F — 51

551. 510. 535. 05(52) (047.3)

IONOSPHERIC DATA IN JAPAN

FOR MARCH 1953

Vol. 5 No. 3

Issued in April 1953

PREPARED BY THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

F—51

THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

IONOSPHERIC DATA IN JAPAN FOR MARCH 1953

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 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, 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

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° 03.2′ 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 Information" of "RESOLUTION OF THE IX GENERAL ASSEMBLY OF URSI SEPTEMBER 1950" (CRWO-F25) 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.

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

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Mar. 1953 | **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	S	3.2P	3.3F	3.3FJ	S F	S F	3.0	5.5	5.8	B	B	B	B	B	B	B	S	S	S	S	S	S	3.6F	S
2	S	S	3.2F	3.5	S	S	S	S	B	B	5.2	[5.6]B	6.0	C	B	5.8	5.2	4.6J	4.1J	4.0	[3.8]C	3.6P	(2.6)P	3.4
3	3.2	2.9	2.7	2.7J	2.6	2.6K	[2.6]KA	2.7K	3.5K	BK	BK	C	C	C	C	C	C	C	C	C	3.2P	3.2P	3.4P	[3.1]C
4	2.8P	2.9	2.8	2.8	2.4	2.8	S	B	C	C	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	7.1	6.2	6.5	6.9	[6.0]B	5.2	[4.6]C	3.9	3.5	2.8	3.0	3.2P	3.4
6	3.0	3.1	3.1	3.0	3.1	3.0	[3.8]S	4.7J	5.5P	B	B	B	6.3P	6.3	C	C	5.1	4.8J	[4.1]C	3.4P	3.2P	3.3	3.3	[3.5]S
7	3.7P	2.7JF	3.5PF	[3.6]S	3.6PF	3.5	(2.4)P	(4.1)P	[5.1]B	5.5	[5.6]C	5.8	7.1	8.1	6.6	6.0	5.0	(5.2)P	(4.2)P	3.8PF	3.8	3.9	3.2	3.1
8	3.5	3.1J	2.9	3.5P	3.4	S	S	B	C	C	C	C	C	C	C	C	B	B	C	3.8P	3.6P	S	S	S
9	SF	S F	SF	3.1JF	S F	S F	C	(4.0)P	B	C	C	C	C	C	C	C	(5.0)P	6.3PJ	[5.4]S	4.4	2.6F	2.6F	(2.3)PJF	3.7PFZ
10	2.8JF	2.8JF	3.1JF	(3.9)JF	F	3.0F	3.8	C	C	C	C	C	C	C	C	C	C	C	S	S	3.2P	3.1	S	3.6
11	[3.4]S	3.2	2.5	3.1J	3.0J	[3.6]S	4.1	4.8P	(5.6)P	C	C	C	C	C	C	C	S	S	S	S	S	S	S	C
12	C	C	C	C	C	C	C	C	C	C	C	C	6.6	C	C	C	6.2	6.6	(4.4)P	(4.5)P	[4.0]S	(3.6)PJ	(3.7)JP	S
13	S	(4.2)P	[3.9]C	3.6	3.6	[3.8]SF	(3.9)JP	B	B	B	B	B	B	6.3	6.5	[6.2]B	5.8	6.1	(4.3)PJ	[4.2]S	4.1	4.0	[4.0]S	3.7PJ
14	4.0	(3.0)P	3.8P	3.9	3.9P	3.7P	[4.2]S	4.8J	[5.5]C	6.2	6.0	6.4P	7.4P	7.3P	6.8	6.5	6.2	6.1	S	S	4.0P	S	S	S
15	(3.5)P	3.7P	4.0	3.8J	(3.4)P	3.4	4.5P	4.6	6.6	6.6	(6.5)P	[6.9]S	7.3P	S	S	6.6	6.0	5.5	5.9	5.2	S	3.5	3.5	3.3
16	C	C	S	3.0	2.8	2.6	4.2H	5.9J	6.1	(6.5)P	6.7	6.7	7.2	C	C	C	6.2	6.8	4.9	3.6P	2.7	2.6H	2.9	3.3J
17	3.4PJ	3.3P	[3.2]S	3.2J	3.3J	3.2	4.4	5.6	5.2	6.4P	(6.6)P	B	B	B	B	6.1	6.6	5.9J	5.5	C	C	C	S	3.3J
18	(3.5)PJ	3.5P	3.7	3.8	S	S	S	5.3	5.6	C	C	8.2	9.0	7.9	7.1	6.3	5.8P	5.6	4.9P	5.0	[5.0]C	5.1	5.0	C
19	C	C	C	C	C	C	C	C	C	6.3	8.6	7.1	7.3	7.1	7.5	7.0	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	(5.8)JP	B	B	(7.3)JP	(6.9)JP	7.6	6.1	6.2P	6.0	C	S	S	S	S	S
21	S	S	S	S	3.3P	2.9	S	B	5.3	6.7	6.8	(6.6)P	(8.6)P	[7.5]C	6.4	B	6.5	S	S	S	S	S	S	S
22	S	S	S	S	S	S	S	4.5	[5.2]S	5.9	5.8	7.1	7.0P	9.1J	8.1J	6.8P	6.0P	5.6J	5.4J	2.8	3.0	3.1	[3.2]S	3.3
23	3.0	2.9	[3.0]S	3.1	3.3	3.5	B	B	4.9	5.7	[5.8]C	5.9	6.1	C	C	B	5.1	S	4.2P	[3.4]S	2.6	S	S	SA
24	3.3	3.5F	2.9F	2.6	2.5F	2.6	3.8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	S	3.0	3.4
25	3.5P	3.3	2.8	3.1	2.7	2.8	2.5	B	B	B	B	B	5.6JP	5.6J	5.6	5.6	5.8P	4.6	C	C	2.9	2.8	2.5	2.6
26	2.7	2.7JP	2.8	2.5	2.1	2.3JF	2.9	4.0	[5.0]B	6.0	5.2	B	B	B	B	C	6.1	5.3P	S	C	S	S	S	S
27	S	S	(3.6)PJ	(3.5)PJ	3.2P	3.0	C	B	5.0	6.0	(6.0)JP	B	C	5.9	B	6.3	5.6	[5.2]C	4.7	S	S	S	S	S
28	S	S	S	3.2	3.1	S	S	4.1P	5.3	B	(5.7)JP	5.0	6.0	6.1	6.2	B	5.8	5.3J	5.3	5.1	4.9	[4.4]P	4.0	[3.5]S
29	3.0	4.1	4.1	[3.6]S	3.1	3.0	4.0	6.1	6.4P	[6.0]B	5.7	6.4	B	B	B	B	5.7	5.5	S	S	S	S	S	(3.6)P
30	C	C	C	C	3.0	3.0	4.4J	5.3	B	B	B	B	B	B	6.3P	C	C	B	5.6P	3.9	S	S	S	S
31	S	S	S	S	S	3.1	[4.2]S	5.3J	5.9	6.0	6.1	6.4P	6.8P	7.5	B	B	6.0	5.4	4.5	3.9	5F	S	S	5F
Mean Value	3.3	3.2	3.2	3.3	3.1	3.1	3.7	4.8	5.4	6.1	6.2	6.5	6.9	7.0	6.8	6.3	5.8	5.5	4.8	4.0	3.5	3.5	3.4	3.4
Median Value	3.4	3.2	3.2	3.2	3.1	3.0	3.9	4.8	5.4	6.0	6.0	6.5	7.0	7.0	6.7	6.2	5.8	5.5	4.8	3.9	3.2	3.3	3.3	3.4
Count	16	18	20	23	20	20	17	17	18	14	15	14	17	14	13	13	22	20	17	16	17	16	16	16

Sweep 1.0 Mc to 15.5 Mc in 2 min ☐ Manual ☒ Automatic

W 1

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

IONOSPHERIC DATA

Mar. 1953 | h_pF2 | 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	S	320	330	(310)	SF	SF	250	(250)	250	B	B	B	B	B	B	B	S	S	S	S	S	S	330	S
2	S	S	340	320	S	S	S	S	B	B	B	B	400	C	B	360	(360)B	(350)	(320)	(410)	[380]C	350	(360)	380
3	380	430	450	(330)	440	520	[430]	340	B	B	B	C	C	C	C	C	C	C	C	C	340	360	350	[330]
4	310	320	370	340	370	370	S	B	C	C	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	290	300	300	280	[280]B	290	[290]	290	310	390	400	380	420
6	400	370	360	350	390	350	[320]	(300)	300	B	B	B	310	310	C	C	290	(280)	[310]	340	360	330	340	[350]
7	360	(320)	(350)	[360]	370	310	(280)	(270)	[300]B	320	[300]	310	300	310	320	270	290	(290)	(310)	320	320	320	320	330
8	340	(330)	350	350	300	S	S	B	C	C	C	C	C	C	C	C	B	B	C	310	350	S	S	S
9	SF	SF	SF	(370)	SF	SF	C	(280)	B	C	C	C	C	C	C	C	(310)	(290)	[290]	290	360	390	(440)	360
10	(370)	(360)	(330)	(320)	F	300	290	C	C	C	C	C	C	C	C	C	C	C	S	S	310	330	S	330
11	[340]	340	340	(330)	(340)	[320]	290	260	(250)	C	C	C	C	C	C	C	S	S	S	S	S	S	S	S
12	C	C	C	C	C	C	C	C	C	C	C	C	290	C	C	C	S	300	(300)	(300)	S	(330)	(290)	S
13	S	(350)	[340]	320	250	SF	(270)	B	B	B	B	B	B	300	260	[250]B	240	300	(260)	[280]	310	300	[300]	(310)
14	290	(300)	340	370	340	330	[290]	(250)	[260]	260	310	320	310	300	290	300	290	280	S	S	350	S	S	S
15	(370)P	320	310	(310)	(290)P	330	270	270	290	300	(290)	[300]S	310	S	S	320	300	290	310	330	S	340	360	370
16	C	C	S	310	300	330	310	(260)	300	(320)	270	320	300	C	C	C	290	290	390	370	320	300	320	(340)
17	(360)	300	[300]	(310)	(310)	300	280	290	280	310	(270)P	B	B	B	B	290	280	(290)	310	C	C	C	S	(310)
18	(340)	340	340	310	S	S	S	260	280	C	C	300	290	300	290	300	290P	280	310	320	[320]	310	320	C
19	C	C	C	C	C	C	C	C	C	290	320	280	300	300	300	300	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	(270)	B	B	(330)	(280)	290	290	250	270	C	S	S	S	S	S
21	S	S	S	S	270P	270	S	B	300	290	280	(290)	(290)	[300]	320	B	260	S	S	S	S	S	S	S
22	S	S	S	S	S	S	S	280	[280]	280	280	290	330	(280)	(270)	270	320	(280)	(270)	250	280	350	[340]	330
23	310	350	[350]	350	340	410	B	B	300	280	[280]	270	310	C	C	B	270	S	250P	[260]S	270	S	S	SA
24	380	330	370	350	360	420	350	C	C	C	C	C	C	C	C	C	C	C	C	C	C	S	420	380
25	360	380	360	290	320	350	290	B	B	B	B	B	(300)	(380)	330	300	320	310	C	C	310	350	340	320
26	400	(340)	340	350	S	(370)	290	280	[320]B	360	B	B	B	B	B	C	310	310	S	C	S	S	S	S
27	S	S	(340)	(310)	310	320	C	B	340	300	(300)	B	C	320	B	310	280	[280]	280	S	S	S	S	S
28	S	S	S	360	350	S	S	290P	(320)	B	(290)	250	300	320	320	B	300	(280)	280	330	310	[320]	340	[350]
29	360	380	350	[340]	340	350	340	320	250	[280]B	310	320	B	B	B	B	290	280	S	S	S	S	S	(340)
30	C	C	C	C	350	380	(280)	280	B	B	B	B	B	B	300	C	C	B	320	330	S	S	S	S
31	S	S	S	S	S	340	[320]	(300)	(310)B	320	270	320	330	320	B	B	320	300	320	290	SF	S	S	SF
Mean Value	350	340	350	330	330	350	300	280	290	300	290	300	310	310	300	300	290	290	300	320	330	340	350	350
Median Value	360	340	340	330	340	340	290	280	300	300	290	300	300	300	300	300	290	290	310	320	320	330	340	340
Count	16	18	20	23	19	19	17	17	17	14	14	13	17	14	12	13	21	20	17	16	16	15	16	16

h_pF2

Sweep 1.0 Mc to 15.5 Mc in 2 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

Mar. 1953 | **h'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	[330]S	300	260	250	260	260	230	220	220	B	290	B	B	B	B	B	S	230	220	250	290	300	300	300F
2	290	280	280	300	290	280	270	S	B	B	B	B	B	C	B	330	260	280	270	330	[320]C	310	320	300
3	300	330	350	280	340	410K	[360]KA	320K	BK	BK	BK	C	C	C	C	C	C	C	C	C	290	320	300	[290]C
4	280	290	300	300	300	300	260	280	C	C	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	270	300	300	270	270	260	[240]C	230	260	300	320	330	320
6	310	300	300	300	300	280	280	260	290	[300]B	300	300	300	300	C	C	250	230	[240]C	260	300	290	290	290
7	280	300	290	290	290F	270	250	260	250	300	[300]C	310	300	300	290	260	270	240	250	270	280	290	290	300
8	280	310	300	280	270	290	260	270	C	C	C	C	C	C	C	C	260	250	[250]C	250	290	300	300	[300]A
9	290	300	280	350	300	260	[260]C	270	B	C	C	C	C	C	C	C	250	250	240	230	300F	300	360	300
10	330	330	300	270	270	260	280	C	C	C	C	C	C	C	C	C	C	C	280	270	280	300	280	300
11	[300]S	300	300	290	290	280	240	250	230	C	C	C	C	C	C	C	270	260	240	230	270	270	290	C
12	C	C	C	C	C	C	C	C	C	C	C	300	280	C	C	C	260	280	240	260	270	250	260	280F
13	280F	290	260	280	250	260	250	250	240	B	B	B	B	290	260	[240]B	220	270	220	230	280	260	270	260
14	250	280	280	270	270	240	250	230	[240]C	250	310	310	300	280	290	290	280	260	250	250	300	300	290	290
15	300	260	250	240	230	260	230	240	280	300	280	280	290	250	280	300	270	250	250	240	280	320	330	360
16	C	C	260	250	250	290	250H	250	280	300	270	320	300	C	C	C	270	260	320	320	260	270	290	320
17	300	260	260	260	260	270	250	270	270	300	270	290	280	280	270	270	270	260	260	C	C	C	S	280
18	300	310	280	260	240	210	230	220	250	C	C	260	280	280	290	290	250	250	280	280	[280]C	280	300	C
19	C	C	C	C	C	C	C	C	C	280	280	280	290	300	300	280	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	270	290B	310B	320	280	280	270	250	250	[250]C	260	230	240	290	300
21	290	[280]S	270	260	240	230	220	230	260	280	270	290	270	[290]C	310	340	230	220	220	250	260	280	300	300
22	330	300	300	310	310	300	280	280	[280]S	280	280	280	320	270	270	260	250	250	220	220	260	300	[300]S	300
23	280	320	320	320	300	300	230	280	300	280	[280]C	270	310	C	C	270	230	250	220	220	230	300	350	[340]A
24	340	300	340	320	320	350	300	C	C	C	C	C	C	C	C	C	C	C	C	C	C	S	400A	320
25	360	320	270	250	250	280	(280)A	500	350	B	B	B	300	380	330	300	280	290	C	C	270	280S	300S	280
26	330	330	310	270	S	320F	260	260	[310]B	360	320B	330	340	290	300	[300]C	290	290	260	C	S	300	310	300
27	340	310	300	260	240	250	C	B	340	300	300	300	[300]C	310	300	290	230	[240]C	250	230	280	290	300	300
28	300	290	300	290	320	300	260	280	300	270	290	S	300	320	320	280	250	250	230	270	270	[290]C	300	300
29	300	320	320	[310]S	300	300	300	240	240	250	310	320	300	270	280	260	250	260	280	270	[300]S	320	[310]S	300
30	C	C	C	C	290	300	260	250	[280]B	300	290	310	320	330	290	C	C	260	260	270	300	320	[330]S	340
31	330F	310F	290F	280	280	300	260	300	300	310	270	300	330B	310	290	290	280	270	280	260	320F	[310]S	300	300F
Mean Value	300	300	290	280	280	280	260	270	280	290	290	300	300	300	290	280	260	260	250	260	280	290	310	300
Median Value	300	300	290	280	280	280	260	260	280	300	290	300	300	290	290	280	260	250	250	260	280	300	300	300
Count	25	25	26	26	26	27	26	23	20	17	18	20	21	19	18	19	24	26	26	24	26	27	28	27

Sweep 1.0 Mc to 15.5 Mc in 2 min ☐ Manual ☒ Automatic

W 3

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

IONOSPHERIC DATA

Mar. 1953 | foF1 | 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							Q	Q	Q	3.8B	3.8	3.9	B	B	B	B	S	Q						
2							Q	S	B	B	B	B	B	C	B	B	3.0	Q						
3							A	Q	B	B	B	C	C	C	C	C	C	C						
4							Q	B	C	C	C	C	C	C	C	C	C	C						
5							C	C	C	C	C	4.0	[3.9]B	3.8	B	Q	Q	C						
6							Q	Q	3.3	3.8	3.8	3.8	3.8	3.9	C	C	Q	Q						
7							Q	Q	Q	3.6	[3.8]C	4.0	4.2	4.2	4.0	Q	Q	Q						
8							Q	Q	C	C	C	C	C	C	C	C	Q	Q						
9							C	Q	B	C	C	C	C	C	C	C	Q	Q						
10							Q	C	C	C	C	C	C	C	C	C	C	C						
11							Q	Q	3.3	3.6	C	C	C	C	C	3.7	3.2	Q						
12							C	C	C	C	C	3.9	3.9	C	C	C	Q	Q						
13							Q	Q	3.4	3.6	3.8	3.8	4.2	3.9	4.0	3.7	Q	Q						
14							Q	Q	C	3.7	4.0	4.1	4.2	4.0	3.9	3.7	3.5	Q						
15							Q	Q	3.8L	3.9	4.2H	3.9	4.2	3.9	3.9	3.8	3.6	Q						
16							Q	Q	3.8	3.8	4.1	4.2	3.9	C	C	C	3.9	Q						
17							Q	Q	Q	4.0	4.0	4.3	4.1	4.0	4.0	3.6	3.4	Q						
18							Q	Q	3.3	C	C	4.0	4.2	4.2	4.0	3.9	Q	Q						
19							C	C	C	3.9	4.3	4.3	4.1	[4.0]L	4.0	3.9	C	C						
20							C	C	C	3.9	4.0P	[3.8]B	3.6	4.0P	4.0	3.5	3.2	Q						
21							Q	B	Q	3.9	3.9	[3.9]B	3.9	C	B	Q	Q	Q						
22							Q	2.6	S	A	B	B	3.8	3.9	3.9	3.5	Q	Q						
23							Q	Q	B	S	C	B	4.0	C	C	B	Q	Q						
24							Q	C	C	C	C	C	C	C	C	C	C	C						
25							Q	3.2	3.5H	4.3H	3.9	3.9	3.7	4.0	3.8	L C	Q	Q						
26							Q	Q	3.9	4.0	4.0B	B	B	4.0	3.8	[3.6]C	(3.5)L	3.0						
27							C	3.6	3.9	3.9	3.9	3.9	[3.9]C	3.9	3.9	3.8	3.5	C						
28							Q	2.8H	3.6	Q	S	S	3.9	3.9	3.6	S	Q	Q						
29							Q	Q	3.9	3.9	4.0	3.8	3.9S	4.0	3.9	3.6	3.3	Q						
30							Q	Q	3.9	3.9	3.9	4.0	4.0	4.0	3.9	C	C	Q						
31							Q	3.5	3.9	4.0	B	B	B	4.0P	B	B	(3.5)L	Q						
Mean Value								3.1	3.7	3.9	4.0	4.0	4.0	4.0	3.9	3.7	3.3	3.0						
Median Value								3.2	3.8	3.9	4.0	3.9	3.9	4.0	3.9	3.7	3.4	3.0						
Count								5	13	18	16	18	20	18	16	13	11	1						

foF1

Sweep 1.0 Mc to 15.5 Mc in 2 min ☐ Manual ☒ Automatic

W 4

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

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Mar. 1953

h'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	Q	Q	210	200	200	200	B	B	B	250	Q						
2							Q	270	B	B	B	B	B	C	B	B	230	Q						
3							A	Q	B	B	B	C	C	C	C	C	C	C						
4							Q	B	C	C	C	C	C	C	C	C	C	C						
5							C	C	C	C	C	260B	[260]B	250B	B	Q	Q	C						
6							Q	Q	230	280	250	200	230	230	C	C	Q	Q						
7							Q	Q	Q	250	[240]C	240	B	B	250	Q	Q	Q						
8							Q	Q	C	C	C	C	C	C	C	C	Q	Q						
9							C	Q	B	C	C	C	C	C	C	C	Q	Q						
10							Q	C	C	C	C	C	C	C	C	C	C	C						
11							Q	Q	200	240	240	250	A	A	260	230	240	Q						
12							C	C	C	C	C	250	250	C	C	C	Q	Q						
13							Q	Q	220	230	220	200	240	200	260	250	Q	Q						
14							Q	Q	C	240	210	220	240	200	250	230	260	Q						
15							Q	Q	230	220	220H	230	240	220	210	250	260	Q						
16							Q	Q	250	230	230	230	230	C	C	C	270	Q						
17							Q	Q	Q	240	240	210	230	210	270	240	270	Q						
18							Q	Q	220	C	C	210	230	250	230	250	Q	Q						
19							C	C	C	250	210	200	200	230	230	240	C	C						
20							C	C	C	250	240	[230]B	220	260	[250]B	240	240	Q						
21							Q	B	Q	240	220	B	B	C	B	Q	Q	Q						
22							Q	210	S	A	B	B	260B	200	230	230	Q	Q						
23							Q	Q	B	S	C	B	B	C	C	B	Q	Q						
24							Q	C	C	C	C	C	C	C	C	C	C	C						
25							Q	250	220H	280H	280	280B	280	300	280	280	Q	Q						
26							Q	Q	250	260	240	B	B	270B	260	[260]C	270	290						
27							C	290	280	220	200	200	[240]S	270B	220	260	200	C						
28							Q	240H	250	Q	S	S	250S	250S	240	240	Q	Q						
29							Q	Q	230	220	220B	240	(260)B	240	250	240	210	Q						
30							Q	Q	260	(270)B	250	(250)B	250B	240	250	C	C	Q						
31							Q	260	260	B	B	B	B	220	B	B	270	Q						
Mean Value								250	240	240	230	230	240	240	250	250	250	290						
Median Value								260	230	240	230	230	240	240	250	240	260	290						
Count								6	13	17	17	18	18	17	16	14	12	1						

