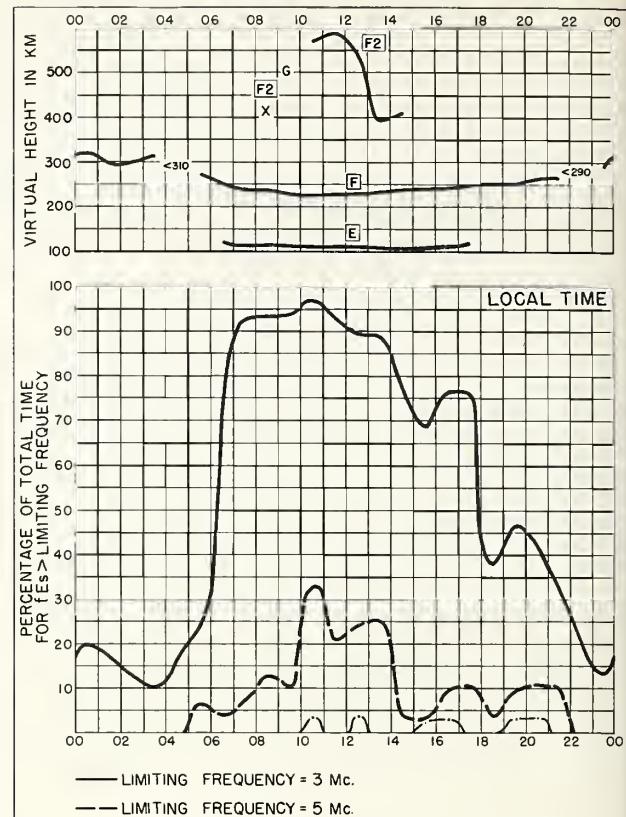


Fig. I33. FREIBURG, GERMANY SEPTEMBER 1957

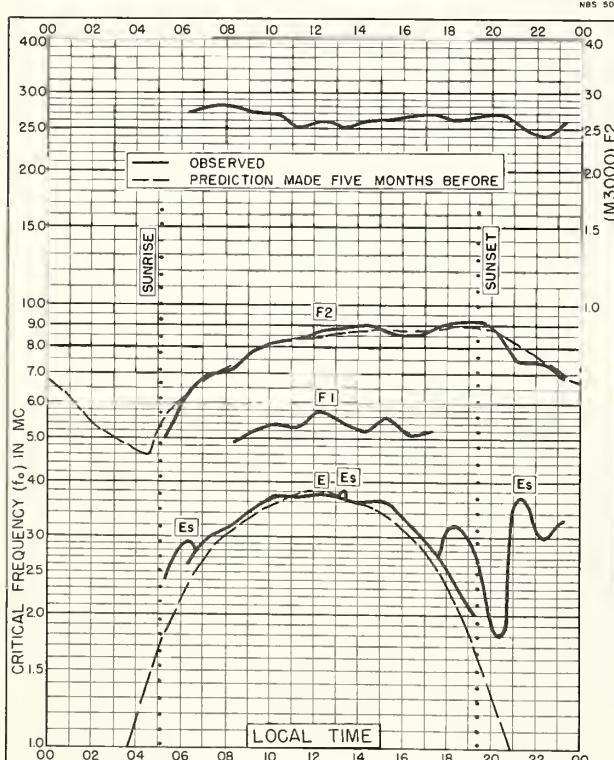


Fig. I34. CAMPBELL I.
