CRPL-F46

IONOSPHERIC DATA

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PREPARED BY CENTRAL RADIO PROPAGATION LABORATORY
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CRPL-F46

CENTRAL RADIO PROPAGATION LABORATORY
NATIONAL BUREAU OF STANDARDS
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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 l = 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 April 17 to May 5, 1944, beginning with data for January 1, 1945, median values are published wherever possible.

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

The 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 of f^oF2 (and f^oE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F2 (and h'E near sunrise and sunset) missing for this reason are counted as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count. See CRPL-F38, page 9.
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 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.

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.

Beginning with CRPL-F33, an additional group of symbols is used in recording the Washington, D.C. data. The list of additional symbols and their meanings follows:

N - unable to make logical interpretation.
P - trace extrapolated to a critical frequency.
Q - the F1 layer not present as a distinct layer.
R - curve becomes incoherent near the F2 critical frequency.
S - no observation obtainable because of interference.
V - forked record (previously denoted by U. This change should also be made in CRPL-7-1).
Z - triple split near critical frequency.

For a more detailed explanation of the meaning and use of these symbols, see the report CRPL-7-1, "Preliminary Instructions for Obtaining and Reducing Manual Ionospheric Records."

MONTHLY AVERAGE AND MEDIAN VALUES OF WORLD-WIDE IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 61 and figures 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
- Hobart, Tasmania
- Townsville, Australia

Australian Department of Supply and Shipping, Bureau of
Mineral Resources, Geophysical Section:
- Watheroo, W. Australia

British Department of Scientific and Industrial Research,
Radio Research Board:
- Falkland Is.
- Lindau/Harz, Germany
- Slough, England

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

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

South African Council for Scientific and Industrial Research:
- 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.

Japanese Physical Institute for Radio Waves (under supervision of Supreme Commander, Allied Powers):
- Fukaura, Japan
- Shibata, Japan
- Tokyo (Kokobunji), Japan
- Wakkanai, Japan
- Yamakawa, Japan

United States Army Signal Corps:
- Adak, Alaska
- Okinawa I.

National Bureau of Standards (Central Radio Propagation Laboratory):
- Baton Rouge, Louisiana (Louisiana State University)
- Boston, Massachusetts (Harvard University)
- Fairbanks, Alaska (University of Alaska, College, Alaska)
- Guam I.
- Huancayo, Peru (Instituto Geofisico de Huancayo)
- 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

Indian Council of Scientific and Industrial Research, Radio Research Committee:
- Calcutta, India

Radio Wave Research Laboratory, Central Broadcasting Administration:
- Chungking, China
- Lanchow, China
- Nanking, China
- Peiping, China

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

National Laboratory of Radio-Electricity (French Ionospheric Bureau):
- Bagneux, France

Philippine Republic, Radio Control Division, Department of Commerce and Industry:
- Leyte, Philippine Is.

Norwegian Defense Research Establishment, Florida, Bergen, Norway:
- Tromso, Norway

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 them through established channels sooner than through 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 no change has been made 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.

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 when spread echoes are present.

b. Omission of values when 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 when 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 charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. The final presentation is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number. The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

Month	Predicted Sunspot No.			
	1948	1947	1946	1945
December		126	85	38
November		124	83	36
October		119	81	23
September		121	79	22
August		122	77	20
July		116	73	
June		112	67	
May	130	109	67	
April	133	107	62	
March	133	105	51	
February	133	90	46	
January	130	88	42	

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

The data given in tables 62 to 73 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 74 presents ionosphere character figures for Washington, D. C., during May 1948, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with Cheltenham, Maryland, geomagnetic K-figures, which are usually covariant with them.

Table 75 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 May 1948.

Table 76 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Point Reyes, California, receiving station of RCA Communications, Inc., from May 4 to May 15, 1948.

Table 77 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Platanos, Argentina, receiving station of the International Telephone and Telegraph Corporation for April 20, 1948.

Table 78 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., from April 21 to May 18, 1948.

Table 79 gives provisional radio propagation quality figures for the North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, April 1948, 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 Cheltenham, Maryland, geomagnetic K-figures.

The radio propagation quality figures are prepared from radio traffic and ionospheric data reported to the CRPL, in a manner basically the same as that described in IRPL-R31, "North Atlantic Radio Propagation Disturbances, October 1943 through October 1945," issued February 1, 1946. The scale conversions for each report are revised for use with the data beginning January 1948, and statistical weighting replaces what was, in effect, subjective weighting. Separate master distribution curves of the type described in IRPL-R21 were derived for the part of 1946 covered by each report; data received only since 1946 are compared with the master curve for the period of the available data. A report whose distribution is the same as the master is thereby converted linearly to the Q-figure scale. Each report is given a statistical weight which is the reciprocal of the departure from linearity. The half-daily radio propagation quality figure, beginning January 1948, is the weighted mean of the reports received for that period.

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 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 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 AND ZÜRICH PROVISIONAL RELATIVE SUNSPOT NUMBERS

Table 80 presents the daily American relative sunspot number, R_A, computed from observations communicated to CRPL by observers in America and abroad. Beginning with the observations for January 1948, a new method of reduction of observations is employed such that each observer is assigned a scale-determining "observatory coefficient," ultimately referred to Zürich observations in a standard period, December 1944 to September 1945, and a statistical weight, the reciprocal of the variance of the observatory coefficient. The daily numbers listed in the table are the weighted means of <u>all</u> observations received for each day. Details of the procedure will be published shortly. The American relative sunspot number computed in this way is designated R_A. It is noted that a number of observatories abroad, including the Zürich observatory, are included in R_A. The scale of R_A was referred specifically to that of the Zürich relative sunspot numbers in the standard comparison period; since that time, R_A is influenced by the Zürich observations only in that Zürich proves to be a consistent observer and receives a high statistical weight. In addition, this table lists the daily provisional Zürich sunspot numbers, R_Z.

SOLAR CORONAL INTENSITIES OBSERVED AT CLIMAX, COLORADO

In tables 81a and 81b are listed the intensities of the green (5303A) line of the emission spectrum of the solar corona as observed during May 1948 by the High Altitude Observatory of Harvard University and the University of Colorado at Climax, Colorado, for east and west limbs, respectively, at 5° intervals of position angle north and south of the solar equator at the limb computed to the nearest 5°. A correction, P, as listed, has been applied to the position angles of the actual observations which were on astronomical coordinates. The time of observation is given to the nearest tenth of a day, GCT. The tables of coronal observations in CRPL-F29 to F41 listed the data on astronomical coordinates; the present format on solar rotation coordinates is in conformity with the tables of CRPL-1-4, "Observations of the Solar Corona at Climax, 1944-46."

Tables 82a and 82b give similarly the intensities of the first red (6374A) coronal line; tables 83a and 83b list the intensities of the second red (6704A) coronal line. The following symbols are used in tables 81, 82, and 83: a, observation of low weight; -, corona not visible; and x, position-angle not included in plate estimates.

ERRATA

1. CRPL-F45, p. 18, table 36: In column fEs, opposite 16, value is 3.1.
2. CRPL-F45, p. 78: The last item in index listed under Tromso, Norway, should be August 1943.
3. Correspondence with the Central Broadcasting Administration of China disclosed that the time-base circuits of the Peiping recorder had been incorrectly calibrated. Consequently, values of F2-M3000 published in the F series beginning with CRPL-F26 through F44 should be disregarded.

TABLES OF IONOSPHERIC DATA

Table 1

Washington, D.C. (39.0°N, 77.5°W) May 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	7.0						2.6
01	280	(6.6)						(2.6)
02	290	6.2						2.6
03	285	5.6						2.6
04	280	5.3						2.6
05	280	5.1			110	1.6	1.7	2.8
06	250	6.1	240	3.9	110	2.4		2.8
07	290	6.6	230	4.6	100	3.0	3.8	2.8
08	380	6.9	230	5.2	100	3.3	3.7	2.8
09	430	6.9	210	5.4	100	3.6	4.0	2.6
10	450	7.6	200	5.5	100	3.9	4.0	2.6
11	420	8.0	200	5.6	100	4.0		2.6
12	430	8.2	210	5.6	100	4.0		2.6
13	420	8.1	210	5.6	100	4.0		2.6
14	415	8.2	220	5.7	100	3.9		2.6
15	420	8.2	215	5.5	100	3.8		2.6
16	385	8.0	230	5.4	100	3.6		2.6
17	350	8.0	230	4.6	100	3.2		2.6
18	260	8.2	250		100	2.6	2.9	2.7
19	270	8.3			120	1.9	2.0	2.8
20	260	8.2						2.7
21	270	7.8						2.7
22	270	(7.7)						(2.6)
23	270	7.3						2.6

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 2

Fairbanks, Alaska (64.9°N, 147.8°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	350	4.7					5.0	2.5
01	328	5.0					5.2	2.4
02	375	4.9					4.6	2.4
03	360	4.7					4.2	2.4
04	350	5.0				1.9	4.2	2.5
05	410	5.3	310	3.7		2.3	4.4	2.4
06	445	5.6	280	4.0		2.6	3.5	2.4
07	460	6.0	262	4.4		2.9	2.6	2.3
08	478	6.3	250	4.5		3.2		2.4
09	460	6.4	245	4.8		3.3		2.4
10	485	6.3	245	5.0		3.4		2.4
11	488	6.7	248	5.1		3.5		2.4
12	455	7.0	240	5.2		3.5		2.5
13	430	7.2	240	5.1		3.5		2.5
14	410	7.4	245	5.1		3.3		2.5
15	370	7.6	248	5.4		3.2		2.6
16	310	7.8	245	4.8		3.0		2.6
17	268	7.6	255	5.0		2.6	2.4	2.6
18	270	7.5				2.3		2.7
19	278	7.2				1.9		2.7
20	275	6.0				1.5	2.4	2.7
21	280	4.8				1.2	3.1	2.7
22	300	4.8				1.4	2.8	2.6
23	325	4.4				1.1	3.7	2.6

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

Table 3

Churchill, Canada (58.8°N, 94.2°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	320	6.0					6.0	2.8
01	300	5.6					4.2	2.8
02	320	4.2					3.7	2.6
03	330	4.5					3.2	2.6
04	340	5.0				E	3.2	2.6
05	315	5.2			100	2.4	3.2	2.8
06	290	5.2	270		100	2.6	3.5	2.8
07	315	6.0	280	4.6	100	(3.4)	3.4	2.8
08	340	6.2	250	4.8	100	(3.4)		2.6
09	390	6.7	250	5.0	100	3.6		2.6
10	430	7.0	240	5.2	100	3.6		2.6
11	430	7.4	240	5.4	100	3.8		2.6
12	415	7.7	240	5.4	100	3.6		2.6
13	410	8.0	240	5.4	100	3.6		2.6
14	400	8.1	240	5.2	100	3.5		2.6
15	390	8.2	240	5.1	100	3.6		2.6
16	380	8.4	240	5.0	100	3.4		2.5
17	350	8.0	250	4.6	100	3.2		2.5
18	310	7.8	260	4.1	100	2.8		2.7
19	300	7.1	255		120	2.8		2.7
20	300	6.9				2.6	3.8	2.7
21	300	6.1				2.4	4.5	2.6
22	300	5.4					6.5	2.6
23	310	6.0					5.2	2.7

Time: 90.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute.

Table 4

Prince Rupert, Canada (54.3°N, 130.3°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	4.8						2.6
01	310	4.3						2.6
02	325	4.0						2.5
03	330	3.8						2.5
04	340	3.6						2.5
05	330	3.7				E		2.6
06	310	4.8	285	3.7	120	2.0	3.3	2.6
07	295	5.4	260	4.1	120	2.4	3.8	2.7
08	430	6.0	250	4.6	120	3.0	4.0	2.5
09	435	6.6	240	4.9	110	3.3	4.0	2.5
10	460	7.0	230	5.2	110	3.5	4.0	2.5
11	420	7.6	220	5.3	110	3.6	4.0	2.5
12	410	8.0	230	5.4	110	3.7	4.0	2.5
13	410	8.2	230	5.6	110	3.7	4.0	2.5
14	395	8.5	230	5.5	110	3.7	4.0	2.5
15	380	8.9	230	5.5	110	3.6	4.1	2.6
16	375	8.7	240	5.3	110	3.4	3.9	2.6
17	310	8.9	250	5.0	110	3.1		2.6
18	265	8.8	260	4.4	120	2.7		2.6
19	270	8.4			120	2.2		2.7
20	265	8.1				E		2.8
21	260	7.1						2.7
22	260	6.3						2.7
23	270	5.2						2.7

Time: 120.0°W.
Sweep: 1.6 Mc to 13.5 Mc, manual operation.

Table 5

Adak, Alaska (51.9°N, 176.6°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	305	5.6						2.6
01	320	5.4						2.5
02	320	5.4						2.5
03	320	5.1						2.5
04	340	5.0						2.5
05	300	5.6	290	3.4	130	2.0		2.5
06	270	6.5	250	4.2	120	2.6		2.6
07	285	7.3	240	4.7	120	3.0		2.7
08	310	7.7	220	4.6	110	3.4	3.8	2.7
09	375	8.0	220	5.0	110	3.6	4.1	2.7
10	350	8.6	220	5.2	110	3.8	4.3	2.7
11	345	9.2	210	5.3	110	4.0		2.7
12	320	9.8	210	5.6	110	4.0	4.3	2.8
13	325	9.8	210	5.4	110	3.9	4.2	2.8
14	320	9.8	220	5.5	110	3.8	4.1	2.8
15	285	9.6	220	5.2	110	3.6	4.0	2.9
16	265	9.4	230	4.5	115	3.4	3.8	2.9
17	240	9.1	235	(4.9)	120	3.0		2.9
18	250	9.0			120	2.4		3.0
19	250	8.6			140	1.9		3.0
20	245	8.0						2.9
21	250	7.4						2.8
22	250	6.2						2.8
23	275	5.7						2.6

Time: 180.0°W.
Sweep: 1.2 Mc to 15.5 Mc in 12 minutes, manual operation.

Table 6

Portage la Prairie, Canada (49.9°N, 98.3°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	5.2					1.8	2.5
01	330	5.0					2.4	(2.4)
02	320	4.6					2.0	(2.5)
03	315	4.5					1.9	(2.5)
04	310	4.0					1.4	(2.4)
05	300	3.9					1.4	(2.5)
06	270	5.0			130	1.9	1.8	2.7
07	240	6.0			120	2.4		2.8
08	240	6.7			110	3.0		2.8
09	230	7.3	220	5.2	110	3.3		2.7
10	230	8.0	210	5.2	105	3.5		2.6
11	240	8.2	215	5.4	100	3.6		2.6
12	250	8.6	215	5.4	105	3.7		2.6
13	255	8.6	210	(5.6)	110	3.7		2.6
14	250	9.2	220	5.6	110	3.6		2.5
15	240	9.0	220	5.6	100	3.5		2.6
16	230	9.0	230	5.4	110	3.3		2.6
17	240	9.1			110	3.0		2.6
18	250	9.0			110	2.6		2.7
19	255	8.8			130	2.2		2.7
20	250	8.4						2.7
21	250	7.3						(2.7)
22	260	6.5						(2.6)
23	275	6.0						(2.6)

Time: 90.0°W.
Sweep: 1.0 Mc to 16.0 Mc in 2 minutes 30 seconds.

Table 7

St. John's, Newfoundland (47.6°N, 52.7°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	5.8						2.8
01	290	5.4						2.9
02	300	4.7						3.0
03	290	4.4						3.0
04	300	4.0						3.0
05	275	4.8						2.9
06	265	6.0			120	2.3		3.0
07	260	6.5	240	4.5	120	2.9		3.0
08	280	7.1	240	4.8	120	3.2		2.9
09	300	7.2	230	5.0	120	3.6		2.8
10	340	7.6	220	5.2	120	3.8	3.7	2.8
11	370	8.2	220	5.4	120	3.8	4.0	2.7
12	365	8.3	220	5.7	120	3.8	4.0	2.7
13	365	9.1	220	5.8	120	4.0	3.8	2.7
14	340	9.3	230	5.6	120	4.0	3.9	2.7
15	310	9.4	230	5.4	120	3.8	2.6	2.7
16	300	9.3	240	5.0	120	3.5		2.7
17	290	9.4	245	4.8	120	3.0		2.7
18	270	9.4	245	4.2	120	2.6		2.8
19	270	9.2			130	2.0	1.7	2.8
20	250	8.4						2.8
21	270	7.6						2.7
22	280	[illegible]						2.7
23	290	[illegible]						2.8

Time: 52.5°W.
Sweep: 1.2 Mc to 20.0 Mc, manual operation.

Table 8

Ottawa, Canada (45.5°N, 75.8°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	340	5.6						2.7
01	350	5.0						2.7
02	340	5.2						2.7
03	340	4.7						2.8
04	340	4.5						2.8
05	310	5.0						2.7
06	280	6.1			130	2.4		2.8
07	260	7.3			130	2.7		2.8
08	270	7.8	250	4.5	120	3.1		2.7
09	280	8.2	240	4.8	120	3.5		2.7
10	335	9.0	240	5.4	120	3.6		2.6
11	355	9.3	240	5.5	120	3.7		2.6
12	375	9.8	230	5.5	120	3.7		2.5
13	350	10.0	240	5.6	120	3.8		2.5
14	360	10.1	250	5.8	120	3.7		2.5
15	370	10.0	250	5.7	120	3.6		2.5
16	340	9.8	250	5.4	120	3.3		2.5
17	270	9.6	260	5.0	130	3.0		2.6
18	280	9.6			130	2.4		2.6
19	285	9.2						2.7
20	280	8.8						2.6
21	290	7.9						2.6
22	310	7.0						2.6
23	[illegible]	6.4						2.6

Time: 75.0°W.
Sweep: 1.7 Mc to 18.0 Mc, manual operation.

Table 9

Boston, Massachusetts (42.4°N, 71.2°W) April 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	290	6.7						2.5
01	292	6.5						2.5
02	275	6.0						2.5
03	260	5.3					1.1	2.6
04	270	5.0					1.1	2.6
05	265	5.5			112	1.7		2.8
06	250	6.6			115	2.2		3.0
07	250	7.8			110	2.6		2.9
08	250	8.7	225	5.0	115			2.9
09	250	9.5	205	5.0				2.8
10	290	10.0	210	5.2				2.8
11	300	10.5	230	5.2				2.7
12	300	10.6	200	5.1				2.8
13	300	10.3	200					2.8
14	305	10.5	228	5.0				2.7
15	260	10.4	230	5.0				2.7
16	250	10.2						2.7
17	250	10.0			110	2.4		2.8
18	250	10.0			110	1.9		2.8
19	250	9.4						2.8
20	250	8.8						2.7
21	255	8.0						2.7
22	265	7.6						2.6
23	285	7.4						2.6

Time: 75.0°W.
Sweep: 0.8 Mc to 14.0 Mc in 1 minute.

Table 10

San Francisco, California (37.4°N, 122.2°W) April 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	6.3						2.5
01	300	6.2						2.5
02	300	6.0						2.5
03	300	5.8						2.4
04	300	5.6						2.4
05	310	5.6						2.4
06	260	6.3			140	2.2		2.7
07	240	7.7			120	2.7		2.9
08	240	9.1	235		120	3.3		2.7
09	260	9.8	220	5.4	120	3.5		2.6
10	320	10.6	220	5.5	120	3.7		2.6
11	340	11.3	220	6.0	110	3.9		2.6
12	340	11.6	220	6.0	110	4.0		2.6
13	340	11.8	220	5.7	115	4.0		2.6
14	300	11.6	230	6.0	110	3.8		2.5
15	280	11.6	230	5.5	120	3.6		2.6
16	240	11.2	220		120	3.3		2.6
17	240	10.8			120	2.9		2.7
18	240	10.0			120	2.4		2.8
19	240	9.3						2.8
20	240	8.0						2.7
21	260	7.4						2.6
22	280	6.6						2.5
23	300	6.4						2.5

Time: 120.0°W.
Sweep: 1.3 Mc to 18.5 Mc in 4 minutes 30 seconds.

Table 11

White Sands, New Mexico (32.3°N, 106.5°W) April 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	7.0						2.6
01	290	6.9					1.9	2.6
02	280	6.9					1.0	2.7
03	260	6.4					1.1	2.6
04	280	6.2						2.5
05	300	6.0					2.1	2.5
06	260	7.4			130	2.2	2.6	2.8
07	240	9.0			120	2.9	3.5	3.0
08	230	10.4			120	3.4	4.2	2.9
09	250	11.0	220	5.4	120	3.6	4.4	2.7
10	300	11.5	220	5.7	120	3.8	4.1	2.6
11	325	12.2	220	6.6	120	4.0		2.6
12	335	12.4	220	6.4	120	4.1		2.6
13	340	12.5	230	6.6	120	4.0	4.0	2.6
14	340	12.3	220	6.4	120	3.9		2.7
15	240	12.2	230	6.4	120	3.7		2.6
16	240	11.8			120	3.4	4.1	2.6
17	240	11.2			120	3.1	3.9	2.7
18	250	10.8			120	2.3	3.1	2.7
19	240	9.8					2.4	2.8
20	230	8.4						2.7
21	260	7.8					2.2	2.6
22	290	7.3						2.6
23	300	7.1						2.5

Time: 105.0°W.
Sweep: 0.79 Mc to 14.0 Mc in 2 minutes.

Table 12

Wuchang, China (30.6°N, 114.4°E) April 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	250	11.0						3.0
01	250	10.6						2.9
02	248	10.1						3.0
03	238	8.4						3.0
04	240	7.6						2.8
05	250	7.2						2.8
06	260	8.0			130	1.7		2.9
07	225	10.2			100	2.7		3.2
08	220	11.4			100	3.2		3.1
09	222	11.6	215	7.4	100	3.6		2.9
10	245	12.5	210	6.3	100	3.8		2.9
11	272	14.0	210	6.4	98	4.0		2.8
12	310	14.5	210	6.8	95	4.1		2.7
13	320	15.0	215	6.3	100	4.0		2.7
14	322	15.0	220	7.0	100	3.9		2.7
15	320	15.0	220	6.8	100	3.8		2.7
16	300	14.7	225	6.2	100	3.6		2.8
17	268	14.5	230	5.4	100	3.2		2.8
18	250	14.0			100	2.5		2.9
19	250	13.5			90		2.9	2.9
20	250	12.5					2.6	2.8
21	250	12.0					2.2	2.8
22	260	11.8						2.8
23	260	11.6						2.9

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

Table 13

Baton Rouge, Louisiana (30.5°N, 91.2°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	305	7.2						2.6
01	300	7.2						2.7
02	290	6.8						2.8
03	290	6.5						2.7
04	300	6.3						2.6
05	295	6.4						2.7
06	270	8.0			140	2.3		3.0
07	270	9.7	230		120	3.0		3.0
08	290	11.0	230		120	3.5		2.9
09	300	11.5	225		120	3.7		2.8
10	320	12.3	220		110	(3.7)		2.7
11	330	12.5	(230)	(5.5)	(110)	(3.7)		2.8
12	360	12.9	(235)	6.0	(120)	(3.8)		2.7
13	360	12.8	(240)	6.2	(120)	(3.7)		2.7
14	350	12.7	240		(120)	(3.8)		2.7
15	350	12.3	240		120	3.7		2.7
16	330	12.0	250		120	3.5		2.7
17	310	11.4	250		120	2.9		2.8
18	270	11.1						2.8
19	250	9.4						2.8
20	250	8.6						2.8
21	260	8.0						2.7
22	300	7.5						2.7
23	300	7.4						2.7

Time: 90.0°W.
Sweep: 2.15 Mc to 18.5 Mc in 5 minutes, automatic operation.

Table 14

Maui, Hawaii ([illegible].8°N, 156.5°[illegible]) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	9.8						2.9
01	250	9.6						3.0
02	260	[illegible]						[illegible]
03	240	6.9						[illegible]
04	270	6.6						.7
05	270	6.4						2.7
06	260	6.4						2.6
07	250	8.6			110	2.6		3.0
08	250	10.6			100	3.2		[illegible]
09	250	11.8	225		110	3.6		2.8
10	250	12.6	220	5.0	110	3.9		2.6
11	310	13.6	210	5.8	110	4.0		2.6
12	320	14.7	220	6.3	110	4.1		2.7
13	340	15.2	230	6.4	110	4.2		2.7
14	330	15.3	225	6.4	110	4.0		2.7
15	330	15.3	230	6.4	110	3.9		2.7
16	330	15.5	240	6.0	110	3.5		2.7
17	295	14.8	250	5.6	100	3.2		2.8
18	250	14.1			110	2.5		2.8
19	250	14.0					2.5	2.8
20	250	12.6						2.7
21	250	12.2						2.8
22	255	11.0						2.7
23	250	10.7						2.9

Time: 150.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; above 16 Mc, manual operation.

Table 15

San Juan, Puerto Rico (18.4°N, 66.1°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		(9.5)						(2.7)
01		9.2						[illegible]
02		8.7						2.7
03		7.5						2.6
04		7.0						2.6
05		6.8						2.6
06		7.3						2.6
07	260	9.1						2.8
08	255	10.8				3.1		2.8
09	295	12.2		5.1		3.5		2.7
10	330	12.8		6.0				2.6
11	340	(13.2)		(6.0)				2.6
12	350	(13.7)		6.5		4.1		2.5
13	330	(13.6)		6.2		4.2		(2.5)
14	350	13.0		6.3		4.1		2.6
15	350	12.8		6.2		3.9		2.5
16	340	12.5		6.2		3.6	3.8	2.5
17	300	11.8				3.0	4.2	2.5
18	285	11.0						2.6
19	280	10.6						2.6
20		(10.3)						(2.6)
21		(9.9)						(2.5)
22		10.0						2.6
23		10.3						2.6

Time: 60.0°W.
Sweep: 2.8 Mc to 13.0 Mc in 9 minutes, supplemented by manual operation.

Table 16

Guam 1. (13.6°N, 144.9°E) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	(14.0)						(3.0)
01	250						1.8	
02	240	(10.2)					1.7	(3.0)
03	235	8.6						3.0
04	270	8.2					2.0	3.1
05	230	6.5					2.5	3.1
06	250	7.2					3.5	2.8
07	250	9.6					4.2	3.0
08	240	11.5					6.8	2.8
09	230	12.6					5.0	2.7
10	220	13.1					5.0	2.4
11	220	13.4					5.0	2.3
12	210	13.8			120	4.2	5.0	2.2
13	210	14.0			120	4.3	5.5	2.2
14	210	13.5			120	4.1	5.0	2.2
15	220	13.6					4.4	2.2
16	240	14.1					4.6	2.3
17	230	14.1					4.4	2.2
18	260	14.0					4.2	2.2
19	340	(12.0)					2.6	(2.1)
20	430						2.2	
21	350						1.9	
22	[illegible]						1.8	
23	290						2.2	

Time: 150.0°E.
Sweep: 1.[illegible]5 Mc to 19.0 Mc in 12 minutes, manual operation.

Table 17

Trinidad, Brit. West Indies (10.6°N, 61.2°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	11.6						3.0
01	220	10.4						3.0
02	220	9.0						3.0
03	220	7.7						3.0
04	250	7.2						2.8
05	250	6.6						2.8
06	275	7.0					2.2	2.8
07	230	9.8			105	2.8	3.0	3.1
08	220	11.2			100	3.3	3.8	3.0
09	250	12.6	220	(5.2)	100	3.8	4.3	2.8
10	255	13.4	220	5.3	100	4.0	4.6	2.8
11	260	14.0	220	5.5	110	4.1	4.6	2.8
12	285	14.4	220	5.9	110	4.2	4.7	2.7
13	280	14.3	210	5.8	100	4.2	4.6	2.7
14	280	13.8	210	5.4	105	4.1	4.8	2.6
15	280	13.4	220	5.3	105	3.9	4.8	2.6
16	280	12.8	220	5.3	100	3.5	4.6	2.6
17	250	12.4	240	5.0	110	3.0	4.4	2.6
18	2[illegible]0	11.8					2.8	2.7
19	280	11.6					2.8	2.6
20	295	11.8					2.2	2.6
21	280	12.2						2.7
22	270	12.3						2.8
23	250	12.0						2.9

Time: 60.0°W.
Sweep: 1.2 Mc to 1[illegible] Mc, manual operation.

Table 18

Palmyra I. (5.9°N, 162.1°W) April 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	235	13.6						2.9
01	240	(12.0)						(2.9)
02	250	(11.3)						(2.8)
03	250	(9.8)					1.6	(2.[illegible])
04	240	(9.2)						(3.0)
05	240	8.4						3.0
06	250	7.5						2.9
07	250	9.8			130	2.5		2.8
08	250	11.3			110	3.3		2.7
09	240	11.9	230		110	3.8		2.5
10	270	12.5	220		110	3.9		2.3
11	280	12.4	220		110			2.3
12	280	12.3	210		110			2.2
13	290	12.5	220		110			2.2
14	280	12.9	220		110			2.3
15	275	13.2	230		110	3.8		2.3
16	240	13.4	220		120	3.5		2.2
17	250	13.5			115	3.0	3.7	2.2
18	280	13.0			140	2.0	3.4	2.2
19	370	12.6					2.1	2.1
20	400	12.6						(2.1)
21	325	13.4						2.3
22	270	13.7					1.7	2.6
23	250	13.9						2.8

Time: 157.5°W.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 36 seconds; 11.0 Mc to 1[illegible] Mc, manual operation.

Table 19

Clyde, Baffin I. (70.5°N, 68.6°W) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	295	5.4						
01	280	5.2						
02	280	5.4						
03	280	5.2						
04	300	3.8						
05	300	[illegible]						
06	280	5.1						
07	280	5.8						
08	280	6.4						
09	280	7.0						
10	290	7.5						
11	300	8.1						
12	280	7.4						
13	310	6.7						
14	290	7.0						
15	280	7.0						
16	260	7.0						
17	[illegible]	7.[illegible]						
18	[illegible]	7.[illegible]						
19	270	6.[illegible]						
20	260	6.3						
21	290	6.6						
22	[illegible]	5.9						
23	[illegible]	5.8						

Time: [illegible]5.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 20

Churchill, Canada (58.8°N, 94.2°W) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	285	5.1					5.0	2.8
01	280	5.2					4.8	2.7
02	295	5.0					4.0	2.
03	310	5.0					3.8	2.[illegible]
04	320	4.5					3.	[illegible]
05	330	4.2					3.6	2.8
06	330	4.2					3.[illegible]	2.[illegible]
07	295	5.4					3.[illegible]	[illegible]
08	290	6.4			110	3.0	3.[illegible]	3.0
09	280	7.0	235	4.3	100	3.0	3.[illegible]	3.0
10	290	7.8	240	4.8	[illegible]	3.3		[illegible]
11	290	8.2	240	4.8	110	3.[illegible]		[illegible]
12	320	8.8	240	4.8	100	3.4		[illegible]
13	290	9.5	230	4.7	110	3.3		[illegible]
14	300	9.9	230	4.8	110	3.2		[illegible]
15	290	10.0	230	4.4	100	3.2		2.8
16	285	[illegible].8	250	4.2	105	[illegible]		2.[illegible]
17	260	9.1			120	2.7		[illegible]
18	265	7.6				2.[illegible]	2.6	2.[illegible]
19	280	6.6					[illegible]	[illegible]
20	300	5.[illegible]					4.0	[illegible]
21	280	5.4					4.2	[illegible]
22	[illegible]	5.[illegible]					[illegible]	[illegible]
23	285	5.2					6.2	2.7

Time: 9[illegible].0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute.

Table 21

Prince Rupert, Canada (54.3°N, 13[illegible]°W) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	3.2						2.9
01	310	2.9						2.7
02	345	2.8						2.7
03	340	2.9						2.6
04	340	2.7						2.7
05	320	2.6						2.6
06	320	3.2						2.7
07	290	4.0				E	2.4	2.9
08	270	5.6	250	3.5	120	2.3	2.2	3.0
09	275	6.4	240	4.2	120	2.6	2.9	2.9
10	290	7.2	230	4.4	120	3.0		2.9
11	290	7.9	220	4.5	120	3.2	3.6	2.8
12	300	8.6	220	4.5	120	3.3	3.8	2.8
13	290	9.3	230	4.6	120	3.3		2.8
14	280	9.6	230	4.5	120	3.3		2.8
15	270	9.7	240	4.2	120	3.1		2.8
16	260	9.9	240	4.1	120	2.9	3.4	2.9
17	250	10.0	240		120	2.7	2.6	2.9
18	240	9.3			130	2.1		2.9
19	240	8.8				E		3.0
20	230	7.6						3.0
21	240	6.0						3.0
22	240	4.6						3.0
23	250	4.0						2.9

Time: 120.0°W.
Sweep: 1.6 Mc to 13.5 Mc, manual operation.

Table 22

Lindau/Harz, Germany (51.6°N, 10.1°E) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	5.1					3.0	
01	300	5.0					3.1	
02	300	4.9					3.2	
03	290	4.5					3.2	
04	290	4.2					3.1	
05	280	3.1					3.2	
06	280	3.7					3.4	
07	220	5.9					3.7	
08	220	7.3			100	2.4	3.4	
09	220	8.8			100	2.9	4.2	
10	220	9.9			100	3.1	3.9	
11	210	10.2			100	3.2	3.6	
12	210	10.5			100	3.2	3.5	
13	210	10.7			100	3.3	3.6	
14	210	10.7			100	3.2	3.3	
15	220	10.3			100	3.1	3.3	
16	220	10.3			100	2.8	3.3	
17	230	10.1			100	2.4	3.2	
18	220	9.5					3.1	
19	220	8.5					3.0	
20	210	7.4					2.9	
21	220	6.3					2.8	
22	280	5.6					2.8	
23	290	5.5					3.0	

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 12 minutes.

Table 23

Portage la Prairie, Canada (49.9°N, 98.3°W) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	265	4.1						(2.7)
01	270	4.0					1.9	(2.7)
02	280	3.7					1.7	(2.6)
03	285	3.4					2.3	(2.6)
04	300	3.4					2.0	(2.6)
05	300	3.2						(2.6)
06	280	3.4						(2.7)
07	260	4.8						3.0
08	240	6.1			120	2.4		3.1
09	220	6.8			120	2.8		3.0
10	220	7.6			110	3.1		3.0
11	210	8.6			110	3.2		2.9
12	210	9.0			110	3.3		2.9
13	210	9.8			110	3.4		2.8
14	210	9.9			110	3.3		2.8
15	220	10.0			110	3.2		2.8
16	230	10.0			110	2.9		2.8
17	230	10.0			110	2.6		2.9
18	240	9.6			130	2.1		2.9
19	230	9.2						(2.9)
20	230	8.0						(2.8)
21	230	6.8						2.9
22	240	5.6						(2.8)
23	250	4.8						2.8

Time: 90.0°W.
Sweep: 1.0 Mc to 16.0 Mc in 2 minutes 30 seconds.

Table 24

St. John's, Newfoundland (47.6°N, 52.7°W) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	4.9						2.9
01	290	4.6						3.0
02	290	4.4						3.0
03	280	3.8						3.1
04	270	3.2						3.1
05	280	3.8						3.1
06	270	4.6						3.1
07	240	6.4			120	2.2		3.2
08	240	7.6			120	2.7		3.1
09	260	9.4	220	4.4	120	3.0		3.1
10	270	9.8	220	4.6	120	3.4		3.0
11	270	9.8	220	4.6	120	3.5		2.9
12	270	10.2	220	4.8	120	3.6		2.9
13	270	10.6	220	4.7	120	3.6		2.9
14	270	10.6	230	4.6	120	3.5		3.0
15	270	10.4	230	4.5	120	3.3	2.9	3.0
16	260	10.5	230	4.4	120	2.9		3.0
17	250	10.4		3.8	120	2.5		3.0
18	250	10.0			130	2.1		3.0
19	240	9.4						3.0
20	240	8.2						2.9
21	250	7.4						2.9
22	270	6.4						2.9
23	280	5.4						2.9

Time: 52.5°W.
Sweep: 1.2 Mc to 20.0 Mc, manual operation.

Table 25

Ottawa, Canada (45.5°N, 75.8°W) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	5.1						2.9
01	300	4.7						2.8
02	300	4.3						2.8
03	305	4.0						2.9
04	320	3.8						3.0
05	320	3.8						3.1
06	295	4.8						3.0
07	260	6.5			130	2.2		3.0
08	250	7.5	240		120	2.6		3.0
09	255	8.7	230	4.2	120	3.0		2.9
10	260	9.8	220	4.5	120	3.2		2.8
11	230	10.4	220	4.6	120	3.3		2.8
12	280	10.7	230	4.9	120	3.5		2.8
13	280	11.0	230	4.8	120	3.5		2.8
14	280	11.1	230	4.7	120	3.4		2.8
15	270	11.0	240	4.5	120	3.2		2.8
16	260	10.7	250	4.2	120	2.9		2.8
17	260	10.5			130	2.5		2.8
18	260	10.3						2.8
19	250	9.4						2.8
20	260	8.5						2.8
21	270	7.0						2.8
22	270	6.2						2.8
23	290	6.0						2.7

Time: 75.0°W.
Sweep: 1.7 Mc to 18.0 Mc, manual operation.

Table 26

Wakkanai, Japan (45.4°N, 141.7°E) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	265	6.0						2.8
01	250	6.2						2.9
02	255	6.1						2.8
03	260	5.8						2.8
04	250	5.4						2.8
05	255	5.3						2.8
06	240	7.2			120	1.8	1.3	3.2
07	(220)	(9.2)			(100)	2.5		(3.3)
08	210	10.5			100	2.9		3.3
09	210	11.6			100	3.2	2.8	3.3
10	215	12.1	200		100	3.5	3.7	3.3
11	225	11.8	200		100		3.6	3.2
12	(230)	(11.8)	(200)		(100)			(3.2)
13	230	11.7	200		100	3.6		3.2
14	210	11.8			100	3.4	3.4	3.2
15	240	11.2	200		100	3.2	3.0	3.2
16	220	10.5	205		100	2.7	2.6	3.2
17	220	10.2			100	2.2	1.8	3.2
18	210	9.4	220		100	1.6	1.7	3.2
19	200	7.0					1.6	3.2
20	200	7.2						3.1
21	220	6.7						3.0
22	230	6.4						3.0
23	260	6.2						2.9

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc, manual operation.

Table 27

Fukaura, Japan (40.6°N, 139.9°E) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	6.3						2.7
01	300	6.2						2.7
02	290	6.2						2.8
03	280	5.8						2.7
04	290	5.6						2.8
05	300	5.4						2.8
06	270	7.0			150	1.8		3.0
07	250	9.2	250		120	2.4		3.2
08	250	10.6			120	3.0	2.6	3.2
09	250	11.1	240		115	3.1	2.4	3.0
10	260	11.8	240		120	(3.3)	3.3	3.0
11	270	11.6	240		120		(3.5)	3.0
12	280	11.9	250		120		(4.0)	3.0
13	280	12.0	250		120		(3.4)	3.0
14	270	11.6	255		110		(3.7)	3.0
15	270	11.1	250		120	3.3	3.2	3.0
16	260	10.7	250		120	2.8	3.0	3.0
17	260	10.5			110	2.4	2.0	3.1
18	250	9.8				1.6	2.2	3.1
19	230	8.2					1.8	3.1
20	250	7.2						2.8
21	270	6.9						2.9
22	290	6.6						2.8
23	300	6.6						2.8

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc, manual operation.

Table 28

Shibata, Japan (37.9°N, 139.3°E) March 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	6.4						3.0
01	250	6.1						3.0
02	240	6.1						3.0
03	240	5.3						3.0
04	240	5.3						3.0
05	240	5.0						2.9
06	230	6.4			125	1.8	2.0	3.2
07	210	9.2			110	2.4	2.1	3.4
08	220	10.5			100	2.9		3.4
09	220	11.3	200		100	3.3	3.6	3.4
10	230	12.1	200		100	3.5	3.8	3.3
11	230	12.1	200		100	3.6	3.6	3.2
12	240	12.3	200		100	3.7	3.8	3.2
13	240	12.4	210		100	3.7		3.2
14	240	12.3	200		100	3.6		3.1
15	240	11.7	205		100	3.4	3.6	3.2
16	220	11.2	205		100	3.0		3.2
17	220	10.8			110	2.3	2.4	3.3
18	210	9.8				1.7	2.4	3.3
19	200	8.4						3.3
20	210	7.1						3.2
21	230	6.9						3.1
22	250	6.8						3.1
23	250	6.6						3.0

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Table 29

Tokyo, Japan (35.7°N, 139.5°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	6.6						2.7
01	300	6.4						2.8
02	300	6.2						2.8
03	290	5.5						2.8
04	290	5.4						2.7
05	300	5.3						2.7
06	280	6.7				E		3.0
07	250	9.4	240		120	2.5		3.2
08	260	11.0	235		110	3.1	2.8	3.2
09	260	11.6	230		110	3.4		3.0
10	280	12.4	230		110		3.6	3.0
11	290	12.9	230		100		4.2	3.0
12	300	13.0	230		100	3.7	4.3	2.9
13	300	13.1	230		110		3.8	2.9
14	290	13.0	235		105	3.6	3.6	2.9
15	270	12.4	230		110	3.4	3.3	2.9
16	260	12.2	235		100	3.2	3.0	2.9
17	260	11.6	240		110	2.6		3.0
18	240	10.8	240			E	2.3	3.1
19	230	8.6						3.0
20	250	7.3						2.8
21	280	7.1						2.8
22	300	7.0						2.7
23	300	6.8						2.7

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc, manual operation.

Table 30

Yamakawa, Japan (31.2°N, 130.6°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	280	7.4						2.9
01	290	6.9						2.8
02	290	6.2						2.8
03	280	6.0						2.9
04	270	5.6						2.9
05	280	5.0						2.8
06	290	5.0					(2.3)	2.8
07	270	7.8			120	2.1		3.2
08	250	10.0	230		110	2.7		3.2
09	270	11.2	230		110	3.0	3.4	3.1
10	265	12.2	230		110	3.4	4.0	3.0
11	280	13.0	220		110	3.6	4.2	2.9
12	290	13.5	220	5.1	110	3.7	4.6	2.9
13	295	13.8	220	5.0	110	3.6	4.2	2.8
14	290	13.8	230		110	3.6	4.2	2.9
15	280	13.7	230		110	3.2	4.0	2.9
16	270	13.5	220		110	3.1	3.6	2.9
17	260	13.1	230		110	2.7	3.4	2.9
18	250	12.2	230		110	2.2	2.4	3.0
19	230	12.0					2.0	3.1
20	230	9.6						3.0
21	250	8.4						2.9
22	280	7.9						2.8
23	280	7.6						2.9

Time: 135.0°E.
Sweep: 0.6 Mc to 18.5 Mc in 15 minutes, manual operation.

Table 31

Wuchang, China (30.6°N, 114.6°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	240	7.8						3.0
01	240	7.0						2.9
02	240	7.0						2.9
03	240	6.8						3.0
04	220	5.9						3.1
05	230	4.9						3.0
06	250	4.8						2.9
07	220	7.9			110	2.0		3.3
08	220	10.0			90	2.7		3.4
09	220	11.8	210	5.0	90	3.2		3.3
10	230	12.5	200	5.0	90	3.4		3.1
11	250	13.1	200	5.2	90	3.5		3.0
12	250	13.8	195	5.1	90	3.6		3.0
13	250	14.0	200	5.4	90	3.6		3.0
14	260	14.0	200	5.2	90	3.6		3.0
15	240	13.9	200	5.0	90	3.5		3.0
16	230	14.0	210	4.6	100	3.2		3.0
17	225	13.9	210		100	2.8		3.1
18	220	12.9			100	2.2		3.1
19	220	12.9						3.2
20	210	10.9						3.1
21	220	9.6						3.0
22	230	9.2						3.1
23	230	8.8						3.0

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

Table 32

Okinawa I. (26.3°N, 127.7°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		10.2						3.0
01		9.2						3.0
02		8.7						3.0
03		8.0						3.1
04		(6.2)						(3.0)
05		(5.6)						(2.9)
06		4.9						(2.8)
07		7.9						3.2
08		10.2						3.2
09		11.8						3.1
10		12.8						3.0
11		13.5						2.9
12		14.7						2.9
13		15.4						2.9
14		16.2						2.9
15		16.7						2.9
16		17.0						2.9
17		16.6						3.0
18		16.0						3.0
19		15.3						3.0
20		15.6						2.9
21		14.7						2.9
22		13.7						3.0
23		11.0						3.0

Time: 135.0°E.
Sweep: 1.8 Mc to 18.0 Mc in 15 minutes, manual operation.

Table 33

Leyte, Philippine Is. (11.0°N, 125.0°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		11.0					2.8	3.2
01		9.4					1.7	3.3
02		7.0						3.1
03		5.9					1.7	3.1
04		5.2					2.5	3.1
05		4.5					3.0	3.1
06		6.6				2.2	3.0	3.0
07		10.1				2.9	4.5	3.0
08		12.0				3.7	4.6	2.7
09		12.5				4.2	5.8	2.4
10		11.5				4.4	7.8	2.4
11		11.2				4.6	7.1	2.4
12		11.2				4.6	5.7	2.3
13		11.7				4.5	5.2	2.3
14		12.1				4.4	5.2	2.3
15		12.9				4.1	4.6	2.4
16		13.1				3.6	4.2	2.4
17		12.7				2.6	3.9	2.3
18		11.7					2.9	2.3
19		10.3					1.8	2.1
20		10.5					1.8	2.2
21		11.0					1.9	(2.5)
22		11.1					2.8	2.8
23		11.5					2.9	3.0

Time: 120.0°E.
Sweep: 1.6 Mc to 16.0 Mc, manual operation.

