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IONOSPHERIC DATA IN JAPAN

FOR OCTOBER 1954

Vol. 6 No. 10

Issued in November 1954

PREPARED BY THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

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THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

IONOSPHERIC DATA IN JAPAN FOR OCTOBER, 1954

CONTENTS

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 Resarch 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, Hiraiso, 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 prevides 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

SITES OF THE IONOSPHERIC STATIONS

Ionospheric observation is carried out at the following four stations in Japan.

	Latitude	Longitude	Site
Wakkanai	45° 23.6′ N.	141° 41.1′ E.	Wakkanai-shi, Hokkaido
Akita	39° 43.5′ N.	140° 03.2′ E.	Tegata Nishishin-machi, Akita-shi, Akita-ken
Kokubunji	35° 42.4′ N.	139° 29.3′ E.	Koganei-machi, Kitatama-gun, Tokyo-to
Yamagawa	31° 12.5′ N.	130° 37.7′ E.	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.

SOLAR RADIO EMISSION

Data on solar radio emission observed at Hiraiso Radio Wave Observatory will appear from the current issue.

The location of the Observatory is as follows:

	Latitude	Longitude	Site
Hiraiso	36° 22.0′ N.	140° 37.5′ E.	Hiraiso-machi, Nakaminato-shi, Ibaragi-ken

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

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Oct. 1954 | **foF2** | 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	4.0	4.0	4.2	4.2	3.5	3.1	4.4	5.3	[6.2]C	7.0	6.5	7.8	7.6	8.0	7.2	6.6	6.4	6.5	5.3	5.0	4.7	4.5	4.5	4.5
2	4.4	3.7F	(3.4)F	3.2	3.1	3.0	3.7	4.6	5.3	6.0	6.6	7.9	7.5	8.0	7.7	6.6	6.4	6.5	5.3	5.0	4.6	4.5	4.5	4.4
3	4.4F	3.9F	[3.6]F	3.2	3.1	3.0J	3.6	4.6	5.3	6.0	6.6	7.0	6.0	6.0	5.9	5.7	6.5	5.5	4.8	4.6	4.0	3.8	4.1	[4.0]AS
4	4.0F	(4.0)F	(3.7)F	3.7	3.5F	F	4.0	5.3	5.7V	5.6	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	7.0	6.2	6.8	6.5	6.5	6.2	7.8	6.7	5.6	5.3	4.6	4.9	4.0	3.9
7	3.9	3.8	4.0	4.2	3.5	3.0	4.1	5.5	6.5	8.7	7.9J	6.5	6.5	5.9	5.9	6.1	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	5.6	5.1	5.0	5.2	4.6	4.2	4.1	3.9
9	4.0	3.8	3.8	4.0	3.1	3.1	3.9	5.3V	6.0	7.4	6.7	5.9	6.6	6.4	6.0	5.7	5.7	5.7	4.5	4.5	4.3	4.2	4.2	4.4
10	3.6	F	F	F	F	(3.6)F	4.1F	C	C	C	C	C	C	C	C	C	C	C	5.5	5.0	4.3	F	F	F
11	F	F	F	F	(3.6)F	[4.0]F	4.5	6.1	5.3	6.5	7.2	6.7	6.9	6.0	6.1	6.5	7.0	5.9	4.6	4.0	3.5V	3.9V	(3.9)JF	4.0
12	3.6	3.9F	3.9F	4.0	3.5F	3.5F	4.2	6.1V	6.3	6.9	7.2	6.9	6.1	5.9	5.8	6.6	5.9	4.9	3.7	4.0	3.7	A	A	(3.5)F
13	3.4	(3.3)F	(3.3)F	(3.3)JF	F	F	4.1	5.7	5.7	6.3	7.2	7.0	6.6	6.4	5.8V	6.0	5.7	4.8	4.2	4.3	3.8	C	C	C
14	4.0F	4.0F	4.1	4.2	4.1F	(4.1)JF	4.6	5.3	5.0	5.8	7.1	6.6	6.3	6.5VH	6.2	6.6	6.4	5.4	4.9	5.5	4.3	4.2	4.5	4.6
15	4.5	C	C	C	C	(4.5)F	4.0P	[5.0]C	5.9	8.0	9.5	7.0	7.6	6.5	6.1	6.7J	6.2	5.5	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	8.6	[8.6]C	8.5	7.0	6.6	6.1	5.7	4.9	4.5	4.0	3.9	(3.8)JF	(3.8)F	F
17	F	F	(4.5)F	4.0F	(4.5)ZF	3.5F	4.0	6.0	7.0	7.4	7.9	7.4	7.5	6.2	6.1	6.5	5.6	4.9	3.7	4.0	4.1	4.4	4.4	4.6
18	4.7	[4.6]FS	4.5	4.6	4.6	FS	F	5.1	6.5J	6.6	7.8	7.6	7.8	7.4	5.6	8.1J	6.7	5.9	A	S	5.0F	[5.0]A	5.0	4.0
19	4.0F	(4.0)F	4.2	4.0	F	3.3F	4.8	7.5	8.6	8.5	8.3J	10.4J	8.6	6.7	7.3	7.0	6.1	[4.8]A	3.6	3.7	3.8	3.9	3.8	3.5
20	3.2	3.5V	3.3	3.5	[3.4]A	3.4	4.1	5.5	6.7	7.3	6.3	6.6	7.5	6.6	6.3	[6.5]A	6.7	5.1	3.7	3.8	3.9	3.7	3.5	3.3V
21	3.3	3.0	3.0	2.9	3.0	2.9	3.6	5.0	6.2	6.6	6.9	8.5	8.5	6.9	6.1	5.6	6.6	4.6	3.9	3.0	3.0	3.1	3.5	3.5F
22	(3.4)F	(3.3)F	(3.3)F	F	F	F	4.0	5.5	6.0	6.8	7.6	7.4	7.7	5.9	5.7	6.5	5.7	5.2	3.6	[3.6]A	(3.5)F	F	F	3.5F
23	A	A	3.2	[3.1]A	3.0	2.8	4.4	5.6	5.9H	6.7	[6.8]A	7.0	6.5	6.4	6.0	7.0	6.0	5.0	[5.0]A	5.0Z	(4.5)FS	(4.4)S	3.9	4.2F
24	3.5F	(3.2)F	F	F	F	F	F	C	C	C	C	C	C	C	C	C	C	C	3.9	3.0	2.4	2.3	F	F
25	F	F	4.0Z	3.0F	3.0F	2.7	3.6	4.9	6.4	6.1J	5.5	7.7	7.0	6.1	6.6	6.6	6.0	[4.6]A	3.1	3.5	3.8	3.4	3.5	3.6
26	3.3	3.5	3.4	3.2F	3.2	3.0	3.5	5.5	6.6	6.3	7.6	8.0J	7.3	5.7	5.3	7.0	6.6	4.3	[4.0]A	3.6	3.4	2.5	2.7	2.9
27	(3.3)F	(3.1)F	(3.2)F	3.1F	3.3F	2.9F	(3.3)F	4.5	5.4	5.7	6.6	7.1	7.4	5.9	5.3	5.5	5.5	4.1	3.0F	(3.5)ZS	3.2	3.2	3.2	[3.1]A
28	3.0F	3.0	3.0F	3.1F	3.2F	2.9	3.3	5.5	6.5	6.2	7.9J	8.3J	6.3	5.6	6.0	6.0	6.0	4.2	3.1	2.8	2.6	2.8	2.8	2.8
29	2.8	3.0	2.9	2.7F	3.0	2.8	2.9	5.1	5.8	5.5V	5.4	7.8J	8.1J	6.5	5.5	5.6	5.1	3.6	3.4	3.1	3.4	3.0	3.0	3.2
30	3.4	3.2	3.5	3.5	3.5	3.5	3.3F	4.4	5.7	6.0	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	8.0J	7.0	7.4	6.6	6.5	6.6	6.4	4.2	4.1	3.8	3.1	3.0	3.5	3.6F
Mean Value	3.7	3.6	3.6	3.6	3.4	3.3	3.9	5.6	6.1	6.7	7.2	7.4	7.2	6.5	6.2	6.4	6.2	5.1	4.2	4.1	3.8	3.8	3.8	3.8
Median Value	3.6	3.6	3.6	3.5	3.4	3.1	4.0	5.3	6.0	6.6	7.2	7.2	7.4	6.4	6.1	6.5	6.1	5.0	4.1	4.0	3.8	3.8	3.9	3.7
Count	22	20	22	21	20	21	24	24	24	24	25	25	25	25	25	25	25	25	25	25	26	22	21	22

foF2

Sweep 1.0 Mc to 22.0 Mc in 1 min ☐ Manual ☒ Automatic

W 1

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

IONOSPHERIC DATA

Oct. 1954 | **h'F2** | 135° E Mean Time | **Wakkanai** | Lat. 45° 23.6' N, Long. 141° 41.1' 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	290	270	260	230	250	270	240	250	[260]C	260	290	270	290	260	270	260	260	240	240	260	260	260	260	270
2	250	260	290	320	280	310	260	280	270	310	290	270	280	260	280	260	260	240	240	250	260	260	260	270
3	250	260	300	310	270	310	260	290	270	310	280	270	270	290	260	270	250	230	240	270	270	290	300	[300]AS
4	290	320	310	260	300	260	220	300	260	290	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	260	260	250	280	260	250	250	240	220	250	250	250	270	300
7	300	300	290	240	250	300	230	270	290	260	260	260	260	260	260	260	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	250	230	250	250	250	270	270	290
9	290	310	270	240	220	240	240	240	270	260	230	270	270	250	260	260L	250	240	240	260	250	260	310A	250
10	240	260	260	240	250	230	230	C	C	C	C	C	C	C	C	C	C	C	240	250	230	250	260	AS
11	260F	260F	290	260	260	260F	230	240	240L	260	260	240	250	260	280	270	240	230	220	240	300	290	290	280
12	260	270	270	250	250	240	220	250	240	250	240	240	250	270	260	250	240	220	260	280	250	A	A	300
13	350A	300F	290F	270F	250	230	240	220	260	250	250	240	250	260	250	260	260	220	220	300	320	320	C	C
14	270	270	280	270	250	220	240	220	220	250	260	230	240	240H	260	250	230	230	250A	250	230	260	290	290
15	280	C	C	C	C	230	210	[220]C	230	250	260	250	240	260L	270L	250	230	220	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	260	[260]C	250	250	250	250	230	240A	240	240	270	290	290	290F
17	260F	260F	260	250	230	210	250	230	260	260	260	250	240	240	270F	250F	230	220	220	<280C	280	280	280	260
18	240	270	300	270	270	230F	210	230	270L	260	250	250	250	240	260	250	230	230	[270]A	310S	310	[310]A	310	260
19	290	310	250	310	250	210	250	250	260	230	280	260	240	230	260	240	260A	[240]A	230	280	310	290	290A	250
20	320A	270	320	260	[260]A	250	250	240	260	250	250	270	260	250	240	[240]A	240	220	230	310	280	280	250	290
21	280	280	260	260	290	260	240	240	270L	250	280	270	260	240	240	240	230	230	230	240	300	290	290	250F
22	290F	250	260	270	260	260	230	230	250	270	250	260	250	240	250	250	230	230	270A	[280]A	300	280	320	300
23	A	A	270	A	A	330	260	250	230H	270	[260]A	260	280	260	250	260	230	230	[240]A	250	280	280	270	270
24	240	320	300F	300F	350F	280F	260	C	C	C	C	C	C	C	C	C	C	C	250	300A	360	350	300F	290F
25	310F	290F	260	310	290	300	250	230	270	250	250	280	260	260	270	260	240	A	A	290	280	300	290	270
26	350A	310	260	310	250	300	260	230	250	240	260	260	230	230	250	250	230	240	[240]A	250	250	250	290	300
27	300	300F	300F	290	250	250	230	240	240	260	260	260	260	260	260	240	220	210	250	300	280	280	300	[290]A
28	280	310	290	270	270	260A	270	250	260	250	260	240	230	230	240	240	230	210	250	250	270	290	280	270
29	260	300	260	310A	280	250	230	220	230	240	220	270	250	240	240	240	220	210	240	260	250	250	280	290
30	250	260	250	260	250	240	250	220	220	240	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	250	230	240	250	250	230	220	250A	240	260	270	250	300	290
Mean Value	280	280	280	270	260	260	240	240	250	260	260	260	250	250	260	250	240	230	240	270	280	280	290	280
Median Value	280	280	270	270	260	260	240	240	260	260	260	260	250	250	260	250	230	230	240	260	270	280	290	290
Count	25	24	25	24	24	26	26	24	24	24	25	25	25	25	25	25	25	24	25	25	26	25	24	24

h'F2 | Sweep 1.0 Mc to 22.0 Mc in 1 min | ☐ Manual ☒ Automatic | **W 2**

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

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Oct. 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	3.0Y	2.4Y	E	E	2.4	E	G	G	C	3.5	G	G	4.5	G	G	G	G	G	2.4	2.1	2.4	2.4	2.3	2.3
2	2.4	3.0	3.0	2.1	E	2.4	G	3.6	4.1	4.6	G	G	4.5	G	G	G	G	G	2.5	2.2	2.4	2.4	2.3	2.4
3	2.4	2.6	3.0	2.3	E	2.4	E	3.6	4.2	4.6	4.0Y	4.5Y	4.5	10.4Y	4.0	3.9Y	2.7	3.1	3.5	3.8	3.3F	3.0	3.9	4.7
4	3.5	3.6	3.6	4.6	3.7F	3.6F	3.1Y	G	G	3.4	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	G	G	G	G	G	G	G	2.5	2.3	2.4	2.4	2.5	2.1	E
7	24	E	E	2.3	3.1Y	2.3	E	G	G	G	3.5	3.8	G	G	G	3.5	C	C	C	C	C	C	C	C
8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	5.2	3.4	1.8	C	C	C	C	C
9	2.5	2.4	3.2	2.0	C	C	C	G	G	G	G	G	3.5Y	G	3.5	G	G	3.5	2.6	3.5	2.6	2.5	4.2	2.3
10	2.4	2.3	3.2	2.9	2.5	2.3	2.3	C	C	C	C	C	C	C	C	C	C	C	2.6	4.0	3.0Y	3.4	6.5	5.5
11	4.6F	3.5	3.4	2.5	2.6	2.4	G	G	G	G	3.5	3.5Y	3.5	3.5F	G	G	G	E	E	E	3.5F	2.7	2.4	E
12	E	E	2.3F	3.0	2.4Y	2.5	3.5Y	G	4.2Y	4.2Y	3.4Y	3.9	3.5F	G	G	G	G	2.6	4.0	3.7	3.5	6.5	6.9	5.7F
13	4.2	3.2F	2.6	3.2Y	4.7	6.4	3.5	4.0	5.3	5.8	5.3	3.9Y	3.5	G	3.5	G	G	2.5Y	2.5	2.7	4.7Y	2.4	C	C
14	3.5Y	4.2	2.6	2.3F	2.4F	2.4F	3.5	4.0	G	G	G	G	5.0	5.0Y	G	G	4.1	3.6	4.1	7.3	2.7	2.9	3.9	2.6
15	2.5	C	C	C	C	3.2F	E	C	4.2	3.5Y	3.5	3.5Y	3.5Y	G	G	G	G	E	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	4.6	C	5.3	G	4.1Y	4.1	4.1	4.2	3.4	2.4	3.0	2.6	2.6Y	3.0
17	E	2.2	2.2	2.4	2.4	2.9	3.3	3.5Y	G	G	4.6	4.0Y	4.1Y	6.0	6.0F	4.0F	3.5	3.5	E	3.5	E	E	2.5	E
18	2.0	2.0	2.4	2.4	2.4	2.2	E	3.4	G	5.0	G	4.1	4.0	6.0Y	4.1	G	3.5	2.7	6.0	4.3	4.3	5.7	4.0	4.3
19	3.0	3.5F	2.5	2.4	2.3	2.3	3.5	4.0	3.7	G	4.1	4.3	4.6	5.3	4.1	G	11.8	7.8	5.2	2.7	3.4	3.5	3.5	E
20	3.3	2.6	2.7	3.5	7.6	3.5	2.7	G	G	4.0Y	4.1F	G	G	G	4.0	11.6	C	C	4.1	3.0	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	4.9	6.4	6.6	4.1	4.7	7.0	3.5	3.5	E	E	2.6	E	2.5	2.4
22	2.5	E	3.2Y	2.5Y	2.5	2.3	2.4	G	3.0	4.2	4.4	G	G	3.5	G	G	3.1	2.7	4.0	4.5	7.2	5.7Y	4.0	3.5
23	6.0	6.0	4.5	6.0	5.0	3.6	2.7	5.3Y	6.0Y	5.0	7.3	5.0	4.2	4.2	4.2	5.3	4.2	4.2	6.1	2.6	E	E	E	2.5
24	2.5	3.5	3.0	3.0Y	2.4	2.5F	3.7	C	C	C	C	C	C	C	C	C	C	C	2.6	4.0	2.4	3.5	2.6	2.5
25	2.7	2.7	3.4	3.5	2.4	E	2.7	3.5	3.5Y	4.6	G	6.1Y	G	G	G	G	4.4	10.2	11.6	3.4	3.2	3.0	4.5	6.1
26	4.1	5.2	3.4	3.9	2.2	3.0	2.6	G	3.5	5.5	3.5Y	5.1	4.0Y	6.0	5.0	5.0F	4.6	6.0F	6.5F	3.6	3.5Y	2.6	2.4	3.0
27	2.5	4.7	3.5Y	6.6	2.5	2.5	2.3	G	6.0Y	8.5	4.0Y	G	3.5Y	5.0F	G	G	G	2.7	E	3.0	3.1Y	5.5	4.9	4.5
28	3.5F	3.9	2.4	2.5	2.9F	3.5	4.3	4.4	5.2	4.1	3.9Y	G	G	G	G	G	4.0	3.0	2.4	3.0F	2.3F	2.7	2.3F	E
29	2.4	4.0F	6.0F	6.4F	4.5	3.5F	2.7	2.4	4.2	3.5F	3.9	G	3.5	3.8Y	3.5Y	G	G	2.4	1.9	3.0	E	E	2.4	E
30	2.4	2.4	2.4	5.0	2.6	4.0	3.5	3.0	4.0F	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	4.1	4.0	5.4	4.0	3.5Y	G	G	6.0	5.3	3.5	3.5	3.0Y	3.4F	3.0F
Mean Value	3.1	3.3	3.1	3.4	3.1	3.0	3.1	3.7	4.4	4.1	4.3	4.4	4.3	5.1	4.2	5.6	4.5	4.0	4.0	3.4	3.3	3.4	3.5	3.6
Median Value	2.5	2.8	3.0	2.7	2.5	2.5	2.7	2.7	3.6	4.0	3.9	3.6	3.5	3.5	3.5	G	2.9	3.0	2.6	3.0	3.0	2.7	2.6	2.5
Count	25	24	24	24	23	24	24	22	22	23	25	24	25	25	25	25	24	24	26	25	24	24	23	23