52.5°S, 169.2°E FEBRUARY 1957

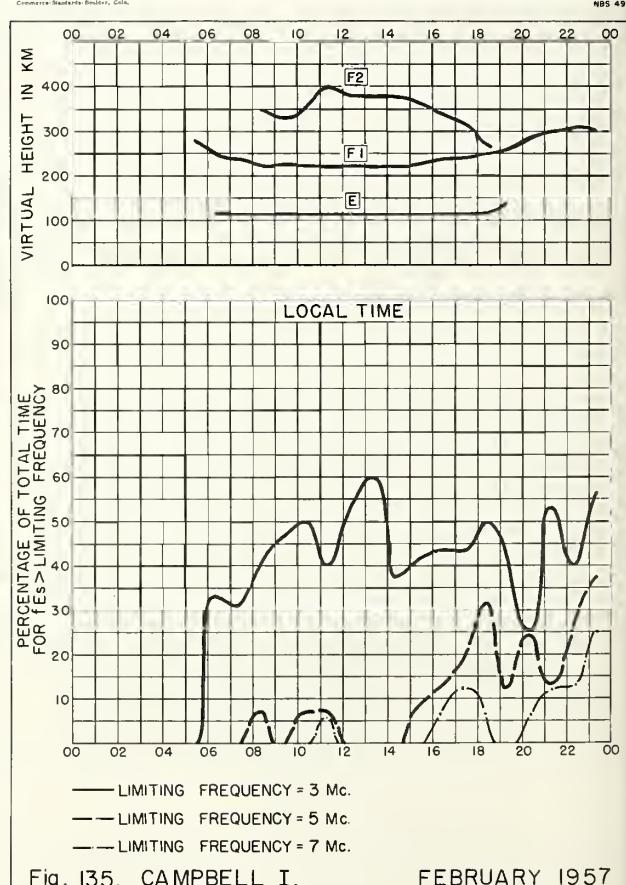
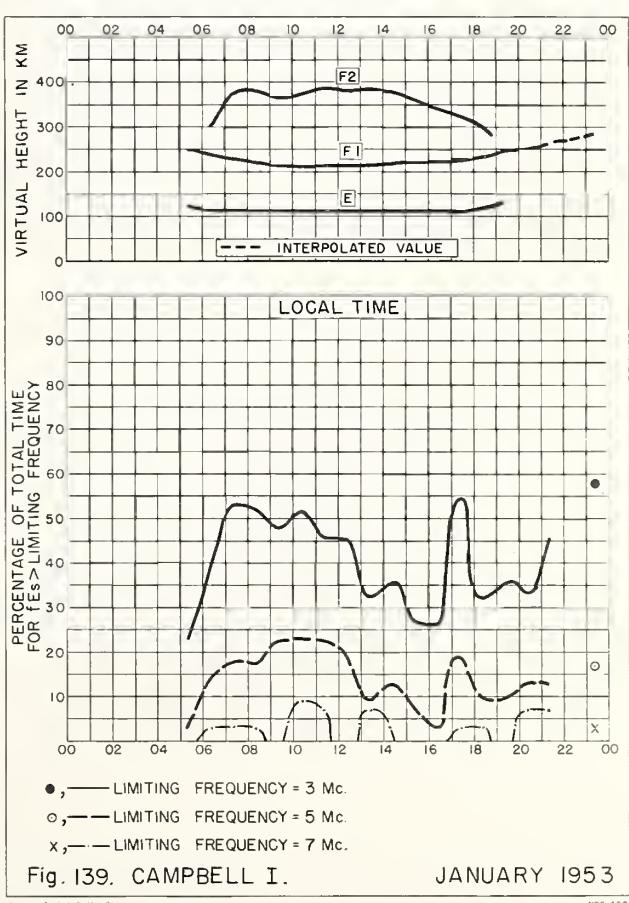
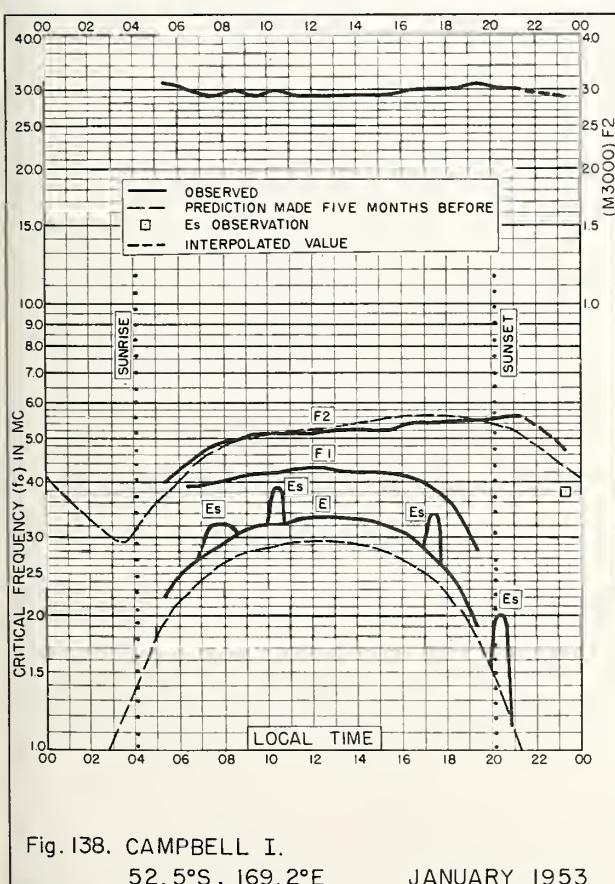
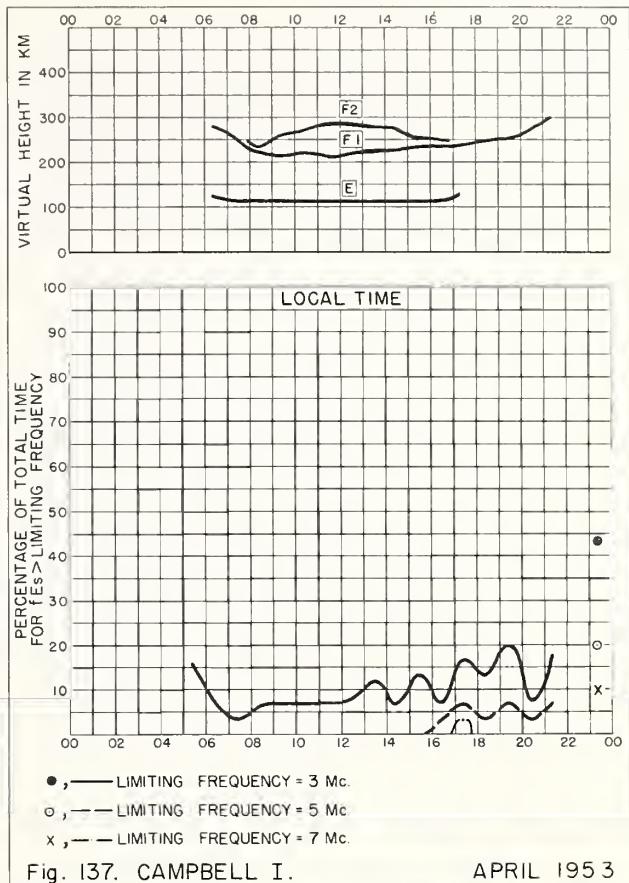
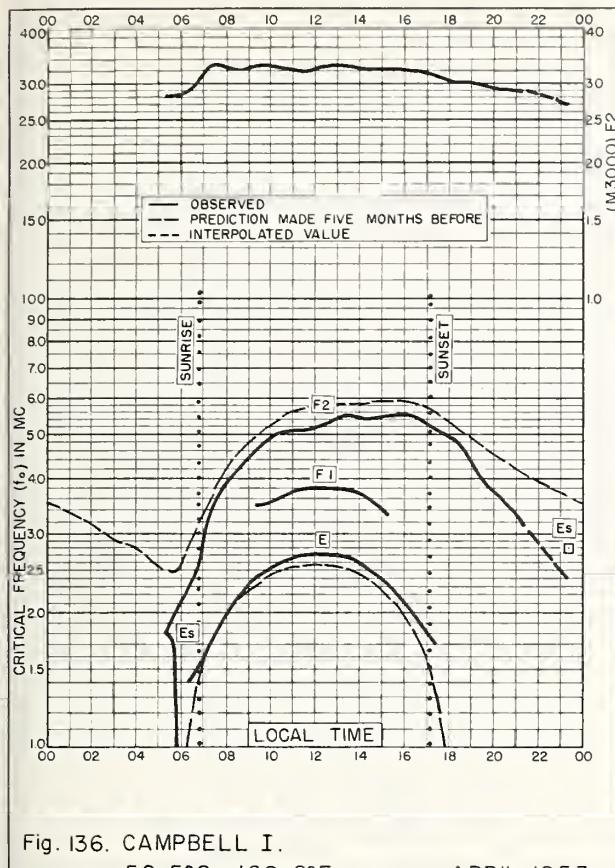
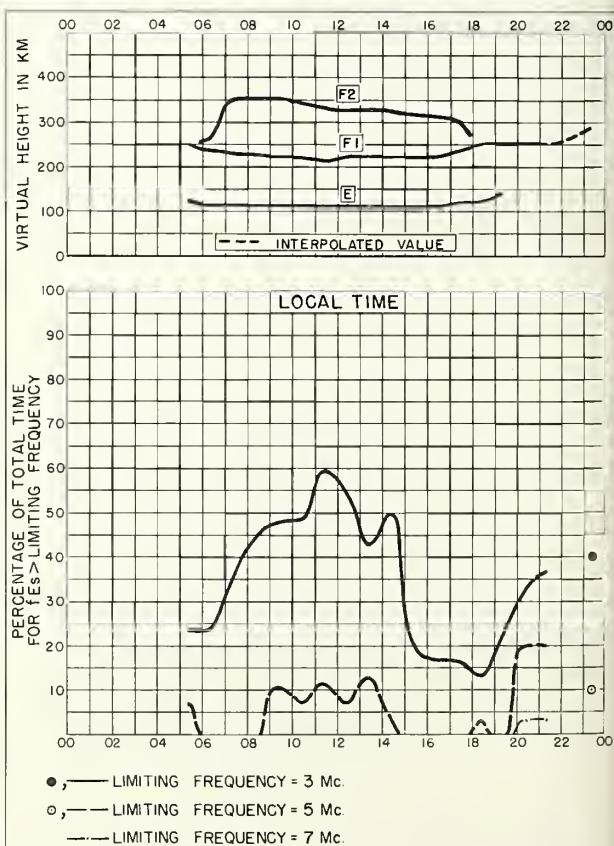
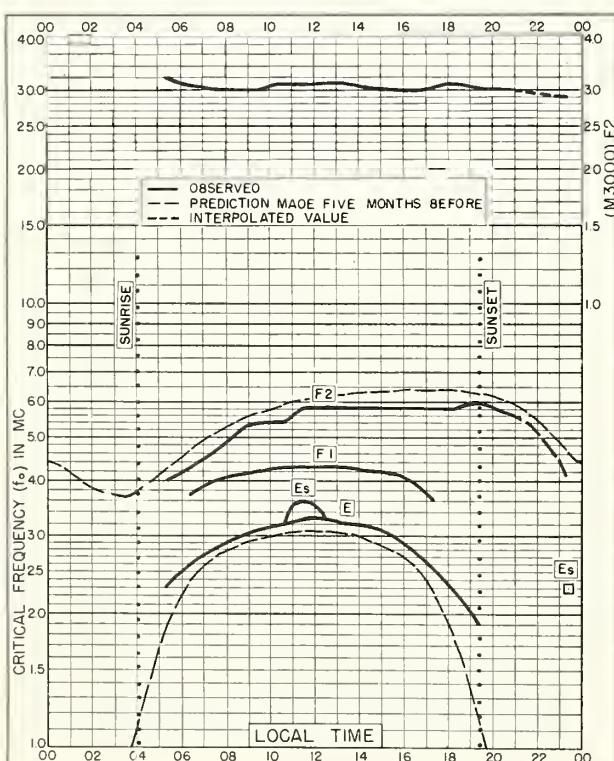
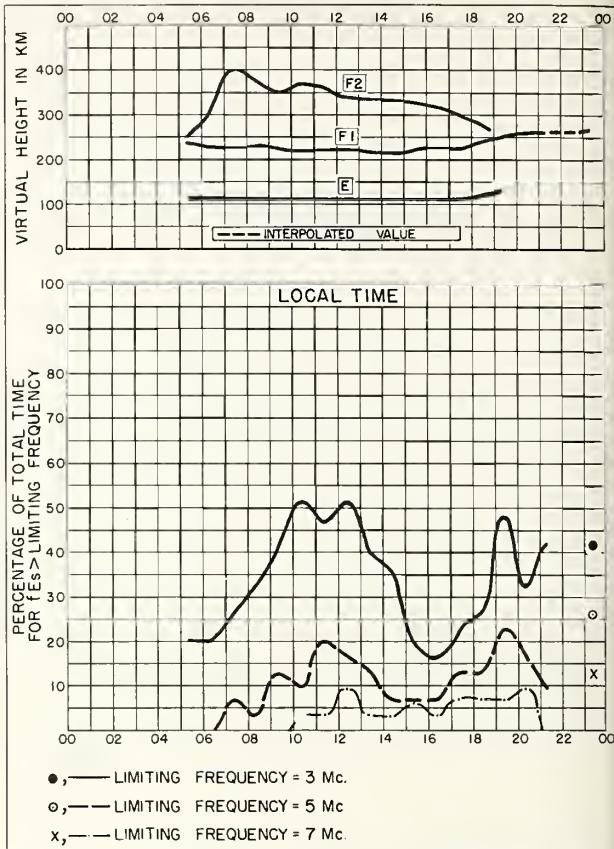
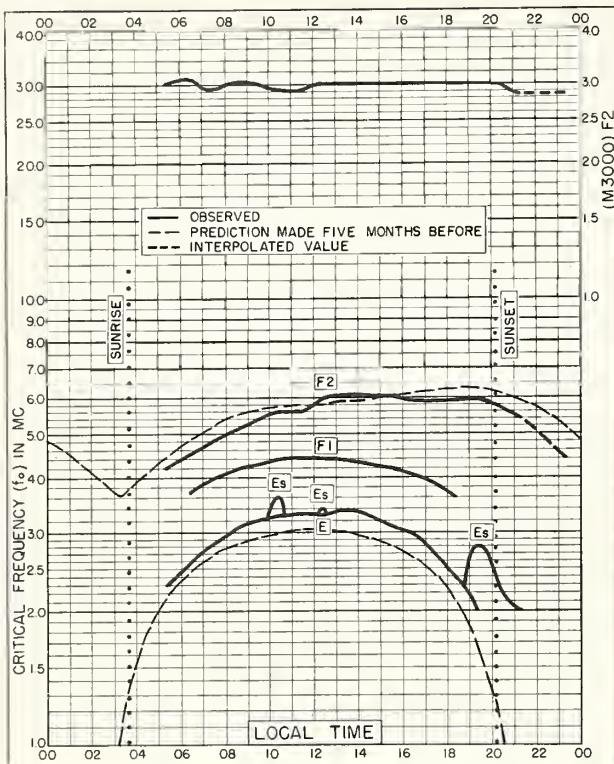


Fig. I35. CAMPBELL I. FEBRUARY 1957





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| | <u>Table page</u> | <u>Figure page</u> |
|----------------------------------|-------------------|--------------------|
| Akita, Japan | | |
| October 1958 | 5 | 26 |
| September 1958 | 9 | 37 |
| Bogota, Colombia | | |
| February 1958. | 10 | 42 |
| Bunia, Belgian Congo | | |
| October 1958 | 6 | 28 |
| Byrd Station | | |
