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IONOSPHERIC DATA IN JAPAN

FOR JANUARY 1953

Vol. 5 No. 1

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PREPARED BY THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

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THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

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PREFACE

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

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

The First Division has the following three sections:

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

Tropospheric Propagation Section which shall carry on researches on troposhere 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 purposes 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° 08.2′ E	39° 43.5′ N	Tegata Nishishin-machi, Akita-shi, Akita-ken
Kokubunji	139° 29.3′ E	35° 42.4′ N	Koganei-machi, Kitatama-gun, Tokyo-to
Yamagawa	130° 37.7′ E	31° 12.5′ N	Yamagawa-machi, Ibusuki-gun, Kagoshima-ken

REMARKS ON SYMBOLS

All symbols in the table are used in accordance with "Production and Reduction of Ionospheric 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

Jan. 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	S	3.2 P	2.9	A	A	A	S	5.5 PJ	B	B	6.3 P	7.2	5.9	B	B	B	A	A	S	S	3.1	3.0 P	2.6 F
2	2.4	2.8	2.6	2.6	2.4	2.7	A	A	B	B	8.5	7.3	6.7	5.5	4.9	B	S	S	S	S	S	2.6	(2.6) A	2.7
3	2.6	2.4	2.5	2.5	2.6	(2.4) A	2.3	4.1 P	5.4	B	6.4	5.7	B	B	B	B	S	S	S	2.2	2.4	(2.4) P	2.7	2.6 F
4	2.4 F	2.5 F	2.6 P	2.8	3.2	2.8 P	2.6 F	4.0 JF	C	B	8.9	(7.0) P	6.0	5.5	5.0	5.0	S	S	2.7	2.8	2.8	S F	S	2.5 P
5	SF	S F	S F	4.7 P	3.9	(3.6) A	3.3 JP	(4.6) S	6.0	(6.3) P	B	B	B	5.8	B	B	B	S	2.4 K	2.4 K	(2.6) PJK	F K	F K	3.0 K
6	A K	A K	A K	A K	1.6 K	1.6 K	1.7 K	B K	B K	6.6 K	7.6 K	8.8 K	5.9 K	5.7 K	5.9 K	B K	B K	2.7 K	2.5 K	2.3 K	2.6 K	2.3 FK	2.4 FK	S K
7	C K	C K	C K	C K	C	C	C	C	C	C	C	C	B	B	B	B	B	B F	S	2.5	2.6	2.7	2.6 F	2.6
8	2.7 F	2.5 F	2.5	2.6	2.5	2.4	2.7 FE	B	B	B	B	B	4.8	B	B	B	B	(3.0) P	2.3	2.4	S	S	S	S
9	S	S	2.5 F	(2.9) S	(3.3) JPF	3.2 F	3.0	(5.0) S	6.9	8.9	7.8	(6.9) B	6.0	6.1	B	B	B	S	S	S	AS	S	2.7 F	S
10	2.9 F	(3.0) F	3.0 F	3.5 F	2.9 F	2.4	2.3	(3.9) S	5.5	6.6	6.1	7.6	(6.8) B	6.2	5.8	(5.2) B	(4.5) P	A	S	2.5 P	S	S	S	C
11	C	C	(3.3) P	2.9 PJ	(2.8) S	2.7	2.2	B	B	B	B	B	B	5.7	4.9	4.6 H	(4.2) P	4.6	3.9	3.3	(3.5) S	(3.7) JPF	4.1 J	S
12	S	S	S	3.7	3.7	C	C	C	C	C	C	C	C	6.3	6.2	(5.3) SB	4.4	(4.2) S	4.0	2.8	2.6	3.0	3.3	2.9
13	3.2	3.3	3.3	3.5	(3.2) C	2.9	2.0	C	C	C	C	C	C	C	C	C	4.0	(3.9) PJ	C	A	C	A	4.3	2.8
14	C	C	3.1 P	2.8	2.3	C	C	C	C	C	C	C	C	C	5.9	6.5	(4.6) S	2.6	C	C	C	C	2.7	3.1 JF
15	(3.0) C	3.0 F	2.7	3.0 FE	3.0 FV	3.3	(3.6) A	4.0	5.2	5.8	C	C	C	C	C	A	4.5	3.5	3.1	2.6	A	A	A	C
16	3.3 JF	3.1 JF	3.2 JF	(3.7) FS	4.2 J	A	A	A	A	A	B	B	B	B	5.2	B	B	A	A	A	A	2.0	2.4 J	3.1 F
17	3.4 F	3.0 JF	2.9 JF	2.8	2.8 P	A	C	S	B	B	B	B	B	B	B	B	4.1 P	3.9 P	(3.6) P	3.3 P	2.6	3.1 JF	3.1 JF	3.3 JF
18	3.4 JF	3.5	3.4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	2.6	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	7.0	7.0	6.0	6.5	6.5	6.7 H	3.6	2.4	2.5	2.5	2.7	2.9
20	2.9	3.2	2.6	2.9	2.6	A	A	4.1	6.8	7.0	6.8	9.0 P	7.3	(6.5) C	5.7	5.3	3.9	5.1	A	A	2.6	2.8	3.1	2.8
21	2.5	2.6	2.5	2.7	2.5	2.4	2.1	A	B	B	B	B	5.8	B	B	B	4.0 P	4.5 JP	3.4	2.7	2.5	2.6	2.9	2.3
22	2.6	2.4	2.6	2.8	3.0	3.0	2.3	3.5	5.7	6.0	7.5	7.7	(6.8) C	5.9	5.0	4.6	4.3	4.2	4.0 J	3.1	2.7 P	S	A	S
23	2.8 P	(2.8) S	2.8	(2.8) S	2.9	S	S	S	B	6.0	(6.0) B	6.0	(6.0) B	6.0	(5.0) B	4.0	C	C	3.0	2.4	2.5	(2.5) P	(2.8) P	(3.1) P
24	(3.6) P	3.6	S	S	S	S	2.5 P	S	B	B	5.7	5.9	S	S	S	S	S	3.0 P	3.3 P	3.2 P	3.2 P	(2.8) PJ	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	6.4 P	6.3 P	6.2	5.9	5.1	3.4	3.3	2.7	2.3	2.1	C	C
26	2.7 P	2.6	(2.6) P	2.4 P	2.3 P	2.1	3.2 P	3.3	4.4	6.3	5.9	5.6	6.8	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	3.0 J	(2.8) PS	(3.0) PS	(2.8) PS	(2.7) PS	3.0
28	3.1	3.0	2.9	2.8 FJ	3.1 P	3.2 JF	2.8 JF	B	B	B	B	B	B	B	B	B	B	(3.5) PS	2.9 P	[2.8] JS	2.8 PS	(3.4) PS	[3.3] S	(3.2) PS
29	[3.1] S	(3.0) PS	2.8 P	(2.8) S	2.8 P	2.2	2.5	S	B	B	B	B	6.5	(6.0) C	5.5	5.3	4.3 J	3.5	(3.5) JP	3.5	(3.4) JF	(3.1) JF	(3.4) JF	3.2 J
30	(3.3) JF	S F	S F	(3.0) JF	3.3	2.1 JF	2.1 P	3.7	5.3	(6.7) P	5.9	6.8	6.8	5.6	5.3	5.8	(4.8) B	3.9	(3.4) S	3.0 P	2.8 JFP	2.7 J	2.7 JP	2.9
31	(3.1) FS	3.3	3.3	S	S	3.0 JP	3.2 F	3.5 P	B	C	B	B	C	6.1	(6.1) B	6.1	4.1 P	3.7	S	S	S	S	S	S
Mean Value	3.0	2.9	2.9	3.0	2.9	2.7	2.6	4.0	5.7	6.7	6.9	7.0	6.4	6.0	5.5	5.4	4.5	3.9	3.2	2.7	2.7	2.7	3.0	2.9
Median Value	3.0	3.0	2.8	2.8	2.9	2.7	2.4	4.0	5.5	6.6	6.6	6.9	6.6	6.0	5.6	5.3	4.3	3.8	3.3	2.7	2.6	2.7	2.8	2.9
Count	20	19	22	23	23	18	18	11	10	9	12	13	16	17	16	13	15	18	18	22	19	19	20	19

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

Jan. 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	SA	360P	370	A	A	A	S	(300)PJ	B	B	320P	300	(290)S	B	B	B	A	A	SA	SA	340	360P	330F
2	350	360	350	310	320	350	A	A	B	B	280	260	260	320	300	B	S	S	S	S	S	450	[420]A	380
3	310	340	310	440	430	[400]A	370	350P	310	B	B	280	B	B	B	B	S	S	S	350	410	(320)P	330	340F
4	330F	370F	320P	360	380	320P	350F	(340)JF	C	B	300	(280)P	300	(310)S	280	290	S	S	360	320	390	SF	S	330P
5	SF	SF	SF	330P	330	[340]A	(360)JP	[340]S	320	(280)P	B	B	B	270	B	B	B	S	410H	450H	(460)JFH	FH	FH	290H
6	AH	AH	AH	AH	440FH	440H	470H	BH	BH	BH	280H	270H	BH	BH	BH	BH	BH	330H	300H	320H	320H	400FH	380FH2	SH
7	CH	CH	CH	CH	C	C	C	C	C	C	C	C	B	B	B	B	B	B	S	310	340	340	350F	310
8	330	410F	410	350	350	350	350F2	B	B	B	B	B	300	B	B	B	B	(270)F	320	350	S	S	S	S
9	S	S	400F	[380]S	(360)JFF	310F	400	[360]S	330	310	270	[280]B	300	320	B	B	B	S	S	S	AS	S	330F	S
10	390F	[400]F	400F	310F	320F	280	310	[300]S	290	310	270	270	[290]B	310	310	[300]B	(290)P	A	S	270P	S	S	S	C
11	C	C	(330)P	(320)JP	[320]S	320	360	B	B	B	B	B	B	290	240	270H	(260)P	360	310	320	[340]S	(360)FF	(380)J	S
12	S	S	S	390	370	C	C	C	C	C	C	C	C	310	270	[280]SB	290	[300]S	320	310	340	350	320	360
13	440	430	390	370	[340]C	320	350	C	C	C	C	C	C	C	C	C	320	(310)PJ	C	A	C	A	340	420
14	C	C	350P	350	370	C	C	C	C	C	C	C	C	C	330	300	[320]S	350	C	C	C	C	380	(460)JF
15	[440]C	430F	370	370F2	420FV	330	[320]A	320	300	SB	C	C	C	C	C	A	330	320	310	280	A	A	A	C
16	(420)JF	(340)JF	(380)JF	[340]JF	(310)J	A	A	A	A	A	B	B	B	B	420	B	B	A	A	A	A	390	(300)J	380F
17	440F	(410)JF	(420)JF	410	350P	A	C	S	B	B	B	B	B	B	B	B	270P	310P	(320)P	330P	320	(340)JF	(370)JF	(350)JF
18	(340)JF	360	360	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	390	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	280	280	300	290	330	300H	310	300	430	410	360	380
20	370	350	340	360	340	A	A	330	320	300	340	300P	310	[300]C	280	290	310	310	A	A	390	360	310	370
21	390	390	400	370	360	380	370	A	B	B	B	B	B	B	B	B	250P	(290)JF	360	320	340	400	330	340
22	320	370	370	380	330	330	260	310	290	260	(290)S	(290)S	[280]C	280	300	300	260	340	(320)J	290	360P	S	A	A
23	330P	[340]S	340	[330]S	320	S	S	S	B	310	[310]B	310	[300]B	300	[270]B	240	C	C	300	320	(350)S	(360)P	(360)P	(360)P
24	(320)P	(370)S	S	S	S	S	290P	S	B	B	S	290	S	S	S	S	S	340P	320P	310P	370P	(330)PJ	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	320P	310P	330	300	320	380	360	330	400	430	C	C
26	430P	330	(320)S	360P	360P	360	320P	310	290	290	290	300	260	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	(330)J	(280)FS	(290)FS	(330)FS	(390)FS	420
28	400	430	370	(350)FJ	320P	(300)JF	(340)JF	B	B	B	B	B	B	B	B	B	B	(290)PS	350P	[340]S	330PS	(380)PS	[380]S	(370)PS
29	[340]S	(310)PS	390P	[370]S	350P	330	310	S	B	B	B	B	280	[290]C	300	280	(290)J	370	(340)JP	350	(370)JF	(430)JF	(400)JF	(370)J
30	(410)JF	ST	ST	(350)JF	320	(390)JF	290P	300	310	(300)P	370	300	290	260	280	(270)S	[280]B	300	[320]S	330P	(350)JFP	(380)J	(320)JP	320
31	[350]SF	380	420	S	S	(320)JF	260	270P	B	C	B	B	C	320	B	320	280P	350	S	S	S	S	S	S
Mean Value	370	370	370	360	350	340	340	320	310	300	300	290	290	300	300	290	300	320	330	330	360	370	360	360
Median Value	360	370	370	360	350	330	340	320	300	300	290	290	300	300	300	290	290	320	320	320	350	360	360	360
Count	20	19	22	23	23	18	18	11	10	8	10	13	14	16	14	13	15	18	18	22	19	19	20	19

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

Jan. 1953 | h'F2 | 135° E Mean Time | Wakkanai | Lat. 45° 23.6' N | Long. 141° 41.1' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	SA	300	340	A	A	A	SA	B	250	270	300B	270	270	270	300B	260	A	A	SA	SA	300	330	300
2	300	320	320	280	300	300	A	280	B	B	260	250	260	(320)BS	300	260	A	A	A	A	S	320S	[320]A	330
3	280	290	250	380	A	A	310	300	280	270	[270]B	270B	B	B	B	B	A	A	A	310	350	300	280F	300F
4	310	330F	300	310	330A	280	315FA	240	(240)C	250	280	250	300B	260	270	270	220	270	300A	290	270	330F	300	290
5	300F	310F	310	280	280	[300]A	310	250	300	260	270	270	[270]B	(270)B	B	B	260	270	340K	400K	400K	300K	250K	260K
6	AK	AK	AK	AK	410K	410K	470K	270K	BK	(320)BK	270K	270K	BK	(300)BK	300K	BK	BK	320K	270K	300K	290K	320FK	330K	SK
7	CK	CK	CK	CK	C	C	C	C	C	C	C	C	B	B	B	B	A	240	[270]A	300A	310	310	310	280
8	300	360F	350	310	310A	290	300	270	B	B	B	B	300B	B	B	270	260	230	[260]A	300	S	S	S	S
9	S	S	300F	[300]S	300F	270	300	(280)S	270	280	260	[280]B	300	300	B	B	250	[260]SA	270	AS	AS	A	280	290
10	320F	350F	330F	250F	250	230	260	260	230	280	250	260	[260]B	260	300	250	270	A	S	240	SA	S	SA	C
11	C	C	300	280	240	240	310	B	B	B	B	B	B	240	240	270H	270	280	260	270	[280]S	300	300	[300]S
12	290	310	320	310	300	C	C	C	C	C	C	C	C	290	260	230	260	250	260	250	310	300	280	300
13	340A	330	330	300	(290)C	280	(340)S	C	C	C	C	C	C	C	C	C	230	250	C	A	C	A	250	320
14	C	C	290	280	290	C	C	C	C	C	C	C	C	C	300	270	280	A	C	C	C	C	340	400F
15	[390]C	380	320	310	350	300	(290)A	280	A	A	C	C	C	C	C	A	270	230	240	230	A	A	A	C
16	380	300	340	270	270	A	A	A	A	A	A	350	270	B	A	270	A	A	A	A	A	330	290	320F
17	340	370	360	350	320	A	C	A	240	240	250	250	[260]B	260	260	230	210	270	280	270	250	300	310F	300F
18	300F	300	300	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	340	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	270	250	240	250	280	260H	250	260	370	380	330	320
20	300	300	300	300	260	A	A	280	280	280	310	280	300	[280]C	270	270	280	280	A	A	340	320	270	300
21	320	310	320	300	300	310	350	A	A	260	B	B	(300)B	B	B	B	270	270	260	260	300	350	300	300
22	260	340A	310	300	300	300	220	300	280	250	250	260	[260]C	270	300	290	240	290	270	270	300	S	A	A
23	300	[300]S	300	[290]S	280	250	270	S	A	300	270	300	[300]B	290	260	230	C	C	270	270	310	320	310	300
24	290	290	290	310	310	290	250	250	B	B	320	290S	[300]S	300	S	270	[280]A	300A	280	290	320	290	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	280	280	320	280	290	300	300	300	280	400	C	C
26	380	290	280	300	300	300	260	270	260	250	260	300	250	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	280	240	230	250	260	330
28	320	360	300	290	280	280	300	B	B	A	A	B	B	B	B	B	260	260	300	280	300	320	280	320
29	300	290	300	280	300	270	A	A	B	B	280	270	270	[270]S	270	270	270	290	290	290	300	360	340	320
30	350	340	300F	300F	270	350	270	280	290	290	240	300	280	260	270	250	270	260	270	290	300F	330	300	280
31	300	300	310	300	300	280	210	230	B	C	B	B	C	280	L	280	220	270	S	S	S	S	S	300
Mean Value	320	320	310	300	300	290	300	270	270	270	270	280	280	280	280	260	260	270	280	280	310	320	300	310
Median Value	300	310	300	300	300	290	300	270	280	260	270	270	270	270	270	270	260	270	270	280	300	320	300	300
Count	22	22	26	25	24	19	18	15	10	14	16	17	19	19	16	19	22	21	20	22	19	21	22	22