fEs

Sweep 1.0 Mc to 22.0 Mc in 1 min ☐ Manual ☒ Automatic

W 3

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

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140°08.2' E

Oct. 1954

foF2

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	3.5	3.5	3.5	3.9	2.6	2.8	4.9	5.9	7.1	7.4	7.1	7.4	8.4	8.9	7.4	7.4	7.0	6.9	6.5^{P}	4.9^{J}	4.5	4.5	4.3	4.3
2	4.1	3.9	3.8^{P}	3.8	4.0	3.5	4.9	6.5	6.8	6.5	7.9	7.5	6.6	7.0	6.4	6.1	5.5	5.7	4.7	4.5	4.0	3.9	4.0	4.6^{F}
3	4.0	3.8	3.7	3.6	3.6	2.8	4.5	5.5	5.3	6.3	7.5	6.6	6.8	6.3	6.2	6.6	6.9	6.6	4.6	4.0	3.8	3.6	3.6	4.0^{V}
4	4.0	3.6	3.6	3.9	3.5	3.7	4.1	5.5	6.6	7.5	6.7	7.9	8.2	7.0	6.5	6.3	7.6	7.0	5.7	6.0	5.0	3.5	3.3	3.5
5	3.6	3.7	3.7	3.8	3.6^{F}	3.0^{F}	4.6	5.9	6.1	7.3	7.0	7.3	5.9	6.5	5.9	6.4	6.8	6.0	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	6.5	7.0	7.6	7.1	6.9	6.6	7.1	8.3	7.8	5.2	4.6	4.4	4.5	4.2	4.0
7	4.0	4.0	4.0	4.6	4.4^{H}	2.5^{H}	5.0	6.5	6.4	8.7	9.4	7.1	6.5	6.4	6.1	6.6	6.7	6.5	5.9	5.3	4.1	3.2	3.5	3.6
8	3.5	3.5	3.4	3.3	3.5	2.9	4.0	5.5	6.0	6.6	7.5	7.2	6.9	7.1	6.6	6.5	6.3	6.4	5.4^{P}	[4.8]^{A}	4.3	4.5	4.0	4.0^{F}
9	3.9	3.7	3.8	3.6	3.5	2.8	4.0	6.0	6.9	8.5	7.0	6.7	6.5	7.5	6.5	6.0^{J}	6.0	[6.6]^{A}	5.9	4.6	4.3	3.9	4.3	4.2
10	4.0	3.9	3.8	3.6	3.8	3.6	4.7	5.6	6.1	7.5	8.0	7.7	7.1	6.6	6.1	6.9	6.5	5.7	6.5	5.4	4.2	3.8	4.0	3.9^{F}
11	4.1^{F}	4.0^{VF}	4.0^{F}	4.3^{F}	4.3^{JF}	[4.4]^{F}	4.6	5.5	7.0	6.0	7.3	6.5	6.6	6.2	6.4	7.4	7.5	6.7	5.4	3.3^{VF}	3.4^{F}	3.6	3.4^{P}	3.6
12	3.8	3.6	3.5	3.4	3.3^{F}	3.1^{F}	4.7	5.5	7.3	8.0	6.9	6.0	6.5	6.5	6.0	6.5	7.0	7.3^{P}	A	3.4	3.4	3.3	3.3	3.2^{F}
13	3.2^{F}	3.2	3.2	3.2	3.1	2.6	3.7	6.0	6.0	6.7	6.2	6.5	6.2	6.5	6.0	6.0	6.7	5.7	4.1	3.2	3.4	3.7	3.9^{F}	3.6^{F}
14	3.9^{F}	3.9^{P}	3.6^{F}	3.5^{F}	3.5^{F}	3.2^{F}	4.7	5.6	C	C	C	C	C	C	C	C	C	6.5	5.0	4.5	4.4	3.7	4.3	4.5^{P}
15	4.3	4.5^{F}	4.4^{F}	4.4	4.6	4.6^{F}	5.4	6.4	6.7	7.9	9.1	8.3	7.3	6.1	6.3	7.2	7.1^{P}	[5.4]^{C}	3.8	3.5	3.5	(4.1)^{P}	3.9	3.6
16	3.6	3.5^{F}	3.4^{F}	3.4^{F}	3.3^{F}	3.1^{F}	4.2	6.0	6.3^{J}	6.0	6.7	8.7	7.6	6.4	6.5	7.0	7.1	5.5	[4.6]^{A}	3.6	3.8^{P}	3.9^{F}	4.0^{F}	4.2^{F}
17	4.0^{F}	4.0^{F}	4.0^{F}	4.0^{F}	4.0^{F}	4.0^{F}	4.5^{F}	5.4	5.7	6.9	8.2	9.0	9.2^{J}	7.8	[7.0]^{A}	6.3	6.9	6.1^{P}	4.3	3.7^{F}	3.7^{F}	3.8^{F}	3.8^{F}	4.0^{F}
18	3.9^{F}	3.8^{F}	3.9^{F}	3.7^{F}	3.6^{F}	2.9^{F}	4.2	6.3	6.7	7.3	8.9	8.7	7.6	6.1	6.5	7.7	7.4	6.4	4.1	4.5	4.5	4.3	4.6	4.6
19	4.6	4.7	4.5	4.0	5.2^{JF}	3.6^{HF}	5.1^{JF}	7.0	8.7^{J}	8.9^{P}	9.7	8.6	9.1	6.9	6.6	7.9	6.6	5.8	4.0	4.0	3.9	4.0	3.8	3.8
20	3.1	3.5	3.3	3.6	3.6	3.7	4.8^{P}	6.2	7.6	7.4	7.0	7.4	8.1	7.4	7.0	7.1	6.4	5.6	3.3	3.9^{P}	4.0	3.9	3.6	3.1
21	2.8	2.8	3.0	2.8	2.9^{F}	2.9^{F}	4.0	6.1	6.0	7.6	7.2	7.1	8.1	9.0^{P}	6.6	6.6	6.2	5.8	[4.6]^{A}	3.5	3.2	3.3	3.3	3.2
22	3.2	3.3^{F}	3.3^{F}	3.4^{F}	3.3^{F}	3.1	4.0	5.6	6.9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	6.6	[8.2]^{M}	9.8	7.3	[7.1]^{A}	6.9	7.2	7.5^{P}	6.6	4.8	4.5	4.4	4.5	4.6	4.5^{F}
24	3.6	3.0^{F}	3.2^{F}	3.5^{F}	3.3^{F}	3.3^{F}	4.0^{F}	4.8	[5.2]^{A}	5.7	6.0^{P}	[6.1]^{A}	6.2^{J}	7.4	6.5	6.5	6.1	6.0	4.7	5.0	4.1^{F}	5.1^{F}	4.7^{F}	4.0^{F}
25	3.9^{F}	3.8^{P}	3.7^{P}	[3.3]^{A}	2.9^{F}	2.7^{F}	3.9	5.6	6.0	6.9	7.6	7.9	9.7	6.5	6.6	7.3	6.7	4.5	3.0	3.2	3.6^{F}	3.5^{F}	3.4	3.1
26	3.1	[3.2]^{A}	3.3^{F}	2.5	2.5	2.5	3.5	6.0	7.1	7.3	6.6	7.0	7.1	5.9	6.5	6.5	6.8	4.8	3.5	3.8	3.0	2.8	2.8^{F}	2.7
27	2.9	2.9	3.0	3.1^{F}	3.4	2.5^{F}	4.1	4.8	5.9	6.1	6.8	8.2	7.9	6.8	6.8	6.2	6.0	5.1	2.8	2.9	3.0	3.0	3.1	3.2
28	[3.0]^{A}	2.7	2.7	2.8	3.0	2.9	3.5	5.5	5.7	7.2	7.0	8.5	7.0	6.2	6.1	6.8	6.0	5.9	3.0	3.2	3.3	2.6	2.7	2.8
29	2.8	3.0	3.0	2.7	2.7	2.5	3.3	5.2	6.0	7.5	5.9	6.5	8.0	7.6	6.4	5.6	5.8	5.8	2.9	2.7	3.1	3.0	3.2	3.3^{F}
30	3.4^{F}	3.5^{F}	3.3	3.4	3.5	3.2	3.5	5.0	5.9	5.6	6.5	7.5	8.7	7.4	6.3	6.2	5.7	4.9	3.1	3.3	3.6	3.9	3.7	(3.9)^{P}
31	3.8	3.8	(3.9)^{P}	3.8^{P}	4.0	C	C	C	C	7.5	8.5	7.5	7.6	6.9	7.0	7.1	5.9	4.2	4.1	4.1	3.0	3.2	3.3	3.5
Mean Value	3.6	3.6	3.6	3.5	3.5	3.2	4.3	5.8	6.4	7.1	7.4	7.5	7.4	6.9	6.5	6.7	6.7	6.0	4.5	4.1	3.8	3.6	3.7	3.7
Median Value	3.8	3.6	3.6	3.6	3.5	3.0	4.2	5.6	6.3	7.3	7.1	7.5	7.3	6.9	6.5	6.6	6.7	6.0	4.6	4.0	3.8	3.8	3.8	3.8
Count	29	29	29	29	29	28	28	28	27	29	29	29	29	29	29	29	29	30	28	29	29	29	29	29

foF2

Sweep 0.85 Mc to 22.0 Mc in 2 min ☐ Manual ☒ Automatic

A1

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

IONOSPHERIC DATA

Oct. 1954 | h'F2 | 135° E Mean Time | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' 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	270	250	280	240	190	270	210	240	240	240	250	280	270	260	260	250	240	230	220	[240]A	250	260	290	250
2	240	240	280A	240	270	300	260	230	250	270	260	250	260	260	240	240	230	240A	250A	[240]A	240	250	280	290F
3	250	260	250	240	220	230	210	230	250	250	240	250	240	280	260	260	240	220	200	240A	250	280	290	290
4	250	290	290	250	230	250	220	230	250	270	280	250	250	280L	240	250	240	230	250	240	210	240	270	290
5	270	260	250	250	200	200	210	230	240	250	250	250	230	260	250L	240	240	210	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	240	250	240	260	250	250	250	240	200	200	220	250	260	250	260
7	290	280	290	240	200H	300H	240	230	230	250	250	240	250	250	260	240	240	230	210	210	210	240	290	290
8	280	270	260	250	220	240	230	220	240	240	270	250	250	260	240	250	220	240A	210A	[220]A	220	260	270F	260F
9	270F	290	290	240	230	230	210	250	250	230	240	240	250	250	240	240	A	A	220A	[240]A	250	240	260	230
10	240	250	210	240	220	210	210	220	250L	260	230	240	260	250	260L	250	230	220	210	210	250	240	270	250
11	250	250	280	260	240	[220]F	200	200	240	240	240	240	250L	240	290	250	230	210	200	A	290	290	280	280
12	260	250	250	230	240	240	210A	220	250	220	240	230	250	250	270	240	240	220	[240]A	250A	250	250	270	280
13	280	290	280	260	220	200	210	240	220	220	250	240	260L	290	250	240	240	210	200A	210	240	270F	290F	280
14	260F	250	280	270	240	270	210	270	C	C	C	C	C	C	C	C	C	200	200	250A	230A	300	250	260
15	260	290	280	250	220	220	210	220	230	260	240	240	240	250L	250	240	240	[220]C	200	240	260	260	280	290
16	240	250	240	250	240	240	210	220	220	250	250	230	220	240	260L	240	220	210	[220]A	240	250	280	300F	270F
17	230	270	290	260	250F	240	200	210	240L	240L	260	250	240	240L	[240]A	230	230	210	210	250A	260	260	300	300AF
18	260	270	240	240	200	240F	220	230	230	230	250	230	240	240	250	250	220	210	240A	300A	(300)A	290A	280	240
19	300A	250	290	330	250	200H	200	250	240	250	230	240	230	240	240	250	230	200	230	250	270	250	250	290
20	A	280	A	250	260	250	210	240	240	240	230	250	250	240	250	250	220	200	A	270	250	240	250	240
21	260	280	250	250	270	290	230	230	240	250	240	250	250	240	230	250A	210	A	A	250	260	260	250	230
22	270	260	250	250	220	240	210	230L	220	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	240	[240]M	250	240	250	250	250	220	210	240	240	270	290	260	260
24	240	230	250	260A	290F	270F	260	250	[260]A	280	250	A	A	260	250	240	240	220A	240	220	270	260	250	290
25	300F	280	250	A	A	260	240	230	240	240	270	270	240	250	250	240	240	220A	A	300	280	260	300	300A
26	250	[250]A	250	240	280	250	250	240	240	240	220	250	240	250	250	230	210	200A	A	250	[260]A	260	280	290
27	250	300	300	270F	220	280	230	210	220	240	240	250	240	240	240	240	210	200	A	260	290	270	270	250
28	[280]A	300	300	280	250	200	240A	220	230	210	250	240	250	240	240	240	230	200	220A	250	240	240	260	290
29	260	250	220	240	240	240	200	220	250	240	230	250	250	250	240	230	220	200	200	250A	290A	260	290	260
30	250	250	240	250	240	220	250A	220	240	240	250	270	240	240	230	240	210	210	220	260	250	260	250	270
31	260	250	230	240	200	C	C	C	C	230	240	240	250	250	240	220	210	200	240	210	220	240	290	280
Mean Value	270	270	260	250	230	240	220	230	240	240	250	250	250	250	250	240	230	210	220	240	250	260	270	270
Median Value	260	260	260	250	240	240	210	230	240	240	250	250	250	250	250	240	230	210	220	240	250	260	270	280
Count	28	29	28	28	28	28	28	28	27	29	29	28	28	29	29	29	28	28	24	28	29	29	29	29

