IONOSPHERIC DATA

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TERMINOLOGY AND SCALING PRACTICES

The symbols and terminology used in this report are those adopted by the International Radio Propagation Conference, and given in detail on pages 24 to 26 of the report IRPL-C61, "Report of International Radio Propagation Conference," and in the section on "Terminology" in report IRPL-F5.

Beginning with IRPL-F14 the symbol L, defined as follows, is used in detailed tabulations of hourly values of ionosphere characteristics observed at Washington:

> L or 1 = critical frequency, muf, or muf factor for F1 layer omitted because no definite and abrupt change in slope of the h'f curve occurs either for the first reflection or for any of the multiples.

In the past, ionospheric conditions were summarized on a monthly basis by using average or mean values for each hour of the day for each month. However, following the recommendations of the International Radio Propagation Conference, held in Washington 17 April to 5 May, 1944, beginning with data for 1 Jan. 1945, median values were used by IRPL wherever possible. Thus, median values are given for Washington, for all stations reporting directly to the CRPL, for the Canadian stations, and for all others sending to the CRPL detailed tabulations from which medians can be computed.

Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The monthly median values used here are the values equaled or exceeded on half the days of the month at the given hour. 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 in the report referred to above, IRPL-C61.

a. For all ionospheric characteristics:
   Values missing because of A, B, C or F (see terminology referred to above) are omitted from the median count.

b. For critical frequencies and virtual heights:
   Values missing because of E are counted as equal to or less than the lower limit of the recorder.
   Values missing because of D are counted as equal to or greater than the upper limit of the recorder.
   Values missing because of G are counted:
   1. For f^oF2, as equal to or less than f^oF1.
   2. For h'F2, as equal to or greater than the median.

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

c. For muf factors (M-factors):

Values missing because of G 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 no Es reflections appeared, the equipment functioning normally otherwise, are counted as equal to or less than the median f^oE, or equal to or less than the lower frequency count of the recorder.

Values of fEs missing for any other reason, and values of hEs 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 only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered as doubtful.

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

It is expected that this practice will be of assistance in evaluating the monthly median Washington data.

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.

"Extent of E" is defined as follows: the highest value of f^oE. This is usually Es, but may include cases of normal E which were difficult to distinguish from Es, owing to the absence of a definite cusp.

MONTHLY AVERAGE AND MEDIAN VALUES OF WORLD-WIDE IONOSPHERIC DATA

The ionospheric data given here in Tables 1 to 84 and Figs. 1 to 120 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL predictions of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data:

Australian Council for Scientific and Industrial Research, Radio Research Board:
- Brisbane, Australia
- Canberra, Australia
- Cape York, Australia
- Hobart, Tasmania
- Townsville, Australia

British Department of Scientific and Industrial Research, Radio Research Board:
- Burghead, Scotland
- Colombo, Ceylon
- Falkland Is.
- Oslo, Norway
- Slough, England
- Tromso, Norway

Canadian Radio Wave Propagation Committee:
- Churchill, Canada
- Clyde, Baffin I.
- Ottawa, Canada
- Portage la Prairie, Manitoba
- Prince Rupert, Canada
- St. John's, Newfoundland

New Zealand Radio Research Committee:
- Campbell I.
- Christchurch (Canterbury University College Observatory)
- Kermadec Is.
- Pitcairn I.
- Rarotonga I.

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

Scientific Research Institute of Terrestrial Magnetism, Moscow, U.S.S.R.:
- Alma Ata, U.S.S.R.
- Bay Tiksey, U.S.S.R.
- Bukhta Tikhaya, U.S.S.R.
- Chita, U.S.S.R.
- Leningrad, U.S.S.R.
- Moscow, U.S.S.R.
- Sverdlovsk, U.S.S.R.
- Tomsk, U.S.S.R.

Carnegie Institution of Washington (Department of Terrestrial Magnetism):
- Huancayo, Peru
- Watheroo, W. Australia

United States Army Signal Corps:
- Leyte, Philippine Is.
- Okinawa I.
- Shibata, Japan
- Tokyo, Japan

National Bureau of Standards (Central Radio Propagation Laboratory):
- Adak, Alaska
- Baton Rouge, Louisiana (Louisiana State University)
- Boston, Massachusetts (Harvard University)
- Fairbanks, Alaska (University of Alaska, College, Alaska)
- Guam I.
- Maui, Hawaii
- Palmyra I.
- San Francisco, California (Stanford University)
- San Juan, Puerto Rico (University of Puerto Rico)
- Trinidad, British West Indies
- Washington, D. C.
- White Sands, New Mexico
- Wuchang, China (National Wuhan University)

All India Radio (Government of India), New Delhi, India:
- Bombay, India
- Delhi, India
- Madras, India
- Peshawar, India

Radio Wave Research Laboratories, Central Broadcasting Administration:
- Chungking, China
- Peiping, China

French Ministry of Naval Armaments (Section for Scientific Research):
- Fribourg, Germany

Beginning with CRPL-F26, publication of tables of so-called "provisional data," reported to the CRPL by telephone or telegraph was discontinued. The reason for this change in policy is that users of the data hitherto published in this form receive it through established channels sooner than it reaches them in the F-series. Furthermore, having two sets of data, "provisional" and "final," for the same station for the same month leads to confusion.

It must be emphasized that there is no change in the methods used for rapid reporting and exchange of data. The change has to do only with the printing of provisional data in the F-series. Comments on this decision are invited.

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of these errors are due to:

a. Differences in scaling records where spread echoes are present

b. Omission of values where f^oF2 is less than or equal to f^oF1, leading to erroneously high values of monthly averages or median values.

c. Omission of values where critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

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. Predictions for individual stations used to construct the charts may be more accurate than the values read from the chart since some smoothing of the contours is necessary to allow for the longitude effect within a zone.

Discrepancies between predicted and observed values are often ascribable to these effects.

IONOSPHERIC DATA FOR EVERY DAY AND HOUR AT WASHINGTON, D. C.

The data given in Tables 85 to 96 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Terminology and Scaling Practices."

IONOSPHERE DISTURBANCES

Table 97 presents ionosphere character figures for Washington, D.C., during January 1947, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with American magnetic K-figures, which are usually covariant with them.

Table 98 lists for the stations whose locations are given the sudden ionosphere disturbances observed on the continuous field intensity recordings made at the Sterling Radio Propagation Laboratory during January 1947.

Table 99 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Brentwood and Somerton, England receiving stations of Cable and Wireless Ltd. during December 1946 and January 1947.

Table 100 gives provisional radio propagation quality figures for North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, December 1946, compared with the CRPL daily radio disturbance warnings, which are primarily for the North Atlantic paths, the CRPL weekly radio propagation forecasts of probable disturbed periods, and the half-day American geomagnetic K-figures.

The radio propagation quality figures for the North Atlantic are prepared from radio traffic and ionospheric data reported to the CRPL, in the manner described in detail in report IRPL-R31, "North Atlantic Radio Propagation Disturbances, October 1943 through October 1945," issued 1 Feb. 1946.

The radio propagation quality figures for the North Pacific are prepared from radio traffic and ionospheric data reported to the CRPL, in a manner similar to that of IRPL-R31. The master scale of IRPL-R31 was used to formulate conversion scales for the North Pacific reports. Currently, beginning with CRPL-F23, issued July 1946, the North Pacific radio propagation quality figures reported are prepared from these revised conversion scales rather than, as hitherto, from the conversion scales of report IRPL-R13, "Ionospheric and Radio Propagation Disturbances, October 1943 through February 1945," issued 24 May 1945.

These radio propagation quality figures give a consensus of opinion of actual radio propagation conditions as reported by the half-day over the two general areas. It should be borne in mind, however, that though the quality may be disturbed according to the CRPL scale, the cause of the disturbance is not necessarily known. There are many variables that must be considered. In addition to ionospheric storminess itself as the cause, conditions may be reported as disturbed because of seasonal characteristics, such as are particularly evident in the pronounced day and night contrast over North Pacific paths during the winter months, or because of improper frequency usage for the path and time of day in question.

Insofar as possible, frequency usage is included in rating the reports, Where the actual frequency usage is not shown in the report to the CRPL, it has been assumed that the report is made on the use of optimum working frequencies for the path and time of day in question. Since there is a possibility that all of the disturbance shown by the quality figures is not due to ionospheric storminess alone, care should be taken in using the quality figures in research correlations with solar, auroral, geomagnetic or other data. Nevertheless, these quality figures do reflect a consensus of opinion of actual radio propagation conditions as found on any one half-day in either of the two general areas.

AMERICAN RELATIVE SUNSPOT NUMBERS

Table 101 presents the daily median values of relative sunspot numbers as reported by American observers for January 1947. The reports have been reduced, by appropriate constants, approximately to the Zurich scale of relative sunspot numbers. The monthly relative sunspot number is the mean of the daily median values listed in the table. This method was devised by Mr. A. H. Shapley while a member of the staff of the Department of Terrestrial Magnetism, Carnegie Institution of Washington. Details will be found in his article, "American Observations of Relative Sunspot Numbers in 1945 for Application to Ionospheric Prediction," Popular Astronomy, Vol. 54, No. 7, pp. 351-358, August 1946. The criteria for A observers have been modified slightly, beginning with September 1946. In order for an observer's report to be included in the American sunspot numbers, the mean deviation of the reduction factors for his observations for the four preceding months must have been within 15% of the 4-month running mean of his reduction factors, rather than within an interval of ±0.16 of that running mean. This avoids favoring observers with small reduction factors and discriminating against observers with large reduction factors. In addition sunspot numbers must have been reported for at least one-half of the month during three-quarters of the preceding year. This will tend to restrict the observers to those whose observations are consistent from month to month without rejecting the work of observers for whom weather conditions are unsatisfactory for observations during some months of the year.

SOLAR CORONAL INTENSITIES OBSERVED AT CLIMAX, COLORADO

The intensities of the green (λ 5303A), first red (λ 6374A), and second red (λ 6704A) lines of the solar corona as observed by the High Altitude Observatory of Harvard University and the University of Colorado at Climax, Colorado, are tabulated for every 5° from astronomical north for each day on which observations were possible. An arbitrary intensity-scale of approximately 0 to 40 is used. To convert from astronomical north and to determine

the positions relative to the solar rotational equator subtract the algebraic value of the position-angle of the solar axis. This quantity varies from +26 to -26 degrees during the year, and is tabulated in the nautical almanacs. If observations are uncertain, the initials l.w. (low weight) will follow the date. The time of observation in hours GCT is listed. Dashes indicate that the intensity for that position is below the observable threshold. Absence of observation made at a given position is indicated by X.

ERRATA

1. CRPL-F27, tables 10, 16; figures 19, 20, 31, 32; and CRPL-F29, tables 10, 17; figures 19, 20, 32, 33: Data for Maui, Hawaii, for August through November 1946 were recorded on local time (156.5°W) instead of 150°W.

2. CRPL-F26, table 18 and figure 34: Data for Peiping, China, July 1946, were recorded on 120°E meridian time instead of 105°E.

TABLES OF IONOSPHERIC DATA

Table 1

Washington, D. C. (39.0°N, 77.5°W) January 1947

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	270	4.5						2.9
01	270	4.6						2.8
02	270	4.3						2.9
03	250	4.2					2.2	2.9
04	250	4.0					1.0	2.9
05	250	4.0					2.3	2.9
06	250	3.6						3.0
07	240	4.2					2.8	3.0
08	220	7.6			110	2.1	2.7	3.2
09	230	9.9			110	2.7		3.2
10	230	11.3			110	(3.0)		3.2
11	240	12.2	(230)		110	(3.4)		3.1
12	240	12.0	(220)		110	3.6		3.0
13	240	11.8	(225)		110	(3.5)		2.9
14	230	11.8			110	(3.3)		2.9
15	240	11.8			110	2.9	2.3	2.9
16	230	11.4			110	2.4	2.5	2.9
17	230	11.0			110	1.7	2.0	2.9
18	220	(10.0)					2.1	(3.0)
19	220	(8.7)						3.1
20	220	(6.6)						(3.0)
21	240	5.7					2.2	3.0
22	250	5.0						2.9
23	260	5.0					2.1	2.9

Time: 75.0°W.
Sweep: 0.75 Mc to 11.5 Mc, automatic; supplemented when necessary by manual operation from 8.0 Mc to 17.0 Mc.

Table 2

Clyde, Baffin I. (70.5°N, 68.6°W) December 1946

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	310	4.6						
01	345	4.0						
02	350	4.0						
03	340	3.6						
04	330	3.2						
05	340	3.2						
06	340	4.2						
07	325	4.2						
08	330	3.8						
09	300	4.9						
10	300	5.2						
11	290	5.6						
12	290	5.7						
13	290	6.0						
14	300	5.8						
15	300	5.8						
16	300	5.5						
17	310	5.3						
18	300	5.2						
19	300	5.0						
20	300	4.9						
21	300	4.8						
22	300	4.8						
23	320	4.6						

Time: 75.0°W.
Sweep: 2.0 Mc to 16.0 Mc in 1 minute.

Table 3

Fairbanks, Alaska (64.9°N, 147.8°W) December 1946

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	320	3.0					4.3	2.6
01	315	2.9					4.6	2.7
02	340	2.9					4.5	2.6
03	340	3.4					4.0	2.6
04	350	3.6					4.0	2.6
05	335	3.3					3.8	2.6
06	318	3.5					3.0	2.7
07	294	3.5					3.0	2.7
08	272	3.7				1.3	2.9	2.8
09	250	5.3				1.6	2.8	2.9
10	240	7.2				1.8	2.9	3.1
11	240	8.6				2.0	2.9	3.1
12	240	10.0				2.0	2.9	3.0
13	235	10.7				1.8	2.9	3.0
14	228	10.6				1.5	2.8	3.0
15	230	9.6				1.3	2.9	3.0
16	225	8.2					2.9	3.0
17	230	6.4					2.9	3.0
18	240	4.8					2.9	3.0
19	250	3.3					2.8	3.0
20	290	2.4					2.9	2.8
21	300	2.8					3.2	2.9
22	290	2.8					3.2	3.0
23	290	3.2					4.0	2.9

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.

Table 4

Prince Rupert, Canada (54.3°N, 130.3°W) December 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	2.4					2.8	2.9
01	300	2.4					3.1	2.8
02	300	2.4					3.5	2.8
03	330	2.4					3.7	2.8
04	320	2.5					3.7	2.8
05	320	2.6					3.8	2.8
06	305	2.6					3.7	2.8
07	300	2.5					3.8	2.9
08	270	3.4					3.5	2.9
09	240	6.3				1.7	4.0	3.1
10	230	8.9			120	2.2	4.1	3.2
11	230	10.6			120	2.5	4.0	3.1
12	230	11.7			120	2.6	4.0	3.1
13	230	12.1			120	2.6	4.1	3.0
14	230	12.0			120	2.5	4.0	3.0
15	230	11.9			120	2.3	4.1	3.1
16	230	11.2				1.9	3.8	3.1
17	220	9.8					4.1	3.1
18	220	7.9					4.3	3.1
19	220	6.2					3.6	3.1
20	230	4.4					3.1	3.2
21	240	2.8					3.1	3.1
22	270	2.6					2.8	3.0
23	275	2.5					2.8	2.9

Time: 120.0°W.
Sweep: Manual operation.

Table 5

Adak, Alaska (51.9°N, 176.6°W) December 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	2.7					2.2	2.8
01	300	2.6						2.8
02	310	2.6						2.7
03*								
04*								
05	(290)	(2.8)					(2.2)	(2.8)
06	250	2.8					2.2	3.0
07	240	(3.8)					1.5	(2.8)
08	215	7.1			115	(2.0)	2.3	3.3
09	215	9.7			120	(2.5)		3.4
10	220	11.2			115	2.7		3.4
11*								
12	215	12.0			110	2.8	3.0	3.4
13	220	11.6			120	2.8	2.8	3.3
14	220	10.9			120	2.5	2.7	3.3
15	215	9.6			120	2.1	2.4	3.4
16	205	8.2					2.4	3.5
17*								
18	208	4.2						3.5
19	225	3.0						3.4
20	240	2.3						3.4
21	280	2.2						3.0
22	285	2.4						2.9
23	300	2.5						2.8

Time: 180.0°W.
Sweep: Manual operation.
*No observations made at this hour.

Table 6

Portage la Prairie, Manitoba (49.9°N, 98.3°W) December 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	3.4						2.7
01	260	3.4						2.7
02	260	3.5					1.8	2.7
03	260	3.4					1.6	2.7
04	260	3.5					1.8	2.8
05	260	3.4					1.6	2.7
06	250	3.2						2.8
07	255	3.4						2.8
08	250	4.6						2.9
09	220	7.2	210	2.2	110	2.0		3.2
10	225	9.1	210	2.6	110	2.4		3.2
11	230	10.6	200	3.0	110	2.7		3.1
12	230	11.4	210	3.2	110	2.9		3.1
13	230	12.0	210	3.0	110	2.8		3.1
14	220	12.1			110	2.6		3.0
15	230	12.0			110	2.4		3.1
16	220	11.3	200	2.1	120	1.9		3.1
17	210	10.4						3.0
18	200	8.9						3.1
19	210	7.4						3.1
20	215	6.0						3.1
21	230	4.6						3.0
22	250	3.9						2.9
23	255	3.5						2.8

Time: 90.0°W.
Sweep: 1.2 Mc to 16.0 Mc in approximately 2 minutes.

Table 7

Ottawa, Canada (45.5°N, 75.8°W) December 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	5.0						2.9
01	300	4.4						2.8
02	290	4.6						2.8
03	290	4.6						2.9
04	280	4.4						2.9
05	275	4.4						3.0
06	265	3.6						3.0
07	250	4.4						3.0
08	230	6.7						3.1
09	220	10.0			120	2.7		3.2
10	220	11.7			120	3.1		3.1
11	220	12.7			110	3.3		3.0
12	220	12.7			110	3.4		3.0
13	220	13.0			120	3.4		3.0
14	220	12.6			115	3.2		3.0
15	220	12.1			115	2.9		3.0
16	220	11.6			120	2.4		3.0
17	220	10.6						3.0
18	220	9.0						3.0
19	225	8.0						3.0
20	240	6.8						3.0
21	240	6.4						3.0
22	260	6.0						2.9
23	280	5.4						2.9

Time: 75.0°W.
Sweep: 1.93 Mc to 13.5 Mc. Manual operation.

Table 8

Boston, Massachusetts (42.4°N, 71.2°W) December 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	4.9						2.6
01	300	4.8						2.6
02	295	4.9						2.6
03	285	4.7					1.4	2.6
04	275	4.5					1.6	2.7
05	275	4.1					1.7	2.7
06	270	4.1						2.8
07	255	5.4			130	2.2		2.9
08	250	9.5			130	2.7		3.0
09	250	10.6			140	3.1		3.0
10	250	11.8			140	3.4		3.0
11	250	12.2			138	3.2		3.0
12	250	12.5			148	3.3		2.9
13	255	12.5			145	2.8		2.9
14	255	12.2						2.9
15	250	11.9						2.9
16	250	11.5						2.8
17	250	10.1						2.8
18	255	9.0						2.8
19	265	7.9						2.8
20	265	6.4						2.8
21	275	5.5						2.8
22	300	5.3						2.7
23	300	5.0						2.7

Time: 75.0°W.
Sweep: 0.85 Mc to 13.75 Mc in 1 minute.

Table 9

San Francisco, California (37.4°N, 122.2°W) December 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	320	3.0					2.4	2.8
01	300	3.1					2.3	2.8
02	300	3.0						2.9
03	300	3.0					2.0	2.8
04	300	3.2						2.9
05	290	3.1						2.9
06	280	3.0						2.9
07	260	5.2						3.0
08	230	8.3			120	2.4		3.4
09	220	10.0			120	2.9		3.4
10	220	10.5			110	3.3		3.3
11	220	10.7	220	4.6	110	3.5		3.2
12	230	11.5	210	5.4	110	3.5		3.1
13	230	11.5	225	6.5	110	3.5		3.1
14	230	11.4			110	3.4		3.1
15	230	10.5			110	3.1		3.2
16	220	10.2			110	2.6		3.2
17	220	9.4					2.4	3.1
18	220	7.6					3.0	3.1
19	220	5.8					2.4	3.2
20	240	3.9					2.8	3.2
21	245	3.0					2.4	3.2
22	280	2.8					3.1	3.1
23	320	2.8					2.8	2.8

Time: 120.0°W.
Sweep: 1.5 Mc to 18.5 Mc in 4.5 minutes.

Table 10

Baton Rouge, Louisiana (30.5°N, 91.2°W) December 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	320	3.3						3.0
01	305	3.4						3.0
02	310	3.5						3.0
03	300	3.6						3.0
04	300	3.6						3.1
05	300	3.6						3.1
06	285	3.8						3.1
07	260	5.7	250	(3.5)	(130)	(2.1)		3.2
08	255	8.5	240	(4.0)	130	2.4		3.2
09	250	9.4	240	(4.4)	120	2.9		3.2
10	260	9.7	240	4.7	120	3.2		3.2
11	260	10.4	230	4.9	120	3.4		3.3
12	260	(10.5)	240	5.0	120	3.6		(3.2)
13	270	(10.5)	240	(4.9)	120	3.5		(3.3)
14	270	10.1	240	(4.8)	120	3.4		3.2
15	260	9.6	240	(4.3)	120	3.2		3.2
16	260	9.2	240	(4.0)	120	2.8		3.2
17	255	8.5	240	(3.6)	130	(2.2)		3.1
18	250	6.5						3.1
19	250	5.7						3.1
20	250	5.2						3.1
21	250	4.4						3.1
22	270	3.7						3.0
23	290	3.5						3.0

Time: 90.0°W.
Sweep: 2.0 Mc to 15.0 Mc in 3.5 minutes.

Table 11

Trinidad, Brit. West Indies (10.6°N, 61.2°W) December 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	240	6.7						3.2
01	230	5.2						3.2
02	230	4.4						3.0
03	270	3.5						3.0
04	300	3.5					2.2	2.7
05	280	4.0					2.4	2.8
06	260	5.8					2.4	3.0
07	250	9.5			120	2.3	2.8	3.2
08	250	12.0	240		120	3.0	3.6	3.2
09	250	13.0	230	4.8	120	3.4	4.0	3.2
10	260	12.6	220	5.2	120	3.7	4.2	3.0
11	280	12.2	220	5.4	120	3.8	4.4	3.0
12	280	11.6	220	5.5	115	3.9	4.4	2.8
13	320	12.1	220	5.8	110	3.8	4.4	2.8
14	290	11.6	220	5.4	120	3.8	4.4	2.8
15	300	11.4	230	5.7	120	3.6	4.2	2.7
16	280	11.4	240	4.8	110	3.2	4.0	2.7
17	260	11.4	250		120	2.7	3.6	2.8
18	250	11.0					3.2	3.0
19	240	9.4					2.8	3.0
20	250	8.0					2.6	2.9
21	270	8.6					2.3	2.9
22	250	8.2					1.9	3.1
23	250	8.2						3.1

Time: 60.0°W.
Sweep: 1.2 Mc to 15.5 Mc. Manual operation.

Table 12

Clyde, Baffin I. (70.5°N, 68.6°W) November 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	4.8						
01	290	4.7						
02	300	4.7						
03	300	3.8						
04	310	3.8						
05	310	3.8						
06	300	3.9						
07	300	4.6						
08	290	5.0						
09	280	5.2						
10	260	6.5						
11	265	5.7						
12	260	6.0						
13	255	6.8						
14	250	6.4						
15	260	5.8						
16	270	5.4						
17	270	5.4						
18	270	5.8						
19	290	5.6						
20	275	5.1						
21	280	4.9						
22	280	4.9						
23	290	4.9						

Time: 75.0°W.
Sweep: 2.0 Mc to 16.0 Mc in 1 minute.

Table 13

Churchill, Canada (58.8°N, 94.2°W) November 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	290	4.2					4.9	2.8
01	270	4.0					4.0	2.8
02	290	4.1					3.5	2.8
03	290	3.8					3.5	2.6
04	300	3.7					3.1	2.8
05	310	4.3					3.2	2.7
06	340	3.9					3.4	2.9
07	310	4.2					3.5	2.8
08	280	5.6					3.0	3.0
09	270	7.4					2.8	3.1
10	260	9.0	250	2.8	130	2.6		3.0
11	260	10.1	240	3.2	120	2.8		3.0
12	250	11.0		3.4	125	2.8		3.0
13	250	11.8			130	2.6		3.0
14	250	12.2		2.7	130	2.6		3.0
15	240	11.6				2.4	2.5	3.0
16	240	11.2				2.5	2.6	3.0
17	250	8.8					2.6	3.0
18	260	5.6					2.8	2.9
19	290	5.0					2.5	2.8
20	290	5.0						2.8
21	280	5.4					2.6	2.8
22	290	4.4					3.7	
23	285	4.2					4.8	2.8

Time: 90.0°W.
Sweep: 2.0 Mc to 16.0 Mc in 1 minute.

Table 14

Burghead, Scotland (57.7°N, 3.5°W) November 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		5.4						
01		5.4						
02		5.6						
03		5.9						
04		5.8						
05		5.3						
06		4.8						
07		4.8						
08		6.6						
09		7.8						
10		7.9						
11		8.0						
12		8.0						
13		8.0						
14		8.1						
15		8.1						
16		8.0						
17		7.9						
18		7.4						
19		6.2						
20		5.1						
21		4.8						
22		4.6						
23		4.6						

Time: Local.
Sweep: 1.0 Mc to 13.0 Mc. Manual operation.

Table 15

Prince Rupert, Canada (54.3°N, 130.3°W) November 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	290	2.5						2.8
01	310	2.4					2.4	2.8
02	330	2.3					3.2	2.7
03	360	2.2					3.2	2.7
04	370	2.1					3.2	2.7
05	340	2.2					3.2	2.7
06	345	2.3					2.4	2.7
07	335	2.6					3.2	2.8
08	270	5.0				1.6	3.4	2.9
09	250	7.3			120	2.0	4.0	3.0
10	250	9.4	245		120	2.4	3.6	3.0
11	240	11.0	240		120	2.7		3.0
12	240	12.1	240	4.0	120	2.8	4.0	3.0
13	250	12.4	265		120	2.8		2.9
14	245	12.2			130	2.6	3.4	3.0
15	245	12.2			125	2.4		2.9
16	230	11.4			125	2.1		2.9
17	230	10.6				1.7		3.0
18	230	8.9						3.0
19	230	7.2						3.0
20	240	5.4						3.2
21	250	3.5						3.1
22	270	2.9						3.0
23	290	2.7						3.0

Time: 120.0°W.
Sweep: Manual operation.

Table 16

Portage la Prairie, Manitoba (49.9°N, 98.3°W) November 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	260	3.6						
01	260	3.6						
02	260	3.6					1.8	
03	275	3.2					2.3	
04	280	3.2					1.7	
05	280	3.1					1.2	
06	265	3.3						
07	250	3.4						
08	240	6.1	215	2.1	110	1.9		
09	240	8.6	200	2.7	110	2.4		
10	240	9.6	210	3.7	110	2.7		
11	240	10.9	210	4.0	110	2.9		
12	250	12.1	210	4.1	100	3.0		
13	240	12.4	210	4.0	110	3.0		
14	240	12.8	220	3.8	110	2.8		
15	235	12.4	215	3.0	110	2.6		
16	230	11.6			110	2.2		
17	220	10.8						
18	210	9.6						
19	210	8.1						
20	220	6.6						
21	230	5.4						
22	250	4.4						
23	250	3.6						

Time: 90.0°W.
Sweep: 1.2 Mc to 16.0 Mc in approximately two minutes.

Table 17

St. John's, Newfoundland (47.6°N, 52.7°W) November 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	240	4.6						3.0
01	240	4.8						2.9
02	240	4.4						3.0
03	240	4.7						3.0
04	230	4.6						3.1
05	220	4.0						3.2
06	220	3.8					1.6	3.1
07	210	4.8					1.8	3.2
08	200	8.2					2.5	3.6
09	195	10.5			80	2.5	3.5	3.6
10	200	11.2			85	2.8	2.9	3.5
11	200	(11.6)			85	3.0	2.7	(3.5)
12	195	(12.0)			80	3.1		(3.5)
13	190	(11.8)			80	3.0		(3.6)
14	200	(11.8)			90	2.9	3.6	(3.5)
15	200	(11.8)			90	2.6		(3.5)
16	200	(11.6)			90	2.1	2.6	(3.5)
17	190	10.4						3.4
18	190	8.3						3.3
19	200	7.3					2.1	3.3
20	210	6.5					2.4	3.2
21	225	5.4						3.1
22	230	5.1						3.1
23	240	4.8						3.0

Time: 52.5°W.
Sweep: Manual operation.

Table 18

Shibata, Japan (37.9°N, 139.3°E) November 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		3.9						3.1
01		3.8					2.0	3.0
02		4.2					1.8	3.0
03		4.2					1.8	3.1
04		4.0						3.1
05		3.7						3.1
06		4.6						3.2
07		9.0				2.1		3.6
08		10.7				2.9		3.7
09		12.0				3.2	3.2	3.6
10		12.8				3.5	3.4	3.6
11		12.7				3.6	3.5	3.4
12		12.4				3.5	3.6	3.3
13		12.4				3.4	3.0	3.3
14		12.3				3.3	3.1	3.4
15		11.4				3.0	3.2	3.3
16		10.2				2.4	2.2	3.4
17		8.5				1.5	1.8	3.4
18		7.2					2.0	3.4
19		6.1					2.0	3.4
20		5.0						3.3
21		4.3					1.8	3.1
22		4.0					1.8	3.2
23		4.0					1.6	3.0

Time: 135.0°E.
Sweep: 0.9 Mc to 15.0 Mc.
*Data for November first through twentieth.

Table 19

Tokyo, Japan (35.6°N, 139.6°E) November 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	295	4.0						2.8
01	290	4.0						2.8
02	275	4.2						2.9
03	250	4.2						3.0
04	250	3.8						3.1
05	275	3.8						2.8
06	250	4.6						3.0
07	205	8.9			130	2.2	2.3	3.5
08	200	11.1	200		110	2.8	3.1	3.6
09	200	11.4	200	4.2	100	3.2	4.0	3.4
10	210	12.6	200	4.7	100	3.5	3.9	3.4
11	205	12.2	190	4.6	100	3.7	3.7	3.3
12	210	12.7	200	4.8	100	3.7	3.6	3.3
13	215	12.7	200	4.7	100	3.5	3.0	3.2
14	210	12.4	200	4.5	100	3.4	3.0	3.2
15	210	11.5	210	4.6	100	3.0	2.8	3.3
16	200	10.4	200		110	2.4	3.1	3.4
17	200	9.0					2.6	3.4
18	200	7.6					2.0	3.3
19	205	6.5					2.2	3.3
20	220	5.2						3.1
21	230	4.6						3.1
22	250	4.3						3.0
23	280	4.1						2.8

Time: 135.0°E.
Sweep: Upper limit, 15.0 Mc; lower limit, 1.3 Mc beginning on 20th.
Manual operation.

Table 20

Johannesburg, Union of S. Africa (26.2°S, 28.0°E) November 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	270	7.4					2.2	2.9
01	255	7.0					2.2	3.0
02	250	6.2					2.4	2.9
03	270	5.6					2.0	2.9
04	260	5.2					2.2	2.9
05	250	5.4						3.0
06	230	7.4			100	2.4	2.8	3.1
07	240	8.8	220		100	3.0		3.0
08	250	9.8	210		100	3.5		2.9
09	280	10.6	210	5.5	100	(3.7)		2.8
10	305	11.2	200	5.8	100			2.8
11	320	11.6	(215)	5.8	100	(3.9)		2.8
12	330	12.0	(220)	5.8	100			2.8
13	340	12.1	210	5.9	100	(3.8)		2.7
14	330	12.0	210	5.8	100	(3.8)		2.7
15	310	12.0	210	5.6	100	3.7		2.8
16	300	11.6	220		100	3.5	3.6	2.8
17	270	11.3	225		100	2.9	3.6	2.9
18	250	11.2			100	2.1	3.0	2.9
19	240	(10.7)					2.5	2.9
20	240	9.9					2.3	2.9
21	240	9.0						2.9
22	250	8.4					2.1	2.9
23	270	7.8					2.2	2.9

Time: 30.0°E.
Sweep: 2.0 Mc to 15.0 Mc in 8 seconds.

Table 21*

Kermadec Is. (29.3°S, 177.9°W) November 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05								
06	285	9.8			150	2.6		2.7
07	285	10.2	275	4.4	140	3.0		2.8
08	315	10.5	275	5.1	130	3.5		2.6
09	325	11.4	250	5.3	135	3.7		2.8
10	350		275	5.6	130	3.8		2.8
11	355		255	5.8	125	3.8		
12	380		270	6.0	125	4.0		
13	375		285	6.0	130	4.0		2.6
14	365		290	5.7	130	3.8		2.5
15	350	11.5	280	5.6	130	3.6		2.6
16	375	11.2	285	5.0	135	3.4		2.5
17	325	10.9	300	4.7	150	2.9		2.5
18	310	10.8						2.6
19	310	10.4						2.5
20								
21								
22								
23								

Time: 180.0°.
Sweep: 1.8 Mc to 12.0 Mc. Manual operation.
*Observations taken 0600 through 1900 only.

Table 22*

Campbell I. (52.5°S, 169.2°E) November 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05		5.9						2.7
06								
07		7.2						2.7
08		7.8						2.7
09		8.0						2.7
10		8.2						2.7
11		8.3						2.7
12		8.4						2.6
13		8.4						2.6
14		8.4						2.6
15		8.6						2.6
16		8.6						2.7
17		8.4						2.6
18		8.7						2.6
19		8.9						2.7
20								
21		8.7						2.5
22								
23		8.1						2.5

Time: 165.0°E.
Sweep: 1.0 Mc to 15.0 Mc. Manual operation.
*Observations taken on a 16-hour working schedule.

Table 23

Clyde, Baffin I. (70.5°N, 68.6°W) October 1946

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	300	4.6						
01	300	4.0						
02	300	3.8						
03	300	3.2						
04	300	3.2						
05	300	3.6						
06	295	4.4						
07	265	5.2						
08	260	5.7						
09	270	5.9						
10	295	6.0						
11	270	5.8						
12	280	5.8						
13	260	6.3						
14	250	6.2						
15	255	6.0						
16	250	6.0						
17	250	5.8						
18	270	5.9						
19	265	5.8						
20	270	5.4						
21	265	5.4						
22	260	5.3						
23	300	4.9						

Time: 75.0°W.
Sweep: 2.0 Mc to 16.0 Mc in 1 minute.

Table 24*

Slough, England (51.5°N, 0.6°W) October 1946

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	310	4.5			113		2.6	2.5
01	315	4.4			117		2.6	2.6
02	314	4.1			114		2.6	2.6
03	307	3.9			116		2.6	2.6
04	286	3.7			115		2.6	2.7
05	276	3.1			115		2.6	2.8
06	274	4.0			119	1.3	2.6	2.8
07	252	6.4	248	3.6	125	1.9	2.6	3.1
08	248	8.2	240	3.9	119	2.5		3.1
09	255	9.3	233	4.3	115	2.8	3.1	3.1
10	257	10.4	231	4.5	115	3.0	3.3	3.0
11	256	10.6	227	4.5	113	3.1	3.1	3.0
12	253	10.8	224	4.5	111	3.2		3.0
13	251	10.5	231	4.4	111	3.2		2.9
14	250	10.6	237	4.3	109	3.0		3.0
15	247	10.6	239	3.9	109	2.7	4.6	3.0
16	244	10.7			109	2.3	3.6	3.1
17	238	9.8			112	1.8	3.8	3.1
18	234	8.8			108		3.7	3.0
19	236	7.6			108		3.5	3.0
20	239	6.1			111		2.6	2.9
21	268	5.0			112		2.6	2.7
22	292	4.9			112		2.6	2.6
23	304	4.6			113		2.6	2.6

Time: Local.
Sweep: 0.5 Mc to 16.0 Mc in four minutes.
*Average values except f°F2 and fES which are median values.

Table 25

Peiping, China (39.9°N, 116.4°E) October 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		8.0						3.0
01		7.4						3.1
02		7.4						3.1
03		7.0						3.2
04		7.3						3.0
05		7.6						3.0
06		8.5						3.1
07		9.4						3.3
08		10.3						3.0
09		10.4						3.0
10		10.9						3.0
11		11.4						3.1
12		11.0						3.0
13		11.8						3.4
14		11.8						3.3
15		11.8						3.3
16		11.5						3.3
17		11.4						3.4
18		11.0						2.8
19		10.3						3.2
20		9.8						3.2
21		8.5						3.1
22		9.0						2.9
23		8.5						2.9

Time: 120.0°E.

Table 26

Tokyo, Japan (35.6°N, 139.6°E) October 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	275	5.3					2.6	2.8
01	280	5.2					2.3	2.8
02	280	5.1					2.2	2.9
03	260	4.9					2.1	3.0
04	260	4.6					2.2	3.0
05	270	4.3						2.9
06	230	6.6					2.4	3.2
07	200	9.7	195		105	2.4	3.0	3.5
08	210	11.3	200		100	2.8	3.6	3.5
09	210	11.8	190	4.7	100	3.2	4.2	3.
10	210	12.7	190	4.6	100	3.4	4.3	3.3
11	220	13.0	190	5.0	100	3.6	4.3	3.2
12	220	12.7	190	5.0	100	3.7	4.3	3.1
13	235	12.6	200	4.8	100	3.7	4.3	3.1
14	230	12.6	200	4.7	100	3.4	4.3	3.2
15	230	12.1	210		100	3.2	4.2	3.2
16	210	11.2	210	3.7	100	2.7	4.2	3.3
17	210	10.0				(2.1)	3.6	3.3
18	210	8.6					3.4	3.2
19	230	7.4					3.5	3.1
20	230	6.7					3.2	3.0
21	240	6.2					2.8	3.0
22	250	5.7					2.4	2.9
23	270	5.4					2.8	2.9

Time: 135.0°E.
Sweep: 2.0 Mc to 15.0 Mc. Manual operation.

Table 27

Okinawa I. (26.3°N, 127.8°E) October 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		9.0					3.1	2.9
01		8.0					3.1	2.8
02		7.2					3.2	2.9
03		6.6					3.0	3.1
04		5.2					3.0	3.1
05		3.8					2.8	2.9
06		4.2					2.8	2.7
07		8.5				2.1	3.0	3.1
08		10.8				2.8	4.6	3.2
09		11.7				3.2	5.0	3.1
10		12.8				3.5	5.3	3.0
11		13.8				3.6	5.0	2.9
12		15.2				3.8	5.1	2.8
13		16.3				3.7	5.0	2.9
14		16.3				3.6	5.1	2.9
15		15.6				3.4	5.0	2.9
16		15.2				3.1	5.0	2.9
17		15.0				2.6	4.9	3.0
18		14.4					4.8	3.0
19		13.5					4.9	2.9
20		13.0					3.4	2.8
21		12.2					3.2	2.8
22		11.0					4.1	2.9
23		9.0					4.0	2.8

Time: 135.0°E.
Sweep: Manual operation.

Table 28

Leyte, Philippine Is. (11.0°N, 125.0°E) October 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		10.9					3.5	3.0
01		9.9						3.1
02		8.3						3.2
03		7.1						3.1
04		6.0					2.8	3.1
05		5.3					3.0	3.1
06		4.5					3.5	3.1
07		8.4				2.2	3.5	3.0
08		11.3				3.0	4.9	2.9
09		12.7					5.4	2.6
10		12.9					8.0	2.4
11		11.9					8.4	2.4
12		11.8					7.5	2.3
13		11.8					7.2	2.3
14		12.8					5.6	2.3
15		13.6					6.2	2.3
16		14.2					7.0	2.3
17		14.4					5.0	2.3
18		13.6					4.7	2.3
19		12.0					2.8	2.1
20		11.2						2.2
21		11.1					2.4	2.4
22		11.4					3.0	2.6
23		11.0					3.4	2.8

Time: 135.0°E.
Sweep: Manual operation. Lower limit of frequency, 1.6 Mc.

Table 29

Rarotonga I. (21.3°S, 159.8°W) October 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		11.5						3.1
01		10.9						3.1
02		8.8						3.0
03		8.1						2.9
04		7.6						2.8
05		7.9						2.9
06		9.0						3.0
07		11.5						3.3
08		12.2						3.2
09		12.6						3.0
10		13.2						2.9
11		13.8						2.9
12		13.8						2.9
13		13.8						3.0
14		13.4						2.9
15		13.3						2.9
16		13.3						3.0
17		13.3						3.0
18		13.2						3.0
19		12.9						2.8
20		13.1						2.7
21		12.4						2.7
22		12.0						2.8
23		11.8						3.0

Time: 157.5°W.
Sweep: 2.0 Mc to 16.0 Mc. Manual operation.

Table 30

Johannesburg, Union of S. Africa (26.2°S, 28.0°E) October 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	250	6.2						2.9
01	250	5.9						2.9
02	250	5.4						3.0
03	260	5.0						2.9
04	260	4.6						2.9
05	260	4.5						2.9
06	230	7.0				2.2	2.1	3.3
07	230	8.7	220	4.0	100	2.8	3.3	3.2
08	240	10.0	210	4.4	100	3.3	3.3	3.1
09	260	10.5	200	4.6	100	3.6	3.6	3.0
10	260	11.2	200	5.1	100	3.7	3.8	2.9
11	280	11.9	200	(5.2)	100	3.8		2.8
12	290	12.2	200	5.4	100	3.9		2.8
13	300	12.3	200	(5.5)	100	3.8	4.0	2.8
14	300	12.4	210	5.4	100	3.7	3.9	2.8
15	290	12.3	220	5.3	100	3.6	3.9	2.8
16	260	12.0	220		110	3.3	3.9	2.8
17	250	11.8	240		100	2.7	3.6	2.9
18	240	11.4					2.6	3.0
19	230	10.7					2.4	3.0
20	230	9.9						3.0
21	240	8.8						3.0
22	250	7.7						3.0
23	250	6.7						3.0

Time: 30.0°E.
Sweep: 2.0 Mc to 15.0 Mc in 8 seconds.

Table 31*

Kermadec Is. (29.3°S, 177.9°W) October 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00								
01								
02								
03								
04								
05								
06	285	7.9			150	2.4		2.9
07	295	10.0	275	4.4	150	2.8		2.9
08	300	10.4	275	4.4	140	3.2		2.9
09	305	11.1	270	4.8	130	3.5		2.8
10	310	11.2	270	5.0	130	3.6		2.7
11	325	11.5	250	5.0	130	3.6		2.7
12	320	11.5	270	5.0	130	3.6		2.7
13	325	11.2	270	5.0	125	3.6		2.7
14	325	11.0	275	4.9	130	3.6		2.7
15	325	10.6	275	4.6	130	3.4		2.7
16	320	10.4	285	4.5	140	3.0		2.7
17	300	10.4			150	2.5		2.7
18	300	9.8						2.7
19	300	9.4						2.6
20								
21								
22								
23								

Time: 180.0°E
Sweep: 1.8 Mc to 12.0 Mc. Manual operation.
*Observations taken 0600 through 1900 only.

Table 32*

Campbell Is. (52.5°S, 169.2°E) October 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00								
01								
02								
03								
04								
05		5.3						2.8
06								
07		6.4						2.9
08		7.3						2.9
09		7.6						2.8
10		8.0						2.8
11		8.4						2.7
12		8.4						2.7
13		8.6						2.8
14		8.4						2.7
15		8.6						2.8
16		8.5						2.8
17		8.7						2.7
18		8.4						2.7
19		8.2						2.6
20								
21		7.7						
22								
23		6.4						2.5

Time: 165.0°E.
Sweep: 1.0 Mc to 15.0 Mc. Manual operation.
*Observations taken on a 16-hour working schedule.

