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IONOSPHERIC DATA IN JAPAN

FOR FEBRUARY 1954

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KOKUBUNJI, TOKYO, JAPAN

THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

IONOSPHERIC DATA IN JAPAN FOR FEBRUARY 1954

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PREFACE

The origin of ionospheric sounding in Japan dates back to 1931 and the results of the work have been published in the form of the monthly "Ionospheric Data in Japan" since 1949. As a result of the reform of administrative structure of the Japanese Government effective on August 1, 1952, the observation, data coordination and publication were handed over to the charge of the Radio Research Laboratories newly set up within the Ministry of Postal Services.

The Radio Research Laboratories consists of three Divisions, i.e., First, Second and Administrative Divisions, located in Tokyo and five local radio wave observatories established at Wakkanai, Akita, Hiraio, Inubo and Yamagawa, respectively.

The First Division has the following three sections:

Ionospheric Propagation Section which shall carry on researches on ionosphere and wave propagation;

Tropospheric Propagation Section which shall carry on researches on troposphere and wave propagation; and

Data Coordination Section which shall conduct the collection and arrangement of observational results, supply of operational data relating to radio propagation, preparation of radio propagation forecasts and radio disturbance warnings broadcast of URSIGRAM and physical basic studies of wave propagation in general.

The Second Division has the following two sections:

Frequency Standard Section which shall carry on researches on the frequency standard and broadcast the standard frequencies and time signals (J. J. Y.); and

Apparatus Section which shall carry on researches on radio apparatus used for radio regulatory purpose and conduct the approval service of types of radio equipments.

The Administrative Division shall conduct the general affairs of the Laboratories. The ionospheric sounding is, as heretofore, being carried out by the four observatories at Wakkanai, Akita, Kokubunji (Tokyo) and Yamagawa.

This report provides the results of ionospheric sounding with symbols determined and in the form established on an international basis in the same way as followed by the former Radio Regulatory Commission and it is hoped that it will make any contribution toward the progress in world-wide short wave communications.

This report is intended for distribution on request to the largest possible number of organizations concerned all over the world, and any and every information that the organizations concerned might forward to us in exchange therefor would be highly appreciated.

Shogo Amari
Chief, Radio Research Laboratories,
Ministry of Postal Services

Aug. 1952

SITE OF THE IONOSPHERIC STATIONS

Ionospheric observation is carried out at four stations in Japan.
The stations are situated as follows:

	longitude	latitude	site
Wakkanai	141° 41.1' E	45° 23.6' N	Wakkanai-shi, Hokkaido
Akita	140° 08.2' E	39° 43.5' N	Tegata Nishishin-machi, Akita-shi, Akita-ken
Kokubunji	139° 29.3' E	35° 42.4' N	Koganei-machi, Kitatama-gun, Tokyo-to
Yamagawa	130° 37.7' E	31° 12.5' N	Yamagawa-machi, Ibusuki-gun, Kagoshima-ken

REMARKS ON SYMBOLS

All symbols in the table are used in accordance with "Production and Reduction of Ionospheric Data Standards, Symbols and Conventions (Recommendation No. 6 of Stockholm) at VIth Plenary Assembly C.C.I.R. Geneva, 1951." except f_{\min} E and f_{\min} F for E and F regions respectively instead of f_{\min} , taken as f_{\min} s in the above Resolution, in order to avoid the interruption of preceding form of data.

Lat. 45° 28.6' N
Long. 141° 41.1' E
Wakkanai

IONOSPHERIC DATA

135° E Mean Time

foF2

Feb. 1954

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	(4.0)F	3.2F	3.0F	3.1	3.5T	3.7T	3.8T	3.9F	5.6	5.5	7.2	7.0	5.5	5.3F	6.3	6.0	5.7	5.5	4.3	3.6	2.8	2.8	3.1T	(3.4)C	
2	3.7F	3.6F	3.5T	3.0F	2.8	3.0	2.3T	3.6	4.6	7.3	5.6	7.9	6.1	6.3	(5.8)C	5.3	4.7	3.4	3.0	2.7	C	C	C	C	
3	3.0	2.9	3.0	2.7	2.7	2.5	2.4	3.6	C	C	C	C	C	C	C	5.2	5.3	3.9	3.0	3.4	3.4	4.0	(4.0)F	3.9F	
4	(3.0)T	3.1	(2.8)T	(3.0)F	3.0T	C	C	4.2F	5.1	5.5	7.8	6.2	6.8	5.0	5.8	5.5	4.8	3.8	3.5	2.5T	2.8T	2.8	3.1T	3.2T	
5	3.3T	3.0T	2.8T	2.7T	2.5	2.5	2.3T	4.3	5.5	5.6	5.7	C	C	C	C	C	C	C	2.5T	C	C	3.1T	(3.3)F	3.0T	
6	2.9T	3.1	2.3T	2.5P	2.5T	2.5T	2.3T	3.7	5.0	5.5T	6.2	7.2	6.9	6.0	5.4	5.3T	4.8	4.0	2.3	2.5	3.0	3.1T	3.5	T	
7	F	F	2.8T	2.3T	2.5T	2.8T	2.3	4.0	5.1	6.0	5.2	6.7	6.2	6.4	5.5	4.8	5.0	3.8	2.9	2.6	3.2T	3.2T	(3.7)F	(3.4)T	
8	3.1T	(3.2)F	3.3T	F	F	F	2.2T	3.6	5.2	5.5	5.0	6.5	7.2	6.3	6.8	6.1	M	M	M	M	4.3T	3.6T	4.2T	T	
9	F	4.7T	4.3T	(4.2)F	(4.2)F	4.0T	4.0T	4.6T	5.8P	6.0	6.1	6.6	7.8	6.6	6.0	5.6	5.3	4.8	3.4	3.7T	4.1	4.4	4.8T	T	
10	F	F	3.0F	(3.0)F	3.1T	F	3.0T	3.5	6.0	5.7T	6.4	6.0	6.5	6.0	6.5	5.6	4.7	4.8T	3.3	2.9T	2.8T	3.1	3.3T	3.5T	
11	3.4T	3.1T	3.2T	3.3T	3.4T	3.5T	3.0	4.1	5.9	4.8	6.3	6.5	7.2	5.8	6.2	6.3	5.0	4.2	3.6	3.4	3.7V	3.0V	3.3	3.5T	
12	3.6F	3.7P	(3.8)F	3.6T	(3.5)F	3.7T	2.8V	4.4	4.6P	4.8	5.5	6.3	5.7	6.1	5.5	6.0	5.0	4.7	3.2	3.2	3.4	(3.6)T	(3.7)F	3.8T	
13	F	F	F	F	F	F	T	3.8	4.7P	5.5T	4.8	6.7	6.9	6.2	5.5	5.5	5.7	4.5	4.0	3.8T	3.5T	2.7	2.8	2.8T	
14	2.8	3.0	3.1T	3.1T	3.1T	3.2T	2.2	4.0	4.6P	C	C	C	C	C	C	C	C	4.8	2.6	2.6	3.0T	3.0T	3.4T	(3.5)T	
15	F	F	F	3.1T	3.0T	F	F	3.7	4.6P	5.9	5.6	6.0V	5.3	5.6	5.8	4.9	5.4	4.8	4.8	3.1T	2.5T	(3.3)F	3.3	(3.7)T	
16	(3.5)T	3.4F	3.0T	3.2T	(2.5)T	2.8T	(3.2)S	3.6	5.4	5.4	6.6	7.2	6.0	5.9	5.1	5.3	5.0	4.0	3.7	(2.5)T	2.8	2.8	3.1	3.4	
17	3.5T	3.4	2.9	2.8T	2.9T	2.8T	B	4.4	4.5	4.8	6.1	6.4	6.4	6.7	5.5	6.0	5.1	5.2	3.8T	3.3	3.3T	3.5	3.7	3.6T	
18	3.6	3.7P	3.5	3.5T	3.4T	2.7T	2.7	3.7	4.6	4.9	5.8	6.0	5.5	5.7P	5.4	5.5	5.2	4.2	3.2T	3.2	3.1	3.2	3.2	3.3	
19	3.5	3.6	2.7	F	F	F	F	3.7T	4.3	4.8	4.8	5.1	5.7	5.3	5.0	5.1	5.0	4.2T	3.4	3.0	3.0	3.3	3.2	3.2T	
20	3.3T	3.3T	3.3T	3.1T	2.4T	2.0T	2.1T	3.8	5.0	5.7P	5.1	6.5	5.8	5.4	4.7	5.5	4.9	3.8	3.0	2.7	2.8	2.8	3.0	3.1	
21	3.0	3.0	2.9	2.7	2.8	2.8	2.5	4.1	4.9	5.0	5.7	6.2	6.2	6.0	5.5	5.8T	5.0	4.7P	3.4	2.9	3.1	2.9	3.1	3.3T	
22	3.4P	3.0	2.7	3.0	3.2	2.4T	3.0	3.7	5.1	5.7	5.3	5.9	7.0	6.3	5.6	5.3	5.1	4.7	4.1	3.7T	T	T	T	T	
23	F	3.7P	3.0	2.4T	2.6	2.5	2.8	3.7H	5.0	4.4	6.4	5.8	5.9	6.2	5.2	5.5	6.0	5.3	3.2	3.6V	3.3P	3.6	3.8S	4.1S	
24	4.2T	3.9T	3.0	2.8	2.8	2.7	2.9	4.5T	4.9	5.3	6.2	7.7	6.4	5.5	5.5	5.5	4.9	4.6	4.0	2.9	3.0	3.0	3.2	3.3T	
25	(3.2)T	3.2T	3.0T	1.9T	(2.0)T	1.8T	2.3T	M	M	6.1	6.5P	5.5	6.6	5.9	5.6	5.5	5.8P	4.8	4.1	3.0	2.7	3.0	3.3	3.7	
26	3.6T	4.2T	4.0P	F	F	3.5T	(3.3)F	4.1	5.0	4.8	5.4	5.5	5.6	6.3	5.8	5.5	5.5	4.6	3.5	3.6T	(3.8)T	(3.8)T	3.5T	3.0T	
27	(3.7)F	2.8	T	2.3T	2.3T	(2.4)T	2.5	4.3	4.2	4.8T	5.6P	5.7	5.6	5.5	5.5	5.7	5.6	4.7	3.8	4.0	4.2	4.3	(4.4)S	4.7	
28	4.7T	3.0T	2.7	2.8	2.7	2.6	2.7	3.8T	4.1	C	C	C	C	C	C	C	4.8	4.8	4.1	3.5	3.7T	3.5	3.4	3.5	
29																									
30																									
31																									
Mean Value	3.5	3.4	3.1	2.9	2.9	2.8	2.7	3.9	5.0	5.4	5.9	6.4	6.3	5.9	5.6	5.5	5.2	4.5	3.5	3.2	3.2	3.3	3.5	3.5	
Median Value	3.4	3.2	3.0	3.0	2.8	2.8	2.7	3.8	5.0	5.5	5.7	6.4	6.2	6.0	5.5	5.5	5.0	4.6	3.4	3.2	3.1	3.2	3.3	3.4	
Count	22	24	25	24	24	22	23	27	26	25	25	24	24	24	24	25	25	26	27	26	27	26	26	26	23

foF2

Group 1.0 Mc to 2.2.0 Mc in 1 min

Manual Automatic

IONOSPHERIC DATA

Lat. 45° 2.8' N
Long. 141° 41' E

Wakkanai

135° E Mean Time

1pF2

Feb. 1954

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	(310) ^F	300 ^F	330 ^F	310	320 ^F	300 ^F	(300) ^F	240 ^F	250	240	240	250	240	250 ^F	250	280	280	260	270	280	300	320	300 ^F	(320) ^C	
2	350 ^F	350 ^F	380 ^F	370 ^F	350	280	350 ^F	260	260	270	260	270	240	(270) ^F	250	240	250	240	250	310	C	C	C	C	
3	300	370	* 350	330	310	270	280	260	C	C	C	C	C	C	C	250	240	260	340	350	350	310	(300) ^F	290 ^P	
4	(350) ^F	330	(320) ^F	(330) ^F	300 ^F	C	C	250 ^F	260	230	240	270	260	250	260	250	250	250	250	300 ^F	350 ^F	330	370 ^F	380 ^F	
5	350 ^F	300 ^F	320 ^F	330 ^F	300	280	310 ^F	250	240	240	270	C	C	C	C	C	C	C	280 ^F	C	C	350 ^F	(360) ^F	330 ^F	
6	330 ^F	270	(300) ^F	300 ^F	300 ^F	310 ^F	300 ^F	250	260	270 ^F	270	270	250	250	240	260 ²	250	240	290	360	330	300 ^F	310	F	
7	F	F	250 ^F	290 ^F	300 ^F	(270) ^F	250	250	240	250	300	300	280	250	250	250	250	260	250	260	290 ^F	320 ^F	(310) ^F	(310) ^F	
8	310 ^F	(320) ^F	(330) ^F	F	F	F	(280) ^F	250	250	240	250	290	270	280	280	250	M	M	M	M	280 ^F	340 ^F	330 ^F	F	
9	F	300 ^F	340 ^F	(340) ^F	(330) ^F	300 ^F	290 ^F	250 ^F	240 ^F	260	240	300	260	270	260	250	240	250	300	330 ^F	250	320	350 ^F	F	
10	F	F	250 ^F	(280) ^F	300 ^F	F	(230) ^F	260	240	240 ^F	260	250	260	270	260	250	260	260 ^P	290	300 ^F	300 ^F	310	330 ^F	350 ^F	
11	350 ^F	330 ^F	350 ^F	340 ^F	(320) ^F	300 ^F	240	240	240	250	250	270	240	250	310	250	250	270	300	300	300 ^V	320 ^V	300	300 ^F	
12	330 ^F	300 ^F	(350) ^F	310 ^F	(370) ^F	(320) ^S	300 ^V	250	230 ^F	240	290	270	260	260	280	270	240	250	250	300	260	(300) ^M	(330) ^F	340 ^F	
13	F	F	F	F	F	F	F	230	240 ^F	260 ^F	260	280	260	260	250	270	260	250	260	270	280 ^F	290 ^F	300	260	(320) ^F
14	350	340	340 ^F	360 ^F	310 ^F	250 ^F	280	240	240 ^F	C	C	C	C	C	C	C	C	C	290	290	320 ^F	340 ^F	280 ^F	(280) ^F	
15	F	F	F	330 ^F	290 ^F	F	F	240	250 ^F	250	270	290 ^V	280	270	300	250	290	280	250	(260) ^F	270 ^F	(400) ^S	380	(360) ^F	
16	(390) ^F	350 ^F	330 ^F	280 ^F	(330) ^F	300 ^F	(260) ^S	220	300	300	310	260	270	270	280	260	250	260	280	(310) ^F	300	330	370	360	
17	350 ^F	330	350	330 ^F	320 ^F	250 ^F	B	280	260	260	330	250	280	280	260	250	250	270	(260) ^F	310	(350) ^F	330	330	370 ^F	
18	300	340 ^F	340	350 ^F	310 ^F	330 ^F	300	270	290	280	300	270	280	270 ^P	290	270	250	270	260 ^F	290	320	360	380	360	
19	360	310	330	F	F	F	F	260 ^F	270	290	U	320	270	280	270	270	240	270 ^P	300	320	330	330	350	350 ^P	
20	340 ^F	360 ^F	350 ^F	290 ^F	310 ^F	300 ^F	350 ^F	270	280	260 ^F	260	270	300	290	260	260	250	240	290	310	310	330	330	330	
21	340	330	300	300	280	270	280	250	240	270	270	280	260	250	260	260 ^F	260	290 ^P	310	290	310	320	350	360 ^F	
22	300 ^F	310	320	340	340	260 ^F	290	250	270	250	290	300	290	260	260	260	260	260	270	340 ^F	FS	FS	F	FS	
23	F	330 ^F	310	290 ^F	260	290	340 ^H	260	U	U	290	290	310	260	270	270	260	250	320	320 ^V	340 ^F	350	350 ^S	360 ^S	
24	350 ^S	310 ^S	340	360	350	330	300	250 ^F	260	300	300	290	270	260	270	240	250	250	290	300	330	350	360	350 ^F	
25	(340) ^F	330 ^F	280 ^F	A	(360) ^F	A	340 ^F	M	M	290	240 ^P	290	260	270	260	250	260 ^F	250	300	300	330	320	350	350	
26	350 ^F	330 ^F	300 ^F	F	F	270 ^F	(300) ^F	260	250	240	280	320	280	280	260	260	260	240	300	330 ^P	(340) ^F	(350) ^F	340 ^F	390 ^F	
27	(310) ^V	250	F	340 ^F	350 ^F	(320) ^F	300	250	260	360 ^F	280 ^P	290	280	280	280	280	270	270	290	320	350	350	(330) ^F	310	
28	340 ^F	330 ^F	370	370	350	310	250	260 ^F	300	C	C	C	C	C	C	C	260	260	300	330	(340) ^S	310	330	330	
29																									
30																									
31																									
Mean Value		340	320	330	320	290	290	250	260	270	280	280	270	270	270	260	250	260	280	310	310	330	340	340	
Median Value		330	330	330	330	300	290	250	260	270	280	270	270	270	270	260	250	260	290	300	320	320	340	350	
Count	22	24	25	23	24	21	23	27	26	24	24	24	24	24	24	25	25	26	27	26	25	26	26	23	

1pF2

IONOSPHERIC DATA

Wakkanai
Lat. 45° 23.6' N
Long. 141° 41.1' E

Feb. 1954

R'F2

135° E 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	250 ^F	240	260	250	230	240	250	270	230	220	230	250	240	240	240	260	250	230	220	240	260	300 ^A	270	280 ^F	
2	290	280	320	300	280	240	260	250	260 ^A	260	250	260	230	L	C	240	220	230	260	280	C	C	C	C	
3	250	260	280	280	260	210	270 ^F	240	260 ^L	C	C	C	C	C	C	230	230	220	280	300	300	260	250 ^F	250	
4	280	270	260	260	220	C	C	240	230	230	230	270	260	240	230	240	230	210	230	260	300	310	320	320	
5	270 ^F	250	260	280	240	230	280	230	230	230	270	C	C	C	C	C	C	230	250	300	300 ^F	300 ^F	300 ^F	300	
6	290	230	250	240	250	250	280	230	240	250	260	260	240	240	240	240	230	230	260	360 ^A	280	270	270	280	
7	290	240	210	240	250	240	240	220	230	240	230	240	270	240	230	230	240	220	230	250	240	260 ^F	260 ^F	300 ^F	
8	240	230	240	270	260	230	250	200	230	230	240	280	250	270	260	240	M	M	M	M	210	210	270	280	
9	260	240	250	250	240	230	230	240	230	250	240	280	250	260	250	240	230	220	230	250	230	250	270 ^F	310 ^F	
10	290 ^F	270 ^F	210	260 ^F	250	280	200	230 ^A	230	230	260	250	260	260	260	240	230	230	240	260	250	260	260	270	280
11	270	250	270	260	260	240	210	220	230	230	250	260	240	250	290 ^L	240	230	220	250	250	250	250	250	250	
12	260	230	270	260 ^F	300 ^F	240	250	230	220	230	260	270	250	260	270	260	230	230	230	220	240	240	260 ^M	280	
13	300 ^F	260 ^F	280 ^F	250	260 ^F	230 ^F	210	210	230	230	260	270	250	250	250	250	240	230	230	220	250	260	260	260	
14	300	280	280	300	250	210	240	230	230	230	260	270	250	250	250	250	240	230	230	250	250	260	240	280	
15	300	300	300	270	260 ^F	200	280 ^F	230	240	250	260	280	280	280	270	290	250	C	220	250	260	280	320	300 ^F	
16	320	280	280	240	270	240	220	210	240	260	290	260	270	270	280	250	260	240	230	230	290	270	300	300	
17	280	280	290	270	260	210	190	260	240	250	320	250	280	280	250	250	240	230	250	240	260	310	300	300	
18	260	260	290	260	260	250	280	260	240	250	290	270	280	270	290	260	230	230	240	260	260	310	330	300	
19	300	260	280	270	260	300 ^F	240	240	270	290	340	320	270	280	270	250	240	240	250	270	290	280	300	300	
20	290	300	270	250	250	240	300	250	280	250	260	270	300	290	260	250	240	220	250	280	280	300	290	300	
21	300	260	260	260	240	220	250	230	230	270	260	280	260	260	260	250	250	240	230	250	240	260	270	310	
22	250	250	250	290	260	230	250	230	260	250	280 ^L	300	280	260	260	250	250	240	220	260	260	300 ^F	310	330	
23	300	270	250	240	230	230	240	240 ^H	260	440	290	260	310	260	270	260	250	230	250	260	280	300	300	300	
24	290	240	270	300	300	280	280	240	240	300	300	280	260	260	270	240	240	230	250	270	290	300	320	300	
25	310	270 ^F	250	A	A	A	300	M	M	290	240	280	260	270	260	240	240	230	230	260	290	270	290	290	
26	290	260	240	250	250	230	240	240	250	240	280	320 ^F	280	280	260	260	240	220	240	280	340 ^F	280	290	330	
27	260	220	300 ^F	290	280	270	270	230	260	360 ^F	280	290	280	310	280	270	260	240	230	260	340 ^F	260	250	250	
28	250	250	300	310	290	260	240	230	220	C	C	C	C	C	C	C	250	240	240	260	280	260	280	270	
29																									
30																									
31																									
Mean Value	280	260	270	270	260	240	250	230	240	260	270	270	260	260	260	250	240	230	240	270	270	280	290	290	
Median Value	290	260	270	260	260	240	250	230	240	260	270	270	260	260	260	250	240	230	240	270	270	280	280	300	
Count	28	28	28	27	27	27	26	27	27	25	25	24	24	24	23	23	25	25	27	27	27	27	27	27	

R'F2

Sweep 1.0 Mc to 22.0 Mc in 1 min
 Manual Automatic

W 3

The Radio Research Laboratories
Koganei-machi, Kizakama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 45° 28.6' N
Long. 141° 41.1' E

Wakkanai

Feb. 1954

foF1

135° E 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									Q	L	3.8	L	L	3.5 ^L	L	L								
2									A	L	L	4.0 ^L	L	3.8 ^L	L	C	Q							
3									L	C	C	C	C	C	C	C	2.8 ^L							
4									Q	Q	L	3.8	3.9	L	Q	Q								
5									Q	Q	3.6	3.8	C	C	C	C								
6									Q	3.2 ^L	3.6	3.8	3.9	3.7	3.6 ^L	Q								
7									Q	L	L	4.2	3.9	3.9	3.5 ^L	Q								
8									Q	L	L	4.0 ^L	4.0	[3.8]	3.5 ^L	L								
9									L	3.2 ^L	3.7 ^L	3.8	3.9	3.8	3.5 ^L	3.3 ^L								
10									Q	3.1 ^L	3.8 ^L	4.0	4.0	3.9	3.7 ^L	3.2 ^L								
11									L	L	3.8	3.9	3.9	3.9	4.0 ^L	3.3								
12									Q	3.1 ^H	L	L	3.7 ^L	3.8 ^L	3.6	L								
13									L	3.6 ^H	[3.8]	4.0	3.9	3.8	L	L	2.5							
14									2.3	3.0	C	C	C	C	C	C								
15									Q	3.6	3.7	3.9	3.8	3.7	3.7	3.3	2.5							
16									3.5 ^L	[3.6]	3.6	3.8 ^L	3.9 ^L	3.8 ^L	3.6 ^L	3.3 ^L								
17									Q	3.2	4.1 ^L	4.0 ^H	4.0 ^H	3.6	[3.4]	3.3 ^L	3.1							
18									Q	3.6	3.9	4.0 ^H	4.0 ^H	3.8	4.0 ^L	L								
19									L	3.5	3.8	3.8	3.8	3.7	3.2									
20									3.5	3.7	3.7	3.7 ^L	4.0	3.8	3.8	3.4 ^L	3.3 ^L							
21									L	3.6	3.8	3.9	4.0	3.9 ^H	3.8	3.5								
22									L	3.4 ^L	[3.8]	4.1	4.1	3.8	3.6	L								
23									3.2 ^L	3.7 ^M	3.9	3.9	4.0	3.9	3.7	3.6	3.0							
24									Q	3.6 ^L	4.0	4.0	4.0	4.0 ^H	3.6	[3.2]	2.7							
25									M	3.8	4.0	4.0	4.0	4.0	3.7	(3.5)	L							
26									3.3 ^L	3.6 ^L	3.9	4.4 ^F	4.0 ^H	4.0	3.7	3.5 ^L	2.6							
27									L	3.7	3.7 ^H	3.9	3.9	4.0	3.7	3.7	3.0 ^L							
28									Q	C	C	C	C	C	C	C	L							
29																								
30																								
31																								
Mean									2.3	3.3	3.5	3.8	3.9	3.8	3.7	3.3	2.8							
Max									2.3	3.3	3.6	3.8	3.9	3.9	3.7	3.3	2.8							
Min									1	1.8	2.0	2.3	2.3	2.2	2.0	1.5	0.8							
Count																								

foF1

Sweep—1.0 Mc to 22.0 Mc in _____ min

Manual

Automatic

W 4

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

Feb. 1954

R'F1

135° E 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									Q	210	230	260	230	230	260	250									
2									A	240	240 ^A	250	230	220	C	Q									
3									220	C	C	C	C	C	C	230									
4									Q	260	220	250	230	230	Q	Q									
5									Q	Q	230	250	C	C	C	C									
6									Q	200	230	240	240	230	240	Q									
7									Q	220	210	240	230	270	230	Q									
8									Q	220	210	240	260	230	240	230									
9									230	220	230	200	240	230	230	230									
10									Q	220	260	220	250	240	250	230									
11									230	220	250	230	240	230	250	240									
12									Q	200 ^H	250	230	240	250	220	250									
13									210	210 ^H	250 ^A	240	250	230	240	240	230								
14									220	210	C	C	C	C	C	C									
15									Q	250	250	240	210	200	230	220	230								
16									260	240	220	260	220	230	210	230									
17									Q	200	300	250 ^H	220 ^H	250	240	250	230								
18									Q	210	240	210 ^H	220 ^H	240	220	230									
19									240	220	230	250	230	230	230	220									
20									250	230	220	190	240	220	230	230	230								
21									230	210	220	220	230	230 ^H	210	230									
22									230	260	240	240	240	220	220	250									
23									250	200 ^H	280	230	250	250	220	220	250								
24									Q	210	230	250	230	210 ^H	220	220	220								
25									M	240	250	220	230	220	260	240	250								
26									250	230	220 ^F	210 ^F	210 ^H	230	230	230	220								
27									250	220	210 ^H	260	220	260	240	270	250								
28									Q	C	C	C	C	C	C	C	240								
29																									
30																									
31																									
Mean Value									240	220	240	230	230	230	230	240	240								
Minimum Value									220	240	220	230	240	230	230	230	230								
Count								2	13	23	25	25	24	24	22	21	10								