Sweep 1.0 Mc to 15.5 Mc in 2 min ☐ Manual ☒ Automatic

W 5

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

IONOSPHERIC DATA

Mar. 1953 | foE | 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							E	B	2.1	2.6	[2.6]A	2.7	2.6	2.6	[2.5]B	2.4	B	B						
2							S	1.6	[2.1]B	2.6	2.7	2.6	2.6	2.6	2.7	B	B	B						
3							S	1.6	A	B	B	C	C	C	C	C	C	C						
4							E	B	C	C	C	C	C	C	C	C	C	C						
5							C	C	C	C	C	B	B	B	B	B	B	B						
6							E	1.5	2.2	2.6	2.7	2.8	2.8	2.8	C	C	B	E						
7							E	1.7	2.4	2.8	C	B	B	B	B	B	B	S						
8							S	B	C	C	C	C	C	C	C	C	B	B						
9							C	B	2.5B	C	C	C	C	C	C	C	S	B						
10							S	C	C	C	C	C	C	C	C	C	C	C						
11							B	1.8P	2.4	2.5	2.6	2.6	B	A	2.8	2.6	2.2	S						
12							C	C	C	C	C	2.8	2.8	C	C	C	2.0P	1.6						
13							1.5J	1.9H	2.5	2.7	2.9	2.9	2.9	2.8	3.0	2.7	B	A						
14							B	B	C	2.7	2.8	2.9	2.8	2.9	2.9	2.7	B	B						
15							B	B	2.5	2.8	2.8	2.8	3.0	3.0	3.0	2.6	[2.1]S	1.6						
16							S	S	2.4	3.1	[3.0]A	3.0	2.9	C	C	C	2.2	B						
17							B	B	2.6	2.8F	2.7	3.3	3.0	2.9	2.8	2.7	S	S						
18							S	B	2.5	C	C	3.2	3.0	3.0	2.8	2.6	2.2	S						
19							C	C	C	2.4	2.8	3.0	3.0	3.0	[2.9]B	2.8	C	C						
20							C	C	C	2.7	2.9	[2.8]B	2.7	2.8	2.8	2.6	2.3	1.6						
21							B	B	2.5	2.8	B	B	B	C	B	B	B	B						
22							B	B	S	2.5	2.7	[2.8]A	2.9	3.0	2.8	2.4	2.2	1.7						
23							B	1.6	B	2.2	C	B	B	C	C	B	B	S						
24							B	C	C	C	C	C	C	C	C	C	C	C						
25							1.6	2.0	[2.5]B	3.0	2.6	A	B	B	2.5	B	1.8	E						
26							B	B	B	B	2.7	A	A	2.8	2.7	C	B	B						
27							C	2.4	2.5	2.6	A	A	C	2.6	2.8F	2.6	2.3	C						
28							1.5	B	2.4	[2.6]B	2.7	2.8	2.9	2.8	2.7	2.6	2.3	S						
29							B	B	2.6	2.8	B	B	B	2.8	2.8	2.6	2.3B	B						
30							B	2.2B	2.8	B	B	B	B	2.9	2.7	C	C	B						
31							S	2.3	B	B	B	B	B	B	B	B	B	B						
Mean Value							1.5	1.9	2.4	2.7	2.7	2.9	2.9	2.8	2.8	2.6	2.2	1.6						
Median Value							E	1.8	2.5	2.7	2.7	2.8	2.9	2.8	2.8	2.6	2.2	1.6						
Count							7	11	17	19	15	15	14	16	17	13	11	6						

foE

Sweep 1.0 Mc to 15.5 Mc in 2 min ☐ Manual ☒ Automatic

W6

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

IONOSPHERIC DATA

Mar. 1953 | **h'E** | 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							E	120	110	120	(110)^{M}	110	100	110	(110)^{B}	110	110	110						
2							S	110	(110)^{B}	110^{B}	100	110	110^{B}	120	120	120	B	B						
3							S	130	(120)^{A}	120	120	C	C	C	C	C	C	C						
4							E	110	C	C	C	C	C	C	C	C	C	C						
5							C	C	C	C	C	B	B	B	B	B	B	C						
6							E	140	120	120	110	110	120	120	C	C	B	E						
7							E	120	120	140	C	B	B	B	B	B	B	S						
8							S	B	C	C	C	C	C	C	C	C	B	150						
9							C	B	B	C	C	C	C	C	C	C	S	100						
10							S	C	C	C	C	C	C	C	C	C	C	C						
11							B	110	110	110	120	110	120	A	120	120	120	S						
12							C	C	C	C	C	120	120	C	C	C	100	130						
13							110	120^{H}	120	120	110	110	110	110	110	110	140	A						
14							B	110	(110)^{C}	110	110	110	110	110	110	110	110	100						
15							B	120	110	100	120	100	110	100	110	120	(120)^{S}	130						
16							S	S	120	110	(120)^{A}	120	120	C	C	C	120	140						
17							B	140	120	110^{F}	110	120	120	110	120	120	S	S						
18							S	B	130	C	C	100	110	120	110	110	110^{B}	S						
19							C	C	C	100	110	110	110	110	(110)^{B}	110	C	C						
20							C	C	C	120	130	120	120	120	110	120	120	130^{B}						
21							B	B	B	120	B	B	B	C	B	B	B	B						
22							B	B	S	120	110	(110)^{A}	110	120	110	120	120	120^{B}						
23							B	130	B	120	C	B	B	C	C	B	B	S						
24							B	C	C	C	C	C	C	C	C	C	C	C						
25							100	100	100	120	130	A	B	B	120	120	130	E						
26							B	130	120	120	110	A	A	130	120	C	B	140						
27							C	B	120	100	A	A	C	100	100	140	100	C						
28							130	120	120	110	110	120	120	110	120	110	120	S						
29							B	B	120	120	B	B	B	130	[illegible]	120	B	B						
30							B	B	B	B	B	B	120	130	120	C	C	B						
31							S	110	B	130	B	B	B	B	B	B	B	B						
Mean Value							110	120	120	120	110	110	110	120	110	120	120	130						
Median Value							E	120	120	120	110	110	120	120	110	120	120	130						
Count							7	16	17	22	16	15	16	16	17	15	13	12						

Sweep 1.0 Mc to 15.5 Mc in 2 min ☐ Manual ☒ Automatic

W 7

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

IONOSPHERIC DATA

Mar. 1953 | fEs | 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	S	2.8	E	E	E	E	E	G	G	G	3.0	G	G	G	B	G	G	G	E	E	S	E	E	E
2	S	E	E	E	E	E	S	G	B	G	G	G	G	G	G	G	B	B	E	E	C	E	E	E
3	E	1.9	E	E	E	E	2.9	2.4	2.6	G	G	C	C	C	C	C	C	C	C	C	E	1.6	E	C
4	1.6	1.6	E	1.4	1.2	E	E	G	C	C	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	B	B	B	B	B	B	C	E	E	E	E	E	E
6	E	E	1.6	E	1.6	E	E	G	G	G	G	G	G	G	C	C	B	E	C	E	E	E	E	E
7	E	E	E	E	E	E	E	G	G	G	C	B	B	B	B	B	B	S	E	E	E	E	E	E
8	E	E	E	E	E	E	S	B	C	C	C	C	C	C	C	C	B	G	C	E	E	E	1.6	3.0
9	1.3	1.1	E	1.3	E	E	C	B	G	C	C	C	C	C	C	C	S	G	1.6	1.6	E	E	E	E
10	E	1.4	E	1.4F	1.1	1.4	S	C	C	C	C	C	C	C	C	C	C	C	E	E	E	E	E	E
11	S	E	E	E	E	E	B	G	G	G	G	3.2	3.6	4.0	G	G	G	S	E	E	E	E	E	C
12	C	C	C	C	C	C	C	C	C	C	C	G	G	C	C	C	G	G	E	S	S	E	E	E
13	E	E	1.6	E	E	E	G	G	G	G	G	G	G	G	G	G	G	3.4	E	E	2.6	E	E	E
14	E	E	E	E	E	E	B	G	C	G	G	G	G	G	3.3	G	G	2.9	3.4	2.4Y	1.6	1.6	1.6	E
15	E	E	E	E	E	1.6	B	G	G	G	G	G	G	G	G	G	S	G	E	E	E	S	1.6	S
16	C	C	E	E	E	1.6	S	S	3.8Y	G	4.0	G	G	C	C	C	G	G	E	E	E	E	E	E
17	E	E	E	E	E	E	B	G	G	G	G	G	G	G	G	G	S	S	E	C	C	C	S	E
18	E	E	1.6	E	E	E	S	B	G	C	C	G	G	G	G	G	G	2.7	E	E	C	E	E	C
19	C	C	C	C	C	C	C	C	C	3.9	3.8	G	G	3.9	B	G	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	G	G	G	G	G	G	G	G	G	C	E	E	E	E	E
21	E	S	E	E	E	E	B	B	G	G	B	B	B	C	B	B	B	B	E	E	E	E	E	E
22	E	E	E	E	E	E	B	B	S	3.6	G	3.0	G	G	G	G	G	G	E	E	E	E	S	E
23	E	E	E	E	E	E	B	G	B	G	C	B	B	C	C	B	B	S	E	E	E	E	E	2.8Y
24	1.6	E	E	1.4	E	E	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	S	2.8	3.0
25	2.5	2.9	E	2.6	1.6	E	2.4	G	G	G	G	3.0	B	B	G	G	G	E	C	C	E	E	E	E
26	1.6	3.0	E	E	S	E	1.6	G	G	G	G	3.0	3.4	G	G	C	B	G	E	C	S	E	E	S
27	E	E	E	E	E	E	C	G	G	G	3.8	3.0	C	G	G	G	G	C	1.6	E	E	E	E	E
28	E	E	E	E	S	E	G	G	G	G	G	G	G	G	2.8	G	G	S	E	E	E	C	E	E
29	E	E	E	S	E	E	B	B	G	G	B	B	B	G	G	G	G	B	E	E	S	S	S	E
30	C	C	C	C	E	E	B	G	G	B	B	B	G	G	G	C	C	B	E	E	E	E	S	E
31	E	E	E	E	E	E	S	G	B	G	B	B	B	B	B	B	B	B	E	E	E	S	E	E
Mean Value	1.7	2.1	1.6	1.6	1.4	1.5	2.3	2.4	3.2	3.8	3.7	3.0	3.5	4.0	3.0	—	—	3.0	2.2	2.0	2.1	1.6	1.9	2.9
Median Value	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
Count	22	24	26	25	25	27	9	18	18	22	17	18	17	17	15	15	13	14	23	23	21	23	25	24

fEs

Sweep 1.0 Mc to 15.5 Mc in 2 min ☐ Manual ☒ Automatic

W 8

III

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

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Mar. 1953 | **(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	S	3.0 P	3.0 F	(3.0) JF	SF	SF	3.5	3.4	3.5	B	B	B	B	B	B	B	S	S	S	S	S	S	3.0 F	S
2	S	S	2.9 F	3.0	S	S	S	S	B	B	3.1	(2.8) B	26	C	B	2.8	(2.7) B	(2.8) J	(3.0) J	2.5	(2.7) C	2.9 P	(2.8) P	2.7
3	2.6	2.6	2.4	(2.9) J	2.5	2.3 K	(2.6) A K	2.8 K	B K	B K	B K	C	C	C	C	C	C	C	C	C	2.9 P	2.9 P	2.9 P	(3.0) C
4	3.1 P	3.1	2.8	3.0	2.7	2.8	S	B	C	C	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	3.2	3.2	3.3	3.3	(3.2) B	3.2	(3.2) C	3.2	3.1	2.7	2.6	2.8 P	2.6
6	2.7	2.8	2.8	2.9	2.7	2.9	(3.0) S	(3.0) J	3.2 P	B	B	B	3.0 P	3.0	C	C	3.1	(3.2) J	(3.0) C	2.9 P	3.0 P	3.0	3.0	(2.9) S
7	2.8 P	(3.1) JF	(2.9) PJF	(2.8) S	2.8 PF	3.0	(3.2) P	(3.4) P	[3.2] B	3.0	(3.0) C	3.1	3.1	3.0	2.9	3.4	3.1	(3.1) P	(3.0) P	3.0 PF	3.0	3.0	3.1	3.0
8	3.0	(2.9) J	3.0	2.9 P	3.2	S	S	B	C	C	C	C	C	C	C	C	B	B	C	3.1 P	2.8 P	S	S	S
9	SF	SF	SF	(2.9) JF	SF	SF	C	(3.3) P	B	C	C	C	C	C	C	C	(3.0) P	(3.1) PJ	(3.2) S	3.2	2.7 F	2.7 F	(2.6) PJF	(2.8) PF
10	(2.8) JF	(2.8) JF	(3.0) JF	(2.9) JF	F	3.0 F	3.0	C	C	C	C	C	C	C	C	C	C	C	S	S	3.2 P	3.0	S	3.0
11	(3.0) S	3.0	3.0	(3.0) J	(3.1) J	(3.1) S	3.1	3.4 P	(3.4) P	C	C	C	C	C	C	C	S	S	S	S	S	S	S	C
12	C	C	C	C	C	C	C	C	C	C	C	C	3.2	C	C	C	3.2	3.1	(3.1) P	(3.1) P	S	(2.9) PJ	(3.1) JF	S
13	S	(2.8) P	(2.9) C	3.0	3.1	SF	(3.3) JF	B	B	B	B	B	B	3.2	3.5	(3.5) B	3.5	3.2	(3.3) PJ	(3.2) S	3.1	3.3	(3.2) S	(3.1) JF
14	3.2	(3.1) P	3.0 P	2.8	3.0 P	2.9 P	(3.1) S	(3.3) J	(3.4) C	3.5	3.1	3.1 P	3.1 P	3.3 P	3.2	3.2	3.2	3.4	S	S	2.8 P	S	S	S
15	(2.8) P	3.0 P	3.1	(3.0) J	(3.3) P	2.9	3.3 P	3.2	3.3	3.1	(3.2) P	[3.1] S	3.0 P	S	S	3.0	3.0	3.2	3.0	2.9	S	2.9	2.8	2.8
16	C	C	S	3.0	3.1	3.0	3.0 H	(3.2) J	3.0	(3.0) P	3.4	3.2	3.2	C	C	C	3.5	3.2	2.6	2.8 P	2.9	3.0 P	3.0	(2.9) J
17	(2.8) PJ	3.1 P	(3.0) S	(3.0) J	(3.1) J	3.1	3.3	3.1	3.1	3.0 P	(3.3) P	B	B	B	B	3.4	3.3	(3.3) J	3.1	C	C	C	S	(3.2) J
18	(2.9) JP	2.9 P	2.9	3.1	S	S	S	3.2	3.3	C	C	3.0	3.2	3.1	3.2	3.1	3.2 P	3.2	3.0 P	3.0	(3.0) C	3.0	3.0	C
19	C	C	C	C	C	C	C	C	C	3.2	3.0	3.2	3.1	3.1	(3.1) S	3.0	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	(3.3) JP	B	B	(3.0) JP	(3.3) JP	3.1	3.2	3.4 P	3.2	C	S	S	S	S	S
21	S	S	S	S	3.3 P	3.3	S	B	3.2	3.2	3.2	(3.1) P	(3.1) P	[3.1] C	3.1	B	3.3	S	S	S	S	S	S	S
22	S	S	S	S	S	S	S	3.3	(3.2) S	3.2	3.2	3.2	3.0 P	(3.2) J	(3.3) J	3.2 P	2.9 P	(3.2) J	(3.2) J	3.4	3.3	2.8	(2.9) S	3.0
23	3.2	3.0	(3.0) S	3.0	2.9	2.6	B	B	3.1	3.3	(3.2) C	3.2	3.1	C	C	B	3.3	S	3.5 P	[3.4] S	3.3	S	S	S 4
24	2.7	3.0 F	2.7 F	2.8	2.9 F	2.5	2.8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	S	2.7	2.7
25	2.9 P	2.8 F	2.7	3.2	2.9	2.9	3.2	B	B	B	B	B	(3.2) JP	(2.8) J	3.1	3.2	3.0 P	3.0	C	C	3.0	2.7	3.0	3.0
26	2.7	(3.0) JP	3.0	2.9	2.9	(2.8) FJ	3.1	3.2	[3.0] B	2.9	3.0	B	B	B	B	C	3.1	3.0 P	S	C	S	S	S	S
27	S	S	(2.9) PJ	(3.0) PJ	3.0 P	3.1	C	B	3.0	3.1	(3.1) JP	B	C	3.0	B	3.0	3.2	(3.2) C	3.2	S	S	S	S	S
28	S	S	S	2.9	2.9	S	S	3.2 P	(3.0) S	B	(3.2) JP	3.4	3.2	3.2	3.2	B	3.0	(3.1) J	3.1	2.9	3.0	(3.0) C	2.9	(2.8) S
29	2.8	2.7	2.9	(2.9) S	2.9	2.9	2.9	3.0	3.4 P	(3.3) B	3.2	3.0	B	B	B	B	3.1	3.3	S	S	S	S	S	(2.9) P
30	C	C	C	C	2.8	2.7	(3.2) J	3.2	B	B	B	B	B	B	3.2 P	C	C	B	3.0 P	3.0	S	S	S	S
31	S	S	S	S	S	3.0	(3.1) S	(3.2) J	3.1	3.0	3.3	3.1 P	3.0 P	3.0	B	B	3.2	3.2	3.1	3.3	SF	S	S	SF
Mean Value	2.9	2.9	2.9	3.0	3.0	2.9	3.1	3.2	3.2	3.1	3.2	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.1	3.0	3.0	2.9	2.9	2.9
Median Value	2.8	3.0	2.9	3.0	2.9	2.9	3.1	3.2	3.2	3.2	3.2	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.1	3.0	3.0	2.9	3.0	2.9
Count	16	18	20	23	20	19	17	17	17	14	15	14	17	14	12	13	22	20	17	16	16	15	16	16

Sweep 1.0 Mc to 15.5 Mc in 2 min ☐ Manual ☒ Automatic

W 9

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

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Mar. 1953 | **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	[1.8]^{S}	2.1^{A}	1.1^{F}	E	E	1.1	1.3	2.2	2.3	2.7	2.9	2.9	2.8	B	B	2.5	2.0	2.0	1.3	1.4	2.2^{S}	1.8	1.4	1.2
2	S	E	E	E	E	E	2.4	2.0	B	B	4.5	[4.8]^{B}	5.0	C	B	4.0	2.1	2.2	1.4	2.2	[2.1]^{C}	2.0	E	1.4
3	E	E	1.1	E	E	1.1	[1.6]^{A}	2.0	3.2	B	B	C	C	C	C	C	C	C	C	C	1.4	1.4	1.4	[1.4]^{C}
4	1.4	1.3	E	1.2	E	E	1.4	2.4	C	C	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	3.8	4.5	3.5	4.1	2.5	2.2	[1.8]^{C}	1.4	1.4	E	1.3	1.3	1.3
6	E	E	E	1.2	E	E	1.4	2.2	2.5	3.0	3.0	2.9	3.0	3.2	C	C	2.0	1.4	[1.4]^{C}	1.4	1.4	1.4	1.4	1.4
7	E	E	1.2	1.4	E	1.4	1.4	2.4	2.7	2.8	[3.2]^{C}	3.7	4.0	4.0	3.4	2.7	2.3	2.1	1.3	1.4	1.4	2.0	2.0	2.0
8	1.4	2.1	1.2	E	2.0	E	2.0	2.4	C	C	C	C	C	C	C	C	2.4	1.8	[1.6]^{a}	1.4	1.5	1.5	1.5	A
9	E	E	E	E	E	E	C	2.4	3.4	C	C	C	C	C	C	C	2.2	2.2	1.8	1.8	1.4	1.4	1.4	1.4
10	E	E	E	1.2^{F}	E	1.2	2.2	C	C	C	C	C	C	C	C	C	C	C	2.0	1.4	1.4	E	1.4	2.0
11	S	E	E	E	E	E	1.4	2.3	2.5	2.8	3.2	3.4	A	A	3.2	2.8	2.3	2.2	1.5	1.5	1.5	1.4	1.5	C
12	C	C	C	C	C	C	C	C	C	C	C	3.2	3.0	C	C	C	2.5	2.0	1.4	2.0	1.8	1.4	1.5	1.5
13	E	E	1.2	E	E	E	1.8	2.3	2.6	2.7	3.1	3.1	3.2	3.1	3.1	2.7	2.5	2.2	1.4	1.4	2.0^{A}	1.4	1.5	1.4
14	E	E	E	E	E	E	1.8	2.8	[3.0]^{C}	3.1	3.1	3.2	3.5	3.2	3.1	2.7	2.4	2.3	2.7^{A}	2.4^{A}	2.2	1.8	1.5	1.5
15	E	E	E	E	E	1.1	1.9	2.3	2.7	3.1	3.1	3.6	3.3	3.0	3.2	2.7	2.7	1.9	1.3	1.5	1.4	2.2^{S}	2.2	2.2^{S}
16	C	C	E	E	E	1.4	1.5	2.2	2.6	2.8	3.5	3.2	3.0	C	C	C	2.3	2.2	1.4	E	1.4	1.4	1.5	2.0
17	E	E	E	E	E	E	2.2	2.3	2.7	3.0	3.3	3.3	3.2	3.1	3.3	2.9	3.6	2.0	1.9	C	C	C	S	1.5
18	1.5	2.0	E	E	E	E	2.2	2.3	2.7	C	C	3.4	3.4	3.8	3.4	3.5	2.4	2.3	2.3	1.8	[2.0]^{C}	2.2	2.0	C
19	C	C	C	C	C	C	C	C	C	2.6	3.3	3.4	3.5	3.4	3.4	2.9	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	3.0	3.2	5.1	2.9	3.4	4.0	2.7	2.4	1.8	[1.6]^{C}	1.4	1.4	1.3	1.4	1.8
21	1.4	S	E	E	1.1	E	2.0	2.4	2.8	3.3	3.1	4.0	3.8	[4.2]C	4.5	3.0	2.4	1.8	1.4	1.4	1.4	1.4	1.4	1.4
22	1.4	E	E	1.2	1.1	E	1.8	1.8	[2.6]^{S}	3.4^{A}	4.5	4.4	3.5	3.2	3.0	2.8	2.4	1.8	1.2	E	1.4	1.4	S	E
23	1.4	E	1.4	E	E	E	1.6	2.2	3.5	4.5^{S}	[4.4]^{C}	4.4	3.8	C	C	4.0	2.2	2.0	1.8	1.4	1.4	1.4	1.4	[1.4]^{A}
24	1.4	1.3	E	1.4	E	E	1.9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	S	2.2^{A}	1.5
25	2.8^{S}	1.4	E	1.4	E	E	2.0^{A}	2.2	2.4	3.2	3.2	3.4	3.0	3.0	2.7	2.4	2.4	1.4	C	C	1.4	1.6^{S}	1.6^{S}	1.4
26	1.4	1.4	E	E	1.8^{S}	E	1.9	2.3	3.0	3.0	3.0	4.3	4.3	3.4	2.9	[2.6]^{C}	2.4	2.3	1.4	C	S	1.5	1.4	1.4
27	1.4	E	E	E	E	E	C	2.5	2.7	3.0	3.0	2.8	[3.1]^{C}	3.4	3.0	2.7	2.3	[2.2]^{C}	2.0	1.4	1.4	1.4	1.4	1.4
28	1.4	E	E	E	1.7	1.4	2.0	2.2	2.6	2.8	4.0	4.2^{S}	3.7	3.7	3.0	2.8	2.5	2.2	1.4	E	E	C	1.4	1.4
29	E	E	E	S	E	E	2.0	2.2	2.7	3.0	3.4	3.6	3.7	3.3	3.2	3.0	2.4	2.4	2.1	1.6	[1.9]^{S}	2.2	[2.1]^{S}	2.0
30	C	C	C	C	E	E	2.1	2.5	2.9	3.5	3.3	3.7	3.6	3.2	2.9	C	C	2.2	1.5	1.4	1.4	1.4	[1.4]^{S}	1.4
31	1.4	E	E	E	E	1.4	2.0	2.7	2.7	3.8	4.0	4.5	5.5	3.1	4.5	4.5	2.7	2.4	2.0	1.5	1.4^{F}	[1.4]^{S}	1.4	1.2^{F}
Mean Value	1.5	1.7	1.2	1.3	1.5	1.3	1.8	2.3	2.8	3.1	3.4	3.7	3.6	3.4	3.4	3.0	2.4	2.0	1.6	1.6	1.6	1.6	1.6	1.5
Median Value	1.4	E	E	E	E	E	1.9	2.3	2.7	3.0	3.2	3.6	3.5	3.3	3.2	2.8	2.4	2.2	1.4	1.4	1.4	1.4	1.4	1.4
Count	23	24	26	25	27	27	25	25	22	21	22	25	24	19	19	21	25	26	26	24	26	26	27	26