Table 33

Clyde, Baffin I. (70.5°N, 68.6°W) September 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	4.6						
01	290	4.3						
02	300	3.8						
03	300	3.6						
04	300	3.5						
05	295	4.2						
06	305	4.6						
07	340	5.0						
08	325	5.2						
09	410	5.0						
10	(400)	(5.1)						
11	380	5.4						
12	370	5.1						
13	350	5.2						
14	325	5.4						
15	330	5.4						
16	300	5.2						
17	290	5.3						
18	260	5.2						
19	280	5.2						
20	290	5.0						
21	300	4.7						
22	280	5.2						
23	295	4.8						

Time: 75.0°W.
Sweep: 2.0 Mc to 16.0 Mc in 1 minute.

Table 34

Peiping, China (39.9°N, 116.4°E) September 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		7.5						2.9
01		7.2						2.9
02		6.8						2.8
03		6.6						2.8
04		7.0						2.8
05		7.3						2.8
06		7.4						3.0
07		9.2						3.0
08		9.7						2.9
09		9.7						2.9
10		10.0						2.9
11		10.0						2.9
12		10.2						2.9
13		10.1						2.9
14		10.4						2.9
15		10.5						2.9
16		10.0						2.9
17		9.8						3.0
18		10.0						2.9
19		9.2						2.8
20		9.5						2.8
21		8.0						2.9
22		8.0						2.9
23		7.6						2.9

Time: 120.0°E.

Table 35

Chungking, China (29.4°N, 106.8°E) September 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	255	8.8					2.1	2.8
01	240	7.8						2.9
02	220	7.4						3.1
03	220	6.2						3.0
04	240	5.2						2.8
05	245	4.8						2.9
06	220	7.0						3.2
07	220	8.8			110		3.6	3.3
08	220	9.0			100		4.2	3.1
09	240	9.2	200	5.0	100		4.8	3.1
10	275	10.4	200	5.1			4.6	2.9
11	280	12.0	220	5.4			5.2	2.9
12	280	14.5	240	5.6			5.0	2.9
13	280	14.6	220	6.0			5.2	2.9
14	280	15.0	215	5.1	100		4.0	2.9
15	280	15.5	230	5.1	100	3.6	3.8	3.0
16	260	15.0	235		100	3.3	3.6	3.0
17	230	15.0	210				3.4	3.1
18	220	13.0					3.7	3.2
19	210	11.9					3.0	3.1
20	220	10.4					2.8	3.0
21	240	9.6					3.2	3.0
22	240	9.8					3.3	2.9
23	250	9.2					2.2	2.9

Time: 105.0°E.
Sweep: 2.1 Mc to 16.1 Mc in 15 minutes.

Table 36

Cape York, Australia (11.0°S, 142.4°E) September 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	228	9.0					2.1	3.0
01	220	7.5					2.2	3.2
02	210	5.6					2.1	2.8
03	260	5.0					2.1	2.7
04	265	4.8					2.1	2.9
05	268	4.4					2.3	2.9
06	280	4.6					2.4	2.9
07	250	8.0				2.3	3.0	3.1
08	250	11.0	230			2.9	3.3	(3.3)
09	260	12.0	232	(5.0)		3.2	3.8	
10	275	12.0	210	5.3		3.7	4.5	(3.0)
11	282	12.5	200	5.5		3.8	4.2	(2.8)
12	300	12.0	200	5.5		3.8	4.3	(2.8)
13	300	12.8	200	5.5		3.8	4.4	
14	300	12.5	200	5.5		3.8	4.5	
15	322	12.5	200	6.0		3.6	4.0	
16	300	12.5	225	5.5		3.4	4.4	
17	275	11.9	220			3.0	3.5	
18	250	11.5				2.2	3.0	
19	260	12.0					3.0	(2.9)
20	260	11.0					2.8	(2.8)
21	240	10.0					2.8	(3.1)
22	245	9.2					2.5	(3.0)
23	250	9.5					2.4	(2.8)

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

Table 37

Townsville, Australia (19.4°S, 146.5°E) September 1946

Time	h'F2	f°F2*	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	240	7.4						3.0
01	235	6.2						3.0
02	240	5.8						2.8
03	255	4.8					1.8	2.7
04	265	4.6					2.2	2.7
05	300	4.2					2.0	2.6
06	285	4.9			150	1.6	2.2	2.9
07	250	8.4	260		100	2.5	2.9	3.3
08	250	10.0	240	4.7		3.0	3.0	3.3
09	265	10.0	230	5.0	100	3.5	3.1	3.2
10	265	10.0	220	5.2	100	3.7	3.0	3.2
11	270	10.0	210	5.4	100	3.8	3.4	3.1
12	280	10.0	200	5.3	100	3.8	3.0	3.0
13	300	10.0	200	5.4	100	3.8	3.0	2.9
14	280	10.0	200	5.1	100	3.7	3.0	3.0
15	280	10.0	215	5.0	100	3.5	2.8	3.0
16	250	9.5	220	4.0	100	3.2	2.9	3.0
17	250	9.0	240		100	2.7	2.9	3.0
18	250	8.7				1.8	2.6	2.9
19	250	8.1					2.5	3.0
20	250	8.0					2.1	2.9
21	250	7.9					2.3	2.8
22	250	7.5					2.0	2.9
23	250	7.8					2.1	2.9

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five seconds.

*Values uncertain at 7^h to 20^h incl., and 22^h.

Table 38

Hobart, Tasmania (42.8°S, 147.4°E) September 1946

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	250	4.8					2.7	2.8
01	260	4.6					2.7	2.7
02	260	4.0					2.8	2.7
03	265	3.8					2.8	2.8
04	260	2.9					2.7	2.8
05	260	2.6					2.6	2.8
06	265	3.2			115	1.6	2.1	2.9
07	245	5.4			120	2.2	2.5	3.2
08	250	6.4	230	(3.7)	110	2.8		3.2
09	250	7.2	230	(4.0)	110	3.1		3.2
10	280	7.6	225	4.4	110	3.3		3.2
11	295	8.4	220	4.5	110	3.5		3.2
12	275	9.2	210	4.5	105	3.5		3.2
13	290	9.1	220	4.5	100	3.4		3.1
14	270	8.8	212	4.5	105	3.4		3.1
15	250	8.5	218	4.3	110	3.2	2.6	3.1
16	250	8.2	230	4.0	110	2.9	2.7	3.1
17	240	8.0	240		110	2.4	2.7	3.2
18	240	7.5			120	1.7	2.0	3.0
19	235	7.0						2.9
20	240	6.4						2.9
21	250	6.0						2.8
22	250	5.6						2.8
23	250	5.4						2.8

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

Table 39

Burghead, Scotland (57.7°N, 3.5°W) August 1946

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00		6.6						
01		6.3						
02		6.0						
03		5.6						
04		5.6						
05		5.6						
06		6.2						
07		6.7						
08		7.1						
09		7.3						
10		7.4						
11		7.7						
12		7.5						
13		7.5						
14		7.5						
15		7.5						
16		7.5						
17		7.6						
18		7.8						
19		7.9						
20		7.8						
21		7.8						
22		7.4						
23		6.8						

Time: 0.0°.
Sweep: 1.0 Mc to 13.0 Mc. Manual operation.

Table 40

Peshawar, India (34.0°N, 71.5°E) August 1946

Time	*	f°F2	h'F1	F°F1	h'E	f°E**	fEs	F2-M3000***
00								
01								
02								
03								
04								
05								
06								
07	300	7.9				3.7		
08	300	8.7				3.8		3.0
09	360	9.1				4.0		
10	390	10.1				4.0		
11	390	10.6				4.1		
12	390	11.0				4.0		2.6
13	390	11.6				4.0		
14	390	11.6				(3.9)		
15	390	11.4				3.8		
16	360	11.0				3.8		2.7
17	360	10.6				3.9		
18	360	10.2				4.0		
19	360	9.5				3.8		
20	360	8.6				(3.7)		2.7
21	390	7.8				(3.5)		
22	360	7.4				(3.6)		
23								

Time: Local.
Sweep: Manual operation.
*Height at 0.83 f°F2.
**Both normal and abnormal values of E.
***Average values; other columns, median values.

Table 41

Wuchang, China (30.6°N, 114.4°E) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	7.9					3.4	3.0
01	285	7.9					2.7	2.8
02	270	7.7						3.0
03	240	6.8					3.0	3.1
04	255	6.5						3.0
05	250	6.2						3.1
06	250	7.6			120			3.3
07	230	8.5			125		3.7	3.4
08	245	8.2	220	5.0	115	3.0	4.2	3.2
09	285	8.6	220	5.4	110	3.6	5.0	3.0
10	280	9.0	220	5.4	110	(3.5)	5.2	3.0
11	330	9.6	210	6.0	110	(3.9)	4.8	2.8
12	340	12.0	200	5.8	112	(3.9)		2.9
13	340	12.0	210	5.9	110	(4.1)		3.0
14	330	11.9	225	5.6	120			3.0
15	320	12.0	230	5.6	110	(3.7)		3.0
16	290	11.5	235	5.2	120	(3.7)		3.1
17	275	(11.0)	230	5.1	120	(3.4)		(3.1)
18	270	(10.5)	250	4.7	122	(3.0)	4.2	(3.1)
19	250	(9.0)	230		110		4.1	(3.1)
20	260	(8.4)			100		3.7	(3.0)
21	275	8.1					3.2	3.0
22	270	8.5					3.0	3.0
23	270	8.2					3.5	3.0

Time: 120.0°E.
Sweep: 1.2 Mc to 19.2 Mc. Manual operation.

Table 42

Delhi, India (28.6°N, 77.1°E) August 1946

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	** F2-M3000
00	390	8.0						2.6
01	(390)	(7.6)						
02	390	7.3						
03	(360)	(6.6)						
04	360	6.4						2.8
05	360	6.2						
06	360	6.8						
07	330	8.2						
08	360	8.7						2.9
09	390	9.5						
10	420	10.0						
11	420	11.2						
12	420	12.0						2.5
13	420	(12.6)						
14	390	(12.5)						
15	(390)	(12.5)						
16	(390)	(12.2)						2.7
17	375	(12.0)						
18	(360)	11.4						
19	(390)	10.4						
20	390	9.7						2.6
21	390	8.9						
22	390	8.5						
23	390	8.2						

Time: Local.
Sweep: Manual operation.
*Height at 0.83 f°F2.
**Average values; other columns, median values.

Table 43

Bombay, India (19.0°N, 73.0°E) August 1946

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	** F2-M3000
00								2.6
01								
02								
03								
04								2.8
05								
06		(6.4)						
07	330	8.3						
08	375	9.5						2.7
09	450	10.3						
10	510	11.3						
11	510	11.9						
12	(510)	(12.2)						
13	(480)	(12.5)						
14	480	(13.0)						
15	480	13.6						
16	435	14.0						2.5
17	420	13.8						
18	420	14.0						
19	420	12.8						
20	420	11.8						2.5
21	420	11.2						
22	420	9.7						
23	(420)	(7.8)						

Time: Local.
Sweep: Manual operation.
*Height at 0.83 f°F2.
** Average values; other columns, median values.

Table 44

Madras, India (13.0°N, 80.2°E) August 1946

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05								
06	(420)	6.0						
07	390	8.3						
08	480	9.5						
09	540	10.0						
10	570	10.0						
11	600	10.4						
12	600	10.0						
13	600	10.4						
14	600	10.7						
15	600	11.0						
16	540	11.3						
17	540	11.5						
18	540	11.4						
19	510	10.8						
20	495	10.6						
21	480	10.5						
22	480	9.8						
23								

Time: Local.
Sweep: Manual operation.
*Height at 0.83 f°F2.

Table 45*

Canberra, Australia (35.3°S, 149.0°E) October 1943

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	294	3.3						
01	280	3.3						
02	266	3.2						
03	265	2.9						
04	286	2.7						
05	278	2.8						
06	256	3.9						
07	318	4.5	244	3.6	114	2.3		
08	338	4.9	230	3.9	109	2.7		
09	345	5.2	223	4.0	108	2.9		
10	325	5.7	210	4.1	107	3.0		
11	337	5.8	209	4.2	106	3.1		
12	350	5.8	208	4.3	106	3.2		
13	336	5.9	210	4.2	105	3.2		
14	315	5.9	210	4.2	106	3.1		
15	318	5.6	225	4.0	106	3.0		
16	302	5.5	234	3.8	109	2.7		
17	275	5.5	245	3.4	114	2.2		
18	250	5.7						
19	249	5.5						
20	253	4.7						
21	270	4.0						
22	285	3.7						
23	295	3.6						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in two minutes.
*Average values.

Table 46*

Canberra, Australia (35.3°S, 149.0°E) September 1943

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	283	3.2						
01	279	3.2						
02	260	3.2						
03	248	2.9						
04	271	2.6						
05	290	2.4						
06	273	2.9						
07	253	4.2				2.1		
08	309	4.8	242	3.8	111	2.6		
09	317	5.2	228	4.0	108	2.9		
10	351	5.3	222	4.2	106	3.0		
11	339	5.6	216	4.2	106	3.2		
12	318	6.1	219	4.2	106	3.2		
13	308	6.2	224	4.2	106	3.2		
14	302	6.0	220	4.1	107	3.1		
15	294	5.7	219	3.9	109	2.9		
16	273	5.5	224	3.6	112	2.5		
17	248	5.1				2.1		
18	238	4.6						
19	252	4.2						
20	276	3.8						
21	273	3.6						
22	279	3.4						
23	281	3.2						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in two minutes.
*Average values.

Table 47*

Canberra, Australia (35.3°S, 149.0°E) August 1943

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	295	3.1						
01	290	3.0						
02	283	3.0						
03	275	3.0						
04	257	3.0						
05	268	2.5						
06	281	2.2						
07	250	3.7						
08	262	4.8			112	2.3		
09	283	5.1	225	3.8	105	2.6		
10	306	5.6	217	4.0	104	2.9		
11	312	5.9	216	4.1	102	3.0		
12	305	6.2	212	4.1	103	3.1		
13	296	5.9	214	4.1	104	3.1		
14	293	5.8	219	4.0	104	3.0		
15	274	5.7	216	3.8	105	2.7		
16	260	5.5	215	3.3	107	2.4		
17	246	5.1						
18	232	4.4						
19	260	3.6						
20	273	3.5						
21	278	3.3						
22	283	3.1						
23	291	3.1						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in two minutes.
*Average values.

Table 48*

Canberra, Australia (35.3°S, 149.0°E) July 1943

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	276	3.2						
01	279	3.2						
02	277	3.4						
03	269	3.3						
04	258	3.3						
05	240	3.0						
06	247	2.4						
07	244	3.1						
08	235	4.5				1.9		
09	255	5.0	231	3.5	114	2.3		
10	281	5.1	220	3.8	110	2.6		
11	291	5.5	211	4.0	109	2.8		
12	285	5.8	212	4.0	108	2.9		
13	279	5.8	214	4.0	107	2.9		
14	272	5.7	219	3.9	107	2.8		
15	269	5.5	219	3.6	107	2.6		
16	246	5.3				2.2		
17	230	4.7						
18	233	3.8						
19	247	3.2						
20	252	2.9						
21	264	3.0						
22	256	3.1						
23	269	3.2						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in two minutes.
*Average values.

Table 49*

Canberra, Australia (35.3S, 149.0°E) June 1943

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	280	3.2						
01	275	3.4						
02	272	3.4						
03	274	3.6						
04	262	3.7						
05	239	3.6						
06	239	2.9						
07	238	3.4						
08	230	4.9				1.9		
09	249	5.4	230	3.6	115	2.4		
10	255	5.7	217	3.9	111	2.7		
11	267	5.8	216	4.0	110	2.8		
12	272	6.0	211	4.1	108	2.9		
13	271	6.0	211	4.0	109	2.8		
14	265	6.2	215	3.9	109	2.7		
15	255	6.2	221	3.6	109	2.5		
16	236	5.7				2.1		
17	226	5.0						
18	235	3.9						
19	250	3.5						
20	252	3.3						
21	259	3.2						
22	264	3.3						
23	270	3.3						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in two minutes.
*Average values.

Table 50*

Canberra, Australia (35.3°S, 149.0°E) May 1943

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	290	3.3						
01	292	3.4						
02	288	3.5						
03	286	3.6						
04	270	3.6						
05	243	3.3						
06	247	2.7						
07	240	4.0						
08	242	5.3			119	2.1		
09	255	5.7	233	3.7	112	2.5		
10	269	6.0	223	4.0	110	2.8		
11	270	6.3	219	4.2	108	2.9		
12	271	6.4	214	4.1	106	3.0		
13	288	6.5	210	4.1	105	3.0		
14	275	7.0	224	4.0	107	2.9		
15	255	6.8	224	3.7	107	2.6		
16	238	6.6			110	2.2		
17	225	5.6						
18	237	4.4						
19	247	3.8						
20	252	3.4						
21	264	3.3						
22	264	3.3						
23	276	3.2						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in two minutes.
*Average values.

Table 51*

Canberra, Australia (35.3°S, 149.0°E) April 1943

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	285	3.8						
01	289	3.8						
02	279	3.8						
03	270	3.9						
04	254	3.8						
05	243	3.4						
06	253	3.0						
07	237	5.0				1.9		
08	252	6.1	235	3.7	116	2.4		
09	267	6.7	233	4.1	110	2.8		
10	268	7.1	222	4.3	110	3.0		
11	286	7.3	215	4.4	108	3.1		
12	281	7.9	214	4.4	108	3.3		
13	278	7.9	213	4.4	107	3.3		
14	275	7.9	226	4.3	106	3.2		
15	267	7.9	236	4.0	107	2.9		
16	255	7.6	241	3.7	109	2.6		
17	236	6.8				2.0		
18	233	5.9						
19	248	5.0						
20	262	4.7						
21	261	4.4						
22	263	4.0						
23	275	3.9						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in two minutes.
*Average values.

Table 52*

Canberra, Australia (35.3°S, 149.0°E) March 1943

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	293	4.3						
01	287	4.1						
02	282	4.0						
03	266	3.9						
04	265	3.7						
05	268	3.4						
06	249	3.8						
07	252	5.1			118	2.2		
08	278	5.9	233	3.9	110	2.6		
09	304	6.3	223	4.2	108	3.0		
10	308	6.6	215	4.4	105	3.2		
11	312	6.8	206	4.5	102	3.3		
12	311	7.0	209	4.5	101	3.4		
13	319	7.1	209	4.6	101	3.4		
14	307	7.3	220	4.5	101	3.3		
15	301	7.2	225	4.3	102	3.2		
16	289	7.2	242	4.1	105	2.9		
17	269	7.4	248	3.6	110	2.4		
18	246	7.2						
19	239	6.4						
20	245	5.4						
21	267	4.7						
22	287	4.4						
23	288	4.3						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 53*

Canberra, Australia (35.3°S, 149.0°E) February 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	291	4.7						
01	275	4.6						
02	264	4.2						
03	265	3.6						
04	266	3.3						
05	270	3.1						
06	255	4.1				1.8		
07	287	4.9	250	3.6	114	2.3		
08	312	5.4	233	4.0	110	2.8		
09	325	5.6	227	4.2	108	3.0		
10	351	5.9	212	4.4	106	3.2		
11	356	6.2	211	4.5	104	3.3		
12	355	6.2	211	4.5	103	3.4		
13	359	6.3	213	4.5	102	3.4		
14	345	6.4	226	4.4	103	3.4		
15	335	6.4	234	4.3	104	3.2		
16	321	6.3	234	4.1	108	3.0		
17	301	6.3	236	3.8	111	2.7		
18	274	6.2	248	3.2	117	2.1		
19	248	6.3						
20	247	5.8						
21	268	5.0						
22	291	4.7						
23	299	4.6						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 54*

Canberra, Australia (35.3°S, 149.0°E) January 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	282	5.2						
01	270	4.8						
02	259	4.3						
03	266	3.5						
04	277	3.1						
05	260	3.3						
06	254	4.3			118	2.1		
07	304	5.1	240	3.8	111	2.6		
08	321	5.6	228	4.1	108	2.9		
09	335	5.7	223	4.3	104	3.1		
10	357	5.8	213	4.4	103	3.3		
11	357	6.0	210	4.5	102	3.4		
12	371	6.1	213	4.6	102	3.4		
13	356	6.3	211	4.6	101	3.4		
14	342	6.3	211	4.5	102	3.4		
15	344	6.3	217	4.3	102	3.2		
16	328	6.4	222	4.2	104	3.0		
17	298	6.6	231	3.9	109	2.7		
18	270	6.5	245	3.5	114	2.3		
19	249	6.4						
20	248	6.0						
21	267	5.5						
22	286	5.3						
23	294	5.2						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 55*

Canberra, Australia (35.3°S, 149.0°E) December 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	288	6.0						
01	272	5.9						
02	269	5.3						
03	273	4.6						
04	279	4.1						
05	262	4.3						
06	272	4.9			116	2.2		
07	327	5.4	238	4.0	110	2.7		
08	333	5.9	225	4.3	106	3.0		
09	342	6.3	215	4.4	103	3.2		
10	349	6.4	215	4.6	101	3.3		
11	353	6.7	208	4.7	100	3.4		
12	358	6.8	217	4.7	100	3.5		
13	365	6.8	222	4.7	100	3.5		
14	359	6.8	225	4.6	100	3.4		
15	348	6.9	229	4.5	102	3.3		
16	334	7.1	236	4.2	103	3.1		
17	309	7.0			108	2.7		
18	273	7.0			116	2.3		
19	255	7.0						
20	258	6.6						
21	233	6.4						
22	290	6.2						
23	298	6.0						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 56*

Canberra, Australia (35.3°S, 149.0°E) November 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	287	5.6						
01	280	5.2						
02	272	4.5						
03	284	3.9						
04	291	3.6						
05	271	3.8						
06	266	4.6			114	2.2		
07	344	5.0	234	3.9	108	2.6		
08	374	5.4	228	4.2	104	3.0		
09	371	5.9	225	4.4	101	3.2		
10	361	6.4	217	4.5	100	3.3		
11	357	6.8	214	4.6	100	3.4		
12	338	7.0	220	4.6	100	3.4		
13	333	7.1	219	4.6	100	3.4		
14	323	7.1	217	4.5	100	3.3		
15	311	7.0	230	4.4	102	3.2		
16	306	6.7	236	4.2	104	3.0		
17	291	6.8	241	3.8	109	2.6		
18	263	6.9				2.0		
19	252	7.1						
20	256	6.6						
21	272	6.0						
22	292	5.7						
23	294	5.6						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 57*

Canberra, Australia (35.3°S, 149.0°E) October 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	292	4.0						
01	282	3.8						
02	270	3.6						
03	269	3.2						
04	288	2.9						
05	292	3.0						
06	261	4.1						
07	329	4.8	242	3.7	111	2.4		
08	375	5.2	228	4.0	107	2.8		
09	373	5.5	221	4.2	103	3.0		
10	361	5.8	213	4.3	100	3.2		
11	367	6.1	208	4.4	100	3.3		
12	358	6.3	206	4.4	100	3.4		
13	340	6.3	203	4.4	100	3.4		
14	338	6.3	215	4.3	100	3.2		
15	328	6.1	225	4.2	101	3.1		
16	302	6.0	229	3.9	105	2.8		
17	283	6.0	251	3.6	112	2.3		
18	255	6.1						
19	251	5.8						
20	266	5.3						
21	276	4.8						
22	282	4.6						
23	291	4.3						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 58*

Canberra, Australia (35.3°S, 149.0°E) September 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	285	3.6						
01	279	3.6						
02	268	3.4						
03	261	3.1						
04	271	2.7						
05	293	2.6						
06	267	3.2						
07	254	4.5						
08	296	5.2	234	3.8	112	2.5		
09	341	5.5	221	4.1	109	2.8		
10	331	5.8	213	4.2	108	3.0		
11	333	6.2	215	4.3	107	3.2		
12	314	6.6	211	4.3	105	3.3		
13	308	6.4	207	4.3	105	3.2		
14	304	6.1	208	4.2	106	3.1		
15	292	5.9	213	4.1	107	2.9		
16	273	5.6	220	3.8	109	2.6		
17	247	5.4				2.0		
18	243	5.0						
19	260	4.7						
20	271	4.4						
21	280	4.3						
22	279	4.0						
23	280	3.8						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 59*

Canberra, Australia (35.3°S, 149.0°E) August 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	274	3.2						
01	281	3.3						
02	278	3.3						
03	271	3.3						
04	261	3.2						
05	258	2.8						
06	269	2.5						
07	243	3.8						
08	260	4.8			117	2.2		
09	287	5.2	231	3.8	109	2.6		
10	304	5.3	218	4.1	107	2.9		
11	306	5.8	217	4.2	105	3.0		
12	302	6.0	216	4.2	104	3.1		
13	295	6.0	211	4.2	104	3.1		
14	293	6.1	205	4.1	105	3.0		
15	275	5.8	211	3.9	107	2.8		
16	253	5.6	219	3.5	110	2.4		
17	238	5.2						
18	232	4.4						
19	246	3.7						
20	260	3.5						
21	257	3.5						
22	267	3.2						
23	271	3.1						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 60*

Canberra, Australia (35.3°S, 149.0°E) July 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	275	3.3						
01	290	3.5						
02	282	3.5						
03	273	3.5						
04	260	3.3						
05	248	3.0						
06	260	2.5						
07	248	3.1						
08	241	4.5				1.9		
09	275	5.0			113	2.4		
10	291	5.4	220	3.9	109	2.7		
11	296	5.8	214	4.1	108	2.8		
12	293	5.9	214	4.1	107	3.0		
13	294	5.9	207	4.1	107	2.9		
14	279	5.8	212	4.0	108	2.8		
15	262	5.7	221	3.7	108	2.6		
16	245	5.5			110	2.2		
17	234	5.0						
18	238	4.0						
19	255	3.5						
20	258	3.2						
21	270	3.1						
22	268	3.1						
23	269	3.2						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 61*

Canberra, Australia (35.3°S, 149.0°E) June 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	265	3.4						
01	269	3.5						
02	276	3.7						
03	274	3.8						
04	260	3.9						
05	234	3.8						
06	241	3.0						
07	231	3.5						
08	233	5.0				2.0		
09	241	5.6			114	2.5		
10	257	5.8	226	4.0	109	2.8		
11	266	6.2	220	4.1	109	2.9		
12	274	6.0	216	4.2	108	3.0		
13	271	6.1	216	4.1	108	3.0		
14	269	6.4	223	3.9	108	2.8		
15	249	6.6			111	2.6		
16	231	5.9				2.2		
17	219	5.1						
18	228	4.0						
19	245	3.4						
20	246	3.3						
21	252	3.2						
22	254	3.2						
23	259	3.2						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 62*

Canberra, Australia (35.3°S, 149.0°E) May 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	277	3.7						
01	289	3.7						
02	289	3.8						
03	291	3.9						
04	266	4.0						
05	239	3.7						
06	250	3.0						
07	236	4.8				1.7		
08	237	6.1			116	2.3		
09	250	6.9	232	4.0	110	2.7		
10	263	7.4	223	4.2	107	3.0		
11	264	7.7	220	4.4	107	3.1		
12	262	7.7	216	4.4	106	3.2		
13	274	7.7	211	4.4	105	3.2		
14	263	8.0	222	4.3	105	3.0		
15	250	8.0	227	3.9	105	2.8		
16	235	7.6			108	2.3		
17	224	6.6						
18	230	4.9						
19	246	4.4						
20	251	4.1						
21	257	4.0						
22	260	3.8						
23	272	3.7						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 63*

Canberra, Australia (35.3°S, 149.0°E) April 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	292	4.6						
01	294	4.4						
02	291	4.4						
03	277	4.2						
04	265	4.0						
05	255	3.6						
06	262	3.3						
07	238	5.7				2.0		
08	245	7.1			109	2.6		
09	255	8.0	228	4.2	104	2.9		
10	267	8.3	217	4.5	104	3.1		
11	277	8.6	208	4.6	103	3.3		
12	272	9.1	208	4.7	101	3.4		
13	272	9.0	214	4.6	101	3.4		
14	276	9.1	225	4.6	101	3.3		
15	267	9.0	229	4.3	102	3.0		
16	253	9.1			104	2.7		
17	236	8.5			109	2.1		
18	229	7.5						
19	242	6.2						
20	262	5.8						
21	266	5.4						
22	271	5.1						
23	275	4.8						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 64*

Canberra, Australia (35.3°S, 149.0°E) March 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	295	5.1						
01	288	4.7						
02	291	4.3						
03	283	4.0						
04	282	3.8						
05	286	3.6						
06	260	4.1						
07	252	5.8			117	2.3		
08	275	6.6	238	4.0	109	2.8		
09	306	6.8	230	4.4	105	3.1		
10	309	7.3	214	4.6	104	3.2		
11	314	7.7	206	4.7	103	3.4		
12	316	8.0	207	4.8	102	3.5		
13	315	8.1	209	4.8	103	3.5		
14	296	8.0	219	4.7	102	3.5		
15	293	7.7	231	4.5	102	3.3		
16	293	7.6	240	4.2	103	3.0		
17	268	7.6			105	2.6		
18	255	7.7				2.0		
19	250	7.3						
20	256	6.6						
21	278	6.0						
22	287	5.7						
23	287	5.4						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 65*

Canberra, Australia (35.3°S, 149.0°E) February 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	282	5.6						
01	274	5.4						
02	266	4.8						
03	270	4.2						
04	275	3.6						
05	279	3.4						
06	258	4.6				1.9		
07	283	5.7	243	3.9	112	2.5		
08	312	6.4	232	4.2	109	2.9		
09	321	6.8	223	4.6	106	3.2		
10	330	7.1	212	4.7	104	3.3		
11	329	7.4	210	4.8	103	3.5		
12	326	7.6	205	4.8	102	3.6		
13	327	7.8	211	4.9	102	3.6		
14	322	7.7	215	4.8	103	3.6		
15	323	7.5	221	4.6	102	3.5		
16	303	7.3	225	4.4	104	3.2		
17	284	7.1	238	4.0	107	2.8		
18	260	6.9			115	2.3		
19	252	6.9						
20	256	6.8						
21	274	6.4						
22	283	6.0						
23	289	5.9						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 66*

Canberra, Australia (35.3°S, 149.0°E) January 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	277	6.4						
01	271	5.9						
02	268	5.3						
03	275	4.6						
04	283	4.0						
05	276	4.0						
06	264	4.8			116	2.2		
07	313	5.5	233	4.1	111	2.7		
08	354	5.9	227	4.4	107	3.1		
09	373	6.3	219	4.7	104	3.4		
10	358	6.8	218	4.8	103	3.5		
11	354	6.9	212	4.9	101	3.6		
12	377	6.9	207	5.0	101	3.6		
13	360	6.9	205	5.0	101	3.6		
14	361	7.0	213	4.9	102	3.6		
15	340	7.2	215	4.7	103	3.5		
16	325	7.2	223	4.6	104	3.3		
17	309	7.4	230	4.2	107	3.0		
18	271	7.3	237	3.6	114	2.5		
19	252	7.1						
20	239	6.8						
21	287	6.7						
22	293	6.5						
23	284	6.4						

Time: 150.0°E.
Sweep: 1.6 Mc to 12.5 Mc in 2 minutes.
*Average values.

Table 67*

Watheroo, W. Australia (30.3°S, 115.9°E) December 1941

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	255	6.0						
01	254	5.5						
02	241	5.1						
03	252	4.6						
04	268	4.2						
05	261	4.2				1.4		
06	254	4.8	232	3.5		2.2		
07	350	5.4	228	4.2		2.7		
08	387	5.8	229	4.4		3.1		
09	383	6.3	221	4.7		3.4		
10	362	6.9	218	4.7		3.5		
11	354	7.4	217	4.8		3.5		
12	356	7.8	218	4.9		3.5		
13	346	8.2	223	4.8		3.5		
14	338	8.2	225	4.8		3.4		
15	319	8.3	222	4.7		3.4		
16	314	7.8	227	4.5		3.1		
17	294	7.7	230	4.2		2.7		
18	263	7.5	233	3.5		2.1		
19	246	7.3						
20	245	7.0						
21	253	6.5						
22	280	6.0						
23	272	6.1						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 68*

Watheroo, W. Australia (30.3°S, 115.9°E) November 1941

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	272	5.4						
01	262	5.0						
02	257	4.5						
03	262	4.0						
04	273	3.7						
05	284	3.8	(305)	(2.6)		1.3		
06	267	4.9	256	3.5		2.1		
07	303	5.5	226	4.2		2.7		
08	322	6.0	218	4.4		3.1		
09	351	6.6	209	4.7		3.3		
10	336	7.4	212	4.7		3.5		
11	339	8.0	211	4.8		3.5		
12	322	8.5	213	4.8		3.4		
13	312	8.6	217	4.8		3.4		
14	309	8.5	225	4.7		3.3		
15	310	8.0	224	4.6		3.2		
16	290	7.8	222	4.3		3.0		
17	283	7.4	232	3.9		2.6		
18	255	7.3	252	3.2		1.9		
19	239	7.0						
20	245	6.4						
21	260	5.9						
22	274	5.6						
23	279	5.5						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 69*

Watheroo, W. Australia (30.3°S, 115.9°E) October 1941

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	253	4.7						
01	248	4.6						
02	241	4.3						
03	244	3.9						
04	249	3.8						
05	266	3.7						
06	246	5.1	(260)	3.2		1.7		
07	252	6.1	232	4.0		2.5		
08	297	6.6	218	4.4		2.9		
09	312	7.1	219	4.7		3.2		
10	309	7.4	208	4.8		3.3		
11	311	8.1	204	4.8		3.4		
12	305	8.6	205	4.9		3.5		
13	301	8.7	211	4.9		3.4		
14	292	8.6	214	4.7		3.3		
15	291	8.0	215	4.6		3.2		
16	276	7.8	223	4.2		2.9		
17	254	7.6	231	3.6		2.4		
18	238	7.4				1.6		
19	229	7.0						
20	226	6.2						
21	243	5.4						
22	255	5.2						
23	259	4.9						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 70*

Watheroo, W. Australia (30.3°S, 115.9°E) September 1941

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	260	3.9						
01	264	3.8						
02	256	3.8						
03	237	3.8						
04	253	3.4						
05	253	3.4						
06	255	3.8				1.4		
07	237	5.8				2.1		
08	247	6.7	227	4.1		2.8		
09	267	7.1	215	4.5		3.1		
10	270	7.5	213	4.7		3.3		
11	269	7.8	209	4.8		3.4		
12	284	8.1	209	4.8		3.4		
13	283	8.2	211	4.7		3.3		
14	274	8.0	210	4.6		3.3		
15	273	7.8	218	4.4		3.2		
16	276	7.4	219	3.9		2.8		
17	251	7.1	285	3.6		2.3		
18	231	6.6				1.5		
19	227	6.0						
20	230	5.2						
21	243	4.6						
22	247	4.2						
23	265	4.0						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 71*

Watheroo, W. Australia (30.3°S, 115.9°E) August 1941

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	255	3.4						
01	253	3.4						
02	254	3.4						
03	245	3.5						
04	234	3.5						
05	237	3.4						
06	237	3.2						
07	232	4.9				1.7		
08	233	6.1	222	3.5		2.4		
09	254	6.6	220	4.2		2.9		
10	273	7.0	220	4.5		3.1		
11	277	7.3	216	4.6		3.3		
12	275	7.4	214	4.7		3.3		
13	282	7.3	213	4.6		3.3		
14	276	7.5	212	4.5		3.2		
15	266	7.5	218	4.3		3.0		
16	246	7.0	225	3.8		2.7		
17	232	6.7				2.2		
18	218	6.0				1.2		
19	215	4.9						
20	227	3.9						
21	242	3.5						
22	246	3.3						
23	254	3.3						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 72*

Watheroo, W. Australia (30.3°S, 115.9°E) July 1941

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	251	3.2						
01	264	3.4						
02	255	3.5						
03	248	3.6						
04	232	3.5						
05	228	3.4						
06	228	3.0						
07	228	4.0				1.5		
08	226	5.5	228	2.9		2.2		
09	244	6.2	222	3.8		2.7		
10	256	6.6	214	4.3		2.9		
11	260	6.8	214	4.4		3.1		
12	279	6.9	217	4.5		3.2		
13	274	6.8	214	4.4		3.1		
14	265	7.0	215	4.8		3.1		
15	256	7.0	223	4.0		2.8		
16	241	6.8	228	3.4		2.5		
17	229	6.4				1.8		
18	218	5.0						
19	222	3.4						
20	235	3.1						
21	232	3.1						
22	244	3.2						
23	249	3.2						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 73*

Watheroo, W. Australia (30.3°S, 115.9°E) June 1941

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	249	3.5						
01	246	3.7						
02	238	3.8						
03	236	4.0						
04	232	4.0						
05	220	3.8						
06	221	3.2						
07	223	4.2				1.5		
08	222	5.7	220	2.7		2.3		
09	234	6.3	212	3.6		2.6		
10	246	7.0	219	4.1		2.9		
11	246	7.0	210	4.3		3.0		
12	263	7.0	207	4.4		3.0		
13	273	7.1	216	4.4		3.0		
14	254	7.2	211	4.1		3.0		
15	250	7.4	220	3.8		2.7		
16	232	7.0	225	3.3		2.3		
17	220	6.3				1.6		
18	208	4.8						
19	222	3.5						
20	224	3.3						
21	234	3.2						
22	237	3.5						
23	243	3.5						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 74*

Watheroo, W. Australia (30.3°S, 115.9°E) May 1941

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	257	3.5						
01	247	3.6						
02	230	3.7						
03	242	3.7						
04	229	3.8						
05	219	3.4						
06	223	3.0						
07	217	4.7				1.8		
08	225	6.0	(203)	(2.9)		2.4		
09	242	6.7	222	4.0		2.7		
10	256	7.5	219	4.2		3.0		
11	249	7.8	215	4.3		3.1		
12	255	7.5	212	4.4		3.1		
13	269	7.4	211	4.4		3.1		
14	265	8.0	218	4.2		3.0		
15	249	8.0	219	3.9		2.8		
16	233	7.6	(227)	(3.4)		2.4		
17	214	6.7				1.7		
18	204	5.0				(1.3)		
19	220	3.5						
20	232	3.1						
21	247	3.0						
22	250	3.3						
23	251	3.3						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 75*

Watheroo, W. Australia (30.3°S, 115.9°E) April 1941

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	261	3.8						
01	250	3.8						
02	249	3.8						
03	244	3.7						
04	235	3.6						
05	240	3.2						
06	245	3.2				1.2		
07	238	5.5				1.9		
08	244	6.9	230	3.8		2.5		
09	250	7.7	222	4.2		2.9		
10	258	8.2	215	4.4		3.0		
11	268	8.2	206	4.5		3.2		
12	276	8.2	208	4.5		3.2		
13	286	8.5	215	4.6		3.2		
14	279	8.9	228	4.5		3.1		
15	261	9.2	230	4.2		2.9		
16	244	8.7	230	3.7		2.6		
17	228	8.2				2.0		
18	214	6.5				1.6		
19	224	4.7						
20	246	3.9						
21	252	3.9						
22	256	3.8						
23	259	3.9						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 76*

Watheroo, W. Australia (30.3°S, 115.9°E) March 1941

Time	h'F2	f°F2	h'F1	F°F1	h'E	f°E	fEs	F2-M3000
00	266	4.4						
01	265	4.2						
02	263	4.2						
03	252	4.0						
04	256	3.6						
05	261	3.3						
06	257	3.8				1.3		
07	247	5.2	239	3.3		2.1		
08	260	6.1	232	3.9		2.6		
09	283	6.7	212	4.4		3.0		
10	290	7.3	211	4.6		3.2		
11	301	7.8	193	4.7		3.3		
12	296	8.5	202	4.8		3.3		
13	296	8.8	206	4.7		3.2		
14	288	8.8	223	4.7		3.3		
15	286	8.6	225	4.5		3.2		
16	277	8.3	231	4.3		3.0		
17	250	8.0	236	3.7		2.5		
18	241	7.6				1.8		
19	225	6.5						
20	233	5.6						
21	234	5.1						
22	265	4.8						
23	262	4.5						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 77*

Watheroo, W. Australia (30.3°S, 115.9°E) February 1941

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	277	5.0						
01	271	4.8						
02	264	4.5						
03	261	4.0						
04	269	3.6						
05	272	3.4						
06	264	4.0	250	3.0		1.7		
07	259	4.9	236	3.8		2.3		
08	296	5.4	229	4.2		2.8		
09	339	6.0	215	4.5		3.1		
10	334	6.4	214	4.6		3.3		
11	345	6.7	213	4.7		3.4		
12	341	7.1	211	4.8		3.5		
13	339	7.4	216	4.8		3.5		
14	329	7.4	219	4.7		3.4		
15	318	7.3	227	4.6		3.3		
16	308	7.0	228	4.4		3.1		
17	286	6.8	231	4.1		2.8		
18	251	6.6	242	3.4		2.2		
19	239	6.4						
20	241	6.1						
21	268	5.4						
22	276	5.2						
23	285	5.0						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 78*

Watheroo, W. Australia (30.3°S, 115.9°E) January 1941

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	267	5.6						
01	255	5.0						
02	261	4.3						
03	272	3.9						
04	271	3.7						
05	277	3.6				1.1		
06	269	4.6	257	3.2		2.0		
07	288	5.3	238	3.9		2.6		
08	329	5.9	225	4.5		3.0		
09	352	6.6	219	4.6		3.2		
10	362	7.2	216	4.8		3.5		
11	354	7.8	218	4.9		3.5		
12	352	8.1	210	4.9		3.6		
13	336	8.3	218	4.9		3.6		
14	331	8.2	228	4.8		3.6		
15	326	7.9	217	4.7		3.4		
16	315	7.5	223	4.5		3.2		
17	305	7.1	228	4.3		2.9		
18	271	6.8	239	3.6		2.3		
19	256	6.7						
20	260	6.6						
21	275	6.2						
22	283	6.0						
23	272	5.8						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 79*

Watheroo, W. Australia (30.3°S, 115.9°E) December 1940

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	275	6.2						
01	261	5.7						
02	265	5.1						
03	272	4.8						
04	266	4.5						
05	273	4.5	265	(3.0)		1.4		
06	269	5.1	248	3.6		2.2		
07	314	5.7	231	4.2		2.7		
08	360	6.2	221	4.5		3.1		
09	357	6.8	223	4.7		3.4		
10	354	7.4	213	4.9		3.6		
11	365	7.6	223	5.0		3.7		
12	381	7.7	225	4.9		3.6		
13	367	8.0	225	5.0		3.6		
14	367	7.9	229	4.9		3.6		
15	353	8.0	230	4.8		3.4		
16	337	8.0	232	4.7		3.2		
17	312	8.0	236	4.2		2.8		
18	279	8.1	245	3.6		2.2		
19	254	7.8				1.4		
20	249	7.3						
21	265	6.6						
22	280	6.3						
23	287	6.3						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 80*

Watheroo, W. Australia (30.3°S, 115.9°E) November 1940

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	279	6.5						
01	262	6.1						
02	261	5.4						
03	264	5.1						
04	269	4.6						
05	279	4.6				1.4		
06	281	5.5	259	3.6		2.2		
07	322	6.2	239	4.3		2.7		
08	349	6.9	228	4.7		3.1		
09	353	7.8	226	5.0		3.4		
10	346	8.4	216	5.0		3.5		
11	341	9.1	214	5.2		3.6		
12	340	9.3	218	5.2		3.6		
13	334	9.6	222	5.2		3.6		
14	332	9.6	226	5.1		3.4		
15	322	9.6	235	5.0		3.3		
16	307	9.4	240	4.6		3.1		
17	275	9.2	236	4.0		2.6		
18	259	9.0	250	3.2		1.9		
19	241	8.7				1.2		
20	243	7.7						
21	261	7.1						
22	275	6.6						
23	282	6.5						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 81*

Watheroo, W. Australia (30.3°S, 115.9°E) October 1940

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	264	5.4						
01	258	5.2						
02	258	4.7						
03	269	4.2						
04	27[illegible]	4.0						
05	283	4.1						
06	251	5.6	252	3.2		1.9		
07	261	6.9	235	4.1		2.6		
08	284	7.7	227	4.7		3.0		
09	303	8.2	223	4.9		3.3		
10	313	8.7	209	5.0		3.5		
11	325	9.2	212	5.2		3.6		
12	319	9.6	214	5.2		3.6		
13	316	9.7	216	5.1		3.6		
14	309	9.6	220	5.1		3.5		
15	296	9.3	223	4.9		3.3		
16	283	8.9	229	4.5		3.0		
17	256	8.7	241	3.8		2.4		
18	240	8.3				1.6		
19	237	7.6						
20	244	6.9						
21	259	6.3						
22	274	6.0						
23	272	5.8						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 82*

Watheroo, W. Australia (30.3°S, 115.9°E) September 1940

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	256	4.7						
01	259	4.5						
02	255	4.4						
03	254	4.1						
04	263	3.9						
05	269	4.0						
06	254	4.7				1.4		
07	243	7.0	238	3.6		2.4		
08	251	8.0	228	4.4		2.9		
09	269	8.6	221	4.8		3.2		
10	281	9.2	216	5.0		3.4		
11	283	9.7	211	5.1		3.5		
12	287	10.0	212	5.1		3.6		
13	283	10.0	214	5.0		3.6		
14	276	9.6	212	5.0		3.4		
15	275	9.2	218	4.8		3.3		
16	261	8.9	224	4.2		2.9		
17	244	8.5	242	3.2		2.3		
18	232	8.2				1.5		
19	226	7.3						
20	230	6.2						
21	247	5.8						
22	252	5.2						
23	259	5.0						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 83*

Watheroo, W. Australia (30.3°S, 115.9°E) August 1940

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	261	3.8						
01	255	3.8						
02	264	3.7						
03	254	3.8						
04	242	3.7						
05	247	3.4						
06	240	3.3						
07	237	5.3				2.1		
08	237	7.1	228	3.5		2.7		
09	249	7.9	220	4.3		3.0		
10	266	8.3	219	4.9		3.3		
11	274	8.6	214	5.0		3.5		
12	276	8.6	214	5.0		3.5		
13	276	8.8	219	4.9		3.5		
14	271	8.8	218	4.8		3.4		
15	257	8.6	224	4.6		3.2		
16	239	8.3	225	3.9		2.8		
17	236	8.0		2.6		2.2		
18	223	7.2				1.3		
19	221	5.8						
20	233	4.5						
21	247	4.1						
22	253	3.8						
23	255	3.8						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

Table 84*

Watheroo, W. Australia (30.3°S, 115.9°E) July 1940

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	260	3.4						
01	254	3.4						
02	253	3.4						
03	250	3.5						
04	239	3.4						
05	235	3.2						
06	236	3.0						
07	234	4.4				1.6		
08	228	6.3	205	3.0		2.3		
09	243	7.4	229	4.0		2.9		
10	255	7.7	224	4.4		3.1		
11	259	7.9	219	4.6		3.2		
12	269	7.8	215	4.7		3.3		
13	270	7.9	219	4.7		3.2		
14	268	8.2	220	4.5		3.2		
15	260	8.4	225	4.2		3.0		
16	242	7.9	228	3.6		2.6		
17	226	7.3				1.9		
18	217	6.0						
19	228	4.4						
20	237	3.5						
21	251	3.2						
22	260	3.3						
23	264	3.4						

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.
*Average values.