Table 34

Huancayo, Peru (12.0°S, 75.3°W) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	230	10.5						3.0
01	220	9.1						3.0
02	240	7.3						3.0
03	240	6.3						3.2
04	240	4.9						3.2
05	240	3.8						3.2
06	270	5.2				1.7		3.0
07	250	9.2				2.7		3.1
08	240	11.4				3.3	7.0	2.8
09	280	12.7	230	5.4		3.7	11.0	2.6
10	290	12.9	220	5.5			11.5	2.3
11	290	11.6	210	5.5		4.0	11.6	2.3
12	290	11.6	210	5.5			10.8	2.3
13	300	11.9	210	5.5		4.2	10.9	2.3
14	290	12.0	210	5.5		4.0	7.2	2.3
15	220	12.3	220	5.4		3.8	7.1	2.3
16	230	12.5				3.1	7.0	2.3
17	260	12.3				2.7	5.5	2.2
18	300	11.9				1.7		2.2
19	400	11.1						2.1
20	420	(10.2)						(2.2)
21	345	(11.3)						(2.6)
22	290	(11.1)						(2.6)
23	240	10.7						2.8

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes, automatic operation.

Table 35

Johannesburg, Union of S. Africa (26.2°S, 28.0°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	250	5.1					1.5	2.9
01	250	4.9						2.8
02	250	4.5					1.6	2.9
03	240	4.2					1.3	2.9
04	250	4.0					1.6	2.9
05	250	3.8					1.5	2.8
06	260	5.0			140	1.4		2.9
07	240	8.1			110	2.4		3.2
08	240	9.9	230		100	3.0		3.2
09	250	10.7	220	4.8	100	3.3	3.5	3.1
10	270	11.2	210		100	3.6	4.0	2.9
11	275	11.6	200		100	3.8	4.0	2.9
12	290	12.1	200	5.2	100	3.9	4.1	2.8
13	300	12.1	210	5.4	100	3.8		2.8
14	300	12.3	220		100	3.8	4.0	2.8
15	300	12.6	220		100	3.6		2.8
16	280	12.5	230		110	3.2	4.1	2.8
17	250	12.1	230		110	2.8	3.8	2.9
18	240	11.6			110	(2.0)	3.0	3.0
19	230	10.4					2.4	3.0
20	220	9.0					2.1	3.0
21	240	7.8					2.0	3.0
22	240	6.9					2.2	3.0
23	245	5.9					2.1	3.0

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 36

Christchurch, New Zealand (43.5°S, 172.7°E) March 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	285	6.5					2.5	2.6
01	290	6.2					2.6	2.6
02	290	6.0						2.6
03	280	5.6						2.7
04	280	5.2					2.6	2.7
05	270	4.6					2.6	2.7
06	275	5.1				1.5	2.6	3.0
07	250	6.6				2.4		3.1
08	245	7.8	240	4.3		2.9		3.1
09	280	8.4	230	4.7		3.2		3.0
10	270	9.1	225	4.8		3.4		3.0
11	280	9.5	220	5.2		3.5		2.9
12	265	10.1	230	5.1		3.5		2.9
13	270	9.8	230	5.2		3.5		2.8
14	270	10.3	230	4.9		3.5		2.9
15	240	9.7	240	4.8		3.3		2.9
16	250	9.6				3.0		2.8
17	250	9.7				2.5		2.9
18	260	9.7				1.8	2.7	2.8
19	250	9.3				(1.1)	2.7	2.8
20	250	8.6					2.5	2.7
21	270	7.9					2.6	2.6
22	280	7.2					2.6	2.6
23	300	6.8					2.6	2.6

Time: 172.5°E.
Sweep: 1.0 Mc to 13.0 Mc.

Table 37

Wakkanai, Japan (45.4°N, 141.7°E) February 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	280	3.9					1.4	2.8
01								
02								
03								
04								
05								
06								
07								
08	(200)							
09	210	(10.6)			100	2.7	(2.8)	(3.5)
10	200	(11.0)					(2.9)	(3.4)
11	210	(11.7)			100			(3.4)
12	(210)	(11.5)						(3.3)
13	200	(10.9)					(3.3)	(3.3)
14	200	(10.9)					(3.4)	(3.4)
15	(220)	(10.1)				2.8	(2.4)	(3.4)
16	210	(8.8)					2.0	(3.3)
17	210	7.9				E	1.6	3.2
18	200	7.3					1.7	3.2
19	210	6.2					1.7	3.2
20	210	5.4					1.4	3.2
21	240	4.9						3.1
22	245	4.5					1.2	3.0
23	280	4.0						3.0

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc, manual operation.

Table 38

Fukaura, Japan (40.6°N, 139.9°E) February 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	305	4.2						2.8
01	300	4.0						2.7
02	300	4.0						2.7
03	300	4.1						2.8
04	280	3.9					1.8	3.0
05	280	3.8						2.9
06	280	4.0						2.9
07	250	7.0	220			1.9		3.3
08	250	8.6	220		120	2.4		3.2
09	(250)	(9.8)			(120)	2.8		(3.1)
10	(270)	(11.1)	250		110	3.4		(3.0)
11	270	(11.3)			120	3.4		(3.2)
12	280	10.7	250		110	3.4		3.1
13	260	10.0	250		110	3.4		(3.1)
14	265	(9.7)					(3.7)	(3.0)
15	(270)	(10.0)					(3.0)	(3.1)
16	255	9.5			110	2.4	(3.0)	3.1
17	240	8.2				2.0	2.8	3.2
18	225	7.4					2.3	3.2
19	235	6.5					2.0	3.2
20	250	5.2					2.0	3.1
21	270	4.7					2.0	3.0
22	290	4.6					1.9	2.9
23	300	4.3					1.7	2.8

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc, manual operation.

Table 39

Peiping, China (39.9°N, 116.4°E) February 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		4.8						
01		4.3						
02		4.4						
03		4.8						
04		5.0						
05		5.4						
06		4.8						
07		6.2						
08		9.5						
09		11.0						
10		12.0						
11		12.1						
12		12.4						
13		12.3						
14		12.3						
15		12.2						
16		12.0						
17		11.0						
18		9.6						
19		9.1						
20		8.1						
21		(6.2)						
22		6.0						
23		5.5						

Time: 120.0°E.
Sweep: 2.3 Mc to 14.5 Mc in 15 minutes, manual operation.

Table 40

Shibata, Japan (37.9°N, 139.3°E) February 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	4.0						2.9
01	290	4.0						2.9
02	295	4.0						(2.9)
03	270	4.0						3.0
04	270	3.8						3.0
05	270	3.8						2.9
06	265	3.9						3.0
07	230	6.8				1.8		3.3
08	230	9.0	240		110	2.7		3.4
09	240	10.4	215		110	3.0		3.2
10	240	11.2	220		110	3.4		3.2
11	240	11.8	210		110	3.5	3.4	3.2
12	245	11.6	220		100	3.6		3.2
13	250	11.0	220		110	3.6		3.1
14	250	10.5	220		110	3.5	3.6	3.0
15	240	9.9	220		110	3.3		3.2
16	230	9.8			110	2.8	2.8	3.2
17	230	9.0			120	2.0	1.8	3.2
18	220	7.2					2.0	3.3
19	220	6.5						(3.2)
20	230	4.6						3.2
21	240	4.2						3.1
22	260	3.9						3.0
23	280	4.0						3.0

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Table 41

Tokyo, Japan (35.7°N, 139.5°E) February 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	350	4.2					1.6	2.6
01	345	4.1					1.8	2.6
02	335	4.0					1.8	2.5
03	325	4.0					1.8	2.6
04	310	3.8					1.8	2.6
05	320	3.8					1.6	2.6
06	300	4.0					1.8	2.6
07	265	7.4			135	2.1		3.0
08	250	9.2	260		110	2.6		3.1
09	260	10.6	240		110	3.0	3.0	3.1
10	260	11.4	240		110	3.4		2.9
11	280	11.8	240		100	3.6	3.6	2.9
12	280	11.8	240		110	3.7	3.7	2.9
13	285	11.8	250		110	3.7	3.6	2.9
14	265	11.0	240		110	3.5	3.6	2.9
15	265	10.4	235		110	3.2	3.2	2.8
16	260	10.4	250		110	2.8	3.3	2.9
17	250	9.2			110	2.2	2.7	3.0
18	250	8.4					2.5	2.9
19	250	6.9					1.9	2.9
20	250	6.0					2.2	2.9
21	280	5.2					1.9	2.8
22	305	5.0					1.8	2.6
23	330	4.4					1.8	2.6

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc, manual operation.

Table 42

Yamakawa, Japan (31.2°N, 130.6°E) February 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	4.6						2.9
01	300	4.5						2.8
02	300	4.4						2.8
03	300	4.0						2.9
04	265	3.8						3.0
05	290	3.6						2.8
06	295	3.6						2.8
07	290	5.0						3.0
08	250	8.9			110	2.4		3.3
09	250	10.1	225		110	2.9		3.2
10	250	11.3	230		110	3.4	3.7	3.1
11	285	12.4	230		110	3.4	3.8	3.1
12	290	11.9	230		110	3.5	4.4	3.0
13	300	12.9	225		110	3.6	4.2	3.0
14	280	13.0	240		110	3.4	4.0	2.9
15	280	12.9	230		110	3.3	3.8	2.9
16	260	12.0	230		110	2.8	3.6	2.9
17	250	11.6	230		110	2.7	3.0	3.0
18	240	11.1						3.1
19	220	9.9					2.2	3.2
20	225	8.8						3.1
21	230	7.2						3.1
22	235	6.0						3.0
23	265	5.4						2.9

Time: 135.0°E.
Sweep: 0.6 Mc to 18.5 Mc in 15 minutes, manual operation.

Table 43

Chungking, China (29.4°N, 106.8°E) February 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	325	5.4					2.6	2.5
01	335	4.9					2.8	2.5
02	310	4.9					3.0	2.7
03	300	4.8					2.9	2.7
04	250	4.1					3.0	3.0
05	320	3.3					2.8	2.7
06	305	3.4					3.5	2.6
07	260	6.5					4.0	3.0
08	260	9.4	250		110	2.7	4.2	3.1
09	260	10.7	240		110	3.0	4.8	2.9
10	290	12.4	240	6.1	105	3.4	5.2	2.8
11	300	13.7	245	6.2	105	3.4	5.4	2.8
12	300	14.0	230	6.3	100	3.6	5.2	2.8
13	300	14.0	240	6.0	110	3.5	4.7	2.8
14	300	14.4	240	5.8	100	3.4	4.6	2.7
15	280	14.5	220		100	3.4	4.1	2.8
16	260	14.1	230		90	3.0	3.9	2.8
17	245	14.0			100	2.6	3.4	2.9
18	240	13.0					3.0	2.8
19	240	11.7					2.7	2.8
20	250	11.0					2.6	2.7
21	250	8.9						2.7
22	260	7.5					2.2	2.6
23	300	6.1						2.5

Time: 105.0°E.
Sweep: 1.7 Mc to 20.0 Mc in 15 minutes, manual operation.

Table 44

Leyte, Philippine Is. (11.0°N, 125.0°E) February 1948

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		9.4					3.0	3.1
01		8.2					1.8	3.2
02		7.2					1.7	3.2
03		5.8						3.2
04		5.2					2.0	3.2
05		3.8					2.4	3.2
06		5.4				(2.0)	2.7	2.9
07		9.1				2.9	3.5	3.0
08		11.3				3.5	4.8	2.8
09		11.5				4.0	5.6	2.6
10		11.6				(4.4)	5.8	2.4
11		11.1				4.5	7.3	2.3
12		10.8				(4.6)	8.0	2.3
13		11.1				4.5	6.8	2.3
14		11.3				4.3	5.4	2.3
15		11.4				(4.0)	5.1	2.3
16		11.6				3.5	5.1	2.3
17		11.5				2.7	4.0	2.4
18		10.9					3.2	2.4
19		10.1					1.8	2.2
20		9.9					1.8	2.3
21		10.2					2.7	2.6
22		9.8					3.0	2.8
23		9.9					2.9	3.0

Time: 120.0°E.
Sweep: 1.6 Mc to 16.0 Mc, manual operation.

Table 45

Brisbane, Australia (27.5°S, 153.0°E) February 1948

Time	h'F2	f^oF2	h'F1	f^oF1	h'E	f^oE	fEs	F2-M3000
00	270	8.5					2.5	2.8
01	255	8.0					3.0	2.9
02	250	7.6					2.2	2.8
03	250	7.0					2.1	2.8
04	250	6.5					2.0	2.8
05	250	6.4					1.4	2.9
06	240	7.2			110	2.1		3.2
07	230	8.0	220		108	2.8		3.1
08	270	8.8	220		110	3.3	4.3	3.0
09	290	9.2	205	5.2	110	3.6	4.4	3.0
10	300	10.0	220	5.6	110	3.8	4.3	2.9
11	320	10.6	205	5.5	110	4.0	4.2	2.8
12	315	10.8	205	5.6	110	4.0		2.8
13	330	10.9	220	5.7	110	4.0		2.8
14	325	10.8	230	5.6	110	3.9		2.8
15	300	10.7	220	5.5	110	3.7		2.8
16	280	10.0	220	4.8	110	3.4		2.9
17	250	10.0	240		110	2.9	2.0	3.0
18	250	9.2				2.2	3.8	3.0
19	245	8.7					3.0	2.8
20	260	8.5					2.3	2.7
21	290	8.5					2.5	2.6
22	300	8.7					2.4	2.7
23	280	8.5					2.5	2.7

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

Table 46

Watheroo, W. Australia (30.3°S, 115.9°E) February 1948

Time	h'F2	f^oF2	h'F1	f^oF1	h'E	f^oE	fEs	F2-M3000
00	282	6.5					3.0	2.7
01	280	6.2					3.1	2.7
02	275	5.8					3.4	2.7
03	258	5.5					3.1	2.8
04	258	5.0					2.8	2.8
05	275	4.5					2.7	2.8
06	270	5.0				1.9	2.8	2.9
07	278	6.3	240	3.7		2.5	3.0	3.1
08	295	7.1	230	4.8		3.1	3.3	3.0
09	310	8.0	222	5.0		3.3	3.6	3.0
10	305	8.8	208	5.2		3.3	3.9	2.8
11	330	9.4	220	5.4		3.6	4.2	2.8
12	340	9.8	205	5.5		3.6	4.0	2.8
13	340	10.0	212	5.5		3.4	4.2	2.8
14	340	9.9	215	5.4		3.5	4.0	2.8
15	322	9.8	220	5.3		3.4	3.8	2.8
16	320	9.6	222	5.1		3.3	3.6	2.8
17	300	9.1	235	4.8		2.9	3.6	2.8
18	265	8.8	235	4.2		2.3	3.4	3.0
19	250	8.7					2.7	2.9
20	245	7.9					2.4	2.9
21	262	7.3					2.6	2.8
22	270	7.0					2.6	2.8
23	282	6.5					2.8	2.8

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes, automatic operation.

Table 47

Canberra, Australia (35.3°S, 149.0°E) February 1948

Time	h'F2	f^oF2	h'F1	f^oF1	h'E	f^oE	fEs	F2-M3000
00	290	7.5					3.4	2.7
01	280	7.0					3.4	2.7
02	260	6.8					3.2	2.7
03	260	6.4					3.4	2.6
04	250	5.6					3.0	2.7
05	250	5.4					2.8	2.8
06	240	5.8			100	(2.0)	3.2	3.0
07	240	6.8			110	2.6	3.7	3.0
08	240	7.6	240	4.5	100	3.2	3.6	3.1
09	280	8.2	220	5.0	100	3.5	4.4	3.0
10	300	8.4	210	5.3	100	3.7	5.3	2.9
11	310	9.2	210	5.6	100	3.9	6.1	2.8
12	310	9.0	215	5.5	100	3.8	5.8	2.8
13	330	9.1	200	5.6	100	3.8	5.6	2.8
14	325	9.1	222	5.4	100	3.8	5.2	2.8
15	310	9.2	220	5.2	100	3.7		2.8
16	290	9.0	230	4.7	100	3.4		2.8
17	265	9.2	240	4.2	100	3.1		2.9
18	250	9.0			110	2.4	3.6	2.9
19	245	8.8					3.0	3.0
20	245	8.0					2.6	2.8
21	260	7.6					2.7	2.7
22	280	7.5					2.8	2.7
23	290	7.3					2.9	2.7

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

Table 48

Lindau/Harz, Germany (51.6°N, 10.1°E) January 1948

Time	h'F2	f^oF2	h'F1	f^oF1	h'E	f^oE	fEs	F2-M3000
00		3.1					3.0	
01		3.3					3.0	
02		3.1					3.0	
03		2.9					3.0	
04		2.8					3.1	
05		2.8					2.9	
06		2.7					2.7	
07		2.6					3.1	
08		5.7					2.9	
09		8.3				2.2	3.0	
10		10.2				2.5	3.0	
11		11.3				2.8	3.2	
12		11.1				2.8	3.2	
13		10.7				2.8	3.2	
14		10.3				2.6	3.0	
15		10.5				2.3	3.3	
16		9.7				2.0	3.2	
17		8.0					3.2	
18		6.8					3.3	
19		5.4					3.0	
20		4.1					2.9	
21		3.4					2.9	
22		3.3					2.7	
23		3.2					2.9	

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 12 minutes.

Table 49*

Slough, England (51.5°N, 0.6°W) January 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	291	3.3					3.2	2.5
01	299	3.3					3.0	
02	310	3.1					3.0	2.5
03	298	2.8					2.9	
04	280	2.9					2.9	2.6
05	269	3.0					3.0	2.7
06	267	2.9					3.2	2.7
07	255	3.2			(120)#		3.3	
08	229	6.5			123	1.8	3.3	3.1
09	224	9.1	225#	5.1#	119	2.3	3.4	
10	226	10.6	225#	5.2#	117	2.7	3.4	3.2
11	227	11.0	223#	5.0#	119	2.9	3.4	
12	227	11.7	225#	(4.0)#	118	2.9	3.3	3.1
13	235	11.0	214	5.0	120	2.9	3.3	
14	233	11.1			120	2.7	3.4	3.1
15	229	10.8			124	2.4	3.4	
16	223	9.7			138	2.0	3.4	3.1
17	221	8.2					3.3	
18	229	(7.2)					3.[illegible]	3.0
19	237	5.2					3.0	
20	247	4.2					2.9	2.7
21	285	3.8					2.6	
22	301	3.7					2.8	2.5
23	304	3.5					3.2	

Time: Local.
Sweep: 0.5 Mc to 14.0 Mc in 6 minutes; 14.0 Mc to 25.0 Mc, manual operation.
*Average values except for f°F2 and fEs, which are median values.
#One or two values only.

Table 50

Delhi, India (28.6°N, 77.1°E) January 1948

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000**
00	390	4.9						2.6
01	390	4.3						
02	390	4.4						
03	(390)	(3.5)						
04	390	3.2						2.5
05	390	3.2						
06	390	3.3						
07	360	6.8						
08	330	10.5						3.1
09	330	11.5						
10	330	11.6						
11	360	12.0						
12	375	12.8						2.9
13	390	13.4						
14	390	13.0						
15	360	13.2						
16	360	13.2						2.8
17	360	13.0						
18								
19								
20	360	9.8						2.8
21	360	8.5						
22	360	6.6						
23	390	5.2						

Time: Local.
Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.
*Height at 0.83 f°F2.
**M3000, average values; other columns, median values.

Table 51

Bombay, India (19.0°N, 73.0°E) January 1948

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000**
00								3.0
01								
02								
03								
04								3.3
05	(300)	(3.7)						
06	(330)	(3.7)						
07	330	7.7						
08	330	12.0						3.0
09	360	13.8						
10	390	(14.3)						
11	(450)	(14.5)						
12	(450)	(14.6)						2.5
13	(465)	(14.6)						
14	(450)	(14.5)						
15	450	(14.5)						
16	465	(14.5)						2.5
17	(420)	(14.5)						
18	(390)	(14.5)						
19	(450)	(14.5)						
20		(14.3)						
21		(14.9)						
22		(14.6)						
23								

Time: Local.
Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.
*Height at 0.83 f°F2.
**Average values; other columns, median values.

Table 52

Madras, India (13.0°N, 80.2°E) January 1948

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000**
00								
01								
02								
03								
04								
05								
06								
07	360	7.8						
08	420	11.4						2.6
09	480	12.5						
10	540	12.6						
11	540	11.8						
12	600	11.5						2.1
13	600	11.4						
14	600	11.4						
15	600	11.9						
16	600	11.9						2.0
17	600	12.0						
18	600	11.6						
19	540	11.0						
20	540	11.0						2.1
21	480	(10.4)						
22	420	10.2						
23								

Time: Local.
Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.
*Height at 0.83 f°F2.
**M3000, average values; other columns, median values.

Table 53

Brisbane, Australia (27.5°S, 153.0°E) January 1948

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	(9.0)					3.7	(2.8)
01	270	8.4					3.5	2.7
02	260	8.0					3.0	2.6
03	280	7.8					3.4	2.7
04	270	7.4					3.0	2.7
05	270	7.1					2.0	2.8
06	250	7.2			110	2.4		2.9
07	300	7.7	230	4.6	110	3.1		2.8
08	335	8.3	230	5.3	110	3.5	3.5	2.8
09	340	9.0	205	5.6	110	3.9	4.5	2.7
10	355	9.4	220	5.8	110	4.0	4.4	2.6
11	360	9.8	210	5.9	110	4.0	4.4	2.6
12	360	10.1	215	6.0	110	4.0	4.4	2.6
13	370	10.6	220	5.9	110	4.1	4.4	2.6
14	360	10.4	220	5.8	110	4.0	4.0	2.6
15	350	10.0	230	5.5	110	3.8		2.6
16	345	9.5	230	5.5	110	3.5		2.7
17	300	9.5	240		110	3.0		2.8
18	260	8.8			110	2.2	3.1	2.7
19	275	8.6					3.2	2.6
20	300	(8.6)					3.3	(2.6)
21	320	(8.3)					3.1	(2.6)
22	300	9.0					3.5	2.6
23	300	(9.0)					3.5	(2.7)

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

Table 54

Lindau/Harz, Germany (51.6°N, 10.1°E) December 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.1					3.0	
01		3.3					2.7	
02		3.2					2.9	
03		2.9					3.2	
04		3.3					3.0	
05		3.4					3.1	
06		3.0					2.8	
07		2.8					3.4	
08		5.0				1.2	3.4	
09		9.4				2.0	3.3	
10		(10.0)				2.5	3.5	
11		12.3				2.8	3.0	
12		12.0				2.8	3.1	
13		10.7				2.8	3.2	
14		11.5				2.6	3.5	
15		10.9				2.3	3.1	
16		9.5				1.7	2.9	
17		8.5					3.5	
18		7.1					3.3	
19		5.7					3.2	
20		3.9					3.3	
21		3.3					3.4	
22		3.1					3.0	
23		3.2					2.7	

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 12 minutes.

Table 55

Delhi, India (28.6°N, 77.1°E) December 1947

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	** F2-M3000
00	390	4.6						2.6
01	390	4.8						
02	(390)	(4.2)						
03	(420)	(4.0)						
04	390	3.8						2.7
05	390	3.7						
06	390	4.0						
07	360	7.8						
08	330	11.8						3.0
09	360	12.5						
10	360	13.0						
11	360	12.8						
12	390	13.3						2.7
13	390	13.7						
14	390	13.6						
15	390	13.7						
16	360	13.5						2.7
17	360	12.9						
18								
19								
20	360	9.5						2.9
21	360	7.5						
22	360	6.2						
23	390	5.4						

Time: Local.
Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.
*Height at 0.83 f°F2.
**M3000, average values; other columns, median values.

Table 56

Bombay, India (19.0°N, 73.0°E) December 1947

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	** F2-M3000
00								2.8
01								
02								
03								
04								3.2
05								
06								
07	330	8.4						
08	330	12.5						3.0
09	360	13.8						
10	360	14.0						
11	390	14.3						
12	400	(14.4)						2.6
13	(450)	(14.7)						
14	(450)	(14.7)						
15		(15.0)						
16	(420)	(15.0)						2.6
17		(15.2)						
18	(420)	(15.1)						
19	(420)	(15.1)						
20		(15.1)						
21	(390)	(14.9)						
22	390	14.8						
23	(420)	(13.3)						

Time: Local.
Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.
*Height at 0.83 f°F2.
**M3000, average values; other columns, median values.

Table 57

Madras, India (13.0°N, 80.2°E) December 1947

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	** F2-M3000
00								
01								
02								
03								
04								
05								
06								
07	420	10.0						
08	450	11.5						2.5
09	480	12.2						
10	540	12.9						
11	540	13.2						
12	600	13.2						2.1
13	600	13.7						
14	600	13.8						
15	600	13.8						
16	600	13.8						2.1
17	570	13.5						
18	540	13.3						
19	(540)	(12.4)						
20		(12.0)						2.4
21	(540)	(11.5)						
22		(11.1)						
23								

Time: Local.
Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.
*Height at 0.83 f°F2.
**M3000, average values; other columns, median values.

Table 58*

Falkland Is. (51.7°S, 57.8°W) December 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	339	10.0					2.9	
01	324	10.1					2.4	2.5
02	318	9.7						
03	339	9.8		2.7#				
04	296	10.4	318#	3.6#	(105)#	2.2#		
05	284	11.0	265	4.7	125	2.6		
06	318	11.4	251	5.3	113	3.1		
07	329	11.8	244	5.5	111	3.4	5.6	2.5
08	348	11.8	244	5.6	108	3.6	6.1	2.4
09	386	12.0	242	5.9	106	3.7	5.8	2.4
10	384	11.6	241	5.9	107	3.8	6.2	2.4
11	378	11.5	234	6.0	108	3.8	5.6	2.5
12	379	11.2	234	5.9	107	3.8	4.0	2.5
13	376	10.8	236	5.9	107	3.8	4.4	2.5
14	374	9.8	246	5.7	106	3.7		2.6
15	364	9.3	249	5.6	108	3.6	4.9	2.6
16	345	9.0	251	5.5	110	3.4	5.6	2.7
17	318	8.6	259	(5.6)#	113	3.1	5.3	2.7
18	288	8.6	305#		121	2.7	5.5	2.7
19	284	8.4					4.6	2.6
20	309	8.4					4.2	
21	335	(9.2)					4.7	
22	338	9.7					4.0	
23	339	9.9					2.5	

Time: Local.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute.
*Average values except f°F2 and fEs, which are median values.
#One or two values only.

Table 59

Nanking, China (32.1°N, 119.0°E) November 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05	(360)	(3.5)					(1.9)	(2.4)
06	320	5.0					1.9	2.5
07	280	10.1					2.1	2.8
08	280	12.5	260				3.3	2.9
09	280	13.5	240				3.8	2.9
10	280	14.6	240				4.7	2.8
11	300	14.5	240				4.4	2.6
12	315	14.6	240		120	3.9	5.2	(2.6)
13	300	(14.5)	240				4.9	(2.7)
14	310	14.5	240				5.5	(2.5)
15	320	14.5	240				4.2	2.6
16	300	14.7	240				3.7	2.6
17	280	14.3	240				2.9	2.6
18	300	13.3	240				2.3	2.6
19	240	12.0					2.0	2.5
20	240	11.0					1.9	2.6
21	240	9.3					1.9	2.6
22	255	7.9					1.8	2.5
23								

Time: 120.0°E.
Sweep: 1.7 Mc to 15.0 Mc in 20 minutes, manual operation.

Table 60

Fribourg, Germany (48.1°N, 7.8°E) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	7.9					2.8	
01	290	7.3					2.8	
02	290	7.0					2.7	
03	300	6.5					3.0	
04	300	6.6				1.7	2.8	
05	270	7.0	245	3.9	100	2.2	3.8	
06	315	7.8	230	4.4	100	2.8	4.5	
07	330	8.2	220	5.0	100	3.2	4.7	
08	330	(8.6)	220	5.2	100	3.7	5.5	
09	360	8.3	210	5.7	100	3.8	5.7	
10	380	8.7	210	5.8	100	4.0	5.6	
11	360	8.7	200	5.8	100	4.0	5.3	
12	370	8.5	210	5.7	100	4.0	5.2	
13	380	8.4	200	5.8	98	4.0	5.0	
14	390	8.4	200	5.6	100	4.0	4.8	
15	370	8.3	200	5.4	100	3.9	4.8	
16	([illegible]20)	8.2	210	5.3	100	3.7	4.9	
17		8.1	220		100	3.3	4.5	
18	(235)	8.2	230		100	2.7	4.3	
19	250	8.3			105	2.1	4.1	
20	(250)	8.4				1.7	4.3	
21	(255)	8.3					3.8	
22	270	8.1					3.2	
23	285	8.0					2.8	

Time: Local.
Sweep: 1.4 Mc to 16.6 Mc in 10 minutes, automatic operation.

Table 61

Fribourg, Germany (48.1°N, 7.8°E) May 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	7.7						
01	305	(7.3)						
02	300	7.3						
03	290	(6.8)						
04	300	6.6				1.7		
05	270	(7.0)	250			2.2	3.5	
06	290	7.8	230		108	2.7	4.2	
07	(350)	8.0	220	5.4	100	3.2	4.4	
08	(335)	(8.4)	220	(5.2)	100	3.6	4.4	
09	(380)	8.5	225		100	3.8	4.5	
10	(380)	8.7	220	(6.0)	100	4.0	4.4	
11	370	(9.4)	220	(6.2)	100	4.1	4.4	
12	360	(9.3)	220	(6.2)	100	4.0	4.4	
13	(370)	(9.4)	215	6.0	100	4.1		
14	355	9.1	225	6.0	100	4.0		
15	(365)	9.0	225	(5.8)	100	3.9	4.2	
16	(350)	8.7	225	(5.6)	100	3.7	4.5	
17	(335)	(8.6)	230	(4.8)	100	3.2	4.4	
18	(260)	8.7	230		108	2.6	4.5	
19	250	(8.8)			110	2.2	3.8	
20	250	(8.6)					3.0	
21	260	(8.3)					2.2	
22	280	(8.0)						
23	290	(7.8)						

Time: Local.
Sweep: 1.4 Mc to 16.6 Mc in 10 minutes, automatic operation.

Form adopted June 1946

TABLE 62

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

IONOSPHERIC DATA

h'F2 (Characteristic), Km (Unit), May (Month), 1948

Observed at Washington, D. C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: N. N. M., K. L. W.

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	270	260S	260	250	250	290	260	350K	380K	(510)FK	GK	530K	580K	560K	510K	460K	480K	350K	260K	230	260	260	270	300
2	300	300	290	250	280	280	240	230	250	310H	360	390	370	360	340	(400)S	370	240	250	250	250	250	270	300
3	310	(360)SC	290	270	260	270	250	230	240	310	360	320	360	300	340	350	350	260	270	250	250	250	270	270
4	270	260	250	260	260	280	250	260	370	330	360	360	400	370	380	350	280	[250]B	230	260	250	250	250	270
5	290	280	300	300	300	320	250	[240]AK	230K	440K	(480)CK	440K	[440]NK	(430)CK	400K	(440)NK	420K	370K	(300)AK	270	240	270	290	370
6	310	300	310	330	300	340	310	320K	650K	GK	630K	GK	BK	CK	CK	AK	AK	450K	350K	280K	260K	270K	330K	310K
7	300K	320K	360K	370K	350K	350K	270K	GK	GK	GK	GK	GK	GK	BK	BK	GK	(570)NK	480K	370K	290K	280K	300K	300K	290K
8	270K	290K	290K	360K	340K	330K	270	(360)HN	(480)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	270K	280K	300K	370K	340K	GK	(400)K	GK	GK	AK	480K	470K	[490]BK	510K	[490]AK	470K	(470)CK	280K	300K	280K	290	280	300
10	310	300	280	A	(280)A	340	(300)A	450	520	460	(460)N	490	[450]BN	420	460	430	390	370	290	[270]C	[260]C	(250)	[260]C	[275]C
11	290	280	270	250	280	300	(250)SC	300K	520K	[520]CK	530K	SNK	CK	SK	540K	450K	450K	310HK	(250)SK	350K	260K	280	260	280
12	280	290	(300)S	280	250	280	250H	230	360	430	(450)C	420	(440)SC	420	420	430	390	350	230	280	270	300	280	280
13	280	300	270	280	320H	350	270S	[290]C	310	520S	[510]C	500	570	480	440	440	410	360	230	(240)A	(280)A	(300)A	270	270
14	280	280	290	290	270	270	240	230	230	360	480	420	400	430	[430]C	440	370	380	300H	270	290	280	300	(310)S
15	350	260K	330K	320K	300K	280K	240K	(230)AK	370HK	370K	380K	(440)SK	(360)SK	CK	400K	CK	CK	CK	CK	CK	CK	CK	CK	CK
16	350K	450K	530K	400K	370K	350K	GK	800K	GK	GK	CK	CK	GK	GK	GK	GK	520K	430K	250K	300K	270K	280K	280K	340K
17	310K	280K	300K	280K	280K	270	[240]C	[220]C	210	320	[310]S	310	400	380	(380)C	420	370	340	250	260	250	250	260	280
18	300	300	280	300	280	280	230	220	450	440	470	400	(440)S	450	420	390	380	350	250	280	270	260	250	250
19	250	250	250	260	260	280	250	230	380	380	430	440	420	370	370	350	340	270H	260	260	250	270	270	270
20	A	280	270	270	260	250	240	270	300	380	370	[380]C	(390)C	[410]C	430	370	370	330	280	260	250	240	240	270
21	280	280	300	300	330K	400K	470K	620K	GK	GK	GK	CK	CK	GK	GK	CK	500K	490K	350K	280K	270K	300K	260K	270K
22	230K	280K	300K	310K	(350)CK	300K	490K	550K	640K	CK	CK	CK	CK	GK	GK	590K	550K	500K	390K	270K	270K	260K	270K	270K
23	300K	330K	(340)CK	300K	270K	280K	480K	500NK	GK	370K	570K	GK	GK	470K	410K	400K	370K	[340]AK	310K	270K	260K	270K	250K	250K
24	260K	(280)CK	290K	320K	290K	290K	250K	370K	[420]AK	450K	[450]C	[440]C	440	420	(390)C	380	360	320	240	(270)A	250	(270)S	(320)S	280
25	(280)C	270	260	250	(300)C	270	240	240	330	370	320	360	370	360	370	[350]C	330	320	240	(260)A	250	270	260	270
26	250	250	260	250	260	260H	250	270	400K	GK	GK	CK	CK	540K	[510]CK	[480]CK	450K	380K	[320]AK	270K	260K	260	270	270
27	260	260	260	290	290	350	480	440	[410]N	380	380	[390]NS	400	[410]C	(430)	380	360	340	(240)A	260	250	260	260	270
28	270	250	250	260	250	270	240	220	280	300	[320]C	340	370	370	360	330	[340]C	350	230	250	250	260	280	290
29	290	230	230	270	280	270	380	360H	360	380H	440	460	460	450	400	490	430	350	250H	270	280	280	290	250
30	280	280	310	280	250	250	320	330	330	380H	330	320	400	400	380	370	370	330	260	(250)A	260	(300)A	290	270
31	260	260	260	290	270	260	220	250	280	430	420	370	430	400	390	390	390	380	270	250	260	290	280	270
Median	280	280	290	285	280	280	250	290	380	430	450	420	430	420	415	420	385	350	260	270	260	270	270	270
Count	29	31	31	30	31	31	31	31	31	29	27	25	25	26	28	27	28	29	29	29	29	29	29	29

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE

Form adopted June 1946

TABLE 63

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

IONOSPHERIC DATA

f°F2 (Characteristic), Mc (Unit), May (Month), 1948

Observed at Washington, D.C.

Lat. 39.0°N, Long. 77.5°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.M.C., J.J.S.

Calculated by: K.L.W., N.N.M.

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	6.9	(6.9)S	(6.9)JS	(6.3)JF	(5.5)JF	5.4	6.3	(6.8)JK	6.3K	6.0K	GK	6.1K	6.0K	6.1K	(6.4)SK	6.5K	6.5K	6.8K	6.9K	7.5	7.6	(7.6)S	6.4	(6.3)JS
2	(6.0)JS	5.7	(5.5)JS	5.5	4.9	5.1	6.2	7.1H	(7.5)J	7.5	8.7	8.8	9.0	9.4	9.3	8.6	9.3	9.6S	(9.2)C	(9.1)S	8.3	7.8	(7.7)JS	7.0
3	7.2	(6.6)SC	6.7	6.8	(6.1)J	5.9	7.1	7.8	8.7	8.1	9.2	9.5	9.8	9.8	9.2	9.4	9.3	9.5	9.5	9.1	8.8	7.8	7.6	7.2
4	7.0	6.8	6.2	5.7	5.3	5.4	6.8	8.0	8.5	9.0	9.2	8.9	(9.3)P	(9.2)S	9.4	9.4	9.4	B	9.3	(9.2)S	(9.3)S	(8.4)SP	7.8	7.2
5	(6.9)S	6.2	(5.7)SP	5.5	(5.4)S	5.5	6.5	7.0K	6.9K	6.9K	7.1K	(7.4)JK	(7.3)PK	7.8K	7.6K	7.8K	7.9K	7.9K	7.9K	8.3	(7.3)SP	(7.0)S	(6.6)P	6.1
6	6.2	(6.5)SP	6.1	5.7	5.5	5.1	(6.3)S	K(6.5)JF	5.7K	GK	5.7K	GK	BK	(5.7)CK	(5.7)CK	AK	(6.5)JK	6.8K	6.7K	6.8K	(6.8)JK	6.6K	(6.0)JK	5.7K
7	5.7K	5.4K	4.2K	2.5FK	3.1FK	3.9FK	4.8K	GK	GK	GK	GK	GK	GK	BK	BK	GK	6.2K	6.1K	6.2K	(6.0)VK	(5.8)JK	(6.2)JK	(6.0)SK	K(5.8)JS
8	(5.6)JK	(5.1)JK	4.7FK	K(4.2)JV	4.4VK	4.5K	(5.1)P	(6.0)HN	6.4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	6.1FK	5.4FK	(4.8)FK	(3.6)FK	4.2FK	GK	(5.8)PK	GK	GK	AK	(7.0)SK	7.4K	[7.4]BK	7.5K	(7.5)K	7.3K	7.3K	(7.6)JK	7.6K	(7.4)JK	7.7	(7.2)J	(7.2)J
10	6.9	6.2	6.2	6.0	(5.4)J	5.7	6.1	(6.3)P	6.3	6.9	(7.8)N	7.6	(8.2)BN	8.9	8.8	9.0	8.9	8.7	8.4	[8.3]C	[8.2]C	(8.1)JS	[8.2]C	[8.1]C
11	(7.1)JC	(6.9)J	(6.7)J	(5.9)J	5.3	5.4	6.1	K(6.9)JS	6.5K	[6.5]CK	(6.5)NK	SNK	CK	SK	7.2K	7.7K	K(7.5)JS	(7.8)SK	K(7.8)JS	7.9K	(8.2)JK	(8.2)JS	(7.8)JS	(7.3)JS
12	7.2	(6.8)S	(6.5)JS	(6.6)JS	(5.9)SP	5.7	S	(8.0)JS	8.6	8.8	(8.9)C	9.0	(9.2)S	9.0	9.1	8.8	8.8	8.5	8.7	8.6	8.5S	8.3S	8.3	7.9S
13	7.6	6.8	6.8	(5.7)SP	5.3	4.7	(5.1)SP	(5.8)J	(6.5)JS	6.7S	[7.2]C	7.6	7.6	8.0	8.3	8.4	8.6	8.5	8.3	8.4	8.3	7.9	(7.9)S	7.8
14	7.5	7.0	6.8	6.7	6.3	6.7	7.9	8.2	8.7	8.9	8.7	9.0	9.2	9.0	[8.9]C	8.8	8.7	8.5	8.4	8.2	8.1	(8.1)SP	(7.7)JS	7.4
15	(7.0)J	(6.8)JK	(3.6)FK	(4.4)FK	(4.4)FK	(4.9)FK	(5.2)FK	K6.0NF	(7.2)JK	K(7.2)JS	K(8.6)JS	8.6K	8.7K	[8.6]CK	8.5K	CK	CK	CK	CK	CK	CK	CK	CK	CK
16	K(4.3)JF	(2.9)FK	(2.2)FK	NFK	(2.9)FK	K[3.6]NF	K(4.2)FG	(4.5)FK	GK	GK	CK	CK	GK	GK	GK	GK	(5.8)SK	5.9K	(5.7)SK	(6.1)JK	(6.1)JK	K(6.1)JS	K(5.7)JS	(5.5)SK
17	(4.9)FK	(4.7)FK	(4.3)FK	(4.4)FK	(4.3)FK	5.1	[7.1]C	[7.9]C	8.2P	8.5	8.8	9.1	9.0	9.1	9.0	9.0	(9.0)S	8.8	8.7	8.7	(8.8)SP	8.5	(7.8)JS	P(7.7)JS
18	(7.4)JS	(6.5)SP	P(5.9)JS	5.4	(4.6)S	5.1	5.5	5.6	6.1	6.6	6.9	(7.1)J	7.3	7.8	7.9	7.9	8.0	8.1	8.0	8.3	8.1	(8.1)S	7.9	(7.5)J
19	7.0	6.3	(6.0)J	5.7	5.3	5.5	6.9	7.1	7.3	7.3	7.5	8.0	8.4	8.6	8.8	8.5	8.7	8.8	8.5	8.7	8.3	(7.8)P	7.6	(7.6)P
20	(7.3)P	7.2	7.2	(6.4)J	6.0	6.0	6.6	7.0	7.9	8.8	(7.9)J	[8.0]C	8.2	[8.3]C	8.4	9.0	8.8	9.0	9.0	9.3P	9.1	8.7	7.9	(7.6)J
21	7.3	7.2	(6.6)J	(5.5)C	4.9K	4.8K	4.8K	4.9K	GK	GK	GK	CK	CK	GK	GK	6.3K	6.2K	6.2K	6.8K	7.4K	(7.0)JK	(6.8)JK	(7.5)CK	(7.6)JK
22	[6.1]SK	4.9K	4.7K	2.7FK	2.7FK	3.9K	4.7K	5.0K	4.9K	CK	CK	CK	CK	GK	GK	5.2K	5.4K	5.6K	5.9K	(6.0)PK	K(5.5)JP	(5.1)PK	(5.7)CK	(5.4)PK
23	(5.1)PK	(4.4)CK	4.4K	4.4K	3.8K	(4.0)PK	4.7K	5.2K	GK	4.8K	5.4K	GK	GK	(5.9)CK	7.1K	7.2K	7.0K	7.6K	7.5K	8.0K	8.8K	(9.1)PK	(8.3)JK	(8.2)JK
24	6.9K	(5.9)JK	(5.2)PK	(4.5)JK	3.8K	4.3K	4.8K	5.2K	[5.4]AK	(5.7)PK	(7.0)J	[7.2]C	7.3	7.0	(7.6)J	7.4	7.6	7.6	7.4	7.8	7.8	7.8	(7.9)S	8.0
25	7.3	(6.7)J	(6.4)J	5.6	4.9	5.0	5.7	(6.0)S	(6.9)J	7.5	(8.2)JS	8.4	8.6	8.8	8.9	[8.9]C	8.9	8.7	8.8	9.0	8.8	7.9	(7.7)S	(7.3)JS
26	(7.3)S	(6.7)JS	(6.3)JS	5.6	5.3	5.6	(6.6)JS	(6.9)S	7.1K	GK	GK	CK	CK	(7.3)CK	CK	CK	K(6.5)JS	K(6.7)JS	K(6.6)JS	6.9K	6.9K	7.1	6.7	(6.5)J
27	(6.1)J	(5.7)J	5.5	5.3	(4.5)JS	4.7	4.9	5.4	[5.8]N	(6.3)S	(6.9)JS	(6.8)JS	7.4	[7.4]C	(7.4)S	7.7	7.7	7.8	8.2	8.4	(8.3)P	7.8	(7.5)P	7.2
28	7.1	7.0	6.3	6.0	5.5	5.9	7.3	8.3	9.0	9.2	[9.2]C	9.3	9.2	9.5	9.4	9.4	(8.4)C	9.0	8.8	8.9	9.4	9.0	8.6	7.7
29	8.1	(7.7)J	6.9	6.4	5.5	5.3	5.8	6.6	7.1	7.5	7.6	7.3	7.3	7.3	7.4	7.0	7.2	7.9	7.4	7.7	7.9	(8.0)J	(7.5)J	7.3
30	6.9	6.7	(6.7)J	(6.4)J	(6.2)J	6.4	6.5	7.5	(7.8)J	8.2	8.8	8.7	9.0	9.0	9.3	8.8	9.3	9.1	8.8	8.8	(8.2)J	7.8	7.8	7.7
31	7.2	6.8	6.3	5.7	5.2	5.3	6.2	6.8	7.2	7.6	8.2	8.3	(8.0)JS	8.2	8.2	8.2	8.5	8.0	8.4	8.3	8.3	8.1	8.5	7.7
Median	7.0	(6.6)	6.2	5.6	5.3	5.1	6.1	6.6	6.9	6.9	7.6	8.0	8.2	8.1	8.2	8.2	8.0	8.0	8.2	8.3	8.2	7.8	(7.7)	7.3
Count	30	31	31	30	31	31	30	31	31	29	27	25	25	28	28	27	29	28	29	29	29	29	29	29

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ■

U. S. GOVERNMENT PRINTING OFFICE, 1946 O - 702519

Form adopted June 1946

TABLE 64

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

IONOSPHERIC DATA

f°F2 (Characteristic), Mc (Unit), May (Month), 1948

Observed at Washington, D. C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: N. M., K. L. W.