h'F2

Sweep 0.85 Mc to 22.0 Mc in 2 min ☐ Manual ☒ Automatic

A2

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

IONOSPHERIC DATA

Oct. 1954 | fEs | 135° E Mean Time | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' 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	E	2.9	3.0^{F}	3.0^{F}	2.2^{F}	2.8^{Y}	2.4	G	G	3.8	4.3	3.5	4.5	3.5	3.5	G	3.0	3.5	4.4	5.5	3.5	3.0	3.1	2.5
2	2.3	2.0	3.0	3.0	2.5	2.3	3.0	G	4.0	5.5	5.0	4.0	3.5	3.5	3.5	3.5	3.8	3.7	4.5	5.6	3.0	2.5	4.1	4.5
3	2.5	3.5	2.4	2.2	2.0	4.1^{Y}	2.7	G	G	G	G	3.6^{Y}	4.0	4.5	3.8	3.6	3.5	3.5	3.5^{YF}	3.5	3.1	2.5	3.3	3.0
4	2.3	2.2^{Y}	2.8^{Y}	2.5^{F}	1.8	1.6	3.0	2.6	3.2	4.5	4.1	4.2	3.5	4.1	3.1	4.0^{Y}	3.7	4.5^{F}	4.4	3.5	2.8	3.0^{Y}	3.0	2.2^{Y}
5	E	2.3^{Y}	E	E	2.1^{Y}	2.5	G	3.5	G	G	3.0	G	G	3.3	3.5	3.6	3.5	3.1	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	4.4	3.5	3.5	3.5	3.5	3.5	G	3.0	3.3	3.0	2.4	2.4	1.8	E	E
7	E	1.8^{Y}	2.2^{Y}	1.6	E	3.0^{Y}	G	G	3.3	4.0	3.8	3.7	3.6	3.5	3.2	3.5	2.5^{Y}	2.8	2.3^{Y}	2.9^{Y}	E	2.3	2.5	E
8	C	2.2^{Y}	2.5^{Y}	2.2^{Y}	2.2^{Y}	2.3^{F}	2.2	G	G	4.0	3.6	3.5	5.0^{Y}	6.5	4.0	4.0	3.5	5.1	13.0	11.0	3.5	4.2	3.0	3.5
9	E	2.2	3.1	2.0^{Y}	2.0	2.2	3.3^{Y}	G	3.5^{Y}	4.1	4.2	4.4	4.5	4.6	3.6	3.5	6.0	7.0	4.0	69^{Y}	4.3	3.5	4.0	3.1
10	2.3	2.8	E	2.3^{Y}	2.0^{Y}	2.3	G	G	3.5	3.5	4.1^{Y}	G	3.6	5.0	4.3	3.3	G	3.5	2.6	3.5^{F}	3.5^{F}	3.5^{F}	3.3	3.3
11	3.3^{Y}	7.5^{Y}	4.4^{F}	3.0	3.0	5.3	4.4	2.5	3.2	4.1	G	3.5	G	3.5	3.5	G	3.5	3.5	3.0	4.3	3.0	2.4^{Y}	E	2.3
12	3.0	2.3^{Y}	3.1^{Y}	2.5	3.0	2.5	3.1	3.4	5.4	4.4	G	4.0	3.2	G	3.5	3.5	3.0^{Y}	3.5	5.0	4.5	3.2	3.5	3.5	3.5
13	3.0	2.9	2.6	2.5	2.5	2.5	G	3.7	G	3.1	4.1	4.0	4.1	G	3.5	3.1	G	2.4	3.5	4.4	3.1	3.5	2.9	2.4
14	2.3	2.4^{Y}	2.5	2.8	2.4	E	2.9	G	C	C	C	C	C	C	C	C	C	3.5	3.0	6.5	4.1	4.1	2.5	3.1
15	3.0	4.3	4.5	2.9	2.9^{Y}	2.5	2.3^{Y}	3.5	G	3.2^{Y}	4.3	G	G	G	G	G	2.9	C	3.0	3.0^{Y}	E	2.1^{Y}	3.0	3.5
16	4.1	3.5	2.1	2.2^{Y}	2.0	2.3^{Y}	2.8	3.3	4.2	G	4.7	4.9	4.5	4.9	G	3.5^{Y}	3.2	6.0	8.0	3.2	2.8^{Y}	4.3	4.1	2.3^{Y}
17	2.3	2.1	1.7	2.5^{Y}	2.2	2.5^{Y}	3.2	G	G	4.6	5.3	4.9	4.3	6.5^{Y}	8.7	4.1	3.3	G	2.7	4.0	4.2	3.5	3.7	3.4
18	2.6	2.2	2.5	1.6	1.9	E	E	G	G	4.2	4.3	4.0	G	4.5	4.1	G	G	3.3	3.5	4.5	4.1	4.1	4.4	4.1
19	5.6	3.5	3.5	2.5	3.0	2.0^{Y}	3.0^{Y}	G	G	G	4.3	4.0	G	3.5	4.0^{Y}	4.0	2.9	2.5	2.6	2.4	2.4	3.1	4.4	3.0
20	3.0	2.4	3.2	3.0	3.0	3.0	2.9	4.1	G	4.1	4.0	4.0	3.8	3.5	G	3.5	2.3	2.9	3.5	3.0	2.3	3.1	2.9	2.4
21	2.3	2.0	2.1^{Y}	2.0^{Y}	2.5	4.0^{F}	3.5^{F}	3.0	G	G	4.9	4.3	4.5	5.0	4.2	7.5	7.0^{Y}	9.5^{Y}	9.1^{Y}	4.0	4.1	2.9	1.8	2.3^{Y}
22	3.5	1.9^{Y}	2.3^{Y}	3.2	2.9	2.9	3.9	G	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	6.5^{Y}	M	6.5	G	11.5	6.6	3.4	3.5	3.1	3.5	2.6	2.3	2.3	2.3	2.1^{Y}
24	2.6	2.1	2.6	4.0	7.1	2.1	3.3	3.6	8.0	7.0	5.5	9.5	8.2	G	3.5	3.0	3.6	4.2	2.3	3.0^{F}	3.1^{F}	2.5^{F}	2.5	3.5
25	3.0	3.5^{F}	4.3^{F}	4.3^{F}	4.3^{F}	2.3	3.2	3.5	4.4	4.5	7.7	6.4	7.0^{Y}	4.0	3.5	3.5	4.1	3.6	4.1	5.7^{Y}	4.3	5.1^{Y}	4.5^{Y}	5.3
26	4.0	5.2	3.5	3.0	3.0	2.8^{Y}	3.0^{Y}	G	G	3.4	3.5	4.1	4.0	4.5	4.5	4.0	4.5	6.5	6.5	4.1	4.3	4.1	3.4	2.4^{Y}
27	E	2.0^{Y}	1.9	2.2	2.2^{Y}	1.8^{Y}	3.0^{Y}	2.8	3.1	4.5	3.0	3.4	3.5	G	G	G	G	G	3.0	2.1^{Y}	2.2^{Y}	3.0^{Y}	2.6	2.3^{Y}
28	6.4	3.5	4.0	3.0	3.0^{Y}	2.4	3.2	3.0	4.1	4.0	4.2	G	4.0^{Y}	3.5^{Y}	3.5	4.1	3.5	3.0	3.0	2.4	2.4^{Y}	E	2.5^{Y}	E
29	2.5	2.1	2.0	2.2	E	2.5	3.0	2.9	G	3.6	3.5	3.5	4.0	4.1	4.3	4.0^{Y}	3.5	2.9	2.9	4.3	3.1	3.0	3.0	2.4
30	2.1	2.2	1.6	1.9	5.0	2.0	3.5	3.5	3.8	3.5	3.7	3.5	4.0	3.6	5.5	4.3	3.0^{Y}	2.4^{F}	2.3	2.1^{Y}	E	E	E	E
31	E	E	2.0	E	2.3^{Y}	C	C	C	C	3.8	3.5	3.6	4.0^{Y}	3.4	4.3	4.3	3.5^{Y}	2.8^{Y}	2.5	2.3	2.2^{Y}	3.5	2.7	3.0
Mean Value	3.1	2.8	2.8	2.6	2.8	2.5	3.1	3.3	4.1	4.3	4.2	4.3	4.3	4.5	4.1	3.9	3.6	3.9	4.1	4.0	3.2	3.2	3.2	3.0
Median Value	2.5	2.3	2.5	2.5	2.4	2.4	3.0	2.6	G	4.0	4.1	4.0	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.0	3.0	2.5
Count	28	29	29	29	29	28	28	28	27	29	28	29	29	29	29	29	29	29	29	29	29	29	29	29

foE

Sweep 0.85 Mc to 22.0 Mc in 2 min ☐ Manual ☒ Automatic

A 3

6

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

IONOSPHERIC DATA

Oct. 1954 | **foF2** | 135° E Mean Time | **Kokubunji Tokyo** | Lat. 35° 42.4' N | Long. 139° 29.3' 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	3.2	3.2	3.3	3.6	2.2	2.5	4.6	6.0	7.6	8.0^{P}	7.4	7.0	8.5	9.3	8.0	7.8	6.9	6.8	6.7	4.4	A	A	A	4.0
2	3.9	4.1	4.0	3.8	3.6	3.4	5.1	7.3	6.9	6.9	7.5	9.0	8.1	7.7	6.7	6.5	5.6	6.2	5.6	4.6	3.6^{T}	3.7$^{T}_{F}$	3.9	4.0
3	3.7	3.6^{V}	3.9^{F}	3.4	3.4^{F}	2.6^{F}	4.5	5.5	6.2	7.0	7.5	6.6	7.4	6.7	6.5	7.0	7.3	7.3	C	C	3.7	3.3	3.5	3.6
4	3.6	3.5	3.5	3.6	3.0	3.1	4.8	6.0	6.9	8.1^{P}	6.9	7.8	7.5	7.3	7.5	7.3	7.5	7.2	5.9	5.7	4.6	3.5	3.4	3.4
5	3.5	3.7	3.6	3.5	3.7	3.0	4.4	5.8	7.2	7.3	7.6	7.4	7.1	5.9	6.6	6.6	6.7	6.5	4.9	4.1	3.8	4.0	4.1	4.1
6	3.5	3.5	3.5	3.7	3.5	3.4	4.9	6.2	7.9^{T}	5.9	6.9	7.5	7.5	7.5	6.9	7.7	7.3	8.3^{T}	4.9	3.8	4.1	4.0	4.1	4.0
7	3.8	3.7	3.8	4.0	4.2	2.4	4.5	7.5	7.5	7.2	8.9	8.6	6.5	6.7	6.2	6.7	6.5	6.7	7.1	5.2	4.2	3.1^{E}	3.2	3.4
8	3.4	3.3	3.3	3.4	3.3	3.2	4.8	5.2	7.3	7.0	6.6	7.7	7.5	7.4	7.2	6.4	7.2	7.8^{P}	5.4	4.1	4.0^{F}	3.5	3.7	3.7^{F}
9	3.5^{F}	3.7^{F}	3.6$^{T}_{F}$	3.5^{F}	3.5	2.6	4.6	5.7	7.9	8.9	6.7	7.2	6.2	7.5	7.0	6.8	6.2	7.0	6.5	A	A	4.1	4.0	4.2
10	4.4^{F}	3.8	3.5	3.6	3.8	3.6	4.4	5.9	6.5	8.5	8.2	7.2	8.1	6.9	6.4	6.7	7.0	6.5	6.9	5.4	3.9	3.9	3.8	3.8
11	3.8	3.8	3.7	4.0^{F}	4.0	3.5	5.0	5.3	7.1	6.6	6.4^{P}	6.8	6.7	6.6^{H}	6.1	7.0	8.2^{P}	7.6^{P}	5.5	3.3	3.2	3.2	3.5	3.5
12	3.4	3.5	3.5	3.5	C	C	C	C	7.4	8.4	6.1	6.4	7.1	7.1	6.4	7.0	7.1	(8.0)^{P}	5.3	2.9^{H}	3.2	3.2	3.2	3.2^{F}
13	3.2	3.2	3.2	3.2	3.2	2.6	3.9	6.0	7.8	7.3	6.6	6.0^{H}	6.6	6.5	7.1	6.5	6.5	7.7^{P}	4.1	2.6	3.2	3.2	3.3	3.3
14	3.3	3.2	3.3	3.4	3.5	2.9	4.5	6.1	6.4	6.5	6.2	7.2	7.0	6.6	7.1	7.0	7.9^{P}	7.3	4.4	3.8	3.7^{P}	3.7	3.8^{F}	4.1^{F}
15	4.0	4.0	4.1	4.1	4.3	3.5	5.0	5.5	7.0	8.2^{P}	8.9	9.1	6.9	7.1	6.5	7.0	7.1	7.0	3.7	3.3	3.3	3.4	3.5	3.4
16	3.4	3.4	3.4^{P}	3.2	3.2	3.0	4.6	5.8	6.2^{P}	6.7	7.5^{P}	8.6	6.7	6.4^{H}	6.6	7.2	7.4	6.2	3.8	3.3	3.6	3.6	3.7	3.6$^{T}_{F}$
17	3.7^{F}	3.6	3.5	3.6	3.4	3.6	4.6	5.4	6.0	6.7	7.6	8.5	9.1	8.5	7.5	6.6	6.5	6.7	C	C	C	3.4	(3.5)^{F}	(3.8)^{F}
18	3.6^{F}	3.8^{F}	3.5^{F}	3.5	3.4	2.5^{F}	4.3	6.0	6.7	7.0	8.1^{P}	9.4	7.1	6.9	7.2	7.2	7.4^{P}	6.4	4.5	4.4	4.5	4.9	4.5	4.5
19	4.4	4.3	4.0	3.7	4.0	4.1	5.1	6.2	7.5	9.5	10.6^{P}	9.1	7.5	7.2	6.3	7.8	8.5	6.2	4.1	4.0	3.8	4.2	3.8	3.5
20	3.4	3.3	3.3	3.3	3.5	3.5	5.4	6.3	7.6^{P}	7.4	7.2^{H}	9.0	8.5	7.2	7.1	7.9	6.6	6.0	3.4	3.5	3.7	3.9	3.4	3.1
21	2.6	2.9	2.8	2.8	2.7	2.9	4.2	6.2	7.3^{P}	8.0^{J}	7.5	6.9	8.4	9.4	8.6	7.2	6.2	5.4	[4.2]^{A}	3.1	A	A	A	3.3
22	3.0	3.1	3.0	3.2	3.3	2.9	4.2	6.2	7.5^{P}	6.5	6.6	8.5	7.7	7.4	6.6	6.6	6.9	5.5	4.3	3.1	3.3	3.4	3.1^{F}	3.1
23	3.1	3.0$^{T}_{F}$	3.2	3.3	2.9	2.9^{F}	4.2	5.6	6.5	6.0	8.0^{P}	9.5	8.7	6.8	6.6	6.9	7.7	7.3^{P}	4.9	4.2	4.1	4.1	4.5	3.8
24	3.9	3.6	3.2	3.6	3.5^{F}	3.4^{F}	4.7	6.2	5.9	6.5	6.7	8.0	8.5	9.4	8.6	7.9^{P}	6.7	7.0	4.4	4.6	4.3	3.8	4.4	4.4
25	4.4	4.2^{F}	4.1	2.5^{F}	AF	2.6^{F}	4.2	5.8	7.2	8.1^{J}	7.8	8.6	9.4	7.7	7.0	7.2	7.1	5.4	3.0	[3.0]^{A}	3.0	3.4	3.0	3.0
26	3.2^{F}	[3.2]^{A}	3.2	3.1	2.5	2.5	3.5	6.3	8.0^{P}	9.4	7.1	7.6	6.9^{H}	8.5	7.0	6.9	6.9	5.5	3.5	3.5	3.4	3.0	2.8	3.0
27	2.9^{F}	2.9	3.0^{F}	3.6$^{T}_{F}$	3.7	2.3^{F}	4.1	6.3	5.5	6.4$^{T}_{P}$	(7.8)^{P}	8.5	8.1^{J}	7.6^{J}	7.0	7.5^{P}	5.9	5.2	3.1	2.8	2.9	3.1	3.1	3.3
28	3.1	[2.9]^{A}	2.7^{F}	2.8^{F}	3.0	2.5	3.8	6.0	7.5	(7.9)$^{J}_{P}$	6.7	7.3	6.7	8.0	6.7	6.5	6.2	5.6	3.1	3.0	3.3	2.8	2.7	2.9
29	2.9	2.9	2.9	3.0	2.5	2.4	3.6	5.4	6.2	7.7^{P}	6.7	6.5	7.0	8.5	8.0^{J}	6.1	6.0	6.5	3.2	2.5	2.8^{F}	3.0	3.2	3.2^{F}
30	3.3	3.4	3.1	3.2	3.5	2.7	3.5	5.4	5.4	6.1	7.1	7.5	7.7	7.4	6.6	6.2	5.6	5.0	3.1	2.8	3.3	3.6$^{T}_{F}$	3.5	3.4
31	3.5	3.5	3.7	4.0	3.4	2.2	3.5	5.6	7.1	8.5	8.1^{J}	7.4	7.0	8.1	8.2	7.2	5.5	5.3	4.0	4.7	3.0	3.2	3.2	3.3
Mean Value	3.5	3.5	3.4	3.4	3.4	2.9	4.4	6.0	7.0	7.4	7.4	7.8	7.5	7.5	7.0	7.0	6.8	6.6	4.6	3.8	3.6	3.5	3.6	3.6
Median Value	3.5	3.5	3.5	3.5	3.4	2.9	4.5	6.0	7.1	7.3	7.4	7.6	7.5	7.4	7.0	7.0	6.9	6.5	4.4	3.6	3.6	3.5	3.5	3.5
Count	31	31	31	31	29	30	30	30	31	31	31	31	31	31	31	31	31	31	29	28	27	29	29	31