fminF

Sweep 1.0 Mc to 15.5 Mc in 2 min ☐ Manual ☒ Automatic

W 10

13

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

IONOSPHERIC DATA

Mar. 1953 | fminE | 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	S	E	E	E	E	E	E	1.4	1.4	1.4	1.4	1.4	1.4	2.2	[1.8]B	1.3	1.4	1.4	E	E	S	E	E	E
2	S	E	E	E	E	E	S	1.3	[1.8]B	2.3	2.0	2.1	2.1	2.0	2.2	1.4	B	B	E	E	C	E	E	E
3	E	E	E	E	E	E	1.8	1.3	2.2	1.4	2.4	C	C	C	C	C	C	C	C	C	E	1.4	E	C
4	1.2	E	E	E	E	E	E	1.5	C	C	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	B	B	B	B	B	B	C	E	E	E	E	E	E
6	E	E	E	E	E	E	E	1.3	1.4	2.0	1.4	1.8	2.0	2.4	C	C	B	E	C	E	E	E	E	E
7	E	E	E	E	E	E	E	1.4	1.4	2.0	C	B	B	B	B	B	B	S	E	E	E	E	E	E
8	E	E	E	E	E	E	S	B	C	C	C	C	C	C	C	C	B	1.5	C	E	E	E	1.5	1.5
9	E	E	E	E	E	E	C	B	2.5	C	C	C	C	C	C	C	S	1.4	1.4	1.4	E	E	E	E
10	E	E	E	E	E	E	S	C	C	C	C	C	C	C	C	C	C	C	E	E	E	E	E	E
11	S	E	E	E	E	E	B	1.4	E	1.5	1.2	1.5	1.5	1.5	1.4	1.4	E	S	E	E	E	E	E	C
12	C	C	C	C	C	C	C	C	C	C	C	2.0	2.2	C	C	C	1.4	1.4	E	S	S	E	E	E
13	E	E	E	E	E	E	1.7	1.4	2.1	2.2	E	1.4	1.2	E	2.0	1.4	1.4	1.4	E	E	1.5	E	E	E
14	E	E	E	E	E	E	B	1.4	1.4	E	E	1.4	1.3	1.4	1.3	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.5	E
15	E	E	E	E	E	E	B	1.4	1.4	1.2	2.3	2.0	2.0	1.8	1.4	1.4	[1.4]S	1.4	E	E	E	S	1.3	S
16	C	C	E	E	E	E	S	S	E	2.0	2.0	1.4	2.2	C	C	C	1.4	1.4	E	E	E	E	E	E
17	E	E	E	E	E	E	B	1.4	1.5	1.4	2.2	2.0	2.2	2.2	2.2	2.2	S	S	E	C	C	C	S	E
18	E	E	E	E	E	E	S	B	2.2	C	C	2.0	1.9	2.1	2.1	2.0	2.1	2.3	E	E	C	E	E	C
19	C	C	C	C	C	C	C	C	C	1.5	1.4	1.6	2.0	2.1	[2.0]B	2.0	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	1.3	1.1	2.1	2.0	2.2	2.0	2.0	1.4	1.4	C	E	E	E	E	E
21	E	S	E	E	E	E	B	B	2.2	2.0	B	B	B	C	B	B	B	B	E	E	E	E	E	E
22	E	E	E	E	E	E	B	B	S	E	1.4	1.4	1.2	E	1.2	1.3	1.2	1.3	E	E	E	E	S	E
23	E	E	E	E	E	E	B	1.3	B	1.4	C	B	B	C	C	B	B	S	E	E	E	E	E	1.4
24	1.4	E	E	E	E	E	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	S	1.2	1.4
25	1.4	E	E	E	E	E	1.1	1.4	1.2	E	E	E	B	B	1.4	E	1.4	E	C	C	E	E	E	E
26	E	E	E	E	S	E	1.4	1.4	1.4	1.4	1.1	E	1.4	2.2	E	C	B	1.4	E	C	S	E	E	S
27	E	E	E	E	E	E	C	2.2	E	1.4	1.4	1.2	[1.2]S	1.2	1.4	2.0	1.4	[1.4]S	1.4	E	E	E	E	E
28	E	E	E	E	S	E	E	E	1.4	1.4	1.4	2.0	1.4	1.4	1.4	1.4	1.4	S	E	E	E	C	E	E
29	E	E	E	S	E	E	B	B	1.4	1.5	B	B	B	2.2	2.0	2.2	2.3	B	E	E	S	S	S	E
30	C	C	C	C	E	E	B	2.2	2.6	B	B	B	1.4	2.3	2.3	C	C	B	E	E	E	E	S	E
31	E	E	E	E	E	E	S	2.0	(2.2)B	2.3	B	B	B	B	B	B	B	B	E	E	E	S	E	E
Mean Value	1.3	—	—	—	—	—	1.5	1.5	1.8	1.6	1.6	1.7	1.7	1.9	1.8	1.7	1.5	1.5	1.4	1.5	1.5	1.4	1.4	1.4
Median Value	E	E	E	E	E	E	E	1.4	1.4	1.4	1.4	1.6	1.7	2.1	1.8	1.4	1.4	1.4	E	E	E	E	E	E
Count	22	24	26	25	25	27	9	18	21	22	17	18	18	17	17	15	14	15	23	23	21	23	25	24

Sweep 1.0 Mc to 15.5 Mc in 2 min ☐ Manual ☒ Automatic

W11

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

IONOSPHERIC DATA

Mar. 1953 | foF2 | 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	3.4F	3.4JF	3.2JF	3.0JF	3.3	2.7	2.9	5.3	6.0	5.6	5.7	6.9	6.1	7.0	6.2	5.6	5.3	5.7	4.6	3.7	3.8	3.5	3.4	3.5JF
2	3.4JF	3.0	3.0F	3.1F	(3.2)JF	3.4JF	3.9	5.3	6.1	6.5	7.1	8.0	8.2	7.6	7.0	6.7	7.0	5.9	5.0	4.1	4.1	4.2	4.0	3.6
3	3.5	3.2F	3.1	3.4	3.2	3.2	2.7K	WK	3.8K	4.3K	4.4K	4.5K	4.7K	4.8K	4.8K	4.9K	4.8K	4.8K	4.1	3.4V	3.7	3.9F	3.7JF	4.2JF
4	3.4F	2.9F	2.6F	2.2F	(2.2)A	2.1	2.6	5.1	(5.7)P	5.5	7.1	6.5	6.1	6.2	6.1	6.5	5.9	5.3	4.0	3.8	3.6	3.8	3.8	3.8
5	3.7F	3.3	3.3F	3.3F	3.0	3.1F	3.5F	4.6	5.8	6.0	5.5	6.6	7.7	7.2	6.0	5.1	5.6	5.4	4.3	3.0	3.1	3.0	3.3	3.4F
6	3.4F	3.4	3.4F	3.4	3.4	3.4	3.5	4.7	5.7	5.7	5.4H	7.4	6.9	6.8	6.0	5.9	5.7J	5.6	4.4	3.8	3.7	3.8	3.7	3.8
7	3.6	3.6	3.7	3.7	3.7	3.3	3.8	4.8	5.0	5.4	6.7	6.5	6.3	8.5P	7.5	5.9	5.6	5.3	5.5	4.3	4.1	3.9	3.8	3.7F
8	3.7	3.5F	3.7	3.8	3.5	3.6	4.1	5.2	5.2	6.4	7.1	7.2	7.0	6.7	6.1	6.0	6.4	6.4	4.8	3.8	3.8	4.0	4.1	4.3
9	4.1	3.6	3.7F	3.7JF	3.7JF	2.9F	3.4	4.6	5.4	M	M	8.4	7.3	7.3	6.5	5.8	7.1	8.0	6.8	4.1	2.6V	2.9V	3.1F	3.4F
10	3.3F	3.2F	3.5F	3.6F	2.9JF	3.6JF	3.5F	5.1	6.0	5.4	8.5	8.0	7.7	7.3	7.4	6.5	6.2	7.0	6.6	5.6	3.9	4.2	4.3F	4.5F
11	4.6F	5.0	5.0	(4.9)P	4.8P	5.2	6.0	5.6	5.6	5.8	6.4H	7.6	9.0	7.9	6.7	6.5	6.0	6.2	6.6	5.5	3.6	3.7	3.7	3.7F
12	4.0	3.9	4.0	4.0	4.0	3.9F	4.9	5.3	5.9	5.8	6.3	N	8.2	7.0	6.3	6.9	6.5	6.0	7.0	5.8	4.3	3.7	3.7	3.8
13	3.6	3.8	3.6	3.7	3.8	3.6	4.7	5.6	5.8	5.5	6.4	7.6	7.8	7.0	5.8	6.9	6.0	5.3	5.7	4.6	4.3	4.3	3.8	3.8
14	3.7	3.7	3.7F	3.7	3.5	3.2	4.0	5.1	5.7	5.8	6.0	7.0	6.6	8.2	7.0	6.5	6.2	6.4	5.9	4.2	3.9	4.0	4.0	3.9
15	3.8	3.9	4.3	4.0V	3.7F	3.4F	4.2	5.2	5.5	5.8	7.6	7.1	8.7	7.6	6.5	6.4	6.0	5.6	6.3	4.7	3.5	3.5	3.2	3.2
16	3.2	3.4	3.5	3.4	2.6	2.6	3.8	5.7	6.0	6.5	6.4	7.6	8.0	8.8	7.0	6.5	6.0	5.0	4.7	4.2	4.2	4.1	4.0	3.7
17	3.7	3.7	3.8	3.8	3.4	3.0	4.1	5.1	5.6	6.4	7.3	7.7	(7.8)B	8.0	7.0	5.7	5.7	6.3	A	A	A	3.3	3.2	3.1
18	3.3	3.4	3.3V	3.7	3.8	3.0F	4.4	5.4	5.5	5.8	6.8	7.3	8.2	8.0	7.5	5.8	5.5	5.8	6.0	5.1	4.4	4.4	4.2F	4.0F
19	4.0F	3.8F	4.0F	3.9F	3.8	3.9	4.8	5.6	6.4P	6.1	6.7	7.7	7.0	8.0	7.8	6.7	5.8	5.8	6.4	4.7	3.2	3.3	3.3F	3.4F
20	3.3F	3.4F	3.5	3.5	3.2	3.4F	4.4	5.8	5.3	5.3H	7.0	7.4	8.2	8.8	8.6P	6.8	6.5	6.2	5.6	4.5	4.2	4.1	3.8	3.6
21	3.6	3.5	3.6	3.6	3.3	2.8	4.3	5.3	5.3	7.1	8.0	6.3	7.6	7.7	8.2	(8.4)B	(8.5)P	7.5	5.9	4.3	4.0	4.0	3.6	3.8
22	3.6	3.6	3.6	3.5	3.2	3.5F	5.1F	4.6	5.5H	5.6	6.6	8.0	7.6	(8.6)B	9.6	6.9	5.8	6.7	7.0	5.1	3.4	3.5	3.5	3.6
23	3.7F	3.7F	3.7JF	3.7F	4.0JF	2.8PF	3.9	4.7	5.3	6.5	7.4	6.2	5.8	7.3	7.5	7.9	7.0	6.7	5.6P	3.7	3.5	3.8P	3.5	3.6F
24	3.6F	3.8PF	3.1F	2.8F	2.9	2.8	4.8	4.7	5.4	6.8	7.0	6.4	7.9	7.1	8.5	8.7	7.3	6.3	4.5	3.8	3.8	3.5	3.5	3.7
25	3.6	3.7	3.6	3.3	(1.9)P	2.3	3.8	4.7H	5.2	6.2	5.6	7.3	7.5	7.0	6.8	7.3	6.3	6.0	4.5	4.6	4.3	4.3	4.2	4.1
26	3.8	3.8	3.6	2.5	1.9H	2.3	3.5	4.7	5.5	6.7	6.8	7.5	8.2	9.7	8.1	7.3	6.0	5.9	5.0	4.0	3.8	3.6	3.6	3.7
27	3.5	3.5	3.6	3.2	2.8	2.7	4.1	4.7	6.2	7.1	7.6	8.2	6.4	6.2	7.5	7.2	6.3	5.8	5.5	4.7	4.8	4.4F	4.2F	4.6P
28	4.0	4.0	3.5	3.3	3.1	3.1	4.6	5.2	6.2	6.6	7.0	7.0	7.0	6.6	7.4	7.7	6.9	6.4	5.5	4.6	4.7	(4.6)P	4.6	4.5
29	4.6P	4.2	3.7	3.3	3.5	3.3	5.0	6.4	7.2	6.1	7.1	6.6	7.4	8.2	8.1	6.1P	6.0	6.0	5.5	4.9	4.9	4.6	(4.8F)	5.0F
30	4.8	4.2	3.5F	3.1	3.0	2.9	4.6F	5.5	5.9	7.2	8.7P	8.2P	8.3	7.7	7.3	6.8	6.5	6.9	5.7	3.4	3.2	3.6	3.6	3.5F
31	3.5F	3.5F	3.8	4.3	3.4F	3.2F	4.7	5.5	6.2	6.4	7.3	7.5	7.5	7.5	7.0	6.5	6.0	5.8	5.5	5.2	4.5	(4.5)F	4.5F	(4.4)F
Mean Value	3.7	3.6	3.6	3.5	3.3	3.1	4.1	5.2	5.7	6.1	6.8	7.2	7.4	7.5	7.1	6.6	6.2	6.1	5.5	4.4	3.9	3.9	3.8	3.8
Median Value	3.6	3.6	3.6	3.5	3.3	3.2	4.1	5.2	5.7	6.0	6.9	7.3	7.6	7.5	7.0	6.5	6.0	6.0	5.5	4.3	3.8	3.9	3.7	3.7
Count	31	31	31	31	31	31	31	30	31	30	30	30	31	31	31	31	31	31	30	30	30	31	31	31

foF2

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

A 1

15

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

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Mar. 1953

f_0F_2

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	350^{F}	(310)$^{\exists F}$	(290)$^{\exists F}$	(310)$^{\exists F}$	300	330	290	260	250	260	300	270	270	280	270	280	260	260	270	300	300	340	350	(330)$^{\exists F}$
2	(340)$^{\exists F}$	260	320^{F}	330^{F}	(300)$^{\exists F}$	(300)$^{\exists F}$	280	230	250	280	300	290	280	290	290	270	270	270	270	350	370	370	330	370
3	370	390^{F}	370	370	420	450	370^{K}	W^{K}	U^{K}	U^{K}	U^{K}	U^{K}	U^{K}	U^{K}	U^{K}	310^{K}	290^{K}	280^{K}	270	350^{V}	330	340^{F}	(380)$^{\exists F}$	(390)$^{\exists F}$
4	320^{F}	310^{F}	350^{F}	340^{F}	[340]^{A}	350	300	250	(270)^{P}	260	270	290	290	300	300	280	250	250	280	310	340	370	330	310
5	330^{F}	320	340^{F}	320^{F}	350	350^{F}	270^{F}	250	260	250	270	310	270	270	280	270	250	250	260	290	300	350	360	350^{F}
6	300^{F}	320	330^{F}	320	320	300	250	240	260	250	330^{H}	270	270	280	270	270	(260)^{T}	260	260	290	320	330	330	300
7	320	340	350	360	300	310	260	250	260	260	290	300	300	300^{P}	270	260	270	280	270	280	310	310	320	330^{F}
8	330	350^{F}	350	300	310	330	270	240	240	330	300	280	280	290	260	270	280	250	260	300	330	360	360	350
9	330	310	370^{F}	(360)$^{\exists F}$	(380)$^{\exists F}$	330^{F}	250	250	290	M	M	300	300	270	260	290	310	280	270	250	320^{V}	350^{V}	400^{F}	[390]^{F}
10	380^{F}	400^{F}	350^{F}	290^{F}	290$^{\exists F}$	280$^{\exists F}$	260^{F}	250	260	300	280	280	300	300	290	280	280	280	280	280	320	340	340^{F}	350^{F}
11	360^{F}	360	340	(340)^{P}	370^{P}	350	250	250	250	240	420^{H}	290	280	280	270	260	250	260	270	270	300	310	330	350^{F}
12	350	350	350	330	300	280^{F}	270	240	250	280	290	N	270	290	280	280	260	270	260	270	260	290	340	350
13	350	360	330	330	280	300	250	250	240	260	330	300	290	270	290	270	260	260	280	280	330	320	310	320
14	310	330	330^{F}	340	280	300	270	240	260	260	300	290	300	290	290	260	270	260	250	300	320	320	330	340
15	330	340	310	290^{V}	290^{F}	320^{F}	270	250	280	280	300	310	300	290	250	290	280	270	280	270	310	300	330	390
16	360	350	300	280	340	300	260	280	270	260	290	300	300	280	260	260	250	250	260	320	340	330	310	350
17	360	360	320	300	300	270	250	250	260	280	300	290	[280]^{B}	270	270	270	270	260	A	A	A	A	350	350
18	330	340	340^{V}	290	240	300^{F}	250	230	240	280	280	310	300	290	270	260	250	260	270	250	320	310	320^{F}	300^{F}
19	350^{F}	340^{F}	320^{F}	320^{F}	300	300	250	260	250^{P}	260	270	280	280	300	270	280	280	270	280	250	340	370	370^{F}	360^{F}
20	350^{F}	340^{F}	330	300	360	340^{F}	240	250	250	270^{H}	280	310	290	300	270^{P}	270	280	270	260	280	320	300	330	360
21	350	350	330	280	280	300	250	250	260	300	260	330	310	310	320	[300]^{B}	(280)^{P}	250	250	270	350	330	360	350
22	350	340	310	330	300	350^{F}	250^{F}	240	300^{H}	280	280	300	330	[300]^{B}	270	270	290	280	260	250	370	370	360	360
23	350^{F}	330^{F}	(330)$^{\exists F}$	320^{F}	(290)$^{\exists F}$	320^{PF}	250	250	300	270	270	270	300	300	300	280	280	270	(260)$^{F}_{B}$	300	330	360^{P}	360	380^{F}
24	360^{F}	280^{PF}	330^{F}	360^{F}	330	300	250	280	280	290	270	320	300	330	310	280	260	240	270	330	350	380	360	350
25	370	310	290	270	(290)^{P}	390	290	360^{H}	320	300	290	320	280	290	290	270	280	260	280	300	340	390	390	390
26	350	340	310	240	350^{H}	350	270	280	280	300	310	300	310	280	290	270	270	270	280	280	350	350	370	360
27	350	370	300	280	330	340	260	280	300	310	310	280	290	320	280	270	270	280	280	300	340	370^{F}	390^{F}	330^{P}
28	340	320	330	320	320	330	270	280	280	280	250	310	300	300	300	290	280	260	280	350	370	(400)^{P}	340	350
29	320^{P}	320	290	330	350	360	300	280	270	290	280	300	300	290	260	260^{P}	280	280	270	320	350	380	[340]^{F}	310^{F}
30	300	280	310^{F}	320	350	320	280^{P}	260	280	320	280^{P}	270^{P}	280	280	290	290	290	260	260	260	390	390	400^{F}	400^{F}
31	380^{F}	390^{F}	340	300	270^{F}	330^{F}	260	280	280	290	280	280	270	280	270	280	270	270	280	300	330	[330]^{F}	330^{F}	[340]^{F}
Mean Value	340	340	330	320	320	330	270	260	270	280	290	290	290	290	280	280	270	260	270	290	330	350	350	350
Median Value	350	340	330	320	300	320	260	250	260	280	290	300	290	290	280	270	270	260	270	290	330	340	340	350
Count	31	31	31	31	31	31	31	31	30	29	29	29	30	30	30	31	31	31	30	30	30	30	31	31

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

A 2

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

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Mar. 1953 | **h'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	280	250	240F	250	240	260	250	250	250	250	300	260	270	280	270	270	250	240	230	240	250	230	300	300F
2	300F	230	250	260	270	220	240	220	240	270	280	280	270	280	270	260	250	240	230	250	300	300	270	300
3	[300]A	310	310	330	340	350F	330K	570K	490K	440K	470K	480K	420K	280K	350K	310K	270K	250K	250	250	260	280F	320F	310F
4	240	250	310AF	280	[300]A	310	290	250	260	250	270	290	290	300	300	270	250	230	230	250	260	300	280	260
5	250F	250	270F	250	300	290	250	240	260	250	270	310	270	270	280	270	250	240	230	250	250	300	310	300F
6	280F	280	280	270	270	250	220	220	240	250	270H	270	270	270	270	270	250	240	220	240	250	270	270	250
7	270	270	270	290	240	260	230	230	250	250	280	300	300	280	260	250	260	250	230	240	250	250	260	270
8	270	290	290	250	220	260	240	230	240	270	300	270	280	280	260	260	260	230	220	250	270	310A	310	290
9	270	250	300	300F	300F	270	230	240	250	M	M	280	280	260	260	280	300	250	230	220	250	310	330	300F
10	300F	320	280F	250	240	240	230	240	250	290	270	260	300	280	270	260A	260	250	230	230	240	260	260	290F
11	280	280	250	260	260	270F	230	230	240	240	220H	280	270	270	260	250	250	250	240	230	230	270	280	280
12	300F	290	290	270	250	250F	230	230	250	260	B	N	260	270	280	260	250	250	240	220	220	240	270	280
13	280	290	280	250	240	240	220	240	240	260	330	290	270	260	290	250	250	250	230	230	260	250	260	270
14	290	270	260	270	230	240	230	240	260	260	300	280	290	280	280	260	250	240	220	230	260	260	270	270
15	300	300	260	240	250	290	240	230	250	260	290	300	280	270	250	280	260	250	250	210	260	250	280	330
16	310	290	250	240	280	260	240	250	260	250	280	300	280	260	260	260	250	240	230	250	280	280	250	300
17	300	280	270	230	240	220	230	230	260	280	300	270	270	260	260	260	250	250	A	A	280A	310A	290	300
18	300	300	280	250	200	250	230	220	240	280	270	280	280	270	260	260	250	250	230	220	240	250	260	270F
19	300F	290F	260	260F	240	250	220	220	250	260	260	270	270	300	260	270	250	250	230	220	260	310	300	300
20	300	280	280	250	280	260F	220	230	240	250H	270	300	280	290	260	260	270	250	230	230	250	250	270	320A
21	300	290	270	250	220	270	220	230	250	280	260	320	300	300	300	290	250	250	230	250	280	270	300	290
22	290	280	250	270	240	280	230	230	250H	240	280	300	300	300	250	250	260	250	250	200	290	300	300	300
23	290	260F	260F	260F	220F	250	220	230	280	270	270	270	300	290	290	270	270B	(250)B	220	250A	280	300	310	320F
24	300	250F	270	310	280	270	230	240	270	280	270	320	300	320	300	260	250	230	230	250	290	270	300	310
25	330A	270	240	230	190	340	270	260H	320	300	290	310	270	290	280	260	250	240	230	240	260	310	320	310
26	300	280	250	210	290H	300	250	250	250	300	300	290	290	270	280	250	260	250	240	230	270	280	320	300
27	290	300	250	240	240	270	240	260	300	300	290	270	280	310	270	260	260	250	250	240	260	280	320F	260F
28	270	250	250F	240	250	250	250	270	270	280	250	300	290	300	300	280	260	250	250	250	280	310	270	270
29	260	250	230	230	280	290	260	260	270	280	280	300	300	280	260	260	270	250	240	250	270	300	310F	270F
30	250	240F	230F	250	270	270	250	250	280	310	270	270	270	270	230	280	270	250	220	210	300	310	320	330F
31	300F	270F	270	250	200	270	250	270	270	290	270	280	270	270	270	270	260	250	240	240	240	270F	260F	250F
Mean Value	290	270	270	260	250	270	240	250	270	280	280	290	290	280	270	270	260	250	230	240	260	280	290	290
Median Value	290	280	270	250	250	260	230	240	250	270	280	280	280	280	270	260	250	250	230	240	260	280	290	300
Count	31	31	31	31	31	31	31	31	31	30	29	30	31	31	31	31	31	31	30	30	31	31	31	31