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	6.9	(6.9)S	6.7S	(5.5)F	(4.9)JF	5.8	(6.6)S	(6.4)SK	6.3K	6.2K	G K	6.1K	6.2K	G K	6.3K	K(6.5)JS	K(6.6)SP	6.8K	7.0K	7.6	7.6	7.1	(6.3)JS	(6.1)JS
2	(5.8)JS	5.5	(5.6)S	5.0	4.9	5.6	6.4	7.1	7.3	7.9	8.7	8.8	9.3	9.4	8.8	8.9	9.4	(9.3)P	(9.2)S	8.9	8.2	(7.6)SF	7.3	(7.3)S
3	6.8	6.8	6.6	6.4	5.7	6.3	(7.7)P	8.5	8.9	8.9	9.3	9.4	9.8	9.6	9.4	9.3	9.3	9.4	9.5	9.1	(8.2)J	(7.5)P	7.4	7.1
4	6.9	6.5	6.0	5.2	5.3	6.4	7.4	8.3	8.8	9.0	(9.1)S	9.3	(9.2)S	9.3	9.6	9.4	9.3	9.5	(9.1)S	(9.3)S	8.5	(7.9)J	7.2	7.0
5	(6.5)SP	5.9	(5.6)S	(5.5)S	(5.4)S	(5.5)S	6.9	(7.1)AK	6.9K	(7.0)JK	[7.2]NK	(7.4)NK	7.8K	(7.6)BK	7.9K	7.9K	7.9K	7.9K	K[7.9]SN	7.9	6.9	(6.7)JS	(6.3)JS	(6.4)JS
6	6.3	6.3	5.8	5.7	(5.1)S	(5.5)S	(6.3)F	K(6.5)JS	G K	G K	G K	G K	G K	G K	G K	A K	6.8K	6.8K	6.9K	6.9K	6.8K	6.0K	(5.7)PK	5.9K
7	5.9K	4.9K	2.3FK	F K	3.6FK	4.6K	4.2VK	4.6K	G K	G K	G K	G K	G K	B K	G K	(6.0)K	5.9K	(6.2)JK	6.2K	(6.1)JK	(5.8)JK	(6.2)JK	(5.9)JK	(5.7)JK
8	(5.4)JK	K(5.0)JF	4.5FK	K(4.3)JV	4.3VK	5.0K	5.3	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	6.4VK	5.8FK	5.3FK	(4.7)FK	3.4FK	F K	G K	G K	6.3K	G K	N SK	A K	B K	(7.5)JK	[7.4]AK	7.4K	[7.5]CK	7.6K	7.5K	7.4K	7.6K	7.8	(7.2)J	(6.9)J
10	(6.7)J	(6.4)J	(6.1)J	5.8	5.6	(6.1)JS	(6.2)JN	(6.3)P	G	G N	7.6	(8.0)N	(8.2)C	(8.7)JS	8.9	8.9	8.7	8.5	(8.3)S	[8.3]C	[8.2]C	(8.2)JS	[8.2]C	(8.1)JK
11	(7.0)J	(6.9)J	(6.4)J	5.5	4.9	(5.4)C	6.5	K(6.6)JS	[6.6]CK	(6.6)JK	S CK	C K	C K	(7.2)SK	7.7K	(7.4)SK	7.8K	7.8K	[8.0]CK	K(8.1)JS	K(8.0)JS	(8.1)JS	7.6	(7.6)S
12	(6.9)JS	(6.5)JS	(6.6)S	(6.3)JS	(5.4)S	(6.1)S	(7.2)JS	8.2	8.7	[8.9]S	9.1	(9.2)S	[9.1]C	9.0	8.9	8.8	8.9	8.7	8.7	8.6	8.3	8.4	(7.7)SP	8.1
13	6.8	6.7	6.2	5.7	4.9	4.8	5.6	(6.1)S	6.7	[7.2]A	(7.6)JK	[7.6]C	7.7	8.2	8.4	8.6	8.7	8.4	8.3	8.5	7.9	7.9	(7.9)S	(7.3)S
14	7.1	6.9	(6.7)S	(6.5)S	(6.5)S	7.5	8.3	8.8	8.5	8.8	8.8	9.2	9.0	9.0	9.0	8.8	8.7	8.4S	8.3	(8.2)S	(8.2)SP	(7.5)JS	(7.5)JS	6.9
15	(7.6)JS	(5.2)SK	(3.3)FK	(4.3)FK	(4.4)FK	(5.2)SK	K(5.5)JS	(6.7)JK	7.2K	K(7.7)JS	(8.3)SK	8.8K	8.2K	8.5K	8.4K	C K	C K	C K	C K	C K	C K	C K	C K	C K
16	4.6FK	(2.2)FK	(2.3)FK	N FK	(3.0)FK	N FK	F K	G K	G K	G K	C K	G K	G K	G K	G K	C K	(5.9)SK	5.8K	(5.9)SK	6.3K	K(6.1)JS	(5.9)JK	5.7K	(5.6)SK
17	(4.8)FK	(4.9)FK	(4.6)FK	(4.2)FK	4.4K	(5.9)S	[6.5]C	[7.5]C	8.4	C	C	(9.0)C	C	C	9.0	9.0	8.8	(8.7)S	8.8	(9.2)SP	8.9	(8.2)JS	7.7	(7.5)JS
18	(6.9)JS	6.5	P(5.7)JS	(5.2)S	4.7	(5.4)S	5.6	G	(6.4)J	C	C	C	(7.3)C	[7.6]C	(7.9)JS	8.0	8.0	7.9	8.3	8.1	8.0	7.9	7.7	7.1
19	6.6	6.2	5.8	5.5	5.3	6.1	7.2	7.0	7.3	7.3	7.7	9.0	8.5	8.6	8.6	(8.4)J	8.6	8.6	8.6	8.6	8.0	7.9	(7.4)P	7.5
20	7.4	7.3	6.6	(6.2)J	6.0	6.3	6.7	7.7	C	C	7.9	C	C	C	8.8	8.8	8.8	9.0	9.0	9.2P	8.8	(8.0)P	7.6	7.5
21	7.4	7.0	5.7	5.3	4.4K	4.9K	[4.9]BK	4.9K	G K	G K	G K	C K	C K	6.0K	6.1K	6.1K	6.2K	(6.6)JK	7.2K	7.0K	6.8K	7.4K	6.5K	(6.4)PK
22	5.7K	4.7K	4.4K	2.6FK	3.1FK	4.3K	4.9K	5.0K	C K	C K	C K	C K	C K	G K	G K	5.4K	5.4K	5.5K	(6.3)CK	(5.7)PK	5.4K	[5.6]SK	(5.8)PK	(5.2)PK
23	4.9K	4.3K	4.6K	4.3K	3.8K	4.3K	5.0K	5.3K	5.3K	5.4K	5.2K	G K	K(5.5)JC	G K	7.2K	7.4K	7.4K	7.4K	7.8K	8.2K	9.0K	(8.3)JK	(7.9)PK	(7.4)PK
24	(6.5)JK	(5.7)JK	4.7K	4.3K	3.9K	4.7K	5.2K	G K	A K	(6.2)CK	[7.2]CK	[7.3]A	6.9	[7.1]C	7.3	7.5	7.7	7.4	7.8	7.9	7.8	7.7	(7.6)J	(7.2)J
25	7.2	(6.5)J	(6.1)J	5.3	4.8	5.6	6.3	(6.5)J	(6.3)S	7.7	8.4	8.6	8.7	9.0	9.2	8.9	8.8	8.8	8.8	8.9	8.4	8.0	(7.5)JS	(7.4)JS
26	(7.1)S	(6.6)JS	6.0	(5.7)S	5.1	6.2	(7.1)S	7.1	K(7.0)JS	G K	C K	C K	C K	C K	C K	S CK	K(6.6)JS	(6.5)JK	6.7K	7.0K	7.1K	(7.1)S	(6.6)JS	(6.4)J
27	(6.0)J	5.7	5.5	4.9	4.3	4.7S	5.5	(5.7)S	C	C	(7.0)J	7.1	[7.4]C	[7.4]C	7.5	7.6	7.7	7.9	8.3	8.4	8.0	(7.8)P	7.2	(7.1)S
28	7.1	(6.7)JP	6.0	5.7	5.6	6.5	7.9	8.7	9.1	9.3	[9.3]C	9.2	9.3	9.5	9.4	9.0	9.0	8.7	8.8	9.1	9.1	8.8	(8.2)J	(7.5)SP
29	8.9	(7.0)J	(6.2)J	6.0	5.4	5.7	(6.3)J	6.9	7.3	7.0	7.8	7.0	7.1	7.6	(7.1)J	7.2	7.5	7.7	7.4	7.8	7.8	(7.5)J	7.8	6.9
30	6.9	6.9	(6.7)J	(6.5)J	(6.0)J	6.3	7.0	7.6	8.1	8.8	8.7	8.8	9.3	9.2	9.3	9.2	9.3	8.8	9.0	[8.4]C	7.8	7.8	7.7	(7.3)P
31	7.3	6.4	5.8	5.5	5.1	5.7	(6.5)JS	(7.3)S	(7.8)S	7.9	8.5	8.0	8.1	8.2	8.2	8.3	8.3	8.2	8.5	8.3	8.1	8.3	8.5	6.9
Median	6.8	6.4	5.8	5.5	4.9	5.6	6.4	6.6	7.0	7.0	7.8	8.0	8.2	7.9	8.2	8.4	8.0	7.9	8.3	8.2	8.0	7.8	7.5	7.1
Count	31	31	31	29	31	29	30	31	26	25	23	23	23	26	29	26	29	29	29	29	29	29	21	29

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE: 1946 O - 702519

TABLE 65

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

Form adopted June 1946

IONOSPHERIC DATA

h'F1 (Characteristic), Km (Unit), May (Month), 1948

Observed at Washington, D.C.

Lat. 39.0°N, Long. 77.5°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.J.S., J.M.C.

Calculated by: N.M., K.L.W.

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								250K	(220)AK	220K	220K	210K	220K	210K	210K	230K	230K	230K						
2									200	200	200	200	220	240	220	220H	230	230						
3										230		210	220	(220)	230	230	240	240	260					
4								240	230	(230)	200	200	(200)	230	220	230	230	B						
5										220K	AK	220K	210K	210K	230K	220K	230K	230K						
6							270	230K	230HK	230K	230K	210K	BK	CK	AK	AK	AK	240K	250K					
7								240K	230K	200K	220K	200K	SNK	BK	BK	260K	250K	250K	260K					
8								230	230	C	C	C	C	C	C	C	C	C						
9							260FK	250K	240K	220K	AK	AK	BK	BK	AK	AK	AK	(240)CK						
10								240	240H	220	250	BN	BN	230	230	220	220	220	C					
11								250K	230K	220K	(200)K	220K	240K	200K	200K	210HK	200K							
12									230	210	(200)	B	210	200	210	230	230	230						
13								230	230	240	C	200	250	230	210	200	220H	230						
14										200	200	200	190	200	C	200	230	240	230					
15									210K	200K	200HK	200K	180K	CK	200K	CK	CK	CK	CK					
16							260FK	240K	230K	220K	CK	CK	230K	230K	230K	240K	230K	230K						
17							C	C		200	250	(200)A	200	210	200	210H	200	220						
18									200	200	200	200	(210)S	200	220	200	210	220						
19									220S	220	210	260	220	220	220	200	220	200	230					
20								230	(230)A	250	270	C	230	C	210	210	230	230	240					
21						320K	240K	(230)BK	GK	200K	220K	CK	CK	AK	220K	210K	230K	250K	250K					
22							250K	220K	210K	CK	CK	CK	CK	210K	210K	210K	210K	230K	250K					
23							230K	240K	240K	210K	200K	200K	200K	CK	230K	230K	230K	AK	250K					
24								230K	AK	220K	210	C	200	(250)A	220	210	(250)A	220						
25								230	210	200	(200)A	230H	220	210	210	C	220	230						
26								200	(230)AK	(200)AK	200K	200K	CK	(230)K	CK	CK	220K	230K						
27						300	240	220H	210	(200)S	200	200	210	C	220	210	210	220						
28									200	200	C	200	180	200H	200	240	C	230						
29							240	200	210	200	200	200	200	210	210	230	230	210						
30							230	230	200	200	210	200	200	200	240	200	230	200						
31								200A	200	210	200	200	240H	230	230	A	210	210	240					
Median							240	230	230	210	200	200	210	210	220	215	230	230	250					
Count						2	9	21	25	29	23	22	23	22	25	24	26	26	10					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U.S. GOVERNMENT PRINTING OFFICE 1946 O - 702319

Form adopted June 1946

TABLE 66

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

IONOSPHERIC DATA

f°F1 (Characteristic), Mc (Unit), May (Month), 1948

Observed at Washington, D.C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E. J. W., J. J. S., J. M. C.

Calculated by: M. C. E., K. L. W.

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								L K	L HK	5.0 K	5.2 K	5.2 K	5.2 K	5.3 K	5.2 K	5.0 K	5.3 K	L K						
2									L	L	L	6.3	L H	(5.9)B	5.8	5.5 SH	L H	L						
3										L		L	(5.9)P	L	5.7	L H	L	L	L					
4								L	L	L	L	5.9	5.8	L	L	5.8	L	B						
5										5.5 K	5.9 K	5.4 K	5.6 K	(5.7) PK	(5.7) PK	L HK	5.6 K	L SK						
6							L	4.6 K	5.3 HK	5.1 K	5.0 K	(5.0) CK	B K	C K	A K	A K	5.0 K	5.0 K	L K					
7								4.6 K	4.7 K	4.9 HK	5.0 K	(4.9) PK	S NK	B K	B K	5.0 K	5.0 K	4.6 K	4.2 K					
8								(4.6)N	(5.4)	C	C	C	C	C	C	C	C	C						
9							4.4 FK	4.8 K	6.0 K	6.3 K	A K	A K	B K	B K	A K	A K	5.6 K	(5.3) HK						
10								4.9	5.5 H	(5.6)H	N H	B N	B N	(6.1)B	[6.0] BN	6.0 S	5.7	L	L					
11								L K	4.9 K	5.4 HK	(5.7) NH	(5.4) SK	C K	S K	S K	5.4 K	5.5 K							
12									5.9	S	(6.3)C	S	L S	6.1	6.1	6.0	5.6	L						
13								4.9	5.9	5.7	[5.8]C	(5.8)B	6.3	5.7	6.1	(5.5) SP	5.8	L						
14										5.8	6.4	5.7	5.9	6.1	[6.1]C	6.1	L	L	L H					
15									5.6 K	5.7 K	(6.0) BK	[5.6] SK	(5.1) HK	[5.5] CK	5.9 K	C K	C K	C K	C K					
16							(3.8) FK	4.3 FK	4.5 K	4.9 K	C K	C K	4.9 K	5.2 K	5.1 K	5.0 K	4.9 K	L K						
17							C	C		L	(6.3)S	L	5.9	5.9	5.6	5.9	(5.7)S	L						
18									4.9	5.3	5.5	5.5	5.6	(5.7)P	5.6	5.5	5.5	5.0						
19									5.7	5.9	5.5	5.7	5.9	5.9	6.3 H	5.5 H	5.2	4.1	L					
20								L	5.2	5.5	5.6 H	[5.7]C	5.8	[5.6]C	5.5 H	5.5	5.4 H	L	L					
21						L K	3.6 K	4.3 HK	4.5 K	4.8 K	4.9 K	C K	C K	5.0 K	5.0 K	4.9 K	4.8 K	4.6 K	L K					
22							3.8 K	4.2 K	4.2 HK	C K	C K	C K	C K	5.0 K	4.9 K	4.9 K	4.7 HK	4.3 K	L K					
23							4.1 HK	4.5 K	4.6 K	4.6 K	4.8 HK	4.9 K	4.8 K	5.3 K	(5.3) PK	5.2 K	5.0 K	A K	L K					
24								4.3 K	A K	5.1 K	5.5	[5.6]C	5.6	(5.6)C	(5.7)H	5.4 H	5.4	L						
25								L	(5.4)	5.5	5.5	L	5.6	5.6	L	C	L	L						
26								L	5.3 K	(5.3) SK	5.1 K	(5.2) CK	[5.3] CK	(5.4) CK	C K	C K	5.0 K	L K						
27						L	4.0	4.4	L H	(5.2)S	5.5	[5.6]S	5.7	[5.6]C	(5.4)	5.7	(5.7)P	L						
28									L	L	C	5.6	L S	(5.9)P	5.7	L	C	L						
29							L	4.9	5.2	5.5	5.5	5.7	5.5	5.6	5.5	5.4	5.4	L						
30							L	L	L	5.5	L	5.9	6.1	6.4 H	6.0	L H	L	L						
31								L	L H	5.1	5.5	5.9	5.8	5.8	5.6	[5.6]A	5.7	L	L					
Median							3.9	4.6	5.3	5.4	5.5	5.6	5.6	5.6	5.7	5.5	5.4	4.6						
Count							6	13	19	23	21	21	20	24	23	21	22	7	1					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 67

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

Form adopted June 1946

IONOSPHERIC DATA

h'E (Characteristic), Km (Unit), May (Month), 1948

Observed at Washington, D.C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: J.J.S., E.J.W., J.M.C.

Calculated by: N.M.V., M.C.E.

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							120	110^{K}	110^{K}	110^{K}	110^{K}	110^{K}	110^{K}	110^{K}	110^{K}	100^{K}	100^{K}	120^{K}	130^{K}	S				
2						120	110	100	110	110	100	100	100	110	100	100	100	110	120	140				
3							120	110	100	100	110	100	110	110	100	110	110	110	120					
4							120	110	100	B	100	100	110	110	110	100	100	B	120	$(140)^{S}$				
5							120	110^{K}	100^{K}	110^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	110^{K}	120^{K}	120				
6							110	110^{K}	100^{K}	100^{K}	100^{K}	100^{K}	110^{K}	$(130)^{A}_{K}$	100^{K}	100^{K}	100^{K}	110^{K}	120^{K}					
7							120^{K}	110^{K}	100^{K}	100^{K}	100^{K}	110^{K}	100^{K}	B^{K}	B^{K}	$(120)^{B}_{K}$	$(140)^{A}_{K}$	$(130)^{A}_{K}$	A^{K}					
8							120	110	A	C	C	C	C	C	C	C	C	C	C	C				
9						120^{K}	120^{K}	120^{K}	110^{K}	110^{K}	110^{K}	110^{K}	B^{K}	B^{K}	$(120)^{B}_{K}$	$(120)^{B}_{K}$	B^{K}	$(120)^{C}_{K}$	120^{K}	A^{K}				
10							120	110	100	100	100	$(100)^{B}$	B^{N}	100	100	100	100	100	100					
11							110	100^{K}	100^{K}	100^{K}	$(120)^{A}_{K}$	A^{K}	100^{K}	100^{K}	100^{K}	$(100)^{S}_{H}$	100^{K}	100^{K}	100^{K}	120^{K}				
12							100	100	100^{N}	100	100	B^{S}	100	100	100	100	100	100	110					
13						100	100	100	100	100	C	100	100	100	100	100	100	100	100					
14						110	A	100	100	100	100	100	100	100	C	100	100	100	100	130				
15						130^{K}	110^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	C^{K}	100^{K}	C^{K}	C^{K}	C^{K}	C^{K}					
16							100^{K}	100^{K}	100^{K}	100^{K}	C^{K}	C^{K}	100^{K}	C^{K}	100^{K}	100^{K}	100^{K}	90^{K}	100^{K}	130^{K}				
17						110	C	C	100	100	100	100	100	100	100	100	100	100	100					
18						110	100	100	100	100	100	100	100	100	100	100	100	100	100					
19						100	100	100	100	100	100	100	100	100	100	100	100	100	100					
20						100	100	100	100	100	100	C	100	C	100	100	100	100	100					
21							100^{K}	110^{K}	100^{K}	100^{K}	100^{K}	C^{K}	C^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	130^{K}				
22							100^{K}	100^{K}	100^{K}	C^{K}	C^{K}	C^{K}	C^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	110^{K}				
23							110^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}	100^{K}					
24						C^{K}	110^{K}	100^{K}	100^{K}	100^{K}	100	C	100	100	100	$(110)^{S}$	100	100	110					
25							110	100	100	100	100	100	100	100	100	C.	100	100	100					
26						120	100	100	100^{K}	100^{K}	100^{K}	100^{K}	C^{K}	100^{K}	C^{K}	C^{K}	100^{K}	100^{K}	100^{K}					
27							100	100	100	100	100	100	100	C	100	100	100	100	100					
28							110	100	100	100	C	100	100	100	100	100	100	100	110	120				
29							100	100	100	100	100	100	100	100	100	100	100	100	110	120				
30							100	100	100	100	100	100	100	100	100	100	100	100	100					
31							100	100	100	100	100	100	100	100	100	100	100	100	100	120				
Median						110	110	100	100	100	100	100	100	100	100	100	100	100	100	120				
Count						10	29	30	30	28	26	23	25	24	27	27	28	28	28	11				

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U.S. GOVERNMENT PRINTING OFFICE 1946 O 702519

Form adopted June 1946

TABLE 68

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

IONOSPHERIC DATA

f°E (Characteristic), Mc (Unit), May (Month), 1948

Observed at Washington, D.C.

Lat. 39.0°N, Long. 77.5°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.J.S., J.M.C.

Calculated by: K.L.W., N.N.M.

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							2.1	2.9 K	3.3 K	3.3 K	3.9 K	3.9 K	(3.9) BK	B K	B K	3.3 K	3.3 K	2.9 K	2.1 K	S				
2						1.3	[2.1] A	2.9 H	3.2	(3.3) B	(3.3) B	4.1	(4.1) B	[4.0] B	3.8	[3.6] B	3.5	3.0	2.5	1.7 HS				
3							2.3 H	2.9 H	(3.3) B	(3.6) B	3.9	3.9 H	3.9	(4.1)	3.9	(3.5) F	3.3	3.3	A					
4							2.4	3.1	(3.3) B	B	A	4.0	B	B	4.0	3.7	3.5 H	[3.2] B	2.9	1.9				
5							2.3	3.1 K	3.2 K	(3.6) BK	4.0 K	4.0 K	(3.9) BK	(4.1) FK	4.1 K	3.9 K	3.7 K	3.1 K	(2.4) AK	A				
6							(2.1) AH	2.9 K	3.5 K	3.7 K	3.9 K	4.0 K	[4.2] AK	4.3 K	4.1 K	3.9 K	3.9 K	3.5 K	2.8 K					
7							2.4 K	3.1 K	3.3 K	3.8 K	[4.0] BK	4.1 K	4.3 K	B K	B K	4.1 HK	3.9 K	3.3 K	A K					
8							2.6 H	(3.2)	A	C	C	C	C	C	C	C	C	C	C	C				
9						(1.7) FK	2.6 K	3.3 K	3.8 K	3.9 K	3.9 K	(4.3) AK	B K	B K	4.2 K	A K	A K	3.6 K	2.9 K	A K				
10							2.5	3.2	3.7	3.8	(4.0)	B N	B N	B	B	4.1 H	3.9	3.4 H	2.7 H					
11							(2.5) H	[3.0] AK	(3.6) BK	K 3.9 HB	4.0 K	[4.2] AK	(4.3) CK	(3.7) BK	[3.8] AK	3.9 K	3.8 K	3.4 K	(2.5) AK	2.0 K				
12							2.4 H	[3.0] A	3.5	3.8	(3.9) C	B S	A	4.1	4.1	4.0	3.8	3.3	2.5					
13						1.7	2.2	3.1 H	(3.6) A	3.8	[4.0] C	4.1	[4.1] A	4.1	(4.1) S	4.0	3.7	3.3	2.7					
14						1.5	[2.3] A	3.1	3.6	3.7	4.0	(4.1) S	(4.2) S	3.8	[3.6] C	(3.4) S	3.6	3.5	2.9 H	1.7 H				
15						1.9 K	2.5 K	2.9 K	3.4 K	3.7 K	4.1 K	[4.1] AK	4.1 K	[4.0] CK	4.0 K	C K	C K	C K	C K					
16							2.4 HK	3.0 K	3.3 K	(3.5) SK	C K	C K	B K	C K	(3.9) BK	3.8 K	3.5 K	(3.1) BK	2.3 K	1.9 K				
17						(1.6) A	C	C	3.6	3.6	A	A	4.1	4.4	4.1	3.9	3.8 HS	S	A					
18						1.5 H	2.4	2.9	3.3	3.7	(3.7) B	A	B	(3.8) B	3.9	3.9	3.7	3.1	2.5 H					
19						1.4	2.3 S	2.9	(3.2) A	3.7	3.8	4.1 H	(3.9) A	A	A	A	3.6	3.2	2.4					
20						1.5	2.1	3.0	3.3	[3.4] A	3.6	C	A	C	3.9	(3.5) C	3.6	3.2	2.6					
21							C K	(3.3) CK	[3.6] CK	3.9 K	3.9 K	C K	C K	A K	(3.3) CK	3.5 K	3.6 K	(3.5) CK	2.5 K	2.1 K				
22							2.4 K	3.0 K	3.3 K	C K	C K	C K	C K	3.9 K	3.9 K	3.7 K	3.4 K	3.0 K	2.6 K	1.9 K				
23							2.4 K	2.9 K	3.3 K	3.5 K	3.9 K	3.8 K	3.9 K	3.9 K	(3.9) CK	[3.5] AK	3.1 K	(3.0) CK	2.8 K					
24						2.0 K	2.4 K	3.0 K	3.3 K	3.3 K	3.7	[3.8] C	3.8	3.6	(3.5) A	3.7	(3.5) A	3.0 H	(2.8) S					
25							2.4 H	(3.0) A	3.4	(3.5) B	3.8	[3.8] B	(3.9) B	(3.9) B	3.7 H	[3.6] C	3.5	3.1 H	2.6					
26						(1.9) S	2.3 H	(2.9) A	3.1 K	A K	A K	C K	C K	A K	C K	C K	3.5 K	3.1 K	(2.5) AK					
27							2.4	(3.0) H	A	A S	3.9	[4.0] SC	4.1	[4.0] C	3.9	(3.7) H	3.3 H	3.1	2.6					
28							2.4 H	A	(3.4) A	3.4	[3.6] C	3.7	4.1	3.9	3.7	3.7	3.6	3.1	2.7 H	1.8				
29							2.5	3.1	3.5	3.7	3.7	(3.7) A	3.9	4.0	3.9	3.9	3.6	3.4	2.7 H	1.9 H				
30							(2.4) A	[2.8] A	3.3	(3.6) B	3.7	3.8 H	4.0	4.1 H	4.0 H	3.9 H	3.8	3.4	2.8					
31							A	2.9	3.5	[3.4] A	(3.8) A	3.9 H	4.0	4.0 H	3.9 H	3.8	3.5	3.3	2.8	2.0				
Median						1.6	2.4	3.0	3.3	3.6	3.9	4.0	4.0	4.0	3.9	3.8	3.6	3.2	2.6	1.9				
Count						11	28	29	29	24	25	21	20	20	25	26	28	28	26	10				

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702518

TABLE 69

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

Form adopted June 1946

IONOSPHERIC DATA

Es (Characteristic), Mc,Km (Unit), May (Month), 1948

Observed at Washington, D.C.

Lat 39.0°N, Long 77.5°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.J.S., J.M.C.

Calculated by: ______, ______

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			2.6 130	1.5 120		4.2 140	5.1 120	4.2 120	5.8 130	4.2 110								4.4 130	2.4 130					
2							3.2 130			4.3 120								3.2 140				1.8 130		
3						3.0 130	3.7 130			5.7 130	5.6 130				4.4 130				3.5 120	1.9 110				
4								3.8 130			4.1 110							B	4.6 130		3.5 120	1.9 130		2.1 130
5	3.7 130	2.9 130	3.1 130	3.1 130	3.3 130	2.1 130	3.9 130	5.4 130	3.9 130		4.9 130	4.7 120						4.8 140	4.8 120	2.0 120	3.0 120			
6	2.7 130	2.6 130	3.1 120	2.7 130	3.0 120		3.6 120	4.3 120	3.7 110				4.3 110	4.7 100	4.8 120	5.7 120	5.6 130			3.5 130	2.6 120		4.2 110	2.4 110
7					1.6 130									B	B		3.6 120	3.6 120	3.0 110	3.2 110				3.2 130
8	3.0 130					1.9 120			4.8 100	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C										5.2 120	5.3 130	(4.2) B (120)	5.0 B (120)	5.8 120	8.0 110	8.0 110			2.0 120		1.9 120		
10	3.6 130			4.3 120	3.5 120	2.1 130	5.0 120		3.9 130	4.2 130										C	C	3.8 110	C	C
11	3.0 100							3.1 100			4.3 100	4.0 100			4.1 100		4.0 130	4.8 110	5.6 100				2.4 140	
12								3.2 110					4.3 100				5.3 120	3.5 110	3.2 120	2.1 110				
13						2.0 130	5.4 120	3.8 110	5.4 120	5.6 120	C		5.3 110						4.3 120	5.4 110	7.8 100	6.9 100		1.5 120
14	3.1 120	3.1 110	3.6 100	3.8 100	4.1 100	2.7 100	2.7 100								C									
15								5.4 100	5.3 100		4.2 110	6.1 100		C		C	C	C	C	C	C	C	C	C
16						2.0 100		3.7 120			C	C					4.5 110		2.9 110					4.4 120
17	3.6 120	5.3 120	4.0 110	3.2 120	5.5 130	3.0 120	C	C	4.9 100	4.0 100	4.0 100	4.8 100				4.4 120			3.1 110	2.1 100	1.9 100			
18	3.5 110	3.8 100	1.4 110				3.1 130	4.2 120		3.9 100	4.0 100	3.9 100					4.2 120	3.8 120	3.8 120	5.8 100	3.8 100			
19		1.8 100				1.7 120		4.8 120	4.7 100	4.3 110	4.3 110		4.3 100	4.3 100	4.2 100	4.1 100	3.8 110		3.6 110	2.0 100		4.6 100	7.0 100	5.0 100
20	5.3 100	5.0 100	3.8 100	3.3 100	3.1 100	1.9 120	3.4 100	4.9 110	5.7 100	7.4 100	4.6 100	C	5.0 100	C	4.4 120					1.9 130				
21		2.5 120					3.2 120					C	C	4.3 100	4.1 100									
22						2.0 120	3.1 120	3.8 100		C	C	C	C											
23						1.7 110				5.2 110						3.5 100		6.2 110						
24								4.0 130	5.6 100	5.6 100	6.0 100	C	4.2 100	4.3 100	3.9 110	4.0 120	5.9 130			3.4 130	(3.2) 120			
25								3.4 120	3.7 120		4.3 100	3.9 110				C			3.2 130	5.0 110	3.8 120	3.1 110		
26								4.1 100	5.2 100	4.1 100	3.9 100	C	C	4.1 100	C	C			5.6 100	3.4 100				
27						1.7 100		3.6 100	4.2 100	4.2 110		4.0 100		C		4.0 110			3.5 120	4.0 110	3.0 100	2.9 100		
28						1.9 100	3.1 120	3.9 110	4.2 120	4.5 100	C	3.9 100								2.1 130				
29										4.7 110		4.0 110	4.1 120	4.5 120			3.9 120							
30			2.2 120		2.5 110	2.7 110	4.0 100	3.8 100											5.5 110	3.8 100	3.4 100	4.3 100	4.9 100	3.4 110
31		2.1 130					3.8 110	4.2 110	4.8 100	5.5 100	5.4 100			5.8 120	5.5 120	7.5 120				3.6 130				
Median						1.7		3.8	3.7	4.0	4.0								2.9	2.0				
Count	30	31	31	31	31	31	30	30	31	29	26	24	27	26	27	27	29	28	29	28	28	29	28	28

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 70

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

IONOSPHERIC DATA

F2 - M1500 (Characteristic), ____ (Unit), May (Month), 1948

Observed at Washington, D.C.

Lat. 39.0°N, Long 77.5°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.J.S., J.M.C.

Calculated by: J.L.K., N.M.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11
1	1.8	(1.7)S	(1.7)JS	(1.9)JF	(1.8)JF	1.9	1.9	(1.9)JK	1.9K	1.6K	GK	1.6K
2	(1.6)JS	1.6	(1.7)JS	1.7	1.8	1.9	2.2	2.0H	(1.9)J	1.7	1.9	1.8
3	1.7	(1.5)SC	1.7	1.7	(1.8)J	1.9	2.1	2.0	2.0	2.2	1.8	1.8
4	1.9	1.8	1.8	1.8	1.8	2.0	2.1	2.0	1.9	1.9	1.9	1.8
5	(1.8)S	1.8	(1.8)SP	1.7	(1.7)S	1.8	2.1	1.9K	1.8K	1.7K	1.7K	(1.7)JK
6	1.6	(1.6)SP	1.6	1.6	1.6	1.7	(1.8)S	K(1.8)JF	1.5K	GK	1.5K	GK
7	1.7K	1.5K	1.6K	(1.2)FK	(1.6)FK	(1.8)FK	1.8K	GK	GK	GK	GK	GK
8	(1.7)JK	(1.7)JK	1.7FK	K(1.4)JY	(1.6)VK	1.7K	(1.8)P	1.7HN	1.6	C	C	C
9	C	1.7FK	1.7FK	(1.7)FK	(1.5)FK	1.5FK	GK	(1.7)PK	GK	GK	AK	(1.7)SK
10	1.6	1.6	1.6	1.7	(1.7)J	1.7	1.8	(1.7)F	1.6	1.6	(1.7)N	1.7
11	(1.9)JC	(1.7)J	(1.7)J	(1.7)J	1.7	1.7	1.8	K(1.8)JS	1.6K	CK	(1.6)NK	SNK
12	1.6	(1.6)S	(1.6)JS	(1.7)JS	(1.8)SP	1.8	S	(1.8)JS	1.9	1.7	(1.6)C	1.7
13	1.6	1.6	1.6	1.6	1.5	1.5	(1.7)SP	(1.6)J	(1.9)JS	1.7S	C	1.6
14	1.7	1.7	1.7	1.7	1.7	2.1	2.0	1.8	1.9	1.8	1.6	1.7
15	(1.5)J	(1.7)JK	(1.6)FK	(1.6)FK	(1.6)FK	(1.8)FK	(2.1)FK	K(2.0)NF	(1.9)JK	K(1.8)JS	K(1.8)JS	1.7K
16	K(1.5)JF	(1.3)FK	(1.3)FK	NFK	(1.5)FK	NFK	GK	(1.3)FK	GK	GK	CK	CK
17	(1.8)FK	(1.7)FK	(1.8)FK	(1.8)FK	(1.7)FK	2.0	C	C	(1.9)P	1.9	1.7	1.8
18	(1.7)JS	(1.8)SP	J(1.7)SP	1.6	(1.7)S	1.9	2.0	2.1	1.8	1.7	1.7	(1.8)J
19	1.9	1.6	(1.8)J	1.8	1.8	1.9	2.0	2.1	1.8	1.8	1.8	1.7
20	(1.9)P	1.8	1.8	(1.8)J	1.8	2.0	2.0	2.1	2.0	1.7	(1.8)J	C
21	1.6	1.7	(1.7)J	(1.6)C	1.5K	1.6K	1.6K	1.5K	GK	GK	GK	CK
22	SK	1.6K	1.6K	1.7FK	1.6FK	1.7K	1.6K	1.5K	1.5K	CK	CK	CK
23	(1.8)PK	(1.7)CK	1.6K	1.6K	1.6K	(1.7)PK	1.6K	1.5K	GK	2.1K	1.6K	GK
24	1.7K	(1.6)JK	(1.7)PK	(1.6)JK	1.8K	1.8K	1.9K	1.9K	AK	(1.9)PK	(1.8)J	C
25	1.8	(1.8)J	(1.9)J	1.8	1.7	2.0	2.2	(2.3)S	(2.0)J	1.8	(1.9)JS	1.9
26	(1.7)S	(1.8)JS	(1.9)JS	1.8	1.8	1.9	(2.0)JS	(1.9)S	1.7K	GK	GK	CK
27	(1.8)J	(1.7)J	1.7	1.7	(1.6)JS	1.9	1.6	1.7	N	(1.9)S	(1.8)JS	(1.8)JS
28	1.8	1.9	1.9	1.8	1.8	2.0	2.1	2.0	2.0	1.9	C	1.9
29	1.7	(1.9)J	1.7	1.6	1.8	1.7	1.7	1.8	1.7	1.6	1.7	1.6
30	1.6	1.7	(1.8)J	(1.8)J	(1.8)J	1.8	1.9	1.8	(1.9)J	1.7	1.8	1.8
31	1.8	1.8	1.7	1.7	1.7	1.9	2.0	1.9	1.9	1.7	1.7	1.8
Median	1.7	(1.7)	1.7	1.7	1.7	1.8	1.9	1.8	1.8	1.7	1.7	1.7
Count	29	31	31	30	31	30	29	30	29	28	25	23

Day	12	13	14	15	16	17	18	19	20	21	22	23
1	1.6K	1.5K	(1.6)SK	1.6K	1.6K	1.7K	1.8K	1.8	1.9	(1.8)S	1.7	(1.7)JS
2	1.8	1.8	1.8	1.7	1.8	1.8S	(1.9)C	(1.9)S	1.8	1.9	(1.9)JS	1.7
3	1.8	1.8	1.7	1.8	1.9	1.8	1.9	2.0	1.9	1.9	1.7	1.8
4	(1.8)P	(1.8)S	1.8	1.8	1.8	B	1.9	(1.8)S	(1.8)S	(1.9)SP	1.7	1.8
5	(1.7)PK	1.7K	1.7K	1.7K	1.7K	1.7K	1.8K	1.9	(1.8)SP	(1.7)S	(1.7)SP	1.6
6	BK	CK	AK	AK	AK	1.6K	1.8K	1.8K	(1.7)JK	1.7K	(1.7)JK	1.6K
7	GK	BK	BK	GK	1.5K	1.6K	1.6K	(1.8)YK	(1.7)JK	(1.5)JK	(1.7)SK	K(1.7)JS
8	C	C	C	C	C	C	C	C	C	C	C	C
9	1.7K	BK	1.6K	(1.6)AK	1.6K	(1.6)CK	(1.7)JK	1.7K	(1.7)JK	1.8	(1.8)J	(1.7)J
10	BN	1.7	1.6	1.6	1.7	1.7	(1.7)S	C	C	(1.8)JS	C	C
11	CK	[illegible]K	1.6K	1.6K	K(1.5)JS	K(1.7)CS	K(1.7)JS	1.7K	(1.6)JK	(1.7)JS	(1.8)JS	(1.7)JS
12	(1.7)S	1.7	1.7	1.6	1.7	1.6	1.7	1.7	1.7S	1.6S	1.6	1.7S
13	1.4	1.6	1.7	1.7	1.7	1.8	1.8	1.8	1.7	1.7	(1.8)S	1.8
14	1.7	1.7	C	1.6	1.7	1.7	1.7	1.8	1.7	(1.6)SP	(1.7)JS	1.5
15	1.8K	CK	1.7K	CK	CK	CK	CK	CK	CK	CK	CK	CK
16	GK	GK	GK	GK	(1.6)SK	1.7K	(1.6)SK	(1.7)JK	(1.7)JK	SK(1.6)JP	K(1.8)JS	(1.6)SK
17	1.8	1.8	1.8	1.8	(1.8)S	1.8	1.8	1.8	(1.8)SP	1.8	(1.7)JS	J(1.6)SP
18	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.7	(1.8)S	1.9	(1.8)J
19	1.7	1.8	1.8	1.7	1.9	1.8	1.9	1.9	1.8	(1.8)P	1.9	(1.8)P
20	1.8	C	1.8	1.7	1.7	1.8	1.8	1.8P	1.8	1.8	1.8	(1.6)J
21	CK	GK	GK	CK	1.6K	1.6K	1.7K	1.9K	(1.8)JK	(1.8)JK	(1.7)CK	(1.6)JK
22	CK	GK	GK	1.6K	1.6K	1.6K	1.7K	(1.8)PK	K(1.8)JP	(2.0)PK	(1.9)CK	(1.9)PK
23	GK	(1.8)CK	1.8K	1.8K	1.9K	1.8K	1.8K	1.9K	1.9K	(1.8)PK	(1.9)JK	(1.9)JK
24	1.8	1.8	(1.8)J	1.8	1.8	2.0	1.9	1.9	1.8	1.8	(1.7)S	1.8
25	1.8	1.8	1.8	C	1.9	1.9	1.9	1.9	1.9	1.8	(1.8)S	(1.8)JS
26	CK	(1.6)CK	CK	CK	K(1.7)JS	K(1.8)JS	K(1.8)JS	1.9K	1.8K	1.7	1.7	(1.8)J
27	1.8	C	(1.7)S	1.8	1.8	1.8	1.8	1.9	(1.9)P	1.8	(1.8)P	1.8
28	1.8	1.8	1.8	1.8	C	1.8	1.8	1.8	1.8	1.8	1.7	1.7
29	1.6	1.6	1.8	1.6	1.7	1.9	1.8	1.7	1.8	(1.7)J	(1.7)J	1.8
30	1.8	1.7	1.8	1.8	1.8	1.9	1.9	1.9	(1.8)J	1.7	1.8	1.8
31	(1.7)JS	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.7
Median	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	(1.8)	1.7
Count	24	23	26	25	27	28	29	28	28	29	28	28

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702319

TABLE 71

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

Form adopted June 1946

IONOSPHERIC DATA

F2-M3000 (Characteristic), ____ (Unit), May (Month), 1948

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Lat 39.0°N, Long 77.5°W

75°W Mean Time

Scaled by: E.J.W., J.J.S., J.M.C.

Calculated by: J.L.K., N.M.