TABLE 85

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

h'F2 (Characteristic), km (Unit), January (Month), 1947

Observed at Washington, D. C.

Lat. 39.0° N, Long. 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(280)	(290)	(300)	250	220	220	(290)	250	230	230	230	220	230	240	230	230	220	220	240	220	(230)	(240)	(260)	(260)
2	(290)	(280)	(280)	260	240	230	(250)	250	220	220	230	230	220	230	230	240	220	210	260	230	240	(270)	250	250
3	(250)	260	(280)	(290)	270	260	240	220	220	230	230	220	220	220	230	240	230	230	220	220	240	240	250	270
4	260	260	260	250	240	230	250	240	240	240	230	230	230	250	260	240	220	220	220	210	240	240	240	(260)
5	270	280	290	250	250	250	230	260	220	220	230	240	[240]C	240	250	240	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	[250]C	[250]C	240	220	240	230	220	220K	210K	220K	240K	(250)K	(270)K
7	(300)K	320K	(280)K	270K	250K	(270)K	(260)K	(260)	220	220	220	240	(250)	220	240	230	240	220	230	220	210	(240)	(260)	(290)
8	(280)	(290)	(260)	250	240	(250)	(280)	260	230	220	220	240	240	260	250	240	220	220	210	220	[240]A	(260)	(270)	280
9	(280)	290	270	260	260	(240)	260	250	220	230	230	(230)	240	240	230	240	240	220	220	220	230	(240)	250	260
10	250	260	240	240	260	260	250	220	220	230	240	230	240	240	230	240	230	230	210	220	230	230	260	260
11	(270)	240	230	230	230	260	(250)	240	220	220	250	240	240	260	230	240	230	210	200	230	220	(240)	(260)	(280)
12	(290)	280	250	250	250	240	220	240	220	230	220	240	240	240	220	240	230	230	210	210	220	(250)	(270)	(300)
13	(280)	260	250	230	240	260	(240)	230	230	220	230	230	(240)	[230]C	270C	250	230	240	210	210	230	(250)	270	270
14	(280)	280	250	250	240	230	220	(220)	220	220	250	240	230	230	[260]C	240	230	240	220	220	210	(240)	(260)	260
15	260	280	270	240	250	250	240	(240)	220	220	230	240	(250)	300	230	230	230	230	230	220	220	240	230	260
16	(290)	310	280	280	260	240	250	260	230	230	230	230	240	270	250	[250]C	240	230	200	220	230	240	240	290
17	260	(300)	(280)	[300]A	300	[270]A	[250]C	(230)	220	230	230	(250)	230	230	220	240	230	240	220	220	220	230	(240)	250
18	(250)	260	250	250	250	(240)	250	250	220	220	250	260	260	220H	240	230	230	230	210	220	220	240	230	220
19	250	240	270	250	260	240	240	260	230	230	230	240	250	[250]C	240	230	230	230	230	230	230	240	250	230
20	260	270	270	240	240	250	240	230	220	230	230	240	(240)	230	270	250	[230]C	240	220	220	220	260	240	240
21	260	270	270	250	[240]C	240	230	240	230	230	240	230	230	250	220	240	230	220	220	230	230	230	240	270
22	250	260	250	250	250	250	260	230	220	230	230	240	240	230	220	240	230	230	220	220	(220)	240	250	240
23	250	260	260	250	240	230	230	240	220	230	230	230	230	230	230	230	230	230	220	210	220	230	250	250
24	260	250	220	270	340	330	380	260	230	230	220	230	230	230	230	240	230	240	220	210	220	240	260K	260K
25	270K	320K	360K	340K	310K	340K	300K	320K	280K	280K	[350]CK	340K	390K	340K	360K	270K	260K	250K	230K	260K	230K	210K	200K	(330)K
26	(360)K	350K	330K	340K	300K	250K	250K	250	240	220	240	230	230	240	240	240	240	220	220	230	220	230	250	260
27	270	250	270	250	240	240	240	230	230	230	240	240	230	230	[230]C	[230]C	230	240	220	210	220	230	270	270
28	250	250	230	240	260	240	240	240	220	230	220	240	240	240	230	230	230	220	220	210	210	230	220	250
29	290	300	300	280	260	230	230	250	230	230	240	220	230	230	230	230	230	230	220	200	220	240	240	250
30	270	250	250	250	250	250	250	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Median	270	270	270	250	250	250	250	240	220	230	230	240	240	240	230	240	230	230	220	220	220	240	250	260
Count	29	29	29	29	29	29	29	28	28	28	28	29	29	29	29	29	28	28	28	28	28	28	28	28

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ■

U. S. GOVERNMENT PRINTING OFFICE : 1948 O - 708818

TABLE 86

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

IONOSPHERIC DATA

f° F2 (Characteristic), Mc (Unit), January (Month), 1947

Observed at Washington, D. C.

Lat 39.0°N, Long 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	3.9	(3.9)	4.3	4.7	(4.0)^{J}	3.2	2.8^{F}	3.7	(7.6)	9.2	10.2	(12.2)	(11.3)	(11.5)	11.3	[11.0]^{C}	10.4	(9.7)	[8.1]^{C}	6.0	(5.0)	4.2	(3.7)	3.5		
2	3.5	3.3	3.5	3.8	4.0	3.4	3.3^{F}	3.8	(7.2)^{J}	(9.0)	9.7	10.7	10.7	[10.8]^{C}	12.0	12.1	11.3	C	C	C	(5.4)	4.9	4.7	4.8		
3	(4.0)^{J}	3.5	3.3	(4.0)	4.0	4.6	4.8	4.2	(7.0)	9.0	10.5	11.5	11.5	(11.5)	11.4	11.5	11.1	10.7	9.2	[7.8]^{C}	[6.5]^{C}	5.7	5.2	(5.4)		
4	5.1	(5.3)	(5.3)	(5.0)	4.6^{F}	4.0	3.5	4.2	(7.2)	10.6	11.0	10.9	(12.0)	[12.3]^{C}	(12.8)	12.4	12.0	11.9	9.9	(7.0)	(5.5)	(5.0)	4.6	(3.9)^{J}		
5	(3.7)^{J}	3.5	3.3	3.2	3.5	3.3	2.9	3.7	6.6	(8.2)	(10.4)	11.5	[11.3]^{C}	[11.3]^{C}	11.5	11.8	11.0	10.1	C	C	C	C	C	C		
6	C	C	C	C	C	C	C	C	C	C	C	[11.6]^{C}	[12.0]^{C}	11.8	12.2	12.0	C	C	(9.0)^{K}	[7.0]$^{C}_{K}$	(5.5)^{K}	(4.2)$^{J}_{K}$	(3.7)$^{J}_{K}$	3.3^{K}		
7	(2.8)$^{F}_{K}$	(2.9)$^{F}_{K}$	(2.8)$^{F}_{K}$	2.6^{K}	2.6$^{F}_{K}$	2.6$^{F}_{K}$	2.7$^{F}_{K}$	3.4^{F}	7.5	9.5	(11.4)	12.0	12.0	11.0	(11.4)	C	C	C	C	(7.8)	6.0	4.2	(4.2)^{J}	3.8		
8	(3.8)^{J}	(4.0)	(4.1)^{J}	(4.1)^{J}	3.6	3.2	3.3	4.2	8.5	9.6	10.9	11.5	11.5	(11.3)	11.7	11.6	C	C	(9.0)	[7.5]^{C}	(5.6)	(3.9)^{J}	(3.7)^{J}	3.5		
9	3.4	3.4	3.4	3.5	3.5^{F}	3.2^{F}	2.9^{F}	3.9^{F}	7.0	9.1	10.3	11.2	11.4	(10.6)	10.5	(10.4)	[9.6]^{C}	(8.7)	(7.9)	(7.0)	5.3	(3.9)^{J}	4.2	4.3		
10	(4.1)	3.8	3.5	3.2^{F}	3.4^{F}	3.3	(3.5)	(3.8)	7.6	8.7	11.3	(11.6)	11.3	10.7	10.9	(10.4)^{J}	C	C	C	(6.2)	[5.7]^{C}	4.7	4.6	4.8		
11	4.8	4.6	4.3	4.2	3.6^{F}	3.6^{F}	3.6^{F}	4.4	(7.4)^{J}	(9.4)^{J}	10.8	(12.0)	11.3	(11.2)	11.0	(10.5)^{J}	[9.8]^{C}	(8.1)	[7.8]^{C}	[6.1]^{C}	(4.9)^{J}	4.6	(3.1)	(3.8)^{J}		
12	(3.8)^{J}	4.3	4.3	4.3	4.0	4.1	3.8	4.5	(7.4)	(10.2)	10.5	11.6	11.6	11.4	(11.0)	C	C	C	[8.6]^{C}	7.0	5.2	(3.9)^{J}	(3.8)^{J}	4.3		
13	4.5	4.6	4.8	4.2	4.0	(4.1)^{J}	3.8	(4.1)^{J}	(7.5)	10.0	11.2	12.1	(11.6)^{J}	(11.0)	11.0	11.2	11.4	10.5	(8.6)	7.0	(5.5)	4.8	4.7	4.5		
14	4.4	4.6	4.9	4.8	4.9	4.5	3.5^{F}	4.0	7.2	(10.6)	(11.2)	12.0	11.5	11.0	11.6	[10.8]^{C}	10.9	10.5	(9.0)	(8.2)^{J}	6.2	5.1	(5.0)	5.0		
15	5.0	5.2	5.2	5.0	4.6^{F}	4.8^{F}	4.0	4.5	(8.3)	(11.0)	12.1	12.5	12.2	11.9	11.6	11.8	11.0	(10.5)	(10.0)	8.1	6.6	5.9	5.3	5.2		
16	4.9	5.0	5.1	5.1	4.9	4.6	3.8	4.5	7.9	11.2	12.6	(12.6)	12.1	12.3	(12.4)	12.8	(13.0)	14.5	(13.0)	11.0	8.6	7.0	5.8	6.2		
17	(4.5)	3.4^{F}	3.4	[3.9]^{A}	(3.7)	3.5^{F}	(2.4)^{F}	3.9	7.7	(10.6)	12.2	[13.1]^{C}	12.8	12.8	12.9	12.6	(11.8)	11.5	(10.8)^{J}	[9.1]^{C}	7.1	(6.4)	5.7	5.0		
18	5.0	5.0	5.0	4.9	4.8^{F}	4.2^{F}	3.9	4.5^{F}	8.2	9.9	12.4	(12.8)	(12.7)	12.2^{H}	12.2	12.1	11.7	(11.8)	10.4	8.7	(7.4)^{J}	6.7	6.0	5.0		
19	4.7^{F}	4.5^{F}	(4.5)^{F}	4.9	4.9	4.8	4.3^{F}	5.1^{F}	9.2	11.0	(12.4)^{J}	(12.4)	(12.0)	(12.1)	[11.9]^{C}	(11.5)	11.4	10.9	(9.4)	9.0	7.5	6.6	6.0	5.0		
20	(4.2)	5.0	5.2	5.2	5.1	4.9	5.1	4.8	(9.2)^{J}	(11.8)^{J}	13.0	13.5	(12.8)	12.0	11.9	12.0	12.1	12.0	11.0	9.5	C	C	C	C		
21	C	C	C	C	C	C	C	C	(9.0)	(9.9)	(11.9)^{J}	12.2	12.1	11.8	11.6	(11.4)	11.2	10.8	9.9	(8.8)	7.2	(6.6)	(5.6)	5.1		
22	(4.7)	4.6	4.9	4.7	4.5	4.3	4.2	5.1	8.3	10.2	(11.6)	12.5	12.6	11.8	11.5	(12.3)	12.3	11.8	11.0	(9.2)	7.5	6.0	6.0	5.4		
23	5.2	4.9	4.9	5.0	4.8	4.2	3.9	5.0	7.7	(10.2)	(11.7)	(12.7)	(11.9)	(11.8)	(11.8)	(11.8)	(11.4)	(11.4)	(10.6)^{J}	8.7	(7.6)^{J}	(6.4)^{J}	(6.0)^{J}	5.3		
24	(5.3)	5.2	4.1	2.8	2.7^{F}	2.8^{F}	2.7^{F}	4.6^{F}	7.6	9.8	12.2	(13.4)	(13.4)	(13.6)	(12.9)	[12.3]^{C}	(12.1)	(11.8)	[10.4]^{C}	(8.7)^{J}	(6.6)	5.9	(6.0)$^{J}_{K}$	(6.0)^{K}		
25	(5.8)$^{J}_{K}$	4.7^{K}	[4.0]$^{C}_{K}$	(4.0)^{K}	3.8^{K}	4.0^{K}	(3.9)^{K}	(4.0)$^{F}_{K}$	(5.5)^{K}	[6.2]$^{C}_{K}$	(6.6)^{K}	7.3^{K}	7.5^{K}	7.9^{K}	8.5^{K}	(9.6)$^{J}_{K}$	(10.3)$^{J}_{K}$	(10.7)$^{J}_{K}$	(10.2)$^{J}_{K}$	(9.8)$^{J}_{K}$	(8.7)$^{J}_{K}$	7.6^{K}	(5.4)^{K}	(2.2)$^{F}_{K}$		
26	(1.9)$^{F}_{K}$	(1.9)^{K}	(2.1)^{K}	(2.4)$^{F}_{K}$	(2.7)$^{F}_{K}$	(2.8)^{K}	(2.9)^{K}	3.8^{F}	7.8	10.2	12.0	[12.8]^{C}	[13.1]^{C}	[13.1]^{C}	(13.0)	(12.5)	(12.5)	(12.7)	11.8	(10.0)^{J}	8.0	7.1	5.8	5.1		
27	5.3	4.6	4.5	4.5	4.4	4.3	3.6	(3.6)^{J}	7.5	9.2	C	C	(13.0)	(13.0)	(13.0)	(13.3)	[12.8]^{C}	(12.1)	11.5	9.0	(7.6)	6.0	(5.8)^{J}	(6.2)^{J}		
28	(5.6)^{J}	(5.8)^{J}	(5.6)^{J}	5.1	4.8	4.5	4.1	4.7	(7.4)^{J}	10.0	11.4	12.7	12.9	12.9	12.7	12.8	11.2	11.0	10.3	9.8	(6.6)	(5.7)^{J}	4.9	(4.2)^{J}		
29	3.9	3.8	4.1	(4.1)^{J}	4.3	4.0^{F}	2.8^{F}	3.9^{F}	7.8	(9.6)	[11.0]^{C}	12.7	13.4	12.7	12.6	12.5	11.8	11.4	11.2	8.9	[7.0]^{C}	5.4	(4.9)	5.0		
30	5.2	(5.4)	5.2	4.8	4.6	(4.0)	4.2	C	C	C	C	(12.7)	(12.8)	(12.5)	(12.7)	C	C	C	C	C	C	C	C	C		
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
Median	4.5	4.6	4.3	4.2	4.0	4.0	3.6	4.2	7.6	9.9	11.3	12.2	12.0	11.8	11.8	11.8	11.4	11.0	(10.0)	(8.7)	(6.6)	5.7	5.0	5.0		
Count	28	28	28	28	28	28	29	27	28	28	27	29	30	30	30	27	24	23	25	27	27	27	27	27		

Sweep: 0.75 to 11.5 Mc, automatic, suplemented when necessary by manual operation from 8.0 Mc to 17.0 Mc.

Sweep____Mc to____Mc in____min

Manual ☐ Automatic ☐

U. S. GOVERNMENT PRINTING OFFICE: 1946 O - 765815

TABLE 87

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

f°F2 (Characteristic), Mc (Unit), January (Month), 1947

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D.

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	(3.8)J	(4.0)J	4.6	4.6	3.5F	2.8F	2.8F	5.5	8.7	(10.3)	11.0	(12.0)	11.4	11.5	(11.5)	(10.4)J	[10.2]C	(8.6)	[7.0]C	5.7	4.6	4.2	(3.6)	3.5
2	3.5	3.4	3.5	4.0	(3.8)	3.3F	3.3	(5.8)J	8.6	(9.2)J	[10.3]C	(11.1)	(10.5)	(11.4)	[12.0]C	(11.4)	C	C	C	(5.9)	5.0	4.9	4.8	4.6
3	3.8	3.3	(3.6)	(4.1)J	4.2	4.8	4.3	5.5	7.7	10.0	11.4	(11.3)	(11.4)	[11.5]C	(11.2)	[11.3]C	[11.0]C	[10.2]C	[8.5]C	[7.2]C	6.0	(5.0)J	(5.2)	(5.3)
4	(5.0)	5.3	(5.1)	4.9	4.5F	(3.8)	3.6F	5.0	8.6	(10.6)	10.0	(11.0)	(12.6)	(12.0)	[12.6]C	[12.2]C	[12.0]C	[11.2]C	(8.0)	(6.1)J	(5.5)	4.8	(4.0)J	(3.9)J
5	(3.7)	3.4	3.5	3.5	3.3	3.1	2.6	5.5	8.2	(10.0)J	11.4	(11.3)	[11.3]C	(11.3)	11.4	[11.5]C	[10.7]C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	11.3	[11.8]C	11.5	(12.2)	(12.2)J	(11.5)	C	C	(8.3)K	6.2K	(4.1)K	(4.0)K	3.5K	(3.0)K
7	2.6FK	(3.0)FK	2.6K	2.8K	2.6FK	2.7FK	2.7FK	5.7	9.0	(11.0)	12.2	(12.2)	11.3	(10.5)	11.0	C	C	C	8.8	[7.0]C	5.0	4.4	(3.8)J	(3.8)J
8	(4.0)J	(4.1)J	(4.1)J	3.8	3.3	3.2	3.3	6.0	(9.4)	9.9	11.4	(12.0)	11.6	11.3	11.6	C	C	(9.0)	[8.7]A	[6.4]C	4.6	(3.7)J	(3.6)	3.4
9	3.3F	3.4	3.3F	3.4F	3.3F	3.2F	2.9F	5.7	8.5	9.9	10.9	(12.0)	11.0	10.6	10.7	[10.1]C	9.3	8.3	[7.5]C	5.9	4.8	(4.1)	4.2	4.1
10	4.0	3.6	3.3	3.6	3.5	(3.5)	(3.6)	5.7	8.1	10.2	12.0	11.5	11.2	10.7	(10.5)	C	C	C	(7.7)J	[5.9]C	5.3	4.9	4.7	4.7
11	4.8	4.5	4.2	(4.0)	3.6	3.6F	3.7	(5.9)J	9.2	(10.4)	11.6	(12.2)	11.5	11.0	(11.0)	[10.2]C	(9.3)	8.6	6.8	(5.5)	4.8	(3.7)J	(3.8)J	(3.8)J
12	4.0	4.3	4.2	3.9	4.0	4.0	3.8	6.2	(8.8)	(10.7)	11.3	11.6	[11.6]C	11.0	(10.7)J	C	C	(8.8)	(8.4)	(5.8)	4.6	(4.0)J	4.2	(4.2)J
13	4.5	4.6	4.6	4.0	(4.0)	4.1	3.6	5.7	(9.2)J	10.9	11.6	12.1	11.3	(10.9)J	[11.1]C	11.1	[10.7]C	[9.5]C	[9.0]C	(6.0)	5.2	5.1	4.7	4.5
14	4.6	4.8	4.7	5.0	5.0	4.0	3.2	6.4	(9.2)	10.3	[11.8]C	12.0	(11.5)	10.9	(11.2)	(10.6)	[10.7]C	[9.8]C	[8.6]C	[7.4]C	5.6	5.2	5.2	5.1
15	5.0	5.2	5.1	5.0	4.8	4.5	3.6	6.6	10.0	[11.7]C	[12.3]C	12.5	11.2	(11.6)	[11.8]C	11.1	(10.8)	(9.7)	9.0	(8.0)J	6.4	(6.1)	5.2	5.2
16	4.9	5.3	5.2	5.2	5.1	(4.2)	3.4F	6.2	9.2	11.8	[12.6]C	12.7	12.1	[12.4]C	11.9	(11.4)	[14.0]C	(12.8)	11.5	9.1	6.8	6.0	5.8	5.8
17	3.4F	3.5	(3.7)	(3.9)	(3.8)	2.8	(2.8)F	6.4	9.1	(12.4)	13.0	[12.9]C	[12.9]C	12.6	[12.8]C	[12.3]C	11.5	[11.3]C	(10.0)	(8.0)J	7.0	5.8	5.1	4.9
18	4.9	5.1	5.0	4.9	4.5	4.1	3.7	6.5	9.4	11.2	(12.2)	12.4	12.4	(12.6)	11.8	11.4	[11.8]C	11.4	[9.7]C	7.6	(7.2)J	6.6	5.6	4.7F
19	(4.6)J	4.5F	4.6F	4.9	4.9	4.5F	4.1F	(7.4)J	10.4	11.9	(12.2)J	(12.5)	[12.1]C	[12.3]C	(11.8)	(11.2)	11.2	[10.2]C	9.4	(8.3)	6.9	6.3	5.8	(4.9)
20	5.0	5.0	5.1	5.2	5.0	4.9	4.9	(7.8)J	(10.0)	12.2	[13.4]C	[13.3]C	12.2	12.0	11.8	12.1	12.1	12.0	10.5	C	C	C	C	C
21	C	C	C	C	C	C	C	C	(9.9)	(11.8)J	12.1	12.3	12.1	11.5	11.5	[11.3]C	(10.6)	(10.4)	9.0	7.8	(6.7)	(5.8)J	(4.9)	4.9
22	4.6	4.7	4.9	(4.7)J	(4.3)J	4.3	4.2	6.6	9.8	11.0	(12.4)	12.3	12.2	11.3	(11.9)	12.0	12.0	(11.6)	(10.2)	8.5	(6.6)	6.5	5.9	5.3
23	4.9	4.9	4.8	4.9	4.5	4.0	3.1	6.0	9.5	[11.0]C	[12.5]C	[12.5]C	(11.8)	(11.7)	(11.9)	(12.4)	[11.4]C	[11.0]C	(10.0)	8.0	[7.0]C	(6.2)J	5.8	(5.4)
24	5.2	4.8	3.5	2.7F	2.7F	2.8F	3.2F	6.3F	8.1	11.0	[12.9]C	[13.4]C	[13.5]C	[13.3]C	(12.5)	[12.2]C	(12.0)	[11.3]C	(9.7)J	(7.8)J	(6.2)	5.4	[6.0]FK	(5.8)FK
25	(5.8)JK	(4.0)K	[4.0]FK	(3.8)K	3.9K	(3.2)FK	(4.4)K	(5.0)FK	(5.9)K	6.3FK	7.2K	7.1K	7.5K	8.1K	9.2K	(10.2)JK	10.8K	(10.3)JK	(9.8)K	(9.5)JK	(7.8)JK	[6.5]FK	(2.4)FK	(2.1)FK
26	(1.9)FK	(2.0)K	(2.4)K	(2.5)FK	(2.7)K	(2.1)K	(2.9)K	5.4F	9.5	10.9	12.4	(13.1)	[13.1]C	[13.1]C	(12.8)	(12.5)	(11.8)	(12.7)	(10.2)J	(9.1)J	7.6	6.0	5.6	5.3
27	5.1	4.5	4.5	4.4	4.3	(4.0)J	3.3	5.8	8.3	11.5	C	C	[13.9]C	[13.0]C	[13.1]C	[13.3]C	[12.5]C	(11.5)	(10.2)J	8.2	[6.8]C	[5.9]C	(5.7)J	(5.7)J
28	(5.6)J	5.8	(5.2)J	4.6	4.8	4.5	3.8	6.4	(8.6)	(10.4)J	[12.1]C	[12.8]C	[12.9]C	[12.9]C	[12.9]C	[12.5]C	11.1	11.0	(10.2)J	8.0	(6.3)	(5.2)	4.4	4.2
29	3.8	4.0F	(4.1)J	4.2	4.4	3.4F	2.7F	6.0	8.2	10.5	11.5	[13.3]C	[13.3]C	[12.6]C	[12.6]C	(11.8)	11.3	[11.3]C	(9.2)	(7.8)J	(5.9)J	5.3	5.1	5.0
30	(5.4)	5.3	4.9	4.8	4.4	[4.0]C	4.0	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Median	4.6	4.5	4.4	4.2	4.1	3.9	3.6	6.0	9.0	10.8	11.9	(12.2)	11.6	(11.5)	(11.8)	(11.4)	(11.2)	(10.7)	(9.0)	(7.6)	6.0	5.2	4.9	4.7
Count	28	28	28	28	28	28	28	27	28	28	28	28	29	29	29	25	23	24	27	27	27	27	27	27

Sweep: 0.75 to 11.5 Mc, automatic, suplemented when necessary by manual operation from 8.0 Mc to 17.0 Mc.

Sweep ____ Mc to ____ Mc in ____ min

Manual ☐ Automatic ☐

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 703319

TABLE 88

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

h'F1 (Characteristic), km (Unit), January (Month), 1947

Observed at Washington, D. C.

Lat. 39.0° N, Long. 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K, B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3																								
4															220									
5																								
6																								
7													220											
8													(220)	210										
9													C											
10													220											
11											210			C		220								
12														220										
13															220	230								
14											220													
15												(230)	210	230										
16														240										
17												220												
18												230	240											
19																								
20												210			(230)									
21														210										
22																								
23																								
24																								
25											K	250 K	270 K	240 K	230 K	250 K								
26																								
27																								
28																								
29																								
30											C	C	C	C	C	C								
31											C	C	C	C	C	C								
Median												(230)	(220)	(225)										
Count											2	5	6	6	4	3								

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE: 1946 O - 702316

TABLE 89

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

IONOSPHERIC DATA

f°FI (Characteristic), Mc (Unit), January (Month), 19 47

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1																										
2																										
3																										
4															L											
5																										
6																										
7													L													
8													C	L												
9													C													
10													L													
11											L			5.0		L										
12														L												
13															5.0	L										
14											L															
15												L	L	L												
16														L												
17												L														
18												L	L													
19																										
20												L			L											
21														L												
22																										
23																										
24																										
25											K	L K	L K	L K	L K	L K										
26																										
27																										
28																										
29																										
30											C	C	C	C	C	C										
31											C	C	C	C	C	C										
Median																										
Count														1	1											

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702518

TABLE 90

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

h'E (Characteristic), km (Unit), January (Month), 1947

Observed at Washington, D. C.

Lat. 39.0° N, Long. 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1								C	C H	110	110	110	110	110	110	100	100	C								
2								C	110 H	110	110	110	110	110	110	110	(120)	C								
3								C	120	110	110	100	100	100	100	120	(120)	C								
4								C	(120)	120	120	110	110	110	120	(110)	120	C								
5									120 H	110 H	110	110	[110] C	110	110	110	C	C								
6								C	C	C	C	[110] C	[110] C	110	110	110	110	C								
7									(110) H	120	120	110	110	110	110	[110] C	[120] C H	110								
8									(160)	120 H	120	120	(120)	110	100	120	120	110								
9								110	(110) H	110	110	100	120	110	120	110	110 H	C								
10								C	130 H	110 H	110 H	110	120	110	110	120	110 H	C								
11									130 H	110	110	110 H	110	110	110	110	110 H	C								
12								C	110 H	110 H	110	110 H	120	110	110	110	110 H	140								
13									110 H	110 H	110	110	110	[110] C	110	110	110 H	C								
14									(120) H	100 H	100	110	110	110	[110] C	110	110	(110)								
15									120 H	110 H	110	110	110	110	110	(100)	110	C								
16								C	120 H	120 H	120	100	120	110	110	[120] C	120	C H								
17									120 H	110	110	110	100	110	110	110	120	C H								
18								C	110 H	110	100	100	110	110	110	110	120	120								
19								C	110 H	110	110	100	110	110	110	100	100 H	C								
20								C	110 H	110	110	110	100	100	100	100	C									
21									110 H	120	100	110	100	110	110	110	110	110								
22								C	120 H	110	110	110	100	100	110	110	110	(110)								
23									(160)	110	100	100	100	110	100	110	110 H	110 H								
24								C	100	100	110	110	110	110	110	110	110	C H								
25								C K	110 K	110 K	110 K	110 K	110 K	110 K	110 K	110 K	110 K	C K								
26									100	100	100	110	(120)	110	110	120	110	110 H								
27									100 H	100	110	100	100	100	[110] C	[100] C	100	C								
28								C	120	110	100	110	100	120	110	110	110	110 H								
29									110 H	100	110	100	100	110	100	110	110	120								
30									C	C	C	C	C	C	C	C	C	C								
31									C	C	C	C	C	C	C	C	C	C								
Median									110	110	110	110	110	110	110	110	110	110								
Count								1	27	28	28	29	29	29	29	29	27	11								

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702519

TABLE 91

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

f°E (Characteristic), Mc (Unit), January (Month), 1947

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

75° W Mean Time

Notional Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1								C	1.6H	2.7	[3.1]C	[3.4]C	(3.3)	(3.3)	[3.1]C	2.9	(2.3)	1.7								
2								C	1.7H	2.6	(3.0)	(3.3)	[3.4]C	[3.4]A	(3.3)	2.8	A	C								
3								C	2.1	2.7	(3.0)	C	C	C	C	2.8	(2.3)	1.6								
4								C	2.0	2.6	(3.0)	C	C	C	C	C	2.3	1.7								
5									(1.8)H	2.5H	C	C	C	C	C	2.8	C	C								
6								C	C	C	C	C	C	C	C	(2.7)	2.4	A								
7									2.1H	2.8	(3.0)	C	C	C	C	C	2.4H	A								
8									2.2	2.7H	C	C	C	C	C	(2.8)	A	A								
9								A	2.1H	(2.7)	[3.0]C	(3.4)	C	C	C	C	2.2H	1.7								
10								C	2.0H	2.7H	3.3H	(3.4)	C	C	C	2.8	2.6H	1.8								
11									1.9H	(2.8)	(3.3)	(3.5)H	C	C	(3.3)	[2.7]C	2.2H	1.7								
12								C	2.2H	2.7H	C	CH	C	C	C	2.9	2.4H	(1.7)								
13									1.9H	2.6H	C	C	C	C	C	2.9	2.2H	(1.6)								
14									2.1H	2.8H	C	C	(3.6)	3.7	[3.4]C	[3.0]C	2.6	A								
15									2.1H	2.7H	3.0	C	C	C	[3.3]C	[3.0]C	2.6	1.9								
16									2.0H	2.8H	3.0	C	C	C	C	C	2.6	1.7H								
17									1.9H	2.8	[3.3]C	[3.5]C	3.6	[3.6]C	[3.3]C	2.9	2.4	1.7H								
18								C	1.9H	2.8	C	C	C	[3.5]C	[3.3]C	3.0	A	A								
19								C	2.1H	2.8	(3.4)	C	C	C	C	C	2.4H	C								
20								(1.5)J	2.1H	2.9	C	C	C	C	(3.0)	[2.9]C	C									
21									2.2H	2.9	[3.4]C	(3.5)	(3.6)	[3.4]C	A	A	(2.5)	A								
22								C	2.1H	2.8	3.3	[3.5]C	3.5	3.5	(3.4)	3.1	2.4	2.0								
23									2.2	2.7	3.0	3.5	3.6	3.5	3.3	2.9	(2.3)H	1.7H								
24								C	2.2	2.7	(3.1)	(3.3)	3.6	(3.5)	(3.3)	(2.9)	(2.6)	1.6H								
25								(1.7)K	(2.1)K	(2.8)K	CK	CK	CK	CK	CK	2.9K	(2.5)K	1.8HK								
26									2.2	2.7	2.9	C	C	C	C	(3.0)	(2.6)	1.8H								
27									2.1H	2.7	3.0	(3.4)	C	C	C	(3.0)	2.4	C								
28								C	(2.3)	2.8	(3.2)	C	C	C	C	(3.0)	2.5	1.6H								
29									1.8H	2.7	(3.1)	[3.3]C	C	C	C	2.9	2.6	1.6								
30									C	C	C	C	C	C	C	C	C	C								
31									C	C	C	C	C	C	C	C	C	C								
Median									2.1	2.7	(3.0)	(3.4)	3.6	(3.5)	(3.3)	2.9	2.4	1.7								
Count								2	28	28	20	12	8	9	11	23	24	18								

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702519

Form adopted June 1946

TABLE 92

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Es (Characteristic), Mc,km (Unit) January (Month), 1947

Observed at Washington, D. C.

Lat. 39.0°N, Long. 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1			2.4/100	2.2/100	(2.6)/110	(2.6)/100		2.9/100	3.7/100			(3.8)/130	3.6/130	(3.5)/130		2.7/100	2.7/110	2.7/100	2.7/100					(3.5)/100
2	3.5/9.0 H	(2.6)/90	(2.7)/100				(3.8)/100	(3.6)/100	(2.9)/(130)	(2.9)/120	(3.2)/100	3.7/120	4.0/120	3.9/120	(3.9)/120	3.0/130	(2.7)/110	2.9/100	2.8/110	(4.6)/110	4.8/110	(4.3)/100		2.3/(120)
3				2.7/100		2.7/90	2.9/100	2.8/100	2.9/90	3.0/140						2.7/100	2.9/110	2.2/100	2.3/110				(2.9)/110	2.6/100
4	2.3/100	1.7/120	2.3/110	2.7/100		2.8/100		4.6/100		3.7/120	3.7/120					2.6/100	(2.6)/100	2.6/110		2.2/100		2.6/100		2.3/120
5	2.7/110	2.3/100		4.6/100				2.7/100	2.7/100				C			C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	2.7/90	2.7/90	3.6/120	3.0/110	2.3/110	2.9/110	2.6/100		2.5/100	3.5/110	2.4/110	2.7/100
7				2.7/110				2.6/100		3.2/130	3.6/130						2.7/110	2.6/110	2.3/110					
8	(2.6)/100		2.4/90		1.7/110	2.9/100		3.4/110	2.9/110						3.7/120	3.8/120	5.2/110	(3.9)/110	(3.4)/110	4.5/110 H	4.7/110	6.0/100 H	3.1/100	2.9/100
9					2.7/90	2.7/90	2.9/110	5.0/110 H	4.2/110	3.0/110						2.3/110	2.4/110		2.6/100	2.3/110		2.6/100	2.7/100	2.4/100
10	2.6/100	2.7/90							5.3/100	2.9/100	3.5/160	3.7/150							(2.9)/100	3.2/100	2.3/110	2.3/100	2.4/100	2.3/100
11			2.8/100	2.7/100	2.4/110	2.3/100		2.3/100	2.3/100	2.9/110						2.7/110			2.7/100	2.3/110	2.2/110			
12			2.4/110	3.2/110	2.7/100	2.4/100	2.7/110	2.4/100											2.7/120	2.4/100	2.7/110	(4.6)/110	2.7/100	(2.5)/100
13	2.7/100			2.3/100	2.7/100		2.3/110	3.7/110		2.7/100						3.1/130	2.7/100 H	2.7/90	2.3/100	2.4/100	2.2/110	2.7/100	3.2/100	2.4/100
14	2.3/100	2.3/100	4.7/100	2.9/100	2.7/100	3.8/100	4.4/100	2.9/100	2.8/100							2.9/110	2.9/110	3.4/110	3.6/100	(2.6)/100		2.2/100	2.3/100	
15	2.4/100			2.7/100		2.3/100		2.9/100	2.7/100					(2.5)/90			2.7/100	2.9/110	2.2/100	2.4/100	2.3/100	2.3/100	2.4/90	2.2/90
16	2.8/100				2.9/110		2.7/100	2.9/110												2.3/120	5.7/110	5.1/100	2.3/100	5.9/110
17	3.8/140	3.5/130	3.8/130	3.8/120	6.8/120 H	10.6/120	9.4/120	5.3/120 H	3.1/150	3.9/140											2.3/110	2.2/100		
18	2.4/100	2.3/100	2.3/100	2.4/100	2.9/110	4.0/120	2.7/100							3.8/140	4.0/130	3.4/130	2.8/120	2.9/120						
19		2.3/100			(3.7)/110	4.5/110	2.9/110	2.4/100	2.9/180	3.0/160	5.0/130	5.2/120				2.9/100	2.9/100	2.9/100	2.4/100					2.4/100
20	2.7/100																				C			
21					C	2.8/110									3.4/120	3.0/120	3.6/110	3.5/100				2.2/100	2.9/110	2.9/110
22	2.3/100			(2.7)/100			2.7/110	2.4/100								5.1/110		2.0/110		5.3/100	4.9/100	3.0/100	2.3/100	
23					2.9/120	2.8/120	2.8/110	2.9/110	2.9/110 H															
24								(2.7)/(100)	(2.8)/100	2.9/110														
25			(2.9)/210	2.9/150	3.7/120	2.9/110	4.0/110	(2.8)/100	2.7/110															
26				2.3/120	1.0/110			2.9/100	2.9/100	(2.9)/100										(3.5)/100	(3.9)/100	(2.9)/100		
27								2.9/100	2.4/100	(3.6)/100							(2.9)/100							
28						2.7/110																	2.2/100	
29	2.2/110		2.3/100					3.5/100									3.8/130							
30								C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Median	**	**	**	2.2	1.0	2.3	**	2.8	2.7	**	**	**	**	**	**	2.3	2.5	2.0	2.1	**	**	2.2	**	2.1
Count	29	29	29	29	28	29	29	28	28	28	28	28	28	29	29	28	28	28	28	28	27	28	28	28

** Median fE_s less than median f^oE, or less than lower limiting frequency of recorder.

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE: 1948 O - 702519

TABLE 93

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

F2-M1500 (Characteristic), (Unit) January (Month), 1947

Observed at Washington, D. C.