h'F2

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

A 3

17

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

IONOSPHERIC DATA

Mar. 1953 | foF1 | 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							Q	Q	3.5^{L}	3.8	4.2^{L}	4.2	4.2	4.2	4.0	3.8^{L}	Q	Q						
2							Q	Q	3.5^{L}	(4.1)^{L}	4.2^{H}	4.2^{H}	4.3	4.2	4.0	3.8	3.2^{L}	Q						
3							Q	2.9	3.4	3.6	3.6	3.9	4.1	4.0	3.9	3.6	3.2	L						
4							Q	Q	(3.5)^{L}	3.9	4.1	[4.0]^{A}	4.0	4.2	4.2^{L}	4.0	3.5^{L}	Q						
5							Q	L	3.6^{L}	4.0	4.1	4.1	4.1	4.1	4.0	3.9	Q	Q						
6							Q	Q	3.0	3.9	4.0	4.2	4.4^{L}	4.4	4.2	4.0	3.6^{L}	Q						
7							Q	Q	Q	3.9^{L}	4.3	4.3	4.2^{H}	4.3	4.2	3.8^{L}	3.5^{L}	Q						
8							Q	Q	L	4.0^{L}	4.4	4.5	4.3	4.5^{H}	4.0	3.8^{H}	3.4^{L}	Q						
9							Q	Q	Q	M	M	4.1	4.2^{H}	4.2^{H}	4.1^{L}	3.6^{L}	3.5	L						
10							Q	Q	3.0^{L}	3.8	4.2	4.3^{L}	4.5	4.1	4.0	[3.8]^{A}	3.5^{L}	Q						
11							Q	Q	3.5	3.8^{L}	3.5	4.5^{L}	4.2	4.2	4.0^{L}	3.8^{L}	3.7^{L}	L						
12							Q	L	3.5	3.7^{L}	B	N	4.2	4.2^{L}	4.0	4.1	3.4	Q						
13							Q	Q	3.6	4.1^{L}	4.5^{L}	4.4	4.2	4.1	4.1	4.0^{L}	L	Q						
14							Q	Q	3.7^{L}	4.0	4.3	4.3	4.1	4.4	4.1	4.0	3.5	Q						
15							Q	Q	3.4^{L}	4.0^{L}	4.2	4.3	4.3	4.2	4.1	3.8^{L}	L	Q						
16							Q	Q	3.8^{L}	4.0	4.2	4.4	4.3	4.3^{H}	4.3	3.8^{L}	Q	Q						
17							Q	Q	3.7^{L}	4.0	4.2	4.2	4.3	4.1	4.1	3.7	3.0	Q						
18							Q	Q	3.6	4.2^{L}	4.3^{L}	4.2	4.5^{H}	4.4^{H}	4.2	3.8^{HL}	3.5	Q						
19							Q	Q	3.7^{B}	3.7	4.2	4.3	4.1	4.2	4.1	4.0	3.0	2.8^{L}						
20							Q	Q	3.5^{L}	3.6^{L}	4.2	4.2	4.4	4.2	4.2	4.0	L	Q						
21							Q	Q	L	4.1^{L}	4.0^{L}	4.3	4.4	4.2	4.5	4.0	3.5	Q						
22							Q	2.7^{L}	3.3^{L}	Q	4.2	4.2	4.5	4.0	4.0	3.9^{L}	2.8	Q						
23							Q	Q	L	4.1	4.0	4.0	4.4	4.3	4.2	4.0	B	L						
24							Q	Q	3.5^{L}	4.1	4.2	4.5	4.3	4.4	4.1	3.8^{L}	3.6^{L}	Q						
25							Q	Q	3.8	4.1	4.1	4.4	4.4	4.4	4.1	3.9	3.4^{L}	2.6						
26							Q	Q	3.2^{L}	4.2	4.3	4.3	4.5	4.0	4.2	4.0	3.5^{L}	2.5						
27							Q	2.9^{L}	4.0	4.2	4.2	4.4	4.4	4.5	4.0	4.1	3.8^{L}	Q						
28							Q	3.7^{L}	3.9	4.2	4.3	4.5	4.5	4.4	4.2^{L}	4.1	3.7^{L}	Q						
29							Q	3.5^{L}	4.0	[4.2]^{L}	4.5	4.5	4.5	4.5	4.2	4.0	L	Q						
30							Q	Q	L	4.5	4.5	4.5	4.5	4.5	4.2^{L}	4.0^{L}	L	Q						
31							Q	3.8^{L}	3.8	4.4	4.5	4.5	4.6	4.5	4.3	4.1	3.6^{L}	Q						
Mean Value								3.3	3.6	4.0	4.2	4.3	4.3	4.3	4.1	3.9	3.4	2.6						
Median Value								3.2	3.5	4.0	4.2	4.3	4.3	4.2	4.1	3.9	3.5	2.6						
Count								6	25	29	29	30	31	31	31	31	22	3						

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

A 4

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

IONOSPHERIC DATA

Mar. 1953 | h'F1 | 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							Q	Q	240	220	200	230	240	210	240	230	Q	Q						
2							Q	Q	230	210	200^{H}	210^{H}	230	A	A	230	230	Q						
3							Q	310	280	240	230	(280)^{A}	280	220	280	250	250	250						
4							Q	Q	240	210	200	[200]^{A}	200	220^{A}	230	250	240	Q						
5							Q	240	240	230	210	200	250	210	210	240	Q	Q						
6							Q	Q	230	220	210	320	260	210	230	220	240	Q						
7							Q	Q	Q	220	230	220	210^{H}	230	240	250	250	Q						
8							Q	Q	230	220	240	[240]^{A}	230	220^{H}	220	220^{H}	230	Q						
9							Q	Q	Q	M	M	230	210^{H}	210^{H}	230	240	270	250						
10							Q	Q	230	210	200	260	260	250	220	[240]^{A}	250	Q						
11							Q	Q	220	230	200	290	240	220	240	240	240	250						
12							Q	230	210	210	190	230	240	230	220	270^{A}	230	Q						
13							Q	Q	230	220	200	230	230	210	220	260	250	Q						
14							Q	Q	240	220	210	230	220	230	220	220	240	Q						
15							Q	Q	220	240	240	220	240	230	220	230	250	Q						
16							Q	Q	250	240	210	230	240	230^{H}	230	220	Q	Q						
17							Q	Q	240	220	210	230	210	210	220	230	230	Q						
18							Q	Q	220	220	220	230^{A}	190^{H}	200^{H}	[200]^{A}	210^{H}	240	Q						
19							Q	Q	240	230	220	210	190	180	250	220	(240)^{A}	250						
20							Q	Q	220	210	230	210	210	190	240	240	250	Q						
21							Q	Q	230	240	220	220	250	250	250	220	250	Q						
22							Q	250	210	Q	240	220	230	210	230	230	200	Q						
23							Q	Q	230	230	220	190	200	240	250	240	220	250						
24							Q	Q	230	230	220	220	240	220	220	230	240	Q						
25							Q	Q	250	250	240	230	220	220	230	230	230	230						
26							Q	Q	230	230	240	230	210	200	240	230	230	250						
27							Q	250	260	230	220	230	240^{A}	240	200	230	240	Q						
28							Q	230	240	220	230	200	200	220	220	240	230	Q						
29							Q	250	260	230	240	220	210	210	250	230	250	Q						
30							Q	Q	250	240	240	230	230	210	210	210	240	Q						
31							Q	240	220	240	220	210	220	220	220	230	220	Q						
Mean Value								250	240	230	220	230	230	220	230	230	240	250						
Median Value								240	230	230	220	230	230	220	230	230	240	250						
Count								8	29	29	30	31	31	30	30	31	28	7						

h'F1

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

A 5

19

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

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Mar. 1953

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							B	1.9	2.3	2.7	2.8	3.0	3.0	3.0	A	A	A	A						
2							B	1.8	2.3	2.4	2.4	3.1	A	A	A	2.7	2.4	A						
3							B	1.9	2.2	2.3	2.5	2.9	3.0 H	3.0	2.8	2.6	2.2	1.6						
4							B	2.0	2.2	2.5	A	A	A	A	A	A	2.4	A						
5							B	1.9	2.4	2.7	[2.8] A	3.0	3.1	3.1	3.0	A	A	A						
6							B	1.8	2.5	2.8	2.9	3.2	3.2	3.2	3.0	2.8	2.5	A						
7							B	1.8	2.4	2.8	3.1	3.2	3.2	3.3	3.0	2.8	A	A						
8							B	1.8	2.5	2.8	2.8	[3.0] A	3.2	3.1	2.9	2.7	2.5	A						
9							B	1.7	2.2	M	M	3.0	3.0	3.0	3.0	2.6	2.2	1.8						
10							B	1.7	2.3	2.7	[2.8] A	3.0	3.0	3.1	3.0	[2.6] A	2.3	A						
11							B	2.0	2.5	2.5	2.6	2.9 F	3.0	3.0	3.0	2.8	2.5	1.7						
12							B	1.8	2.4	2.6	2.6	3.0	3.0	3.1	3.0	A	A	A						
13							B	1.8	2.5	2.8	3.0	3.0	3.2	3.1	2.9	2.8	2.3	1.8						
14							B	1.8	2.6	2.7	2.8	3.2 H	3.3	3.2	3.0	2.8	2.3	2.0						
15							B	2.1	2.6	2.9	2.9 A	3.1	3.1	3.2	3.0	2.8	2.5	1.7						
16							1.6	1.8	2.6	2.7	3.1	3.2	3.3	3.3	3.0	2.8	[2.4] A	1.8						
17							B	1.8	2.6 F	2.7 F	A	A	3.2	3.2	3.0	2.8	A	A						
18							B	1.8	2.3	2.8	2.7	2.8	3.0	3.1	A	A	2.5	1.8						
19							B	1.8	2.5 F	2.7	3.2	3.2 F	3.2 F	3.1	3.0	2.9	2.5	1.8						
20							A	2.0	2.5 F	2.8	A	A	3.2	3.2	3.2	[2.8] A	2.5	1.8						
21							B	1.9	2.6	3.0 F	3.0 F	3.0	[3.0] A	3.1	3.0	[2.7] A	2.4	1.9						
22							1.6 F	2.0	2.4	2.8	2.8	3.2	3.1	3.2	3.0	2.8	2.5	1.9						
23							B	1.9	2.5	2.8	3.0	3.1	3.1	3.0	3.0	2.8	A	A						
24							1.8	2.1	2.5	2.8	3.0	3.2 F	3.2 F	3.2	3.0	2.7	2.4	2.0 F						
25							1.8	2.1	2.6 F	2.9	2.9	3.0	3.0	3.1	3.0	2.8	2.5	1.8						
26							1.5	2.1	2.3	2.8	2.9	3.0	[3.0] A	3.0	3.0	2.7	[2.2] A	1.8						
27							B	2.3	2.6	2.8	3.1	A	A	A	3.0	2.8	2.5	1.9						
28							1.6 F	2.3	2.7 F	3.0	3.2	3.3	3.3 F	3.4 F	3.2 F	2.9 F	2.5 F	2.1						
29							1.8	2.3	2.6	3.0 F	3.2	3.1	3.3	3.2	3.0	2.8	2.5	2.0						
30							2.1	2.4	2.7	2.8	3.1	2.8	3.2	3.2	3.0	2.7	2.5	1.8						
31							1.8	2.2	2.6	3.0	3.0	3.1	3.0	3.3	3.1	2.9	2.5	2.1						
Mean Value							1.7	2.0	2.5	2.8	2.9	3.1	3.1	3.1	3.0	2.8	2.4	1.9						
Median Value							1.8	1.9	2.5	2.8	2.9	3.0	3.1	3.1	3.0	2.8	2.5	1.8						
Count							9	31	31	30	27	27	28	28	27	26	25	20						

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

A 6

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

IONOSPHERIC DATA

Mar. 1953 | h'E | 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							B	110	110	110	110	110	110	100	A	A	A	A						
2							B	130	120	120	110	130	A	A	A	110	130^{A}	A						
3							B	130	130	110	110	110	110^{H}	130^{A}	[120]^{A}	110	110	130						
4							B	A	130	120	A	A	A	A	A	A	130^{A}	A						
5							B	130	120	120	A	A	A	130^{A}	130^{A}	A	A	A						
6							B	140	110	110	110	130^{A}	110	120^{A}	130^{A}	130^{A}	130^{A}	A						
7							B	130	120	110	110	110	120	120	110	120	A	A						
8							B	130	120	120	120	[120]^{A}	110	130^{A}	130^{A}	130^{A}	120	A						
9							B	120	120	M	M	150^{A}	140^{A}	130	110	120	110	110						
10							B	120	110	110	[110]^{A}	110	110	110	110	[120]^{A}	120	A						
11							B	130	120	120	120	110	110	[120]^{A}	120^{A}	120^{A}	130^{A}	130						
12							B	120	110	110	110	110	110	110	100	A	A	A						
13							B	120	110	110	110	110	110	110	110	110	120	120						
14							B	110	110	110	110	110^{M}	110	[120]^{A}	120	110	120	120						
15							B	A	A	120	A	A	A	140^{A}	140^{A}	130^{A}	110	130						
16							160^{B}	130	110	110	110	110	110	110	110	110	[120]^{A}	120						
17							B	120^{F}	110^{F}	110^{F}	A	A	110	110	110	110	A	A						
18							B	120	A	110	110	110	110	110	A	A	120	120						
19							B	120	110	110	110	110	110	110	110	110	120	130						
20							A	140	110^{F}	110^{F}	A	A	A	110	110	[120]^{A}	130	A						
21							B	120	110	110	110	110	[110]^{A}	110	110	[110]^{A}	110	130						
22							B	120	110	110	110	110	110	[120]^{A}	120	130^{A}	120	140						
23							B	120	110	110	110	110	110	110	130^{A}	110	A	A						
24							150^{B}	120	110	110	110	110	110	110	[110]^{A}	110	110	100^{F}						
25							(150)^{B}	120	110F	110	110	110	110	110	110	110	120	120						
26							B	120	120	110	110	110	[110]^{A}	110	120	120	[120]^{A}	120						
27							B	130	110^{F}	110	110	A	A	A	130	120	120	130						
28							B	120	120^{F}	110	110	110	110	110	110	100	110	120						
29							150	120	110	110	110	110	110	110	110	110	110	120						
30							160	120	110	110	110	110	110	110	110	110	110	120						
31							150	110	110	[110]^{A}	110	110	100	130^{A}	110	100	100	140						
Mean Value							150	120	110	110	110	110	110	120	120	120	120	120						
Median Value							150	120	110	110	110	110	110	110	110	110	120	120						
Count							6	29	29	30	25	25	25	28	27	26	25	19						

h'E

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

A 7

21

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

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Mar. 1953 | **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	2.8	2.2^{Y}	2.2	2.2	2.3	2.3	2.3	2.1	3.0	3.5	3.5	3.5	3.5	3.5	3.8	3.5	3.3	2.5	2.3	4.1	2.3	E	E	2.3
2	3.1	2.3	2.2	E	E	E	B	3.0^{Y}	G	G	3.5	3.1^{Y}	4.3	5.4	4.6	3.5	3.1	3.1	E	2.2^{Y}	E	E	E	2.1
3	3.8^{F}	2.7^{F}	2.5^{F}	2.1	2.1	2.2	2.1	2.2	2.3	4.0	4.2	5.4^{Y}	G	3.8	4.5	G	G	G	2.3^{Y}	3.0	2.3^{Y}	2.3	2.0	2.8
4	2.6	3.0	2.5	3.0^{Y}	3.5	3.5^{F}	3.5^{F}	2.9^{Y}	G	3.5	5.2	6.5	6.5	4.7	5.5	3.7	3.5	3.5	3.4	2.9	2.0	2.2	2.5	2.6
5	2.8	2.2	2.1^{Y}	2.2	2.5	2.3	2.2	G	3.0	G	4.0	3.5	3.5	G	3.5	3.4	5.0	3.4	3.1	2.5	2.2	2.2	2.1	E
6	E	E	2.1	2.3	2.4^{F}	2.3^{F}	2.0	G	G	3.5	3.5	3.8	G	3.5	3.2^{Y}	3.5^{Y}	4.2^{Y}	1.8	2.6	2.3	2.2^{Y}	1.8	E	1.8
7	2.2	E	2.1^{Y}	E	E	E	B	G	3.4	3.5	3.5	3.5	G	4.0^{Y}	3.5	G	3.6	2.1	E	2.6	2.6	2.5	E	2.2
8	2.4	2.5^{F}	2.8	2.2	E	E	B	G	G	G	G	5.3	G	3.5	3.5	3.1	G	3.2	3.5	3.2	3.3	3.2	3.5	3.0^{F}
9	3.3^{F}	3.9^{F}	2.2^{Y}	E	2.1	E	1.9	G	3.1	M	M	3.5	2.7^{Y}	G	G	3.7	G	3.0	2.3^{F}	2.5	2.3	E	E	E
10	E	E	2.3	2.2^{F}	2.5^{F}	E	B	G	G	3.5	3.5	G	3.5	G	G	5.5	3.2	3.4	3.5	3.1	2.6	2.3	E	2.2
11	1.7	2.0	2.3^{F}	2.5^{F}	2.3^{F}	2.3^{F}	2.1	2.8	G	3.5	3.5	4.1	3.5	3.7	G	3.5	3.1	3.1	3.0	3.1	2.5	2.6	E	E
12	E	E	E	E	1.8	2.7^{F}	2.3	2.5	3.1	G	G	G	G	G	G	4.3	6.7	4.2	3.5	2.2	E	E	E	E
13	E	E	E	E	2.1^{Y}	2.2	2.2^{Y}	G	G	3.5	3.5	3.4	3.5	3.4	G	3.5	3.5	G	1.9	2.3^{Y}	E	3.0	2.2^{Y}	3.2
14	4.2	2.3^{Y}	1.7	2.3^{Y}	2.2^{Y}	2.2^{Y}	2.1	G	3.8	G	G	G	3.5	3.9	3.5	G	3.5	4.2	3.1	2.3	2.3	2.3	2.5^{F}	1.8
15	4.1^{F}	3.1^{F}	2.3^{F}	2.6^{F}	2.9^{F}	2.8^{F}	2.6^{F}	2.8^{Y}	4.2^{Y}	4.0	4.6	3.7	4.3	4.2	3.5	2.9^{Y}	3.5	G	3.7	2.1	3.0	2.8	2.3^{Y}	2.9
16	2.5	2.3	2.2	1.7^{Y}	2.2	2.2	2.3	G	3.5	3.7	4.2	G	G	G	3.5	3.6	4.0	G	2.3	2.2	2.3	2.3	E	E
17	E	2.2	2.3	2.7	2.3^{F}	2.2	B	G	G	3.6	5.0	4.5	G	G	G	3.5	3.5	2.8	8.5	9.4	4.4	4.0	2.3	2.0
18	E	2.2	2.3	E	2.0	2.1	2.1	G	G	3.5	4.3	4.5	4.0	3.6	4.5	3.5	G	3.0	2.9	2.9^{Y}	E	E	1.8	3.0
19	2.3^{F}	1.9	E	1.8^{Y}	1.9^{Y}	1.8	B	3.0	3.5	4.5	4.2	4.2	4.2	G	G	G	3.4	G	2.9^{Y}	3.1^{Y}	3.0	4.2^{Y}	3.1	2.3
20	2.2^{Y}	2.2	2.5^{F}	2.3^{Y}	2.3^{Y}	1.8	2.5	2.6	3.3^{F}	G	4.5	4.1^{Y}	3.7	3.5	G	4.1	2.6	2.7	2.1	2.2^{Y}	E	E	2.8	3.7
21	2.3	3.1	2.0^{F}	2.2^{Y}	2.3	2.1^{Y}	G	2.8^{F}	3.5^{F}	4.2	4.2	4.2	5.1	G	G	3.5	G	G	E	E	E	2.9^{F}	2.3^{F}	2.4^{F}
22	2.0^{F}	E	E	E	E	E	2.3	G	G	3.5	4.2	4.5	3.5	4.3	3.0^{Y}	3.5	2.6	2.5	2.1	E	E	E	E	4.2
23	E	E	2.4	2.2	2.3	3.1	2.3	G	3.1	G	G	4.2^{Y}	4.0	3.5	3.5	3.5	3.4	3.5	2.3	3.2	2.3	2.2	2.3^{Y}	2.5^{F}
24	2.4^{F}	2.6^{Y}	2.3	2.3^{Y}	2.3^{Y}	2.8^{F}	G	G	G	3.5	G	4.7	3.9	3.6	3.5	3.5	3.5	3.0^{Y}	3.3^{Y}	2.8^{Y}	1.8^{Y}	E	E	4.2^{Y}
25	3.5^{F}	3.1^{F}	2.2^{F}	3.1^{F}	2.3^{F}	E	2.1	G	3.5	G	3.6	G	3.8	G	G	G	G	2.1	2.0	2.0	2.1	2.0	2.2^{Y}	2.0
26	E	2.8^{Y}	2.3	2.3^{Y}	2.2	E	2.2^{Y}	G	3.5	3.5	3.6	4.2^{Y}	4.5	G	G	3.7	3.2^{Y}	2.1^{Y}	2.2	2.8^{F}	2.2^{Y}	2.3	1.8	E
27	1.8	1.7	2.2	1.7	E	E	2.0	G	3.5^{F}	G	G	4.3	5.9	5.5	3.6	3.0	G	G	E	2.3	1.8	E	E	2.0
28	E	E	E	E	E	2.6	2.0	G	G	3.5	3.6	G	G	G	G	3.5	G	3.0^{Y}	3.0^{Y}	2.1	E	E	E	2.2
29	2.3	2.3^{Y}	2.5	2.8	2.3	2.2	2.3	3.1	G	3.6^{F}	G	G	G	G	3.6	3.6	3.2	G	E	E	2.0	2.0	E	E
30	E	2.1^{Y}	E	2.1^{Y}	2.0	2.2	2.7	2.9	G	G	G	G	3.5	G	G	3.5	G	2.2	2.1	2.3	2.0	1.8	E	E
31	E	E	E	2.3^{Y}	2.3^{Y}	2.3^{Y}	2.3	3.1	3.5	3.5	G	G	3.5	3.6	G	3.2	3.1	3.1^{Y}	2.4^{F}	2.1	2.1	E	E	E
Mean Value	2.7	2.5	2.3	2.3	2.3	2.4	2.3	2.8	3.3	3.7	4.0	4.2	4.0	4.0	3.8	3.6	3.6	2.9	2.9	2.9	2.4	2.5	2.4	2.6
Median Value	2.2	2.2	2.2	2.2	2.2	2.2	2.2	G	3.0	3.5	3.5	3.7	3.5	3.5	3.2	3.5	3.2	2.7	2.3	2.3	2.2	2.2	E	2.2
Count	31	31	31	31	31	31	25	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

