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IONOSPHERIC DATA

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• Washington, D.C.

IONOSPHERIC DATA

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TERMINOLOGY AND SCALING PRACTICES

The symbols and terminology used in this report are those adopted by the International Radio Propagation Conference, and given in detail on pages 24 to 26 of the report IRPL-C61, "Report of International Radio Propagation Conference," and in the section on "Terminology," in reports IRPL-F1, 2, 3, 4, 5.

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

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

The monthly median values used here are the values equaled or exceeded on half the days of the month at the given hour. The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given in the report referred to above, IRPL-C61.

a. For all ionospheric characteristics:

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

b. For critical frequencies and virtual heights:

Values missing because of E are counted as equal to or less than the lower limit of the recorder.

Values missing because of D are counted as equal to or greater than the upper limit of the recorder.

Values missing because of G are counted:

1. For $f^{\circ}F_2$, as equal to or less than $f^{\circ}F_1$.

2. For $h^{\circ}F_2$, 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 (E_s):

Values of f^oE_s missing because no E_s 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 f^oE_s missing for any other reason, and values of hE_s 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, no median value is computed, the data being considered insufficient.

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, so long as there are at least five values, the median is not considered as doubtful.

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

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

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

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

MONTHLY AVERAGE AND MEDIAN VALUES OF WORLD-WIDE IONOSPHERIC DATA

The ionospheric data given here in Tables 1 to 72 and Figs. 1 to 108 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL predictions of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data:

Australian Council for Scientific and Industrial Research,
Radio Research Board:

Brisbane, Australia
Canberra, Australia
Cape York, Australia
Hobart, Tasmania
Townsville, Australia

British Department of Scientific and Industrial Research,
Radio Research Board:

Slough, England
Burghead, Scotland
Capetown, Union of S. Africa
Colombo, Ceylon
Oslo, Norway
Cairo, Egypt
Falkland Is.
Tromso, Norway

Canadian Radio Wave Propagation Committee:

Churchill, Canada
Ottawa, Canada
St. John's, Newfoundland
Prince Rupert, Canada
Clyde, Baffin I.
Swan River, Manitoba (Mobile unit)
The Pas, Manitoba (Mobile unit)
Gillam, Manitoba (Mobile unit)

New Zealand Radio Research Committee:

Kermadec Is.
Christchurch (Canterbury University College Observatory)
Campbell I.
Pitcairn I.
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.:
Sukhta Tikhaya, U.S.S.R.
Tomsk, U.S.S.R.
Sverdlovsk, U.S.S.R.
Moscow, U.S.S.R.
Leningrad, U.S.S.R.
Alma Ata, U.S.S.R.

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

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

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

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

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

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

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

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

- a. Differences in scaling records where spread echoes are present.
- b. Omission of values where f^oF2 is less than or equal to f^oF1 , leading to erroneously high values of monthly average or median values.
- c. Omission of values where critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series reports, IRPL-F1, 2, 3, 4 and 5.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. Predictions for individual stations used to construct the charts may be more accurate than the values read from the chart since some smoothing of the contours is necessary to allow for the longitude effect within a zone.

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

IONOSPHERE DISTURBANCES

Table 73 presents ionosphere character figures for Washington, D.C., during September 1946, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with American magnetic K-figures, which are usually covariant with them.

Table 74 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 September 1946.

Table 75 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Brentwood and Somerton, England receiving stations of Cable and Wireless Ltd. during August and September 1946.

Table 76 gives provisional radio propagation quality figures for North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, August 1946, compared with the CRPL daily radio disturbance warnings, which are primarily for the North Atlantic paths, the CRPL weekly radio propagation forecasts of probable disturbed periods, and the half-day American geomagnetic K-figures.

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

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

These radio propagation quality figures give a consensus of opinion of actual radio propagation conditions as reported by the half-day over the two general areas. It should be borne in mind, however, that though the quality may be disturbed according to the CRPL scale, the cause of the disturbance is not necessarily known. There are many variables that must be considered. In addition to ionospheric storminess itself as the

cause, conditions may be reported as disturbed because of seasonal characteristics, such as are particularly evident in the pronounced day and night contrast over North Pacific paths during the winter months, or because of improper frequency usage for the path and time of day in question. Insofar as possible, frequency usage is included in rating the reports. Where the actual frequency usage is not shown in the report to the CRPL, it has been assumed that the report is made on the use of optimum working frequencies for the path and time of day in question. Since there is a possibility that all of the disturbance shown by the quality figures is not due to ionospheric storminess alone, care should be taken in using the quality figures in research correlations with solar, auroral, geomagnetic or other data. Nevertheless, these quality figures do reflect a consensus of opinion of actual radio propagation conditions as found on any one half-day in either of the two general areas.

AMERICAN RELATIVE SUNSPOT NUMBERS

Table 77 presents the daily median values of relative sunspot numbers as reported by American observers for September 1946. The reports have been reduced, by appropriate constants, approximately to the Zurich scale of relative sunspot numbers. The monthly relative sunspot number is the mean of the daily median values listed in the table. This method was devised by Mr. A. H. Shapley of the Department of Terrestrial Magnetism, Carnegie Institution of Washington. Details will be found in his article, "American Observations of Relative Sunspot Numbers in 1945 for Application to Ionospheric Prediction," Popular Astronomy, Vol. 54, No. 7, pp. 351-358, August 1946. The criteria for A observers have been modified slightly, beginning with this table. Rather than the mean deviation for the four monthly constants being held within a value of 0.16 of the four-month mean, the mean deviation must be held within 15% of that observer's constant of the four-month mean. In addition, sunspot numbers must be reported for at least one-half of the month during three-fourths of the year. This will tend to restrict the observers to those whose observations are consistent from month to month without rejecting the work of observers for whom weather conditions are unsatisfactory for observations during some months of the year.

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

The data given in Tables 61 to 72 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."

Table 1

Washington, D.C. (39.0°N, 77.5°W)

September 1946

Time	h'P2	f'P2	b'P1	f'P1	b'F	f'F	f'ES	f'ES	P2-M3000
00	270	5.0			2.8				1.0
01	270	4.4	1.7	2.7	2.7	2.7	1.1	3.5	2.7
02	270	4.2	1.2	2.3	2.8	2.8	1.3	3.3	2.6
03	270	4.1		2.3	2.3	2.7	1.7	3.0	2.6
04	280	3.6			2.2	2.2	1.8	3.2	2.6
05	280	3.4		110	2.5	2.9	2.2	3.2	2.6
06	250	4.6	230	3.8	110	2.9	3.0	3.6	2.6
07	250	6.3	230	(4.5)	110	(2.9)	3.0	4.0	2.7
08	270	7.4	230	4.8	110	(3.2)	3.4	4.5	2.7
09	280	7.8	220	4.8	110	3.6	3.0	4.5	2.6
10	280	8.0	210	4.9	110	3.5	2.9	4.6	2.6
11	290	8.5	210	5.0	110	(3.7)	2.9	4.8	2.6
12	310	8.6	220	5.2	110	(3.7)	2.8	4.9	2.6
13	310	9.0	220	5.1	110	(3.7)	2.8	4.9	2.6
14	300	9.0	220	5.0	110	(3.5)	2.8	4.9	2.6
15	300	8.8	220	4.8	110	(3.4)	2.8	4.8	2.7
16	280	8.6	230	4.3	110	3.0	2.8	4.6	2.7
17	260	8.4	230		110	2.5	2.7	4.4	2.8
18	240	(8.2)			120	1.7	2.4	4.3	2.8
19	240	7.4				1.7	(2.9)	4.3	2.8
20	240	(6.7)				1.8	(2.8)	4.3	2.9
21	250	6.0				2.8	2.8	4.2	2.9
22	260	5.5				2.2	2.8	4.1	2.8
23	270	5.1				2.8	2.8	4.0	2.7

Time: 75.0°W.
Sweep: 0.75 Mc to 11.5 Mc in 3.4 minutes.

Table 3 (Supersedes Table 3, CRPL-F25)

Time	h'P2	f'P2	b'P1	f'P1	b'F	f'F	f'ES	f'ES	P2-M3000
00	295	4.8			6.0	2.8			3.0
01	310	5.1			5.6	2.7			3.0
02	320	4.8			3.8	2.8			2.9
03	300	4.7			3.3	2.7			3.0
04	310	4.6			3.2	2.7			3.0
05	320	4.7	285		130	2.7			3.0
06	320	5.1	270		130	2.5			3.0
07	315	5.6	245		120	3.0			3.0
08	350	6.0	230		120	3.2			3.0
09	360	6.4	230		120	3.3			3.0
10	360	6.4	230		120	3.3			3.0
11	380	6.6	230		120	3.4			3.0
12	380	6.8	210		120	3.5			3.0
13	400	6.8	230		120	3.5			3.0
14	385	6.8	230		120	3.4			3.0
15	380	7.4	230		120	3.3			3.0
16	350	7.3	230		120	3.2			3.0
17	335	7.4	240		125	3.0			3.0
18	320	6.9	260		130	3.0			3.0
19	290	6.6			130	2.8			3.0
20	300	6.0			135	3.0			3.0
21	295	5.9			130	2.6			3.0
22	290	5.8				2.8			3.0
23	300	5.6				6.0			3.0

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

Table 2 (Supersedes Table 2, CRPL-F25)

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

Time	h'P2	f'P2	b'P1	f'P1	b'F	f'F	f'ES	f'ES	P2-M3000
00	208	5.0			2.8				1.0
01	270	4.4			2.7				1.1
02	270	4.2			2.3				1.3
03	270	4.1			2.3				1.3
04	280	3.6			2.2				1.4
05	280	3.4			2.2				1.4
06	250	4.6	230	3.8	110	2.5	3.0	3.2	2.6
07	250	6.3	230	4.7	110	2.9	3.0	3.2	2.6
08	270	7.4	230	4.8	110	(2.9)	3.0	3.2	2.6
09	280	7.8	220	4.8	110	3.6	3.0	3.2	2.6
10	280	8.0	210	4.9	110	3.5	3.0	3.2	2.6
11	290	8.5	210	5.0	110	(3.7)	2.9	3.0	2.6
12	310	8.6	220	5.2	110	(3.7)	2.8	3.0	2.6
13	310	9.0	220	5.1	110	(3.7)	2.8	3.0	2.6
14	300	9.0	220	5.0	110	(3.5)	2.8	3.0	2.6
15	300	8.8	220	4.8	110	(3.4)	2.8	3.0	2.6
16	280	8.6	230	4.3	110	3.0	2.8	3.0	2.6
17	260	8.4	230		110	2.5	2.7	3.0	2.8
18	240	(8.2)			120	1.7	2.4	3.1	2.8
19	240	7.4				1.7	(2.9)	3.1	2.8
20	240	(6.7)				1.8	(2.8)	3.1	2.8
21	250	6.0				2.8	2.8	3.2	2.8
22	260	5.5				2.2	2.8	3.1	2.8
23	270	5.1				2.8	2.8	3.2	2.7

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

Table 4 (Supersedes Table 4, CRPL-F25)

Time	h'P2	f'P2	b'P1	f'P1	b'F	f'F	f'ES	f'ES	P2-M3000
00	208	4.8			6.0	2.8			3.0
01	310	5.1			5.6	2.7			3.0
02	320	4.8			3.8	2.8			2.9
03	300	4.7			3.3	2.7			3.0
04	310	4.6			3.2	2.7			3.0
05	320	4.7	285		130	2.7			3.0
06	320	5.1	270		130	2.8			3.0
07	315	5.6	245		120	3.0			3.0
08	350	6.0	230		120	3.2			3.0
09	360	6.4	230		120	3.3			3.0
10	360	6.4	230		120	3.3			3.0
11	380	6.6	230		120	3.4			3.0
12	380	6.8	210		120	3.5			3.0
13	400	6.8	230		120	3.5			3.0
14	385	6.8	230		120	3.4			3.0
15	380	7.4	230		120	3.3			3.0
16	350	7.3	230		120	3.2			3.0
17	335	7.4	240		125	3.0			3.0
18	320	6.9	260		130	3.0			3.0
19	290	6.6			130	2.8			3.0
20	300	6.0			135	3.0			3.0
21	295	5.9			130	2.6			3.0
22	290	5.8				2.8			3.0
23	300	5.6				6.0			3.0

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.Time: 90.0°W.
Sweep: Manual operation.Time: 120.0°W.
Sweep: Manual operation.

Table 5

Swan River, Manitoba (52.1°N, 101.2°W)

August 1946

Adak, Alaska (51.9°N, 176.6°W)

August 1946

Table 6 (Supersedes Table 5, CRPL-F25)*

St. John's, Newfoundland (47.6°N, 52.7°W)								August 1946							
Time		h ¹ F2	2F2	h ¹ F2	2F2	h ¹	2F2								
00	300	3.8		3.0		2.9		00	285	5.4		00	285	5.4	
01	285	3.9		3.6		2.8		01	285	5.4		01	285	5.4	
02	285	3.8		3.0		2.8		02	285	5.4		02	285	5.4	
03	300	3.5		3.0		2.8		03	285	5.4		03	285	5.4	
04	290	2.8		2.7		2.9		04	285	5.4		04	285	5.4	
05	280	3.4		2.0		1.6		05	285	5.4		05	285	5.4	
06	285	4.2		2.2		3.1		06	285	5.4		06	285	5.4	
07	295	5.0		2.0		2.5		07	285	5.4		07	285	5.4	
08	380	5.2		220	4.3	110	2.1	08	285	5.4		08	285	5.4	
09	370	5.5		210	4.6	110	3.1	09	285	5.4		09	285	5.4	
10	410	5.6		210	4.7	110	3.2	10	285	5.4		10	285	5.4	
11	450	5.8		200	4.8	100	3.3	11	285	5.4		11	285	5.4	
12	430	5.9		200	4.9	100	3.3	12	285	5.4		12	285	5.4	
13	420	6.0		200	4.8	100	3.4	13	285	5.4		13	285	5.4	
14	420	6.3		200	4.9	100	3.4	14	285	5.4		14	285	5.4	
15	410	6.4		210	4.8	100	3.4	15	285	5.4		15	285	5.4	
16	380	6.5		210	4.8	100	3.3	16	285	5.4		16	285	5.4	
17	350	6.5		215	4.4	105	2.9	17	285	5.4		17	285	5.4	
18	300	6.4		220	4.7	110	3.0	18	285	5.4		18	285	5.4	
19	265	6.4		230	4.4	110	2.3	19	285	5.4		19	285	5.4	
20	250	6.4		250	4.8	100	3.0	20	285	5.4		20	285	5.4	
21	250	5.9		250	4.7	100	2.7	21	285	5.4		21	285	5.4	
22	250	4.7		250	4.7	100	1.8	22	285	5.4		22	285	5.4	
23	285	4.2		285	4.2	100	2.4	23	285	5.4		23	285	5.4	

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

Table 7 (Supersedes Table 6, CRPL-F25)

St. John's, Newfoundland (47.6°N, 52.7°W)								August 1946							
Time		h ¹ F2	2F2	h ¹ F2	2F2	h ¹	2F2								
00	240	6.3		3.1		3.1		00	285	5.4		00	285	5.4	
01	240	5.8		3.1		3.1		01	285	5.4		01	285	5.4	
02	250	5.6		2.3		2.7		02	285	5.4		02	285	5.4	
03	(250)	5.2		2.7		3.2		03	285	5.4		03	285	5.4	
04	(235)	4.5		3.2		3.2		04	285	5.4		04	285	5.4	
05	235	4.3		2.4		3.3		05	285	5.4		05	285	5.4	
06	200	5.5		210	3.6	90	2.7	06	285	5.4		06	285	5.4	
07	220	6.1		185	3.9	90	2.9	07	285	5.4		07	285	5.4	
08	240	6.6		190	4.4	90	4.0	08	285	5.4		08	285	5.4	
09	260	6.5		190	4.7	90	4.2	09	285	5.4		09	285	5.4	
10	270	6.4		180	4.9	90	3.5	10	285	5.4		10	285	5.4	
11	285	6.5		180	5.1	90	3.5	11	285	5.4		11	285	5.4	
12	300	6.6		170	5.2	85	3.6	12	285	5.4		12	285	5.4	
13	295	6.8		180	5.1	90	3.7	13	285	5.4		13	285	5.4	
14	285	6.9		180	5.0	80	3.8	14	285	5.4		14	285	5.4	
15	280	7.1		180	5.0	85	3.6	15	285	5.4		15	285	5.4	
16	270	7.2		180	4.8	80	3.2	16	285	5.4		16	285	5.4	
17	250	7.4		190	4.5	80	3.3	17	285	5.4		17	285	5.4	
18	250	7.6		190	3.9	90	2.6	18	285	5.4		18	285	5.4	
19	230	7.8		210	3.4	7.6	2.7	19	285	5.4		19	285	5.4	
20	205	7.6		220	3.0	8.0	3.3	20	285	5.4		20	285	5.4	
21	220	7.2		220	6.9	80	2.6	21	285	5.4		21	285	5.4	
22	220	6.9		230	6.6	80	2.6	22	285	5.4		22	285	5.4	
23	230	6.6		230	6.6	80	2.6	23	285	5.4		23	285	5.4	

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

Table 7 (Supersedes Table 6, CRPL-F25)

Ottawa, Canada (45.5°N, 75.8°W)								August 1946							
Time		h ¹ F2	2F2	h ¹ F2	2F2	h ¹	2F2								
00	285	5.4		3.1		3.1		00	285	5.4		00	285	5.4	
01	310	4.9		3.1		3.1		01	285	5.4		01	285	5.4	
02	300	4.5		3.2		3.2		02	285	5.4		02	285	5.4	
03	300	4.5		3.2		3.2		03	285	5.4		03	285	5.4	
04	320	3.5		3.2		3.2		04	285	5.4		04	285	5.4	
05	365	6.6		3.2		3.2		05	285	5.4		05	285	5.4	
06	190	5.2		3.2		3.2		06	285	5.4		06	285	5.4	
07	380	6.9		3.2		3.2		07	285	5.4		07	285	5.4	
08	365	7.0		3.2		3.2		08	285	5.4		08	285	5.4	
09	210	5.1		3.2		3.2		09	285	5.4		09	285	5.4	
10	360	7.0		3.2		3.2		10	285	5.4		10	285	5.4	
11	365	6.6		3.2		3.2		11	285	5.4		11	285	5.4	
12	380	6.6		3.2		3.2		12	285	5.4		12	285	5.4	
13	380	6.9		3.2		3.2		13	285	5.4		13	285	5.4	
14	365	7.0		3.2		3.2		14	285	5.4		14	285	5.4	
15	360	7.0		3.2		3.2		15	285	5.4		15	285	5.4	
16	340	7.4		3.2		3.2		16	285	5.4		16	285	5.4	
17	300	7.4		3.2		3.2		17	285	5.4		17	285	5.4	
18	290	7.8		3.2		3.2		18	285	5.4		18	285	5.4	
19	240	7.6		3.2		3.2		19	285	5.4		19	285	5.4	
20	240	7.0		3.2		3.2		20	285	5.4		20	285	5.4	
21	220	7.2		3.2		3.2		21	285	5.4		21	285	5.4	
22	220	6.9		3.2		3.2		22	285	5.4		22	285	5.4	
23	230	6.6		3.2		3.2		23	285	5.4		23	285	5.4	

Time: 180.0°W.

Sweep:

Manual operation.

Table 8 (Supersedes Table 7, CRPL-F25)

Ottawa, Canada (45.5°N, 75.8°W)								August 1946							
Time		h ¹ F2	2F2	h ¹ F2	2F2	h ¹	2F2								
00	285	5.4		3.1		3.1		00	285	5.4		00	285	5.4	
01	310	4.9		3.1		3.1		01	285	5.4		01	285	5.4	
02	300	4.5		3.2		3.2		02	285	5.4		02	285	5.4	
03	300	4.5		3.2		3.2		03	285	5.4		03	285	5.4	

Table 9 (Supersedes Table 8, CRFL-F25)

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

August 1946

Peiping, China (39.9°N, 116.4°E)

August 1946*

Time	h ¹ F2	f ² F2	h ¹ F1	f ² F1	h ¹ E	f ² E	TE _S	TE _B	TE _{M3000}
00	295	5.6			2.7				
01	300	5.2			2.6				
02	300	4.7			2.7				
03	300	4.6			1.2				
04	285	3.9			1.2				
05	285	4.0			2.7				
06	280	4.3			2.7				
07	280	5.1			2.8				
08	300	6.0			125	2.7			
09	310	6.5			135	2.9			
10	340	6.7							
11	380	6.6							
12	360	6.3							
13	382	6.9							
14	420	6.6							
15	380	6.8							
16	375	6.8							
17	355	6.8							
18	325	7.0			140	2.7			
19	295	7.8							
20	275	7.6							
21	275	7.5							
22	265	6.8							
23	290	6.0							

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

Table 11 (Supersedes Table 9, CRPL-F25)

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

August 1946

Time	h ¹ F2	f ² F2	h ¹ F1	f ² F1	h ¹ E	f ² E	TE _S	TE _B	TE _{M3000}
00	300	5.3			3.4	2.6			
01	280	5.2			3.0	2.6			
02	280	5.0			3.2	2.7			
03	280	4.8							
04	280	4.8							
05	280	4.4			2.6	2.7			
06	250	5.8			230	3.8	110	2.3	
07	290	7.1			220	4.4	110	2.7	
08	200	7.7			220	4.9	110	3.2	
09	325	8.2			210	5.0	110	3.5	
10	340	8.4			200	5.4	100	3.7	
11	240	8.5			200	5.5	110	3.8	
12	350	8.4			220	5.5	100	3.8	
13	350	8.7			220	5.4	110	3.9	
14	330	8.5			220	5.3	100	3.8	
15	320	8.4			220	5.0	105	3.7	
16	315	8.2			220	4.9	100	3.4	
17	280	7.8			220	4.3	100	3.0	
18	260	7.8			240	3.8	105	2.5	
19	240	7.2							
20	240	7.1							
21	240	6.3							
22	250	5.8							
23	280	5.4							

Time: 75.0°W.
Sweep: 0.85 Mc to 13.75 Mc in six minutes.

Table 12 (Supersedes Table 9, CRPL-F25)

Tokyo, Japan (35.6°N, 139.6°E)

August 1946

Time	h ¹ F2	f ² F2	h ¹ F1	f ² F1	h ¹ E	f ² E	TE _S	TE _B	TE _{M3000}
00	280	7.6							
01	280	7.2							
02	02	7.0							
03	260	6.6							
04	260	6.2							
05	260	6.0							
06	240	5.7							
07	240	5.9							
08	240	5.6							
09	270	8.8							
10	280	9.0							
11	290	9.2							
12	305	9.3							
13	310	9.4							
14	310	9.6							
15	290	9.4							
16	280	9.2							
17	270	9.1							
18	250	9.0							
19	250	8.9							
20	250	8.1							
21	270	8.0							
22	280	7.9							
23	270	7.8							

Time: 120.0°E.
*Data reported for 15th through 31st only.

August 1946

Time	h ¹ F2	f ² F2	h ¹ F1	f ² F1	h ¹ E	f ² E	TE _S	TE _B	TE _{M3000}
00	280	7.6							
01	280	7.2							
02	02	7.0							
03	260	6.6							
04	260	6.2							
05	260	6.0							
06	240	5.7							
07	240	5.9							
08	240	5.6							
09	270	8.8							
10	280	9.0							
11	290	9.2							
12	305	9.3							
13	310	9.4							
14	310	9.6							
15	290	9.4							
16	280	9.2							
17	270	9.1							
18	250	9.0							
19	250	8.9							
20	250	8.1							
21	270	8.0							
22	280	7.9							
23	270	7.8							

August 1946

Time: 135.0°E.
Sweep: Lower limit of frequency 2.0 Mc. Manual operation.Time: 120.0°W.
Sweep: 0.8 Mc to 12.0 Mc in six minutes.

Table 13 (Supersedes Table 10, CRPL-F25)

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

August 1946

Chungking, China (29.4°N, 106.8°E)

August 1946

Time	h 1/2	f ₀ 2	h 1/2	f ₀ 1	h 1/2	f ₀						
		F2-M3000				F2-M3000						F2-M3000
00	300	5.5					3.2	2.9	00	260	9.0	3.3
01	300	5.3					2.8	3.0	01	250	8.9	2.8
02	290	5.2					3.0		02	240	8.4	3.0
03	290	5.0					3.0		03	230	7.5	3.0
04	290	4.6					3.0		04	220	6.2	3.2
05	290	4.4					3.0		05	260	5.8	2.9
06	290	5.1	250	3.6	120	2.7	3.0		06	220	7.8	3.5
07	285	6.6	240	4.1	120	2.7	3.2		07	240	8.2	4.3
08	300	7.5	240	4.4	120	3.1	4.4		08	240	8.6	5.0
09	310	7.5	230	4.7	120	3.3	3.0		09	220	9.0	3.4
10	340	8.0	220	4.9	120	3.5	2.9		10	320	9.8	5.8
11	340	8.3	230	5.1	120	3.6	2.9		11	335	10.5	6.0
12	350	8.5	230	5.2	120	3.7	2.9		12	320	12.5	7.0
13	250	9.2	230	5.2	120	3.7	2.9		13	330	13.2	5.8
14	240	9.5	240	5.2	120	3.6	3.0		14	320	14.0	5.6
15	230	9.1	240	5.0	120	3.6	3.0		15	300	14.4	5.9
16	300	9.4	240	4.8	120	3.3	2.9		16	280	12.6	5.8
17	295	9.2	250	4.3	120	3.0	2.8		17	260	12.0	4.6
18	270	8.5	250	3.6	130	2.4	3.1		18	240	11.6	4.7
19	250	7.6					3.1		19	220	10.4	3.9
20	250	6.6					2.6		20	240	10.1	4.0
21	250	6.1					3.1		21	240	9.7	4.0
22	260	5.8					3.0		22	250	9.8	2.9
23	290	5.6					3.0		23	250	9.8	2.8

Time: 90.0°E.
Sweep: 1.9 Mc to 9.8 Mc in three minutes, thirty seconds.

Table 15

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

August 1946

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

August 1946

Time	h 1/2	f ₀ 2	h 1/2	f ₀ 1	h 1/2	f ₀						
		F2-M3000				F2-M3000						F2-M3000
00	7.0		7.0				2.8		00	270	9.4	2.9
01	6.8		6.8				2.8		01	250	8.8	3.0
02	6.4		6.4				2.9		02	250	8.4	3.0
03	6.2		6.2				2.8		03	250	8.1	3.0
04	5.9		5.9				2.8		04	240	7.0	3.1
05	5.8		5.8				2.9		05	240	6.2	3.1
06	5.5		5.5				2.9		06	260	6.4	2.2
07	270	7.2					3.1		07	230	7.4	2.5
08	280	7.8					3.0		08	245	8.1	3.6
09	325	8.4	220	4.5			3.3		09	300	8.9	3.6
10	380	9.0	235	5.0			2.7		10	320	10.2	4.0
11	400	9.6	230	5.2			2.6		11	340	11.3	4.4
12	390	10.0	240	5.2			2.7		12	340	12.0	4.6
13	390	10.3	230	5.2			2.7		13	340	12.3	4.7
14	390	10.4	240	5.2			2.7		14	330	12.6	5.0
15	380	10.4	250	5.1			2.7		15	320	12.8	5.3
16	350	10.8	240	4.8			2.8		16	310	12.4	5.0
17	340	10.3	250	4.0			2.8		17	280	12.0	2.8
18	300	9.9					2.9		18	260	11.0	4.0
19	280	9.0					3.0		19	270	10.8	3.3
20	280	8.0					2.8		20	270	11.0	3.0
21	7.4		7.4				2.8		21	260	11.2	2.8
22	22		7.0				2.8		22	270	10.3	2.6
23	23		7.0				2.7		23	260	10.0	2.8

Time: 90.0°E.
Sweep: 1.9 Mc to 9.8 Mc in fifteen minutes.

Table 16 (Superaedes Table 12, CRPL-F25)

Time	h 1/2	f ₀ 2	h 1/2	f ₀ 1	h 1/2	f ₀						
		F2-M3000				F2-M3000						F2-M3000
00							2.8		00	270	9.4	2.9
01							2.8		01	250	8.8	3.0
02							2.9		02	250	8.4	3.0
03							2.8		03	250	8.1	3.0
04							2.8		04	240	7.0	3.1
05							2.9		05	240	6.2	3.1
06							2.9		06	260	6.4	2.2
07							3.1		07	230	7.4	2.5
08							3.0		08	245	8.1	3.6
09							2.7		09	300	8.9	3.6
10							2.7		10	320	10.2	4.0
11							2.6		11	340	11.3	4.4
12							2.7		12	340	12.0	4.6
13							2.7		13	340	12.3	4.7
14							2.7		14	330	12.6	5.0
15							2.7		15	320	12.8	5.3
16							2.8		16	310	12.4	5.0
17							2.8		17	280	12.0	2.8
18							2.9		18	260	11.0	4.0
19							3.0		19	270	10.8	3.3
20							2.8		20	270	11.0	3.0
21							2.8		21	260	11.2	2.8
22							2.8		22	270	10.3	2.6
23							2.7		23	260	10.0	2.8

Table 17 (Superaedes Table 12, CRPL-F25)

Time	h 1/2	f ₀ 2	h 1/2	f ₀ 1	h 1/2	f ₀						
		F2-M3000				F2-M3000						F2-M3000
00							2.8		00	270	9.4	2.9
01							2.8		01	250	8.8	3.0
02							2.9		02	250	8.4	3.0
03							2.8		03	250	8.1	3.0
04							2.8		04	240	7.0	3.1
05							2.9		05	240	6.2	3.1
06							2.9		06	260	6.4	2.2
07							3.1		07	230	7.4	2.5
08							3.0		08	245	8.1	3.6
09							2.7		09	300	8.9	3.6
10							2.7		10	320	10.2	4.0
11							2.6		11	340	11.3	4.4
12							2.7		12	340	12.0	4.6
13							2.7		13	340	12.3	4.7
14							2.7		14	330	12.6	5.0
15							2.7		15	320	12.8	5.3
16							2.8		16	310	12.4	5.0
17							2.8		17	280	12.0	2.8
18							2.9		18	260	11.0	4.0
19							3.0		19	270	10.8	3.3
20							2.8		20	270	11.0	3.0
21							2.8		21	260	11.2	2.8
22							2.8		22	270	10.3	2.6
23							2.7		23	260	10.0	2.8

Time: 60.0°W.

Sweep: Manual operation.

Time: 60.0°W.

Sweep: Manual operation.

Table 17
Huancayo, Peru (12.0°S, 75.3°E)

Time	h'F2	f'F2	h'V1	f'V1	h'V2	f'V2	h'E	f'E	f'S	F2-M3000
00	220	8.0					3.1		8.1	(2.7)
01	220	7.3					3.1		7.7	(3.0)
02	230	6.9					3.2		7.5	(2.9)
03	230	5.5					3.2		7.7	(2.9)
04	240	4.3					3.1		7.7	(2.7)
05	250	3.6					3.1		7.8	(2.9)
06	290	4.2					2.9		8.5	(3.0)
07	250	7.4					2.8		8.7	(3.0)
08	240	9.3					2.5		8.8	(2.9)
09	300	9.6	220	5.0	220	5.2	8.4	2.5	9.2	2.8
10	310	9.3	210	5.2	210	5.3	8.4	2.5	9.2	(2.9)
11	320	9.1	210	5.3	200	5.3	8.4	2.4	9.7	(3.0)
12	320	9.3	200	5.3	200	5.2	8.9	2.3	10.0	(3.0)
13	320	9.3	200	5.0	200	5.2	8.4	2.3	10.1	(2.9)
14	210	9.3	200	5.1	200	5.1	8.4	2.3	14	(10.0)
15	225	9.3	210	5.0	210	5.0	8.4	2.3	15	(10.0)
16	230	9.2					8.4	2.3	16	(2.9)
17	250	9.3					2.4	5.5	17	(2.9)
18	300	9.1					2.4	5.5	18	(9.8)
19	370	8.2					2.4	2.4	19	(9.1)
20	330	8.2					2.3	2.3	20	8.9
21	280	8.4					2.4	2.7	21	(8.2)
22	290	8.3					2.3	2.7	22	8.1
23	290	7.9					3.0	2.9	23	7.7

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.

Table 19
Chungking, China (29.4°N, 106.8°E)

Time	h'F2	f'F2	h'V1	f'V1	h'V2	f'V2	h'E	f'E	f'S	F2-M3000
00	260	9.0					3.8	2.9	3.6	2.6
01	260	8.7					3.3	2.0	3.4	2.9
02	260	7.5					3.4	2.9	3.3	2.8
03	250	6.6					2.9	2.9	3.2	3.0
04	240	6.9					2.9	2.0	3.1	3.0
05	280	5.8					3.6	2.9	2.5	2.9
06	260	7.2	220	4.1	110	2.8	4.4	3.0	2.6	3.0
07	255	8.2	220	4.8	100	3.1	5.6	3.0	3.2	3.0
08	280	8.5	220	5.0	100	3.5	7.1	2.9	0.8	2.0
09	280	8.2	220	5.0	100	3.5	7.1	2.9	2.2	2.0
10	320	9.0	230	5.5	100	4.2	6.6	2.8	7.5	2.6
11	320	9.6	220	5.5	100	4.4	7.2	2.8	8.3	2.9
12	320	10.5	220	5.6	90	4.4	7.0	2.8	11	3.0
13	305	11.0	200	5.7	90	4.4	8.0	2.9	12	4.8
14	315	11.5	215	5.4	100	4.2	7.0	2.8	13	4.3
15	300	11.2	200	5.2	100	4.2	6.5	2.9	14	3.1
16	280	10.8	215	5.0	100	3.9	5.1	3.0	15	2.1
17	250	10.4	240	4.6	95	3.1	5.8	3.1	16	2.2
18	240	9.6					5.6	3.1	17	3.0
19	240	9.4					4.0	3.1	18	1.4
20	245	9.4					4.4	2.9	19	2.8
21	260	9.3					4.2	2.9	20	2.6
22	260	9.2					4.1	2.9	21	2.8
23	260	9.2					3.9	3.0	22	3.0

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

Table 20
Christchurch, N.Z. (43.5°S, 172.6°E)

Time	h'F2	f'F2	h'V1	f'V1	h'V2	f'V2	h'E	f'E	f'S	F2-M3000
00							290	3.6	2.6	2.6
01							270	3.4	2.9	2.9
02							270	3.3	2.8	2.8
03							260	3.2	3.0	3.0
04							250	3.1	3.0	3.0
05							240	2.5	2.5	2.9
06							260	2.6	2.6	2.9
07							230	3.2	3.2	3.2
08							230	3.0	3.1	3.1
09							220	2.8	2.8	2.8
10							230	8.4	220	3.0
11							230	9.0	225	4.8
12							245	8.9	230	4.3
13							250	8.9	230	4.3
14							240	8.4	220	4.2
15							230	8.2	230	3.6
16							230	7.7	220	3.6
17							235	7.0	235	3.0
18							230	6.2	230	2.8
19							230	5.5	240	2.8
20							240	4.6	240	2.6
21							260	3.9	260	2.8
22							270	3.8	270	3.0
23							270	3.6	270	2.8

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

Burghhead, Scotland (57.7°N, 3.5°W)							June 1946							
Time	h ¹ F2	f ⁰ F2	h ¹ H	f ⁰ H	h ¹ E	f ⁰ E	FE	f ⁰ E	FE	h ¹ E	f ⁰ E	FE	f ⁰ E	FE
00	6.6													
01	6.2													
02	5.9													
03	5.8													
04	5.8													
05	6.0													
06	6.2													
07	6.4													
08	6.6													
09	6.8													
10	7.0													
11	7.0													
12	6.9													
13	6.8													
14	6.9													
15	6.8													
16	6.7													
17	6.9													
18	7.0													
19	7.0													
20	7.0													
21	6.8													
22	7.0													
23	6.6													

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

Time: 0.0°.
Sweep: 0.5 Mc to 16.0 Mc in four minutes.
Median values except F₂-M3000, which are computed from average values
end F₂, which are average values from earlier summaries.

Table 23 (Supersedes Table 17, CRPL-F24)

Okinawa I. (26.3°N, 127.8°E)							June 1946							
Time	h ¹ F2	f ⁰ F2	h ¹ H	f ⁰ H	h ¹ E	f ⁰ E	FE	f ⁰ E	FE	h ¹ E	f ⁰ E	FE	f ⁰ E	FE
00	7.8													
01	7.9													
02	7.9													
03	7.1													
04	6.8													
05	6.6													
06	6.8													
07	7.4													
08	7.4													
09	8.1	(5.2)	3.5	7.4	2.8	2.8	2.8	0.9	0.9	7.8	250	4.3	2.6	2.4
10	8.3	3.7	7.2	2.6	2.9	2.5	2.5	10	440	9.1	220	5.2	3.8	2.8
11	8.6	5.2	3.9	7.5	2.7	2.8	2.8	11	450	9.6	220	5.2	3.8	2.6
12	9.8	5.4	4.1	6.3	2.6	2.7	2.7	12	420	10.2	220	5.3	3.9	2.5
13	10.6	5.2	4.0	6.8	2.7	2.8	2.8	13	400	10.9	230	5.3	3.9	2.5
14	10.8	5.3	3.9	5.6	2.8	2.8	2.8	14	400	11.4	240	5.2	3.6	2.6
15	11.0	5.5	3.6	5.5	2.8	2.8	2.8	15	370	12.2	220	5.1	3.5	2.7
16	10.8	5.1	3.4	5.3	2.8	2.8	2.8	16	350	12.2	240	4.9	3.4	2.7
17	10.8	4.9	3.2	6.2	2.8	2.8	2.8	17	320	12.0	250	4.8	4.4	2.8
18	10.6	(4.4)	6.3	2.0	2.6	2.6	2.6	18	290	12.0	250	3.0	3.8	2.6
19	10.2	5.5	3.0	5.5	2.8	2.8	2.8	19	250	10.4	270	9.4	2.9	2.8
20	8.6	5.6	4.6	2.6	2.6	2.6	2.6	20	270	9.0	285	3.4	3.4	2.8
21	8.1	4.0	2.6	2.6	2.6	2.6	2.6	21	300	8.4	300	8.1	2.7	2.6
22	8.3	8.2	3.8	2.6	2.6	2.6	2.6	22	300	8.4	300	8.1	2.7	2.6
23								23	300	8.4	300	8.1	2.7	

Time: 135.0°.
Sweep: Manual operation.