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

Jan. 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									B	Q	S	B	L	Q	B	Q								
2									B	B	Q	B	B	B	B	B								
3									Q	B	B	B	B	B	B	B								
4									C	L	B	B	B	Q	Q	Q								
5									Q	B	Q	B	B	B	B	B								
6									B	B	B	B	B	B	B	B								
7									C	C	C	C	B	B	B	B								
8									B	B	B	B	B	B	B	Q								
9									Q	L	Q	B	B	B	B	B								
10									Q	Q	Q	Q	B	3.8	L	Q								
11									B	B	B	B	B	Q	Q	Q								
12									C	C	C	C	C	B	3.4	Q								
13									C	C	C	C	C	C	C	C								
14									C	C	C	C	C	C	3.3	Q								
15									A	A	C	C	C	C	C	A								
16									A	A	A	3.7	A	A	A	Q								
17									Q	Q	Q	3.9	[3.8]B	3.6	Q	Q								
18									C	C	C	C	C	C	C	C								
19									C	C	C	C	3.7	3.1	S	Q								
20									Q	3.2	L	3.8	3.8	C	B	Q								
21									A	3.3	B	B	B	B	B	Q								
22									Q	Q	3.7	(3.8)B	C	Q	Q	Q								
23									B	A	B	B	B	B	B	Q								
24									B	B	S	S	S	S	S	Q								
25									C	C	C	C	3.8	C	C	Q								
26									Q	Q	L	L	3.8	C	C	C								
27									C	C	C	C	C	C	C	C								
28									B	A	A	B	B	B	B	B								
29									B	B	B	3.8	3.7	C	Q	Q								
30									L	3.6	Q	3.7	3.7	3.5	S	S								
31									B	C	B	B	C	Q	L	Q								
Mean Value									—	3.4	3.7	3.8	3.8	3.5	3.4	—								
Median Value									—	3.3	3.7	3.8	3.8	3.6	3.4	—								
Count									—	3	1	6	7	4	2	—								

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

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

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

Jan. 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									A	A	2.4	2.5	2.5	2.6	2.2	B								
2									A	2.2	2.3	B	B	B	(2.2)B	A								
3									2.0	B	B	B	B	B	B	B								
4									B	2.2	[2.4]B	2.6	2.5	2.4	2.0	B								
5									B	2.3	B	B	B	B	B	B								
6									B	B	B	B	B	B	B	B								
7									C	C	C	C	B	B	B	B								
8									1.8	2.0B	B	B	B	B	B	B								
9									(2.0)P	[2.3]B	2.6	B	B	B	B	B								
10									1.8	A	A	A	A	B	2.5	B								
11									B	B	B	B	B	2.6	2.4	B								
12									C	C	C	C	C	2.4	2.5	2.2								
13									C	C	C	C	C	C	C	C								
14									C	C	C	C	C	B	B	A								
15									1.6	2.3	C	C	C	C	C	A								
16									A	A	A	A	A	A	A	A								
17									S	S	2.8	2.7	2.6	2.5	2.3	B								
18									C	C	C	C	C	C	C	C								
19									C	C	C	C	2.5	2.5	2.3	2.0								
20									A	2.2	2.4	A	2.7	C	B	B								
21									A	B	B	B	B	B	B	B								
22									B	2.4	A	B	C	2.4	B	B								
23									A	A	2.6	2.7	2.6	2.5	[2.0]B	1.5								
24									1.6	B	S	S	S	S	A	B								
25									C	C	C	C	2.6	C	C	C								
26									C	C	2.3	2.5	2.7	C	C	C								
27									C	C	C	C	C	C	C	C								
28									B	A	A	2.6	2.6	2.4	2.4	2.3	B							
29									A	2.2	2.5	2.6	2.7	[2.6]C	2.4	2.1	B							
30									1.9	2.3	2.5	2.7	2.7	2.6	2.3	2.0	B							
31									2.1	[2.3]C	2.5	2.6	[2.6]C	2.6	2.5	2.1	B							
Mean Value									1.9	2.2	2.5	2.6	2.6	2.5	2.3	2.0	—							
Median Value									1.8	2.3	2.5	2.6	2.6	2.5	2.3	2.1	—							
Count									8	11	11	9	12	12	13	7	—							

foE

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

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

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Jan. 1953 | E

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									A	A	100	140	120	120	120	120								
2									A	110	110	120	120	120	B	A								
3									130	120	[120]B	120	120	B	B	150								
4									110	120	[120]B	120	150	130	140	150								
5									B	120	140	B	B	B	B	B								
6									120	B	B	B	B	B	B	B								
7									C	C	C	C	B	B	B	B								
8									110	B	B	B	B	B	B	130								
9									120	[120]B	130	B	B	B	B	B								
10									130	A	A	A	A	130	130	B								
11									120	B	B	B	B	120	120	150								
12									C	C	C	C	C	B	100	100								
13									C	C	C	C	C	C	C	C								
14									C	C	C	C	C	B	B	A								
15									130	130	C	C	C	C	C	A								
16									A	A	A	A	A	A	A	A								
17									S	S	120	110	110	110	110	120								
18									C	C	C	C	C	C	C	C								
19									C	C	C	C	120	110	110	120								
20									A	120	A	A	130	C	B	B								
21									A	B	B	B	B	B	B	B								
22									B	110	A	110	C	B	B	B								
23									A	A	130	120	120	120	120	140								
24									150	120	S	S	S	S	A	140								
25									C	C	C	C	110	C	C	C								
26									C	C	120	130	110	C	C	C								
27									C	C	C	C	C	C	C	C								
28									110	A	A	110	120	120	120	120	110							
29									A	110	110	110	110	[120]f	130	120	B							
30									120	120	110	110	110	110	110	110	110							
31									120	[120]C	120	130	[130]f	130	130	120	B							
Mean Value									120	120	120	120	120	120	120	130	110							
Median Value									120	120	120	120	120	120	120	120	110							
Count									12	12	12	12	14	12	12	14	2							

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

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

IONOSPHERIC DATA

Jan. 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	2.6	E	E	3.0	3.0	3.8	3.0	2.7	2.6	G	G	G	G	G	G	4.0	5.2	3.6	2.6	2.8	E	2.6	E
2	E	2.3	2.4	3.0	2.6	2.4	3.0	3.2	3.0	2.7	2.2	G	G	G	3.0	3.8Y	3.9F	2.7	2.4	2.4F	1.6	1.6	2.8	2.1
3	1.4	2.3	2.4	2.4	2.5	2.8	2.3	2.4	2.3	G	B	G	B	B	B	G	2.8	2.8Y	2.4	2.6	2.6	1.6	E	E
4	E	E	E	E	3.0	2.6	2.9	2.1	G	G	B	G	G	G	G	G	E	2.6	3.0	3.0	E	E	E	E
5	E	2.6	2.2	2.8	3.0	4.0	3.0	3.0	B	G	G	B	B	B	B	B	E	E	E	E	E	E	E	2.6
6	2.9	3.8	6.0	2.2Y	E	E	E	E	G	B	B	B	B	B	B	B	B	E	1.6	2.3	E	E	E	S
7	C	C	C	C	C	C	C	C	C	C	C	C	B	B	B	B	2.6	2.0	2.6	2.6	E	E	E	E
8	E	E	E	2.6	3.2	E	E	B	2.6	G	B	B	B	B	B	G	1.6	E	2.8	E	S	S	S	S
9	S	S	E	S	E	E	E	S	G	B	G	B	B	B	B	B	E	3.0	2.2	2.4	6.0Y	3.0	E	E
10	E	E	E	E	E	E	E	E	G	3.0	3.8	3.1	3.0	G	G	B	1.6	3.4	1.7	2.6	3.0	S	2.4	C
11	C	C	1.6	E	E	E	E	B	G	B	B	B	B	G	G	G	1.6	E	E	E	1.8	E	E	S
12	E	E	2.2	3.0	E	C	C	C	C	C	C	C	C	G	3.2	G	2.6	2.6	2.4	E	3.3	E	E	2.6
13	2.9	2.7	2.2	2.1	C	E	E	C	C	C	C	C	C	C	C	C	3.8	E	C	4.0	C	7.1	3.0	2.6
14	C	C	3.0	E	E	C	C	C	C	C	C	C	C	C	B	B	3.4	3.0	C	C	C	C	E	E
15	C	1.4	1.4	4.3	4.0	2.7	4.2	3.6	4.3	3.9	C	C	C	C	C	8.4	3.4	3.2	E	E	3.8	3.8	3.9	C
16	E	E	E	2.6	3.8	5.2	3.9	6.5	7.5	7.0	3.9	3.8	3.8	3.9	4.2	2.6	3.0	6.0	6.0	6.0	4.0	2.5	3.0	3.0
17	E	2.2	1.7	3.0	3.8	3.2	C	3.0	S	S	G	G	G	G	G	G	E	1.6	1.6	2.7	3.4	3.0	2.5	E
18	E	2.4F	2.7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	G	G	G	G	4.3	2.4	3.2	2.5	E	1.6	E	E
20	E	E	E	E	2.4	4.6	6.0	3.8	3.2	3.1	2.3	3.4	G	C	B	G	1.6	2.7	5.0	6.0	2.6	2.7	3.3	3.2
21	2.3	E	E	E	E	E	3.0	3.7	3.8	B	B	B	B	B	B	B	B	E	E	3.2	2.8	2.8	E	2.8
22	E	2.8	E	E	E	2.7	E	E	B	G	2.8	G	C	G	B	B	B	E	E	2.6	3.0	S	3.0	2.4
23	E	S	E	S	E	E	E	S	3.2	3.8	G	G	G	G	G	G	C	C	E	E	E	E	E	E
24	E	E	E	E	E	E	1.9	E	G	G	S	S	S	S	2.9	G	3.2	3.4	1.7	E	E	E	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	G	C	C	C	C	E	E	E	E	E	C	C
26	E	E	E	E	E	E	E	C	C	C	G	G	G	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E	E	E	E	E	E
28	E	E	E	E	2.2	E	E	2.1	G	3.6	3.8	G	G	G	G	G	G	E	2.2	E	E	E	E	2.6
29	E	E	E	E	E	2.0Y	2.2	3.0	3.0	G	G	G	G	C	G	G	G	1.6	E	E	E	E	E	E
30	E	E	E	E	E	E	E	E	3.9	G	G	G	G	G	G	G	G	E	1.6	E	E	E	E	E
31	E	E	E	E	E	E	E	2.5	G	C	G	G	C	G	G	G	B	3.6	S	S	S	S	S	E
Mean Value	2.4	2.5	2.5	2.8	3.0	3.2	3.3	3.2	3.6	3.7	3.1	3.4	3.4	3.9	3.3	4.9	2.9	3.0	2.7	3.2	3.1	3.0	2.9	2.7
Median Value	E	E	E	E	E	E	E	2.8	2.6	G	G	G	G	G	G	G	2.1	2.4	1.7	2.4	1.6	E	E	E
Count	22	23	27	24	25	24	23	18	19	16	15	15	14	14	15	18	22	27	26	28	25	24	25	22

fEs

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

W 8

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

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Jan. 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	SA	2.8^{P}	2.8	A	A	A	S	(3.2)^{P}	B	B	2.9^{P}	3.1	3.3	B	B	B	A	A	SA	SA	3.0	2.9^{P}	2.9^{F}
2	2.8	2.9	2.8	3.1	3.2	2.8	A	A	B	B	3.3	3.4	3.5	3.1	3.0	B	S	S	S	S	S	2.5	[2.6]^{A}	2.8
3	3.0	2.9	3.1	2.5	2.5	[2.6]^{A}	2.8	2.9^{P}	3.2	[3.2]^{B}	3.2	3.2	B	B	B	B	S	S	S	2.9	2.7	(3.0)^{P}	3.0	2.9^{F}
4	3.0^{F}	2.8^{F}	3.1^{P}	2.8	2.8	3.0^{P}	2.8^{F}	(2.8)$^{\overline{PF}}$	C	B	3.1	(3.1)^{P}	3.1	3.0	3.3	3.2	S	S	2.7	3.1	2.7	S F	S	3.0^{P}
5	S F	S F	S F	2.9^{P}	2.9	[2.8]^{A}	(2.8)$^{\overline{PF}}$	[2.8]^{S}	2.9	(3.2)^{P}	B	B	B	3.3	B	B	B	S	2.6^{K}	2.5^{K}	(2.5)$^{\overline{PJ}K}$	F K	F K	3.2^{K}
6	A^{K}	A^{K}	A^{K}	A^{K}	2.6^{FK}	2.6^{K}	2.5^{K}	B K	B K	3.1^{K}	3.3^{K}	3.2^{K}	2.7^{K}	3.2^{K}	3.2^{K}	B K	B K	3.1^{K}	3.1^{K}	3.0^{K}	2.9^{K}	2.6^{FK}	2.7$^{\overline{FZ}K}$	S K
7	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C	C	C	C	C	B	B	B	B	B	B	S	3.0	3.0	3.0	2.9^{F}	3.1
8	3.1	2.6^{F}	2.7	2.8	2.9	2.9	2.8^{Fz}	B	B	B	B	B	3.1	B	B	B	B	(3.3)^{P}	3.0	2.8	S	S	S	S
9	S	S	2.6^{F}	[2.7]^{S}	(2.8)$^{\overline{PF}}$	3.1^{F}	2.6	[2.8]^{S}	3.0	3.2	3.3	[3.2]^{B}	3.1	3.0	B	B	B	S	S	S	A S	S	3.0^{F}	S
10	2.7^{F}	[2.6]^{F}	2.6^{F}	3.0^{F}	3.0^{F}	3.3	3.0	[3.0]^{S}	3.1	3.1	3.2	3.2	[3.2]^{B}	3.1	3.1	[3.1]^{B}	(3.1)^{P}	A	S	3.3^{P}	S	S	S	C
11	C	C	(3.0)^{P}	(3.1)$^{\overline{PF}}$	[3.0]^{S}	3.0	2.7	B	B	B	B	B	B	3.3	3.6	3.4^{H}	(2.8)^{P}	2.9	3.1	3.0	[2.9]^{S}	(2.8)$^{\overline{PF}}$	(2.7)^{J}	S
12	S	S	S	2.7	2.7	C	C	C	C	C	C	C	C	3.1	3.4	[3.2]^{SP}	3.1	[3.0]^{S}	3.0	3.0	2.9	2.9	3.0	2.8
13	2.5	2.5	2.7	2.8	[2.9]^{C}	3.0	3.0	C	C	C	C	C	C	C	C	C	2.9	(3.0)^{PJ}	C	A	C	A	2.8	2.5
14	C	C	2.9^{P}	2.8	2.7	C	C	C	C	C	C	C	C	C	3.0	3.1	[3.0]^{S}	2.8	C	C	C	C	2.7	(2.5)$^{\overline{JF}}$
15	[2.6]^{C}	2.6^{F}	2.7	2.7^{Fz}	2.6$^{F}_{v}$	3.0	[3.0]^{A}	3.0	3.0	SB	C	C	C	C	C	A	2.9	3.0	3.0	3.2	A	A	A	C
16	(2.5)$^{\overline{JF}}$	(2.9)$^{\overline{JF}}$	(2.8)$^{\overline{JF}}$	(2.9)$^{\overline{JF}}$	(3.0)^{J}	A	A	A	A	A	B	B	B	B	2.6	B	B	A	A	A	A	2.8	(3.1)^{J}	2.7^{F}
17	2.6^{F}	(2.6)^{JF}	(2.6)$^{\overline{JF}}$	2.9	2.8^{P}	A	C	S	B	B	B	B	B	B	B	B	3.4^{P}	3.1^{P}	(3.0)^{P}	(3.0)^{P}	3.0	(3.0)$^{\overline{JF}}$	(2.7)$^{\overline{JF}}$	(2.9)$^{\overline{JF}}$
18	(2.9)$^{\overline{JF}}$	2.8	2.7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	2.7	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	3.2	3.3	3.5	3.1	2.9	3.2^{H}	3.0	3.1	2.6	2.7	2.7	2.7
20	2.7	2.9	2.8	2.9	3.0	A	A	2.9	3.0	3.2	3.0	3.2^{P}	3.1	[3.2]^{C}	3.3	3.2	3.0	3.1	A	A	2.7	2.8	3.2	2.7
21	2.6	2.7	2.6	2.8	2.9	2.7	2.8	A	B	B	B	B	3.3	B	B	B	3.5^{P}	(3.1)$^{\overline{JF}}_{P}$	3.2	3.0	2.9	2.6	3.0	3.0
22	3.0	2.8	2.7	2.7	3.0	3.0	3.4	3.2	3.2	3.2	(3.1)^{S}	3.3	[3.2]^{C}	3.2	3.2	3.2	3.5	2.9	(3.0)^{J}	3.2	2.9^{P}	S	A	S
23	3.0^{P}	[3.0]^{S}	2.9	[3.0]^{S}	3.1	S	S	S	B	3.1	[3.1]^{B}	3.1	[3.2]^{B}	3.2	[3.4]^{B}	3.5	C	C	3.2	3.0	2.9	(2.8)^{P}	(2.9)^{P}	(2.9)^{P}
24	(3.1)^{P}	2.8	S	S	S	S	3.2^{P}	S	B	B	S	3.1	S	S	S	S	S	3.0^{P}	3.1^{P}	3.1^{P}	2.8^{P}	(3.0)$^{\overline{JF}}$	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	3.0^{P}	3.0^{P}	2.9	3.0	3.0	2.7	2.9	2.9	2.7	2.7	C	C
26	2.6^{P}	3.0	(3.0)^{P}	2.9^{P}	2.8	2.8	2.9^{P}	3.0	3.1	3.1	3.2	3.3	3.2	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	(2.9)^{J}	(3.2)$^{\overline{JF}}_{S}$	(3.2)$^{\overline{JF}}_{S}$	(2.9)$^{\overline{JF}}_{S}$	(2.7)$^{F}_{S}$	2.6
28	2.5	2.6	2.7	(2.8)^{FJ}	3.1^{P}	(3.2)^{JF}	(2.8)$^{\overline{JF}}$	B	B	B	B	B	B	B	B	B	B	(3.2)$^{F}_{S}$	2.8^{P}	[2.9]^{S}	(3.0)$^{F}_{S}$	(2.7)$^{F}_{S}$	[2.8]^{S}	(2.8)$^{F}_{S}$
29	[3.0]^{S}	(3.2)$^{F}_{S}$	2.7^{P}	[2.8]^{S}	2.9^{P}	2.9	3.0	S	B	B	B	B	3.3	[3.2]^{c}	3.1	3.3	(3.3)^{J}	3.0	(2.9)$^{\overline{JF}}$	2.9	(2.7)$^{\overline{JF}}$	(2.5)$^{\overline{JF}}$	(2.7)$^{\overline{JF}}$	(2.7)^{J}
30	(2.6)$^{\overline{JF}}$	S F	S F	(2.9)$^{\overline{JF}}$	3.0	(2.8)$^{\overline{JF}}$	3.3^{P}	3.2	3.1	(3.1)^{P}	3.0	3.2	3.2	3.3	3.3	3.3	[3.2]^{B}	3.1	[3.0]^{S}	3.0^{P}	(2.9)$^{\overline{JFP}}$	(2.7)^{J}	(3.0)$^{\overline{JF}}$	3.1
31	(2.9)$^{\overline{JF}}$	2.7	2.6	S	S	(3.1)$^{\overline{JF}}$	3.3^{F}	3.2^{P}	B	C	B	B	C	3.0	[3.0]^{B}	2.9	3.2^{P}	3.0	S	S	S	S	S	S
Mean Value	2.8	2.8	2.8	2.8	2.9	2.9	2.9	3.0	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	3.0	3.0	2.8	2.8	2.9	2.8
Median Value	2.8	2.8	2.7	2.8	2.9	3.0	2.8	3.0	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	3.0	3.0	2.9	2.8	2.8	2.8
Count	20	19	22	23	23	18	18	11	10	10	11	13	16	17	16	13	15	18	18	22	19	19	20	19