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	(2.6)S	(2.6)JS	(2.7)JF	(2.7)JF	2.9	2.9	(2.8)JK	2.8K	2.4K	GK	2.5K	2.4K	2.3K	(2.5)SK	2.6K	2.5K	2.6K	2.8K	2.7	2.8	(2.7)S	2.7	(2.5)JS
2	(2.5)JS	2.5	(2.7)JS	2.6	2.7	2.8	3.1	3.0H	(2.9)J	2.6	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.7S	(2.8)C	(2.8)S	2.7	2.7	(2.7)JS	2.5
3	2.5	(2.3)SC	2.7	2.6	(2.8)J	2.8	3.1	3.0	2.9	3.2	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.9	3.0	2.8	2.7	2.6	2.6
4	2.7	2.8	2.9	2.8	2.7	2.9	3.1	3.0	2.8	2.9	2.8	2.7	(2.7)P	(2.7)S	2.7	2.8	2.7	B	2.8	(2.7)S	(2.7)S	(2.8)JP	2.7	2.8
5	(2.8)S	2.7	(2.7)SP	2.6	(2.6)S	2.7	2.9	2.8K	2.8K	2.6K	2.5K	(2.6)JK	(2.6)PK	2.5K	2.6K	2.6K	2.6K	2.7K	2.8K	2.9	(2.6)SP	(2.6)S	(2.6)JP	2.4
6	2.6	(2.5)SP	2.6	2.5	2.5	2.6	(2.7)S	K(2.7)JF	2.2K	GK	2.2K	GK	BK	CK	CK	AK	AK	2.5K	2.8K	2.6K	(2.6)JK	2.6K	(2.6)JK	2.5K
7	2.5K	2.4K	2.5K	(2.2)FK	(2.4)FK	(2.6)FK	2.7K	GK	GK	GK	GK	GK	GK	BK	BK	GK	2.3K	2.4K	2.6K	(2.8)YK	(2.6)JK	(2.5)JK	(2.5)JK	K(2.6)JS
8	(2.5)JK	(2.5)JK	2.6FK	K(2.3)JY	2.4FK	2.6K	(2.5)P	(2.6)HH	2.5	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	2.6FK	2.6FK	(2.5)FK	(2.3)FK	2.4FK	GK	(2.7)PK	GK	GK	AK	(2.5)SK	2.6K	BK	2.4K	(2.5)JK	2.4K	(2.6)CK	(2.5)JK	2.6K	(2.6)JK	2.7	(2.6)J	(2.5)J
10	2.5	2.5	2.5	2.5	(2.6)J	2.6	2.8	(2.5)P	2.5	2.5	(2.6)H	2.6	BH	2.6	2.5	2.5	2.6	2.6	(2.6)S	C	C	(2.7)JS	C	C
11	(2.8)JC	(2.6)J	(2.6)J	(2.6)J	2.6	2.6	2.7	K(2.7)JS	2.5K	CK	(2.5)HK	SHK	CK	SK	2.4K	2.5K	K(2.4)JS	K(2.6)JS	K(2.6)JS	2.6K	(2.6)JK	(2.6)JS	(2.7)JS	(2.6)JS
12	2.5	(2.5)S	(2.4)JS	(2.6)JS	(2.7)SP	2.8	S	(2.7)JS	2.8	2.6	(2.5)C	2.5	(2.6)S	2.6	2.6	2.5	2.6	2.5	2.6	2.6	2.6S	2.4S	2.5	2.6S
13	2.5	2.4	2.5	(2.5)SP	2.4	2.3	(2.5)SP	(2.4)J	(2.8)JS	2.4	C	2.4	2.3	2.5	2.5	2.5	2.5	2.7	2.7	2.8	2.7	2.6	(2.7)S	2.6
14	2.6	2.6	2.6	2.6	2.7	2.8	3.0	2.7	2.8	2.7	2.5	2.6	2.6	2.6	C	2.5	2.6	2.5	2.6	2.7	2.5	(2.5)SP	(2.5)JS	2.4
15	(2.3)J	(2.6)JK	(2.4)FK	(2.5)FK	(2.5)FK	(2.8)FK	(3.0)FK	K3.0HF	(2.8)JK	K(2.7)JS	K(2.7)JS	2.6K	2.7K	CK	2.6K	CK	CK	CK	CK	CK	CK	CK	CK	CK
16	K(2.3)JF	(2.1)FK	(2.0)FK	NFK	(2.2)FK	NFK	GK	(2.0)FK	GK	GK	CK	CK	GK	GK	GK	GK	(2.4)JK	2.5K	(2.5)SK	(2.4)JK	(2.6)JK	K(2.5)JP	K(2.6)JS	(2.5)SK
17	(2.6)FK	(2.6)FK	(2.7)FK	(2.6)FK	(2.5)FK	2.9	C	C	(2.9)P	2.9	2.6	2.6	2.7	2.6	2.7	2.7	(2.7)S	2.7	2.7	2.8	(2.7)SP	2.8	(2.6)JS	P(2.5)JS
18	(2.6)JS	(2.8)SP	P(2.6)JS	2.5	(2.6)S	2.9	2.9	3.0	2.7	2.7	2.6	(2.7)J	2.5	2.6	2.6	2.7	2.8	2.7	2.6	2.7	2.7	(2.7)S	2.8	(2.7)J
19	2.8	2.7	(2.7)J	2.7	2.8	2.9	3.0	2.9	2.7	2.6	2.6	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.9	2.9	2.8	(2.8)P	3.0	(2.8)P
20	(2.8)P	2.8	2.7	(2.8)J	2.8	3.0	3.0	3.1	2.9	2.5	(2.7)J	C	2.7	C	2.6	2.5	2.6	2.6	2.8	2.8P	2.7	2.7	2.7	(2.5)J
21	2.5	2.6	(2.6)J	(2.4)C	2.3K	2.5K	2.5K	2.2K	GK	GK	GK	CK	CK	GK	GK	CK	2.3K	2.5K	2.6K	2.7K	(2.6)JK	(2.6)JK	(2.5)CK	(2.4)JK
22	SK	2.4K	2.4K	2.5FK	2.4FK	2.6K	2.5K	2.4K	2.2K	CK	CK	CK	CK	GK	GK	2.5K	2.4K	2.5K	2.7K	(2.7)PK	K(2.7)JP	(2.9)PK	(2.9)CK	(2.9)PK
23	(2.7)PK	(2.5)CK	2.5K	2.5K	2.5K	(2.5)PK	2.5K	2.3K	GK	3.1K	2.4K	GK	GK	(2.7)CK	2.6K	2.6K	2.7K	2.8K	2.7K	2.9K	2.8K	(2.7)PK	(2.8)JK	(2.8)JK
24	2.6K	(2.4)JK	(2.6)PK	(2.5)JK	2.7K	2.7K	2.8K	2.9K	AK	(2.8)PK	(2.7)J	C	2.7	2.7	(2.7)J	2.7	2.8	3.0	2.8	2.9	2.7	2.7	(2.6)S	2.6
25	2.7	(2.7)J	(2.8)J	2.8	2.7	2.9	3.2	(3.3)S	(3.1)J	2.7	(2.9)JS	2.8	2.7	2.8	2.7	C	2.8	2.8	2.8	2.8	2.8	2.8	(2.7)S	(2.7)JS
26	(2.6)S	(2.7)JS	(2.8)JS	2.8	2.7	2.9	(3.0)JS	(2.9)S	2.6K	GK	GK	CK	CK	(2.6)CK	CK	CK	K(2.6)JS	K(2.8)JS	K(2.7)JS	2.9K	2.7K	2.6	2.6	(2.7)J
27	(2.7)J	(2.6)J	2.6	2.5	(2.5)JS	2.8	2.5	2.6	N	(2.9)S	(2.8)JS	(2.8)JS	2.8	C	(2.5)S	2.8	2.7	2.8	2.7	2.8	(2.8)P	2.8	(2.7)P	2.8
28	2.8	2.9	2.9	2.8	2.7	3.0	3.1	3.0	3.0	2.9	C	2.8	2.7	2.7	2.7	2.6	C	2.6	2.7	2.7	2.7	2.7	2.6	2.6
29	2.7	(2.9)J	2.6	2.5	2.5	2.5	2.6	2.7	2.6	2.5	2.6	2.5	2.5	2.5	2.7	2.5	2.6	2.8	2.6	2.6	2.8	(2.6)J	(2.5)J	2.6
30	2.5	2.6	(2.7)J	(2.6)J	(2.7)J	2.6	2.8	2.8	(2.8)J	2.6	2.7	2.7	2.7	2.6	2.6	2.7	2.6	2.7	2.8	2.8	(2.8)J	2.7	2.7	2.7
31	2.8	2.7	2.5	2.6	2.6	2.9	3.0	2.8	2.9	2.6	2.6	2.8	(2.6)JS	2.7	2.7	2.6	2.7	2.6	2.7	2.7	2.7	2.5	2.7	2.6
Median	2.6	(2.6)	2.6	2.6	2.6	2.8	2.8	2.8	2.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.8	2.7	2.7	(2.6)	2.6
Count	29	31	31	30	31	30	29	30	29	28	25	23	24	23	26	25	27	28	29	28	28	29	28	28

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 72

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

IONOSPHERIC DATA

F1-M3000 (Characteristic), ____ (Unit), May (Month), 1948

Observed at Washington, D.C.

Lat. 39.0°N, Long. 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.J.S., J.M.C.

Calculated by: J.L.K., N.N.M.

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								L^{K}	L$^{H}_{K}$	3.6^{K}	3.6^{K}	3.5^{K}	3.7^{K}	3.6^{K}	3.6^{K}	3.5^{K}	3.2^{K}	L^{K}						
2									L	L	L	3.3	L^{H}	(3.5)^{B}	3.4	3.5$^{S}_{H}$	L^{H}	L						
3										L		L	(4.0)^{P}	L	2.2	L^{H}	L	L	L					
4								L	L	L	L	3.5	3.6	L	L	3.5	L	B						
5										3.4^{K}	3.3^{K}	3.7^{K}	3.6^{K}	(3.5)$^{P}_{K}$	(3.5)$^{P}_{K}$	L$^{H}_{K}$	3.2^{K}	(L)$^{S}_{K}$						
6							L	3.4^{K}	3.3$^{H}_{K}$	3.3^{K}	3.9^{K}	(4.0)$^{C}_{K}$	B^{K}	C^{K}	C^{K}	A^{K}	A^{K}	3.2^{K}	L^{K}					
7								3.4^{K}	3.6^{K}	3.7$^{H}_{K}$	3.6^{K}	(4.1)$^{P}_{K}$	S$^{N}_{K}$	B^{K}	B^{K}	3.6^{K}	3.5^{K}	3.4^{K}	3.1^{K}					
8								(3.5)^{H}	(3.3)	C	C	C	C	C	C	C	C	C						
9							2.8$^{F}_{K}$	3.3^{K}	3.2^{K}	3.0^{K}	A^{K}	A^{K}	B^{K}	B^{K}	A^{K}	A^{K}	3.2^{K}	(3.1)$^{HN}_{K}$						
10								3.3	3.4^{H}	(3.7)^{H}	N^{H}	B^{N}	B^{N}	(3.5)^{B}	B^{N}	3.4^{S}	3.3	L	L					
11								L^{K}	3.6^{K}	3.5$^{H}_{K}$	(3.7)$^{NH}_{K}$	(4.0)$^{S}_{K}$	C^{K}	S^{K}	S^{K}	3.7^{K}	3.4^{K}							
12									3.4	S	(3.4)^{C}	S	L^{S}	3.4	3.4	3.4	3.5	L						
13								3.3	3.1	3.5	C	(3.7)^{B}	3.5	3.7	3.4	(3.6)$^{S}_{P}$	3.2	L						
14										3.5	3.6	3.9	3.7	3.5	C	3.1	L	L	L^{H}					
15									3.6^{K}	3.5^{K}	(3.3)$^{B}_{K}$	S^{K}	(4.1)$^{H}_{K}$	C^{K}	3.6^{K}	C^{K}	C^{K}	C^{K}	C^{K}					
16							(3.2)$^{F}_{K}$	(3.3)$^{F}_{K}$	3.5^{K}	3.6^{K}	C^{K}	C^{K}	3.8^{K}	3.7^{K}	3.8^{K}	3.7^{K}	3.4^{K}	L^{K}						
17							C	C		L	(3.7)^{S}	L	3.8	3.6	3.7	3.2	(3.4)^{S}	L						
18									3.7	3.5	3.5	3.7	3.5	(3.5)^{P}	3.6	3.5	4.0	3.4						
19									3.1	3.0	3.5	3.5	3.4	3.4	3.3^{H}	3.5^{H}	3.7	4.6	L					
20								L	3.5	3.6	3.5^{H}	C	3.5	C	3.6^{H}	3.3	3.4^{H}	L	L					
21						L^{K}	3.6^{K}	3.4$^{H}_{K}$	3.5^{K}	3.6^{K}	3.8^{K}	C^{K}	C^{K}	3.7^{K}	3.6^{K}	3.9^{K}	3.7^{K}	3.5^{K}	L^{K}					
22							3.2^{K}	3.5^{K}	3.8$^{H}_{K}$	C^{K}	C^{K}	C^{K}	C^{K}	3.8^{K}	3.9^{K}	3.8^{K}	3.6$^{H}_{K}$	3.7^{K}	L^{K}					
23							3.0^{K}	3.3^{K}	3.8^{K}	4.1^{K}	(4.0)$^{H}_{K}$	4.1^{K}	4.3^{K}	C^{K}	(3.6)$^{P}_{K}$	3.6^{H}	3.6^{K}	A^{K}	L^{K}					
24								3.6^{K}	A^{K}	3.7^{K}	3.6	C	3.8	(3.4)^{C}	(3.5)^{H}	3.6^{H}	3.4	L						
25								L	(3.3)	3.5	3.6	L	3.8	3.6	L	C	L	L						
26								L	3.4^{K}	(3.8)$^{S}_{K}$	3.9^{K}	(4.0)$^{C}_{K}$	C^{K}	(3.5)$^{C}_{K}$	C^{K}	C^{K}	3.6^{K}	L^{K}						
27						L	3.2	3.4	L^{H}	(3.6)^{S}	3.8	S	3.6	C	(3.5)	3.3	(3.1)^{P}	L						
28									L	L	C	3.8	L^{S}	(3.4)^{P}	3.5	L	C	L						
29							L	3.3	3.3	3.5	3.6	3.5	3.6	3.4	3.6	3.5	3.3	L						
30							L	L	L	3.5	L	3.4	3.3	3.2^{H}	3.4	L^{H}	L	L						
31									L^{H}	4.1	3.6	3.4	3.4^{H}	3.4	3.5	A	3.3	L	L					
Median							3.2	3.4	3.4	3.5	3.6	3.7	3.6	3.5	3.5	3.5	3.4	3.4						
Count							6	13	19	23	20	17	19	20	21	20	21	7	1					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

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TABLE 73

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

Form adopted June 1946

IONOSPHERIC DATA

E-M 500 (Characteristic), ____ (Unit), May (Month), 1948

Observed at Washington, D.C.

Lat 39.0°N, Long 77.5°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: E.J.W., J.J.S., J.M.C.

Calculated by: J.L.K., N.N.M.

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							4.3	4.2 K	4.2 K	4.4 K	4.0 K	4.4 K	(4.3) BK	B K	B K	4.5 K	4.2 K	3.1 K	4.3 K	S				
2						4.4	A	4.1 H	4.4	(4.4) B	(4.5) B	3.9	(4.1) B	B	4.2	B	4.0	4.3	3.8	(3.8) HS				
3							3.9 H	4.1 H	(4.4) B	(4.3) B	4.4	4.5 H	4.4	(4.3)	4.4	(4.3) P	4.2	4.5	A					
4							3.9	4.2	(4.4) B	B	A	4.4	B	B	4.4	4.3	4.2 H	B	3.9	3.8				
5							4.0	4.2 K	4.6 K	(4.4) BK	4.3 K	4.3 K	(4.3) BK	(4.2) PK	4.1 K	4.3 K	4.3 K	4.5 K	(4.6) AK	A				
6							(4.5) AH	4.5 K	4.2 K	4.6 K	4.5 K	4.4 K	A K	4.1 K	4.2 K	4.3 K	3.8 K	4.0 K	4.1 K					
7							4.2 K	4.2 K	4.4 K	4.1 K	B K	4.3 K	4.3 K	B K	B K	4.1 HK	4.0 K	4.2 K	A K					
8							4.1 H	(4.1)	A	C	C	C	C	C	C	C	C	C	C	C				
9						(3.8) FK	4.3 K	4.3 K	4.4 K	4.4 K	4.5 K	(4.3) AK	B K	B K	4.2 K	A K	A K	(4.3) CK	4.1 K	A K				
10							4.3	4.4	4.2	4.5	(4.4)	B N	B N	B	B	4.3 H	4.4	4.4 H	4.4 H					
11							(4.0) H	A K	(4.3) BK	K (4.4) BH	4.4 K	A K	(4.1) CK	(4.5) BK	A K	4.4 K	4.5 K	4.4 K	(4.5) AK	4.4 K				
12							4.6 H	A	4.5	4.6	(4.5) C	B S	A	4.3	4.2	4.2	4.2	4.4	4.4					
13						3.9	4.3	4.2 H	(4.3) A	4.2	C	4.2	A	4.2	(4.1) S	4.2	4.3	4.4	4.1					
14						4.3	A	4.3	4.3	4.5	4.4	(4.3) S	(4.2) S	4.6	C	(4.5) S	4.0	4.2	4.3	4.4 H				
15						4.2 K	4.4 K	4.6 K	4.4 K	4.6 K	4.2 K	A K	4.3 K	C K	4.0 K	C K	C K	C K	C K					
16							4.3 HK	4.3 K	4.4 K	(4.3) SK	C K	C K	B K	C K	(4.4) BK	4.5 K	4.3 K	(4.5) BK	4.4 K	4.5 K				
17						(4.5) A	C	C	4.4	4.7	A	A	4.7	4.1	4.1	4.2	4.2 HS	S	A					
18						4.5 H	4.2	4.4	4.5	4.5	(4.6) B	A	B	(4.6) B	4.4	4.3	4.3	4.5	4.4 H					
19						4.6	4.3 S	4.1	(4.7) A	4.6	4.5	4.3	(4.4) A	A	A	A	4.4	4.7	4.8					
20						4.5	4.7	4.3	4.5	A	4.7	C	A	C	4.1	(4.5) C	4.4	4.6	4.9					
21							C K	(4.5) CK	C K	4.4 K	4.4 K	C K	C K	A K	(4.5) CK	4.4 K	4.4 K	(4.3) CK	4.7 K	4.3 K				
22							4.6 K	4.7 K	4.7 K	C K	C K	C K	C K	4.5 K	4.4 K	4.5 K	4.4 K	4.3 K	4.2 K	4.6 K				
23							4.5 K	4.6 K	4.5 K	4.6 K	4.4 K	4.6 K	4.5 K	4.5 K	(4.5) CK	A K	4.7 K	(5.0) CK	4.2 K					
24						C K	4.5 K	4.6 K	4.5 K	4.5 K	4.6	C	4.6	4.8	4.9	4.1	(4.3) A	4.6 H	(3.9) S					
25							4.5 H	(4.6) A	4.4	(4.5) B	4.5	B	(4.5) B	(4.5) B	4.7 H	C	4.3	4.2	4.2					
26						(3.9) S	4.5 H	(4.5) A	4.6 K	A K	A K	C K	C K	A K	C K	C K	4.3 K	4.2 K	(4.5) AK					
27							4.3	(4.1) H	A	A	4.4	S C	4.3	C	4.1	(4.3) H	4.5 H	4.2	4.5					
28							4.6 H	A	(4.6) A	4.6	C	4.4	4.3	4.5	4.6	4.6	4.2	4.0	4.1 H	4.2				
29							4.1	4.3	4.3	4.3	4.6	(4.3) A	4.4	4.3	4.3	4.1	4.2	4.2	4.2 H	4.3 H				
30							(4.6) A	A	4.5	(4.4) B	4.4	4.3 H	4.0	4.2 H	4.2 H	4.2 H	4.2	4.4	4.4					
31							A	4.2	4.3	A	(4.5) A	4.4 H	4.4	4.4 H	4.3 H	4.4	4.5	4.0	4.1	4.0				
Median						4.4	4.3	4.3	4.4	4.4	4.4	4.3	4.3	4.4	4.3	4.3	4.3	4.3	4.3	4.3				
Count						10	26	26	28	24	22	16	18	17	23	23	28	27	26	10				

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

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Table 74

Ionospheric Storminess at Washington, D. C.

May 1948

Day	Ionospheric character* 00-12 GCT	Ionospheric character* 12-24 GCT	Principal storms Beginning GCT	Principal storms End GCT	Geomagnetic character** 00-12 GCT	Geomagnetic character** 12-24 GCT
1	1	5	1200	2400	2	3
2	3	1			3	4
3	2	1			3	3
4	1	1			2	3
5	2	4	1400	2400	2	2
6	3	6	1400	---/	[illegible]	3
7	5	6	----	---/	4	[illegible]
8	3	***	---/	1100	2	2
9	3	4	---#	---/	4	[illegible]
10	3	2	---/	0200	3	3
11	2	4	1200	---/	3	3
12	2	1	---/	0200	3	3
13	2	3			4	2
14	2	1			1	2
15	3	4	0600	---/	4	4
16	7	6	----	---/	5	6
17	5	3	---/	1000	2	2
18	2	2			[illegible]	2
19	[illegible]	1			1	1
20	2	2			[illegible]	1
21	2	6	0900	---/	4	4
22	4	6	----	---/	4	3
23	4	4	----	---/	3	3
24	4	2	---/	1500	3	2
25	1	3			3	[illegible]
26	1	4	1300	---/	2	2
27	1	3	---/	0200	3	2
28	1	3			1	2
29	1	2			3	4
30	1	3			2	3
31	1	1			2	[illegible]

*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, geomagnetic K-figures on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

***No readable record. Refer to table 63 for detailed explanation.

/Dashes indicate continuing storm.

#Time of beginning unknown because of loss of record.

Table 75

Sudden Ionosphere Disturbances Observed at Washington, D. C.

May 1948

Day	GCT Beginning	GCT End	Location of transmitters	Relative intensity at minimum*	Other phenomena
4	1347	1415	Ohio, D.C., England	0.0	Terr.mag.pulse** 1348-1410
4	2156	2255	Ohio, D.C., England New Brunswick	0.0	Terr.mag.pulse** 2200-2245
5	1137	1215	Ohio, D.C., England	0.1	
7	1500	1525	Ohio, D.C., England	0.1	
7	1748	1940	Ohio, D.C., England, New Brunswick	0.0	
7	2204	2255	Ohio, D.C., England, New Brunswick	0.0	
9	1206	***	Ohio, England	0.2	
9	1233	1300	Ohio, England	0.1	
9	1428	1445	Ohio	0.1	
9	1705	1730	Ohio, New Brunswick	0.0	
9	1900	***	Ohio, New Brunswick	0.0	
9	2003	2035	Ohio	0.0	
14	1225	1245	Ohio, D.C., England	0.3	
14	1502	1530	Ohio, D.C.	0.1	
14	2150	2215	Ohio, D.C.	0.03	
16	1826	1845	Ohio, D.C.	0.1	
18	1644	1725	Ohio, D.C., England	0.0	
19	1346	1410	Ohio, D.C., England	0.05	
19	1614	1630	Ohio, England	0.1	
19	1707	1725	Ohio, D.C., England	0.05	
21	1127	1225	Ohio, D.C., England	0.0	Terr.mag.pulse** 1126-1145
31	2105	2120	Ohio	0.2	

*Ratio of received field intensity during SID to average field intensity before and after, for station W8XAL, 6080 kilocycles, 600 kilometers distant.

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

***Incomplete recovery of SID.

Table 76

Sudden Ionosphere Disburbances Reported by

RCA Communications, Inc., as Observed

at Point Reyes, California

1948 Day	GCT Beginning	GCT End	Location of transmitters
May 4-5	2158	0100	Australia, China, Chosen, Hawaii, Japan, New York, Philippine Is.
7	1758	1915	Australia, China, Hawaii, Japan, Philippine Is.
7	2205	2240	Australia, China, Hawaii, Japan, New York, Philippine Is.
13-14	2350	0050	Australia, China, Chosen, Hawaii, Japan, Philippine Is.
15	0502	0520	Australia, China, Chosen, Hawaii, Japan, Philippine Is.

Table 77

Sudden Ionosphere Disturbances Reported by

International Telephone and Telegraph Corporation,

as Observed at Platanos, Argentina

1948 Day	GCT Beginning	GCT End	Location of transmitters
April 20	1225	1255	Brazil, Chile, New York, Venezuela

Table 78

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief,

Cable and Wireless, Ltd., as Observed in England

1948 Day	GCT Beginning	GCT End	Receiving station	Location of transmitters
April 21	0715	0845	Brentwood	Belgian Congo, Bulgaria, Canary Is., Eritrea, French Equatorial Africa, Greece, India, Iran, Kenya, Madagascar, Palestine, Portugal, Southern Rhodesia, Spain, Syria, Turkey, Yugoslavia, Zanzibar
24	0722	0800	Brentwood	Eritrea, India, Iran, Kenya, Portugal, Southern Rhodesia
26	1110	1145	Brentwood	Canary Is., Chile, Greece, Iran, Kenya, Malta, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Thailand, Turkey, U.S.S.R., Yugoslavia
May 1	1110	1130	Brentwood	Canary Is., Kenya, Southern Rhodesia, Spain, Thailand, U.S.S.R.
4	0650	0700	Brentwood	Iran, Kenya, Southern Rhodesia
4	0750	0830	Brentwood	Austria, Bahrein I., Belgian Congo, Greece, India, Iran, Kenya, Madagascar, Malta, Palestine, Portugal. Southern Rhodesia, Spain, Switzerland, Syria, Thailand, Turkey, U.S.S.R., Yugoslavia, Zanzibar
4	1350	1420	Brentwood	Austria, Belgian Congo, Canary Is., Chile, Eritrea, Greece, India, Iran, Kenya, Malta, Portugal, Southern Rhodesia, Spain, Switzerland, Turkey, Venezuela, Yugoslavia
4	1350	1420	Somerton	Argentina, Australia, Barbados, Brazil, Canada, Malay States, New York, Union of S. Africa
5	1133	1215	Brentwood	Austria, Bahrein I., Belgian Congo, Canary Is., Greece, India, Iran, Kenya, Malta, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Thailand, Turkey, U.S.S.R., Yugoslavia, Zanzibar

Table 78 (Continued)

1948 Day	GCT Beginning	GCT End	Receiving station	Location of transmitters
May 6	0710	0810	Brentwood	Austria, Bahrein I., Belgian Congo, Canary Is., Eritrea, French Equatorial Africa, Greece, India, Iran, Kenya, Madagascar, Malta, Palestine, Portugal, Southern Rhodesia, Syria, Thailand, Turkey, U.S.S.R., Yugoslavia, Zanzibar
6	0722	0800	Somerton	Ceylon, China, Egypt, India, New York
7	0555	0615	Brentwood	Afghanistan, Bulgaria, Eritrea, Greece, India, Iran, Kenya, Palestine, Southern Rhodesia, Syria, U.S.S.R.
7	1758	1930	Brentwood	Chile, Venezuela
7	1755	1830	Somerton	Argentina, Barbados, Brazil, Canada, New York
8	0828	0900	Brentwood	Austria, Bahrein I., Belgian Congo, Canary Is., Eritrea, Greece, India, Iran, Kenya, Madagascar, Malta, Palestine, Portugal, Southern Rhodesia, Spain, Syria, U.S.S.R., Yugoslavia, Zanzibar
9	1157	1255	Brentwood	Austria, Bahrein I., Bulgaria, Greece, India, Iran, Palestine, Spain, Switzerland, Turkey, U.S.S.R., Yugoslavia
9	1200	1245	Somerton	China, India, New York
10	0805	0905	Brentwood	Bahrein I., Belgian Congo, Eritrea, Greece, India, Iran, Kenya, Madagascar, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, U.S.S.R., Zanzibar
10	0805	0905	Somerton	Australia, China, India, Union of S. Africa
11	0825	0900	Brentwood	Austria, Bahrein I., Canary Is., Eritrea, Greece, India, Iran, Kenya, Madagascar, Malta, Palestine, Portugal, Southern Rhodesia, Spain, U.S.S.R., Yugoslavia
11	1504	1525	Brentwood	Belgian Congo, Iran, Kenya, Palestine, Portugal, Southern Rhodesia, Spain

Table 78 (Continued)

1948 Day	GCT Beginning	GCT End	Receiving station	Location of transmitters
May 14	0720	0800	Brentwood	French Equatorial Africa, Malta, Yugoslavia
14	0720	0800	Somerton	Ceylon, China, India
14	1225	1300	Brentwood	Colombia, Greece, Malta, Spain, Surinam, Switzerland, Turkey, Yugoslavia
17	1055	1110	Brentwood	Greece, Iran, Kenya, Portugal, Spain, Syria, Thailand, Turkey, Zanzibar
18	0630	0710	Brentwood	Afghanistan, Belgian Congo, Eritrea, Greece, India, Iran, Kenya, Palestine, Southern Rhodesia, Syria, Thailand, U.S.S.R., Yugoslavia
18	0645	0735	Somerton	Ceylon, China, India

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 79

Provisional Radio Propagation Quality Figures
(Including Comparisons with CRPL Warnings and CRPL Probable Disturbed Period Forecasts)
April 1948

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 Forecast of probable disturbed periods	North Atlantic: Geomagnetic K_{Ch} 01-12 GCT	North Atlantic: Geomagnetic K_{Ch} 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 Forecast of probable disturbed periods	North Pacific: Geomagnetic K_{Ch} 01-12 GCT	North Pacific: Geomagnetic K_{Ch} 13-24 GCT
1	5	6				4	3	6	6				4	3
2	5	6				4	2	6	7				4	2
3	6	6				3	2	7	7				3	2
4	6	6			X	2	1	7	6			X	2	1
5	7	6			X	1	1	7	7			X	1	1
6	6	7				2	4	7	6				2	4
7	6	7				3	3	6	5				3	3
8	6	7				1	1	6	6				1	1
9	7	7				1	1	6	6				1	1
10	7	7			X	1	2	6	6			X	1	2
11	7	6			X	2	1	6	7			X	2	1
12	7	6			X	2	2	7	7			X	2	2
13	7	5	X		X	3	2	6	6	X		X	3	2
14	6	6	X	X		3	2	6	7	X	X		3	2
15	6	7	X			2	2	7	6	X			2	2
16	8	6				1	2	7	7				1	2
17	7	6			X	1	2	7	7			X	1	2
18	7	6			X	2	2	7	6			X	2	2
19	7	6				1	1	7	6				1	1
20	7	6				3	2	7	6				3	2
21	5	5				4	2	6	5				4	2
22	(4)	5		X		5	3	5	5		X		5	3
23	6	6	X			2	2	5	6	X			2	2
24	7	6				2	2	6	6				2	2
25	7	6			X	3	2	6	6			X	3	2
26	7	6			X	2	3	7	5			X	2	3
27	7	7	X			3	2	6	6	X			3	2
28	7	6				3	2	7	7				3	2
29	7	6				3	3	6	6				3	3
30	6	7				3	2	7	7				3	2
Score:														
H			0		0					0		0		
M			1		1					0		0		
G			24		19					24		20		
(S)			0		1					2		1		
S			5		9					4		9		

*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_{Ch} on the standard scale of 0 to 9, 9 representing the greatest disturbance.

Table 80

American and Zürich Provisional Relative Sunspot Numbers

May 1948

Date	R_A*	R_Z**	Date	R_A*	R_Z**
1	147	131	16	200	174
2	138	136	17	149	144
3	155	158	18	141	116
4	170	180	19	133	133
5	232	203	20	114	119
6	251	246	21	121	99
7	251	254	22	135	104
8	264	288	23	127	102
9	311	299	24	127	115
10	320	312	25	138	132
11	354	288	26	133	111
12	337	312	27	165	126
13	279	272	28	180	132
14	263	230	29	173	165
15	216	192	30	147	131
			31	169	157
			Mean	194.8	179.4

*Combination of 46 observers; see page 8.
**Dependent on observations at Zürich Observatory and its stations at Locarno and Arosa.

Table 81a

Coronal observations at Climax, Colorado (5303A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																		P
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
May 6.8	-	-	-	-	-	-	-	-	-	-	-	-	4	7	10	16	15	15	23	23	22	22	18	20	31	28	23	13	8	-	-	-	-	-	-	-	-	-25
7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	9	10	10	14	13	13	17	17	19	17	24	23	20	20	15	8	-	-	-	-	-	-	-	-	-25
13.6	-	-	-	-	-	-	-	-	-	-	-	9	9	9	8	-	7	10	9	9	12	12	11	10	8	-	-	-	-	-	-	-	-	-	-	-	-	-20
14.7	-	-	-	-	-	-	-	-	-	-	5	5	7	9	9	13	13	12	10	8	10	10	11	9	7	6	4	4	-	-	-	-	-	-	-	-	-	-20
15.7	-	-	-	-	-	-	-	-	-	3	4	7	14	24	20	23	23	15	8	5	7	8	10	10	7	6	4	4	-	-	-	-	-	-	-	-	-	-20
16.7	-	-	-	-	-	-	-	-	-	-	2	5	15	26	24	24	23	10	5	3	-	5	10	12	8	7	6	4	6	4	-	-	-	-	-	-	-	-20
19.6	X	X	X	X	X	X	-	-	-	-	7	10	12	14	16	15	14	12	12	13	13	12	13	14	13	6	6	-	-	-	-	-	-	-	-	-	-	-20
20.7	-	-	-	-	-	-	-	-	-	-	8	11	14	20	23	25	24	21	14	15	22	24	19	21	12	8	6	-	-	-	-	X	X	X	X	X	X	-20
21.6	-	-	-	-	-	-	-	-	-	-	8	13	19	23	25	24	22	19	16	16	20	26	26	28	22	13	11	8	-	-	-	-	-	-	-	-	-	-20
22.7	-	-	-	-	-	-	-	-	-	-	3	10	12	14	17	25	30	13	12	13	14	18	23	28	16	11	6	-	-	-	-	-	-	-	-	-	-	-20
23.6	-	-	-	-	-	-	-	-	-	3	9	10	12	17	18	23	21	15	10	10	8	15	20	20	14	11	5	-	-	-	-	-	-	-	-	-	-	-20
28.9	X	X	X	X	-	-	-	-	-	-	3	10	15	18	15	27	32	17	18	16	12	8	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	-15
30.0	X	X	X	X	X	X	X	X	X	X	X	X	X	7	8	12	16	13	11	12	15	15	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-15
31.0	X	X	X	X	-	-	-	-	-	-	-	8	12	11	15	20	15	11	11	13	20	22	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-15
31.6	X	X	X	X	-	-	-	-	-	-	-	10	9	12	18	15	12	9	8	8	18	20	19	11	9	8	6	-	-	-	-	-	-	-	-	-	-	-15

Table 82a

Coronal observations at Climax, Colorado (6374A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																		P
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
May 6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	9	11	11	9	12	18	1	1	13	13	7	3	1	-	-	-	-	-	-	-	-	-	-25
7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	14	13	7	10	17	12	3	8	9	5	3	1	1	-	-	-	-	-	-	-	-	-25
13.6	-	-	-	-	-	-	-	-	-	-	2	5	5	6	6	7	8	1	1	9	8	9	7	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-20
14.7	-	-	-	-	-	-	-	-	-	-	-	1	5	10	7	8	6	1	1	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-20
15.7	-	-	-	-	-	-	-	-	-	-	-	-	2	13	14	3	3	1	1	1	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
16.7	-	-	-	-	-	-	-	-	-	-	-	1	5	8	18	8	7	1	-	-	-	3	12	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-20
19.6	X	X	X	X	X	X	-	-	-	-	1	3	5	4	1	1	10	1	1	3	5	4	2	10	2	1	-	-	-	-	-	-	-	-	-	-	-	-20
20.7	-	-	-	-	-	-	-	-	-	-	1	2	4	4	4	10	14	3	4	5	3	8	10	10	1	-	-	-	-	-	-	X	X	X	X	X	X	-20
21.6	-	-	-	-	-	-	-	-	-	-	1	2	3	10	14	2	18	12	5	2	2	3	10	14	9	7	1	-	-	-	-	-	-	-	-	-	-	-20
22.7	-	-	-	-	-	-	-	-	-	-	1	2	3	3	5	15	16	8	2	2	3	10	8	10	5	-	-	-	-	-	-	-	-	-	-	-	-	-20
23.6	-	-	-	-	-	-	-	-	-	-	-	-	2	10	14	8	15	15	1	1	2	5	11	8	4	-	-	-	-	-	-	-	-	-	-	-	-	-20
28.9	X	X	X	X	1	1	2	2	1	1	1	1	2	2	4	10	11	3	3	8	8	7	8	1	-	-	-	-	-	-	X	X	X	X	X	X	X	-15
30.0	X	X	X	X	X	X	X	X	X	X	X	X	X	-	2	8	8	5	5	-	5	5	5	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-15
31.0	X	X	X	X	-	-	-	-	-	-	-	-	-	1	9	8	5	2	5	7	9	12	3	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-15
31.6	X	X	X	X	-	-	-	-	-	-	-	-	-	3	8	8	10	3	1	4	5	6	3	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-15

Table 83a

Coronal observations at Climax, Colorado (6704A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																		P
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
May 6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	2	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-25
7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-25
13.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
14.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
15.7	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
16.7	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
19.6	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
20.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	X	X	X	X	X	X	-20
21.6	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
22.7	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
23.6	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-20
28.9	X	X	X	X	-	-	-	-	-	-	-	-	-	1	2	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	-15
30.0	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-15
31.0	X	X	X	X	-	-	-	-	-	-	-	-	-	1	1	2	1	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-15
31.6	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-15

Table 81b

Coronal observations at Climax, Colorado (5303A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																		P
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
May 6.8	-	-	-	-	-	-	-	-	-	-	3	5	10	20	16	17	20	18	17	18	18	18	17	17	17	10	9	-	-	-	-	-	-	-	-	-	-	-25
7.6	-	-	-	-	-	2	4	4	3	-	-	6	7	9	20	19	26	24	23	19	19	23	24	20	15	10	9	7	-	-	-	-	-	-	-	-	-	-25
13.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	13	12	10	9	-	-	-	-	-	-	-	-	-	-	-	-	-20
14.7	-	-	-	-	-	-	3	4	4	4	-	-	-	-	-	-	3	8	12	15	22	19	13	12	9	7	7	6	6	5	-	-	-	-	-	-	-	-20
15.7	-	-	-	-	-	4	5	5	4	-	-	-	4	7	8	5	18	21	21	22	22	21	20	17	15	10	5	4	3	-	-	-	-	-	-	-	-	-20
16.7	-	-	-	-	-	-	-	-	4	5	5	4	8	12	11	12	20	24	20	17	19	23	22	20	14	15	8	4	3	-	-	-	-	-	-	-	-	-20
19.6	-	-	-	-	-	-	-	-	-	9	9	20	22	15	19	17	10	10	11	11	13	19	18	17	10	9	7	6	4	4	-	X	X	X	X	X	X	-20
20.7	X	X	X	X	X	-	-	-	-	-	13	22	23	22	21	20	15	13	14	19	24	28	20	16	10	9	8	8	-	-	-	-	-	-	-	-	-	-20
21.6	-	-	-	-	-	-	-	-	-	7	10	16	23	24	20	19	18	17	19	19	20	23	25	12	8	8	7	-	-	-	-	-	-	-	-	-	-	-20
22.7	-	-	-	-	-	-	-	-	-	3	8	14	16	20	22	21	20	18	16	14	14	12	7	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-20
23.6	-	-	-	-	-	-	-	-	-	3	10	9	15	17	20	35	33	26	20	15	13	13	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
28.9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15
30.0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15
31.0	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15
31.6	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15

Table 82b

Coronal observations at Climax, Colorado (6374A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																		P
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
May 6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	3	15	12	2	5	10	10	8	3	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-25
7.6	-	-	-	-	-	-	-	-	-	-	-	-	2	1	12	11	12	12	10	10	11	13	10	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-25
13.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	8	2	1	-	1	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
14.7	-	-	-	-	-	-	-	-	-	-	-	-	1	5	10	14	5	3	1	-	-	6	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-20
15.7	-	-	-	-	-	-	-	-	-	-	-	-	1	3	8	11	7	11	11	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-20
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	15	13	12	11	7	3	5	8	8	3	1	-	-	-	-	-	-	-	-	-	-	-	-20
19.6	-	-	-	-	-	-	-	-	-	-	-	1	10	9	9	12	12	8	8	9	10	19	18	13	13	-	-	-	-	-	-	X	X	X	X	X	X	-20
20.7	X	X	X	X	X	-	-	-	-	-	-	-	8	7	5	6	7	12	12	15	20	24	20	17	3	1	-	-	-	-	-	-	-	-	-	-	-	-20
21.6	-	-	-	-	-	-	-	-	-	-	-	1	3	10	5	12	12	11	14	13	13	24	18	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
22.7	-	-	-	-	-	-	-	-	-	-	-	-	1	5	1	18	14	14	10	5	5	14	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
23.6	-	-	-	-	-	-	-	-	-	-	-	-	1	10	5	20	22	22	15	12	1	9	7	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-20
28.9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15
30.0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15
31.0	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15
31.6	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15

Table 83b

Coronal observations at Climax, Colorado (6704A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																		P
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
1948																																						
May 6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-25
7.6	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-25
13.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
14.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
19.6	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	X	X	X	X	X	X	-20
20.7	X	X	X	X	X	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
21.6	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
22.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
23.6	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-20
28.9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15
30.0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15
31.0	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15
31.6	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15