Lat. 39.0° N, Long. 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.8	(1.8)	1.8	2.0	(2.3)J	2.1	1.9F	2.0	(2.2)	2.2	2.1	(1.9)	(2.0)	(2.0)	2.0	C	2.1	(2.0)	C	2.2	(2.2)	(2.0)	(1.8)	1.9
2	1.9	1.8	1.9	1.9	2.0	2.0	2.0F	2.1	(2.2)J	(2.2)	2.2	2.1	1.9	C	1.9	2.0	2.0	C	C	C	(2.0)	1.9	1.9	2.1
3	(2.0)J	2.0	1.8	(1.8)	1.8	1.8	2.1	2.1	(2.2)	2.2	2.1	2.2	2.1	(1.9)	2.0	1.7	1.8	1.8	1.9	C	C	1.9	1.9	(1.9)
4	1.9	(2.0)	(1.9)	(2.0)	2.0F	2.0	1.9F	1.9	(2.1)	2.1	2.1	1.9	(2.0)	C	(1.7)	1.9	1.8	1.8	1.9	(2.0)	(1.9)	(2.0)	2.0	(2.0)J
5	(1.9)J	1.8	1.8	1.7	2.0	1.9	2.1	1.8	2.3	(2.3)	(2.2)	2.2	C	C	2.0	1.7	1.8	1.8	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	1.9	(1.6)	2.0	C	C	(2.1)K	C K	(2.1)K	(2.0)JK	(2.0)JK	1.9K
7	(1.9)FK	(1.7)FK	(1.8)FK	2.0K	2.0FK	1.9FK	2.0FK	2.0F	2.1	2.2	(2.1)	2.0	1.9	2.0	(1.9)	C	C	C	C	(2.1)	2.2	2.0	(1.9)J	1.9
8	(1.8)J	(1.8)	(1.9)J	(2.0)J	1.9	1.8	1.9	1.9	2.4	2.2	2.1	2.1	2.2	(2.0)	1.9	1.9	C	C	(2.0)	C	(2.2)	(2.1)J	(2.0)J	2.0
9	1.9	1.9	2.0	1.9	1.9F	1.9F	2.0F	2.1F	2.2	2.2	2.2	2.1	2.0	(2.1)	2.0	(2.0)	C	(2.0)	(2.1)	(2.2)	2.1	(1.8)J	2.0	1.9
10	(2.0)	2.1	2.0	2.0F	1.9F	1.9	(2.2)	(2.0)	2.2	2.2	2.3	(2.1)	2.1	2.1	2.1	(2.1)J	C	C	C	(2.4)	C	2.1	1.9	1.9
11	1.9	2.1	2.1	2.1	2.0F	2.1F	2.0F	2.0	(2.3)J	(2.0)J	2.2	(2.1)	2.1	(2.1)	2.0	(2.2)J	C	(2.3)	C	C	(2.2)J	2.1	(1.9)	(1.9)J
12	(1.9)J	1.9	2.0	1.9	2.0	2.0	2.0	2.1	(2.3)	(2.3)	2.2	2.1	2.1	2.1	(2.0)	C	C	C	C	2.2	2.1	(2.0)J	(1.9)J	1.7
13	1.8	2.0	2.1	2.1	2.0	(2.0)J	2.1	(2.0)J	(2.4)	2.2	2.2	2.1	(2.2)J	(1.9)	(1.8)	2.0	2.0	1.9	(2.1)	2.0	(2.1)	2.0	1.9	2.0
14	1.8	1.9	2.0	1.9	2.0	2.1	2.2F	1.9	2.3	(2.3)	(2.2)	2.2	2.0	2.0	(1.8)	C	1.9	2.0	(2.1)	(2.1)J	2.2	1.9	(2.0)	2.0
15	1.9	1.9	1.9	2.0	1.9F	1.9F	2.1	2.0	(2.3)	(2.2)	2.2	2.1	2.1	2.0	2.0	2.0	1.9	(2.0)	(2.0)	2.0	2.0	2.1	2.2	1.9
16	1.7	1.7	1.7	1.7	1.7	1.8	1.8	2.0	2.2	2.0	2.1	(2.2)	1.9	1.9	(1.9)	1.8	(2.0)	1.9	(1.9)	2.1	2.0	2.0	1.7	1.9
17	(1.8)	1.9F	1.9	A	(1.8)	2.1F	(2.0)F	1.9	2.0	(2.2)	2.1	C	2.1	2.0	C	1.9	(1.9)	2.0	(2.1)J	C	1.9	(2.1)	1.9	1.9
18	1.8	2.0	1.9	2.0	2.0F	1.8F	2.0	2.0F	2.2	2.1	2.1	(2.2)	(2.0)	1.8H	2.0	2.0	2.0	(1.9)	1.9	1.9	(1.9)J	2.0	2.0	1.9
19	1.9F	2.0F	(2.0)F	1.9	2.0	2.0	2.0F	2.1F	2.2	2.1	(2.1)J	(2.1)	(2.1)	C	C	(2.0)	2.0	1.9	(2.1)	1.9	1.9	1.9	2.0	1.9
20	(1.9)	1.8	1.9	1.9	1.9	1.8	2.0	2.1	(2.3)J	(2.0)J	2.3	2.2	(2.2)	2.0	1.9	2.0	1.8	(1.8)	(1.9)	(1.8)	C	C	C	C
21	C	C	C	C	C	C	C	C	(2.2)	(2.3)	(2.1)J	2.1	2.0	2.0	1.9	(2.0)	1.9	1.9	2.0	(2.0)	2.0	(2.0)	(2.0)	2.0
22	(1.9)	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.2	2.1	(2.1)	2.0	1.9	1.9	1.9	(1.9)	1.8	1.9	2.0	(2.1)	2.0	2.0	2.1	2.0
23	1.9	1.8	1.9	1.9	2.0	2.0	2.0	2.0	2.3	(2.2)	(2.1)	(2.1)	(2.0)	(1.9)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)J	2.1	(1.9)J	(1.9)J	(2.0)J	2.0
24	(2.0)	2.1	2.0	1.6	1.6F	1.5F	1.5F	2.0F	2.2	2.1	2.0	(2.1)	(2.1)	(2.0)	(1.9)	C	(2.0)	(2.0)	C	(2.0)J	(2.0)	2.0	(1.8)JK	(1.9)K
25	(1.7)JK	1.6K	C K	(1.6)K	1.5K	1.5K	(1.5)K	(1.7)FK	(1.8)K	C K	C K	1.7K	1.7K	1.7K	1.6K	(1.7)JK	(1.8)JK	(1.8)JK	(1.9)JK	(1.9)JK	(1.8)JK	1.9K	(1.9)K	(1.6)FK
26	(1.7)FK	(1.6)K	(1.6)K	(1.6)FK	(1.6)FK	(1.7)K	(1.8)K	(1.9)F	2.1	2.1	2.1	C	C	C	(2.0)	(1.9)	(2.0)	(1.8)	2.0	(2.1)J	2.0	2.0	2.0	2.0
27	1.9	1.9	1.8	1.9	1.9	2.1	2.1	(1.9)J	2.2	2.1	C	C	(2.1)	(1.6)	(1.7)	(2.2)	C	(2.0)	2.0	2.1	(2.0)	2.2	(1.9)J	(2.0)J
28	(1.9)J	(2.0)J	(2.0)J	1.9	1.8	1.8	2.0	2.0	(2.3)J	2.2	2.1	1.8	1.9	1.9	1.9	1.9	1.8	2.0	1.9	2.2	(2.1)	(2.2)J	2.0	(2.0)J
29	1.8	1.7	1.8	(1.8)J	2.0	2.1F	2.0F	2.0F	2.3	(2.3)	C	2.1	2.0	2.0	1.9	1.9	2.0	2.0	2.0	2.1	C	2.0	(2.0)	2.0
30	1.9	(2.0)	2.0	1.9	2.0	(1.8)	1.8	C	C	C	C	(2.1)	(2.1)	(1.9)	(1.9)	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Median	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.2	2.2	2.1	2.1	2.0	2.0	1.9	2.0	1.9	1.9	(2.0)	2.1	(2.0)	2.0	2.0	1.9
Count	28	28	27	27	28	28	28	27	28	27	25	26	27	25	28	24	21	23	21	22	24	27	27	27

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE: 1945 O - 702519

Form adopted June 1946

TABLE 94

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

F2-M3000 (Characteristic), (Unit) January (Month), 1947

Observed at Washington, D. C.

Lat. 39.0° N, Long. 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.7	(2.7)	2.7	3.0	(3.3)^{J}	3.1	2.9^{F}	3.0	(3.2)	3.2	3.1	(2.8)	(3.0)	(3.0)	3.0	C	3.1	(2.9)	C	3.2	(3.2)	(2.9)	(2.7)	2.9
2	2.8	2.7	2.8	2.9	3.0	3.0	2.9^{F}	3.1	(3.2)^{J}	(3.2)	3.2	3.1	2.9	C	2.8	2.9	2.9	C	C	C	(3.0)	2.9	2.9	3.1
3	(3.0)^{J}	3.0	2.8	(2.7)	2.8	2.7	3.1	3.1	(3.2)	3.2	3.1	3.2	3.2	(2.8)	3.0	2.7	2.7	2.7	2.8	C	C	2.9	2.9	(2.9)
4	2.9	(3.0)	(2.9)	(3.0)	3.0^{F}	3.0	2.9^{F}	2.9	(3.1)	3.2	3.2	2.9	(2.9)	C	(2.7)	2.9	2.7	2.7	2.8	(3.0)	(2.9)	(3.0)	3.0	(3.0)^{J}
5	(2.7)^{J}	2.8	2.7	2.7	2.9	2.8	3.1	2.7	3.3	(3.3)	(3.2)	3.2	C	C	2.9	2.6	2.7	2.7	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	2.9	(2.5)	2.9	C	C	(3.1)^{K}	C^{K}	(3.1)^{K}	(3.0)$^{J}_{K}$	(3.0)$^{J}_{K}$	2.9^{K}
7	(2.8)$^{F}_{K}$	(2.6)$^{F}_{K}$	(2.7)$^{F}_{K}$	3.0^{K}	3.0$^{F}_{K}$	2.9$^{F}_{K}$	3.0$^{F}_{K}$	3.0^{F}	3.0	3.2	(3.1)	3.0	2.9	2.9	(2.9)	C	C	C	C	(3.1)	3.2	2.9	(2.9)^{J}	2.8
8	(2.8)^{J}	(2.8)	(2.9)^{J}	(3.0)^{J}	2.9	2.8	2.8	2.8	3.4	3.3	3.2	3.2	3.2	(2.9)	2.8	2.9	C	C	(3.0)	C	(3.3)	(3.1)^{J}	(3.0)^{J}	2.9
9	2.9	2.9	3.0	2.9	2.9^{F}	2.9^{F}	3.0^{F}	3.1^{F}	3.3	3.3	3.3	3.2	3.0	(3.1)	3.0	(3.0)	C	(3.0)	(3.1)	(3.2)	3.1	(2.8)^{J}	3.0	2.9
10	(3.0)	3.1	3.0	2.9^{F}	2.8^{F}	2.9	(3.2)	(3.0)	3.3	3.3	3.3	(3.2)	3.1	3.1	3.1	(3.1)^{J}	C	C	C	(3.4)	C	3.1	2.9	2.9
11	2.9	3.1	3.1	3.1	3.0^{F}	3.1^{F}	2.9^{F}	3.0	(3.3)^{J}	(3.0)^{J}	3.3	(3.1)	3.1	(3.0)	3.0	(3.2)^{J}	C	(3.3)	C	C	(3.2)^{J}	3.1	(2.9)	(2.9)^{J}
12	(2.9)^{J}	2.9	3.0	2.8	3.0	3.0	3.0	3.2	(3.4)	(3.3)	3.2	3.1	3.2	3.1	(3.0)	C	C	C	C	3.2	3.1	(2.9)^{J}	(2.9)^{J}	2.6
13	2.8	2.9	3.1	3.1	3.0	(3.0)^{J}	3.1	(3.0)^{J}	(3.4)	3.2	3.2	3.1	(3.1)^{J}	(2.8)	(2.7)	3.0	2.9	2.9	(3.1)	3.0	(3.1)	3.0	2.9	3.0
14	2.8	2.8	3.0	2.9	3.0	3.1	3.2^{F}	2.9	3.4	(3.3)	(3.2)	3.3	2.9	2.9	(2.7)	C	2.8	3.0	(3.2)	(3.2)^{J}	3.2	2.8	(3.0)	3.0
15	2.9	2.8	2.9	3.0	2.9^{F}	2.9^{F}	3.1	3.0	(3.2)	(3.2)	3.2	3.1	3.2	2.9	2.9	2.9	2.9	(3.0)	(3.0)	3.0	3.0	3.1	3.2	2.9
16	2.7	2.6	2.6	2.5	2.6	2.7	2.7	3.0	3.2	3.0	3.1	(3.2)	2.9	2.9	(2.9)	2.7	(2.9)	2.8	(2.8)	3.1	3.0	3.0	2.6	2.8
17	(2.8)	2.8^{F}	2.9	A	(2.8)	3.1^{F}	(3.0)^{F}	2.9	3.0	(3.2)	3.2	C	3.1	3.0	C	2.9	(2.9)	3.0	(3.1)^{J}	C	2.8	(3.1)	2.8	2.9
18	2.7	3.0	2.9	3.0	3.0^{F}	2.8^{F}	3.0	3.0^{F}	3.2	3.1	3.1	(3.2)	(3.0)	2.8^{H}	2.9	3.0	3.0	(2.9)	2.9	2.9	(2.8)^{J}	3.0	3.0	2.9
19	2.9^{F}	3.0^{F}	(2.9)^{F}	2.8	3.0	2.9	3.0^{F}	3.1^{F}	3.2	3.1	(3.1)^{J}	(3.2)	(3.1)	C	C	(3.0)	3.0	2.8	(3.1)	2.9	2.8	2.8	3.0	2.9
20	(2.8)	2.8	2.8	2.9	2.9	2.8	2.9	3.1	(3.3)^{J}	(3.0)^{J}	3.3	3.2	(3.2)	3.0	2.9	3.0	2.7	(2.8)	(2.8)	(2.7)	C	C	C	C
21	C	C	C	C	C	C	C	C	(3.2)	(3.3)	(3.1)^{J}	3.1	2.9	3.0	2.9	(2.9)	2.9	2.9	3.0	(3.0)	3.0	(3.0)	(2.9)	2.9
22	2.9	2.8	2.9	2.8	2.9	2.8	2.9	3.0	3.1	3.2	(3.1)	3.0	2.9	2.9	2.8.	(2.9)	2.7	2.8	3.0	(3.1)	3.0	3.0	3.1	3.0
23	2.9	2.7	2.8	2.8	3.0	2.9	3.0	2.9	3.3	(3.2)	(3.1)	(3.1)	(2.9)	(2.9)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)^{J}	3.0	(2.9)^{J}	(2.9)^{J}	(3.1)^{J}	3.0
24	(3.0)	3.1	3.0	2.5	2.5^{F}	2.4^{F}	2.4^{F}	2.9^{F}	3.2	3.1	3.0	(3.1)	(3.1)	(2.9)	(2.8)	C	(3.0)	(3.0)	C	(3.0)^{J}	(3.0)	3.0	(2.8)$^{J}_{K}$	(2.9)^{K}
25	(2.6)$^{J}_{K}$	2.5^{K}	C^{K}	(2.4)^{K}	2.4^{K}	2.3^{K}	(2.4)^{K}	(2.5)$^{F}_{K}$	(2.8)^{K}	C^{K}	C^{K}	2.6^{K}	2.5^{K}	2.6^{K}	2.5^{K}	(2.6)$^{J}_{K}$	(2.7)$^{J}_{K}$	(2.8)$^{J}_{K}$	(2.9)$^{J}_{K}$	(2.8)$^{J}_{K}$	(2.7)$^{J}_{K}$	2.8^{K}	(2.8)^{K}	(2.5)$^{F}_{K}$
26	(2.6)$^{F}_{K}$	(2.5)^{K}	(2.5)^{K}	(2.4)$^{F}_{K}$	(2.5)$^{F}_{K}$	(2.6)^{K}	(2.8)^{K}	(2.8)^{F}	3.1	3.1	3.0	C	C	C	(3.0)	(2.9)	(3.0)	(2.7)	3.0	(3.1)^{J}	3.0	3.0	3.0	3.0
27	2.9	2.8	2.8	2.8	2.8	3.1	3.1	(2.8)^{J}	3.2	3.1	C	C	(3.1)	(2.5)	(2.7)	(3.2)	C	(3.0)	3.0	3.1	(3.0)	3.2	(2.8)^{J}	(3.0)^{J}
28	(2.9)^{J}	(2.9)^{J}	(3.0)^{J}	2.9	2.7	2.8	3.0	3.0	(3.3)^{J}	3.3	3.1	2.8	2.9	2.8	2.9	2.9	2.7	3.0	2.9	3.2	(3.1)	(3.2)^{J}	3.0	(2.9)^{J}
29	2.7	2.7	2.7	(2.8)^{J}	2.9	3.1^{F}	3.0^{F}	2.9^{F}	3.3	(3.3)	C	3.1	3.0	3.0	2.8	2.8	3.0	2.9	2.9	3.1	C	2.9	(3.0)	3.0
30	2.9	(3.0)	2.9	2.9	3.0	(2.9)	2.8	C	C	C	C	(3.0)	(3.0)	(2.8)	(2.8)	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Median	2.9	2.8	2.9	2.9	2.9	2.9	3.0	3.0	3.2	3.2	3.2	3.1	3.0	2.9	2.9	2.9	2.9	2.9	(3.0)	3.1	(3.0)	3.0	2.9	2.9
Count	28	28	27	27	28	28	28	27	28	27	25	26	27	25	28	24	21	23	21	22	24	27	27	27

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ■

U. S. GOVERNMENT PRINTING OFFICE: 1948 O - 702510

TABLE 95

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

F1-M3000 (Characteristic), ____ (Unit), January (Month), 1947

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1																										
2																										
3																										
4															L											
5																										
6																										
7													L													
8													C	L												
9													C													
10													L													
11											L			3.8		L										
12														L												
13															3.8	L										
14											L															
15												L	L	L												
16														L												
17												L														
18												L	L													
19																										
20												L			L											
21														L												
22																										
23																										
24																										
25											K	L K	L K	L K	L K	L K										
26																										
27																										
28																										
29																										
30																										
31																										
Median																										
Count														1	1											

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702519

Form adopted June 1946

TABLE 96

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

E-M1500 (Characteristic), ____ (Unit), January (Month), 19 47

Observed at Washington, D.C.

Lat 39.0° N, Long 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: M. S. L.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1								C	4.3 H	4.0	C	C	(4.0)	(4.0)	C	4.1	(4.1)	C								
2								C	4.5 H	(3.7)	(4.2)	(4.2)	C	A	(4.0)	4.3	A	C								
3								C	3.6	4.2	(4.1)	C	C	C	C	3.8	(4.0)	C								
4								C	3.6	4.0	(4.1)	C	C	C	C	C	4.0	C								
5									(4.1) H	4.2 H	C	C	C	C	C	4.0	C	C								
6								C	C	C	C	C	C	C	C	(4.2)	4.0	A								
7									(3.6) H	3.8	(4.2)	C	C	C	C	C	(4.0) H	A								
8									3.7	4.2 H	C	C	C	C	C	(4.3)	A	A								
9								A	(3.8) H	(4.1)	C	(4.2)	C	C	C	C	4.4 H	C								
10								C	(4.1) H	4.0 H	3.7 H	(3.8)	C	C	C	4.0	4.3 H	C								
11									(4.5) H	(4.1)	(4.2)	(4.2) H	C	C	(4.0)	C	4.5 H	C								
12								C	(3.6) H	4.1 H	C	C H	C	C	C	4.3	4.0 H	(4.1)								
13									4.2 H	4.2 H	C	C	C	C	C	4.3	4.4 H	C								
14									(4.2) H	4.3 H	C	C	(4.2)	4.0	C	C	3.6	A								
15									4.3 H	4.5 H	4.1	C	C	C	C	C	3.7	C								
16								C	4.1 H	4.0 H	4.2	C	C	C	C	C	4.4	C H								
17									4.1 H	4.1	C	C	4.1	C	C	4.4	4.3	3.9 H								
18								C	4.2 H	4.0	C	C	C	C	C	4.0	A	A								
19								C	4.4 H	4.2	(3.8)	C	C	C	C	C	4.2 H	A								
20								C	4.3 H	3.9	C	C	C	C	(4.2)	C	C									
21									3.7 H	4.2	C	(4.2)	(4.2)	C	A	A	(4.0)	A								
22								C	4.1 H	4.0	4.1	C	4.3	4.3	(4.2)	(4.2)	4.5	A								
23									3.5	4.5	4.4	4.2	4.2	4.2	4.3	4.4	(4.4) H	4.2 H								
24								C	3.6	4.0	(4.3)	(4.3)	4.2	(4.2)	(4.2)	(4.2)	(4.1)	C H								
25								C K	(4.0) K	(4.1) K	C K	C K	C K	C K	C K	4.3 K	(4.3) K	3.6 H K								
26									4.2	3.8	4.1	C	C	C	C	(4.3)	(4.0)	4.3 H								
27									4.4 H	4.0	4.0	(4.1)	C	C	C	(4.2)	4.3	C								
28								C	(4.1)	4.2	(4.1)	C	C	C	C	(4.2)	4.2	4.2 H								
29									4.3 H	4.3	(4.1)	C	C	C	C	4.2	4.1	4.3								
30									C	C	C	C	C	C	C	C	C	C								
31									C	C	C	C	C	C	C	C	C	C								
Median								C	4.1	4.1	4.1	(4.2)	4.2	4.2	(4.2)	4.2	4.2	4.2								
Count									28	28	16	8	7	5	6	19	24	7								

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE: 1946 O - 703519

Table 97

Ionospheric Storminess, January 1947

Day Jan.	Ionosphere Character* 00-12 GCT	12-24 GCT	Principal Storms Beginning GCT	End GCT	Geomagnetic Character** 00-12 GCT	12-24 GCT
1	2	2			1	1
2	3	2			2	2
3	1	1			2	3
4	1	2			2	4
5	3	2			3	3
6	***	1	2300	---/	4	2
7	4	2	----	1200	2	1
8	2	2			3	1
9	3	2			0	0
10	2	2			0	0
11	0	2			0	0
12	2	2			0	0
13	1	2			0	0
14	1	2			0	1
15	1	2			1	2
16	2	2			3	4
17	3	0			3	2
18	1	1			2	2
19	0	2			2	1
20	1	1			1	1
21	***	1			1	1
22	1	1			1	1
23	1	1			1	2
24	3	0			3	3
25	3	6	0300	---/	5	4
26	6	1	----	1200	4	3
27	1	1			2	3
28	0	1			2	2
29	2	1			2	2
30	1	1			1	1
31	***	***			2	1

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D.C., during 12-hour period on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of Cheltenham, Maryland, magnetic K-figures on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

***No readable record. Refer to Table 86 for detailed explanation.

/Dashes indicate continuing storm.

Table 98

Sudden Ionosphere Disturbances Observed at Washington, D.C.

Day 1947	GCT Beginning	GCT End	Location of Transmitters	Relative Intensity at minimum*	Other Phenomena
January 14	1430	1455	Ohio, D.C., England, Mexico, Ontario	0.2	Terr.mag.pulse** 1430-1445
14	1834	1915	Ohio, D.C., England, Mexico, Ontario	0.0	
26	1621	1650	Ohio, D.C., Mexico	0.2	
26	2215	2250	Mexico	0.2	
27	1930	2010	Ohio, D.C., Mexico, New York, Ontario	0.1	

*Ratio of received field intensity during SID to average field intensity before and after, for station W8XAL, 6080 kilocycles, 600 kilometers distant, for all SID except the following: Station XEWW, 9500 kilocycles, 3000 kilometers distant, was used for the SID on January 26 at 2215.

**As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

Table 99

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief

Cable and Wireless, Ltd.

1946 Day	GCT Beginning	GCT End	Receiving Station	Location of Transmitters
December				
14	0720	0755	Brentwood, England	Belgian Congo, Kenya, Southern Rhodesia
14	1600	1630	Somerton, England	Argentina, Barbados
17	1015	1030	Brentwood, England	Belgian Congo, Brazil, Madagascar, Southern Rhodesia, Spain, U.S.S.R., Yugoslavia, Zanzibar
20	1220	1305	Brentwood, England	Belgian Congo, Brazil, Kenya, Madagascar, Southern Rhodesia, Spain, Zanzibar
20	1229	1250	Somerton, England	Argentina, Barbados, China, Egypt, Gold Coast, Japan, Nigeria, Union of South Africa
21	1105	1110	Brentwood, England	Brazil, Bulgaria, Madagascar, Zanzibar
1947 January				
14	0950	1035	Brentwood, England	Austria, Belgian Congo, Brazil, Canary Is., Greece, India, Iran, Kenya, Madagascar, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, Yugoslavia, Zanzibar
14	0953	1010	Somerton, England	Argentina, Barbados, Ceylon, Egypt, Gold Coast, India, Nigeria, Union of South Africa
14	1420	1505	Brentwood, England	Brazil, Chile
14	1432	1505	Somerton, England	Argentina, Barbados
15	1045	1115	Brentwood, England	Austria, Belgian Congo, Brazil, Canary Is., Greece, Madagascar, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, U.S.S.R., Yugoslavia, Zanzibar
15	1250	1315	Brentwood, England	Belgian Congo, Brazil, Chile, Madagascar, Palestine
16	1945	2130	Brentwood, England	Brazil, Chile, Colombia, Uruguay, Venezuela

Note-Observers are invited to send to the CRPL information on times of beginning and end of sudden ionosphere disturbances, for publication as above. Address letters to the Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Table 100

Provisional Radio Propagation Quality Figures
December 1946
Compared with CRPL Warnings and CRPL Probable Disturbed Period Forecasts

Day	North Atlantic Quality Figure 01-12 GCT	North Atlantic Quality Figure 13-24 GCT	North Atlantic CRPL* Warning 01-12 GCT	North Atlantic CRPL* Warning 13-24 GCT	North Atlantic CRPL Probable Disturbed Period Forecast	North Atlantic Geomagnetic K_A 01-12 GCT	North Atlantic Geomagnetic K_A 13-24 GCT	North Pacific Quality Figure 01-12 GCT	North Pacific Quality Figure 13-24 GCT	North Pacific CRPL* Warning 01-12 GCT	North Pacific CRPL* Warning 13-24 GCT	North Pacific CRPL Probable Disturbed Period Forecast	North Pacific Geomagnetic K_A 01-12 GCT	North Pacific Geomagnetic K_A 13-24 GCT
1	6	6				0	2	5	6				0	2
2	6	6				1	2	6	5				1	2
3	5	6				2	1	6	5				2	1
4	5	6				1	2	7	5				1	2
5	5	6				2	2	6	6				2	2
6	6	7				2	2	6	6				2	2
7	6	6				2	2	7	5				2	2
8	6	6				2	1	6	7				2	1
9	6	6				1	1	6	5				1	1
10	6	6				2	3	5	(4)				2	3
11	6	5				2	3	5	5				2	3
12	6	5	X			2	2	6	5	X			2	2
13	5	5				2	2	6	6				2	2
14	5	6				1	0	5	-				1	0
15	6	6				1	1	7	5				1	1
16	6	6			X	1	2	7	6			X	1	2
17	6	5			X	2	1	7	6			X	2	1
18	6	6			X	2	2	8	8			X	2	2
19	5	5		X		3	3	7	7		X		3	3
20	6	6	X			1	0	8	8	X			1	0
21	6	6				2	2	7	7				2	2
22	6	5			X	3	2	7	8			X	3	2
23	6	6			X	2	2	7	7			X	2	2
24	6	6				1	1	8	8				1	1
25	6	6				1	2	7	7				1	2
26	6	5				2	2	7	7				2	2
27	6	5				2	2	6	6				2	2
28	5	6				2	1	7	6				2	1
29	7	6				2	1	6	5				2	1
30	6	6				1	1	6	(4)				1	1
31	6	6				1	1	7	7				1	1
Score:														
H			0		0					0		0		
M			0		0					2		2		
G			28		26					26		24		
(S)			1		2					0		0		
S			2		3					3		5		

*Broadcast on WWV, Washington, D. C. Times of warnings recorded to nearest half-day as broadcast.

Quality Figure Scale:
1 = Useless
2 = Very poor
3 = Poor
4 = Poor to fair
5 = Fair
6 = Fair to good
7 = Good
8 = Very good
9 = Excellent

Symbols
X Warning given or probable disturbed date.

H Quality 4 or worse on day or half-day of warning.

M Quality 4 or worse on day or half-day of no warning.

G Quality 5 or better on day of no warning.

(S) Quality 5 on day of warning.

S Quality 6 or better on day of warning.

( ) Quality 4 or worse (disturbed).

Geomagnetic K_A on the standard scale of 0 to 9, 9 representing the greatest disturbance.

Table 101

Daily Median Values of American Relative Sunspot Numbers*

January 1947

Date	No.	Date	No.
1	88	16	197
2	72	17	199
3	68	18	210
4	45	19	184
5	63	20	169
6	80	21	138
7	74	22	144
8	85	23	164
9	78	24	155
10	110	25	147
11	126	26	88
12	151	27	100
13	137	28	67
14	149	29	55
15	188	30	60
		31	71
No. of Days 31		Mean 118.1	

* Median of data from 15 observers.

Table 102

CORONAL OBSERVATIONS AT CLIMAX, COLORADO

January 1947

First row green line 5303A
Second row red line 6374A
Third row red line 6704A

Degrees from astronomical north

Date	Time of observation GCT	0	05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175
3	2100-2125	-	--	--	--	--	--	--	--	9	14	13	14	13	11	12	13	15	11	11	12	13	18	18	22	25	23	20	10	--	--	--	--	--	--	--	--
											3	11	11	5	3	3	2	2	2	1	1				2	5	7	3	3	1							
7	1622-1713	-	--	10	11	11	11	10	10	10	12	13	16	30	28	26	26	24	18	20	20	22	24	25	32	20	15	10	9	10	10	9	8	4	3	2	--
						1	2	4	6	9	7	8	5	7	1	4	3	2																		
												1	2	2	3	3	2	2	1	1	2	2	2	2	2	1											
8	1620-1657	-	5	9	11	10	10	9	10	9	18	22	22	27	27	25	25	16	14	13	12	17	18	20	18	13	11	11	11	4	--	--	--	--	--	--	--
														1	4	5	8	6	4	3	2	3	3	2	1	1											
											1	1	2	2	2	2	2	2	1	1	1	2	2	2	1	1											
9	2029-2052	-	5	11	9	9	8	4	5	9	13	17	28	28	28	30	32	20	19	17	15	20	22	14	12	10	12	13	11	7	--	--	--	--	--	--	--
											1	1	2	2	4	18	18	16	7	4	4	3	1														
											1	1	1	2	2	3	3	3	1	1	1	1	1	1	1												
10	1830-1855	-	9	9	8	8	7	8	8	--	10	14	17	17	15	24	18	13	13	13	13	14	14	13	8	10	11	10	9	--	--	--	--	--	--	--	--
														5	15	20	13	4	3																		
11	1717-1738	8	10	11	10	9	9	8	8	10	13	17	18	18	28	20	18	15	11	11	12	14	13	14	13	7	9	9	8	3	--	--	--	--	--	--	--
													1	2	18	19	17	10		4	5	6	6	4	2	1	1										
12	1735-1801	4	8	8	10	9	9	9	10	11	11	12	20	22	26	32	30	17	10	9	9	15	25	25	28	15	7	5	4	4	3	--	--	--	--	--	--
													1	4	10	17	18	14		2	3	10	10	9	13	2	1										
														1	2	2	1					1	1	1	1												
16	1850-1920	-	--	--	9	9	--	--	8	10	12	14	23	25	30	34	17	11	--	--	9	26	24	20	20	18	11	8	7	--	--	--	--	--	--	--	--
													7	8	12	14	10	7	1	2	3	4	4	6	5	3	2	1									
													1	2	2	3	3	2	1		1	1	2	2	2	2	1	1									
17	1624-1652	-	--	--	--	--	--	--	--	--	9	10	11	16	18	14	11	--	--	--	8	10	9	8	13	10	--	--	--	--	--	--	--	--	--	--	--
												1	2	3	5	13	5	1	1	1	1	1		2	2	2	1										
21	1814-1849	6	9	10	12	12	13	14	16	20	28	31	35	38	30	19	12	7	5	5	8	12	17	19	17	16	16	12	8	8	8	8	7	6	5	4	3
		1	2	2	1	1	2	3	1	1	4	17	17	15	14	16	6	1	1	3	2	1	1	1	1	1	3	1	1	1							
22	[1620-1647 1742-1751]	3	5	6	10	15	15	13	16	16	15	22	27	30	30	17	13	8	5	4	5	8	13	13	14	14	14	10	5	4	3	4	5	4	3	2	2
							1	1	1	1	3	18	20	9	10	10	3	1	1	1	1					1	1	1	1							
23	1540-1606	4	4	8	11	12	12	13	15	13	20	30	31	28	20	20	15	8	4	5	5	8	10	14	16	15	10	6	5	4	4	4	4	4	3	2	2
							1	1	1	5	8	12	3	2	2	2	1					1	1	2	1	1	1	1	1	1							
28	1914	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	20	25	21	27	28	20	14	12	7	5	--	5	5	--	--	--	--	--
																				6	10	5	6	4	3	2											

Table 102 (Continued)

Date	Time of observation GMT	Degrees from astronomical north																																			
		180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
3	2100-2125	--	--	--	--	--	--	--	--	8	13	11	12	23	12	12	24	22	11	10	9	13	16	21	35	25	19	10	8	8	8	8	8	--	--	--	--
																1	3	10	13	11	1	14	13	13	17	2	1										
7	1622-1713	--	3	5	8	10	10	9	10	10	10	15	17	19	30	18	14	9	4	3	4	11	22	25	20	18	16	16	15	14	12	10	5	--	--	--	--
													1	2	14	13	13	10	3	1	1	3	5	10	11	9	9	9	2	2	2	1					
																						1	2	2	2	1											
8	1620-1657	--	--	--	5	4	--	--	--	5	5	10	14	19	19	15	10	10	5	--	--	8	16	35	28	28	26	23	17	14	12	10	8	8	--	--	--
													2	3	8	10	10	10	4			5	5	7	9	5	13	5	1					1	2	1	2
																							1	2	1	1	1	1									
9	2029-2052	--	--	5	8	5	7	5	4	8	11	17	24	30	18	15	13	10	10	10	12	18	25	29	29	30	22	16	13	10	8	--	--	--	--	--	--
													1	2	6	7	4					1	2	12	12	10	10	6	1								
												1	2	3	3	2	2	1			1	2	3	4	4	4	3	2	1								
10	1830-1855	--	--	--	--	--	--	--	--	7	14	24	25	31	18	14	11	10	11	11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
														4	1	2	1																				
11	1717-1738	3	4	7	7	8	9	9	7	9	15	25	32	32	27	15	13	12	11	11	10	17	16	16	28	29	29	20	17	13	9	8	7	7	4	--	--
		1	1	1					1	1	1	1	1	1	1	1	1	1		1	1	1	3	2	3	7	12	12	8	2	1		1	1	1	1	
												1	1	2	2	1	1	1	1	1	1	2	3	3	4	4	3	2	1								
12	1735-1801	4	5	8	8	9	9	9	9	8	13	22	28	34	30	21	18	14	11	11	13	19	20	20	17	12	9	9	9	8	7	7	6	5	4	4	3
											1	1	2	2	1												1	1	1								
16	1850-1920	--	--	--	--	--	--	--	8	10	13	18	29	27	17	17	15	14	11	10	10	11	11	9	8	15	16	23	15	9	--	--	--	--	--	--	--
										1	1	1	3	2	1												10	3	2								
										1	1	2	3	3	2	2	1	1	1								1	1									
17	1624-1652	--	--	--	--	--	--	--	--	--	8	14	23	20	20	13	11	12	11	10	9	8	9	9	10	13	17	23	23	10	--	--	--	--	--	--	--
										2	3	3	10	1	1						1	1			1	2	10	2	1								
											1	1	2	3	3	2	2	2	1	1	1	1	1	1	1	1	2	2	2	1							
21	1814-1849	3	4	6	8	8	6	5	5	6	12	19	36	38	40	36	25	15	14	16	20	30	28	29	28	28	22	20	15	12	10	9	7	7	7	5	3
										1	2	9	16	11	9	13	3	1	1	6	15	10	6	2	1												
22	[1620-1647 1742-1751]	3	4	6	7	7	5	6	6	8	12	19	28	36	39	40	28	18	15	17	20	27	27	27	26	22	19	16	12	10	9	6	9	7	5	4	3
										1	2	10	18	16	3	18	16	3	7	1	4	12	5	2	1									1	1		
23	1540-1606	2	3	5	6	5	4	3	3	7	12	16	27	27	27	26	20	14	10	18	26	28	20	18	17	16	16	15	10	8	5	6	7	7	5	4	4
										1	1	4	13	8	8	15	5	5	3	2	5	6	5	3	1	1											