Table 24 (Supersedes Table 10, CRPL-F23)

Maui, Hawaii (20.8°N, 156.5°W)							June 1946							
Time	h ¹ F2	f ⁰ F2	h ¹ H	f ⁰ H	h ¹ E	f ⁰ E	FE	f ⁰ E	FE	h ¹ E	f ⁰ E	FE	f ⁰ E	FE
00	300													
01	300													
02	300													
03	300													
04	300													
05	310													
06	285													
07	260													
08	350													
09	410													
10	440													
11	450													
12	420													
13	400													
14	400													
15	370													
16	350													
17	320													
18	290													
19	250													
20	270													
21	285													
22	300													
23	300													

Time: 150.0°.
Sweep: 2.2 Mc to 16.0 Mc in one minute.

Table 25

Colombo, Ceylon (6.6°N, 80.0°E) June 1946*

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	*f0S	F2-M3000
00					(2.6)			
01					(3.6)			
02	(4.0)							
03	(3.5)							
04	(5.4)							
05	(8.2)		(3.0)					
06	(9.9)		(4.2)					
07	(10.6)		(3.8)					
08	(10.8)		(2.6)					
09	(10.0)		(2.6)					
10	(10.0)		(2.6)					
11	(10.0)		(2.6)					
12	(10.0)		(2.6)					
13	(9.5)		(2.6)					
14	(9.4)		(2.7)					
15	(9.8)		(2.7)					
16	(10.4)		(3.3)					
17	(11.2)		(3.3)					
18	(11.2)		(3.0)					
19								
20								
21								
22								
23								

Time: Local.
Sweep: 2.0 Mc to 16.0 Mc in one minute.
*Data for last through 9th only.

**Data sheet labeled "Extent of E."

Table 27

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	*f0S	F2-M3000
00	390	6.0			1.2	2.5		
01	396	5.7			1.0	2.5		
02	395	5.4			1.0	2.5		
03	387	4.8			1.2	2.5		
04	360	4.7			1.2	2.6		
05	342	5.1			2.7			
06	344	5.4			2.7			
07	330	6.0			2.8			
08	324	6.4			2.8			
09	325	7.0			2.8			
10	339	7.0			2.8			
11	346	6.8			2.8			
12	336	7.2			2.8			
13	343	7.2			5.2			
14	340	7.3			5.1			
15	333	7.4			5.0			
16	330	7.5			4.7			
17	322	7.7			4.4			
18	315	7.9			3.9			
19	316	8.0			4.0			
20	320	7.6			3.0			
21	346	7.2			2.9			
22	380	6.8			2.8			
23	387	6.2			2.6			

Time: Local.
Sweep: 0.5 Mc to 16.0 Mc in four minutes.

*Data sheet labeled "Extent of E."

Table 28

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	*f0S	F2-M3000
00	390	6.0			1.2	2.5		
01	396	5.7			1.0	2.5		
02	395	5.4			1.0	2.5		
03	387	4.8			1.2	2.5		
04	360	4.7			2.2			
05	342	5.1			2.7			
06	344	5.4			2.7			
07	330	6.0			2.8			
08	324	6.4			2.8			
09	325	7.0			2.8			
10	339	7.0			2.8			
11	346	6.8			2.8			
12	336	7.2			2.8			
13	343	7.2			5.2			
14	340	7.3			5.1			
15	333	7.4			5.0			
16	330	7.5			4.7			
17	322	7.7			4.4			
18	315	7.9			3.9			
19	316	8.0			4.0			
20	320	7.6			3.0			
21	346	7.2			2.9			
22	380	6.8			2.8			
23	387	6.2			2.6			

Time: Local.
Sweep: 0.5 Mc to 16.0 Mc in four minutes.

*Data sheet labeled "Extent of E."

Time: 0.0°.

Sweep: 0.5 Mc to 16.0 Mc in one minute.
*Median values except F2-M3000, which are computed from average values, and f0F1, which are average value from tabular summaries.

Time: Local.

Sweep: 2.0 Mc to 16.0 Mc in one minute.
*Data sheet labeled "Extent of E."

Table 26

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	*f0S	F2-M3000
00					0.6			
01					6.3			
02					5.6			
03					5.4			
04					5.3			
05					5.2			
06					5.5			
07					5.8			
08					6.2			
09					6.4			
10					6.7			
11					6.8			
12					7.0			
13					6.9			
14					7.0			
15					7.3			
16					7.5			
17					7.5			
18					7.5			
19					7.5			
20					7.5			
21					7.4			
22					6.8			
23					6.5			

Table 27

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	*f0S	F2-M3000
00					0.6			
01					8.6			
02					6.8			
03					6.6			
04					6.2			
05					4.8			
06					5.8			
07					7.0			
08					7.3			
09					7.5			
10					7.7			
11					11.7			
12					11.2			
13					10.5			
14					10.2			
15					10.5			
16					10.8			
17					10.8			
18					11.0			
19					10.9			
20					10.9			
21					10.9			
22					10.6			
23					10.6			

Table 28

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	*f0S	F2-M3000
00					0.6			
01					8.6			
02					6.8			
03					6.6			
04					6.2			
05					4.8			
06					5.8			
07					7.0			
08					7.3			
09					7.5			
10					7.7			
11					11.7			
12					11.2			
13					10.5			
14					10.8			
15					10.8			
16					11.0			
17					10.9			
18					10.9			
19					10.9			
20					10.8			
21					10.8			
22					10.6			
23					10.6			

Table 29

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	*f0S	F2-M3000
00					0.6			
01					6.3			
02					5.6			
03					5.4			
04					5.3			
05					5.2			
06					5.5			
07					5.8			
08					6.2			
09					6.4			
10					6.7			
11					6.8			
12					7.0			
13					7.3			
14					7.5			
15					7.5			
16					7.7			
17					7.7			
18					7.9			
19					8.0			
20					7.6			
21					7.2			
22					6.8			
23					6.2			

Table 30

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	*f0S	F2-M3000

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Table 22 (Supersedes Table 17, IRPL-F21)

Christchurch, N.Z. (43°55' S, 172.6°E)							March 1946		
Time	h ¹ P2	f ⁰ P2	h ¹ FN	f ⁰ FN	h ¹ E	f ⁰ E	FEs	F2-M3000	
00	280	6.4			2.7				
01	280	6.0			2.7				
02	270	5.8			2.7				
03	270	5.3			2.7				
04	280	4.8			2.8				
05	250	4.0			2.7				
06	260	4.5			2.5				
07	250	6.3	3.7		1.5				
08	255	7.4	2.30	4.4	2.8				
09	270*	8.6	2.20	4.7	3.1	4.0			
10	260	8.8	2.10	4.8	3.3				
11	280	9.6	2.10	5.0	3.5	4.2			
12	280	10.3	2.20	5.0	3.6	4.1			
13	280	10.0	2.20	5.3	3.6	4.4			
14	270	9.7	2.30	5.0	3.5				
15	260	9.5	2.30	4.6	3.3				
16	250	9.6	2.30	4.3	3.0				
17	240	9.5	2.40	3.8	2.5	2.8			
18	240	9.1			1.8	2.7			
19	240	8.7			1.8	2.7			
20	250	8.0			2.8				
21	250	7.3			2.7				
22	270	6.9			2.6				
23	290	6.7			2.7				

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

Table 21

Leningrad (WETIAS), U.S.S.R. (60.0°N, 30.3°E)							January 1946		
Time	h ¹ P2	f ⁰ P2	h ¹ FN	f ⁰ FN	h ¹ E	f ⁰ E	FEs	F2-M3000	
00	400	2.4							
01	370	2.2							
02	350	2.6							
03	370	2.4							
04	360	2.3							
05	350	2.6							
06									
07									
08	300	3.3							
09	230	4.8							
10	230	5.8							
11	220	6.0							
12	230	6.2							
13	220	6.6							
14	220	6.2							
15	220	5.8							
16	220	5.5							
17									
18									
19									
20									
21									
22									
23									

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

Table 22

Bukhara Tikkaja, U.S.S.R. (80.3°N, 52.7°E)							January 1946		
Time	h ¹ P2	f ⁰ P2	h ¹ FN	f ⁰ FN	h ¹ E	f ⁰ E	FEs	F2-M3000	
00									
01	250	3.0							
02	250	3.3							
03									
04									
05									
06									
07									
08									
09									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									

Time: 60.0°E.
Sweep: 1.5 Mc to 9.5 Mc in five to ten minutes. Manual operation.

Time: 30.0°E.
Sweep: Manual operation.

Time: 90.0°E.
Sweep: Manual operation. 1.2 Mc to 10.0 Mc in five to ten minutes.

Table 33

Moscow, U.S.S.R. (55.9°N, 37.7°E) January 1946

Time	$b^{\circ}F_2$	F^{op}_2	$b^{\circ}F_3$	F^{op}_3	$b^{\circ}E$	F^{op}_E	F^{op}_S	F^{op}_M3000
00	2.5							
01	2.8							
02	2.8							
03	2.7							
04	2.5							
05	2.4							
06	2.5							
07	2.8							
08	4.6							
09	6.2							
10	6.6							
11	7.0							
12	7.0							
13	6.7							
14	6.5							
15	6.3							
16	5.3							
17	4.0							
18	3.0							
19	2.7							
20	2.4							
21	2.4							
22	2.4							
23	2.4							

Time: 30.0°E.
Sweep: 1.8 Mc to 10.0 Mc in ten minutes. Manual operation.

Table 35

Time	$b^{\circ}F_2$	F^{op}_2	$b^{\circ}F_3$	F^{op}_3	$b^{\circ}E$	F^{op}_E	F^{op}_S	F^{op}_M3000
00	200	3.2						
01	200	3.3						
02	200	3.1						
03	200	3.4						
04	200	3.3						
05	200	3.6						
06	200	4.1						
07	200	4.8						
08	200	5.8						
09	200	6.6						
10	200	7.0						
11	200	7.0						
12	200	7.7						
13	200	7.2						
14	200	7.2						
15	200	6.7						
16	200	6.9						
17	200	5.6						
18	200	4.7						
19	200	4.0						
20	200	3.6						
21	200	3.6						
22	200	3.3						
23	200	3.3						

Time: 75.0°E.
Sweep: 2.0 Mc to 14.0 Mc in ten to twenty minutes. Manual operation.

Table 35

Time	$b^{\circ}F_2$	F^{op}_2	$b^{\circ}F_3$	F^{op}_3	$b^{\circ}E$	F^{op}_E	F^{op}_S	F^{op}_M3000
00	100	2.4						
01	100	2.9						
02	100	3.0						
03	110	3.1						
04	120	3.0						
05	110	3.0						
06	100	2.7						
07	100	2.4						
08	100	2.4						
09	100	2.9						
10	100	3.2						
11	100	3.2						
12	100	3.1						
13	100	2.7						
14	100	3.2						
15	100	3.2						
16	100	3.2						
17	100	2.9						
18	100	2.7						
19	100	2.7						
20	100	2.4						
21	100	2.3						
22	100	2.3						
23	100	2.6						

Time: 75.0°E.
Sweep: 2.0 Mc to 14.0 Mc in ten to twenty minutes. Manual operation.

Table 33

Time	$b^{\circ}F_2$	F^{op}_2	$b^{\circ}F_3$	F^{op}_3	$b^{\circ}E$	F^{op}_E	F^{op}_S	F^{op}_M3000
00	2.5							
01	2.8							
02	2.8							
03	2.7							
04	2.5							
05	2.4							
06	2.5							
07	2.8							
08	4.6							
09	6.2							
10	6.6							
11	7.0							
12	7.0							
13	6.7							
14	6.5							
15	6.3							
16	5.3							
17	4.0							
18	3.0							
19	2.7							
20	2.4							
21	2.4							
22	2.4							
23	2.4							

Table 34

Time	$b^{\circ}F_2$	F^{op}_2	$b^{\circ}F_3$	F^{op}_3	$b^{\circ}E$	F^{op}_E	F^{op}_S	F^{op}_M3000
00	2.5							
01	2.8							
02	2.8							
03	2.7							
04	2.5							
05	2.4							
06	2.5							
07	2.8							
08	4.6							
09	6.2							
10	6.6							
11	7.0							
12	7.0							
13	6.7							
14	6.5							
15	6.3							
16	5.3							
17	4.0							
18	3.0							
19	2.7							
20	2.4							
21	2.4							
22	2.4							
23	2.4							

Table 34

Time	$b^{\circ}F_2$	F^{op}_2	$b^{\circ}F_3$	F^{op}_3	$b^{\circ}E$	F^{op}_E	F^{op}_S	F^{op}_M3000
00	2.5							
01	2.8							
02	2.8							
03	2.7							
04	2.5							
05	2.4							
06	2.5							
07	2.8							
08	4.6							
09	6.2							
10	6.6							
11	7.0							
12	7.0							
13	6.7							
14	6.5							
15	6.3							
16	5.3							
17	4.0							
18	3.0							
19	2.7							
20	2.4							
21	2.4							
22	2.4							
23	2.4							

Table 34

Time	$b^{\circ}F_2$	F^{op}_2	$b^{\circ}F_3$	F^{op}_3	$b^{\circ}E$	F^{op}_E	F^{op}_S	F^{op}_M3000
00	2.5							
01	2.8							
02	2.8							
03	2.7							
04	2.5							
05	2.4							
06	2.5							
07	2.8							
08	4.6							
09	6.2							
10	6.6							
11	7.0							
12	7.0							
13	6.7							
14	6.5							
15	6.3							
16	5.3							
17	4.0							
18	3.0							
19	2.7							
20	2.4							
21	2.4							
22	2.4							
23	2.4							

Table 34

Time	$b^{\circ}F_2$	F^{op}_2	$b^{\circ}F_3$	F^{op}_3	$b^{\circ}E$	F^{op}_E	F^{op}_S	F^{op}_M3000

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Table 27 (Supersedes Table 60, IRPL-F20)

Sverdlovsk, U.S.S.R. (66.7°N, 61.1°E)

November 1945

Table 28 (Supersedes Table 33, IRPL-F20)*

Tomak, U.S.S.R. (56.5°N, 62.9°E)

October 1945

Time	h ¹ F2	2F2	h ¹ P ₁	f ₀ P ₁	h ¹ E	f ₀ E	f ₀ S	f ₀ M3000
00	285	2.7			2.8			
01	280	2.8			2.9			
02	265	2.8			2.9			
03	271	2.9			2.9			
04	270	2.7			2.9			
05	250	2.5			2.9			
06	230	2.7			3.1			
07	200	3.8			3.2			
08	190	6.0	130	1.8	3.6	0.8	0.8	1.4
09	180	7.6	110	2.1	3.6	0.9	0.9	2.0
10	190	8.6	100	2.4	3.6	1.0	1.0	2.4
11	190	8.7	100	2.5	3.6	1.1	1.0	2.7
12	190	8.6	100	2.5	3.6	1.1	1.0	2.9
13	190	8.5	100	2.5	3.6	1.2	1.0	2.9
14	190	7.9	100	2.4	3.5	1.3	1.0	2.9
15	190	7.2	110	2.4	3.6	1.4	1.0	2.7
16	200	6.3			3.6	1.5	1.0	2.6
17	200	5.4	200	2.2	3.6	1.6	1.0	2.3
18	200	4.2			3.5	1.7	1.0	1.8
19	200	3.5			3.3	1.8	1.0	1.0
20	225	2.8			3.2	1.9	1.0	0.7
21	240	2.6			3.2	2.1	1.0	4.2
22	260	2.6			2.9	2.2	1.0	4.2
23	275	2.6			2.9	2.3	1.0	3.6

Time: 60.0°E
Sweep: 1.5 Mc to 16.0 Mc in five to thirteen minutes. Manual operation.

Table 29

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

February 1946**

Time	h ¹ F2	2F2	h ¹ P ₁	f ₀ P ₁	h ¹ E	f ₀ E	f ₀ S	f ₀ M3000
00	274	3.5			3.5			
01	242	3.8			3.8			
02	210	3.7			3.7			
03	225	3.4			3.4			
04	257	2.5			2.5			
05	293	2.4			2.4			
06	268	2.6			2.6			
07	236	4.7			105	2.5		
08	261	5.3			115	2.5		
09	312	5.9	242	4.2	115	2.5		
10	326	7.2	224	4.4	113	2.9		
11	302	6.2	229	4.4	114	3.4		
12	292	8.4	229	4.4	115	3.4		
13	292	8.5	223	4.4	114	3.4		
14	300	7.8	222	4.4	113	3.3		
15	292	7.6	226	4.3	114	3.1		
16	283	7.5	242	4.0	115	3.0		
17	462	7.4			115	3.0		
18	232	6.3			116	3.4		
19	440	5.0			111	3.4		
20	436	4.7			112	3.6		
21	465	4.1			112	3.6		
22	305	2.2			112	4.0		
23	320	3.0			112	3.6		

Time: 60.0°E
Sweep: 1.5 Mc to 16.0 Mc in five to thirteen minutes. Manual operation.
*Average values.
**Sweep through 240°.

Table 27 (Supersedes Table 60, IRPL-F20)

Sverdlovsk, U.S.S.R. (66.7°N, 61.1°E)

November 1945

Table 28 (Supersedes Table 33, IRPL-F20)*

Tomak, U.S.S.R. (56.5°N, 62.9°E)

October 1945

Time	h ¹ F2	2F2	h ¹ P ₁	f ₀ P ₁	h ¹ E	f ₀ E	f ₀ S	f ₀ M3000
00	285	2.7			2.8			
01	280	2.8			2.9			
02	265	2.8			2.9			
03	271	2.9			2.9			
04	270	2.7			2.9			
05	250	2.5			2.9			
06	230	2.7			3.1			
07	200	3.8			3.2			
08	190	6.0	130	1.8	3.6	0.8	0.8	1.4
09	180	7.6	110	2.1	3.6	0.9	0.9	2.0
10	190	8.6	100	2.4	3.6	1.0	1.0	2.4
11	190	8.7	100	2.5	3.6	1.1	1.0	2.7
12	190	8.6	100	2.5	3.6	1.1	1.0	2.9
13	190	8.5	100	2.5	3.6	1.2	1.0	2.9
14	190	7.9	100	2.4	3.5	1.3	1.0	2.9
15	190	7.2	110	2.4	3.6	1.4	1.0	2.7
16	200	6.3			3.6	1.5	1.0	2.6
17	190	5.4	200	2.2	3.6	1.6	1.0	2.3
18	200	4.2			3.5	1.7	1.0	2.3
19	200	3.5			3.3	1.8	1.0	1.8
20	225	2.8			3.2	1.9	1.0	0.7
21	240	2.6			3.2	2.1	1.0	4.2
22	260	2.6			2.9	2.2	1.0	4.2
23	275	2.6			2.9	2.3	1.0	3.6

Time: 60.0°E
Sweep: 1.5 Mc to 16.0 Mc in five to thirteen minutes. Manual operation.
*Average values.

Table 40*

Fairbanks, Alaska (64.9°N, 147.8°W)

September 1943

Time	h ¹ F2	2F2	h ¹ P ₁	f ₀ P ₁	h ¹ E	f ₀ E	f ₀ S	f ₀ M3000
00	368	2.0			3.0			
01	362	2.1			3.0			
02	347	2.4			3.0			
03	341	2.4			3.0			
04	344	2.3			3.0			
05	330	2.5			3.0			
06	307	3.3			3.0			
07	374	3.0			3.0			
08	471	3.6			3.0			
09	475	3.8			3.0			
10	454	3.9			3.0			
11	456	4.1			3.0			
12	421	4.2			3.0			
13	444	4.2			3.0			
14	421	4.2			3.0			
15	377	4.1			3.0			
16	331	4.0			3.0			
17	296	3.6			3.0			
18	279	3.2			3.0			
19	289	2.6			3.0			
20	320	2.3			3.0			
21	317	2.2			3.0			
22	257	1.7			3.0			
23	247	1.9			3.0			

Time: 90.0°E
Sweep: 1.2 Mc to 10.0 Mc in five to ten minutes.
*Average values.

Time: 150.0°E
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Time: 150.0°E

Table 41*

Fairbanks, Alaska (64.9°N, 147.8°W)

August 1943

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	foE	foS	F2-M3000
00	34.0	2.5	99	5.6	5.6	5.6	5.6	5.6	5.6
01	33.2	2.6	100	5.6	5.6	5.6	5.6	5.6	5.6
02	34.4	2.8	99	5.6	5.6	5.6	5.6	5.6	5.6
03	33.9	2.9	100	1.9	5.2	5.2	5.2	5.2	5.2
04	35.3	3.0	325	2.8	1.01	2.0	5.4	3.1	5.8
05	44.4	3.4	277	3.0	1.02	2.0	5.6	3.1	5.4
06	48.2	3.6	24.0	3.2	1.00	2.3	4.4	3.1	4.8
07	47.8	3.8	24.0	3.3	1.04	2.6	4.2	3.1	5.0
08	47.7	4.0	226	3.6	1.06	2.7	4.6	3.1	5.1
09	50.9	4.1	218	3.7	1.05	2.8	4.6	3.1	4.7
10	46.7	4.2	220	3.7	1.06	2.9	6.8	3.1	5.2
11	43.1	4.3	216	3.8	1.06	2.9	6.7	3.1	5.1
12	45.2	4.2	223	3.8	1.07	3.0	5.3	3.1	5.0
13	47.7	4.2	226	3.8	1.06	2.9	5.9	3.1	5.1
14	48.0	4.2	226	3.8	1.08	2.8	5.8	3.1	5.1
15	48.6	4.2	231	3.7	112	2.7	3.6	3.1	4.8
16	43.7	4.2	239	3.6	113	2.6	4.5	3.1	4.8
17	37.0	4.1	243	3.5	111	2.3	4.3	3.1	5.8
18	32.7	3.8	242	3.2	118	2.1	4.3	3.0	4.5
19	28.2	3.3	292	2.9	116	1.9	4.7	3.0	4.7
20	29.2	2.9	210	1.6	110	1.6	5.0	3.0	4.5
21	31.0	2.7	210	1.07	1.07	4.8	2.2	2.2	4.5
22	32.2	2.6	210	1.04	1.04	4.4	2.2	1.5	5.0
23	34.2	2.7	210	1.00	1.00	6.1	2.2	1.3	4.9

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
* Average values.

Table 42*

Fairbanks, Alaska (64.9°N, 147.8°W)

June 1943

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	foE	foS	F2-M3000
00	299	3.4	99	1.2	5.5	5.5	5.5	5.5	5.5
01	289	3.5	97	1.4	5.5	5.5	5.5	5.5	5.5
02	296	3.6	265	2.6	98	1.6	5.5	3.0	5.5
03	233	3.8	259	3.0	98	1.8	4.8	3.4	5.3
04	350	4.0	246	3.1	96	2.1	6.1	3.7	4.7
05	379	4.1	229	3.4	97	2.4	5.7	3.8	5.3
06	413	4.1	223	3.6	98	2.7	5.9	4.0	5.1
07	44.7	4.2	209	3.7	97	2.8	6.1	4.1	4.2
08	47.1	4.2	203	3.8	97	2.9	6.1	4.1	4.2
09	47.5	4.3	191	3.9	96	3.0	7.2	4.1	4.2
10	47.6	4.4	206	3.9	97	3.1	4.6	4.2	4.2
11	45.9	4.4	204	4.0	97	3.1	5.6	4.2	4.2
12	46.6	4.5	208	4.1	98	3.1	4.7	4.3	4.2
13	45.7	4.5	210	4.1	98	3.1	4.7	4.3	4.2
14	45.3	4.5	208	4.0	100	3.0	3.3	4.5	4.2
15	43.2	4.5	214	4.0	103	3.0	3.0	4.5	4.2
16	40.6	4.5	215	3.9	101	2.8	4.1	4.5	4.2
17	36.5	4.6	227	3.8	103	2.6	6.8	4.4	4.2
18	33.4	4.3	237	3.6	103	2.4	4.1	4.4	4.0
19	32.1	4.2	244	3.3	101	2.2	6.0	4.3	4.0
20	28.2	4.0	247	3.1	100	2.0	5.2	4.0	3.9
21	27.6	3.9	238	2.7	99	1.7	5.1	3.7	3.7
22	27.4	3.8	274	1.03	1.5	4.6	2.2	2.2	4.5
23	28.3	3.6	283	1.03	1.3	4.0	2.3	1.1	4.2

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
* Average values.

Table 43*

Fairbanks, Alaska (64.9°N, 147.8°W)

July 1943

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	foE	foS	F2-M3000
00	295	2.9	104	1.2	4.2	4.2	4.2	4.2	4.2
01	303	3.1	102	1.2	4.2	4.2	4.2	4.2	4.2
02	308	3.2	265	2.4	103	1.3	4.2	4.2	4.2
03	313	3.5	259	2.8	104	1.4	4.3	4.3	4.3
04	363	3.6	236	3.0	101	1.6	4.5	4.5	4.5
05	382	3.8	228	3.2	102	2.1	5.0	5.0	5.0
06	428	4.0	221	3.5	101	2.4	5.1	5.1	5.1
07	431	4.1	219	3.7	102	2.6	4.4	4.4	4.4
08	479	4.1	206	3.7	102	2.7	4.9	4.9	4.9
09	458	4.3	206	3.8	103	2.8	4.8	4.8	4.8
10	457	4.3	209	4.0	103	2.9	4.5	4.5	4.5
11	493	4.3	206	3.8	104	3.0	4.0	4.0	4.0
12	464	4.4	209	3.9	103	3.0	3.1	3.1	3.1
13	470	4.4	205	3.9	103	2.9	3.4	3.4	3.4
14	468	4.3	212	3.8	104	2.8	4.0	4.0	4.0
15	450	4.3	212	3.8	104	2.8	4.0	4.0	4.0
16	461	4.2	219	3.7	104	2.6	5.8	5.8	5.8
17	390	4.3	222	3.4	106	2.4	5.4	5.4	5.4
18	357	4.2	224	3.4	106	2.2	4.7	4.7	4.7
19	292	3.8	241	3.2	108	2.0	4.5	4.5	4.5
20	275	3.5	250	2.9	108	1.8	5.2	5.2	5.2
21	287	3.3	295	3.3	107	1.5	5.0	5.0	5.0
22	292	2.9	295	3.3	105	1.3	4.9	4.9	4.9
23	287	2.9	105	1.2	105	1.2	3.9	3.9	3.9

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
* Average values.

Table 44*

Fairbanks, Alaska (64.9°N, 147.8°W)

May 1943

Time	h'F2	f0F2	h'F1	f0F1	h'E	f0E	foE	foS	F2-M3000
00	295	2.9	104	1.2	4.2	4.2	4.2	4.2	4.2
01	309	3.0	103	1.2	4.2	4.2	4.2	4.2	4.2
02	328	3.4	290	2.6	103	1.4	4.3	4.3	4.3
03	332	3.7	265	2.8	101	1.7	4.7	4.7	4.7
04	377	3.8	260	3.0	102	1.9	5.3	5.3	5.3
05	428	4.0	247	3.2	102	2.2	5.1	5.1	5.1
06	435	4.1	243	3.4	102	2.5	4.5	4.5	4.5
07	439	4.1	222	3.5	103	2.7	4.5	4.5	4.5
08	464	4.1	223	3.7	103	2.8	5.0	5.0	5.0
09	482	4.2	219	3.8	103	2.9	5.3	5.3	5.3
10	506	4.2	221	3.9	104	3.0	4.7	4.7	4.7
11	491	4.3	218	4.0	105	3.0	5.3	5.3	5.3
12	453	4.3	220	4.4	104	3.0	5.1	5.1	5.1
13	464	4.5	216	4.0	103	3.0	8.7	8.7	8.7
14	438	4.4	214	3.9	101	2.8	7.9	7.9	7.9
15	427	4.5	231	3.9	103	2.8	6.4	6.4	6.4
16	395	4.4	227	3.8	103	2.6	4.2	4.2	4.2
17	364	4.4	232	3.6	108	2.5	4.0	4.0	4.0
18	309	4.3	236	3.3	109	2.2	5.3	5.3	5.3
19	282	4.2	240	3.1	109	2.0	4.9	4.9	4.9
20	279	4.0	207	3.0	111	1.7	4.7	4.7	4.7
21	266	3.7	211	2.1	107	1.4	4.5	4.5	4.5
22	271	3.2	111	1.2	111	1.2	4.2	4.2	4.2
23	288	3.0	104	1.2	104	1.2	3.9	3.9	3.9

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
* Average values.Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
* Average values.

Table 45*
Fairbanks, Alaska (64.9°N, 147.8°W)April 1943
Fairbanks, Alaska (64.9°N, 147.8°W)
March 1943

Time	h'F2	f'F2	h'F1	f'F1	h'E	f'F1	10E	FEs	F2-M3000
00	296	2.2	102	1.0	4.6				
01	323	2.2	104	0.9	4.2				
02	329	2.4	103	1.2	4.4				
03	329	2.7	104	1.3	4.5				
04	220	3.1	105	1.6	4.6				
05	377	3.4	286	3.0	106	1.9			
06	492	3.7	254	3.2	110	2.2	5.0		
07	489	3.8	244	3.4	109	2.4	4.2		
08	482	4.0	233	3.6	110	2.6	4.2		
09	497	4.1	225	3.7	110	2.7	3.6		
10	573	4.2	220	3.8	110	2.8			
11	478	4.4	221	3.8	108	2.9			
12	460	4.5	226	3.9	112	2.8			
13	436	4.6	224	3.9	110	2.8	3.6		
14	406	4.6	224	3.9	111	2.8	3.0		
15	378	4.7	239	3.8	114	2.6	3.8		
16	343	4.6	237	3.6	116	2.4	3.8		
17	313	4.4	248	3.3	114	2.2	3.4		
18	285	4.3	253	2.9	111	1.9	7.5		
19	270	4.0			112	1.5	5.5		
20	280	3.6			109	1.1	5.0		
21	284	3.2			105	0.9	5.4		
22	284	3.1			105	0.9	4.4		
23	289	2.6			104	0.9	4.2		

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 47*

Time	h'F2	f'F2	h'F1	f'F1	h'E	f'F1	10E	FEs	F2-M3000
00	313	1.9	98	5.1					
01	332	2.1	98	5.0					
02	355	2.0	99	4.9					
03	338	2.0	97	4.6					
04	339	2.0	97	3.8					
05	342	2.1	98	2.9					
06	325	2.1	99	1.1					
07	290	2.3	100	1.4	2.1				
08	264	3.0	100	1.6	2.4				
09	255	3.8	245	3.0	102	2.0	2.4		
10	264	4.3	233	3.1	98	2.2	2.5		
11	271	4.5	230	3.2	98	2.2	2.5		
12	263	4.7	236	3.2	104	2.3	2.6		
13	258	5.0	240	3.1	103	2.3	2.2		
14	246	5.0	242	3.2	103	2.1	2.2		
15	240	5.1			103	1.9	2.1		
16	237	4.8			101	1.6	2.0		
17	239	4.2			106	1.3	1.8		
18	244	3.2			102	2.5			
19	258	2.3			101	3.0			
20	272	1.8			100	3.2			
21	285	1.7			99	1.4	3.4		
22	292	1.7			98	4.0			
23	306	1.6			99	4.9			

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 48*

Time	h'F2	f'F2	h'F1	f'F1	h'E	f'F1	10E	FEs	F2-M3000
00	326	1.8							
01	348	1.9							
02	354	2.1							
03	346	2.2							
04	346	2.2							
05	338	2.5							
06	314	2.9							
07	315	3.3							
08	337	3.7							
09	233	4.1							
10	350	4.3							
11	360	4.6							
12	358	4.8							
13	323	4.9							
14	307	5.0							
15	291	5.1							
16	271	5.1							
17	261	4.8							
18	262	4.4							
19	262	3.5							
20	276	2.6							
21	296	2.1							
22	301	1.8							
23	299	1.9							

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Fairbanks, Alaska (64.9°N, 147.8°W) December 1942

Table 50*

Time	h ¹ F2	f ⁰ F2	h ¹ V1	f ⁰ V1	h ¹ E	f ⁰ E	h ¹ O	f ⁰ O	h ¹ S	f ⁰ S	P2-M3000
00	324	1.4	99	4.1					94	1.3	5.3
01	309	1.6	98	4.1					91	5.2	
02	318	1.7	98	4.5					91	4.5	
03	327	1.6	98	4.7					93	4.5	
04	319	1.6	99	4.5					92	1.0	
05	314	1.7	98	4.2					91	1.0	
06	315	2.0	99	1.3					93	1.2	
07	298	2.1	98	1.2					92	1.3	
08	273	2.3	98	1.1					92	2.5	
09	259	3.2	101	1.4	2.5				92	1.7	
10	251	4.3	102	1.6	2.5				94	1.7	
11	238	4.9	230	2.6	1.8	2.6			93	2.0	
12	244	5.1	222	2.9	1.8	2.4			95	2.0	
13	239	5.4	208	2.6	1.8	2.6			89	2.6	
14	224	4.9	208	2.6	1.5	1.9			94	2.0	
15	244	4.0	240	3.0	1.0	1.3	2.2		93	2.4	
16	251	3.4	252	2.5	0.9	1.1	2.0		95	1.5	
17	252	2.5	256	2.0	0.9	1.0	2.4		89	1.2	
18	256	1.7	263	1.7	0.9	0.9	2.8		90	1.1	
19	263	1.6	279	1.6	0.8	0.8	2.8		91	1.2	
20	279	1.6	279	1.6	0.7	1.1	3.1		92	0.9	
21	297	1.6	297	1.5	1.0	1.9	3.4		92	0.9	
22	297	1.5	296	1.4	1.0	1.9	3.9		93	0.9	
23	296	1.4			0.9	3.8			94	1.0	

Time: 150.0⁰w.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 51*

Time	h ¹ F2	f ⁰ F2	h ¹ V1	f ⁰ V1	h ¹ E	f ⁰ E	h ¹ O	f ⁰ O	h ¹ S	f ⁰ S	P2-M3000
00	306	1.8	93	1.1	5.3				98	5.2	
01	339	2.0	92	1.1	5.2				97	5.2	
02	335	2.7	92	1.1	5.8				96	4.8	
03	332	2.9	92	1.5	4.9				96	4.4	
04	342	2.7	92	1.5	4.4				95	1.4	
05	319	2.4	93	1.5	4.1				102	3.6	
06	288	2.6	94	1.4	3.9				103	1.8	
07	255	3.2	100	1.7	2.6				103	2.2	
08	258	4.0	238	3.2	102	2.0	2.2		102	2.4	
09	269	4.4	226	2.2	1C3	2.3	3.2		105	2.5	
10	272	4.6	222	3.3	101	2.4	2.7		105	2.7	
11	282	5.0	223	3.3	99	2.5	2.6		103	2.7	
12	274	5.2	228	3.4	97	2.4	3.0		103	2.7	
13	264	5.2	229	3.3	99	2.3	2.6		103	2.7	
14	231	5.1	227	3.3	99	2.1	2.8		102	2.6	
15	240	4.9	250	3.1					104	2.4	
16	254	4.7			1C1	1.6	2.3		104	2.2	
17	251	4.3			100	1.3	3.2		106	2.4	
18	266	3.2			100	1.3	3.6		107	1.8	
19	277	2.5			96	1.2	3.4		106	1.5	
20	291	2.1			96	1.2	3.8		99	3.6	
21	288	2.0			94	1.1	4.6		97	1.1	
22	287	2.0			93	1.0	5.2		98	4.6	
23	315	2.0			95	1.0	5.8		98	5.4	

Time: 150.0⁰w.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 50*

Fairbanks, Alaska (64.9°N, 147.8°W)

November 1942

Fairbanks, Alaska (64.9°N, 147.8°W)

Table 50*

Time: 150.0⁰w.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 51*

Fairbanks, Alaska (64.9°N, 147.8°W)

September 1942

Fairbanks, Alaska (64.9°N, 147.8°W)

Table 51*

Time	h ¹ F2	f ⁰ F2	h ¹ V1	f ⁰ V1	h ¹ E	f ⁰ E	h ¹ O	f ⁰ O	h ¹ S	f ⁰ S	P2-M3000
00	307	2.4							98	5.2	
01	311	2.2							97	5.2	
02	325	2.1							96	4.8	
03	341	1.9							96	4.4	
04	334	2.2							95	1.4	
05	324	2.4							102	1.5	
06	306	2.4							103	2.3	
07	295	2.6							103	2.2	
08	269	3.2							103	2.2	
09	253	4.0							103	2.2	
10	258	4.6							103	2.2	
11	253	4.9							103	2.2	
12	251	5.1							103	2.2	
13	251	5.4							103	2.2	
14	238	5.4							103	2.2	
15	242	3.0							103	2.2	
16	242	3.0							103	2.2	
17	237	3.4							103	2.2	
18	264	2.4							103	2.2	
19	270	1.9							103	2.2	
20	288	1.8							103	2.2	
21	290	1.9							103	2.2	
22	282	1.9							103	2.2	
23	295	2.3							103	2.2	

Time: 150.0⁰w.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 52*

Fairbanks, Alaska (64.9°N, 147.8°W)

September 1942

Fairbanks, Alaska (64.9°N, 147.8°W)

Table 52*

Time: 150.0⁰w.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 55*

Fairbanks, Alaska (64.9°N, 147.8°W)

August 1942

Table 54*

Fairbanks, Alaska (64.9°N, 147.8°W)

July 1942

Time	h ¹ P2	f ⁰ P2	h ¹ T1	f ⁰ T1	h ¹ E	f ⁰ E	F2-M3000
00	308	2.8	102	0.9	4.9	100	1.3
01	328	3.0	101	0.9	5.2	98	1.4
02	324	3.1	101	1.2	4.6	98	1.7
03	330	3.2	250	2.7	101	1.4	5.8
04	350	3.4	276	3.1	99	1.7	2.0
05	247	3.6	250	3.0	100	2.0	5.0
06	380	3.9	225	3.3	102	2.3	4.9
07	404	4.1	215	3.5	103	2.4	2.3
08	424	4.4	206	3.7	104	2.6	5.1
09	421	4.5	203	3.7	104	2.7	2.5
10	449	4.5	202	3.8	105	2.8	6.1
11	408	4.6	196	3.8	103	2.8	2.8
12	425	4.5	205	3.8	104	2.9	3.0
13	410	4.4	205	3.8	104	2.8	10.4
14	413	4.5	205	3.8	103	2.7	4.0
15	392	4.5	210	3.7	108	2.6	2.8
16	365	4.4	220	3.6	112	2.5	3.6
17	348	4.4	227	3.6	114	2.2	5.5
18	316	4.3	233	3.4	113	2.0	2.5
19	282	3.8	242	3.2	112	1.8	7.9
20	287	3.4	250	3.2	112	1.4	6.6
21	268	3.1	275	3.2	109	1.2	6.0
22	279	2.9	279	2.9	102	1.0	2.2
23	293	2.8	293	2.8	104	1.1	4.7

Time: 150.0°W.
 Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
 *Average values.