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

Jan. 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	S	SA	E	E	A	A	A	SA	1.8	2.0	2.5	4.8	2.6	2.6	3.0	2.2	2.0^{A}	A	A	SA	SA	1.4	1.7	1.2
2	1.4	1.2	1.2	1.4	1.4	1.4	A	2.1^{A}	A	A	3.4	4.5	5.0	4.6	4.0	5.0	A	A	A	A	S	1.4	[1.4]^{A}	1.5
3	1.4	1.4	1.1	1.4	1.9	[1.6]^{A}	1.4	2.0^{A}	2.0	4.7	6.0	4.5	B	B	B	1.9	A	A	A	1.5	1.4	1.4	1.4^{F}	1.4^{F}
4	1.4	E	E	E	1.8	1.6	1.8^{F}	1.4	2.2	2.2	5.0	2.7	5.0	2.7	2.3	1.9	1.4	1.8	1.8^{A}	1.8	1.4	1.4^{F}	1.4	1.4
5	E	1.4^{F}	E	1.9	1.8	A	E	2.2^{A}	2.2	3.7	2.8	3.6	B	4.8	B	B	1.8	1.4	1.3	1.4	1.4	1.3	1.4	1.8
6	A	A	A	A	E	E	1.4	1.4	B	6.0	5.5	5.4	5.2	5.0	5.0	B	B	1.9	1.3	1.6	1.4	1.2^{F}	1.4	S
7	C	C	C	C	C	C	C	C	C	C	C	C	B	B	B	B	A	2.0^{A}	[2.0]^{A}	1.9	1.3	1.4	1.4	1.4
8	1.2	E	E	1.5	1.6	E	1.4	1.4	B	B	B	B	4.0	B	B	2.3	1.8	1.4	1.8	1.4	S	S	S	S
9	S	S	1.4^{F}	[1.4]^{S}	1.3	1.3	1.4	[1.7]^{S}	2.0	2.5	3.6	[4.0]^{B}	4.5	4.0	B	B	2.0	[1.7]^{AS}	1.4	AS	AS	A	1.4	1.4
10	E	E	E	E	E	E	1.4	1.4	2.4	2.8	3.3	3.2	[3.0]^{B}	2.8	3.0	2.0	2.2	A	S	1.4	A	S	A	C
11	C	C	1.8	E	E	E	1.4	[1.8]^{B}	2.2	B	B	B	B	2.9	2.9	2.2	1.9	1.4	1.4	1.3	[1.4]^{S}	1.4	1.4	S
12	E	E	E	E	1.4	C	C	C	C	C	C	C	C	3.5	2.6	2.4	2.2^{A}	1.6	1.4	1.5	1.5	1.3	1.5	1.4
13	1.5	1.4	1.2	E	C	1.7	1.5	C	C	C	C	C	C	C	C	C	E	E	C	A	C	A	1.4	1.3
14	C	C	1.3	E	E	C	C	C	C	C	C	C	C	C	3.0	2.6	2.6^{A}	2.0^{A}	C	C	C	C	1.4	1.4^{F}
15	[1.5]^{C}	1.6	1.2	1.8	E	2.0^{A}	[2.2]^{A}	2.4^{A}	4.3^{A}	A	C	C	C	C	C	A	1.4	1.4	1.4	1.4	A	A	A	C
16	1.4	E	E	E	E	A	A	A	A	A	A	3.0	3.7^{A}	[3.9]^{A}	4.1^{A}	2.4	A	A	A	A	A	E	2.0^{A}	1.4^{F}
17	1.2	1.2	1.2	1.4	1.8	A	C	A	2.0	2.5	3.0	3.0	[3.0]^{B}	2.9	2.7	2.6	1.5	2.2	2.2	1.8	1.4	1.5	2.0^{F}	1.5^{F}
18	1.5	1.2	1.7	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	1.4	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	2.8	2.6	2.4	2.4	3.8^{A}	1.4	1.4	1.5	1.6	1.5	1.4	1.5
20	1.5	E	E	E	E	A	A	2.0^{A}	2.0	2.4	2.7	3.3^{A}	3.0	[3.3]^{C}	3.6	2.4	1.8	1.8	A	A	1.4	1.4	1.5	1.5
21	1.4	E	E	E	E	E	1.5	A	A	2.9	B	B	5.2	B	B	B	1.8	1.8	1.5	1.4	1.4	1.5	1.8	1.4
22	1.4	1.6	1.2	1.3	1.2	1.2	1.5	1.5	2.1	2.5	2.6	3.8	[3.4]^{C}	2.9	2.2	2.0	1.8	1.4	1.4	1.4	1.4	S	A	A
23	1.2	[1.3]^{S}	1.4	[1.4]^{S}	1.3	E	1.4	S	B	2.8	3.5	3.7	[3.6]^{B}	3.6	2.4	1.5	C	C	1.4	1.4	1.4	1.4	1.4	1.4
24	1.3	1.2	E	1.2	E	1.3	1.4	1.4	B	B	5.0^{S}	4.8^{S}	[4.2]^{S}	3.7	[3.0]^{A}	2.2	[2.1]^{A}	2.0^{A}	1.5	1.4	1.4	1.4	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	2.8	4.0	4.7	2.6	1.7	1.4	1.4	1.3	1.4	1.4	C	C
26	1.4	1.4	E	E	E	E	E	1.7	2.2	2.6	2.3	3.0	2.7	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	1.4	1.5	1.5	1.5	1.5	1.5
28	1.4	1.2	1.2	1.1	1.2	1.2	1.5	B	B	A	A	B	B	B	B	B	2.0	1.4	1.4	E	1.4	1.4	1.4	1.4
29	E	E	E	E	E	E	2.0^{A}	S	A	B	5.0	3.3	2.8	[2.8]^{C}	2.9	2.6	2.1	1.4	1.4	1.4	1.4	1.5	1.4	1.5
30	1.5	1.1	1.2^{F}	1.2^{F}	E	1.1	1.4	1.5	2.0	2.6	2.5	2.8	2.8	2.9	2.6	2.4	1.8	1.4	1.4	1.4	1.4	1.4	1.5	1.4
31	E	E	1.2	E	E	E	1.4	1.6	2.4	C	B	B	C	3.0	2.7	2.3	2.1	2.2^{A}	S	S	S	S	S	1.6
Mean Value	1.4	1.3	1.3	1.4	1.5	1.4	1.5	1.7	2.3	3.0	3.7	3.7	3.6	3.4	3.1	2.4	2.0	1.7	1.5	1.5	1.4	1.4	1.5	1.4
Median Value	1.4	1.2	1.2	E	E	1.1	1.4	1.6	2.2	2.6	3.4	3.6	3.4	3.2	2.9	2.4	1.8	1.5	1.4	1.4	1.4	1.4	1.4	1.4
Count	22	22	26	25	24	19	19	16	14	14	16	17	19	20	19	20	22	22	20	22	19	21	22	21

fminF

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

W 10

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

IONOSPHERIC DATA

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

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

W 11

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

IONOSPHERIC DATA

Jan. 1953 | f_oF2 | 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	3.2F	3.0F	3.1F	2.9F	3.0F	3.0F	2.5	A	A	9.2	9.1	7.2	6.1	6.0	5.6	5.2	4.1	3.3	A	A	A	A	A	A
2	A	A	2.9JF	3.1JF	A	A	3.0F	3.5	6.6	6.7	7.7	7.5	6.7	6.2	5.6	5.6	5.6	(4.6)A	3.7	A	A	A	A	3.0
3	3.0	2.4JF	2.5JF	(2.7)F	2.9JF	A	A	4.2	5.5	7.6	9.1	6.3	6.2	5.8	6.5	5.3	4.9	4.0	4.2	A	A	A	3.2	3.0F
4	2.9F	2.9F	3.1V	2.5F	2.8F	2.8	(3.3)A	3.8	6.0	8.8	10.2	6.6	5.9	6.2	5.4	4.7	4.7	3.7	2.7	3.2	(3.6)A	3.7F	3.0F	3.1
5	3.0F	3.0	2.8	3.0JF	3.3F	2.5F	3.7F	(5.2)A	6.8	8.7	8.1	5.9	5.7	6.4	5.6	5.0	5.0	5.6	2.8K	2.6K	BHK	FK	9.5KF	FK
6	AK	AK	AK	AK	AK	AK	1.9FK	4.0K	6.4K	7.0K	7.6K	7.8K	6.5K	5.9K	6.2K	(5.9)AK	5.6K	3.4K	2.8FK	2.5FK	1.8FK	2.8FK	(3.0)FK	3.1FK
7	2.9FK	2.8FK	FK	FK	2.5F	(2.6)F	2.8F	4.5F	8.1	8.7P	7.9	7.1H	6.8	7.7	5.5	5.4	5.4	(4.4)A	3.5	2.8F	3.0	3.3	[3.8]F	4.4F
8	4.9JF	4.3F	4.3F	4.1F	2.7JF	2.3F	2.1	4.0	6.2	6.5	7.6	7.9	6.9	6.8	5.3	5.0	5.9	4.2	3.0JS	2.9F	3.2F	(3.4)F	3.5JF	4.2JF
9	(4.0)F	3.8F	3.5F	3.1F	(3.0)F	2.9F	3.1JF	3.6	7.2	7.8	(8.4)P	5.8	5.5	6.3	5.8P	5.2	5.5	4.3	3.7	2.5	2.9F	3.0F	3.4F	3.4JF
10	3.3JF	3.0JF	3.1F	3.5F	2.4	2.4F	2.3F	3.9	6.0	6.8	9.6	7.1F	6.2	6.2	6.4	6.0	5.0	4.5	3.8	2.5F	2.6	3.5F	4.5F	3.8F
11	4.0F	3.5F	3.5	3.2F	2.4F	2.6F	2.4F	3.6	6.5	7.0	7.2	6.0	6.2	6.5	6.0	4.7	4.0	4.6	4.4	3.2	3.5V	3.7F	4.3F	4.5F
12	3.9JF	4.0F	4.3F	4.1JF	4.2JF	4.2JF	2.8VF	4.2	5.8	7.2	6.5	6.3	5.7	6.5	6.3	5.8	4.6	4.0	3.6	2.8	2.9	3.3F	3.2F	3.1
13	2.9	3.2	3.2	3.2	3.3	2.7F	2.6	4.1	4.9	6.4	8.2	7.7	6.0	6.6	6.2	5.4	4.3	3.7	3.6	A	A	3.4	3.6	2.9
14	2.6	2.8F	3.3F	2.6F	2.6F	2.4F	2.5JF	4.0	7.9P	9.4	7.8	7.1	7.3	6.5	6.3	5.7	5.5	4.3	AF	A	2.7	2.7F	2.9F	3.1F
15	3.3F	3.3F	3.2F	3.2F	3.4JF	3.3F	(3.6)A	3.9	6.0P	6.8	9.4	9.4	7.4	6.9	6.6	6.5	5.0	4.1	3.3	2.6	2.7	3.1	3.4	3.4F
16	3.5JF	3.5JF	3.4JF	3.3F	3.1F	2.8F	2.6F	3.9	6.0	7.3	8.7	9.3	7.3	6.3	5.3	4.9	4.5	4.4	4.2	A	A	A	F	2.9F
17	3.0F	3.0F	2.8F	3.2F	3.0F	3.0F	2.3F	3.8	5.4	6.0	8.2	8.8	6.7	6.3	5.8	5.2	4.3	3.8	3.8	3.6	2.8F	A	F	3.0F
18	3.1F	3.6JF	3.6F	3.5F	3.9F	(3.1)A	2.3F	3.8	5.0	6.5	8.4	7.0	6.8	5.8	5.7	5.7	4.4	5.2	3.2F	A	A	2.6F	3.2F	3.4F
19	3.5F	3.4F	2.8F	2.2F	2.5F	2.5F	(3.2)A	4.0	7.2	8.8	10.0	10.3	7.7	6.8	5.7P	5.6	5.5	7.0	4.3	2.5	2.7	3.0	3.1	3.3
20	3.6	2.9	3.0	2.9	2.9	2.6	2.1	4.0	8.1	8.1	7.0	7.3	9.2	7.7	7.0	5.6	4.7	4.3	4.3	2.5	(2.7)A	2.9F	3.4	2.4
21	2.4	2.6	2.6	2.6	2.6	2.5	2.3	3.7	5.3P	8.0	8.0	7.4	6.7	6.0	6.1	5.5	4.7	4.4	4.0	3.2	2.7	(2.8)AF	3.0F	2.9F
22	3.0	2.6	2.6	2.7	2.7	2.9	2.5	3.4	5.3	6.2	6.5	6.7	6.2	5.5	5.4	5.3	4.6	3.8	4.2	3.8	3.2	3.0	2.9F	2.7
23	2.8F	2.9F	2.9F	2.8	2.8F	2.7	2.7	3.9	(4.8)M	5.6	6.2	6.7	(6.4)P	5.8	6.6	5.7	4.7	3.6	3.2	3.3	2.5	2.7	2.9	3.0F
24	3.2F	3.3	3.3	3.5	2.9F	3.1F	3.2	3.7	4.5	5.4	5.7	6.0	5.8	5.8	6.4J	6.0	5.1	3.4F	3.7	4.5	3.5	3.7	3.5JF	3.5
25	3.3F	3.5F	3.5F	3.2F	3.3F	3.1F	3.2F	3.9	6.1	6.2	7.1	8.6	7.1H	6.4	5.4	5.8	5.6	4.7	3.0	3.0	3.0	2.6	2.8	3.1
26	2.8	3.4	3.4F	2.0F	2.2JF	2.1JF	1.9	3.5	5.6	M	M	7.5	6.0	6.9	6.7	6.0	5.7	4.4	4.5	4.8	3.2	3.6	3.6	3.2
27	2.8	3.2	3.2	2.8F	3.0F	2.7	2.4	3.8	4.5	6.6	6.1	9.1	7.0	6.4	6.4V	5.9	5.8	5.1	3.3	3.8P	3.6	3.0F	3.8JF	2.9JF
28	3.0F	3.0F	3.1F	2.9F	3.3	2.5F	2.3	4.0F	5.5	6.8	7.1	6.8	6.9	6.5	7.0	5.7	5.1	4.0	3.4	3.8	3.6F	3.4F	3.8F	3.3F
29	3.4F	3.5	3.4	3.2JF	2.8F	2.9F	2.1	3.7	4.7	6.0	8.8	6.8	6.5	5.7	5.7	5.3	4.7	3.7	3.4	4.0	3.6	3.2	3.3	3.1F
30	3.2F	3.0JF	3.2JF	2.9JF	3.2F	1.9HF	2.0	3.6	4.7	5.5	6.7	8.1	7.6	6.1	5.4	5.4	5.1	4.3	4.0	3.0	3.1	3.2	3.3	3.5
31	3.2	3.3	3.0	3.0	3.0F	3.0	2.3F	3.9	4.5	5.0	6.5	7.8	8.0	6.5	6.4	5.2	5.0	4.0	4.0	4.0	3.2	3.7	3.7	4.0
Mean Value	3.2	3.2	3.2	3.0	3.0	2.8	2.6	3.9	5.9	7.1	7.9	7.4	6.7	6.3	6.0	5.5	5.0	4.3	3.6	3.2	3.0	3.2	3.6	3.3
Median Value	3.2	3.2	3.2	3.0	2.9	2.7	2.5	3.9	5.9	6.8	7.8	7.2	6.7	6.3	6.0	5.5	5.0	4.3	3.7	3.1	3.0	3.2	3.3	3.1
Count	29	29	29	29	29	28	30	30	30	30	30	31	31	31	31	31	31	31	29	24	24	25	27	29