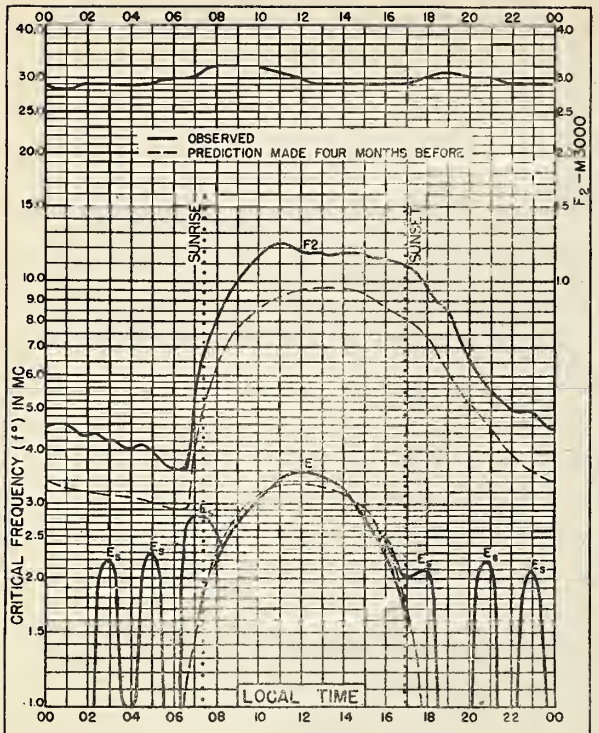

Fig. 1. WASHINGTON, D. C.
39.0°N, 77.5°W JANUARY 1947

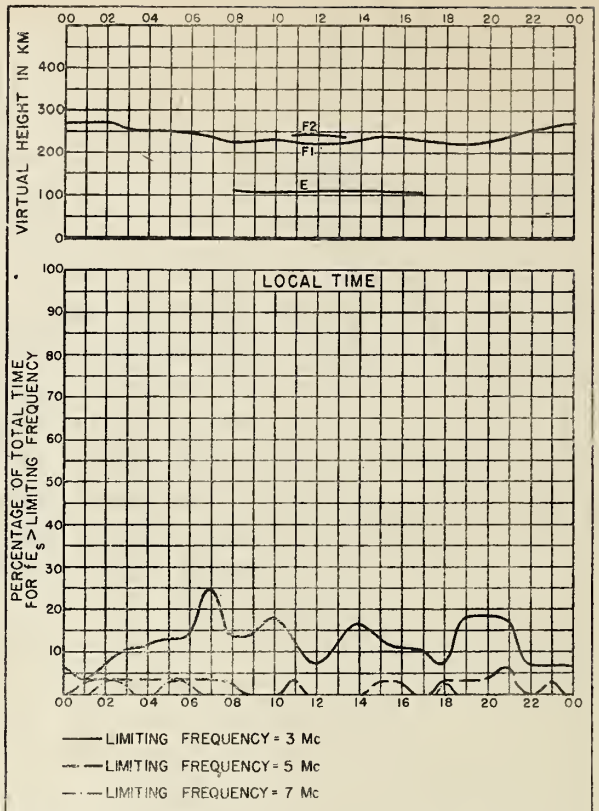

Fig. 2. WASHINGTON, D. C. JANUARY 1947

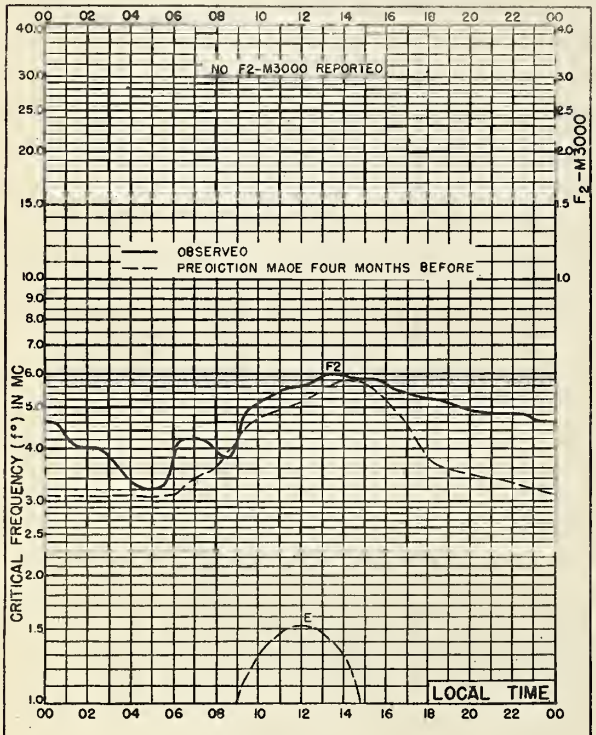

Fig. 3. CLYDE, BAFFIN I.
70.5°N, 68.6°W DECEMBER 1946

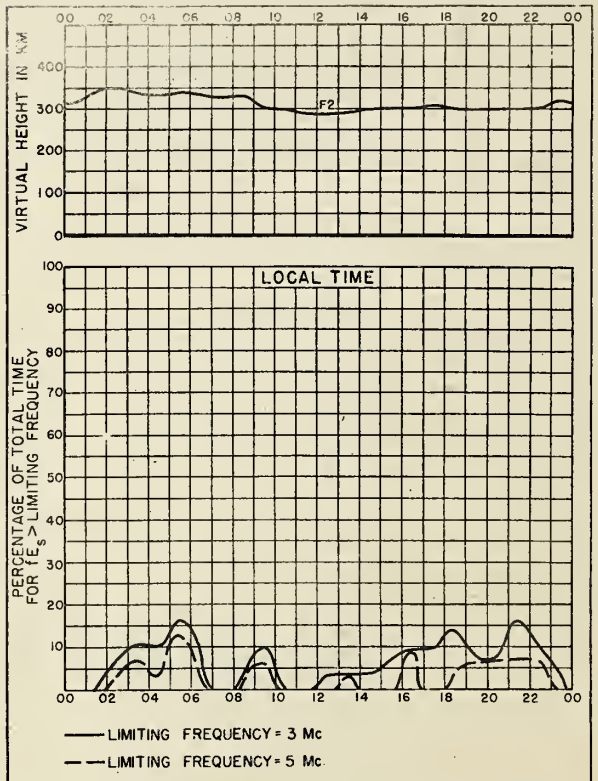

Fig. 4. CLYDE, BAFFIN I. DECEMBER 1946

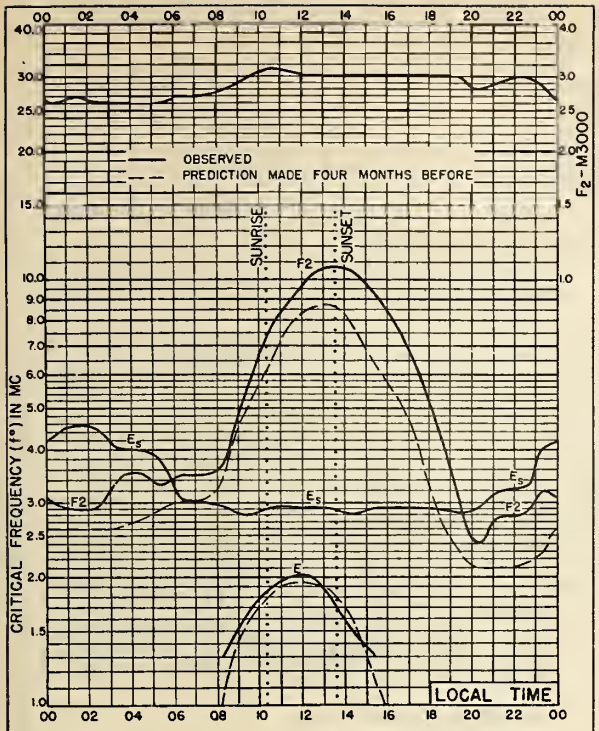

Fig. 5. FAIRBANKS, ALASKA
64.9°N, 147.8°W DECEMBER 1946

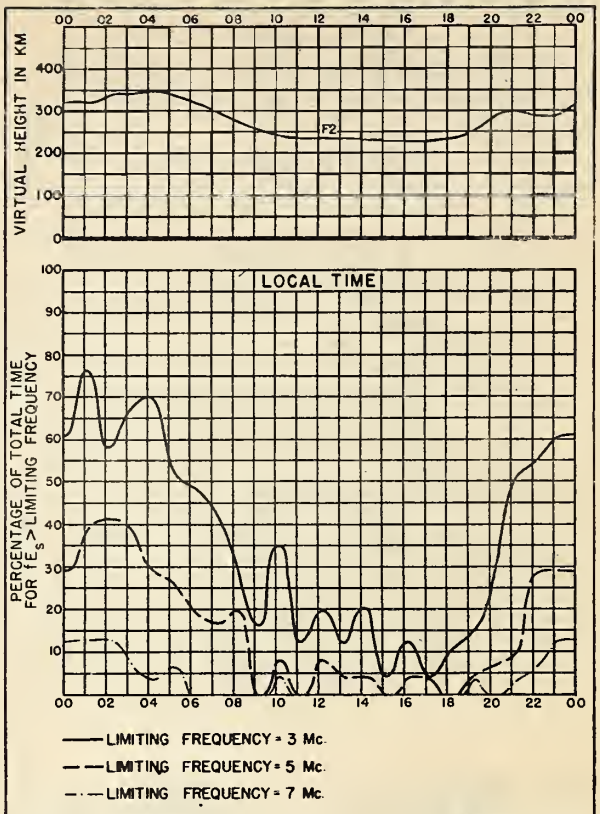

Fig. 6. FAIRBANKS, ALASKA DECEMBER 1946

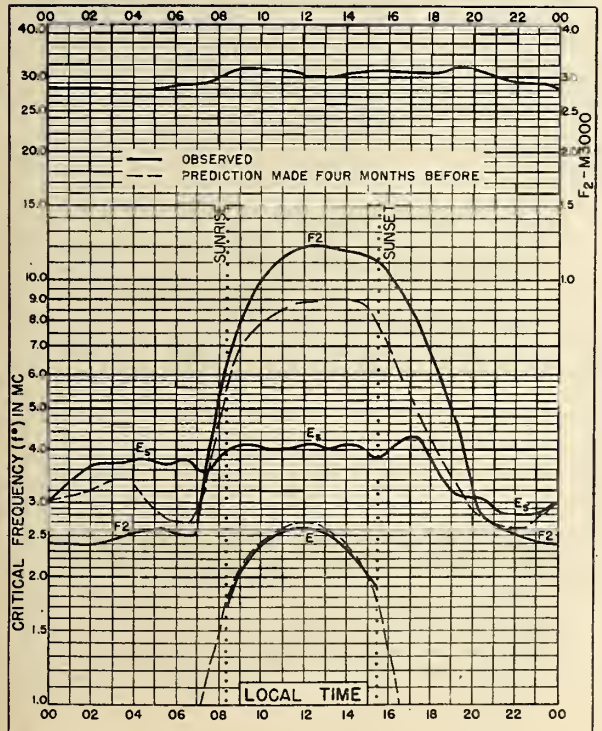

Fig. 7. PRINCE RUPERT, CANADA
54.3°N, 130.3°W DECEMBER 1946

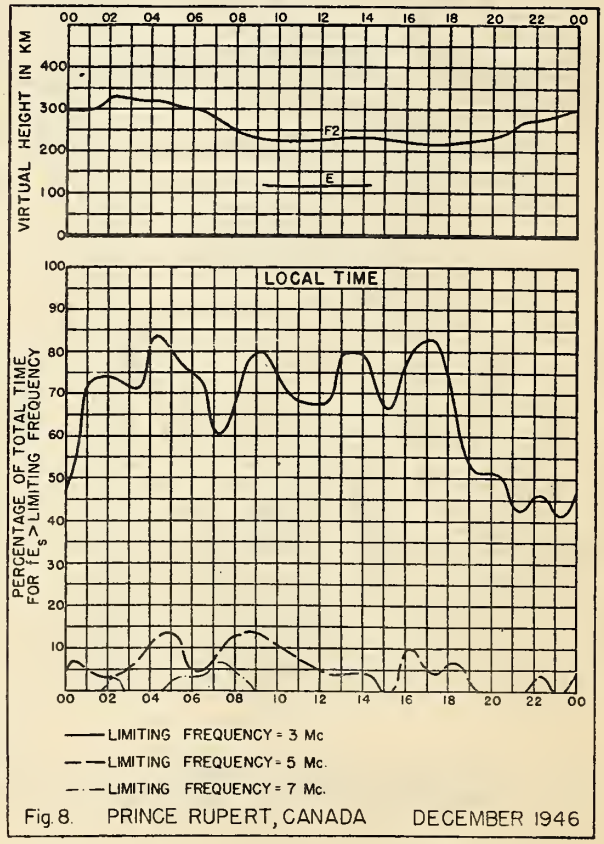

Fig. 8. PRINCE RUPERT, CANADA DECEMBER 1946

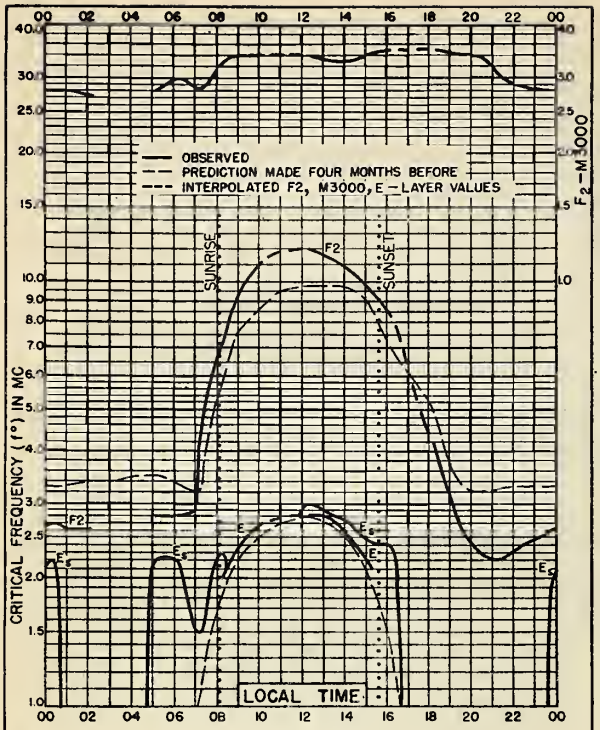

Fig. 9. ADAK, ALASKA
51.9°N, 176.6°W DECEMBER 1946

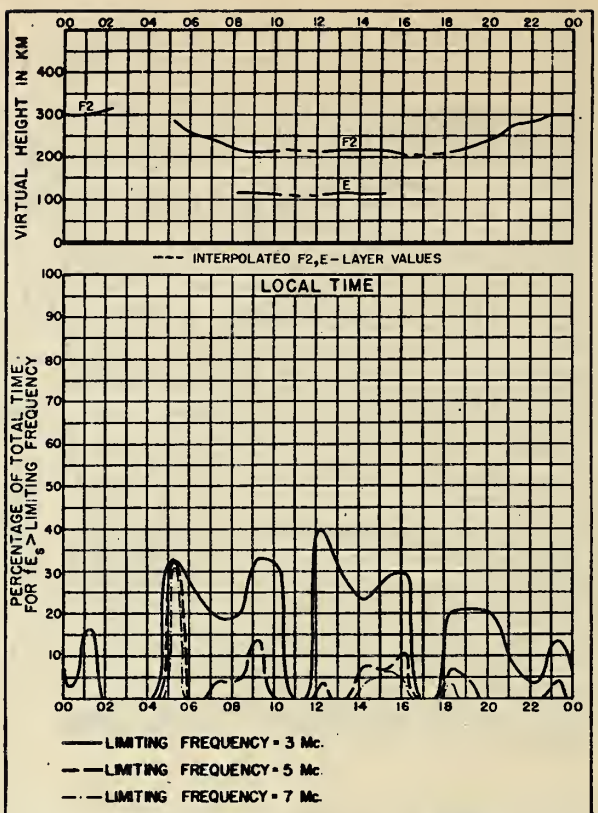

Fig. 10. ADAK, ALASKA DECEMBER 1946

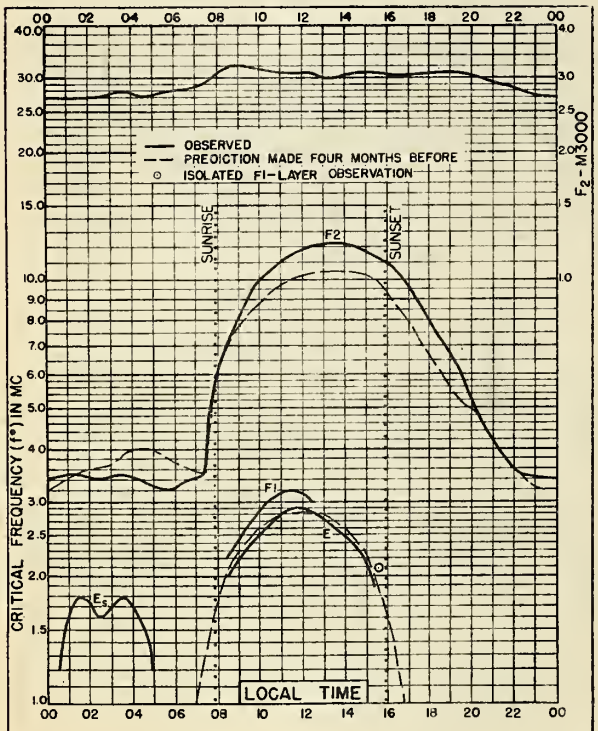

Fig. 11. PORTAGE la PRAIRIE, MANITOBA
49.9°N, 98.3°W DECEMBER 1946

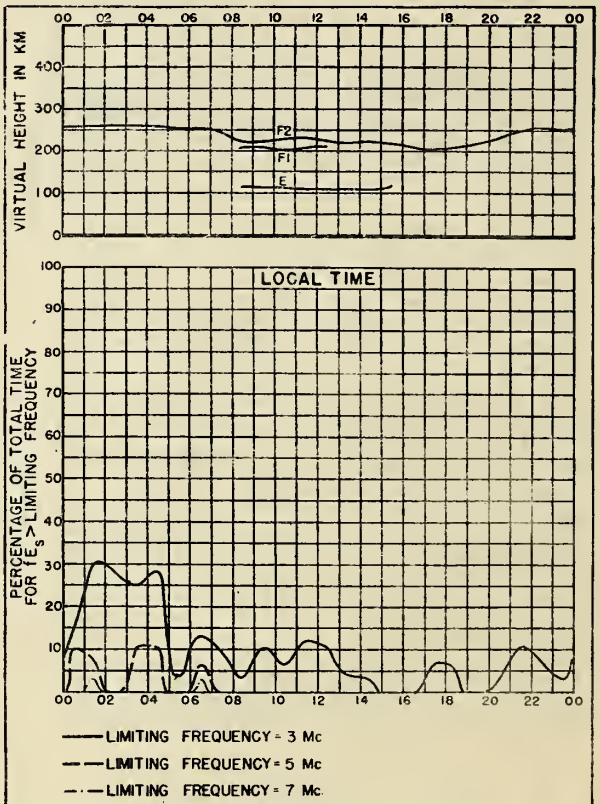

Fig. 12. PORTAGE la PRAIRIE, MANITOBA DECEMBER 1946

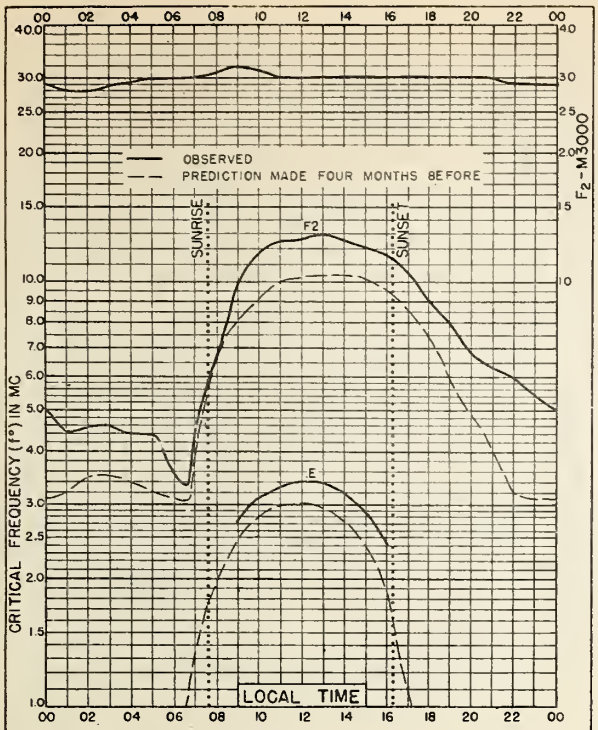

Fig. 13. OTTAWA, CANADA
45.5°N, 75.8°W DECEMBER 1946

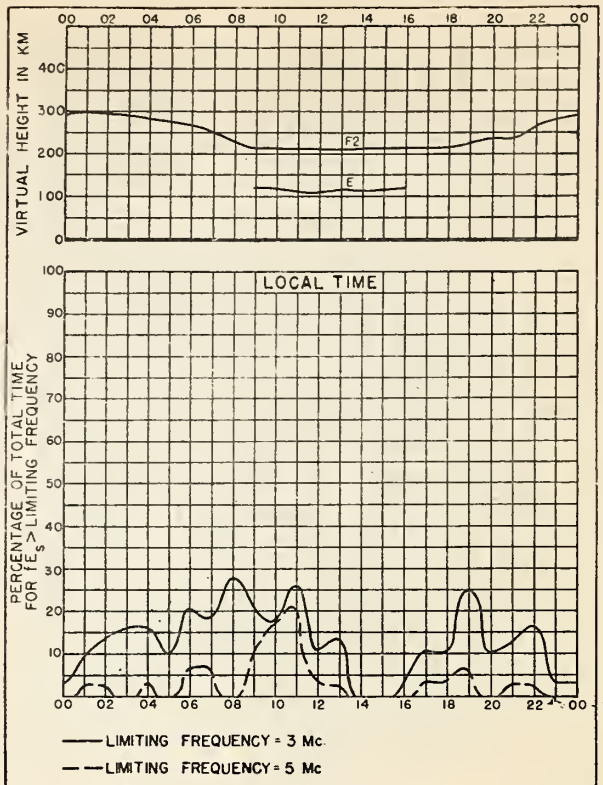

Fig. 14. OTTAWA, CANADA DECEMBER 1946

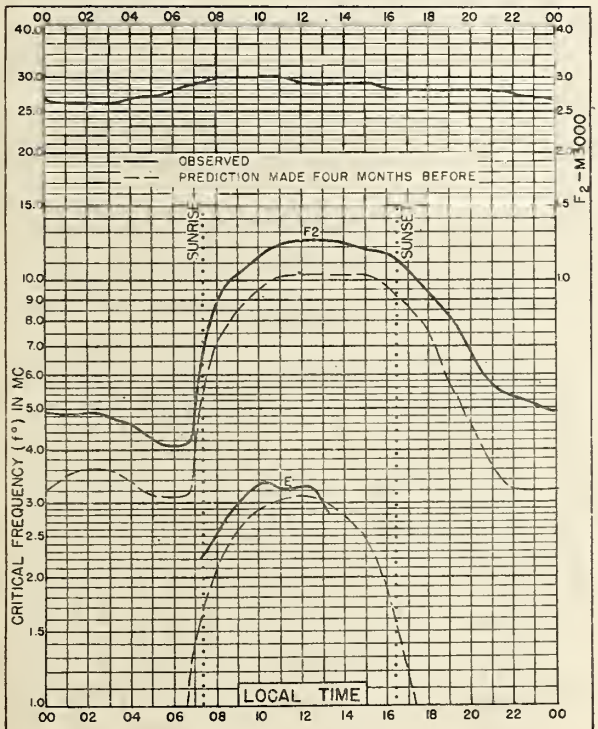

Fig. 15. BOSTON, MASSACHUSETTS
42.4°N, 71.2°W DECEMBER 1946

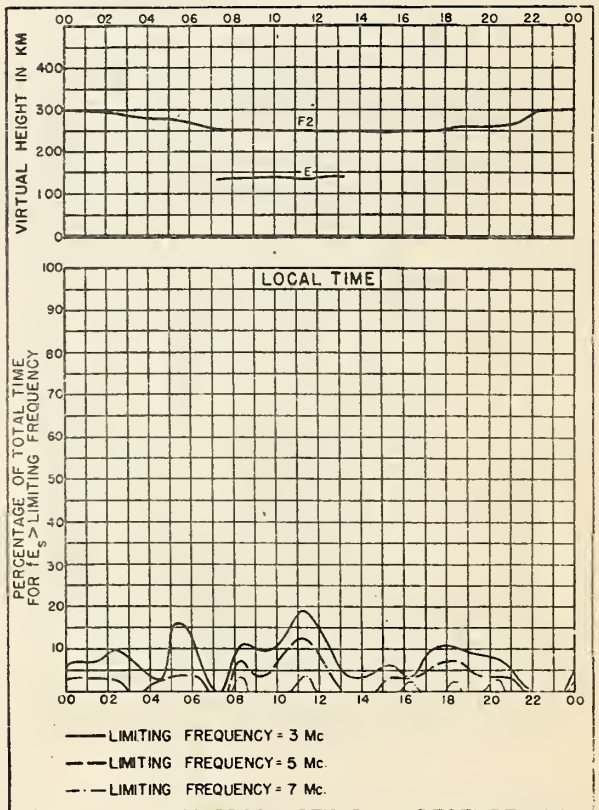

Fig. 16. BOSTON, MASSACHUSETTS DECEMBER 1946

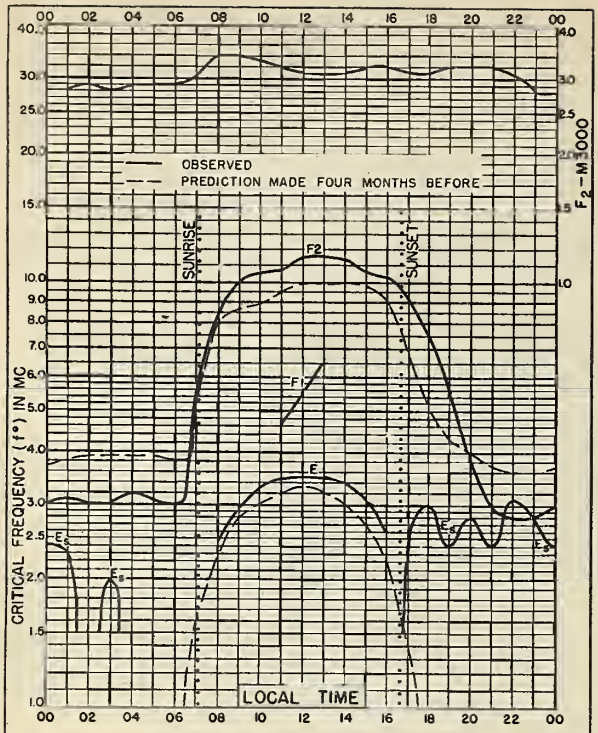

Fig. 17. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W DECEMBER 1946

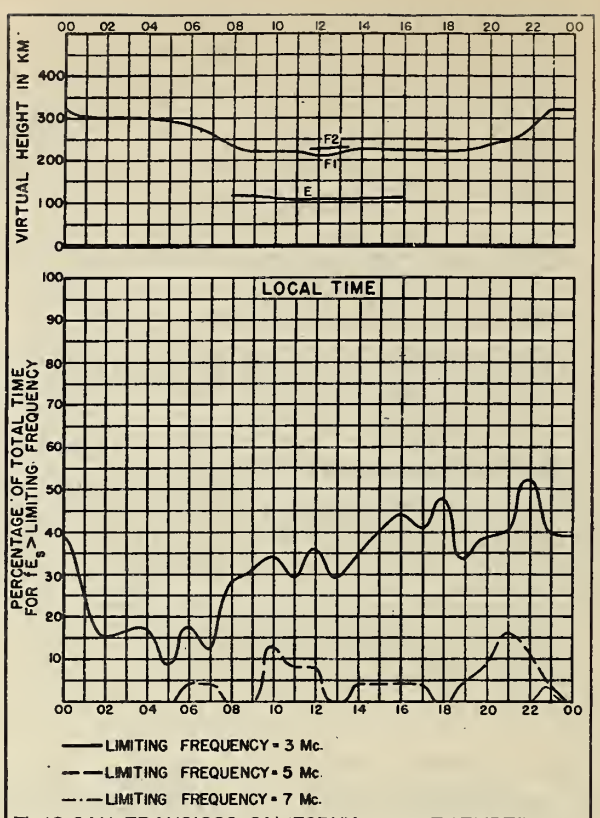

Fig.18. SAN FRANCISCO, CALIFORNIA DECEMBER 1946

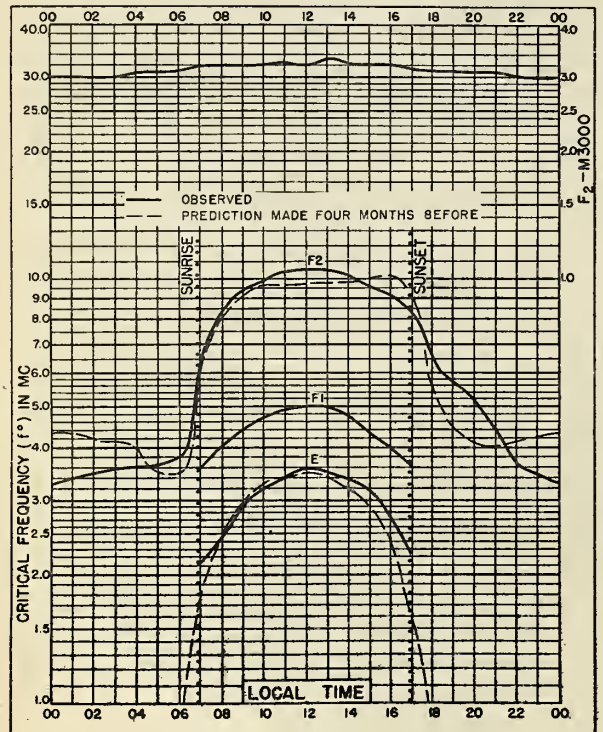

Fig.19. BATON ROUGE, LOUISIANA
30.5°N, 91.2°W DECEMBER 1946

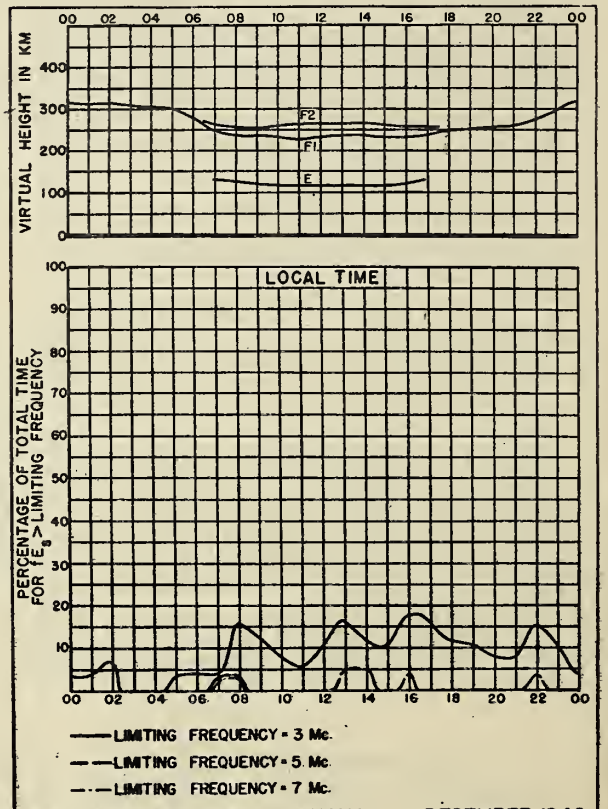

Fig.20. BATON ROUGE, LOUISIANA DECEMBER 1946

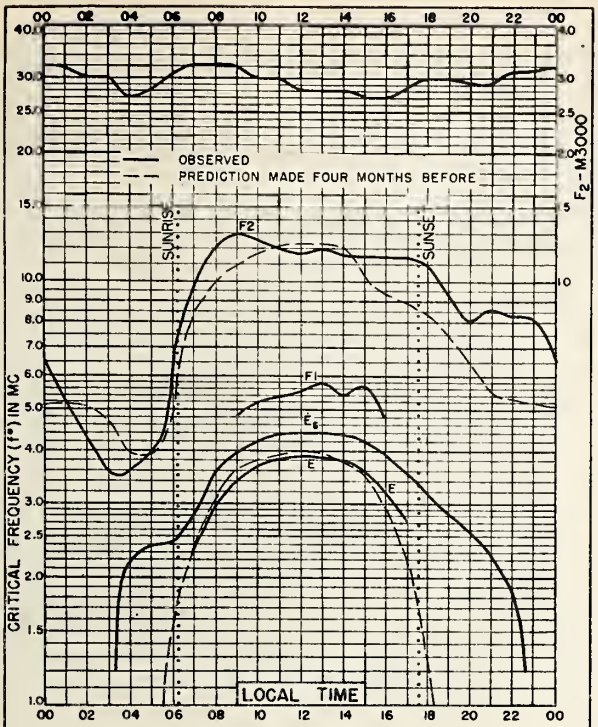

Fig. 21. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.2°W DECEMBER 1946

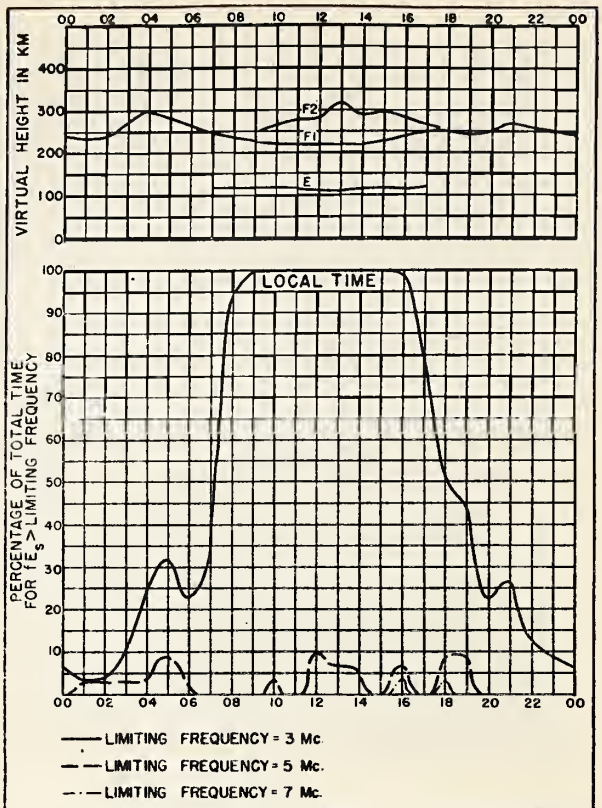

Fig. 22. TRINIDAD, BRIT. WEST INDIES DECEMBER 1946

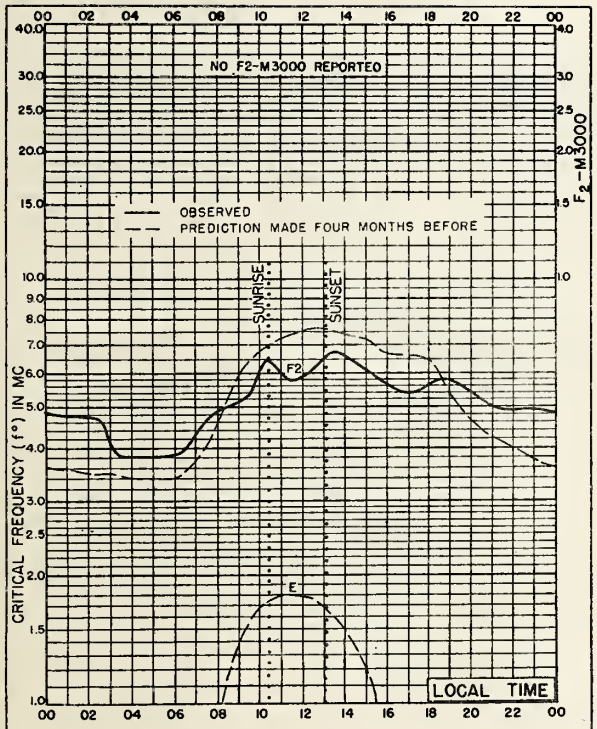

Fig. 23. CLYDE, BAFFIN I.
70.5°N, 68.6°W NOVEMBER 1946

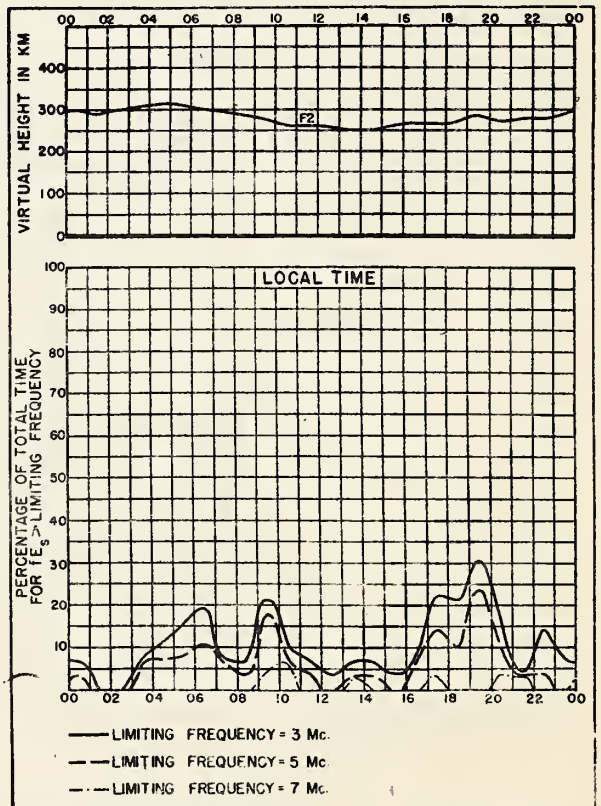

Fig. 24. CLYDE, BAFFIN I. NOVEMBER 1946

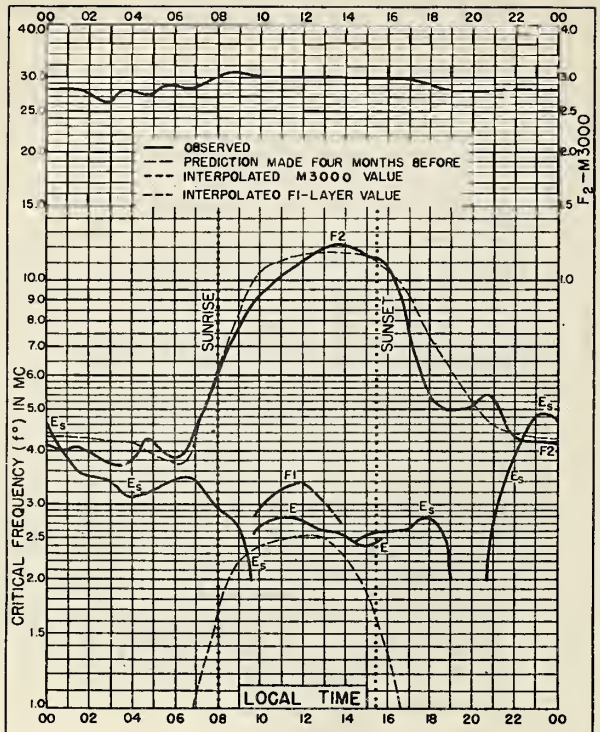

Fig.25. CHURCHILL, CANADA
58.8°N, 94.2°W NOVEMBER 1946

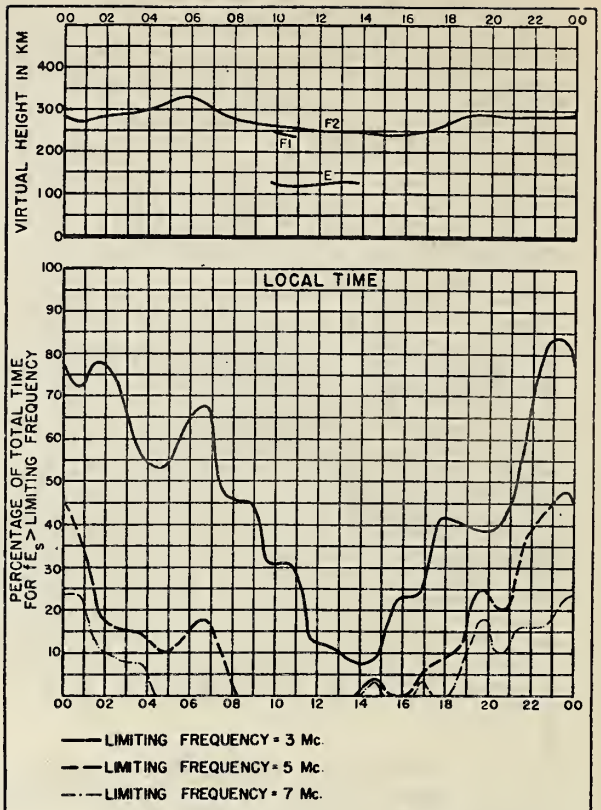

Fig.26. CHURCHILL, CANADA NOVEMBER 1946

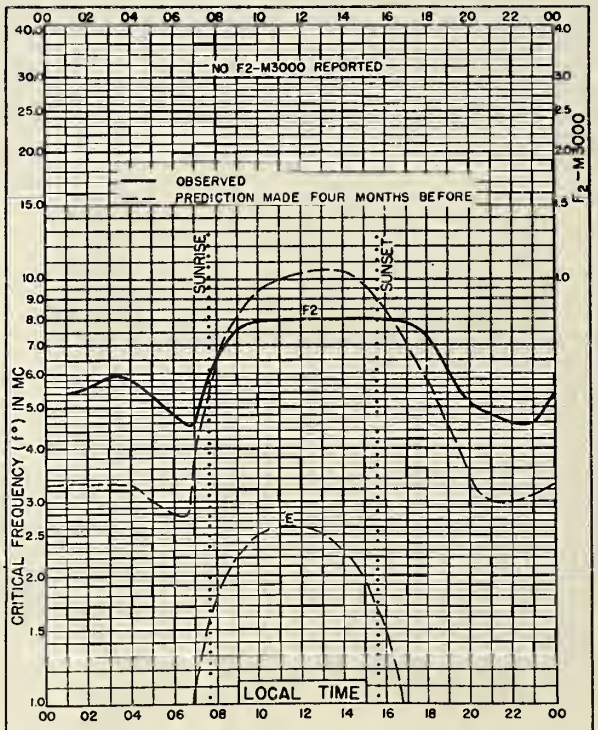

Fig.27. BURGHEAD, SCOTLAND
57.7°N, 3.5°W NOVEMBER 1946

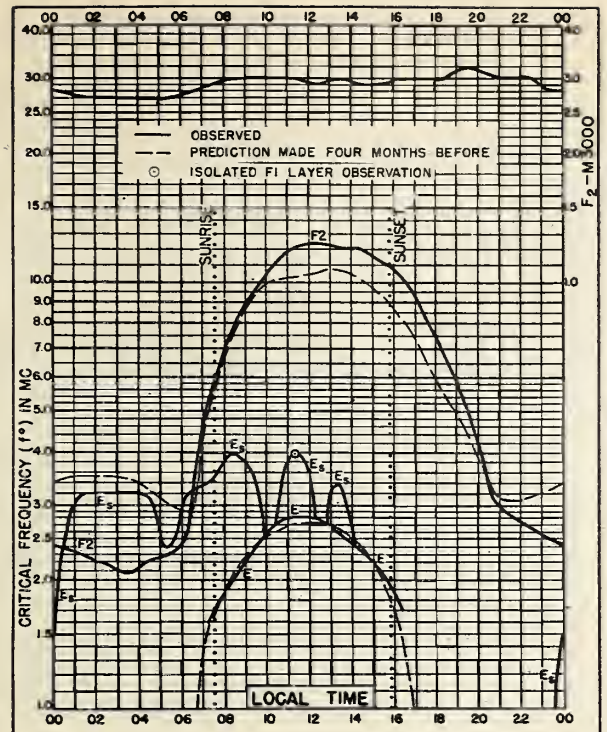

Fig.28. PRINCE RUPERT, CANADA
54.3°N, 130.3°W NOVEMBER 1946

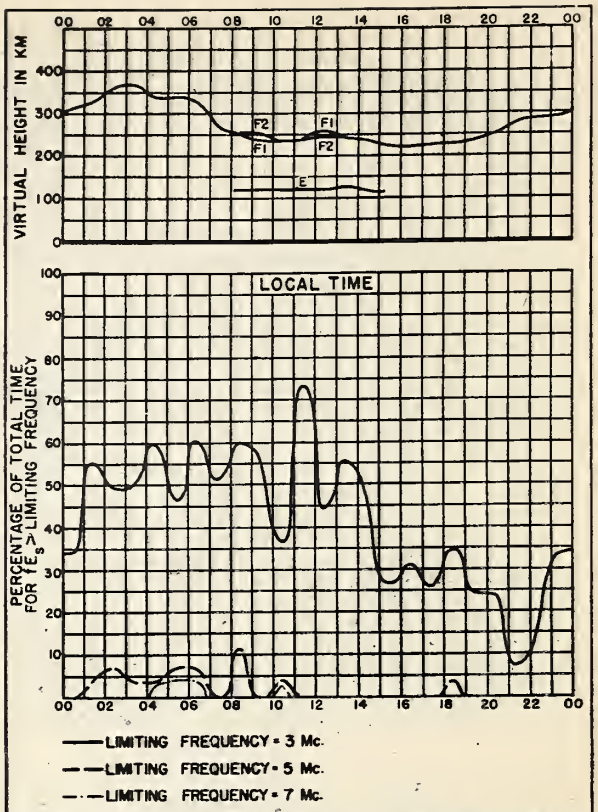

Fig.29. PRINCE RUPERT, CANADA NOVEMBER 1946

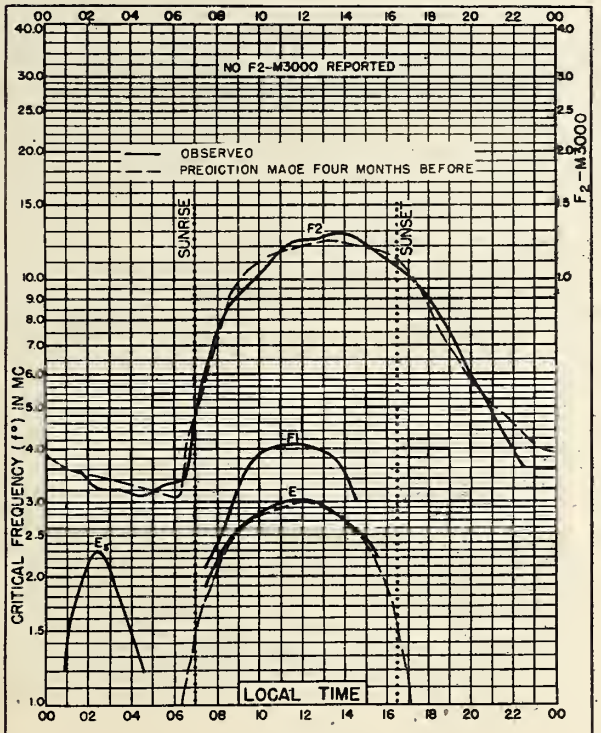

Fig.30. PORTAGE la PRAIRIE, MANITOBA