Table 55*

Time	h ¹ P2	f ⁰ P2	h ¹ T1	f ⁰ T1	h ¹ E	f ⁰ E	F2-M3000
00	283	3.8	275	3.3	102	1.5	4.6
01	295	3.9	228	3.5	104	1.7	4.9
02	294	4.0	264	3.0	102	1.8	4.5
03	337	4.3	245	3.2	97	2.2	5.4
04	358	4.4	245	3.5	100	2.4	4.0
05	382	4.5	217	3.5	100	2.4	5.7
06	374	4.7	214	3.7	99	2.6	4.5
07	403	4.7	216	3.9	100	2.8	6.2
08	424	4.7	205	4.0	102	2.9	5.2
09	431	4.7	209	4.0	101	3.0	4.0
10	431	4.8	210	4.1	102	3.1	3.4
11	437	4.8	210	4.2	102	3.1	3.2
12	445	4.8	210	4.2	100	3.1	3.0
13	436	4.8	208	4.2	104	3.1	3.3
14	423	4.7	246	4.1	102	3.0	2.9
15	424	4.7	204	4.2	101	3.0	3.4
16	407	4.6	214	4.0	103	2.8	4.0
17	382	4.6	221	3.9	105	2.7	6.2
18	337	4.7	228	3.5	106	2.5	2.3
19	300	4.6	233	3.4	103	2.2	5.3
20	272	4.4	244	3.0	108	2.0	5.7
21	260	4.3	280	3.4	106	1.8	5.8
22	266	3.9	109	1.6	4.2	22	4.8
23	275	3.9	107	1.6	5.0	21	3.9

Time: 150.0°W.
 Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
 *Average values.

Table 55*

Time	h ¹ P2	f ⁰ P2	h ¹ T1	f ⁰ T1	h ¹ E	f ⁰ E	F2-M3000
00	303	2.8	309	3.0	100	1.3	6.6
01	309	3.0	322	3.4	260	2.5	6.5
02	310	3.2	342	3.7	257	2.9	5.8
03	330	3.2	342	3.7	260	3.1	5.0
04	350	3.4	365	3.9	260	3.2	4.9
05	247	3.6	380	4.1	230	3.2	5.1
06	380	3.9	407	4.2	221	3.4	2.5
07	404	4.0	407	4.3	208	3.6	5.8
08	424	4.4	420	4.3	205	3.7	6.1
09	421	4.5	434	4.4	207	3.7	2.8
10	449	4.5	453	4.5	207	3.9	3.5
11	463	4.5	460	4.0	208	4.0	2.9
12	440	4.6	460	4.0	210	4.0	3.0
13	427	4.6	466	4.0	206	4.0	10.4
14	417	4.6	417	4.6	210	4.0	2.8
15	426	4.6	426	4.6	216	3.9	3.6
16	394	4.6	394	4.6	214	3.8	5.7
17	380	4.4	380	4.4	221	3.6	7.9
18	346	4.4	346	4.4	226	3.4	2.4
19	309	4.2	309	4.2	232	3.2	6.0
20	275	4.2	275	4.2	241	3.9	1.9
21	274	3.9	274	3.9	245	2.5	100
22	278	3.1	278	3.1	245	2.5	1.7
23	290	2.9	290	2.9	103	1.4	4.7

Time: 150.0°W.
 Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
 *Average values.

Time	h ¹ P2	f ⁰ P2	h ¹ T1	f ⁰ T1	h ¹ E	f ⁰ E	F2-M3000
00	312	4.0	312	4.0	100	1.3	4.5
01	320	4.0	327	4.1	103	1.2	4.3
02	320	4.1	326	4.4	278	2.8	4.0
03	326	4.4	326	4.4	271	3.2	1.6
04	361	4.5	361	4.5	271	3.2	4.0
05	388	4.7	388	4.7	250	3.4	5.7
06	409	4.5	409	4.5	232	3.7	2.1
07	406	4.9	406	4.9	218	3.8	2.4
08	434	5.2	434	5.2	215	4.0	6.2
09	425	5.2	425	5.2	211	4.1	5.2
10	404	5.3	404	5.3	211	4.2	3.2
11	400	5.3	400	5.3	214	4.3	3.0
12	390	5.3	390	5.3	211	4.3	3.0
13	397	5.3	397	5.3	210	4.3	2.8
14	388	5.3	388	5.3	210	4.3	2.8
15	371	5.3	371	5.3	213	4.2	3.4
16	351	5.2	351	5.2	219	4.0	2.8
17	322	5.3	322	5.3	227	3.9	3.2
18	297	5.3	297	5.3	235	3.4	107
19	286	5.1	286	5.1	239	3.2	109
20	270	4.9	270	4.9	232	2.7	111
21	275	4.6	275	4.6	110	1.4	3.9
22	280	4.3	280	4.3	109	1.3	4.8
23	301	3.8	301	3.8	106	1.2	4.2

Time: 150.0°W.
 Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
 *Average values.

Time: 150.0°W.
 Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
 *Average values.

Fairbanks, Alaska (64.0°N, 147.8°W)

February 1942

Fairbanks, Alaska (64.0°N, 147.8°W)

March 1942

Time	b'F2	f'F2	b'F3	f'F3	b'E	f'E	b'SE	f'SE	F2-M3000
00	325	3.3	103	1.2	5.2				
01	316	3.4	1C3	1.1	5.2				
02	321	3.5	1C2	1.0	4.9				
03	296	2.6	1C2	1.5	4.8				
04	344	2.7	1C2	1.6	4.6				
05	230	2.1	1C7	2.0	5.6				
06	386	4.4	2.9	1C8	4.7				
07	442	4.5	2.7	1C7	4.7				
08	453	4.8	2.1	1C9	4.7				
09	472	5.0	2.5	1C8	4.9				
10	472	5.1	4.0	110	3.0				
11	445	5.2	4.2	109	3.0				
12	435	5.2	4.2	111	3.1				
13	409	5.3	4.2	112	3.0				
14	350	5.2	2.9	1C9	3.6				
15	233	4.0	110	2.1	3.4				
16	239	3.7	112	2.5	4.6				
17	436	5.2	3.4	115	2.3				
18	282	5.2	4.3	115	2.3				
19	272	5.0	3.2	115	2.1				
20	470	4.6	106	1.6	5.2				
21	277	4.1	1C6	1.1	5.0				
22	284	4.6	105	1.2	4.7				
23	265	4.2	1C4	1.2	5.3				

Time: 150°00'.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 59
Fairbanks, Alaska (64.0°N, 147.8°W)

Time	b'F2	f'F2	b'F3	f'F3	b'E	f'E	b'SE	f'SE	F2-M3000
00	296	2.2			114	3.8			
01	315	2.2			112	3.8			
02	336	4.3			112	4.0			
03	343	4.5			1C9	3.5			
04	328	4.5			111	3.5			
05	337	4.6			111	3.2			
06	339	4.5			110	4.4			
07	265	4.8			111	2.6			
08	216	3.8			114	3.3			
09	260	4.7	238	3.0	107	1.9	2.2		
10	266	5.2	232	3.1	108	2.1	3.0		
11	266	5.7	236	2.1	105	2.3	2.8		
12	57	6.0	239	2.3	108	2.3	2.8		
13	252	6.2	252	2.1	117	2.2	2.0		
14	252	6.2	250	2.0	109	2.1	2.0		
15	432	6.1			116	1.9	2.1		
16	236	5.8			120	1.4	1.9		
17	235	5.3			119	1.4	1.8		
18	453	3.9			118	1.1	1.8		
19	274	2.7			118	1.0	2.4		
20	291	2.4			117	0.9	2.3		
21	281	2.1			120	0.7	3.6		
22	287	2.0			116	1.0	3.9		
23	285	2.0			117	1.2	4.2		

Time: 150°00'.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 60
Fairbanks, Alaska (64.0°N, 147.8°W)

Time	b'F2	f'F2	b'F3	f'F3	b'E	f'E	b'SE	f'SE	F2-M3000
00	226	2.0			1C4	1.0			
01	250	2.4			1C3	1.0			
02	349	3.3			03	0.9			
03	365	3.0			C4	2.9			
04	377	2.9			05	1.7			
05	372	2.0			06	2.9			
06	350	3.4			07	3.1			
07	331	4.0			08	1.1			
08	366	4.4			09	1.1			
09	346	4.6			10	1.2			
10	328	4.9			11	1.0			
11	340	5.2			12	1.2			
12	329	5.4			13	1.5			
13	320	5.6			14	1.1			
14	365	5.8			15	1.6			
15	362	5.8			16	1.6			
16	355	5.6			17	1.6			
17	345	5.8			18	1.6			
18	351	5.8			19	1.6			
19	246	4.3			20	1.2			
20	274	3.6			21	1.2			
21	272	3.1			22	1.1			
22	301	2.4			23	1.2			
23	320	2.5			310	1.0			

Time: 150°00'.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Time	b'F2	f'F2	b'F3	f'F3	b'E	f'E	b'SE	f'SE	F2-M3000
00	312	1.9			01	1.6			
01	321	2.0			02	4.3			
02	339	2.1			03	4.7			
03	349	2.2			04	3.9			
04	340	2.4			05	3.9			
05	323	2.3			06	3.1			
06	322	2.3			07	3.1			
07	311	2.3			08	2.7			
08	294	2.7			09	2.6			
09	262	4.0			10	2.2			
10	228	5.7			11	2.2			
11	238	5.7			12	2.3			
12	233	6.4			13	2.3			
13	224	6.1			14	2.1			
14	224	6.1			15	2.5			
15	225	5.7			16	4.7			
16	230	5.0			17	2.0			
17	238	3.6			18	2.5			
18	255	2.5			19	2.0			
19	292	2.0			20	3.07			
20	307	1.9			21	2.1			
21	300	1.9			22	3.06			
22	306	1.9			23	1.8			
23	304	1.8			310	2.0			

Time: 150°00'.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 60
Fairbanks, Alaska (64.0°N, 147.8°W)

Time: 150°00'.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

TABLE 6
Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.
IONOSPHERIC DATA

Form adopted June 1946
National Bureau Of Standards
Scaled by: _____ A. K. B. _____ J. L. S.
Calculated by: _____ A. M. K. _____ B. W. D.

$h'F2$ km September, 1946
(Characteristic) (Unit) (Month)
Observed at Washington, D. C.

Lat 39°N, Long 77.5°W

Day	75°W Mean Time													
	00	01	02	03	04	05	06	07	08	09	10	11	12	13
1	290K	280K	260K	270K	270K	250	260	260	300	290	340	360	320	300
2	270	270	300	290	260	270	270	280	300	290	320	330	320	300
3	280	280	270	250	270	250	270	300	320	320	330	330	320	300
4	270	280	320	310	310	270	270	310	310	320	320	320	290	270
5	270	250	260	280	260	240K	250K	310K	370K	370K	400K	380K	340K	320K
6	300	290	280	250	260	260	240	250	270	280	300	310	290	260
7	270	280	290	280	280	300	240	220	350	330	320	310	320	310
8	270	260	250	280	270	260	270	280	280	300	300	290	270	280
9	270	260	250	250	270	230	270	270	270	310	320	300	280	260
10	270	250	270	1300	310	370	370	320	330	310	310	300	290	270
11	250	250	270	1370A	280	280	250	350	310	330	320	320	300	300
12	260	270	260	280	300	280	260	270	320	280	290	270	260	250
13	280	300	280	250	250	250	240	240	280	270	300	280	270	240
14	270	250	250	270	300	260	270	270	270	270	290	310	300	270
15	270	250	250	260	250	260	260	270	300	300	290	280	270	270
16	270	270	260	260	260	250	240	230	270K	270K	310K	310K	270K	270K
17	260	270	270	250	280	270	240	250	260	300	290	270	250	230
18	340K	400K	410K	370K	430K	380K	330K	600K	6K	6K	600K	380K	280K	280K
19	4430K	400K	400K	410K	380K	400K	280K	350K	470K	6K	780K	480K	360K	320K
20	320K	300K	300K	300K	300K	280K	280K	260K	260K	310	290	270	240	220
21	280	270	260	260	260	250	250	260	270	280	310	310	280	240
22	250K	44000K	480K	410K	330K	290K	6K	6K	6K	6K	6K	600K	320K	320K
23	(350)K	B	K	B	K	B	K	330K	280K	G	K	B	K	C
24	C	K	F	K	F	K	[450]K	280K	250K	270	250	240	280	260
25	260	250	250	270	260	240	240	230	240	270	260	250	240	220
26	250	240	240	250	270	280	270	240	270	280	270	270	240	220
27	270	250	250	280	310	320	300	260	300	C	C	C	290	260
28	300K	320K	320K	300K	330K	300K	370K	250	300K	(340)K	C	C	330K	320K
29	A	K	C	K	C	K	C	C	C	C	C	C	370K	350K
30	310K	320K	320K	340K	340K	280	240	260	270	280	(280)	260	280	270
31														
Median	270	270	270	270	280	250	250	270	280	290	310	300	280	260
Count	28	28	27	27	27	29	29	30	29	27	27	28	29	28

Sweep 075 Mc to 11.5 Mc in 3.4 min
Manual Automatic

U. S. GOVERNMENT PRINTING OFFICE 1640-10-1214

TABLE 62
Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.
IONOSPHERIC DATA

$10^{\circ} F_2$, Mc (Units) September, 1946
Characteristics Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

National Bureau Of Standards
(Institution), J. L. S.,
Scaled by A. K. B., Calculated by A. M. K., B. W. D.

Day	75° W Mean Time											
	00	01	02	03	04	05	06	07	08	09	10	11
1	4.1	3.9	3.5	3.4	3.1	(5.3)	6.9	8.0	8.4	8.1	7.5	8.1
2	6.2	5.8	5.0	5.0	4.7	6.0	7.1	8.4	8.5	8.5	8.9	8.8
3	5.8	5.5	5.1	4.9	4.5	4.3	5.0	6.6	7.7	(7.6)	9.3	9.1
4	5.2	5.0	4.6	4.6	4.7	4.6	4.6	(5.2)	(5.8)	(7.4)	8.0	8.2
5	5.1	4.8	4.8	4.2	3.8	3.8	(5.7)	(6.6)	(6.3)	(7.0)	7.0	7.0
6	4.5	4.6	4.6	4.2	4.2	4.2	(2.8)	(4.8)	(6.8)	(8.0)	9.1	9.2
7	[5.1]	4.6	4.2	4.2	3.2	3.2	(3.6)	(3.2)	(5.0)	(6.2)	7.0	7.0
8	4.8	4.4	3.7	3.2	3.5	3.5	(5.0)	(6.3)	(7.2)	(8.6)	9.4	9.3
9	4.5	4.6	4.4	4.1	3.9	3.4	(4.7)	(6.9)	(8.1)	(9.3)	9.2	9.0
10	4.0	(3.6)	3.4	2.9	2.9	3.8	(5.8)	(6.3)	(7.0)	(7.8)	8.1	8.1
11	4.9	4.2	3.9	3.3	3.5	3.3	4.3	5.1	6.1	6.9	(7.4)	(7.7)
12	4.1	4.2	3.5	3.4	3.6	3.6	(3.6)	(4.5)	(5.9)	(6.8)	7.1	7.0
13	(4.2)	(4.4)	(4.3)	4.2	3.9	3.5	(5.0)	(6.4)	(7.7)	(8.4)	8.6	8.6
14	5.0	4.3	(3.8)	3.6	(3.1)	3.2	4.6	6.0	7.2	8.5	8.0	8.2
15	5.1	[4.8]	(4.3)	4.3	4.0	3.9	5.0	(5.8)	6.6	7.0	8.6	8.5
16	5.5	5.4	5.0	5.0	4.7	4.6	C	C	C	(8.5)	9.4	9.4
17	(6.7)	6.0	(5.5)	5.0	4.6	(4.1)	(5.4)	7.6	9.5	(10.7)	[10.7]	[10.5]
18	(4.2)	3.6	4.1	3.4	2.9	2.8	3.6	3.6	3.8	3.8	<40.0	<40.0
19	2.2	1.4	1.3	1.2	1.2	1.2	1.4	1.6	1.6	1.6	1.6	1.6
20	3.3	3.3	3.2	3.2	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5
21	5.2	4.8	4.0	3.8	3.5	3.5	2.9	5.0	5.3	6.1	(7.6)	(7.2)
22	5.0	2.8	3.2	3.2	3.8	3.7	2.4	2.4	<3.5	<3.6	8.0	8.0
23	2.3	(1.6)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	B	B
24	C	(1.9)	F	F	K	(1.7)	3.2	(5.2)	(7.1)	9.4	(9.8)	9.8
25	(5.6)	5.3	3.0	4.4	4.1	4.0	5.5	7.7	(8.7)	(9.2)	10.0	10.0
26	4.6	6.0	5.5	4.9	4.7	4.7	4.2	5.2	(7.4)	10.0	10.2	10.6
27	[6.5]	6.4	5.7	4.9	3.5	3.2	3.2	4.0	4.3	7.4	10.4	10.6
28	(3.3)	4.0	1.9	2.3	2.2	4.5	6.4	8.2	8.8	9.4	(10.0)	(10.2)
29	A	C	C	C	C	C	C	C	C	C	(10.0)	(10.3)
30	3.8	(3.4)	2.9	2.0	2.0	(2.4)	4.4	6.8	8.2	(9.2)	10.0	11.0
31												
Median	5.0	4.4	4.2	4.1	3.6	3.4	4.6	6.3	7.4	7.8	8.6	8.4
Count	25	29	27	27	28	30	29	29	28	27	27	27

SwEEP 0.5 Mcall. 5 Mc in 3.4 min
Manual □ Automatic ■

TABLE 63
IONOSPHERIC DATA

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

From adopted June 1946

f₂ Mc September, 1946

(Characteristic) (Unit)

Lat 39.0° N

Long 77.5° W

Observed at Washington, D. C.

Lat 39.0° N Long 77.5° W

National Bureau Of Standards
(Instrument) J. L. S.

Scalcd by A. K. B.

Calcd by A. M. K.

B. W. D.

Day	75°W Mean Time											
	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130
1	4.34 (4.0) ^x	(3.6) ^x	2.55	3.16	3.95	[6.27] ^c	[7.37] ^c	7.6	8.4	8.7	9.0	8.8
2	6.0	5.5	4.9 F	5.0	5.0	5.0	7.0	9.5	9.6	9.1	9.2	8.2
3	5.7 (5.7)	5.0 F	5.0	4.2 F	4.0 F	6.0	6.7	[7.3]	7.5	8.2	8.4	8.4
4	5.6	5.0	4.7 F	4.6 F	4.9	(5.1)	6.8	7.9	8.9	8.6	8.2	7.6
5	5.0	4.7	4.6	4.0 F	4.4 F	6.6 F	6.2 F	7.3	7.8	7.1	7.4	7.3
6	4.5 F	4.5 F	4.3 F	4.3 F	3.2 F	3.2 F	3.2 F	3.5	4.9	5.1	5.1	5.1
7	4.9 (4.4) ^y	4.2 F	4.0 F	4.0 F	(3.2) ^f	3.5	4.9	6.6	6.6	7.1	7.2	7.2
8	4.6 F	3.5 F	3.5 F	3.6 F	3.6 F	3.6 F	3.6 F	7.4	7.9	8.2	8.7	8.7
9	4.6	4.5	4.2	3.9	3.9	3.9	3.7	5.7	7.1	8.1	9.1	9.1
10	(4.0) ^y	3.5	3.2	(2.4) ^y	(1.6) ^f	2.8	4.5 F	5.3	6.2	6.2	6.4	6.4
11	4.5	4.1	3.7 F	3.2 F	3.2 F	3.5 F	4.7	(5.6) ^y	6.8	7.1	7.6	7.2
12	(4.0) ^F	3.8 F	3.3 F	3.2 F	3.7	3.6	5.3 F	7.2	7.9	8.9	8.7	8.7
13	(4.7) ^F	4.0 F	4.4	4.1	3.7	3.8	5.9	7.0	7.0	7.0	7.0	7.0
14	4.8 F	4.2 F	3.9 F	3.9 F	3.4 F	3.4 F	3.5 F	5.7	7.0	7.0	7.0	7.0
15	5.0	4.6	4.2	4.2	4.0	4.1	5.4	6.3	6.2	6.2	6.2	6.2
16	5.4	5.3	4.9	4.9	4.7	4.2	4.4	5.1	5.2	5.2	5.2	5.2
17	6.3 (5.9) ^y	5.4	4.7	4.2	4.4	4.8	5.0	[6.27] ^c	6.4	6.7	6.7	6.7
18	3.5 F	4.3 F	3.7 F	(2.0) ^y	(2.9) ^x	3.4 F	3.6 F	<4.0 F	[7.9] ^c	8.8	8.7	8.7
19	5.2 F	5.3 F	5.1 F	5.1 F	5.1 F	5.1 F	5.1 F	5.1 F	[8.6] ^c	[8.67] ^c	8.0	8.0
20	3.2 F	3.3 F	3.2 F	3.2 F	3.2 F	3.2 F	3.2 F	3.2 F	3.2 F	3.2 F	3.2 F	3.2 F
21	5.0	4.6 F	3.9 F	3.6 F	3.2 F	3.0 F	3.0 F	3.6	4.0 F	4.0 F	4.0 F	4.0 F
22	3.4 F	3.1 F	3.5 F	(3.7) ^y	3.7 F	(3.2) ^y	3.5 F	3.5 F	3.7 F	4.2 F	4.2 F	4.2 F
23	1.778	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
24	C	F	A	F	F	(2.2) ^y	4.3 F	(6.0) ^y	7.9 F	10.0	9.6	10.7
25	5.1	4.7	4.7	4.3 F	4.0 F	4.2 F	4.7	5.1	5.1	5.1	5.1	5.1
26	5.2	5.0	4.6	4.6	4.3 F	3.3 F	4.0 F	4.0 F	4.0 F	4.0 F	4.0 F	4.0 F
27	6.4 F	6.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
28	3.5 F	1.7 F (3.0) ^x	2.2 F	2.4 F	2.4 F	2.4 F	2.4 F	2.4 F	2.4 F	2.4 F	2.4 F	2.4 F
29	A	C	C	C	C	C	C	C	C	C	C	C
30	3.6 F	3.4 F	3.1 F	2.7 F	2.7 F	2.8 F	2.8 F	2.8 F	2.8 F	2.8 F	2.8 F	2.8 F
31												
Hedit	4.8	4.2	3.9	3.5	3.5	5.8	7.0	7.4	8.2	8.6	8.8	8.8
Count	28	27	27	27	27	27	27	27	27	27	27	27

Swept 7.5 Mc to 11.5 Mc in 3.4 min

Manual □ Automatic □

TABLE 64.

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

Form adopted June 1946

hF1 (Characteristic) km Observed at Washington, D. C.

(Unit) (Month)

September, 1946

Lat 39.0° N, Long 77.5° W

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

Scale by: National Bureau Of Standards

(Institution) J. L. S.

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

Day	75°W Mean Time																							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
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21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median																								
Count																								

Sweep 0.75 Mc to 11.5 Mc in 3.4 min
Manual Automatic

U. S. GOVERNMENT PRINTING OFFICE: 1946 O-70519

TABLE 65
IONOSPHERIC DATA

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

National Bureau Of Standards
(Institution) J. L. S.

$\text{f}^\circ \text{F}$ — Mc
(Chromaticic) — (Unit)
September, 1946
(Month)

Observed at Washington, D. C.
Lat 39.0° N, Long 77.5° W

Day	75°W												Mean Time											
	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	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
2	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
3	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
4	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
5	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
6	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
7	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
8	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
9	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
10	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
11	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
12	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
13	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
14	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
15	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
16	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
17	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
18	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
19	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
20	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
21	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
22	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
23	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
24	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
25	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
26	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
27	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
28	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
29	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
30	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
31	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

Form adopted June 1946
Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

TABLE 66
IONOSPHERIC DATA

h'E, km
(Characteristic)
Observed at Washington, D.C.
Lat. 39.0° N., Long. 77.5° W.

September, 1946

(Unit)
Month

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

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

Manual Automatic
Sweep 0.75 Mc to 1.5 Mc in 3.4 min

National Bureau of Standards

Scaled by: A. K. B. (Institution) J. L. S.

Calculated by: A. M. K. (Institution) B. W. D.

U. S. GOVERNMENT PRINTING OFFICE: 1940 - 7035

TABLE 67
IONOSPHERIC DATA
Navigation Laboratory, National Bureau of Standards

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

September, 1946
(Month)

TABLE 68
 Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.
IONOSPHERIC DATA
 Observed at 39.0° N, Long 77.5° W
 Mc, km September, 1948
 (Characteristic) (Unit) (Month)

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
 Lat 39.0° N, Long 77.5° W

	Mean Time																									
	75° W																									
	National Bureau Of Standards																									
	Calculated by: A. M. K.												B. W. D.													
	Scored by: A. K. B.												J. L. S.													
1	23/100	24/100	24/100	23/100	23/100	C	24/100	C	24/100	50/100	50/100	50/100	53/100	49/100	53/100	46/100	43/100	39/100	28/100	23/100	45/100	60/100	58/100			
2	44/100	35/100	44/100	44/100	44/100	27/100	28/100	39/100	39/100	53/100	53/100	53/100	49/100	53/100	51/100	51/100	51/100	51/100	41/100	24/100	44/100	52/100	37/100			
3	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	38/100	38/100	38/100	38/100	38/100	39/100	39/100	39/100	39/100	32/100	29/100	27/100	37/100	37/100			
4																										
5	38/100	33/100	29/100	23/100	22/100	23/100	37/100	39/100	39/100	50/100	50/100	50/100	53/100	55/100	53/100	56/100	56/100	53/100	53/100	53/100	53/100	53/100	53/100	53/100		
6	23/100	22/100	27/100	27/100	27/100	27/100	27/100	27/100	27/100	38/100	38/100	38/100	38/100	38/100	38/100	38/100	38/100	38/100	37/100	40/100	53/100	24/100	23/100			
7																										
8	(1/1)(16/10)	(1/1)(16/10)	(1/1)(15/10)	(3/4)(100)	(3/4)(100)	23/100	(29/100)	38/100	130/100	38/100	38/100	38/100	38/100	38/100	38/100	38/100	38/100	38/100	38/100	38/100	45/100	44/100	(28/100)	29/100	23/100	
9	(2/2)/100	2/1/100	6/3/100	2/3/100	2/3/100	2/3/100	2/3/100	2/3/100	2/3/100	37/100	37/100	37/100	37/100	37/100	37/100	37/100	37/100	37/100	37/100	37/100	37/100	37/100	37/100	37/100		
10	24/100	32/100	49/100	49/100	49/100	49/100	49/100	49/100	49/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100		
11	22/100	31/100	53/100																							
12																										
13	36/100	27/100	21/100																							
14																										
15																										
16																										
17	22/100	20/100	53/100	44/100	21/100	3/6/100	4/4/100	4/3/100	4/4/100	4/3/100	4/0/100	5/2/100	5/2/100	5/2/100	5/2/100	5/2/100	5/2/100	5/2/100	5/2/100	5/2/100	5/2/100	5/2/100	5/2/100	5/2/100		
18	39/100	29/100	50/100	50/100	28/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100	29/100		
19																										
20																										
21	23/100	1/2/100	1/3/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100	3/1/100		
22	35/100	37/100	1/2/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100	2/7/100		
23	27/100	23/100	24/100	24/100	23/100	23/100	23/100	23/100	23/100	28/100	28/100	28/100	28/100	28/100	28/100	28/100	28/100	28/100	28/100	28/100	28/100	28/100	28/100			
24	53/100	38/100	10/100	38/100	29/100	29/100	29/100	29/100	29/100																	
25																										
26	24/100	17/100	2/3/100	2/3/100	3/8/100	3/8/100	3/8/100	3/8/100	3/8/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100	3/7/100		
27	24/100	13/100	1/2/100	29/100	29/100	29/100	29/100	29/100	29/100	24/100	24/100	24/100	24/100	C	C	C	C	C	C	C	29/100	29/100	29/100	29/100	29/100	
28																										
29	72/100	70/100	C	C	C	C	C	C	C	50/100	43/100	38/100	38/100	C	C	40/100	37/100	34/100	37/100	37/100	37/100	37/100	37/100	37/100		
30																										
31																										
Median	*	1.7	2.3	2.3	2.2	2.9	2.9	3.4	3.6	3.8	3.8	3.8	3.8	*	*	*	*	*	*	2.8	2.7	2.4	1.7	1.8	*	*
Count	30	29	30	29	30	29	30	28	28	28	28	28	28	28	28	28	28	28	28	29	29	29	29	29	29	

* Median f_{E_6} less than median f_{E_1} , or less than lower frequency limit of recorder.
 ** Median f_{E_6} less than median f_{E_1} , or less than lower frequency limit of recorder.
 Monot Automatic

TABLE 69
Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.
IONOSPHERIC DATA

F2-M1500, September, 1946
(Characteristic) (Unit)
Observed at Washington, D. C.

Lat 39.0° N., Long 77.5° W.

National Bureau Of Standards
Scaled by _____ A. K. B. (Institution) J. L. S.
Calculated by _____ A. M. K. B. W. D.

Form adopted June 1946

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	75° W.			Mean Time			
																									Mean Time						
1	/8 ^K	18 ^K	17 ^K																												
2	18	18	17	17	17	17	18	19	22	20	21	21	19	18 ^H	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18		
3	18	17	19 ^F	17 ^F	19 ^F	17 ^F	19 ^F	18 ^F	20	21	20	(20)	(18) ^J	(20)	19	18	18	18	18	18	18	18	18	18	18	18	18	18	18		
4	19	17	17 ^F	17 ^F	16 ^F	16 ^F	19 ^F	(2.0)	(2.2) ^J	(2.1) ^J	(2.0)	20	19	19	18	18	18	18	19	19	19	19	19	19	19	19	19	19			
5	18	18	19	18	18 ^F	19 ^F	18 ^F	19 ^F	(2.2) ^J	(2.3) ^J	(1.9) ^K	(2.4) ^K	19 ^K	(1.9) ^K	18 ^K	18 ^K	17 ^K	18 ^K	18 ^K	19 ^K											
6	17 ^F	18 ^F	18 ^F	18 ^F	19 ^F	19 ^F	20 ^F	(1.8) ^F	20 ^F	22	19	20	19	19	20	20	20	20	20	20	20	20	20	20	20	20	20	20			
7	C	18 ^F	(1.9) ^F	16 ^F	20	21	18	19	19	18	21	19	19	19	19	19	19	19	19	19	19	19	19	19	19						
8	18	18 ^F	20	21	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20									
9	18 ^F	19	19	19	19	19	23	(2.3) ^F	22	22	20	20	20	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19		
10	19	(1.8) ^J	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7			
11	1.9	1.8	1.8	1.7	1.7	1.7	1.8 ^F																								
12	18 ^F	18	1.9 ^F	1.8 ^F																											
13	(1.7)	(1.7)	(1.8)	1.8	1.8	1.9	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
14	19	20 ^F	(2.0) ^F	20 ^F	(1.9) ^F	20 ^F	19 ^F	20	21	20	20	22	22	20	20	19	20	19	20	19	20	20	19	20	19	20	19	20	19		
15	1.9	C	C	C	1.8	1.7	1.8	1.7	1.8	20	(2.1) ^J	21	20	21	20	18	20	20	19	20	20	20	20	21	19	19	19	19	19		
16	1.9	1.8	1.8	1.8	1.9	1.9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
17	(1.7)	1.8	(1.7) ^J	1.8	1.7	(1.8) ^J	(2.0)	2.2	2.1	(2.1) ^J	(2.0) ^J	1.9	1.9	D	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9		
18	(1.6) ^K	(1.6) ^K	(1.5) ^K	(1.6) ^K																											
19	14 ^K	(1.6) ^K	17 ^K	F	F	F	1.7 ^K	1.6 ^F	2.1 ^K	1.9 ^K	1.7 ^K																				
20	18 ^K	17 ^K	1.8 ^K	1.7 ^K																											
21	18	1.8	1.9 ^F	1.9 ^F	1.8 ^F	1.9 ^F	20 ^F	22	(2.2)	21	20	19	19	(1.9)	18	17	18	18	18	18	18	18	18	18	18	18	18	18	18	18	
22	19 ^K	16 ^F	15 ^K	14 ^K	17 ^K	(1.8) ^K	G	K	G	K	G	K	G	K	G	K	G	K	G	K	G	K	G	K	G	K	G	K	G	K	
23	17 ^K	B	K	B	K	B	K	(1.6) ^K	C	K	G	K	G	K	B	K	B	K	C	K	G	K	B	K	G	K	C	K	C	K	
24	C	K	(1.6) ^K	F	K	F	K	C	K	20 ^K	(2.2) ^K	(2.1)	2.2	(2.2) ^J	2.1	(2.2) ^J	1.9	(1.9)	1.9	20	20	C	(2.0) ^J	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
25	(U.9)	2.0	1.9	1.9 ^F	2.2	2.2	(2.2)	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9						
26	1.8	1.9	1.9	1.7	1.7	1.7	1.8	2.0	2.0	(2.2)	2.0	1.9	1.9	(1.9)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	
27	C	1.8	1.7	(1.6) ^F	1.7 ^F	C	2.0	(1.9)	1.9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
28	(1.7) ^K	1.6 ^K	(1.5) ^K	1.8 ^F	1.7 ^F	1.6 ^F	1.8 ^K	(1.8) ^K	(1.8) ^K	C	K	C	K	C	K	C	K	1.7 ^K	(1.7) ^K	1.8 ^K	(1.8) ^K	1.8 ^K	(1.8) ^K	1.8 ^K	(1.8) ^K	(1.8) ^K	(1.8) ^K	(1.8) ^K			
29	A	K	C	K	C	K	C	K	C	2.0 ^K	2.1 ^K	C	K	2.0 ^K	1.8 ^K	1.8 ^K	1.7 ^K	1.7 ^K													
30	17 ^K	(1.7) ^K	(1.7) ^K	1.7 ^K	1.7 ^K	1.9	2.1	2.1	2.1	(2.0) ^J	1.9	(1.9)	1.8	1.9	(1.9)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
31																															
Median	18	18	18	18	18	18	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
Count	26	27	26	26	27	26	28	21	28	29	26	27	27	26	27	28	29	26	27	27	28	26	27	27	28	26	27	27	26	27	

SWP 0.75 Mc in 3.2 min

Manual □ Automatic □

V 3 GOVERNMENT PRINTING OFFICE 1440-170318

TABLE 70
Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.
F2-M 3000 (Unit)
September, 1946
(Month)
Observed at Washington, D.C.

Day	Lat 39°0' N, Long 77°5' W											75° W Mean Time											
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
1	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.6	2.6	2.6
2	2.8	2.8	2.6	2.6	2.8	2.8	2.8	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
3	2.7	2.7	2.9	2.7	2.7	2.8	2.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9
4	2.9	2.6	2.5	2.5	2.5	2.6	2.6	2.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	2.8	2.7	2.8	2.8	2.7	2.7	2.7	2.9	2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
6	2.6	F	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
7	C	2.7	2.8	2.8	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
9	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
10	2.8	(3.2)	2.7	2.7	2.6	2.6	2.6	2.5	2.8	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
11	2.9	2.8	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
12	2.8	2.7	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
13	(2.6)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(2.7)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)
14	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
15	2.6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	2.9	2.7	2.7	2.7	2.8	2.8	2.8	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
17	(2.6)	2.7	2.7	2.7	2.6	2.7	2.7	2.7	2.7	2.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
18	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	(2.5)	G	G	G	G	G	G	G	G	G	G	G	G	G
19	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	G	G	G	G	G	G	G	G	G	G	G	G	G
20	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.8	2.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
21	2.8	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
22	2.8	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	G	G	G	G	G	G	G	G	G	G	G	G	G
23	2.6	B	K	B	K	C	K	C	K	C	B	K	B	K	B	K	B	K	B	K	B	K	B
24	C	(2.5)	F	F	F	F	F	F	F	F	(3.2)	3.2	(2.8)	2.9	(3.0)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
25	(2.8)	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
26	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)
27	C	2.7	2.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6	(2.9)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
28	(2.6)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	(2.7)	C	C	C	C	C	C	C	C	C	C	C	C
29	A	C	C	C	C	C	C	C	C	C	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
30	4.6	(2.6)	(2.6)	(2.6)	(2.6)	(2.6)	(2.6)	(2.6)	(2.6)	(2.6)	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
31																							

Scand 215 Mc 10.11.5 Mc in 3.4 min
Monus □ Automatic □

3

U.S. GOVERNMENT PRINTING OFFICE: 1944 - 14251

TABLE 71
Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.
IONOSPHERIC DATA

Fi-M 3000, (Unit) September 1946
(Characteristic) Observed at Washington, D. C.
Lat 39.0° N, Long 77.5° W

National Bureau Of Standards
(Institution) J. L. S.

Scaled by: A. K. B. Calculated by: A. M. K.