| February 1958. | 11 | 43 |
| January 1958 | 11 | 45 |
| Campbell I. | | |
| October 1958 | 7 | 32 |
| September 1958 | 10 | 41 |
| February 1957. | 12 | 46 |
| April 1953 | 12 | 47 |
| January 1953 | 12 | 47 |
| December 1952. | 12 | 48 |
| November 1952. | 12 | 48 |
| Cape Hallett | | |
| October 1958 | 7 | 32 |
| Capetown, Union of S. Africa | | |
| October 1958 | 7 | 31 |
| September 1958 | 10 | 40 |
| Chimbote, Peru | | |
| January 1959 | 2 | 18 |
| Churchill, Canada | | |
| September 1958 | 8 | 35 |
| De Bilt, Holland | | |
| October 1958 | 4 | 24 |
| September 1958 | 8 | 35 |
| Elisabethville, Belgian Congo | | |
| October 1958 | 6 | 29 |
| Fairbanks, Alaska | | |
| February 1959. | 1 | 14 |
| Formosa, China | | |
| September 1958 | 9 | 38 |
| Ft. Monmouth, New Jersey | | |
| February 1959. | 1 | 14 |
| January 1959 | 2 | 17 |
| Freiburg, Germany | | |
| September 1957 | 12 | 46 |
| Grand Bahama I. | | |
| January 1959 | 2 | 17 |
| Inverness, Scotland | | |
| October 1958 | 4 | 23 |
| Johannesburg, Union of S. Africa | | |
| October 1958 | 7 | 31 |
| September 1958 | 10 | 40 |

Index (CRPL-F180 (Part A), continued)

| | <u>Table page</u> | <u>Figure page</u> |
|-----------------------------|-------------------|--------------------|
| Kiruna, Sweden | | |
| October 1958 | 3 | 20 |
| La Paz, Bolivia | | |
| October 1958 | 6 | 29 |
| Leopoldville, Belgian Congo | | |
| October 1958 | 6 | 28 |
| September 1958 | 9 | 39 |
| Little America | | |
| February 1958. | 10 | 42 |
| January 1958 | 11 | 44 |
| Lulea, Sweden | | |
| October 1958 | 3 | 21 |
| Lycksele, Sweden | | |
| October 1958 | 3 | 21 |
| September 1958 | 7 | 33 |