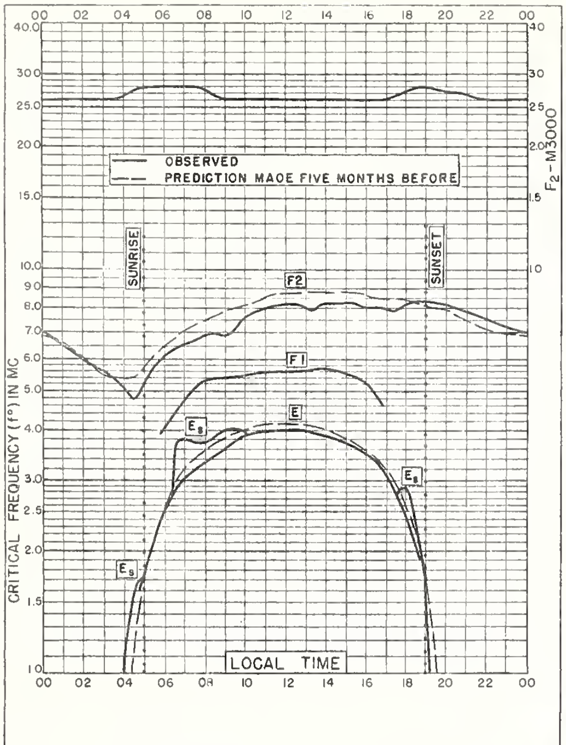

Fig. 1. WASHINGTON, D. C.
39. 0°N, 77. 5°W MAY 1948

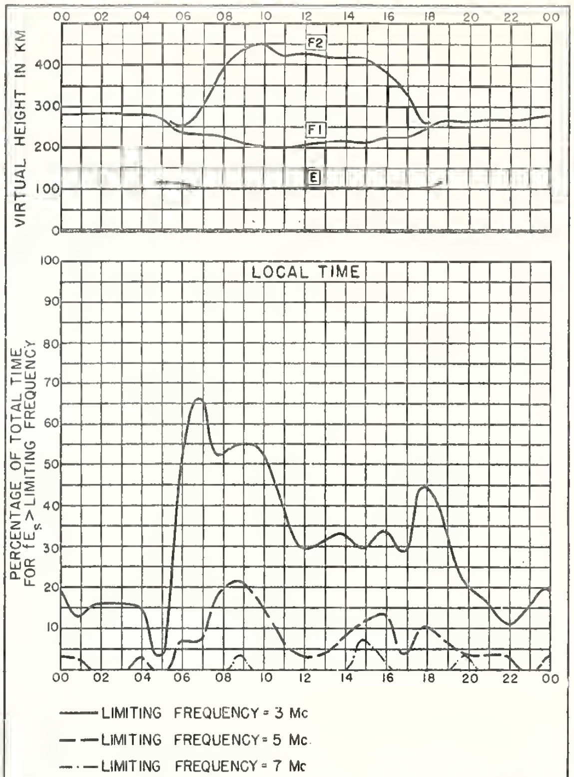

Fig. 2. WASHINGTON, D. C. MAY 1948

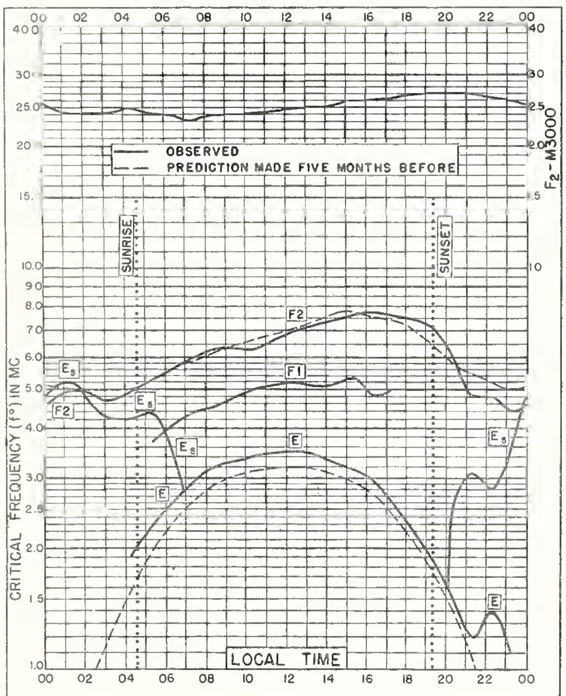

Fig. 3. FAIRBANKS, ALASKA
64. 9°N, 147. 8°W APRIL 1948

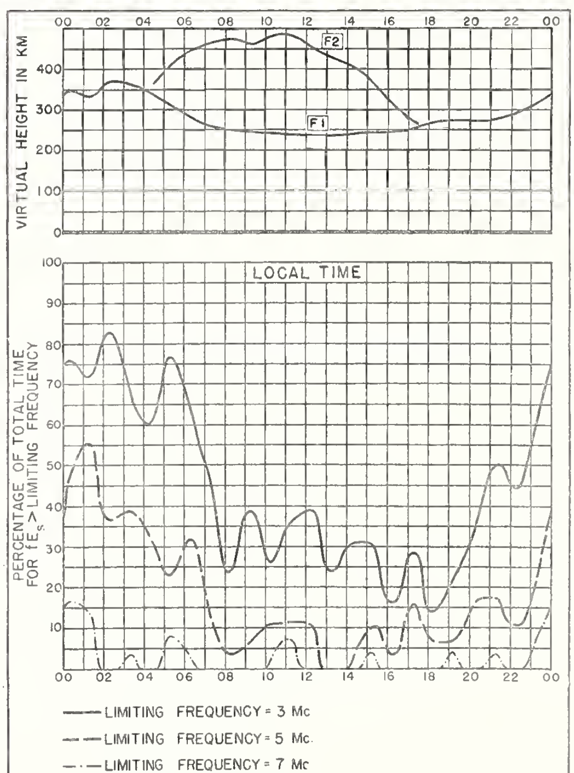

Fig. 4. FAIRBANKS, ALASKA APRIL 1948

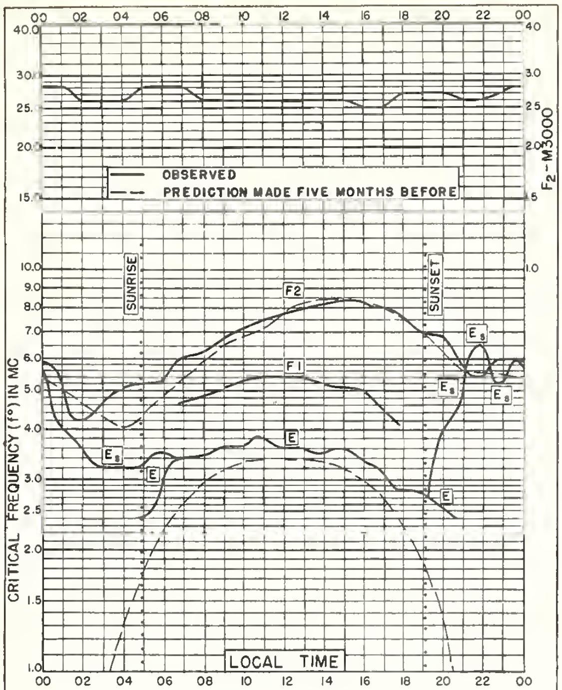

Fig. 5. CHURCHILL, CANADA
58.8°N, 94.2°W APRIL 1948

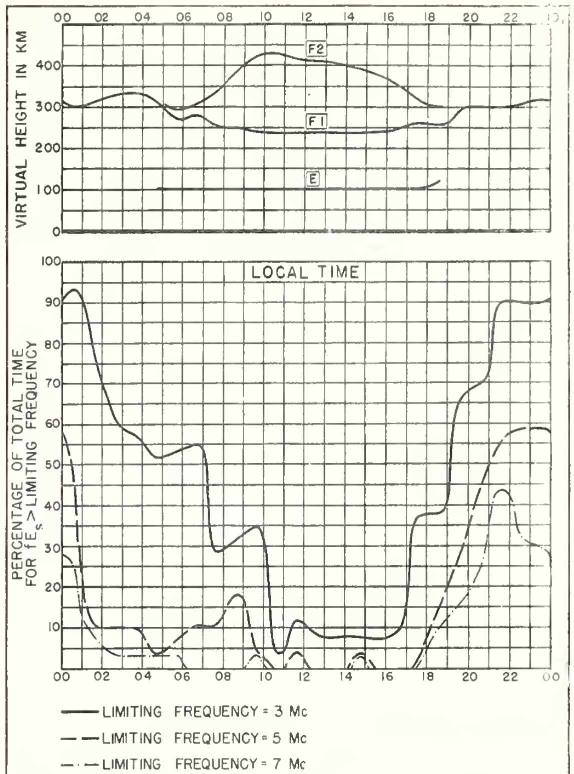

Fig. 6. CHURCHILL, CANADA APRIL 1948

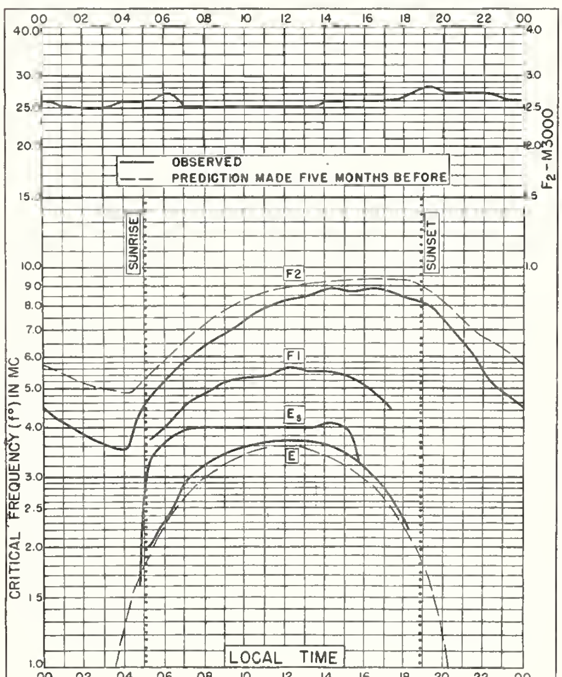

Fig. 7. PRINCE RUPERT, CANADA
54.3°N, 130.3°W APRIL 1948

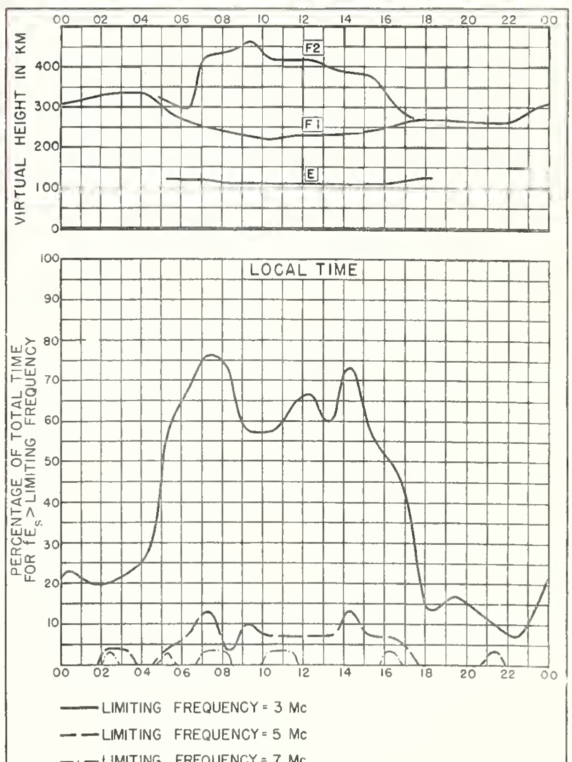

Fig. 8. PRINCE RUPERT, CANADA APRIL 1948

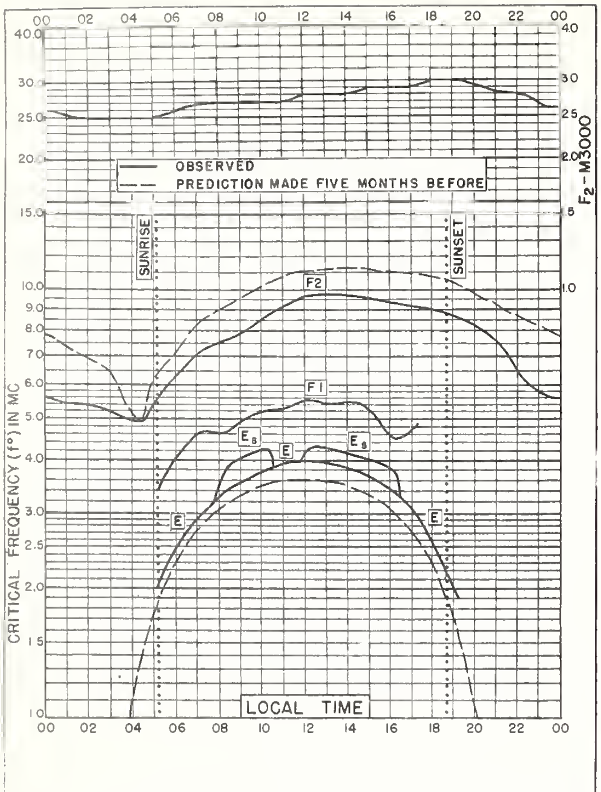

Fig. 9. ADAK, ALASKA
51.9°N, 176.6°W APRIL 1948

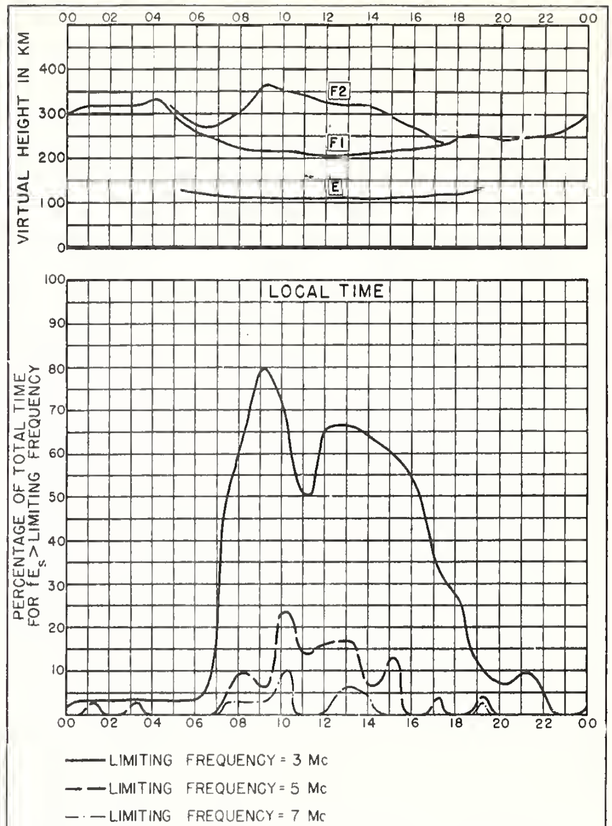

Fig. 10. ADAK, ALASKA APRIL 1948

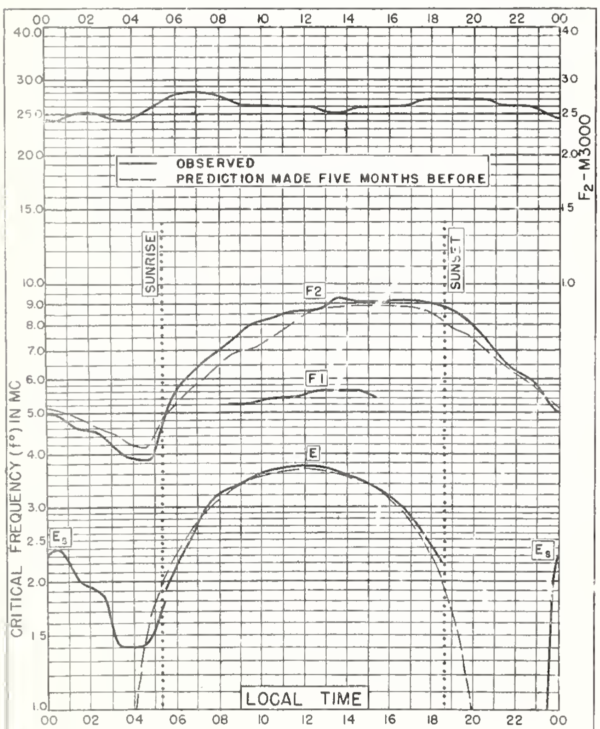

Fig. 11. PORTAGE la PRAIRIE, CANADA
49.9°N, 98.3°W APRIL 1948

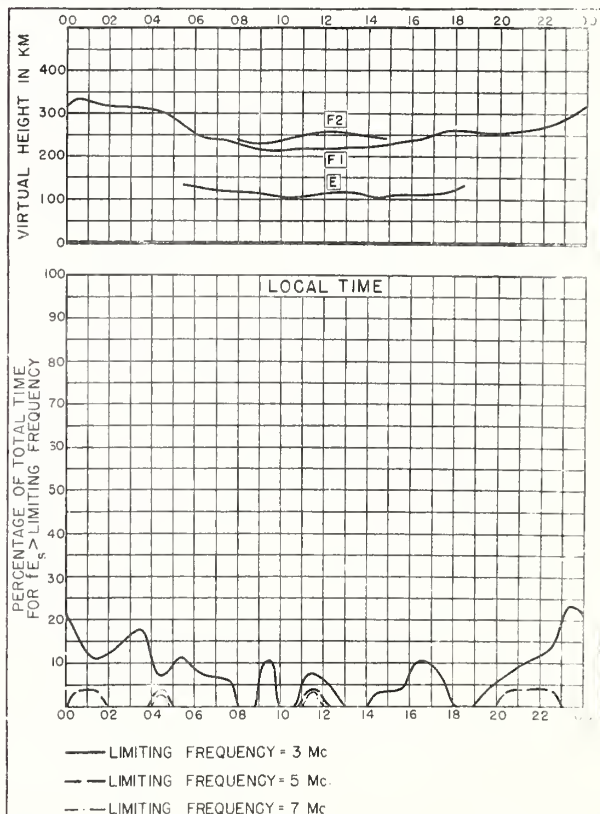

Fig. 12. PORTAGE la PRAIRIE, CANADA APRIL 1948

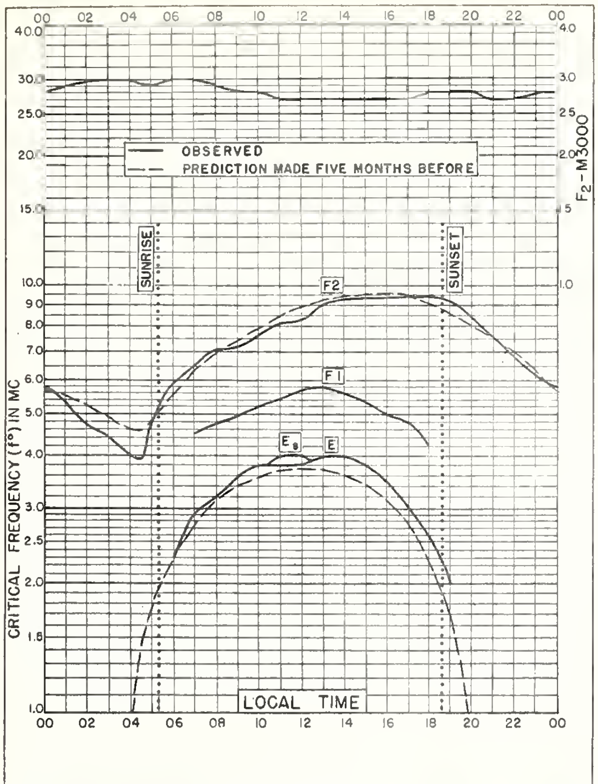

Fig. 13. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W APRIL 1948

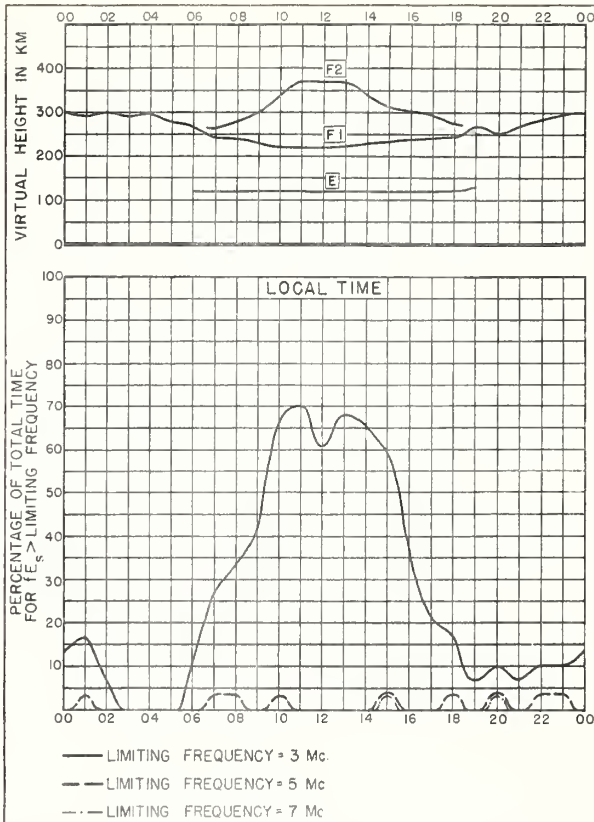

Fig 14. ST. JOHN'S, NEWFOUNDLAND APRIL 1948

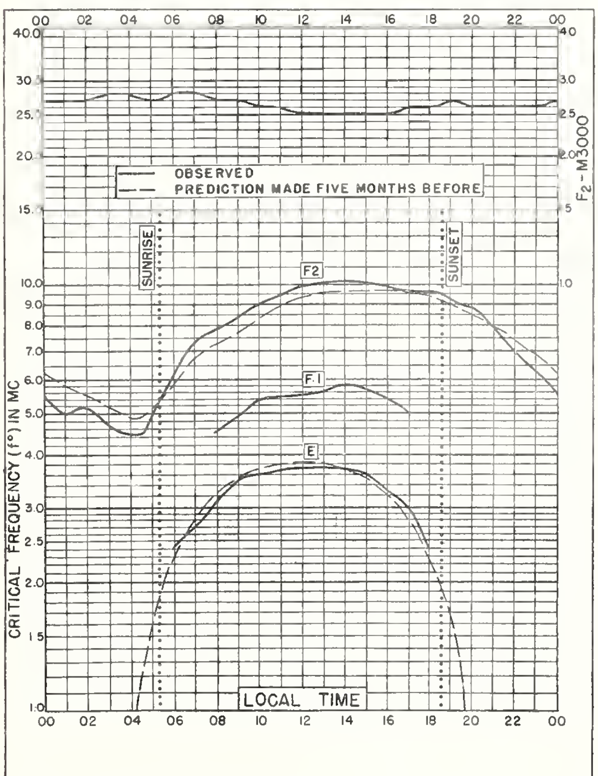

Fig. 15. OTTAWA, CANADA
45.5°N, 75.8°W APRIL 1948

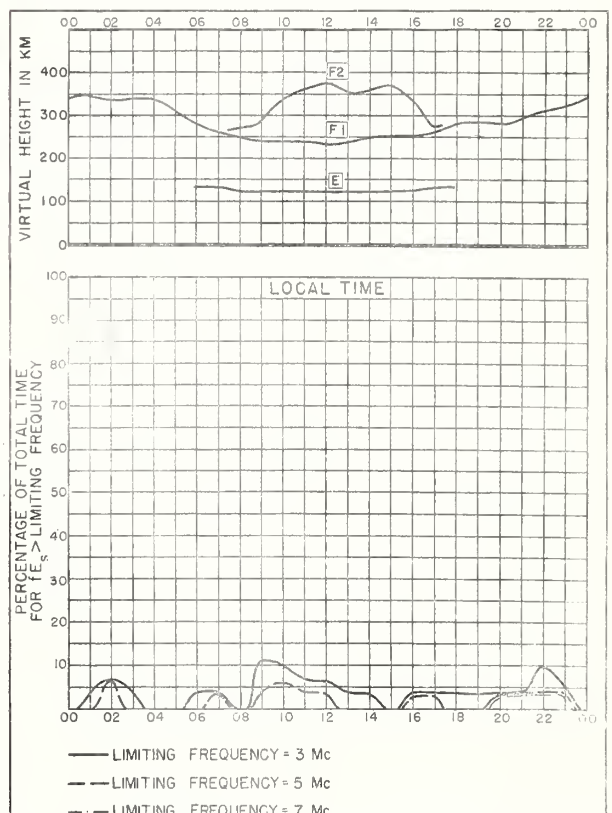

Fig 16. OTTAWA, CANADA APRIL 1948

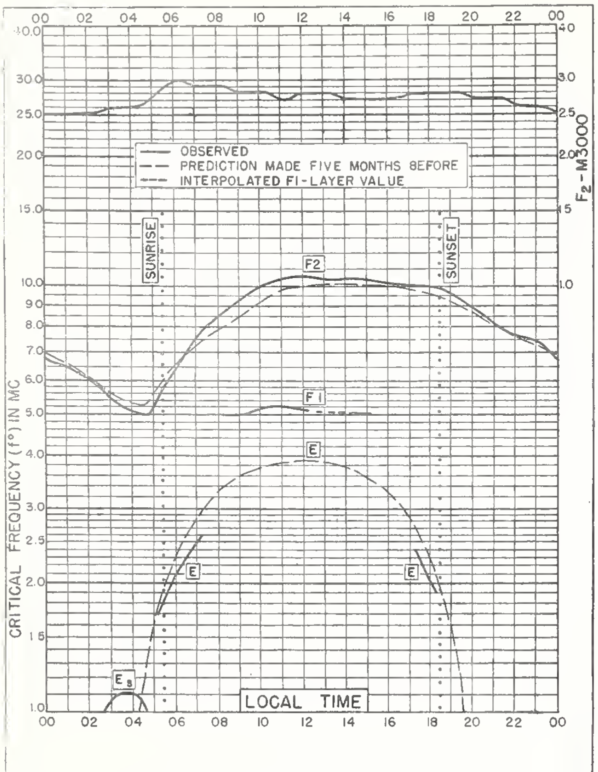

Fig. 17. BOSTON, MASSACHUSETTS
42.4°N, 71.2°W APRIL 1948

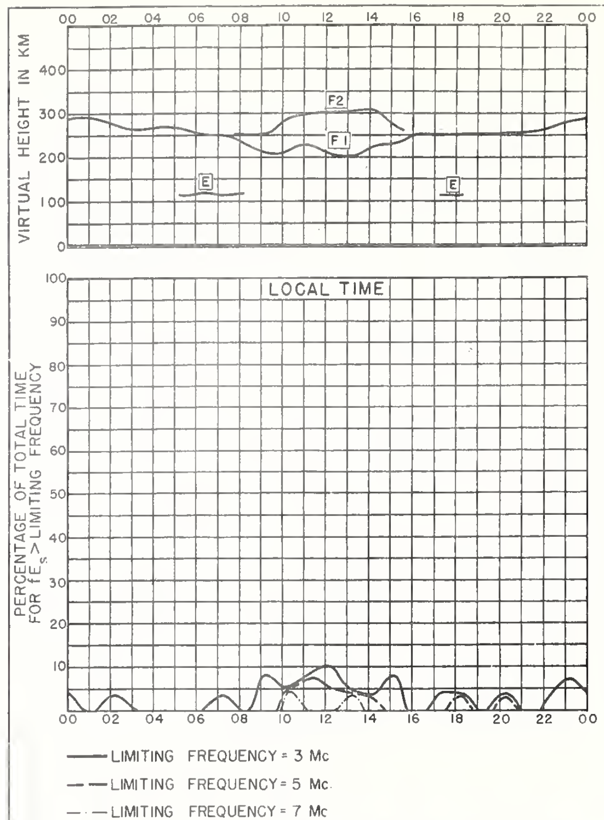

Fig. 18. BOSTON, MASSACHUSETTS APRIL 1948

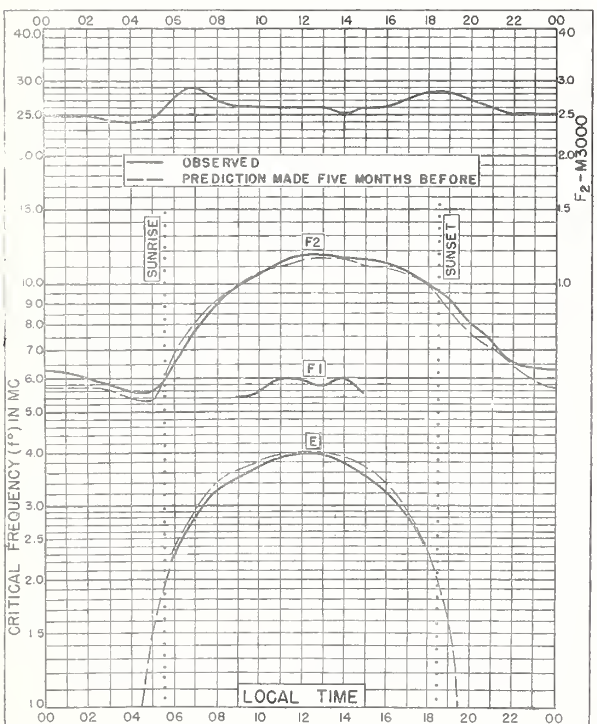

Fig. 19. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W APRIL 1948

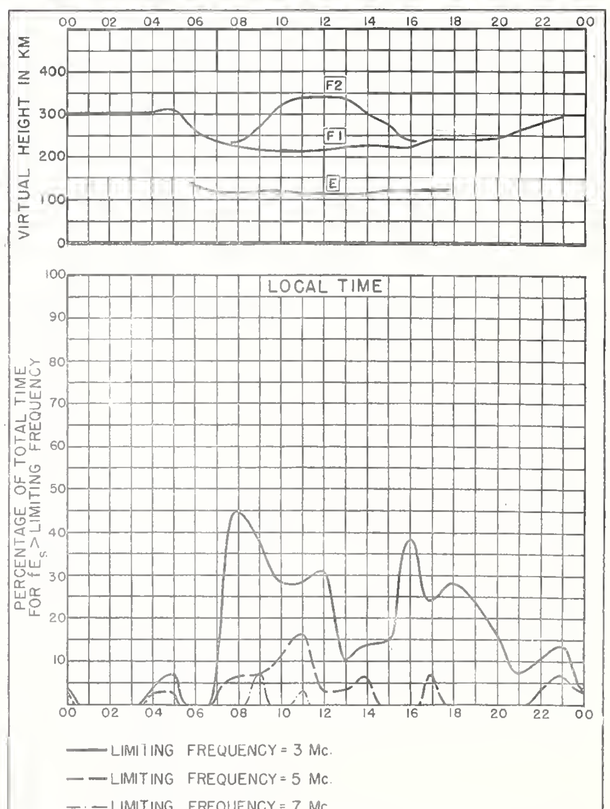

Fig. 20. SAN FRANCISCO, CALIFORNIA APRIL 1948

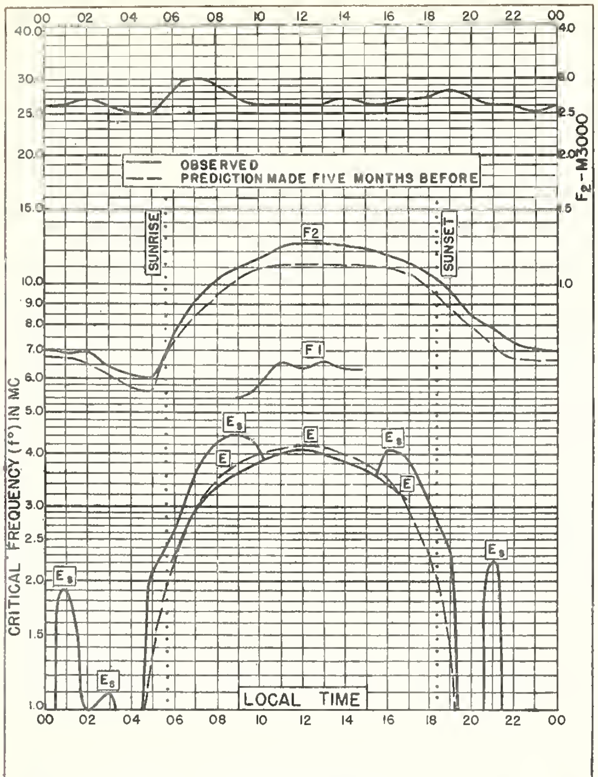

Fig. 21. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W APRIL 1948

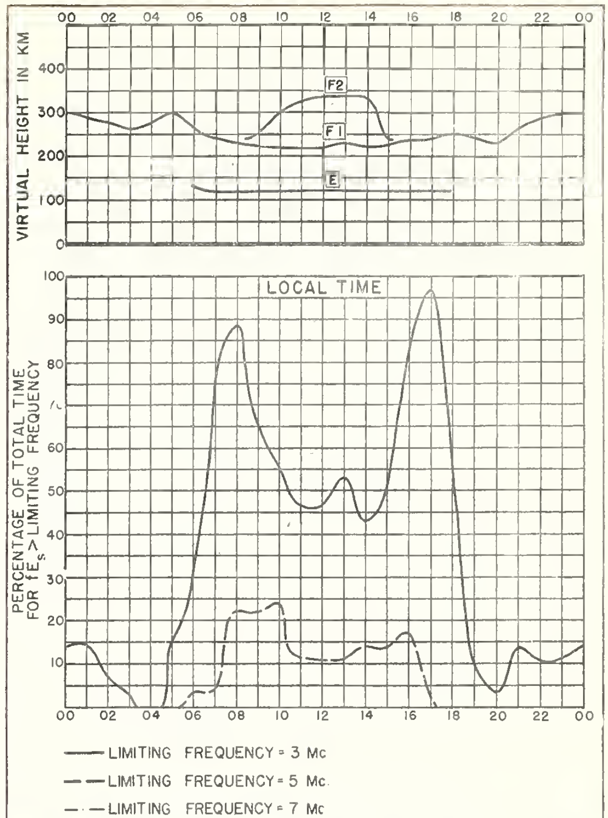

Fig. 22. WHITE SANDS, NEW MEXICO APRIL 1948

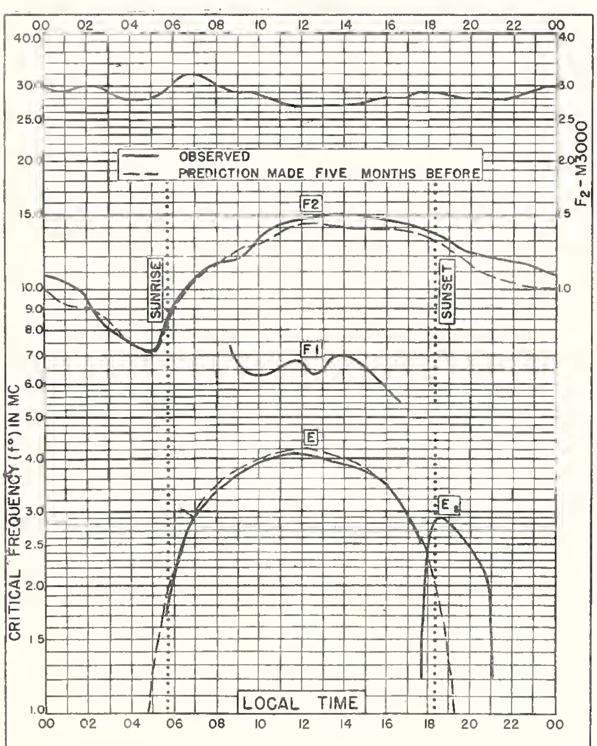

Fig. 23. WUCHANG, CHINA
30.6°N, 114.4°E APRIL 1948

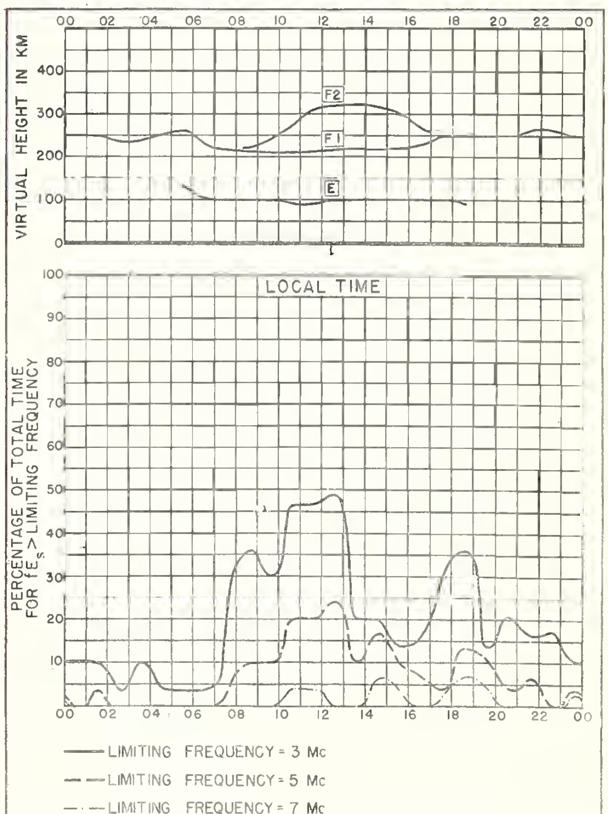

Fig. 24. WUCHANG, CHINA APRIL 1948

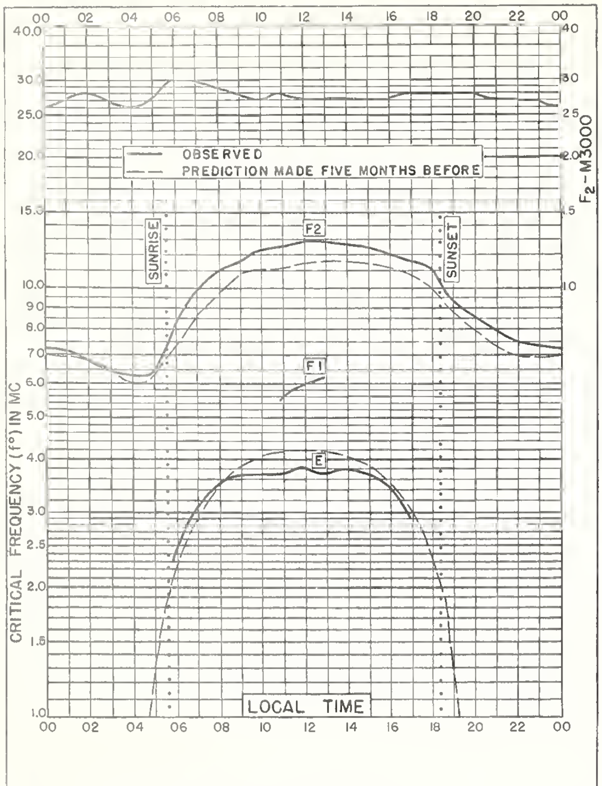

Fig. 25. BATON ROUGE, LOUISIANA
30.5°N, 91.2°W APRIL 1948

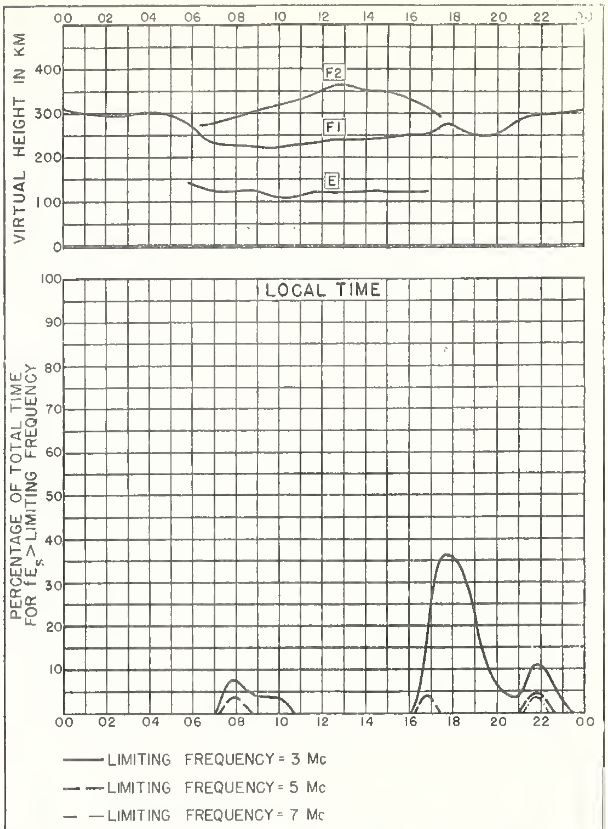

Fig. 26. BATON ROUGE, LOUISIANA APRIL 1948

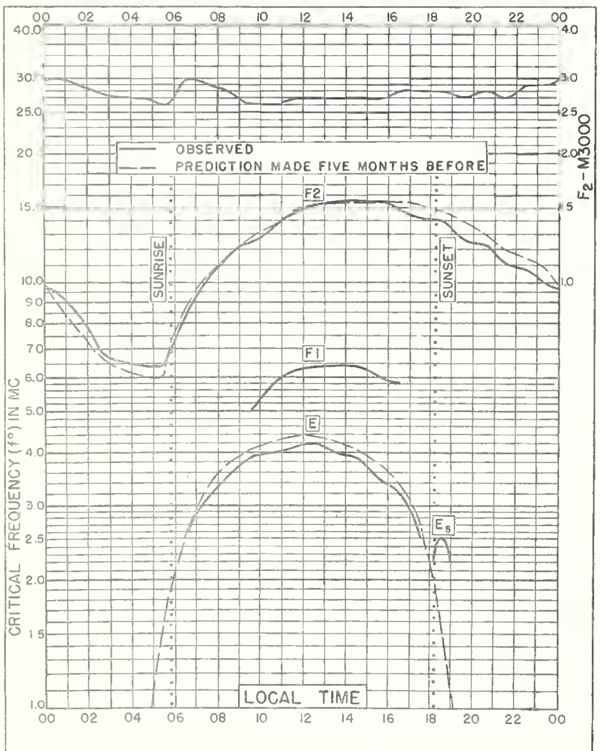

Fig. 27. MAUI, HAWAII
20.8°N, 156.5°W APRIL 1948

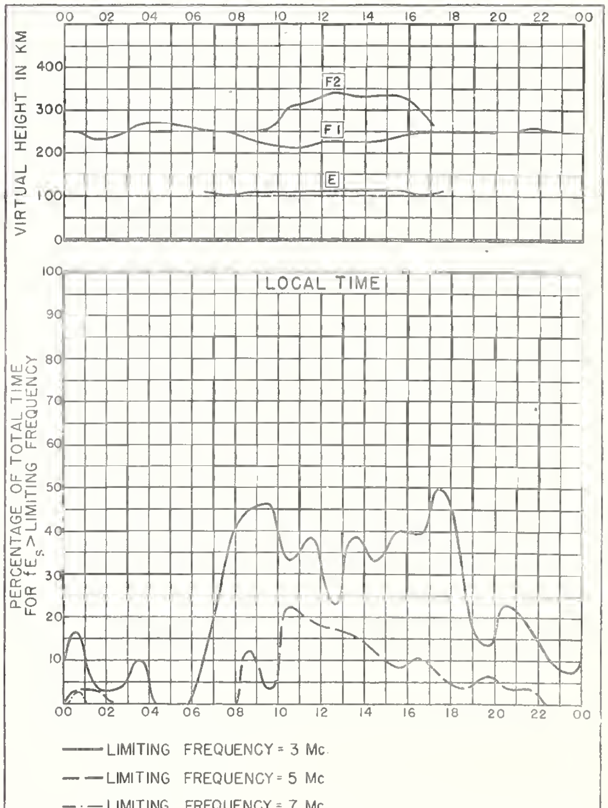

Fig. 28. MAUI, HAWAII APRIL 1948

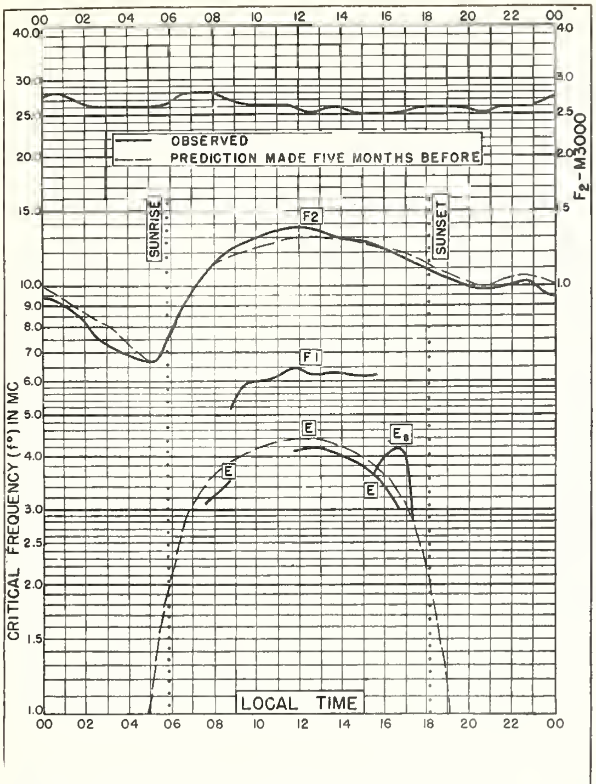

Fig. 29. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W APRIL 1948

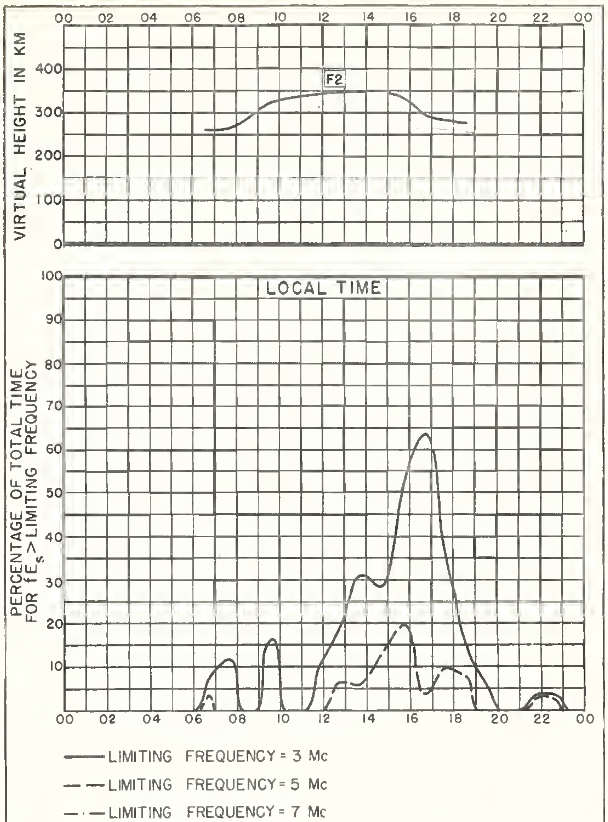

Fig. 30. SAN JUAN, PUERTO RICO APRIL 1948

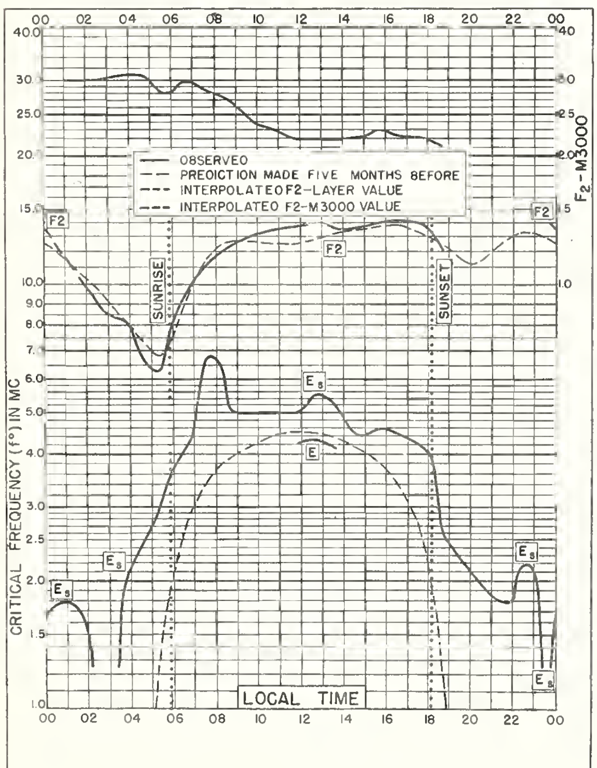

Fig. 31. GUAM I.
13.6°N, 144.9°E APRIL 1948