B. W. D. Monotol Automatic

Form adopted June 1946

75° W Mean Time

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	3 5	3 8 ^H	C	(3 4)	3 5	3 4	3 6	(3 6)	L										
2								L	3 5	3 7 ^H	3 8	3 6	3 4	3 5	L	L	L										
3								L	(3 5) ^H	3 5 ^H	3 9 ^H	(3 8)	(3 5)	(3 4)	(3 4)	(3 8)	L	L	L								
4								L	C	3 8	3 6	3 3	3 4	(3 5)	L	L	L	L	L								
5								L	K	(3 5) ^K	3 6 ^K	3 7 ^K	(3 8) ^K	A	K	3 6 ^K	A	K	(3 2) ^K	3 4 ^K	L	K					
6								L	(3 6)	(3 8) ^H	(3 5)	3 5 ^H	3 5	(3 6)	(3 6)	(3 6)	L	L	L								
7								(3 3)	L	3 3	3 3	3 7 ^H	3 6	3 6	3 3	3 3	L	L	L								
8								L	L	(3 7)	3 7 ^H	(3 4) ^H	(3 6)	3 6	(3 5)	L	L	L									
9								L	L	L	H	L	H	(3 4) ^H	3 4	(3 4)	3 7	3 8	3 8	3 8	3 8	3 8	3 8	3 8			
10								3 4	3 5	L	3 6	(3 3)	3 5	3 5	3 5	3 5	L	L	L								
11								3 2	L	3 4	3 6	3 7	3 5	3 5	3 5	3 5	L	L	L								
12								L	3 6	L	(3 5)	(3 6) ^H	3 7	3 6 ^H	(3 6)	3 6	L	L	L								
13								L	3 6	(3 6)	3 6	(3 6) ^H	3 8	8	(3 6)	L	L	L									
14								L	L	(3 7)	3 6 ^H	C	3 5	C	(3 6)	3 6	L	L	L								
15								L	3 5	3 6	3 6	(3 6) ^H	3 7	3 6 ^H	(3 6)	(3 7)											
16								L	K	L	K	(3 7) ^K	C	K	C	H	K	3 4 ^K	3 5 ^K	(3 5) ^K	L	K	L	K			
17								L	L	3 8	3 8	3 9	C	C	3 8	L	L	L	L	L	L	L	L	L			
18								2 9	K	3 2 ^K	3 4 ^K	(3 7) ^K	3 7 ^H	3 5 ^K	3 5 ^K	3 4 ^K	(3 3) ^K	3 5 ^K	L	K							
19								3 3	K	3 2 ^K	3 3 ^K	3 6	K	3 5 ^K	3 5 ^K	3 4 ^K	3 3 ^K	3 4 ^K	(3 6) ^K	L	K						
20								L	K	3 6 ^H	3 7	C	3 7	3 8	3 6 ^H	(3 6)	L	L	L	L	L	L	L	L			
21								L	K	3 8	L	(3 5)	(3 5)	L	(3 5)	L	L	L	L	L	L	L	L	L			
22								B	K	(3 6) ^K	B	K	3 5 ^K	3 4 ^K	3 5 ^K	3 5 ^K	3 4 ^K	(3 3) ^K	3 5 ^K	L	K						
23								3 2	K	3 7	B	K	B	K	C	K	3 4 ^K	3 2 ^K	3 1 ^K								
24								L	K	4	0	4	2	L	L	L	L	L	L	L	L	L	L	L			
25								L	L	L	L	L	L	(3 8)	3 7	C	C	C	L	L	C	C	L	C			
26								L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L			
27								L	(3 6)	(3 7)	C	K	C	C	C	C	C	C	C	C	C	C	C				
28								L	K	3 3 ^K	C	K	C	K	C	K	3 2 ^K	C	K	L	K	3 6 ^K	L	K			
29								C	K	(3 5) ^K	3 4 ^K	3 5 ^K	3 4 ^K	3 2 ^K	3 2 ^K	3 2 ^K	L	K	L	K	L	K	L	K			
30								L	L	(3 6)	C	(3 6)	C	(3 6)	C	(3 6)	C	C	C	C	C	C	C	C			
31																											
Median								3 5	3 5	3 7	3 6	3 5	3 5	3 5	3 5	3 5	3 5	3 5	3 5	3 5	3 5	3 5	3 5	3 5	3 5		
Count	4	10	17	24	17	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	

Sweep 75 Mc to 1.5 Mc in 3.4 min
Monotol □ Automatic ☒

5 GOVERNMENT PRINTING OFFICE 1948 G-102519

E - M 1500, September, 1946
(Characteristic) (Unit)

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

TABLE 72
IONOSPHERIC DATA

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

September, 1946
(Month)

National Bureau Of Standards
(Institution) J.L.S.

Scaled by A. K. B.

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

Day	75° W Mean Time																								
	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	37 ⁴	C	42 ¹	A	4 ¹	C	4	A	43 ¹	44 ¹	A	43 ¹	44 ¹	A	4	A	4	A	4	A	38				
2	29 ⁴	43	4 ²	4 ³	4 ²	4 ¹	A	4	A	4 ³	4 ²	A	4 ³	4 ²	A	4 ²	A	4 ²	A	4 ²	38				
3	34 ¹	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ¹	4 ²	C	14 ³	4 ³	4 ²	4 ³	4 ²	A	4 ²	A	4 ²	A	4 ²	38				
4	37 ¹	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	38		
5	A ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	38		
6	A ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	38		
7	C	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ¹	4 ²	C	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	38		
8	43 ¹	4 ²	4 ³	4 ²	4 ¹	4 ¹	4 ¹	4 ²	A	4 ⁴	4 ³	A	4 ⁴	4 ³	A	4 ⁴	A	4 ⁴	A	4 ⁴	A	4 ⁴	38		
9	43 ¹	4 ²	4 ³	4 ²	4 ¹	4 ¹	4 ¹	4 ²	C	4 ³	4 ²	C	4 ³	4 ²	C	4 ³	4 ²	4 ³	4 ²	4 ³	4 ²	4 ³	38		
10	A	4 ¹	A	4 ²	4 ²	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	38	
11	C	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ¹	4 ²	C	4 ¹	4 ¹	C	4 ¹	4 ¹	C	4 ¹	C	4 ¹	C	4 ¹	C	4 ¹	C	38	
12	(40)	4 ¹	A	4 ²	4 ³	4 ²	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	38		
13	4 ²	A	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	38		
14	C	4 ¹	A	4 ²	4 ³	4 ²	4 ¹	4 ²	C	4 ¹	4 ¹	C	4 ¹	4 ¹	C	4 ¹	C	4 ¹	C	4 ¹	C	4 ¹	C	38	
15	(33)	4 ²	A	4 ³	4 ²	4 ¹	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	38		
16	C	4 ¹	C	4 ²	4 ³	4 ²	4 ¹	4 ²	C	4 ¹	4 ¹	C	4 ¹	4 ¹	C	4 ¹	C	4 ¹	C	4 ¹	C	4 ¹	C	38	
17	C	3 ⁴	A	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	38	
18	44 ⁵	K	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ²	4 ³	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	4 ¹	4 ²	38
19	A	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	38		
20	C	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	38		
21	C	14 ¹	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	38	
22	B	K	B	C	K	B	K	--K	C	K	(44.2) ^K	(44.2) ^K	C	K	C	K	C	K	C	K	C	K	C	38	
23	C	K	(47) ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	4 ^K	38							
24	(44.3)	4 ¹	C	C	4 ²	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	38	
25	A	39	(43)	4 ¹	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	38	
26	C	(43)	4 ³	4 ²	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	38	
27	C	36 ^K	4 ^K	4 ^K	4 ^K	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	38	
28	A	42 ^K	4 ^K	4 ^K	4 ^K	A	K	A	K	A	K	A	K	A	K	C	K	(44.1) ^K	C	K	4 ^K	3 ^K	3 ^K	38	
29	33 ⁴	40 ⁴	4 ¹	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	38	
30																								38	
31																								38	
Median	(3.9)	4 ¹	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	4 ²	38		
Count	12	23	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	38

Sweep 0.5 Mc to 1.5 Mc in 3.4 min
Manual □ Automatic ☒

3 GOVERNMENT PRINTING OFFICE: 1946 10-1000

Table 73
Ionospheric Storminess, September 1946

Day Sept.	Ionosphere		Principal Beginning GCT	End GCT	Geomagnetic Character **	
	00-12 GCT	Character* 12-24 GCT			00-12 GCT	12-24 GCT
1	4	2	----	1100	1	1
2	2	0			2	1
3	1	1			1	2
4	2	1			3	2
5	1	4	1100	----	2	2
6	2	1	----	0000	2	0
7	2	3			2	3
8	1	2			2	2
9	1	3			2	3
10	3	2			3	2
11	1	2			2	2
12	2	2			2	2
13	1	2			2	2
14	1	2			2	2
15	1	2	----	----	1	2
16	1	4	----	----	1	4
17	3	3	----	0500	3	3
18	5	7	0100	----	6	6
19	7	5	----	----	4	4
20	4	2	----	1400	2	1
21	1	0	0300	----	1	4
22	5	7	----	----	6	7
23	6	7	----	----	6	6
24	8	2	----	1300	3	2
25	0	3			1	1
26	1	2			1	2
27	3	***			3	4
28	4	4	0100	----	5	5
29	***	4	----	----	3	3
30	3	2	----	1100	4	3

*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 American magnetic K-figure, determined by a number of observatories, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

***No readable record. Refer to Table 62 for detailed explanation.

/Dashes indicate continuing storm.

//Storm continuing from 2300 August 31.

///Time of beginning unknown because of loss of record. Storm probably began about 1300, or earlier.

R.D.L. - 2

Solar Atmosphere Disturbances Observed at Washington, D.C.

Day	GCT		Location of Transmitters	Relative Intensity at minimum*	Other Phenomena
	Beginning	End			
September	2	1824	1900	Ohio, D.C., Mexico, Ontario	0.2
	3	1646	1725	Ohio, D.C., Ontario	0.2
	12	1856	1920	Ohio, D.C., Mexico, New Brunswick, Ontario	0.1
	13	1325	1405	Ohio, D.C., England, Mexico, Ontario	0.2
	13	1820	1925	Ohio, D.C., England, Mexico, Ontario	0.0 Terr. mag. pulse* 1820-1845
	15	1708	1735	Ohio, D.C., Mexico, Ontario	0.1
	16	1446	1500	Ohio, D.C., Mexico, Ontario	0.1
	17	1718	1740	Ohio, D.C., England Mexico, Ontario	0.1 Terr. mag. pulse** 1715-1740
	20	1511	1550	Ohio, D.C., England Mexico, New Brunswick Ontario	0.1
	20	2000	2150	Ohio, D.C., Ontario	0.2
	27	1741	2130	Ohio, D.C., Mexico, New Brunswick, Ontario	0.0 Terr. mag. pulse** 1740-1755
	29	1603	1740	Ohio, D.C., Ontario	0.0
	30	1530	1650	Ohio, D.C., Ontario	0.0

*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.

Table 75Sudden Ionosphere Disturbances Reported by Engineer-in-ChiefCable and Wireless, Ltd.

Day	GCT Beginning End		Receiving Station	Location of Transmitters
August 14	1015	1100	Brentwood, England	Belgian Congo, Brazil, Bulgaria, Canary Islands, Greece, India, Iran, Kenya, Madagascar, Palestine, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, U.S.S.R., Yugoslavia, Zanzibar
	1020	1125	Somerton, England	Australia, Canada, China, Egypt, New York, Nigeria, Union of South Africa
	1540	1600	Somerton, England	Argentina, Barbados
	0935	1000	Brentwood, England	Austria, Belgian Congo, Brazil, Bulgaria, Canary Islands, Greece, India, Iran, Kenya, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, U.S.S.R., Yugoslavia
	0935	0950	Somerton, England	Argentina, Australia, China, Egypt, Gold Coast, India, Japan, Nigeria, Union of South Africa
	1100	1135	Brentwood, England	Austria, Brazil, Bulgaria, Canary Islands, Chile, Greece, Iran, Kenya, Madagascar, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Uruguay, U.S.S.R., Zanzibar

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

Table 76

Provisional Radio Propagation Quality Figures

August 1946

Compared with CRPL Warnings and CRPL Probable Disturbed Period Forecasts.

Day	North Atlantic						North Pacific						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	
	Quality CRPL* Figure Warning			CRPL Probable Disturbed Period			Geo- mag- netic K _A			Quality CRPL* Figure Warning				
	GCT	GCT	GCT	GCT	GCT	GCT	GCT	GCT	GCT	GCT	GCT	GCT		
1	5	5		1	1		5	7					1 1	
2	5	5		1	1		6	6					1 1	
3	5	5	X	1	1		6	7	X				1 1	
4	5	5	X	1	1		7	8	X				1 1	
5	7	6	X	1	1		7 (4)		X				1 1	
6	6	6		1	2		5 (3)		X				1 2	
7	5 (4)			2	3		7	8					2 3	
8	6	6	X	1	2		5	5	X				1 2	
9	6	6		1	1		6	6					1 1	
10	7	6		0	2		6	6					0 2	
11	5	5		3	3		5	6					3 3	
12	5	5		2	2		5	6					2 2	
13	5	6		2	1		7	6					2 1	
14	(4) (4)		X	3	3		(4) 5		X				3 3	
15	(4) 5	X	X	3	3		5	5	X				3 3	
16	(4) 5	X	X	3	3		5 (4)	X	X				3 3	
17	(3) (4)	X	X	3	3		(4) 6	X X					3 3	
18	6	6		1	1		6	6					1 1	
19	6	6		1	1		6	6					1 1	
20	7	6		1	1		8	8					1 1	
21	6	6	X	1	0		8	8	X				1 0	
22	6	7	X	1	0		7	6	X				1 0	
23	6	7	X	0	0		8 (4)		X				0 0	
24	6	7	X	2	1		7	8	X				2 1	
25	6	7	X	2	1		8	8	X				2 1	
26	7	7	X	1	1		8	8	X				1 1	
27	7	6		1	1		8	6					1 1	
28	7	7		1	1		7	8					1 1	
29	6	7		0	0		7	8					0 0	
30	7	5		0	2		7	8					0 2	
31	(4) 6			4	3		6	8					4 3	

Score:

H	3	3		1	4
M	3	3		5	2
G	24	16		23	17
(S)	0	2		2	1
S	1	7		0	7

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

Symbols

X Warning given or probable disturbed date.

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

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

G Quality 5 or better on day of no warning.

(S) Quality 5 on day of warning.

S Quality 6 or better on day of warning.

() Quality 4 or worse (disturbed).

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

Table 77

Daily Median Values of American Relative Sunspot Numbers*

September 1946

Date	No.	Date	No.
1	136	16	112
2	140	17	110
3	13 $\frac{1}{4}$	18	119
4	102	19	110
5	76	20	92
6	67	21	99
7	57	22	122
8	50	23	116
9	50	24	133
10	48	25	148
11	63	26	146
12	79	27	162
13	94	28	132
14	98	29	13 $\frac{1}{4}$
15	104	30	85

No. Days	30	Mean	103.9
----------	----	------	-------

* Median of data from 13 observers.

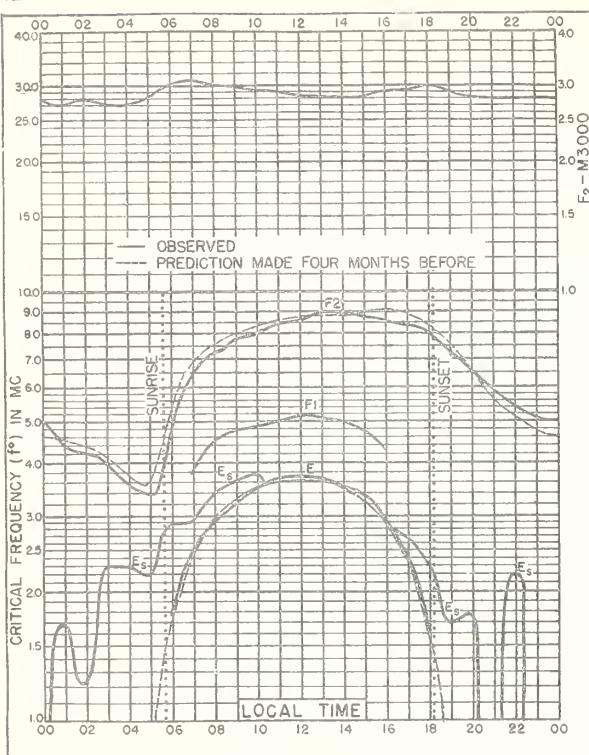


Fig. 1. WASHINGTON, D.C.
39.0°N, 77.5°W SEPTEMBER 1946

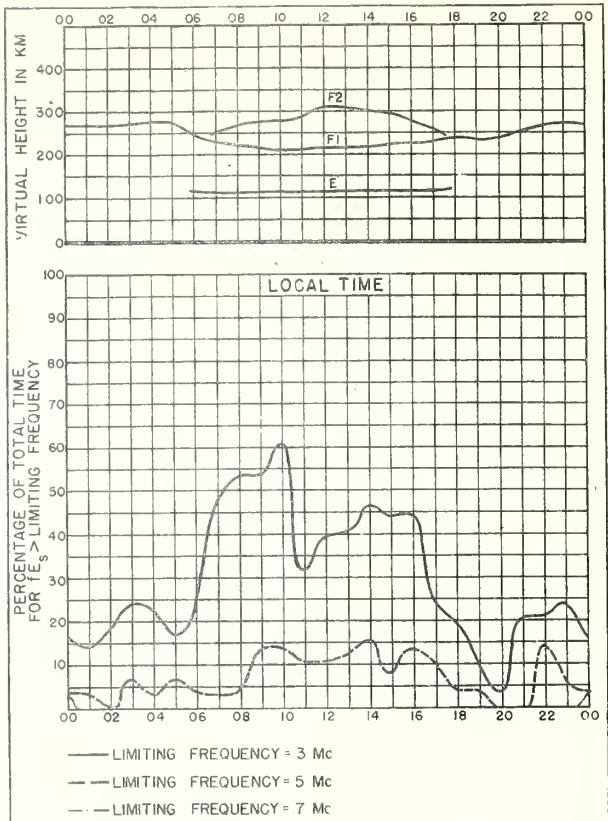


Fig. 2. WASHINGTON, D.C. SEPTEMBER 1946

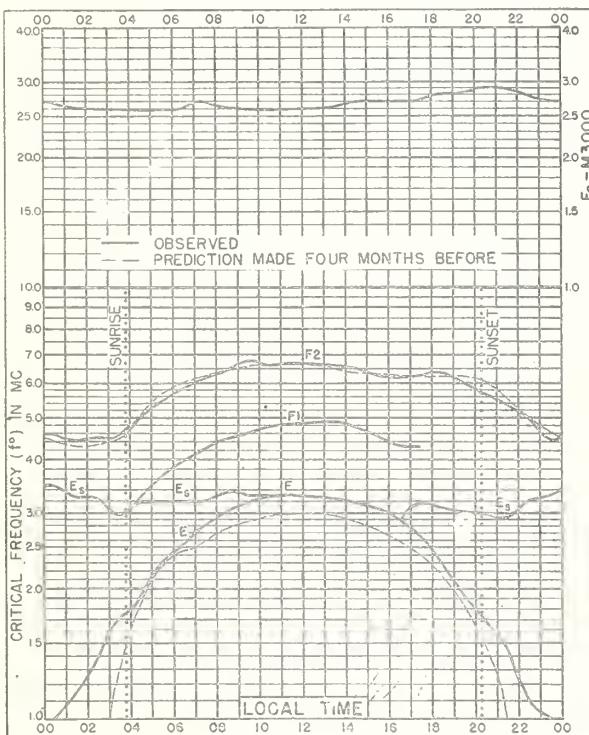


Fig. 3. FAIRBANKS, ALASKA
64.9°N, 147.8°W AUGUST 1946

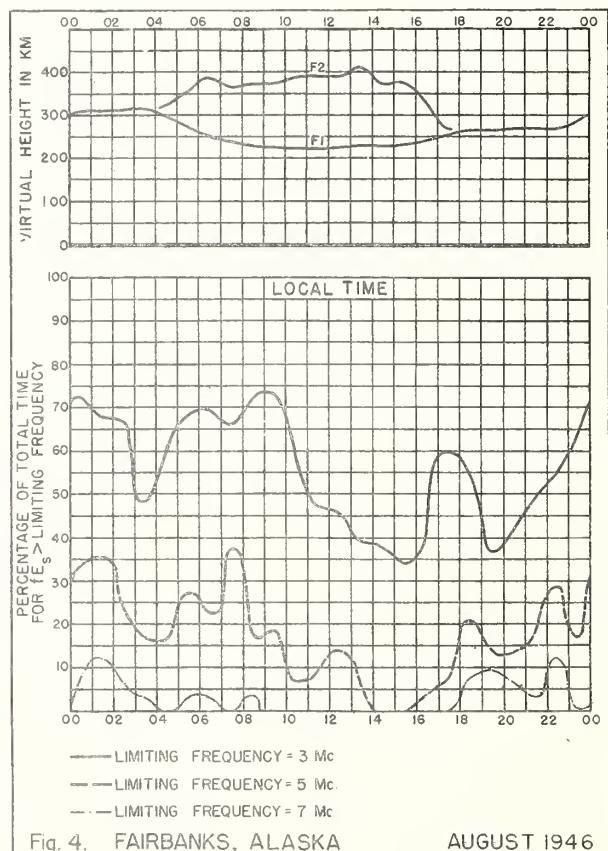
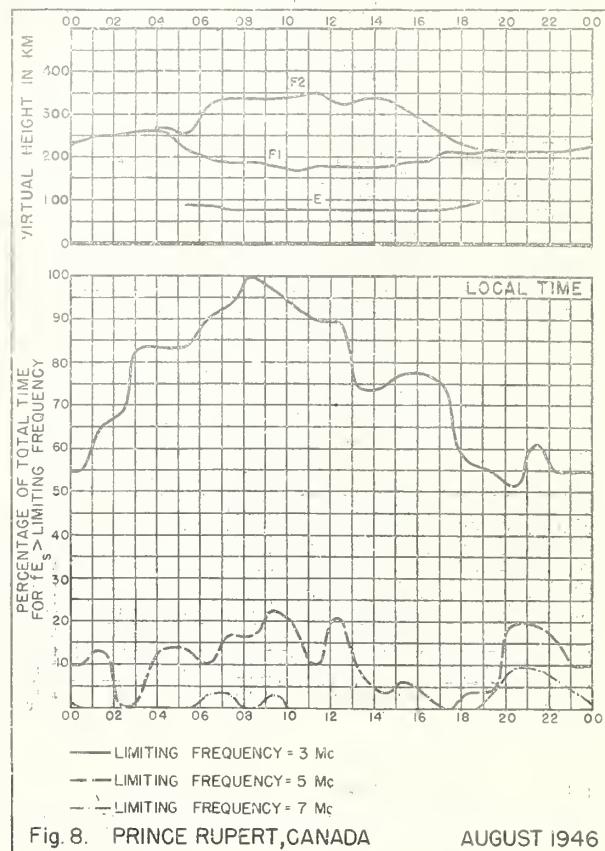
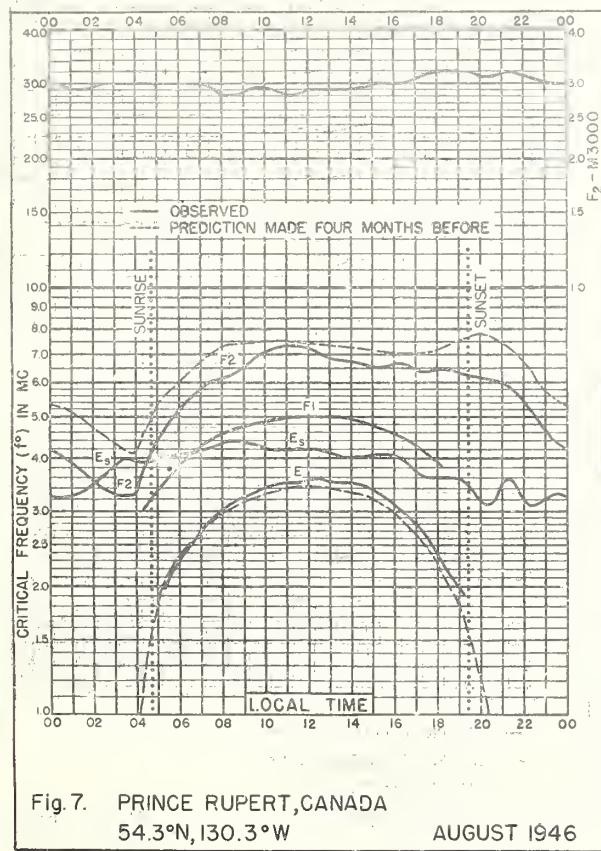
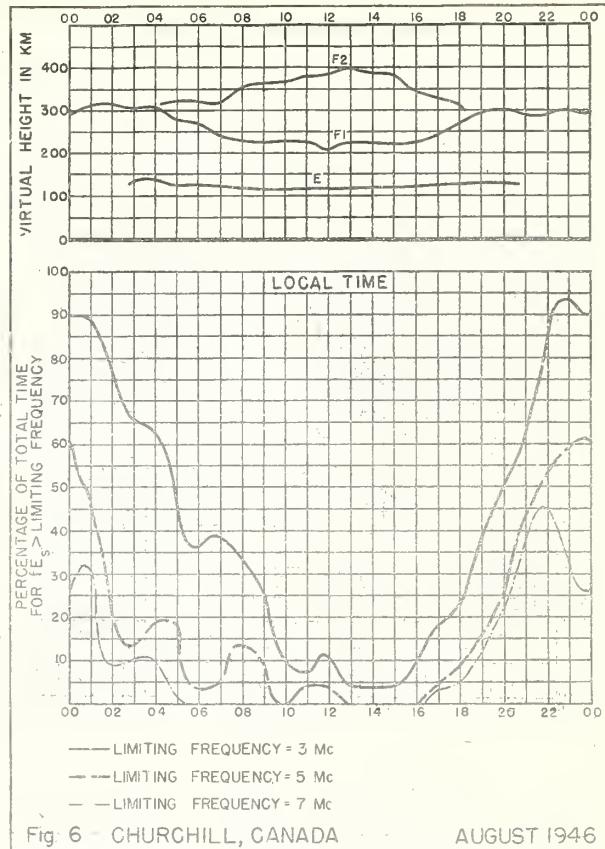
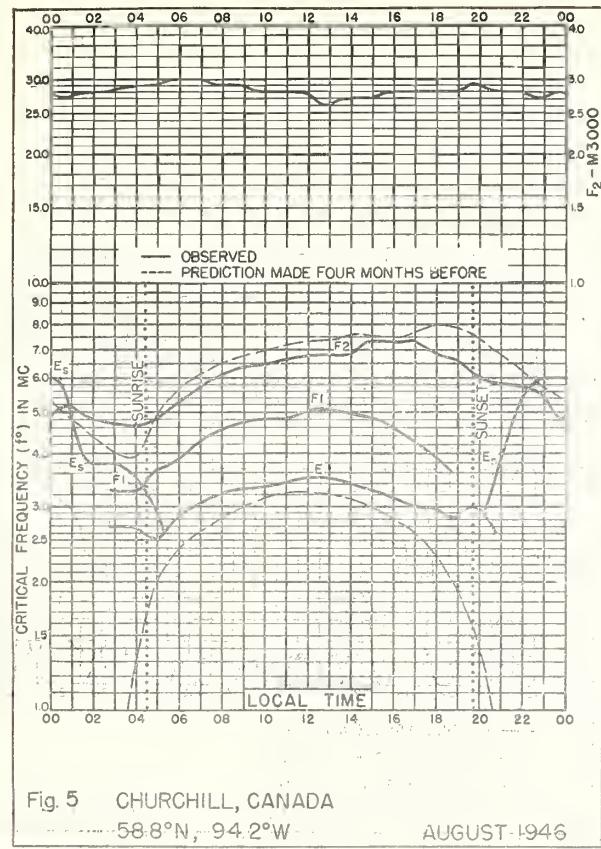