f_oF2

Sweep 0.85 Mc to 22 Mc in 6 min ☐ Manual ☒ Automatic

A.1

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

IONOSPHERIC DATA

Jan. 1953 | hpF2 | 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	350 F	310F	370 F	350 F	350F	300 F	270	A	A	280	250	250	250	250	250	230	230	290	A	A	A	A	A	A
2	A	A	(340) JF	(350) JF	A	A	300 F	270	260	270	260	250	270	260	250	280	270	(260) A	260	A	A	A	A	360
3	260	(330) JF	(340) JF	[330] F	(320) JF	A	A	280	250	290	260	240	280	250	270	250	250	300	260	A	A	A	A	350 F
4	360 F	350 F	310 V	290 F	290 F	300	[300] A	300	280	280	240	250	250	260	250	250	280	240	250	250	[280] A	320 F	310 F	310
5	320 F	350	300	(300) JF	320 F	300 F	300 F	(280) A	250	260	240	240	250	260	250	250	280	260	320 K	410 K	BH K	F K	(270) JF K	F K
6	A K	A K	A K	A K	A K	A K	320 F K	260 K	270 K	260 K	300 K	260 K	250 K	260 K	270 K	(260) A K	250 K	250 K	280 F K	280 F K	280 F K	300 F K	(300) F K	310 F K
7	390 F K	330 F K	F K	F K	300 F	[320] F	350 F	320 F	280	250 P	240	310 H	300	260	260	290	250	[270] A	290	310 F	360	310	[320] F	320F
8	(350) JF	320F	380 F	320 F	(310) JF	340 F	350	300	260	280	270	250	290	270	250	300	270	230	(240) AF	260 F	420 F	(380) F	(350) JF	(340) JF
9	[310] F	280 F	310 F	300F	(290) F	280 F	(380) JF	340	260	260	(250) P	250	260	280	270 P	260	260	270	250	310	310 F	300 F	330F	(350) JF
10	(350) JF	(370) JF	350F	300 F	240	320 F	330F	280	270	280	250	370F	260	250	270	250	260	270	250	300 F	320	360F	400 F	340F
11	350F	360 F	300	280 F	300 F	310 F	310F	300	260	270	250	240	250	260	260	250	240	300	260	280	330 V	330 F	330F	360F
12	(310) JF	300 F	340 F	(340) JF	(320) JF	(320) JF	320 VF	270	270	270	250	250	260	300	280	260	250	280	280	280	330	330 F	270 F	370
13	340	370	380	330	270	350 F	280	260	250	300	290	250	270	300	280	250	260	290	300	A	A	340	340	A
14	A	350 F	300 F	250 F	260 F	390 F	(360) JF	300	250 P	280	260	250	280	260	260	260	270	280	AF	A	300	300F	350 F	380 F
15	350 F	350 F	370 F	350 F	(370) JF	300 F	(290) A	280	230 P	300	290	260	260	260	270	260	240	270	260	300	340	320	300	370 F
16	(310) JF	(370) JF	(350) JF	300 F	260 F	290F	300 F	300	260	250	280	270	260	250	240	220	[240) A	270	270	A	A	A	F	360 F
17	360 F	350 F	370 F	360 F	310F	290 F	390 F	270	250	280	270	250	250	250	260	240	250	290	270	270	260 F	A	F	380 F
18	370 F	(360) JF	330 F	320 F	260 F	(290) A	320 F	260	270	290	280	270	250	270	270 P	250	320	270	260 F	A	A	390 F	350 F	330 F
19	290 F	300 F	270 F	240 F	320 F	360 F	(330) A	300	270	270	280	270	260	250	270 P	280	290	260	240	270	400	390	400	380
20	310	320	290	340	270	310	400	300	280	270	270	320	270	270	250	260	250	310	250	280	(290) A	300 F	280	300
21	350	350	340	330	310	350	300	290	300 P	290	290	260	270	250	270	250	240	260	250	270	300	(320) AF	370F	300F
22	330	310	340	320	300	290	220	250	260	250	270	260	250	250	270	250	260	300	290	280	290	300	300 F	310
23	400 F	340 F	300 F	310	330 F	300	290	260	(260) M	260	260	260	(260) P	300	260	240	230	260	260	300	260	300	350	370 F
24	350 F	310	310	260	310 F	360 F	270	250	240	290	260	280	250	260	(260) JP	240	240	250 F	330	300	290	330	330 VF	330
25	340 F	300 F	350 F	330F	380 F	370 F	270 F	270	280	250	290	270	260 H	280	240	250	250	260	250	280	320	410	360	350
26	370	300	240 F	440 F	(350) JF	(310) JF	340	300	260	M	M	270	260	280	250	250	250	300	320	290	370	370	310	290
27	350	300	340	330 F	330 F	350	270	250	250	250	300	260	250	260	280 V	260	250	250	270	310P	290	310 F	(400) JF	(350) JF
28	390 F	370 F	350 F	260 F	260	350 F	280	270F	250	310	310	270	270	250	250	250	240	250	320	300	310 F	370 F	320 F	320 F
29	340 F	330	310	(350) JF	360F	290 F	270	260	260	300	250	240	250	240	250	250	240	250	340	300	300	270	370	330 F
30	340 F	(350) JF	(340) JF	(310) JF	280F	320 HF	320	260	250	270	270	270	240	260	240	250	250	260	260	280	330	330	360	320
31	350	320	330	330	340 F	320	270 F	250	250	(270) A	290	280	300	260	240	240	250	260	300	270	340	330	340	300
Mean Value	340	330	330	320	310	320	310	280	260	270	270	270	260	260	260	250	260	270	270	290	320	330	340	340
Median Value	350	330	340	320	310	320	300	280	260	270	270	260	260	260	260	250	250	270	270	280	310	330	340	340
Count	28	29	29	29	29	28	30	30	30	30	30	31	31	31	31	31	31	31	29	24	24	25	26	28

Sweep 0.85 Mc to 22 Mc in 6 min ☐ Manual ☒ Automatic

A 2

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

IONOSPHERIC DATA

Jan. 1953 | h'F2 | 135° E Mean Time | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	300F	260F	300	280	300	250	250	A	A	260	240	240	240	240	240	220	220	250A	A	A	A	A	A	A
2	A	A	300	310	A	A	270	250	250	240	250	230	250	250	230	240	230	[240]A	260AF	A	A	A	A	310
3	230	270F	320	280AF	270	A	A	250A	230	280	250	240	250	240	260	230	230	230	A	A	A	A	A	310F
4	320F	300F	320	240	260F	290A	[280]A	260A	250	260	230	240	240	250	240	240	230	220F	230F	240A	[260]A	280	260	230
5	290F	300	250	240	270	230A	260F	[240]A	230	250	230	220	250	260	240	230	240	230	270K	380K	280FH	300FK	220FK	260FK
6	AK	AK	AK	AK	AK	AK	320BK	250K	250K	250K	270K	240K	250K	250K	260K	[250]AK	240AK	220K	260K	260FK	280BK	270FK	300FK	260K
7	330FK	300FK	300FK	290FK	220F	280F	300F	270	250	240	230	270H	260	250	240	240	230	210	250	280	300	260F	290F	280F
8	280F	260	260	250	250	290	310	260	250	270	260	240	280	260	240	250	250	220	[220]A	230	310F	310F	300F	280F
9	270F	220F	260	250F	270AF	230	320F	280	250	250	240	250	250	280	250	250	240	220	230	290A	260	250	290	300F
10	300F	300F	290	250	200	260	300	260	250	270	240	370	260	250	260	240	240	[230]A	220	250	280	320	320F	290
11	290F	290F	240	220	220	260	270	260	250	250	250	240	240	260	250	240	230	250	230	250	260	260F	260F	290F
12	270F	270F	250F	280F	260	250	260	230	240	260	240	250	250	300	270	250	230	240	240	260	280	280A	250A	330A
13	300	320	330	270	230	260F	260	250	230	250	260	240	250	280	260	240	230	250	250	A	A	(320)A	280	A
14	A	310A	260	240A	250	350	300	260	240	250	240	230	260	250	250	240	240	230	AF	A	270	(280)AF	280	320
15	280F	280	310	290	300	270F	[260]A	240	220	280	270	250	250	250	250	250	220	240	220	240	290	280	300A	310F
16	300F	310F	260F	240F	230F	230F	250F	260	240	250	270	250	250	250	240	220	250	240	250	A	A	A	310F	320F
17	300F	300	310	320	300A	270F	350F	250	230	240	260	240	250	250	240	230	230	240	240	240	230	[280]A	330A	330F
18	310F	300F	280F	300F	240A	300A	290	230	250	250	270	260	250	260	260	240	220	250	250A	A	A	370	300F	300F
19	260	250	230	200	270F	310F	[280]A	260	250	250	260	250	250	250	240	250	250	230	210	250	350	360	350	330
20	270	290	250	290	240	290	380A	280	250	250	260	310	250	250	250	240	220	220	220	260	[260]A	260F	250	240
21	300	320	300	270	250	280	280	250	250	270	240	250	270	250	260	240	230	240	240	240	270	[300]AF	340F	290F
22	300	290	310	280	260	260	210	230	230F	240	260	240	250	240	260	250	230	270A	250	230	250	260	250F	270
23	350F	290	260	260	260	250	270	230	[240]M	260	250	250	250	290	250	230	230	240	250	230	250	300	300	300F
24	300F	250	250	230	250	280	230	220	220	230	250	270	250	250	250	240	220	210F	290	250	230	270	270	270
25	270	260F	280	270	300F	310F	250	220	260	240	280	260	240H	260	230	240	230	230	230A	240	260	370	330	300
26	330	270	210AF	310F	300F	300F	310	270	240	M	M	250	250	270	240	250	240	230	250	250	260	300	250	230
27	290	290	280	350F	300	300	250	230	230	240	270	250	240	250	250	250	240	240	230	260	250	250F	330F	310F
28	350F	300F	300F	230	240	260	250	250	230	250	290	260	260	240	250	230	230A	230A	260	250	250F	300F	270F	250F
29	280F	260	250	260F	270	250	270	230	240	290	240	240	240	240	250	230	230	230	280	260	260	240	300	280F
30	300F	300F	270F	250F	250	210H	290	240	240	230A	260	270	240	260	240	240	230	230	240	240	280	270	300	260
31	270	270	270	280	270	260	230	240	240	[260]A	290	260	270	250	240	230	240	230	250	240	270	260	250	250
Mean Value	300	280	280	270	260	270	280	240	240	250	260	250	250	260	250	240	230	230	240	260	270	290	290	290
Median Value	300	290	280	270	260	260	270	250	240	250	260	250	250	250	250	240	230	230	240	250	260	280	300	290
Count	28	29	30	30	29	28	30	30	30	30	30	31	31	31	31	31	31	31	28	24	25	27	28	29

h'F2

Sweep 0.85 Mc to 22 Mc in 6 min ☐ Manual ☒ Automatic

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

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Jan. 1953

f_oF1

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								A	A	3.5^{L}	4.0	3.9	(3.7)^{L}	3.5	3.4	Q	Q							
2								Q	Q	L	3.7	3.9	3.8	[3.6]^{L}	3.5	2.9	Q							
3								Q	Q	L	3.9	4.0	3.8	3.7^{L}	L	Q	Q							
4								A	Q	3.9	4.0	3.9	3.9	3.8^{L}	3.5^{L}	L	Q							
5								A	Q	Q	3.9	[3.8]^{L}	3.8^{L}	4.0^{L}	3.6L	Q	Q							
6								Q	Q	3.6^{L}	4.1^{L}	4.0^{L}	3.9	Q	3.6	A	A							
7								Q	Q	3.7^{L}	3.9	4.1	[3.8]^{B}	3.5^{L}	Q	Q	Q							
8								Q	Q	L	4.1	A	4.6^{H}	3.8^{H}	3.6^{L}	3.0	Q							
9								Q	L	3.7	4.0	L	Q	4.0	L	L	Q							
10								Q	Q	4.0^{L}	4.2	4.7	4.2^{L}	4.0	3.7	3.5^{L}	Q							
11								Q	Q	L	4.0	4.0	4.0	4.0^{L}	3.7^{L}	3.1^{L}	Q							
12								Q	Q	L	4.0^{L}	4.1^{L}	[4.2]^{L}	4.2^{L}	3.8^{L}	3.5^{L}	Q							
13								Q	Q	Q	4.0	4.1	4.0	3.7^{L}	L	Q	Q							
14								Q	Q	Q	4.0^{L}	4.1	4.2	4.0	[3.6]^{L}	3.2	Q							
15								Q	Q	L	4.2	4.2	4.2	4.0	3.7^{L}	Q	Q							
16								Q	Q	L	4.3^{L}	4.0	4.1	3.9	A	A	A							
17								Q	Q	Q	4.2	4.2	4.1	4.1^{L}	3.5	2.9^{H}	Q							
18								A	Q	Q	4.1	4.2	4.0	3.9^{L}	3.6	Q	Q							
19								Q	Q	L	4.1	4.1	4.1^{L}	4.0	3.4	L	Q							
20								A	Q	L	3.8	4.5	4.1	4.0	L	L	Q							
21								Q	Q	3.5	3.9	3.9	3.9^{L}	3.9	L	Q	Q							
22								Q	Q	L	L	4.1	3.8	Q	L	3.0	2.5							
23								Q	M	3.3	3.9	4.0	4.1	4.3^{L}	4.0	3.5	2.3							
24								Q	2.4	3.1^{L}	3.8L	4.0	4.0	3.8^{L}	3.8	3.5	Q							
25								Q	L	Q	4.0	4.1	4.0	3.9	L	Q	Q							
26								Q	Q	M	M	4.2	4.0	[3.8]^{L}	3.7	L	Q							
27								Q	Q	3.4	[3.7]^{L}	4.0	4.0	3.9^{L}	3.6	L	Q							
28								Q	Q	L	4.4	3.8	4.0^{L}	3.9^{L}	3.8^{L}	3.3^{L}	A							
29								Q	Q	3.6L	3.9	3.5	4.2	3.8	3.6	3.0	Q							
30								Q	Q	A	3.9	4.2	4.0	4.0	Q	Q	Q							
31								Q	Q	A	4.0	4.0^{L}	4.0	4.1	3.8	L	Q							
Mean Value									2.4	3.6	4.0	4.1	4.0	3.9	3.6	3.2	2.4							
Median Value									2.4	3.6	4.0	4.0	4.0	3.9	3.6	3.2	2.4							
Count									1	11	29	29	30	29	21	12	2							