foF2

Sweep 1.0 Mc to 17.2 Mc in 2 min ☐ Manual ☒ Automatic

K 1

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

IONOSPHERIC DATA

Oct. 1954 | **h_pF2** | 135° E Mean Time | **Kokubunji Tokyo** | Lat. 35° 42.4' N, Long. 139° 29.3' 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	330	320	330	270	260	310	250	260	280	260^{P}	270	310	310	310	300	270	270	260	260	A	A	A	A	310
2	320	320	310	300	370	380	270	250	240	280	270	300	260	280	(270)^{A}	260	270	260	250	290	(350)^{J}	(350)$^{J}_{F}$	350	340
3	350	330^{P}	300^{F}	280	240^{F}	300^{F}	250	250	230	250	270	260	270	270	270	270	270	240	C	C	320	350	370	360
4	320	350	350	320	300	350	250	250	270	270^{P}	290	290	260	290	270	270	260	250	290	280	270	330	330	350
5	330	310	310	310	280	280	250	260	250	250	260	270	270	280	260	270	260	250	260	260	340	330	320	290
6	350	330	330	290	280	290	240	240	(250)^{J}	260	270	260	260	270	280	260	270	(250)^{J}	250	320	330	350	310	320
7	350	350	360	320	250	320	290	250	250	300	270	260	270	280	270	270	250	270	260	240	260	350^{Z}	350	350
8	340	330	330	320	290	300	250	250	250	250	250	290	270	300	260	290	270	260^{P}	250	280	300^{F}	310	320	320^{F}
9	350^{F}	360^{F}	(350)$^{J}_{F}$	330^{F}	270	260	250	260	250	240	250	280	270	290	270	260	A	250	260	A	A	330	310	290
10	320^{F}	300	330	310	280	240	250	240	260	260	250	280	270	270	260	270	260	260	260	240	270	320	310	310
11	330	340	320	330^{F}	290	290	250	240	240	240	240^{P}	270	250	290^{H}	270	290	260^{P}	250^{P}	250	240	320	360	330	350
12	330	330	300	290	C	C	C	C	260	240	260	260	270	270	260	290	240	(250)^{P}	230	350^{H}	350	290	350	340^{F}
13	340	340	340	310	260	250	240	250	250	240	240	300^{H}	280	260	280	270	260	240^{P}	230	280	310	330	350	340
14	330	320	310	330	280	320	230	220	240	240	280	260	260	330	280	270	260^{P}	240	230	280	310^{P}	330	360^{F}	350^{F}
15	320	350	340	310	270	300	240	240	270	280^{P}	280	270	270	280	280	270	260	230	260	310	310	320	320	350
16	340	310	310^{P}	330	300	280	240	240	240^{P}	260	260^{P}	260	270	300^{H}	280	270	250	230	230	310	310	310	340	(360)$^{J}_{F}$
17	340^{F}	340	360	340	330	270	240	230	260	250	270	290	290	260	270	260	260	230	C	C	C	350	(350)^{F}	(330)^{F}
18	320^{F}	310^{F}	320^{F}	320	260	330^{F}	270	230	250	280	290^{P}	260	250	290	270	270	270^{P}	230	280	370	270	300	330	320
19	350	310	370	390	340	300	250	270	300	280	250^{P}	270	280	250	270	270	250	240	280	310	330	310	270	330
20	310	A	300	330	310	310	260	260	250^{P}	250	290^{H}	260	280	250	270	250	230	240	270	330	300	270	280	250
21	350	330	330	320	320	320	260	250	250^{P}	(260)^{J}	240	270	300	280	250	A	230	240	(280)^{A}	310	A	A	A	280
22	320	320	300	320	300	270	270	250	250^{P}	240	290	250	290	260	250	260	230	230	260	300	310	270	350^{F}	330
23	330	(340)$^{J}_{F}$	310	310	340	320^{F}	290	240	240	250	290^{P}	290	250	260	260	260	260	260^{P}	260	300	350	350	330	370
24	280	290	290	320	280^{F}	360^{F}	260	260	280	260	290	300	270	280	260	260^{P}	260	270	290	300	360	340	340	370
25	370	360^{F}	270	310^{F}	AF	340^{F}	270	260	270	(260)^{J}	260	260	260	260	270	260	250	240	330	(340)^{A}	360	270	360	360
26	310^{F}	(320)^{A}	330	A	320	310	290	260	250^{P}	250	240	240	300^{H}	250	250	240	250	240	270	310	280	300	280	320
27	330^{F}	340	350^{F}	(300)$^{J}_{F}$	210	330^{F}	260	220	250	(300)$^{J}_{H}$	(310)^{P}	260	(250)^{J}	(260)^{J}	280	230^{P}	230	230	240	360	370	330	330	300
28	260	(350)^{A}	440^{F}	340^{F}	260	250	280	250	240	(250)$^{J}_{P}$	250	300^{H}	260	260	240	240	240	230	230	340	310	280	320	330
29	340	290	290	280	260	290	250	250	250	250^{P}	250	260	290	290	(240)^{J}	230	240	230	210	330	320^{F}	310	280	300^{F}
30	310	290	300	290	280	280	260	230	240	260	250	260	270	250	250	250	230	250	240	370	330	(350)$^{J}_{F}$	300	330
31	330	300	330	260	230	350	270	250	260	270	(250)^{J}	270	290	270	270	230	250	240	270	270	300	310	350	330
Mean Value	330	330	330	330	270	300	260	250	260	270	260	270	270	280	270	260	250	250	260	300	310	320	330	330
Median Value	330	330	330	320	280	300	250	250	250	260	260	270	270	270	270	260	260	240	260	310	310	330	330	330
Count	31	30	31	30	30	30	30	30	31	31	31	31	31	31	31	30	30	31	29	27	27	29	29	31

h_pF2 | Sweep 1.0 Mc to 17.2 Mc in 2 min | ☐ Manual ☒ Automatic | **K2**

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

IONOSPHERIC DATA

Oct. 1954 | h'F2 | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' 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	280	260	260	220	190	290	220	240	270	250	250	300	290	280	280	250	250	230A	230A	A	A	A	A	260
2	260	270	250	230	300	310	250	240	240	270	270	270	250	270	270A	250	250	230	220	270A	270	280F	290	260
3	300	300	240	250	200	250F	220	230	230	250	260	250	270	270	270	250	250	220	C	C	270	300	310	320
4	270	280	280	250	200	300	230	250	250	260	280	270	240	280	270	260	240	230	240	230	220	240	280	290
5	270	260	250	250	220	240	220	240	250	240	250	270	270	260	240	260	240	220	220	220	260	270	250	240
6	270	280	280	240	230	230	210	230	240	240	260	250	260	270	270	250	240	230	210	250	250	290	250	260
7	280	280	290	270	210	270	240	230	240	270	250	250	250	280	260	260	240	230	230	220	230	330	330	300
8	310A	280	270	250	240	250	220	230	240	250	240	280	270	280	240	240	250	230A	230	220	240F	250	290	280F
9	290	280	290F	250F	250	250	230	250	250	230	240	260	260	270	260	260	A	230A	260A	A	A	290A	280	250
10	250F	250	260	250	230	210	210	230	250	250	240	260	260	260	250	250	240	230	240A	210	250	260A	250	270
11	270	280	250	260F	240	270A	210	230	240	240	240	260	250	260H	270	260	240	230	200	210	300	310	280	280
12	270	270	250	260	C	C	C	C	250	240	250A	260	260	260	250	290	240	230	210	260H	330A	250	290	300F
13	290	290	280	260	230	210	210	230	240	240	240	[260]LH	280	260	270	260	250	220	200	240	260	280	300	290
14	300	260	270	270	230	230	210	210	240	230	270	250	260	330	270	250	240	220	210	210	210	300A	330A	280
15	260	290	290	250	220	240	230	210	240	270	240	250	240	270	270	250	250	210	200	250	250	260	270	300
16	250	250	260	260	240	250	210	220	230	250	260	250	230	240H	280	240	230	220	200	240	280	250	280	300A
17	280F	270	290	270	250	240	220	210	240	240	270	270A	270	240	250	250	240	220	C	C	C	280	300A	300F
18	300	280	240	240	230	300	240	220	230	250	260	240	240	250	270	250	230	210	270A	290	300	250	270A	270
19	290	260A	290	310	280	220	230	230	250	260	240	240	250	240	240	250	230	240A	250A	250A	270	260	240	290
20	230	A	260	270	270	250	230	250	230	230	260H	250	250	240	260	230	230	220	240	270	260	230	240	220
21	300	270	260	250	260	260	240	230	240	250	240	260	260	260	240	250A	220	220A	[260]A	290	A	A	A	240
22	270	270	240	250	240	270	230	230	230	240	270	240	260A	260	250	260	220	210	220	280A	290	230	300F	280
23	270	300F	260	260	270	310F	220	210	230	240	290A	280	240	250	240	250	240	220	210	250	300	300	280	260
24	250	240	240	280	220	260	240	250	250	250	260	280	250	260	250	240	230	240	210	250	250	280	280	270
25	340	300F	240	280	AF	290	230	230	250	260	260	250	240	250	250	240	230	210	300A	[300]A	300	220	310	360A
26	310A	[300]A	290	A	300	270	250	240	240	240	240	240	230H	250	240	240	230	210	210	290A	250	260	240	260
27	270	300	300	250F	190	290	240	210	220	240H	300	250	240	260	260	230	220	200	210	310	300	280	290	250
28	230	[320]A	400F	270	230	230	240A	240	240	250	250	250H	250	260	240	230	230	210	200	280	260	230	280	280
29	290	250	240	230	220	250	230	220	240	250	240	260	290	270	240	230	230	210	200	280	280F	250	250	260
30	260	250	250	240	240	230	220	210	220	250	250	250	270	240	240	250	220	230A	220	330	270	280	250	260
31	260	250	270	220	200	300	240	220	250	240	230	250	270	260	240	230	220	220	240	230	200	260	300	290
Mean Value	270	270	270	250	240	260	230	230	240	250	250	260	260	260	260	250	240	220	230	260	260	270	280	280
Median Value	270	280	260	250	230	250	230	230	240	250	250	260	260	260	260	250	240	220	220	250	260	260	280	280
Count	31	30	31	30	29	30	30	30	31	31	31	31	31	31	31	31	30	31	29	27	27	29	29	31

h'F2 | Sweep 1.0 Mc to 17.2 Mc in 2 min | ☐ Manual ☒ Automatic | K 3

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

IONOSPHERIC DATA

Oct. 1954 | foF1 | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' 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							A	Q	4.0	4.3	4.3	4.5	4.5	4.4	4.2	4.0	3.5L	A						
2							L	L	3.9	4.1L	[4.3]A	4.5H	4.4	4.5	[4.2]A	4.0	3.2L	Q						
3							Q	3.3L	4.0	4.2	4.4	4.5	4.4	4.4	4.2	3.9L	3.2L	Q						
4							Q	3.7L	3.9L	4.3L	4.3	4.5	4.2H	4.5	4.3L	4.0	3.5	Q						
5							Q	3.6L	4.1	4.2	4.4	4.4	4.7H	4.5L	4.0L	4.0L	3.5L	Q						
6							Q	L	4.0	4.2	4.4	4.5	4.5	4.4	4.3	4.0	3.5L	L						
7							Q	A	4.0	4.5L	4.2HL	4.5	4.2	4.5	4.1L	4.0L	L	Q						
8							Q	Q	4.0	4.2	4.2	4.4	4.6H	4.6H	4.2L	Q	3.6L	A						
9							Q	L	4.0	4.1	4.3L	4.5L	4.2	4.1	4.1	4.0	A	A						
10							Q	L	L	4.2	4.3	4.5	4.3	4.2	3.9L	3.3	L	Q						
11							Q	Q	3.9	4.0	4.3	4.1	4.3	4.0	4.2	3.9L	L	A						
12							C	C	L	4.2	[4.4]A	4.5	4.2	4.3	4.1	4.0	3.4L	Q						
13							Q	Q	3.9	4.2	4.4	[4.4]L	4.4	4.2H	4.3	4.1L	3.3L	L						
14							Q	Q	4.0	4.0	4.3	4.2	4.3	4.8	4.2	4.0L	L	A						
15							Q	3.0L	4.0L	4.1	4.3	4.1	4.2	4.4LH	4.2	3.3	L	Q						
16							Q	Q	Q	4.1L	4.2	(4.5)L	4.4L	4.0	4.3L	3.8L	3.1L	Q						
17							Q	3.0L	3.8L	(4.2)L	4.5	[4.4]A	4.2	4.2H	4.4L	3.6L	2.5	Q						
18							Q	A	3.1	4.2	4.5	4.5	4.2	4.1	4.2	L	A	Q						
19							Q	Q	L	4.0	4.3	4.3	4.2L	4.2	4.0	3.5	A	A						
20							Q	3.6	3.9	4.2	4.5	4.5	4.2	4.0	4.0L	3.7	A	A						
21							Q	2.4	4.0	4.1	4.4	4.3	4.3	4.3	4.2L	A	Q	A						
22							Q	Q	3.9	4.0	4.3	L	A	4.2L	4.0A	A	A	Q						
23							Q	2.6	A	A	A	4.5	4.2	4.2	Q	L	A	Q						
24							Q	3.3L	3.7L	A	A	A	4.1L	4.2L	4.0	3.8L	A	Q						
25							Q	Q	3.5L	4.0	4.0	4.3LH	4.0	4.0	3.9	3.3	3.0L	Q						
26							Q	L	4.0L	4.0	4.1	4.1	4.0	4.0	4.0L	3.5L	Q	Q						
27							Q	2.7L	3.3	3.5	4.3	4.2	4.1	4.1	4.1L	3.5L	Q	Q						
28							A	L	3.4	4.1	4.2L	4.0L	4.3L	4.3	4.0	3.5L	2.5L	Q						
29							Q	Q	3.7L	4.0L	4.2	4.3	4.5L	4.5H	4.0	3.6L	A	Q						
30							Q	Q	3.2	3.9	4.2	4.3	4.0	4.0	3.9L	L	Q	A						
31							Q	Q	3.8H	4.0	4.3	4.0	4.4H	4.5	3.8L	3.0	Q	Q						
Mean Value								3.1	3.8	4.1	4.3	4.4	4.3	4.3	4.1	3.7	3.2							
Median Value								3.0	3.9	4.1	4.3	4.4	4.2	4.2	4.1	3.8	3.3							
Count								10	26	29	29	29	30	31	30	25	3							

foF1

Sweep 4.0 Mc to 17.2 Mc in 2 min ☐ Manual ☒ Automatic

K 4

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

IONOSPHERIC DATA

Oct. 1954 | **h'F1** | 135° E Mean Time | **Kokubunji Tokyo** | Lat. 35° 42.4' N | Long. 139° 29.3' 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							A	Q	230	240	210	210	210	220	230	230	230^{A}	A						
2							280	250	250	A	A	190^{H}	220	A	A	220	230	Q						
3							Q	200	210	200	200	190	190	190	240	240	250^{A}	Q						
4							Q	240	230	240	210	200	200^{H}	210	270	250	240	Q						
5							Q	220	230	200	210	200	190^{H}	230	250	240	240	Q						
6							Q	230	230	220	210	200	230	210	250	240	240	240						
7							Q	A	230	220	220^{H}	200	210	200	240	240	240	Q						
8							Q	Q	230	[220]^{A}	210	190	200^{H}	210^{H}	250	Q	250^{A}	A						
9							Q	230	240	230	240^{A}	[220]^{A}	210	240	240	250^{A}	A	A						
10							Q	230	210	220	210	200	190	220	220	220	240	Q						
11							Q	Q	230	220	210	180	210	210	240	240	250^{A}	A						
12							C	C	220	210^{A}	[200]^{A}	190	180	230	230	240	250	Q						
13							Q	Q	230	230	230	210	200	200^{H}	260	240	240	250						
14							Q	Q	220	210	220	190	240	230	270^{A}	250^{A}	260	A						
15							Q	220	220	200	220	210	220	190^{H}	240	220	240	Q						
16							Q	Q	Q	220	220	A	230^{A}	210	230	250	240	Q						
17							Q	220	220	250^{A}	A	A	210	220^{H}	230	220	220	Q						
18							Q	A	210	220	250^{A}	210	230	220	220	230^{A}	A	Q						
19							Q	Q	230	210	240	210	230^{A}	210^{A}	230	230	A	A						
20							Q	220	210	230	220	210	200	210	230	250	A	A						
21							Q	220	230	230	220	200	200	240	A	A	Q	A						
22							Q	Q	230	230	220	A	A	240	A	A	A	Q						
23							Q	230	A	A	A	A	220	230	Q	250^{A}	A	Q						
24							Q	230	230	A	A	A	270	240	230	250	A	Q						
25							Q	Q	230	230	200	240^{H}	240	220	220	210	240	Q						
26							Q	230	220	230	210	200	190	180	250	A	Q	Q						
27							Q	230	200	200	200	220	200	200	240	240	Q	Q						
28							A	220^{A}	200	A	230	190	240	250	230	240	240	Q						
29							Q	Q	220	230	220	200	200	210^{H}	210	230^{A}	A	Q						
30							Q	Q	210	210	240	230	190	200	240	240	Q	A						
31							Q	Q	210^{H}	230	200	200	180^{H}	230	230	200	Q	Q						
Mean Value							280	230	220	220	220	200	210	220	240	240	240	240						
Median Value							280	230	230	220	220	200	210	220	240	240	240	240						
Count							1	16	29	27	27	26	30	30	27	27	18	2						