Fig. 4. FAIRBANKS, ALASKA AUGUST 1946



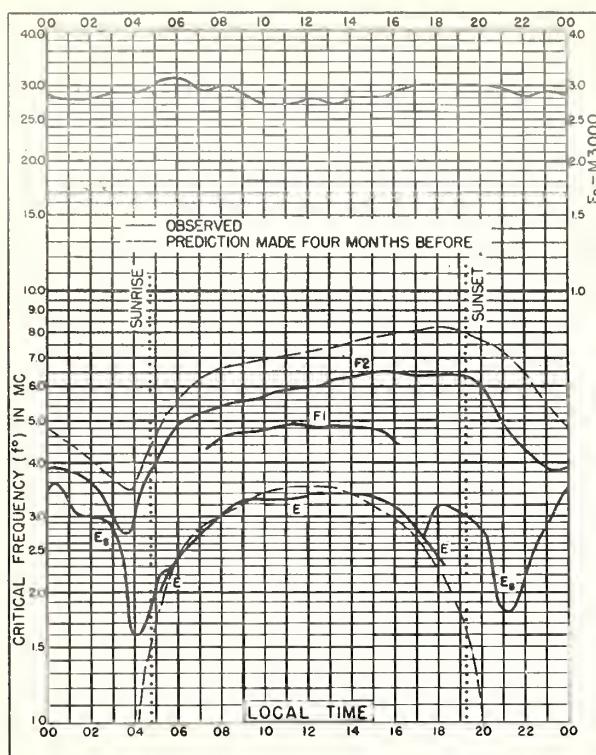


Fig. 9. SWAN RIVER, MANITOBA
52.1°N, 101.2°W

AUGUST 1946

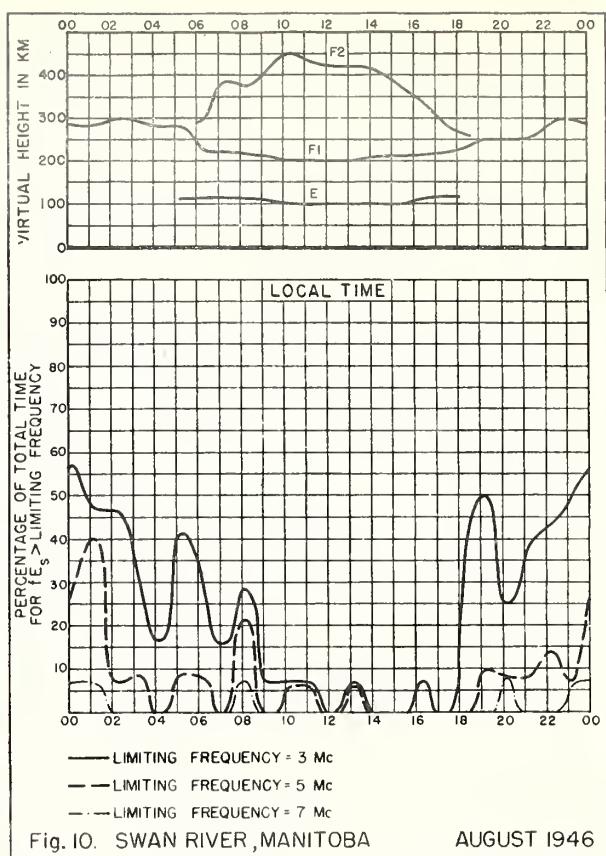


Fig. 10. SWAN RIVER, MANITOBA

AUGUST 1946

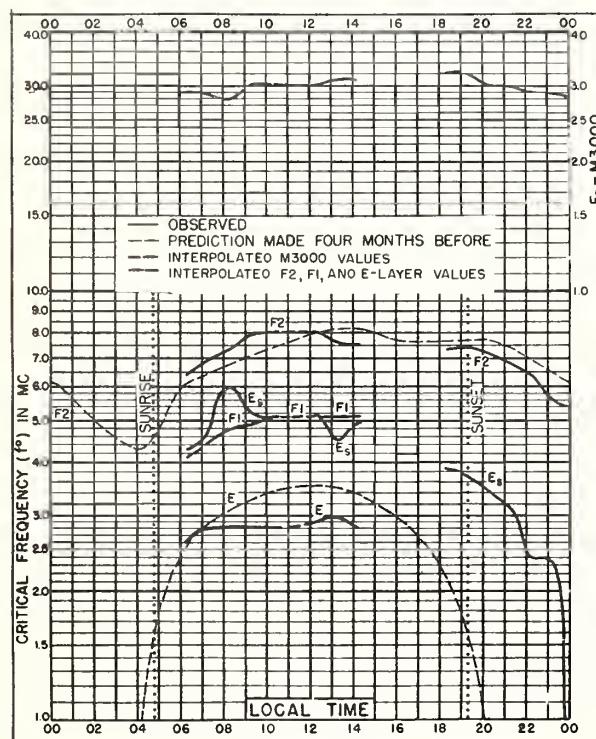


Fig. 11. ADAK, ALASKA
51.9°N, 176.6°W

AUGUST 1946

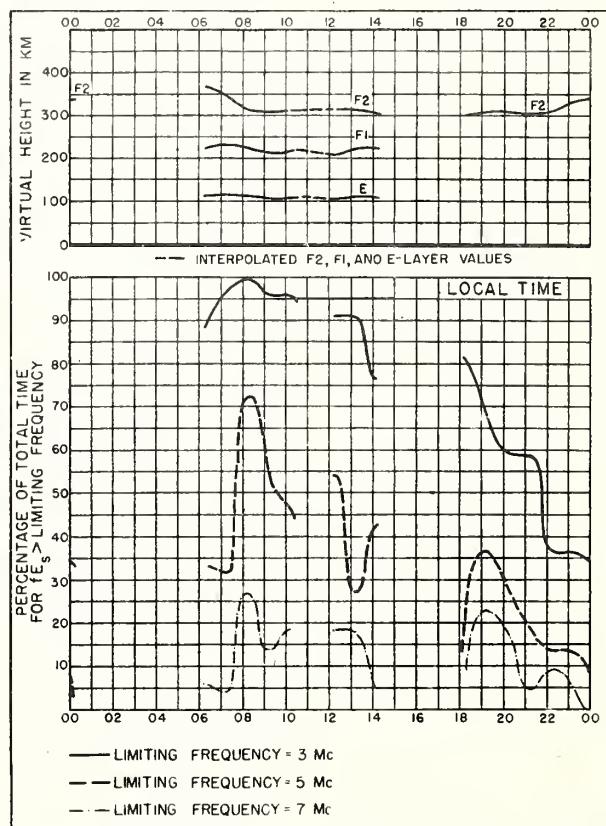
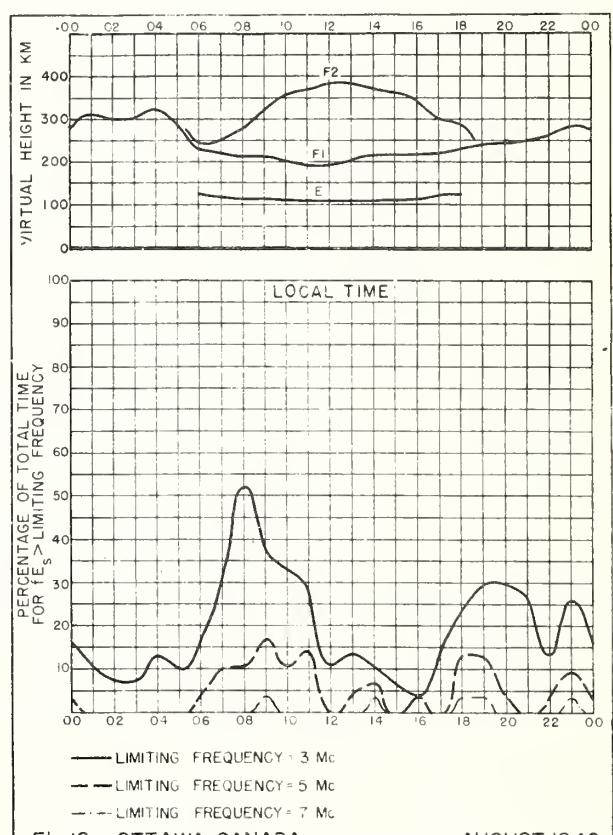
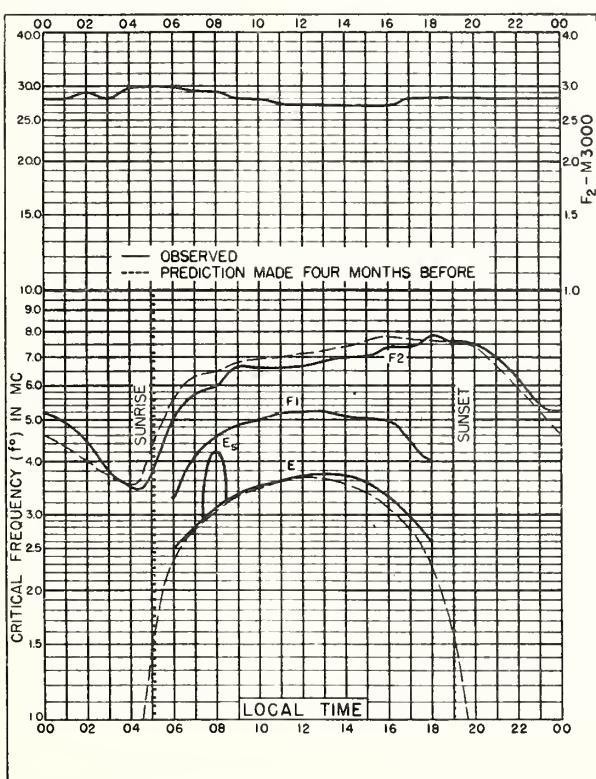
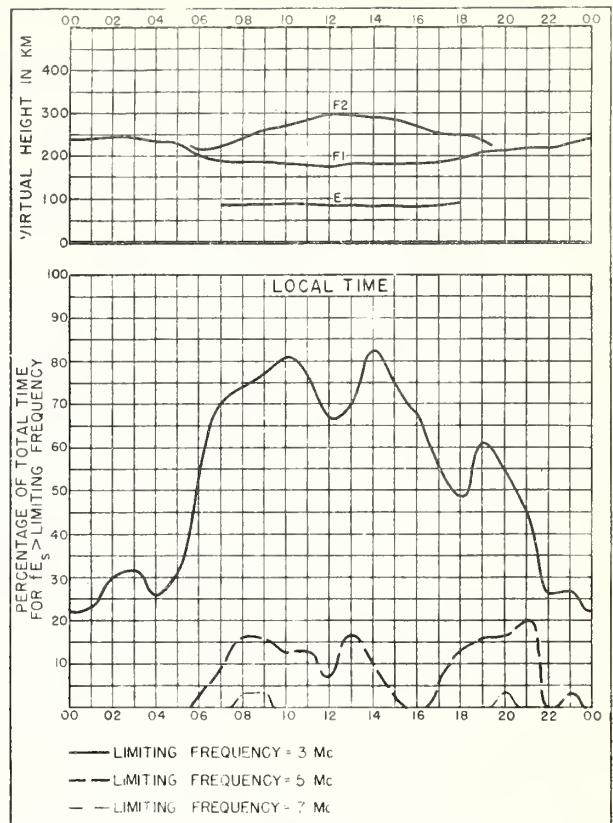
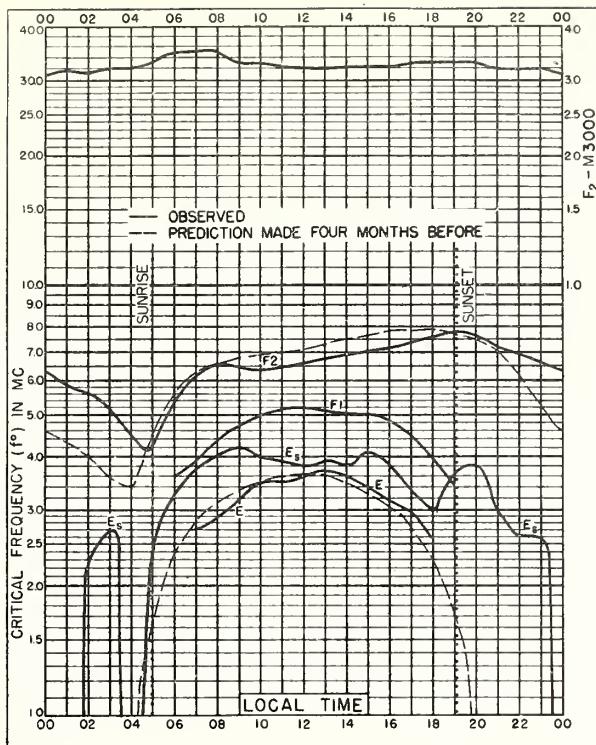
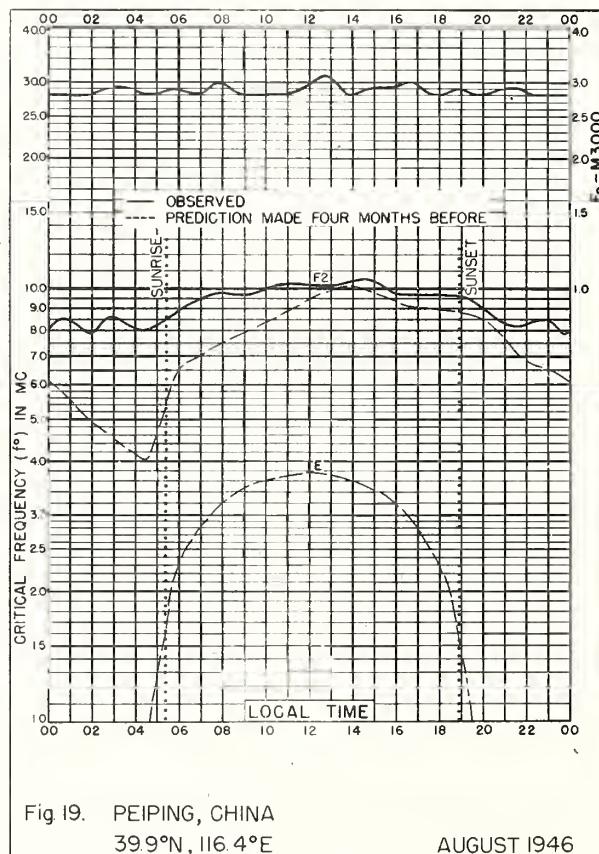
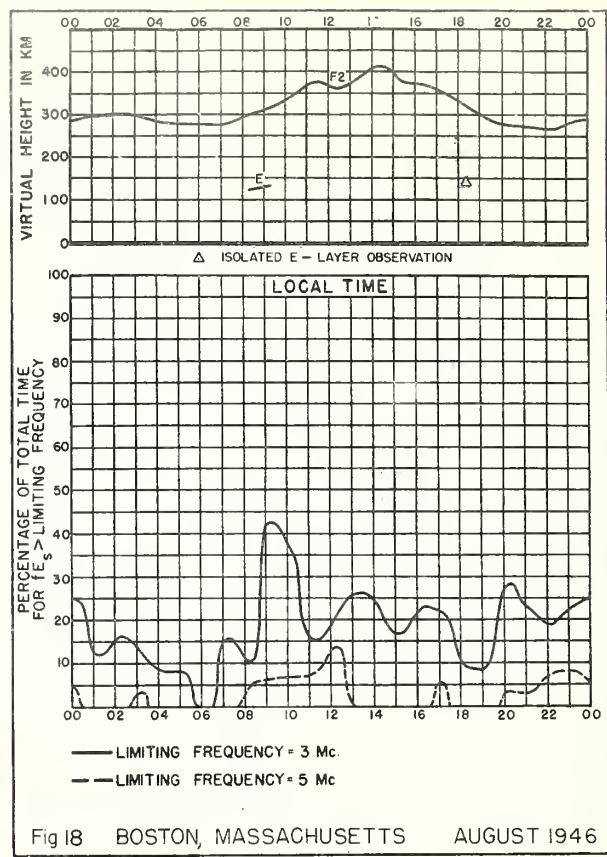
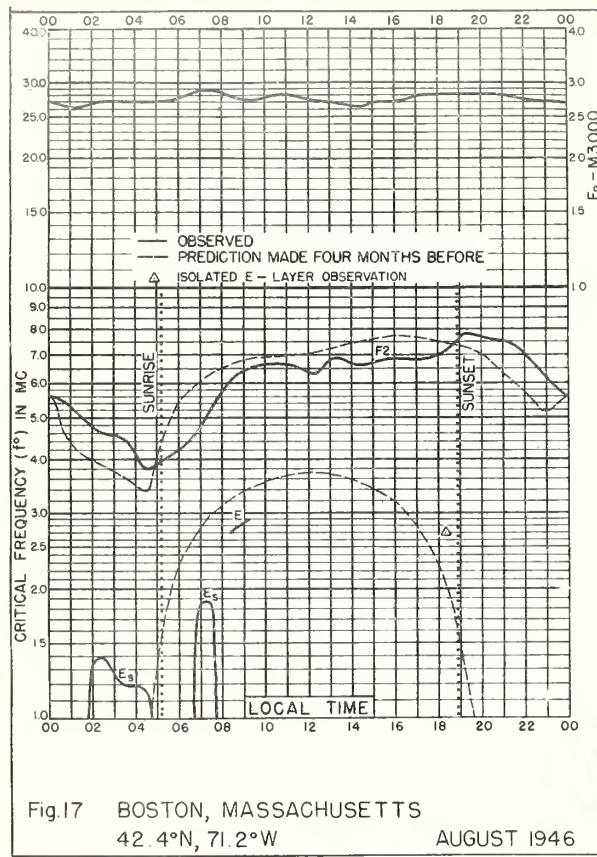


Fig. 12. ADAK, ALASKA

AUGUST 1946





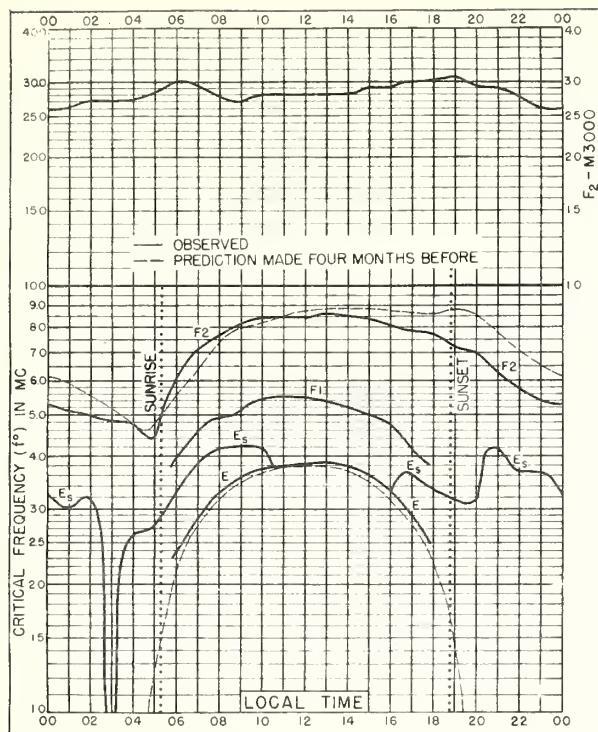


Fig 20 SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W AUGUST 1946

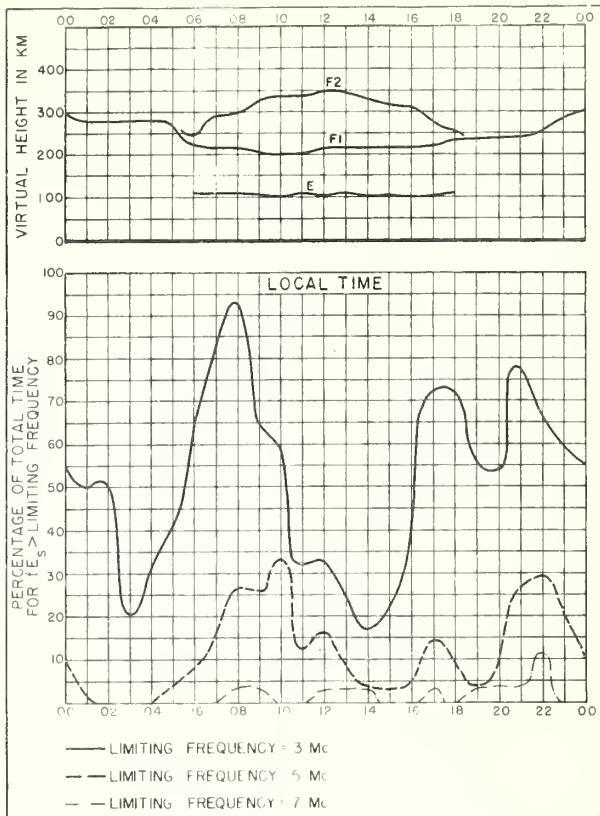


Fig 21 SAN FRANCISCO, CALIFORNIA AUGUST 1946

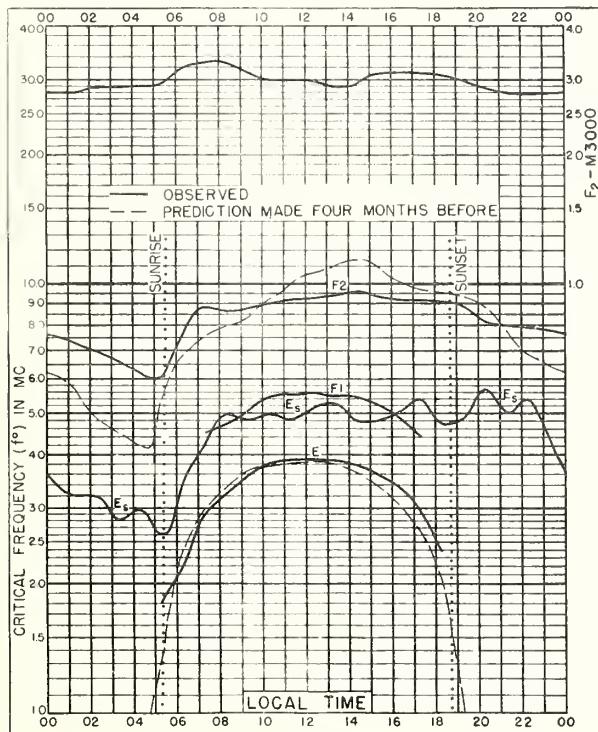


Fig 22 TOKYO, JAPAN
35.6°N, 139.6°E AUGUST 1946

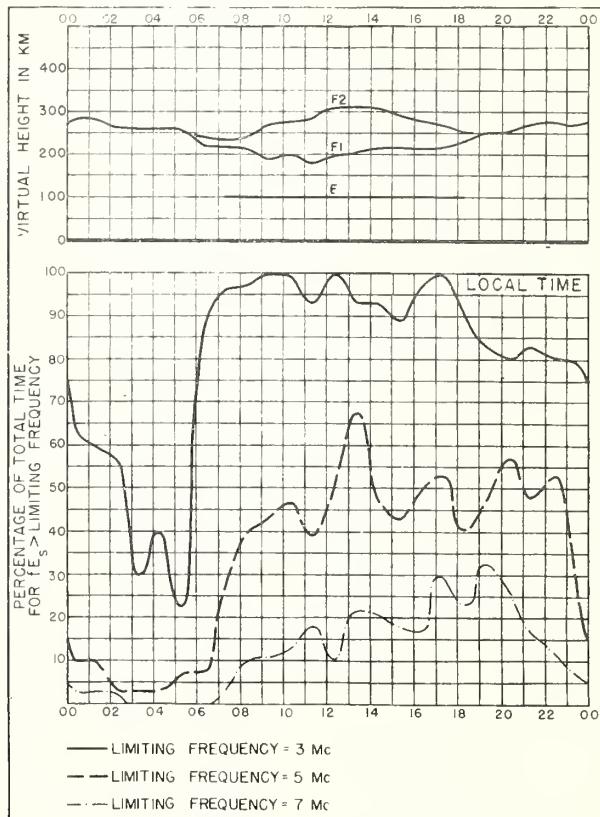
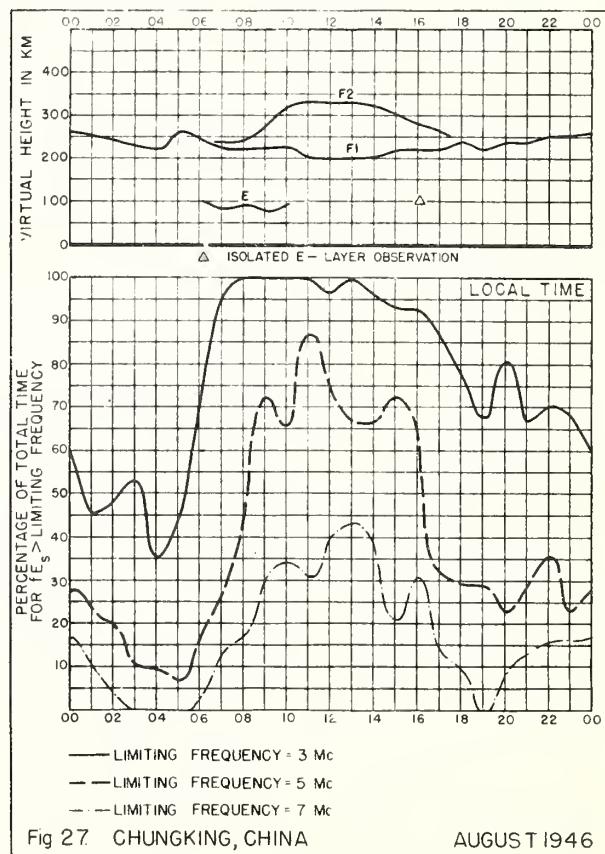
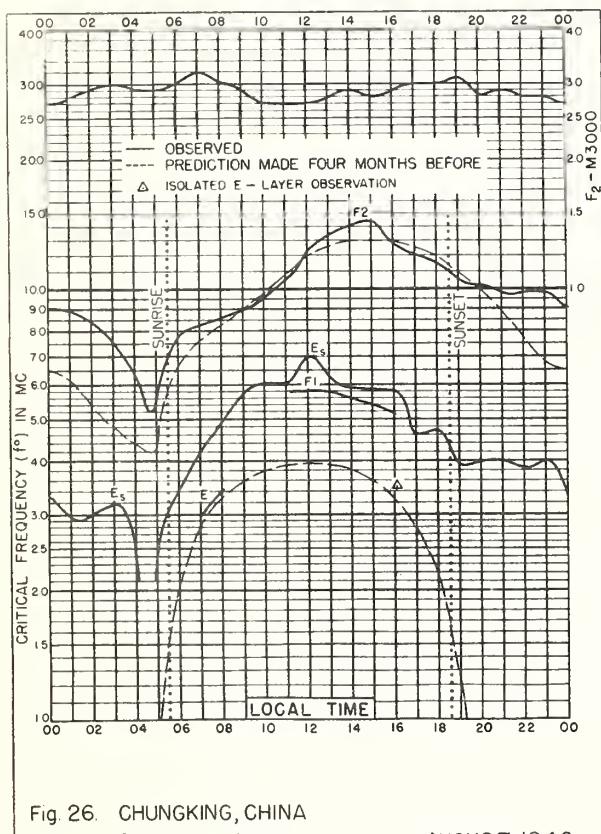
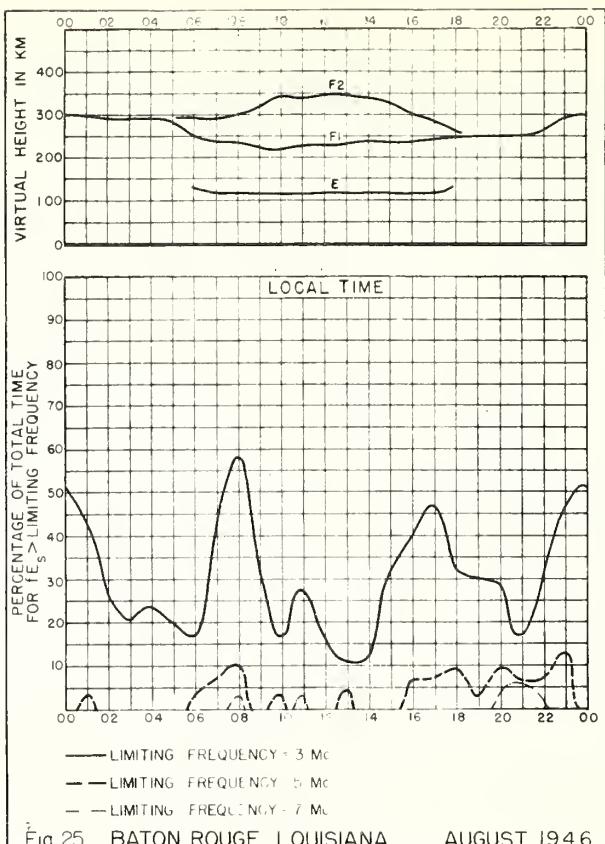
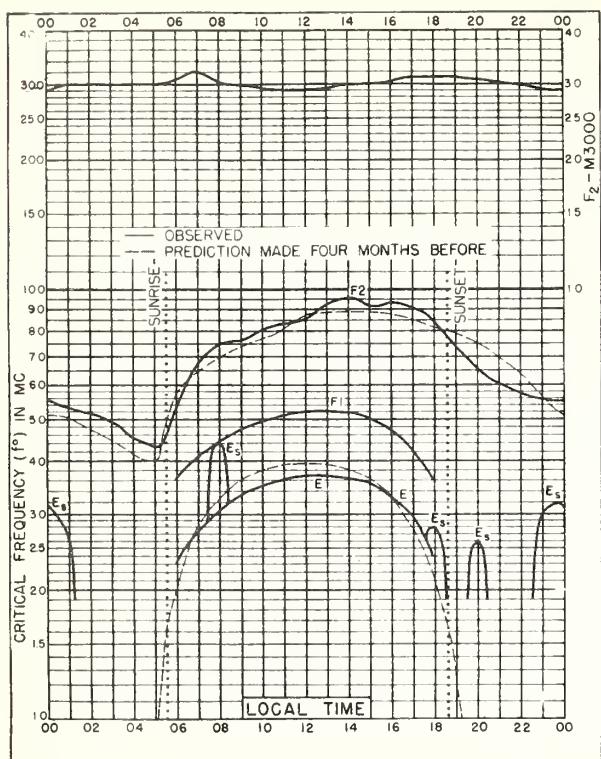
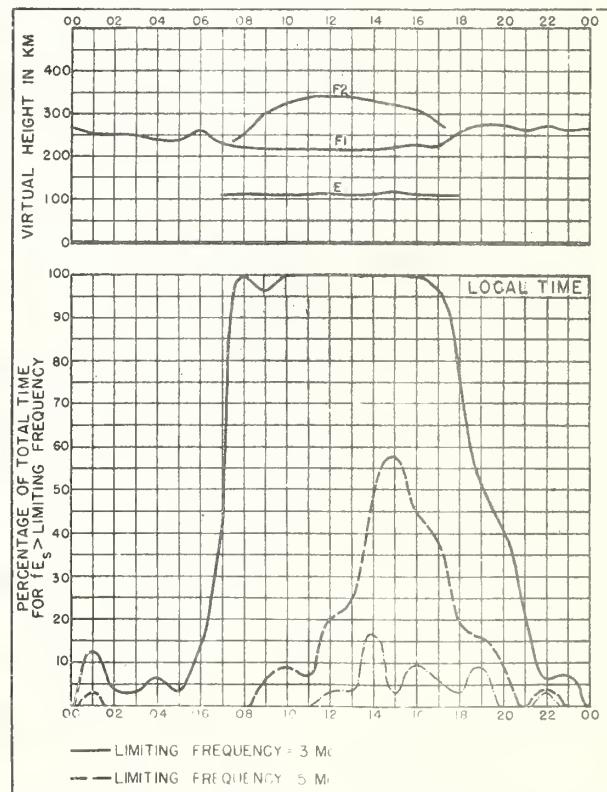
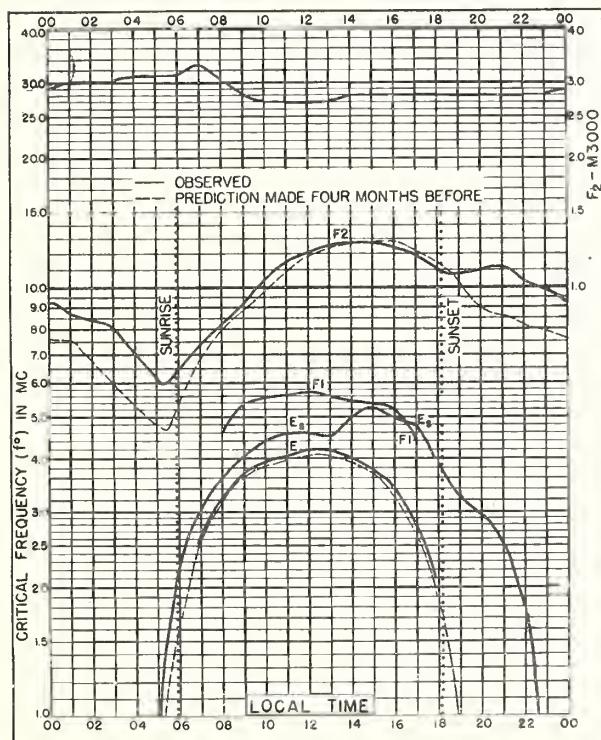
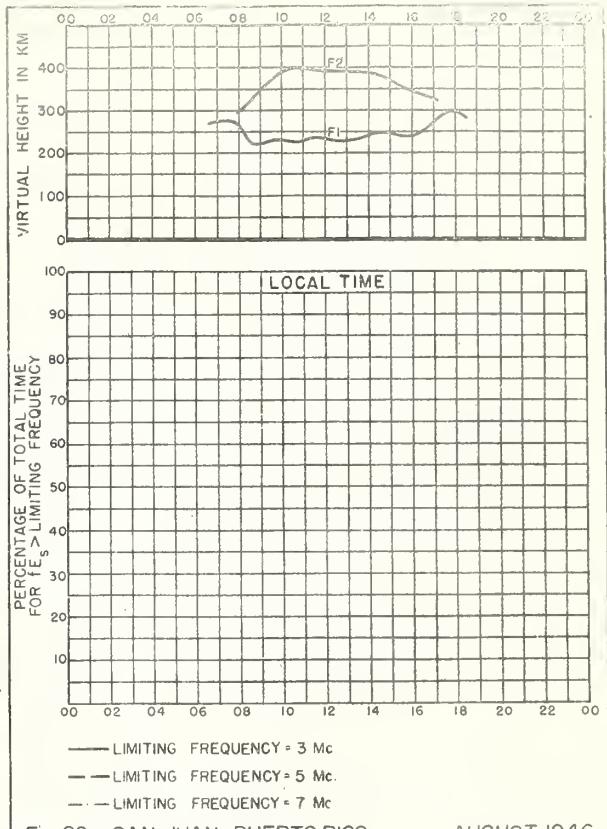
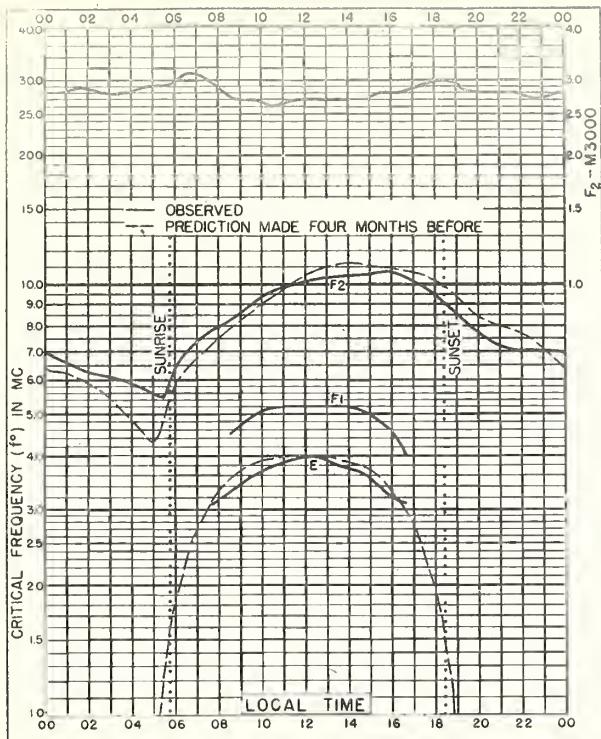
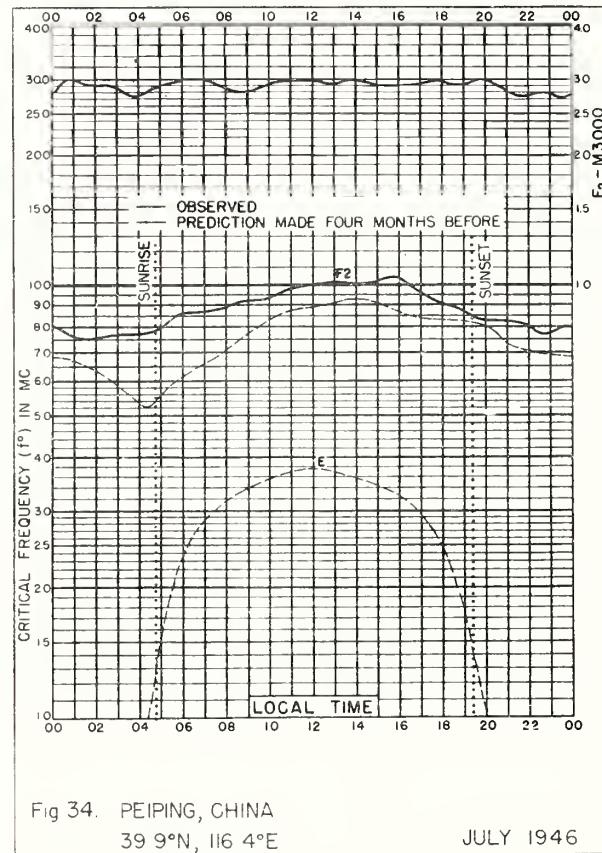
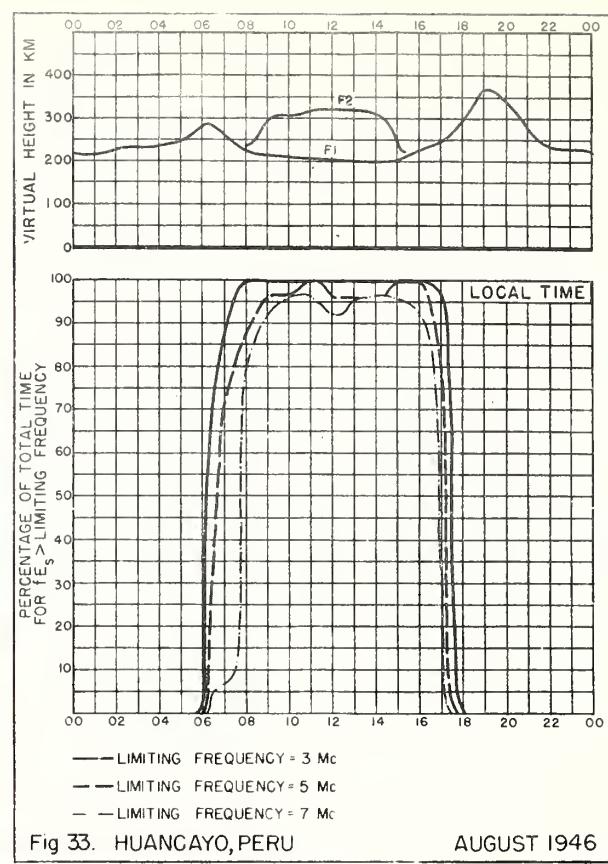
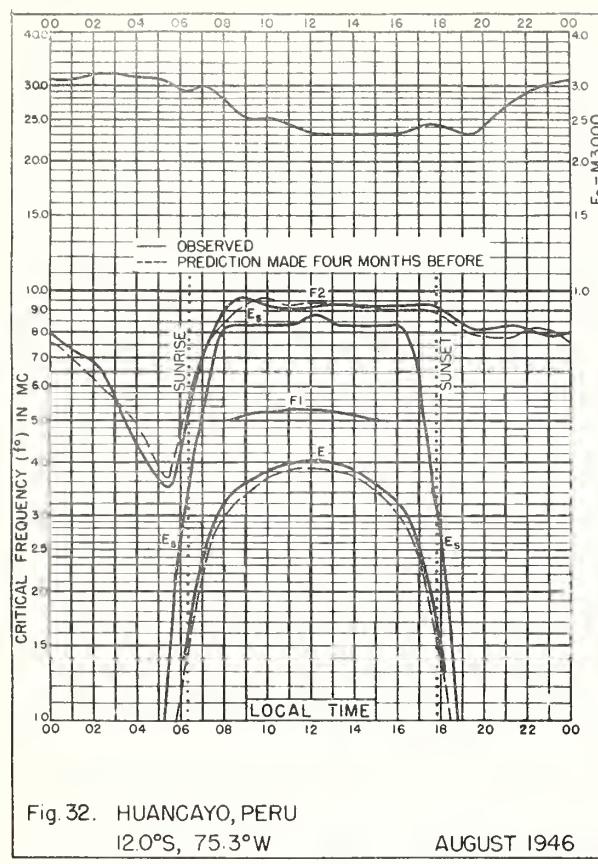


Fig. 23 TOKYO, JAPAN AUGUST 1946







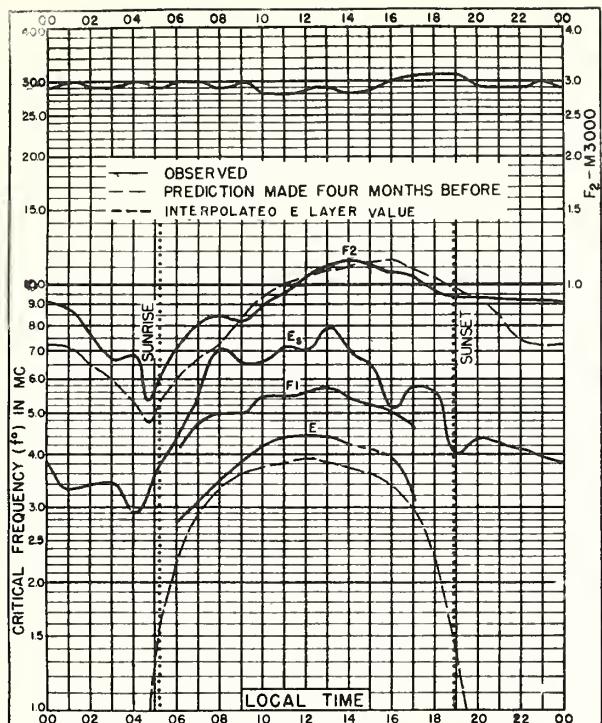


Fig 35 CHUNGKING, CHINA
29.4°N, 106.8°E

JULY 1946

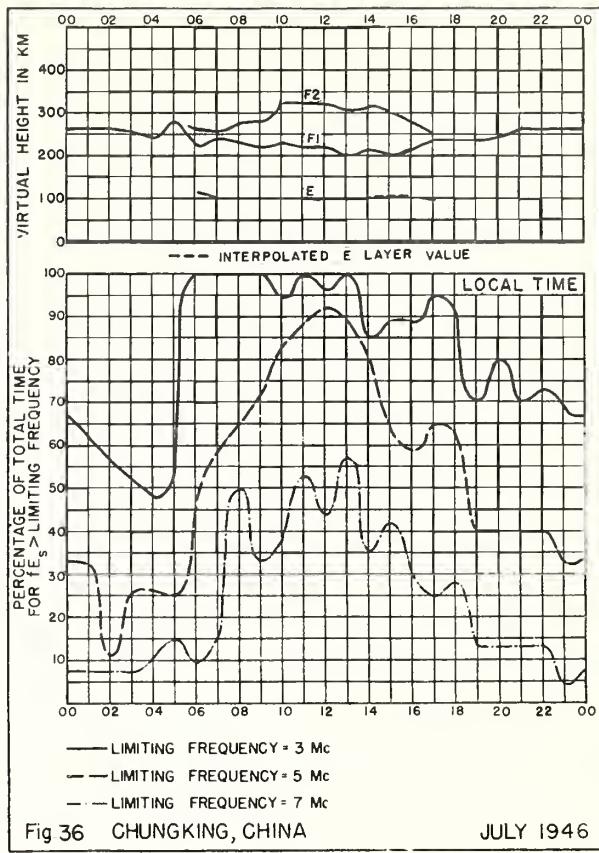


Fig 36 CHUNGKING, CHINA

JULY 1946

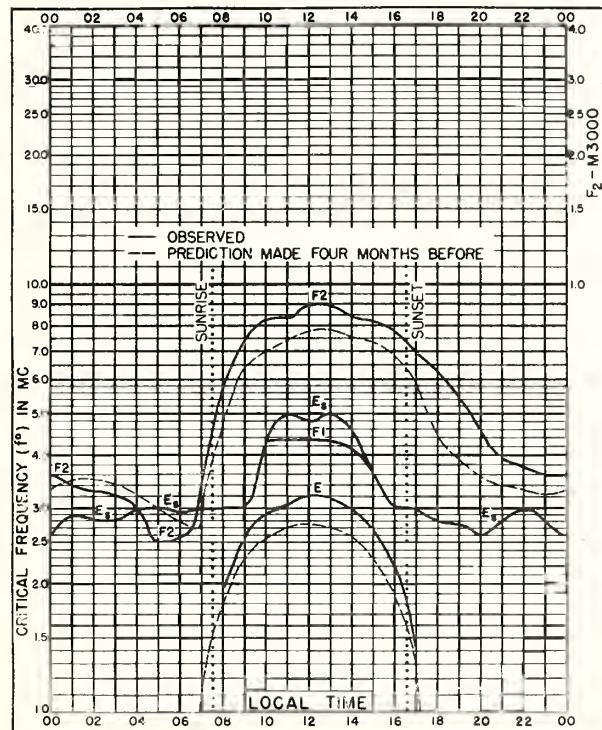


Fig 37 CHRISTCHURCH, N.Z.
43.5°S, 172.6°E

JULY 1946

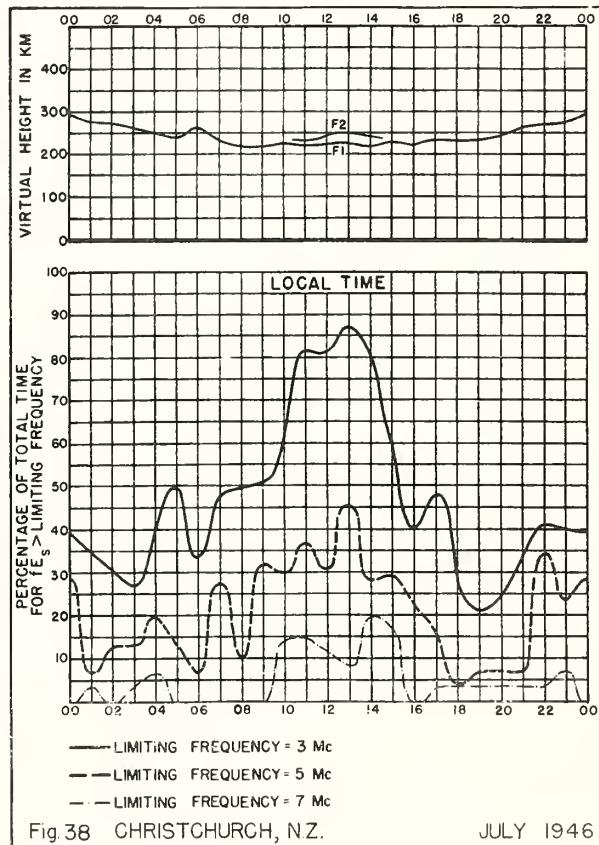
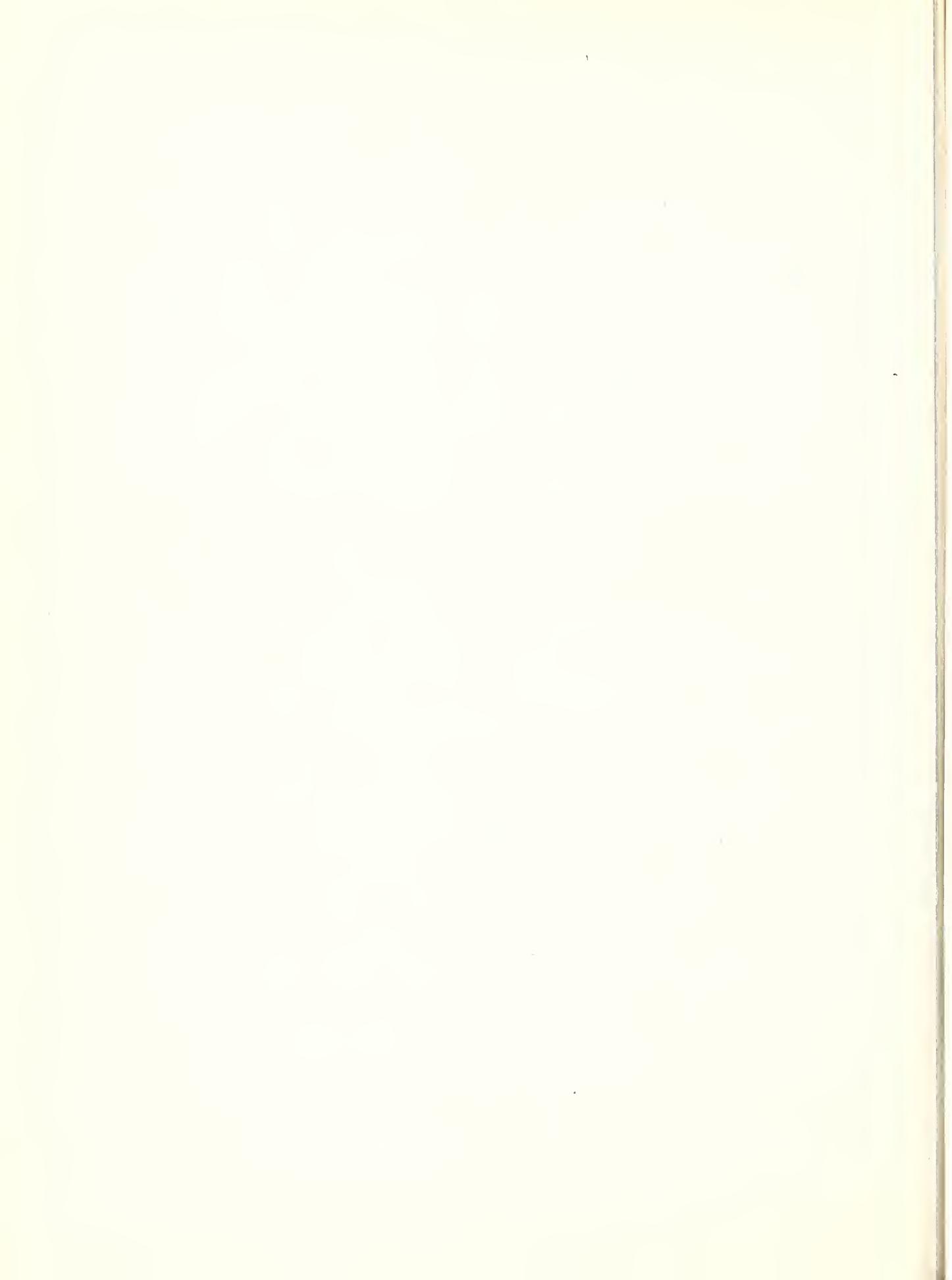


Fig 38 CHRISTCHURCH, N.Z.