A 8

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

IONOSPHERIC DATA

Mar. 1953 | **(M3000)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	3.0F	(3.2)JF	(3.2)JF	(3.1)JF	3.3	3.0	3.3	3.5	3.6	3.6	3.3	3.5	3.4	3.3	3.4	3.4	3.5	3.5	3.4	3.2	3.2	3.0	3.0	(3.0)JF
2	(2.9)JF	3.4	3.1F	3.1F	(3.2)JF	(3.1)JF	3.3	3.7	3.5	3.3	3.2	3.3	3.4	3.3	3.3	3.4	3.4	3.3	3.4	2.9	2.9	2.8	3.0	2.8
3	2.8	2.7F	2.8	2.9	2.5	2.5	2.7K	WK	2.6K	2.7K	2.7K	2.6K	2.8K	3.0K	3.1K	3.2K	3.3K	3.3K	3.4	2.9V	3.0	3.0F	(2.7)JF	(2.6)JF
4	2.9F	3.0F	2.8F	2.9F	(2.9)A	2.9	3.1	3.4	(3.4)P	3.5	3.4	3.3	3.3	3.2	3.1	3.3	3.5	3.6	3.3	3.1	3.0	2.8	3.1	3.2
5	2.9F	3.1	3.0F	3.0F	3.0	2.9F	3.4F	3.5	3.4	3.5	3.4	3.1	3.4	3.4	3.3	3.5	3.6	3.5	3.3	3.2	3.1	2.9	2.9	2.9F
6	3.1F	3.0	3.1F	3.0	3.0	3.2	3.5	3.5	3.4	3.6	3.0H	3.4	3.3	3.2	3.4	3.4	(3.5)J	3.5	3.5	3.2	3.1	3.0	3.1	3.2
7	3.1	3.0	3.0	2.9	3.2	3.3	3.5	3.5	3.4	3.5	3.3	3.2	3.1	3.2P	3.4	3.5	3.4	3.4	3.4	3.3	3.1	3.2	3.1	3.0F
8	3.0	3.1F	3.0	3.3	3.1	3.1	3.4	3.6	3.6	3.0	3.2	3.4	3.4	3.3	3.4	3.4	3.3	3.5	3.5	3.2	3.0	3.0	2.9	3.0
9	3.0	3.1	2.8F	(2.8)JF	(2.7)JF	2.9F	3.5	3.7	3.2	M	M	3.2	3.1	3.4	3.3	3.4	3.1	3.2	3.3	3.5	2.8V	2.7V	2.6F	2.9F
10	2.7F	2.8F	2.9F	3.3F	3.1JF	3.3JF	3.4F	3.5	3.4	3.2	3.3	3.2	3.1	3.1	3.3	3.3	3.3	3.2	3.2	3.3	3.0	3.0	3.0F	3.0F
11	2.9F	2.9	3.0	(3.0)P	2.8P	2.9	3.5	3.6	3.6	3.5	2.7H	3.3	3.4	3.3	3.3	3.3	3.6	3.3	3.2	3.3	3.1	3.1	3.1	3.0F
12	2.9	3.0	2.9	3.1	3.2	3.5F	3.3	3.7	3.5	3.2	3.3	N	3.4	3.2	3.2	3.3	3.4	3.4	3.4	3.4	3.5	3.3	3.0	2.9
13	3.0	2.9	3.2	3.0	3.4	3.2	3.6	3.6	3.6	3.6	3.0	3.2	3.3	3.4	3.2	3.5	3.5	3.5	3.4	3.2	3.0	3.1	3.1	3.1
14	3.2	3.1	3.0F	3.0	3.4	3.1	3.5	3.7	3.5	3.6	3.2	3.1	3.1	3.3	3.2	3.4	3.4	3.4	3.5	3.3	3.0	3.1	3.1	3.0
15	3.1	3.0	3.2	3.2V	3.2F	3.1F	3.4	3.6	3.4	3.3	3.2	3.1	3.2	3.2	3.5	3.3	3.3	3.3	3.3	3.6	3.1	3.3	3.0	2.8
16	2.9	2.9	3.2	3.3	2.9	3.1	3.5	3.4	3.4	3.5	3.2	3.2	3.3	3.4	3.4	3.4	3.4	3.5	3.5	3.0	2.9	3.1	3.1	2.9
17	2.9	2.9	3.1	3.3	3.1	3.4	3.6	3.5	3.5	3.2	3.1	3.2	(3.3)B	3.4	3.5	3.5	3.4	3.4	A	A	A	3.0	2.9	2.9
18	3.0	2.9	3.0V	3.4	3.6	3.3F	3.5	3.7	3.7	3.3	3.3	3.1	3.2	3.2	3.4	3.5	3.6	3.5	3.5	3.5	3.1	3.2	3.2F	3.2F
19	3.0F	3.1F	3.1F	3.1F	3.3	3.3	3.6	3.6	3.5P	3.4	3.4	3.3	3.2	3.2	3.4	3.3	3.3	3.4	3.4	3.5	2.9	2.9	2.8F	2.9F
20	3.0F	3.0F	3.1	3.2	2.9	3.0F	3.6	3.6	3.5	3.2H	3.3	3.2	3.2	3.2	3.4P	3.3	3.3	3.3	3.5	3.3	3.1	3.2	3.0	2.9
21	2.8	3.0	3.1	3.3	3.3	3.2	3.5	3.2	3.4	3.2	3.5	3.0	3.0	3.1	3.1	(3.2)B	(3.3)P	3.5	3.5	3.3	2.9	3.0	2.8	2.9
22	3.0	3.0	3.1	3.0	3.1	2.8F	3.5F	3.6	3.3H	3.2	3.3	3.2	2.9	(3.2)B	3.4	3.3	3.2	3.2	3.4	3.5	2.9	2.8	2.8	2.9
23	2.9F	3.1F	(3.0)JF	3.1F	(3.2)JF	3.1PF	3.6	3.6	3.2	3.3	3.4	3.4	3.1	3.3	3.2	3.3	3.4	3.4	3.4P	3.2	3.0	2.9P	3.0	2.9F
24	3.0F	3.2PF	2.9F	2.8F	3.1	3.2	3.6	3.2	3.2	3.2	3.5	3.1	3.2	3.0	3.1	3.4	3.5	3.5	3.4	3.1	3.0	2.8	2.9	3.0
25	2.8	3.2	3.3	3.5	(3.5)P	2.6	3.3	3.0H	3.0	3.2	3.5	3.1	3.3	3.2	3.3	3.4	3.3	3.5	3.3	3.3	3.0	2.8	2.8	2.7
26	2.9	3.0	3.3	3.6	2.9H	2.8	3.4	3.4	3.4	3.3	3.2	3.2	3.1	3.5	3.3	3.3	3.4	3.3	3.3	3.3	2.9	2.9	2.9	2.9
27	3.0	2.9	3.3	3.3	2.9	2.9	3.4	3.2	3.2	3.1	3.0	3.3	3.1	3.2	3.3	3.2	3.4	3.4	3.2	3.2	3.0	2.8F	2.7F	3.0P
28	3.0	3.2	3.0	3.0	3.0	3.1	3.5	3.3	3.4	3.3	3.5	3.1	3.2	3.1	3.2	2.9	3.3	3.5	3.4	2.9	2.8	(2.8)F	2.8	2.9
29	3.1P	3.0	3.3	3.0	2.9	2.9	3.2	3.3	3.4	3.2	3.4	3.3	3.1	3.2	3.6	3.4P	3.3	3.3	3.2	3.0	2.8	2.7	(2.8)F	3.0F
30	3.2	3.3	3.2F	3.0	2.9	3.1	3.2P	3.4	3.3	3.1	3.3P	3.5P	3.3	3.3	3.2	3.5	3.2	3.4	3.5	3.5	2.7	2.7	2.7F	2.7F
31	2.7F	2.8F	3.0	3.2	3.2F	3.1F	3.4	3.3	3.3	3.2	3.4	3.3	3.4	3.3	3.4	3.1	3.4	3.3	3.3	3.1	3.0	(3.0)F	3.1F	(3.0)F
Mean Value	3.0	3.0	3.1	3.1	3.1	3.1	3.4	3.5	3.4	3.3	3.3	3.2	3.2	3.2	3.3	3.4	3.4	3.4	3.4	3.2	3.0	3.0	2.9	2.9
Median Value	3.0	3.0	3.1	3.1	3.1	3.1	3.5	3.5	3.4	3.3	3.3	3.2	3.2	3.2	3.3	3.4	3.4	3.4	3.4	3.2	3.0	3.0	3.0	2.9
Count	31	31	31	31	31	31	31	30	31	30	30	30	31	31	31	31	31	31	30	30	30	31	31	31

(M3000)F2

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

23

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

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Mar. 1953

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	1.3	1.0	1.3	1.3	1.5	1.5	2.0	2.4	2.7	2.9	3.3	3.5	3.1	3.1	2.8	2.5	2.2	1.6	1.5	1.5	1.5	1.4	1.5
2	1.5F	1.3	1.3	1.1	1.0	1.0	1.5	2.1	2.6	3.0	3.2	3.3	3.5	3.9	3.7	2.7	2.4	1.9	1.4	1.4	1.4	1.4	1.4	1.4
3	2.7A	1.5	1.6	1.3	1.0	1.0	1.6	2.0	2.8	2.5	3.0	3.5	3.3	3.0	3.8	2.7	2.4	2.1	1.5	1.5	1.5	1.5F	1.5F	1.5
4	1.5	1.3	(1.2)AF	1.0	(1.2)A	1.4	1.5	2.1	2.8	2.7	2.8	4.5A	3.3	3.6A	3.0	2.8	2.4	2.3	1.5	1.5	1.5	1.5	1.5	1.5
5	1.5	1.4	1.0	1.0	1.0	1.5	1.5	2.1	2.5	2.9	3.1	3.2	3.5	3.4	3.0	2.9	2.8	2.7	2.2A	1.6	1.5	1.5	1.5	1.4
6	1.4	1.3	1.1	1.6	1.4	1.4	1.4	2.3	2.7	2.8	3.1	3.8	3.5	3.3	3.2	2.8	2.5	2.0	1.5	1.4	1.4	1.4	1.4	1.4
7	1.5	1.1	1.0	1.1	1.1	1.0	1.4	2.2	2.9	3.0	3.4	3.5	3.3	3.3	3.5	3.1	2.8	2.0	1.4	1.7	1.5	1.5	1.4	1.4
8	1.5	1.1	1.4	1.1	E	1.0	1.4	2.3	2.8	3.0	3.4	4.2A	3.5	3.5	3.0	2.9	2.5	2.2	1.5	1.7	1.6	2.2A	1.5	1.5
9	1.6	1.4	1.3	1.1	E	1.0	1.5	2.2	2.7	M	M	3.2	3.1	3.2	3.0	3.0	2.8	2.0	1.5	1.5	1.5	1.4	1.4	1.5F
10	1.4F	1.4F	1.1	1.0	1.4	E	1.5	2.3	2.5	2.8	3.0	3.6	3.5	3.4	3.0	4.8A	2.6	2.5	1.5	1.5	1.5	1.5	1.4	1.5
11	1.4	1.5	1.0	1.3	1.0	1.0	1.5	2.2	2.6	3.0	3.0	3.7	3.5	3.2	3.0	2.8	2.5	2.0	1.7	1.5	1.4	1.9	1.4	1.4
12	1.4	1.4	1.4	1.4	1.0	1.4	1.5	2.8	2.7	3.0	3.2	3.5	3.5	3.3	3.0	3.3A	2.7	2.9A	2.6A	1.4	1.4	1.4	1.6	1.5
13	1.4	1.4	1.4	1.0	E	1.0	1.4	2.3	2.6	2.9	3.1	3.4	3.5	3.2	3.0	3.2	2.7	2.2	1.4	1.4	1.4	1.6	1.6	1.5
14	2.4A	1.4	1.4	1.4	1.0	1.0	1.5	2.6	2.9	3.0	3.2	3.6	3.5	3.3	3.0	2.8	2.5	2.0	1.4	1.5	1.5	1.5	1.4	1.6
15	2.0A	1.9	1.0	1.8	1.5	1.7	1.9	2.4	2.7	3.1	3.0	3.3	3.5	3.3	3.0	2.9	2.6	2.1	1.6	1.5	1.5	1.5	1.5	1.5
16	1.6	1.4	1.4	1.1	1.3	1.3	1.6	2.5	2.9	3.0	3.2	3.2	3.3	3.3	3.1	2.9	2.7	2.0	1.5	1.5	1.5	1.9	1.5	1.5
17	1.5	2.1	1.4	E	1.0	E	1.5	2.4	2.2	2.8	3.0	3.5	3.2	3.3	3.0	2.8	2.6	2.2	A	A	2.0A	3.5A	1.5	1.5
18	1.4	1.4	E	1.2	E	1.3	1.6	2.4	2.7	3.0	3.2	3.4	3.2	3.2	3.7A	2.8	2.6	2.2	1.5	1.5	1.4	1.4	1.5	1.8F
19	1.4F	1.1	E	1.1F	1.1	E	1.4	2.3	2.5	3.2	3.5	3.3	3.3	3.2	3.3	2.9	2.8	2.9	1.5	1.5	1.4	1.6	1.5	1.5
20	1.4	1.0	1.5	1.2	1.1	1.0	1.7	2.4	2.7	3.0	3.3	3.4	3.2	3.2	3.2	3.1	2.7	2.2	1.5	1.4	1.4	1.4	1.5	(1.4)A
21	1.4	1.4	1.4	1.4	1.4	1.3	1.7	2.5	2.8	3.0	3.0	3.3	3.6	3.5	3.5	2.8	2.5	2.0	1.5	1.4	1.5	1.5	1.5	1.5
22	1.5	1.1	1.1	1.1	1.0	1.0	1.7	2.4	2.8	3.1	3.4	3.2	3.4	3.2	3.2	2.9	2.5	2.1	1.5	1.5	1.5	1.5	1.5	1.5
23	1.5	E	E	E	E	1.5	1.9	2.4	2.8	2.9	3.0	3.2	3.2	3.8	3.3	3.0	2.5	2.3	1.6	2.2A	1.7	1.5	1.4	1.4F
24	1.5F	1.5F	1.4	1.1	1.1	1.4	1.8	2.4	2.9	2.9	3.3	3.3	3.5	3.2	3.1	2.8	2.6	2.2	1.5	1.5	1.4	1.5	1.4	1.6
25	2.3A	1.6	1.1	1.4	1.0	1.3	1.8	2.5	2.8	2.9	3.0	3.3	3.5	3.3	3.1	2.8	2.5	2.2	1.5	1.5	1.5	1.5	1.5	1.4
26	1.5	1.3	1.5	1.3	1.0	E	1.9	2.6	2.8	3.3	3.5	3.5	3.3	3.1	3.3	3.0	2.5	2.3	1.5	1.4	1.5	1.4	1.5	1.4
27	1.4	1.4	1.5	E	E	1.0	1.9	2.5	3.0	3.0	3.4	3.5	3.8	3.5	3.0	3.0	2.8	2.3	1.5	1.4	1.4	1.5	1.4F	1.5F
28	1.4	1.0	E	E	1.0	1.0	1.9	2.5	3.0	3.5	3.4	3.3	3.4	3.4	3.3	3.0	2.7	2.3	1.5	1.5	1.5	1.5	1.5	1.5
29	1.5	E	1.0	1.0	E	1.3	1.9	2.5	3.0	3.0	3.5	3.3	3.4	3.3	3.5	3.0	2.7	2.3	1.5	1.5	1.4	1.5	1.5F	1.4
30	1.4	1.0	E	1.0	E	E	2.2	2.7	2.9	3.2	3.5	3.5	3.4	3.4	3.2	2.8	2.7	2.3	1.7	1.4	1.5	1.4	1.4	1.4
31	1.4	E	1.0	1.0	E	1.3	2.2	2.5	3.0	3.5	3.5	3.2	3.4	3.4	3.2	3.0	2.6	2.4	1.5	1.5	1.4	1.5	1.4F	1.5F
Mean Value	1.6	1.4	1.3	1.2	1.1	1.2	1.7	2.4	2.7	3.0	3.2	3.5	3.4	3.3	3.2	3.0	2.6	2.2	1.6	1.5	1.5	1.6	1.5	1.5
Median Value	1.5	1.4	1.1	1.1	1.0	1.0	1.6	2.4	2.8	3.0	3.2	3.4	3.4	3.3	3.1	2.9	2.6	2.2	1.5	1.5	1.5	1.5	1.5	1.5
Count	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	30	30	31	31	31	31

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

A 10

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

IONOSPHERIC DATA

Mar. 1953 | fminE | 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	1.4	1.5	E	E	1.0	E	1.6	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.7	1.4	1.9	E	E	1.5
2	1.5	1.6	1.4	E	E	E	B	1.5	1.5	1.4	1.4	1.5	1.4	1.4	1.4	1.5	1.4	1.4	E	1.6	E	E	E	1.6
3	1.4	E	E	E	1.6	1.6	1.7	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.5	1.4	1.8	1.5	1.5	1.5	1.6	1.5
4	1.5	1.0	E	1.0	E	1.1	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
5	1.3	1.5	1.0	E	E	1.4	1.5	1.4	1.5	2.4	1.9	1.9	1.7	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.7	1.6	1.9	E
6	E	E	1.7	1.4	E	1.4[F]	1.7	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.6	1.7	E	1.7
7	1.7	E	1.7	E	E	E	B	1.4	1.4	1.4	1.5	1.9	1.9	1.9	2.0	1.9	1.5	1.4	E	1.4	1.5	1.5	E	1.6
8	1.5	1.1	E	E	E	E	B	1.4	1.5	1.7	1.9	1.9	1.9	1.7	1.9	1.7	1.6	1.4	1.4	1.4	1.5	1.4	1.4	1.4
9	1.4[F]	1.2[F]	1.1	E	E	E	1.4	1.4	1.5	M	M	1.9	2.1	2.5	1.9	1.7	1.5	1.5	1.5[F]	1.5	1.5	E	E	E
10	E	E	E	E	E	E	B	1.4	1.5	1.5	1.5	1.7	1.7	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.5	E	1.5
11	1.5	1.5	E	E	1.0	1.0[F]	1.5	1.4	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.4	E	E
12	E	E	E	E	1.6	1.5	1.7	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.4	1.4	E	E	E	E
13	E	E	E	E	1.4	1.6	1.8	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.5	1.4	1.4	1.8	1.5	E	1.4	1.5	1.5
14	1.4	1.1	1.4	E	1.7	1.0	1.7	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	1.5	1.4	1.4	1.6
15	1.4[F]	1.1	E	1.0	1.1	E	1.5[F]	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.5	1.5	1.4	1.5	1.9	1.5	1.4	1.6	1.4
16	1.5	1.1	1.0	E	E	1.5	1.4	1.5	1.4	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	E	E
17	E	1.5	E	E	E	E	B	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.5	1.4	1.5	1.4	1.4	1.5	1.5
18	E	1.6	1.6	E	1.5	1.6	1.7	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.5	1.4	1.4	1.4	1.4	1.4	E	E	1.7	1.4
19	1.6[F]	1.7	E	1.7	1.7	1.6	[1.5][B]	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.4	1.5	1.5	1.5	1.4	1.5	1.7
20	1.4	1.7	E	E	E	1.7	1.4	1.4	1.4[F]	1.4	1.4	1.4	1.6	1.5	1.4	1.5	1.4	1.4	1.6	1.6	E	E	1.4	1.4
21	1.6	E	1.5[F]	E	1.0	E	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.6	1.4	1.4	1.5	E	E	E	1.5	1.5	1.5
22	1.5[F]	E	E	E	E	E	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	E	E	E	E	1.7
23	E	E	E	1.5	E	E	1.5	1.5	1.5	1.4	1.5	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.5	1.4	1.4	1.5	1.6	1.5[F]
24	1.6[F]	1.1	1.1	1.1	1.1	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.5[F]	1.5	1.5	1.5	E	E	1.4
25	1.4[F]	1.0	1.0	E	E	E	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.7	1.6	1.7	1.5	1.5	1.9
26	E	1.4	1.0	E	2.0	E	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.6	1.5	1.6	1.6	E
27	1.5	1.6	1.5	1.1	E	E	1.5	1.4	1.4[F]	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.4	1.5	E	1.5	1.6	E	E	1.6
28	E	E	E	E	E	1.6	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.5	1.4	1.5	1.5	E	E	E	1.9
29	2.0	1.1	E	1.0	1.5	1.6	1.5	1.5	1.5	1.4	1.4	1.5	1.4	1.5	1.5	1.5	1.5	1.4	E	E	1.5	1.6	E	E
30	E	1.7	E	1.7	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.7	1.6	E	E
31	E	E	E	1.7	1.5	1.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.5	1.5	1.5	1.6	1.6	E	E	E
Mean Value	1.5	1.4	1.3	1.3	1.4	1.5	1.6	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.6
Median Value	1.4	1.1	E	E	E	1.0	1.5	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.5	1.4	1.4	1.5	1.5	1.5	1.4	E	1.5
Count	31	31	31	31	31	31	26	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31