Sweep 0.85 Mc to 22 Mc in 6 min ☐ Manual ☒ Automatic

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

IONOSPHERIC DATA

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

h'F1 | Sweep 0.85 Mc to 22 Mc in 6 min | ☐ Manual ☒ Automatic

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

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

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

Sweep 0.85 Mc to 22 Mc in 6 min ☐ Manual ☒ Automatic

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

IONOSPHERIC DATA

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

h'E

Sweep 0.85 Mc to 22 Mc in 6 min ☐ Manual ☒ Automatic

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

IONOSPHERIC DATA

Jan. 1953 | fEs | Akita | Lat. 39° 43.6' N | Long. 140° 08.2' E

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.2	2.4F	2.5F	2.5	3.2	2.6	2.5	5.3	8.2	6.9	5.4	4.2	G	3.4	G	G	3.3	3.8	6.5	7.5	4.6F	7.0F	7.0F	7.0F
2	1.4F	8.0	3.5	3.8	7.5	7.2	7.0Y	4.2	4.3	3.5	3.5	3.5	3.5	4.3	G	3.5	4.5	6.7	11.8	12.0	12.0	5.4	4.3	3.3
3	3.3	2.3	4.6	11.5	7.3	6.5	4.7	4.5	5.5	5.4	4.3F	5.4	7.2	4.9	3.5	3.0	3.1	3.6	6.2	6.7	6.8	6.3	4.2	3.1
4	3.3F	2.5	2.8F	2.5F	3.5	4.1	6.8	4.6	2.3	G	G	G	G	G	G	G	2.3	2.8F	3.2F	3.5F	4.5F	3.1Y	2.5Y	2.5Y
5	2.6F	2.3	2.3Y	2.8	3.9Y	3.3	6.5Y	9.0	4.2	5.4	5.0	3.4	G	G	G	G	3.5Y	4.0	2.5	E	E	E	E	E
6	3.5	5.4	8.2	7.4	3.4	2.5F	E	2.5	3.5	G	G	G	G	G	G	8.7	5.4	3.4	2.6	4.6F	7.1F	2.6F	2.6	2.6
7	2.5F	3.5F	2.5F	2.2F	2.3	2.4	2.5	2.7	G	G	G	B	B	B	B	G	G	12.0	3.1Y	3.0F	3.1	E	2.2	3.0
8	2.1	2.3F	2.2	E	2.3Y	2.5F	2.1Y	2.3	G	G	3.5	4.2	G	G	G	G	3.0	2.8	3.7	2.5	2.2	5.4	3.5	2.3F
9	E	2.5	2.9	2.5	2.9	2.0Y	2.0	2.5Y	G	G	G	G	G	G	3.7	G	1.4	4.6	3.5	4.9	3.0	E	E	E
10	1.8	2.5	E	2.3Y	E	2.5Y	2.1	2.5	G	3.5	4.1	4.5	4.1	3.5	G	G	G	4.5	3.3	4.2	3.5Y	4.2	2.8	3.5
11	2.5	2.5	2.3Y	E	2.2	3.5Y	2.1	2.2	3.5Y	3.5	G	G	3.5	1.8	G	3.5	G	E	1.9	2.1	3.0	1.7	2.6	2.5
12	2.4	2.2F	2.5	E	E	E	E	G	2.6	3.5	5.2	3.5	2.4	3.5	3.5	G	3.5	2.6	2.3	3.0	4.4	3.2	3.8	3.6
13	2.5	2.5F	2.8	2.0	2.5	4.1F	2.3	3.5	5.4	3.5	3.5	G	3.5	G	G	G	2.9Y	2.4Y	3.4	7.0F	4.1F	4.5	4.1F	3.5
14	4.5F	3.0F	2.6F	4.5	E	3.0	E	2.5	2.4	4.6	6.5	G	5.5	G	G	G	3.5	3.0	7.5	9.4	5.8	4.3	3.7	3.3
15	2.5F	2.6F	3.2	3.1	2.5	2.6F	4.2	2.7	4.0	4.5	G	G	3.5	3.8	3.2	G	3.5	3.1	2.3Y	E	E	4.2	5.8	2.6F
16	2.6	2.3	2.5F	2.6F	2.6F	2.4	E	2.5	G	3.4	5.5	4.0	4.5	5.0	4.5	3.6	3.5	2.3	4.6	5.8	6.6	4.2	3.3F	3.4F
17	2.5F	2.3	E	3.2	4.4	4.5	4.7	3.7	2.7	3.5Y	3.5Y	3.5	3.5	3.5	3.5	3.5Y	G	2.2Y	2.3	2.4	2.1	7.5	3.6F	2.5F
18	2.5F	2.8Y	2.4	4.2	5.0	5.6	4.5F	3.5	6.8	3.5F	3.5F	3.5F	3.5F	3.5	3.5	G	3.3	3.0	6.0F	7.5F	7.2F	3.2F	2.4F	2.3F
19	2.7F	2.2F	1.8Y	2.3	2.3F	5.8F	5.5F	3.3F	3.2	G	3.5	G	G	3.4	3.5Y	3.5	3.0FY	3.1F	2.3F	3.0	4.2	4.2	2.8	2.8
20	2.3F	2.5F	2.5F	2.5F	2.2F	2.3	3.5	4.3	3.5F	3.5	5.2	G	G	3.5	G	3.3	3.5	3.5	4.5	4.3	4.2F	4.7F	5.4	3.3
21	2.7F	3.0F	3.5	2.3Y	2.2Y	2.4	3.5	3.3	5.9	3.5	G	3.5	B	G	G	G	3.5	3.4	3.1F	2.5F	2.5	4.5F	3.5F	3.5F
22	3.1F	2.6F	2.5F	2.4F	E	E	2.2	2.5F	3.5F	3.9	G	G	G	4.5	3.5	G	3.5	4.5	2.5F	2.6	2.5F	2.5	2.5	2.5
23	2.7F	2.3	2.3	E	E	E	E	2.3	M	3.5	3.5	3.6	3.5	3.5	3.5	3.5	G	E	1.9	2.0	2.0Y	2.3Y	2.5	2.5F
24	2.5F	2.7	2.4F	2.4F	2.3F	E	2.1	2.3	2.8	G	3.5	3.5	3.5	G	3.5	3.5Y	2.1	2.6F	3.5F	2.5F	2.5	4.2F	3.9F	2.4F
25	2.2F	2.3F	2.2F	2.3F	E	E	E	B	3.5Y	G	G	G	3.5	G	G	3.5Y	2.5Y	3.0F	3.7F	2.1F	2.1	E	E	E
26	E	2.5F	2.5F	E	E	E	E	2.4F	2.9F	M	M	4.4	4.3	3.5	3.7	4.2	4.0	3.5	2.0	2.5	2.5	E	E	E
27	E	2.3	3.3	2.8F	2.5	E	E	2.0	G	3.5	G	G	G	3.5	G	3.5	G	E	2.1	2.4	2.1	E	2.0	E
28	2.1	E	E	2.3	2.4	E	E	2.1	G	G	G	G	G	G	G	3.5	4.5	2.7	2.2	2.4	2.3	E	2.5	E
29	E	E	E	E	E	E	E	2.5	3.1	G	3.2	2.7	3.5	3.5	3.3	3.4	3.5	E	E	3.3	2.9	2.0Y	2.8	E
30	E	E	2.3	2.2Y	2.3	E	E	1.8	G	4.3	4.0	G	G	3.5	3.5	G	2.8	2.5	2.8Y	2.8	3.3	2.5	1.8	2.1
31	2.3	2.2	2.3	1.2	E	2.3	2.1	2.6	1.7	5.4	2.7	G	4.2	G	G	G	G	2.6Y	2.4Y	2.6	2.3	2.5	2.4	2.0
Mean Value	2.6	2.8	2.9	3.2	3.3	3.5	3.6	3.2	3.9	4.1	4.2	3.8	4.0	3.7	3.6	3.8	3.3	3.6	3.7	4.2	4.0	4.0	3.4	3.0
Median Value	2.5	2.5	2.5	2.4	2.3	2.4	2.1	2.5	3.2	3.5	3.5	G	3.5	3.4	G	G	3.1	3.0	3.1	3.0	3.0	3.2	2.8	2.5
Count	31	31	31	31	31	31	31	30	30	30	30	30	29	30	30	31	31	31	31	31	31	31	31	31

Sweep 0.25 Mc to 22 Mc in 6 min ☐ Manual ☒ Automatic

A 8

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

IONOSPHERIC DATA

Jan. 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	3.1F	2.9F	2.8F	2.9F	3.1F	3.2	A	A	3.3	3.6	3.6	3.4	3.5	3.5	3.7	3.7	3.2	A	A	A	A	A	A
2	A	A	(3.0)3F	(2.9)3F	A	A	3.1F	3.3	3.4	3.4	3.5	3.6	3.3	3.4	3.7	3.4	3.5	(3.6)A	3.6	A	A	A	A	2.9
3	3.5	(2.9)3F	(3.0)3F	(3.0)F	(3.1)3F	A	A	3.3	3.6	3.2	3.6	3.4	3.1	3.6	3.4	3.4	3.4	3.0	3.5	A	A	A	2.8	3.0F
4	2.7F	2.9F	3.1V	3.0F	3.2F	3.2	(3.2)A	3.2	3.3	3.4	3.7	3.4	3.6	3.4	3.6	3.5	3.3	3.7	3.6	3.5	(3.3)A	2.9F	3.2F	3.1
5	3.1F	3.0	3.2	(3.2)3F	3.0F	2.8F	3.2F	(3.4)A	3.5	3.5	3.8	3.6	3.6	3.4	3.6	3.6	3.2	3.3	2.9K	2.5K	BHK	FK	(3.5)3FK	FK
6	AK	AK	AK	AK	AK	AK	3.1FK	3.5K	3.3K	3.4K	3.1K	3.4K	3.5K	3.4K	3.4K	(3.4)AK	3.7K	3.5K	3.3FK	3.2FK	3.1FK	3.2FK	(3.1)FK	3.0FK
7	2.6FK	2.8FK	FK	FK	3.1F	(3.0)3F	2.8F	3.1F	3.3	3.5P	3.7	3.3H	3.2	3.4	3.2	3.1	3.6	(3.4)A	3.3	3.1F	2.9	3.1	[3.0]F	2.9F
8	(2.8)3F	3.0F	2.7F	2.9F	(2.9)3F	2.8F	2.9	3.2	3.5	3.4	3.3	3.5	3.4	3.3	3.5	3.1	3.4	3.6	(3.5)AF	3.4F	2.5F	(2.6)F	(2.8)3F	(2.9)3F
9	(3.0)3F	3.2F	3.1F	3.2F	(3.2)3F	3.3F	(2.6)3F	2.9	3.5	3.3	(3.7)P	3.5	3.5	3.3	3.5P	3.2	3.4	3.3	3.7	3.0	3.0F	3.2F	2.9F	(2.8)3F
10	(2.7)3F	(2.8)3F	2.8F	3.2F	3.6	2.9F	2.8F	3.3	3.4	3.3	3.8	2.6F	3.5	3.4	3.5	3.5	3.4	3.3	3.7	3.2F	3.0	2.8F	2.6F	3.0F
11	2.9F	3.0F	3.2	3.3F	3.1F	3.0F	3.1F	3.4	3.4	3.4	3.6	3.7	3.2	3.5	3.5	3.6	3.5	3.2	3.4	3.3	3.1V	3.0F	2.9F	2.9F
12	(2.8)3F	3.0F	2.9F	(2.8)3F	(2.8)3F	(2.9)3F	3.1VF	3.3	3.1	3.4	3.5	3.6	3.5	3.2	3.4	3.6	3.5	3.4	3.4	3.2	3.0	3.0F	3.3F	2.9
13	3.1	2.8	2.8	3.0	3.3	2.7F	3.2	3.5	3.5	3.1	3.3	3.6	3.3	3.2	3.3	3.6	3.5	3.3	3.2	A	A	3.0	3.0	3.4
14	2.8	2.8F	3.1F	3.2F	3.3F	2.7F	(2.7)3F	3.0	3.5P	3.3	3.4	3.5	3.4	3.4	3.4	3.4	3.4	3.3	AF	A	3.1	3.1F	2.8F	2.7F
15	2.9F	2.9F	2.8F	3.1F	(2.8)3F	3.2F	(3.3)A	3.4	3.6P	3.2	3.3	3.4	3.5	3.4	3.3	3.4	3.7	3.4	3.6	3.1	2.8	3.1	3.2	2.8F
16	(2.7)3F	(2.7)3F	(2.7)3F	3.2F	3.5F	3.3F	3.0F	3.2	3.4	3.5	3.3	3.5	3.6	3.5	3.5	3.6	3.5	3.4	3.4	A	A	A	F	2.8F
17	2.7F	2.7F	2.7F	2.8F	3.2F	3.2F	2.6F	3.5	3.6	3.2	3.4	3.7	3.5	3.5	3.5	3.6	3.6	3.2	3.5	3.5	3.6F	A	F	2.7F
18	2.9F	(2.8)3F	3.0F	3.1F	3.5F	(3.2)A	2.9F	3.5	3.4	3.2	3.3	3.2	3.5	3.2	3.3	3.6	3.1	3.3	3.5F	A	A	2.7F	2.9F	2.9F
19	3.3F	3.2F	3.3F	3.6F	3.0F	2.8F	(2.9)A	3.0	3.3	3.4	3.4	3.5	3.5	3.5	3.4P	3.2	3.2	3.4	3.8	3.2	2.7	2.7	2.6	2.8
20	3.1	3.0	3.3	3.0	3.4	3.0	2.6	3.2	3.3	3.3	3.5	3.1	3.5	3.5	3.4	3.5	3.5	3.2	3.6	3.3	(3.2)A	3.1F	3.4	3.0
21	2.8	2.8	2.7	2.7	3.1	2.8	3.0	3.2	3.2P	3.3	3.7	3.6	3.4	3.6	3.4	3.7	3.4	3.3	3.5	3.3	2.9	[2.8]AF	2.7F	3.1F
22	3.0	2.9	2.9	3.0	3.2	3.2	3.7	3.5	3.3	3.5	3.4	3.4	3.5	3.6	3.5	3.5	3.5	3.3	3.3	3.4	3.2	3.2	3.3F	3.0
23	2.6F	3.0F	3.2F	3.1	2.9F	3.1	3.1	3.6	(3.6)M	3.5	3.5	3.5	(3.2)P	3.4	3.5	3.6	3.8	3.6	3.2	3.6	3.0	2.8	3.0	2.8F
24	2.9F	3.3	3.2	3.6	3.2F	2.9F	3.4	3.7	3.7	3.2	3.5	3.4	3.6	3.4	(3.5)F	3.6	3.7	3.3F	3.0	3.2	3.2	3.0	3.0VF	3.0
25	3.0F	3.1F	3.0F	3.0F	2.7F	2.8F	3.2F	3.4	3.4	3.6	3.2	3.4	3.3H	3.3	3.6	3.6	3.6	3.5	3.5	3.3	3.0	2.5	2.7	2.9
26	2.7	3.2	3.6F	2.5F	(2.8)3F	(2.8)3F	2.9	3.2	3.4	M	M	3.4	3.5	3.2	3.6	3.6	3.6	3.2	3.1	3.3	2.8	2.8	3.1	3.2
27	2.8	2.9	3.0	2.6F	3.0F	2.8	3.3	3.6	3.6	3.6	3.2	3.5	3.8	3.5	3.3V	3.5	3.5	3.5	3.3	3.2P	3.3	3.1F	(2.7)3F	(3.0)3F
28	2.8F	3.0F	3.0F	3.4F	3.5	2.8F	3.3	3.5F	3.7	3.1	3.1	3.5	3.4	3.5	3.5	3.6	3.7	3.5	3.0	3.2	3.3F	2.8F	3.1F	3.0F
29	3.0F	3.0	3.1	(2.9)3F	2.9F	3.2F	3.2	3.4	3.5	3.3	3.7	3.6	3.6	3.8	3.6	3.5	3.6	3.7	3.0	3.3	3.2	3.2	2.8	3.0F
30	2.9F	(2.9)3F	(2.9)3F	(3.2)3F	3.4F	3.1HF	3.0	3.6	3.5	3.2	3.4	3.5	3.7	3.5	3.7	3.6	3.5	3.4	3.5	3.3	3.0	3.0	2.8	3.1
31	3.0	3.1	3.0	3.1	3.0F	3.1	3.3F	3.6	3.6	3.2	3.3	3.4	3.1	3.4	3.6	3.6	3.5	3.5	3.2	3.4	2.9	3.1	3.1	3.2
Mean Value	2.9	3.0	3.0	3.0	3.1	3.0	3.1	3.4	3.4	3.3	3.5	3.5	3.4	3.4	3.5	3.5	3.5	3.4	3.4	3.3	3.0	3.0	3.0	3.0
Median Value	2.9	3.0	3.0	3.0	3.1	3.0	3.1	3.4	3.4	3.3	3.4	3.5	3.5	3.4	3.5	3.6	3.5	3.4	3.4	3.3	3.0	3.0	3.0	3.0
Count	29	29	29	29	29	28	30	30	30	30	30	31	31	31	31	31	31	31	29	24	24	25	27	29