JULY 1946



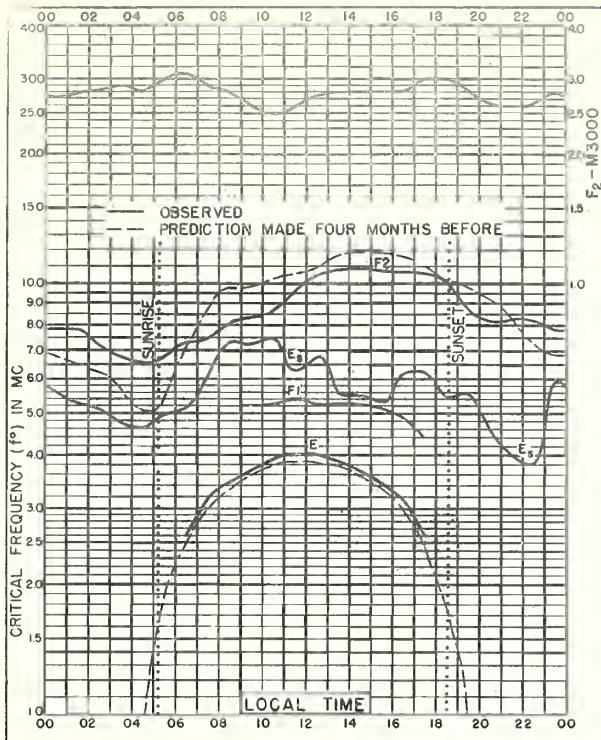


Fig. 42. OKINAWA I
26.3°N, 127.8°E

JUNE 1946

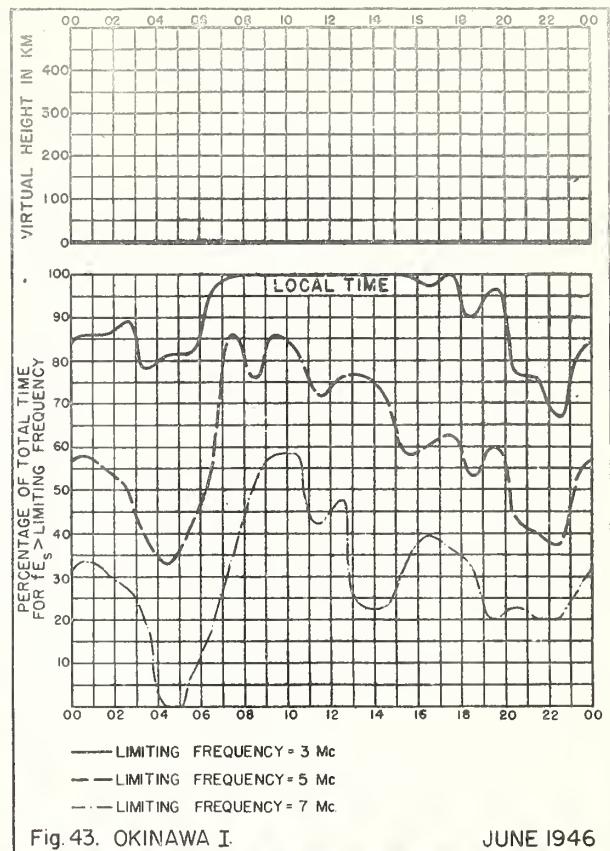


Fig. 43. OKINAWA I
JUNE 1946

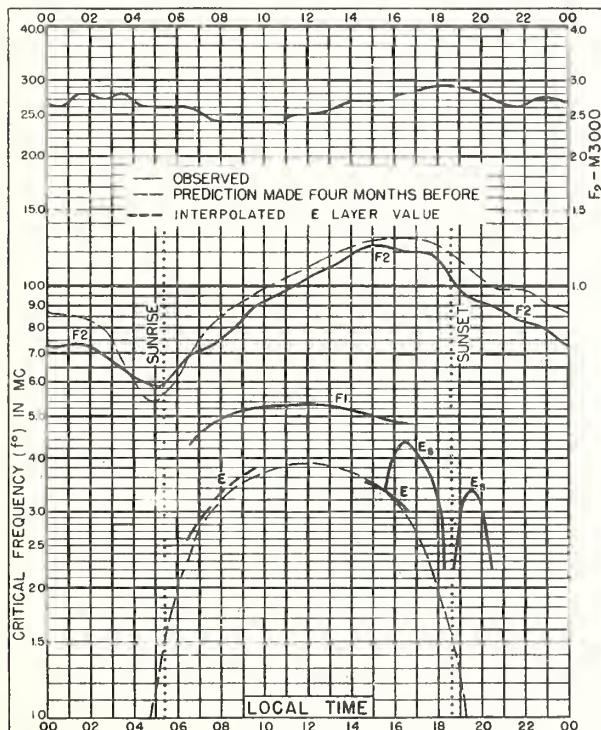


Fig. 44. MAUI, HAWAII
20.8°N, 156.5°W

JUNE 1946

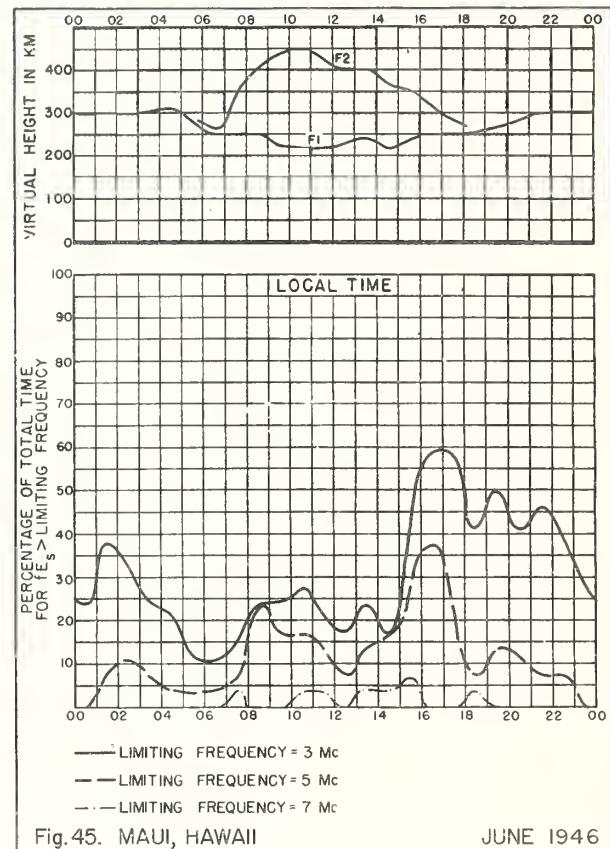


Fig. 45. MAUI, HAWAII
JUNE 1946

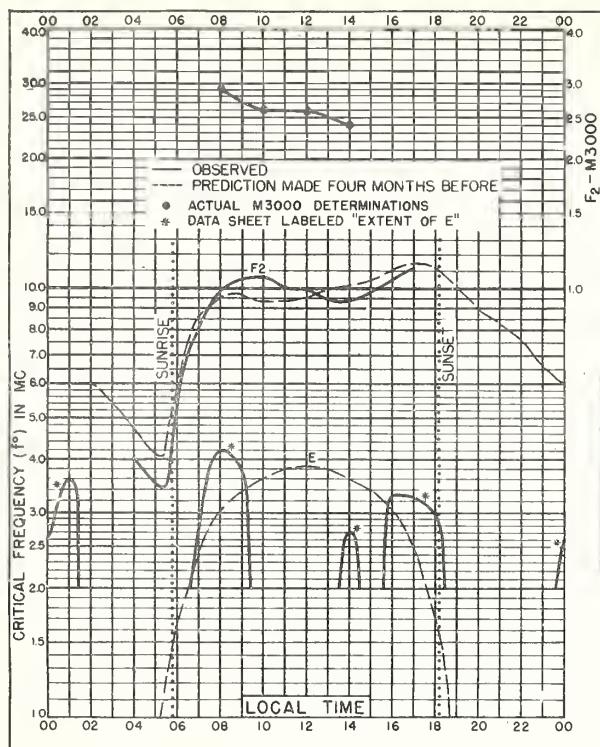


Fig. 46 COLOMBO, CEYLON
66°N, 80.0°E

JUNE 1946

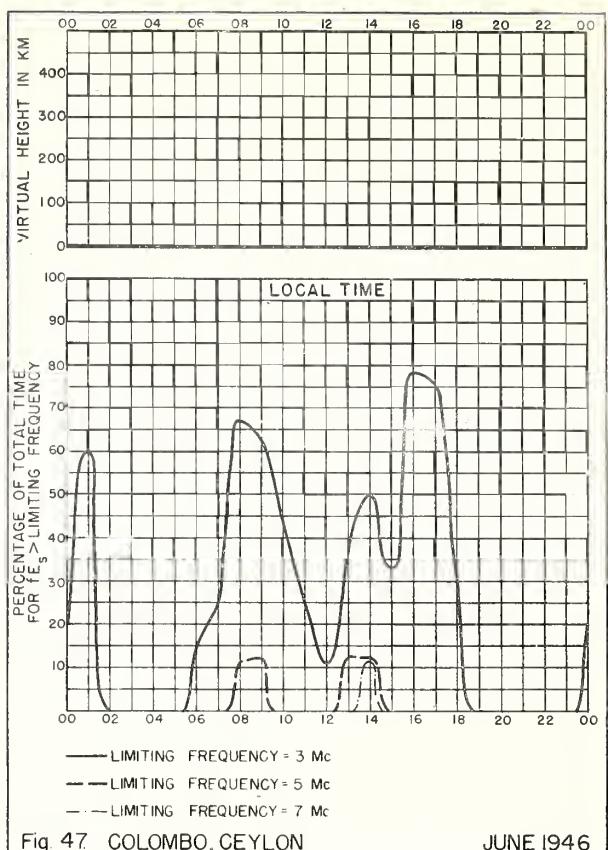


Fig. 47 COLOMBO, CEYLON

JUNE 1946

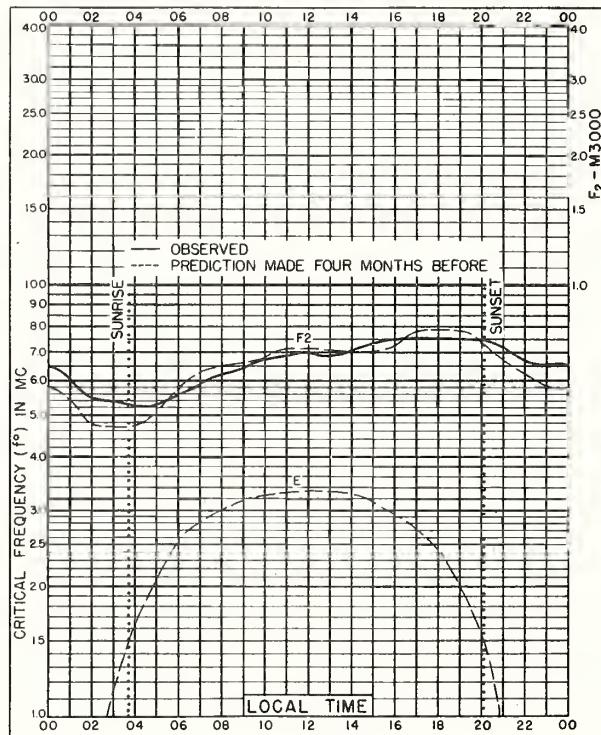


Fig. 48. BURGHEAD, SCOTLAND

57.7°N, 3.5°W

MAY 1946

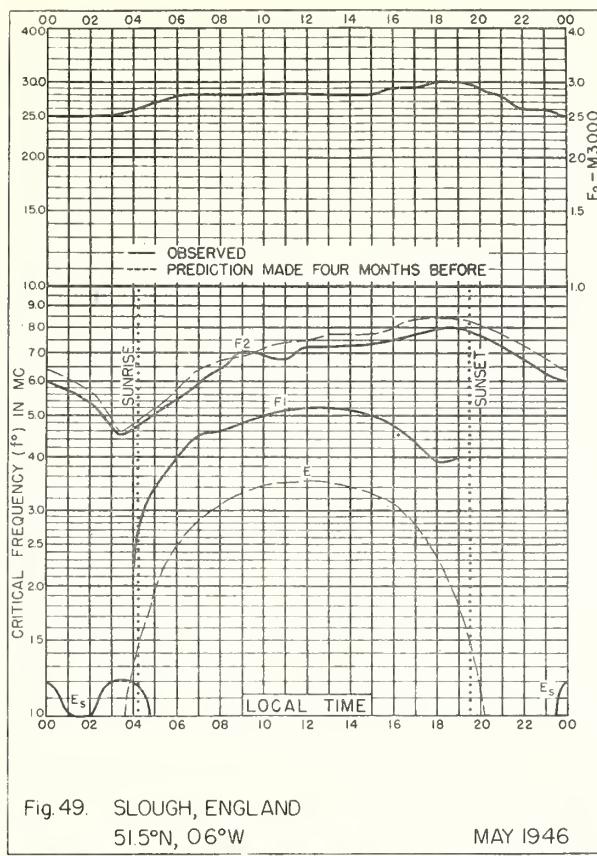


Fig. 49. SLOUGH, ENGLAND
51 $^{\circ}$ N, 06 $^{\circ}$ W MAY 1946

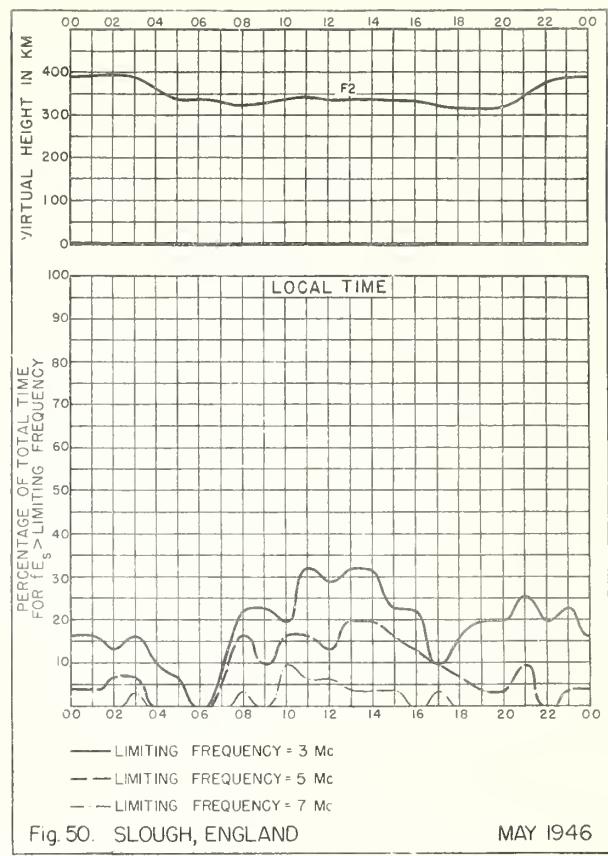


Fig. 50. SLOUGH, ENGLAND MAY 1946

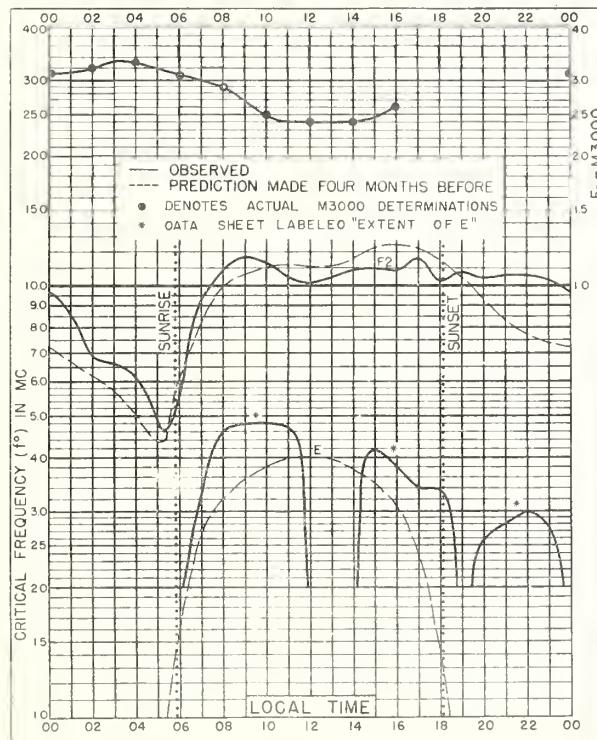


Fig. 51. COLOMBO, CEYLON
66 $^{\circ}$ N, 80 $^{\circ}$ E MAY 1946

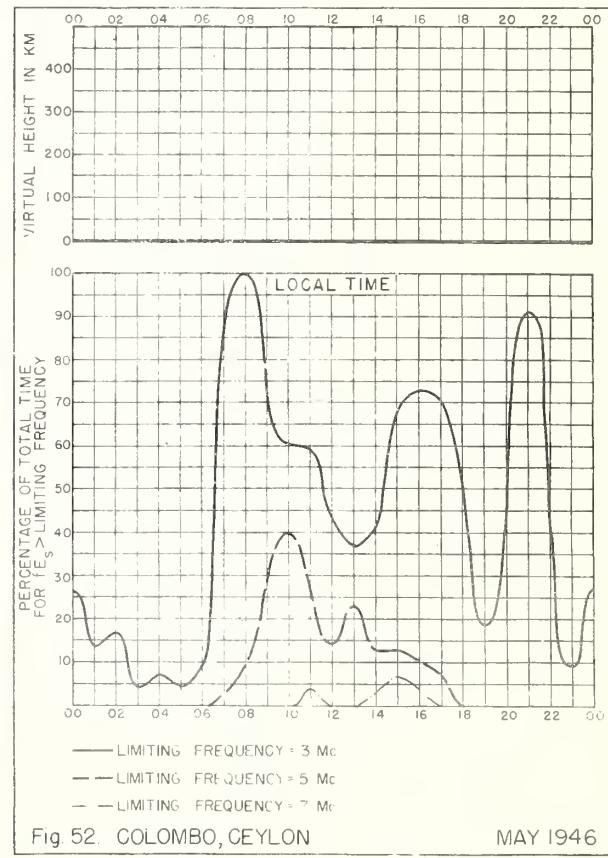


Fig. 52. COLOMBO, CEYLON MAY 1946

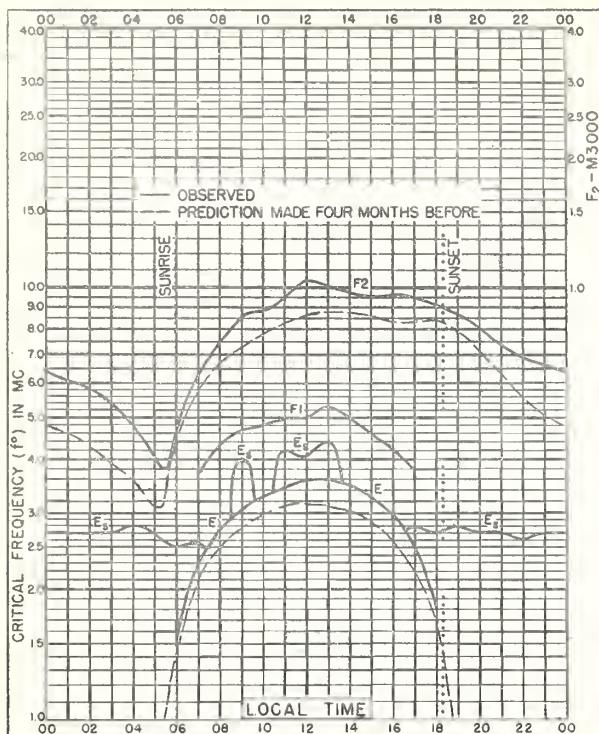


Fig. 53 CHRISTCHURCH, N. Z.
43.5°S, 172.6°E

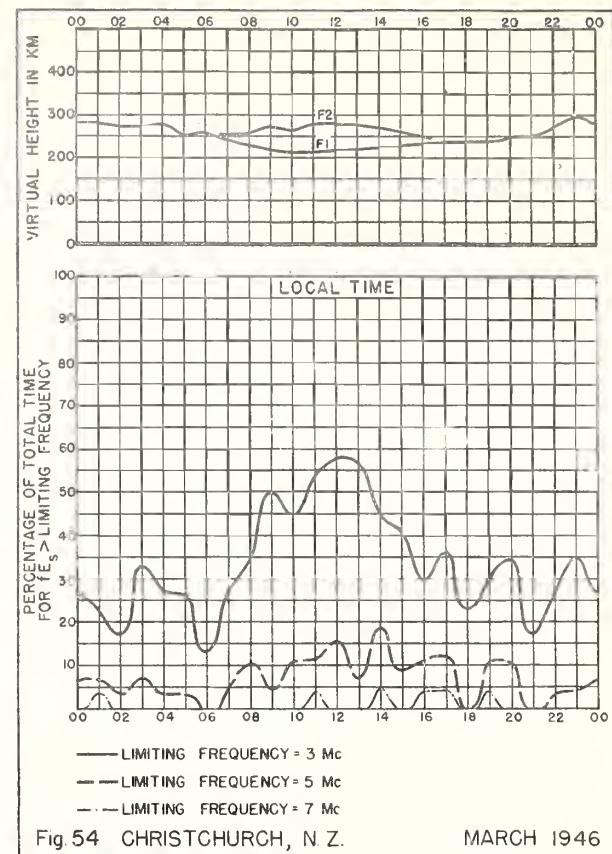


Fig. 54 CHRISTCHURCH, N. Z.

MARCH 1946

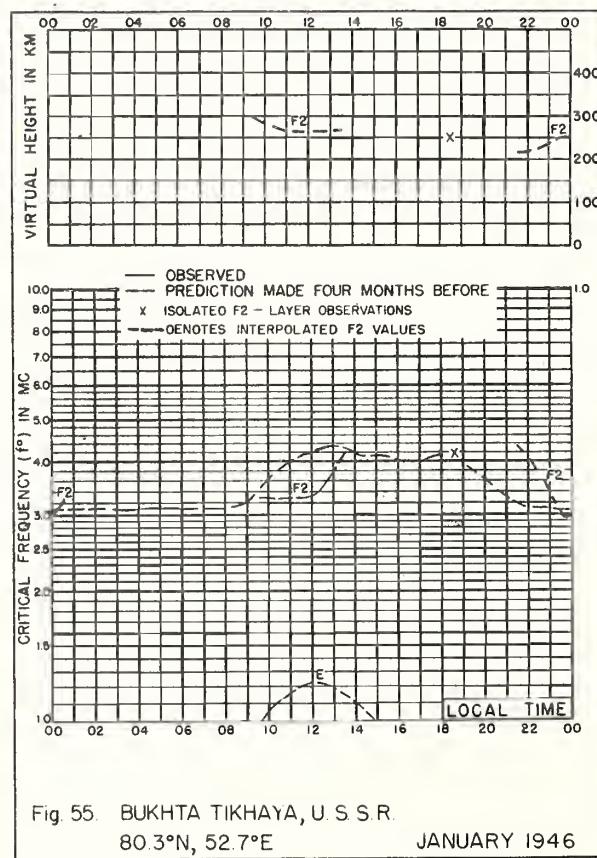


Fig. 55. BUKHTA TIKHAYA, U.S.S.R.

80.3°N, 52.7°E

JANUARY 1946

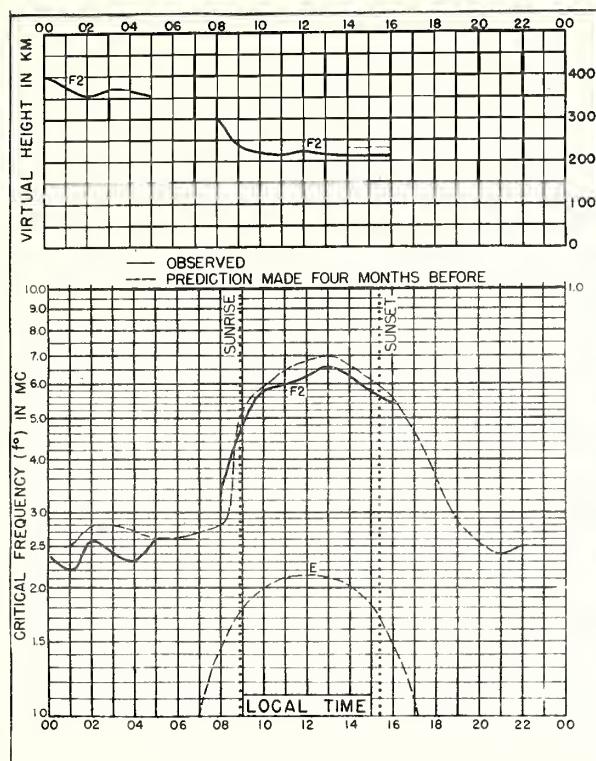


Fig. 56. LENINGRAD(WETKAS),U.S.S.R.
60.0°N, 30.3°E JANUARY 1946

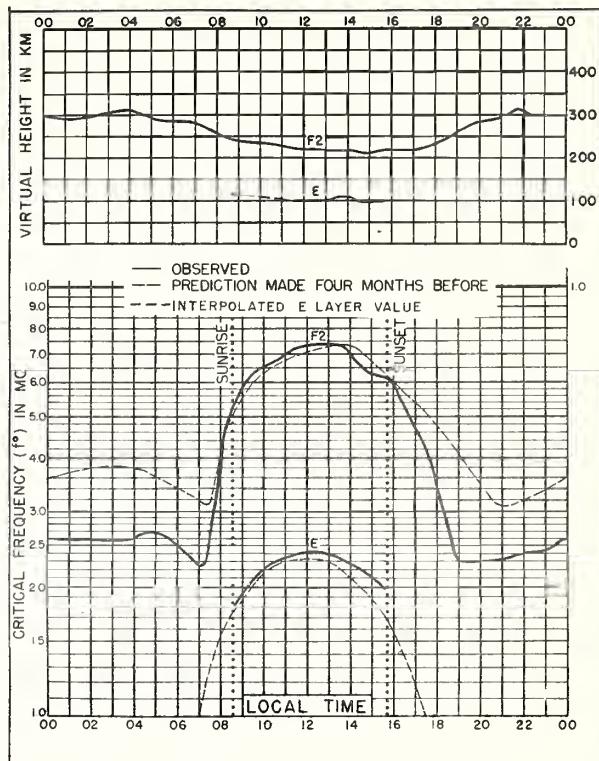


Fig. 57. TOMSK, U.S.S.R.
56.5°N, 84.9°E JANUARY 1946

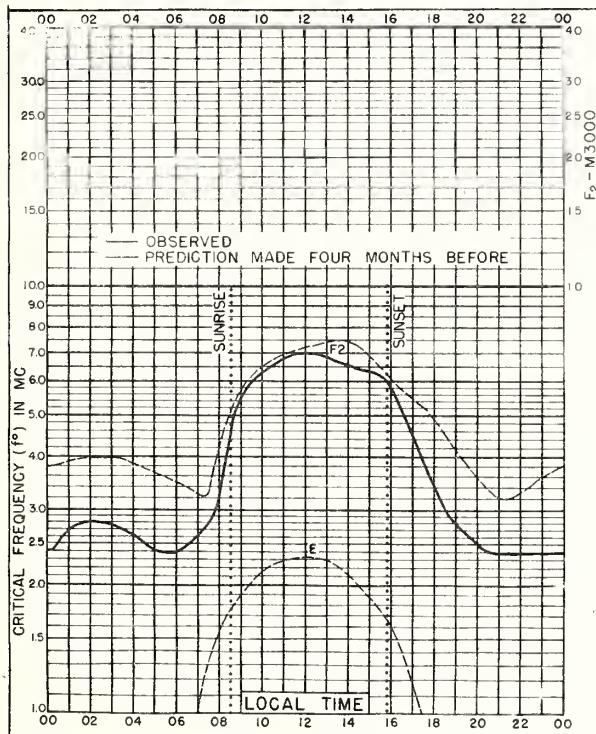


Fig. 58. MOSCOW, U.S.S.R.
55.9°N, 37.7°E JANUARY 1946

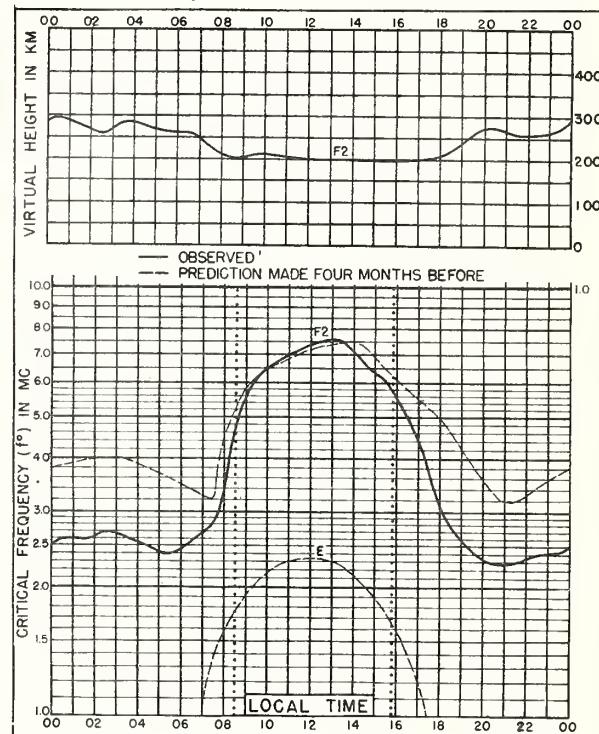


Fig. 59. MOSCOW(KRASNaja PAKHRA), U.S.S.R.
55.5°N, 37.3°E JANUARY 1946

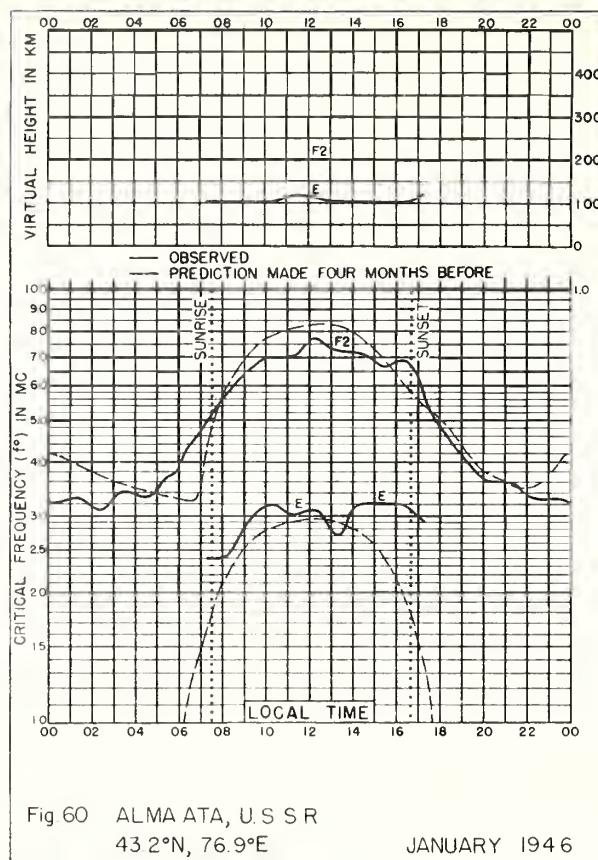


Fig. 60 ALMA ATA, U.S.S.R.

43 2°N, 76.9°E

JANUARY 1946

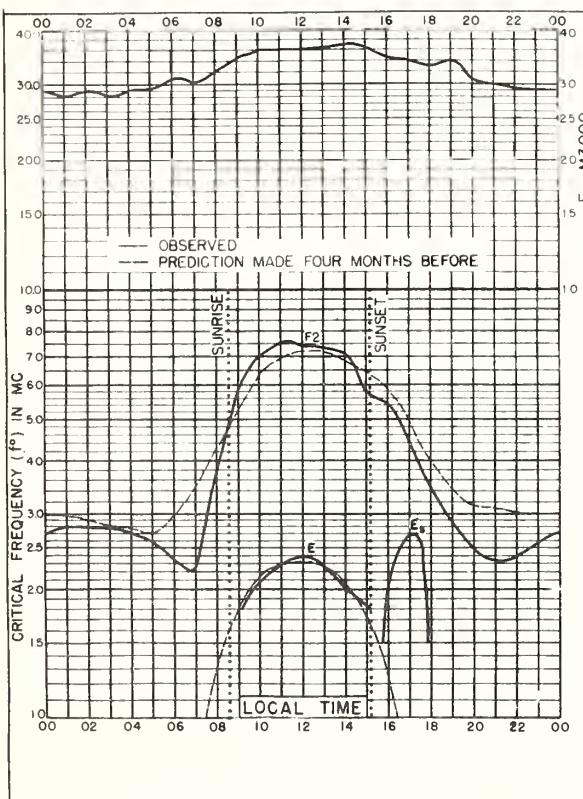


Fig. 61. SVERDLOVSK, U.S.S.R.