R'F1

Sweep 1.0 Mc to 2.2 Mc in _____ min Manual Automatic

The Radio Research Laboratories
Koganei-machi, Kfifutama-gum, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

foE

Feb. 1954

135° E 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									1.9 ^H	[2.1] ^C	2.3	2.6	2.7	A	A	C									
2								A	2.2	[2.4] ^A	2.7	2.7	2.7	2.6	[2.4] ^F	2.3 ^F									
3								A	C	C	C	C	C	C	C	2.3									
4								B	2.4	2.6	2.7	2.7	2.7	2.6	2.4 ^F	AF									
5								B	2.5	2.6	2.6	2.6	C	C	C	2.2									
6								A	2.4 ^F	2.6	2.6	2.6	2.7	2.6	2.4	2.3									
7								2.2	2.6	2.6	2.7	2.6	2.6	2.6	2.4	2.2									
8								2.2	2.4	2.6 ^F	2.7 ^F	2.8	2.8	2.7	2.5	2.3									
9								AF	AF	2.7 ^F	2.8	2.7	2.7	2.7	2.5	2.3									
10								2.3	[2.5] ^A	2.7	2.7	2.8	2.8	2.7	2.6	2.4	B								
11								A	2.5	2.7	2.8	2.9	2.7	2.7	2.5	2.3									
12								A	2.4	2.5	2.6	2.7	2.7	2.7	2.5	2.3									
13								2.3 ^F	2.5 ^F	2.7	2.8	2.7	2.7	2.6	2.5	2.3									
14								2.3 ^F	C	C	C	C	C	C	C	C									
15								B	2.2	2.4	2.7	2.7	2.7	2.7	2.5	2.3	1.9								
16								A	A	2.6	2.6	2.8	2.8	2.6	2.5	2.3	1.8								
17								2.2 ^F	2.4 ^H	2.5	2.7	2.8	2.8	2.6	2.5 ^H	2.4	1.9								
18								2.1	2.2	2.4	2.6	2.7	2.7	2.7	2.4	2.3	1.9								
19								AF	2.4	2.6	2.8	2.7	2.6	2.6	2.5	(2.2) ^B	2.0								
20								2.1	2.2	2.7	2.8	2.7	2.6	2.6	2.5	2.4 ^H	2.0								
21								2.3	2.4 ^F	2.8	2.9	3.0	2.7	2.7	2.7	B	B								
22								2.3	[2.4] ^A	2.4	2.6	[2.5] ^B	2.4 ^S	2.4	B	B	B								
23								2.2	2.2	[2.4] ^B	2.7	2.8	2.8	2.7	2.6	(2.4) ^A	2.0								
24								A	AF	2.7	2.7	2.8	2.8	2.7	2.5	2.4									
25								M	2.5	2.4	2.7	2.9 ^H	2.8	2.8	2.6	2.4	1.8								
26								B	2.1	2.4	[2.6] ^A	2.8 ^F	2.9	2.8	2.7	2.4	1.8								
27								1.7	2.1	2.4	2.7	2.8 ^F	2.7	2.8	[2.7] ^A	2.6	2.3								
28								1.7	2.2 ^H	C	C	C	C	C	C	C	1.9								
29																									
30																									
31																									
Mean Value								1.7	2.2	2.4	2.6	2.7	2.8	2.7	2.5	2.3	1.9								
Median Value								1.7	2.2	2.4	2.6	2.7	2.7	2.7	2.5	2.3	1.9								
Count								2	16	22	25	25	24	23	22	22	11								

foE

freq. 1.0 Mc to 22.0 Mc in 1 min

Manual Automatic

W 6

The Radio Research Laboratories
Koganei-machi, Khatama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

185° E Mean Time

1'E

Feb. 1954

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									140 ^H [130] ^C	120	120	120	120	A	A	C								
2									A 130 [140] ^H	[140] ^H	140 ^A	130 ^A	130	130	[130] ^G	130								
3									A	C	C	C	C	C	C	130								
4									B 120 130	120	120	110	120	120	120	AF								
5									140 120 120	120	120	120	120	120	130	140								
6									A 120 ^F	120	120	120	120	120	120	130								
7									130 130 120	120	120	120	120	120	120	120								
8									140 130 110 ^F	120 ^F	120 ^F	120	120	120	120	120								
9									AF AF 110 ^F	120	120	120	120	120	120	120								
10									130 [120] ^H	110 ^F	120	120	120	120	120	120	B							
11									A 130 120	120	120	120	120	120	120	130								
12									A 120 120	110	110	110	110	110	130	130								
13									120 ^F	120 ^F	120	120	110	120	120	120								
14									130 ^F	C	C	C	C	C	C	C								
15								B	140 120	120	120	120	120	120	130	130	130							
16									A	A	120	120	120	120	120	130	140							
17									120 ^F	120 ^H	120	110	110	120	130 ^H	130	150							
18									140 120	120	130	130	130	130	130	130	100							
19									AF 120	110	120	120	120	110	130	140								
20									130 130	120	110	120	120	110	120	120 ^H	140							
21									120 120 ^F	110	120	120	120	120	110	110	140							
22									110 [120] ^A	120	110	[110] ^B	110	110	110	110								
23									130 130	[120] ^A	120	130	130	120	130	130 ^A								
24									A AF	120	120	120	120	110	110	120								
25									M 120	120	110	110 ^H	120	120	120	130								
26									B 120 120	[120] ^F	110 ^F	110 ^F	120	120	120	130								
27									150 ^B	130	120	120	120 ^F	120	[120] ^F	120	120							
28									140 ^B	120 ^H	C	C	C	C	C	140								
29																								
30																								
31																								
Mean Value									150	130	120	120	120	120	120	120	130							
Median Value									140	130	120	120	120	120	120	120	130							
Count									2	17	22	25	25	25	24	24	13							

1'E

Sweep 1.0 Mc to 22.0 Mc in 1 min Manual Automatic

W 7

IONOSPHERIC DATA

Lat. 45° 28.6' N
Long. 141° 41.1' E

Wakkanai

Feb. 1954

fEs

135° E 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	2.7F	2.2	E	E	E	2.3Y	E	E	4.8	3.5Y	3.5Y	4.2Y	3.5	3.5Y	3.5Y	C	1.7	1.8	E	3.5	2.3Y	3.0	3.5	C
2	E	2.3	2.6	2.5Y	E	E	1.8	3.3	4.8	3.9Y	5.1	3.0Y	2.8	C	C	C	1.8	E	2.8	4.0Y	C	C	C	C
3	1.8	1.9	E	1.8	2.3Y	E	C	2.7Y	>4.7 ^c	C	C	C	C	C	C	C	E	2.3Y	E	1.8	2.6	2.1	1.8	1.8
4	E	2.1Y	1.4	2.4	1.8	C	C	2.0	5	2.3	4.3Y	3.5Y	3.5Y	4.2	4.2	4.5F	4.0Y	3.9Y	3.0	2.5	3.0	2.3	2.3	E
5	E	2.3Y	2.3Y	2.3	2.2	2.3	E	E	5.2	3.3Y	5	5	C	C	C	C	E	E	E	E	>2.4 ^c	2.3F	2.3F	E
6	2.4	E	E	2.3	2.3Y	2.0	E	4.4F	5.2	5	5	5	5	5	5	3.5Y	3.4Y	2.3Y	2.5	5.3	E	2.3	E	2.3
7	2.3	2.3	2.3	E	2.3	2.0	E	2.5	2.4	5	5	5	5	5	5	5	2.2	E	E	E	E	E	E	E
8	E	2.3	E	E	2.1	2.3	2.0	E	5	5	3.5F	3.5Y	3.5Y	5	5	5	M	M	M	M	2.3	3.5	2.5	2.3Y
9	2.4	2.6F	2.3Y	2.3	2.3F	2.6Y	2.1	2.3	3.0F	3.5Y	5	5	5	5	5	5	B	E	E	E	E	E	E	E
10	2.3F	2.3	2.0	2.4F	2.3	2.2	2.6	4.2Y	5	4.2F	5	5	5	5	5	5	B	E	E	2.6	4.2	2.3	E	E
11	E	E	E	E	E	E	E	E	3.0Y	3.4Y	5	5	5	5	5	3.2Y	2.8	2.4	2.4	3.5Y	3.5Y	2.5	2.1	E
12	E	2.0Y	1.9	2.0Y	E	1.9	2.0	E	2.7Y	5	3.5Y	5	5	5	2.5	2.5	2.1	2.5	2.3	2.0	1.8	E	E	E
13	2.5	E	2.0	E	2.3Y	2.3	1.8	E	5	5	3.4Y	5	5	5	5	5	3.0F	E	E	2.5	2.5	3.7	2.4	E
14	E	1.5	2.4	2.4	2.4Y	E	E	E	5	C	C	C	C	C	C	C	C	E	2.5	2.5	E	E	E	2.3
15	2.0	3.5	2.3Y	2.4	3.9	E	2.4	B	5	5	5.7Y	5	5.7Y	5	5	5	G	2.5Y	E	E	E	E	E	E
16	E	E	E	E	E	E	E	E	3.5	3.6	5	5	5	5	5	5	G	E	E	E	E	2.0	E	E
17	E	E	E	E	2.5	1.8	2.3	E	4.3F	5	5	5	5	5	5	5	G	E	2.3	2.4	2.3	E	2.1	E
18	2.2	2.4	2.3	2.4	E	E	E	E	5	5	5	5	5	5	3.4Y	5	3.5	3.5Y	2.5	2.5	E	E	E	E
19	2.5	2.4	2.4	2.4	E	2.4	2.1	2.4	4.2F	5	5	5	5	5	5	5	G	2.5Y	1.7	E	E	E	E	2.5
20	2.5Y	2.4Y	2.6Y	2.5	2.4Y	E	2.3Y	1.8	2.4	5	5	5	5	5	5	5	G	2.0	1.8	2.5	E	E	E	2.9
21	3.0Y	2.5	2.3	E	E	E	E	E	5	5	5	5	5	5	5	5	G	E	E	E	E	E	E	E
22	2.3	2.4Y	2.4Y	2.4Y	1.1	E	E	2.2	5	2.6	5	5	B	5	5	5	G	2.3	E	2.4	E	E	2.1	2.6
23	3.0	3.0	2.3Y	2.3Y	2.1F	E	E	4.0Y	5	6.0Y	2.7	5	5	5	5	2.8Y	2.3	E	E	2.2Y	2.1Y	2.4Y	E	2.5
24	3.5Y	2.3Y	2.5Y	2.4	2.5	2.3	2.0	2.6Y	3.0Y	3.5Y	5	5	5	5	5	5	3.5	3.5Y	3.5	3.5	2.6	2.4	2.1	3.5
25	2.5	2.8	2.9	3.5	2.7	3.5	2.5	M	M	3.5Y	4.7	5	5	5	5	5	G	E	E	E	E	E	E	2.4
26	2.3	1.8	2.4Y	2.4F	2.4F	2.2	E	B	5	5	8.0F	5	4.9	5	5	5	G	E	E	E	E	E	E	E
27	2.2	2.1	2.4F	E	E	2.4	E	5	3.5	5	5	5	5	3.5	3.5Y	6.5Y	5	E	2.5	2.5	2.5	E	2.5	2.1
28	E	2.3	2.4	2.5	2.3Y	E	E	5	3.4Y	C	C	C	C	C	C	C	G	E	E	E	4.3Y	3.1Y	3.1Y	E
29																								
30																								
31																								
Mean Value	2.5	2.3	2.3	2.4	2.3	2.3	2.1	2.9	3.5	3.6	4.3	3.6	4.0	3.5	3.4	3.8	2.8	2.6	2.5	2.9	2.8	2.6	2.4	2.5
Median Value	2.2	2.3	2.3	2.4	2.2	2.0	E	2.0	2.4	5	5	5	5	5	5	5	5	E	1.7	2.2	1.8	E	E	E
Count	28	28	28	28	28	27	26	25	27	25	25	25	23	24	23	25	24	27	27	27	27	27	27	26

fEs

Sweep 1.0 Mc to 2.2 Mc in _____ min

Manual

Automatic

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

(M3000)F2

Feb. 1954

135° E Mean Time

Table with columns Day (00-31) and rows 1-31. Each cell contains ionospheric data points such as (3.0)F, 3.0, 2.9F, etc.

(M3000)F2

Sweep 1.0 Mc to 2.0 Mc in _____ min

Manual Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

fminF

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.5F	1.3	E	E	E	E	1.6	1.6	2.4	2.7	2.8	3.1	3.1	2.7	2.9	2.7	2.2	1.6	1.6	1.7	1.7	2.1A	1.9	1.9
2	1.5	1.3	1.4	1.3	E	E	1.5	2.3A	3.8A	2.6	3.1A	3.1	2.8	2.6	2.5F	2.4	1.9	1.7	1.8	1.7	C	C	C	C
3	1.5	1.3	1.1	1.1	E	E	C	1.7	1.7	C	C	C	C	C	C	2.4	2.1	1.5	1.6	1.6	1.6	1.6	1.6F	1.6
4	1.5	1.2	1.1	E	1.1	C	C	1.6	2.8	2.8	3.0	2.9	3.2	2.9	3.0	2.5A	2.0A	1.6	1.5	1.5	1.5	1.6	1.6	1.5
5	1.3	1.2	1.3	1.1	E	E	1.6	1.6	2.2	3.1	3.0	2.9	C	C	C	C	2.0	1.7	1.6	2.0	1.8A	1.6F	1.6F	1.5
6	1.3	E	1.3	E	E	E	1.6	1.7	2.5A	2.4	3.0	3.0	2.9	2.9	2.9	2.6	2.3A	1.6	1.6	2.1A	1.6	1.5	1.6	1.5
7	1.3	E	E	E	E	1.3	1.6	1.7	2.4	2.6	2.7	3.1	2.9	3.0	2.6	2.4	2.2	1.6	1.5	1.6	1.6	1.6F	1.5F	1.5F
8	1.3	E	E	E	E	E	1.5	1.6	2.4	2.6	2.7	3.0	3.2	2.8	2.6	2.4	M	M	M	M	1.6	1.6	1.6	1.6
9	1.4	1.5	1.2	1.3	E	E	1.5	1.7	2.2	2.6	3.0	2.9	3.1	2.7	2.6	2.4	2.1	1.6	1.6	1.6	1.6	1.6	1.6	1.5F
10	1.3F	1.6F	E	1.3F	E	E	1.6	2.5A	2.4	2.6	3.1	3.0	3.2	3.1	2.7	2.5	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.5
11	1.3	1.3	E	E	E	E	1.6	1.6	2.2	2.5	3.0	3.2	3.0	2.8	2.7	2.5	2.1A	1.6	1.6	1.7	1.6	1.6	1.6	1.6
12	1.3	1.1	E	E	E	1.0	1.6	1.7	2.5	2.4	3.3	3.1	3.0	3.0	2.6	2.5	2.1A	1.6	1.6	1.6	1.6	1.6	1.6	1.6
13	1.3F	E	E	E	E	E	1.6	1.6	2.4	2.6	3.3A	3.2	3.3	3.2	2.9	2.6	1.9	1.5	1.6	1.7	1.6	1.6	1.5	1.6
14	1.5	E	E	E	E	E	1.6	1.6	2.3	C	C	C	C	C	C	C	C	1.6	1.6	1.6	1.5	1.6	1.6	1.6
15	1.3	1.2	1.3	E	1.5	E	1.6F	1.8	2.4	2.8	3.0	3.1	2.8	2.7	2.9	2.4	2.1	1.6	1.6	1.6F	1.6F	1.7	1.6	1.6F
16	1.3	1.2	E	E	E	E	1.6	1.9	2.6	2.7	3.1	3.2	2.9	2.8	2.6	2.4	2.6	1.6	1.6	1.7	1.6	1.5	1.5	1.6
17	1.3	1.2	E	E	E	E	1.7	1.9	2.4	2.5	3.2	3.1	2.9	3.4	3.1	2.6	2.1	1.7	1.6	1.6	1.7	1.6	1.6	1.6
18	1.6	E	E	E	E	E	1.6	1.7	2.2	2.5	2.8	2.9	2.9	3.2	2.6	2.4	2.4	1.7	1.7	1.7	1.6	1.6	1.6	1.6
19	1.5	1.3	1.2	1.3	E	E	1.6	1.7	2.3	2.5	2.9	3.2	3.1	2.8	2.5	2.4	2.4	1.7	1.7	1.6	1.6	1.6	1.6	1.6
20	1.3	1.3	1.2	1.2	E	E	1.5	1.9	2.4	2.5	2.8	2.8	3.1	2.8	2.7	2.5	2.1	1.7	1.6	1.6	1.6	1.6	1.6	1.6
21	1.5	1.2	1.2	E	E	E	1.5	1.9	2.8	2.6	3.1	3.1	3.2	3.2	2.7	2.7	2.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6
22	1.3	1.3	E	E	E	E	1.6	2.1	2.6	2.9	3.2	3.2	3.2	2.8	2.8	2.6	2.2	1.7	1.6	1.6	1.6	1.6	1.6	1.6
23	1.5	1.7	E	E	E	E	1.5	1.7	2.4	2.7	3.3	2.9	3.2	2.9	2.7	2.4	2.2	1.7	1.6	1.6	1.6	1.6	1.6	1.6
24	1.6	1.3	1.4	E	E	1.0	1.6	1.8	2.4	2.6	3.1	3.2	3.0	2.8	2.8	2.5	1.9	1.7	1.9	1.7	1.6	1.6	1.6	1.6
25	1.5	1.7F	1.5	1.7	1.6	1.6	1.6	1.6	M	M	3.0	3.4	3.1	3.0	3.1	2.7	2.3	1.7	1.6	1.7	1.6	1.6	1.6	1.6
26	1.5	E	E	E	E	E	1.6	2.0	2.4	3.1	3.1F	3.0	2.9	3.1	2.8	2.5	2.1	1.7	1.6	1.6	1.6	1.6	1.6	1.6
27	1.4	1.2	E	E	E	1.2	1.6	1.9	2.6	2.8	3.0	3.0	3.1	3.2	3.0	3.0	2.3	1.8	1.6	1.6	1.6	1.6	1.6	1.5
28	1.1	1.3	E	E	1.3	E	1.5	1.8	2.5	C	C	C	C	C	C	C	2.3	1.7	1.6	1.6	1.8	1.7	1.7	1.6
29																								
30																								
31																								
Mean Value	1.4	1.3	1.3	1.3	1.2	1.2	1.6	1.8	2.4	2.7	3.0	3.1	3.0	2.9	2.8	2.5	2.2	1.6	1.6	1.7	1.6	1.6	1.6	1.6
Median Value	1.4	1.2	E	E	E	E	1.6	1.7	2.4	2.6	3.0	3.1	3.0	2.9	2.7	2.5	2.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Count	28	28	28	28	28	27	26	27	27	25	25	25	24	24	24	25	26	27	27	27	27	27	27	27

fminF

Sweep 1.0 Mc to 22.0 Mc in 1 min

Manual

Automatic

W 10

The Radio Research Laboratories
Koganei-machi, Kfkatama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakanai

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

f_{min}E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	1.4	1.7	E	E	E	E	E	1.8 ^C	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6 ^C	1.6	1.7	E	1.6	2.0	1.6	1.6	C	
2	1.6	1.5	E	E	E	E	1.6	1.7	1.7	1.7	1.6	1.6	1.7	1.7	1.6 ^C	1.6	1.7	E	1.6	1.7	1.6	C	C	C	
3	1.6	1.5	E	1.5	1.5	E	C	1.6	1.6	C	C	C	C	C	C	1.7	E	1.8	E	1.7	1.6	1.7	1.7	1.7	
4	E	1.1	1.2	E	1.6	C	C	1.7	1.7	1.6	1.6	1.6	1.6	1.7	1.7	1.6	1.6	1.6	1.5	1.6	1.6	1.9	1.7	E	
5	E	E	E	1.5	1.7	1.7	E	E	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	E	E	E	E	1.6	1.7	1.7	E	
6	1.6	E	E	1.5	1.6	1.5	E	1.6	1.6	1.6	1.7	1.7	1.6	1.7	1.6	1.6	1.6	1.7	1.6	1.6	E	1.6	E	1.6	
7	1.5	1.6	1.5	E	1.7	1.7	E	1.6	1.6	1.4	1.5	1.6	1.6	1.6	1.6	1.6	1.6	E	E	E	E	E	E	E	
8	E	1.7	E	E	1.5	1.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	M	M	M	M	2.2	1.6	1.6	1.6	
9	1.7	E	E	E	1.4	1.7	1.7	1.9	1.5	1.6 ^F	1.6	1.6	1.6	1.6	1.6	1.6	1.7	E	E	E	E	E	E	E	
10	1.6	1.6	1.5	1.5 ^F	1.7	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.7	E	E	1.6	1.6	1.6	E	E	
11	E	E	E	E	E	E	E	E	1.4	1.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.2	1.7	1.6	1.6	1.7	1.6	E	
12	E	1.0	1.6	E	E	1.7	1.7	E	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.6	1.6	1.7	E	E	E	
13	1.6	E	1.5	E	1.7	1.6	1.6	E	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6 ^F	E	E	E	E	1.9	1.6	E	
14	E	1.3	E	E	E	E	E	E	1.6	C	C	C	C	C	C	C	C	E	E	1.6	1.6	E	E	1.6	
15	1.7	1.2	E	E	E	E	1.9	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.4	E	E	E	E	E	E	
16	E	E	E	E	E	E	E	E	1.6	1.6 ^F	1.6	1.6	1.6	1.6	1.6	1.6	1.6	E	E	E	E	1.6	E	E	
17	E	E	E	1.5	1.6	1.7	E	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.9	1.7	1.7	E	1.6	1.6	1.6	E	E	E	
18	1.5	1.3	1.4	1.4	E	E	E	E	1.8	1.6	1.7	2.1	2.1	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	E	E	E	
19	1.5	1.3	E	E	E	1.7	1.7	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	E	E	E	E	1.6	
20	1.1	1.0	E	E	E	E	1.7	1.6	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.6	1.6	2.1	E	E	E	1.6	
21	1.3	E	1.7	E	E	E	E	E	1.7	1.7	1.7	2.1	1.7	1.7	1.7	1.7	1.7	E	E	E	E	E	E	E	
22	1.6	E	E	E	E	E	E	1.6	1.6	1.6	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.9	E	E	E	1.6	
23	1.3	E	E	E	E	E	E	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.6	E	E	1.6	1.7	1.7	E	1.6	
24	1.3	1.0	E	E	E	1.5	1.7	1.4	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.5	
25	1.3	E	E	E	E	E	1.5	1.5	M	1.7	1.7	1.6	1.6	1.7	1.7	1.6	1.6	E	1.7	E	E	E	E	1.9	
26	1.7	1.6	E	1.5 ^F	1.7	1.7	E	1.7	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.6	1.6	E	E	E	E	E	E	E	
27	1.6	E	1.5 ^F	E	E	1.4	E	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.6	E	1.6	1.6	1.6	E	E	1.6	
28	E	2.0 ^S	E	E	E	E	E	1.5	1.6	C	C	C	C	C	C	C	1.6	E	E	E	1.4	1.6	1.8	E	
29																									
30																									
31																									
Mean Value	1.5	1.4	1.5	1.5	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.7	1.7	1.7	1.7	1.6	
Median Value	1.3	1.0	E	E	E	E	E	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.6	1.6	E	1.5	1.6	1.4	E	E	E	
Count	28	28	28	28	28	27	26	27	27	24	25	25	25	25	25	26	26	27	27	27	27	27	27	27	26

f_{min}E

Sweep — 1.0 Mc to 2.2.0 Mc in ___ min
 Manual Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.3' E