fminE

Sweep 0.85 Mc to 22.0 Mc in 6 min ☐ Manual ☒ Automatic

A 11

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

IONOSPHERIC DATA

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

Mar. 1953 | 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	2.7F	2.8F	(3.0)FP	3.2F	(2.4)F	(2.4)F	2.8	5.5	6.5	6.3	5.1	7.5	7.1	6.6	6.6	6.7	5.7	5.7	5.1	3.9	3.6	3.2	3.3	3.6FP
2	F	F	3.1	2.8	2.8	2.6FP	3.5	5.2	5.7	6.1	6.8	7.8P	9.0	8.2	7.3P	7.5	6.8	6.1	5.0	4.3	4.4	4.3	4.2	3.8P
3	3.6JF	3.3FP	3.3	[3.4]F	3.5	3.6FP	3.2FF	3.6K	4.9K	5.2K	4.7K	5.7K	6.0K	5.6K	5.2KP	5.4K	5.4K	5.3	5.0	3.6	3.6F	3.7FP	3.8FP	F
4	3.7FP	3.0F	3.0FP	F	F	2.3F	2.8	5.8	5.6	7.5P	7.0	6.7	6.8	6.7	6.7	7.5	6.5	5.7	4.1	3.8	3.8	3.8P	4.0F	4.1
5	3.7	3.4F	3.5	3.3F	2.9F	F	3.6F	5.2	5.9	6.8	5.5	5.7	8.6P	8.3TP	6.5	6.2	6.1	5.3	4.3	3.1	[3.1]A	3.1	3.3F	3.4F
6	(3.6)FJ	3.6FP	3.6	3.5J	3.5	3.5P	3.8	5.0	5.1	5.5	6.2	7.0	(8.7)P	7.2	6.2	6.2	6.0	5.8	4.6	3.8	3.9	3.8P	3.9	3.7
7	3.6P	3.5	3.7	3.5	3.3	3.2	3.8	4.6	5.3P	6.5	6.5	7.3P	7.4	8.4J	8.6	6.1	5.5	5.7	6.1	5.0	3.9	3.7	3.7	3.6P
8	3.6F	3.6J	3.8J	3.9	3.0	3.3	4.2	5.2	5.7	5.6	(8.0)P	7.5	8.2J	6.9	6.1	6.1	6.7	6.5	4.5	3.9	3.7	3.8	3.9	4.0
9	4.0	4.0F	F	F	F	3.0F	3.7	5.1	5.5	7.2	8.0J	7.7P	7.0	B	B	6.2	6.5	8.6	7.2	4.2	2.5	2.8	3.0	3.2P
10	3.3	3.2F	3.4	3.6F	2.4FH	2.9F	3.5	4.9	6.0	5.7	[7.0]B	8.3J	7.8P	7.9TP	7.6	6.9	6.3	7.4	6.6	5.4	3.8	3.9	4.0	4.2
11	4.2	4.4F	4.5F	4.3	4.2F	[4.9]F	5.6	4.8	6.0	6.0	5.5	7.2	9.3	(8.5)P	7.5	6.5	6.1	6.4	6.5	5.5	3.9	3.7	3.8	4.0
12	3.9F	4.0	3.9	[4.0]BF	4.0	3.9	4.7	5.5	5.9P	6.3	6.2	7.5	8.6J	7.4	6.3	7.0	7.0	6.5	7.3	6.1	4.0	3.3	3.2	3.3P
13	3.4	3.4P	3.5	3.5	3.5	3.4	4.8	5.4	6.0	5.6	6.0	[7.3]B	8.6	8.5	6.4	6.5	6.5	6.1	5.6	4.9	4.0	4.2	3.9	3.7
14	3.7	3.6	3.7	3.6	3.7	2.6	3.8	5.4P	5.9	6.0	6.3	7.0	6.6	7.5	7.4	7.0	6.6	6.7	6.0	4.5	4.0	4.0	3.7	3.8
15	3.7P	3.6	3.8	3.6	3.2	3.0	4.2	5.3P	5.6	6.3	7.2	[7.8]B	8.5	9.6	7.2	6.7	6.1	6.5	6.0	5.4P	3.3	3.6P	3.4	3.3
16	3.4P	3.3P	3.4	3.6	2.4H	2.6	3.8	5.5	6.0	6.8	6.6	7.3	(8.8)JP	(8.7)JP	[7.6]B	6.5	6.3	5.7	4.8	4.4	[4.2]B	(4.0)JP	4.0	3.7
17	(3.5)P	3.5	3.6	3.5	3.6	2.8	3.9	5.3	6.2	6.0	6.4	7.9P	9.3	9.4	7.5	6.4	5.7	6.5	7.3P	4.0	3.0	2.9	[3.0]AF	3.0F
18	3.2	3.3V	3.3F	3.8FP	2.7F	2.6	4.4	5.2	6.0	5.8	6.5	7.3	(8.0)P	8.5P	8.5P	6.8	5.8	6.2	7.0	5.5	3.6	3.7F	[3.5]F	3.3TF
19	3.4F	3.2FP	3.1F	3.2	3.3F	3.0F	4.5	6.4	6.9	6.7P	6.6	B	7.0J	(7.0)JP	B	6.8	6.5	6.7	6.8	4.7	3.0	3.4	3.3	3.3FP
20	3.4F	3.5	3.5	3.7	3.0F	3.3	4.7	5.5	5.7	5.8	7.3P	7.1P	8.7J	8.5J	9.6	[8.4]B	7.2	6.5	6.6	4.7	3.8	3.8	3.5	3.3
21	3.5P	3.4F	3.5P	3.6	2.6F	2.7JF	4.1	5.3P	5.4	6.7	7.0	6.3	8.0P	8.7	9.6	10.2	10.5P	8.6J	6.5	3.6	3.8	4.2F	3.2	[3.5]C
22	3.8	(3.7)F	3.8	3.5	3.2	3.0F	5.2	5.0	5.2	6.0	7.1	B	9.4	(9.7)J	(10.0)JP	8.0	6.3	7.0	7.0	5.2P	3.0	3.4	3.5	3.4
23	3.5S	3.8	3.4J	3.6	3.0F	2.4F	4.0	5.1	5.3	7.0	7.8	7.5	6.6	7.5	8.1P	8.6	8.1P	6.7	5.5	3.8	3.2	3.5	3.5	3.3
24	3.3	3.8	2.8	2.7	2.7	2.9	4.5	5.0	5.2P	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	3.6P	3.8	3.8	3.6	1.8	2.1	3.9	6.0	7.2	7.3P	6.1	(7.4)P	9.6	B	B	7.0	7.3P	6.0	4.8	4.9	4.4	4.4	4.3	4.0F
26	4.0	3.9	4.0	2.4	1.9	2.1F	4.0	5.1	6.2	6.6	[8.8]B	(9.1)JP	B	8.9J	B	B	6.5	5.8	5.3	4.2	3.7	3.7	3.5P	3.6
27	3.5	3.5	3.7	3.0	2.6	2.6	4.2	5.5	6.2	7.2	7.8P	(8.9)J	7.8	6.6	8.2P	[7.2]C	6.3	5.8	5.6	5.5	4.8	4.3	(4.4)F	4.5
28	(4.3)F	(3.9)F	3.6	(3.5)FP	3.0	3.0	4.9	6.0	6.3	6.2	7.0	7.0	B	7.3	(7.5)P	B	B	6.9	5.5	4.5	4.5	4.5	5.0P	4.2
29	4.0	3.8	3.5	3.3	3.3	3.3	5.0	6.5	(7.5)P	6.8	8.0JP	(8.5)P	8.3	8.7J	8.2	6.2	6.1	6.6	6.0P	5.0	4.8	4.2FP	F	F
30	6.0JFP	(4.4)F	F	F	F	F	4.5	6.3	6.3	7.2	8.4P	9.3	9.2	8.0P	7.1	7.0	7.3	7.3	6.0	3.4	3.0	3.2F	3.2F	[3.2]F
31	3.2F	(3.4)JF	(3.2)TF	3.6FP	2.5F	3.0F	4.7	5.2	6.5	6.9	7.5	8.2P	9.2	8.4JP	7.3	6.7	6.6	6.1	6.2	5.4P	4.1	F	F	3.8F
Mean Value	3.7	3.6	3.5	3.5	3.0	3.0	4.1	5.3	5.9	6.4	6.8	7.5	8.1	8.0	7.5	6.9	6.6	6.4	5.8	4.5	3.7	3.7	3.7	3.6
Median Value	3.6	3.6	3.5	3.5	3.0	3.0	4.1	5.3	5.9	6.3	6.9	7.4	8.4	8.2	7.4	6.8	6.5	6.4	6.0	4.5	3.8	3.7	3.6	3.6
Count	30	30	29	28	28	29	31	31	31	30	30	28	28	28	26	28	29	30	30	30	30	29	28	28

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

Mar. 1953 | hpF2 | 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	320F	320F	(350)FP	290F	(340)F	(350)F	300	260	250	260	270	270	270	270	300	260	240	270	250	290	320	330	350	320FP
2	F	F	320	300	330	290FP	270	250	250	300	300	300P	300	280	280P	280	270	260	290	340	360	360	330	360P
3	(330)JF	340FP	360	[400]F	430	400FP	370PF	U K	380K	320K	U K	350K	340K	320K	370KP	310K	310K	280	270	270	310F	330FP	370FP	F
4	320FP	300F	350FP	F	F	350F	300	250	250	260P	260	270	280	280	300	280	250	240	280	330	320	350P	350F	290
5	280	350F	320	350F	300F	F	270F	250	260	260	270	350	310P	(270)PJ	280	270	260	250	260	280	[320]A	350	370F	350F
6	(330)FJ	340FP	340	(330)J	300	300P	250	240	250	270	300	300	(300)P	280	290	280	270	260	270	310	320	330P	320	270
7	320P	350	370	340	300	360	250	240	270P	290	310	270P	330	(280)J	290	270	260	290	250	270	320	330	330	310P
8	350F	(310)J	(330)J	300	270	340	270	250	280	270	(290)P	300	(260)J	280	300	280	270	250	260	320	330	350	360	380
9	330	400F	F	F	F	300F	280	250	270	290	(240)J	290P	290	B	B	270	320	270	270	260	320	380	400	380P
10	370	380F	330	280F	320FH	280F	270	250	270	290	[290]B	(290)J	330P	(280)JP	260	270	280	280	260	270	300	350	320	380
11	360	350F	320F	320	350F	[300]F	250	230	260	260	270	340	280	(270)P	270	280	260	280	280	270	280	330	360	370
12	320F	360	340	[320]BF	290	280	240	250	260P	270	270	280	(270)J	290	300	280	250	290	280	250	260	320	350	340P
13	350	350P	340	320	300	300	250	230	250	260	320	[300]B	270	270	260	300	260	250	260	290	320	330	300	320
14	310	330	320	310	240	330	250	250P	260	260	280	300	310	270	300	280	270	270	260	300	300	310	320	320
15	350P	380	310	280	290	340	280	250P	270	320	320	[310]B	300	380	280	290	290	270	290	260P	300	320P	350	400
16	370P	330P	310	270	350H	320	260	310	290	270	300	310	(300)JP	(280)JP	[280]B	270	290	250	280	290	[310]B	(330)JP	300	350
17	(370)P	360	340	300	290	280	260	250	270	270	340	320P	290	280	270	270	300	280	250P	250	310	340	[350]AF	360F
18	350	340V	330F	270FP	220F	320	250	240	250	270	280	330	(320)P	300P	300P	270	280	260	260	250	300	350F	[360]F	(360)JF
19	340PF	360FP	340F	330	310F	310F	250	250	250	270P	260	B	(300)J	(300)JP	B	300	300	270	270	260	300	350	370	370FP
20	370F	320	320	310	330F	330	250	250	260	280	280P	300P	(290)J	(300)J	290	[280]B	270	270	260	270	320	300	330	370
21	350P	350F	320P	270	280F	(300)JF	240	250P	250	270	260	280	310P	320	310	330	270P	(270)J	250	300	340	330F	340	[330]C
22	320	(340)F	300	330	290	350F	220	240	240	290	320	B	310	(310)J	(270)JP	270	280	280	250	240P	350	380	360	360
23	320S	350	(330)J	270	300F	320F	250	250	280	310	260	280	290	320	290P	300	250P	260	270	270	350	390	380	370
24	370	280	320	390	340	320	270	280	310P	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	360P	310	300	250	290	400	280	320	280	270P	340	(310)P	270	B	B	300	250P	270	270	320	360	390	390	390F
26	360	350	260	230	350	360F	270	260	290	290	[300]B	(320)JP	B	(300)J	B	B	260	250	270	290	330	350	380P	370
27	320	370	280	300	340	330	290	270	300	330	300P	(310)J	280	290	270P	[260]C	260	270	270	300	310	340	(400)JF	330
28	(350)F	(280)JF	310	(330)FP	340	320	260	260	250	280	320	300	B	300	(300)P	B	B	250	270	340	350	400	350P	340
29	350	320	290	280	370	350	270	270	(300)P	280	(300)JP	(300)P	320	(300)J	270	280	300	270	280P	310	370	350PF	F	F
30	(270)JFP	(300)F	F	F	F	F	270	270	270	300	300P	310	280	300P	290	300	270	260	250	290	400	400F	390F	[380]F
31	370F	(370)JF	(330)JF	270FP	300F	400F	270	260	280	290	280	310P	300	(290)JP	280	270	280	270	290	300P	290	F	F	320F
Mean Value	340	340	320	310	310	330	270	260	270	280	290	300	300	290	290	280	270	270	270	290	320	350	350	350
Median Value	350	350	320	300	300	320	270	250	270	280	290	300	300	290	290	280	270	270	270	290	320	350	350	360
Count	30	30	29	28	28	29	31	30	31	30	29	28	28	28	26	28	29	30	30	30	30	29	28	28

hpF2

Sweep 1.0 Mc to 17.2 Mc in 3 min ☐ Manual ☒ Automatic

K 2

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

Mar. 1953

h'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	260	310	260	230	250F	270	260	240	240	260	[260]L	270	270	260	280	250	240	240	240	240	250	300	340A	280
2	260F	250	240	250	270	220	240	220	240	270	270	280	270	270	270	270	240	230	220	250	300	300	290A	290
3	300	300	320	330F	340	340	320	500K	380K	320K	460K	350K	340K	320K	370K	310K	270K	250	240A	270A	270	270	320F	340F
4	250	250	270	250F	280	320	270	240	250	250	260	260	280	280	290	260	240	220	220	260	270	310	300	250
5	250	300A	250	270	210	270	230	220	250	250	260	320	290	260	270	270	250	240	210	240	[260]A	280	300	290
6	280	260	260	260	240	240	220	230	240	270	300	270	280	270	290	270	240	240	240A	250	250	260	260	240
7	260	250	290	270	220	270	230	230	240	290	300	270	320	270	280	260	250	250	230	220	250	250	270	270
8	290F	260	290	240	220	280	240	240	240	250	280	290	260	280	280	280	250	230	210	260	280	310	310	[290]M
9	270	310	300	280F	310F	230	240	240	260	290	240	270	280	280	290	260	300	240	220	220	260	320	330	340
10	300	300	270	240	200H	240	230	240	260	280	270	280	330	270	260	250	270	250	220	220	240	280	260	300
11	300	280	250	250	250F	260F	210	210	240	260	260	330	260	260	260	260	240	240	230	220	230	260	290	300
12	280	310	270F	260F	240	240	220	230	250	260	270	270	260	290	300	270	250	250	240	200	210	250	280	290
13	290	280	260	250	240	240	230	220	240	260	310	280	260	260	250	270	250	240	230	230	250	260	260	270
14	260	280	290	260	220	260	220	230	250	260	280	290	310	260	280	270	260	250	220A	220	250	260	250	280
15	300	290	280	240	240	270	240	230	250	280	300	290	280	260	260	270	250	250	230	210	240	280	280	370A
16	300	270	250	230	200H	250	240	230	250	260	290	300	280	270	260	260	240	230	230	230	270	270	260	300
17	310	290	270	240	230	210	220	240	250	270	330	300	280	260	260	270	240	250	230A	200	270	290	[300]AF	320
18	300	280	280	240	200	250	230	220	250	270	270	280	300	280	270	260	230	250	230A	220A	240	260F	290	320
19	310	310	330A	260	220	230	230	240	240	260	260	300	280	280	270	270	280	250	230	250A	220	310	320	330F
20	320	280	250	250	250	250	230	230	250	280	280	290	280	290	270	260	260	240	230	210	250	250	260	310
21	300	270	250	230	200	260	220	240	240	270	260	280	300	310	290	300	250	250	220	[260]A	290	290F	270	[270]C
22	270	270	240	250	220	250	210	220	230	280	300	270	280	300	250	250	260	250	230	210	260	300	300	300F
23	280	260	240	250	230	230	220	230	280	300	260	270	290	300	280	280	240	240	220A	220	300A	330	320	320
24	320	240	250	310	270	250	240	250	300	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	300	260	250	230	260	250	260	300	280	250	340	310	260	270	270	270	250	230	230	250	290	320F	320	360F
26	290	270	230	200	300	300	240	240	270	290	290	300	260	270	260	260	250	240	240	230	270	290	320	310
27	270	290	240	220	240	260	250	250	290	320	290	300	270	280	270	[260]C	260	240	250	230	240	260	320	280
28	270	240	230	240	260	250	240	250	250	270	300	270	280	300	280	290	250	230	230	250	270	300F	270	260
29	270	250	220	240	280	280	250	260	280	270	290	280	300	270	250	250	250	250	240F	230F	280	250	300F	280F
30	220	210	230F	250F	300F	290F	230	260	270	300	280	280	260	280	270	290	260	250	220	220	300	340F	330F	310F
31	300	260F	270F	240	200	250F	240	250	270	280	270	300	270	280	270	260	270	240	230	220	220	310F	320F	290F
Mean Value	280	270	260	250	240	260	240	250	260	280	290	290	280	280	280	270	250	240	230	230	260	290	290	300
Median Value	290	270	260	250	240	250	230	240	250	270	280	280	280	280	270	270	250	240	230	230	260	280	300	300
Count	31	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

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

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

Mar. 1953 | 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	3.7 L	4.0	[4.0] L	4.1 L	4.2	4.3 L	4.2 L	3.9	[3.2] L	2.5 L						
2								L	L	3.7	4.3 L	4.3 L	4.5	4.4	4.1 L	4.0	L	Q						
3								3.1	3.5	4.0	4.2 L	(4.2) A	4.3	4.2	4.2	4.0	L	Q						
4								L	3.5 L	4.1	4.3 L	4.3	4.4	4.2	4.5 H	4.0	3.6 L	Q						
5								Q	L	4.2 L	4.2	4.4 L	4.4	4.1	4.3	4.0 L	L	L						
6								Q	L	4.2 L	4.3 H	4.4	4.2	4.4	4.2 L	L	L	Q						
7								Q	3.1 L	4.2	4.3	4.3	4.4	4.4	4.2	3.7	3.0 L	Q						
8							Q	Q	Q	4.0 L	4.2	4.5 L	4.3	4.2	4.2 L	4.0 L	3.6	2.6						
9							Q	Q	3.7 L	[3.9] L	4.2	4.3 L	4.5	4.3	4.3	4.0	A	Q						
10							Q	Q	L	4.2	4.0	4.5	4.7	4.3	4.2	3.9	L	Q						
11							Q	Q	3.0	4.0 H	4.2	4.1	(4.2) L	4.4	4.2	(3.8) L	3.3	Q						
12							Q	Q	L	4.0	4.3	4.4	4.3	4.7 L	4.3	3.7	3.7	Q						
13							Q	L	3.7 L	4.2	4.5 L	4.4	4.3	4.3	4.2	4.0 L	3.7 L	Q						
14							Q	2.7	3.8 L	4.0 L	4.3	4.3 L	4.6 L	4.2	4.3	3.7	3.7 L	Q						
15							Q	Q	L	L	4.4	4.2	4.4	4.3 H	4.2	4.0	3.5 L	L						
16							Q	Q	L	4.2	4.3	4.5	4.6	4.3	4.2	4.0 L	3.3	2.7						
17							Q	Q	3.7 L	4.0 L	LH	4.3 L	4.4	4.2 L	4.2	4.0	Q	Q						
18							Q	Q	L	4.1	4.2	4.4	4.4	4.3 L	4.3	4.1	Q	Q						
19							Q	L	3.9 L	4.2	4.2	4.5 L	4.5	4.2 L	4.2	L	L	A						
20							Q	Q	L	4.3 L	4.5 H	4.2	4.3	4.3	4.2	4.0	3.6 L	Q						
21							Q	Q	L	4.0	4.3	4.2	4.5 H	4.8 H	4.2	4.1	[3.9] L	2.7						
22							Q	Q	3.4	[4.0] L	4.5 L	4.5	4.5	4.5	4.0 L	3.8 L	3.7	2.5						
23							Q	Q	L	4.0	4.3	4.3	4.3	4.3 H	4.2 H	4.1 H	3.6	Q						
24							Q	Q	L	C	C	C	C	C	C	C	C	C						
25							Q	L	3.9 L	4.1	4.4 L	4.5	4.4	4.2	4.3	[4.0] L	3.6	2.7						
26							Q	Q	L	4.3 L	4.3	4.3	4.5	4.4	4.2	4.2 L	3.5 L	Q						
27							Q	L	4.1 L	4.3	4.4	4.6	4.5	4.3 L	3.8 L	[3.8] C	3.7	2.7						
28							Q	L	4.0	4.0	4.5 H	4.3	4.5	4.5 L	4.3	4.3 L	3.7 L	L						
29							Q	L	4.1 L	4.3	4.5 H	4.5	4.5	4.4	4.4	4.0	L	L						
30							Q	L	4.0 L	4.4	4.5	4.5	4.5	4.5	4.3	4.3 L	3.9 L	L						
31							Q	L	L	4.4 L	4.6 L	4.7	4.5	4.5	4.4	4.2 L	3.7 L	2.5 L						
Mean Value								2.9	3.7	4.1	4.3	4.4	4.4	4.3	4.2	4.0	3.6	2.6						
Median Value								2.9	3.7	4.1	4.3	4.4	4.4	4.3	4.2	4.0	3.6	2.6						
Count								2	16	29	29	30	30	30	30	28	20	8						

foF1

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

K 4

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

IONOSPHERIC DATA

Mar. 1953 | 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								Q	230	210	200	190	200	230	220	250	240	230						
2								230	220	190	250	230	220	230	220	220	230A	Q						
3								280	290	280	280	[270]A	260	250	270	250	240	Q						
4								240	220	250	220	200	200	210	210H	250	230	Q						
5								Q	220	230	200	200	200	250	230	220	240	230						
6								Q	220	220	200H	210	210	220	250	200	220	Q						
7								Q	220	240	250	250	210	260	210	200	210	Q						
8							Q	Q	Q	230	280	250	250B	210	240	220	240	240						
9							Q	Q	240	240	230	210	260	230	210	240	A	Q						
10							Q	Q	230	250	230	230	260	240B	250	220	250	Q						
11							Q	Q	200	210H	220	190	290	250	230	240	240	Q						
12							Q	Q	220	200	240	250	250	250	220	240	250	Q						
13							Q	230	240	210	200	190	200	220	210	210	250	Q						
14							Q	220	240	210	220	250	260	230	230	220	240A	Q						
15							Q	Q	240	230	220	240A	220	210H	230	220	240	250						
16							Q	Q	240	250	220	280	300	210	250	230	230	230						
17							Q	Q	230	220	220H	250	250	220	250	220	Q	Q						
18							Q	Q	240	210	210	230	200	210	230	230	Q	Q						
19							Q	210	220	220A	240	200	190	250	250	230	220	A						
20							Q	Q	240	200	200H	210	230	230	230	240	230	Q						
21							Q	Q	230	220	200	220	230H	220HA	220	260	230	210						
22							Q	Q	210	240	[240]A	250	250	290	220	230	230	250						
23							Q	Q	230	200	240	220	210	200H	240H	210H	250	Q						
24							Q	Q	230	C	C	C	C	C	C	C	C	C						
25							Q	260	260	240	[240]A	230	240	210	240	240	220	210						
26							Q	Q	240	240	240	210	250	200	200	240	220	Q						
27							Q	240	240	220	220	220	240	250	240	[240]C	240	A						
28							Q	230	230	220	230H	200	230	230	210	270	240	240						
29							Q	250	230	230	210H	220	220	210	200	230	230	250						
30							Q	250	240	230	220	220	240	230	220	220	260	240						
31							Q	240	230	230	220	210	220	230	210	230	220	220A						
Mean Value								240	230	230	230	220	230	230	230	230	230	230						
Median Value								240	230	220	220	220	230	230	230	230	240	240						
Count								12	30	30	30	30	30	30	30	30	27	12						

Sweep 1.0 Mc to 12.2 Mc in 2 min ☐ Manual ☒ Automatic

K 5

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

IONOSPHERIC DATA

Mar. 1953 | foE | 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								1.8	2.4A	2.7	2.9	3.0	3.2	3.2	3.0	2.8	2.3	A						
2								1.7	2.0	2.7	3.0	3.2	3.2	3.2	3.0	2.7	2.2A	1.7						
3								A	2.3A	2.6	A	A	3.1	[3.0]A	3.0	2.7	2.3	1.6						
4								2.0	2.2	2.6	2.9	[3.0]A	3.0A	3.0B	3.0	2.7B	2.3	A						
5								1.9	2.5	2.9	3.0B	[3.0]B	3.0	[3.0]B	3.0	2.8	A	A						
6								1.8	2.3	2.8F	3.0	3.0	3.1	3.2	[3.0]A	2.9	2.5	A						
7								2.1	2.5	2.6	3.1	2.9	A	A	A	A	2.4	1.8						
8								2.0H	2.7	2.8	2.9	3.1	3.0B	[3.1]B	3.2	2.8	2.3	1.8						
9								2.1	2.5H	2.6	3.0B	B	B	B	3.0	2.9	[2.5]A	2.1A						
10								1.8	2.4	2.6	2.7	[2.9]B	3.1	[3.0]B	3.0	2.8	2.4	1.9						
11								1.9	2.4	2.8	2.8	[3.0]B	3.1	3.0	3.1	2.7	2.4	1.8						
12								1.9	2.5	2.9H	3.0	3.2H	3.2	3.2	3.0	2.8	2.5	1.9A						
13								2.0H	2.7	2.9	3.2	3.2	3.2	3.2	3.1	3.0	2.5	1.9A						
14								1.8	2.2	2.5	3.1	3.2	[3.1]A	3.0	3.0	2.8	2.5	A						
15								1.8	2.4	2.6	3.0	A	A	3.0	[3.0]A	2.9	2.6A	1.9						
16							18	2.0	2.2F	2.9	3.0	3.2	[3.2]A	3.2	3.2	2.7A	2.6	1.9A						
17								1.8F	2.0F	AF	A	A	A	A	A	2.9	A	A						
18								1.8	2.3	2.9	2.9	3.0	3.1	3.0	3.0	2.8	2.5A	2.0						
19								2.0	2.6	2.8	2.9A	A	A	A	A	2.9	2.5	1.9						
20								1.8	2.3	2.8	A	B	B	3.2	3.0	2.9	[2.3]A	1.8						
21								1.8	2.6F	3.0	[3.1]A	3.2	A	A	3.1B	[2.9]A	2.7	2.0						
22								2.0	2.8	2.9	2.9	2.8	A	A	3.2	2.8	2.4	1.8						
23							1.7	2.1	A	A	2.9	3.0	2.7	3.2S	3.2	2.8	A	A						
24							1.8	2.0	2.5	C	C	C	C	C	C	C	C	C						
25							1.9	2.2	2.5	2.9	3.0	3.2	3.2	3.0	3.0	2.9	2.6	2.0						
26							1.7	2.3	2.7	2.8	3.0	3.1	3.2	3.0	3.2	2.9	2.6	2.0						
27							B	2.3	2.5	2.7	3.0	3.1	[3.2]A	3.2B	2.9	[2.7]C	2.5	2.0						
28							A	2.1	2.6	3.0	3.2B	3.3B	3.2B	3.0	3.1	2.8	2.5	2.2						
29							1.8	2.3	2.7	2.9	[3.0]A	3.2	[3.2]B	3.2	3.2	2.9A	2.6A	1.9						
30							A	2.0	2.7	3.0	3.2	3.2	3.3B	3.2B	3.1	2.9	2.5	2.0H						
31							1.8	2.2	2.7	3.0	3.2	[3.2]A	3.2	3.1	A	A	2.5	2.2						
Mean Value							1.8	2.0	2.5	2.8	3.0	3.1	3.1	3.1	3.0	2.8	2.5	1.9						
Median Value							1.8	2.0	2.5	2.8	3.0	3.1	3.2	3.1	3.0	2.8	2.5	1.9						
Count							7	30	30	28	27	24	22	24	26	28	27	23						