(M3000)F2

Sweep 0.25 Mc to 22 Mc in 6 min ☐ Manual ☒ Automatic

A 9

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

IONOSPHERIC DATA

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

Sweep 0.85 Mc to 22 Mc in 6 min ☐ Manual ☒ Automatic

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

IONOSPHERIC DATA

Jan. 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	1.5F	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	1.5	1.5	1.5	1.5	1.5
2	1.5	E	E	E	E	E	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.5	1.5	1.5F	1.5	1.5	1.5	1.5	1.5
3	1.5	E	E	E	E	E	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.6	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4
4	1.4	E	E	E	E	1.4	1.4	1.4	1.4	1.4	1.4	1.7	1.7	1.5	1.7	1.4	1.4	1.5F	1.5F	1.4F	1.4F	1.5	1.4	1.4
5	1.5F	E	E	E	E	E	1.5	1.4	1.4	1.4	1.4	1.6	2.0	1.8	1.9	1.8	1.4	1.4	1.4	E	E	E	E	E
6	1.4	E	E	E	E	E	E	1.4	1.4	1.4	1.5	1.9	1.9	1.9	1.9	1.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
7	1.4	E	E	E	E	E	1.4	1.4	1.4	2.2	2.9	B	B	B	B	2.5	1.9	1.5	2.0	1.4	1.4	E	1.5	1.5
8	1.5	1.5	1.5	E	E	E	1.7	1.4	1.5	1.5	2.0	2.8	2.9	2.7	2.5	2.0	1.5	1.5	1.5	1.4	1.6	1.5	1.5	1.6
9	E	E	E	E	E	E	1.7	1.5	1.5	1.7	1.6	1.9	2.5	1.9	1.9	1.5	1.4	1.5	1.4	1.4	1.4	E	E	E
10	1.5	1.5	E	E	E	E	1.7	1.5	1.4	1.5	1.5	1.7	1.9	1.9	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.4
11	1.5	E	E	E	1.7	1.7	1.6	1.4	1.4	1.4	1.4	1.5	1.6	1.4	1.4	1.4	1.4	E	1.7	1.6	1.6	1.6	1.4	1.4
12	1.4	1.5	1.4	E	E	E	E	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.5	1.4	1.4	1.6	1.4	1.4	1.4	1.4	1.4
13	1.4	1.4	1.1	E	E	E	1.5	1.4	1.4	1.5	1.9	1.9	1.6	2.2	2.0	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
14	1.5	E	E	E	E	E	E	1.5	1.5	1.5	1.7	1.7	1.7	2.3	2.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
15	1.5	1.1	E	E	1.1	E	1.4	1.5	1.5	1.5	1.9	2.4	2.5	2.4	1.7	1.7	1.4	1.4	1.6	E	E	1.4	1.4	1.4
16	1.4	1.4	E	E	E	E	E	1.5	1.4	1.4	1.5	1.7	1.8	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
17	1.5	1.5	E	E	E	E	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.6	1.4	1.9	1.4	1.4F	1.5F
18	1.4F	1.4	E	E	E	E	1.4F	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
19	1.4	E	E	1.6	1.1	E	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5F	1.5F	1.5	1.5	1.5	1.5	1.4
20	1.5	E	E	E	E	E	1.5	1.5	1.5	1.4	1.5	1.5	1.7	1.7	2.2	1.6	1.5	1.4	1.5	1.5	1.5	1.5F	1.4	1.5
21	1.5F	E	E	E	E	E	1.4	1.5	1.4	1.5	1.6	1.7	(2.0)B	2.2	1.9	1.5	1.4	1.4	1.5F	1.5F	1.5	1.5F	1.5F	1.5F
22	1.4F	E	E	E	E	E	1.6	1.5F	1.5F	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.5F	1.5	1.5	1.6	1.5	1.5
23	1.5	1.4	E	E	E	E	E	1.5	(1.5)M	1.5	1.4	1.4	1.4	1.5	1.5	1.4	1.5	E	1.5	1.7	1.5	1.5	1.5	1.4F
24	1.5F	1.5	1.4F	1.5F	1.5F	E	1.5	1.5	1.4F	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.4F	1.4F	1.4F	1.5	1.4F	1.4F	1.4F
25	1.4F	1.4F	E	E	E	E	E	B	1.4F	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.8	1.7	E	E	E
26	E	E	E	E	E	E	E	1.5	1.5	M	M	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	E	E	E
27	E	E	E	E	E	E	E	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.4	E	1.6	1.5	1.6	E	1.6	E
28	E	E	E	E	E	E	E	1.5	1.4	1.5	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.5	E	1.5	E
29	1.5	E	E	E	E	E	E	1.5	1.4	1.4	1.4	1.4	1.5	1.9	1.8	1.4	1.5	E	E	1.5	1.4	1.5	1.5	E
30	E	E	1.4	1.5	1.5	E	E	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6
31	1.5	1.4	1.5	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	1.4	1.5	1.5	1.5	1.5
Mean Value	1.5	1.4	1.4	1.5	1.4	1.6	1.5	1.5	1.4	1.5	1.6	1.6	1.7	1.7	1.7	1.6	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5
Median Value	1.4	E	E	E	E	E	1.4	1.5	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.4
Count	31	31	31	31	31	31	31	30	31	30	30	30	30	30	30	31	31	31	31	31	31	31	31	31

fminE

Sweep 0.85 Mc to 22 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

Jan. 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	(3.0)P	3.5P	2.6F	3.0F	[3.1]A	3.2	2.7	4.0	5.5P	9.0	B	B	6.3	6.2	5.8	5.2	5.0P	3.5	[3.4]AF	3.3	AF	F	3.6	2.7F
2	2.7FP	2.6FF	F	AF	2.4F	AF	AF	4.0	6.2P	B	7.4P	6.8	6.6	6.2	6.1	5.8	5.2P	(4.6)P	4.1	(3.5)P	2.5F	AF	AF	F
3	2.8	2.2F	2.3F	2.4F	AF	AF	(3.2)P	4.2	6.8	6.6	8.8	[8.2]B	(7.6)P	6.7	C	C	4.9	A	AF	AF	AF	AF	(2.8)P	AF
4	AF	3.1	[3.0]AF	2.8FF	[2.8]C	2.9	2.6	(3.5)P	6.2	(6.9)JP	B	(8.2)P	6.4	C	C	C	4.8	5.1	[4.0]C	(2.9)P	2.6	[2.6]F	2.5JF	2.6P
5	[2.7]F	2.8FP	3.0F	(2.6)F	3.1	2.7	2.5F	3.9P	[5.3]B	(6.7)JP	B	7.1	5.8	[6.2]C	6.5	5.5	(5.5)P	A	4.0P	2.9K	BFK	BFK	BFK	2.5FK
6	AK	AK	AK	AK	AK	AK	FK	4.1K	[6.0]C	7.9JK	BK	CK	7.5K	6.2K	6.1K	6.0K	5.8K	[4.2]AK	2.8PK	2.7K	2.6K	[2.6]KC	2.5KF	[2.3]KC
7	2.1FK	FK	FK	(2.5)FK	C	C	2.3F	A	B	B	B	6.5	7.2	[7.4]B	7.5	5.5	6.0	5.0	3.1H	[3.3]A	3.5	3.7	3.3	3.3
8	3.7	3.8	3.4P	3.8	3.2F	2.1F	(2.0)F	4.2	6.2	8.1	10.0	(8.3)P	7.4	6.0	6.2	5.0	5.6	4.8P	[3.7]AF	2.6	3.3P	F	FB	C
9	F	3.2F	(2.5)F	F	F	F	2.4F	3.9	(7.3)P	7.0J	T	T	T	T	T	5.5	5.2	5.9	4.2	2.7	2.5F	3.0P	2.9	[2.8]F
10	2.7FP	2.8	3.1	3.3	[2.8]B	2.2F	2.2F	4.0	6.1	6.7	(6.4)B	6.2	6.6	6.5	6.2	5.6	5.5	4.6	3.7	(3.2)A	2.6	(3.0)P	[3.2]S	3.3
11	(3.4)P	3.0F	3.3J	[2.6]B	1.8	2.4F	2.5F	3.7	6.1	7.0	B	6.7	5.5	6.6	6.7P	5.7	4.8	3.9	B	3.3	2.7FP	3.3F	3.6P	3.2
12	FB	F	F	3.5JF	3.3F	3.8	3.2	[4.8]B	(6.5)P	6.4	B	6.3	6.0	(6.0)B	6.1	6.4P	5.0	A	A	3.0F	3.0	(3.0)AF	3.0F	2.8
13	A	A	A	A	A	AF	2.5F	4.2P	[5.2]C	6.1	B	7.8	6.5	6.3	6.6	6.0	[4.9]A	3.8	AF	AF	AF	AF	AF	3.0F
14	AF	AF	3.1F	AF	AF	2.2F	2.2F	4.1P	B	BS	9.5P	7.1	7.0	M	M	M	M	A	A	2.8P	M	M	M	M
15	M	M	M	M	M	M	M	4.5P	[5.2]C	5.9	(8.9)JP	[8.8]B	8.7	6.6P	6.6	6.9	5.5	4.2	3.3	2.7	2.7	3.2	3.3	AS
16	AS	AS	M	M	M	M	M	M	6.2	B	B	B	(8.4)JP	6.1	6.0	5.3	4.7	(4.0)P	4.0	(4.2)P	AF	AF	AF	2.8
17	3.0F	3.0	2.9	3.0	3.0FF	[3.0]F	2.9F	[4.2]B	5.6	(6.6)P	B	B	B	6.0	5.8	5.4J	4.6	3.8	3.8	4.1P	F	2.5	2.7JF	[2.8]F
18	2.8	3.1F	[3.4]F	3.6P	[2.9]AF	2.2F	2.2FP	(4.1)JP	5.7	6.1	7.2	8.1J	[7.0]B	5.9	5.6J	[5.1]C	4.6P	4.8P	[3.9]A	3.0	A	A	AF	3.4F
19	3.4	3.6	(3.0)FP	(2.4)PH	2.2F	2.3	2.3	3.8P	B	B	B	B	B	6.2	6.2	6.0H	5.3	6.8	[4.8]AF	2.7	2.7	2.9	2.8P	(3.4)AF
20	4.0	2.6F	3.2	2.7	2.9	[2.7]A	2.5F	(4.1)P	C	C	C	7.6	8.8	9.2	7.6	6.5	5.0	4.5	4.2	[3.6]AF	3.0	F	AF	2.6
21	2.3	2.5	2.6	2.7	3.0P	2.3	2.3	3.7	6.1J	6.2H	[6.8]B	7.5	6.8P	6.3	6.3	6.3P	5.1	4.4	[4.0]AF	3.6P	2.8	2.9	AF	3.1PF
22	3.0F	3.2F	2.9F	3.0	2.7F	2.6F	2.6	4.0	C	C	6.6	8.5P	6.5	5.5	5.5H	5.6	5.2	A	AF	AF	C	C	C	C
23	C	C	C	C	C	C	C	C	C	5.5	6.0	7.1	6.3	6.8	6.1	5.8	5.2	4.0	3.3	3.4P	2.5F	2.6	2.8P	2.8
24	2.9	3.1P	3.4JP	2.6F	2.6F	2.7	2.7	(4.0)PB	4.7S	5.4J	6.2	6.2	6.5	5.5	[5.8]B	6.2	5.3	3.9	3.0	4.0P	4.0PS	3.1	2.8P	3.4
25	3.3	3.2P	3.1P	3.0P	2.7	2.7PF	3.0F	B	5.7J	6.4J	7.0	[7.6]B	8.3P	6.3	6.3	5.5	5.6	5.3P	3.2	3.0	3.2	2.8	B	B
26	BF	BF	B	1.7F	2.1F	1.7F	1.8J	4.0	6.4J	6.7	(6.9)B	7.1	[6.8]B	6.4	6.2	6.2J	5.0P	4.6P	(4.2)P	B	(3.7)P	[4.0]B	4.3P	3.0
27	3.0B	2.8	3.1	2.8PF	2.7PF	3.1	2.5	4.2	5.0	6.0	6.8	(7.4)B	(8.1)P	(7.0)JP	6.1	6.0	6.0	SB	SB	SB	SB	SB	2.5ZF	2.7
28	2.6	(2.8)P	2.9	3.2	2.4F	2.2	2.3	B	B	6.1	B	B	(7.5)P	7.2	(6.4)P	(6.4)P	5.5P	3.9	(3.6)J	B	B	3.0	FB	B
29	B	3.3P	3.4	F	F	2.6	2.3	4.1	5.4J	6.1	B	7.5	6.1	5.8	5.7	5.8	5.2	4.0	(3.5)P	B	B	2.9	F	F
30	F	F	F	F	2.5F	2.1F	2.3	[4.0]BS	(5.7)P	5.9	B	B	B	6.7J	6.0	5.4	[5.0]B	(4.5)P	[3.8]B	3.2	[3.2]A	3.2	3.0	3.3
31	3.2S	3.2	3.1F	3.0F	3.0	2.8	2.4	4.5	(4.7)JP	4.6	6.7	C	B	B	(7.0)P	[5.8]C	4.7	C	C	C	C	C	(3.5)P	[3.1]C
Mean Value	3.0	3.0	3.0	2.9	2.7	2.6	2.5	4.1	5.8	6.5	7.4	7.4	7.0	6.4	6.3	5.8	5.2	4.5	3.7	3.2	3.0	3.0	3.1	3.0
Median Value	3.0	3.1	3.1	2.8	2.8	2.6	2.4	4.0	5.8	6.4	6.9	7.4	6.8	6.3	6.2	5.8	5.2	4.4	3.8	3.2	2.8	3.0	3.0	2.9
Count	19	21	21	21	21	22	26	26	24	24	15	22	26	27	27	28	30	24	23	23	18	18	18	22

Sweep 1 Mc to 12.2 Mc in 2 min ☐ Manual ☒ Automatic

K 1

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

IONOSPHERIC DATA

Jan. 1953 | **h_pF2** | **Kokubunji Tokyo** | Lat. 35° 42.4' N, Long. 139° 29.3' E

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(350)^{P}	290^{P}	350^{F}	350^{F}	[320]^{A}	300	320	290	270^{P}	300	B	B	240	250	250	250	250^{P}	240	[280]^{AF}	310	AF	F	300	330^{F}
2	300^{FP}	350^{F}	F	AF	370^{F}	AF	AF	290	280^{P}	[270]^{B}	260^{P}	250	260	270	260	230	240^{P}	(290)^{P}	280	(290)^{P}	270^{F}	AF	AF	F
3	260	320^{F}	360^{F}	280^{F}	AF	AF	(310)^{P}	300	240	290	270	[270]^{B}	(270)^{P}	C	C	C	250	A	AF	AF	AF	AF	(280)^{P}	AF
4	AF	350	[340]$^{A}_{F}$	340^{F}	[360]^{C}	370	270	(280)^{P}	270	(270)^{JP}	B	(250)^{P}	260	C	C	C	250	260	[240]^{C}	(230)^{P}	370	[340]^{F}	(300)^{JP}	A
5	[340]^{F}	330^{FP}	300^{F}	(360)^{F}	290	260	340^{F}	280^{P}	B	A	B	260	270	[260]^{C}	260	250	(250)^{P}	A	270^{P}	450^{K}	BF^{K}	BF^{K}	BF^{K}	300$^{F}_{K}$
6	A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	F^{K}	250^{K}	[260]$^{F}_{K}$	(280)$^{J}_{K}$	B^{K}	C^{K}	260^{K}	260^{K}	270^{K}	280^{K}	270^{K}	[270]$^{K}_{A}$	270^{Kp}	280^{K}	310^{K}	[340]$^{K}_{C}$	360$^{F}_{K}$	(340]$^{K}_{C}$
7	320$^{F}_{K}$	F^{K}	F^{K}	(360)$^{F}_{K}$	C	C	350^{F}	A	B	B	B	290	300	[280]^{B}	250	250	280	250	350^{H}	[340]^{A}	320	320	300	350
8	330	310	260^{P}	320	330^{F}	350^{F}	(350)^{F}	300	290	300	260	(280)^{P}	250	270	270	260	270	250^{P}	[260]^{AF}	260	350^{P}	F	FB	C
9	F	290^{F}	(300)^{F}	F	F	F	400^{F}	340	(280)^{P}	(250)^{J}	T	T	T	T	T	260	270	270	260	250	350^{F}	320^{P}	360	[340]^{F}
10	320^{FP}	370	320	300	[320]^{B}	350^{F}	380^{F}	310	270	270	[260]^{B}	250	300	280	260	250	250	250	250	[280]^{A}	310	(300)^{P}	[320]^{S}	350
11	(340)^{P}	390^{F}	(300)^{J}	[250]^{B}	210	330^{F}	350^{F}	300	250	260	B	250	240	310	270^{P}	270	260	300	B	280	320^{FP}	320^{F}	(300)^{P}	350
12	FB	F	F	(340)^{F}	330^{F}	310	340	[310]^{B}	(290)^{P}	280	B	250	260	[270]^{B}	280	250^{P}	240	A	A	310^{F}	320	[320]^{AF}	310	340
13	A	A	A	A	A	AF	280^{F}	250^{P}	[280]^{C}	310	[280]^{B}	260	260	280	280	260	[280]^{A}	290	AF	AF	AF	AF	AF	250^{F}
14	AF	AF	310^{F}	AF	AF	A	360^{F}	300^{P}	B	BS	260^{P}	270	270	M	M	M	M	A	A	320^{P}	M	M	M	M
15	M	M	M	M	M	M	M	260^{P}	[260]^{C}	270	(300)^{JP}	[280]^{B}	250	260^{P}	280	260	270	270	260	360	370	310	310	AS
16	AS	AS	M	M	M	M	M	M	260	B	B	B	(240)^{JP}	250	270	260	250	(250)^{P}	260	(250)^{P}	AF	AF	AF	300
17	350^{F}	350	350	320	300$^{P}_{F}$	[300]^{F}	290^{F}	[270]^{B}	250	(300)^{P}	B	B	B	260	260	(250)^{J}	240	280	290	250^{P}	F	330	(330)$^{J}_{F}$	[340]^{F}
18	360	370^{F}	[340]^{F}	300^{P}	[290]^{AF}	280^{F}	350^{FP}	(270)^{PJ}	260	280	290	(280)^{J}	[280]^{B}	270	(270)^{J}	[260]^{C}	240^{P}	300^{P}	[280]^{A}	260	A	A	AF	360^{F}
19	300	300	(300)$^{FJ}_{P}$	(300)$^{H}_{P}$	350^{F}	370	360	310^{P}	B	B	B	B	B	260	280	300^{H}	250	270	[260]^{AF}	250	350	380	400^{P}	(360)^{AF}
20	320	290^{F}	330	350	300	[360]^{A}	410^{F}	(300)^{P}	C	C	C	260	300	280	250	250	250	270	270	[320]^{AF}	360	F	AF	260
21	340	360	350	360	300^{P}	340	330	270	(250)^{J}	310^{H}	[280]^{B}	250	290^{P}	250	270	250^{P}	240	270	[260]^{AF}	250^{P}	270	320	AF	370^{PF}
22	330^{F}	320^{F}	340^{F}	340	300^{F}	300^{F}	270	260	C	C	280	260^{P}	260	270	300^{H}	280	260	A	AF	AF	C	C	C	C
23	C	C	C	C	C	C	C	C	C	260	260	260	290	250	270	250	250	260	300	260^{P}	260^{F}	380	310^{P}	300
24	350	270^{P}	(260)^{JP}	250^{F}	270^{F}	350	300	(240)^{FB}	260^{S}	(270)^{J}	280	260	250	270	[260]^{B}	260	250	250	350	310^{P}	250^{FS}	350	320^{P}	340
25	300	340^{P}	350^{P}	370^{P}	350	370$^{P}_{F}$	310	B	(310)^{J}	(260)^{J}	280	[270]^{B}	260^{P}	260	260	270	290	260^{P}	250	340	320	450	B	B
26	BF	BF	B	380^{F}	350^{F}	290^{F}	(350)^{J}	280	(240)^{J}	260	[260]^{B}	270	[280]^{B}	280	270	(260)^{J}	260^{P}	280^{P}	(300)^{P}	B	(330)^{P}	(300]^{B}	270^{P}	330
27	340^{B}	360	340	400$^{F}_{P}$	380^{F}	340	240	250	250	300	270	[270]^{B}	(270)^{P}	(240)$^{J}_{P}$	270	260	270	SB	SB	SB	SB	BS	350^{F}	370
28	400	(350)^{P}	320	260	300^{F}	320	310	B	B	280	B	B	(270)^{P}	260	(260)^{P}	(240)^{P}	250^{P}	260	(280)^{J}	B	B	290	FB	B
29	B	310^{P}	260	F	F	340	260	280	(270)^{J}	280	B	240	250	240	270	250	260	270	(350)^{P}	B	B	270	F	F
30	F	F	F	F	340^{F}	280^{F}	360	[300]^{BS}	(250)^{P}	270	B	B	B	(270)^{J}	240	270	[270]^{B}	(270)^{P}	[260]^{B}	240	[280]^{A}	350	390	370
31	320^{S}	320	340^{F}	340^{F}	300	340	250	260	(260)^{JP}	260	300	C	B	B	(250)^{P}	[260]^{C}	260	C	C	C	C	C	(350)^{P}	[320]^{C}
Mean Value	330	330	320	330	320	330	320	280	270	280	270	260	270	270	270	260	260	270	280	290	310	330	330	330
Median Value	330	330	330	340	320	340	340	280	260	280	280	260	260	260	270	260	250	270	270	280	320	320	320	340
Count	19	21	21	21	21	21	26	26	23	24	16	22	26	26	27	28	30	24	23	23	18	18	18	21