Akita

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

foF2

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.5F	3.5	3.2F	3.1F	3.3F	2.9F	3.5	4.1	5.4	4.8	6.8	7.2	5.2	3.4	4.8	5.6	5.5	5.5	5.0	3.8	3.2	2.5	3.0	3.0
2	3.0	3.0	2.9	3.0	2.8	2.8	2.6	3.5	5.2	7.6	7.3	7.4	7.7	6.5	5.5	5.4	5.1	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	8.0	9.3	7.4 ^H	8.9 ^P	5.4	5.7	5.5	5.3	4.4	3.2	3.2	3.7	3.7	3.7	2.7
4	2.7	2.9	3.2	2.7	2.7	2.5F	2.8F	4.3	5.8	5.5	5.2	7.1	6.2	6.2	5.0	5.3	6.1	[4.6] ^A	3.0	3.1	2.8	3.0	3.0	3.4F
5	3.5 ^V	3.5F	3.5F	3.0F	2.8F	2.5F	2.2F	4.0	6.5	7.2	5.5	6.4	6.3	6.1	5.5	5.2	4.7 ^H	4.3	2.9	2.5	2.7	2.9	C	C
6	3.5F	2.9F	2.8F	2.5F	2.4F	2.1F	2.2	4.1	5.5	6.0	5.5	6.8	7.4	6.5	5.6	5.4	5.3	4.3	2.8	2.6	2.9	3.0	3.0F	3.4F
7	3.0F	3.0F	2.8F	2.4F	2.3F	2.5F	2.2F	4.0	5.3	5.7	6.7	5.8	7.5	6.5	5.6	4.7	4.6	4.5	3.3	2.7	2.8	2.7	3.2F	3.4F
8	3.2F	3.2F	2.9 ^H	3.0 ^H	2.9 ^H	3.0 ^H	1.9 ^H	4.0	4.7	5.5	5.3	5.8	7.3	8.4	7.5	6.4	5.5	4.4	4.0	4.3	3.8	3.0F	3.4 ^H	3.5F
9	3.6 ^H	3.4F	3.0F	3.1F	2.9F	2.9F	3.9 ^H	4.5	5.6	6.2	6.9	6.3	7.2	7.6	6.6	6.2	5.2	4.4	3.6	3.8	3.6	3.6	3.7F	(4.2) ^F
10	3.7 ^H	3.9 ^H	3.8 ^H	3.2 ^H	3.1 ^H	2.9F	2.8F	4.1	4.5	6.4	5.6	7.5	6.5	6.9	6.6	6.6	5.0	4.3	4.3	2.8	3.0	2.7	3.0F	2.9F
11	2.8F	3.0F	2.9F	2.9F	2.8F	2.8F	2.3	3.9	4.8	5.6	5.6	6.6	7.0	5.9	5.2	6.8	5.4	4.1	3.3	3.9	3.8	3.5	3.4	3.2
12	3.7	3.6F	3.8F	C	C	F	3.4F	4.8	4.8	5.1	5.5	6.0	6.6	6.1	6.1	6.1	6.0	5.5	3.6	3.4	3.1	2.7	2.9F	3.0F
13	3.3F	3.0 ^H	3.1F	3.0 ^H	3.0 ^H	3.2F	2.3F	3.6 ^H	4.6	4.9	5.1	6.0	7.4	6.3	5.9	6.0	5.8	5.3	3.9	4.2	3.9	3.0	2.7F	2.8F
14	2.9F	3.0F	3.0F	3.1F	2.9	3.7	2.1	3.9	4.8 ^H	5.5	4.6	5.7	6.0	5.5	5.6	5.8	5.5	4.7	2.7	2.6	2.7	3.0	3.0	3.5
15	3.0	3.2F	3.1F	3.1F	3.5	2.2F	(2.4) ^H	4.0	5.1	5.6	6.5	5.9	5.9	5.5	5.5	6.6	5.5	5.5	4.1	3.4	2.5 ^H	2.4 ^H	2.6F	2.9F
16	2.9F	2.7F	2.6	2.6	2.3	2.2	3.8	3.8	4.5	5.8	7.2	7.2	6.6	5.6	5.7	5.8	4.8	4.7	3.2	3.7	2.7 ^H	2.9	3.2F	3.3F
17	C	C	C	C	C	C	C	C	5.8	4.9 ^F	5.0 ^F	8.2	6.8	7.1	6.5	5.3	5.7	4.7	4.4	3.6	3.3	3.6 ^V	3.5	3.5F
18	3.3	3.3	3.2	3.1	2.9	2.6	2.6	4.5	5.4	5.4	5.9	6.7	6.6	5.2	5.7	5.5	4.8	4.7	[4.0] ^H	3.2	3.0	3.2	3.2	3.4F
19	3.0F	3.1F	2.5F	2.6F	2.7F	2.4F	2.3	3.5	4.8	4.7	5.5	6.2	6.1	6.1	5.5	5.3	5.0	4.2	3.5	3.5	3.5	3.6	3.3F	3.3F
20	3.4F	3.2F	3.0F	3.0	2.2	1.9F	2.0F	4.1	5.7	5.8	6.4	5.3	6.1	6.0	5.7	5.5	5.7	4.8	2.8	3.1	3.5	3.0	3.1	3.2
21	3.0	3.1	3.1	3.0	3.0	2.3	2.4	4.1	4.8	5.5	5.5	6.3	7.7	6.5V	5.7	5.5	5.5	5.0	3.5	3.0	3.2	3.2	3.0	3.1
22	3.1	2.9	3.0	2.8	3.0	3.1	3.0	3.9	4.7	6.4	5.6	6.5	7.2	8.1	6.0	5.5	5.5	5.5	(3.9) ^F	3.0	3.1	3.1	3.2	3.1F
23	3.5F	3.5F	3.1	2.5F	2.6	2.4	2.9	3.7	5.5	6.0	6.6	7.7	6.0	6.8	6.0	5.3	5.5	6.1	3.4	3.1	3.5	3.5	3.8 ^P	3.8
24	4.0	C	C	C	C	C	C	C	C	5.5	7.5	8.2	7.8	5.9 ^T	5.7	5.7	5.5	4.8	3.5	3.2	3.0	3.1	3.0	3.2
25	3.0F	3.2F	3.0F	2.4F	[2.2] ^F	1.9F	2.2	4.3	C	C	C	C	6.8	6.0	5.5	5.4	5.4	6.0	3.6	3.2	2.5	2.7	3.0	3.0F
26	3.0F	3.0F	3.3F	2.8F	2.8F	2.8F	2.9F	4.5	5.1	6.0	5.0	6.2	6.4	6.0	6.3	5.6	5.3	5.3	3.7	3.7	3.5 ^F	3.6F	3.6	3.2F
27	3.3F	3.5	2.0F	2.3F	2.3F	2.3F	2.9F	4.8	4.6	5.7	5.7	6.3	7.0	6.1	6.3	5.9	6.1	5.8	4.1	3.4	3.6	3.8	4.5	3.5
28	3.3	(3.0) ^V	2.8	C	C	C	C	C	C	C	C	7.2	6.8	6.3	5.7	5.1	5.4	5.4	3.8 ^P	3.2	3.6	3.6	3.4	3.5
29																								
30																								
31																								
Mean Value	3.2	3.2	3.0	2.8	2.8	2.6	2.6	4.1	5.1	5.8	6.1	6.7	6.8	6.3	5.8	5.7	5.4	4.9	3.6	3.3	3.2	3.1	3.3	3.3
Median Value	3.2	3.1	3.0	3.0	2.8	2.5	2.4	4.0	5.1	5.6	5.6	6.6	6.8	6.1	5.7	5.5	5.4	4.7	3.6	3.2	3.2	3.0	3.2	3.2
Count	26	25	25	23	23	23	24	24	24	26	26	27	28	28	28	28	28	28	27	27	27	27	27	26

foF2

Sweep 0.85 Mc to 2.2 Mc in 2 min

Manual

Automatic

A 1

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 48.5' N
Long. 140° 08.3' E

Akita

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

hpF2

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	340F	300	280F	320F	320F	300F	270	240	230	230	240	260	260	260	260	270	250	250	260	300	250	270	300	310
2	360	340	350	320	360	320	270	260	260	260	270	260	260	250	240	240	240	240	240	240	240	240	240	240
3	C	C	C	C	C	C	C	C	C	C	C	C	280H	230	240	250	230	230	250	280	300	310	270	300
4	310	300	270	290	250	320F	310F	260	240	250	230	250	260	250	240	260	240	(260)H	270	260	290	330	320	350F
5	330H	340F	330F	300F	290F	300F	300F	260	250	230	250	260	270	260	260	260	240H	260	260	270	290	290	320	350F
6	300F	290F	300F	270F	290F	250F	300	250	250	240	270	250	260	260	240	250	260	260	250	310	290	300	350F	280F
7	270F	310F	300F	300	310F	270F	250	250	240	280	250	270	280	270	250	250	240	240	240	250	270	230	400F	(370)F
8	300F	(350)F	(350)F	(320)F	(360)F	(300)F	(350)F	230	230	250	260	300	320	270	270	250	250	240	280	270	270	300F	(370)F	370F
9	(310)F	320F	290F	330F	300F	310F	(320)F	260	230	260	260	250	300	250	260	260	240	230	270	250	300	270	320F	(350)F
10	(350)F	(350)F	(320)F	(300)F	(300)F	(330)F	210F	230	260	260	300	290	250	260	280	240	230	290	260	250	280	280	340F	350F
11	350F	330F	340F	330F	350F	280F	260	240	240	250	250	270	260	270	270	260	230	250	330	290	270	280	310	330
12	310	320F	320F	C	C	F	300F	240	230	250	290	280	270	280	280	270	250	230	250	270	270	250	340F	(300)F
13	310F	(348)F	280F	(290)F	(280)F	240F	230H	240H	240H	250	270	330	260	240	280	270	250	230	250	230	250	260	250	320F
14	350F	360F	350F	350F	300	230	250	230	240H	260	250	280	270	270	260	250	250	230	250	280	280	320	320	310
15	330	350F	340F	330F	270	270F	(380)F	250	260	300	240	280	280	270	270	250	260	230	280	240	360H	350F	380F	350F
16	380F	300F	330	270	330	280	270	230	270	300	270	260	270	260	260	250	230	240	310	290	370H	320	350F	420F
17	C	C	C	C	C	C	C	C	220	280P	250P	270	280	280	260	250	250	240	300	270	320	360V	330	350F
18	330	350	350	310	300	260	300	280	240	250	270	280	250	260	270	270	240	250	(260)H	280	320	340	380	370F
19	360F	300F	270F	320F	310F	350F	270	300	260	270	310	300	270	250	260	240	280	250	250	280	320	340	380	370F
20	350F	350F	300F	290	260	340F	330F	280	270	250	250	250	290	270	260	270	250	240	250	310	330	270	330F	330F
21	350	310	300	270	250	320	290	240	250	280	260	300	270	260V	280	250	250	240	240	380	290	320	340	340
22	300	280	270	340	300	340	310	240	250	270	280	330	270	270	240	260	250	240	290	300	320	280	350	350
23	350F	340F	250	320F	250	360	300	170	280	280	300	260	260	270	250	250	270	240	(265)F	280	300	370	350F	310
24	270	C	C	C	C	C	C	C	C	280	290	290	260	(250)F	270	260	260	240	260	300	320	340	370	360
25	360F	350F	300F	250F	(280)F	320F	350	290	C	C	C	C	260	250	250	260	270	250	260	250	300	350	370	410F
26	(340)F	330F	300F	300F	300F	300F	300F	250	280	240	260	260	260	260	250	250	250	240	280	320	400F	350F	330	360F
27	320F	250	380F	360F	350F	320F	290F	230	250	270	250	300	270	280	270	270	250	250	240	340	350	330	300	320
28	330	(340)C	350	C	C	C	C	C	C	C	270	280	280	240	250	270	270	250	280F	300	340	320	320	320
29																								
30																								
31																								
Mean Value	330	320	310	310	300	300	290	250	250	260	270	280	270	260	260	260	250	250	280	290	300	270	310	340
Median Value	330	330	300	310	300	300	300	250	250	260	270	270	270	260	260	260	250	250	280	280	280	270	320	340
Count	26	25	25	23	23	23	24	24	24	26	26	27	28	28	28	28	28	27	27	27	27	27	26	26

Manual Automatic

Sweep 0.85 Mc to 2.2 Mc in 2 min

hpF2

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 39° 43.5' N
Long. 140° 08.9' E

Akita

135° E Mean Time

R'F2

Feb. 1954

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

A3

Automatic
 Manual

Group 0.95 Mc to 22.0 Mc in 2 min

R'F2

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

f_oF1

Feb. 1954

135° E 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								Q	L	L	4.0	3.9 ^L	4.0	3.6	3.7	L	L							
2							Q	Q	Q	L	(3.9) ^L	4.0	3.8	3.7 ^L	3.6 ^L	(3.0)	2.5							
3							C	C	C	3.6	4.0	4.0	4.0	(3.8)	3.5 ^H	3.1	Q							
4							Q	Q	2.7	(3.3)	3.6	4.0	3.9	3.7	3.4	L	L							
5							Q	Q	L	3.6	3.8	4.0 ^L	4.1 ^L	4.0	(3.6)	L	Q							
6							Q	Q	L	3.4	3.9	4.0	3.9	3.9	3.7	L	L							
7							Q	Q	Q	L	4.0	4.0	4.0	3.9	3.6 ^L	L	Q							
8							Q	Q	L	L	4.0 ^{HL}	4.1	4.0 ^L	4.0 ^L	3.9	3.5 ^L	Q							
9							Q	Q	L	3.6 ^L	4.0	4.0	3.9	4.0	3.8 ^L	3.4	Q							
10							A	A	L	4.2	4.0	4.1	4.0	4.0	4.0	3.6 ^L	L							
11							L	(2.7)	L	3.9 ^L	4.1	(4.0) ^L	3.8	3.5	3.5	3.5	L							
12							(2.1)	2.7	3.6	(3.8)	4.0	4.0	L	L	L	3.5	Q							
13							Q	Q	L	3.8	4.0	4.1	3.9	(3.8)	(3.8)	3.6	2.7							
14							2.2	3.0 ^H	3.6	(3.5)	(4.0)	4.1 ^L	3.8 ^L	3.7	3.6	L	L							
15							Q	L	L	3.8	4.0	4.0	4.0	4.0	(3.9)	L	L							
16							Q	L	L	3.8	4.0 ^H	4.0	4.0	4.0	3.8	3.5	2.5							
17							C	Q	L	L	3.6	4.1	4.1	3.8	3.6	2.8 ^L								
18							L	L	L	3.2 ^L	3.9 ^L	4.0	4.2	4.0	3.7	3.5 ^L	L							
19							2.2	L	Q	4.0	4.0	4.0	4.0	4.0 ^H	3.9	3.5 ^H	2.9							
20							Q	3.5	3.8	3.9 ^H	3.9	4.0	4.0	4.0	3.9 ^L	3.6 ^L	L							
21							Q	Q	L	LH	3.9 ^L	4.0	3.9	4.0	(3.8)	3.5	3.0 ^L							
22							Q	L	L	3.8 ^L	4.1	4.0	3.9	3.6	(3.5)	LH	L							
23							Q	3.1 ^L	3.7	4.0	A	A	A	4.0	3.7	L	L							
24							C	C	L	4.0 ^L	4.0 ^L	4.0	4.0	3.7 ^L	3.7	(3.2)	2.7 ^L							
25							L	C	C	C	C	C	4.0	4.0	3.7	3.4 ^L	2.7							
26							Q	L	3.7	(3.8)	4.0 ^H	4.0	4.0	3.9	3.8 ^H	L ^H	L							
27							Q	L	3.6	3.7	4.2 ^L	4.1 ^L	4.0	3.8	3.6 ^L	(3.3)	L							
28							C	C	C	C	A	3.8	3.8	3.7	L	L								
29																								
30																								
31																								
Mean							2.2	3.0	3.6	3.9	4.0	4.0	3.9	3.7	3.5	2.8								
Minimum							2.2	2.8	3.6	3.9	4.0	4.0	4.0	4.0	3.7	3.5	2.7							
Maximum							3	6	12	24	25	27	27	27	27	19	9							
Count																								

f_oF1

Sweep 0.05 Mc to 22.0 Mc in 2 min Manual Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.3' E

A k i t a

IONOSPHERIC DATA

R'F1

Feb. 1954

135° E 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								Q	220	220	210	240	220	200	210	250	230							
2								Q	Q	260	250	240	220	220	230	[220] ^A	220							
3								C	C	220	240	200	250	210	200 ^H	200	Q							
4								Q	220	240	220	250	220	220	220	220	240							
5								Q	240	240	210	220	240	220	220	220	Q							
6								Q	240	190	220	240	210	220	240	220	230							
7								Q	Q	210	220	230	270	230	230	220	Q							
8								Q	220	240	220	200 ^H	220	210	220	230	Q							
9								Q	220	220	210	200	200	220	230	220	Q							
10								A	A	240	210	200	220	190	230	240	230							
11								220	200	240	210	220	210	220	220	250	230							
12								240	230	200	240	[240] ^A	240	230	230	210	Q							
13								Q	Q	230	220	250	260	220	220	230	230							
14								190	190 ^H	200	180	240	250	230	230	230	240							
15								Q	250	240	230	220	230	220	240	250	200							
16								Q	230	220	250	190 ^H	230	220	210	220	A							
17								C	Q	220	230	220	250	230	200	220	200							
18								240	210	220	270	250	200	230	200	220	230							
19								210	240	Q	250	210	220	210 ^H	210	230 ^H	210							
20								Q	230	230	200 ^H	200	250 ^A	230	210	210 ^A	250							
21								Q	220	200 ^H	220	210	200	200	210	230	240							
22								Q	240	230	220	210	220	220	220	240	220 ^H	240						
23								Q	240	240	240	A	A	200	230	210	220							
24								C	C	230	190	210	220	220	210	200	210							
25								250	C	C	C	C	250	230	210	220	220							
26								Q	220	220	190	190 ^H	250	210	210 ^H	210 ^H	230							
27								Q	230	220	210	250 ^A	A	A	220	220	240							
28								C	C	C	C	A	230	220	240	230								
29																								
30																								
31																								
Mean Value								230	230	220	220	220	230	220	220	220	230							
Median Value								230	230	220	220	220	220	220	220	220	230							
Count								6	19	25	26	25	26	27	28	28	21							

R'F1

Sweep 0.85 Mc to 22.0 Mc in 2 min
 Manual Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.3' E

Akita

IONOSPHERIC DATA

135° E Mean Time

f_oE

Feb. 1954

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2								B	2.3	2.6	2.6	2.8	2.8	2.8	2.8	2.4	2.0							
3								B	2.2	2.5	2.6	2.8	2.9	2.8	2.6	(2.2)	1.8							
4								C	C	2.6	(2.7)	2.8	2.9 ^H	2.8	2.6	2.3	1.8							
5								B	2.0	2.4	2.6 ^A	2.8	2.8	2.8	2.7	2.4 ^A	A							
6								A	2.2	(2.4)	2.7	2.8	2.8	2.7	2.6	2.3	2.0							
7								B	A ^F	2.6	2.9	2.8	2.9	2.8	2.7	2.5	2.1							
8								B	2.2	2.6	2.9	2.8	2.9	2.8	2.7	2.4	1.9							
9								B	2.3	2.5	2.8	2.8	2.8	2.8	2.7	2.5	2.0							
10								B	2.3	2.7	2.8	2.8	3.0	2.8	2.7	2.4	2.0							
11								A	A	2.3	A	A	3.0	3.0	2.8	2.6	2.1							
12								B	A	2.5	2.8	2.9	2.9	2.8	2.7	2.5	2.2							
13								B	2.1	2.4	2.7	2.8	2.9	2.9	2.7	2.5 ^H	2.1							
14								B	2.2	2.2	2.8	2.9	3.0	2.8	2.8	2.5	2.0							
15								B	1.9	(2.4) ^A	2.8	3.0	3.0	2.8	2.8	2.5 ^A	A							
16								1.5B	2.3F	2.7	2.8	2.8	2.8	2.8	2.7	2.5	2.3							
17								B	2.1	(2.4)	2.6	2.8	3.1	3.0	2.8	2.5	2.0							
18								C	2.3	2.6	2.7 ^A	2.8	2.8	2.8 ^A	2.8	2.4	2.0							
19								B	2.2	(2.4)	2.7	2.7	2.8	2.8	2.5	2.3	2.0							
20								1.5B	(2.0)	2.4	2.7	2.8	2.9	2.8	2.7	2.5	2.1							
21								1.5B	2.2	2.5	A	A	A	3.0	A	A	A							
22								B	2.3	2.4	2.7	A	A	3.0	2.7	2.5	2.2							
23								A	2.0	(2.4)	2.7	(2.8)	2.8	2.8	2.7	2.6	2.2							
24								1.6B	2.2	B	A	A	A	A	A	A	2.4							
25								C	C	2.3	2.8	2.8	2.8	2.8	2.7	2.5	2.2							
26								1.8	C	C	C	C	3.1	3.0	2.8	2.6	2.3							
27								1.8	2.4	2.6	2.8	3.0	3.0	3.0	2.8	2.5 ^H	2.3							
28								B	2.3	2.5	2.7	A	A	A	A	A	A							
29								C	C	C	C	A	3.0	2.9	2.8	2.5	2.3	1.6						
30																								
31																								
Mean Value								1.6	2.2	2.5	2.7	2.8	2.9	2.9	2.7	2.5	2.1	1.6						
Median Value								1.6	2.2	2.5	2.7	2.8	2.9	2.8	2.7	2.5	2.1	1.6						
Count								6	21	25	23	21	24	26	25	25	24	1						

f_oE

Sweep 0.85 Mc to 22.0 Mc in 2 min
 Manual Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

A k i t a

IONOSPHERIC DATA

Feb. 1954

f_oF₂

135° E 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								B	120	120	110	110	110	110	120	110	120							
2								B	120	110	110	110	110	100	100	(110)	120							
3								C	C	110	(110)	110	100 ^H	110	100	110	120							
4								B	110	110	(110)	110	110	110	120	110	A							
5								B	120	(120)	110	100	100	100	130	(130)	130							
6								B	A ^F	110	110	110	110	110	120	120	120							
7								B	120	110	110	110	110	100	100	100	130							
8								B	110	110	110	100	110	100	100	120	120							
9								B	110	110	110	110	100	100	100	100	120							
10								A	A	110	A	A	110	100	120	110	120							
11								B	A	110	110	110	110	110	110	110	120							
12								B	120	110	110	(110)	110	110	100	120 ^H	130							
13								B	130	110	(110)	110	110	(110)	110	120	120							
14								B	110	(110)	110	110	110	110	110	A	A							
15								B	110	110	110	110	110	110	110	110	120							
16								B	120	110	110	110	110	110	110	120	100							
17								C	110	120	A	A	110	(110)	110	110	120							
18								B	140	(120)	110	100	110	100	110	120	130							
19								B	A	110	110	100	110	100	120	100	130							
20								B	120	120	A	A	A	120	A	A	A							
21								B	120	120	120	A	A	110	110	110	110							
22								A	140	(130)	120	(120)	110	120	120	110	130							
23								B	120	B	A	A	A	A	A	A	130							
24								C	C	130	110	110	110	110	110	110	120							
25								120	C	C	C	C	100	110	100	110	120							
26								150	110	110	(110)	110	110	110	100	120 ^H	120							
27								B	110	110	110	A	A	A	A	A	A							
28								C	C	C	C	A	110	110	110	120	120							
29																								
30																								
31																								
Mean Value								140	120	110	110	110	110	110	110	110	120							
Median Value								140	120	110	110	110	110	110	110	110	120							
Count								2	20	25	22	20	24	26	25	24	24							

f_oF₂

Sweep 0.85 Mc to 22.0 Mc in 2 min

Manual Automatic

A7

The Radio Research Laboratories
Koganei-machi, Kitakama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

A k i t a

IONOSPHERIC DATA

135° E Mean Time

fEs

Feb. 1954

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	E 2.4	E 2.1	E 2.2	E 2.0	E 2.0	E 2.0	E 2.2	B C	G C	G 4.5	G 4.2	G 4.0	3.5 G	G G	G 3.5	G 3.7	G 2.8	E C	2.2 C	2.0 C	E C	1.9 C	2.1 C	2.3 C	
2	C 2.5	C 2.1	C 2.3	C 2.3	C 2.2	C 2.2	C 2.2	C 2.3	C 3.5	C 3.1	C 4.5	C 4.3	C 3.5	C 3.5	C 3.2	C 4.3	C 4.5	C 5.5	1.8 8.5	2.5 2.5	1.9 4.0	2.6 2.5	2.2 C	2.2 C	2.3 C
3	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.3	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.2	2.2	2.2	4.0	2.5	2.5	2.5	
4	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
5	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
6	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
7	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
8	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
9	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
10	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
11	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
12	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
13	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
14	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
15	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
16	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
17	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
18	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
19	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
20	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
21	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
22	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
23	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
24	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
25	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
26	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
27	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
28	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
29	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
30	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
31	2.0	2.3	2.8	2.3	2.2	2.2	2.2	2.8	3.5	4.3	4.5	4.5	3.5	3.5	4.1	4.2	4.2	3.4	2.2	2.2	4.0	2.5	2.5	2.5	
Mean Value	2.5	2.5	2.5	2.6	2.3	2.3	2.2	2.6	3.1	3.9	3.9	4.4	4.4	3.9	3.9	3.5	3.4	3.3	2.9	2.3	2.3	2.1	2.4	2.4	2.3
Median Value	2.3	2.3	2.3	2.3	2.2	2.2	1.8	2.3	3.0	3.4	3.5	3.5	3.5	3.5	3.2	2.6	2.6	2.6	2.3	2.2	2.2	1.9	2.2	2.2	2.0
Count	26	24	25	23	23	24	24	19	24	26	26	27	28	28	28	28	28	28	27	27	27	27	27	26	26

Sweep 0.95 Mc to 2.20 Mc in 2 min

fEs

Manual Automatic

The Radio Research Laboratories
Koganei-machi, Kitchama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 39° 43.5' N
Long. 140° 08.9' E