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

IONOSPHERIC DATA

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Mar. 1953

fᵢE

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

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

Mar. 1953 | **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	2.8F	2.9	2.5YF	E	2.5Y	1.5	2.3	2.5	3.0	G	G	G	G	G	G	G	G	2.6	3.3	2.6	2.5	2.7	5.5	4.3
2	2.5	2.9	3.7	2.3	2.6	2.5	E	2.6	3.0	G	G	G	G	G	G	3.6	3.5	2.5Y	E	E	E	2.5	3.1	E
3	E	2.1Y	2.3	1.9Y	E	E	2.5	3.0	3.9	4.0	4.0	5.9	4.5	5.0	G	G	2.9Y	3.2	3.0	4.5	5.0	3.0	3.5	2.5
4	3.5	3.0	2.5	2.5Y	2.8	2.3	2.5	2.5	3.1	G	G	4.6	4.0	G	G	G	2.7	2.6	2.5	2.5	2.3	3.2	2.7	2.6
5	4.7Y	3.2	2.5F	E	2.3Y	E	E	G	G	G	G	G	G	G	G	3.2	4.0	2.6	2.6	3.0F	5.2	3.3	2.5	2.5F
6	2.3F	2.4Y	2.3Y	2.3Y	2.4Y	E	E	G	G	G	G	G	G	G	5.0	3.0	3.5	3.5	4.2	2.4F	E	E	E	2.5Y
7	E	E	2.4Y	E	E	E	2.5	4.3	G	3.6Y	3.6Y	G	3.9Y	4.0	3.2	2.9	3.1	G	2.0	2.3Y	2.5	E	2.0	3.2
8	2.5	2.4	2.5Y	2.4	2.5Y	2.3Y	B	G	G	3.9	G	G	G	G	G	G	G	G	2.7	3.5	3.7	3.0	2.9	5.0
9	2.6	3.7	2.6	2.8	2.5Y	2.0Y	2.4	G	G	G	G	G	G	G	G	G	6.7	3.0	2.6F	2.8	2.5	2.5	E	E
10	E	E	E	E	2.5Y	2.5Y	2.6	G	G	G	G	G	G	G	G	G	G	G	E	2.5	E	E	E	1.7
11	E	E	2.5	2.5	2.5F	E	2.3	2.6	G	G	G	G	G	G	G	4.7	3.0Y	2.7	2.6	2.4	2.2	E	E	2.1
12	E	3.2	E	2.0Y	2.5Y	E	E	G	G	3.2	G	2.8	4.3	G	G	G	3.5	3.8	3.8	2.5	2.0	E	E	E
13	E	E	2.0	2.5	2.0	2.1	2.6	3.0Y	G	G	3.2	G	G	G	G	4.0	3.5	2.8	2.3	2.0	1.8	1.7	2.5	2.5
14	2.5	3.0	3.7Y	2.9Y	2.2	2.6Y	2.6	2.7	G	G	G	G	4.6	4.0	G	G	3.7	4.0	4.6Y	2.4	2.6	2.2	2.4	2.2
15	2.8	2.8	3.5	3.5	2.5	2.5	2.2Y	2.6	G	G	4.0	5.3	4.3	3.6	5.0	G	3.1	G	2.0	2.5	2.6	2.0	2.6	4.0
16	2.7	2.0	2.6	2.7	E	2.2F	2.5	2.7	4.0	G	4.2	G	4.0	G	G	3.6	G	2.6	2.3	4.0	2.4	E	2.9	E
17	E	2.0Y	2.0Y	2.0YF	1.9Y	2.0Y	2.0	2.6F	3.2	4.0F	4.3	4.2	5.1	5.0	4.9	5.0	3.5	3.5	3.2	2.5	3.0	2.6	3.5Y	3.2
18	2.5	E	E	2.1YF	E	2.3Y	2.3	G	G	3.1	G	4.0	4.3	G	4.0	G	3.5	3.3	3.8	3.5	2.0	E	E	E
19	2.4	2.9	3.2	2.6	1.8Y	2.0Y	1.9	G	3.7	4.5	4.7	5.0	4.5	6.5	5.0	3.0	3.2	3.7	3.2	5.2	5.2	2.7	3.5	4.9
20	4.0Y	3.2	2.5FY	2.3YF	1.4	1.5	2.4	2.6	3.0	G	3.1	G	G	G	G	G	3.2	G	E	E	E	2.3	E	2.4
21	2.5	1.9	2.2	2.4Y	1.4	E	B	2.6	3.7	4.0	5.0	5.0	5.0	4.5	2.7	5.0Y	3.1	2.9	2.6	3.7	2.9	2.7F	2.0	C
22	2.0	E	2.0Y	2.2Y	2.1Y	2.9Y	2.0	G	G	4.5	5.0	4.7	4.9	4.5	3.3	3.0	G	G	2.6	2.6	2.2S	E	E	E
23	E	2.4	2.3	2.2	2.5	2.5Y	2.5	4.2Y	3.3	3.8	5.2	4.2	4.0	4.0	4.4	G	3.5	3.6	3.1	2.0	3.5Y	3.0	2.6	2.5
24	2.5	2.0Y	2.6	2.2Y	2.6YF	2.5	2.5	3.0Y	3.2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	E	2.3Y	2.8	2.7	2.4Y	2.0Y	2.0	G	G	4.4	4.8	4.0	G	G	G	G	G	G	E	2.0	1.7	2.6	1.7	E
26	E	E	E	2.5Y	2.3Y	E	2.0	4.3	3.0	G	G	4.5	4.5	4.5	G	G	3.3	G	2.3	2.4	2.1	E	E	E
27	2.0	2.2Y	2.0Y	2.5Y	2.5Y	2.5Y	2.3	3.0Y	G	G	G	4.5	6.0	4.6	G	C	G	2.7	E	2.4	2.5	2.5	E	2.2
28	2.1	E	E	E	E	2.0	2.6	G	G	4.0	G	G	G	G	G	G	2.7	2.8	2.5	2.5	2.4	2.0	2.0	E
29	E	E	2.0F	2.0F	2.3	2.5Y	2.5	3.0	3.8	G	4.5	4.0	3.8	G	4.5	3.8	3.3	2.5	2.5	E	E	2.3	E	E
30	E	E	E	2.0Y	E	E	2.3	G	G	G	G	G	G	G	G	G	G	G	2.5	E	E	E	E	E
31	E	E	E	E	2.5Y	1.7Y	2.5	G	3.2	G	4.2	4.2	4.2	4.0	3.8	4.4	G	3.0	2.7Y	2.5Y	2.6	2.0	E	E
Mean Value	2.7	2.6	2.6	2.4	2.3	2.2	2.4	3.0	3.4	3.9	4.3	4.5	4.5	4.5	4.2	3.8	3.5	3.0	2.9	2.8	2.8	2.5	2.8	3.0
Median Value	2.1	2.1	2.3	2.3	2.3	2.0	2.3	2.6	G	G	G	G	4.0	G	G	G	3.1	2.6	2.6	2.5	2.4	2.2	2.0	2.2
Count	31	31	31	31	31	31	29	31	31	30	30	30	30	30	30	29	30	30	30	30	30	30	30	29

fEs

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

K 8

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

IONOSPHERIC DATA

Mar. 1953 | **(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	2.9F	3.1F	(2.8)FP	3.1F	(2.9)F	(2.9)F	3.1	3.4	3.6	3.4	3.4	3.3	3.3	3.3	3.3	3.5	3.5	3.4	3.5	3.2	3.0	2.9	3.1	3.0FP
2	F	F	3.1	3.2	2.9	3.2FP	3.2	3.6	3.5	3.1	3.1	3.0P	3.2	3.2	3.2P	3.3	3.3	3.6	3.3	2.9	2.7	2.8	2.9	2.7P
3	(2.9)JF	2.9FP	2.8	[2.6]F	2.5	2.6FP	2.7PF	2.5K	2.7K	3.1K	2.6K	3.0K	3.0K	3.2K	3.0PK	3.2K	3.2K	3.3	3.3	3.2	3.0F	2.9FP	2.7FP	F
4	2.9FP	3.1F	2.9FP	F	F	2.9F	3.1	3.6	3.6	3.4P	3.3	3.2	3.3	3.3	3.1	3.3	3.5	3.5	3.2	2.9	2.9	2.7P	2.8F	3.2
5	3.2	2.9F	3.0	2.8F	3.1F	[3.1]F	3.1F	3.5	3.4	3.4	3.5	2.8	2.9P	(3.3)JP	3.3	3.4	3.4	3.5	3.3	3.2	[3.0]A	2.9	2.8F	2.9F
6	(2.9)FJ	2.9FP	2.9	(2.9)J	3.1	3.1P	3.6	3.6	3.5	3.2	3.1	3.0	(2.9)P	3.2	3.3	3.2	3.3	3.4	3.4	3.0	2.9	2.8P	3.0	3.2
7	2.9P	2.9	2.8	2.9	3.1	2.8	3.5	3.5	3.3P	3.3	3.0	3.4P	3.1	(3.3)J	3.3	3.3	3.4	3.3	3.4	3.4	2.9	2.9	2.9	3.0P
8	2.9F	(3.0)J	(2.9)J	3.1	3.3	3.0	3.3	3.5	3.3	3.2	(3.2)P	3.2	(3.3)J	3.2	3.2	3.2	3.4	3.4	3.4	2.9	3.0	2.8	2.8	2.7
9	2.9	2.6F	F	F	F	3.0F	3.2	3.4	3.2	3.2	(3.5)J	3.2P	3.2	B	B	3.3	3.0	3.3	3.3	3.3	3.0	2.8	2.7	2.8P
10	2.8	2.8F	3.0	3.4F	3.0FH	3.3F	3.3	3.5	3.3	3.3	[3.2]B	(3.2)J	3.1P	(3.3)JP	3.4	3.3	3.3	3.2	3.4	3.3	3.0	2.8	3.0	2.6
11	2.9	2.8F	3.1F	3.1	2.8F	[3.2]F	3.6	3.7	3.4	3.3	3.3	2.9	3.3	(3.3)P	3.3	3.3	3.4	3.2	3.3	3.4	3.2	2.9	2.8	2.8
12	3.0F	2.8	2.8	[3.0]BF	3.2	3.2	3.6	3.6	3.5P	3.4	3.3	3.2	(3.2)J	3.1	3.1	3.2	3.3	3.2	3.2	3.4	3.3	3.0	2.8	2.9P
13	2.9	2.8P	2.9	3.1	3.1	3.1	3.5	3.7	3.6	3.4	3.1	[3.2]B	3.2	3.2	3.4	3.1	3.5	3.6	3.5	3.2	3.0	3.0	3.0	3.0
14	3.1	3.1	3.0	3.1	3.5	3.0	3.4	3.5P	3.5	3.5	3.3	3.1	3.1	3.3	3.2	3.2	3.3	3.3	3.4	3.0	3.0	3.0	2.9	2.9
15	2.8P	2.7	3.1	3.2	3.2	3.0	3.3	3.5P	3.3	3.1	3.1	[3.2]B	3.2	3.3	3.2	3.3	3.1	3.3	3.2	3.4P	3.0	3.0P	2.9	2.6
16	2.8P	3.0P	3.1	3.2	2.9H	3.0	3.4	3.1	3.3	3.4	3.2	3.1	(3.3)JP	(3.2)JP	[3.2]B	3.3	3.1	3.5	3.3	3.1	[3.0]B	(3.0)JP	3.0	2.8
17	(2.7)P	2.8	3.0	3.2	3.2	3.2	3.3	3.5	3.4	3.4	2.9	3.1P	3.3	3.3	3.3	3.3	3.1	3.2	3.4P	3.3	3.0	2.9	[2.8]AF	2.8F
18	2.9	3.0V	2.9F	3.2FP	3.6F	3.0	3.5	3.8	3.4	3.4	3.3	3.2	(3.0)P	3.1P	3.1P	3.3	3.3	3.3	3.4	3.6	3.1	2.9F	[2.8]F	(2.8)JF
19	2.9F	2.7FP	3.0F	2.9	3.0F	3.0F	3.5	3.7	3.5	3.4P	3.4	B	(3.1)J	(3.2)JP	B	3.1	3.2	3.2	3.2	3.4	3.0	2.9	2.7	2.8FP
20	2.9F	2.9	3.0	3.1	3.0F	2.9	3.5	3.5	3.5	3.4	3.2P	3.3P	(3.2)J	(3.1)J	3.3	[3.3]B	3.3	3.3	3.4	3.4	3.0	3.1	3.0	2.8
21	2.8P	3.0F	3.0P	3.3	3.2F	(3.1)JF	3.5	3.5P	3.5	3.4	3.4	3.2	3.1P	3.1	3.1	3.0	3.3P	(3.3)J	3.4	3.0	2.9	3.0F	3.0	[3.0]C
22	3.0	(2.9)F	3.1	3.0	3.1	2.8F	3.7	3.7	3.6	3.3	3.0	B	3.1	(3.2)J	(3.5)JP	3.3	3.2	3.2	3.4	3.5P	2.8	2.8	2.8	2.9
23	3.0S	3.0	(3.0)J	3.3	3.3F	2.9F	3.5	3.5	3.3	3.2	3.4	3.2	3.3	3.1	3.2P	3.2	3.3P	3.4	3.4	3.2	2.9	2.7	2.8	2.9
24	2.9	3.2	3.1	2.8	3.0	3.2	3.3	3.2	3.1P	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	2.9P	3.1	3.1	3.5	3.4	2.6	3.2	3.0	3.3	3.6P	2.9	(3.1)P	3.2	B	B	3.1	3.5P	3.4	3.4	3.1	2.8	2.7	2.7	2.7F
26	2.8	2.8	3.5	3.6	2.8	3.0F	3.3	3.5	3.2	3.2	[3.2]B	(3.1)JP	B	(3.1)J	B	B	3.5	3.6	3.4	3.2	2.9	2.9	2.8P	2.9
27	3.1	2.7	3.3	3.0	2.8	2.9	3.2	3.4	3.2	3.1	3.2P	(3.1)J	3.3	3.3	3.4P	[3.4]C	3.4	3.3	3.4	3.3	3.1	3.2	(2.6)JF	3.1
28	(3.0)F	(3.2)JF	3.3	(3.0)FP	2.9	2.9	3.4	3.4	3.5	3.3	3.1	3.1	B	3.1	(3.2)P	B	B	3.4	3.3	2.8	2.8	2.6	2.9P	2.8
29	2.8	3.0	3.1	3.2	2.8	2.9	3.3	3.3	(3.2)P	3.3	(3.0)JP	(3.0)P	3.0	(3.2)J	3.3	3.2	3.2	3.3	3.2P	3.1	2.7	2.8PF	F	F
30	(3.2)JFP	(3.0)F	F	F	F	F	3.2	3.3	3.3	3.1	3.1P	3.0	3.2	3.2P	3.1	3.1	3.3	3.3	3.5	3.2	2.7	2.6F	2.8F	[2.8]JF
31	2.8F	(2.7)JF	(3.0)JF	3.2FP	3.1F	2.6F	3.3	3.4	3.2	3.2	3.2	3.1P	3.1	(3.3)JP	3.1	3.3	3.3	3.3	3.2	3.2P	3.2	F	F	2.8F
Mean Value	2.9	2.9	3.0	3.1	3.1	3.0	3.3	3.4	3.4	3.3	3.2	3.1	3.2	3.2	3.2	3.3	3.3	3.4	3.3	3.2	3.0	2.9	2.9	2.9
Median Value	2.9	2.9	3.0	3.1	3.1	3.0	3.3	3.5	3.4	3.3	3.2	3.1	3.2	3.2	3.3	3.3	3.3	3.3	3.4	3.2	3.0	2.9	2.8	2.8
Count	30	30	29	28	28	29	31	31	31	30	30	28	28	28	26	28	29	30	30	30	30	29	28	28

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

Mar. 1953 | **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	1.6	1.3	1.0	E	E	E	1.6	2.1	2.5	2.8	3.1	3.3	3.3	3.3	3.3	3.0	2.3	1.8	2.5 A	1.7	1.5	2.0 A	2.5 A	1.9
2	1.5	E	1.3	1.2	E	E	1.5	2.1	2.5	2.8	3.0	3.5	3.3	3.3	3.1	2.9	2.3	1.9	1.5	1.5	1.6	1.6	2.8 A	1.6
3	1.5	E	1.6	E	E	E	1.7	2.2	3.0	3.4	3.7	4.3 A	3.3	3.5	3.6	2.7	2.5	2.4	[2.7] A	3.0 A	1.6	1.6	1.7	1.5
4	1.6	1.0	E	E	1.0	1.5	1.6	2.0	2.5	3.4	3.4	3.3	3.2	3.3	3.1	3.3	2.6	1.9	1.5	1.6	1.6	1.6	1.6	1.6
5	2.2 A	A	E	E	1.2	E	1.6	2.1	2.6	3.3	3.0	3.3	3.3	3.5	3.3	2.8	3.0	2.2	1.6	1.6	[1.6] A	1.6	1.6	1.5
6	1.4	E	E	E	E	E	1.5	2.5	2.7	3.0	3.3	3.3	3.3	3.3	3.1	2.9	2.5	2.2	(1.8) A	1.4	1.5	1.3	1.5	1.5
7	1.5	E	1.0	E	E	E	1.5	2.3	2.7	3.3	3.5	3.5	3.5	3.6	3.4	3.0	2.4	1.9	1.6	1.6	1.3	1.5	1.5	2.2 A
8	1.6	1.1	E	1.0	E	1.1	1.5	2.3	2.7	3.4	3.8	3.7	3.7	3.3	3.3	2.9	2.6	1.9	1.6	2.0 A	1.9	2.2 A	1.8	(1.8) M
9	1.8	1.7 F	1.0	1.0	1.0	1.0	1.6	2.3	2.8	3.1	3.6	3.3	3.5	3.5	3.3	3.3	4.5 A	2.2	1.6	1.7	1.6	1.7	1.6	1.6
10	1.4	E	E	E	E	E	1.6	2.4	2.7	3.3	3.4	3.5	3.5	3.6	3.5	2.8	2.4	1.9	1.5	1.6	1.6	1.6	1.6	1.6
11	1.6	E	E	E	E	E	1.6	2.2	2.5	3.4	3.3	3.3	3.7	3.6	3.2	3.3	2.5	2.2	1.7	1.5	1.5	1.6	1.5	1.5
12	1.5	1.7	E	E	E	E	1.6	2.5	3.0	2.9	3.7	4.0	3.5	3.7	3.3	3.1	3.2	2.3 A	1.5	1.6	1.6	1.6	1.6	1.5
13	1.5	E	E	E	E	E	1.5	2.2	2.8	3.1	3.2	3.3	3.3	3.3	3.2	3.0	2.8	2.2	1.5	1.6	1.6	1.6	1.6	1.7
14	1.5	1.3	1.7	1.1	1.2	1.3	1.6	2.4	3.0	3.1	3.5	3.5	4.5 A	3.5	3.3	3.1	[3.0] A	2.8 A	[2.2] A	1.5	1.5	1.6	1.7	1.6
15	1.6	E	2.2 A	1.8	1.5	1.0	1.6	2.5	3.0	3.2	3.3	3.8	3.5	3.3	3.2	3.0	2.7	2.1	1.6	1.6	1.5	1.7	1.6	2.4 A
16	1.7	1.0	E	1.1	E	1.0	1.8	2.5	3.0	3.3	3.5	4.0	3.7	3.3	3.5	3.0	2.7	2.2	1.6	1.6	1.7	1.6	1.6	1.6
17	1.4	E	E	E	E	E	1.5	2.3	2.7	3.0	3.6	3.8	3.6	3.5	3.5	3.0	2.5	2.5	[2.0] A	1.5	1.7	1.6	[1.6] F	1.6
18	1.6	E	E	E	E	E	1.6	2.5	3.0	3.0	3.3	3.6	3.5	3.5	3.3	3.0	2.6	2.1	A	A	1.5	1.6	1.5	1.5
19	1.6	1.9	1.9	E	E	E	1.5	2.3	3.0	3.8 A	3.8	3.6	3.7	3.5	3.5	3.0	2.6	3.0 A	1.7	3.5 A	1.6	1.8	1.6	1.6
20	1.7	1.7	1.1	E	E	E	1.7	2.3	2.9	3.0	3.3	3.4	3.5	3.3	3.3	3.3	2.6	2.1	1.6	1.6	1.6	1.6	1.5	1.6
21	1.6	E	E	E	E	E	1.6	2.5	2.8	3.1	3.3	3.3	3.5	3.7	3.3	3.5	2.8	2.0	1.6	3.0 A	1.8	1.6	1.6	(1.6) C
22	1.5	E	E	E	E	1.0	1.6	2.5	2.8	3.4	4.2 A	3.7	3.5	3.8	3.3	2.9	2.5	2.1	1.6	1.6	1.5	1.6	1.5	1.6
23	1.5	E	E	1.0	E	E	1.7	2.5	2.8	3.0	3.5	3.5	3.3	3.3	3.3	2.9	2.8	2.4	[2.0] A	1.6	(1.8) A	1.9	1.7	1.6
24	1.6	E	E	E	1.0	E	1.8	2.4	2.8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	1.5	E	E	1.3	1.1	1.0	1.9	2.6	2.9	3.4	4.0 A	3.3	3.5	3.5	3.3	3.3	2.6	2.1	1.6	1.6	1.6	1.6	1.5	1.6
26	1.4	E	E	E	1.2	E	1.8	2.5	2.9	3.3	3.5	3.7	3.9	3.3	3.3	3.1	2.6	2.3	1.7	1.6	1.6	1.6	1.6	1.5
27	1.6	E	E	E	E	E	1.9	2.6	2.9	3.4	3.8	3.7	3.7	3.5	3.0	[3.0] C	3.0	2.5	1.5	1.5	1.6	1.5	1.6	1.6
28	1.5	E	E	E	E	E	1.8	2.6	3.2	3.5	3.6	3.3	3.6	3.5	3.3	3.5	2.7	2.2	1.5	1.5	1.5	1.5	1.5	1.5
29	1.6	E	E	E	E	1.5	1.8	2.6	3.0	3.3	3.3	3.3	3.5	3.3	3.3	3.2	2.7	2.2	1.5	1.5	1.5	1.4	1.7 F	1.5 F
30	1.5 F	E	E	E	E	E	2.4	2.7	3.0	3.3	3.3	3.4	3.8	3.6	3.3	3.3	2.8	2.3	1.5	1.5	1.6	1.5	1.5	1.6
31	1.2	E	E	E	E	E	2.0	2.6	3.1	3.3	3.3	3.5	3.5	3.6	3.3	3.3	2.7	2.2	1.6	1.5	1.5	1.6	1.6	1.5
Mean Value	1.6	1.4	1.4	1.2	1.2	1.2	1.7	2.4	2.8	3.2	3.5	3.5	3.5	3.5	3.3	3.1	2.7	2.2	1.7	1.7	1.6	1.6	1.7	1.6
Median Value	1.5	E	E	E	E	E	1.6	2.4	2.8	3.3	3.4	3.5	3.5	3.5	3.3	3.0	2.6	2.2	1.6	1.6	1.6	1.6	1.6	1.6
Count	31	30	31	31	31	31	31	31	31	30	30	30	30	30	30	30	30	30	29	29	30	30	29	30