h'F1 | Sweep 1.0 Mc to 17.2 Mc in 2 min | ☐ Manual ☒ Automatic | **K 5**

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

IONOSPHERIC DATA

Oct. 1954 | **f_oE** | 135° E Mean Time | **Kokubunji Tokyo** | Lat. 35° 42.4' N, Long. 139° 29.3' 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							A	2.3	2.6	2.9	3.0	A	A	3.2	2.9	2.6	2.2	2.0						
2							1.7	2.3	2.5	2.8	3.0	[3.0]^{A}	3.1	A	A	2.8^{F}	2.5^{F}	1.5						
3							1.6	2.3^{H}	2.5	2.9	2.9	3.0	3.2	3.0	A	A	A	A						
4							1.5	2.2^{A}	2.6^{A}	2.9	3.0	[3.0]^{A}	3.0	(2.9)^{A}	2.9	2.6	2.3	(2.2)$^{A}_{F}$						
5							1.7	2.2	2.6	[2.8]^{A}	3.0	3.0	2.9	3.0	2.9	27^{F}	2.5	1.6						
6							1.9	2.2	2.7	3.0	3.2	3.2	3.2	3.1	3.0	2.7	2.2	B						
7							A	2.3	2.6	2.8	A	A	A	A	A	2.6	A	A						
8							1.9	2.1	2.6^{H}	2.8	2.9	[3.0]^{A}	3.2	3.1	2.9	2.6	2.2	A						
9							1.5	2.3	2.6^{H}	2.8^{H}	2.9	[3.0]^{A}	3.2^{A}	(3.1)^{A}	3.0	2.7	24	1.5^{B}						
10							1.5	2.3^{H}	2.6	2.9	3.0	3.3	[3.2]^{A}	3.2	[3.0]^{A}	2.8	2.4	A						
11							A	A	2.8	2.9	3.1	[3.0]^{A}	(3.0)^{A}	3.2	3.1	2.8	2.3	A						
12							C	C	A	A	A	AF	3.0	3.1	3.0	2.8	2.1^{A}	A						
13							1.6	2.3^{H}	2.7	2.9	3.0	A	A	A	A	2.7	2.3	1.6						
14							1.5	2.1	2.6	2.9	3.0	3.1	3.2	3.2	3.0	2.7	2.2	A						
15							B	2.3	A	A	3.1	[3.0]^{A}	3.0	3.0	2.9	2.7	2.2	A						
16							1.4^{J}	2.4	2.5	2.9	3.0	3.0	3.1	3.0	2.9	2.6	2.2	A						
17							B	2.3	2.6	2.8	2.9	3.0	[3.0]^{A}	3.0	2.8	2.7	2.2	B						
18							A	2.2	2.6	2.9^{H}	3.0	3.0	3.0	3.0	2.9	2.5	[2.2]^{A}	1.8						
19							1.5	2.1	2.5	2.9	A	A	A	A	2.8	2.4^{F}	A	A						
20							B	2.4	2.7	2.8	2.9	3.0	2.9	3.0	2.8	2.6	2.0	A						
21							B	2.0	A	2.8^{A}	3.0	3.0	3.0	3.1	2.8	2.4	A	A						
22							A	2.4^{H}	2.7	2.8	3.0	3.0	3.0	3.0	2.9	2.5	A	A						
23							B	2.2	2.5	2.8	2.9	3.0	3.0	3.0	2.8	2.4	A	A						
24							B	2.0	2.5	2.7	2.9	2.9	2.8	3.0	2.7	2.5	1.9	A						
25							A	2.0^{H}	2.4	2.7	2.9	2.9	3.0	3.0	A	A	A	A						
26							B	2.0	2.5	2.7	2.9	3.0	2.9^{F}	2.8^{F}	2.5	2.3	AF	A						
27							B	A	2.5	2.7	2.8	2.9	3.0	3.0	2.8	2.4	2.0	B						
28							A	A	A	A	A	3.1	3.0	3.0	2.9	A	A	A						
29							B	1.9	2.5	2.5^{F}	2.7^{F}	A	A	A	2.8	A	A	A						
30							B	2.2^{H}	2.5	2.8	(2.9)^{A}	[3.0]^{A}	3.0	A	A	A	A	A						
31							B	2.0	2.3	A	A	3.0	3.0	2.9	2.8	2.5	AF	B						
Mean Value							1.6	2.2	2.6	2.8	3.0	3.0	3.0	3.0	2.9	2.6	2.2	1.7						
Median Value							1.6	2.2	2.6	2.8	3.0	3.0	3.0	3.0	2.9	2.6	2.2	1.6						
Count							12	27	27	27	26	25	26	25	25	26	19	7						

f_oE

Sweep 1.0 Mc to 17.2 Mc in 2 min ☐ Manual ☒ Automatic

K6

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

IONOSPHERIC DATA

Oct. 1954 | h'E | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' 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							A	110	110	110	110	A	A	110	110	120	120	120						
2							150	120	110	110	110	(110)^{A}	110	A	A	110	120	130						
3							150	110^{H}	110	110	110	110	120^{A}	110	A	A	A	A						
4							140	A	A	110	110	(110)^{A}	110	A	120	110	120	120						
5							140	110	110	(110)^{A}	100	100	110	110	110	110	120	120						
6							150	(130)^{A}	110	110	110	110	110	110	110	120	120	B						
7							A	120	110	110	A	A	A	A	A	110	A	A						
8							150	120	110^{H}	110	110	(110)^{A}	110	110	110	110	120	A						
9							150	120	110^{H}	110^{H}	110	A	A	A	110	120	130	B						
10							150	AH	110	110	110	110	(100)^{A}	100	(100)^{A}	110	120	A						
11							A	A	110	110	110	(110)^{A}	110	120	110	110	120	A						
12							C	C	A	A	A	AF	110	110	150	110	A	A						
13							150	120^{H}	110	110	120^{A}	A	A	A	A	120	120	130						
14							150	120	120	110	110	110	110	110	120	120	120	A						
15							B	120	A	A	110	(110)^{A}	110	110	110	110	120	A						
16							140	120	110	110	110	110	110	110	110	110	120	A						
17							B	120	110	110	110	110	(110)^{A}	110	110	110	120	B						
18							A	120	A	110^{H}	110	110	110	110	110	110	(130)^{A}	150						
19							150	120	110	110	A	A	A	A	120	110	A	A						
20							B	110	110	110	110	100	110	110	110	110	120	A						
21							B	120	A	AF	110	110	110	110	110	100	A	A						
22							A	120^{H}	110	110	110	110	110	110	110	110	A	A						
23							B	120	110	120	110	110	110	110	110	120	A	A						
24							B	130	120	110	110	110	110	110	110	120	130	A						
25							A	120^{H}	110	110	110	110	110	110	A	A	A	A						
26							B	130	110	110	110	110	110	110	110	120	AF	A						
27							B	A	110	110	130	120	120	110	110	120	130	B						
28							A	A	A	A	A	110	110	110	110	A	A	A						
29							B	130	120	110	110	A	A	A	110	A	A	A						
30							B	AH	A	120	110	(110)^{A}	110	A	A	A	A	A						
31							B	120	110	A	A	110	110	110	110	120	AF	B						
Mean Value							150	120	110	110	110	110	110	110	110	110	120	130						
Median Value							150	120	110	110	110	110	110	110	110	110	120	120						
Count							12	24	24	26	26	24	25	23	25	26	18	6						

h'E | Sweep 1.0 Mc to 17.2 Mc in 2 min | ☐ Manual ☒ Automatic | K 7

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

IONOSPHERIC DATA

Oct. 1954 | **fEs** | 135° E Mean Time | **Kokubunji Tokyo** | Lat. 35° 42.4' N, Long. 139° 29.3' 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	2.5	2.5	2.4	2.3	2.5	2.5	2.6	3.0	4.5	3.0	4.0	4.0Y	4.0Y	G	4.2	G	4.3	4.0	3.2	5.0	4.5	4.9	5.7	2.9
2	2.4	2.5	2.4	2.5	2.4	E	2.8	3.2	3.9	4.7	5.1	4.1	3.5	4.7	6.2	3.2	3.7	4.5	3.5	4.5	7.0	2.0	2.8	2.8
3	4.2	3.7	3.5	4.8	3.2	2.3	2.5	G	3.5	3.5	3.2	3.1	4.5	G	3.1	3.8	4.2	3.5	C	C	3.0	3.1	2.7	3.2
4	3.0	2.0	2.4	2.4	2.9	2.1	G	3.0	3.2	3.0	G	3.5	3.2	5.0	3.6	4.0	3.5	3.0	2.5	2.4	2.5	E	E	E
5	E	E	2.4	2.3	2.5Y	E	2.4	4.3	3.2	3.5	3.0	2.9	3.2	G	3.2	3.7	3.8	2.6	2.8	1.8	3.0Y	2.4	1.9	2.3Y
6	1.8	1.6	2.0Y	2.5	2.5Y	2.5	G	2.8	3.1	4.2	4.5	G	4.5	2.9	4.2	2.6	3.8	2.4	E	2.7	2.3	E	E	1.7
7	2.3Y	1.6	E	2.4Y	2.3Y	2.0	2.9	4.0	4.0	3.8	3.7Y	4.5	3.8	3.7	3.9	3.2	2.9	3.5	2.4Y	4.5	4.5	3.2	4.2	3.0
8	3.2	2.7	2.3	2.3	2.3Y	E	2.4	2.7	3.8	5.0	3.9	4.3	G	4.2	G	G	4.2	4.0	3.9	2.8Y	E	3.2	3.1	2.5
9	2.6	2.6	2.5	3.0	3.1	3.2	2.4	2.7	4.0	4.4	5.5	5.5	4.5	5.0	G	4.5	6.5	5.1	9.0	7.5	7.0	4.2	5.0	3.2
10	3.2	3.0	2.9	2.9Y	2.5	2.5	3.0Y	2.6	3.2	3.2	3.2	5.5	3.5	3.2	3.9	3.2	G	3.9	4.5	3.2	4.5	4.2	4.2	3.9
11	3.2	3.2	2.4	3.2	4.0	3.8	3.1	3.5	3.2	3.9	3.0	3.2	4.3	2.8	G	3.2	4.2	4.5	3.0	7.0	3.5	3.2	E	E
12	2.4Y	2.5	3.2	3.1	C	C	C	C	4.0	4.2	6.1	6.5	G	3.2	3.2	3.0	3.9	3.2	3.2	4.9	4.5	2.6	3.0	2.4
13	2.5	2.5	2.0Y	2.4	2.1	2.5	2.5	3.0	3.8	4.2	4.3	5.0	4.5	5.0	4.0	G	G	2.5	2.5	3.8	3.7	2.3	2.6	E
14	2.8	2.2	2.4	2.1	2.2	1.8	2.6	3.5	3.2	3.2	4.5	G	G	G	4.5	4.2	4.1	4.0	3.9	3.8	2.5	4.9	3.5	3.0
15	2.7	2.4	3.2	2.5	2.2	2.5	2.6	3.2	3.9	3.2	3.5	5.0	G	3.6	G	3.0	3.5	3.2	3.0	2.8	2.5	E	2.4	2.5
16	2.4	E	2.2	2.4	2.0Y	2.3	2.6	2.6	3.9	4.4	4.3	5.7	5.0	G	G	4.0	3.5	2.9	2.3	2.3	3.0F	3.2	3.2	4.0
17	2.8	2.3	2.5	2.0	2.3	2.5	2.5	G	3.9	4.5	4.7	5.5	4.3	3.5	3.2	G	G	B	C	C	C	3.1	3.7	4.2
18	3.5	2.7	2.5	2.5	2.5	3.0	3.5	3.7	3.7	3.0	4.6	4.2Y	4.1Y	4.1	3.9	3.9	3.7	2.5	3.9	5.0	2.2	3.2	3.6	2.9
19	3.2	3.2	2.4	2.5	2.1	2.4Y	G	4.3Y	3.9	3.0	4.3	3.5	6.0	5.0	3.2	3.9	4.5	6.5	4.5	3.5	3.2	3.2	3.2	3.8
20	3.2	4.0	4.2	3.0	4.8	2.5	2.9	2.7	3.2	3.5	3.8Y	4.2	4.3	3.9	3.2	4.0	4.3	3.5	3.7	3.7	2.9	E	2.5	2.7
21	3.0Y	1.9	2.0	2.5	2.7	2.4Y	2.5	2.7	4.9	4.2F	3.9	4.2	4.0	4.7	4.5	7.2	5.6Y	7.0	5.7	7.0	6.9	6.5Y	4.8	2.4
22	3.0	2.5	3.6	2.5	2.5	2.4	3.0	3.0	3.2	3.8	4.4	4.7	5.5	4.7	4.5	5.2	3.5	3.5	2.5	4.5	3.7	2.4Y	2.5Y	E
23	E	E	2.2Y	2.5	2.5	E	B	G	4.1	5.0	5.6	5.5	4.1	4.5	4.5	4.4	3.7	2.4	2.9	2.5	2.3	2.5	2.5	E
24	E	2.0	2.5	3.2	2.5	4.7	2.5	G	3.6	5.6	6.5	5.8	4.5	2.9	4.0	3.2	4.3	2.4	2.5	E	E	2.5Y	E	2.5
25	3.2	3.2	4.8	7.0	5.7	3.0	2.5	3.0	3.8	4.3	G	G	G	3.2	3.7	3.5	3.0	3.5	4.5F	4.2	4.5	3.2	5.7	3.9
26	4.5	4.8	5.0F	4.8	3.0	2.5	2.5	3.0	2.7	3.0	3.2	3.0	3.5	3.5	3.5	5.6	5.0	4.4	4.7	5.4	3.2	3.7	2.5	2.9Y
27	E	E	E	2.4Y	2.0	E	B	5.9	3.2	3.2	3.2	3.0	3.2	G	3.0	2.8	2.5	B	E	3.2	E	2.7	2.1	2.2
28	2.5	5.9	5.0	2.5	3.2	2.4	4.4	3.1	3.2	5.1	4.5	3.2	G	G	3.2	3.8	3.7	3.0	2.4	1.9	2.5	E	E	E
29	2.5Y	2.4Y	2.4Y	2.4	3.1	2.1	2.3	2.6	3.2	3.7	4.3	4.1	3.9	3.2	3.1	3.4	3.5	3.2	2.8Y	E	2.5	E	2.5Y	2.6
30	2.5	2.4	2.5	2.0	2.0	2.5Y	2.5	2.8	3.0	3.2	4.2	4.1	3.2	4.2	4.8	3.7	3.7	4.7	3.6	3.2	2.4	2.3Y	2.8Y	2.3
31	2.4	2.4Y	2.5Y	2.5	1.9Y	2.5	2.5Y	2.7	3.5	3.5	3.5	3.5	G	3.2	3.3	3.3	2.8	3.0	3.2	3.2	3.5	E	3.0	3.0
Mean Value	2.9	2.8	2.8	2.5	2.6	2.6	2.8	3.1	3.6	3.9	4.2	4.3	4.1	3.9	3.7	3.8	3.9	3.7	3.6	3.9	3.6	3.3	3.3	2.9
Median Value	2.6	2.5	2.4	2.5	2.5	2.4	2.5	3.0	3.6	3.8	4.2	4.1	3.9	3.5	3.5	3.5	3.7	3.5	3.2	3.5	3.0	2.7	2.8	2.6
Count	31	31	31	31	30	30	28	30	31	31	31	31	31	31	31	31	31	29	29	29	30	31	31	31