Akita

Feb. 1954

(M3000)F2

135° E 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	2.8F	3.2	3.1F	3.0F	2.9F	3.1F	3.3	3.6	3.7	3.6	3.3	3.7	3.5	3.5	3.6	3.3	3.4	3.3	3.4	3.1	3.5	3.2	3.1	3.0
2	2.8	2.8	2.8	3.0	2.8	3.0	3.4	3.2	3.5	3.4	3.4	3.4	3.5	3.6	3.6	3.7	3.7	3.4	3.1	2.8	3.0	3.2	3.5	3.0
3	C	C	C	C	C	C	C	C	C	C	C	3.1 ^H	3.6 ^P	3.5	3.6	3.3	3.7	3.4	3.1	2.8	3.0	3.2	3.5	3.0
4	3.0	3.0	3.3	3.0	3.4	2.8F	2.9F	3.5	3.7	3.6	3.6	3.5	3.5	3.6	3.6	3.3	3.7	3.4	3.0	3.3	2.9	2.9	3.0	2.8F
5	2.8F	2.8F	2.9F	3.0F	3.2F	3.1F	3.0F	3.3	3.6	3.8	3.6	3.5	3.3	3.5	3.3	3.4	3.6 ^H	3.5	3.1	3.2	3.1	3.3	3.0	C
6	3.1F	3.1F	3.1F	3.3F	3.2F	3.3F	3.1	3.6	3.5	3.8	3.3	3.6	3.5	3.6	3.7	3.5	3.2	3.5	3.3	2.9	3.1	3.1	2.9F	3.2F
7	3.3F	3.0F	3.1F	3.1	3.0F	3.2F	3.2F	3.6	3.6	3.3	3.7	3.2	3.2	3.4	3.6	3.5	3.6	3.4	3.5	3.3	3.2	3.6	2.7F	(2.9F)
8	3.1F	(2.8F)	(2.8)	2.9F	(2.9)	(3.0)	(2.8F)	3.7	3.8	3.6	3.5	3.2	3.1	3.4	3.4	3.5	3.6	3.6	3.2	3.4	3.3	3.0F	(2.7F)	2.8F
9	(3.0F)	2.9F	3.1F	2.9F	3.0F	3.0F	(2.7)	3.5	3.7	3.5	3.5	3.6	3.1	3.4	3.4	3.6	3.6	3.6	3.2	3.5	3.1	3.3	2.9F	(2.8F)
10	(2.8F)	(2.9F)	(3.1)	(3.0F)	(3.1F)	(2.9F)	3.7F	3.6	3.5	3.6	3.2	3.3	3.4	3.5	3.3	3.6	3.8	3.2	3.4	3.6	3.3	3.2	2.8F	2.8F
11	2.8F	3.0F	2.8F	2.9F	2.8F	3.2F	3.4	3.5	3.5	3.5	3.4	3.5	3.4	3.5	3.3	3.6	3.8	3.4	2.9	3.2	3.3	3.1	3.0	2.9
12	2.9F	(2.8F)	3.2F	C	C	F	3.0F	3.6	3.7	3.5	3.2	3.4	3.5	3.3	3.2	3.4	3.4	3.7	3.4	3.3	3.2	3.2	2.8F	(3.0F)
13	2.9F	(2.8F)	3.2F	(3.1F)	(3.1F)	3.5F	3.9F	3.7H	3.6	3.6	3.4	3.1	3.3	3.6	3.2	3.3	3.6	3.5	3.0	3.3	3.4	3.4	3.0F	3.0F
14	2.8F	2.8F	2.8F	2.8F	3.1	3.7	3.3	3.6	3.7P	3.6	3.4	3.2	3.1	3.4	3.5	3.6	3.4	3.7	3.6	3.3	3.1	3.0	3.1	3.1
15	3.0	2.8F	2.9F	3.0F	3.4	3.2F	(2.7F)	3.6	3.5	3.2	3.7	3.5	3.4	3.4	3.3	3.7	3.4	3.6	3.2	3.5	3.1	2.8F	2.6F	2.7F
16	2.7F	3.1F	3.0	3.2	3.0	3.3	3.4	3.6	3.3	3.1	3.4	3.5	3.5	3.5	3.5	3.6	3.7	3.6	2.9	3.3	3.1	3.0	2.8F	2.6F
17	C	C	C	C	C	C	C	C	3.9	3.6P	3.6P	3.5	3.3	3.6	3.4	3.4	3.5	3.6	3.0	3.3	3.2	3.2	2.8F	(3.0F)
18	2.9	2.8	2.8	3.0	3.1	3.4	3.1	3.3	3.7	3.5	3.4	3.4	3.6	3.6	3.4	3.2	3.6	3.5	3.3	3.1	3.0	2.9	2.7F	2.7F
19	2.8F	3.2F	3.2F	3.0F	3.1F	2.8F	3.4	3.2	3.5	3.4	3.2	3.3	3.4	3.6	3.6	3.5	3.2	3.5	3.0	3.2	2.8	3.3	3.0F	2.9F
20	2.7F	2.8F	3.2F	3.1	3.3	2.8F	3.0F	3.3	3.3	3.5	3.4	3.5	3.3	3.5	3.5	3.4	3.6	3.7	2.9	2.8	3.1	3.0	2.9	2.9
21	2.9	3.0	3.1	3.3	3.4	3.0	3.2	3.4	3.6	3.4	3.5	3.2	3.5	3.5	3.4	3.6	3.6	3.4	3.1	3.0	3.0	3.1	2.8	3.0
22	3.1	3.2	3.2	2.8	3.0	2.9	3.0	3.5	3.4	3.2	3.4	3.0	3.4	3.4	3.6	3.4	3.6	3.4	(3.3)	3.0	3.2	2.8	2.8	2.7F
23	2.7F	2.8F	3.5	3.2F	3.5	2.7	3.1	3.5	3.2	3.4	3.1	3.5	3.6	3.5	3.7	3.4	3.4	3.7	3.4	2.9	3.5	2.8	2.8P	2.9
24	3.2	C	C	C	C	C	C	C	3.3	3.3	3.2	3.2	3.5	(3.6)	3.4	3.5	3.4	3.6	3.4	3.1	2.9	2.7	2.8	2.8
25	2.7F	2.8F	3.1F	3.5F	(3.1F)	2.7F	2.7	3.2	C	C	C	C	3.5	3.7	3.7	3.5	3.3	3.7	3.4	3.5	3.2	2.8	2.7	2.5F
26	(3.1F)	3.0F	3.0F	3.0F	3.0F	3.1F	3.5	3.3	3.3	3.8	3.4	3.5	3.3	3.6	3.5	3.5	3.4	3.5	3.2	3.0	2.7F	2.9F	3.0	2.8F
27	3.0F	3.6	2.8F	2.9F	2.9F	3.0F	3.1F	3.7	3.4	3.4	3.6	3.2	3.5	3.4	3.4	3.4	3.6	3.5	3.4	2.9	2.8	3.0	3.1	3.0
28	2.9	(2.8)	2.8	C	C	C	C	C	C	C	C	3.5	3.3	3.6	3.6	3.1	3.3	3.5	3.2P	3.0	2.9	3.0	3.0	3.0
29																								
30																								
31																								
Mean Value	2.9	3.0	3.0	3.0	3.1	3.1	3.2	3.5	3.5	3.5	3.5	3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.2	3.2	3.1	3.1	2.9	2.9
Minimum Value	2.9	2.9	3.1	3.0	3.1	3.0	3.1	3.5	3.6	3.5	3.4	3.4	3.4	3.5	3.5	3.5	3.6	3.5	3.2	3.2	3.1	3.0	2.8	2.9
Count	26	25	25	23	23	23	24	24	24	26	26	27	28	28	28	28	28	27	27	27	27	27	26	26

(M3000)F2

freq. 0.85 Mc to 2.2.0 Mc in 2 min

Manual

Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.3' E

Akita

IONOSPHERIC DATA

135° E Mean Time

fminF

Feb. 1954

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	1.0	E	E	E	E	E	E	1.5	2.3	2.6	3.2	3.0	3.0	2.8	2.8	2.8	2.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
2	1.4	E	E	1.2	E	E	E	1.5	1.8	2.4	2.8	3.1	3.2	2.8	3.0	2.8	2.2	C	C	C	C	C	C	C	
3	C	C	C	C	C	C	C	C	C	2.6	3.0	3.2	3.4	2.8	2.6	2.5	2.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
4	1.5	E	1.5	E	E	E	E	1.5	1.7	2.3	3.0	3.3	3.0	3.0	2.9	2.8	2.2	[1.8] ^A	1.5	1.5	1.5	1.5	1.5	1.5 ^F	
5	1.0	1.5	1.5	1.0	E	E	E	1.5	1.8	[2.2] ^A	2.7	2.8	3.2	3.1	3.0	2.9	2.5	2.3	1.6	1.5	1.5	1.5	C	C	
6	1.0	1.2	1.4	E	E	E	E	1.5	1.5	2.6	3.1	3.2	3.1	2.8	2.8	2.5	2.2	1.7	1.5	1.5	1.5	1.5	1.5	1.5	
7	1.6 ^F	1.0	E	E	E	E	E	1.5	1.5	2.4	2.7	3.1	3.2	3.5	3.1	2.7	2.5	2.8	1.6	1.5	1.5	1.5	1.5	1.5 ^F	
8	1.3	1.3	E	E	E	E	E	1.5	1.7	2.5	3.0	2.9	3.0	3.0	3.0	2.5	2.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
9	1.0	E	E	E	E	E	E	1.5	1.8 ^A	2.4	2.8	2.9	3.0	2.8	3.0	2.6	2.4	1.5	1.5	1.5	1.5	1.5	1.5 ^F	1.5 ^F	
10	1.5 ^F	1.5 ^F	1.3	1.4	E	E	E	1.5	2.9 ^A	[2.8] ^A	2.8	2.8	2.9	3.3	3.0	2.6	2.2	1.7	1.5	1.5	1.5	1.5	1.5	1.5	
11	1.3	E	E	1.0	E	E	E	1.5	1.5	2.3	2.8	3.1	3.1	3.0	2.8	2.8	2.3	1.8	1.5	1.5	1.5	1.5	1.5	1.5	
12	1.9	1.3	1.0	C	C	E	E	1.5	1.8	2.3	2.7	3.3	3.5	3.3	3.0	2.8	2.6	2.5	2.4 ^A	1.5	1.5	1.5	1.5	1.5 ^F	
*13	1.3	E	E	1.0	E	E	E	1.5	1.7	2.7	2.9	3.1	3.5	3.4	3.0	2.9	2.8	2.1	1.7	1.5	1.5	1.5	1.5	1.5	
14	E	E	E	E	E	E	E	1.5	1.5	2.3	3.1	2.8	3.4	3.5	3.1	2.9	2.7	2.3	1.6	1.6	1.5	1.5	1.5	1.5	
15	1.3	1.3	E	1.3	E	A	1.5 ^F	1.9	2.5	2.7	2.9	3.4	3.2	2.9	3.1	2.9	2.3	1.6	1.5	1.5	1.5	1.5	1.5	1.5	
16	1.0	E	E	E	E	E	E	1.5	1.7	2.5	2.9	3.3	2.9	3.1	2.9	2.4	2.3	1.7	1.5	1.5	1.5	1.5	1.5	1.6 ^F	
17	C	C	C	C	C	C	C	C	C	2.7	2.7	3.0	3.2	3.2	3.1	2.8	2.7	2.2	2.0 ^A	1.5	1.5	1.5	1.5	1.5	
18	1.5	E	1.4	E	E	E	E	1.5	1.8	2.2	2.8	3.3	3.3	3.2	3.2	2.7	2.7	2.3	1.8	A	A	1.5	1.5	1.5	
19	1.5	1.5	1.5	E	E	E	E	1.5	1.8	2.3	3.1	3.2	3.0	2.9	3.0	2.7	2.5	2.2	1.7	1.5	1.5	1.5	1.5	1.5	
20	1.0	E	E	E	E	E	E	1.5	1.9	2.4	2.6	2.7	2.9	3.5	3.0	2.7	[2.6] ^A	2.4	[2.0] ^A	1.5	1.5	1.5	1.5	1.5	
21	1.0	E	E	1.5	1.5	1.3	1.5	1.9	2.4	2.7	3.2	3.8	3.0	3.0	2.8	2.6	2.4	1.8	1.6	1.5	1.5	1.5	1.5	1.5	
22	1.5	1.3	1.0	1.0	1.3	E	1.5	2.0	2.5	2.6	2.8	3.1	3.0	3.1	2.9	2.9	2.3	1.6	1.5	1.5	1.5	1.5	1.5	1.5	
23	1.5	1.8	1.5	1.3	1.0	1.0	1.5	2.0	2.4	3.0	3.0	5.4 ^A	4.8 ^A	3.0	2.4	2.6	2.3	1.8	1.5	1.5	1.5	1.5	1.5	1.5	
24	1.3	C	C	C	C	C	C	C	C	2.5	2.7	3.0	3.3	3.1	2.8	2.5	2.2	1.8	1.5	1.5	1.5	1.5	1.5	1.5	
25	1.4	1.5	1.5	1.4	[1.3] ^F	1.2	1.5	2.0	C	C	C	C	3.3	3.1	2.9	2.6	2.4	1.8	1.5	1.5	1.5	1.5	1.5	1.5	
26	1.5	1.3	1.5	1.0	1.0	E	1.5	2.0	2.4	2.6	2.8	3.0	3.3	3.1	2.8	2.5	2.3	1.9	1.5	1.5	1.5	1.5	1.5	1.5	
27	1.0	[1.0] ^A	1.0	1.0	1.0	1.0	1.5	2.1	2.5	3.0	3.1	3.4	3.6	3.7	2.9	2.6	2.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
28	1.4	C	E	C	C	C	C	C	C	C	C	5.1 ^A	3.2	2.9	3.1	2.7	2.3	2.0	1.5	1.5	1.5	1.5	1.5	1.5	
29																									
30																									
31																									
Mean Value	1.3	1.3	1.3	1.2	1.2	1.1	1.5	1.8	2.4	2.8	3.0	3.3	3.3	3.0	2.8	2.6	2.3	1.7	1.5	1.5	1.5	1.5	1.5	1.5	
Median Value	1.3	1.0	E	1.0	E	E	1.5	1.8	2.4	2.8	3.0	3.2	3.2	3.0	2.8	2.6	2.3	1.7	1.5	1.5	1.5	1.5	1.5	1.5	
Count	26	24	25	23	23	23	24	24	24	26	26	27	28	28	28	28	28	28	27	26	26	27	27	26	26

fminF

Sweep 0.85 Mc to 2.2 C Mc in 2 min

Manual Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.9' E

IONOSPHERIC DATA

Akita

Feb. 1954

f_{minE}

135° E 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	E	E	E	E	E	E	E	B	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.7	1.7	E	E	1.8	E	
2	1.5	1.7	E	E	E	E	E	1.5	1.5	1.5	1.5	1.5	1.7	1.5	1.5	1.5	1.5	C	C	C	C	C	C	
3	C	C	C	C	C	C	C	C	C	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.7	1.5	1.5	1.6	1.6	1.5	
4	1.5	E	E	E	E	1.9	1.7	1.7	1.5	1.5	1.6	1.6	1.7	1.7	1.6	1.5	1.5	1.6	1.5	1.5	1.7	1.5	1.7	
5	1.0	E	E	E	E	1.0	E	1.5	1.5	1.5	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.7	1.5	1.5	1.5	C	
6	1.7	E	E	E	E	E	E	1.6	1.5	1.5	1.6	1.7	1.7	1.7	1.7	1.6	1.5	1.7	1.5	E	1.7	1.7	E	
7	1.0	E	E	E	E	E	E	E	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.5	E	E	1.6	E	1.6	E	
8	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.7	1.5	E	E	1.6	1.5	
9	1.5	1.5	1.5	1.5	1.5	1.7	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.9	E	E	1.7	1.7	1.5	
10	1.0	E	E	E	E	1.4	1.5	1.7	1.5	1.5	1.6	1.6	1.6	1.5	1.7	1.5	1.5	E	1.7	E	1.7	1.6	1.0	
11	1.4	E	1.5	E	1.5	1.5	E	1.7	1.5	1.5	1.6	1.7	1.5	1.5	1.5	1.5	1.5	1.7	1.6	1.7	E	E	1.5F	
12	1.3	E	1.0F	C	C	E	E	1.5	1.5	1.5	1.7	1.7	1.5	1.7	1.5	1.3	1.3	1.5	1.7	1.8	1.8	1.6	1.5	
13	E	1.5	1.5	E	1.0	1.5	1.5	1.5F	1.5	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.0	E	1.7	E	E	1.6	
14	1.7	E	E	E	E	1.7	1.6	1.6F	1.5	1.3	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
15	1.6	1.5F	1.7	E	E	E	E	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.6	1.5	1.7	1.6	1.5F	1.5	
16	1.6	1.7	E	1.7	1.4	1.6	1.6	1.5	1.5	1.5	1.7	1.7	1.7	1.5	1.7	1.5	1.0	E	1.7	1.7	1.7	1.7	1.7	
17	C	C	C	C	C	C	C	C	1.5	1.5	1.6	1.6	1.6	1.7	1.5	1.5	1.5	1.5	1.5	1.7	1.7	1.7	1.7	
18	1.5	E	E	E	1.4	1.0	1.7	1.7	1.5	1.5	1.5	1.5	1.7	1.7	1.6	1.7	1.5	1.5	1.5	1.5	2.0	1.5	1.7	
19	1.0	E	E	E	E	E	E	E	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.5	1.5	E	1.7	1.7	1.7	E	
20	1.7	1.5	E	E	E	1.8	E	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.7	1.5	1.5	1.7	1.6	1.5	1.7	1.3	1.5	
21	1.7	E	E	E	E	E	1.5	1.5F	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.7	1.6	E	E	E	E	
22	E	1.5	1.0	1.0	E	1.0	E	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.7	1.6	E	
23	1.5	1.0	E	E	E	1.6	E	1.5	1.5	2.6	1.7	1.7	1.7	1.7	1.7	1.5	1.6	1.7	1.7	1.7	1.7	1.7	1.7	
24	1.6	C	C	C	C	C	C	C	C	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.7	1.7	1.7	1.5	
25	1.0	E	E	E	E	E	E	1.5	1.5	C	C	C	1.7	1.7	1.5	1.5	1.5	1.5	1.7	E	1.7	E	E	
26	1.5	E	E	E	1.0	E	1.4	E	1.5	1.5	1.6	1.5	1.5	1.6	1.7	1.5	1.5	E	1.7	1.6	1.5	E	E	
27	1.8	1.0	E	E	1.5	E	1.0	E	1.5	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.5	E	1.7	1.6	1.7	1.5	1.5	
28	1.5	1.6	1.8	C	C	C	C	C	C	C	1.6	1.6	1.7	1.7	1.5	1.6	1.5	1.5	E	1.7	1.6	1.5	1.5	
29																								
30																								
31																								
Mean Value	1.4	1.5	1.4	1.3	1.4	1.4	1.6	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.5	1.6	1.7	1.6	1.6	
Median Value	1.5	E	E	E	E	1.0	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.7	1.5	
Count	26	25	25	23	23	24	24	22	24	26	27	28	28	28	28	28	28	27	27	27	27	27	26	

f_{minE}

Sheep 0.85 Mc to 22.0 Mc in 2 min

Manual

Automatic

All

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

foF2

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	F	C	3.0	2.6 ^F	[2.8] ^C	3.0	F	5.0 ^J	5.4 ^J	5.5	5.9	7.3	6.5	6.1	6.0	5.5	6.0	5.1	5.1	3.5 ^P	(4.2) ^J	2.5	2.5	2.7	
2	2.9	3.0	2.9	3.1	2.7	2.6	2.8 ^Z	4.1	4.4	[6.0] ^C	7.6	[7.4] ^C	7.2	C	C	5.4	5.4	4.6	3.5 ^P	3.7	3.0	3.2	3.1	3.1	
3	3.3 ^P	3.2	3.1	3.4	2.7	[2.5] ^C	2.3	4.5	[5.8] ^C	(7.1) ^{BP}	B	B	C	6.6	[6.2] ^C	5.7	B	B	[3.7] ^C	3.7	3.7	3.0	3.0	2.5	
4	2.4	2.7	2.9	2.5	2.7	2.3	2.3 ^P	4.6	B	5.8	5.7	5.8	6.7	6.6	5.1	5.3	5.5	4.8 ^J	3.0	3.0	3.1	3.1	3.0	3.3 ^F	
5	3.5 ^J	3.1	3.1	2.8	2.5 ^F	[3.4] ^C	4.2	6.5 ^J	[6.6] ^J	[6.4] ^C	6.2	6.6	6.6	6.8 ^P	5.6	5.6	5.1	4.0	3.3	2.5	[3.0] ^C	3.4	2.8 ^P	2.8 ^F	
6	[2.8] ^F	2.7 ^F	[2.8] ^C	3.0	[2.5] ^C	2.0	1.9 ^F	[4.0] ^C	6.1	6.0	5.6	C	C	C	C	5.3	5.0	4.3	3.2	2.6	3.1	3.1	3.0	(3.0) ^F	
7	3.6 ^J	2.9 ^F	2.8	2.5	2.4	2.1	1.9	4.1	5.5	6.1	(7.6) ^B	8.0	7.6	8.2	6.0	5.7	[5.1] ^C	4.5	3.5	2.7	C	C	2.5	(2.5) ^F	
8	C	C	C	F	C	C	C	4.2	[4.8] ^C	5.5	5.6	5.6	7.3	C	C	C	5.6	4.3	4.0	3.8 ^P	3.4 ^P	3.3	2.6	2.8	
9	A ^F	F	F	3.1 ^F	2.8	2.5	2.5 ^F	4.6	C	C	C	C	C	C	C	C	5.9 ^P	4.0	4.6	3.2	2.8	2.7	2.6	2.8 ^F	
10	F	F	F	F	(2.8) ^F	F	F	4.0	5.0	C	C	C	C	C	C	C	5.5	4.2	3.4	3.7	3.7	3.0	2.7 ^F	3.0	
11	2.7 ^F	2.8	2.7	2.9	2.9	2.8 ^F	2.4	4.4	5.0	(5.3) ^J	(6.1) ^B	6.0	6.5	6.7	6.0	6.6	5.5	4.2	3.4	3.7	3.7	2.8	2.5	2.8 ^F	
12	3.1 ^F	3.2 ^F	3.3 ^{PP}	3.9	C	C	3.4	[4.3] ^C	5.2 ^P	5.0	5.5	M	M	M	7.2 ^P	6.0	6.5 ^J	5.9 ^P	4.4	3.3	2.8	C	C	2.5	2.8 ^F
13	3.1 ^F	2.7 ^F	[3.0] ^F	3.2 ^F	3.7 ^F	4.1 ^F	1.9 ^P	3.6	4.8	5.1	5.5	5.5	8.0	7.2	6.0	6.1	6.1	6.1	5.5	C	C	C	C	C	
14	C	C	C	2.6	3.4	1.8	2.3	4.1	4.7	5.0	5.7 ^J	6.5	6.1	6.0	6.7	6.0	5.2	4.6	3.1	2.5	2.9	2.8	2.8	3.0	
15	C	C	3.0 ^F	3.0 ^F	3.4 ^P	2.0 ^{PH}	1.8	4.3	4.5	5.3	7.3	5.5	[5.6] ^C	5.7	6.1	6.6	5.2	5.3 ^P	3.7	3.4	2.7	2.2	2.2	2.5	
16	2.7	2.8	2.6	3.0	2.2	2.1	2.0	4.2	4.9	6.3	7.5	6.9	6.6	6.1	6.1	5.6	5.4	4.4	3.8	3.5	2.9	2.6	2.8	3.0	
17	3.2	3.1 ^F	3.4 ^F	3.2	3.2	2.3	1.9	4.0	5.6	6.0	6.0	7.0	7.9	8.5	5.9	5.8	5.5	5.5	4.2	4.2	3.7	3.9	3.2	3.3	
18	3.4	3.4 ^P	3.3	3.3	2.9	2.7	2.4	4.3	4.9	5.7	6.0	6.5	6.6	5.5	5.5	5.5	5.4	4.7	3.6	3.2	3.0	3.0	3.0 ^F	(2.9) ^F	
19	3.0	3.2	C	C	C	2.1	2.1	4.1 ^P	4.7	5.4	6.5	7.4	6.2	6.0	6.2	5.5	4.6	4.5	3.5	3.4	3.5	3.5	3.0	2.9	
20	2.8	2.9	3.0	2.6	2.7	1.7	2.0	4.4	5.7	6.0	7.4	6.1	5.5	6.5	6.5	6.4	5.2	5.0	3.3	2.9	3.5	2.9	2.9	(2.9) ^A	
21	2.9	3.0	3.3	3.4	2.5	1.9	2.3	4.6	5.5	5.8	6.1	6.5	7.0	6.5	6.4	5.9	5.7	5.1	3.4	3.0	3.3	3.3	3.0	3.0	
22	3.1	2.5	3.0	2.7	3.1	2.7	2.7	4.2	4.9 ^P	5.6	6.4	7.4	8.4	7.6	6.3	5.5	5.7	5.4 ^P	3.9	3.0	3.2	3.0	3.2	3.0 ^F	
23	2.9 ^F	3.1 ^F	3.4 ^P	2.1 ^F	[2.0] ^C	1.9 ^F	2.5	4.7	5.9	7.0	6.6	8.2 ^J	6.5	6.5	7.1	5.6	5.3	6.3	4.1	[3.8] ^C	3.4	3.0	3.4	3.4	
24	4.0	3.4	3.1	2.9	2.9	2.7	2.7	5.4	6.6	7.5	8.0	9.1	8.8	6.3	6.0	5.3	5.6	5.2	3.4	3.0	3.4	3.1	3.0	3.0 ^F	
25	3.4 ^P	3.0 ^F	3.4	2.5	1.5	1.6	1.9	4.4	6.7	5.8	6.0	6.3	7.9	7.8	5.8	5.4	5.3	6.5	4.5	3.0	2.4	2.4	2.7	(2.8) ^F	
26	F	2.9 ^{PP}	2.9	2.9	2.5 ^F	2.7 ^F	4.7	5.4 ^J	6.5	5.8	5.8	5.8	7.2	6.7	6.0	5.9	5.6	5.0	4.0	3.9	3.3	[3.6] ^F	(3.8) ^F	3.3 ^F	
27	3.3 ^F	3.7 ^F	2.1 ^H	2.2	2.2	2.4 ^F	2.7 ^F	5.0	5.4	6.1	6.5	5.4	7.8 ^P	8.0	6.6	6.1	6.7	6.2	5.6	3.2	3.5	3.7	4.1	3.3	
28	3.2	3.0	2.8	2.7 ^F	2.7	2.6	4.2	5.1	5.4 ^J	5.8	6.7	8.5	7.3	5.6	5.5	4.8	4.8	5.6	4.3	3.1	3.2	3.2 ^P	3.4	3.5	
29																									
30																									
31																									
Mean Value	3.1	3.0	3.0	2.9	2.7	2.4	2.4	4.4	5.3	5.9	6.4	6.7	7.1	6.8	6.1	5.8	5.5	5.0	3.8	3.2	3.2	3.1	3.0	3.0	
Median Value	3.1	3.0	3.0	2.9	2.7	2.4	2.3	4.3	5.3	5.8	6.1	6.5	7.0	6.6	6.0	5.6	5.5	5.0	3.7	3.2	3.2	3.0	3.0	3.0	
Count	21	22	23	25	25	25	25	28	26	26	25	23	23	22	23	26	27	27	27	27	26	26	27	27	

foF2

Sweep 1.0 Mc to 17.2 Mc in 2 min
 Manual Automatic

K I

The Radio Research Laboratories
Koganei-machi, Kitakama-gun, Tokyo, Japan

Kokubunji Tokyo

Lat. 35°42.4' N
Long. 139°28.3' E

IONOSPHERIC DATA

Feb. 1954

fpF2

135° E 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	F	C	270	340 ^F	320 ^F	290	F (230) ^F	250	250	280	250	260	260	270	260	300	260	260	290 ^F	290 ^F	260	260	220	350	320
2	350	350	320	320	350	330	290 ^F	240	270	(260) ^F	250	(260) ^F	260	C	C	260	250	240	290 ^F	280	340	310	300	350	
3	320 ^F	340	320	280	270	300 ^F	320	250	(270) ^F	(290) ^F	B	B	C	250	(250) ^F	250	B	B	270	(270) ^F	270	280	260	270	
4	350	320	280	270	270	350	320 ^F	250	B	230	270	270	250	260	(260) ^F	250	250	(270) ^F	370	310	270	310	350	320	
5	(270) ^F	320	310	270	280	330 ^F	(300) ^F	260	(260) ^F	(230) ^F	(250) ^F	270	250	250	250	240	230	210	250	300	(280) ^F	260	280	330	
6	(310) ^F	290 ^F	(280) ^F	260	(290) ^F	320	320 ^F	(280) ^F	250	230	270	C	C	C	C	260	260	230	240	290	300	310	300	(300) ^F	
7	(240) ^F	300 ^F	310	290	250	280	260	250	270	(290) ^F	270	280	280	260	260	260	(250) ^F	240	250	260	C	C	280	(360) ^F	
8	C	C	C	F	C	C	C	260	(250) ^F	240	270	290	320	C	B	240	(240) ^F	240	250 ^F	260 ^F	260	270	340	(360) ^F	
9	AF	F	F	F	280	300	300 ^F	240	C	C	C	C	C	C	C	C	C	230	230	250	280	230	(260) ^F	(280) ^F	
10	F	F	F	F	(290) ^F	F	F	A	230	C	C	C	C	C	C	C	250 ^F	250	260	240	270	260	310	370	
11	360 ^F	310	310	310	300	280 ^F	260	250	230	(250) ^F	(240) ^F	260	260	270	250	260	230	240	270	290	260	260	280 ^F	320	
12	310 ^F	320 ^F	300 ^F	280	C	C	270	(260) ^F	240 ^F	250	280	M	M	M	280 ^F	240	(230) ^F	230 ^F	240	250	250	230	300	340 ^F	
13	330 ^F	310 ^F	(290) ^F	270 ^F	260 ^F	(230) ^F	240 ^F	240	240	260	290	370	270	280	260	270	240	240	240	C	C	C	C	C	
14	C	C	C	C	350	270	210	300	250	240	270	250	260	(260) ^F	250	290	270	230	250 ^F	270	240	270	330	400	
15	C	C	C	340 ^F	330 ^F	250	300 ^F	280	250	260	270	280	260	260	270	280	240	250	230	250	290	230	350	340	
16	340	290	280	310	240	280	320	270	270	280	260	250	280	280	260	270	280	240	240	290	270	290	310	330	
17	320	330 ^F	310 ^F	320	260	350	270	250	280	250	270	280	260	260	250	240	250	250	250	300	290	290	330	380 ^F	
18	350	350 ^F	320	330	300	290	310	250	250	270	300	270	260	260	250	250	240	240	300	330	280	270	300	350	
19	370	290	C	C	C	350	300	240 ^F	250	270	300	270	250	250	240	260	260	230	250	340	280	290	350	(340) ^F	
20	350	340	300	300	230	330	310	270	270	290	280	250	300	270	260	260	230	230	250	340	280	290	350	(340) ^F	
21	340	320	300	220	230	340	300	230	260	250	270	270	270	280	260	260	250	230	280	290	320	290	340	360	
22	320	240	300	330	300	350	310	220	250 ^F	270	270	280	270	260	240	260	260	240 ^F	260	280	310	370	380	400 ^F	
23	340 ^F	330 ^F	240 ^F	290 ^F	(310) ^F	330 ^F	330	270	290	260	280	(270) ^F	240	280	250	240	270	250	240	(260) ^F	290	360	330	340	
24	300	290	310	330	330	320	310	270	260	280	300	270	250	240	250	260	250	250	250	280	300	320	360	380 ^F	
25	360 ^F	350 ^F	280	250	290	330	330	270	250	240	260	310	260	260	240	250	260	260	240	280	320	370	340	(350) ^F	
26	F	330 ^F	270	350	320 ^F	330 ^F	320 ^F	260	(260) ^F	250	280	280	270	250	260	250	250	250	230	260	300	390	(350) ^F	(310) ^F	
27	(340) ^F	(250) ^F	280 ^F	370	350	330 ^F	280 ^F	240	240	250	270	250	300 ^F	260	260	270	270	270	250	320	330	330	280	280	
28	310	310	350	370 ^F	350 ^F	260	270	230	270	(250) ^F	270	270	280	250	230	260	300	240	250	310	320	300 ^F	290	300	
29																									
30																									
31																									
Mean Value	330	310	300	310	290	310	300	250	250	260	270	270	270	260	260	260	250	240	260	280	290	300	320	330	
Median Value	340	320	300	310	290	320	300	250	250	260	270	270	260	260	250	260	250	240	250	290	280	300	330	340	
Count	21	22	23	25	25	25	25	27	26	26	25	23	23	23	23	26	27	27	27	27	26	26	27	27	