56.7°N, 61.1°E

DECEMBER 1945

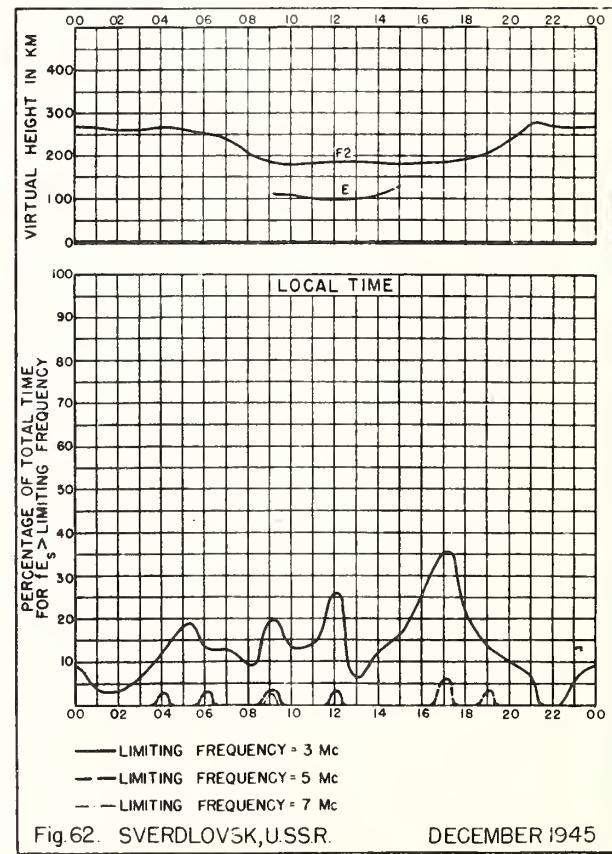
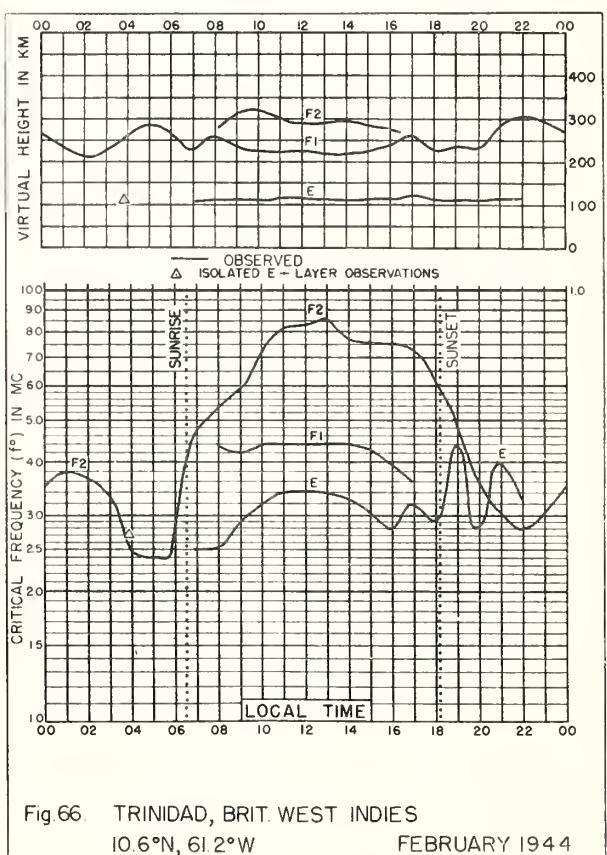
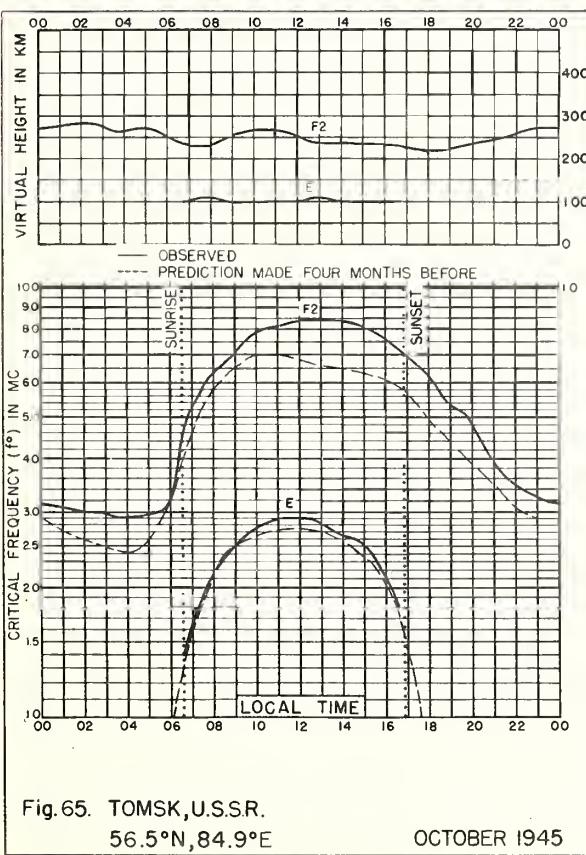
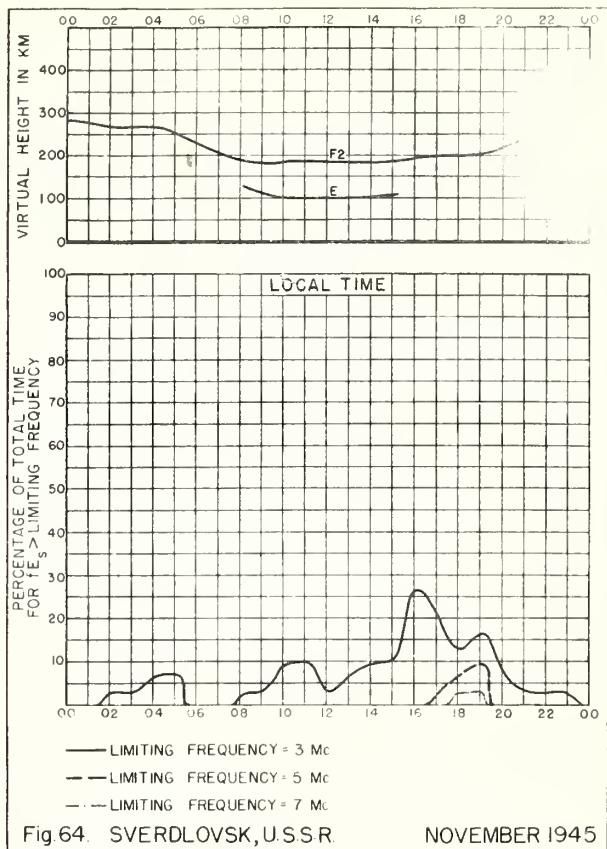
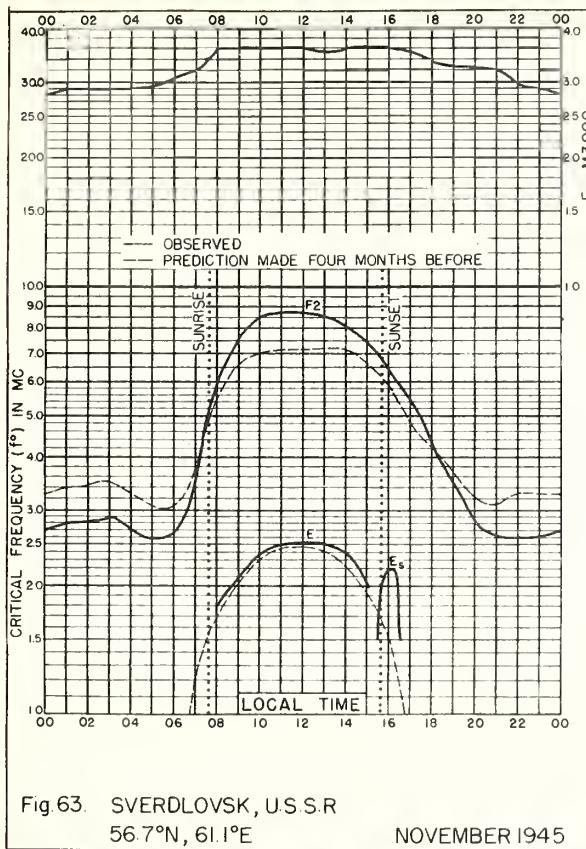


Fig. 62. SVERDLOVSK, U.S.S.R.

DECEMBER 1945



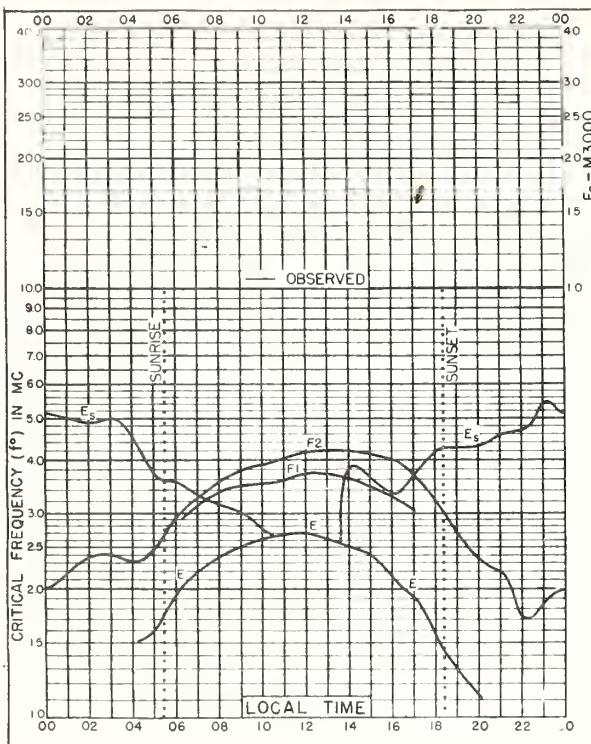


Fig. 67. FAIRBANKS, ALASKA

64°9'N, 147°8'W

SEPTEMBER 1943

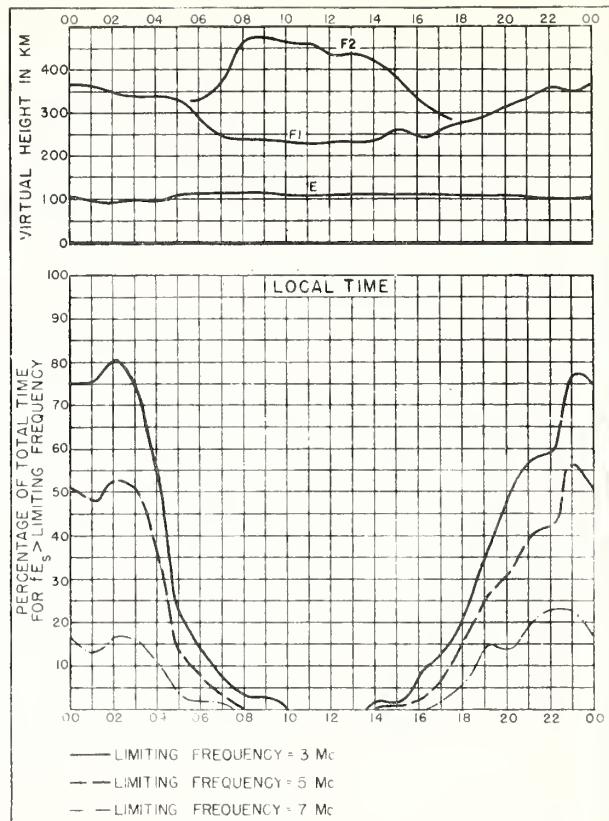


Fig. 68. FAIRBANKS, ALASKA

SEPTEMBER 1943

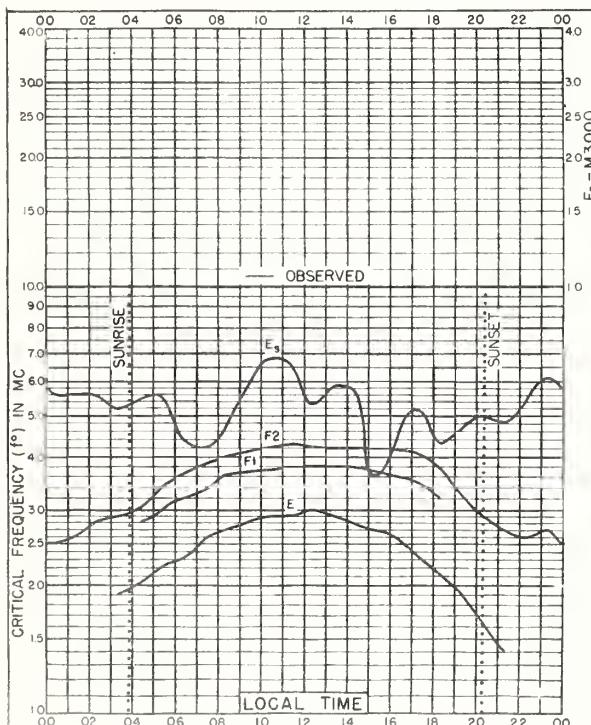


Fig. 69. FAIRBANKS

64°9'N, 147°8'W

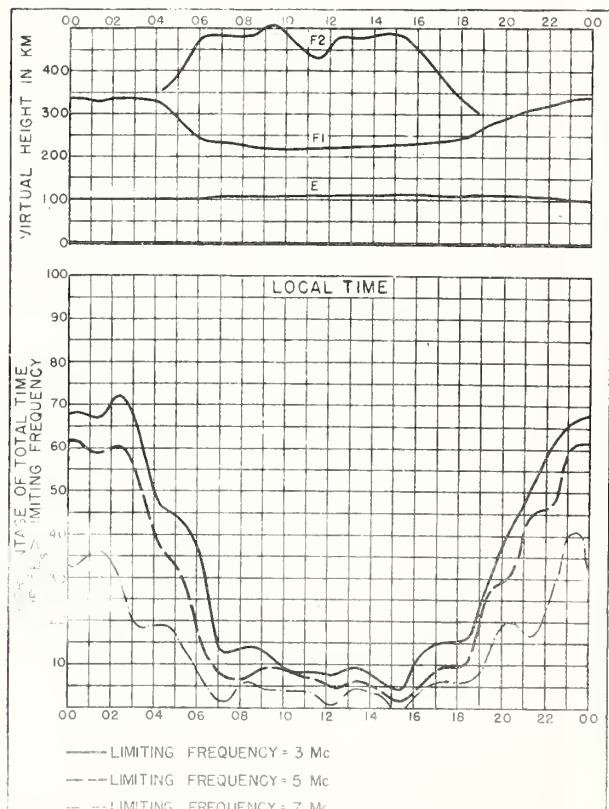


Fig. 70. FAIRBANKS, ALASKA

AUGUST 1943

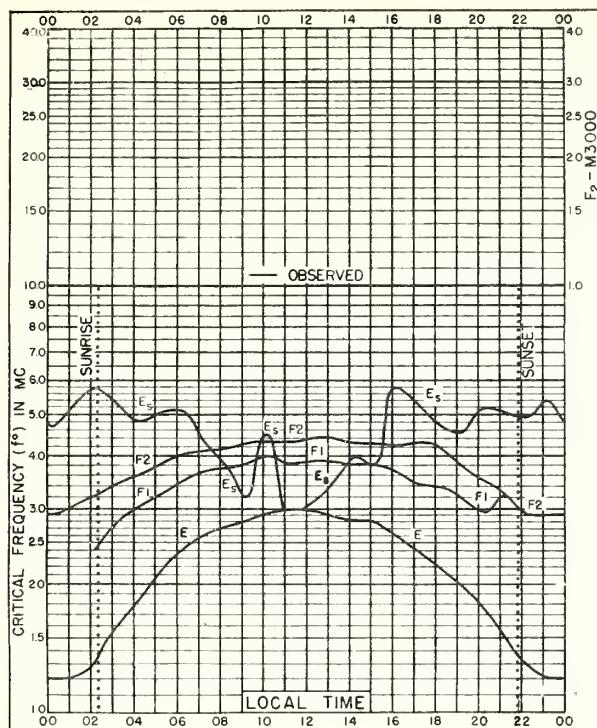


Fig 71. FAIRBANKS, ALASKA
64°9'N, 147°8'W

JULY 1943

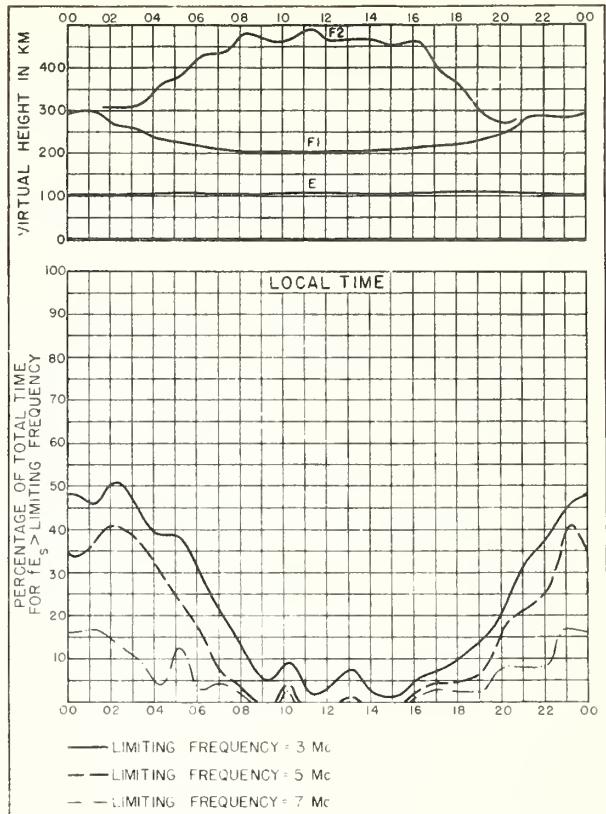


Fig 72. FAIRBANKS, ALASKA

JULY 1943

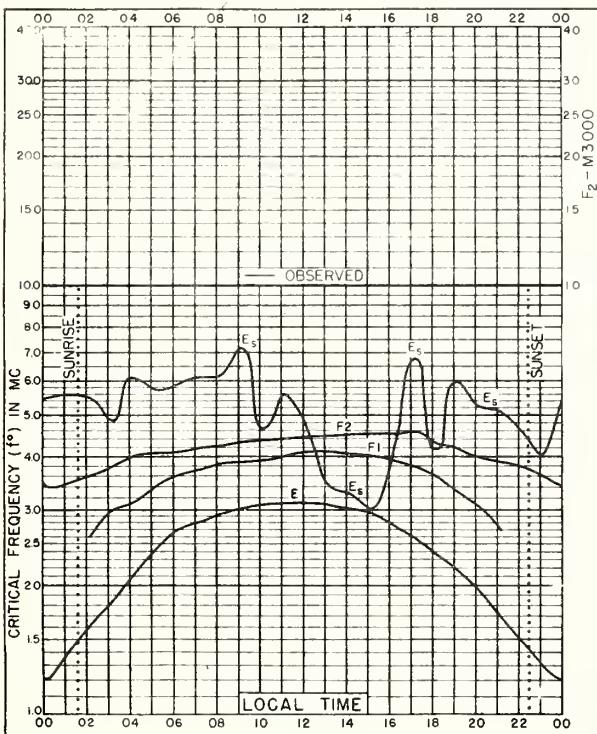


Fig 73. FAIRBANKS, ALASKA
64°9'N, 147°8'W

JUNE 1943

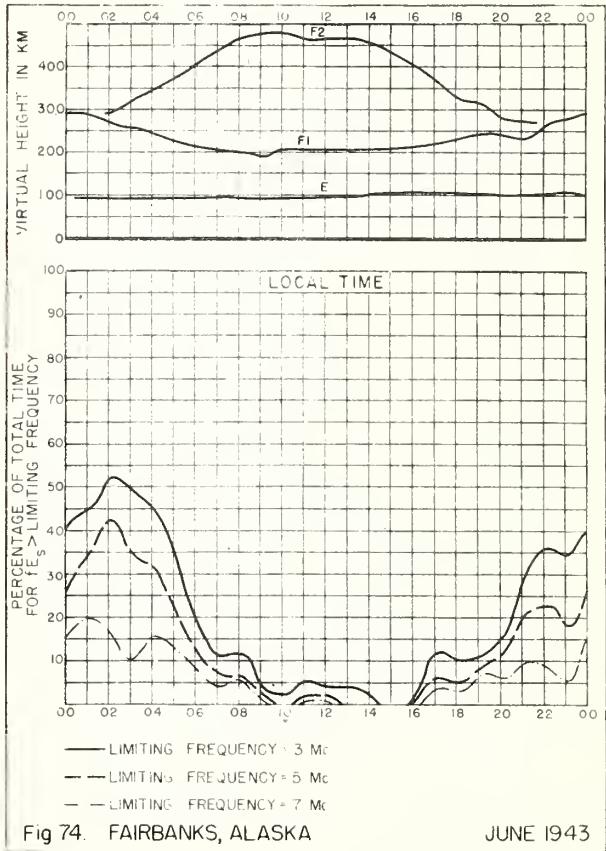
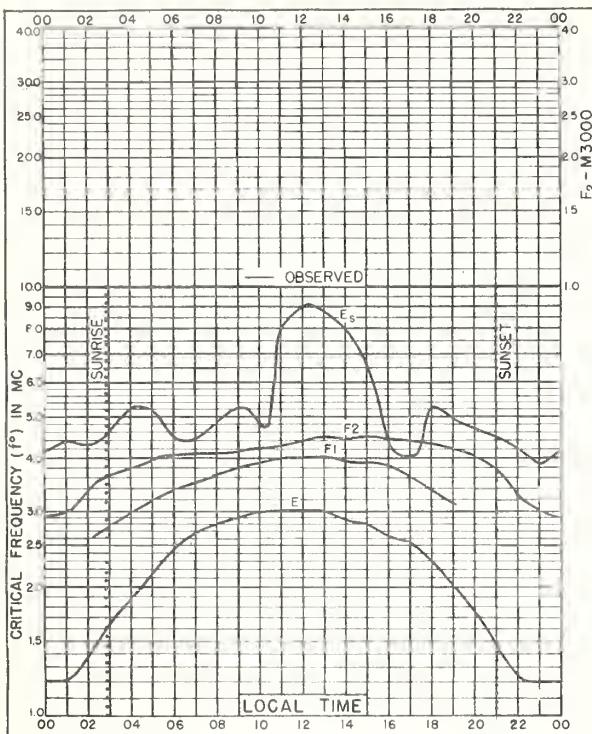


Fig 74. FAIRBANKS, ALASKA

JUNE 1943

Fig. 75. FAIRBANKS, ALASKA
64.9°N, 147.8°W

MAY 1943

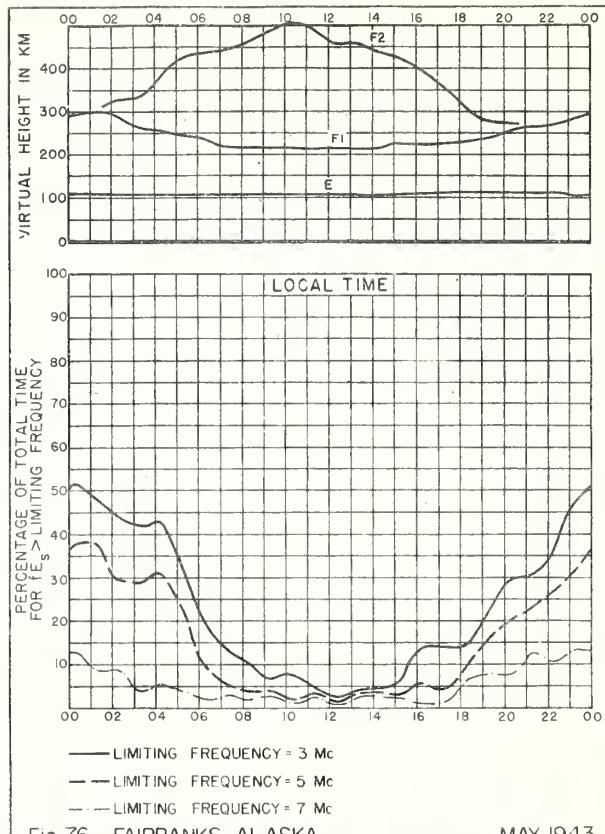
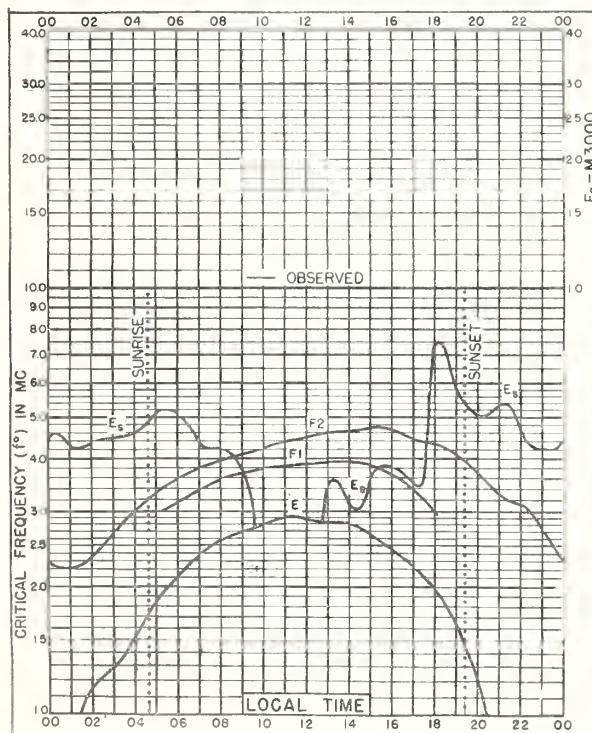


Fig. 76. FAIRBANKS, ALASKA

MAY 1943

Fig. 77. FAIRBANKS, ALASKA
64.9°N, 147.8°W

APRIL 1943

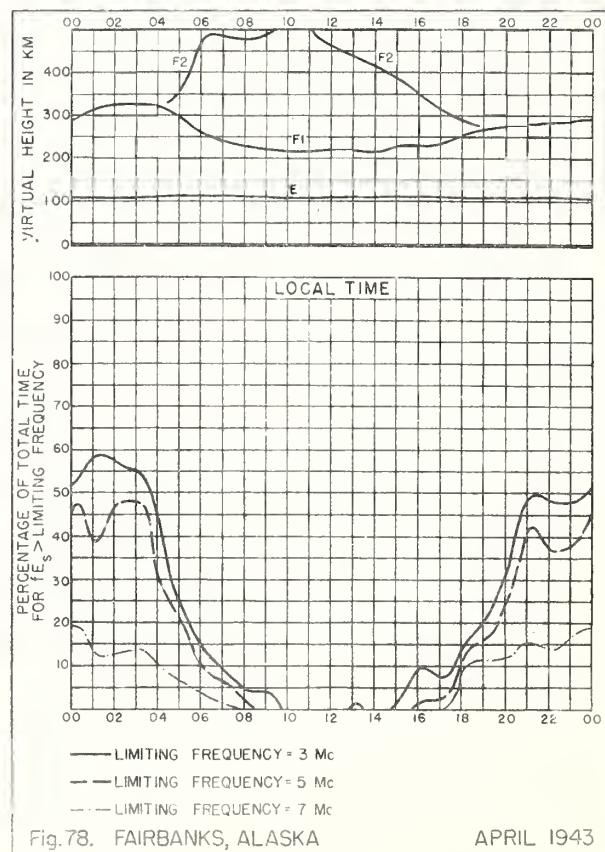
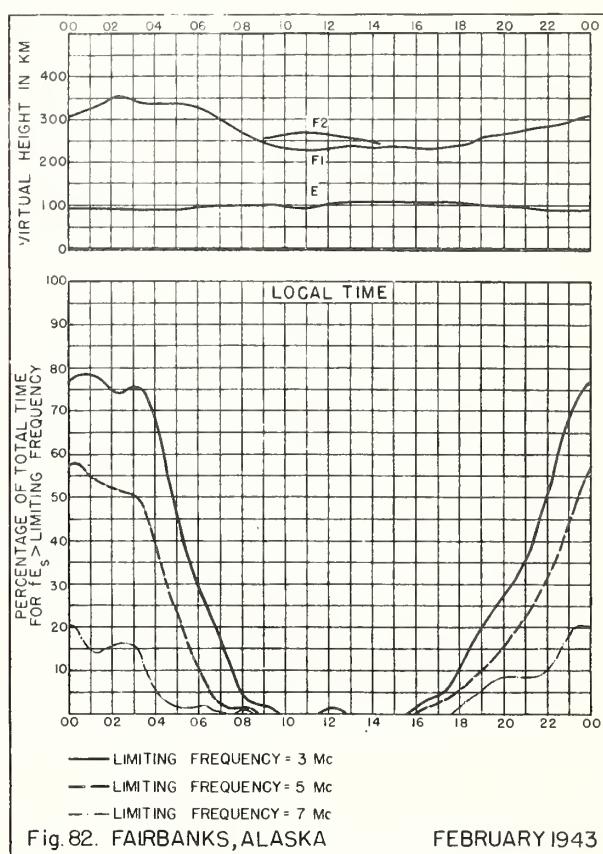
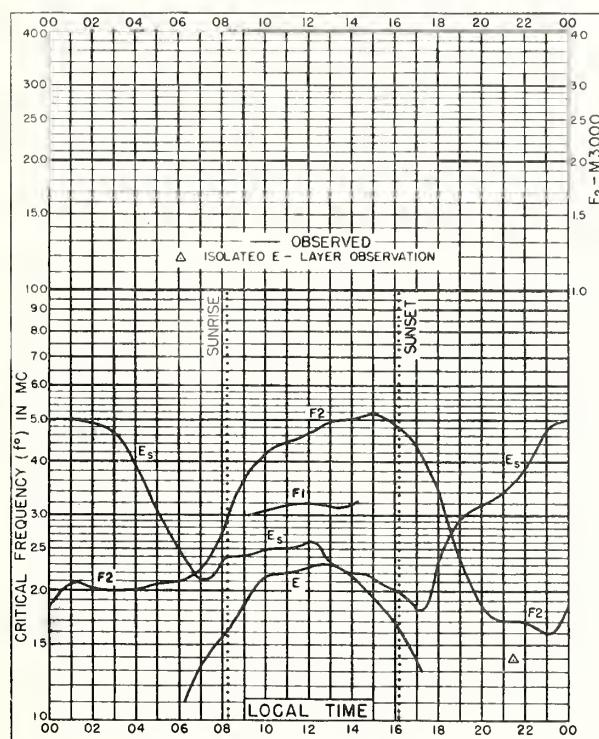
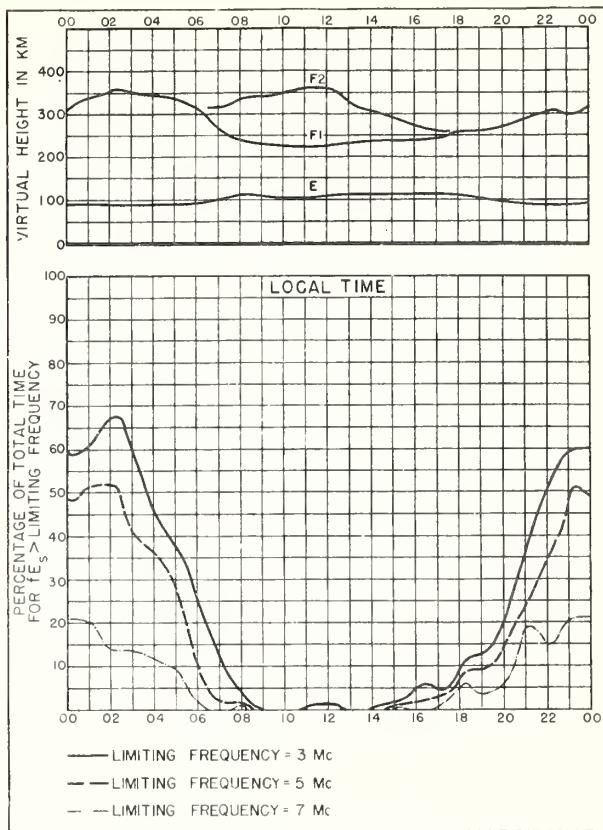
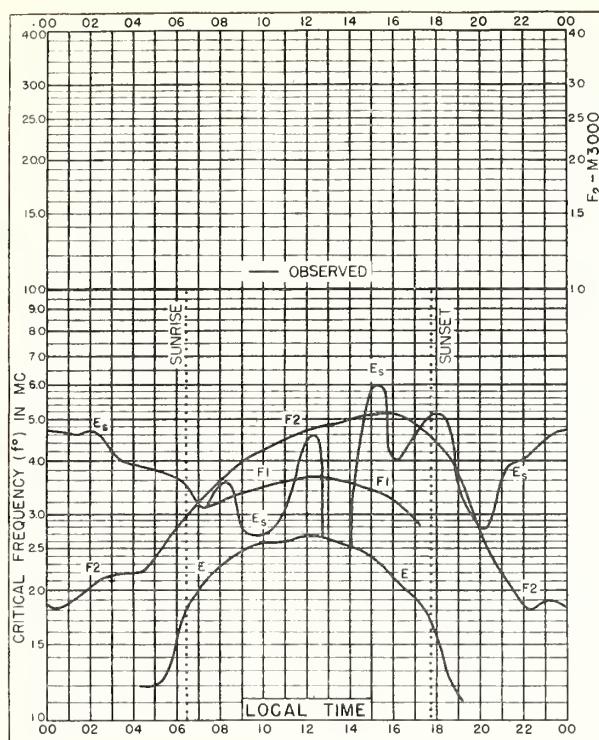
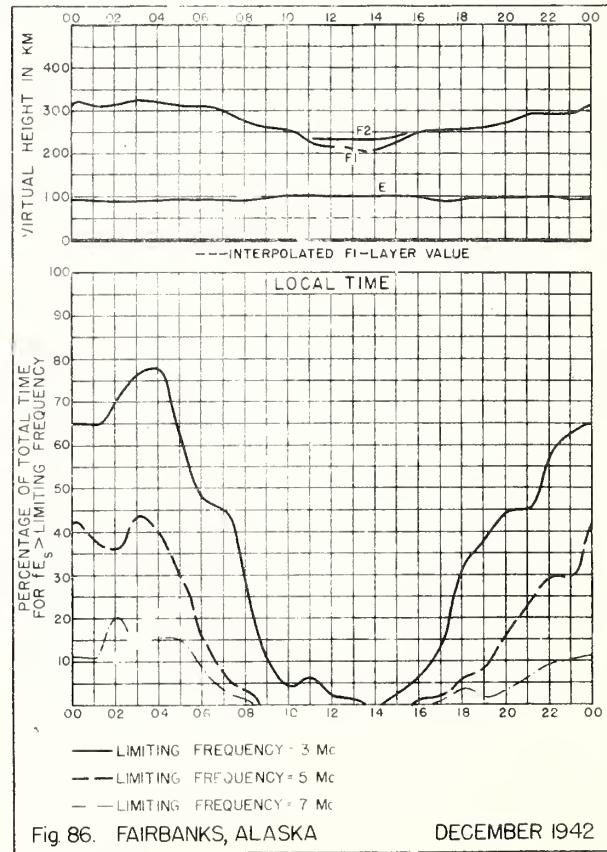
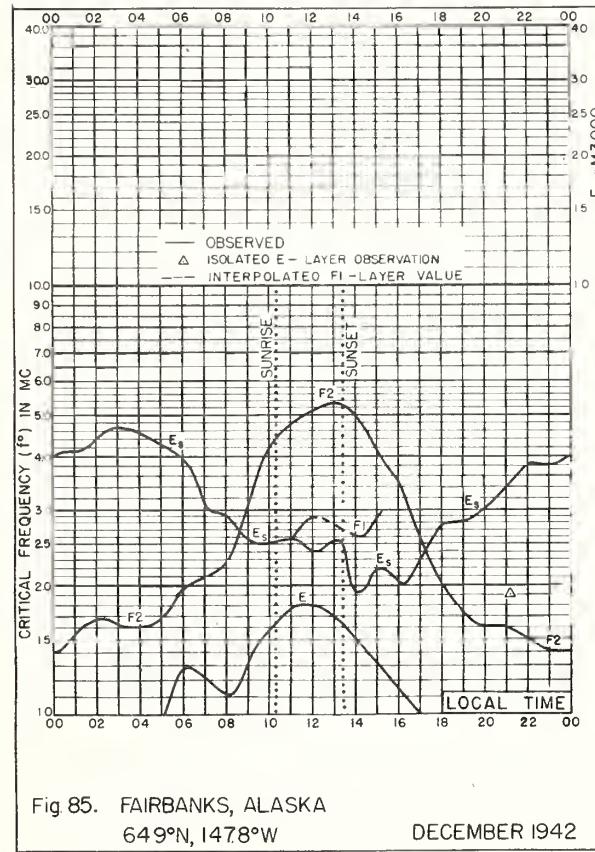
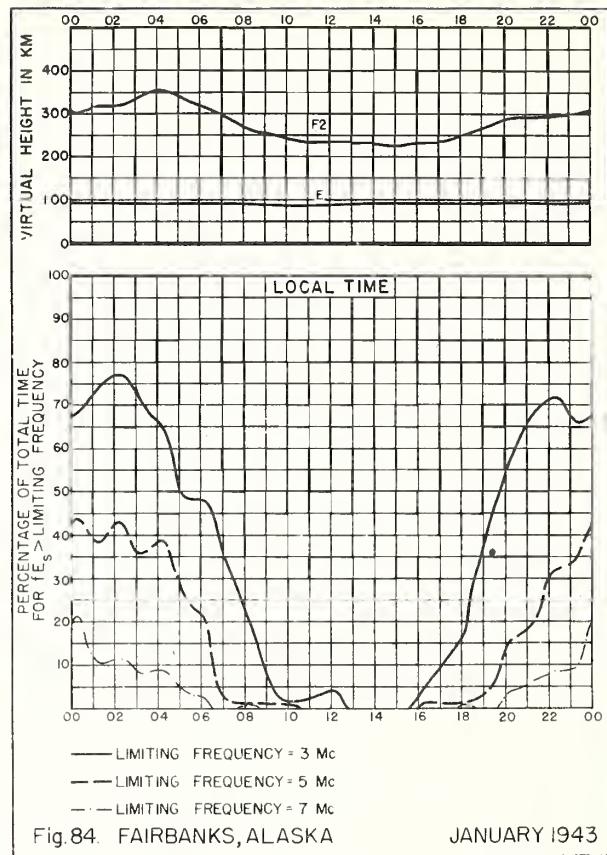
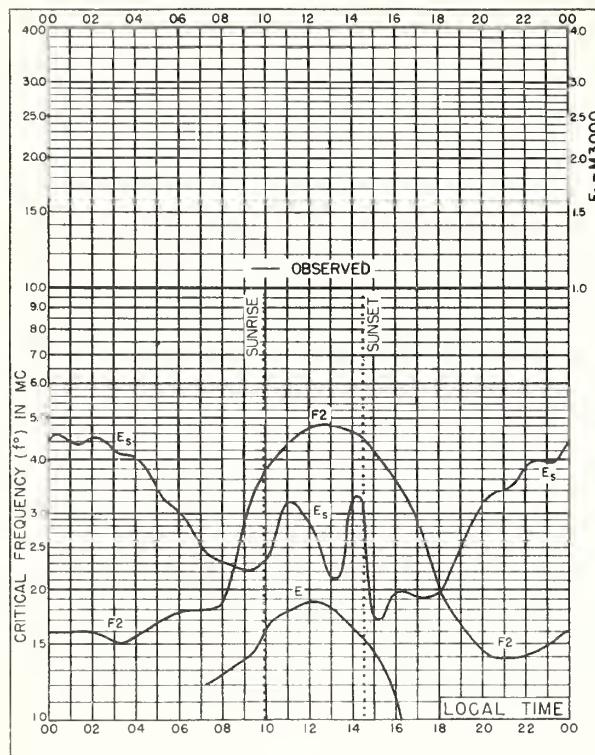
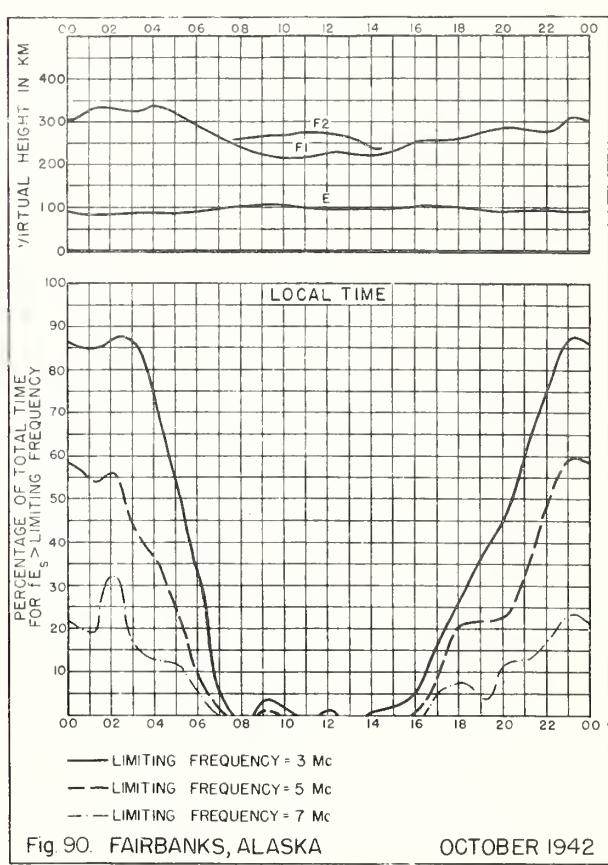
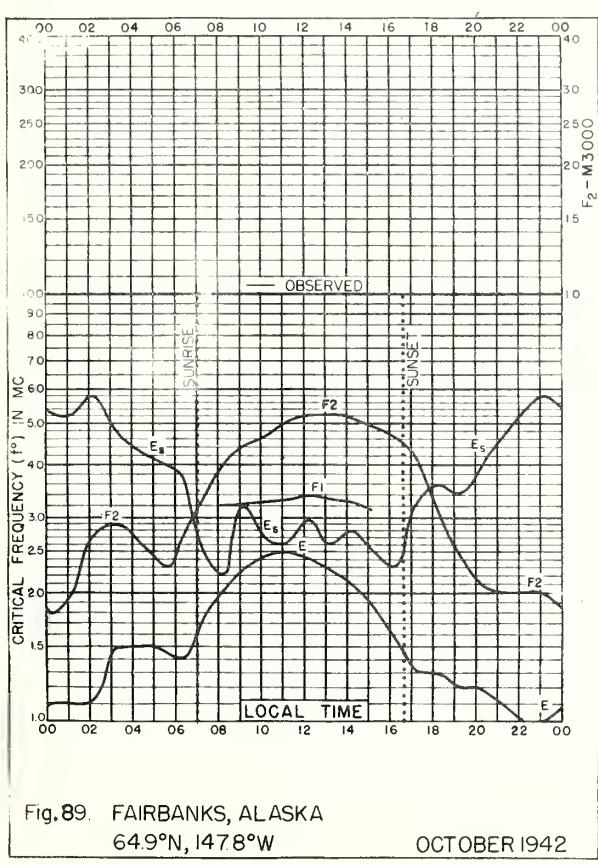
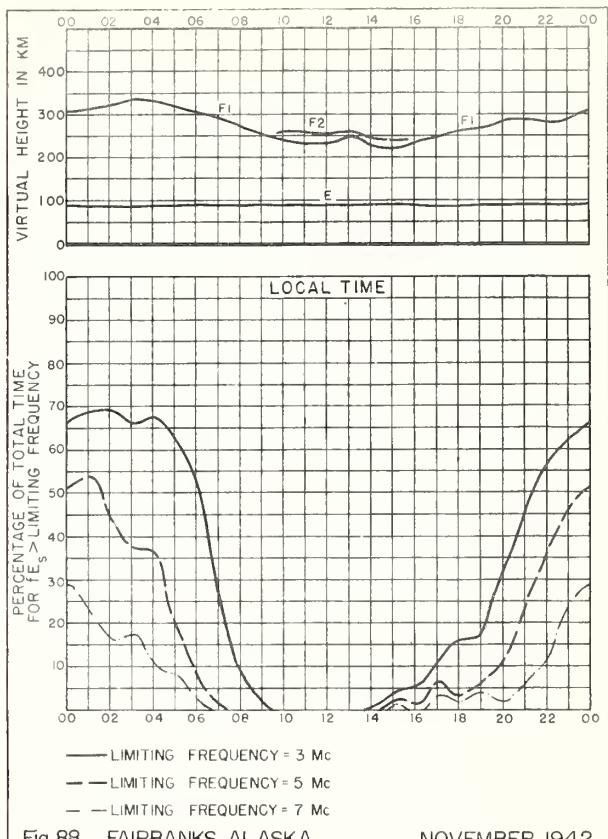
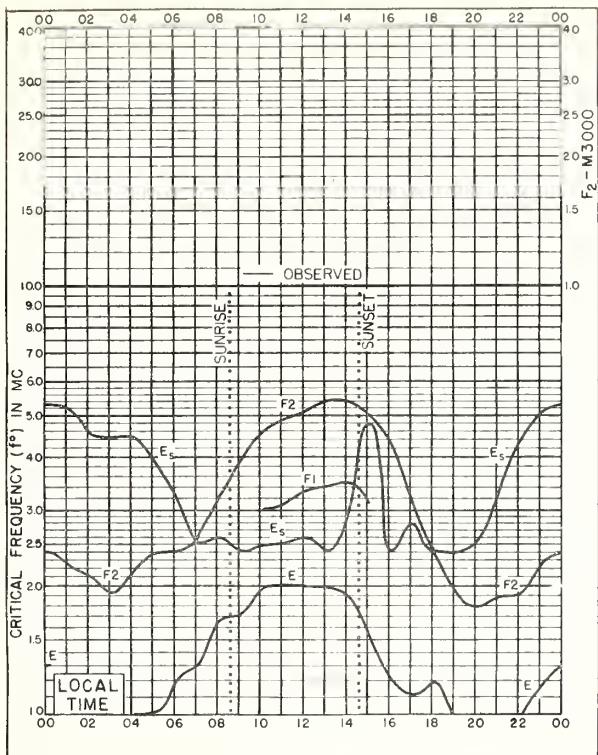