49.9°N, 98.3°W NOVEMBER 1946

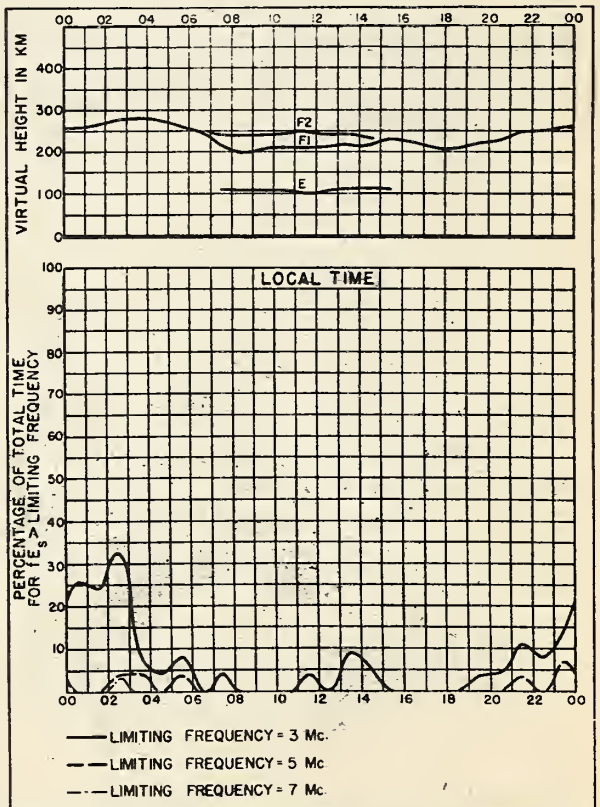

Fig.31. PORTAGE la PRAIRIE, MANITOBA NOVEMBER 1946

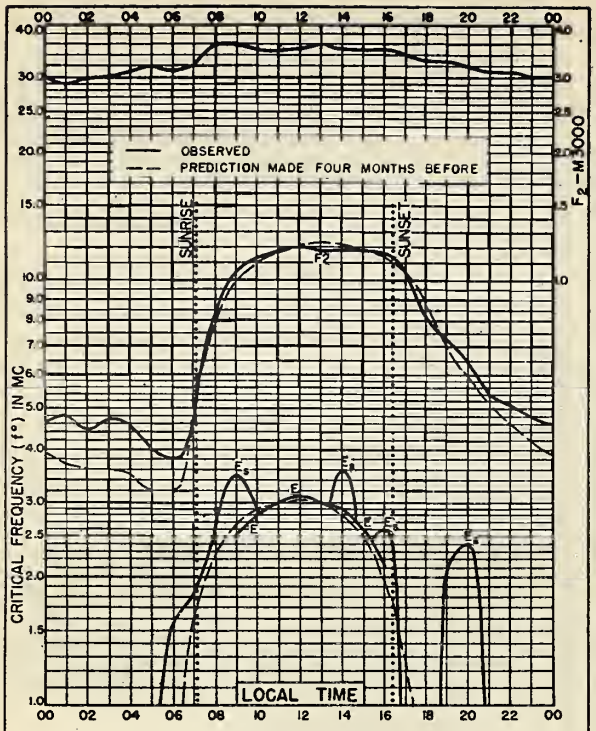

Fig. 32. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W NOVEMBER 1946

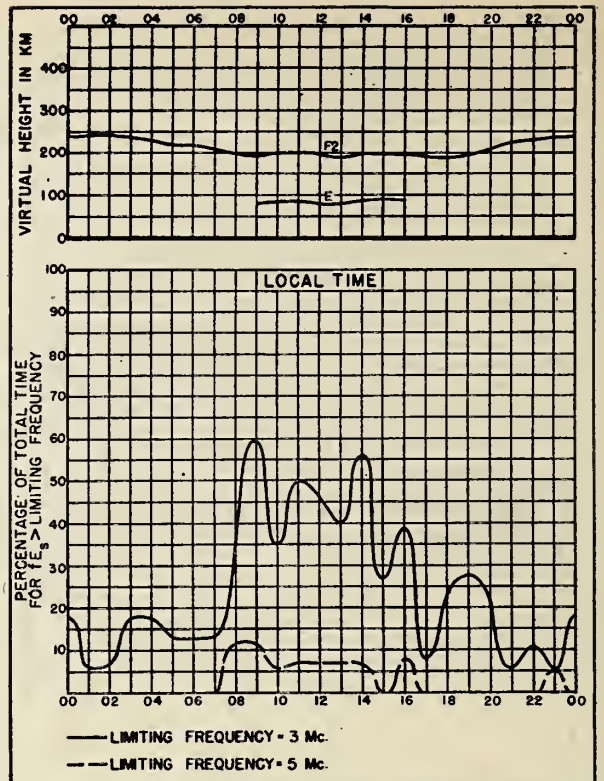

Fig. 33. ST. JOHN'S, NEWFOUNDLAND NOVEMBER 1946

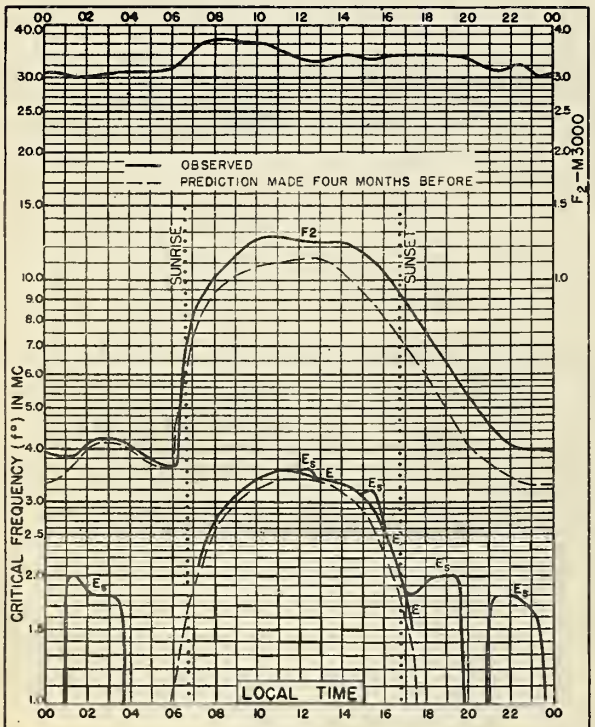

Fig. 34. SHIBATA, JAPAN
37.9°N, 139.3°E NOVEMBER 1946

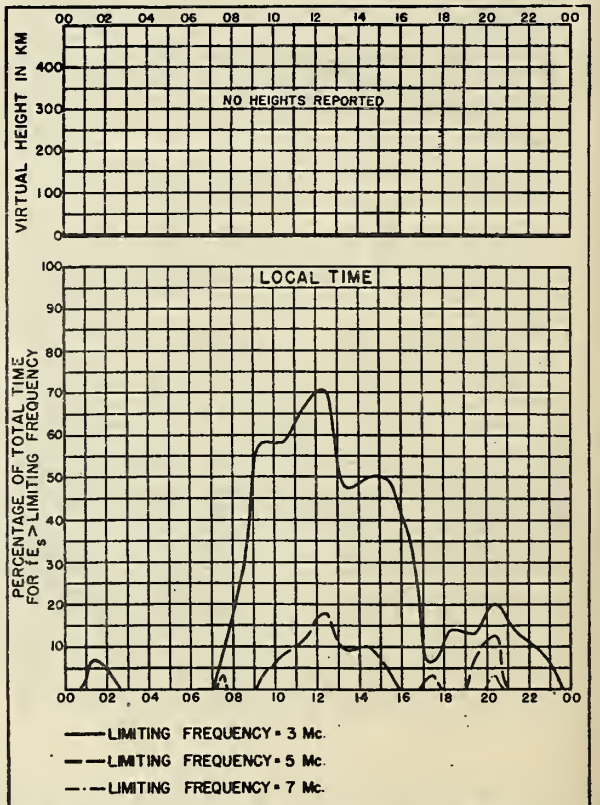

Fig. 35. SHIBATA, JAPAN NOVEMBER 1946

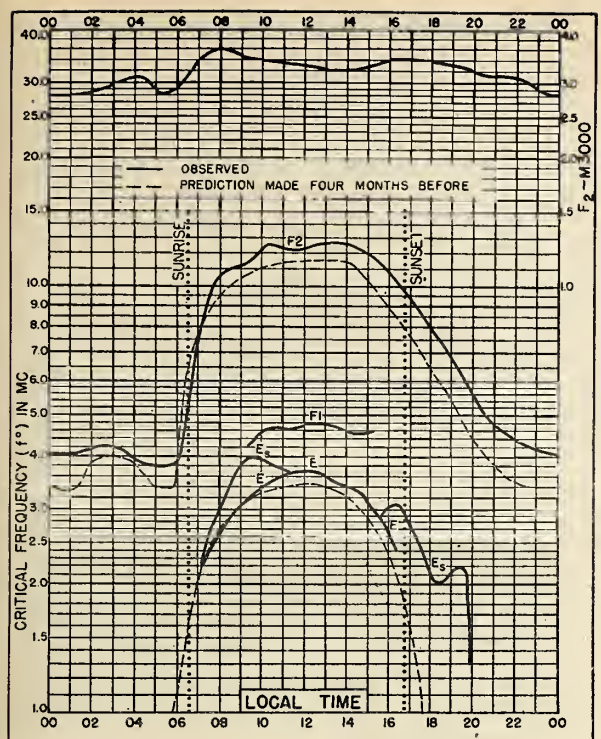

Fig. 36. TOKYO, JAPAN
35.6°N, 139.6°E NOVEMBER 1946

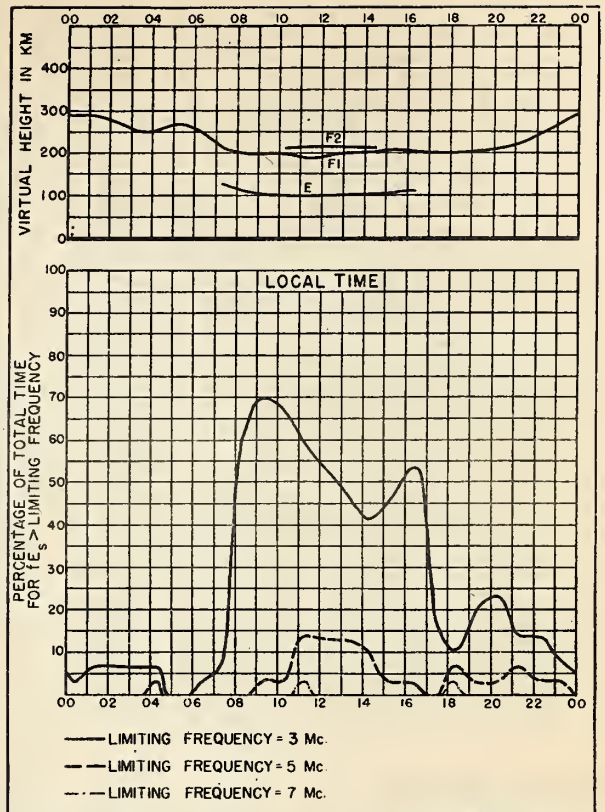

Fig. 37. TOKYO, JAPAN NOVEMBER 1946

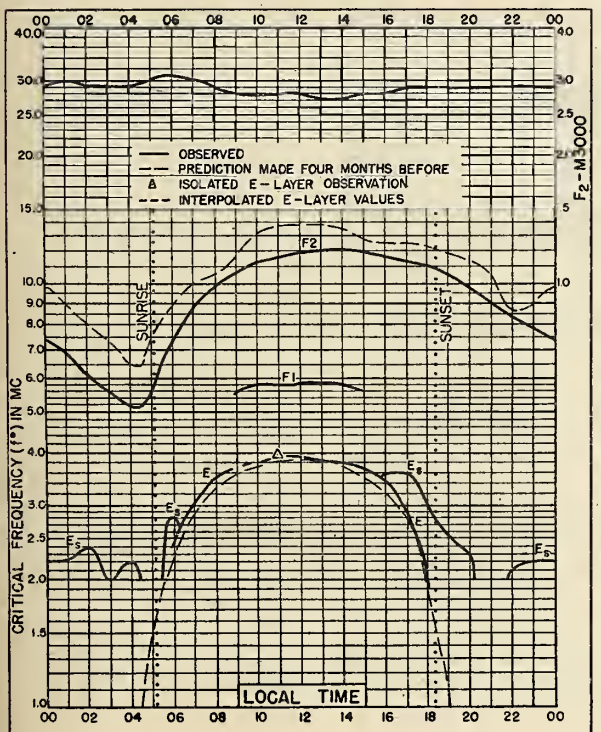

Fig. 38. JOHANNESBURG, U. OF S. AFRICA
26.2°S, 28.0°E NOVEMBER 1946

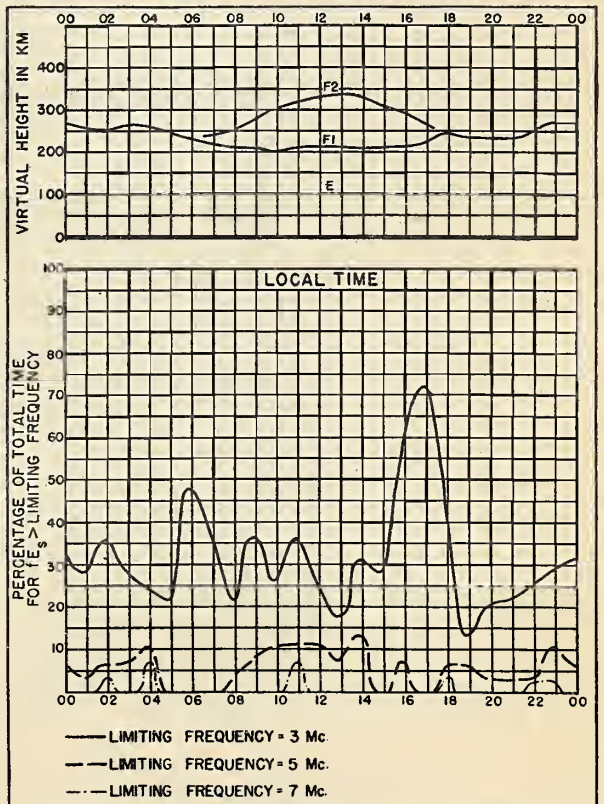

Fig. 39. JOHANNESBURG, U. OF S. AFRICA NOVEMBER 1946

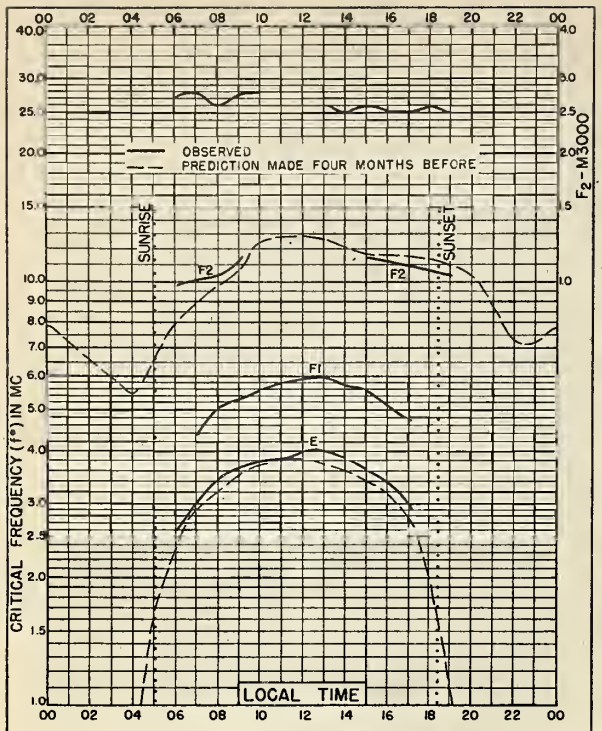

Fig. 40. KERMADEC IS.
29.2°S, 177.9°W NOVEMBER 1946

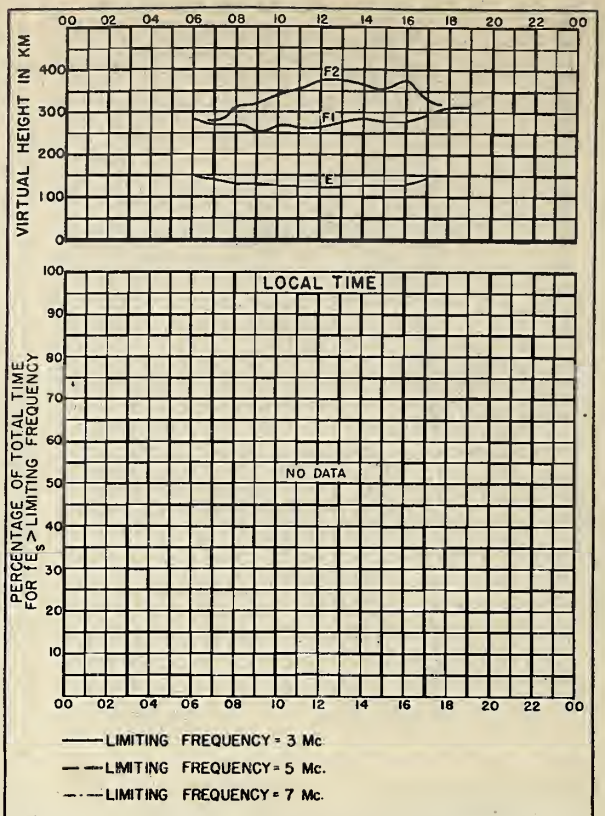

Fig. 41. KERMADEC IS. NOVEMBER 1946

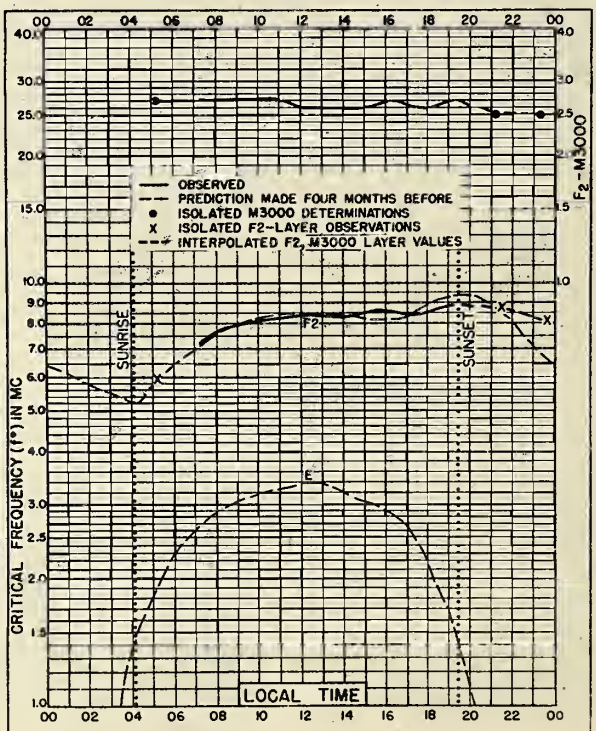

Fig. 42. CAMPBELL I.
52.5°S, 169.0°E NOVEMBER 1946

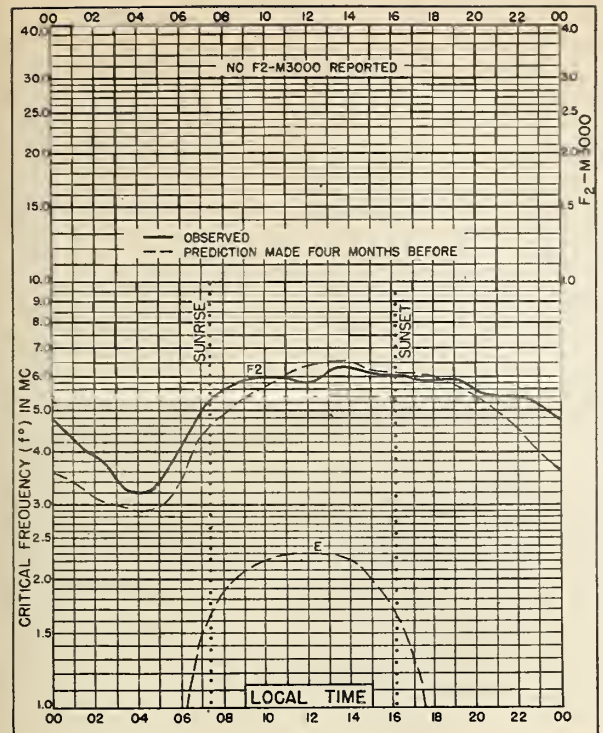

Fig. 43. CLYDE, BAFFIN I.
70.5°N, 68.6°W OCTOBER 1946

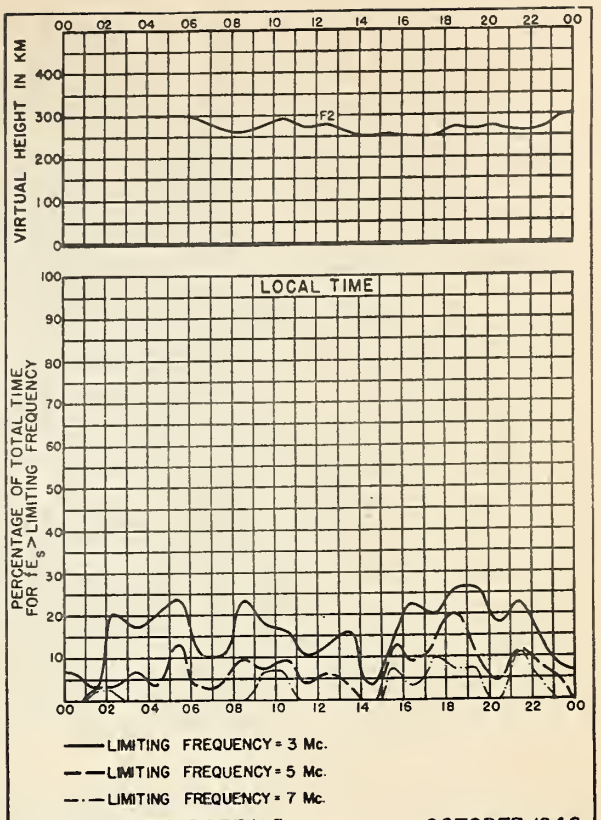

Fig. 44. CLYDE, BAFFIN I. OCTOBER 1946

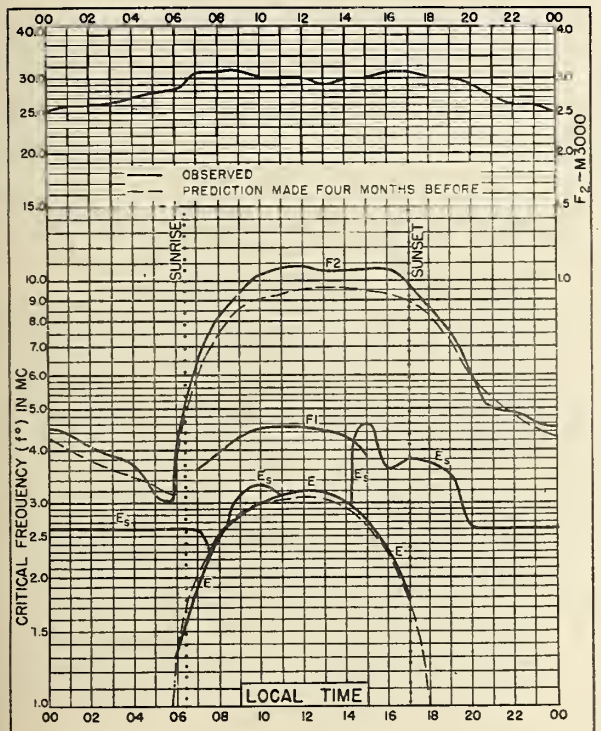

Fig. 45. SLOUGH, ENGLAND
51.5°N, 0.6°W OCTOBER 1946

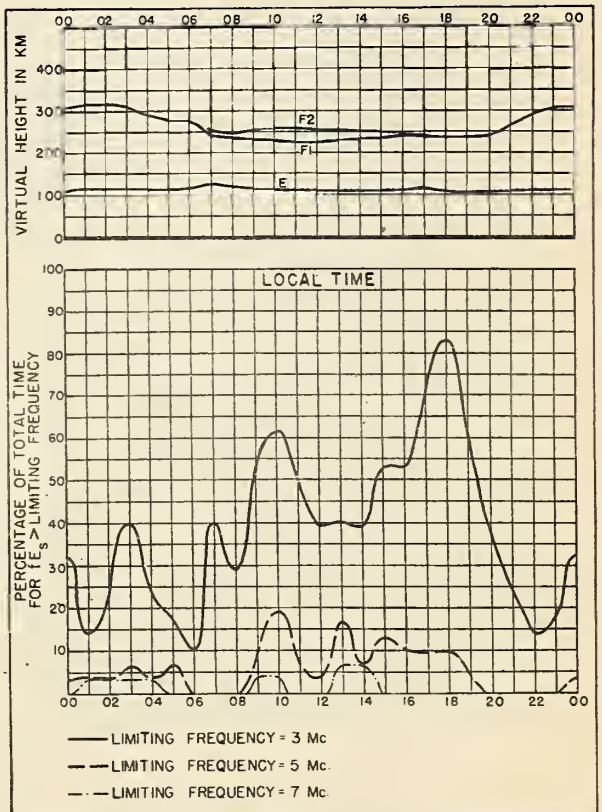

Fig. 46. SLOUGH, ENGLAND. OCTOBER 1946

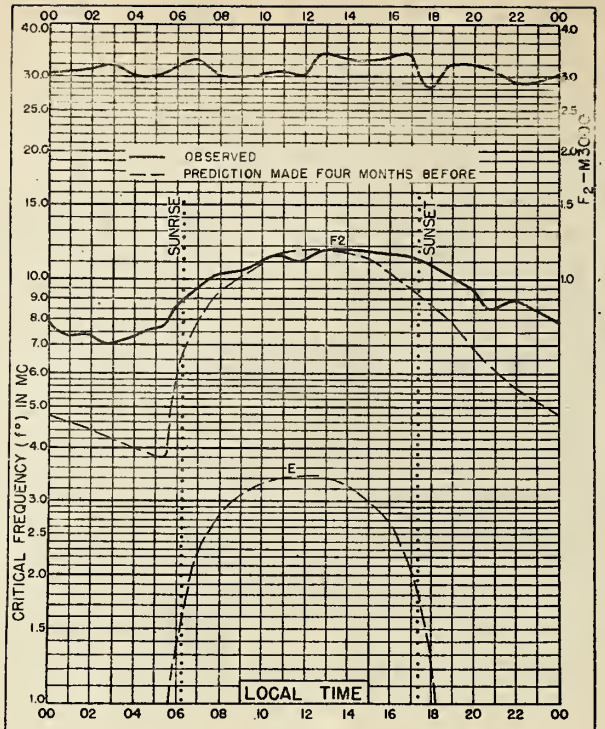

Fig. 47. PEIPING, CHINA
39.9°N, 116.4°E OCTOBER 1946

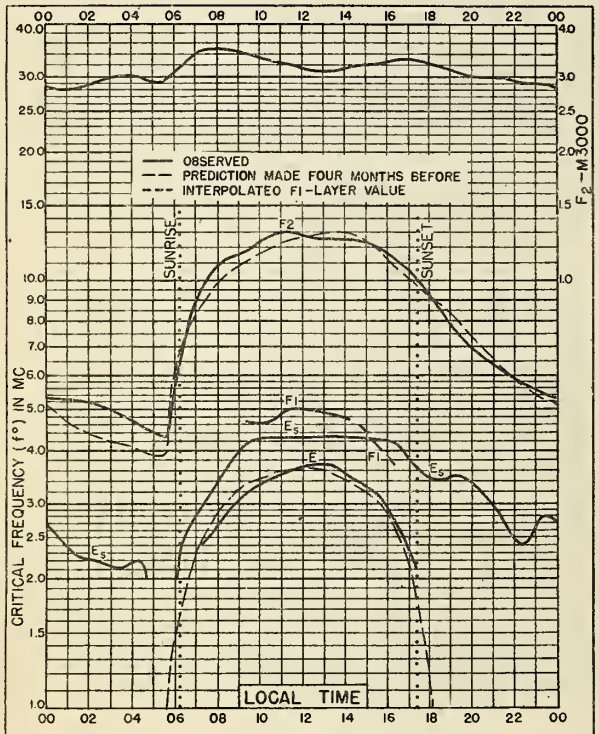

Fig. 48. TOKYO, JAPAN
35.6°N, 139.6°E OCTOBER 1946

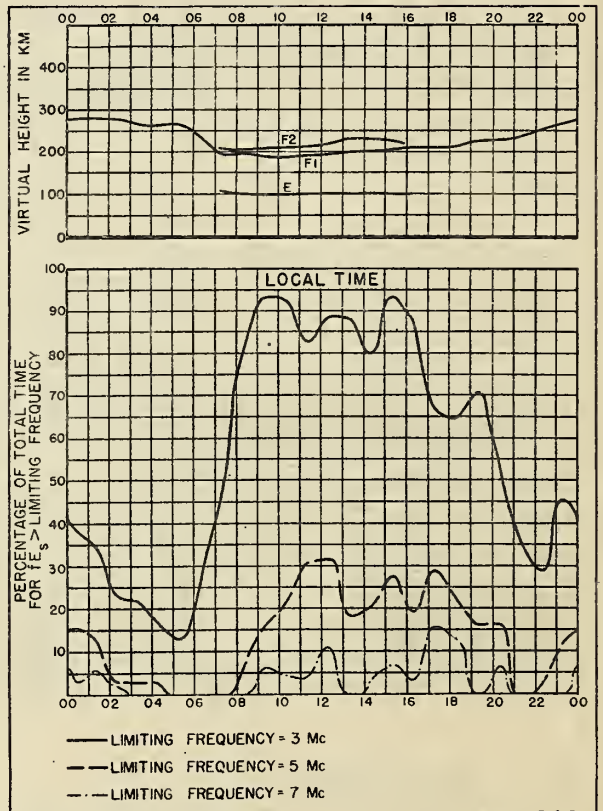

Fig. 49. TOKYO, JAPAN OCTOBER 1946

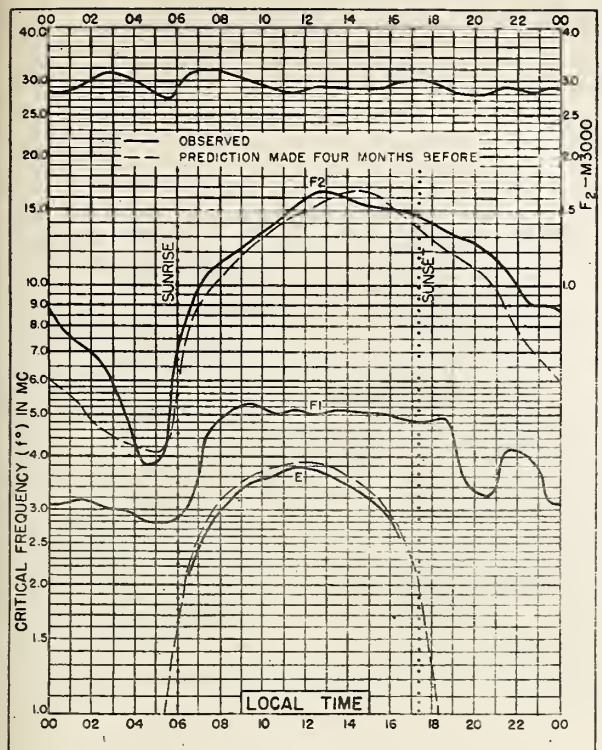

Fig. 50. OKINAWA I.
26.3°N, 127.8°E OCTOBER 1946

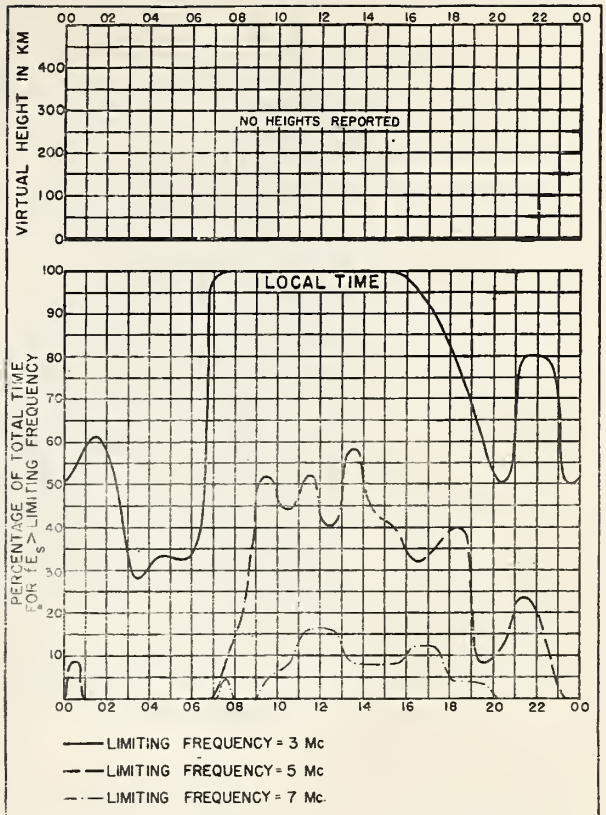

Fig. 51. OKINAWA I. OCTOBER 1946

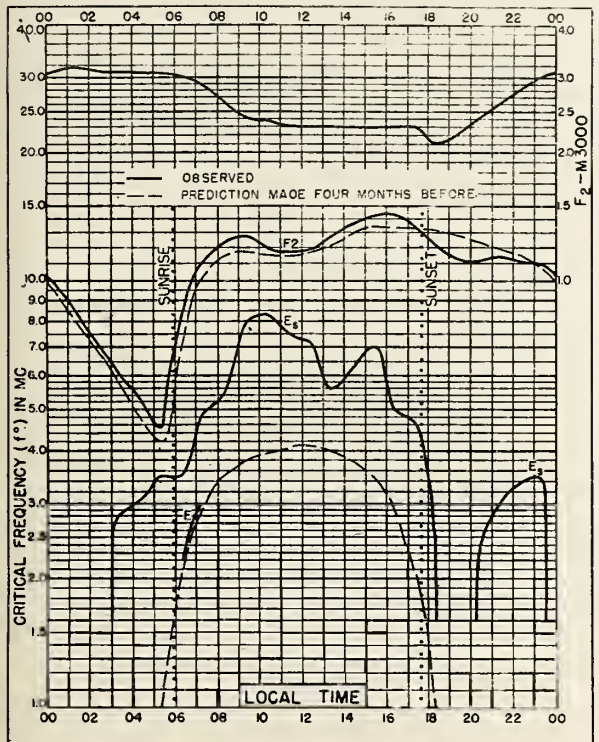

Fig. 52. LEYTE, PHILIPPINE IS.
11.0°N, 125.0°E OCTOBER 1946

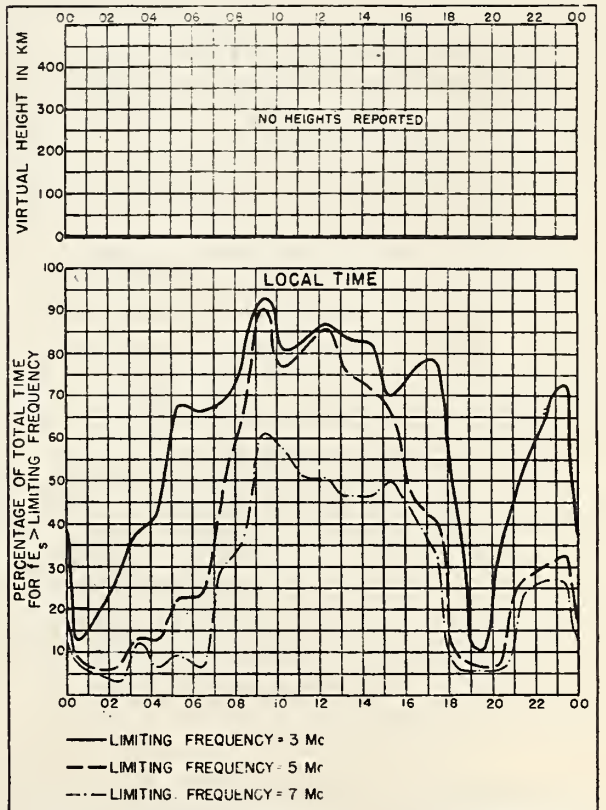

Fig. 53. LEYTE, PHILIPPINE IS. OCTOBER 1946

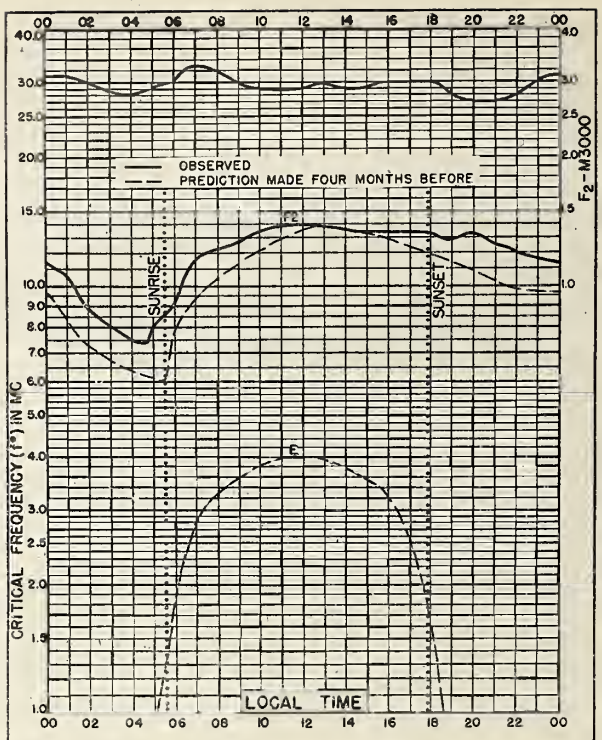

Fig. 54. RAROTONGA I.
21.3°S, 159.8°W OCTOBER 1946

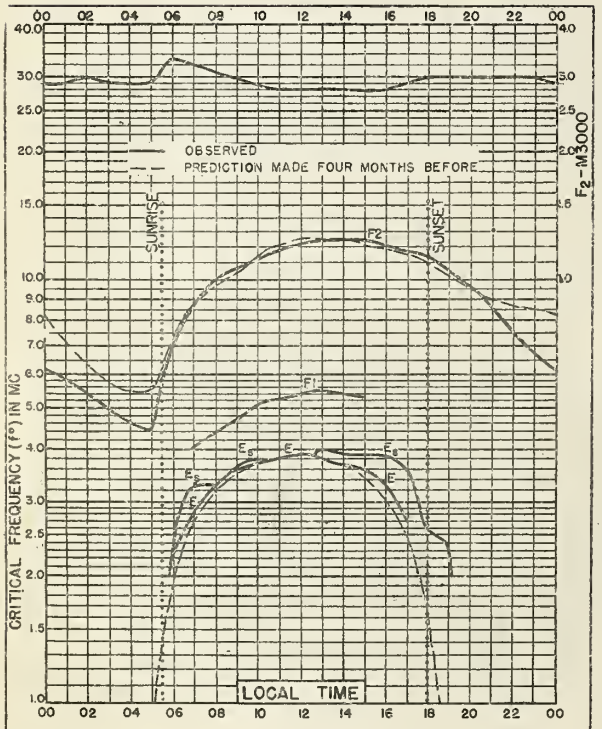

Fig. 55. JOHANNESBURG, UNION OF S. AFRICA
26.2°S, 28.0°E OCTOBER 1946

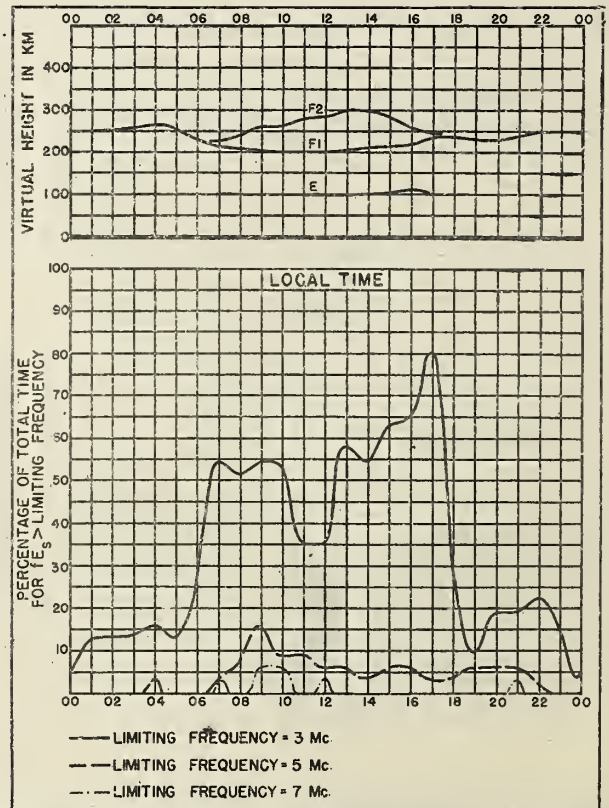

Fig. 56. JOHANNESBURG, UNION OF S. AFRICA OCTOBER 1946

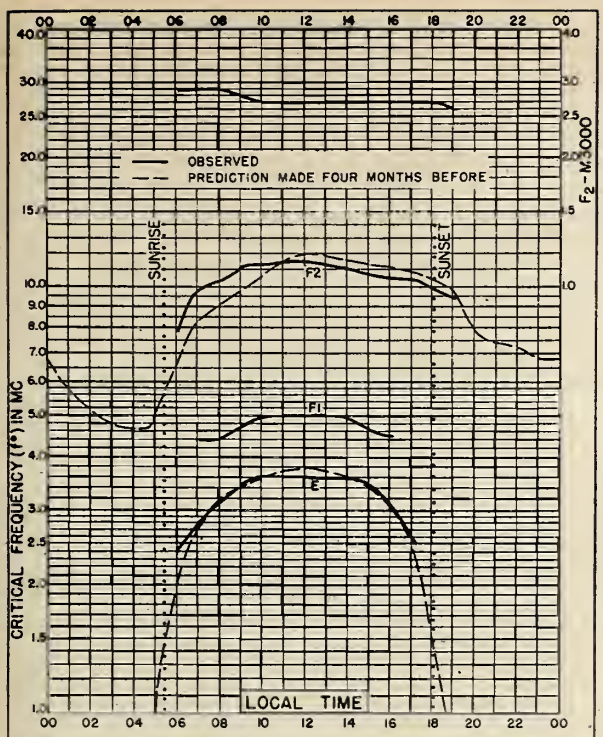

Fig. 57. KERMADEC IS.
29.2°S, 177.9°W OCTOBER 1946

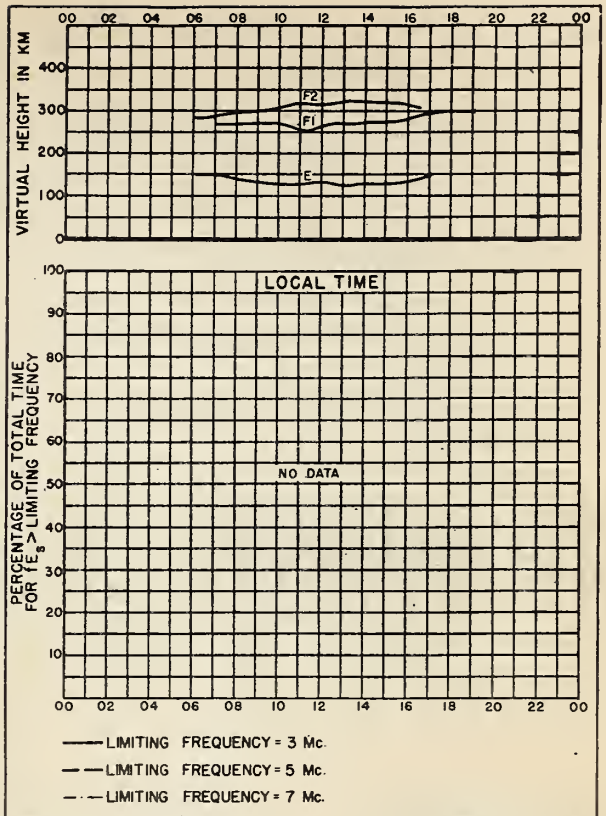

Fig. 58. KERMADEC IS. OCTOBER 1946

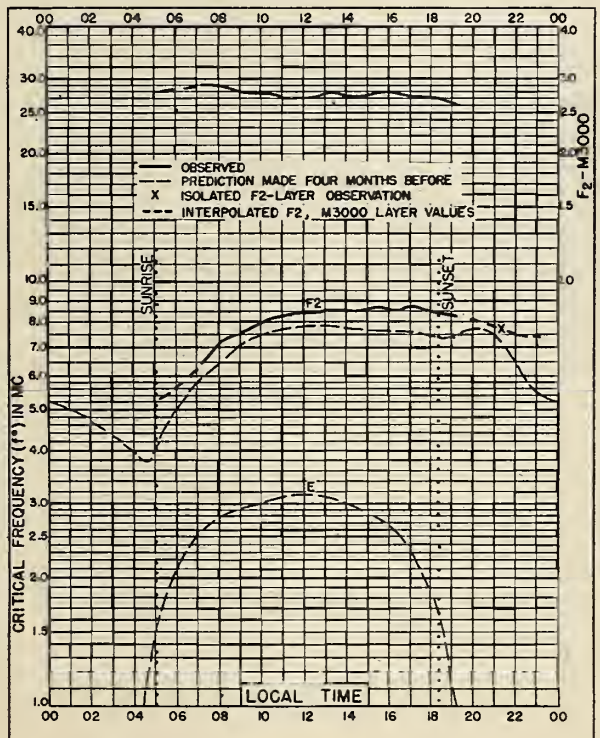

Fig. 59. CAMPBELL I.
52.5°S, 169.0°E OCTOBER 1946

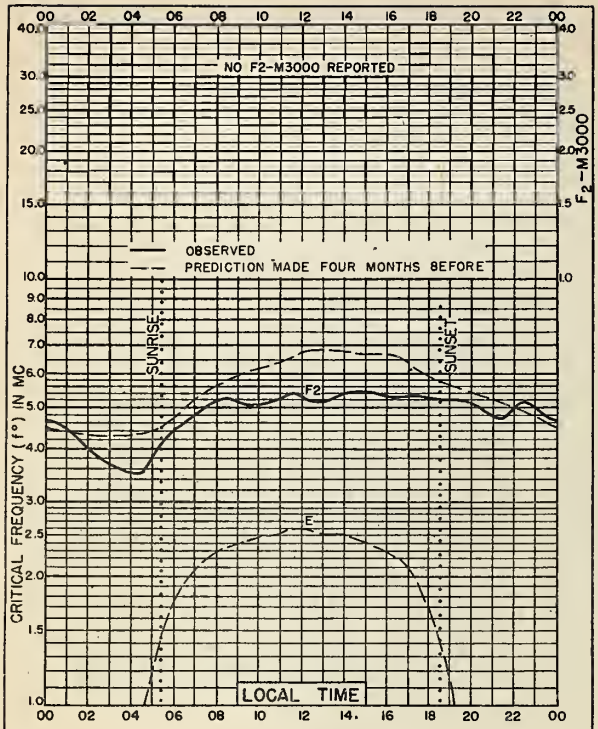

Fig. 60. CLYDE, BAFFIN I.
70.5°N, 68.6°W SEPTEMBER 1946