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Feb. 1954

135° E Mean Time

R'F2

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	290	260	230	260	240	230	250	210	220	240	270	250	250	260	260	280	240	220	230	240	210	200	300	270
2	300	290	270	260	290	290	250	230	260	260	260	250	250	C	C	220	250	220A	240	290	300A	300	300	
3	270	270	230	220	210	240	270	230	250	270	260	230	240	240	240	250	230	230	230	230	230	240	210	240
4	270	270	240	230	230	300	290	240	220	220	270	260	250	260	250	240	230	210	A	250	240	250	300	260
5	240	260	260	240	230	260	250	240	250	230	250	270	240	240	240	230	220	200	210	270	250	230	250	290
6	250	250	240	230	260	280	300	300	260	230	270	C	C	C	C	250	230	220	220	240	250	250	280	
7	210	250	250	240	220	230	260	240	240	260	270	250	270	250	260	230	220	210	220	C	C	270	330	
8	320	300	320	270	240A	250	C	250	C	240	270	280	300	280	260	240	230	220	220	220	220	240	300	310
9	320	260	260	240	230	230	250	230	260	240	250	250	300	260	250	240	220	220	220	220	220	210	230	250
10	310	280	300	230	240	270	230	250A	230	250	270	250	270	250	260	240	230	220	220	220	220	230	270	320
11	310	270	250	260	250	240	230	220	220	250	240	260	260	270	250	260	220	220	220	250	220	210	250	260
12	260	260	270	240	C	C	220	220	220	240	270	M	M	M	270	240	230	220	210	210	220	250	270	300
13	300	270	270	210	220	200	180	230	230	260	280	370	260	260	260	260	230	220	C	C	C	C	C	
14	C	C	C	280	230	190	210	220	230	250	260	300	280	280	250	240	230	200	230A	250	250	240	250	270
15	C	C	270	260	220	190	260	260	240	260	250	260	260	250	280	260	230	220	230	200	250	290	360	320
16	290	250	240	250	200	240	280	230	240	280	260	240	260	270	280	240	230	220	210	230	210	280	270	280
17	260	270	260	250	220	270	250	230	260	250	270	270	270	250	240	250	240	220	250	240	240	250	250	260
18	290	260	250	260	230	250	260	230	230	260	260	270	250	260	250	240	230	230	220	200	250	290	310	300
19	300	250	C	C	C	300	250	230	240	260	290	270	250	260	250	230	230	220	250	270	240	240	250	280
20	300	270	240	230	210	310	270	240	270	290	260	250	290	260	260	250	220	210	210	280	260A	250	330	300
21	280	260	250	200	200	270	260	220	260	250	270	270	260	270	260	260	250	220	200	230	270	230	280	300
22	260	210	240	250	260	300	210	210	230	270	260	270	260	260	240	260	240	220	210	230	250	310	320	330
23	300	260	220A	270	270	270	280	240	270	260	280	260	240	280	250	240	250	240	210	230	250	280	280	280
24	250	230	260	270	280	270	260	250	260	260	280	250	250	240	250	250	240	230	230	230	260	270	300	330
25	290	300	240	210	290	300	320	250	240	240	250	280	250	250	240	250	250	240	210	210	250	310	300	380
26	290	270	220	300A	270	260	260	240	260	250	250	280	270	250	260	250	250	220	240	240	340	320	250	270
27	270	230	200	330	330	280	250	220	240	240	270	250	290	250	260	260	250	230	220	230	270	280	250	230
28	250	250	280	320	300	230	230	230	260	250	260	270	270	240	230	260	L	220	210	260	270	250	230	240
29																								
30																								
31																								
Mean Value	280	260	250	250	240	260	250	230	240	250	260	270	260	260	250	250	230	220	220	230	250	260	280	280
Median Value	290	260	250	250	240	260	250	230	240	250	260	260	260	260	250	250	230	220	220	230	250	250	270	280
Count	26	26	26	27	26	27	27	27	27	28	28	26	26	26	25	26	27	28	26	27	26	26	27	27

R'F2

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual

Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Kokubunji Tokyo
Lat. 35° 42.4' N
Long. 139° 29.3' E

Feb. 1954

f_oF1

135° E 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								Q	Q	3.7L	3.9L	4.2L	4.0L	4.0	3.8	L	Q							
2								Q	L	C	4.1L	[4.1]C	4.1	C	C	L	L							
3								Q	C	B	4.2L	4.2	[4.2]C	4.2	C	A	Q							
4								Q	L	3.6L	3.9L	4.0	A	A	A	3.5	L							
5								Q	L	A	C	4.0	4.2	4.0	3.8LH	3.5	2.7							
6								C	L	3.8L	4.0	C	C	C	C	3.5	Q							
7								Q	3.5L	3.8L	4.0	4.0	4.0	4.0	4.0	3.6L	Q	Q						
8								C	C	3.7	3.8L	4.0H	4.1	[4.0]C	4.0H	3.7L	C	Q						
9								Q	A	L	4.0	4.1	4.1	4.0L	4.0	3.8	L	Q						
10								A	L	A	4.0	4.2L	4.4	4.0	4.0	3.7L	L	Q						
11								Q	2.9L	3.5L	4.0	4.1	4.0L	4.2	4.0L	3.7L	L	Q						
12								C	Q	3.6L	3.9L	M	M	M	3.9	L	3.1							
13								Q	Q	3.8HL	4.2H	4.5	4.3H	4.2	3.6	3.7	3.4	Q						
14								2.3	2.9	3.5	4.0	4.0	4.1	4.0	4.0	3.6	3.3L	2.1						
15								Q	Q	3.7L	4.0	4.0	[4.0]C	4.0	3.7L	3.7	L	2.1						
16								Q	Q	4.0	4.0	4.1	4.1H	4.1	4.0	3.7L	3.0							
17								Q	L	4.0	4.2	4.3	4.0	4.0	4.0	3.6L	3.2							
18								Q	Q	3.5	3.8	4.2	4.2	4.0	4.0	3.6	3.3							
19								Q	L	L	4.1	4.2	4.2	4.0	4.0	3.6	L							
20								Q	3.5L	4.1H	4.0H	4.1	4.4	4.2H	4.0	3.6	L							
21								Q	3.5L	3.8L	4.0	4.2	4.3	4.2	4.0	3.9	L	L						
22								Q	L	3.9L	4.1L	4.2	4.2	4.3H	4.0	A	A							
23								Q	3.5L	3.8	4.2H	4.3	4.2H	4.3	4.1	3.7	2.9L	Q						
24								Q	3.7	4.0	4.2	4.2	4.2	4.2	4.0	3.7	L	2.1						
25								Q	3.5L	3.9	4.1	4.0	4.3	4.2	4.0	3.8L	L							
26								Q	L	3.9	4.1	4.2H	4.1H	4.2	4.0	3.7	3.3	Q						
27								Q	3.5L	3.8	4.2	4.0	4.2	4.1	4.0	4.0	3.3	2.5L						
28								L	L	3.7	4.0	4.2L	4.2	4.1	4.0	3.5L	L							
29																								
30																								
31																								
Mean Value								2.3	3.4	3.8	4.0	4.1	4.2	4.1	4.0	3.7	3.2	2.2						
Median Value								2.3	3.5	3.8	4.0	4.2	4.2	4.1	4.0	3.7	3.2	2.1						
Count								1	9	22	27	26	25	24	24	23	10	4						

f_oF1

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

K 4

The Radio Research Laboratories
Koganei-machi, Kifutama-gun, Tokyo, Japan

Kokubunji Tokyo
Lat. 35° 42.4' N
Long. 139° 29.3' E

IONOSPHERIC DATA

135° E Mean Time

RF1

Feb. 1954

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								Q	Q	230	200	250	210	230	210	200	Q							
2								Q	240	[240] ^C	250	[240] ^C	230 ^A	C	C	A	240							
3								Q	C	B	B	210	[220] ^C	240	[240] ^F	240	Q							
4								Q	240	230	[240] ^A	240	A	A	A	230	230							
5								Q	250	A	C	210	250 ^B	230	190 ^H	220	200							
6								C	240	230	210	C	C	C	C	230	Q							
7								Q	230	220	220	210	190	220	220	220	Q							
8								C	C	220	210	200 ^H	230	[220] ^F	220 ^H	240	C							
9								Q	240 ^A	230	230	200	200	220	220	200	230							
10								A	A	A	220	240	220	210	220	210	230	Q						
11								Q	210	230	230	200	220	200	230	200	230	Q						
12								C	Q	230	240	M	M	M	210	220	<230 ^S							
13								Q	Q	230 ^H	240 ^H	220	[220] ^H	220	210	210	230	Q						
14								190	200	240	250 ^A	240	240	230	240	220	210	220						
15								Q	Q	230	220	210	[220] ^C	220	200	250	220	220						
16								Q	Q	200	210	250	230 ^H	220	230	220	220							
17								Q	240	240	230	220	[220] ^A	210 ^A	210	200	210							
18								Q	Q	B	B	240	240	220	210	220	210							
19								Q	230	250	220	240	220	200	240	200	220							
20								Q	230	200 ^H	180 ^H	200	220	220 ^H	210	200	220							
21								Q	240	230	220	210	230	200	220	220	220	230						
22								Q	220	250	230	220	[220] ^A	210 ^H	250	A	A							
23								Q	230	200	200 ^H	200	200 ^H	200	250 ^A	220	200	Q						
24								Q	240	230	210	200	220	220	220	210	240	210						
25								Q	230	220	210	190	250	250	230	210	230							
26								Q	240	210	210	210 ^H	(210) ^{HA}	250	220	210	200	Q						
27								Q	230	220	220	250	240	220	220	210	220	240						
28								230	230	200	200	[210] ^B	220	210	220	200	220	230						
29																								
30																								
31																								
Mean Value								210	230	230	220	220	220	220	220	220	220	230						
Median Value								210	230	230	220	210	220	220	220	220	220	220	220					
Count								2	19	24	25	26	25	24	25	26	21	6						

RF1

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

Feb. 1954

foE

135° E 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									A	2.5	(2.8) ^A	3.0	3.0	3.0	2.8	2.5 ^F	2.1 ^J							
2								B	2.1	C	A	2.9	C	C	C	2.5	A							
3								B	C	2.6	3.0	A	C	3.0	C	A	2.2							
4								B	2.1	(2.4) ^F	2.8	3.0	3.0	2.9 ^A	(2.7) ^A	2.5 ^F	A							
5								B	2.1 ^A	A	C	3.0	3.0	2.9	2.9	2.5	2.3							
6								C	A	2.5 ^F	2.8	C	C	C	C	2.5	2.3							
7								1.7	2.4	2.7	2.9	3.0	3.0	3.0	2.8	2.6	2.1	B						
8								C	C	2.6	3.0 ^F	3.0	3.0	(3.0) ^C	2.9	2.7	(2.2) ^C	1.8						
9								A	A	AF	AF	A	A	3.0	2.8	A	1.6							
10								A	A	A	A	A	C	A	A	A	2.3	B						
11								B	A	AF	AF	2.9	3.0	3.0	3.0	2.7	2.3	1.4						
12								C	2.2	2.4	2.7	M	M	M	2.8	2.6	C							
13								A	2.3	2.5	3.0	(3.0) ^A	3.0	3.0	(2.8) ^A	2.5	2.2	B						
14								A	2.1	2.7 ^F	2.7	3.1	3.1	2.8	2.6	2.1	A							
15								B	2.3	(2.5) ^F	2.9	3.0	(3.0) ^C	2.9	2.7	2.6	2.0	B						
16								B	2.1 ^H	2.5	(2.8) ^F	3.0	3.0	3.0	2.9	2.7	2.2							
17								1.4	2.2	2.7	2.8	3.0	A	A	2.8 ^A	A	A							
18								B	2.3 ^F	(2.6) ^F	2.8	(2.9) ^F	3.0 ^A	(2.9) ^A	2.8 ^A	2.7 ^A	2.1							
19								B	2.2	2.5	2.7	2.8	(2.9) ^F	3.0	2.9	2.6	2.2							
20								B	AF	A	A	3.0	A	A	A	2.7	2.3	1.6						
21								1.7	2.5	2.6 ^F	2.9	3.0	3.0	3.0	3.0	2.7	2.4 ^F	A						
22								1.6	2.3	2.5	(2.8) ^A	3.0	(3.0) ^A	3.0	2.8	2.6	2.2							
23								1.7	(2.2) ^A	2.6 ^F	2.9	2.9	3.0	3.0	(2.8) ^A	2.7	A							
24								1.7	2.2	2.7 ^F	AF	AF	3.0	3.0	2.9	2.7	2.6	1.5						
25								1.7	2.2	2.5	A	A	3.3	3.0	3.0	2.6	2.3							
26								1.7	2.4	2.5	2.9	A	A	A	2.9	2.6	2.3	1.7						
27								B	2.4 ^F	AF	AF	A	A	A	A	A	A							
28								1.7	2.3	2.6	(2.8) ^A	3.0	(3.0) ^A	3.1	A	A	A							
29																								
30																								
31																								
Mean Value								1.7	2.2	2.6	2.8	3.0	3.0	3.0	2.8	2.6	2.2	1.6						
Median Value								1.7	2.2	2.5	2.8	3.0	3.0	3.0	2.8	2.6	2.2	1.6						
Count								9	20	21	19	18	19	20	21	22	20	6						

foE

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

K 6

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

f_oF₂

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								B	A	120	(120) ^A	110	110	110	110	110 ^F	120							
2								B	120	C	A	C	100	C	C	110	A							
3								B	C	110	110	A	C	110	C	A	120							
4								B	110 ^F	(110) ^F	110	110	110	A	A	A	A							
5								B	A	A	C	110	110	110	110	140	120							
6								C	A	110	120 ^A	C	C	C	C	120	120							
7								140	120	110	110	110	110	110	120	120	120	B						
8								C	C	120	110	110	(110) ^C	110	110	120	(120) ^F	120						
9								A	A	A	AF	A	A	110	110	A	A	A						
10								A	A	A	A	A	C	A	A	A	120	B						
11								B	A	AF	AF	110	110	110	110	110	110	120						
12								C	110	110	110	M	M	M	100	100	C							
13								A	120	110	110	(110) ^A	110	(110) ^A	110	110	110	B						
14								A	120	110	110	110	110	110	110	130 ^A	120	A						
15								B	120	110	120	110	(110) ^C	110	120	120	120	B						
16								B	110 ^H	110	110	110	120	120	120	120	120							
17								B	110	120	120	110	A	A	A	A	A							
18								B	110	(110) ^A	110	AF	A	A	A	A	120							
19								B	120	120 ^A	120 ^A	120 ^A	(120) ^F	120	110	120	120							
20								B	AF	A	A	110	A	A	A	110	110	120						
21								140	130	110	110	110	110	110	110	110	110	A						
22								130	110	110	(120) ^A	120	(120) ^A	120	110	120	120							
23								130	(120) ^A	110	110	110	110	120	(120) ^A	120	A	A						
24								130	120	110	A	A	110	110	110	110	120	120						
25								130	110	110	A	A	110	100	120 ^A	120	120							
26								130	110	110	110	A	A	A	120	120	120	130						
27								130	110	A	A	A	A	A	A	A	A	A						
28								120	120	110	(110) ^A	110	(120) ^A	120 ^A	A	A	A	A						
29																								
30																								
31																								
Mean Value								130	120	110	110	110	110	110	110	120	120	120						
Minimum Value								130	120	110	110	110	110	110	110	110	120	120	120					
Count								9	19	21	19	17	18	18	18	20	20	20	5					

f_oF₂

Sweep 1.0 Mc to 1.2 Mc in 2 min

Manual Automatic

K 7

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 33.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

fEs

Feb. 1954

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	E	C	2.7Y	1.8	C	1.8	E	B	3.0	G	3.5	G	G	G	3.0	3.3	G	E	E	E	2.6	E	E	E	
2	E	2.8Y	E	E	E	2.7Y	2.4Y	2.5	2.8	C	3.7Y	C	2.7	C	C	3.7	3.7	3.5	2.5	3.3	4.5	3.3	1.8	2.5	
3	2.5	2.6	1.9Y	2.0	1.8	C	E	2.5	C	3.0	3.2	4.5	C	G	C	3.0Y	G	E	1.9	C	2.5Y	1.9	E	2.7Y	
4	E	2.4Y	2.5	2.3Y	2.4Y	2.4	E	2.5	2.7	3.5	4.5	4.5	5.0	7.5	5.7	3.5	3.6	3.0	3.0	3.0	E	2.5	E	E	
5	2.5Y	E	2.5	2.5	2.5Y	2.2	C	2.5	2.8	4.6	C	3.2	G	3.5	3.5	3.1	3.0	2.5	2.5	2.5	C	E	E	E	
6	E	1.8	C	1.9	C	2.5Y	1.8	C	3.5	4.1	4.5	C	C	C	C	3.0	2.7	2.9	2.5	2.2	2.0	E	1.9	E	
7	E	E	3.0	2.9	1.9	1.8	E	2.7	3.0	3.5	3.5	3.0	G	G	2.8	2.7	2.7	2.4	1.8	E	C	C	2.9	E	
8	C	2.5	C	E	>1.5C	C	C	C	C	3.2	3.2	3.2	3.0	C	3.4	3.3	C	2.4	2.3	1.9	2.5	1.8	1.7	2.3	
9	3.0	1.8	E	E	1.9	3.2Y	2.0	3.5	3.5	3.5	3.2	3.0	3.2	3.0	3.5	3.0	3.0	2.5	2.7	E	2.3	1.8	C	E	
10	2.0	1.8	2.3	2.4	2.5	2.4Y	E	4.5	4.5	4.5	4.5	3.5	C	3.5	3.0	2.8	3.0	G	E	2.5	2.0	E	1.9	2.5	
11	2.3	E	2.0	1.9	2.5Y	1.8	1.8	2.4	3.0	3.3	3.6	3.6	G	G	3.7	3.3	3.0	2.0	E	E	E	C	E	2.5	
12	2.5	2.0Y	2.6Y	2.4	C	C	E	C	G	2.7	3.2	M	M	M	3.0	3.3	C	C	2.7	2.0	C	C	C	C	
13	1.8	E	2.3	1.8	2.5	2.5	2.4	3.0	2.8	3.0	G	4.2	3.5	3.5	3.5	G	2.7	3.0	C	C	C	C	C	C	
14	C	C	C	E	E	2.5	2.5Y	2.5Y	2.7	G	3.7	4.5	3.5	3.2	3.5	3.5	2.8	2.8	3.5	3.3	2.5	2.0	2.0	2.0	
15	C	C	E	2.0Y	2.0	2.5	1.9	2.7	3.0	3.2	3.0	4.1	C	3.0	3.3	3.0	3.0	2.7	2.7	2.5	2.5	E	E	E	
16	2.5	2.5	2.0	2.0	2.0	2.4F	2.3	2.7	3.2	3.3	3.5	3.2	3.5	3.2	3.0	3.3	2.9	2.5Y	E	2.3	2.3Y	2.0	3.5	1.7	
17	E	E	3.0	2.0Y	2.0	E	2.0	3.0	G	2.7	3.3	3.2	3.7	3.0	3.2	4.7	3.8	3.2	3.0	2.7	2.5	2.3	2.3	2.5	
18	2.5	2.5	2.4Y	2.3Y	2.0Y	2.0	E	2.5	3.0	3.2	3.2	3.0	3.2	4.2	3.4	3.8	3.3	3.0	2.5	2.9	3.0	3.0	4.5	4.9	
19	2.7	2.3	C	C	C	2.5	1.9	2.5	2.8	3.3	3.2	3.2	5.0	3.0	2.8	3.0	3.2	2.5Y	2.5	2.7	1.9	3.0	2.5	2.2	
20	2.5	2.0	1.9	2.5	2.5	2.0	2.3	2.5	3.2	4.2	4.5	4.5	5.1	5.5Y	4.5	3.1	3.0	G	E	2.3Y	3.8	2.2	3.0	4.5	
21	2.8	2.9	2.5	2.0Y	2.0	2.4Y	2.4	G	2.9	3.2	G	G	3.7	3.0	3.5	2.8	3.7	2.4F	2.0	2.3	E	2.5	1.8	E	
22	1.7	2.0	2.2	2.0Y	E	E	E	2.6	G	3.2	3.2	4.4	4.5	3.3	4.4	4.4	3.8	3.2	1.9	2.5	2.5	2.4	2.0	2.0	
23	2.0	2.1	3.0	2.5	C	2.5Y	E	G	2.7	3.0	3.3	G	G	3.3	4.4	3.3	3.0	2.4	2.8	C	1.9	2.4	E	2.9	
24	2.5	2.0	3.3	2.9	2.9	2.3	2.5	2.5	3.0	3.5	3.6	3.5	G	G	3.5	3.3	3.0	2.5	2.3	1.9	E	E	2.0	3.3	
25	3.2	3.2	2.5Y	3.0	2.7	2.3	1.9	2.4	3.0	3.5	4.2	3.8	G	3.2	3.3	3.0	2.9	2.9	2.5	1.8	2.3	2.1	2.5	2.3	
26	2.5	2.5	2.0	3.3	2.3	2.4	E	3.1	G	3.4	3.4	3.7	4.5	5.5	3.0	2.7	3.0	2.8	E	E	E	E	2.3	2.4	
27	2.3Y	2.1	2.3Y	2.3Y	2.8	2.5Y	2.0	2.8	3.0	3.5	4.0	4.7	5.0	4.5	4.3	4.0	4.2	2.5Y	E	E	E	1.8	2.2	2.4	
28	2.5	2.0	2.0	2.5Y	2.0	2.5	2.5	3.0	3.3	3.3	3.5	3.1	3.4	3.5	3.8	3.4	3.2	3.0	3.0	2.9	3.5	2.5	2.5	1.9	
29																									
30																									
31																									
Mean Value	2.4	2.3	2.4	2.3	2.3	2.4	2.2	2.8	3.1	3.4	3.6	3.7	3.9	3.8	3.6	3.3	3.2	2.7	2.5	2.5	2.6	2.3	2.4	2.6	
Median Value	2.5	2.0	2.3	2.0	2.0	2.4	1.9	2.5	3.0	3.3	3.4	3.5	3.4	3.2	3.5	3.3	3.0	2.5	2.5	2.3	2.3	2.0	2.0	2.3	
Count	2.5	2.5	2.4	2.7	2.2	2.5	2.6	2.4	2.6	2.7	2.7	2.5	2.3	2.4	2.5	2.8	2.6	2.7	2.7	2.5	2.5	2.5	2.6	2.7	