Fig. 78. FAIRBANKS, ALASKA

APRIL 1943







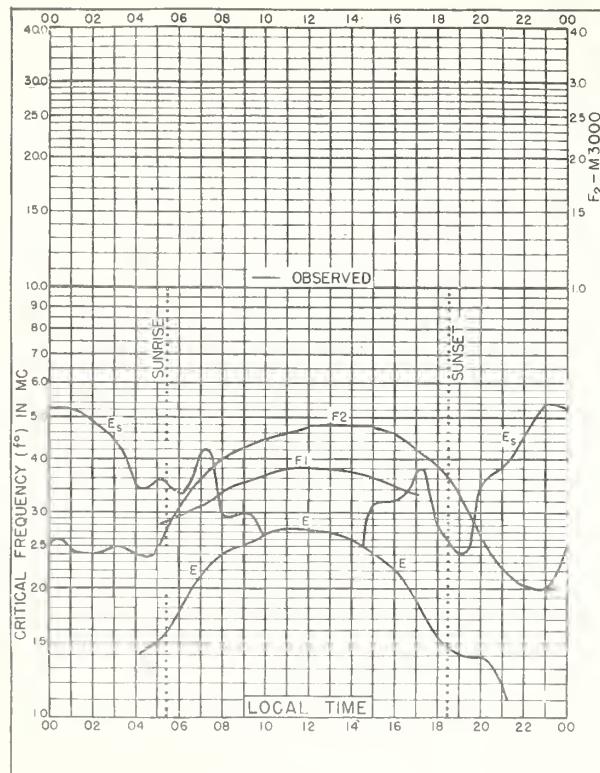


Fig. 91. FAIRBANKS, ALASKA
64.9°N, 147.8°W SEPTEMBER 1942

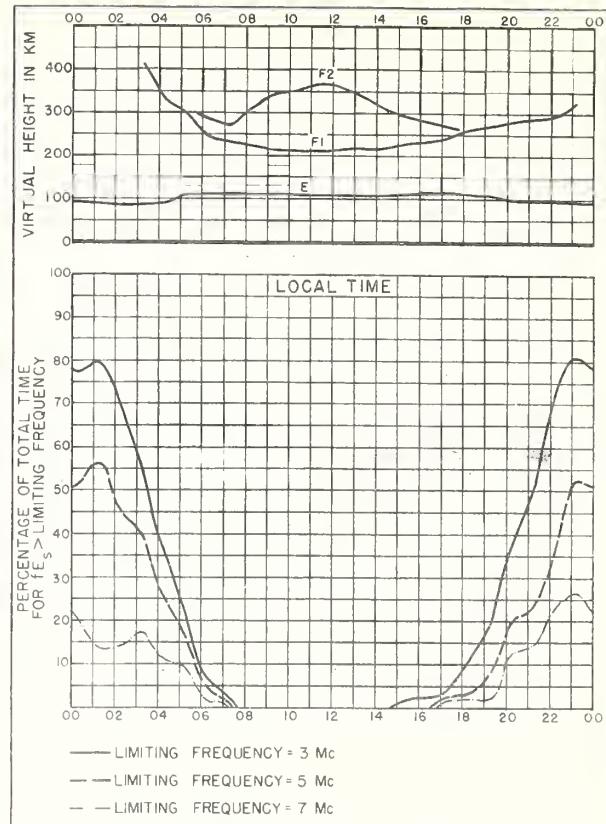


Fig. 92. FAIRBANKS, ALASKA SEPTEMBER 1942

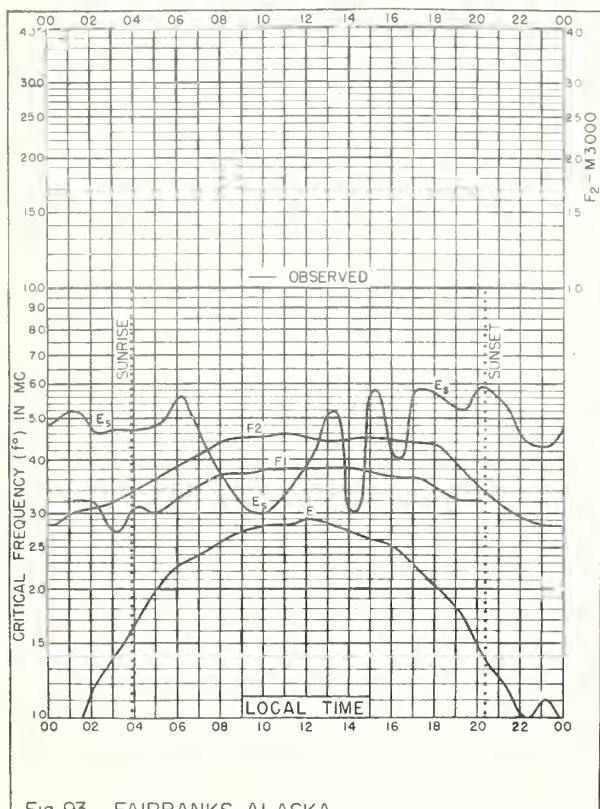


Fig. 93. FAIRBANKS, ALASKA
64.9°N, 147.8°W AUGUST 1942

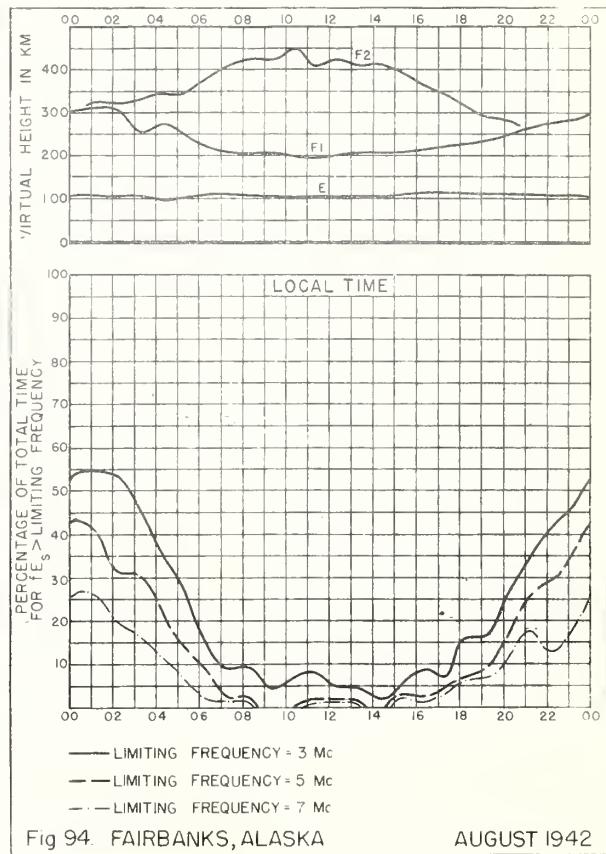
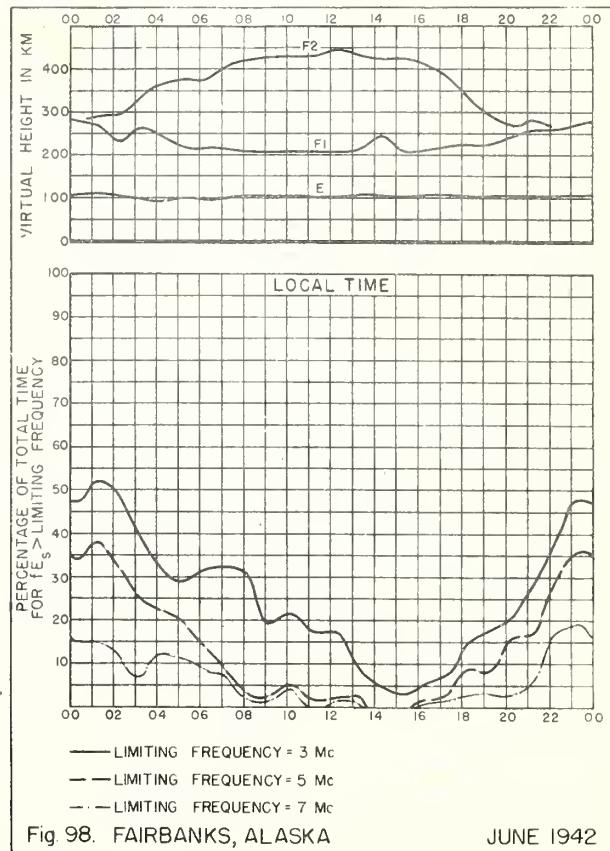
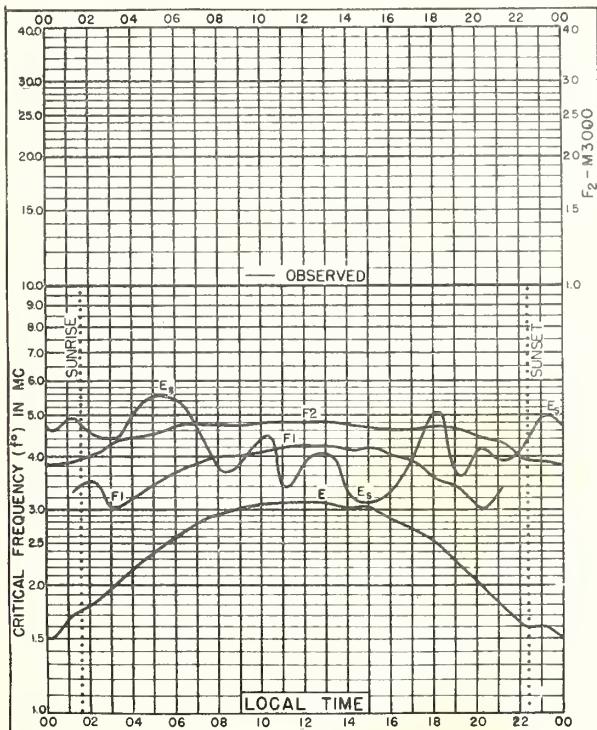
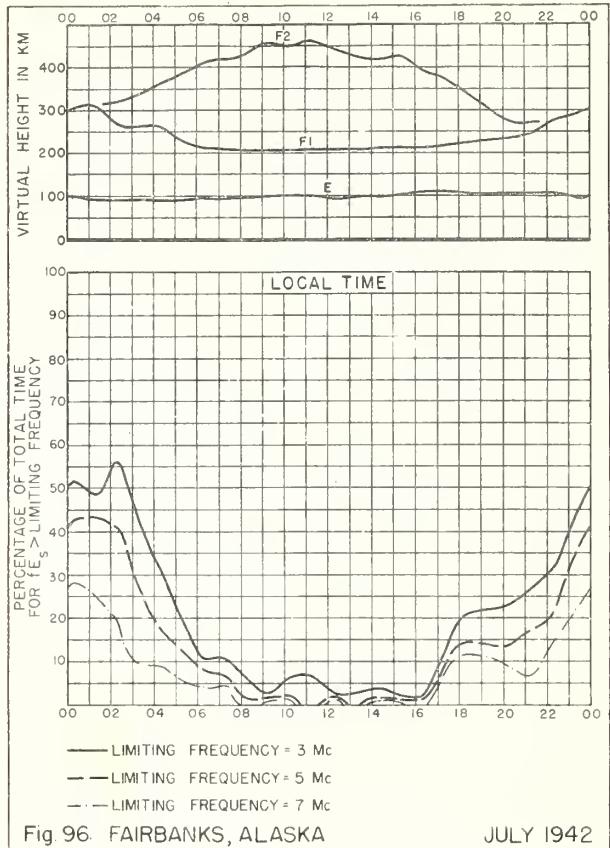
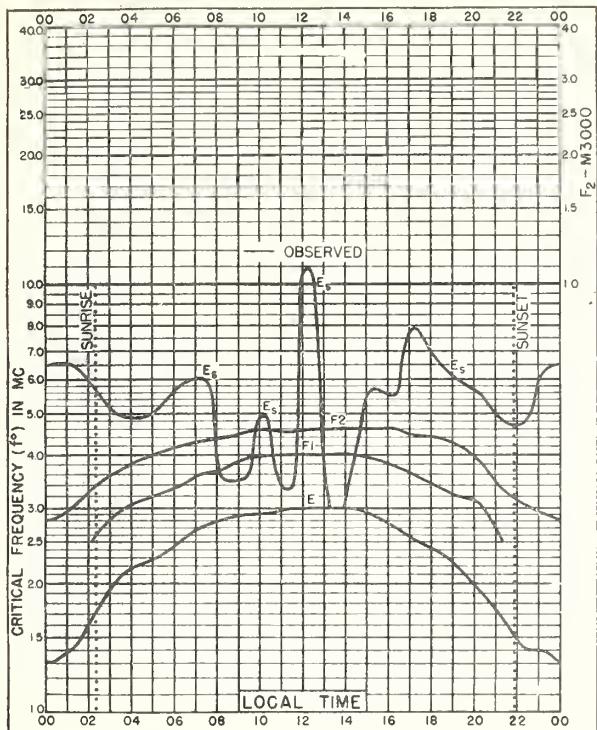


Fig. 94. FAIRBANKS, ALASKA AUGUST 1942



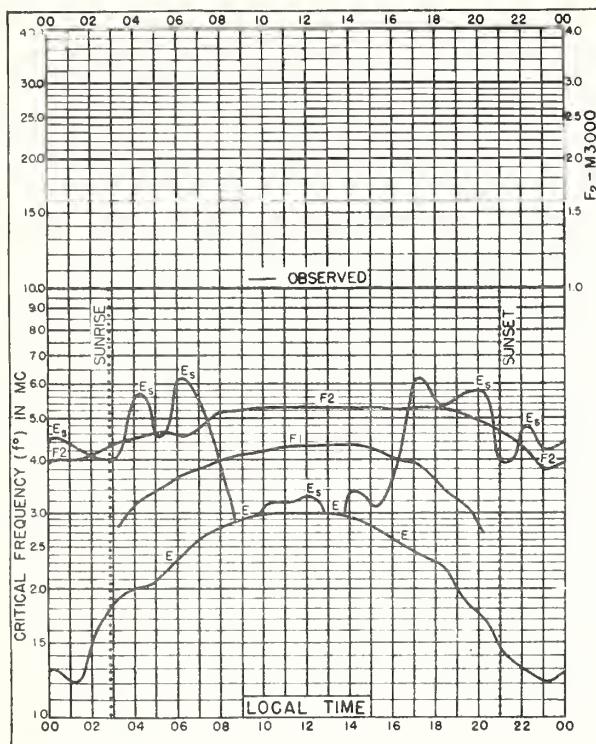


Fig. 99. FAIRBANKS, ALASKA
64°N, 147.8°W MAY 1942

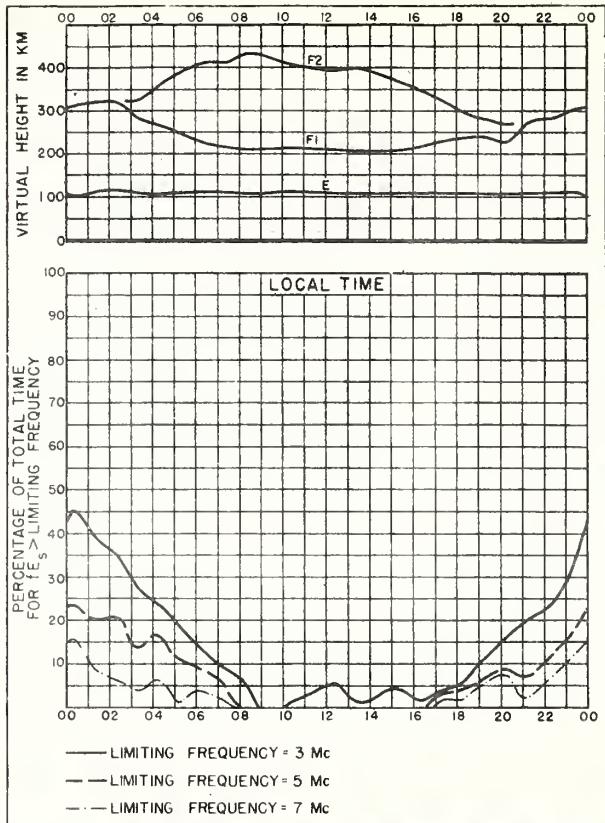


Fig. 100. FAIRBANKS, ALASKA MAY 1942

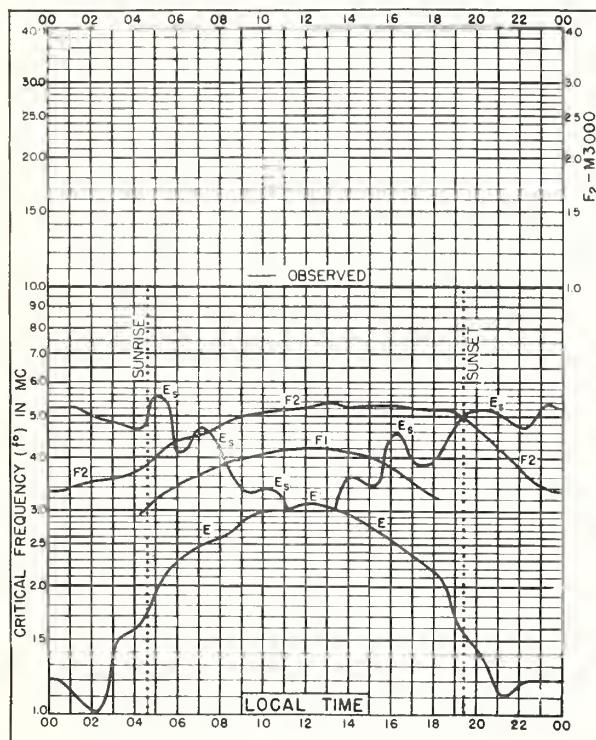


Fig. 101. FAIRBANKS, ALASKA
64.9°N, 147.8°W APRIL 1942

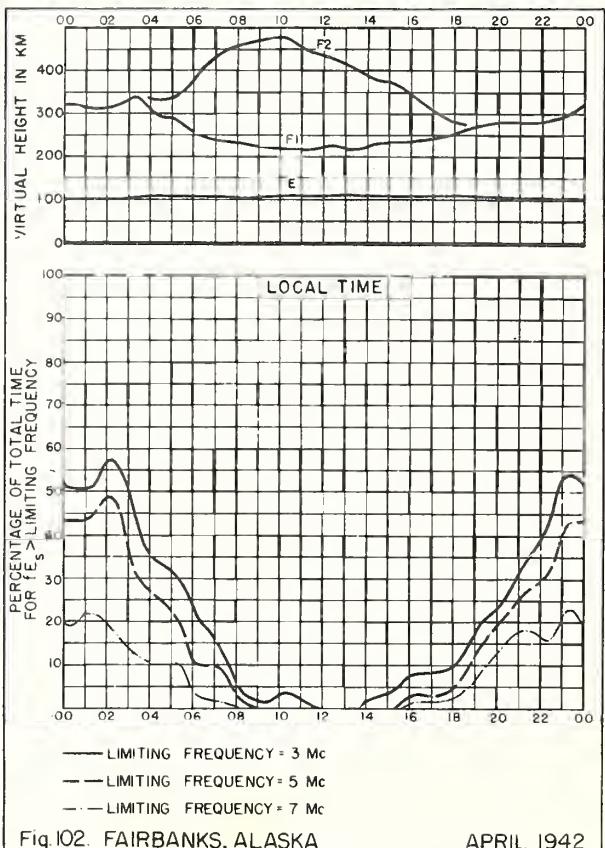


Fig. 102. FAIRBANKS, ALASKA APRIL 1942

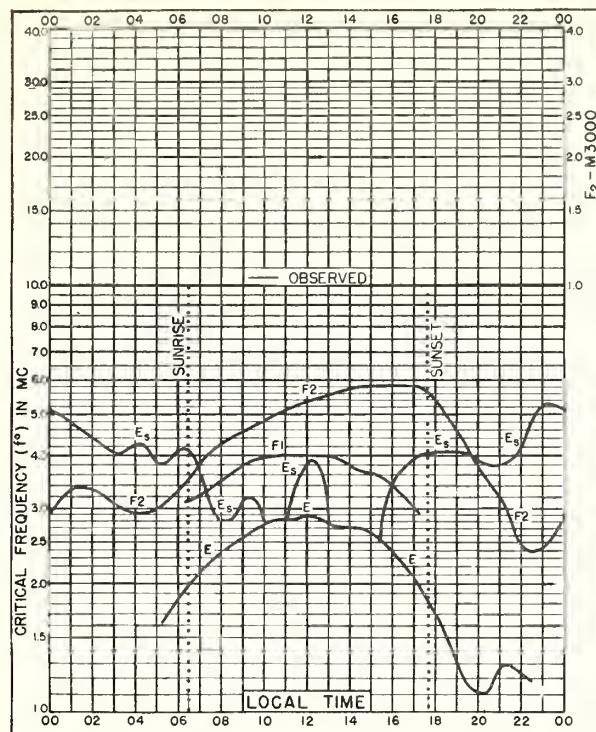


Fig. 103. FAIRBANKS, ALASKA
64° 9' N, 147.8° W

MARCH 1942

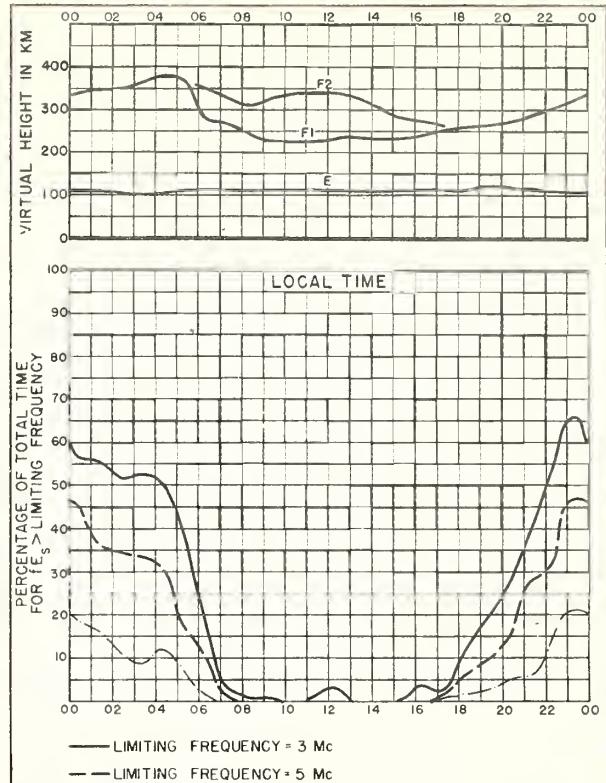


Fig. 104. FAIRBANKS, ALASKA

MARCH 1942

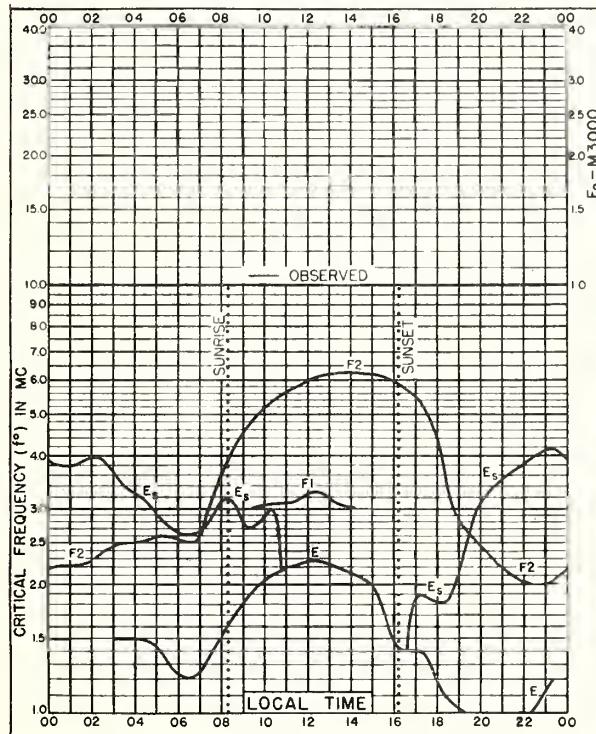


Fig. 105. FAIRBANKS, ALASKA
64° 9' N, 147.8° W

FEBRUARY 1942

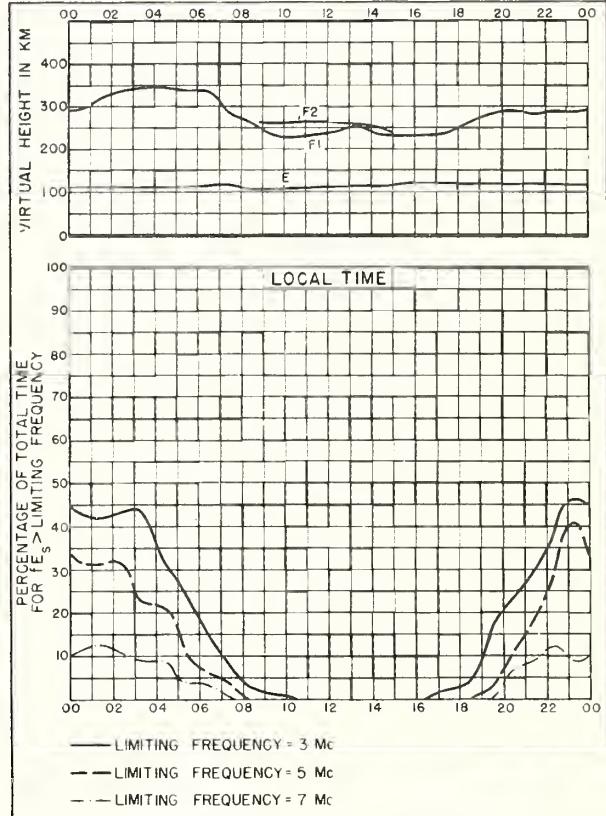
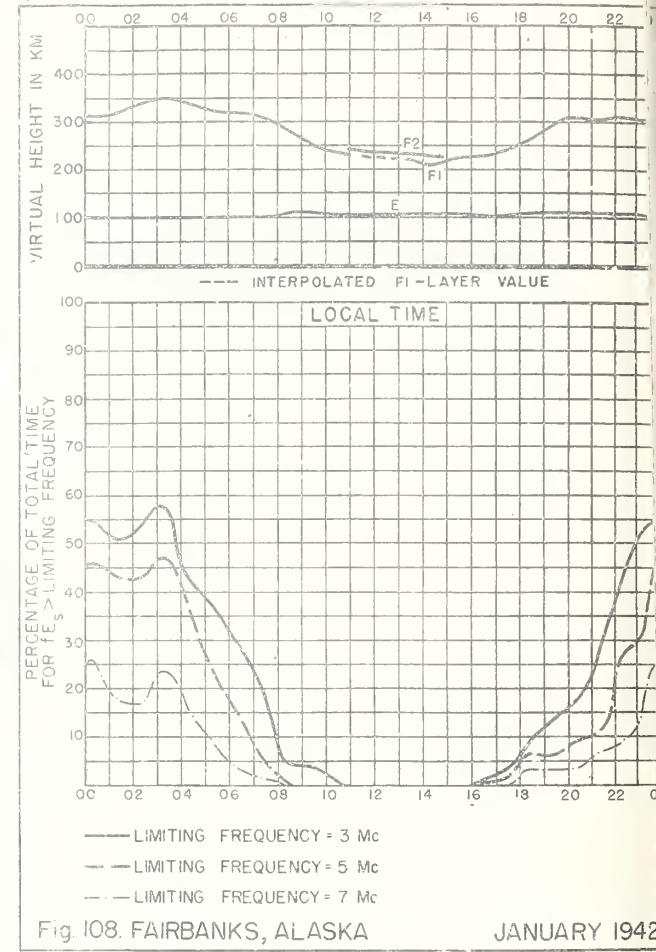
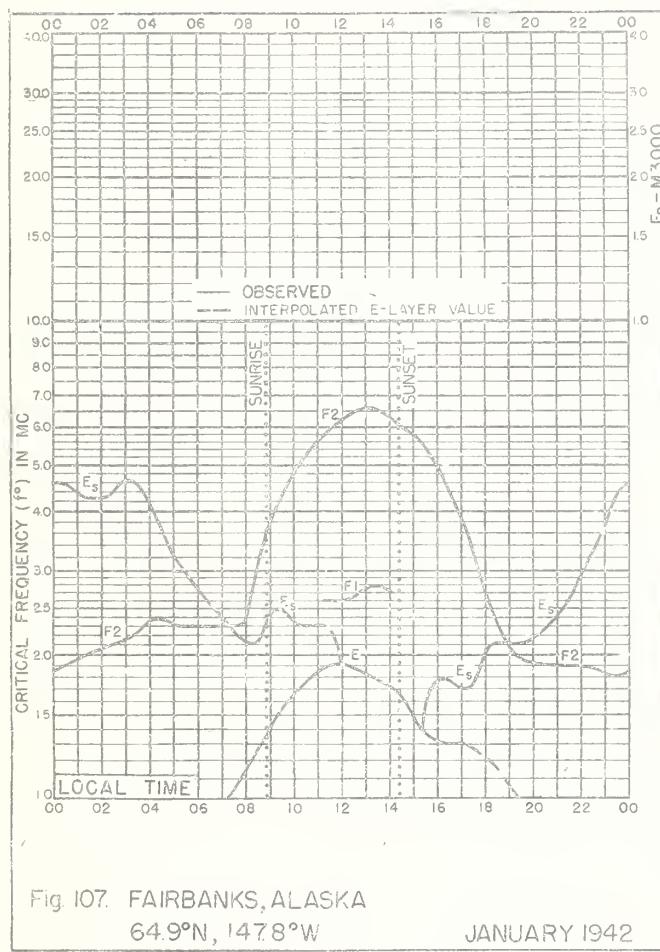


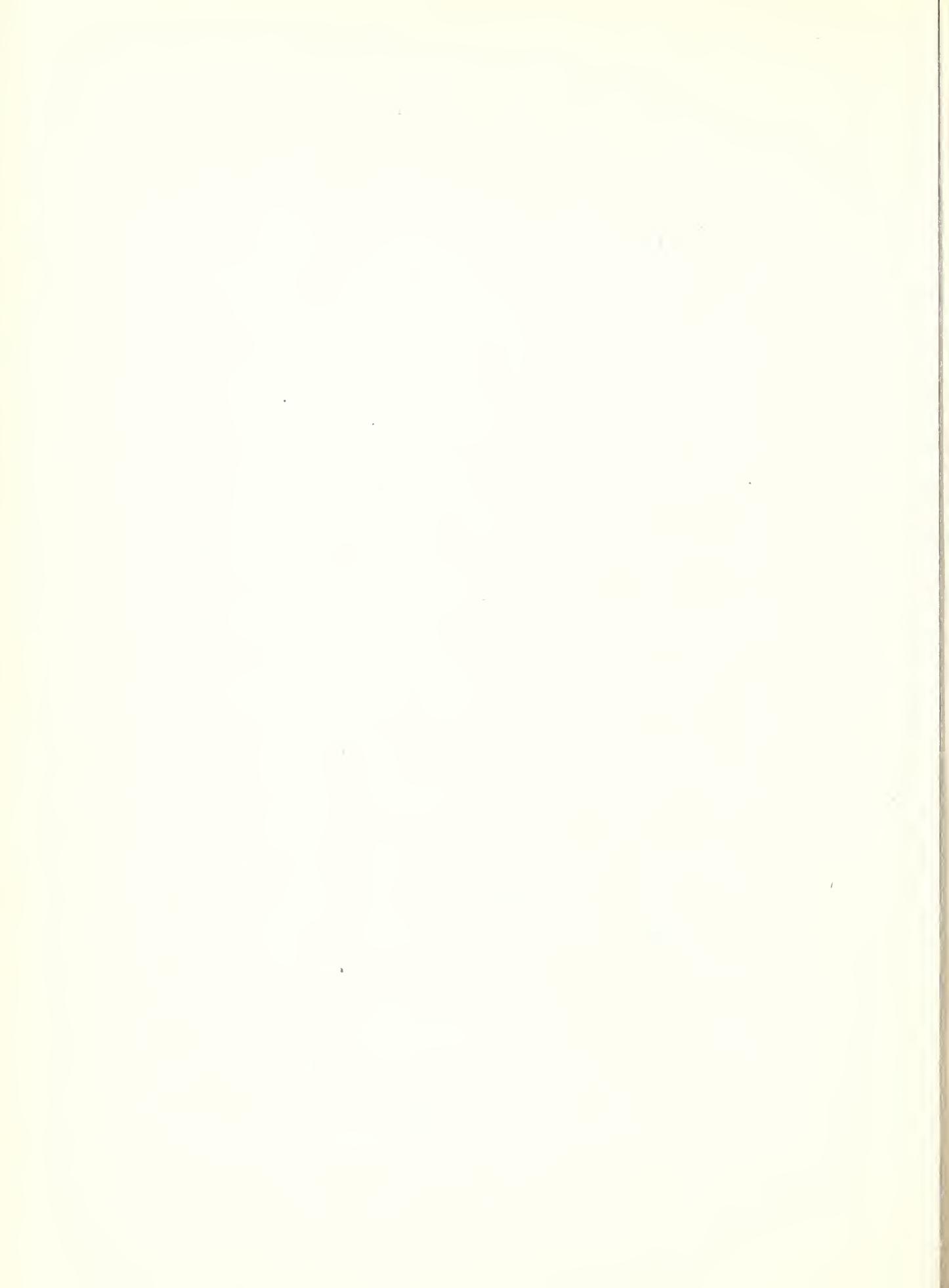
Fig. 106. FAIRBANKS, ALASKA

FEBRUARY 1942



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