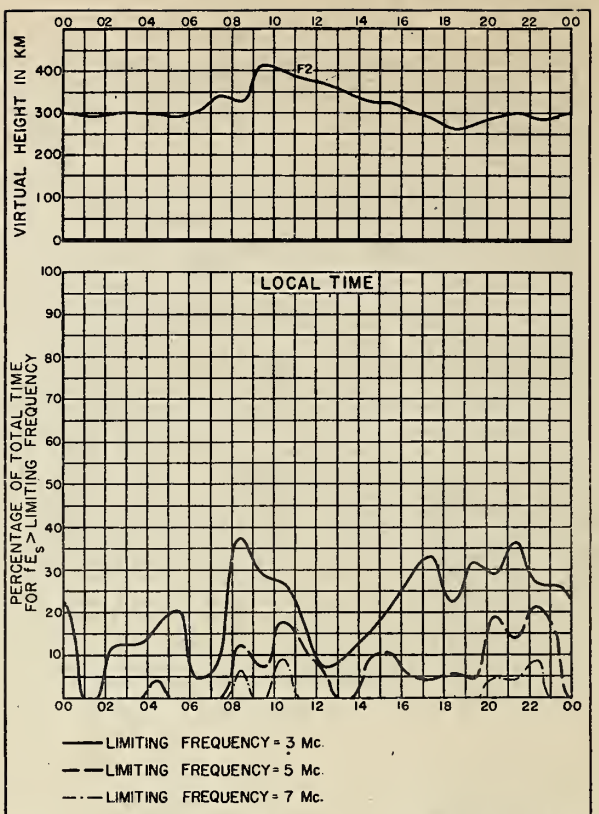

Fig. 61. CLYDE, BAFFIN I. SEPTEMBER 1946

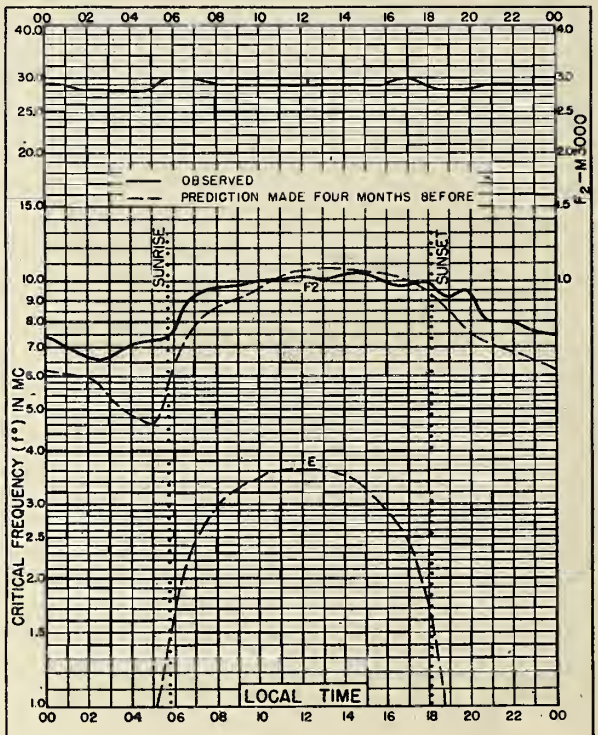

Fig. 62. PEIPING, CHINA
39.9°N, 116.4°E SEPTEMBER 1946

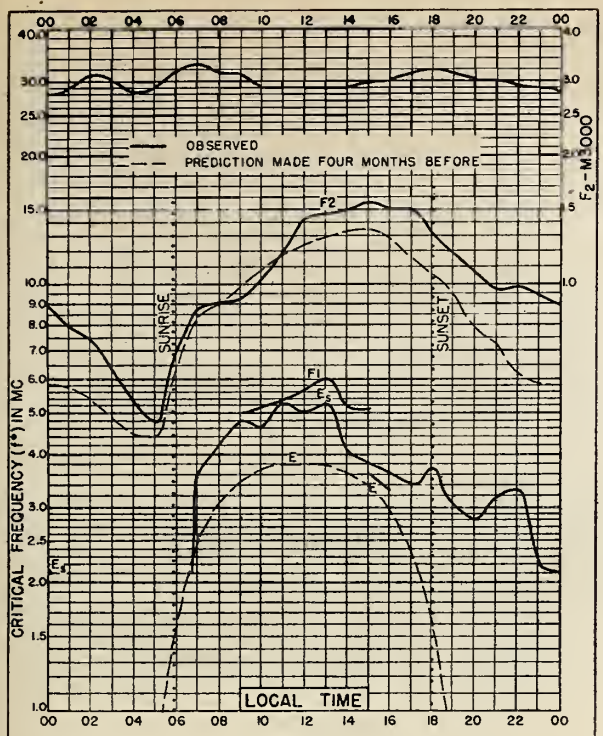

Fig. 63. CHUNGKING, CHINA
29.4°N, 106.8°E SEPTEMBER 1946

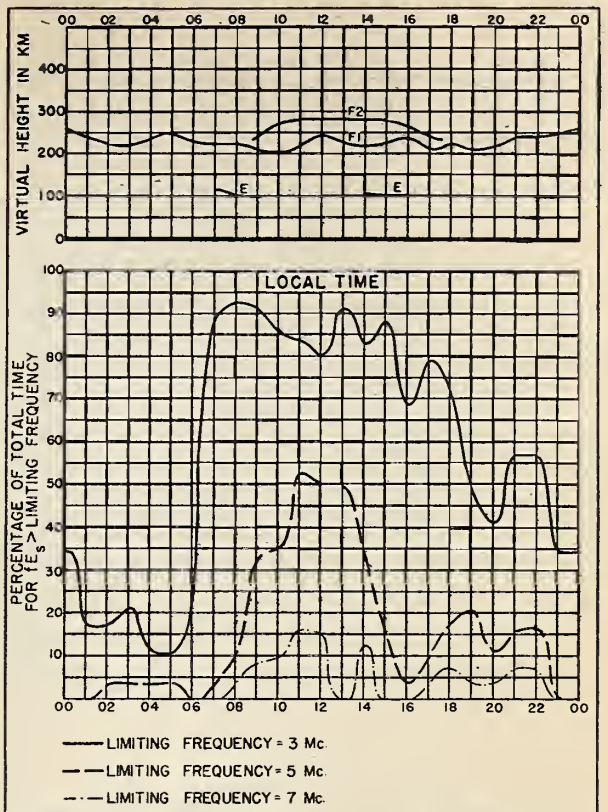

Fig. 64. CHUNGKING, CHINA SEPTEMBER 1946

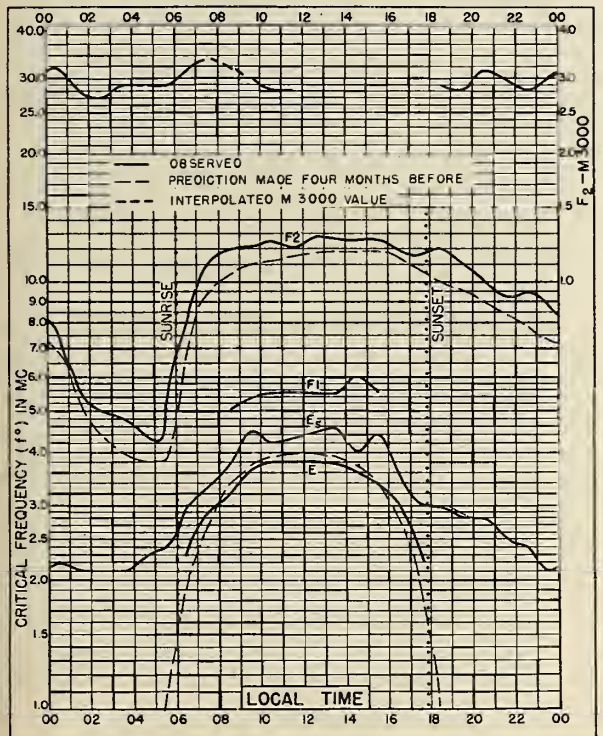

Fig. 65. CAPE YORK, AUSTRALIA
11.0°S, 142.4°E SEPTEMBER 1946

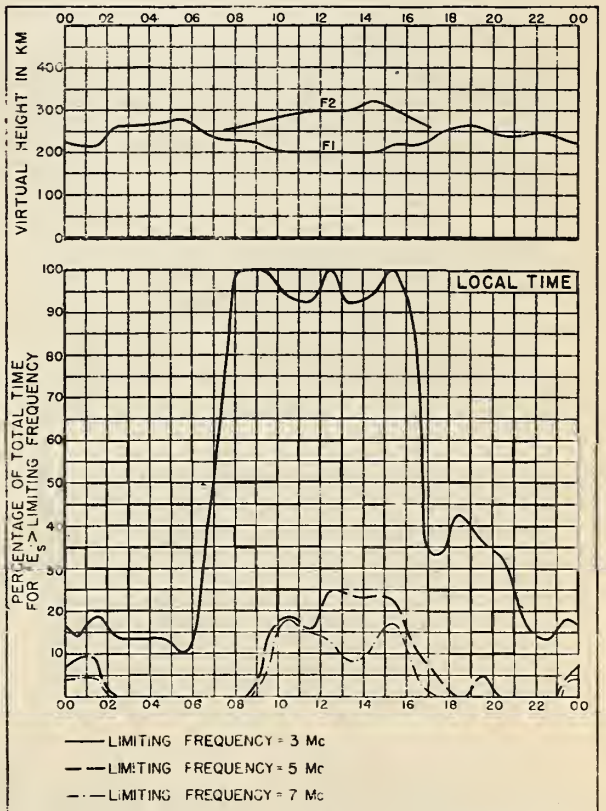

Fig. 66. CAPE YORK, AUSTRALIA SEPTEMBER 1946

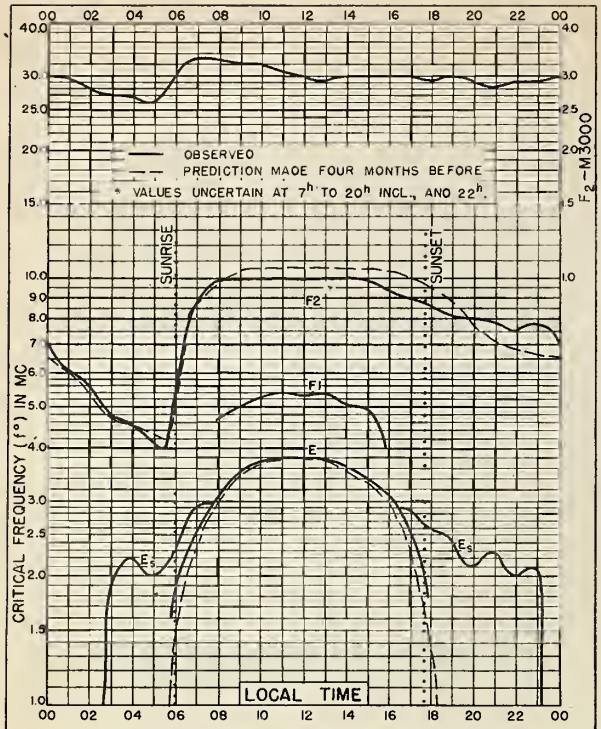

Fig.67. TOWNSVILLE, AUSTRALIA
19.4°S, 146.5°E SEPTEMBER 1946

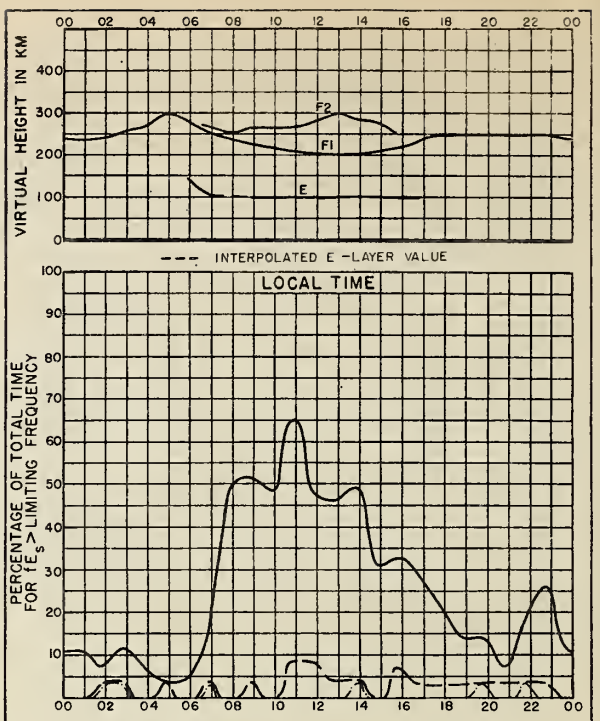

Fig.68. TOWNSVILLE, AUSTRALIA, SEPTEMBER 1946

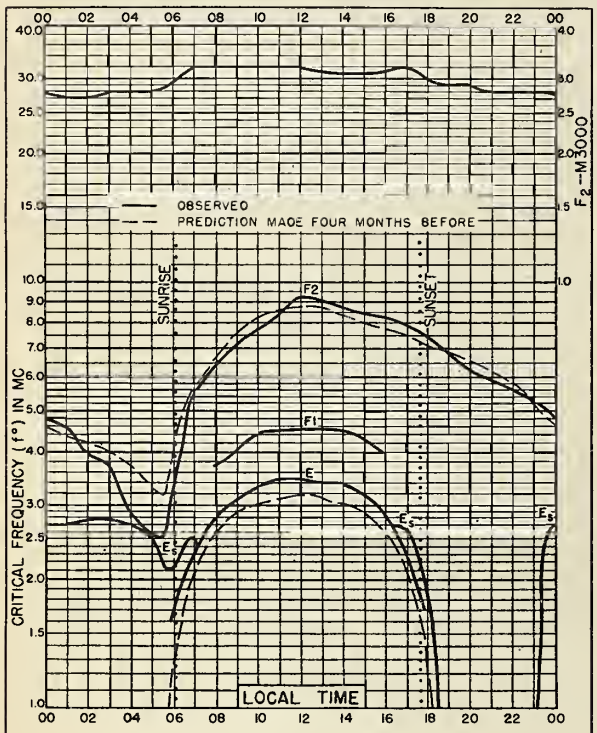

Fig.69. HOBART, TASMANIA
42.8°S, 147.4°E SEPTEMBER 1946

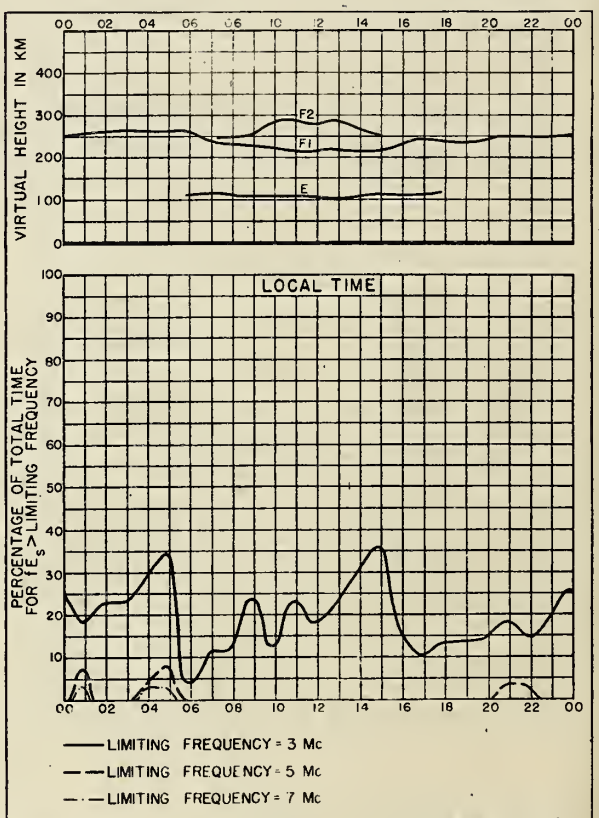

Fig.70. HOBART, TASMANIA SEPTEMBER 1946

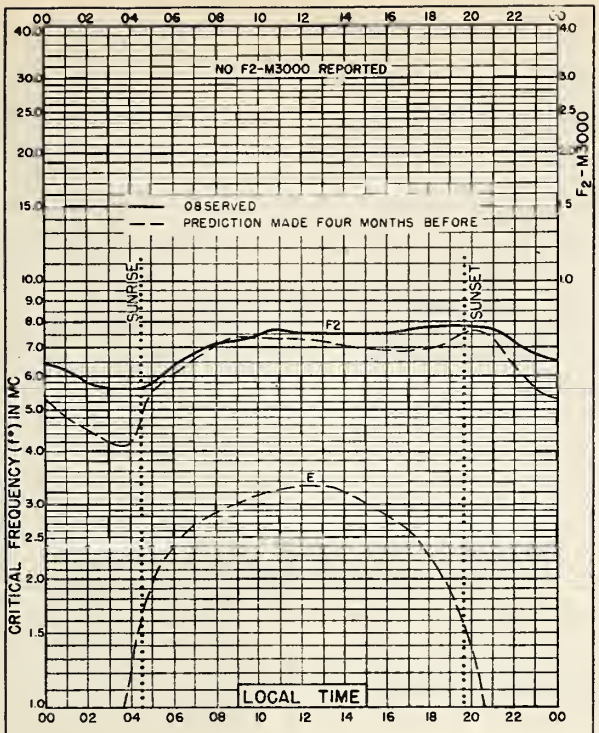

Fig. 71. BURGHEAD, SCOTLAND
57.7°N, 3.5°W AUGUST 1946

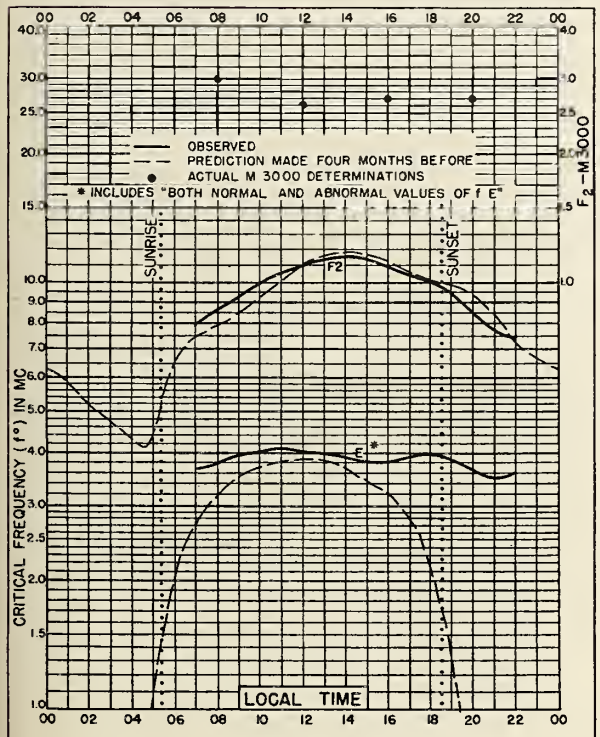

Fig. 72. PESHAWAR, INDIA
34.0°N, 71.5°E AUGUST 1946

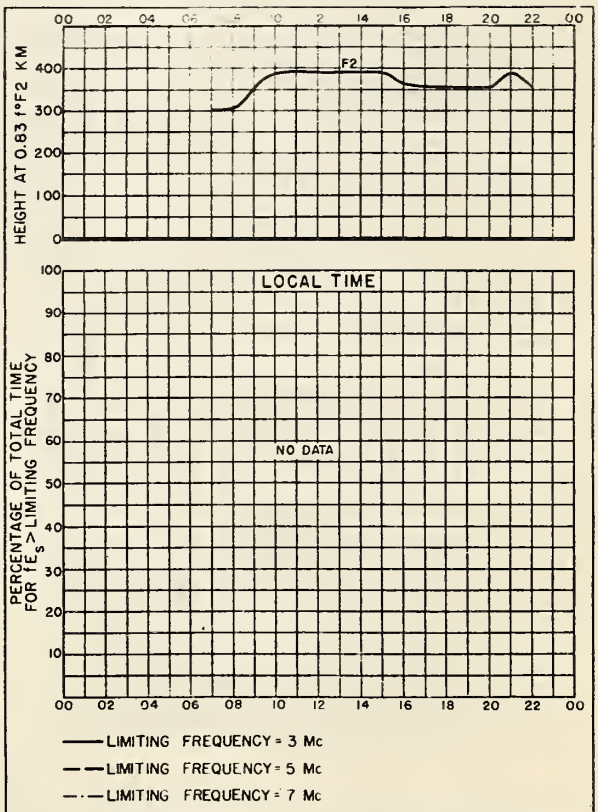

Fig. 73. PESHAWAR, INDIA AUGUST 1946

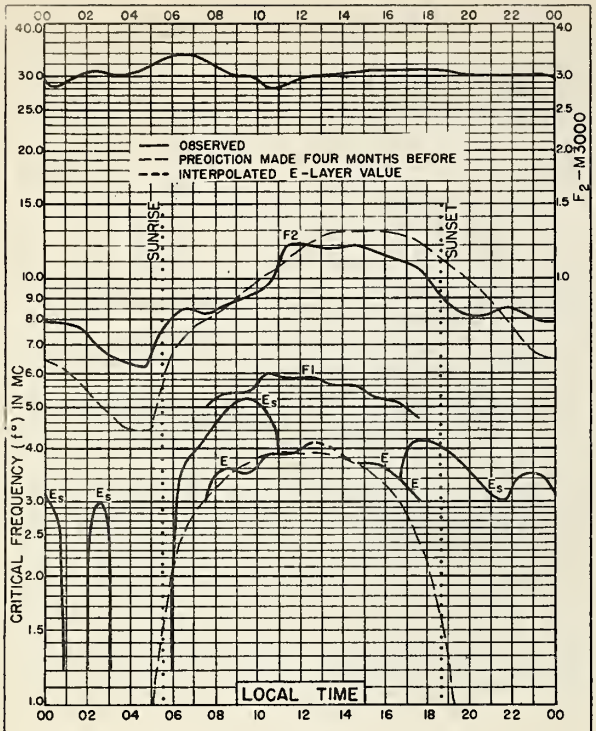

Fig. 74. WUCHANG, CHINA
30.6°N, 114.4°E AUGUST 1946.

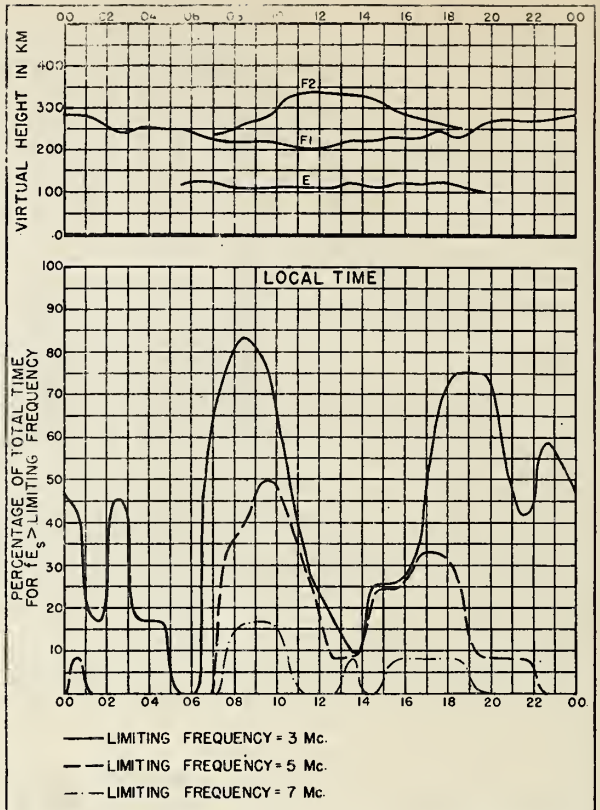

Fig. 75. WUCHANG, CHINA AUGUST 1946

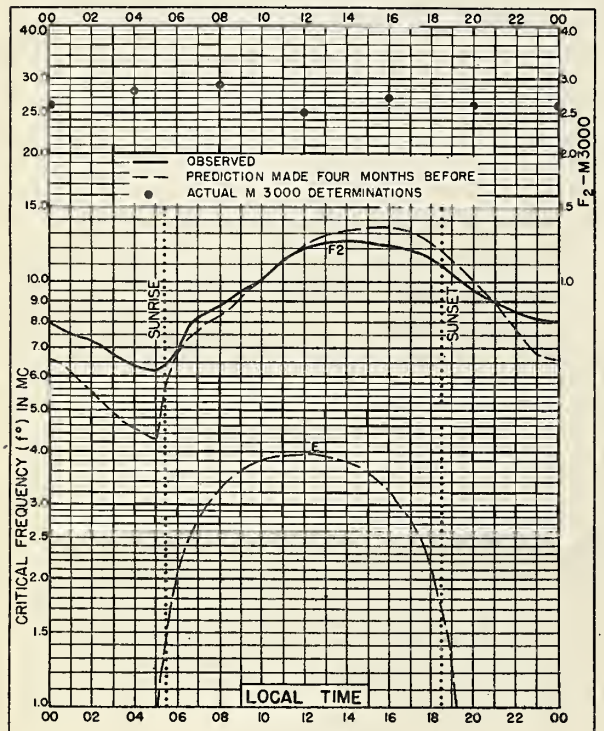

Fig. 76. DELHI, INDIA
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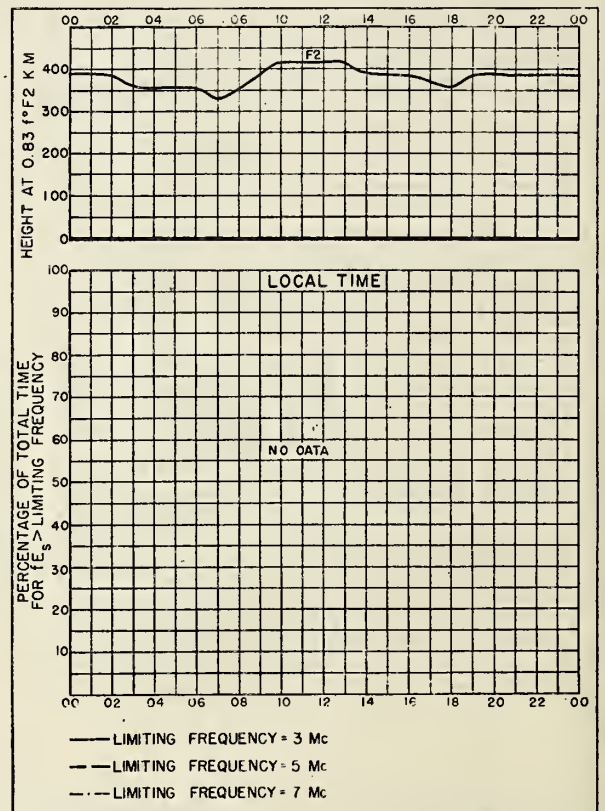

Fig. 77. DELHI, INDIA AUGUST 1946

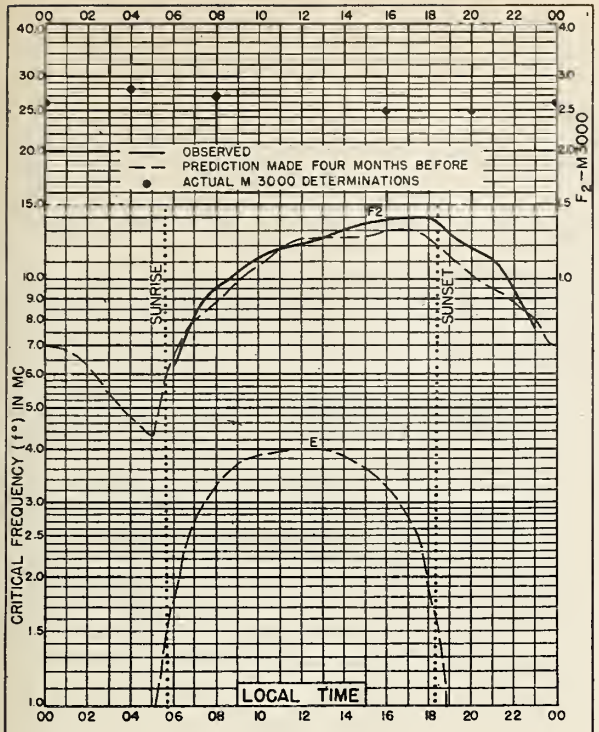

Fig.78. BOMBAY, INDIA
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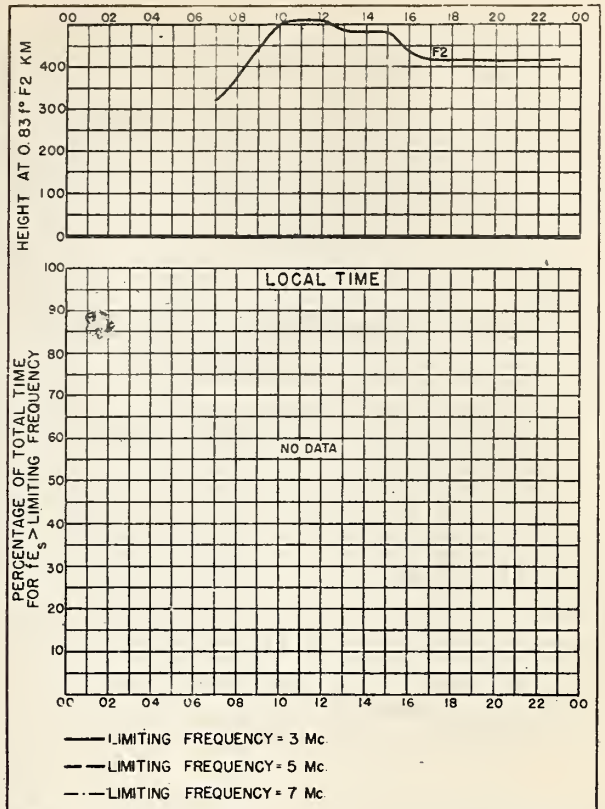
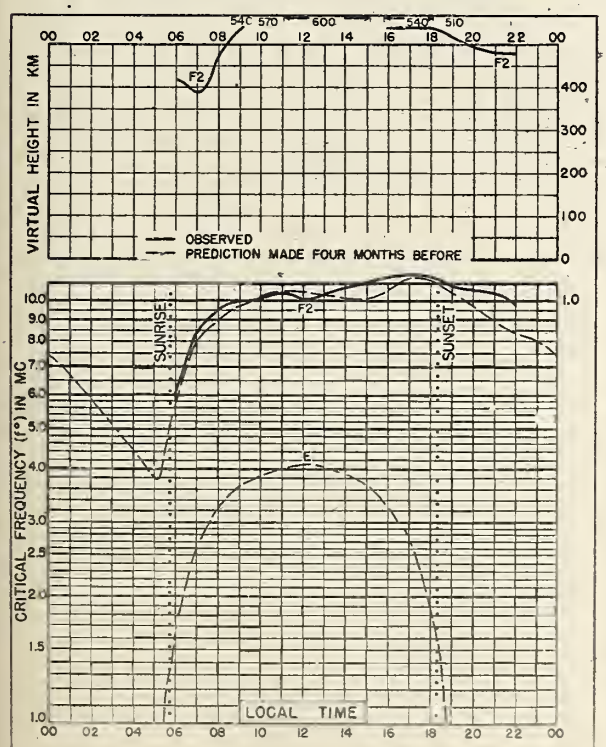


Fig.79. BOMBAY, INDIA AUGUST 1946



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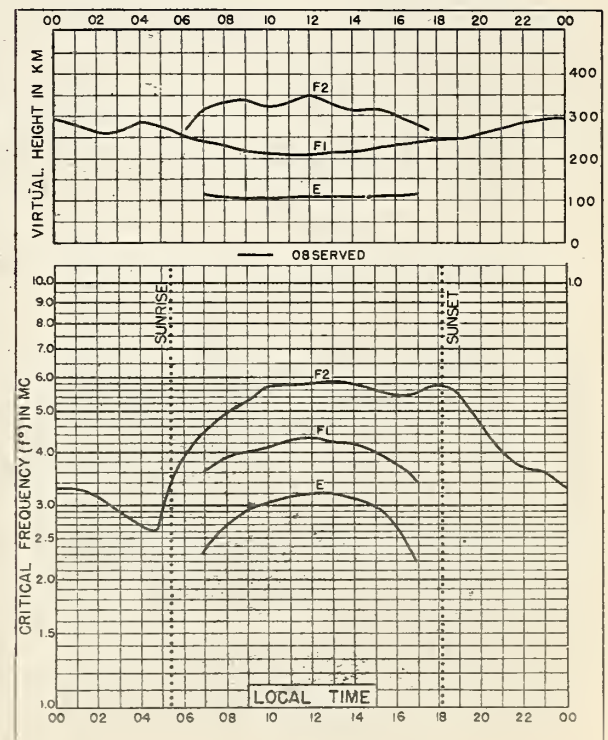

Fig. 8 CANBERRA, AUSTRALIA
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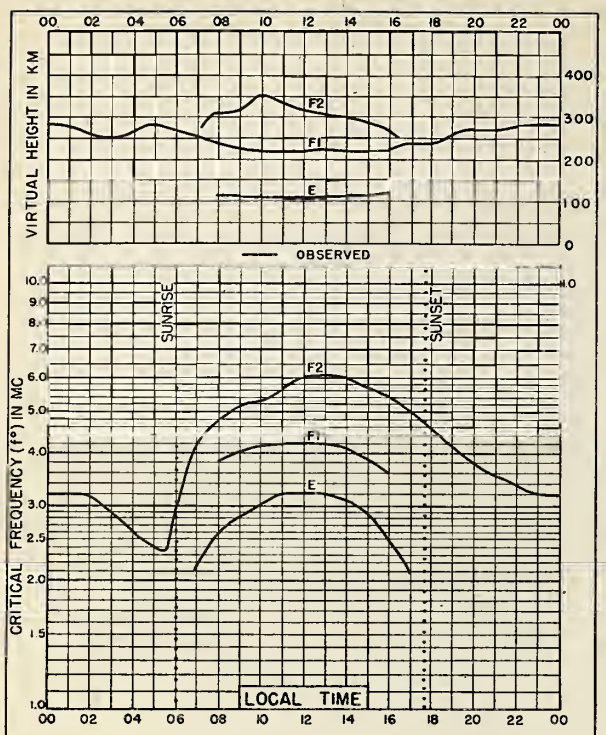

Fig. 82. CANBERRA, AUSTRALIA
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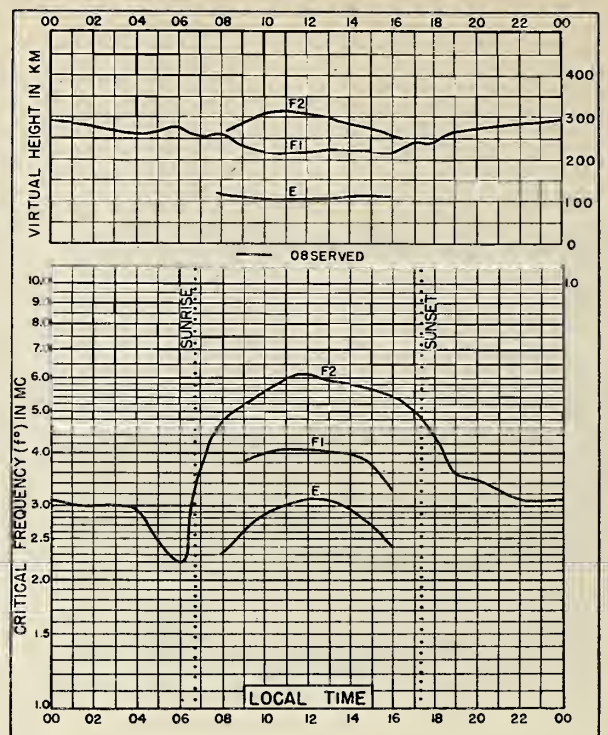

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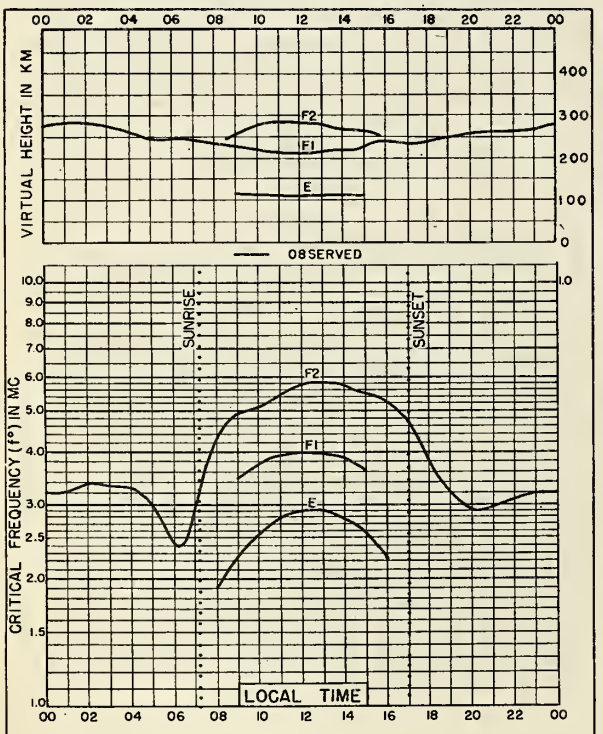

Fig. 84. CANBERRA, AUSTRALIA
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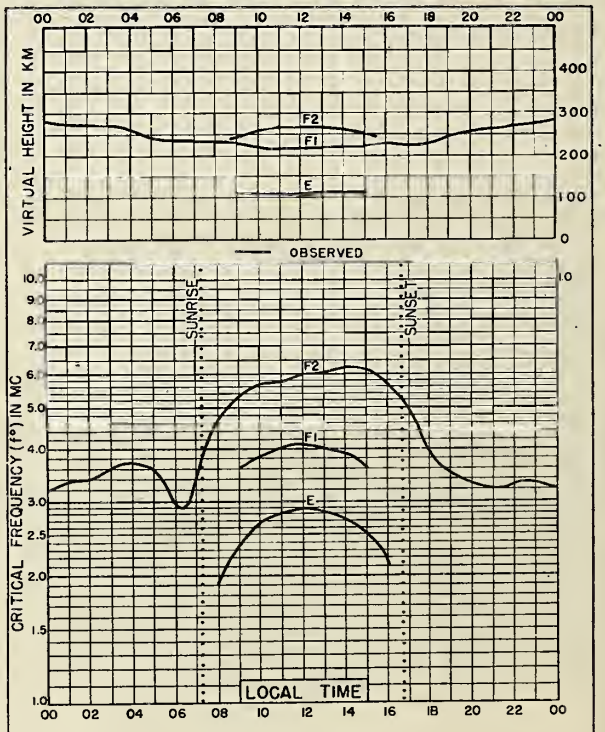

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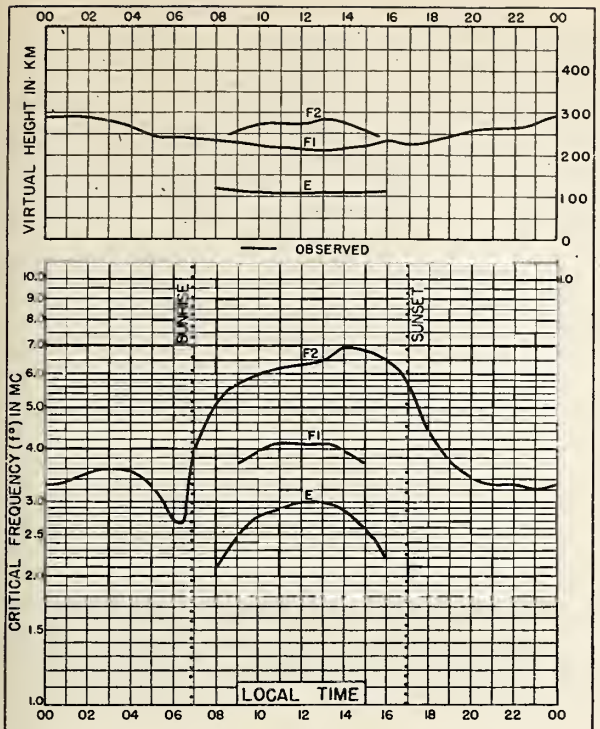

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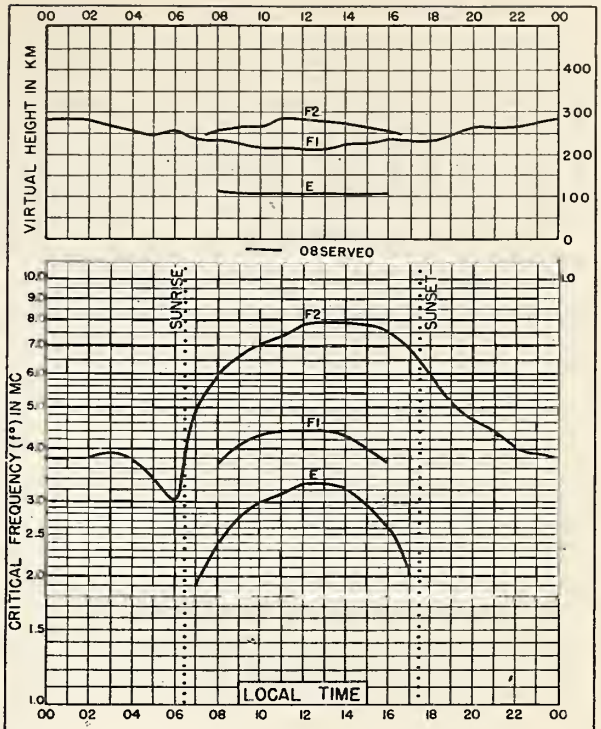

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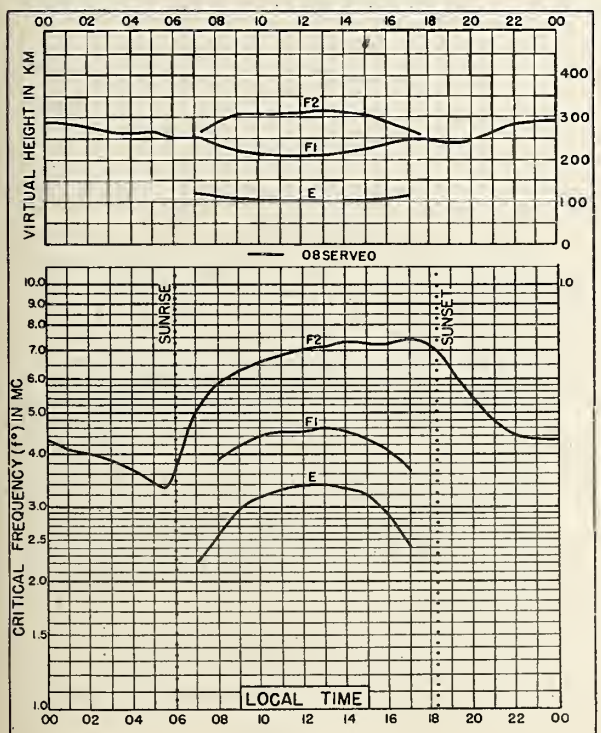

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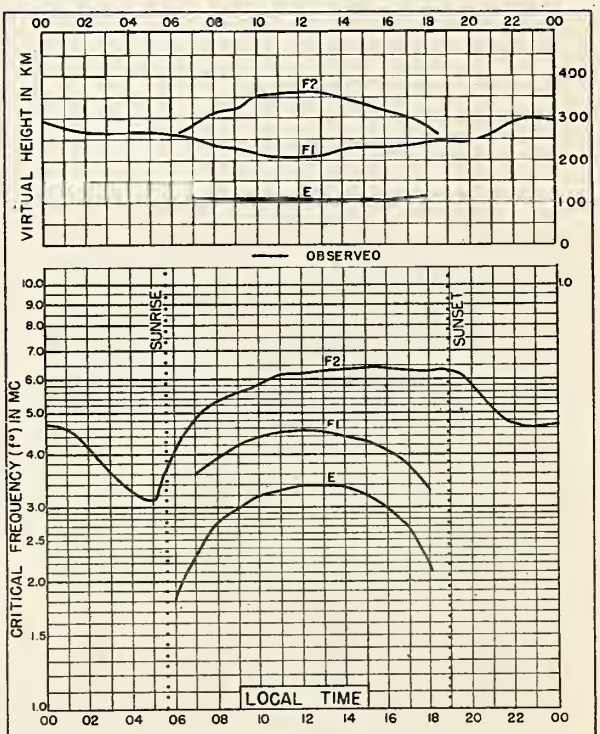

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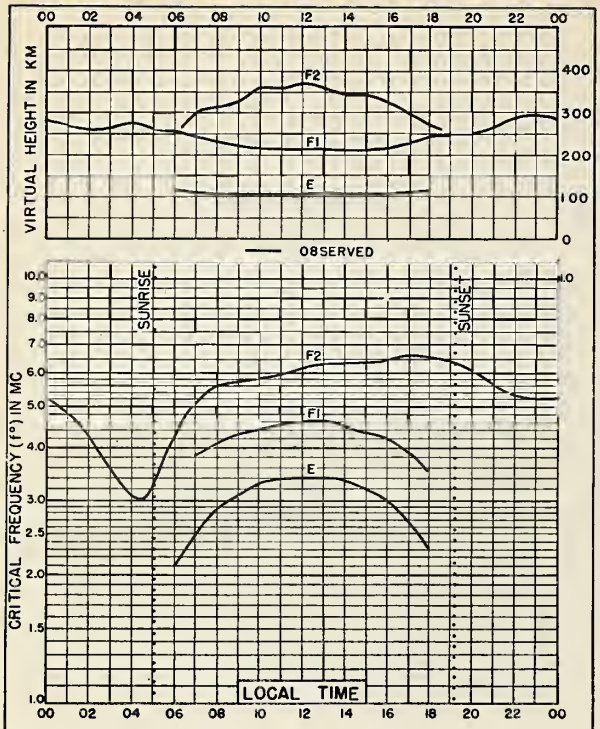