fminF

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

Mar. 1953

fminE

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	E	E	E	E	E	1.7	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.3	1.5	1.7	1.5	1.6	1.5	1.6	1.5
2	1.5	E	E	E	E	1.8	E	1.5	1.5	1.6	1.6	1.4	1.5	1.7	1.7	1.7	1.5	1.5	E	E	E	1.5	1.6	E
3	E	E	E	E	E	E	1.8	1.5	1.6	1.7	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.5	1.5	1.6	1.6	1.5	1.5	1.7
4	1.5	E	E	E	E	1.0	1.7	1.6	1.7	1.6	1.7	1.7	1.6	1.8	1.8	1.7	1.7	1.7	1.8	1.5	1.7	1.4	1.5	1.6
5	1.2	E	E	E	E	E	E	1.7	1.8	1.9	1.8	1.8	2.2	1.8	1.8	1.7	1.7	1.6	1.7	1.6	1.7	1.8	1.7	1.8
6	1.7	1.2	1.3	E	E	E	E	1.3	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.5	1.6	1.5	1.7	E	E	E	1.8
7	E	E	1.9	E	E	E	1.8	1.6	1.7	1.7	1.7	1.9	1.9	1.9	1.9	1.9	1.7	1.6	1.8	1.9	1.7	E	1.6	1.5
8	1.6	E	E	E	E	E	1.8	1.5	1.8	1.8	1.8	2.0	1.9	1.9	1.8	1.8	1.8	1.7	1.5	1.6	1.5	1.6	1.5	[1.4]M
9	1.4	E	E	E	E	E	1.7	1.6	1.8	1.7	1.9	2.2	1.9	1.9	2.2	1.9	1.7	1.6	1.7	1.7	1.8	1.9	E	E
10	E	E	E	E	E	1.9	2.2	1.6	1.7	1.7	1.9	1.7	1.8	1.9	1.9	1.7	1.7	1.6	E	1.7	E	E	E	1.6
11	E	E	E	E	E	E	1.9	1.6	1.3	1.6	1.7	1.8	1.9	1.9	1.7	1.6	1.7	1.6	1.6	1.8	1.8	E	E	1.8
12	E	E	E	E	1.7	E	E	1.4	1.5	1.6	1.6	1.4	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.8	E	E	E	E
13	E	E	1.7	1.7	1.8	1.7	1.7	1.5	1.3	1.6	1.4	1.7	1.7	1.6	1.4	1.4	1.6	1.5	1.8	1.9	1.6	1.6	1.6	1.6
14	1.6	E	E	E	E	E	1.6	1.4	1.5	1.6	1.4	1.7	1.7	1.4	1.4	1.4	1.4	1.3	1.5	1.8	1.6	1.7	1.5	1.6
15	1.5	E	E	E	E	E	1.2	1.4	1.4	1.4	1.4	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.7	1.5	1.5
16	1.5	E	E	E	E	1.5	1.5	1.5	1.5	1.2	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.8	1.6	1.7	E	1.6	E
17	E	E	1.0	E	E	E	1.7	1.2	1.2	1.3	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.7	1.5	1.6	1.3	1.5
18	1.6	E	E	E	E	E	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.4	1.6	1.6	1.5	1.5	1.6	E	E	E
19	1.6	E	E	E	E	E	1.6	1.4	1.4	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
20	1.5	E	E	E	1.0	1.3	1.8	1.2	1.4	1.7	1.7	1.7	1.7	1.8	1.7	1.6	1.7	1.6	E	E	E	1.6	E	1.9
21	1.8	1.7	E	1.2	1.3	E	1.5	1.4	1.4	1.6	1.7	1.7	1.7	1.7	1.7	1.4	1.6	1.6	1.6	1.4	1.5	1.6	1.6	[1.6]C
22	1.7	E	1.0	E	1.0	E	1.8	1.6	1.7	1.2	1.4	1.6	1.6	1.7	1.4	1.4	1.6	1.6	1.8	1.7	1.7	E	E	E
23	E	1.9	1.7	E	E	E	1.5	1.4	1.4	1.6	1.6	1.7	1.6	1.6	1.9	1.7	1.6	1.5	1.6	1.7	1.5	1.5	1.5	1.6
24	1.8	1.3	E	E	E	1.9	1.5	1.6	1.6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	E	1.2	E	E	E	E	1.5	1.5	1.5	1.7	1.8	1.8	1.8	2.2	1.9	1.8	1.7	1.7	E	1.8	1.5	1.6	1.6	E
26	E	E	E	E	1.0	E	1.5	1.6	1.6	1.7	1.8	1.9	1.7	1.8	1.9	1.8C	1.8	1.6	1.9	1.7	1.6	E	E	E
27	1.6	E	E	1.0	1.0	1.9	1.5	1.2	1.4	1.3	1.7	1.7	1.7	1.7	1.6	[1.6]C	1.6	1.5	E	1.9	1.8	1.4	E	1.7
28	1.6	E	E	E	E	1.9	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.6	1.8	1.9	1.8	1.6	E
29	E	E	1.0	1.0	E	E	1.5	1.5	1.6	1.7	1.6	1.8	1.7	1.7	1.7	1.6	1.4	1.5	1.9	E	E	1.8	E	E
30	E	E	E	1.0	E	E	1.6	1.6	1.4	1.6	1.7	1.7	1.8	1.7	1.8	1.8	1.6	1.5	1.9	E	E	E	E	E
31	E	E	E	E	1.8	1.3	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.2	1.3	1.6	1.6	E	E
Mean Value	1.6	1.5	1.4	1.2	1.3	1.6	1.6	1.5	1.5	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.7	1.6	1.6	1.6	1.6
Median Value	1.4	E	E	E	E	E	1.5	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5
Count	31	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

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

K 11

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

IONOSPHERIC DATA

Mar. 1953 | **yp 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	100F	50F	(120)FP	110F	(130)F	(120)F	70	90	50	50	60	70	100	70	40	60	80	80	60	70	60	90	50	70FP
2	F	F	80	60	70	70FP	70	60	60	70	100	80P	80	70	70P	70	110	90	70	80	90	60	100	90P
3	(80)JF	80FP	70	[70]F	70	100FP	110PF	U K	180K	70K	U K	50K	100K	60K	50PK	90 K	90K	80	90	110	90F	80FP	60FP	F
4	80FP	70F	100FP	F	F	80F	100	50	50	70P	100	90	70	50	80	80	60	80	90	100	80	100P	90F	60
5	90	80F	80	80F	80F	[110]F	80F	80	60	50	70	110	80P	(80)PJ	70	80	80	60	80	120	[90]A	60	80F	70F
6	(90)FJ	80FP	60	(70)J	60	70P	50	60	50	90	90	110	(60)P	70	50	70	90	100	80	90	140	90P	90	90
7	80P	50	70	60	50	90	80	70	100P	60	90	50P	70	(70)J	60	60	70	70	70	70	80	70	80	80P
8	50F	(70)J	(70)J	80	80	60	70	60	80	80	(60)P	50	(60)J	70	50	60	50	60	60	100	70	100	90	80
9	120	70F	F	F	F	100F	70	70	80	80	(70)J	70P	80	B	B	80	60	80	80	80	130	80	70	50P
10	90	60F	60	40F	60FH	50F	80	60	80	60	[60]B	(60)J	50P	(40)JP	60	80	70	70	50	60	90	100	80	80
11	50	80F	80F	70	100F	[80]F	50	40	70	90	60	60	70	(60)P	50	50	70	80	70	100	100	70	90	90
12	70F	90	80	[80]BJ	80	80	60	50	60P	50	80	60	(70)J	60	100	70	100	60	70	60	90	80	60	60P
13	60	70P	60	70	90	60	60	40	50	50	80	[80]B	70	70	60	80	50	50	60	70	90	80	70	60
14	80	50	50	50	50	120	70	70P	60	60	70	100	90	90	70	90	80	60	80	110	100	90	90	80
15	70P	60	60	70	90	70	100	90P	80	80	50	[60]B	70	90	70	50	90	80	80	70P	100	70P	70	100
16	80P	70P	50	80	100H	80	50	60	60	80	60	90	(50)JP	(60)JP	[70]B	80	110	90	120	80	[100]B	(120)JP	100	80
17	(50)P	70	60	70	70	70	90	80	80	60	80	80P	70	80	80	70	70	70	70P	110	100	100	[100]AF	90F
18	90	70V	70F	80FP	90F	100	70	60	80	80	70	70	(80)P	70P	100P	90	90	90	110	50	50	70F	[80]F	(90)JF
19	60PF	100FP	80F	80	110F	100F	50	100	110	50P	60	B	(80)J	(80)JP	B	70	60	60	80	90	100	80	80	60FP
20	80F	80	80	60	70F	70	70	60	70	30	70P	50P	(60)J	(60)J	60	[60]B	60	90	50	70	80	70	70	50
21	100P	100F	80P	40	80F	(100)JF	60	60P	100	50	60	80	60P	60	60	60	60P	(80)J	70	90	60	50F	50	[60]C
22	60	(70)F	70	90	90	80F	50	50	60	100	80	B	70	(40)J	(50)JP	70	70	70	60	60P	100	70	90	60
23	90S	40	(70)J	40	70F	80F	50	50	70	50	60	90	60	80	50P	50	40P	60	90	80	60	70	70	50
24	40	60	80	80	70	40	70	90	80P	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	70P	90	90	40	130	70	70	120	50	80P	70	(80)P	70	B	B	70	50	70	50	70	70	70	70	80F
26	80	70	40	50	80	50F	80	70	60	70	[60]B	(60)JP	B	(70)J	B	B	40	60	80	70	90	100	60P	50
27	50	80	70	120	110	80	80	60	70	70	60P	(60)J	70	70	50P	[60]C	60	80	60	60	90	60	(100)JF	70
28	(50)F	(70)JF	80	(80)FP	110	130	90	70	60	70	60	100	B	80	(80)P	B	B	80	70	80	70	90	90P	90
29	80	80	70	70	70	100	80	80	(60)P	80	(100)JP	(70)P	80	(80)J	80	100	70	80	100P	90	90	100PF	F	F
30	(90)JFP	(80)JF	F	F	F	F	80	80	50	60	100P	70	70	80P	70	70	80	90	70	70	100	100F	100F	[90]JF
31	80F	(90)JF	(70)JF	80FP	100F	80F	100	80	80	70	80	70P	70	(70)JP	100	70	70	70	90	70P	80	F	F	90F
Mean Value	80	70	70	70	80	80	70	70	70	70	70	70	70	70	70	70	70	80	80	80	90	80	80	70
Median Value	80	70	70	70	80	80	70	60	70	70	70	70	70	70	60	70	70	80	70	80	90	80	80	80
Count	30	30	29	28	28	30	31	30	31	30	29	28	28	28	26	28	29	30	30	30	30	29	28	28

yp F2

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

K 12

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

IONOSPHERIC DATA

Yamagawa

Lat: 31° 12.5' N
Long. 130° 37.7' E

Mar. 1953

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	2.5	C	C	F	C	F	F	4.3	5.7	6.5	6.6	6.8	8.6	T	T	8.5	7.4	6.2	5.6	4.9	3.3	3.1	3.0	3.0
2	3.0	3.1	3.0	F	F	3.1	2.2	3.9	5.1	5.1	7.1	7.7	9.3	9.2	10.4	9.0	7.5	6.4	5.5	5.0	4.4	4.8	4.6	3.9
3	3.9	3.9	3.4	3.2	3.4	3.1	3.5	3.5	6.0	T	9.8	9.1	9.1	8.6	6.5	6.3	7.0	7.0	6.4	4.4	A	A	A	3.3
4	3.4	3.2	2.9	2.9	2.9	2.7	2.8	4.4	C	C	7.5	6.7	8.5	T	7.9	9.6	8.4	6.9	5.5	4.4	3.8	3.8	3.7	3.8
5	3.5	3.4	3.2	3.2	3.4	3.0	2.9F	4.3	5.3	6.3	6.9	6.3	7.1	8.2	9.3	8.2	7.2	5.8	4.9	3.7	3.3	3.2	3.0	3.2
6	3.2	3.2	3.1	3.3	3.5	3.0	3.0	C	C	5.0	6.5	7.0	7.4	7.1	7.4	7.0	6.9	5.5	5.3	4.0	4.5	3.9	3.4	3.0
7	3.2	3.2	3.3	3.5	3.4	3.0	2.9	4.4	5.4	6.3	6.3	6.3	7.4	8.2	8.7	8.9	7.1	6.3	6.5	6.4	3.6	3.5	2.9	3.1
8	3.4	3.4	3.4	3.6	3.4	2.9	2.9	5.0	5.9	5.7	6.4	7.0	7.4	8.4	7.5	6.7	6.6	6.5	5.5	4.3	4.1	3.8	3.7	3.6
9	3.6	3.7	3.2	3.5	3.4	3.4	2.9	4.3	6.0	7.0	9.0	6.9	7.1	7.5	10.1	9.5	6.6	7.8	9.0	4.5	2.9	2.6	2.6	2.7
10	2.9	2.9	2.9	3.2	3.2	2.4	1.8	4.0	5.5	7.0	7.3	6.8	7.5	9.0	9.0	7.5	6.4	7.5	S	S	4.2	3.2	3.3	3.0
11	C	C	C	C	C	C	C	C	C	5.5	C	C	C	C	C	C	C	C	C	C	C	2.9	2.3	3.0
12	2.8	3.0	3.1	3.1	3.2	3.4	3.0	T	T	C	C	C	T	7.3	8.0	8.7	6.9	7.0	6.6	6.3	4.3	3.4	3.0	3.1
13	3.2	3.1	3.2	3.4	3.5	2.6	2.6	4.9	5.4	5.8	6.5	T	T	9.5	8.2	7.0	7.2	7.0	6.3	5.1	3.9	3.6	3.9	3.2
14	3.5	3.7	3.3	3.5	3.6	2.3	2.2	5.0	5.6	6.1	6.7	6.8	7.0	8.4	8.4	7.4	6.4	6.8	7.1	4.5	4.3	3.8	3.5	3.5
15	3.5	3.5	3.5	3.6	3.4	3.2	3.6	4.5	4.8	6.2	T	C	T	T	9.0	8.8	T	T	4.9	4.8	4.8	3.1	3.6H	3.4H
16	3.4	3.3	3.4	3.6	3.1	2.6	2.8	4.4	5.7J	7.0	8.0	7.4	7.0	9.7	8.0	7.0	6.1J	(4.8)S	T	T	4.3	3.6F	3.9	3.5
17	3.2H	3.2	3.4	3.4	3.7	2.5	2.3	4.8	5.9P	6.1	6.1	7.0	9.5	10.2	9.7	9.5	6.9	7.3	7.1	[5.0]S	3.0	2.4	2.7	[2.8]F
18	2.8	2.9	3.0	C	C	1.8	2.1	4.4	5.4	[5.7]T	6.0J	6.4P	6.5	6.2P	10.1	9.0	6.7	[7.4]T	8.0	T	T	2.4	2.5	3.1
19	3.1F	3.1	3.1	3.1	3.3	2.6	3.0	T	6.4	6.0J	5.0P	[6.9]T	(8.8)P	9.4H	10.0	9.9	9.4	9.4P	[8.0]T	6.6	3.6	3.1	3.3	3.3F
20	2.8	3.9	3.5	3.6	3.6	3.1	3.2	4.3JP	5.2	[5.8]C	6.5P	6.4	7.0	9.2	10.2	10.0	8.9	7.3P	6.8P	6.4	4.5	3.2	3.3	3.1
21	3.0	3.2	3.2	3.5	3.4	2.2	2.5	4.7	5.0	6.5	[6.8]T	7.2	7.2P	10.3	11.9J	11.6	13.0	11.5	8.8	5.4	4.3P	3.8P	3.2	3.0
22	3.1	3.5F	3.4JF	3.5	3.5F	2.5	2.9	4.7	5.1	5.5	7.0	[6.7]C	6.4	10.0P	10.3	9.8P	7.7	7.0	8.0JP	[5.7]T	3.4	3.2F	3.3F	3.5F
23	3.4JF	3.9	3.9	4.9	3.6	F	2.6	4.3	5.1	6.6	6.9	8.2	9.0	7.2	8.8	9.6	10.0	7.0	6.4	3.7	3.6	3.4	3.6	3.6
24	3.5	3.6	3.6	3.1	3.0	2.7	2.5	4.3	6.7	9.3	6.5	7.3	8.8	T	C	10.3	9.7	7.9	7.0	T	T	4.8	4.2	3.6
25	4.0	4.5	3.5	2.7	2.4	2.0	2.3	4.4	6.6	6.4	5.5	7.1	10.5	9.5	7.4	9.3	8.1	6.0	6.0	4.7	3.6	4.4	4.3	4.1
26	4.3	4.3	4.0	3.3	2.2	2.1	2.7	5.0	5.0	6.5	7.0	9.0	T	T	C	9.8	8.3	6.7	7.1	5.3	3.5	3.3	3.4	3.6
27	M	M	M	M	M	M	M	M	M	M	6.4	T	T	9.0	T	T	7.0	6.8	6.8	5.4	4.0	C	C	C
28	C	3.1	3.2	3.0	2.9	2.8	3.3	C	C	T	T	6.8	8.3	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	8.3	8.8	8.7	7.0	6.9	6.5	6.5	6.9	5.2	4.9	4.6H	C	C
30	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Mean Value	3.3	3.4	3.3	3.4	3.3	2.7	2.7	4.4	5.6	6.3	6.8	7.2	8.0	8.7	8.7	8.7	7.7	7.0	6.6	5.0	3.9	3.5	3.4	3.3
Median Value	3.2	3.3	3.3	3.4	3.4	2.7	2.8	4.4	5.4	6.2	6.6	7.0	7.5	8.8	8.8	9.0	7.2	7.0	6.6	5.0	4.0	3.4	3.3	3.2
Count	25	25	25	23	23	24	25	22	22	23	24	24	23	22	23	26	26	26	25	23	24	26	25	26

Sweep 1.0 Mc to 22.0 Mc in 2 min ☐ Manual ☒ Automatic

Y 1

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

IONOSPHERIC DATA

Mar. 1953 | 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	270	C	C	C	C	C	C	220	200	230	270	290	270	280	290	270	260	240	220	200	230	250	290	250
2	290	290	290	300F	270F	200	240	210	220	280	290	270	300	280	280	250	250	240	240	230	280	270	240	290
3	290	290	270	290	260	370	360	270	370	290	280	270	270	270	280	290	260	250	240	250	A	A	A	310
4	290	250	270	280	250	250	300	240	C	C	250	280	290	250	290	250	240	240	220	210	250	250	270	260
5	250	270	250	250	250	250	290	210	230	250	270	290	350	290	270	250	250	240	220	220	240	270	300	310
6	270	250	300	250	230	230	210	C	C	280	280	280	280	280	300	270	250	240	230	230	240	230	240	250
7	270	270	290	270	230	250	300	230	240	290	270	300	300	300	280	250	260	260	240	210	240	270	240	300
8	280	270	250	250	220	270	300	230	230	250	280	300	300	270	280	300	250	240	230	230	250	280	250	290
9	300	270	340	330	300	240	240	220	250	290	250	280	290	320	270	250	250	280	240	200	240	300	330	360
10	310	300	300	280	220	230	220	230	250	270	270	270	300	270	290	260	270	270	240	220	220	260	260	300
11	C	C	C	C	C	C	C	C	C	250	C	C	270	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	C	290	280	280	250	260	240	240	220	210	240	300	290
13	300	290	270	250	210	220	250	220	220	250	270	280	290	280	250	280	260	250	240	240	240	250	250	260
14	290	270	290	250	220	250	290	230	250	270	280	290	300	300	280	270	280	250	240	200	250	250	260	280
15	280	300	270	240	250	270	250	200	240	300	290	300	300	250	280	290	260	250	230	220	200	300	270H	250H
16	300	260	270	250	210	230	250	220	240	270	260	260	310	270	270	250	260	240	230	220	220A	250F	250	240
17	300H	290	270	250	220	200	250	220	240	250	300	330	300	300	260	270	270	250	230	210	210	(300)A	310	330
18	320	280	200	C	C	270	300	220	240	260	280	300	320	300	290	270	270	[250]T	230	210	200	250A	300	290F
19	290F	310	310A	300	240	220	250	220	240	260	280	[280]T	280	290H	300	280	250	250	230	200	210	(260)A	270	300
20	300	270	260	250	250	260	250	230	230	[250]C	270	300	320	300	290	260	260	250	250	210	220	240	260	290
21	260	250	260	250	210	320	260	220	220	270	[280]T	300	330	320	300	300	250	240	220	200	(270)B	230	250	320
22	300F	260F	250F	250	220	200	260	220	240	250	300	[300]C	300	290	270	260	260	250	230	210	220	280	300	260
23	250	250	270	230	200	340F	270	220	240	270	280	280	270	300	290	270	300	240	230	220	220	300	290	270
24	260	250	240	290	A	230	310	250	270	240	280	330	320	300	270	260	250	240	230	250	240	250	300	340
25	300F	240	220	230	A	A	320	250	270	240	300	350	250	270	280	280	250	230	240	230	270	310	280	300
26	280	250	230	240	200	290	270	230	240	300	300	320	290	250F	250	250	250	260	240	220	210	280	300	330
27	M	M	M	M	M	M	M	M	M	M	250	270	280	270	270	280	260	250	240	220	200	C	C	C
28	C	270	C	C	C	C	C	C	C	T	T	350	300	C	C	C	C	C	C	C	C	C	C	C
29	C	C	C	C	C	C	C	C	C	C	C	300	260	270	290	270	270	270	240	280	250	280H	C	C
30	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Mean Value	290	270	270	260	230	250	270	230	240	270	280	300	290	280	280	270	260	250	230	220	230	270	280	280
Median Value	290	270	270	250	220	250	260	220	240	260	280	290	300	280	280	270	260	250	230	220	240	260	270	290
Count	24	24	23	22	20	22	23	23	22	24	25	27	29	27	27	27	27	27	27	27	26	25	24	25

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

IONOSPHERIC DATA IN JAPAN FOR MARCH 1953

電波觀測報告　第5巻　第3号

1953年 4月25日 印　刷
1953年 4月30日 発　行

（不許複製非売品）

編集兼発行人　好川得太郎
東京都北多摩郡小金井町小金井新田一之久保573

発行所　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

印刷所　今井印刷所
東京都新宿区筑土八幡町8番地