fEs

K 8

Sweep 1.0 Mc to 17.2 Mc in 2 min Manual Automatic

IONOSPHERIC DATA

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Feb. 1954

(M3000)F2

135° E 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	F	C	3.1	2.8	[3.0] ^c	3.1	F	(3.5) ^y	(3.5) ^y	3.5	3.3	3.6	3.4	3.2	3.5	3.1	3.4	3.4	3.1 ^p	(3.2) ^y	3.6	2.9	3.0	
2	2.9	2.9	3.1	3.2	3.2	2.8	2.9	3.5	3.4	(3.5) ^c	3.6	[3.6] ^c	C	C	C	3.3	3.5	3.4	3.1 ^p	3.3	3.0	3.1	2.9	
3	3.0 ^p	2.9	3.0	3.2	3.2	[3.0] ^c	2.9	3.4	[3.4] ^c	(3.3) ^p	B	B	C	3.4	[3.4] ^c	3.4	B	B	{3.3} ^c	3.3	3.3	3.3	3.2	
4	2.8	2.9	3.2	3.2	3.2	2.9	2.9 ^p	3.5	B	3.8	3.4	3.3	3.5	3.2	3.5	3.5	3.3	(3.6) ^y	2.9	3.0	3.2	3.1	2.9	2.9 ^f
5	(3.2) ^y	3.1	3.1	3.3	3.2	3.0 ^f	(3.2) ^c	3.4	3.4 ^y	(3.5) ^y	(3.4) ^c	3.3	3.4	3.5	3.4	3.6	3.7	3.6	3.4	3.1	(3.2) ^c	3.3	3.2 ^p	3.0 ^f
6	[3.0] ^f	3.1 ^f	(3.2) ^c	3.3	(3.2) ^c	3.0	3.0 ^f	(3.2) ^c	3.4	3.7	3.4	C	C	C	C	3.5	3.6	3.6	3.1	3.1	3.2	3.2	3.2	(3.3) ^f
7	(3.6) ^y	3.2 ^f	3.1	3.1	3.5	3.3	3.4	3.4	3.6	3.4	(3.3) ^p	3.2	3.4	3.5	3.3	3.4	[3.4] ^f	3.5	3.5	3.2	C	C	3.3	(3.0) ^f
8	C	C	C	F	C	C	C	C	(3.4) ^c	3.5	3.4	3.2	3.1	C	B	3.5	(3.5) ^c	3.5 ^p	3.5 ^p	3.5 ^p	3.3	3.4	3.0	(2.9) ^f
9	A	F	F	3.0 ^f	3.2	3.1	3.2 ^f	3.4	C	C	C	C	C	C	C	C	3.5	3.5	3.4	3.4	3.1	3.5	[3.4] ^f	(3.3) ^f
10	F	F	F	F	(3.2) ^f	F	F	3.7	3.5	C	C	C	C	C	C	C	3.5	3.4	3.2	3.5	3.2	3.3	3.0	2.8 ^f
11	2.9 ^f	3.1	3.1	3.1	3.3	3.3 ^f	3.5	3.5	3.6	(3.5) ^y	(3.6) ^m	3.5	3.3	3.2	3.5	3.4	3.6	3.5	3.2	3.1	3.3	3.5	3.3 ^f	3.0
12	3.2 ^f	3.2 ^f	3.1 ^f	3.2	C	C	3.3	(3.4) ^c	3.6 ^p	3.5	3.2	M	M	M	3.4 ^p	3.5	(3.5) ^y	3.1 ^f	3.5	3.3	3.4	3.2	3.0	3.0 ^f
13	2.9 ^f	3.0 ^f	(3.2) ^f	3.4 ^f	3.3 ^f	(3.6) ^f	3.7 ^p	3.6	3.6	3.4	3.3	2.8	3.4	3.4	3.3	3.2	3.5	3.5	C	C	C	C	C	C
14	C	C	C	2.8	3.2	3.7	3.0	3.4	3.4	(3.5) ^y	3.3	3.4	3.3	3.3	3.5	3.5	3.5	3.4	3.4	2.9	3.1	3.0	2.8	3.0
15	C	C	3.0 ^f	3.0 ^f	3.4 ^p	3.0 ^f	3.2	3.4	3.3	3.2	3.4	3.3	(3.4) ^c	3.4	3.2	3.4	3.6	3.5 ^p	3.2	3.5	3.3	3.4	2.7	2.8
16	2.8	3.2	3.2	3.0	3.6	3.2	3.0	3.3	3.2	3.3	3.5	3.3	3.4	3.3	3.2	3.5	3.4	3.6	3.5	3.1	3.4	2.8	2.9	3.0
17	3.0	2.9 ^f	3.0 ^f	3.1	3.4	2.8	3.2	3.4	3.2	3.5	3.4	3.1	3.4	3.5	3.5	3.2	3.2	3.6	3.2	3.2	3.2	3.0	2.9	3.1
18	2.8	2.9 ^p	2.9	2.8	3.0	3.1	3.0	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.4	3.4	3.1	3.1	3.1	3.0	2.7 ^f	(2.8) ^f
19	2.7	3.2	C	C	C	2.9	3.0	3.6 ^p	3.5	3.3	3.1	3.4	3.4	3.5	3.5	3.4	3.5	3.5	3.1	2.9	3.3	3.3	3.1	2.8
20	2.8	2.9	3.1	3.1	3.5	3.0	3.1	3.3	3.3	3.2	3.4	3.5	3.0	3.3	3.3	3.4	3.5	3.6	3.4	2.9	3.2	3.2	2.9	(2.9) ^f
21	2.9	3.0	3.2	3.8	3.5	2.8	3.1	3.6	3.4	3.5	3.5	3.2	3.3	3.3	3.4	3.3	3.5	3.6	3.2	3.2	3.0	3.1	2.9	2.8
22	3.1	3.4	3.1	2.8	3.1	2.8	3.0	3.8	3.4 ^p	3.4	3.2	3.3	3.3	3.6	3.5	3.4	3.3	3.5 ^p	3.3	3.1	3.1	2.8	2.7	2.6 ^f
23	2.8 ^f	3.1 ^f	3.7 ^p	3.2 ^f	(3.0) ^c	2.9 ^f	2.8	3.3	3.2	3.5	3.2	(3.6) ^y	3.5	3.3	3.6	3.5	3.3	3.4	3.4	(3.4) ^c	3.3	2.6	3.0	3.0
24	3.1	3.0	3.2	3.1	3.0	3.0	3.1	3.3	3.3	3.3	3.2	3.3	3.5	3.6	3.5	3.4	3.5	3.5	3.5	3.2	3.2	3.0	2.8	2.8 ^f
25	2.9 ^p	3.0 ^f	3.2	3.4	3.3	3.0	3.0	3.3	3.3	3.6	3.5	3.1	3.6	3.7	3.6	3.5	3.4	3.3	3.6	3.1	3.0	2.7	2.9	(2.8) ^f
26	F	3.1 ^f	3.4	2.7	3.0 ^f	2.8 ^f	3.0 ^f	3.4	(3.4) ^y	3.5	3.6	3.3	3.5	3.5	3.5	3.5	3.5	3.6	3.3	3.1	2.7	(2.9) ^f	(3.1) ^f	3.0 ^f
27	(3.0) ^f	(3.3) ^f	3.2 ^f	2.9	3.0	3.0 ^f	3.2 ^f	3.6	3.6	3.5	3.3	3.5	3.3 ^p	3.5	3.3	3.3	3.4	3.4	3.4	3.0	2.9	3.0	3.2	3.2
28	3.0	3.0	2.8	2.8 ^f	2.8 ^f	2.9	3.2	3.6	3.5	(3.4) ^y	3.2	3.1	3.3	3.5	3.7	3.4	3.1	3.5	3.5	3.0	3.1	3.1 ^p	3.1	3.0
29																								
30																								
31																								
Mean Value	3.0	3.1	3.1	3.1	3.2	3.0	3.1	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.3	3.2	3.2	3.1	3.0	3.0
Median Value	2.9	3.0	3.1	3.1	3.2	3.0	3.1	3.4	3.4	3.5	3.4	3.3	3.4	3.4	3.5	3.4	3.5	3.5	3.4	3.1	3.2	3.1	3.0	3.0
Count	21	22	23	25	25	25	25	28	26	26	26	23	22	22	23	26	27	27	27	27	26	26	26	27

(M3000)F2

Sweep 1.0 Me to 7.2 Me in 2 min

Manual

Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.8' E

Kokubunji Tokyo

IONOSPHERIC DATA

Feb. 1954

fminF

135° E 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	1.4	C	E	E	C	1.3	1.5	1.5	2.9	2.7	2.9	3.8	3.3	3.1	2.9	2.5	2.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
2	1.4	1.3	E	E	1.0	1.4	1.5	1.8	2.5	(2.8) ^C	3.2	(3.4) ^C	3.5 ^A	C	C	3.0	3.0 ^A	(2.2) ^A	1.5	1.6	1.5	2.5 ^A	1.5	1.5	
3	1.5	1.3	1.4	1.0	E	C	1.5	2.0	(3.1) ^C	4.2	4.0	3.2	(3.2) ^C	3.3	(3.1) ^C	2.9	2.3	1.8	1.5	(1.5) ^C	1.5	1.5	1.4	1.5	
4	1.4	1.4	1.2	E	1.0	1.3	1.5	1.7	2.5	3.0	3.6 ^A	3.5	4.3 ^A	4.5 ^A	4.9 ^A	2.7	2.5	1.7	2.4 ^A	1.6	1.5	1.6	1.5	1.5	
5	1.4	1.5	1.4	1.5	1.0	1.3	(1.6) ^C	1.8	2.6	4.0 ^A	(3.7) ^C	3.4	4.0	3.2	2.9	2.8	2.4	2.0 ^A	1.5	1.5	(1.4) ^C	1.4	1.5	1.5	
6	1.4	1.4	C	E	C	1.4	1.5	(2.0) ^C	2.5	3.0	3.0	C	C	C	C	2.5	2.3	1.7	1.4	1.5	1.4	1.4	1.5	1.5	
7	1.4	1.4	1.4	1.0	E	E	1.5	2.0	2.5	2.8	3.0	3.0	3.0	3.1	3.0	2.6	2.5	1.7	1.5	1.5	C	C	1.6	1.5	
8	(1.4) ^C	1.4	C	E	A	C	C	<3.5 ^C	C	3.1	3.4	3.3	3.5	(3.2) ^C	2.9	2.9	(2.4) ^C	1.8	1.6	1.5	1.5	1.5	1.5	1.5	
9	1.5	1.3	1.4	E	E	E	1.4	2.0	4.0 ^A	2.9	3.0	3.0	3.2	3.3	2.9	2.5	2.3	1.8	1.5	1.5	1.5	1.5	(1.6) ^C	1.6	
10	1.5	1.5	1.4	1.3	1.3	1.0	1.5	3.5 ^A	(3.6) ^A	3.6 ^A	3.5	3.4	3.4	3.7	3.2	2.6	2.3	1.6	1.5	1.5	1.5	1.4	1.5	1.5	
11	1.4	1.3	1.0	E	1.0	1.0	1.5	1.8	2.2	2.8	3.0	3.0	3.4	3.0	3.2	2.7	2.4	1.8	1.6	1.3	1.3	1.5	1.3	1.4	
12	1.3	1.0	E	1.3	C	C	1.4	(1.9) ^C	2.4	3.1	3.4	M	M	M	3.1	2.7	2.6	2.1	1.6	1.4	1.3	1.5	1.3	1.5	
13	1.4	1.0	E	E	E	E	1.5	2.3	2.7	3.0	3.3	3.5	3.5	3.3	2.8	2.5	2.5	1.8	C	C	C	C	C	C	
14	C	C	C	E	E	E	1.3	1.7	2.6	2.9	3.5	3.8 ^A	3.5	3.3	3.1	3.0	2.5	1.8	(1.6) ^A	1.5	1.7	1.3	1.4	1.3	
15	C	C	E	E	E	E	1.3	2.0	2.6	2.7	3.1	3.2	(3.1) ^C	3.0	2.7	2.9	2.3	1.7	1.9	1.7	1.5	1.5	1.4	1.5	
16	1.4	1.2	E	E	E	1.0	1.4	2.0	2.4	2.6	3.2	3.5	3.3	3.5	2.9	2.7	2.2	1.8	1.3	1.2	1.4	1.5	1.3	1.5	
17	1.3	E	1.3	E	E	1.2	1.3	2.3	2.7	3.0	3.0	3.0	3.5 ^A	(3.2) ^A	2.9	2.7	2.3	2.1	2.0	1.7	1.5	1.5	1.5	1.5	
18	1.4	1.0	E	E	E	E	1.3	1.8	2.9	3.4	3.4	3.5	3.3	3.3	3.0	3.0	2.5	1.9	1.4	1.3	1.5	1.5	1.5	1.5	
19	1.4	1.3	C	C	C	E	1.3	2.2	2.8	3.3	3.3	3.4	3.4	3.0	3.4	2.7	2.5	2.1 ^A	1.5	1.6	1.4	1.4	1.4	1.5	
20	1.5	1.0	E	E	E	1.0	1.2	1.7	2.5	2.7	2.9	3.0	3.5	3.3	3.0	2.7	2.3	1.8	1.5	1.4	3.0 ^A	1.5	1.9	(1.6) ^A	
21	1.4	1.0	1.3	1.0	E	1.0	1.3	2.0	2.7	3.0	3.4	3.5	3.4	3.4	3.0	2.7	2.4	1.7	1.4	1.2	1.3	1.2	1.3	1.4	
22	1.4	1.3	E	E	E	E	1.3	1.9	2.5	3.4	3.1	3.3	4.0 ^A	3.2	3.7	3.7 ^A	3.2 ^A	2.2 ^A	1.4	1.3	1.4	1.5	1.3	1.1	
23	1.3	1.0	(1.1) ^A	1.2	(1.1) ^C	1.0	1.3	2.0	2.5	2.8	2.9	3.0	3.0	3.0	3.5	2.8	2.2	2.0	1.4	(1.4) ^C	1.5	1.5	1.5	1.5	
24	1.4	1.0	1.5	1.3	1.3	1.3	1.3	1.8	2.5	2.7	3.1	3.0	3.4	3.1	2.9	2.7	2.7	1.8	1.3	1.3	1.4	1.5	1.5	1.5	
25	1.4	1.0	E	E	E	1.2	1.0	1.4	2.1	2.9	3.0	3.5	3.7	3.5	3.1	2.9	2.7	1.9	1.3	1.2	1.3	1.3	1.3	1.5	
26	1.4	1.3	E	A	1.3	E	1.5	2.0	2.8	2.8	3.5	3.5	3.5 ^A	3.3	3.0	2.7	2.3	1.9	1.3	1.4	1.4	1.3	1.4	1.4	
27	1.2	1.0	E	1.1	1.3	1.0	1.4	2.1	2.6	2.8	3.1	3.4	3.5	3.4	2.8	2.8	2.2	1.7	1.5	1.3	1.4	1.4	1.5	1.3	
28	1.3	1.0	1.0	E	E	1.0	1.3	1.9	2.6	2.8	2.9	3.5	3.4	3.4	3.0	2.5	2.5	2.0	1.6	1.6	1.5	1.5	1.3	1.4	
29																									
30																									
31																									
Mean Value	1.4	1.2	1.3	1.2	1.2	1.1	1.4	2.0	2.7	3.0	3.2	3.3	3.5	3.3	3.1	2.8	2.4	1.9	1.5	1.4	1.5	1.5	1.5	1.5	
Median Value	1.4	1.3	E	E	E	1.0	1.4	2.0	2.6	2.9	3.2	3.4	3.4	3.3	3.0	2.7	2.4	1.8	1.5	1.5	1.5	1.5	1.5	1.5	
Count	26	25	24	26	23	25	27	27	27	28	28	26	26	25	26	28	27	28	27	28	27	26	26	27	27

fminF

Sweep 1.0 Mc to 2.2 Mc in 2 min

Manual Automatic

K 10

The Radio Research Laboratories
Koganei-machi, Kōtama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

f_{minE}

Feb. 1954

135° E 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	E	C	1.7	1.3	(1.4) ^c	1.5	E	B	1.5	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	E	E	1.5	E	E	E	E	
2	E	1.6	E	E	E	1.5	1.5	1.5	1.4	(1.4) ^c	1.4	(1.4) ^c	1.5	C	C	1.5	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	
3	1.5	1.4	E	1.4	1.4	C	E	E	1.4	(1.4) ^c	1.5	1.5	(1.5) ^c	1.5	(1.5) ^c	1.5	1.4	E	1.6	(1.6) ^c	1.5	1.5	E	1.5	
4	E	1.6	E	E	E	1.5	E	E	1.4	1.5	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	E	1.6	E	E	
5	1.5	E	E	E	E	1.5	(1.5) ^c	1.5	1.4	1.5	(1.5) ^c	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.5	C	C	E	E	E	
6	E	1.6	(1.5) ^c	1.4	(1.4) ^c	1.5	1.5	(1.4) ^c	1.4	1.5	1.5	C	C	C	C	1.5	1.4	1.4	1.5	1.7	1.6	E	E	1.7	
7	E	E	E	E	1.5	1.4	E	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.2	1.3	1.4	1.4	1.6	E	C	C	1.5	E	
8	C	1.4	C	E	E	1.5	C	C	<2.2 ^c	1.5	1.5	1.5	(1.4) ^c	1.5	1.5	1.5	(1.4) ^c	1.4	1.5	1.6	1.5	1.6	1.5	1.5	
9	1.5	1.4	E	E	1.7	1.5	1.5	1.5	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.4	1.6	E	1.8	1.5	C	E	
10	1.7	1.6	E	1.5	E	1.5	E	1.3	1.4	1.4	1.5	1.4	(1.4) ^c	1.4	1.4	1.4	1.4	1.4	E	1.5	1.5	E	1.6	1.5	
11	1.4	E	1.5	1.5	E	1.5	1.5	1.5	1.4	1.4	1.3	1.4	1.5	1.3	1.4	1.4	1.5	1.3	E	E	E	C	E	1.6	
12	1.6	1.4	1.0	E	C	C	E	C	1.3	1.4	1.4	M	M	M	1.4	1.4	C	1.3	1.6	E	E	E	1.5	1.5	
13	1.5	E	E	1.5	1.4	1.7	1.6	1.3	1.4	1.2	1.4	1.3	1.4	1.4	1.5	1.4	1.3	1.5	C	C	C	C	C	C	
14	C	C	C	E	E	1.0	1.5	1.3	1.4	1.3	1.5	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.5	1.3	1.5	1.5	1.5	
15	C	C	E	E	1.5	1.7	1.6	1.5	1.3	1.5	1.3	1.3	(1.4) ^c	1.4	1.4	1.5	1.4	1.3	1.3	1.3	1.3	1.5	E	E	
16	1.7	1.6	1.3	1.4	1.4	1.5	1.5	1.4	1.2	1.3	1.3	1.4	1.4	1.4	1.3	1.5	1.3	1.4	E	1.5	1.5	1.4	1.7	1.5	
17	E	E	E	E	1.5	E	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.3	1.3	1.2	1.3	1.3	1.4	1.6	1.5	1.5	
18	1.4	1.4	E	1.0	1.4	1.4	E	1.5	1.4	1.4	1.4	1.4	1.4	1.3	1.4	1.4	1.4	1.4	1.5	1.7	1.2	1.3	1.3	1.3	
19	1.4	1.4	C	C	C	1.4	1.7	1.4	1.3	1.3	1.4	1.4	1.4	1.3	1.4	1.3	1.3	1.4	1.5	1.3	1.5	1.5	1.5	1.5	
20	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.5	1.6	1.5	1.5	1.4	1.4	1.4	1.4	E	1.3	1.3	1.7	1.6	1.3	
21	1.4	1.5	E	E	1.4	1.0	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.3	1.3	1.5	1.6	E	1.5	1.5	E	
22	1.5	1.5	E	E	E	E	E	1.3	1.4	1.5	1.5	1.4	1.5	1.4	1.5	1.5	1.4	1.4	1.6	1.4	1.5	1.6	1.6	1.6	
23	1.7	1.5	E	E	C	E	E	1.3	1.4	1.5	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.2	(1.5) ^c	1.5	1.7	E	1.3	1.3	
24	1.4	1.4	E	E	E	1.4	1.8	1.3	1.4	1.4	1.3	1.3	1.3	1.4	1.4	1.4	1.2	1.3	1.6	1.6	E	1.5	1.3	1.3	
25	1.4	1.0	E	1.5	E	1.0	1.5	1.3	1.3	1.4	1.4	1.4	1.5	1.2	1.0	1.2	1.5	1.6	1.5	1.6	1.5	1.5	1.5	1.5	
26	1.4	1.0	1.4	E	1.0	1.4	E	1.3	1.3	1.3	1.3	1.3	1.4	1.3	1.3	1.3	1.2	1.3	E	E	E	E	1.5	1.5	
27	1.4	1.4	E	E	E	E	1.6	1.3	1.3	1.2	1.4	1.3	1.4	1.5	1.4	1.4	1.3	1.4	E	E	E	1.5	1.3	1.5	
28	1.5	1.4	1.5	1.0	1.3	1.4	1.5	1.3	1.4	1.4	1.3	1.4	1.4	1.4	1.4	1.3	1.2	1.3	1.4	1.5	1.5	1.5	E	1.5	
29																									
30																									
31																									
Mean Value	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	
Min Value	1.4	1.4	E	E	1.3	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	
Count	25	25	25	27	25	26	27	25	27	27	28	26	26	25	26	28	27	27	27	27	25	25	26	27	

f_{minE}

Sweep 1.0 Mc to 1.7.2 Mc in 2 min Manual Automatic

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 36° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

YPF2

Day	00	01	02	03	04	05	06	07	08	08	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F	C	90	100F	[80]C	70	F	(60)F	(50)F	50	60	50	50	70	50	60	70	50	50	60P	(90)F	80	90	80
2	90	80	90	50	60	70	60Z	50	[60]C	40	[40]C	40	C	C	C	80	50	50	70P	60	60	80	80	60
3	70P	70	50	70	90	[90]C	90	60	[60]C	B	B	B	C	50	[70]C	90	B	B	70	[70]C	70	70	60	80
4	60	80	70	80	80	70	90P	40	B	40	40	80	50	80	[70]A	60	100	(50)F	70	90	60	90	80	110F
5	(70)F	80	60	70	70	80F	[80]C	90	(40)F	(50)P	[60]C	60	50	50P	40	30	40	70	50	100	[100]C	90	80P	70F
6	[80]F	90F	[90]C	90	[100]C	100	130F	[100]C	60	40	50	C	C	C	C	50	50	40	40	90	70	70	80	(90)F
7	(60)F	70F	70	60	80	90	60	50	30	(40)B	(40)B	60	40	40	70	40	[50]C	60	60	80	C	C	50	(50)F
8	C	C	C	F	C	C	C	70	[60]C	60	40	60	50	C	B	60	[50]C	40P	50P	50P	60	40	40	(70)F
9	AF	F	F	50F	70	80	70F	50	C	C	C	C	C	C	C	C	40	70	70	60	90	50	50	[50]F
10	F	F	F	F	(50)F	F	F	A	60	C	C	C	C	C	C	C	50P	70	60	50	90	60	80	50F
11	60F	60	50	50	40	50F	50	70	60	(50)F	(30)P	40	40	50	50	50	50	60	60	80	50	60	60F	60
12	50F	50F	50F	60	C	C	70	[60]C	50P	50	70	M	M	M	30P	40	(60)F	40P	60	70	60	70	60	50F
13	70F	90F	[80]F	60F	70F	(50)F	90P	50	60	40	60	80	50	50	80	60	60	60	C	C	C	C	C	C
14	C	C	C	100	70	90	100	50	70	(50)F	(50)F	50	40	70	40	50	80	60	60	80	100	70	80	80
15	C	C	C	60F	70F	90	120F	90	70	100	80	90	[80]C	60	50	40	70	50P	80	60	80	60	50	80
16	110	60	90	80	70	80	80	60	70	60	70	100	60	70	60	40	60	40	50	60	70	80	80	70
17	80	80F	70F	80	60	100	90	50	60	50	70	70	50	40	50	80	80	40	60	80	60	70	70	70
18	60	60P	80	80	100	60	100	60	50	60	70	50	50	70	70	60	70	70	60	100	90	70	90F	(60)F
19	80	70	C	C	C	100	100	40P	50	60	60	50	60	50	50	50	50	60	60	70	50	60	50	90
20	70	60	90	70	70	90	90	90	60	60	40	40	60	80	40	60	50	60	70	70	60	60	50	[460]A
21	60	70	50	50	80	90	80	50	40	50	40	60	60	50	60	60	50	50	60	70	60	60	90	90
22	60	80	70	110	60	70	120	50	60P	40	80	50	50	40	40	40	60	50P	80	120	60	60	80	60F
23	90F	40F	30P	70F	[70]C	70F	90	80	70	40	50	(40)F	40	50	50	40	70	50	60	[60]C	60	60	60	50
24	60	60	60	40	70	70	60	40	40	50	60	50	30	30	50	50	40	50	50	70	50	50	60	50F
25	40P	70F	70	60	90	70	70	50	50	60	60	60	40	30	60	50	50	50	50	100	80	70	60	(60)F
26	F	40F	50	90	70F	70F	60F	50	(40)F	40	50	40	40	30	50	50	40	40	50	50	40	40	[40]F	(50)F
27	(50)F	(80)F	100H	60	50	70F	80F	40	50	50	50	60	50P	50	50	60	50	50	50	80	70	70	60	70
28	90	80	80	80F	90F	90	90	70	30	(50)F	80	50	40	50	40	50	60	40	50	80	70	80P	60	60
29																								
30																								
31																								
Mean Value	70	70	70	70	70	80	80	60	50	50	60	60	50	50	50	50	60	50	60	70	70	70	70	70
Median Value	70	70	70	70	70	80	90	50	60	50	60	50	50	50	50	50	50	50	60	70	60	70	60	70
Count	21	22	23	25	25	25	25	27	26	26	25	23	23	22	23	26	27	27	27	27	26	26	26	27