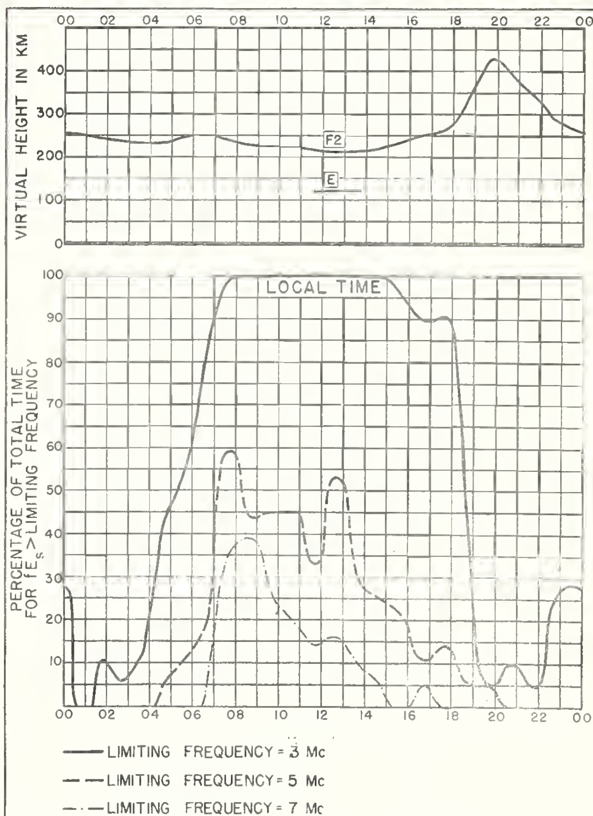

Fig. 32. GUAM I. APRIL 1948

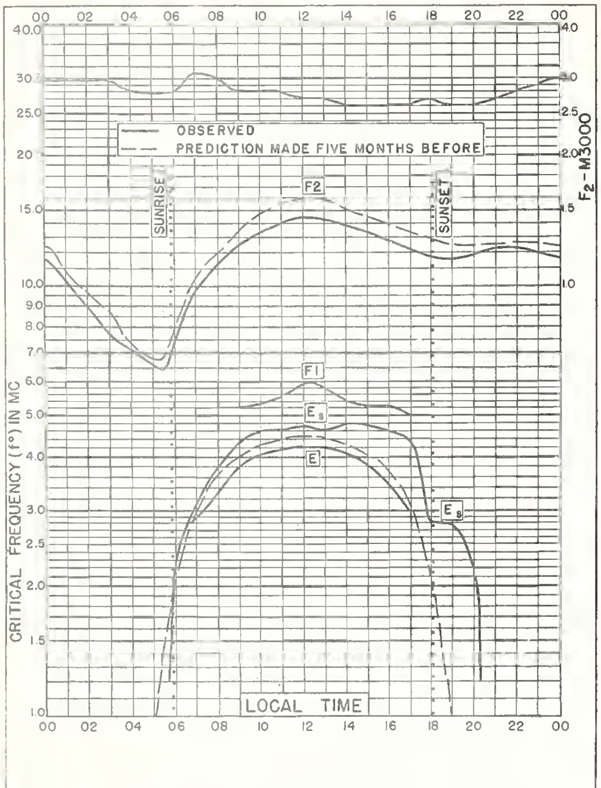

Fig. 33. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.2°W APRIL 1948

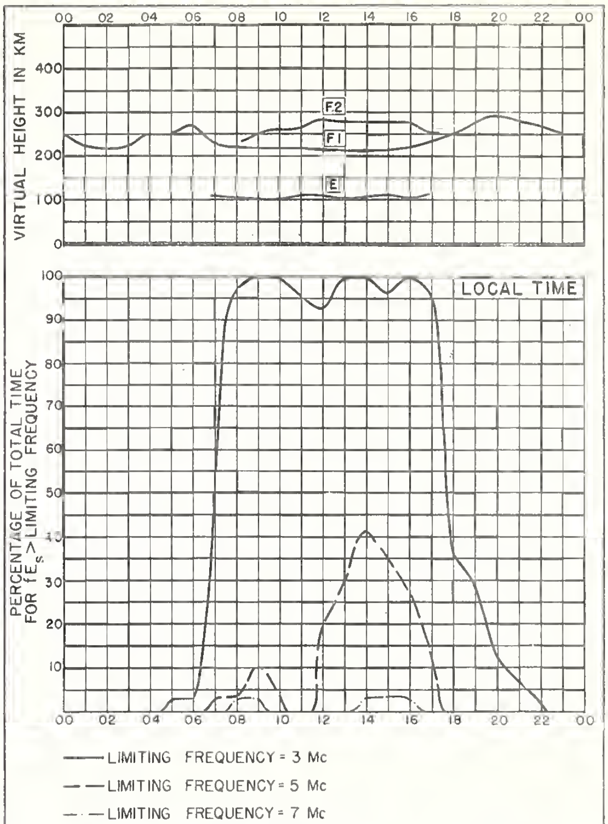

Fig. 34. TRINIDAD, BRIT. WEST INDIES APRIL 1948

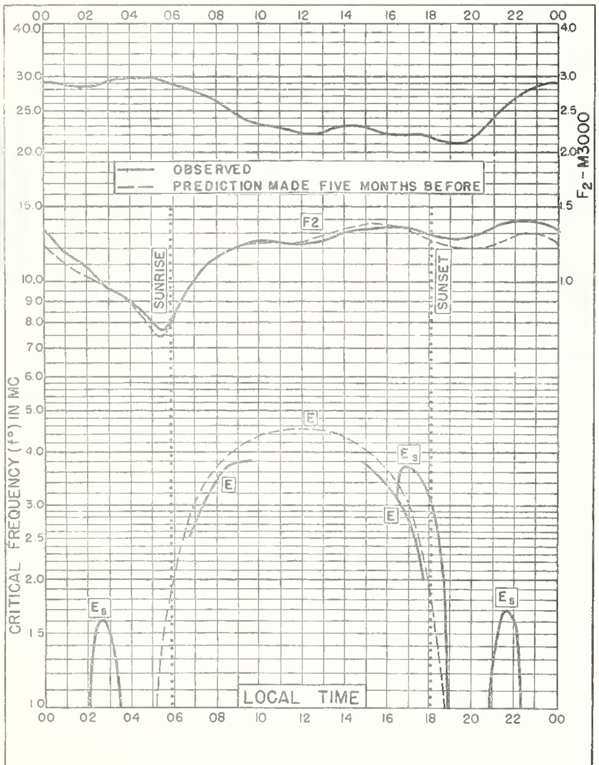

Fig. 35. PALMYRA I.
5.9°N, 162.1°W APRIL 1948

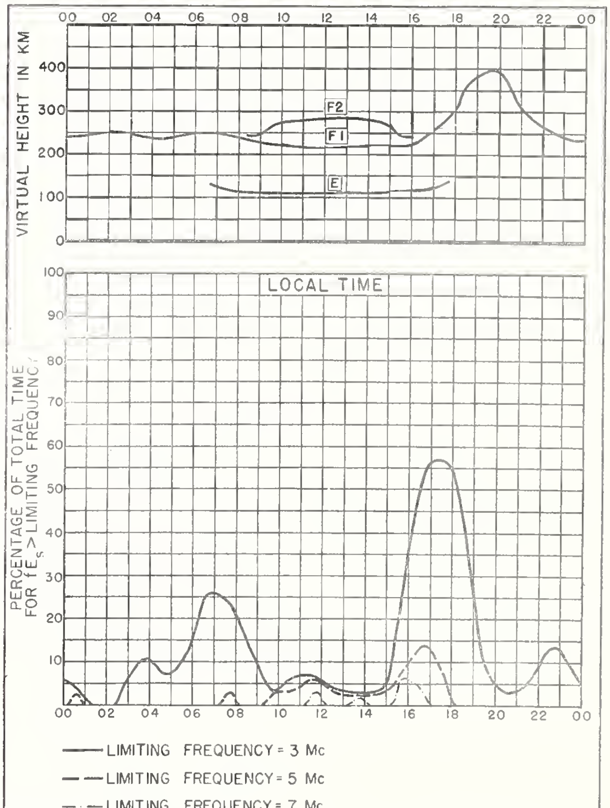

Fig. 36. PALMYRA I. APRIL 1948

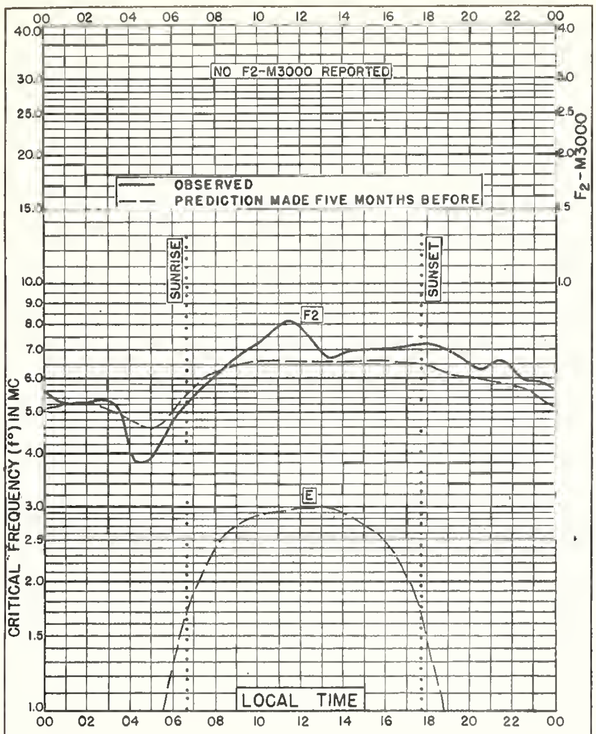

Fig. 37. CLYDE, BAFFIN I.
70.5°N, 68.6°W MARCH 1948

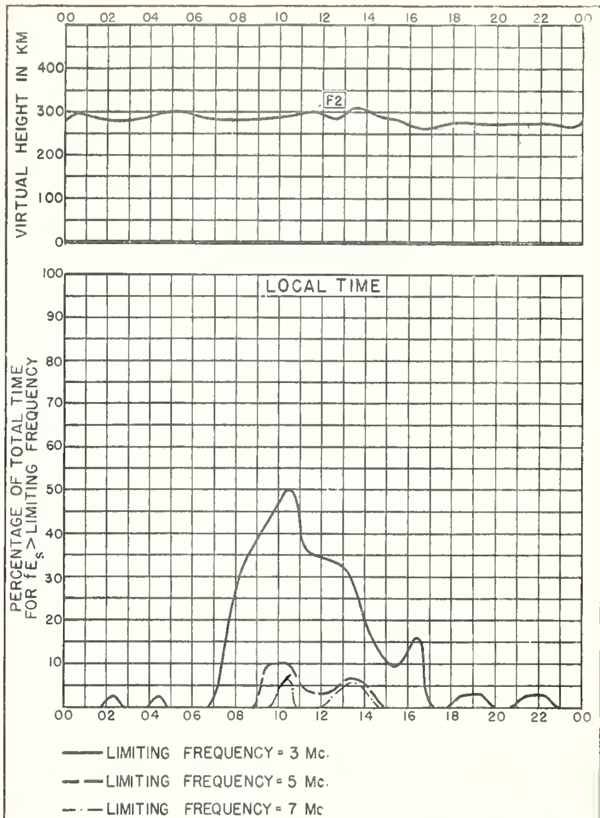

Fig. 38. CLYDE, BAFFIN I. MARCH 1948

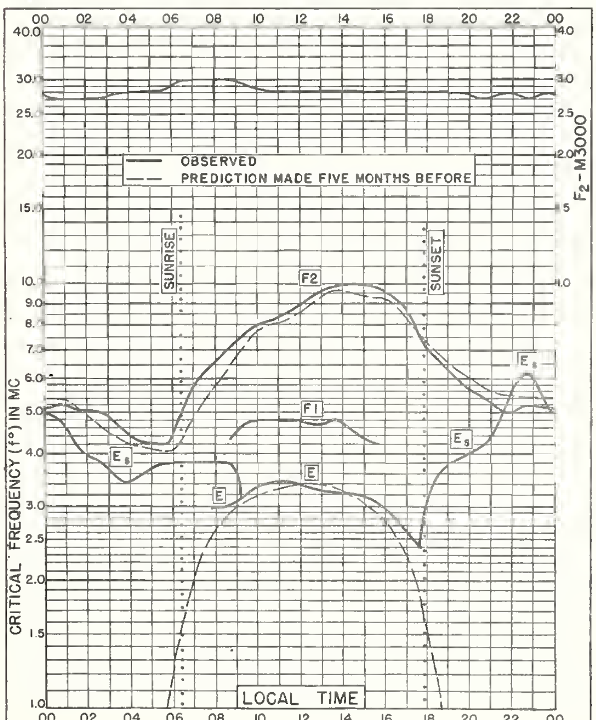

Fig. 39. CHURCHILL, CANADA
58.8°N, 94.2°W MARCH 1948

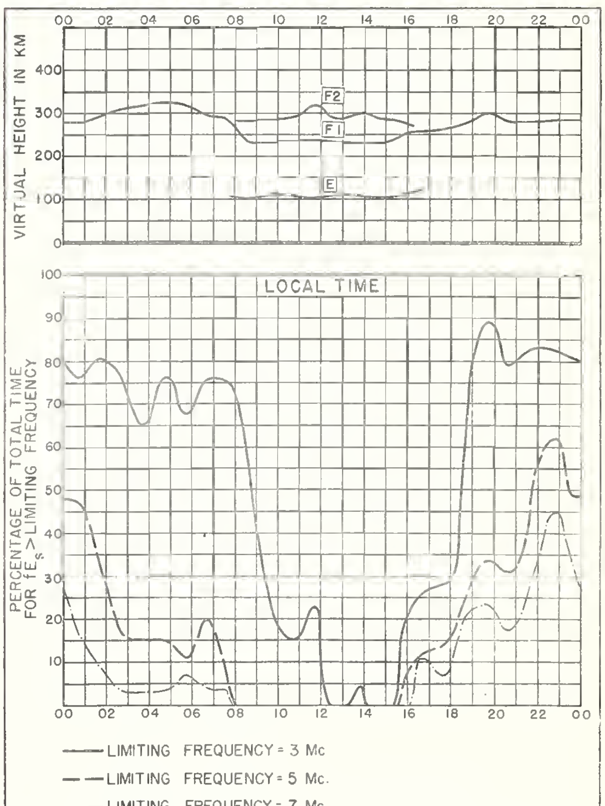

Fig. 40. CHURCHILL, CANADA MARCH 1948

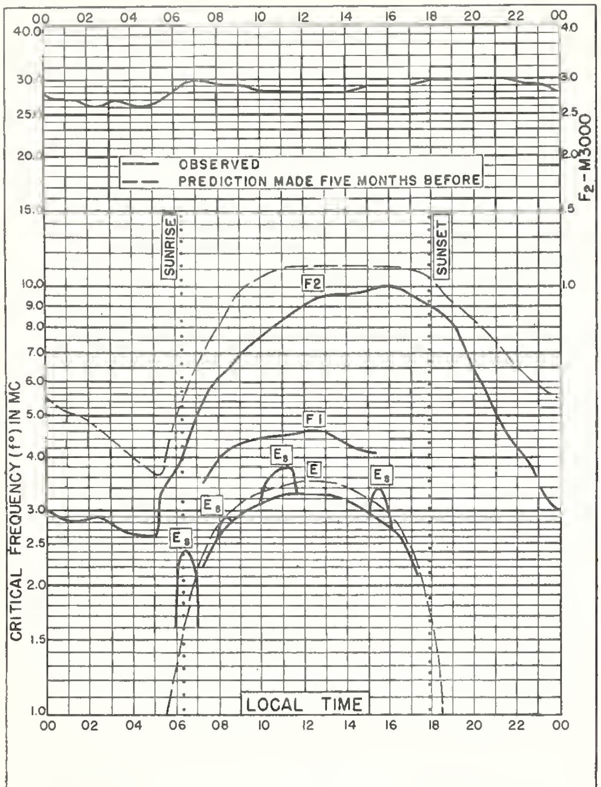

Fig. 41. PRINCE RUPERT, CANADA
54.3°N, 130.3°W MARCH 1948

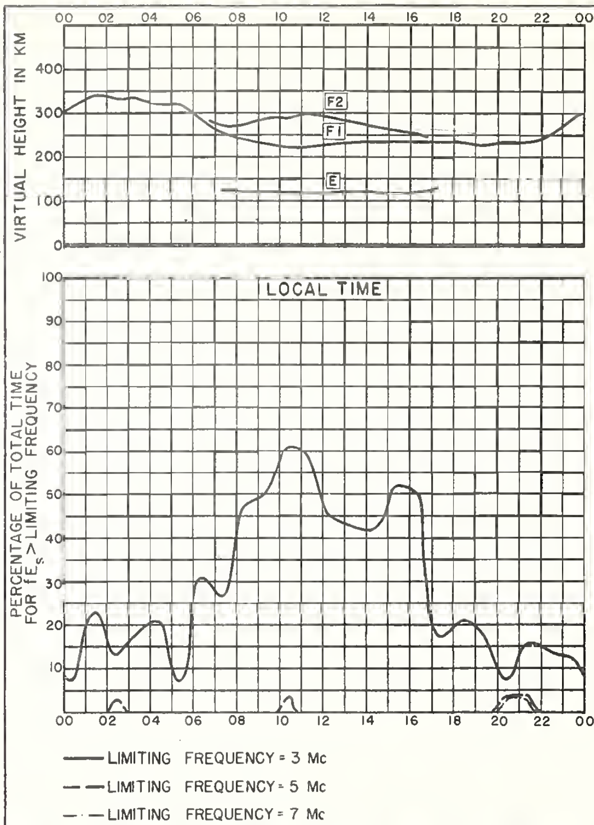

Fig. 42. PRINCE RUPERT, CANADA MARCH 1948

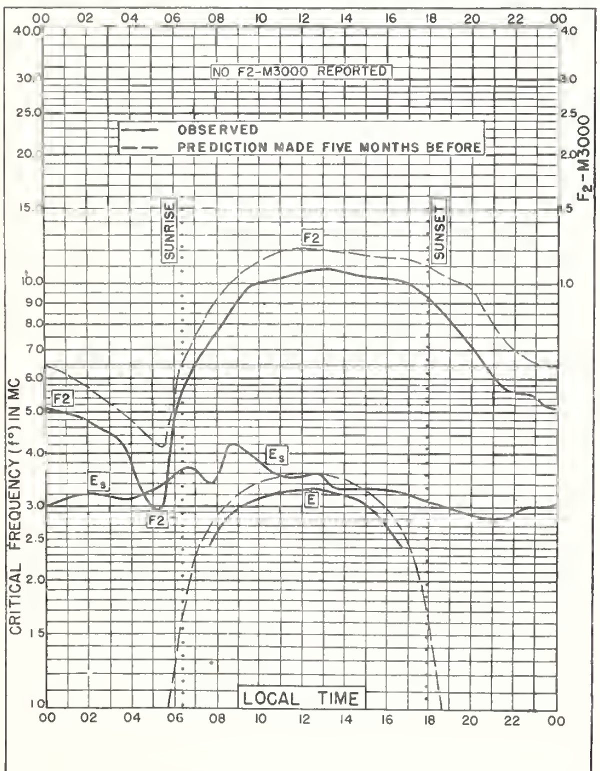

Fig. 43. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E MARCH 1948

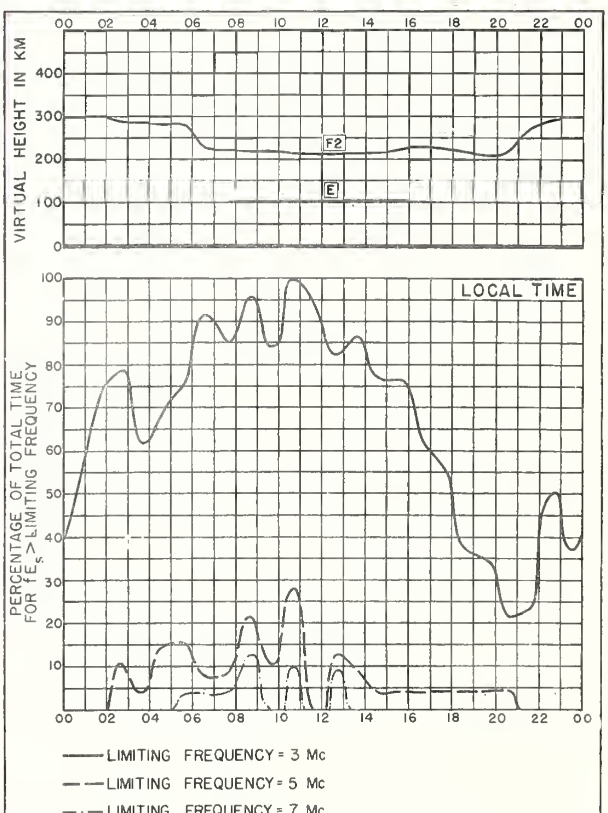

Fig. 44. LINDAU/HARZ, GERMANY MARCH 1948

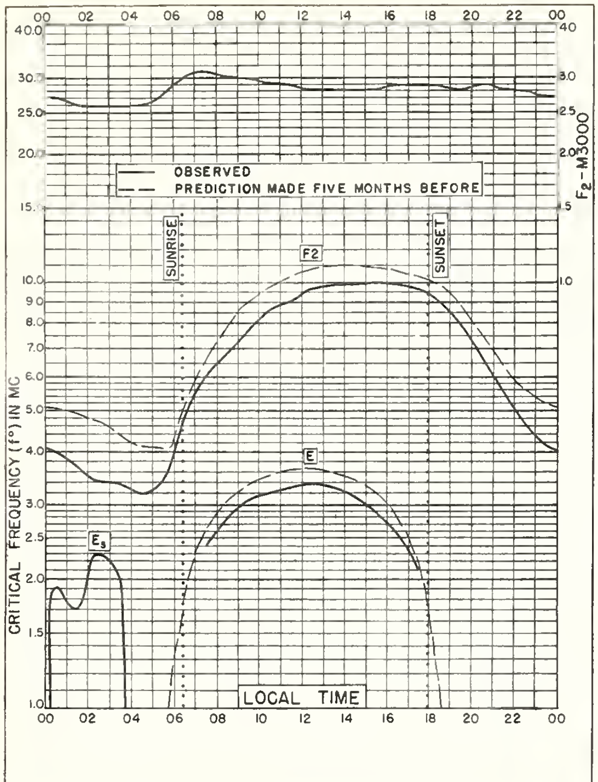

Fig. 45. PORTAGE la PRAIRIE, CANADA
49.9°N, 98.3°W MARCH 1948

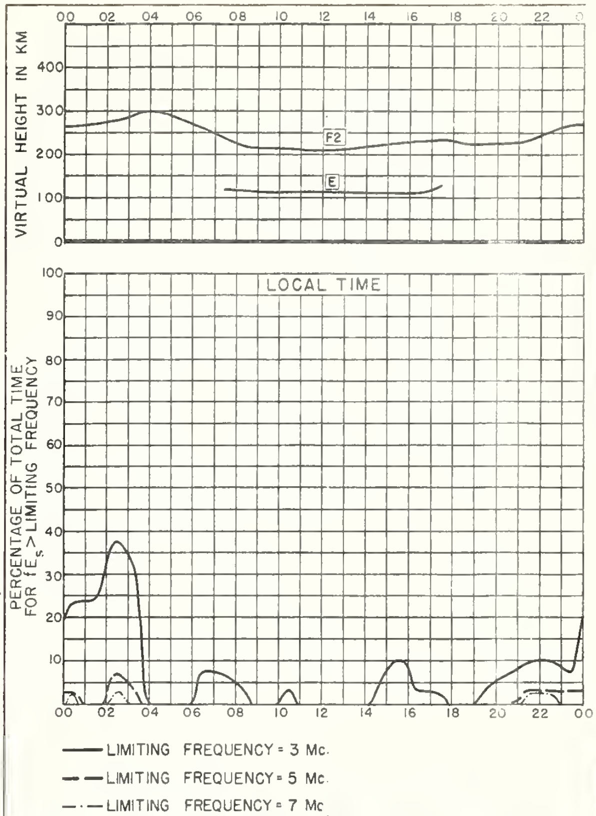

Fig. 46. PORTAGE la PRAIRIE, CANADA MARCH 1948

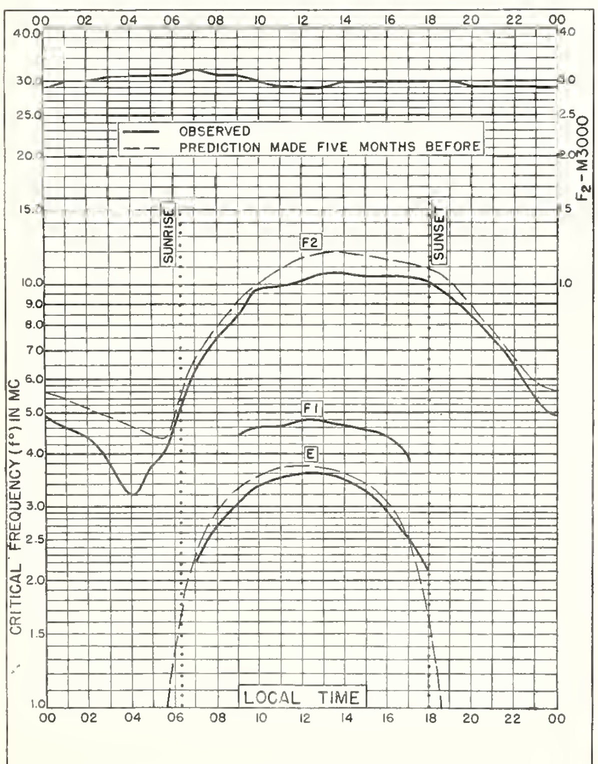

Fig. 47. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W MARCH 1948

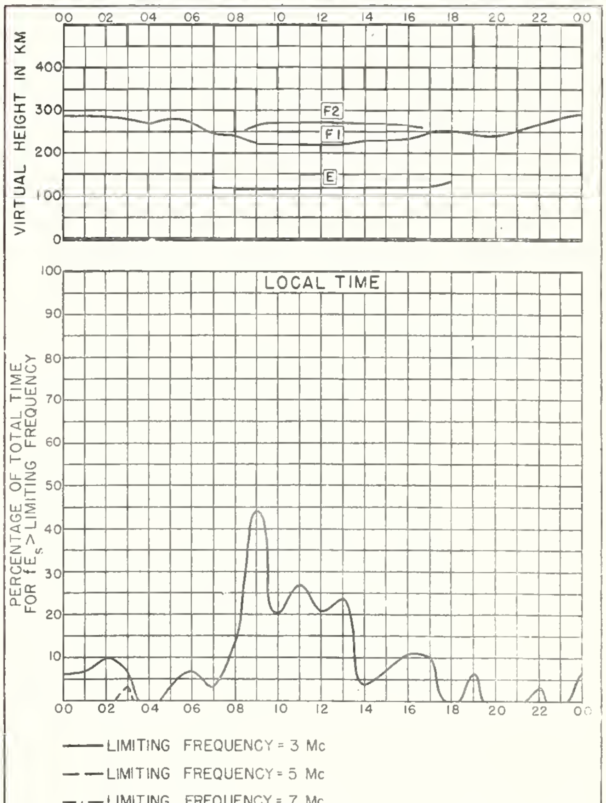

Fig. 48. ST. JOHN'S, NEWFOUNDLAND MARCH 1948

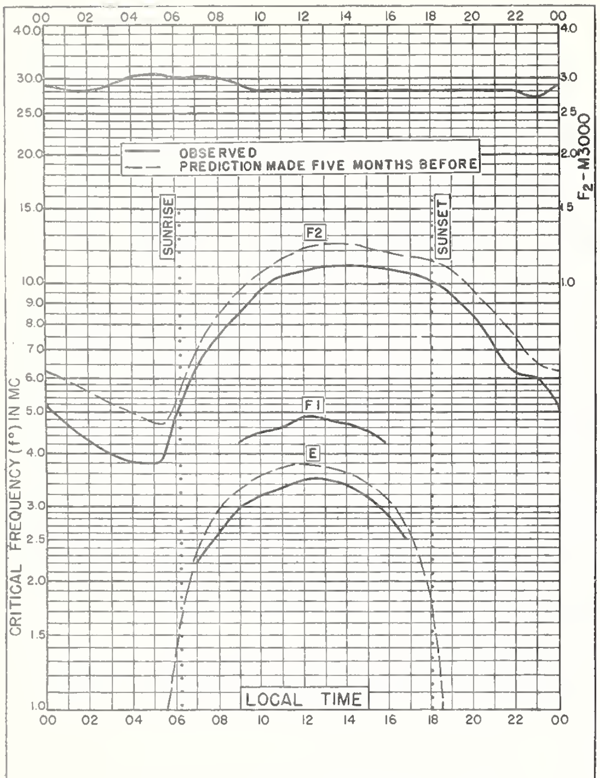

Fig. 49. OTTAWA, CANADA
45.5°N, 75.8°W MARCH 1948

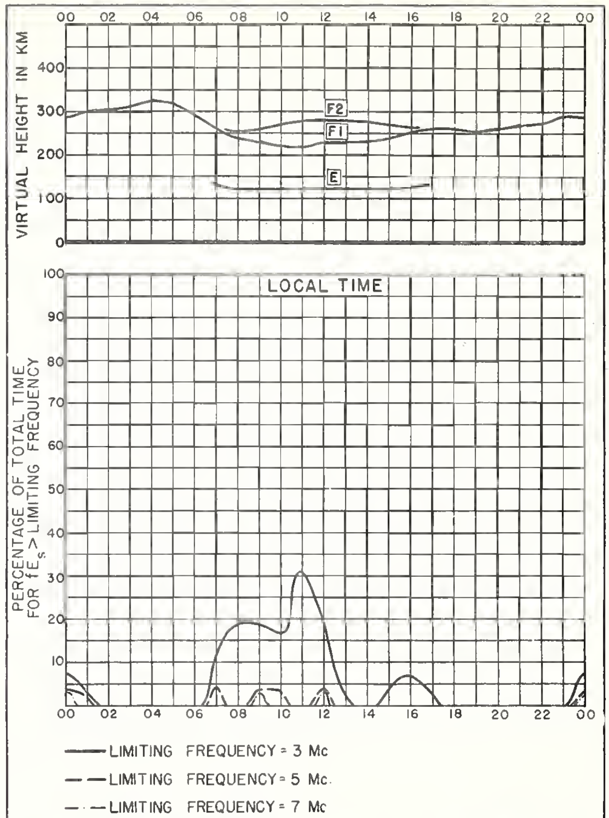

Fig. 50. OTTAWA, CANADA MARCH 1948

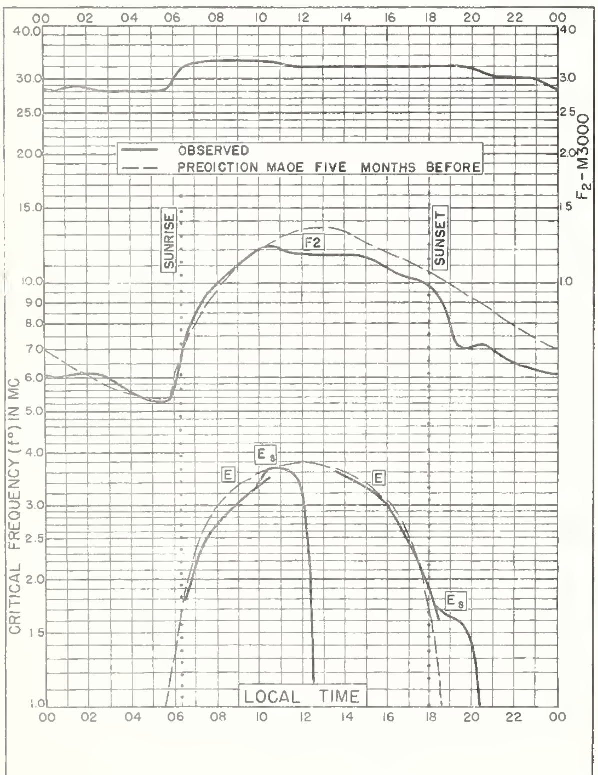

Fig. 51. WAKKANAI, JAPAN
45.4°N, 141.7°E MARCH 1948

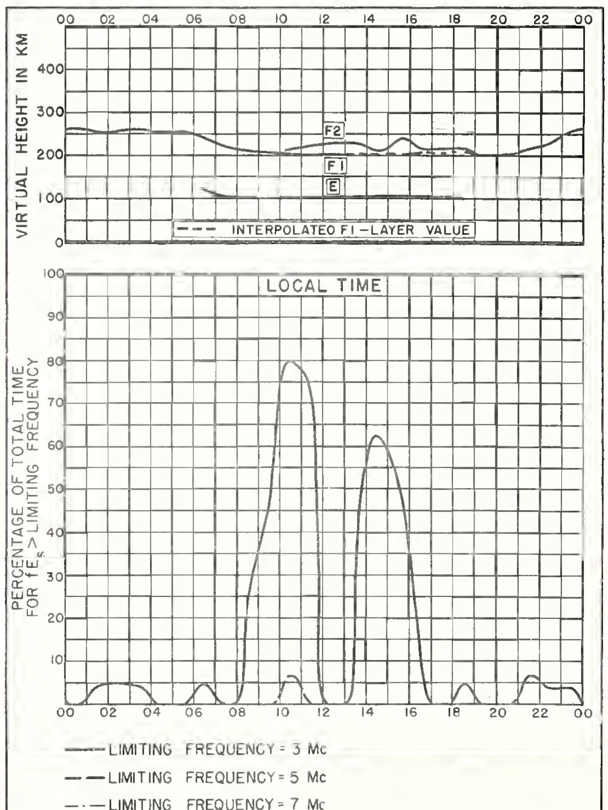

Fig. 52. WAKKANAI, JAPAN MARCH 1948

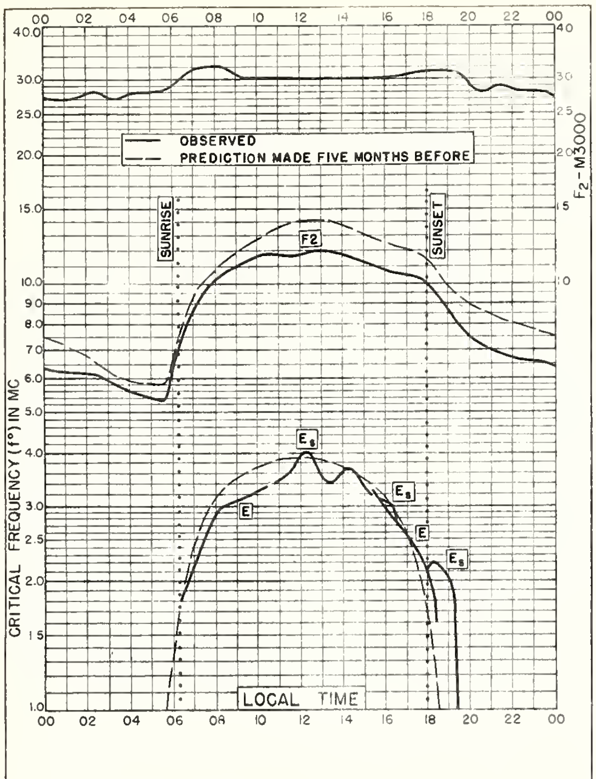

Fig. 53. FUKAURA, JAPAN
40.6°N, 139.9°E MARCH 1948

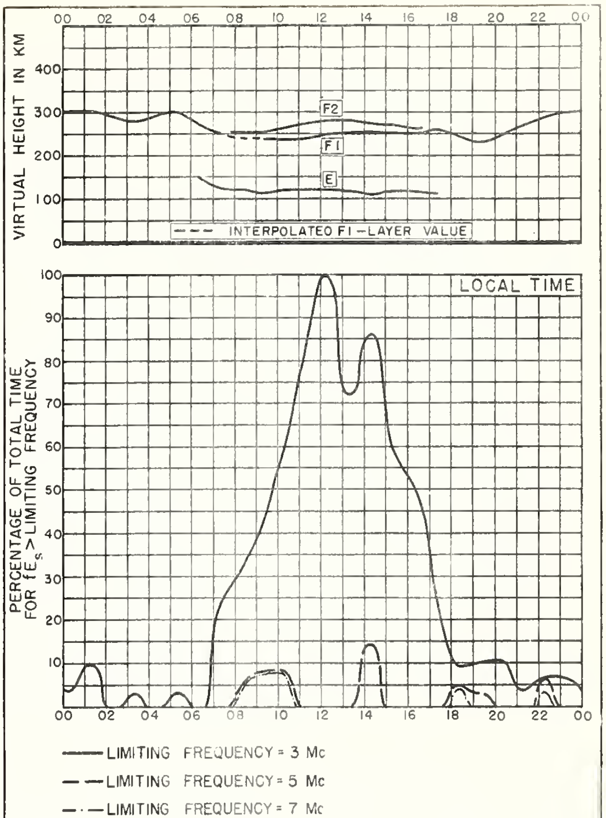

Fig. 54. FUKAURA, JAPAN MARCH 1948

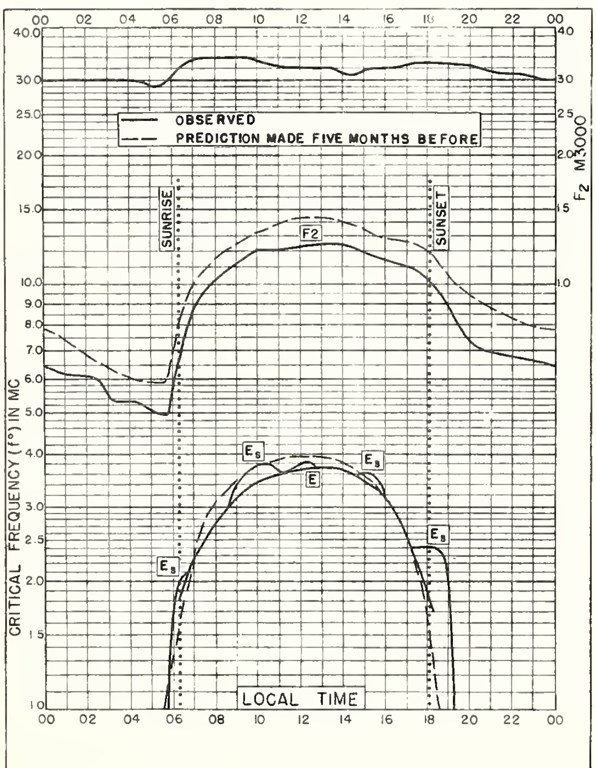

Fig. 55. SHIBATA, JAPAN
37.9°N, 139.3°E MARCH 1948

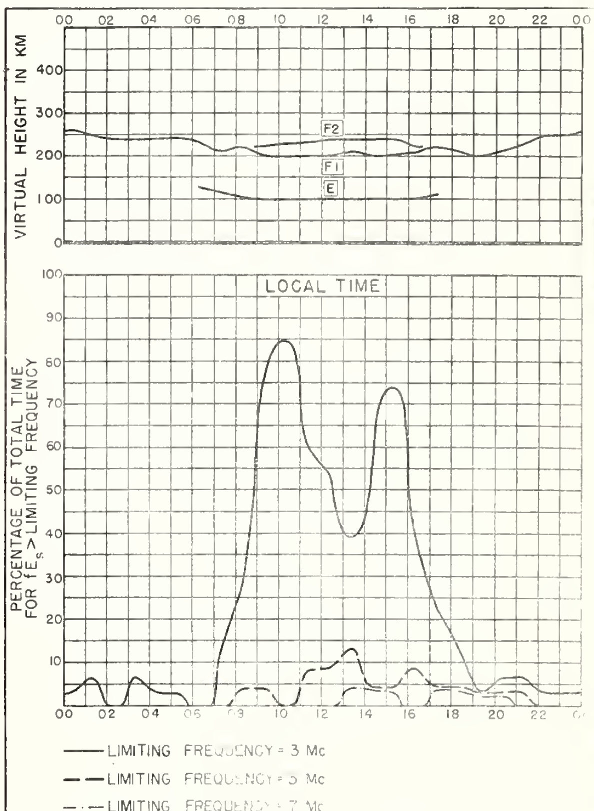

Fig. 56. SHIBATA, JAPAN MARCH 1948

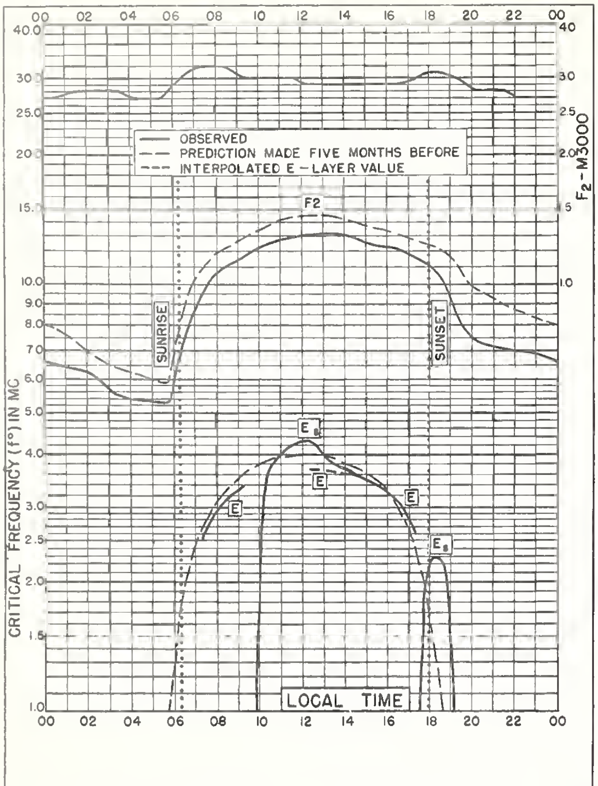

Fig. 57. TOKYO, JAPAN
35.7°N, 139.5°E MARCH 1948

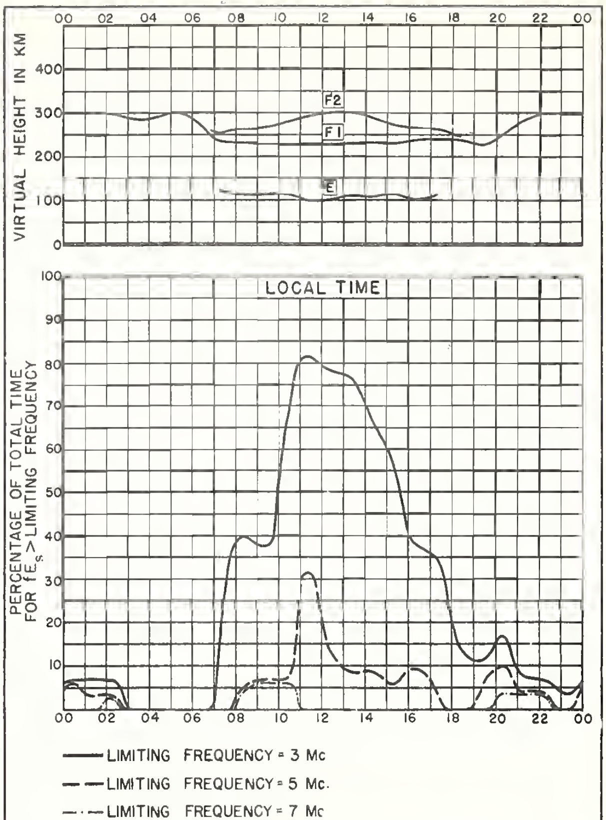

Fig. 58. TOKYO, JAPAN MARCH 1948

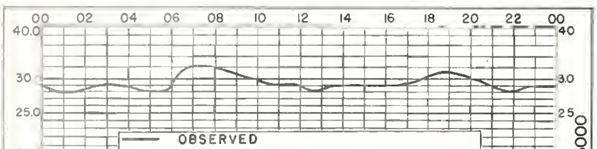

Fig. 59. YAMAKAWA, JAPAN
31.2°N, 130.6°E MARCH 1948

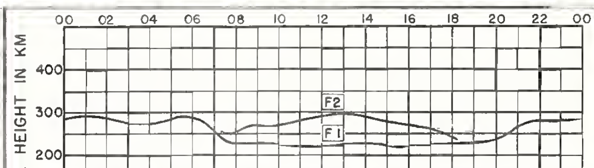

Fig. 60. YAMAKAWA, JAPAN MARCH 1948

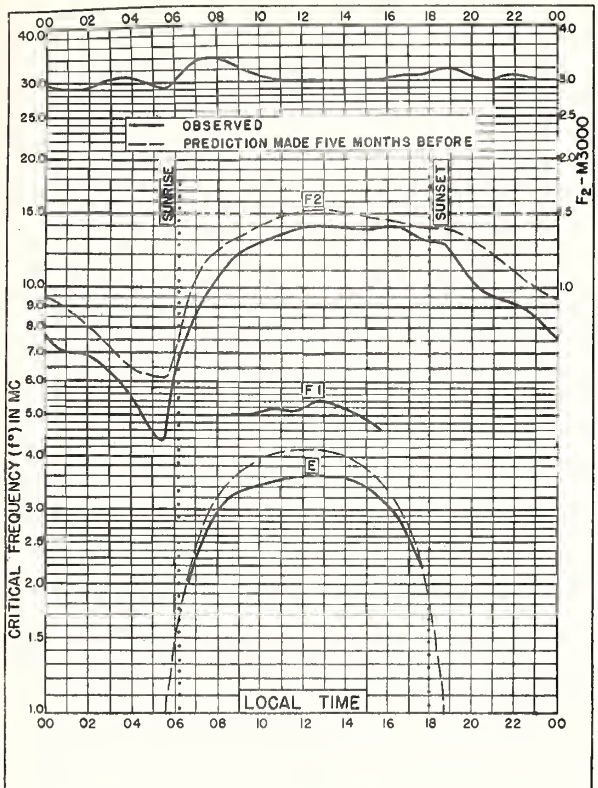

Fig. 61. WUCHANG, CHINA
30.6°N, 114.4°E MARCH 1948

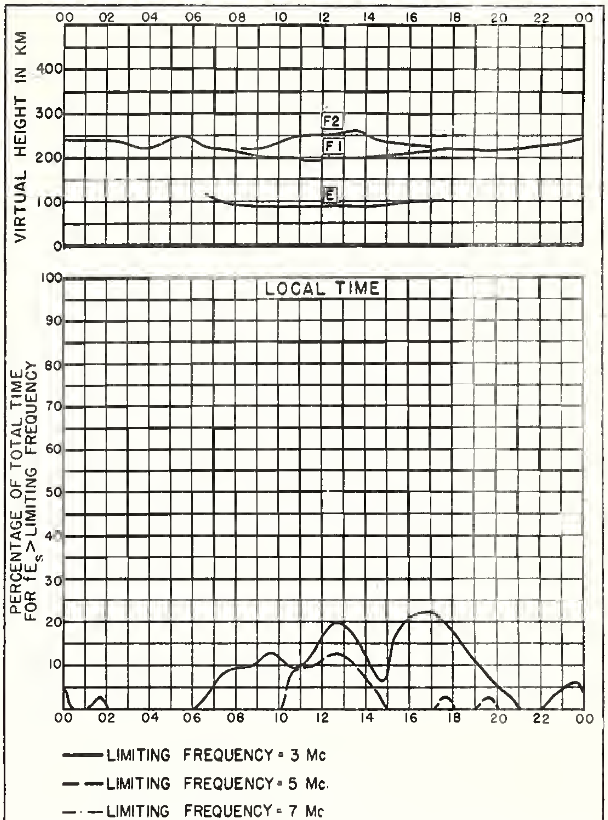

Fig. 62. WUCHANG, CHINA MARCH 1948

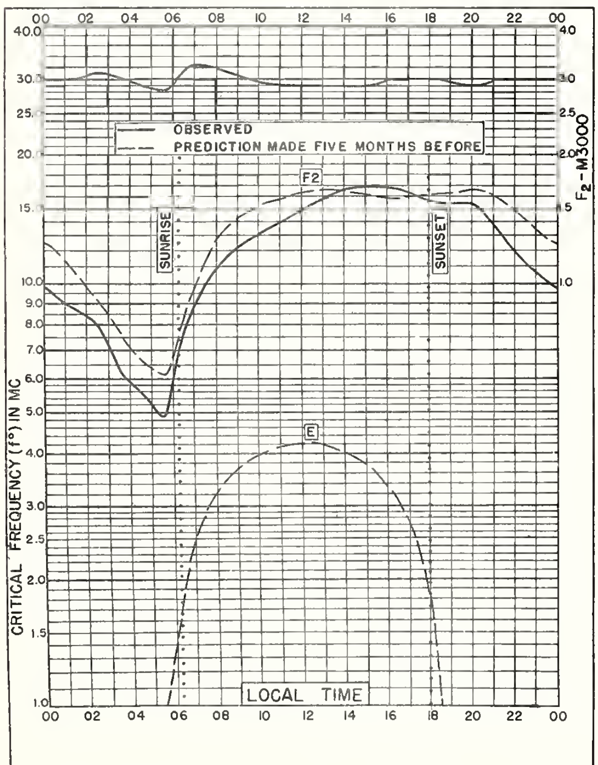

Fig. 63. OKINAWA I.