fEs

Sweep 1.0 Mc to 17.2 Mc in 2 min ☐ Manual ☒ Automatic

K8

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

IONOSPHERIC DATA

Oct. 1954 | (M3000)F2 | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' 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	3.1	3.1	3.0	3.3	3.3	3.1	3.4	3.5	3.4	3.5^{P}	3.3	3.1	3.1	3.2	3.3	3.4	3.3	3.3	3.3	3.1	A	A	A	3.1
2	3.0	2.8	3.0	3.1	2.9	2.8	3.5	3.5	3.6	3.2	3.4	3.2	3.4	3.3	3.2	3.3	3.3	3.4	3.4	3.2	(2.9)^{J}	(2.8)$^{J}_{F}$	2.9	2.8
3	2.9	3.0^{V}	3.1^{F}	3.2	3.5^{F}	3.0^{F}	3.4	3.5	3.5	3.5	3.4	3.4	3.3	3.2	3.3	3.2	3.4	3.6	C	C	2.9	2.9	2.8	2.8
4	3.0	2.9	2.9	2.9	3.0	2.9	3.5	3.5	3.3	3.4^{P}	3.1	3.2	3.4	3.2	3.4	3.5	3.5	3.5	3.2	3.3	3.3	3.0	3.0	2.9
5	3.0	3.0	3.0	3.0	3.2	3.2	3.4	3.5	3.6	3.6	3.6	3.4	3.2	3.5	3.3	3.3	3.4	3.5	3.3	3.4	2.9	3.0	3.3	3.2
6	2.9	3.0	3.0	3.2	3.1	3.1	3.4	3.5	(3.6)^{J}	3.5	3.2	3.5	3.4	3.3	3.1	3.5	3.4	(3.5)^{J}	3.6	2.8	2.9	2.9	3.0	3.0
7	2.8	2.9	2.8	3.1	3.4	3.0	3.3	3.6	3.6	3.0	3.4	3.4	3.1	3.2	3.3	3.3	3.4	3.3	3.6	3.6	3.3	2.9^{Z}	2.9	3.0
8	2.9	3.0	3.0	3.0	3.1	3.1	3.4	3.5	3.6	3.6	3.4	3.2	3.4	3.2	3.5	3.2	3.6	3.4	3.5	3.2	3.1	3.0	2.9	2.9^{F}
9	2.9^{F}	2.8^{F}	(2.9)$^{J}_{F}$	2.9^{F}	3.4	3.2	3.5	3.5	3.6	3.6	3.5	3.5	3.3	3.2	3.4	3.4	3.2	3.5	3.3	A	A	3.0	3.1	3.2
10	3.0^{F}	3.1	3.0	3.0	3.2	3.5	3.4	3.5	3.3	3.5	3.5	3.3	3.5	3.3	3.3	3.3	3.4	3.2	3.4	3.5	3.2	3.0	3.1	3.1
11	2.8	2.8	2.9	3.0^{F}	3.2	3.2	3.5	3.6	3.6	3.6	3.4^{P}	3.2	3.4	3.2^{H}	3.3	2.8	3.4^{P}	3.5^{P}	3.4	3.5	3.0	2.9	3.0	2.9
12	3.0	3.0	3.0	3.1	C	C	C	C	3.4	3.6	3.3	3.3	3.3	3.3	3.4	3.2	3.5	(3.8)^{P}	3.7	2.8^{H}	3.0	3.2	2.9	3.0^{F}
13	2.9	3.0	3.0	3.1	3.4	3.6	3.4	3.3	3.7	3.7	3.7	3.0^{H}	3.3	3.3	3.5	3.3	3.3	3.7^{P}	3.6	3.1	3.0	3.0	2.9	3.0
14	3.0	3.0	3.1	3.0	3.3	3.0	3.5	3.7	3.4	3.4	3.3	3.3	3.4	3.0	3.3	3.2	3.6^{P}	3.7	3.5	3.2	2.9^{P}	2.9	2.7^{F}	2.9^{F}
15	3.0	2.9	2.9	3.1	3.4	3.1	3.6	3.5	3.3	3.3^{P}	3.4	3.4	3.2	3.3	3.2	3.3	3.4	3.7	3.3	3.0	3.0	3.0	3.1	2.9
16	2.9	3.0	3.0^{P}	3.1	3.1	3.3	3.4	3.6	3.4^{P}	3.5	3.5^{P}	3.5	3.1	3.2^{H}	3.2	3.5	3.5	3.5	3.5	3.0	3.0	3.0	2.9	(2.8)$^{J}_{F}$
17	2.8^{F}	3.0	2.8	2.9	2.9	3.3	3.5	3.5	3.5	3.5	3.4	3.3	3.2	3.4	3.5	3.4	3.3	3.7	C	C	C	2.9	(2.8)^{F}	(3.0)^{F}
18	3.0^{F}	2.8^{F}	3.0^{F}	3.0	3.2	3.0^{F}	3.3	3.5	3.6	3.4	3.3^{P}	3.5	3.5	3.1	3.4	3.3	3.4^{P}	3.5	3.1	2.8	2.8	3.1	2.9	3.1
19	2.8	3.0	2.7	2.7	3.0	3.1	3.5	3.3	3.3	3.3	3.3^{P}	3.4	3.3	3.6	3.3	3.5	3.6	3.5	3.2	3.0	2.8	3.0	3.2	3.0
20	3.0	2.9	3.0	3.0	3.0	3.1	3.3	3.4	3.6^{P}	3.6	3.2^{H}	3.4	3.3	3.6	3.3	3.5	3.7	3.5	3.1	2.9	3.1	3.2	3.2	3.4
21	2.8	2.9	3.0	3.0	2.9	3.0	3.3	3.4	3.5^{P}	(3.4)^{J}	3.7	3.3	3.2	3.3	3.5	3.7	3.5	3.5	(3.4)^{A}	3.2	A	A	A	3.1
22	3.0	3.0	3.1	3.0	3.1	3.3	3.3	3.4	3.6^{P}	3.5	3.2	3.5	3.1	3.5	3.4	3.3	3.7	3.6	3.3	3.0	3.1	3.3	2.9^{F}	3.0
23	3.0	(3.0)$^{J}_{F}$	3.1	3.0	2.9	3.0^{F}	3.2	3.5	3.5	3.4	3.2^{P}	3.3	3.5	3.4	3.3	3.4	3.5	3.5^{P}	3.3	3.1	2.9	2.9	2.9	2.7
24	3.2	3.2	3.2	3.0	3.1^{F}	2.9^{F}	3.3	3.3	3.2	3.4	3.1	3.0	3.5	3.2	3.5	3.6^{P}	3.3	3.2	3.1	3.2	2.8	2.8	2.9	2.7
25	2.7	2.8^{F}	3.3	3.0^{F}	AF	3.0^{F}	3.3	3.3	3.3	(3.5)^{J}	3.3	3.5	3.4	3.4	3.3	3.4	3.6	3.5	2.9	(2.8)^{A}	2.8	3.2	2.8	2.9
26	3.1^{F}	(3.0)^{A}	3.0	A	3.0	3.1	3.2	3.3	3.5^{P}	3.6	3.7	3.7	3.1^{H}	3.5	3.6	3.6	3.5	3.5	3.3	3.1	3.3	3.0	3.2	3.1
27	3.0^{F}	2.9	2.9^{F}	(3.1)^{JF}	3.7	3.0^{F}	3.3	3.8	3.6	(3.3)$^{J}_{H}$	(3.2)^{P}	3.5	(3.5)^{J}	(3.4)^{J}	3.2	3.8^{P}	3.7	3.6	3.5	2.8	2.8	2.9	3.0	3.1
28	3.3	[2.9]^{A}	2.5^{F}	3.0^{F}	3.4	3.3	3.3	3.5	3.7	(3.5)$^{J}_{F}$	3.5	3.1^{H}	3.3	3.6	3.5	3.5	3.5	3.7	3.4	2.9	3.1	3.2	3.0	3.0
29	3.0	3.2	3.2	3.3	3.4	3.2	3.5	3.4	3.5	3.6^{P}	3.4	3.3	3.2	3.4	(3.7)^{J}	3.7	3.5	3.6	3.7	2.9	3.0^{F}	3.0	3.2	3.1^{F}
30	3.0	3.1	3.1	3.2	3.4	3.1	3.5	3.6	3.4	3.4	3.5	3.4	3.4	3.4	3.4	3.4	3.6	3.6	3.4	2.6	3.0	(2.9)$^{J}_{F}$	3.1	2.9
31	2.9	3.1	3.0	3.4	3.6	2.9	3.3	3.4	3.4	3.4	(3.6)^{J}	3.4	3.1	3.4	3.3	3.7	3.6	3.5	3.2	3.3	3.1	3.1	2.8	3.0
Mean Value	3.0	3.0	3.0	3.1	3.2	3.1	3.4	3.5	3.5	3.5	3.4	3.3	3.3	3.3	3.3	3.4	3.5	3.5	3.4	3.1	3.0	3.0	3.0	3.0
Median Value	3.0	3.0	3.0	3.0	3.2	3.1	3.4	3.5	3.5	3.5	3.4	3.4	3.3	3.3	3.3	3.4	3.5	3.5	3.4	3.1	3.0	3.0	2.9	3.0
Count	31	31	31	30	29	30	30	30	31	31	31	31	31	31	31	31	31	31	29	28	27	29	29	31

(M3000)F2 | Sweep 1.0 Mc to 17.2 Mc in 2 min | ☐ Manual ☒ Automatic | K9

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

IONOSPHERIC DATA

Oct. 1954 | **fminF** | 135° E Mean Time | **Kokubunji Tokyo** | Lat. 35° 42.4' N, Long. 139° 29.3' 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	1.2	1.3	E	E	E	1.7	1.9	2.6	3.0	3.4	3.4	3.4	3.4	3.5	3.5	2.8	A	A	A	4.0[A]	A	A	A	1.2
2	1.4	1.4	1.3	1.3	E	1.3	1.7	2.5	2.8	4.0[A]	4.2[A]	3.4	3.4	4.0[A]	5.6[A]	2.9	2.7	1.7	2.1	3.0[A]	1.6	1.3	1.5	1.5
3	1.6	1.7	1.3	1.8	E	1.3	1.6	2.5	2.9	3.3	3.4	3.4	3.4	3.3	3.4	3.0	3.0[A]	2.1	C	C	2.0	1.9	1.5	2.0
4	1.5	1.3	1.0	1.0	E	1.4	1.6	2.5	3.0	3.4	3.3	3.4	3.5	3.5	3.5	3.3	2.7	2.1	1.4	1.5	1.6	1.5	1.3	1.5
5	1.3	1.3	1.0	1.0	E	1.4	2.0	2.7	3.0	3.0	3.3	3.4	3.4	3.6	3.4	3.0	2.9	2.0	1.7	1.3	1.5	1.5	1.3	1.5
6	1.4	1.3	1.2	E	E	1.3	2.0	2.6	3.4	3.3	3.5	3.4	3.5	3.3	3.5	3.0	3.0	1.7	1.5	1.7	1.5	1.5	1.5	1.4
7	1.4	1.4	E	E	E	1.3	2.1	3.3[A]	2.7	3.3	3.5	3.5	3.5	3.3	3.3	3.0	2.5	2.2	1.5	1.8	1.6	1.8	2.0	1.5
8	2.2[A]	1.4	1.2	1.2	E	1.3	1.9	2.3	3.1	4.0[A]	3.3	3.2	3.5	3.5	3.3	2.9	3.5[A]	(2.8)[A]	2.0	1.4	1.3	1.5	2.0	1.5
9	1.5	1.3	1.2	1.2	1.9	1.9	1.8	2.6	3.0	3.5	4.0[A]	4.2[A]	3.5	3.5	3.5	3.5[A]	5.4[A]	(5.2)[A]	5.0[A]	A	A	2.5[A]	2.0	2.1
10	1.5	1.6	1.2	1.3	1.0	1.2	1.5	2.7	2.8	3.3	3.5	3.5	3.4	3.5	3.0	2.8	2.7	2.1	3.5[A]	1.5	2.0	2.1[A]	1.8	1.9
11	1.3	1.4	1.3	1.3	1.3	2.3[A]	1.6	2.6	3.0	3.4	3.4	3.5	3.5	3.4	3.5	3.0	(2.8)[A]	2.5[A]	1.5	1.5	2.1	1.5	1.4	1.4
12	1.4	1.4	1.5	1.8	C	C	C	C	3.0	(4.0)[A]	5.0[A]	3.5	3.3	3.5	3.5	3.0	2.7	2.2	1.9	1.9	(1.7)[A]	1.5	1.5	1.5
13	1.4	1.4	1.3	1.3	1.4	1.3	1.6	2.5	3.1	3.5	3.5	3.5	3.5	3.0	3.4	2.9	2.4	1.6	1.3	1.7	1.5	1.6	1.5	1.4
14	1.5	1.2	1.3	1.0	E	1.4	1.8	2.7	3.0	3.5	3.9	3.4	3.6	3.5	3.8[A]	3.5	2.3	3.1[A]	2.1	1.5	1.3	2.5[A]	(2.0)[A]	1.6
15	1.3	1.4	1.8	1.2	1.2	1.4	1.5	2.3	3.1	3.3	3.5	3.4	3.5	3.2	3.0	2.7	2.4	1.9[A]	1.6	1.5	1.3	1.4	1.3	1.3
16	1.3	1.3	1.3	E	E	1.4	1.8	2.5	3.5	3.2	3.5	3.8[A]	4.0[A]	3.3	3.3	3.3	2.8	2.0	1.5	1.4	1.5	1.6	2.0	(1.8)[A]
17	1.5	1.3	E	E	E	1.4	1.5	2.5	3.2	4.0[A]	4.0[A]	4.8[A]	3.4	3.2	3.2	2.8	2.2	1.5	C	C	C	1.6	(1.6)[A]	1.6
18	2.1	1.7	1.3	1.2	1.3	1.5	2.0	3.2[A]	2.9	3.3	4.0[A]	3.5	3.3	3.5	3.3	(3.2)[A]	3.1[A]	1.8	3.3[A]	1.7	1.4	1.4	2.1[A]	1.7
19	1.8	2.2[A]	1.3	1.1	E	1.4	1.5	2.6	2.8	3.0	3.6	3.2	4.0[A]	(3.5)[A]	3.0	2.4	3.2[A]	5.1[A]	2.1[A]	2.1[A]	1.6	1.6	1.7	1.6
20	1.4	2.8[A]	1.5	1.3	1.6	1.3	1.4	2.5	2.8	3.2	3.0	3.3	3.4	3.4	3.3	3.3	3.3[A]	2.9[A]	2.0	1.5	1.5	1.4	1.4	1.5
21	1.4	1.4	E	E	E	1.3	1.4	2.1	3.1	3.3	3.4	3.4	3.3	3.1	4.0[A]	6.4[A]	2.4	A	A	2.0	A	A	A	1.4
22	1.5	1.4	1.2	1.1	1.0	1.4	1.5	2.5	2.9	3.4	3.7	4.0[A]	5.0[A]	3.5	3.9[A]	4.9[A]	3.4[A]	2.3	1.5	2.2[A]	2.1	1.3	1.5	1.3
23	1.3	1.4	E	E	1.0	1.3	1.5	2.5	3.4[A]	4.0[A]	5.5[A]	4.0[A]	3.5	3.5	3.0	3.0	3.0[A]	1.4	1.5	1.5	1.5	1.4	1.2	1.5
24	1.4	1.3	1.2	1.4	E	1.2	1.5	2.3	2.8	4.3[A]	4.2[A]	5.0[A]	3.6	3.0	3.3	2.5	3.0[A]	1.6	1.5	1.5	1.4	1.5	1.5	1.3
25	2.0	1.9	1.4	1.5	(1.4)[AF]	1.4	1.6	2.3	3.0	3.2	3.0	3.4	3.4	3.4	2.8	2.5	2.1	1.8	2.1[A]	(1.8)[A]	1.5	1.8	1.5	2.2[A]
26	A	A	1.6	3.0[A]	1.4	1.5	1.6	2.1	2.5	2.8	3.0	3.0	3.0	3.0	3.4	3.4[A]	2.3	2.0[A]	1.5	2.2[A]	1.7	1.9	1.5	1.3
27	1.3	1.3	1.0	1.0	1.0	1.4	1.5	2.1	2.6	3.0	3.0	3.2	3.4	3.1	3.0	2.9	2.1	1.5	1.4	1.7	1.4	1.4	1.5	1.4
28	1.4	(1.2)[A]	1.0	E	1.0	1.4	2.4[A]	(2.6)[A]	2.7	3.9[A]	3.8[A]	3.0	3.4	3.4	3.0	2.9	2.2	1.5	(1.4)[A]	1.4	1.5	1.3	1.5	1.4
29	1.4	1.3	1.2	1.0	E	1.4	1.5	2.2	2.6	2.9	2.9	3.5	3.1	3.5	2.9	[2.8][A]	2.7	1.7	1.5	1.5	1.3	1.5	1.4	1.5
30	1.4	1.4	1.4	E	1.0	1.4	1.4	2.4	2.7	3.0	3.3	3.5	3.3	3.5	3.4	3.0	2.5	3.8[A]	2.0	1.9	1.5	1.5	1.3	1.3
31	1.4	1.3	1.2	E	E	1.4	1.4	2.2	2.5	3.0	3.2	3.0	3.1	3.3	3.0	2.5	2.1	1.5	2.0	1.9	1.4	1.4	1.8	1.5
Mean Value	1.5	1.5	1.3	1.3	1.3	1.4	1.7	2.5	3.0	3.4	3.6	3.5	3.5	3.4	3.4	3.1	2.8	2.3	1.9	1.8	1.6	1.6	1.6	1.5
Median Value	1.4	1.4	1.2	1.1	E	1.4	1.6	2.5	3.0	3.3	3.5	3.4	3.4	3.4	3.3	3.0	2.7	2.0	1.6	1.7	1.5	1.5	1.5	1.5
Count	30	30	31	31	30	30	30	30	31	31	31	31	31	31	31	31	30	29	27	28	27	29	29	31