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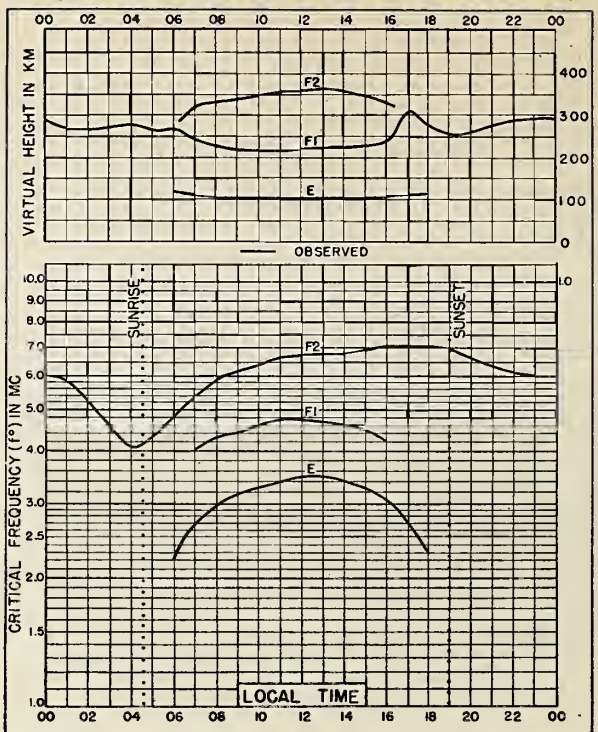

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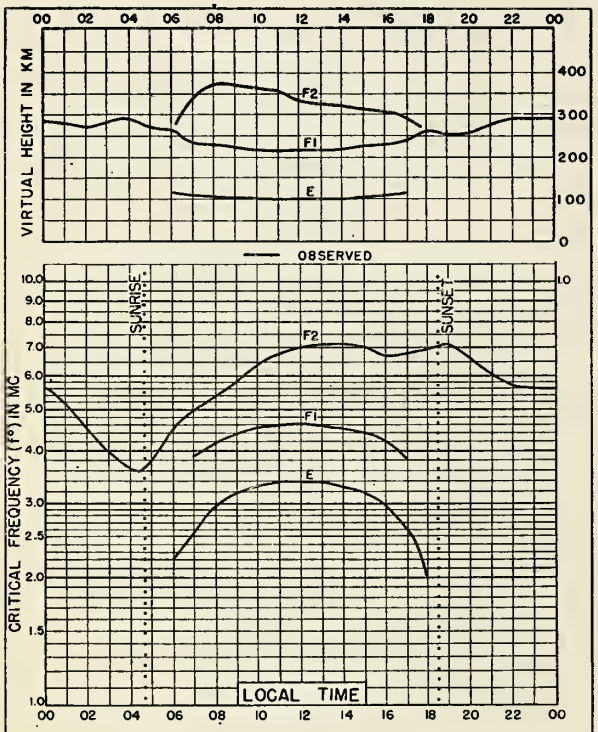

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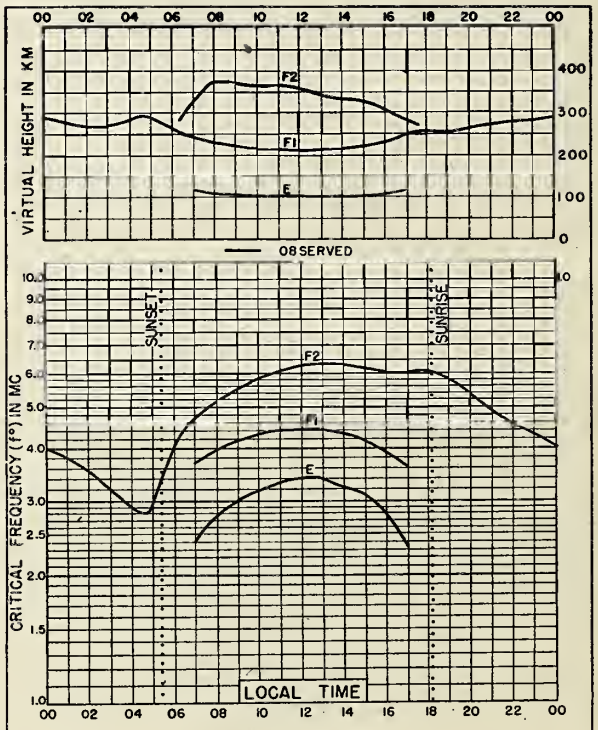

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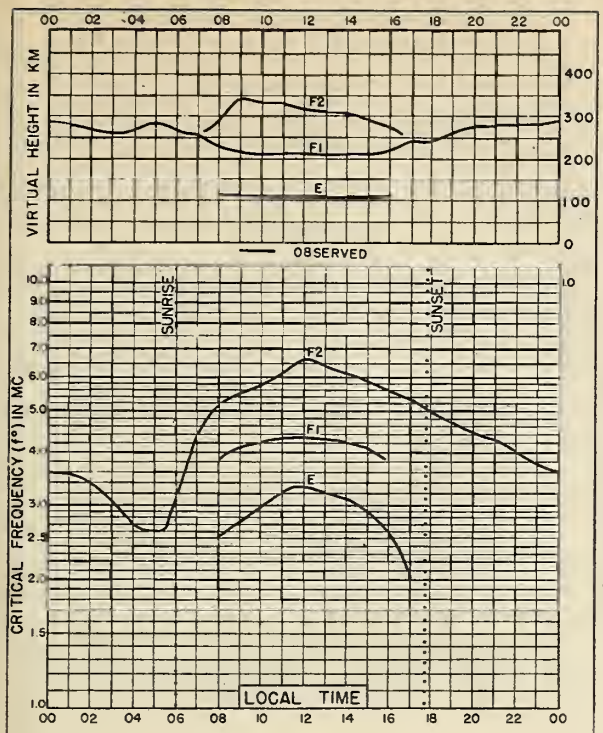

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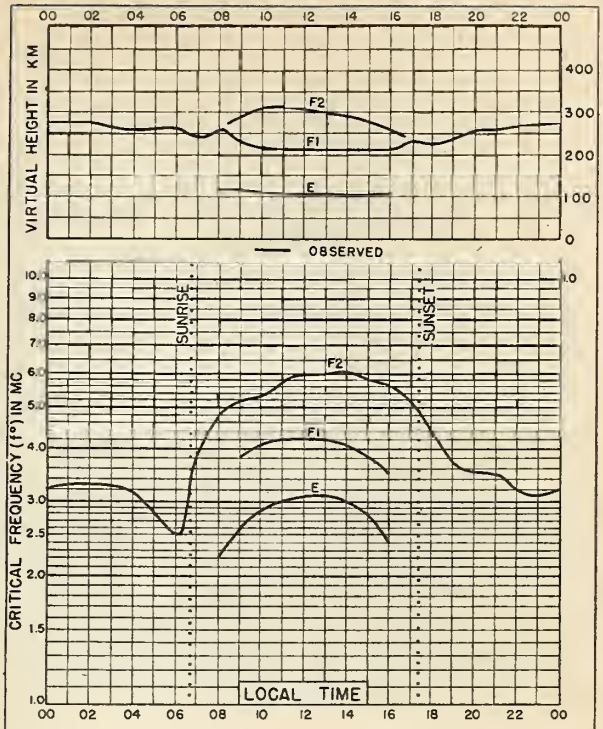

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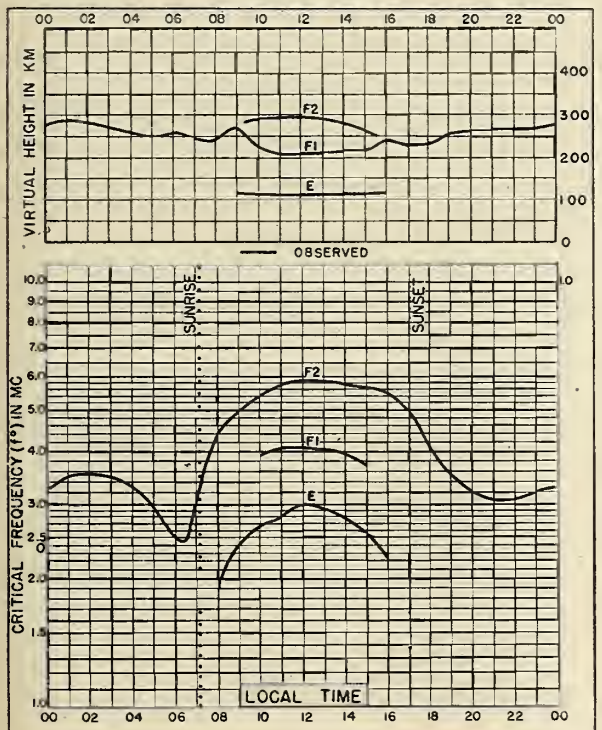

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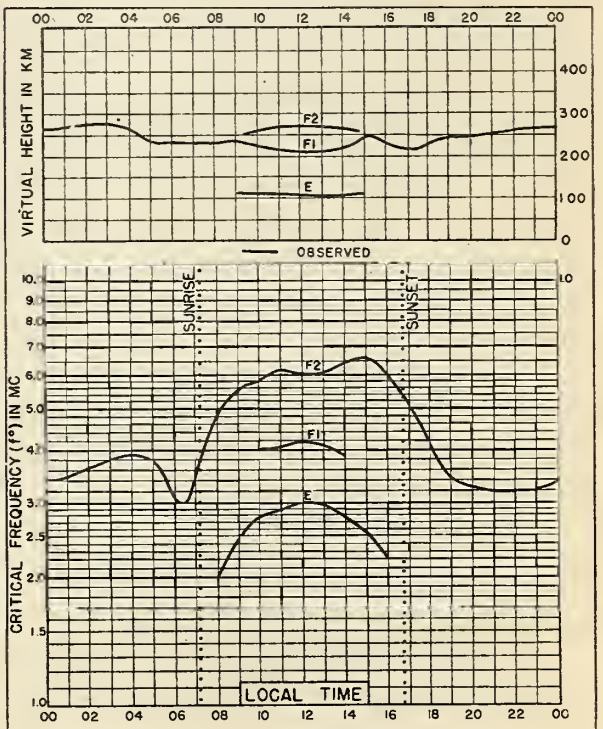

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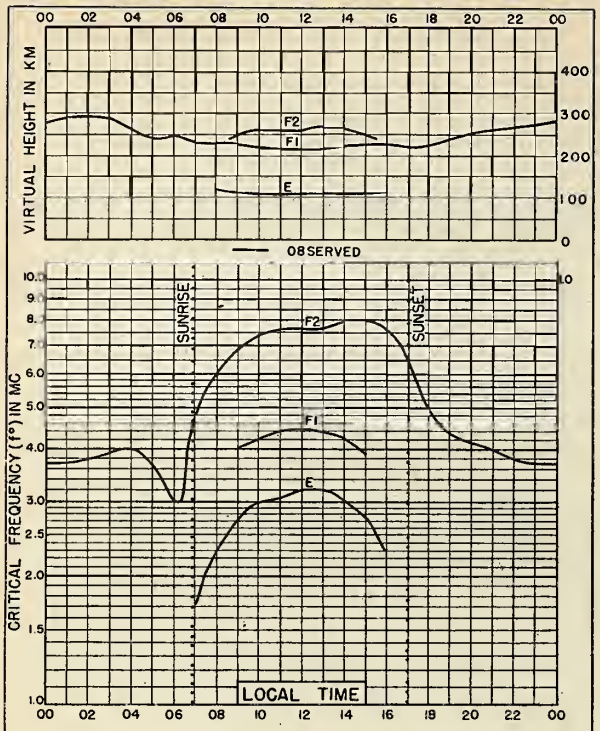

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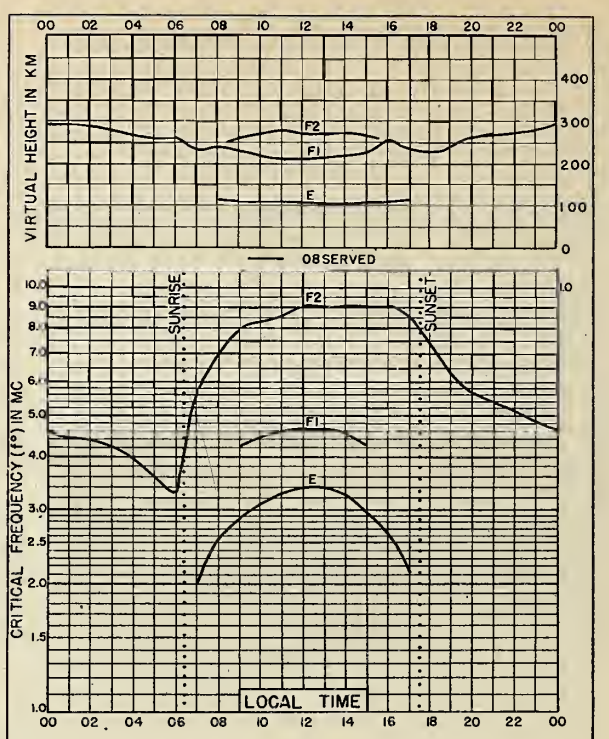

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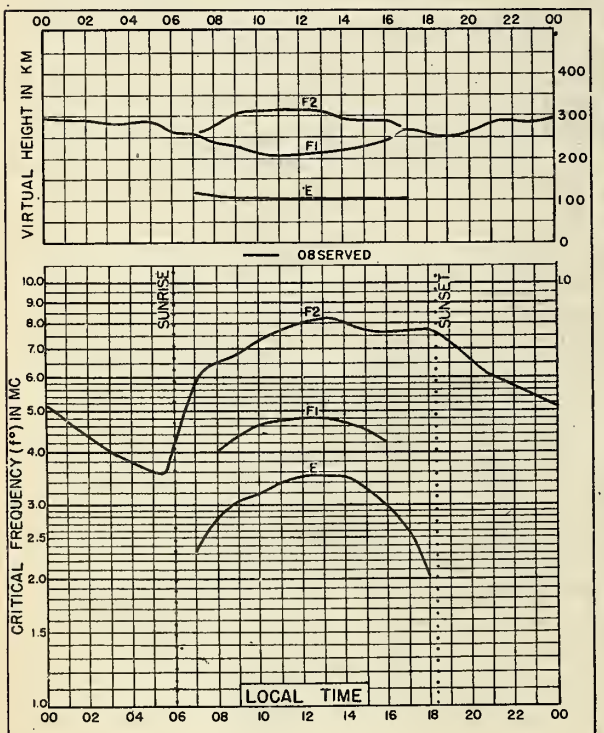

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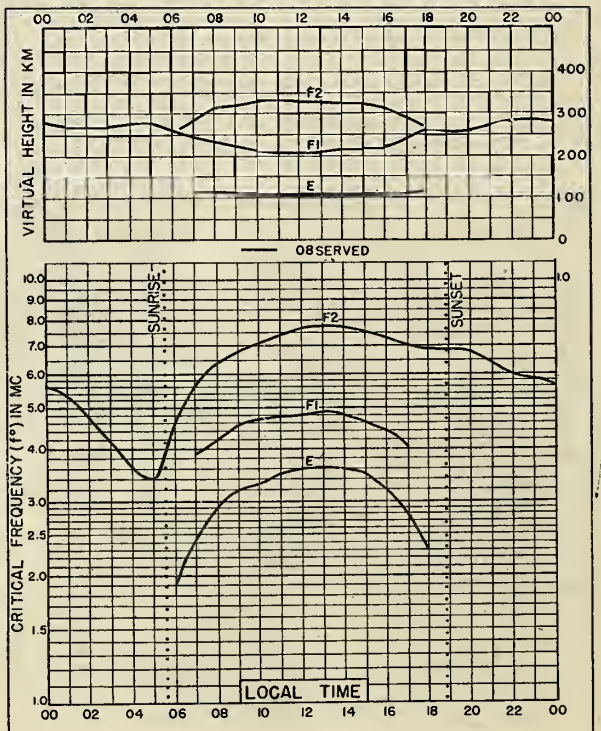

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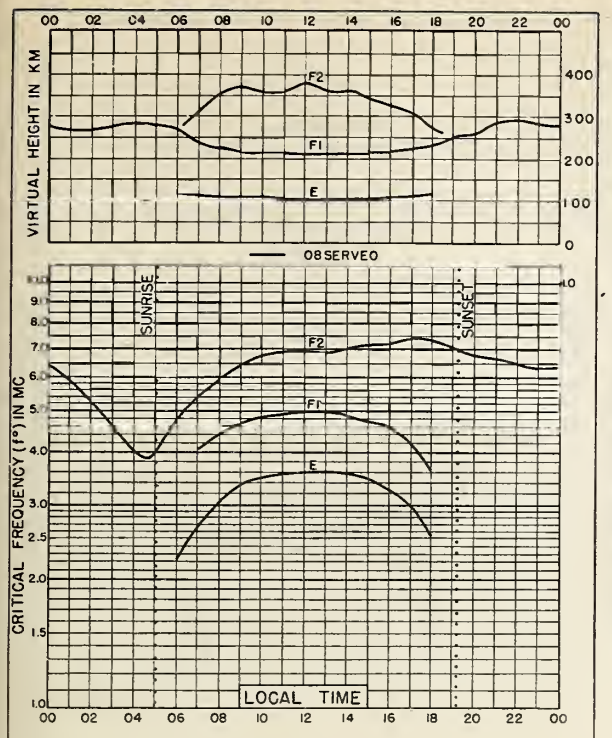

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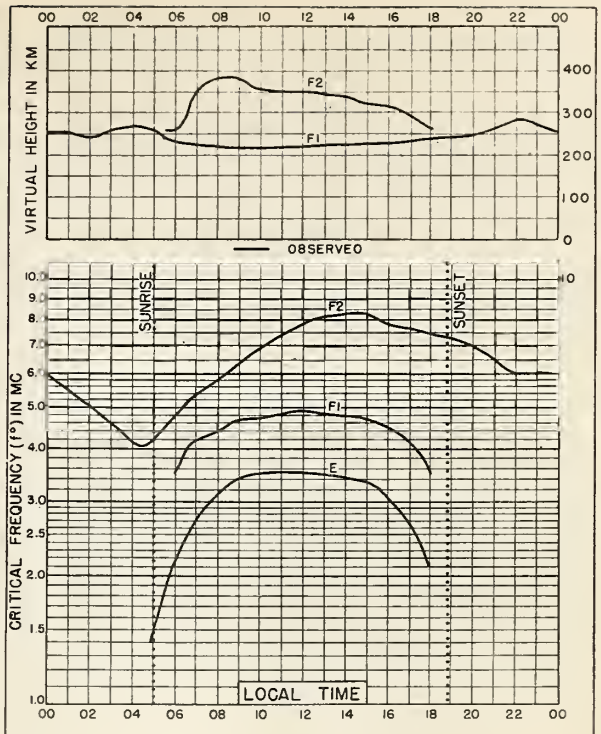

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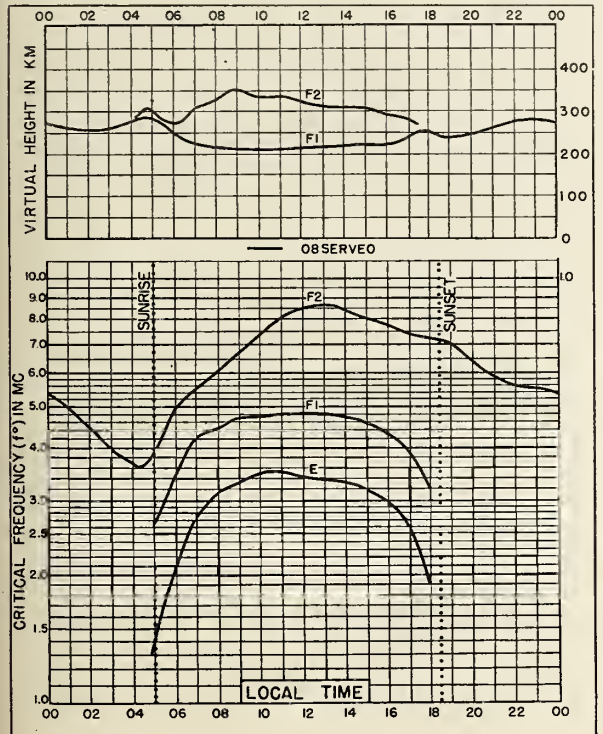

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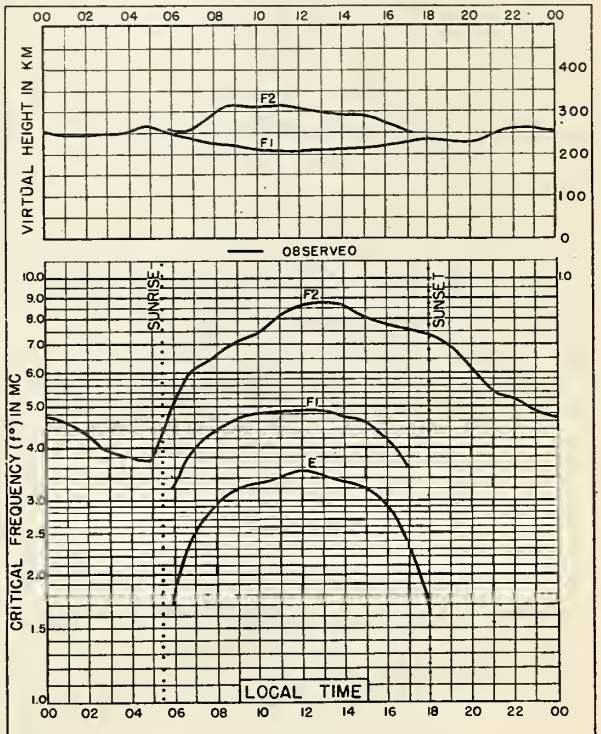

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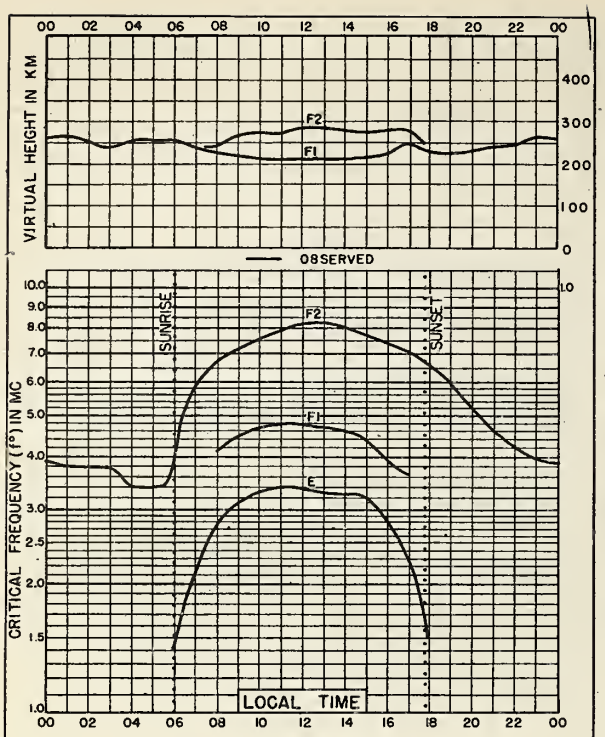

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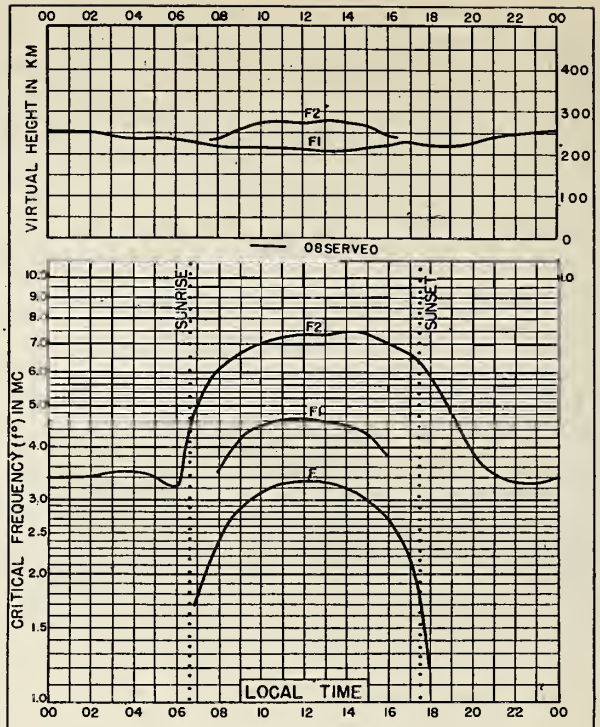

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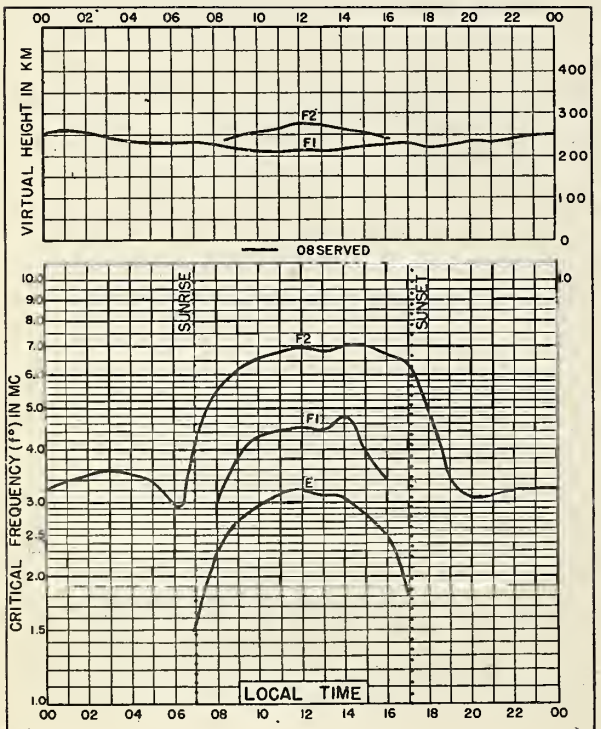

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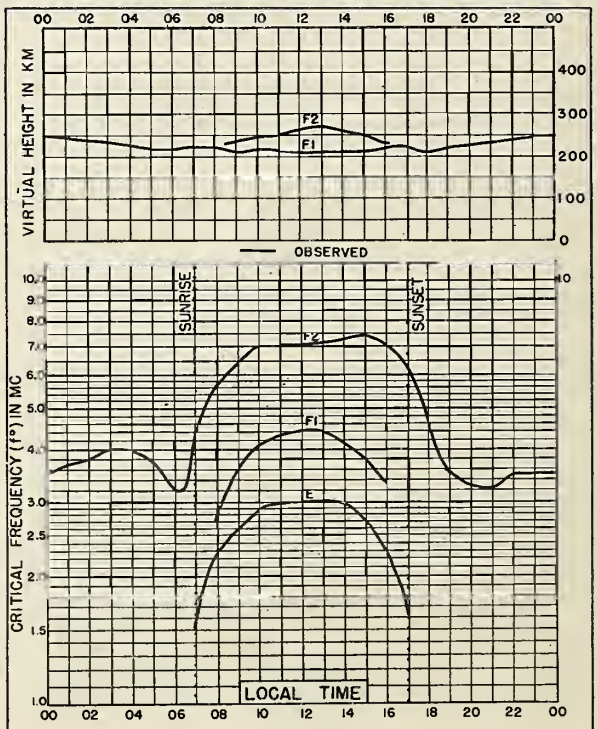

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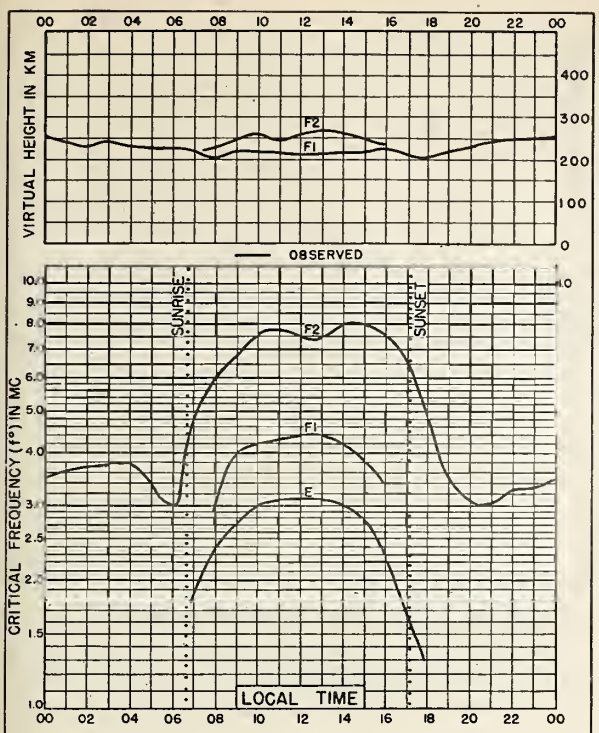

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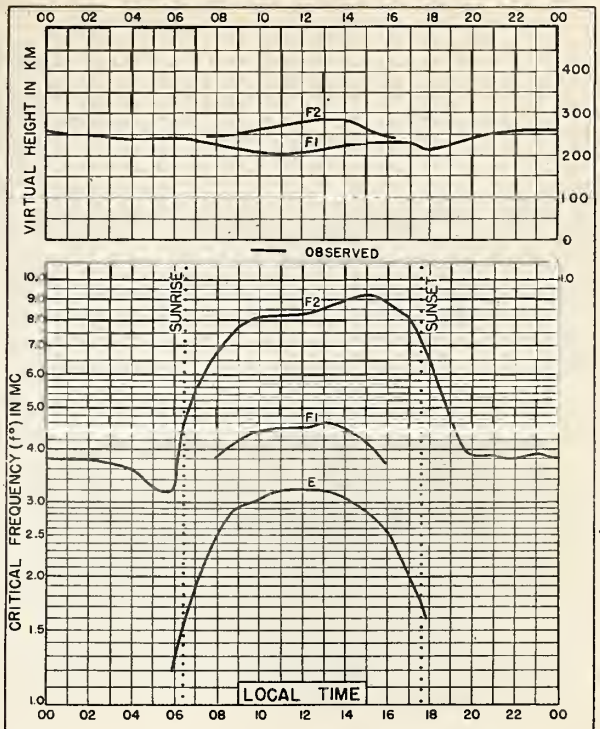

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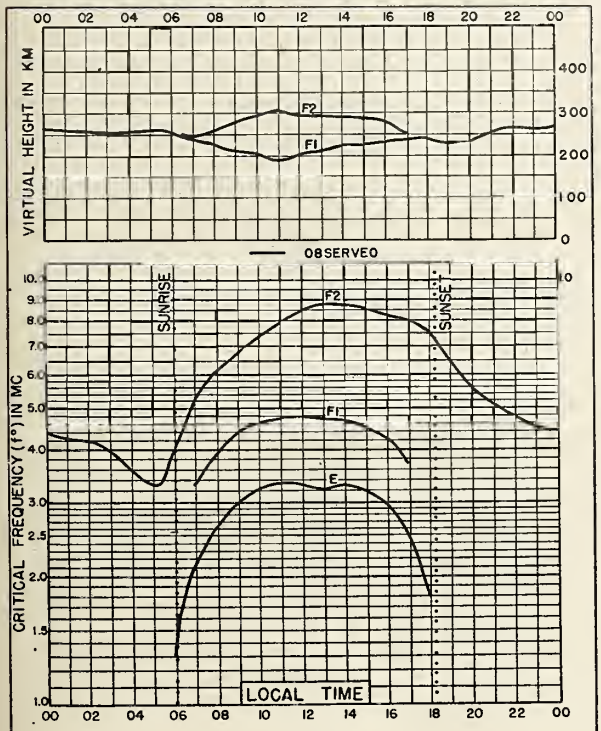

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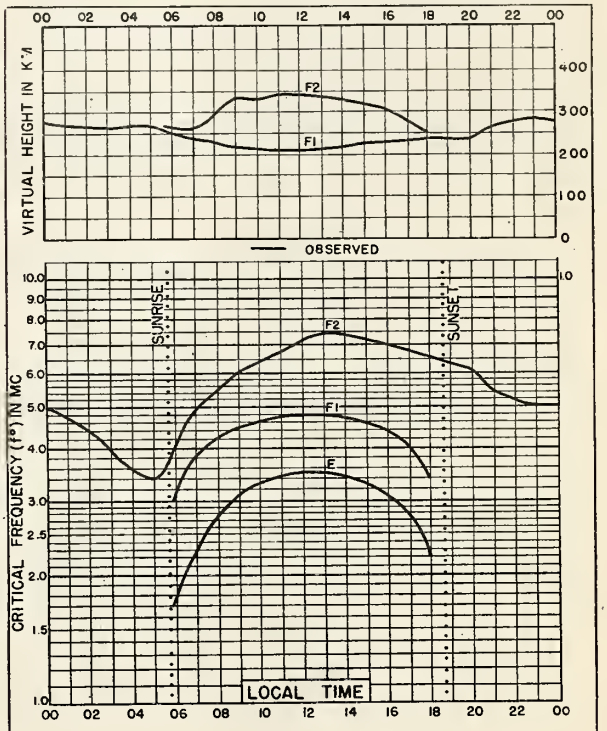

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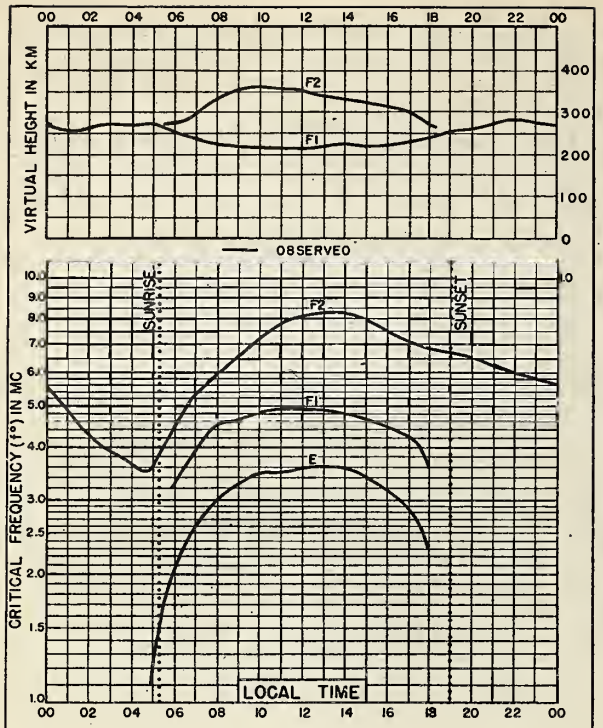

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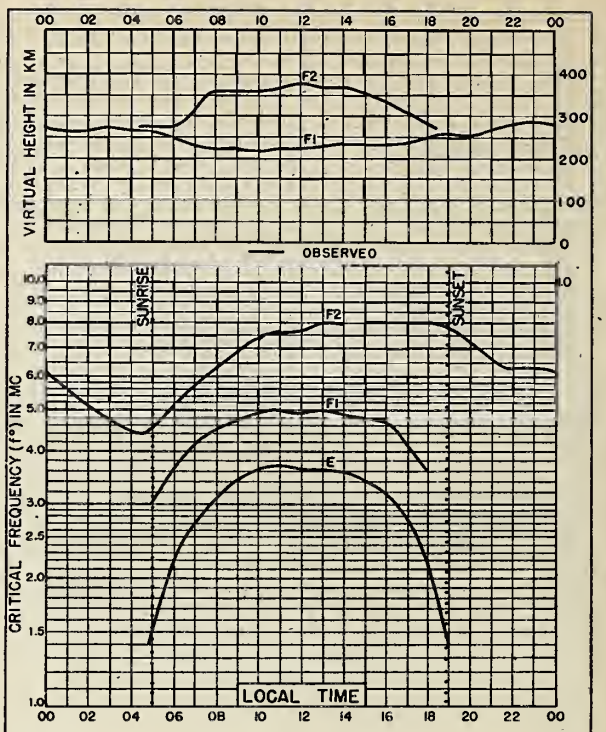

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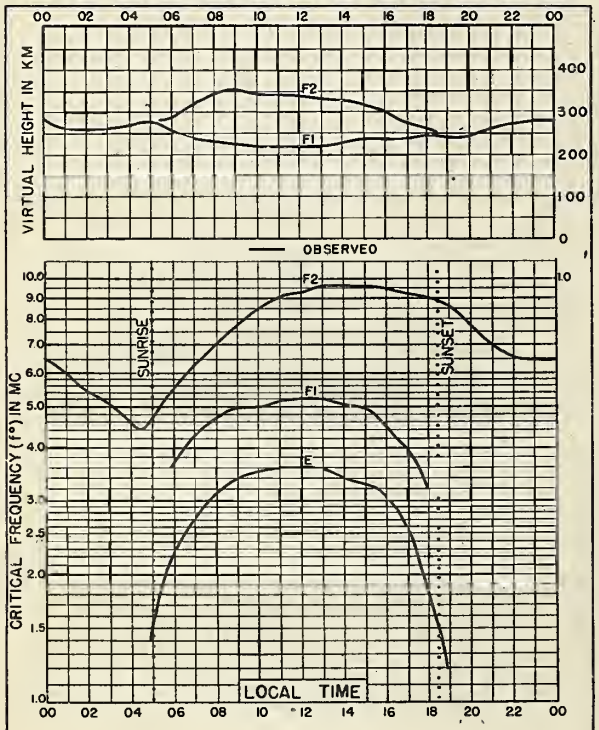

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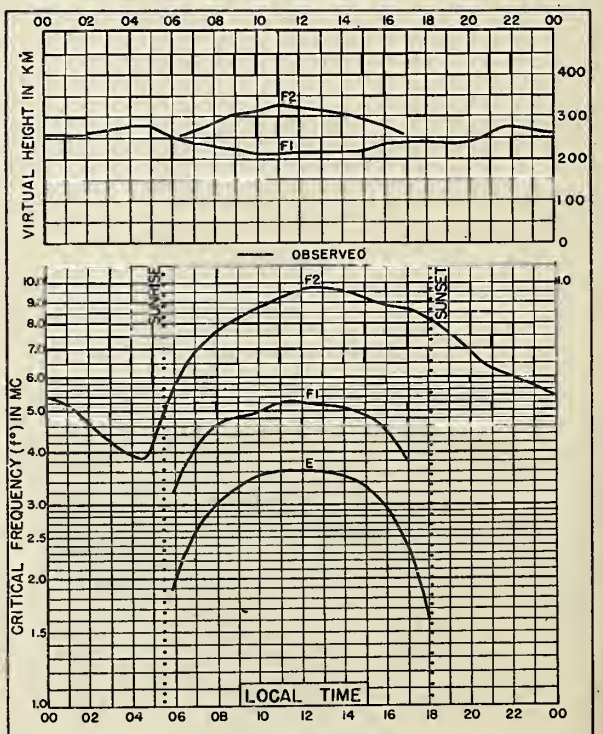

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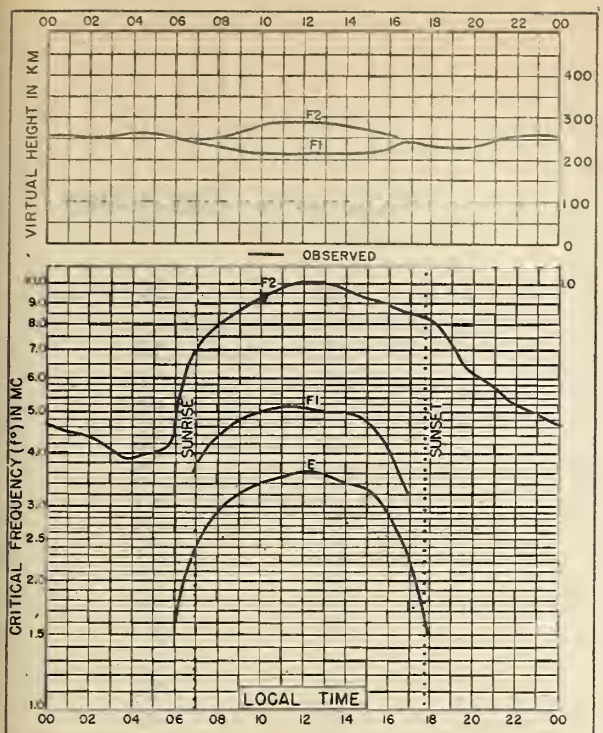

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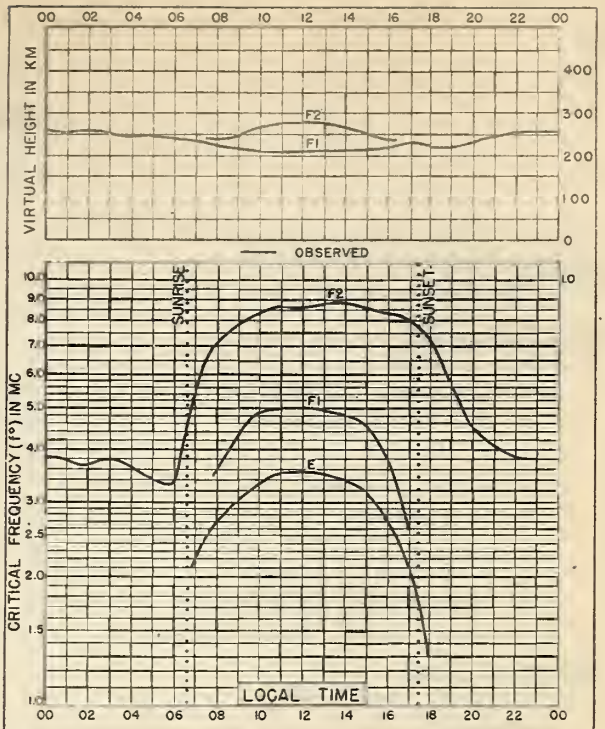

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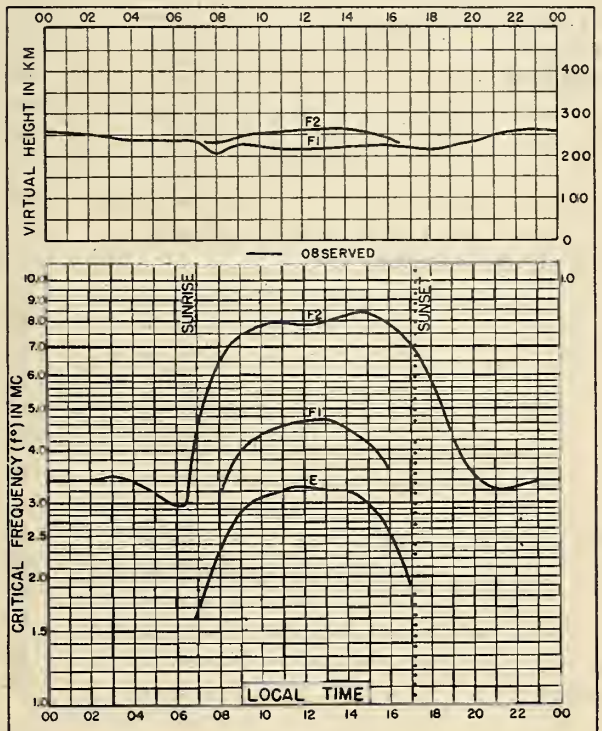

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- R29 and 29–A. Revised Classification of Radio Subjects Used in National Bureau of Standards and First Supplement (N. B. S. Letter Circular LC–814 and supplement, superseding circular C385).
- R30. Disturbance Rating in Values of IRPL Quality—Figure Scale From A. T. & T. Co. Transmission Disturbance Reports to Replace T. D. Figures as Reported.
- R31. North Atlantic Radio Propagation Disturbances, October 1943 Through October 1945.
- R32. Nomographic Predictions of *F*2-Layer Frequencies Throughout the Solar Cycle, for February.
- R33. Ionospheric Data on File at IRPL.
- R34. The Interpretation of Recorded Values of *fEs*.
- R35. Comparison of Percentage of Total Time of Second-Multiple *Es* Reflections and That of *fEs* in Excess of 3 Mc.

IRPL–T. Reports on Tropospheric Propagation.
- T1. Radar Operation and Weather. (Superseded by JANP 101.)
- T2. Radar Coverage and Weather. (Superseded by JANP 102.)

CRPL–T3. Tropospheric Propagation and Radio-Meteorology. (Reissue of Columbia Wave Propagation Group WPG–5.)

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