26.3°N, 127.7°E MARCH 1948

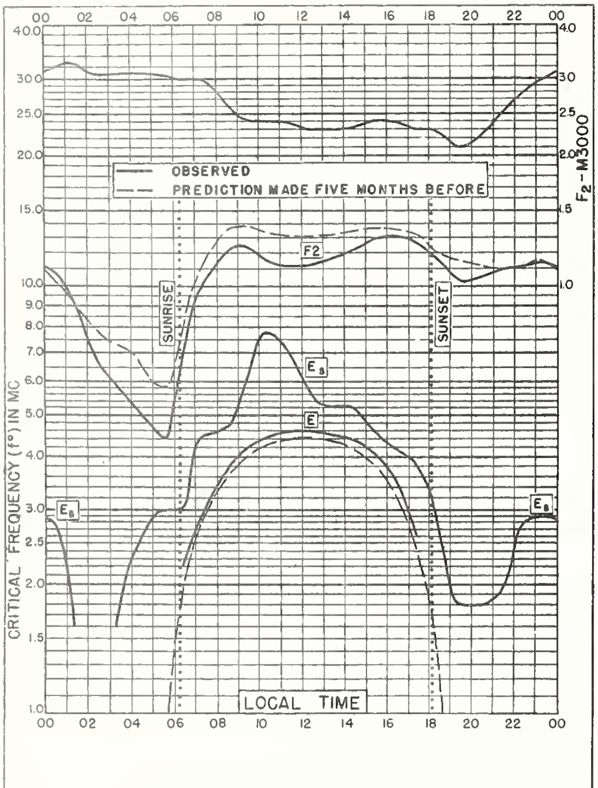

Fig. 64. LEYTE, PHILIPPINE IS.
11. 0°N, 125. 0°E MARCH 1948

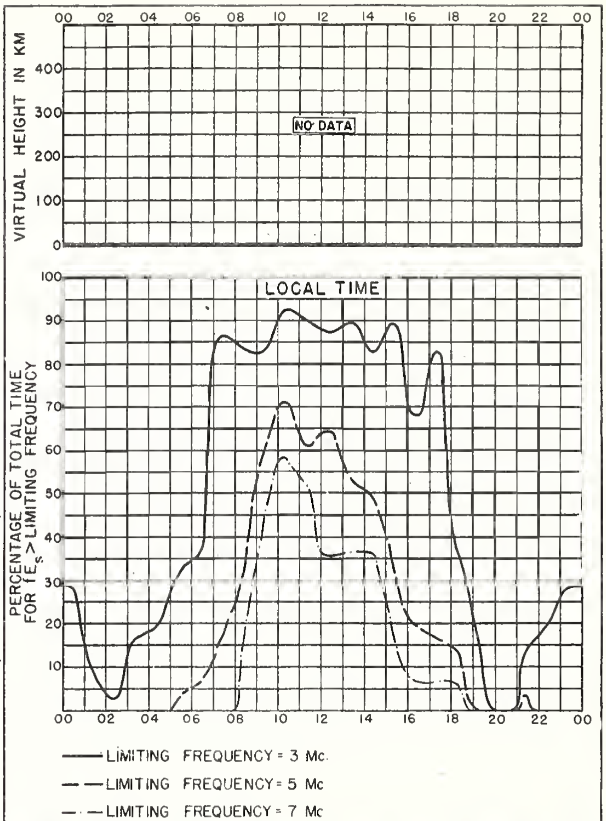

Fig. 65. LEYTE, PHILIPPINE IS. MARCH 1948

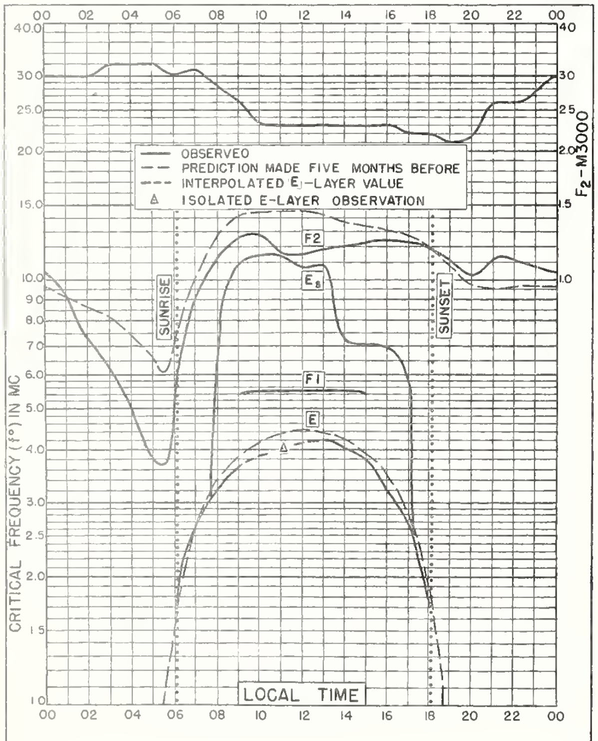

Fig. 66. HUANCAYO, PERU
12. 0°S, 75. 3°W MARCH 1948

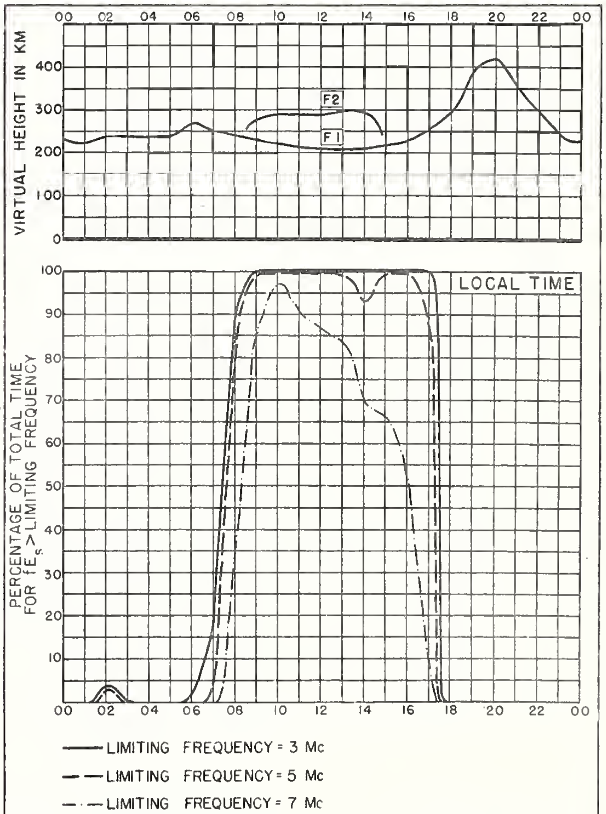

Fig. 67. HUANCAYO, PERU MARCH 1948

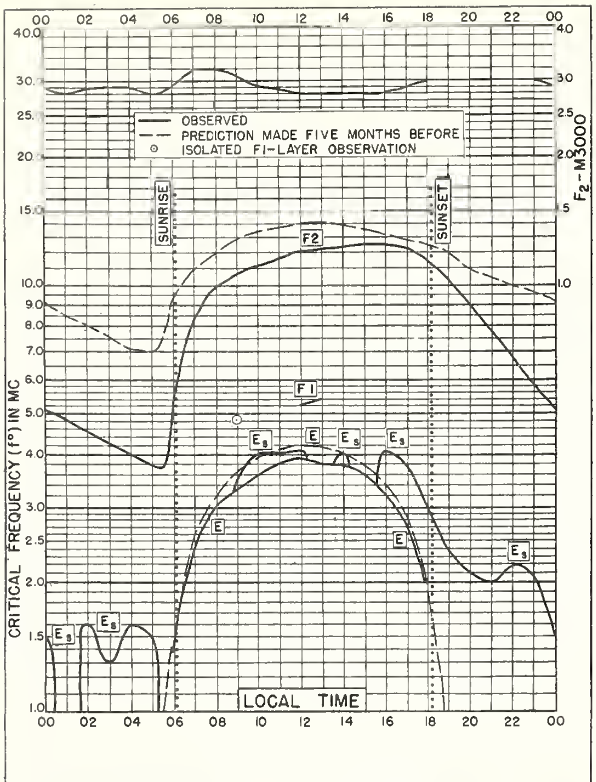

Fig. 68. JOHANNESBURG, U. OF S. AFRICA
26.2°S, 28.0°E MARCH 1948

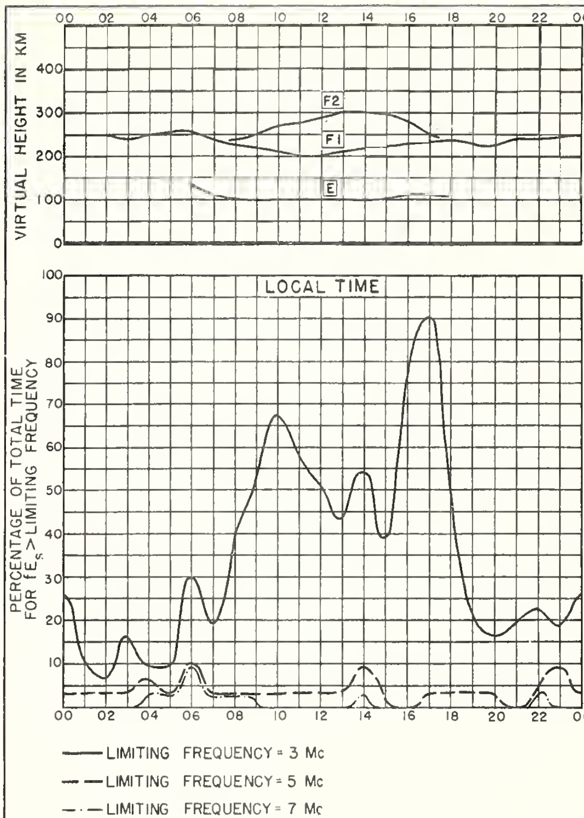

Fig. 69. JOHANNESBURG, U. OF S. AFRICA MARCH 1948

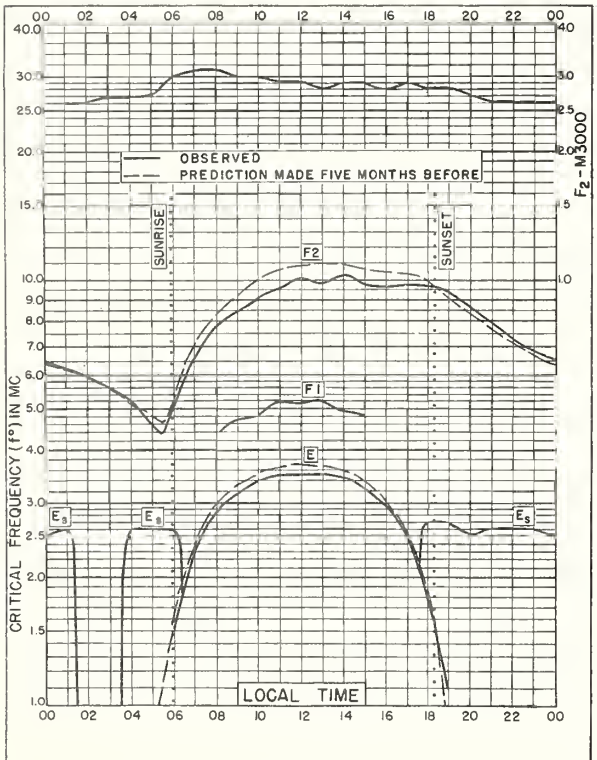

Fig. 70. CHRISTCHURCH, N.Z.
43.5°S, 172.7°E MARCH 1948

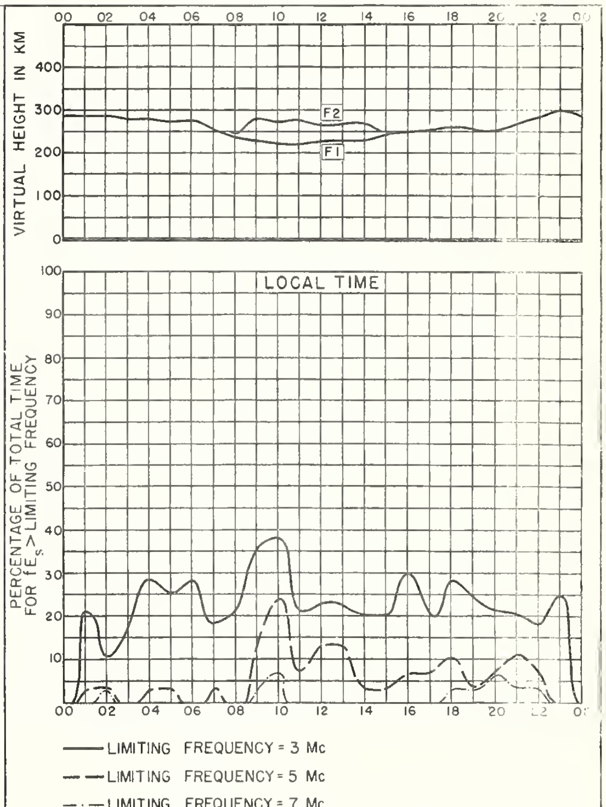

Fig. 71. CHRISTCHURCH, N.Z. MARCH 1948

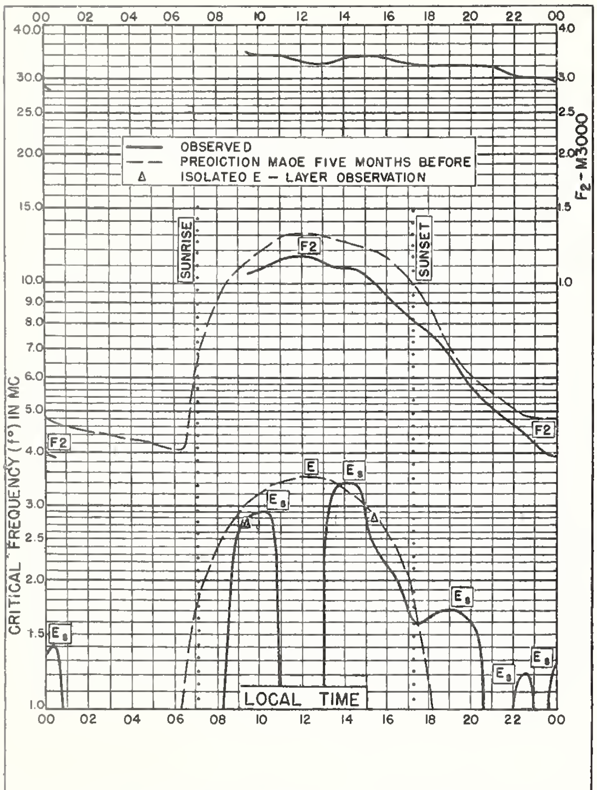

Fig. 72. WAKKANAI, JAPAN
45.4°N, 141.7°E FEBRUARY 1948

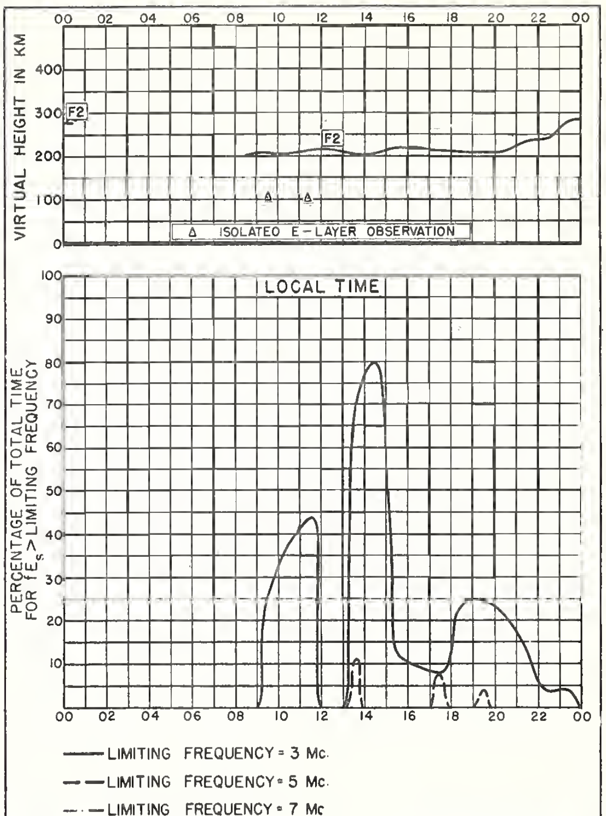

Fig. 73. WAKKANAI, JAPAN FEBRUARY 1948

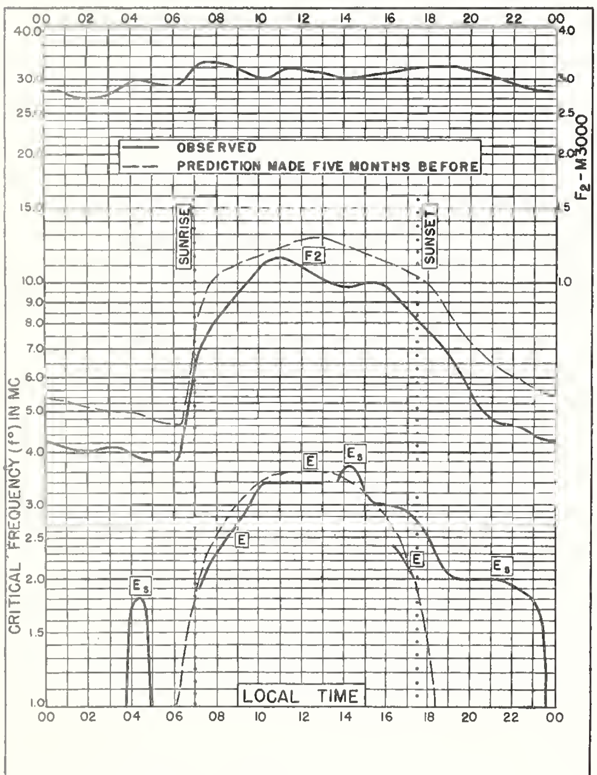

Fig. 74. FUKAURA, JAPAN
40. 6°N, 139. 9°E FEBRUARY 1948

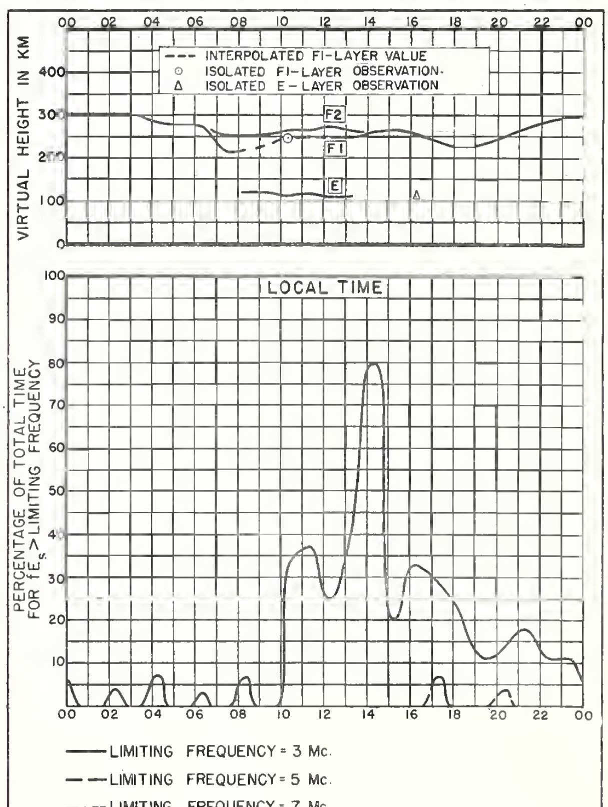

Fig. 75. FUKAURA, JAPAN FEBRUARY 1948

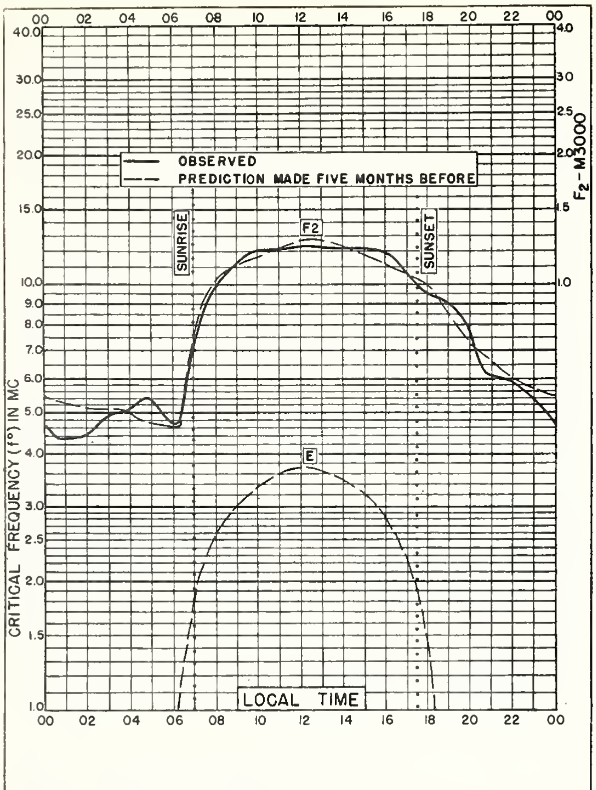

Fig. 76. PEIPING, CHINA
39.9°N, 116.4°E FEBRUARY 1948

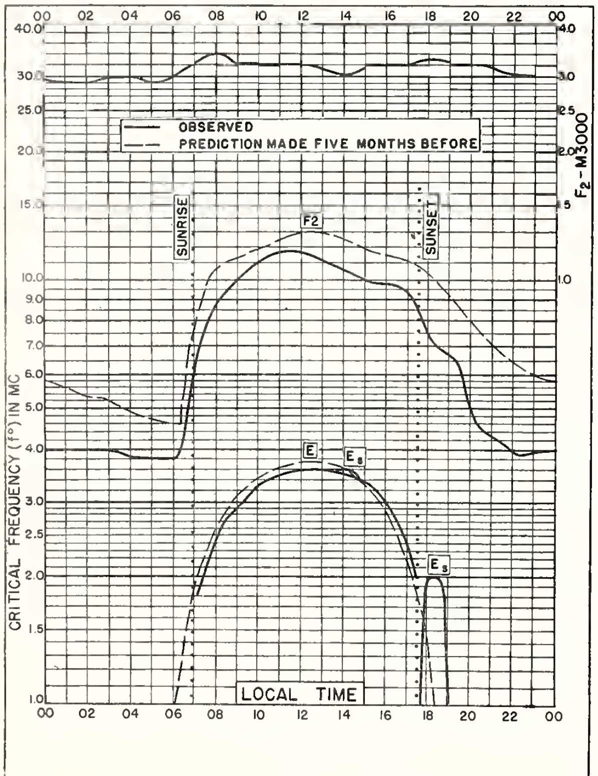

Fig. 77. SHIBATA, JAPAN
37.9°N, 139.3°E FEBRUARY 1948

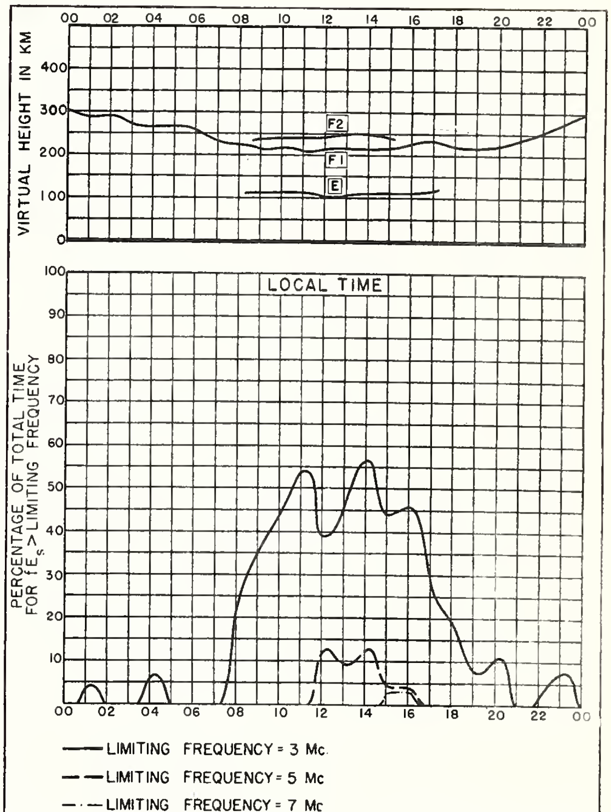

Fig. 78. SHIBATA, JAPAN FEBRUARY 1948

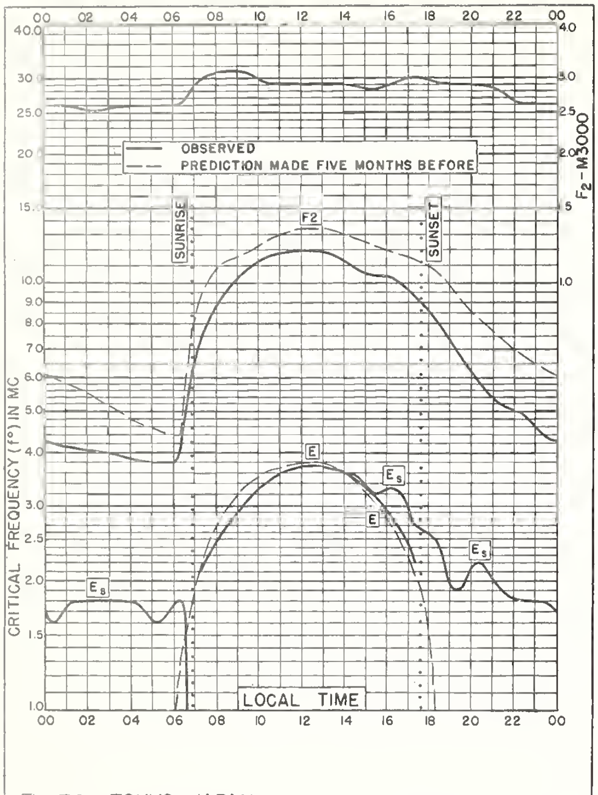

Fig. 79. TOKYO, JAPAN
35.7°N, 139.5°E FEBRUARY 1948

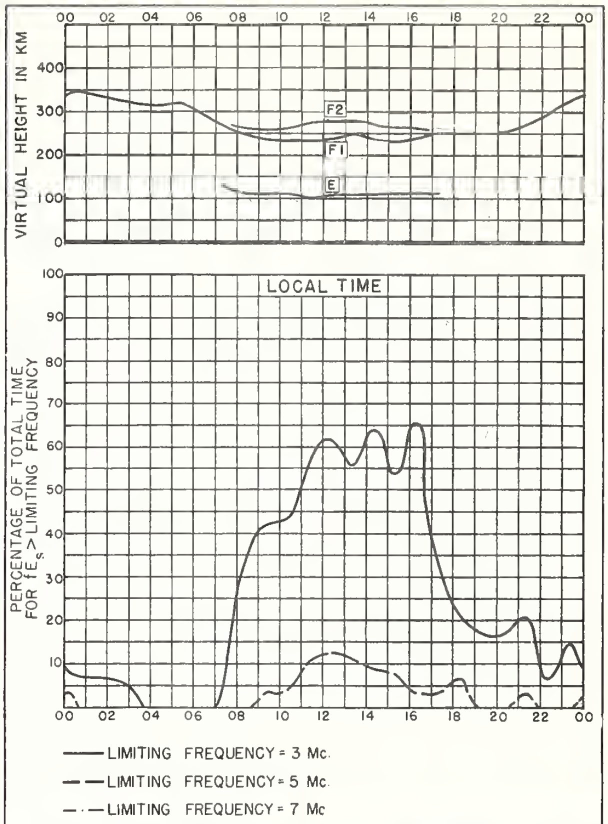

Fig. 80. TOKYO, JAPAN FEBRUARY 1948

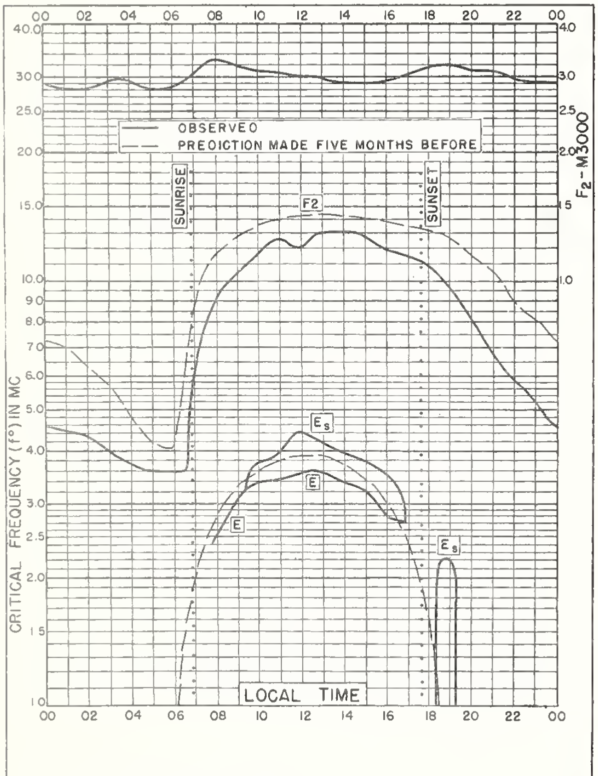

Fig. 81. YAMAKAWA, JAPAN
31.2°N, 130.6°E FEBRUARY 1948

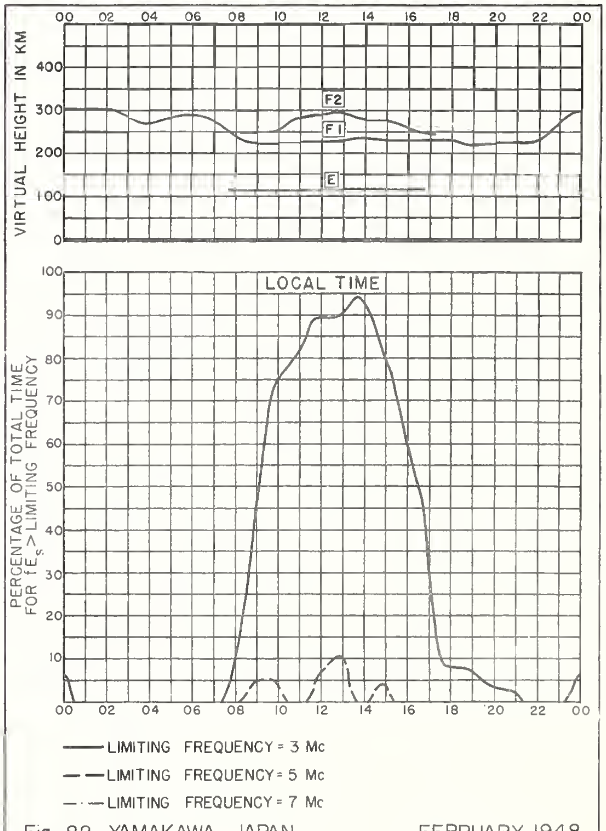

Fig. 82. YAMAKAWA, JAPAN FEBRUARY 1948

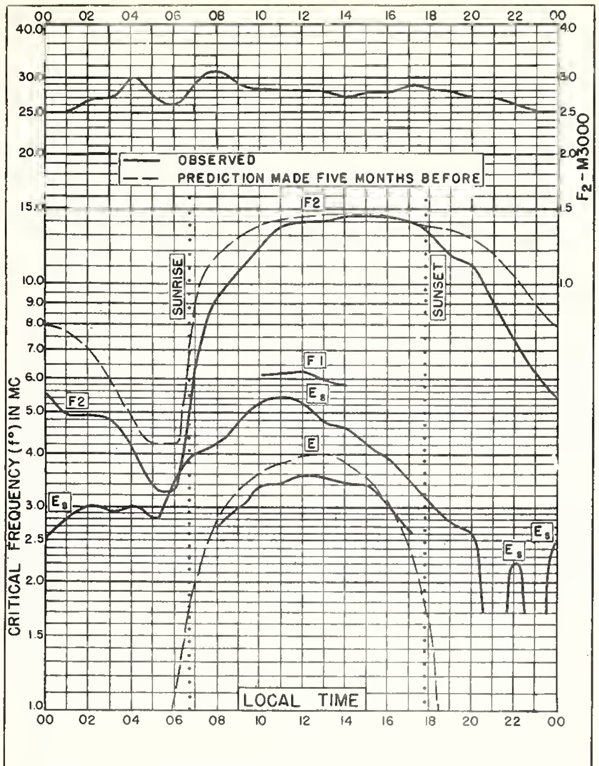

Fig. 83. CHUNGKING, CHINA
29.4°N, 106.8°E FEBRUARY 1948

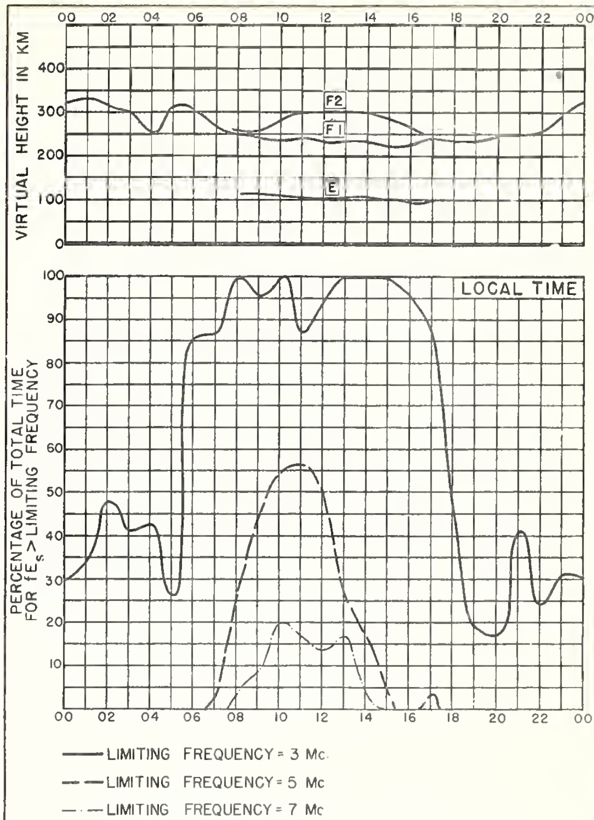

Fig. 84. CHUNGKING, CHINA FEBRUARY 1948

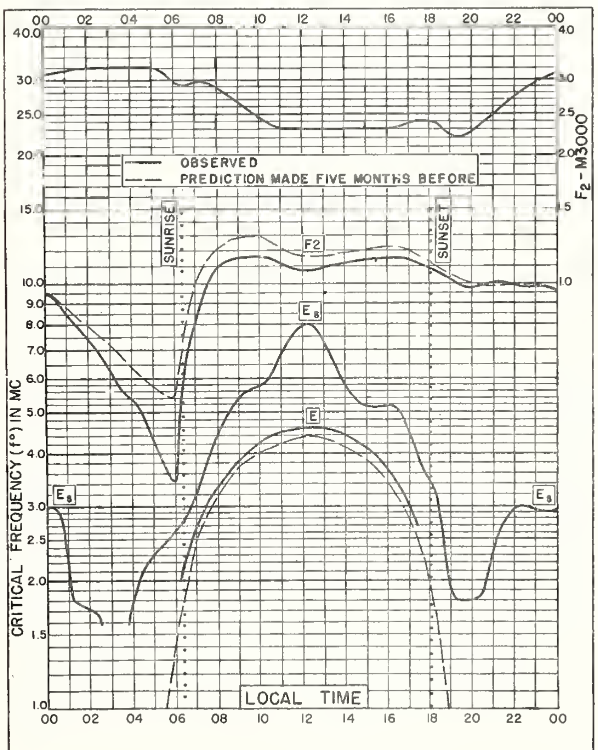

Fig. 85. LEYTE, PHILIPPINE IS.
11.0°N, 125.0°E FEBRUARY 1948

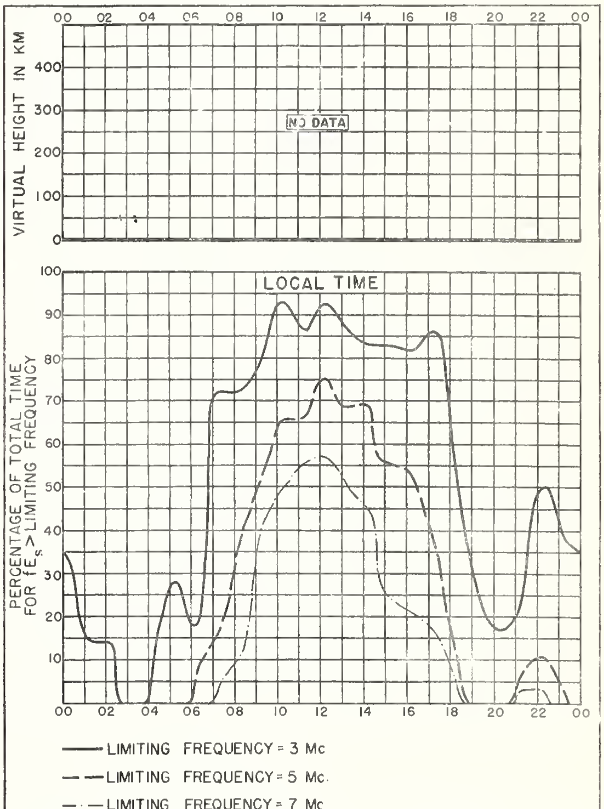

Fig. 86. LEYTE, PHILIPPINE IS. FEBRUARY 1948

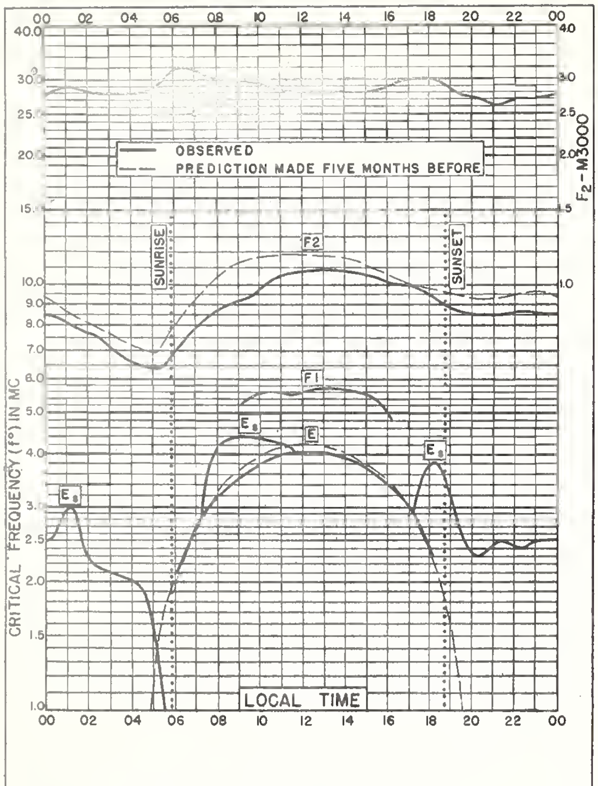

Fig. 87. BRISBANE, AUSTRALIA
27.5°S, 153.0°E FEBRUARY 1948

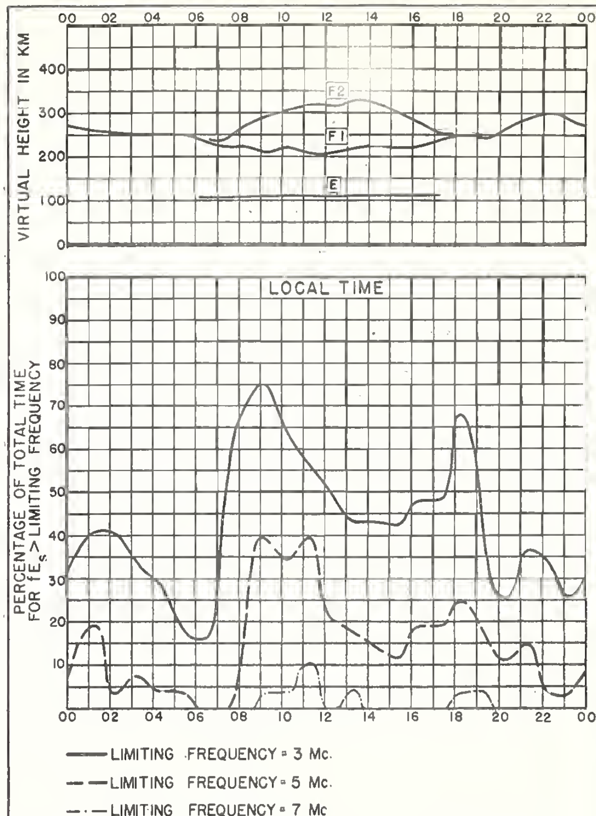

Fig. 88. BRISBANE, AUSTRALIA FEBRUARY 1948

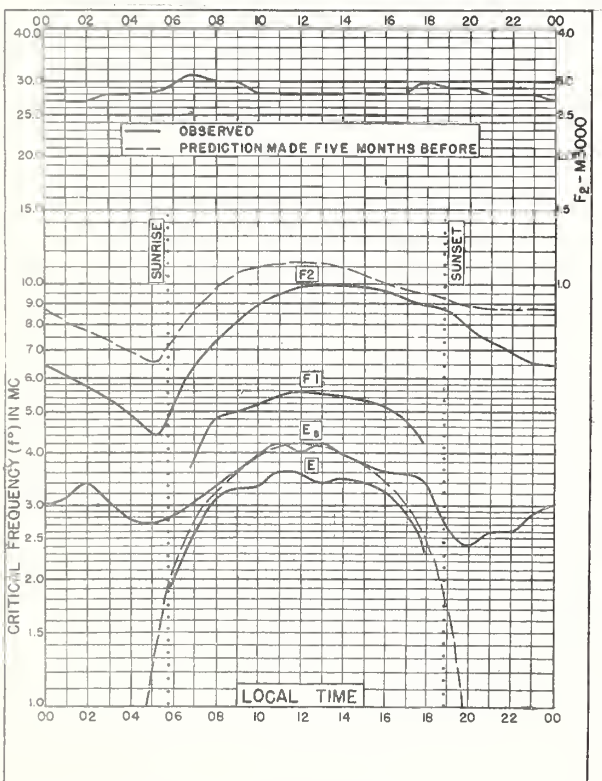

Fig. 89. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E FEBRUARY 1948

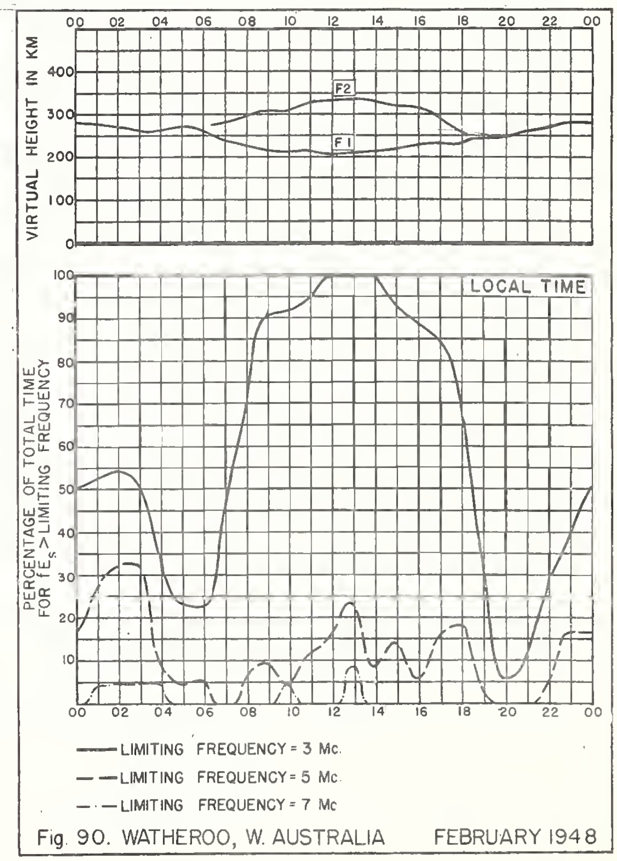

Fig. 90. WATHEROO, W. AUSTRALIA FEBRUARY 1948

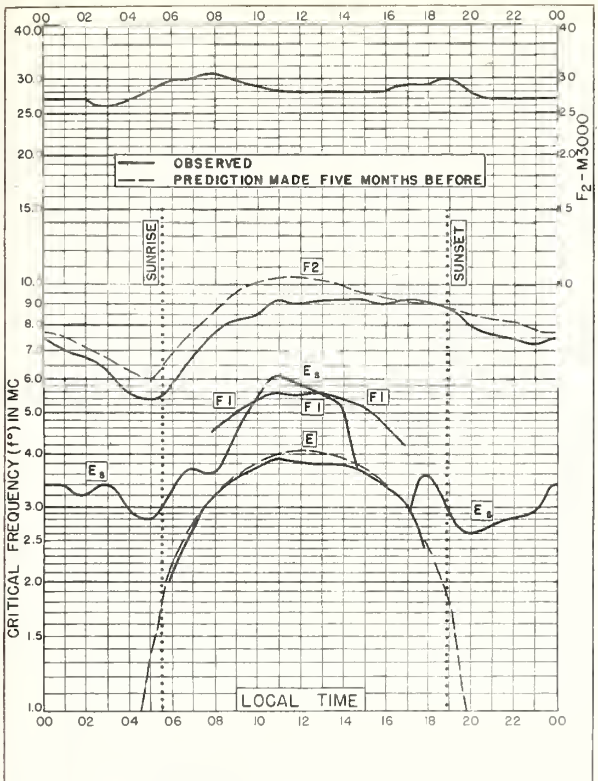

Fig. 91. CANBERRA, AUSTRALIA
35.3°S, 149.0°E FEBRUARY 1948

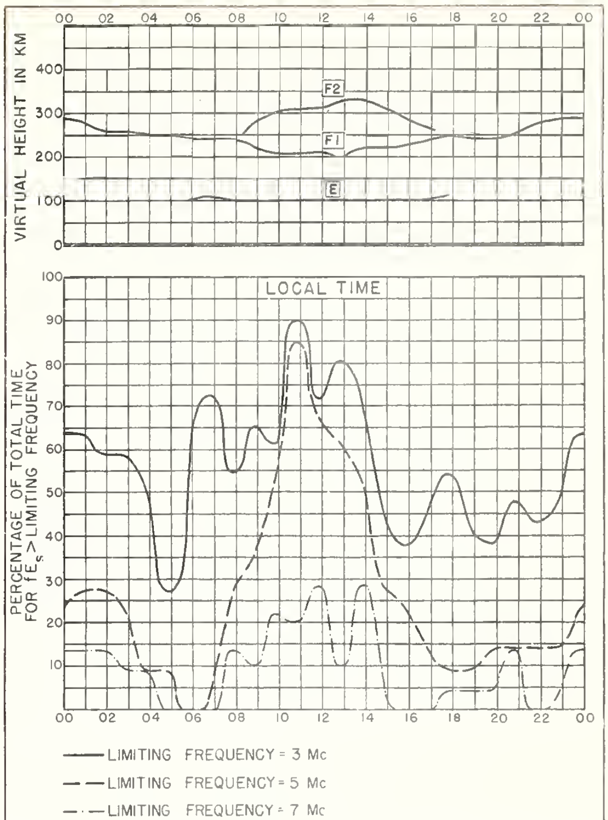

Fig. 92. CANBERRA, AUSTRALIA FEBRUARY 1948

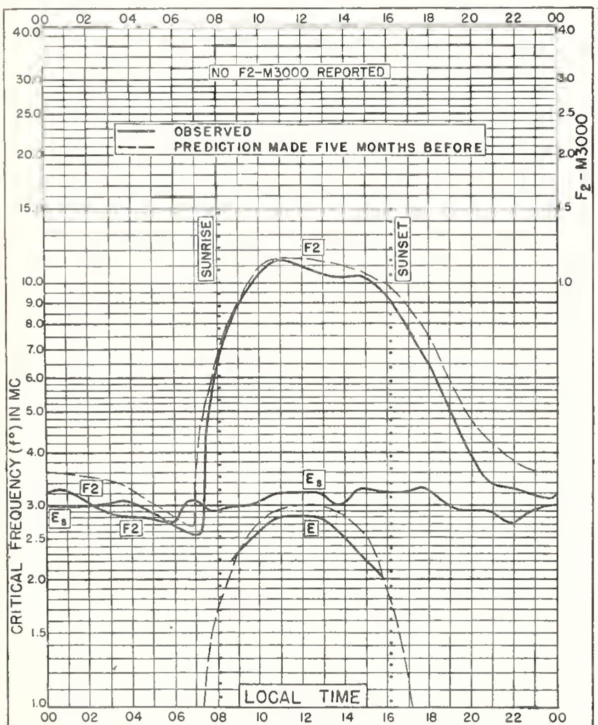

Fig. 93. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E JANUARY 1948