fminF

Sweep 1.0 Mc to 17.2 Mc in 2 min ☐ Manual ☒ Automatic

K10

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

IONOSPHERIC DATA

Oct. 1954 | fminE | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' 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	1.3	1.6	1.3	1.4	E	1.3	1.0	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.4	1.3	1.4	1.4	1.4
2	1.3	1.0	E	E	1.4	E	1.4	1.4	1.5	1.4	1.5	2.1	1.5	1.5	1.5	1.4	1.4	1.4	1.5	1.3	1.3	1.6	1.4	1.4
3	1.4	1.3	E	E	E	1.4	1.3	1.5	1.3	1.3	1.5	1.6	1.6	1.6	1.4	1.4	1.3	1.3	C	C	1.5	1.3	1.5	1.3
4	1.4	1.5	E	1.0	1.0	1.7	1.3	1.4	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	E	E	E
5	E	E	1.3	1.0	1.3	E	1.3	1.4	1.5	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3	1.3	1.5	1.6	1.6	1.6	1.5
6	1.4	1.3	1.5	1.4	1.4	1.6	1.4	1.3	1.3	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5	E	1.5	1.6	E	E	1.4
7	1.5	1.4	E	1.0	1.3	1.6	1.4	1.5	1.3	1.4	1.5	1.5	1.5	2.1	1.4	1.3	1.3	1.5	1.3	1.5	1.3	1.6	1.2	1.3
8	1.3	1.3	1.4	1.3	1.0	E	1.4	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.5	E	1.3	1.4	1.3
9	1.3	1.0	E	1.0	E	1.4	1.3	1.4	1.3	1.4	1.4	1.4	2.1	1.5	1.4	1.5	1.4	1.5	1.5	1.5	1.4	1.3	1.1	1.3
10	1.3	1.0	E	1.5	E	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.3	1.3	1.3	1.5	1.3	1.2	1.4
11	1.3	1.3	1.0	E	1.0	1.0	1.0	1.6	1.4	1.4	1.5	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.4	1.3	E	E
12	1.6	1.0	1.0	1.3	C	C	C	C	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.3	1.4	1.4	1.3	1.3
13	1.3	1.0	1.0	1.3	1.5	1.4	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.3	1.6	1.3	1.4	1.5	1.6	E
14	1.3	1.4	E	1.4	1.4	1.5	1.3	1.3	1.4	1.5	1.5	1.5	1.5	1.4	1.5	1.3	1.4	1.4	1.3	1.3	1.6	1.3	1.3	1.3
15	1.5	1.4	E	E	E	1.4	1.5	1.4	1.4	1.4	1.4	1.3	1.5	1.4	1.4	1.4	1.3	1.3	1.4	1.5	1.7	E	1.6	1.6
16	1.7	E	E	1.4	1.4	1.4	1.3	1.4	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.6	1.5	1.5	1.4	1.5	1.3
17	1.3	E	1.4	1.4	1.3	1.5	1.3	1.4	1.5	1.4	1.5	1.4	1.5	1.5	1.4	1.5	1.3	B	C	C	C	1.5	1.3	1.3
18	1.3	E	E	E	E	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.3	1.5	1.3	1.4	1.3	1.5	1.3	1.5	1.3	1.3
19	1.3	1.7	E	E	E	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.2	1.4	1.5	1.5	1.4
20	1.3	1.3	E	E	E	1.4	1.5	1.4	1.4	1.4	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	E	1.6	1.5
21	1.3	1.6	1.3	1.5	1.3	1.5	1.6	1.4	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.3	1.4	1.5	1.5	1.5	1.6	1.5	1.5	1.7
22	1.4	1.3	E	E	1.4	1.3	1.4	1.3	1.4	1.4	1.5	1.4	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.4	1.4	1.3	1.5	E
23	E	E	1.5	E	E	E	B	1.4	1.4	1.5	1.4	1.5	1.5	1.4	1.5	1.4	1.4	1.2	1.3	1.5	1.3	1.5	1.5	E
24	E	1.0	1.0	E	E	1.5	1.4	1.2	1.4	1.4	1.4	1.4	1.5	1.4	1.5	1.4	1.4	1.4	1.5	E	E	1.5	E	1.7
25	1.0	1.0	E	E	E	1.5	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.4
26	1.0	1.0	E	1.0	1.0	1.5	1.5	1.5	1.4	1.5	1.4	1.5	1.4	1.4	1.4	1.5	1.3	1.4	1.5	1.5	1.3	1.5	1.5	1.4
27	E	E	E	1.2	1.4	E	B	1.4	1.5	1.3	1.5	1.5	1.4	1.5	1.4	1.4	1.4	B	E	1.5	E	1.4	1.7	1.7
28	1.4	1.0	E	E	E	1.4	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.5	1.5	1.5	E	E	E
29	1.4	1.5	1.0	E	1.3	1.4	1.5	1.4	1.5	1.3	1.4	1.4	1.4	1.3	1.4	1.4	1.4	1.5	1.5	E	1.5	E	1.4	1.4
30	1.4	1.3	E	E	E	1.4	1.4	1.3	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3	1.5	1.3	1.4	1.5	1.5	2.3	1.9
31	2.1	1.6	1.5	1.0	1.0	1.5	1.6	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.3	1.6	1.3	1.5	1.5	E	1.5	1.3
Mean Value	1.4	1.3	1.2	1.2	1.3	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.5	1.4
Median Value	1.3	1.3	E	1.0	1.0	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.3
Count	31	31	31	31	30	30	28	30	31	31	31	31	31	31	31	31	31	29	29	29	30	31	31	31

fminE

Sweep 1.0 Mc to 17.2 Mc in 2 min ☐ Manual ☒ Automatic

K11

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

IONOSPHERIC DATA

Oct. 1954 | **ypF2** | **Kokubunji Tokyo** | Lat. 35° 42.4' N, Long. 139° 29.3' E

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	50	60	70	40	90	50	70	40	50	50^{P}	60	60	70	70	40	60	60	50	40	A	A	A	A	50
2	60	50	90	80	60	60	30	60	50	70	80	50	70	60	[60]^{A}	60	70	40	70	60	(50)^{J}	(60)^{JF}	70	80
3	60	60^{V}	90^{F}	70	80^{F}	100^{F}	50	40	60	60	50	80	70	80	60	80	60	60	C	C	90	60	80	80
4	40	60	60	80	90	80	50	50	70	50^{P}	90	70	80	60	50	70	50	50	60	70	60	70	70	60
5	60	80	50	70	70	70	70	40	30	50	40	50	60	70	70	60	40	50	60	50	80	70	60	70
6	70	60	60	90	70	70	60	50	(50)^{J}	60	60	60	60	60	70	60	50	(50)^{J}	30	90	70	70	80	70
7	90	70	70	60	90	90	50	40	50	70	60	40	100	50	70	50	60	50	40	30	90	80^{Z}	80	50
8	90	70	60	50	60	100	60	90	50	50	60	60	50	50	50	70	30	50^{P}	60	80	100	80	80	80^{F}
9	60^{F}	60^{F}	(50)^{JF}	70^{F}	70	80	40	50	50	40	50	30	70	60	50	60	A	50	50	A	A	50	70	60
10	50^{F}	80	50	50	80	70	90	50	60	60	50	50	40	50	60	40	60	100	50	70	90	70	70	70
11	80	60	70	50^{F}	70	50	50	50	40	40	70^{P}	70	60	50^{H}	80	60	70^{P}	60^{P}	60	50	70	40	60	50
12	50	50	80	70	C	C	C	C	70	40	80	70	50	60	40	60	60	(30)^{P}	70	80^{H}	50	80	100	50^{F}
13	80	50	60	50	50	40	90	90	50	60	40	120^{H}	30	50	30	60	70	40^{P}	40	70	100	70	60	60
14	70	70	60	60	50	50	50	40	60	70	40	60	60	60	50	50	50^{P}	60	80	80	90^{P}	80	70^{F}	50^{F}
15	60	40	70	50	70	50	40	50	50	50^{P}	40	40	70	30	70	60	50	40	90	70	70	60	50	60
16	70	90	100^{P}	70	100	60	60	60	60^{P}	40	50^{P}	30	110	50^{H}	60	30	40	60	70	80	60	60	70	(60)^{JF}
17	70^{F}	60	70	60	80	40	40	70	40	30	50	40	50	60	40	40	60	40	C	C	C	60	(60)^{F}	(60)^{F}
18	70^{F}	90^{F}	80^{F}	60	60	70^{F}	50	50	30	40	50^{P}	50	50	60	70	70	50^{P}	60	80	80	80	50	70	40
19	100	90	70	90	60	80	40	80	50	50	50^{P}	50	70	50	90	40	50	50	70	90	80	90	80	70
20	90	A	60	70	70	40	50	40	30^{P}	50	50^{H}	50	60	50	60	50	40	60	70	70	70	90	70	60
21	100	70	70	70	80	80	80	50	50^{P}	(60)^{J}	40	70	100	40	50	A	70	60	[60]^{A}	60	A	A	A	70
22	80	80	70	80	60	80	60	50	50^{P}	60	60	50	100	60	50	50	40	50	90	100	50	50	50^{F}	60
23	70	(60)^{F}	80	80	60	70^{F}	60	60	50	70	50^{P}	30	40	50	50	60	50	50^{P}	70	70	60	90	80	90
24	70	50	80	40	70^{F}	50^{F}	60	60	80	60	60	50	40	60	40	40^{P}	60	60	80	40	90	50	70	120
25	120	80^{F}	60	80^{F}	AF	50^{F}	80	70	80	(60)^{J}	90	40	60	60	50	50	40	60	70	[80]^{A}	90	70	70	40
26	80^{F}	[70]^{A}	60	A	70	70	60	60	50^{P}	50	30	60	70^{H}	50	40	50	50	60	70	60	40	100	70	60
27	70^{F}	70	70^{F}	(50)^{JF}	50	60^{F}	50	50	40	(90)^{JH}	(50)^{P}	40	(40)^{J}	(50)^{J}	60	40^{P}	40	70	70	70	70	90	70	50
28	70	[60]^{A}	60^{F}	60^{F}	40	80	80	50	50	(60)^{JP}	50	80^{H}	70	50	50	50	50	50	100	80	40	70	80	70
29	60	70	60	70	50	70	60	50	50	40^{P}	60	60	40	30	(40)^{J}	30	40	50	50	90	70^{F}	90	70	80^{F}
30	60	90	80	60	40	90	60	70	70	40	50	60	60	70	50	50	40	50	70	80	90	(80)^{JF}	50	70
31	70	50	70	50	60	60	70	70	60	50	(40)^{J}	50	70	40	50	40	30	60	70	70	90	90	100	70
Mean Value	70	70	70	60	70	70	60	60	50	50	50	60	60	50	50	50	50	50	70	70	70	70	70	60
Median Value	70	60	70	60	70	70	60	50	50	50	50	50	60	50	50	50	50	50	70	70	70	70	70	60
Count	31	30	31	30	29	30	30	30	31	31	31	31	31	31	31	30	30	31	29	27	27	29	29	31

ypF2

Sweep 1.0 Mc to 19.2 Mc in 2 min ☐ Manual ☒ Automatic

K12

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

IONOSPHERIC DATA

Oct. 1954 | foF2 | 135° E Mean Time | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' 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	3.3	3.4	3.4	3.6	2.3	2.4	3.0	5.5	8.0	8.2	6.8	6.3	9.1 P	10.0	8.5	8.9	8.3	7.8	7.7 S	5.6	3.5	[3.5] A	3.5	3.7
2	3.6	3.9	3.8	3.2	3.2	3.2 S	3.8	6.5	6.3	7.2	8.5	10.1	9.2 P	9.8	8.0	6.4	6.6	8.0	6.9	4.7	A	A	3.1	[3.3] A
3	3.5	3.0	3.0	3.1	F	F	3.2	5.1	6.5	7.5 J	6.9	7.2	9.1	8.9	8.5	8.5	8.4	8.3	6.5	3.9	3.5 H	3.3 P	3.7	3.7
4	3.8	3.4 J	3.0 J	3.5 P	3.5	3.0	3.4 V	5.6	7.0	9.0	6.7	8.3	8.4	7.8	8.8	10.0	8.8	8.0	7.2 S	6.1 S	5.0	4.0	3.4	3.8
5	3.5 S	4.0 S	3.7 S	3.3	3.2	2.9	3.1	5.8	6.4	7.9	8.5	8.5	8.7	8.8	8.3	7.3	7.4	6.6	6.9	4.5	3.8	3.7	3.9 S	3.8
6	3.7	3.6	3.5	3.8	3.7	2.9	3.4	5.9	6.2	8.1	7.7	6.5	8.6	8.0	8.9	8.0	7.2	6.8	6.0	4.5	4.2	4.0	4.3	4.1 H
7	3.9	3.7	3.8	3.7	4.3	2.4	3.2	6.2	C	C	C	C	C	C	C	C	C	C	9.0	6.5	2.8 J	3.0	3.2	2.7 J
8	3.7	3.4	3.4	3.3	3.1	3.4	3.2	5.5	7.0	6.5	6.2	7.2	8.2	9.6 P	7.9	7.1	8.0	10.4 J S	S	A	3.7	3.5	3.5	[3.5] A
9	3.5	3.5	3.1	3.2	3.3	3.2 S	3.0	5.9	7.7 J S	7.5	6.7	7.4	6.7	.8.2	8.0	7.3	7.6	8.0	8.2	5.9	4.2	3.8	3.6	3.5 F
10	3.3 J	3.3	3.1	3.0	3.3	3.0	2.9	5.4	5.9	7.8	8.8	8.0	8.6	8.5	7.8	6.9	7.1	8.7	7.7	5.6	3.7 S	3.6	3.4	3.6
11	3.6	3.7	3.8	3.6	3.7	3.2	3.1	5.5	6.0	6.5	7.1	7.6	7.5	7.3	7.6	6.7 H	8.1	9.4	7.2	4.5 J	3.1	3.2	3.5	3.6
12	2.8 J	3.7	3.4	3.3 H	3.2	2.7	3.3	6.3	6.2	8.0	7.9	7.4	8.5	9.1 H	8.0	7.3	8.2	8.5	7.2 P	[5.0] B S	2.7	3.0	3.1	3.1
13	3.3	3.1	3.1	3.1	3.4	3.1	2.9	5.5	6.4	7.7	6.7	6.6	7.3	8.0	8.8	7.7	7.2	[6.7] M	6.2	2.7	2.6	3.0	3.0	3.2
14	3.2	3.3	3.1	3.0	3.4	3.2	3.1	5.1	6.0	6.3	6.8	7.3	6.6	6.9	8.9	8.5	8.0	6.8	6.3	3.5	3.1 S	3.1	3.5	[3.6] B S
15	3.7 S	3.8	3.8	3.8	4.6	3.1	3.3 F	5.4	6.5	7.5	8.6	9.0	8.7	9.8 P	11.8 P	11.5	9.5	7.0	5.5	5.1	3.3 S	3.4	3.7	3.4
16	3.5	3.4	3.3	3.2	3.3	3.4	3.1	5.3	6.4	8.3	7.3	[7.4] C	7.5	7.4	[8.2] C	9.1	7.4	7.0	5.9	3.7	3.4	3.5	3.6	3.4 S
17	3.5	3.6	3.4	3.4	3.6	3.2	3.9	5.2	5.5	6.5	8.0	9.3	10.4	9.2 H	8.7	8.2	8.5	8.8	4.8	3.5	3.2	3.4	3.5	3.5
18	3.6 S	3.7	3.3	3.4	3.2	3.1	3.5	6.2 S	6.5	7.4	8.1	8.2	8.6	[8.5] C	8.4	8.5	[7.3] C	6.1	5.4	5.2 H	[5.2] S	5.1	4.4 J	3.8 P
19	[3.9] C	4.0 J	C	C	3.2	C	C	C	C	9.4	10.9	8.5	9.2	[8.1] C	7.0	8.5	8.3	7.7 J	6.2	4.7	3.8	[4.0] S	4.2 J	3.2
20	3.4	3.0	3.4	3.4	3.4	3.5 S	3.5	5.7	6.5	6.9	7.6	8.3	8.9	7.9	8.0	8.5	7.5 S	8.3	5.1	3.4	3.8	4.1	4.0 J	3.4
21	2.8	[2.8] A	2.7	2.8	2.7	2.6	3.1 V	5.8	C	C	C	C	C	C	C	C	C	C	5.5	3.2	A	AS	A	A
22	A	A	3.2 F	2.8 F S	3.0 F	2.9	2.8 H	5.4	6.1	6.6	7.1	7.0	7.5	9.2 J	10.7	8.8	7.3	7.6 S	5.4	3.3	3.0	2.9 J	3.1	2.6
23	2.9	2.8 J S	3.0	3.3	3.2	2.6 H	2.9	5.5	5.7	6.2	7.9	9.6	10.5	7.1	7.4	7.2	[7.4] A	7.5	6.2	4.5 J S	3.8 S	4.0 J S	4.0	3.6
24	3.6	3.9	3.8	3.2	3.2	2.4	3.3 F	5.4	6.4	7.0 J	7.1	9.0	10.2	8.9	9.5	8.5	8.5	7.0 H	6.9	S	4.1	[3.8] A	3.5	3.6
25	3.5	3.6	4.2	3.2 S	3.0 F H	2.6 J	2.5	4.8	6.4	8.5	9.6	9.9	8.3	10.5	8.4	7.1	7.6	7.9 J S	4.9	3.6	3.8 P	[3.5] A	3.2 F	2.9
26	3.0	2.7	2.8	3.0	2.7	2.4	2.4	5.0	7.7 J	9.9	7.9	8.5	8.6	9.8 J	9.4 J	8.4	7.3	6.2 J	5.5	3.4	3.8	3.5	3.3	[3.0] A
27	2.7 J	3.0	3.2	3.3	3.7	2.3 F	2.9	5.8	5.4	5.3	7.0 S	10.0	8.9	8.5	8.9	9.4 J	6.0 J	5.5	4.6	3.0 J	3.2	3.4	3.4	3.3
28	3.2	3.2	[3.1] A	3.0	3.1 J	[2.6] A	2.2	5.7	6.6	7.5	8.3	7.4 J	7.2	7.9	8.3	7.2	7.0 S	5.5	5.1	3.2	2.8	3.2	3.2	2.8
29	2.9	2.9	3.0	2.9	2.9	2.4	2.3	5.3	7.2 S	6.4	7.8	8.5	6.2	7.4	9.9	8.9	7.7 S	6.5	4.3	2.3	2.5	2.9 H	3.2	3.0
30	3.1 F	3.2	3.0	2.6	3.0	2.7	2.6	4.7	5.6	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
31	M	M	M	M	M	M	M	M	M	7.4	8.5	8.5	6.8	8.1	10.6	8.6	5.9 J	5.5	5.1	4.3	3.0	2.9 H	3.0	3.0
Mean Value	3.4	3.4	3.3	3.2	3.3	2.9	3.1	5.6	6.4	7.5	7.8	8.1	8.4	8.5	8.7	8.2	7.6	7.4	6.2	4.3	3.5	3.5	3.5	3.4
Median Value	3.5	3.4	3.3	3.2	3.2	2.9	3.1	5.5	6.4	7.5	7.8	8.2	8.6	8.5	8.4	8.4	7.6	7.6	6.2	4.4	3.5	3.5	3.5	3.4
Count	29	29	29	29	29	28	29	29	27	28	28	28	28	28	28	28	28	28	29	28	28	28	29	29