YPF2

Sweep 1.0 Mc to 17.2 Mc in 2 min
 Manual Automatic

K 12

Lat. 31° 12.6' N
Long. 130° 37.7 E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

foF2

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.0	2.4	2.6	2.6	2.1	2.3	2.5	2.6	5.1	5.7	7.0	S	6.8	7.9	7.0	5.5	6.0	6.6	5.8	4.7	4.1	3.1	[2.8] ^A	2.4
2	2.6	2.8	3.0	3.2	3.0	2.6	2.7	3.0	4.4	6.8	6.3	7.4	8.4	8.4	5.8	5.4	4.9	5.5	5.0	2.8	3.5	3.4	3.4	3.0
3	3.2	3.2	2.9	3.1	3.2	2.3	2.5	3.1	5.0	6.7	7.2	8.7	C	C	6.6	5.9	5.7	5.5	5.1	3.8	3.9	3.9	3.7	2.6
4	2.7	2.9	3.0	2.9	2.4	2.4	2.1	3.3	C	C	C	C	(8.3) ^P	7.7	6.4	5.9	6.0	5.6	4.7	2.9	3.0	3.3	2.7	2.7
5	2.8	2.8	3.0	2.9	2.2	2.5	2.2	2.5	5.2	6.9	6.9	8.3	(8.3) ^P	7.7	6.4	5.9	6.0	5.3	4.2	3.1	2.7	3.6	3.2	2.4
6	2.4	2.8	2.9	2.8	2.8	2.1	2.0	2.8	5.0	5.9	6.1	7.0	7.3	6.9	[6.8] ^C	6.7	5.9	5.2	3.9	2.7	3.1	3.2	3.1	2.8
7	3.0	2.7	2.7	2.8	2.7	2.2	2.1	2.5	4.9	5.9	7.5	7.7	7.9	S	S	S	6.9	5.1	4.7	3.3	2.2	2.2	2.4	2.5
8	2.5	2.9	2.9	2.6	3.4	FS	2.4	2.8	4.9	[5.2] ^A	5.5	6.1	[7.6] ^A	9.2	[1.0] ^S	(1.0) ^P	(1.0) ^P	(6.7) ^S	5.0	3.0	2.9	2.7	2.8	[2.8] ^A
9	2.9	2.9	2.5	3.0	3.3	2.5	2.2	3.1	5.1	6.4	7.0	6.8	(8.4) ^P	11.0	12.0	(1.0) ^P	(7.9) ^S	5.4	3.9	3.3	3.0	2.8	2.4	2.4
10	2.6	FSH	FS	FS	FS	3.1	2.3	2.6	5.6	5.1	6.4	8.2	7.8	7.3	9.1	9.2	7.9	5.3	5.1	4.3	2.5	2.6	2.9	2.5
11	2.9	3.0	3.0	2.9	3.1	2.8	2.4	3.4	5.2	6.1	6.4	6.9	7.9	7.8	8.1	7.3	6.6	5.8	4.9	4.0	4.2	3.6	2.8	2.4
12	2.9	3.0	3.2	3.3	3.1	3.0	3.1	3.9	4.6	5.8	4.9	8.0	6.5	6.0	8.6	8.7	[7.7] ^S	6.7	5.7	3.6	2.6	2.5	2.7	2.5
13	3.0	3.0	2.4	2.1	2.3	2.5	2.1	2.7	4.3	5.0	5.3	5.6	6.5	6.4	6.7	6.4	6.9	6.2	5.1	3.7	3.3	2.9	2.4	2.2
14	2.4	2.4	2.5	2.5	3.2	3.2	[3.2] ^S	3.1	4.3	4.8	5.5	5.6	6.3	5.7	7.1	7.1	6.5	5.6	4.7	3.0	2.7	3.0	2.7	3.0
15	3.1	3.0	2.8	3.0	3.8	1.9	1.8	2.9	4.6	6.4	6.7	7.4	[7.1] ^C	6.8	7.0	7.0	6.4	5.2	5.1	3.5	3.2	2.9	2.6	2.8
16	2.9	3.1	2.7	2.9	3.9	1.9	1.9	2.9	5.2	6.3	7.7	6.8	5.9	6.5	S	6.6	5.5	4.7	4.7	3.6	3.5	2.1	2.3	2.4
17	2.6	2.6	2.9	2.8	2.7	2.5	2.0	3.7	4.9	5.9	5.2	6.2	7.1	8.8	6.5	5.8	6.0	5.8	5.0	3.7	3.6	4.1	3.6	3.4
18	3.3	3.4	3.5	3.4	3.4	2.9	2.5	3.8	C	C	C	C	C	C	C	C	C	4.6	4.7	3.7	2.8	2.9	2.8	2.9
19	3.0	3.1	3.1	2.7	2.7	2.4	2.2	3.7	4.7	5.3	5.6	7.4	8.4	7.1	6.6	5.8	6.5	4.7	4.4	4.5	3.8	3.3	2.3	2.5
20	2.4	2.6	2.8	2.5	2.0	1.6	1.8	3.5	4.8	6.0	7.5	(8.2) ^P	6.8	6.4	8.1	7.1	5.9	5.5	4.8	3.1	2.8	3.5	2.7	2.1
21	(2.9) ^F	2.7	2.3	2.2	3.2	2.3	2.2	3.5	5.3	5.2	6.2	7.5	7.2	7.9	7.0	6.9	6.4	5.6	4.4	3.5	3.3	3.6	3.2	2.9
22	2.9	3.0	3.0	2.8	2.9	2.6	2.2	3.7	4.5	4.7	7.6	8.8	S	S	6.6	6.0	6.2	5.6	5.1	3.7	2.7	2.8	3.0	2.8
23	2.8	3.4	3.3	2.6	2.2	S	S	3.5	(6.3) ^P	7.0	6.3	8.4	7.3	6.6	(8.2) ^P	7.0	6.2	5.8	5.5	3.0	3.3	3.1	3.1	2.8
24	2.9	3.0	2.8	2.6	2.6	2.5	2.3	3.7	6.5	S	M	9.4	8.0	6.7	6.5	6.6	5.9	5.6	5.1	3.7	3.6	3.8	3.1	3.0
25	2.6	3.1	3.5	2.4	2.2	1.9	1.9	3.5	5.5	6.3	6.8	7.6	7.5	7.9	7.7	6.5	6.3	5.1	3.4	2.4	2.6	2.6	2.7	2.7
26	2.7	3.0	2.8	3.0	2.6	2.5	2.5	S	4.9	5.9	6.8	6.3	7.5	7.7	6.8	6.0	(5.8) ^M	5.5	[4.6] ^A	3.7	3.9	3.2	(3.9) ^P	3.6
27	3.3	3.8	2.1	2.2	2.3	2.3	2.5	4.4	5.4	6.4	6.7	5.9	7.3	9.7	7.9	6.8	7.5	8.0	6.6	4.1	3.3	3.4	3.9	2.6
28	2.7	2.9	2.7	2.4	2.7	2.9	2.5	3.8	5.1	6.3	6.2	6.6	8.5	9.6	6.2	5.9	5.5	6.2	5.0	3.9	3.1	2.9	3.4	2.6
29																								
30																								
31																								
Mean Value	2.8	2.9	2.8	2.7	2.8	2.5	2.3	3.3	5.1	5.9	6.5	7.3	7.4	7.6	7.5	6.9	6.5	5.7	4.9	3.5	3.2	3.1	2.9	2.7
Median Value	2.8	3.0	2.9	2.8	2.7	2.5	2.2	3.3	5.0	5.9	6.4	7.4	7.3	7.5	7.0	6.6	6.2	5.6	5.0	3.6	3.2	3.1	2.8	2.6
Count	28	27	27	27	27	26	27	27	26	25	25	25	25	24	24	25	26	28	28	28	28	28	28	28

Y1

Manual Automatic

Group 0.8 Mc to 20.0 Mc in 1.5 min

foF2

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

The Radio Research Laboratories
Koganei-machi, Khatanus-gun, Tokyo, Japan

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

f_oF₂

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	(360) ^B	(350) ^F	330	360	320	320	270	(330) ^F	280	290	300	S	300	300	330	300	320	300	280	240	300	260	(340) ^A	430
2	390	340	340	340	350	330	320 ^H	330	310	350	280	300	300	260	280	260	260	280	270	280	370	350	250	410
3	360	370	340	320	290	310	340	310	300	320	290	280	310	260	280	290	280	290	270	240	360	340	290	340
4	320	340	340	300	(420) ^S	(360) ^B	310	C	C	C	C	C	C	C	C	C	C	290 ^H	280	250	350	280	310	320
5	320	350	340	320 ^H	280	300	310	340	260	(280) ^F	280	(280) ^F	(280) ^F	270	280	310 ^F	250	250 ^Z	270 ^F	340	360	300	290	370 ^F
6	350	360	350 ^F	(320) ^F	280	270	370 ^F	330 ^F	260	270	290	300	280	300	[300] ^C	300	270	260	290	370 ^F	320	320	310 ^F	280
7	270 ^F	(360) ^F	(320) ^F	320	290	280	310 ^F	320	280	300	280	300	(310) ^F	S	S	S	260	250	250	260	250	270	330	310
8	380 ^F	340 ^F	(370) ^F	(360) ^F	290 ^F	FS	(410) ^F	(280) ^F	250	[280] ^A	300	350	[330] ^A	310	[300] ^S	(290) ^S	(270) ^F	(250) ^S	240	240	330	250	270	[280] ^A
9	280	(340) ^F	(330) ^F	(300) ^F	380 ^F	310 ^F	360 ^F	310 ^F	250	270	(270) ^F	310	(350) ^F	310	290	(260) ^F	(260) ^S	260	230	270	270	310	300	390 ^F
10	(370) ^F	FSH	FS	FS	FS	240 ^F	330	270	280 ^F	300	320	310	280	300	310	260	260	250	250	260	260	260	310	320 ^Z
11	330	320 ^H	310	340 ^F	320 ^F	260	310 ^F	270	250	250	300	300	280	300	260	300	260	270	260 ^H	310	310	300	270	330
12	350 ^F	330	(340) ^F	320	310	380	280	260	230	250	250	290	260	350	330	290	S	250	250	250	250	300	320	330
13	390 ^F	320	(300) ^F	(300) ^F	(300) ^F	(300) ^F	(250) ^F	270	250	290	300	330	310	260	300	290	270	240	240	310	270	280	310	340
14	350	370	340	350	290	220	[240] ^S	270	240	270	300	310	300	330	300	270	250	280	240	260	350	320	360	360
15	340 ^F	320	370	350	240	230	380	290	280	290	300	270 ^P	[290] ^C	310	290	290	260	250	260	280	270	320	A	370
16	390	320 ^H	320	370	240	B	B	320	310	250	300	300	290	320	S	270	270	250	270 ^P	270	300	280	350	330
17	320	330	340	350	340	290	380	280	250	280	270	310	300	290	270	290	250	250	240	300	320	340	320	320
18	350	360	340	(350) ^B	310	280	340 ^F	320	C	C	C	C	C	C	C	C	C	250	300	280	330	340	380	420
19	390	350	310	360	330	390	360	290	290	280	290	300	270	290	290	280	280	240	260	260 ^F	290	250	280	400
20	400	350	310	290	300	B	(360) ^F	290	280	310	330	(260) ^F	290	300	(300) ^F	260	260	290	250	280	370	310	340 ^F	(360) ^F
21	(370) ^F	340	310	300	270	A	330	280	260	290	320	320	300 ^P	290	290	300	260	280	250	300	330	310	310 ^F	320
22	380 ^F	(330) ^F	350 ^F	360	330	340	360	270	250	280	330	290	S	S	300	300	290	280	270	260 ^H	360	370 ^H	390	400
23	410 ^F	360	(280) ^F	260	240	S	S	320	(300) ^F	(250) ^F	300	290	290	300	(300) ^F	270	270	250	260	290	310	300	320	(290) ^F
24	280	350	330	340	380	330	340	320	(300) ^F	S	M	260 ^S	260	300	300	280	280	270	260	320 ^H	340	330 ^H	330	400
25	310 ^F	320	290	310	290	350	[320] ^A	300	270	280	280	310	290	(290) ^F	290	290	270	240	270	290	290	330	370	390 ^Z
26	(370) ^F	320	300	340 ^F	(310) ^F	310	(340) ^F	S	240	280	260	280	290	270	270	260	[260] ^M	250	[260] ^A	260	(350) ^F	(340) ^F	(270) ^F	300
27	330 ^F	250	240	380 ^F	390 ^F	340	280 ^F	280	250	280	260	290	340	300	(280) ^S	300	300	(280) ^F	260	250	370	360	290	250
28	370 ^F	390 ^F	350	310	300	(290) ^B	320	240	250	300	300	330	300	280 ^F	280	290	280	280	260	280	340	350	270	320
29																								
30																								
31																								
Mean Value	350	340	330	330	310	310	330	300	270	280	290	300	300	300	290	280	270	260	260	260	320	310	310	350
Median Value	360	340	330	340	300	310	340	290	260	280	300	300	290	300	290	270	270	260	260	280	320	310	310	340
Count	28	27	27	27	27	23	26	27	26	25	25	25	25	24	24	25	25	28	28	28	28	28	27	28

Group .0.8 Mc to .20.0 Mc in 1.5 min

Manual

Automatic

Y 2

f_oF₂

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

R'F2

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	320	330	310	320	300	290	260	300	270	250	290	310	290	300	330	290	310	260	250	230	260	210	A	B
2	350	310	270	300	290	270	260M	290	250	320	260	290	300	260	270	260	240A	270	250A	250A	330	290	220	360
3	320	310	300	270	250	260	310	280	270	300	280	270	290	260	270	280	250	260	240	250	300	290	250	320
4	300	310	310	270	270	360	[320]B	270	C	C	C	C	C	C	C	C	C	250	250	220A	300	250	270	290
5	300	290	290	280H	270	270	300	320	250	270	280	280	260	280	280	310	250A	240	230	270	310	260	250	340
6	310	320	300	250F	250	260	370	290	250	270	290	300	280	300	[300]C	300	270	250	260	(280)	280	280	280	260
7	250	330F	290	280	260	270	300	300	260	300	280	290	300	290	340	290	260	240	220	230	250	250	300	290
8	350	300F	350F	350F	250F	300F	400F	250F	240	[270]A	300	350	[330]A	310	300	280	250	240	230	240	290	230	230	[250]A
9	270	300	320	270	270	270	350	260	250	260	260	300	310	300	270	250	250	250	210	240	240	260	250	340
10	350	300F	300F	250F	240	220	320	260	250	280	320	300	280	300	300	250	250	240	230	230	220	270	260	300
11	290	260H	250	300	260	250	270	250	250	250	260	300	280	290	260	280	240	240	230H	250	250F	250	250	300
12	300	290	290	260	260	300	250	230	230	250	250	290	250	330	310	270	270	240	240	220	220	270	260	300
13	320	260	290	300F	290F	280F	250F	260	230	290	300	330	310	260	300	290	270	240	230	230	240	240	290 ^B	(310) ^B
14	330	330	300	300	260	210	[220]S	240	230	260	[280]L	310	300	330	300	260	250	260	230	240	300	270	290	300
15	300	290	320	300	230	220	B	260	260	290	300	270	[290]C	310	270	250	260	240	240	220	250	290	A	350
16	350	270H	B	320	220	B	B	280	290	250	290	290	290	310	290	270	260	240	250	240	260	270	310	320
17	310	300	300	300	300	250	B	260	250	280	270	310	300	290	270	290	250	250	220	260	290	290	250	270
18	300	300	280	280	250	220	300	270	C	C	C	C	C	C	C	C	C	250	260	270A	240	290	340	360
19	340	290	250	290	300	350	350	270	270	270	260	290	270	290	290	270	260	230	250	240	250	240	260	360
20	350	310	280	250	220	B	B	260	260	290	320	250	290	300	300	260	260	270	240	240	330	270	300	350F
21	350F	310	280	300	250	A	310	260	240	250	320	300	300	300	290	300	260	270	240	250	250	270	250	300
22	330F	290	310	300	300	300	350	240	250	280	320	290	300	300	300	300	290	260	250	230H	290	300H	330	350
23	380	300	250	250	240	240	[260]A	290	300	250	290	290	270	300	300	270	260	250	240	260	260	260	290	270F
24	260	300	300	320	350	300	340	260	300	290	[280]M	260	250	300	290	280	270	240	240	260H	290	280H	270	350
25	300	260	250	[260]A	260	300	[280]A	250	250	270	280	290	250	290	280	290	260	240	240	220	260	300	350	350
26	350	270	250	340	280H	270	310	250	240	260	260	280	290	260	270	260	[760]M	250	[250]A	250	330	320	250	260
27	270	240	230	350	350	310	260	250	240	260	260	290	340	300	280	290	300	280	240	240	340	350	250	240
28	340	340	330	300	290	270	300	240	240	300	300	320	300	270	280	290	280	270	240	240	270	300	250	270
29																								
30																								
31																								
Mean Value	320	300	290	270	270	270	300	270	250	270	280	290	290	290	290	280	260	250	240	240	280	270	270	310
Median Value	320	300	290	260	260	270	300	260	250	270	280	290	290	290	290	260	260	250	240	240	260	270	260	300
Count	28	28	27	28	28	25	24	28	26	26	26	26	26	26	26	26	26	28	28	28	28	28	26	27

R'F2

Sweep 0.8 Mc to 20.0 Mc in 1.5 min

Manual

Automatic

Y3

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

foF1

Feb. 1954

135° E 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									Q	Q	4.0	L	4.1	4.2	4.0	4.0 ^L	L	Q						
2									Q	3.9	3.8	[4.0] ^A	4.3	4.1	4.1	A	A	A						
3									Q	L	Q	4.2	4.0	4.2	L	L	Q	Q						
4									C	C	C	C	C	C	C	C	C	Q						
5									Q	A	4.1	4.0	4.0 ^H	3.8	3.8	L	L	Q						
6									Q	3.3	4.0	4.2	4.2	4.0	[4.0] ^C	4.0	3.4	Q						
7									Q	L	4.1	4.3	4.1	4.2	4.0	4.0 ^H	L	Q						
8									Q	A	3.8	A	A	4.3	4.1	4.0	L	L						
9									Q	A	3.8	4.2	4.2	4.2	4.2	4.0	3.6	2.8 ^J						
10									Q	Q	4.1	4.2	4.2	4.3	4.2	4.0	3.8	Q						
11									Q	Q	3.8	4.0	4.4	4.3	4.3	3.8	Q	Q						
12									Q	Q	3.8	4.1	4.2	4.1	4.3	4.0	4.0 ^H	Q						
13									Q	L	4.1	4.4	4.2	4.2 ^L	4.2	4.0	4.0	Q						
14									Q	Q	L	4.0	4.5	4.2	4.2 ^B	3.9	3.6	A						
15									Q	Q	3.9	4.1	[4.2] ^C	4.2	4.2	3.6	Q	3.2						
16									L	3.7	4.0	4.1	4.2	4.1	4.3	3.9	3.6	Q						
17									Q	4.0	4.0	4.2	4.0	4.4	4.0	3.9	3.7	Q						
18									C	C	C	C	C	C	C	C	C	2.7						
19									Q	Q	Q	4.1	4.0	4.1	3.7	3.8	3.6	Q						
20									Q	3.6	4.4	4.1	4.3	4.3	4.1	4.0	3.8	L						
21									Q	Q	4.2	4.3	4.2	4.2	4.1	4.0	3.8	L						
22									Q	Q	4.0	4.3	4.4	4.2	4.2	4.1	(3.8) ^L	L						
23									L	L	3.9	4.1	4.3	4.2	4.4	4.2	3.8	Q						
24									L	4.0	[4.0] ^M	4.1	4.2	4.2	4.2	3.8	3.6	Q						
25									Q	3.4	3.8	4.1	3.7 ^L	4.0	L	4.0	L	Q						
26									Q	L	4.0	4.0	4.4	4.5	4.3	4.1	M	L						
27									Q	Q	A	A	A	4.3	[4.2] ^L	4.2	L	A						
28									Q	L	A	4.2	[4.2] ^A	4.3	4.1	4.1	3.7	A						
29																								
30																								
31																								
Mean Value									-	3.7	4.0	4.1	4.2	4.2	4.1	4.0	3.7	2.9						
Median Value									-	3.7	4.0	4.1	4.2	4.2	4.2	4.0	3.7	2.8						
Count									-	7	21	23	24	26	25	23	15	3						

foF1

Sweep 0.8 Mc to 26.0 Mc in 1.5 min

Manual Automatic

Y4

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

Feb. 1954

h'F1

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									Q	Q	250	210	210	250	300	250	250	Q						
2									Q	300	260	[280]M	270	A	250	250	A	A						
3									Q	260	Q	230	220	260	260	220	Q	Q						
4									C	C	C	C	C	C	C	C	C	Q						
5									Q	A	240	220	210H	240	260	250	250A	Q						
6									Q	250	250	240	230	250F	[240]E	220	260	Q						
7									Q	240	240	240	210	220	210	210H	230	Q						
8									Q	A	260	A	A	250	250	250	210	240						
9									Q	A	250	[240]A	230	220	210	240	230	250						
10									Q	Q	250	250	270A	250	230A	250	230	Q						
11									Q	Q	230	230	230	200	250	250	Q	Q						
12									Q	Q	250	250	240	220	240	250	220H	Q						
13									Q	260	260	250	210	210	200	220	230	Q						
14									Q	Q	240	200	250	230	250	250	230A	A						
15									Q	Q	250	250	[230]C	210	220	240	Q	240						
16									270	250	260	250	250	210	260	240	230	Q						
17									Q	260	240	250	260	270	220	230	250	Q						
18									C	C	C	C	C	C	C	C	C	250						
19									Q	Q	Q	220	210	230	220	230	220	Q						
20									Q	210	280	280	240	250	240	240	220	250						
21									Q	Q	250	220	240	220	250	250	260	240						
22									Q	Q	270	260	250	250	250	250	240	240						
23									260	250	210	210	250	250	250	250	220	Q						
24									250	240	[240]M	240	200	210	210	240	250	Q						
25									Q	220	220	230	220	260	230	240	220	Q						
26									Q	250	240	230	270A	250	220	220	[220]M	230						
27									Q	Q	A	A	A	280	260	240A	250	A						
28									Q	280	[260]A	230	[240]A	250	200	230	250	A						
29																								
30																								
31																								
Mean									260	250	250	240	240	240	240	240	240	240						
Median									260	250	250	240	240	240	240	240	230	240						
Value									3	13	23	24	24	25	26	26	22	22						
Count																		8						

h'F1

Sweep 0.8 Mc to 2.0 Mc in 15 min Manual Automatic

Y5

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 31° 12' N
Long. 130° 37.7' E

Yamagawa

f_oE

Feb. 1954

135° E 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									A	2.2	A	A	3.1	3.0	3.0	2.8	2.5	2.0						
2									1.8	2.3	2.5	3.0	2.9	3.0	2.9	2.8	2.5	A						
3									S	A	2.5	3.0	[3.0]A	3.0	[2.8]A	2.5	[2.4]A	2.2						
4									C	C	C	C	C	C	C	C	C	1.9						
5									1.9	[2.3]A	2.7	2.8	2.9	[2.8]A	2.8	2.8	2.5	2.1						
6									2.0	2.5	2.6	2.8	3.0	3.2	C	A	2.6	2.0						
7									2.0	2.2	2.6	[2.9]A	3.2]J	3.1	3.1	2.8	[2.3]A	1.8						
8									2.0	2.6	2.5	A	A	A	3.0	2.8	2.6	2.1						
9									2.1	2.3	2.6	2.7	3.3	3.0	[2.8]A	2.7	2.5	2.2						
10									2.0	2.6	2.6	A	A	A	A	2.8	2.6	2.1						
11									2.0	2.0	A	A	A	A	B	A	A	2.3						
12									B	2.5	2.7	3.0	3.0	3.0	2.9	2.8	2.5	2.2						
13									1.9	2.4	2.8	3.2	2.8	2.8	2.9	2.9	2.4	2.3						
14									1.9	2.4	A	A	3.1	3.1	3.0	2.8	AF	A						
15									1.9	1.9	2.8	A	C	A	3.0	2.5	2.4	2.2						
16									1.9	2.4	2.7	2.9	3.2	3.1	3.0	2.7	2.5	2.0						
17									1.9	2.5	2.7	2.6	3.1	2.8	2.9	2.8	2.5	1.9						
18									C	C	C	C	C	C	C	C	C	A						
19									A	2.5	A	B	2.6	[2.8]A	3.1	A	A	A						
20									1.8	2.3	2.6	2.8	2.7	3.0H	3.0	2.8	2.6H	2.1						
21									2.1	2.3	2.6	A	A	A	A	A	A	A						
22									2.2	2.7	2.8	2.8	3.1	3.1	3.0	2.9	2.5	A						
23									2.2	2.4	2.6	2.7	2.7	2.8	3.1	2.9	2.5	2.2						
24									1.9	2.4	[2.4]M	2.4	3.0	3.1	3.0	2.8	2.6	2.1						
25									1.9	2.2	2.5	3.0	A	A	A	B	A	A						
26									1.8	2.1	2.5	2.7	2.8	A	A	3.0	A	M	2.1					
27									2.3	2.5H	2.8	3.1	[3.0]A	2.9F	A	A	A	A						
28									2.2	2.5	2.8	3.1	3.0]J	3.1	3.0	3.0	2.7	A						
29																								
30																								
31																								
Mean Value									1.8	2.0	2.4	2.6	2.9	3.0	3.0	2.8	2.5	2.1						
Median Value									1.8	2.0	2.4	2.6	2.8	3.0	3.0	2.8	2.5	2.1						
Count									1	22	25	22	18	19	19	19	19	19						

f_oE

Sweep 0.5 Mc to 2.0 Mc in 15 min

Manual

Automatic

Y6

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 12.6' N
Long. 139° 37.7' E

Yamagawa

IONOSPHERIC DATA

h' E

Feb. 1954

135° E 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									A	110	A	A	110	110	120	120	110	120						
2									130	130	120	120	110	120	120	120	120	110						
3									S	A	110	110	[110]A	110	[110]A	110	[120]A	120						
4									C	C	C	C	C	C	C	C	C	110						
5									120	[120]A	120	120	110	[110]A	110	110	130A	120						
6									160	130	130	130	130	A	C	A	120	130						
7									140	110	100	A	B	110	110	110	[110]A	110						
8									130	120	120	A	A	A	A	110	120	120						
9									130	120	110	110	110	110	[110]A	110	120	120						
10									A	120	120	A	A	A	A	110	110	130						
11									130	110	A	A	A	A	110	A	A	110						
12									150	120	120	120	110	140A	120	110	120	130A						
13									B	120	110	110	110	110	110	130A	110	110						
14									140	120	A	A	110	110	110	110	AF	A						
15									130	120	100	A	C	A	100	110	110	110						
16									130	110	110	110	110	110	110	110	110	120						
17									110	120	120	110	[110]A	110	110	110	120	120						
18									C	C	C	C	C	C	C	C	A							
19									A	110	[110]A	110	110	[110]A	110	A	A	A						
20									140	120	120	110	100	110H	110	110	100H	130A						
21									120	130	A	A	A	A	A	A	A	A						
22									150	120	120	110	110	110	110	120	110	A						
23									130	120	120	110	110	110	130A	120	110	120						
24									120	110	[110]M	110	110	110	110	110	120	120						
25									120	110	110	110	A	A	A	110	A	A						
26									160B	140	110	110	110	A	A	110	A	M	A					
27									140	120H	110	110	[110]A	110	A	A	A	A						
28									120	120	130	120	[110]A	120	110	130	130	A						
29																								
30																								
31																								
Mean Value									130	120	120	110	110	110	110	110	120	120						
Median Value									160	130	120	120	110	110	110	110	120	120						
Count									1	2	5	22	18	18	18	20	20	19	19					