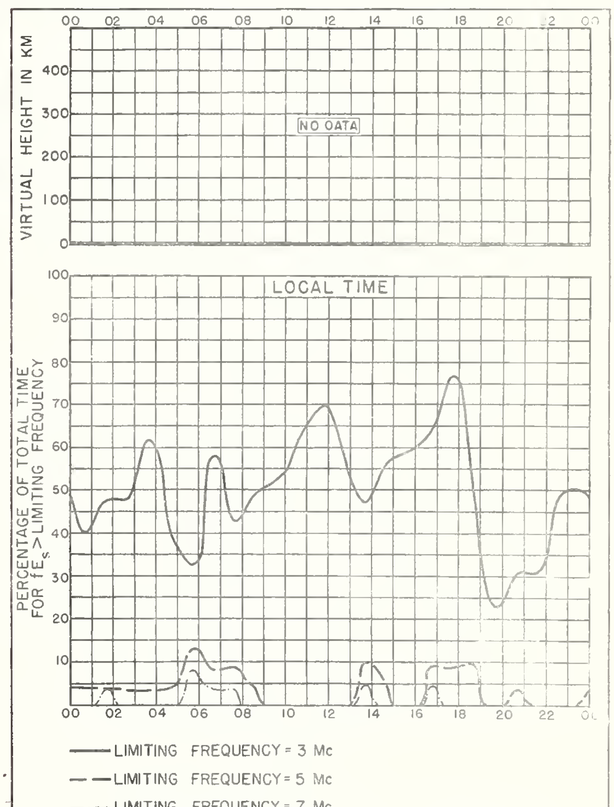

Fig. 94. LINDAU/HARZ, GERMANY JANUARY 1948

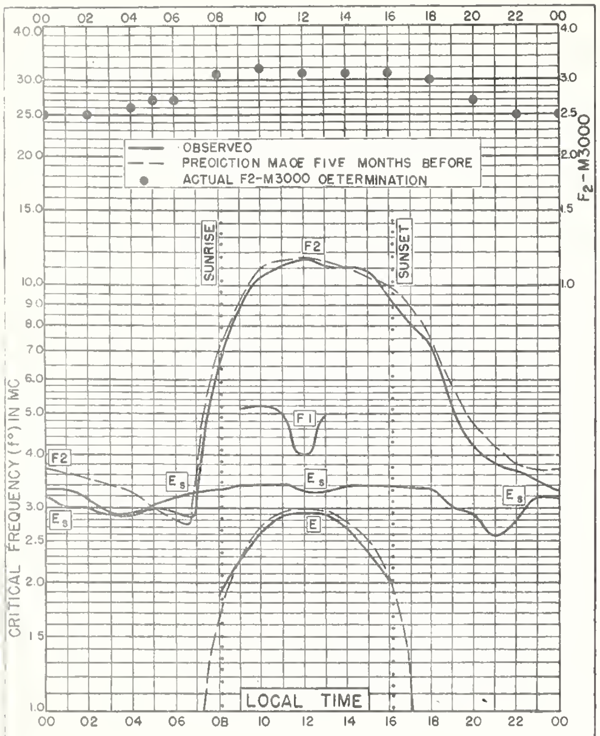

Fig. 95. SLOUGH, ENGLAND
51.5°N, 0.6°W JANUARY 1948

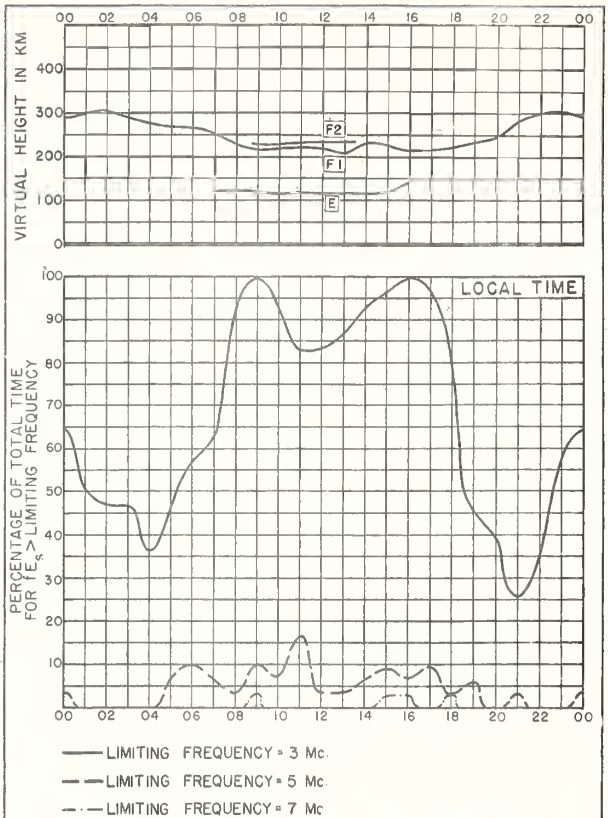

Fig. 96. SLOUGH, ENGLAND JANUARY 1948

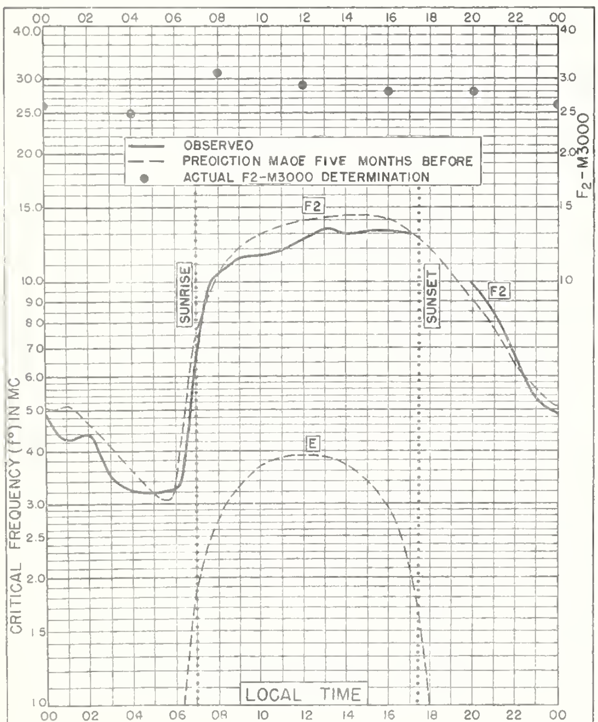

Fig. 97. DELHI, INDIA
28.6°N, 77.1°E JANUARY 1948

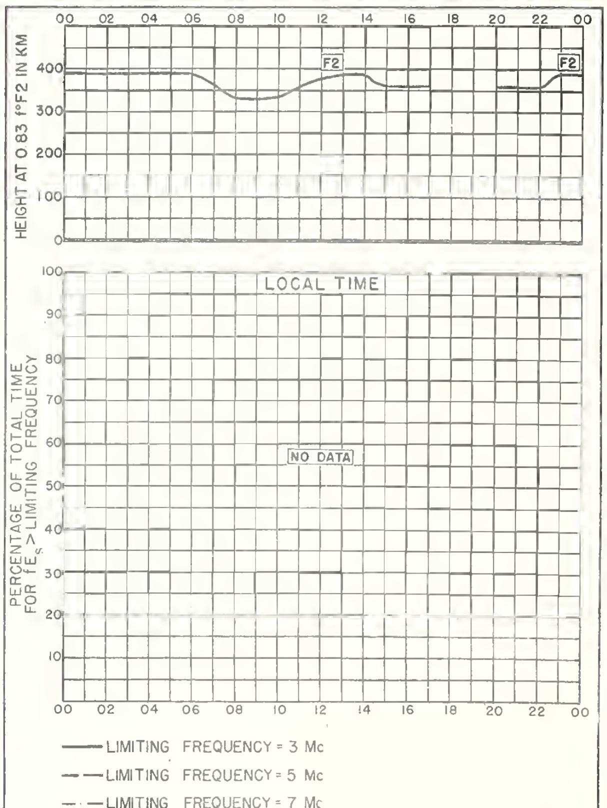

Fig. 98. DELHI, INDIA JANUARY 1948

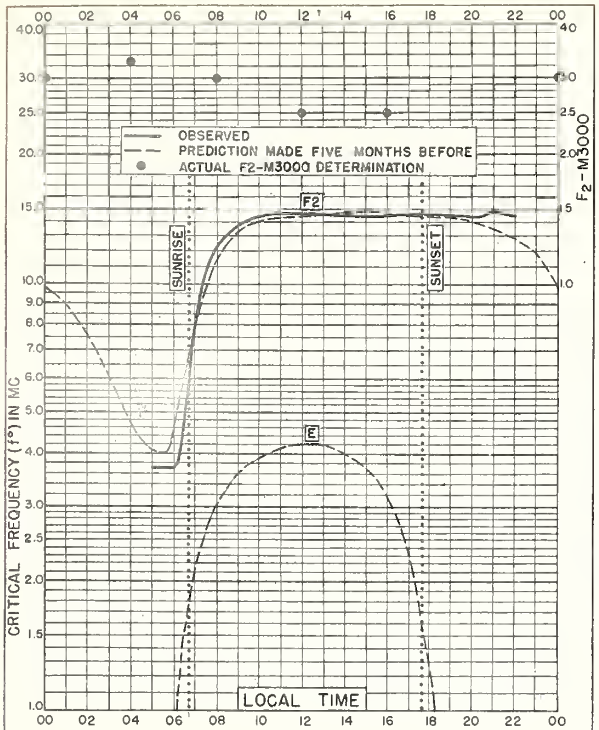

Fig. 99. BOMBAY, INDIA
19.0°N, 73.0°E JANUARY 1948

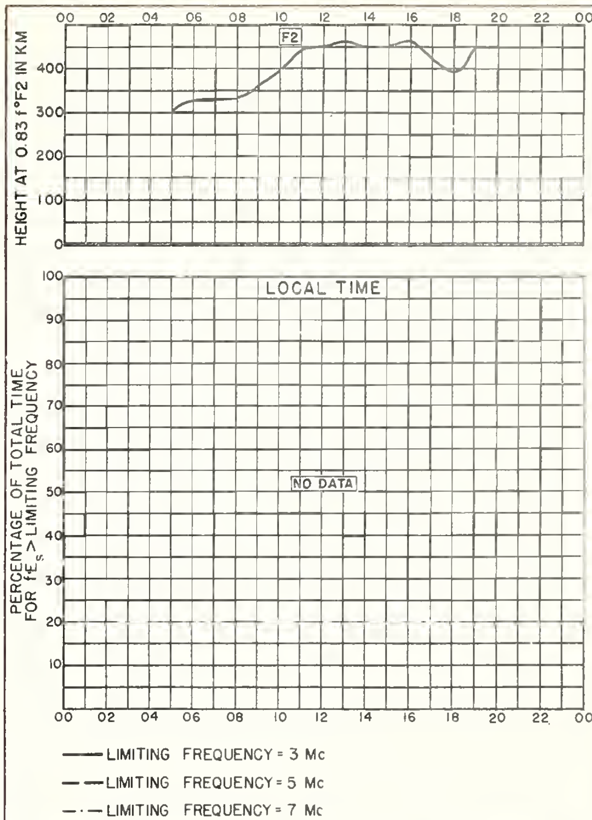

Fig. 100. BOMBAY, INDIA JANUARY 1948

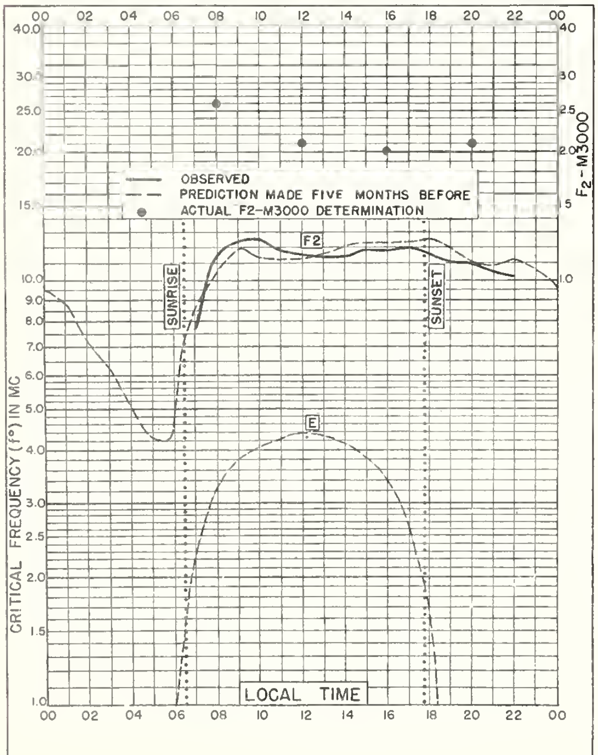

Fig. 101. MADRAS, INDIA
13.0°N, 80.2°E JANUARY 1948

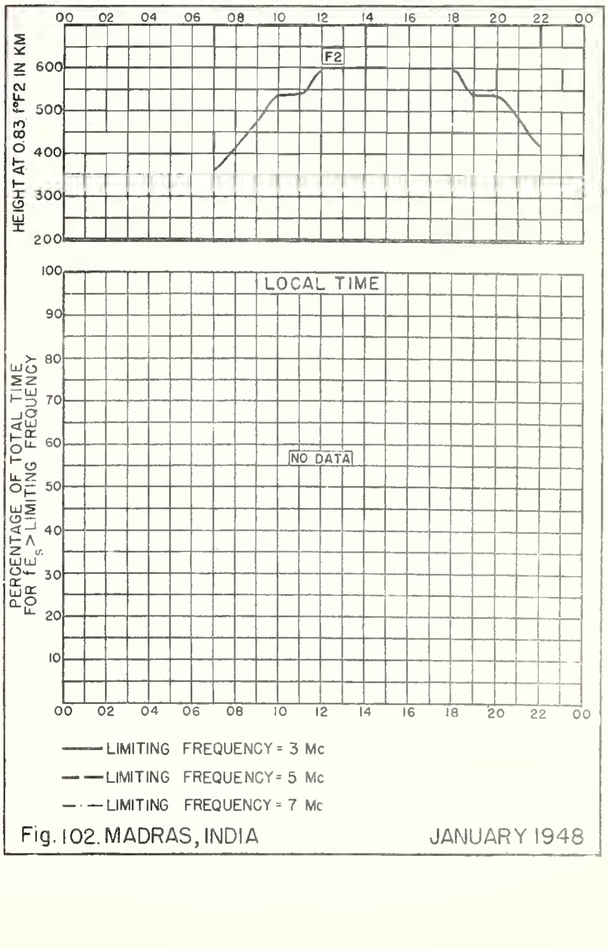

Fig. 102. MADRAS, INDIA JANUARY 1948

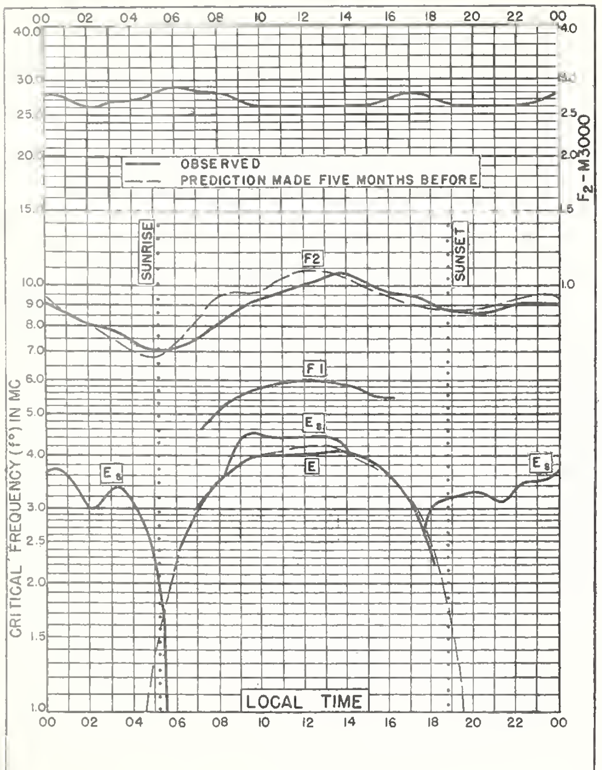

Fig. 103. BRISBANE, AUSTRALIA
27.5°S, 153.0°E JANUARY 1948

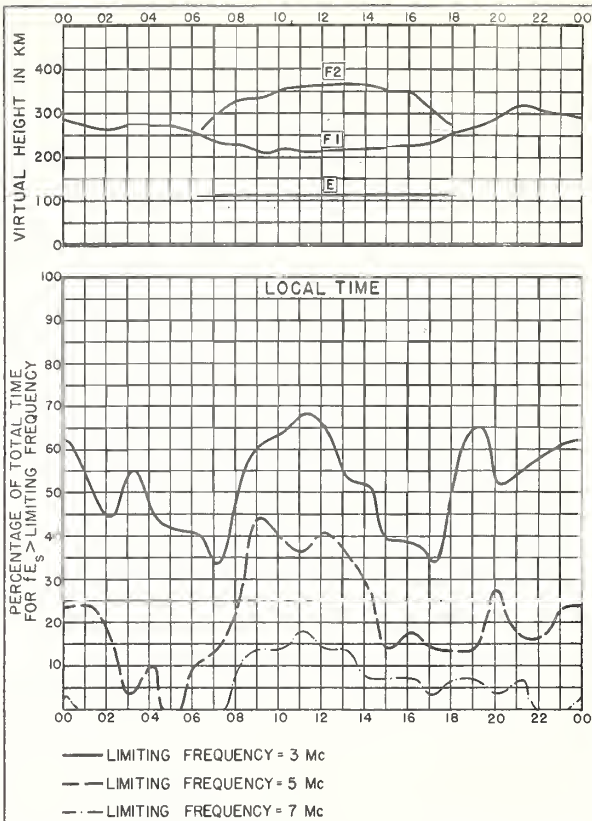

Fig. 104. BRISBANE, AUSTRALIA JANUARY 1948

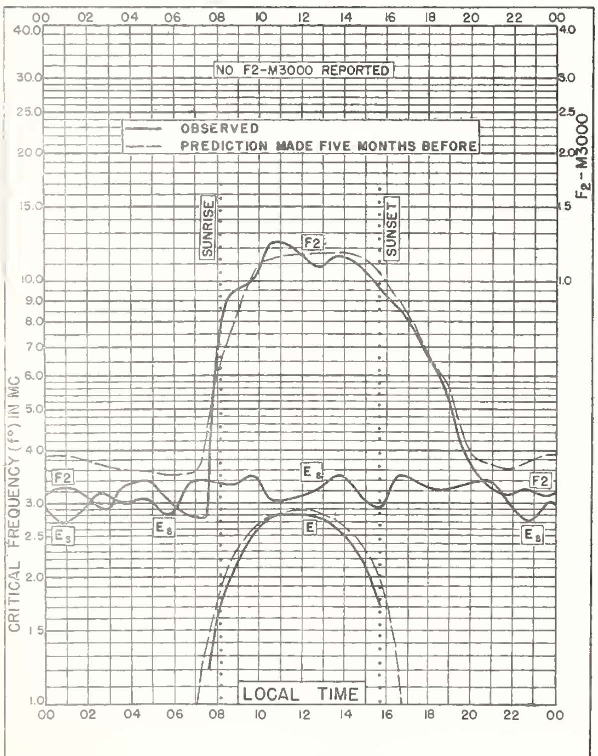

Fig. 105. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E DECEMBER 1947

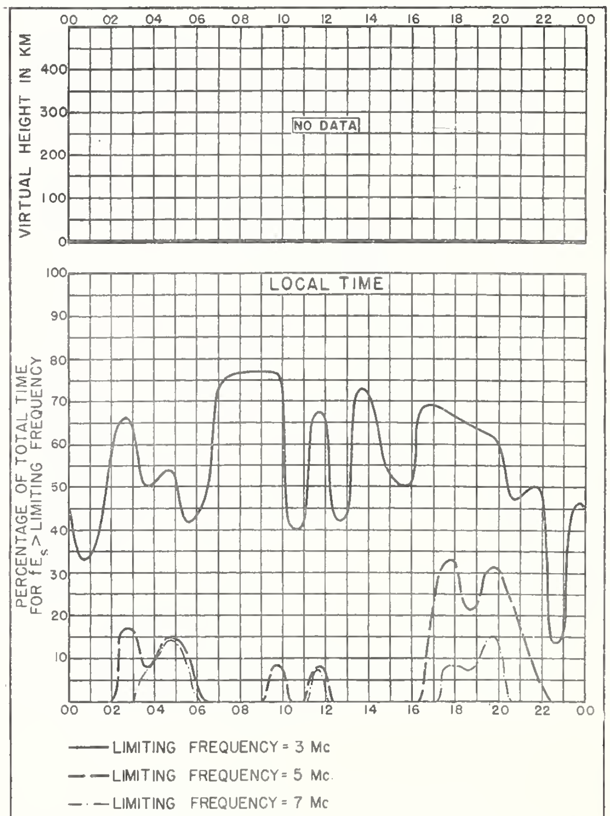

Fig. 106. LINDAU/HARZ, GERMANY DECEMBER 1947

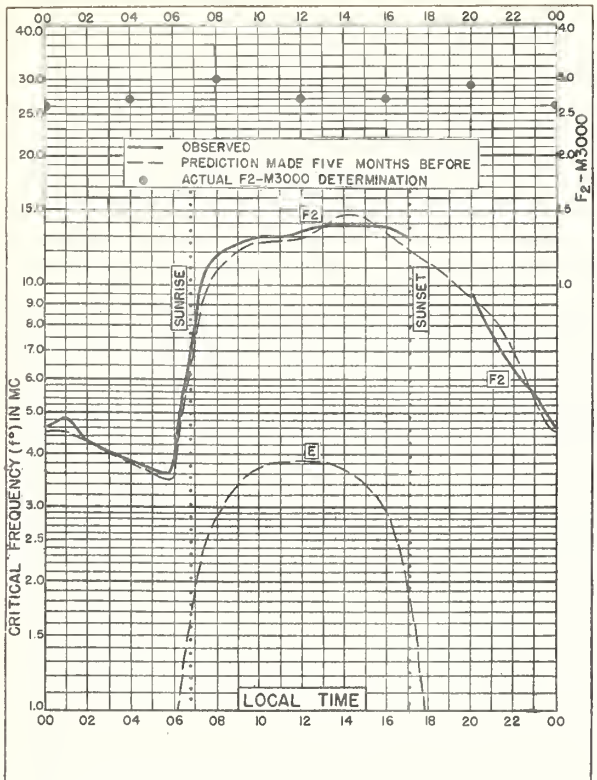

Fig. 107. DELHI, INDIA
28.6°N, 77.1°E DECEMBER 1947

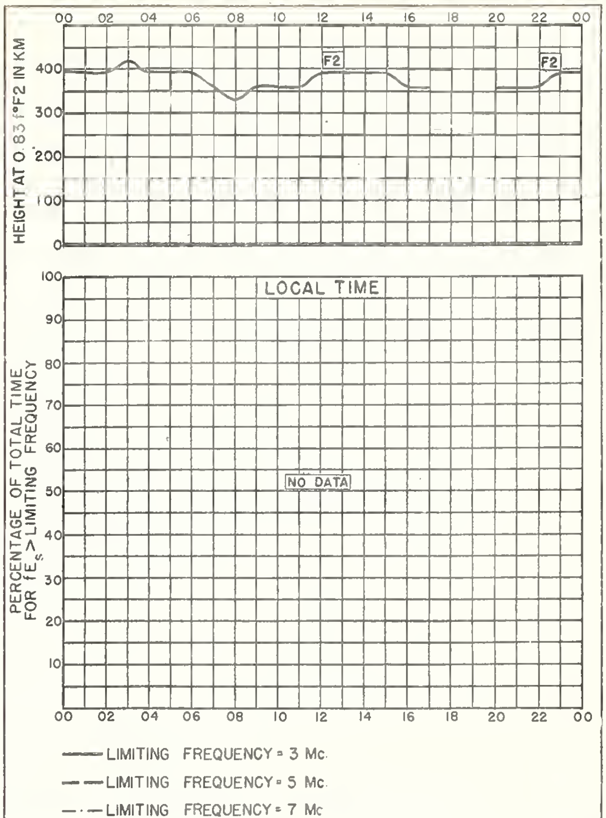

Fig. 108. DELHI, INDIA DECEMBER 1947

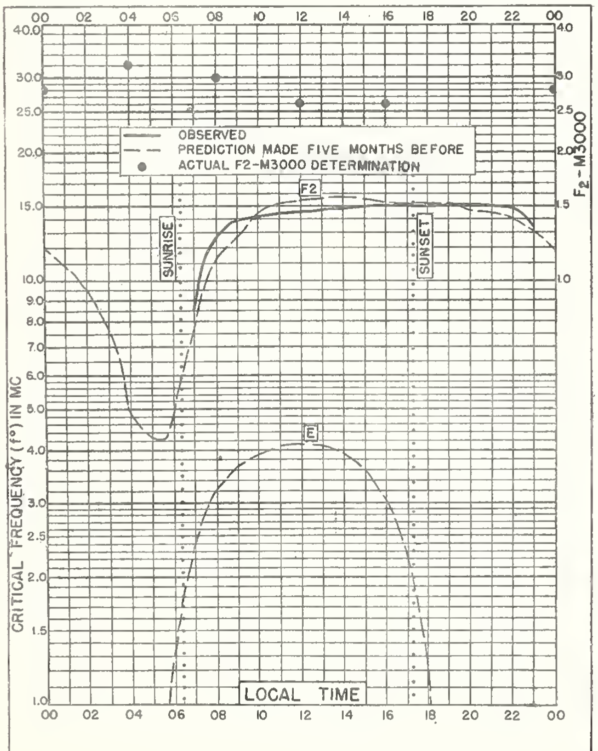

Fig. 109. BOMBAY, INDIA
19.0°N, 73.0°E DECEMBER 1947

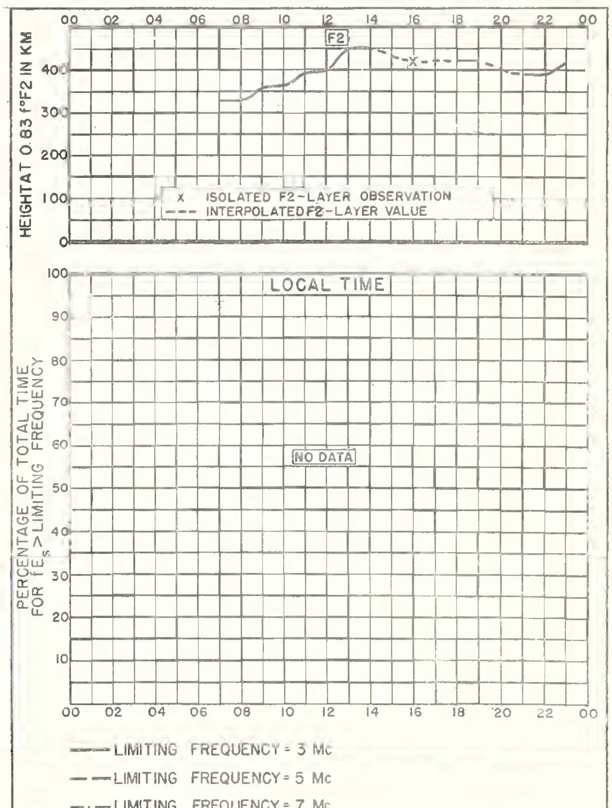

Fig. 110. BOMBAY, INDIA DECEMBER 1947

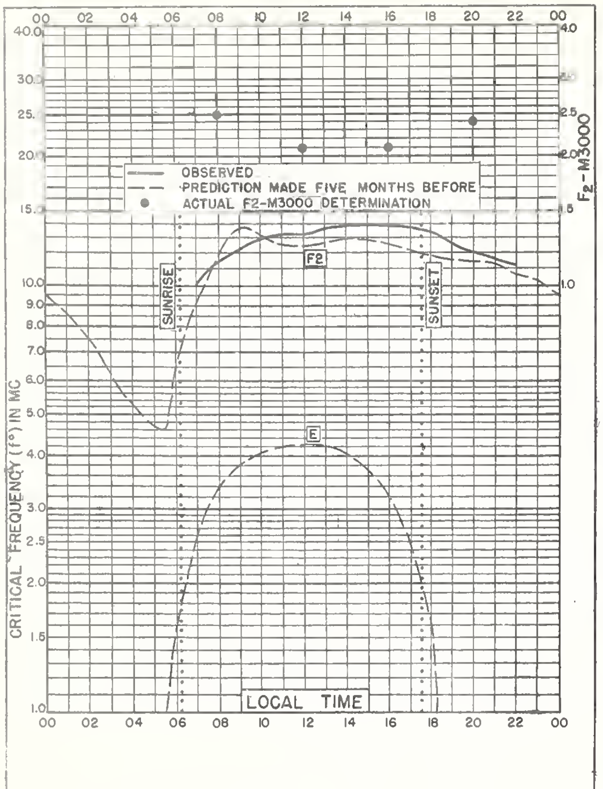

Fig. 111. MADRAS, INDIA
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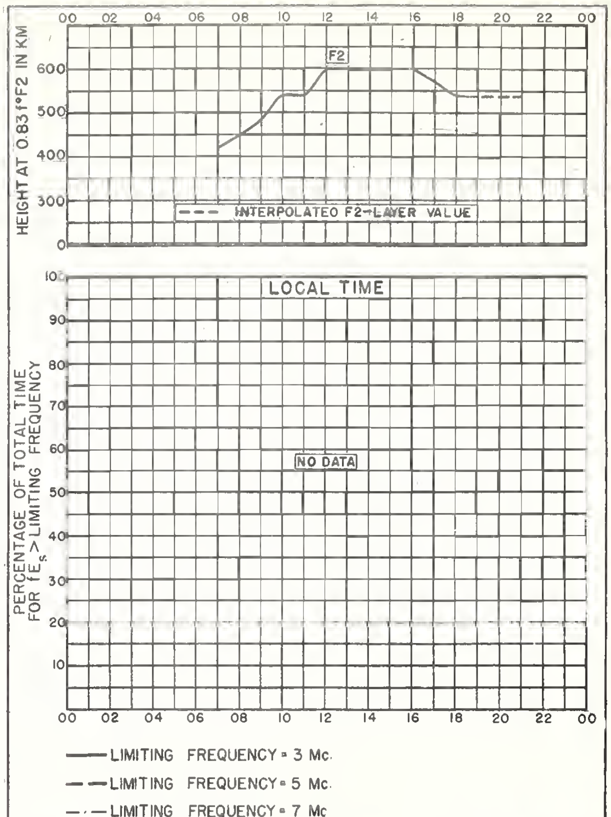


Fig. 112. MADRAS, INDIA DECEMBER 1947

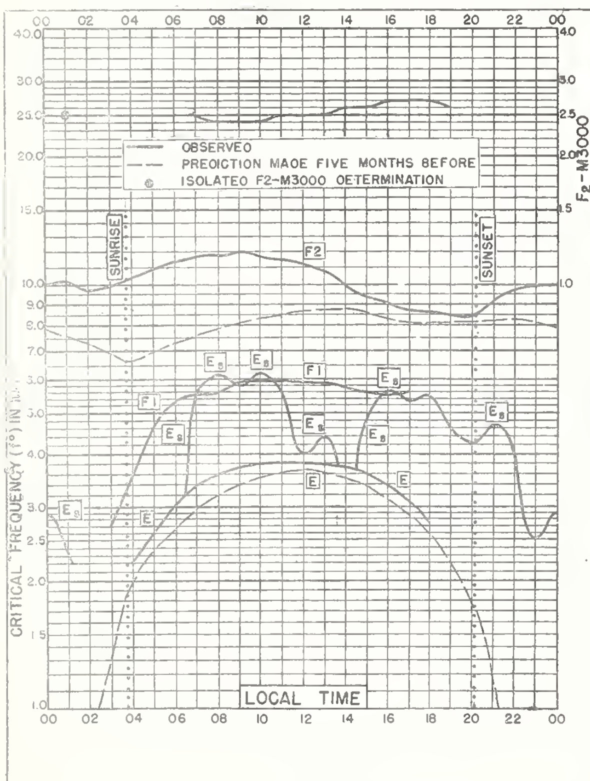


Fig. 113. FALKLAND IS.
51.7°S, 57.8°W DECEMBER 1947

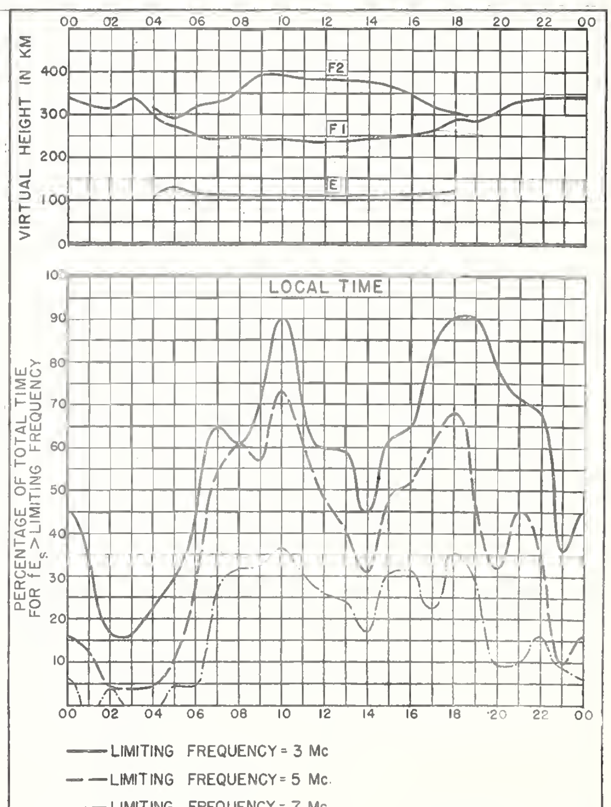


Fig. 114. FALKLAND IS. DECEMBER 1947

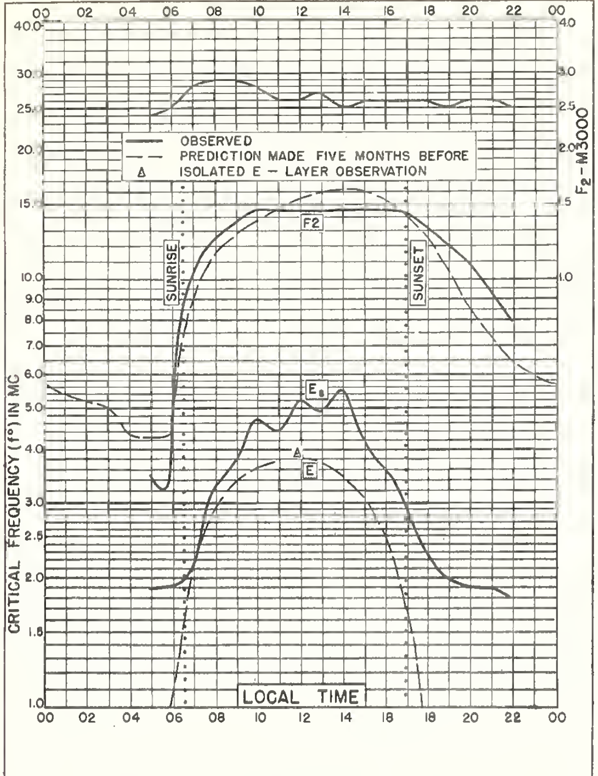


Fig. 115. NANKING, CHINA
32.1°N, 119.0°E NOVEMBER 1947

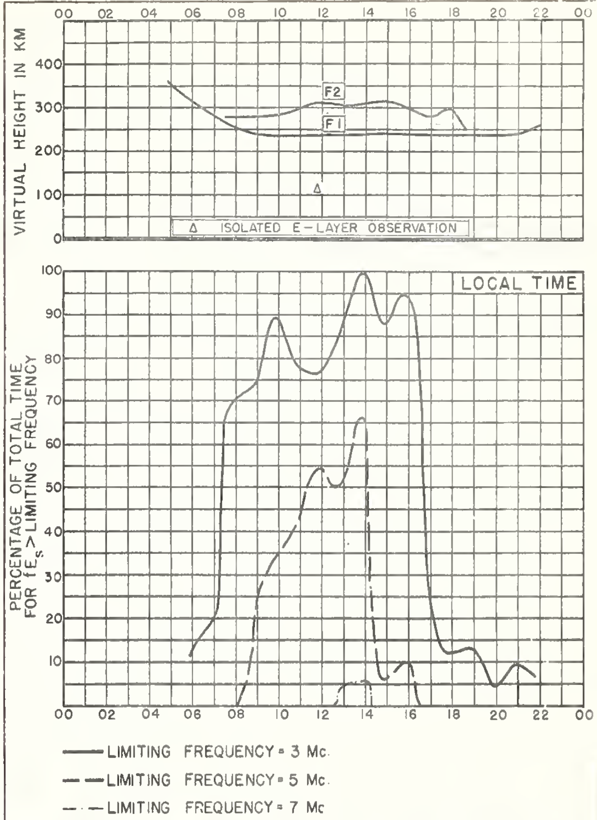
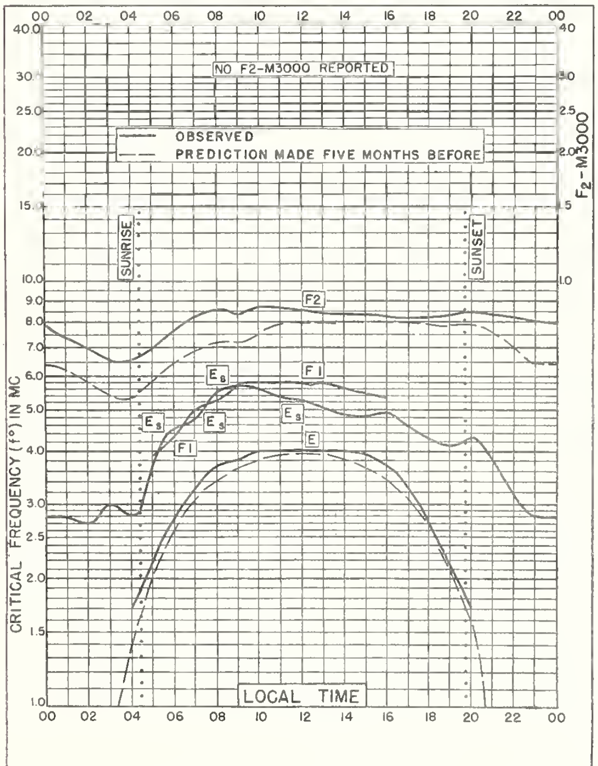


Fig. 116. NANKING, CHINA NOVEMBER 1947



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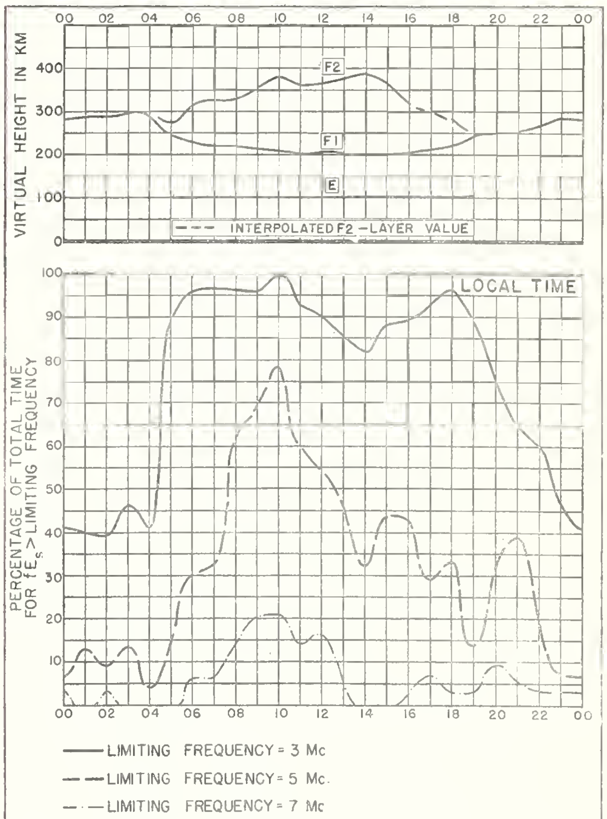

Fig. 118. FRIBOURG, GERMANY JULY 1947

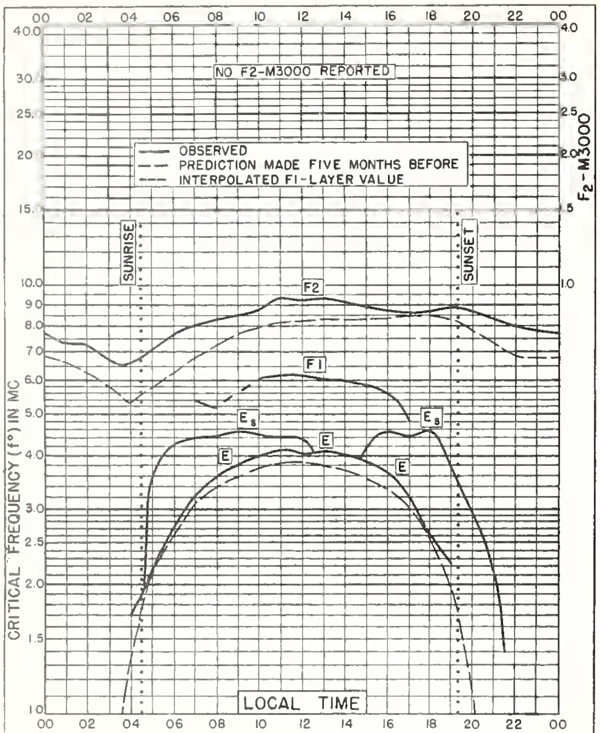

Fig. 119. FRIBOURG, GERMANY
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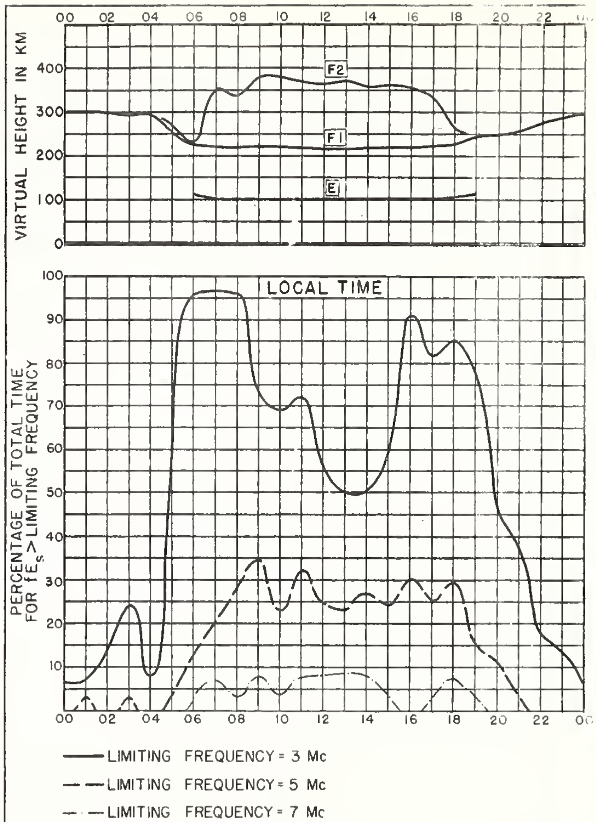

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CRPL–F. Ionospheric Data.

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NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions.

Reports issued in past:

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IRPL–G1 through G12. Correlation of D. F. Errors With Ionospheric Conditions.
IRPL–R. Nonscheduled reports:

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