foF2

Sweep 1.0 Mc to 22.0 Mc in 1 min ☐ Manual ☒ Automatic

Y1

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

IONOSPHERIC DATA

Oct. 1954 | h'F2 | 135° E Mean Time | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' 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	320	300	260	240	250	290	260	240	270	240	270	280	310	290	270	280	260	260	250^{A}	250^{A}	(250)^{A}	A	A	350^{A}
2	340	310^{A}	240	250	340	310	250	220	240	290	290	280	260	270	260	270	290	260	230	230^{A}	A	A	300	[280]^{A}
3	250	250	250	230	[270]^{A}	310	260	220	250	250	290	290	290	270	290	290	250	250	230	250^{A}	300^{H}	300	300	310
4	330	290	310	300	220	310	270	240	260	260	260	310	270	320	310	270	260	250	240	230	230	260	310	340
5	310	270	250	280	240	230	250	240	260	270	260	260	270	270	270	280	250	250	230	230	260	310	280	260
6	290	280	280	250	220	250	240	230	250	250	250	280^{A}	280	290	270	270	250^{A}	250^{A}	[240]^{A}	240^{A}	[280]^{A}	320	300	290^{H}
7	300	300	310	300	230	290	280	250	C	C	C	C	C	C	C	C	C	C	240	210	210	330	330	350
8	300	280	270	270	240	240	240	220	250	240	290	290	310	280	260	320	290	250	250	310	250	270^{A}	310	330^{A}
9	300	300	300	300	250	230	260	250	240	240	250	260	280	280	280	270	290	250	230	220	230^{A}	290	250	310F
10	300	250	290	290	250	240	240	230	240	280	240	270	290	260	270	280	280	260	230^{A}	230^{A}	250^{A}	260	300	300
11	310	300	270	260	250	220	280	230	240	260	270	280	280	290	270	270^{H}	260	240	240^{A}	210	280	330^{A}	300	290
12	310	280	260	260^{H}	240	260	260	230	240	280	260	270	290	270^{H}	270	280	260	250	230	220^{A}	330	330	290	310
13	300	300	280	270	230	230	250	220	240	240	240	290	290	310	280	270	260	230	220^{A}	210	320	320	300	310
14	310	300	270	300	250	210	230	220	230^{A}	250	260	280	290	340	290	260	250	240	210	210^{A}	290	300^{A}	290	300
15	320	290	290	270	230	230	260	230	250	260	260	260	290	290	290	260	250	240	210^{A}	220^{A}	250	290	290	290
16	300	290	260	270	250	240	240	220	250	250	250	C	C	270	[270]^{C}	270	250	240	230^{A}	230^{A}	270	290	[270]^{A}	250
17	300	300	350	320^{A}	260	280	240	210	220	260	290	270	260	270^{H}	260	260	260	240	200^{A}	240	260	300	280	300
18	310	260	260	290	250	260	250	220	230	250	270	250	260	C	C	280	[260]^{C}	240	250	230$^{A}_{H}$	[250]^{A}	270	240	340^{A}
19	[300]^{C}	260	C	C	300	C	C	C	C	270	250	250	260	[280]^{C}	290	270	250	240	220^{A}	230	290	290	240	310
20	350	250	300	300	280	260	250	230	250	250	260	260	280	260	280	270	250	240	210	300	300	260	250	240
21	290^{A}	[300]^{A}	300	290	290	300	250	240	C	C	C	C	C	C	C	C	C	C	220^{A}	A	A	A	A	A
22	A	A	250	270	270	270	260^{H}	240	230	250	280	260	270	310	260	250	250	240	210^{A}	210	300	300^{A}	270	300
23	290	260	310	250	230	280^{H}	280	220	230	260	260	270	250	240^{A}	260	250	[260]^{A}	260^{A}	250^{A}	250^{A}	(350)^{A}	320^{A}	290	250
24	290	260	240	250	230	330^{A}	260	240	260	260	300	300	250	270	260	260	250	250^{H}	230	240	290	[320]^{A}	(360)^{A}	330
25	340^{A}	290	250	230^{A}	290^{H}	330	250	230	250	270	260	260	250	290	260	240	240	240	210	300	280	[280]^{A}	270	320A
26	(350)^{A}	300	290	270	250	260	290	240	260	250	250	240	290	260	250	250	230	220^{A}	220^{A}	240	280	260	(270)^{A}	[290]^{A}
27	310	300	270	250	230	220	270	220	220	250	300	260	240	280	250	250	220	210	210^{A}	300	310	290	280	260
28	250	260	[280]^{A}	300	250^{A}	[280]^{A}	310	240	230	250	260	260	310	280	260	260	240	220	210	230	300	300	250	300
29	300	270	250	250	230	250	270	240	240	250	240	260	260	310	260	240	230	220	210^{A}	240	360	310^{H}	260	300
30	290	260	230^{A}	280	270	240	260	230	240	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
31	M	M	M	M	M	M	M	M	M	250	250	240	270	320	260	240	240	230	230	220^{A}	260	260^{H}	260	300
Mean Value	310	280	270	270	250	260	260	230	240	260	260	270	280	280	270	270	250	240	230	240	280	290	280	300
Median Value	300	290	270	270	250	260	260	230	240	250	260	270	280	280	270	270	250	240	230	230	280	300	280	300
Count	29	29	29	29	30	29	29	29	27	28	28	27	27	27	27	28	28	28	30	29	28	27	28	29

h'F2

Sweep 1.0 Mc to 22.0 Mc in 1 min ☐ Manual ☒ Automatic

Y2

23

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

IONOSPHERIC DATA

Oct. 1954 | fEs | 135° E Mean Time | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' 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	2.4	E	E	E	2.3	2.3	2.3	G	3.4	G	G	G	G	G	G	G	3.8	5.2	4.4	4.6	3.2	4.2	5.1	3.5
2	5.0	3.3	2.3	2.4	2.3 Es	2.3 Es	2.1	3.2	3.7	G	G	G	6.2Y	5.9	7.0	6.0	3.4	3.4	3.2Y	3.0	4.9	5.8	5.0Y	5.9Y
3	2.1	2.4F	2.3	2.1	3.0	2.4	2.3	2.3	G	G	G	G	G	3.6	G	3.8	2.7	4.4	3.6	3.4	2.4	2.4	3.5	2.9
4	2.3	2.4	2.3	E	E	E	2.3	2.4	3.1	G	G	G	G	G	G	G	G	3.9	2.6	2.4	2.3	2.3	2.1S	2.3S
5	2.1S	E	2.3S	2.3	E	2.3	2.3	G	3.8	3.8	G	G	G	5.8	G	G	4.8	4.7Y	3.8	2.9	2.3	2.1	2.3	E
6	E	E	E	E	2.1S	2.2S	2.3	2.9	3.6	4.2	3.8	6.0	G	5.3	G	4.4Y	5.8	5.9	8.5	3.1S	4.3	2.4S	2.4	2.8
7	2.3	2.2	2.0	E	E	2.2	E	G	C	C	C	C	C	C	C	C	C	C	2.4	3.0	2.4	3.5Y	3.2Y	3.1
8	2.4	2.4	3.0Y	2.4	E	2.3	E	3.0	3.6	G	G	G	G	G	G	G	4.7	4.2	5.8	5.8Y	5.5Y	5.6Y	3.4	3.5
9	5.8Y	E	E	2.3	2.4	2.4	2.4F	3.0	3.6	3.4	3.7	4.6	5.2	G	G	3.8	8.0	5.6	2.3	2.4	8.6Y	3.7	3.4	3.8
10	5.1	3.0	2.7Y	2.4	2.3	2.4F	2.3	2.3	G	G	G	G	G	G	G	G	G	3.2	6.0	3.0	6.0	3.1	2.3	E
11	2.1	2.3S	E	2.4 Es	2.4	2.3S	3.5	3.5	3.0	3.8	G	G	G	G	G	G	G	3.6	3.8	2.4	3.0	3.4	2.4	2.4
12	2.3	E	E	2.4	2.1	E	2.1	G	3.2	5.9	5.1Y	G	G	G	G	3.7	3.8	3.4F	3.7F	3.0	2.3	6.0F	2.4F	2.4
13	2.4	2.4	2.3	2.4	E	2.4	2.4	G	3.7	4.2Y	G	G	G	G	G	G	3.6	3.4	3.1S	2.4	2.4	2.4	2.3S	2.3
14	2.3	E	2.4	E	E	E	2.4	3.2	6.2	3.8	G	G	G	G	G	4.4Y	4.6	4.5	3.2	3.2	2.4	3.3	2.9	2.3
15	2.4	2.3	2.3	2.4	2.1	2.3	2.4	G	G	G	6.6	G	G	G	G	G	3.2	3.6	3.3	3.4	2.6	2.2	2.4	2.4
16	E	2.3	E	2.4	2.3	2.3	E	3.1	G	4.5Y	G	C	C	G	C	5.7	4.7	G	4.0	2.4	2.3	3.4	5.4	2.4F
17	2.3	2.3 Es	2.5	2.9	2.4	2.9	2.3	G	G	G	4.6Y	4.7Y	G	G	4.5Y	6.5	6.0	3.4	2.4	3.0F	3.0	3.5	2.4	3.4
18	3.2	2.4	2.4	2.4	2.4	2.3F	2.4 Es	G	3.6F	3.5	4.7	5.5	G	C	G	G	C	2.3	3.3	3.6	3.6	3.6	E	2.3
19	C	2.4	C	C	2.4	C	C	C	C	5.9	C	G	G	C	G	3.3	3.7	G	3.5	2.4	2.3	3.3	2.3	2.3
20	3.6	2.9	6.0	3.3	3.8	3.3	3.4	2.3	3.6	G	G	G	G	G	G	G	G	2.3	E	E	E	2.2	E	2.4
21	3.0	3.8	3.3	3.0	2.3	2.3	2.3	2.9	C	C	C	C	C	C	C	C	C	C	5.8	3.3	3.8S	5.7	5.9F	5.6
22	6.5	5.7	3.0	2.4	5.9	3.0	2.4	3.1	G	G	3.8	G	G	G	G	3.7	3.7	3.1	3.0Y	2.3	2.3	3.3	3.0	2.3
23	2.3	2.3	2.3	2.4	2.4	2.3	E	2.7	3.4	6.1	G	G	G	8.0	3.8	4.9	8.8	8.5	5.8	3.8	3.9	3.5S	2.3	2.3
24	2.1	2.3	2.4	2.3	2.4	2.5	2.3	3.0	3.2	3.7	5.9	5.8	5.6	G	5.9	G	G	2.3	3.1F	2.1 Es	3.4	4.2	3.6	2.4
25	3.5	3.1	2.3	2.4	2.3	3.1	2.1	3.6	G	3.4	4.2Y	4.5Y	5.8Y	4.5Y	5.0	5.8	5.0	2.9	E	2.8	2.3	6.0	3.7	3.0
26	3.5	2.3	2.3	2.3	2.3	2.3	2.4	2.3F	3.3	3.5	G	G	G	G	G	3.7	3.7	3.5 Es	2.4F	2.4	3.5	2.9	3.6	3.2
27	2.4F	2.4F	E	2.4	2.1	E	2.3	2.4	G	3.5	G	3.5	G	G	G	G	G	2.4F	2.3	2.3	3.4Y	2.3	2.4	3.0
28	2.3	2.4	3.5S	2.4	3.5	3.3	3.0	2.8F	3.2	3.5	3.8	G	3.5	3.1	4.8Y	G	G	2.3F	E	2.3	2.4 Es	2.3	E	E
29	E	2.3	E	2.3	2.3	2.3	2.3	G	3.3S	G	4.7	G	G	G	G	3.7	3.3	3.0	3.0F	4.9	3.5	2.7	3.0	3.5
30	2.3	2.3F	2.3	2.3	2.3	2.1	E	G	G	M	M	M	M	M	M	M	M	M	M.	M	M	M	M	M
31	M	M	M	M	M	M	M	M	M	G	G	G	G	G	G	3.5	3.2	3.4Y	2.7	2.3	2.3	2.3Y	2.4	2.3
Mean Value	3.0	2.7	2.7	2.4	2.6	2.5	2.4	2.8	3.6	4.2	4.6	4.9	5.3	5.2	5.2	4.5	4.5	3.8	3.7	3.0	3.3	3.5	3.2	3.0
Median Value	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.4	3.2	3.4	G	G	G	G	G	3.4	3.7	3.4	3.2	3.0	2.8	3.3	2.4	2.4
Count	29	30	29	29	30	29	29	29	27	28	27	27	27	26	27	28	27	28	30	30	30	30	30	30

fEs

Sweep 1.0 Mc to 22.0 Mc in 1 min ☐ Manual ☒ Automatic

Y 3

SOLAR RADIO EMISSION

OCT. 1954

Observing Station: HIRAISO — Frequency: 200 Mc/s.

Flux in 10^{-22} w.m^{-2} (c/s)$^{-1}$, 2 Polarizations — Time in U.T.

Daily Data

Date	Steady Flux		
	00-03	03-06	Daily Averages
1	4	4	4
2	-	-	(4)
3	-	-	(6)
4	5	6	5
5	5	6	5
6	4	-	4
7	-	(6)	(6)
8	5	5	5
9	6	6	6
10	5	5	5
11	5	5	5
12	-	-	-
13	4	4	4
14	5	7	6
15	4	5	4
16	4	5	5
17	4	5	4
18	4	3	4
19	4	4	4
20	4	4	4
21	4	3	4
22	4	5	4
23	4	3	4
24	4	5	5
25	4	5	4
26	5	5	5
27	4	5	4
28	4	4	4
29	5	5	5
30	5	5	5
31	5	5	5

IONOSPHERIC DATA IN JAPAN FOR OCTOBER 1954

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