h_pF2

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

K2

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

IONOSPHERIC DATA

Jan. 1953 | h'F2 | 135° E Mean Time

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

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	300	250	300	300	[280]^{A}	250	250	250	250	270	250	230	240	250	250	230	230	210	[260]$^{A}_{F}$	260^{F}	260^{F}	340	250	300
2	250	300	300	[300]$^{A}_{F}$	300^{F}	AF	AF	260^{F}	260	240	250	250	240	250	250	220	220	220	240	240	250	AF	AF	AF
3	230	300	340	260	AF	AF	260	260	220	270	250	250	270	C	C	C	230	A	AF	AF	AF	280	250	AF
4	AF	290	[300]$^{A}_{F}$	300	C	C	250	260	260	260	240	240	C	C	C	C	240	[240]^{C}	230	210	280	260	300^{A}	360
5	[330]^{F}	300	250	270	250	230	300	250	240	[240]^{A}	250	250	260	[260]^{C}	260	250^{A}	230^{A}	260^{A}	250^{A}	400^{KA}	300^{K}	[260]$^{KA}_{F}$	230^{K}	250^{K}
6	AK	AK	AK	AK	AK	AK	350$^{F}_{K}$	220^{K}	[240]$^{C}_{K}$	260^{K}	260^{K}	[260]$^{C}_{K}$	250^{K}	260^{K}	250^{K}	250$^{A}_{K}$	270$^{A}_{K}$	[260]$^{A}_{K}$	240^{K}	250^{K}	280^{K}	[320]$^{C}_{K}$	350^{K}	250^{K}
7	310$^{F}_{K}$	290^{K}	300^{K}	300^{K}	C	C	320	[280]^{A}	250	250	220	280	280	260	250	230	240	230	220^{H}	270	270	250	250	320
8	270	280	220	250	210	250	350	260	250	280	250	250	250	260	270	250	240	220	[230]$^{A}_{F}$	240	280	310	260	290
9	300	240	250	250^{A}	250^{A}	260	350	260	240	250	260	[260]^{T}	250	T	T	250	230	230	220	230	300	300	300	300
10	300	300	270	260	[280]^{A}	300	350	260	250	280	250	250	290	270	260	250	230	240$^{A}_{F}$	[240]^{A}	250	280	290	270	310^{A}
11	290	300	250	210	180	280	300	250	240	260	250	250	240	300	260	240	240	220	250	230	250	270	250	270
12	290	270	250	260	250	260	260	240	240	260	250	250	250	[260]^{B}	270^{B}	250	240	A	A	290^{A}	280	[290]$^{A}_{F}$	300^{A}	300
13	A	A	A	A	A	AF	250	230	[240]^{C}	260	260	250	250	260	280	250	[250]^{A}	250	AF	AF	AF	AF	AF	250
14	310	[280]$^{A}_{F}$	260	AF	AF	370^{A}	350^{F}	250	250	250^{B}	240	250	250	M	M	M	M	A	A	250	M	M	M	M
15	M	M	M	M	M	M	M	250	[250]^{C}	250	280	250	250	250	270	250	230	210	210	290	300	250	250	AS
16	AS	AS	M	M	M	M	M	240	230	260	260	270	230	250	260	250	240	250	250	A	AF	AF	AF	300
17	300	280	280	260	260	260$^{A}_{F}$	250	240^{A}	230	300	280	250	250	250	250	230	220	230	250	220	220	300	300	320
18	310	300	290	270	[230]$^{A}_{F}$	280	330	250	250	260	270	270	250	260	250	[240]^{C}	220	250	[240]^{A}	230	A	A	AF	350^{A}
19	250	250	250	200^{H}	300	300	320	260	270	260	260	250	250	250	280	240	230	250	[240]$^{A}_{F}$	240	300	320	360	[330]$^{A}_{F}$
20	300	250^{F}	260	260	250	[320]^{A}	400	270	C	C	C	250	290	270	240	250	250^{A}	230	250^{A}	[280]$^{A}_{F}$	300	300	[270]$^{A}_{F}$	240
21	300	300	280	290	250	250	300	230	250^{A}	240^{H}	240	250	270	250	270	240	220	230	[230]$^{A}_{F}$	230	250	280	[300]$^{A}_{F}$	310
22	300	280	290	270	240	250	250	230	C	C	250	250	250	250	260^{H}	260	240	A	AF	AF	C	C	C	C
23	C	C	C	C	C	C	C	C	C	250	250	250	280	250	260	240	230	220	250	250	250	330	310	300
24	300	260	240	210	250	280	250	220	220	250	280	260	250	260	260	250	230	220	300	270	230	280	300	300
25	250	290	260	300	300	310^{F}	270	220	240	260	270	270	260	250	250	250	230	230	210	250	290	390	350^{A}	300
26	280	260	200^{A}	310	280	250	[350]^{B}	250	230	250	250	260	250	260	250	240	230	230	260	260	250	290	240	250
27	310	260	270	360	310^{A}	260	230	220	230	300	260	270	260^{A}	240	260	250	250	230	230	250	250	230	350	330
28	360	300	260	240	200	250	300	250	230	250	280	250	260	260	250	240	230	220	250	260	260	250	330	280
29	290	250	220	230	280	270	240	240	250	270	250	240	250	240	250	240	240	230	280	250	230	230	350	290
30	310	350	300	250	210	230	360	250	250	260	280	270	250	270	230	240	230	250	240	230	300	280	330	310
31	280	250	270	280	250	290	230	230	240	250	280	[280]^{C}	270	250	240	[240]^{C}	240	C	C	C	C	C	290	250
Mean Value	290	280	270	270	260	270	300	250	240	250	260	260	260	260	260	240	240	230	240	260	270	290	290	300
Median Value	300	280	260	260	260	260	300	250	240	260	250	250	250	260	260	240	230	230	240	250	280	280	300	300
Count	25	26	26	25	22	22	27	30	28	29	30	31	30	27	27	28	30	26	25	26	24	24	25	26

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

Jan. 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	3.2	[3.6]L	4.0	4.0	4.0	C	L	2	Q							
2								A	3.7	L	L	4.2L	L	L	3.7L	[3.1]L	2.5							
3								Q	Q	–	4.1L	4.2L	4.0	C	C	C	Q							
4								Q	A	3.9L	4.2	4.1L	C	C	C	C	Q							
5								Q	Q	4	A	A	4.0L	C	L	A	A							
6								Q	C	–	4.2L	C	L	4.0L	3.7L	A	A							
7								A	Q	4.0L	4.2	4.4H	4.2	B	L	Q	Q							
8								Q	Q	4.2	4.3	4.2	4.0	4.0	4.0	L	Q							
9								Q	Q	3.9L	4.1	T	T	T	T	Q	Q							
10								Q	Q	L	4.2	4.3L	4.2	[4.2]L	4.2L	L	Q							
11								Q	Q	L	3.8	L	L	B	L	Q	Q							
12								Q	Q	L	4.2B	[4.0]A	3.8	B	B	A	A							
13								Q	C	A	4.3	4.5	4.1L	[4.1]L	4.1L	A	A							
14								Q	L	A	4.2L	A	L	M	M	M	M							
15								A	C	L	4.5L	4.5	4.4	4.2	4.0	Q	Q							
16								Q	Q	L	4.5B	4.5	4.5	A	A	L	Q							
17								A	Q	4.5L	4.3	4.5	4.4	4.1	3.9L	L	Q							
18								Q	Q	L	4.2L	4.2L	4.3	4.0L	3.9	C	Q							
19								Q	L	4.4	4.3	4.3	[4.2]L	4.2	4.1L	3.3	Q							
20								Q	C	C	C	L	4.6L	[4.3]L	4.0L	L	A							
21								Q	A	3.1	4.3	4.2	4.1	3.8	3.8	L	Q							
22								Q	C	C	L	4.2	4.0	[4.0]L	4.0	L	Q							
23								C	C	3.4L	3.9L	4.0H L	4.2	3.9	4.0	3.6L	2.7L							
24								Q	Q	3.2	4.1	4.0	4.0	3.8	3.9	L	Q							
25								Q	Q	2	L	4.1	4.4H	4.0	3.9L	3.1	Q							
26								Q	Q	3.2L	4.0L	[4.1]L	4.2	4.0	L	L	Q							
27								Q	L	L	4.0	4.0	A	L	4.1L	L	Q							
28								Q	2.8L	[3.4]L	4.0	4.0L	4.0	4.0L	3.8L	2.9	Q							
29								Q	2.6	[3.4]L	4.1	4.2L	[4.1]A	4.0L	3.6L	3.2	Q							
30								Q	Q	3.0	3.8	4.2	4.0	4.1	L	L	L							
31								Q	Q	L	4.2	[4.3]C	4.4L	4.2	L	C	Q							
Mean Value									3.1	3.7	4.2	4.2	4.2	4.0	3.9	3.2	2.6							
Median Value									3.0	3.5	4.2	4.2	4.2	4.0	4.0	3.2	2.6							
Count									4	14	26	25	24	19	18	6	2							

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

Jan. 1953 | R'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[A]	250	250	210	220	[240][C]	250	Q	Q							
2								A	250	250	230	230[A]	230	230	230	220	200							
3								Q	Q	240	250	220	210	C	C	C	Q							
4								Q	A	240	230	210	210	C	C	230	Q							
5								Q	Q	A	A	A	200	[220][C]	250	A	A							
6								Q	C	230	230	[220][C]	220	240	230	A	A							
7								A	Q	230	210	200[H]	210	[230][B]	250	Q	Q							
8								Q	Q	250	230	210	250[A]	220	250	230	Q							
9								Q	Q	240	220	T	T	T	T	Q	Q							
10								Q	Q	250	240	220	210	230	240	230	Q							
11								Q	Q	240	230	230	230	230	250	Q	Q							
12								Q	Q	250	250	[250][A]	250[A]	240	A	A	A							
13								Q	C	A	230	210	210	240	230	A	A							
14								Q	240	[230][A]	220	[230][A]	240	M	M	M	M							
15								A	C	240	230	220	220	210	200	Q	Q							
16								Q	Q	260	240[A]	220	A	A	A	230	Q							
17								A	Q	230	250	220	200	210	200	210	Q							
18								Q	Q	250[A]	220	210	250[A]	210	210	C	Q							
19								Q	250	250	240	230	220	210	200	200	Q							
20								Q	C	C	C	A	230	280[A]	250	250	A							
21								Q	A	200	250	200	220	230	220	240	Q							
22								Q	C	C	230	250	240	220	200	250	Q							
23								C	C	200	200	200[H]	200	230	230	220	220							
24								Q	Q	200	200	230	210	220	240	240	Q							
25								Q	Q	Q	260	230	210[H]	220	210	220	Q							
26								Q	Q	200	250	240	220	210	230	240	Q							
27								Q	220	250	240	240[B]	[240][A]	240[A]	240[A]	240	Q							
28								Q	230	230	220	230	210	210	230	210	Q							
29								Q	210	240	230	220	220[A]	220	210	200	Q							
30								Q	Q	230	200	240	240	230	220	210	230							
31								Q	Q	220	220	[220][C]	220	240	250	C	Q							
Mean Value									230	230	230	220	220	230	230	230	220							
Median Value									230	240	230	220	220	230	230	230	220							
Count									7	26	29	28	29	26	25	18	3							

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. [illegible] 24' N Long. 139° 29.8' E