h' E

Sweep 0.8 Mc to 2.0 Mc in 1.5 min
 Manual Automatic

Y7

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

Feb. 1954

fEs

135° E 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	E	E	E	E	2.6	2.4	E	E	2.4	3.2	4.2	4.2	G	G	G	G	4.5	4.4	3.7	E	E	E	3.3	2.4
2	E	E	E	E	E	E	2.0	E	1.8	3.8	3.4	G	4.4	4.5	4.8	5.6	4.5	4.4	E	2.8	3.3	2.8	2.4	E
3	E	E	E	E	E	E	E	E	C	C	C	C	3.4	C	C	C	C	G	3.0	2.2F	E	E	E	3.0F
4	2.6	2.9	2.4	1.8	2.2	2.2	2.0	E	C	C	C	C	G	C	C	G	5.0	3.1	3.0	2.5	1.8	E	E	E
5	E	E	E	E	E	E	E	E	G	4.6	3.0	G	G	3.0	G	3.2	G	G	3.6	3.2	2.8	3.2F	2.5Y	2.2
6	E	E	E	E	E	E	E	E	G	3.4	G	4.0	4.3	G	G	G	3.1	G	E	E	E	E	E	E
7	4.8	1.6	2.0Y	E	E	E	E	E	G	7.2	4.3	5.5	8.6	3.9	4.1	3.6	G	G	E	E	E	E	E	6.0
8	E	E	E	E	E	E	E	E	2.6	4.6	4.6	4.7	G	G	3.6	G	G	E	E	E	E	E	E	E
9	3.0	2.4	2.8	3.2	2.2	1.8	E	2.0	3.4	4.6	4.6	4.7	G	G	3.6	G	G	E	E	E	E	E	E	E
10	E	E	E	E	E	E	E	E	2.2	3.4	3.6	6.0F	6.0F	6.0F	3.8	3.5	G	G	E	E	E	E	E	E
11	2.0	E	E	2.1	E	1.9	2.0	E	G	G	2.5	3.5	3.2	3.2	G	3.0	2.6	G	E	E	E	E	E	E
12	E	E	E	E	E	E	E	E	G	G	G	G	G	3.6	3.7	G	1.8	3.0	3.0	2.4	2.3	2.0	E	E
13	3.2	2.2	E	E	E	E	2.0	E	G	G	G	3.9	4.0	3.9	3.4	G	G	2.0	E	E	E	E	E	E
14	E	E	E	E	E	E	1.9	E	G	3.8Y	3.0F	3.0F	G	G	3.8	3.8	3.6F	3.8	1.8	E	E	2.0	E	E
15	E	E	2.7	2.0	E	E	E	E	G	G	G	4.1	C	3.8	G	G	G	G	E	E	1.8	3.1	2.5	E
16	2.5F	2.5F	E	E	E	E	E	E	G	G	4.3	4.4	4.5	3.8	G	G	3.4	G	E	E	E	E	E	E
17	E	2.0	E	E	E	E	E	E	2.8	G	G	G	3.7	5.0	3.7	4.4Y	G	G	2.0	2.0	E	E	E	E
18	E	E	2.0Y	2.0	E	E	E	E	C	C	C	C	C	C	C	C	C	3.4	3.2	3.2	E	2.0	E	E
19	2.0	2.2	E	E	2.0	2.2	E	1.8	1.8	G	3.2	G	G	3.6	G	3.6	3.8	3.5	2.4	E	E	E	E	E
20	E	E	E	E	E	E	E	E	G	G	G	3.0	G	G	G	G	G	2.9	2.2	1.9	E	E	E	E
21	3.0	3.1	2.0	2.2	2.2	2.4	2.2	E	G	3.0	3.4	3.8	4.0	3.8F	4.2	4.2	3.6	3.2	E	E	2.4	2.6	E	E
22	E	4.4	5.8	E	E	1.8	2.0	2.0	3.0	G	G	3.6	4.2	3.9	G	G	G	3.0	2.2	E	E	E	E	E
23	E	E	E	E	2.2F	2.4	2.2	2.1	G	G	4.6	4.2	3.6	3.7	3.8	G	3.4	G	E	2.0	E	1.8	E	E
24	3.4	2.4	E	E	2.0	2.2	2.6	2.2	G	G	M	3.7F	G	G	G	G	G	G	E	E	E	E	2.0	E
25	E	2.2	2.9	2.8	2.3	1.8	2.1	2.1	G	G	G	G	3.0	3.6	2.8	G	2.6	2.8	3.4	2.6	2.2	2.1	3.0	2.4
26	2.0	2.0	E	2.8	1.8	1.8	2.2	2.0	G	G	G	G	4.0	3.2	G	4.8	M	2.9	5.5	2.5	2.3	E	E	E
27	E	E	E	2.0	2.2	E	2.0	3.4	3.6	4.0	4.6	5.4	6.6	6.8F	4.4	4.0	3.8F	4.2	3.6	4.1	3.0	2.9	2.3	2.0
28	E	E	E	E	E	E	E	2.2	G	G	5.0	4.6	7.6	3.5	G	G	4.2Y	4.5	3.5	2.1	2.0	E	E	E
29																								
30																								
31																								
Mean Value	2.9	2.5	2.7	2.4	2.2	2.1	2.1	2.2	2.6	4.1	3.9	4.2	4.6	4.0	3.8	3.9	3.4	3.4	3.0	2.5	2.3	2.5	2.5	2.9
Median Value	E	E	E	E	E	E	E	E	G	G	3.2	3.8	3.6	3.6	G	G	2.6	G	2.0	E	E	E	E	E
Count	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.6	2.5	2.6	2.5	2.6	2.5	2.6	2.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8

Group 0.8 Mc to 20.0 Mc in 1.5 min

Manual Automatic

fEs

The Radio Research Laboratories
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Yamagawa

Lat. $31^{\circ} 12.6' N$
Long. $130^{\circ} 37.7' E$

Feb. 1954

(M3000)F2

135° E 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	2.7	(2.9) ^F	3.0	2.9	3.0	3.1	3.3	(2.9) ^F	3.3	3.2	3.3	S	3.2	3.2	3.1	3.3	3.1	3.1	3.3	3.7	3.1	3.3	[3.0] ^A	2.6
2	2.7	2.8	2.9	2.9	3.0	2.9	2.9 ^H	3.0	2.8	2.9	3.3	3.2	3.2	3.5	3.4	3.4	3.3	3.3	3.3	3.2	2.8	2.9	3.6	2.6
3	2.9	2.8	2.9	3.0	3.2	3.0	2.8	3.0	3.1	3.2	3.3	3.4	3.2	3.5	3.2	3.2	3.3	3.1	3.3	3.3	2.8	2.9	3.3	2.9
4	3.0	2.9	2.9	3.2	3.1	2.6	2.7	3.1	C	C	C	C	C	C	C	C	C	3.4 ^H	3.2	2.9	2.7	3.3	3.0	2.9
5	3.1	2.8	2.8	3.0 ^H	3.2	3.2	3.0	3.0	3.4	(3.4) ^P	3.4	(3.1) ^P	3.3	3.2	3.2	3.1	3.5	3.6 ^Z	3.4	2.9	2.7	3.1	3.2	2.7
6	3.0	2.8	2.8	(3.0) ^F	3.2	3.2	3.5	2.9	3.0	3.2	3.3	3.2	3.4	3.2	[3.2] ^C	3.2	3.5	3.4	3.2	2.7	3.0	3.0	3.2	3.2
7	3.4	(2.8) ^F	(2.9) ^F	3.0	3.2	3.2	3.1	3.0	3.3	3.3	3.4	3.4	(3.2) ^F	S	S	S	3.4	3.8	3.7	3.3	3.6	3.4	3.0	3.0
8	2.9	2.9	(2.9) ^F	(2.8) ^F	3.3	FS	(2.6) ^F	(3.2) ^F	3.4	[3.4] ^A	3.3	3.0	[3.0] ^A	3.1	[3.2] ^S	(3.3) ^S	(3.3) ^S	(3.4) ^S	3.7	3.6	3.1	3.5	3.2	[3.2] ^A
9	3.3	(2.9) ^F	(3.1) ^F	(3.2) ^F	2.8	3.2	(2.9) ^F	3.0	3.7	3.4	(3.5) ^J	3.0	(2.9) ^P	3.1	3.2	(3.5) ^P	(3.5) ^S	3.5	3.6	3.3	3.3	3.0	3.0	2.6
10	(2.8) ^F	FS	FS	FS	FS	FS	3.0	3.4	3.3	3.2	3.0	3.1	3.3	3.2	3.1	3.4	3.3	3.4	3.4	3.4	3.2	3.1	3.1	3.0
11	2.9	3.0 ^H	3.1	2.9	3.0	3.3	3.1	3.3	3.6	3.5	3.1	3.2	3.4	3.2	3.5	3.3	3.6	3.6	3.4 ^H	3.1	3.1	3.1	3.3	2.9
12	2.8	2.9	(2.9) ^F	3.1	3.1	2.8	3.2	3.4	3.7	3.5	3.6	3.2	3.5	2.9	3.0	3.1	[3.3] ^S	3.5	3.5	3.6	3.5	3.2	3.2	2.9
13	2.8	3.0	(3.2) ^F	(3.2) ^F	(3.2) ^F	(3.1) ^F	(3.5) ^J	3.3	3.6	3.3	3.4	3.1	3.1	3.5	3.2	3.3	3.5	3.7	3.6	3.0	3.3	3.2	3.0	2.9
14	3.0	2.8	3.0	2.9	3.2	4.0	[3.7] ^S	3.4	3.6	3.3	3.3	3.2	3.1	3.0	3.2	3.4	3.5	3.4	3.6	3.4	2.8	3.0	2.7	2.8
15	3.0	3.0	2.8	2.9	3.2	3.7	2.8	3.2	3.3	3.3	3.4	3.4	[3.3] ^C	3.2	3.4	3.4	3.4	3.5	3.4	3.3	3.3	2.9	2.6	2.8
16	2.7	3.1 ^H	3.0	2.9	3.5	3.0	2.8	3.0	3.0	3.5	3.4	3.2	3.5	3.1	S	3.5	3.4	3.6	3.3	3.3	3.1	3.3	2.8	3.0
17	3.0	3.0	2.9	2.8	2.9	3.2	2.7	3.5	3.4	3.4	3.3	3.1	3.2	3.3	3.6	3.3	3.7	3.4	3.6	3.2	3.1	2.9	3.0	3.0
18	2.9	2.9	3.0	2.9	3.1	3.2	2.9	2.9	C	C	C	C	C	C	C	C	C	3.6	3.1	3.2	3.0	2.9	2.8	2.6
19	2.8	2.9	3.1	2.8	3.0	2.6	2.8	3.2	3.4	3.4	3.3	3.2	3.4	3.3	3.3	3.3	3.2	3.6	3.4 [*]	3.4	3.3	3.5	3.2	2.6
20	2.7	2.9	3.0	3.3	3.1	2.8	(2.9) ^F	3.3	3.2	3.1	3.0	(3.3) ^P	3.2	3.2	(3.3) ^J	3.5	3.6	3.3	3.5	3.2	2.8	3.1	2.9	(2.8) ^F
21	(2.9) ^F	2.9	3.1	3.2	3.3	2.9	3.1	3.3	3.4	3.1	3.2	3.1	3.1	3.0	3.3	3.2	3.4	3.3	3.5	3.1	3.0	3.1	3.0	3.0
22	2.8	(2.9) ^J	2.8	2.8	3.0	2.8	2.9	3.4	3.4	3.3	3.1	3.2	S	S	3.3	3.2	3.3	3.4	3.3	3.5 ^H	2.8	2.7 ^H	2.7	2.6
23	2.7	2.8	(3.4) ^J	3.5	3.5	S	S	3.0	(3.2) ^P	(3.7) ^J	3.2	3.3	3.2	3.1	(3.2) ^P	3.4	3.4	3.5	3.4	3.1	3.2	3.1	3.1	(3.2) ^F
24	3.1	2.8	3.0	2.9	2.6	3.0	3.0	3.0	3.4	3.3	S	3.5 ^S	3.4	3.2	3.3	3.4	3.3	3.3	3.3	3.4	3.0	2.9	3.0	2.6
25	3.0	3.0	3.2	3.0	3.3	2.8	2.8	3.1	3.4	3.3	3.3	3.2	3.3	(3.4) ^J	3.3	3.3	3.5	3.5	3.7	3.3	3.2	3.0	2.8	2.8
26	(2.8) ^F	3.0	3.1	2.9	(3.0) ^F	3.1	(2.9) ^F	S	3.7	3.4	3.5	3.4	3.4	3.4	3.4	3.5	[3.6] ^M	3.6	[3.6] ^H	3.5	(2.9) ^J	(3.0) ^P	(3.3) ^P	3.3
27	3.0	3.5	3.4	2.7	2.7	3.0	3.3	3.3	3.7	3.2	3.4	3.3	3.0	3.3	(3.4) ^J	3.2	3.2	3.4	3.4	3.4	2.8	2.9	3.3	3.5
28	2.7	2.7	2.8	3.1	3.2	3.2	3.0	3.7	3.5	3.3	3.2	3.0	3.2	3.4	3.4	3.2	3.3	3.4	3.4	3.2	2.9	2.9	3.4	3.0
29																								
30																								
31																								
Mean Value	2.9	2.9	3.0	3.0	3.1	3.1	3.0	3.2	3.4	3.3	3.3	3.2	3.2	3.2	3.3	3.3	3.4	3.5	3.4	3.3	3.1	3.1	3.1	2.9
Median Value	2.9	2.9	3.0	2.9	3.1	3.1	2.9	3.2	3.4	3.3	3.3	3.2	3.2	3.2	3.3	3.3	3.4	3.4	3.4	3.3	3.0	3.0	3.0	2.9
Count	28	27	27	27	27	26	27	27	26	25	25	25	25	24	24	25	26	28	28	28	28	28	28	28

Group 6.8 Mc to $2.0.0$ Mc in 15 min

Manual

Automatic

(M3000)F2

IONOSPHERIC DATA

Yamagawa

Feb. 1954

fminF

135° E 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	1.5	1.5	1.4	1.4	1.4	1.6	1.8	1.7	2.0	2.9	2.8	3.2	3.1	3.2	3.1	2.8	2.6	2.1	1.6	1.6	1.6	1.6	[1.7]A	1.8	
2	1.6	1.6	1.0	E	E	E	1.6	1.5	2.3	2.9	3.0	4.3A	3.7	3.7	3.5	2.9	[3.0]A	3.0A	A	A	2.0A	1.6	1.9	1.8	
3	1.6	1.4	1.4	1.2	1.4	1.3	1.6	1.5	2.5	2.8	2.8	3.0	3.2	3.4	3.5	2.8	2.4	2.2	1.6	1.6	1.8	1.6	1.6	1.7	
4	1.7	2.0A	2.0A	1.6	1.5	1.6	1.8	1.6	C	C	C	C	C	C	C	C	C	2.2	1.6	[1.6]A	1.6	1.6	1.6	1.6	
5	1.5	1.1	1.5	1.4	1.4	1.4	1.4	1.4	2.1	5.2	3.1	3.0	3.4	3.4	3.3	3.0	[2.6]A	2.3	1.7	1.6	1.7	1.6	1.6	1.4	
6	1.4	1.5	1.4	1.2F	1.4	1.5	1.6	1.6	2.2	2.7	3.0	3.1	3.1	3.6	[3.3]C	3.0	2.8	2.3	2.3A	1.7	1.7	1.6	1.8	1.8	
7	1.8	1.6F	1.5	1.4	1.4	1.7	1.5	1.7	2.0	2.4	2.7	3.0	3.7	3.1	3.2	2.8	2.4	2.2	1.8	1.6	1.6	1.6	1.6	1.6	
8	1.4	1.0	1.4F	1.4F	1.6	1.6F	1.4F	1.6F	2.4	[2.8]A	3.2	4.6A	[4.0]A	3.4	3.2	3.0	3.1	2.3	1.6	1.5	1.6	1.4	1.3	[0.4]A	
9	1.6	1.4	1.7	1.4	1.3	1.1	1.6	1.7	2.1	3.5A	3.4	3.9A	3.4	3.1	3.0	3.0	2.8	2.2	1.6	1.6	1.6	1.5	1.5	1.6	
10	1.6	1.3F	1.6F	1.4F	1.4	1.3	1.5	1.6	2.5	3.1	3.2	3.5	3.8A	3.6	[3.2]A	2.8	2.6	2.2	1.6	1.6	1.6	1.6	1.6	1.6	
11	1.6	1.4	E	1.2	E	1.7	1.6	1.5	2.1	2.4	2.4	3.0	3.2	3.3	3.7	3.0	2.7	2.5	1.6	1.6	1.6F	1.7	1.6	1.6	
12	1.4	1.5	1.5	E	E	E	1.6	1.6	2.1	3.0	3.3	3.4	3.4	3.6	3.3	3.1	2.6	2.4	1.8	1.8	1.7	1.6	1.6	1.6	
13	1.8	1.3	1.4	1.5	1.6F	1.4F	1.4	1.5	2.4	2.9	3.2	3.4	3.1	3.1	3.0	3.0	2.7	2.5	1.8	1.6	1.6	1.6	1.6	1.6	
14	1.5	1.1	1.3	1.0	1.3	1.2	[1.4]S	1.6	2.5	2.6	3.4	3.2	3.5	3.4	3.4	3.0	[3.0]A	3.0	1.8	1.6	1.7	1.6	1.6	1.4	
15	1.3	2.0A	1.3	1.4	1.4	1.4	1.5	1.6	2.5	3.2	3.3	3.3	[3.4]C	3.4	3.2	2.7	2.8	2.4	1.6	1.6	1.6	2.0A	2.2A	1.8	
16	1.6	1.6	2.2	1.4	1.8	1.6	1.7	1.6	2.4	2.8	3.2	3.3	3.3	3.2	3.3	2.9	2.6	2.1	1.7	1.8	1.5	1.4	1.4	1.8	
17	1.7	1.6	1.5	1.4	1.2	1.4	1.5	1.6	2.2	2.9	3.0	3.2	3.7	3.5	3.0	2.9	2.7	2.3	1.7	1.7	1.8	1.7	1.7	1.6	
18	1.5	1.3	E	0.9	E	E	E	1.4	1.6	C	C	C	C	C	C	C	C	A	2.4A	3.0A	1.6	1.6	1.7	1.6	
19	1.4	1.4	E	0.9	E	1.0	1.6	1.8	2.2	2.7	3.0	3.3	3.4	3.5	3.1	2.9	2.7	2.4	1.9	1.6	1.7	1.6	1.6	1.6	
20	1.4	1.6	1.4	E	E	1.4	1.5	1.6	2.3	2.6	3.4	3.4	3.5	3.2	3.1	3.0	2.6	2.6	1.8	1.8	1.7	1.4	1.6	1.5F	
21	1.5	1.7	1.3	1.6	1.6	2.0A	1.4	1.6	2.2	2.7	2.9	3.1	3.4	3.0	3.0	2.8	2.9	2.4	2.0	1.8	1.5	1.8	1.5	1.7	
22	1.7F	1.5	1.8	1.2	1.4	0.9	1.5	1.6	2.6	2.9	3.3	3.4	3.4	3.2	3.1	2.9	2.6	2.3	1.7	1.6	1.6	1.5	1.5	1.6	
23	1.6	E	E	1.0	E	1.8	[1.7]A	1.6	2.4	2.7	2.8	3.0	3.6	3.4	3.2	3.0	2.6	2.6	1.8	1.4	1.4	1.4	1.7	1.6F	
24	1.3	1.6	1.4	1.3	1.4	1.2	1.7	1.5	2.3	2.7	[3.1]M	3.5	3.1	3.1	3.1	2.8	2.6	2.2	1.8	1.6	1.7	1.6	1.5	1.6	
25	1.9	1.6	1.5	2.0A	1.3	1.0	1.7	1.7	2.4	2.8	3.1	3.0	3.4	3.7	2.8	2.5	3.0	2.7	2.8A	1.8	1.7	1.6	1.8	1.6	
26	1.6	1.4	1.0	1.8	1.0	1.2	1.8	1.8	2.2	3.3	3.2	3.4	3.8	3.5	3.3	3.0	[2.7]M	2.4	[2.2]A	2.0A	1.8	1.7	1.7	1.6	
27	1.5	1.7	1.3	1.6	1.3	1.3	1.8	2.7A	2.9	4.0A	4.3A	5.4A	5.4A	3.8	3.6	[3.3]A	3.0A	3.5A	1.8	2.8A	2.3A	2.3A	1.9	1.7	
28	1.7	1.7	1.7	1.6	1.6	1.8	1.8	1.8	2.5	3.3	4.1A	3.3	4.6A	3.3	3.0	3.0	2.8	3.0	2.7A	1.7	1.6	1.6	1.7	1.6	
29																									
30																									
31																									
Mean Value	1.6	1.5	1.5	1.4	1.4	1.4	1.6	1.7	2.3	2.9	3.1	3.4	3.6	3.4	3.2	2.9	2.7	2.5	1.9	1.7	1.7	1.6	1.6	1.6	
Median Value	1.6	1.5	1.4	1.4	1.4	1.4	1.6	1.6	2.3	2.8	3.2	3.3	3.4	3.4	3.2	3.0	2.7	2.4	1.8	1.6	1.6	1.6	1.6	1.6	
Count	28	28	28	28	28	28	28	28	26	26	26	26	26	26	26	26	26	27	27	27	28	28	28	28	

fminF

The Radio Research Laboratories
Koganei-machi, Kitakama-gun, Tokyo, Japan

IONOSPHERIC DATA

Yamagawa

Lat. 31° 12.6' N
Long. 130° 37.7' E

Feb. 1954

f_{minE}

135° E 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	E	E	E	E	1.8	1.6	E	E	1.6	1.4	1.5	1.8	1.5	1.5	1.5	1.4	1.4	1.6	E	E	E	1.6	1.7	
2	E	E	E	E	E	E	1.6	E	1.5	1.4	1.4	1.6	1.6	1.6	1.4	1.4	1.5	1.5	1.6	1.6	1.5	1.6	E	
3	E	E	E	E	E	E	E	E	1.6	1.6	1.8	1.6	1.8	1.5	1.0	1.8	1.6	1.6	E	1.8F	E	E	1.6F	
4	1.4	0.9	E	E	E	E	1.8	E	C	C	C	C	C	C	C	C	C	1.5	1.6	1.5	1.6	E	E	
5	E	E	E	E	E	E	E	E	1.8	1.5	1.5	1.7	1.5	1.5	1.5	1.4	1.4	1.5	1.8	1.7	E	E	E	
6	E	E	E	E	E	E	E	E	1.7	1.4	1.6	1.6	1.8	1.8	[1.6]C	1.5	1.6	1.6	1.5	1.5	1.5	1.6	1.6	
7	1.5	E	0.9	E	E	E	E	E	1.6	1.6	1.4	1.5	3.2	1.8	1.6	1.8	1.6	1.6	E	E	E	E	E	
8	E	E	E	E	E	E	E	E	1.6	1.4	1.5	1.6	1.6	1.6	1.5	1.5	1.6	1.6	E	E	E	E	1.6	
9	1.5	1.4	1.4	1.5	1.2	1.3	E	1.7	1.6	1.6	1.4	1.5	1.6	1.5	1.6	1.5	1.5	1.5	E	E	E	E	E	
10	E	E	E	E	E	E	E	E	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.6	E	E	1.8	E	E	
11	1.6	E	E	E	E	E	E	1.7	1.5	1.6	1.6	1.6	1.8	1.8	1.8	1.8	1.8	1.8	E	E	E	E	E	
12	E	E	E	E	E	E	E	E	1.8	1.6	1.6	1.5	1.5	1.6	1.5	1.5	1.3	1.4	1.4	1.6	1.8	1.7	E	
13	1.6	1.5	E	E	E	E	E	1.4	1.7	1.3	1.4	1.5	1.6	1.6	1.6	1.5	1.6	1.5	1.8	E	1.6	E	E	
14	E	E	E	E	E	E	E	1.7	1.4	1.4	1.6	1.5	1.8	1.6	1.6	1.6	1.6	1.5	1.5	E	E	1.8	E	
15	E	E	1.7	E	E	E	E	E	1.4	1.8	1.5	1.5	[1.5]C	1.5	1.5	1.6	1.8	1.8	E	E	1.6	1.5	E	
16	1.3	1.4	E	E	E	E	E	E	1.6	1.6	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.6	E	E	E	E	E	
17	E	1.6	E	E	E	E	E	E	1.6	1.4	1.6	1.5	1.5	1.5	1.5	1.6	1.5	1.6	1.8	1.7	E	E	E	
18	E	E	E	E	E	E	E	E	C	C	C	C	C	C	C	C	C	1.5	1.5	1.6	E	1.8	E	
19	1.8	1.8	E	E	E	E	E	1.6	1.6	1.8	1.8	1.6	1.8	1.6	1.9	1.9	1.6	1.8	1.7	E	E	E	E	
20	E	E	E	E	E	E	E	E	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.4	1.1	1.3	1.5	1.7	E	E	E	
21	1.4	1.3	1.4	1.6	1.6	1.5	1.4	E	1.6	1.6	1.6	1.6	1.7	1.8	1.6	1.8	1.8	1.7	E	E	1.9	1.7	E	
22	E	1.6	1.3	E	E	1.6	1.8	1.8	1.5	1.4	1.4	1.6	1.5	1.5	1.5	1.6	1.5	1.6	1.7	E	E	E	E	
23	E	E	E	E	1.8	E	1.4	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.5	1.6	1.5	1.4	E	1.6	E	E	1.4	
24	1.4	1.8	E	E	1.8	E	1.7	1.7	1.6	1.5	[1.6]M	1.6	1.5	1.6	1.6	1.5	1.5	1.5	E	E	E	E	1.7	
25	E	1.3	0.8	E	E	E	1.4	1.8	1.6	1.6	1.8	1.8	1.8	1.9	1.9	1.8	1.8	1.6	1.8	1.6	1.7	1.8	1.6	
26	1.6	1.6	E	E	E	E	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.4	[1.5]M	1.4	1.4	1.6	1.6	1.6	E	
27	E	E	E	1.6	E	E	1.8	1.6	1.7	1.8	1.8	1.8	1.8	1.6	1.6	1.8	1.8	1.6	1.5	1.6	1.7	1.6	1.7	
28	E	E	E	E	E	E	E	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.6	1.7	1.7	1.7	E	E	
29																								
30																								
31																								
Mean Value	1.5	1.5	1.3	1.6	1.6	1.5	1.6	1.7	1.6	1.5	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.6	1.6
Median Value	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Count	28	28	28	28	28	28	28	28	26	26	26	26	26	26	26	26	26	28	28	28	28	28	28	28

f_{minE}

Sheep 0.8 Mc to 2.0 Mc in 1.5 min Manual Automatic

IONOSPHERIC DATA IN JAPAN FOR FEBRUARY 1954

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編集兼
發行 人

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東京都北多摩郡小金井町小金井新田一之久保573

發行所

郵 政 省 電 波 研 究 所
東京都北多摩郡小金井町小金井新田一之久保573
電 話 国分寺 138, 139, 151

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