| Monte Capellino, Italy | | |
| October 1958 | 5 | 26 |
| Nurmijarvi, Finland | | |
| October 1958 | 4 | 22 |
| Okinawa I. | | |
| February 1959. | 1 | 15 |
| Oslo, Norway | | |
| October 1958 | 4 | 22 |
| September 1958 | 8 | 34 |
| Ottawa, Canada | | |
| October 1958 | 5 | 25 |
| Point Barrow, Alaska | | |
| February 1959. | 1 | 13 |
| January 1959 | 2 | 16 |
| Pole Station | | |
| February 1958. | 11 | 43 |
| January 1958 | 11 | 45 |
| Rarotonga, I. | | |
| October 1958 | 6 | 30 |
| September 1958 | 9 | 39 |
| Resolute Bay, Canada | | |
| October 1958 | 3 | 19 |
| Rome, Italy | | |
| September 1958 | 8 | 36 |
| St. John's, Newfoundland | | |
| January 1959 | 2 | 16 |
| Scott Base | | |
| September 1958 | 10 | 41 |
| Slough, England | | |
| October 1958 | 4 | 24 |

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| | <u>Table page</u> | <u>Figure page</u> |
|--------------------------|-------------------|--------------------|
| Sodankyla, Finland | | |
| October 1958 | 3 | 20 |
| September 1958 | 7 | 33 |
| Talara, Peru | | |
| February 1959. | 1 | 15 |
| January 1959 | 2 | 18 |
| Thule, Greenland | | |
| February 1959. | 1 | 13 |
| Tokyo, Japan | | |
| October 1958 | 5 | 27 |
| September 1958 | 9 | 37 |
| Townsville, Australia | | |
| October 1958 | 6 | 30 |
| Tromso, Norway | | |
| October 1958 | 3 | 19 |
| Upsala, Sweden | | |
| October 1958 | 4 | 23 |
| September 1958 | 8 | 34 |
| Wakkanai, Japan | | |
| October 1958 | 5 | 25 |
| September 1958 | 8 | 36 |
| Wilkes Station | | |
| January 1958 | 11 | 44 |
| Yamagawa, Japan | | |
| October 1958 | 5 | 27 |
| September 1958 | 9 | 38 |

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