Jan. 1953 | f_0E | 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	A	2.5F	[2.7]A	2.9	AF	C	2.7F	[2.4]A	2.1							
2								A	AF	2.3	A	A	3.1	2.8	2.7	2.3	A							
3								A	A	2.4	A	A	A	C	C	C	B							
4								B	A	A	2.3	2.9	3.0	C	C	2.3	2.3							
5								B	2.2	AF	A	A	3.0	[2.9]C	2.8	2.3	A							
6								B	C	A	2.8	[2.8]C	2.9	2.8	2.8	2.4A	A							
7								A	2.1	2.5	2.8	3.0	2.9	2.9	2.8	2.5	2.1							
8								B	2.4F	2.5F	2.8	[3.0]C	3.2	3.1	2.8	2.5	1.9							
9								B	2.2	2.6	2.7B	T	A	T	A	2.6	A							
10								B	2.2	2.5F	3.1	3.0	[3.0]AF	3.0	3.0	[2.6]A	2.1A							
11								B	2.1	2.7	2.9	3.2	[3.2]A	3.2B	2.9	2.5	2.0A							
12								B	2.4F	2.5F	2.9	[3.0]A	3.0	A	A	2.3	2.1							
13								B	C	A	A	3.1	3.2	[3.1]A	3.0	A	A							
14								B	2.0	A	A	A	A	M	M	M	M							
15								A	C	A	A	A	A	A	A	2.5	2.0							
16								A	A	2.6	2.9A	3.0	3.2	3.0	2.9A	A	A							
17								A	A	2.5	2.9	3.0	3.0	3.0	2.8	2.5	1.8							
18								B	2.1	2.4F	[2.7]A	3.0	3.1	3.0	2.8	C	A							
19								B	A	2.4	2.8	3.0	3.1	2.9	2.6	2.5	A							
20								A	C	C	C	A	A	A	2.7F	[2.3]A	1.9							
21								B	A	2.4F	[2.7]A	3.0	A	A	2.9	A	A							
22								B	C	C	2.7	2.8	3.0	2.9	2.8	2.6	2.0							
23								C	C	2.4	[2.7]AF	3.0	3.0	3.1	3.0	2.3	2.1							
24								B	A	2.6F	2.9	3.0	3.0	3.0	2.8	2.5	A							
25								B	2.1	A	A	3.0	3.1	3.0	2.4A	2.3A	1.8							
26								B	A	2.5	[2.7]A	2.9	[3.0]A	3.0	2.7	2.4	2.1							
27								B	2.1	2.5H	2.8	[2.9]A	3.0	2.8	[2.6]A	2.4	A							
28								B	2.0H	2.4	2.8	2.9	3.0	3.0	[2.8]A	2.6	2.2							
29								B	2.1F	2.5B	2.8	B	A	3.0	2.7	2.6	2.0H							
30								B	2.1	[2.4]A	2.8	2.9F	3.0	3.0B	[2.8]A	2.6	2.1							
31								B	2.1	2.7	2.7	[2.9]C	3.1	3.0	2.9	[2.5]C	2.1							
Mean Value									2.1	2.5	2.8	3.0	3.0	3.0	2.8	2.5	2.1							
Median Value									2.1	2.5	2.8	3.0	3.0	3.0	2.8	2.5	2.1							
Count									15	22	23	23	23	22	25	25	18							

f_0E

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

Jan. 1953 | h'E | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								B	A	110	[110]A	110	AF	C	120	[140]A	160							
2								A	AF	130A	A	A	130	110	130F	130F	A							
3								A	A	130A	A	A	A	C	C	C	B							
4								B	A	A	130	130	110	C	C	120	130							
5								B	130	AF	A	A	100	[100]C	100	120	A							
6								B	C	A	120A	[120]C	120A	120	120A	120A	A							
7								A	130	130	140	[140]C	130	120	130	130	140							
8								B	150A	120	130	[130]C	130	130	130	130	130							
9								B	130	130	120	T	A	A	A	120	A							
10								B	120	120	120	120	[120]A	120	120	A	A							
11								B	140	130	140	110	[120]A	120	120	120	130							
12								B	130	110	130A	[120]A	120	A	A	120	140							
13								B	C	A	A	120	110	[120]A	140A	A	A							
14								B	140	A	A	A	A	M	M	M	M							
15								A	C	A	A	A	A	A	A	110	140							
16								A	A	120	120	120	120	120	120	A	A							
17								A	A	120	110	110	110	110	120A	120	120							
18								B	140	110	[120]A	130	110	110	100	C	A							
19								B	A	A	A	110A	110	120A	120A	100	A							
20								A	C	C	C	A	A	A	110	[120]A	120							
21								B	A	110A	[120]A	120A	A	A	130	A	A							
22								B	C	C	110	100	110	110	110	120	130							
23								C	C	110	[110]A	110	120	110	130	130	130							
24								B	A	110	110	110	110	110	110	120	A							
25								B	130	A	A	110	110	110	110	[120]A	130							
26								B	A	A	A	120	[120]A	130	120	120	130							
27								B	130	120H	120	[120]A	110	110	[110]A	110	A							
28								B	130H	110	110	110	110	120	[120]A	120	120							
29								B	120F	110	120	120	[120]A	120	120	120	130H							
30								B	130	[120]A	110	110	110	120	[120]A	120	140							
31								B	130	110	110	[110]C	110	120	120	[120]C	130							
Mean Value									130	120	120	120	120	120	120	120	130							
Median Value									130	120	120	120	110	120	120	120	130							
Count									15	20	21	24	24	22	25	24	17							

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

Jan. 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	2.5	2.5	2.6	2.8	3.7	3.2	2.4	2.3	3.0	5.8	5.0	4.5	3.5F	C	3.7	3.7	2.7	3.0	3.5	3.0	3.5	3.0	3.0F	3.2
2	2.5F	2.5F	2.5	2.7F	4.3F	4.4Y	5.8F	4.0	4.3	3.9	7.0	5.5F	4.3F	G	4.2F	3.3	2.8F	2.5	2.7	2.7F	2.5	7.5	6.0YF	3.8
3	3.3F	3.2F	2.5F	2.2F	5.6	4.2F	2.6F	3.5F	3.2F	4.2F	4.3F	3.3F	3.0F	C	C	C	3.6	4.4F	3.0F	3.3F	4.5F	3.0F	3.3Y	4.0F
4	4.0F	2.5F	3.0F	2.5F	2.3	C	3.0F	3.8F	5.5F	3.5	3.1	3.0	3.0	C	C	3.1	3.2	3.5	2.9	3.3	3.9	3.2FY	2.6F	3.3
5	3.2	2.9	2.5	2.5F	2.5	2.6	2.5	4.3	2.6	6.5	4.7	4.7	G	C	3.4	3.7	4.7	6.0	4.2	3.1	2.6	3.2	E	2.5
6	5.3	7.5	7.5F	5.5F	4.3	2.7	2.5F	2.5F	C	3.8	3.0	C	3.0	3.5	3.0	5.0	9.0	6.0	2.8	E	2.5	C	C	C
7	2.5	2.5FY	2.6FY	2.5F	C	C	2.5	6.5Y	2.5F	G	2.7	G	G	G	3.1	2.7	2.6	2.5	2.5	3.5	3.0	2.4	2.5F	E
8	2.5F	2.5F	1.5	3.9	E	2.5FY	E	2.5F	2.8	2.7	4.0	C	3.7	G	G	G	3.5	2.4	3.5	2.5	2.7	2.5F	2.4	2.5F
9	2.6	E	2.2Y	2.1Y	2.5Y	2.4Y	2.6	2.5F	2.5	G	G	2.8	3.0	T	3.3	G	2.3	3.2	2.8	2.5F	2.5	E	2.3	E
10	E	3.0	2.5Y	3.0	2.5Y	2.6	2.5	2.6	G	3.2	G	G	4.0	2.7	2.7	2.7	3.0	4.0	2.5	4.2Y	2.5	2.6	E	3.0
11	2.5	E	E	E	E	3.3Y	E	2.5	3.0	G	3.2	G	3.5	G	G	2.6	3.3	2.5	2.8	2.1	2.1	2.3	2.6	2.5
12	2.5YF	2.5	E	E	E	2.1	2.5	2.5F	G	3.6	3.7	5.5	G	3.6	3.6	5.6	4.7	4.3Y	5.5	3.2	3.2	3.5	3.9	3.0
13	4.3	5.5Y	5.7Y	7.0	4.8	4.5	3.2F	2.5F	C	6.5	3.6Y	G	G	3.9	3.0	4.2	5.0	3.3	3.7F	2.9	4.8YF	4.5YF	4.0F	2.6F
14	3.0F	3.0F	2.9YF	4.0YF	3.0YF	3.2YF	E	2.5	2.5	4.0	4.3	6.5	3.3	M	M	M	M	5.5	5.7	5.3	M	M	M	M
15	M	M	M	M	M	M	M	4.0	C	4.0	4.9	3.5	3.8	3.7	2.9	3.8	G	2.7	E	2.7	2.5	2.8	3.0	4.5
16	4.5	3.3	M	M	M	M	M	2.7	3.0	3.5	4.0	3.6	4.5	5.4	4.6	3.7	3.7	3.0	3.0	2.6	4.5	4.5	4.0	3.2
17	2.6	2.5Y	2.3Y	2.6Y	3.2	3.2	4.2	4.1	3.2	3.2	3.7	3.5	G	3.3	G	2.6	2.6	2.6	E	2.3	2.4	2.5	E	2.5
18	E	2.5Y	2.5Y	2.9	3.5	3.8	3.0	G	2.7	4.7	4.4	3.9	3.8	G	G	C	3.5	3.3	3.0	3.3	6.5	4.0	4.2	3.5
19	2.5F	2.5Y	2.4	2.5	1.1	2.0Y	2.3	2.5	2.5	3.2	4.2	G	G	3.3	3.3	3.2	3.5	3.5	6.5Y	4.0	3.5F	2.6	4.9YF	4.5F
20	4.5F	3.3FY	2.5FY	2.5FY	2.5F	3.3	2.5	3.2	C	C	C	7.0	4.3	6.0	3.3	4.7	4.3	3.0	4.2Y	7.3Y	3.3	3.0F	5.0	2.5
21	2.7	2.6	2.5	2.2Y	2.5	2.5	2.5F	2.7F	7.2	4.0	6.6	4.0	3.3	4.1	3.0	3.7	4.0	3.2	6.3	2.6F	2.6	2.5F	4.0	3.3
22	3.0F	3.3FY	2.9Y	2.5YF	2.5F	E	2.5	2.5F	C	C	3.2	3.5	3.5	G	G	G	3.2	6.5Y	4.4	5.0	C	C	C	C
23	C	C	C	C	C	C	C	C	C	3.4	3.6	3.6	G	G	3.5	2.6	2.7	2.8	2.5	2.0	2.5F	E	E	E
24	2.5	E	2.5	E	E	E	E	B	2.9F	3.2	G	G	G	G	G	3.3	3.0	2.5	E	E	2.5	2.5	E	3.3
25	2.4	2.5	E	E	E	E	E	2.3	2.5	3.2	3.3	3.2	G	G	3.2Y	3.3Y	G	2.5Y	2.5F	2.5	2.4	E	2.6	2.5
26	2.4	2.7Y	2.5YF	2.5Y	2.5Y	E	E	2.5	2.3F	4.0YF	3.8Y	3.0	3.5	3.3	3.3	2.7	2.6	2.4	E	E	E	E	E	2.5
27	E	E	E	2.9Y	2.4Y	E	E	B	G	3.2	G	3.0	5.4	G	3.7	3.2	3.5Y	3.2	2.2	E	E	E	E	E
28	E	2.2Y	E	E	E	E	E	B	2.5	2.6	3.2	3.3	3.5	G	3.0	3.2Y	2.9	E	E	3.1Y	2.5	2.5	E	E
29	E	E	E	E	E	E	E	2.4	2.6	3.3	3.3	G	3.0	G	G	G	2.6	G	E	E	E	E	E	E
30	E	2.1	E	E	E	E	E	2.4	2.8	3.2	3.2	G	G	G	3.3	3.1	2.8	E	2.4	2.6	3.1Y	2.7	2.5Y	E
31	2.3	E	E	E	E	E	E	B	G	2.6	3.6	C	G	G	G	C	2.5	C	C	C	C	C	2.9Y	2.4
Mean Value	3.0	3.0	2.9	3.1	3.1	3.1	2.9	3.0	3.1	3.8	4.0	4.0	3.6	3.9	3.4	3.5	3.5	3.5	3.5	3.3	3.1	3.2	3.5	3.1
Median Value	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	3.5	3.6	3.3	3.0	G	3.0	3.2	3.1	3.0	2.8	2.7	2.6	2.6	2.6	2.5
Count	29	29	28	28	27	26	28	26	25	29	30	28	31	25	28	27	30	30	30	30	28	27	28	28

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

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Jan. 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	(2.9)^{P}	3.1^{P}	2.7^{F}	2.8^{F}	[3.0]^{A}	3.1	2.9	3.1	3.2^{P}	3.2	B	B	3.6	3.6	3.7	3.6	3.5^{P}	3.5	[3.2]$^{A}_{F}$	3.0	AF	F	3.2	2.9^{F}
2	3.0$^{F}_{P}$	2.8$^{P}_{F}$	F	AF	2.7^{F}	AF	AF	3.2	3.2^{P}	B	3.4^{P}	3.5	3.4	3.5	3.3	3.6	3.5^{P}	(3.2)^{P}	3.3	(3.2)^{P}	3.2^{F}	AF	AF	F
3	3.3	3.0^{F}	2.7^{F}	3.3^{F}	AF	AF	(3.1)^{P}	3.1	3.5	3.1	3.4	[3.4]^{B}	(3.4)^{P}	3.4	C	C	3.5	A	AF	AF	AF	AF	(3.2)^{P}	AF
4	AF	2.9	[2.8]$^{A}_{F}$	2.8$^{P}_{F}$	[2.8]^{C}	2.8	3.3	(3.1)^{P}	3.3	(3.4)$^{T}_{P}$	B	(3.4)^{P}	3.3	C	C	C	3.4	3.5	[3.6]^{C}	(3.7)^{P}	2.7	[3.0]^{F}	(3.2)$^{T}_{P}$	3.4^{P}
5	[3.2]^{F}	2.9$^{F}_{P}$	3.1^{F}	(2.8)^{F}	3.2	3.3	2.9^{F}	3.2^{P}	[3.4]^{B}	(3.5)$^{T}_{P}$	B	3.5	3.4	[3.4]^{C}	3.3	3.6	(3.4)^{P}	A	3.2^{P}	2.4^{K}	BFK	BFK	BFK	3.0$^{F}_{K}$
6	AK	AK	AK	AK	AK	AK	FK	3.4^{K}	[3.3]$^{C}_{K}$	(3.2)$^{T}_{K}$	BK	CK	3.3K	3.4K	3.2K	3.2K	3.3^{K}	[3.2]$^{A}_{K}$	3.2$^{P}_{K}$	3.1K	3.0K	[2.9]$^{C}_{K}$	2.8$^{F}_{K}$	[3.0]$^{C}_{K}$
7	3.1$^{F}_{K}$	FK	FK	(2.8)$^{F}_{K}$	C	C	2.8F	A	B	B	B	3.3	3.2	[3.3]^{B}	3.4	3.6	3.3	3.6	2.9^{H}	[3.0]^{A}	3.0	3.0	3.0	2.8
8	2.9	3.0	3.5^{P}	2.9	2.9F	2.8F	(2.9)F	2.8	3.2	3.1	3.4	(3.2)^{P}	3.5	3.2	3.3	3.4	3.4	3.5^{P}	[3.4]$^{A}_{F}$	3.3	2.7^{P}	F	FB	C
9	F	3.1^{F}	(3.1)^{F}	F	F	F	2.6^{F}	2.9	(3.2)^{P}	(3.4)^{T}	T	T	T	T	T	3.5	3.2	3.3	3.3	3.3	2.8F	2.8^{P}	2.7	[2.8]F
10	2.9$^{F}_{P}$	2.7	2.9	3.1	[3.0]^{B}	2.8F	2.7F	3.0	3.2	3.3	[3.4]^{B}	3.5	3.2	3.3	3.6	3.5	3.6	3.6	3.8	[3.4]^{A}	3.1	(3.2)^{P}	[3.0]^{S}	2.8
11	(2.9)^{P}	2.7F	(3.1)^{T}	[3.4]^{B}	3.7	2.9F	2.7F	3.1	3.6	3.5	B	3.6	3.6	3.1	3.3^{P}	3.4	3.5	3.0	B	3.2	3.1$^{F}_{P}$	3.1^{F}	3.2^{P}	2.9
12	FB	F	F	(2.9)$^{T}_{F}$	3.0^{F}	3.1	3.0	[3.0]^{B}	(3.1)^{P}	3.4	B	3.6	3.5	[3.4]^{B}	3.3	3.5^{P}	3.7	A	A	3.0F	3.0	[3.0]$^{A}_{F}$	3.0^{F}	2.9
13	A	A	A	A	A	AF	3.2F	3.6^{P}	[3.4]^{C}	3.2	B	3.5	3.4	3.3	3.2	3.4	[3.2]^{A}	3.1	AF	AF	AF	AF	AF	3.5^{F}
14	AF	AF	3.1^{F}	AF	AF	2.8F	3.6F	3.1^{P}	B	BS	3.4P	3.3	3.4	M	M	M	M	A	A	2.8^{P}	M	M	M	M
15	M	M	M	M	M	M	M	3.3^{P}	[3.3]^{C}	3.3	(3.1)$^{T}_{P}$	[3.2]^{D}	3.4	3.4^{P}	3.3	3.4	3.4	3.3	3.3	2.7	2.7	3.1	3.0	AS
16	AS	AS	M	M	M	M	M	M	3.6	B	B	B	(3.7)$^{T}_{P}$	3.4	3.3	3.6	3.5	(3.5)^{P}	3.3	(3.5)^{P}	AF	AF	AF	2.9
17	2.8F	2.9	2.8	3.1	3.0$^{F}_{P}$	[3.0]^{F}	3.1F	[3.3]^{B}	3.5	(3.2)^{P}	B	B	B	3.4	3.4	(3.5)^{T}	3.5	3.1	3.1	3.4^{P}	F	2.9	(2.9)$^{T}_{F}$	[2.8]F
18	2.8	2.7F	[2.8]F	3.0^{P}	[3.0]$^{F}_{A}$	3.1F	2.8$^{F}_{P}$	(3.4)$^{T}_{P}$	3.5	3.2	3.2	(3.2)^{T}	[3.2]^{B}	3.3	(3.2)^{T}	[3.4]^{C}	3.6^{P}	3.1^{P}	[3.2]^{A}	3.3	A	A	AF	2.7^{F}
19	3.0	3.0	(3.0)$^{F}_{P}$	(3.1)$^{H}_{P}$	2.7F	2.7	2.7	3.0^{P}	B	B	B	B	B	3.4	3.3	3.2H	3.6	3.4	[3.4]$^{A}_{F}$	3.4	2.8	2.8	2.5^{P}	[2.8]$^{A}_{F}$
20	3.0	3.0F	2.9	2.9	3.1	[2.8]^{A}	2.6F	(3.1)^{P}	C	C	C	3.4	3.1	3.2	3.4	3.4	3.4	3.2	3.3	[3.0]$^{A}_{F}$	2.8	F	AF	3.4
21	2.9	2.8	2.9	2.8	3.1^{P}	2.9	3.0	3.2	(3.6)^{T}	3.2H	[3.4]^{B}	3.5	3.3^{P}	3.5	3.2	3.5^{P}	3.5	3.3	[3.4]$^{A}_{F}$	3.4^{P}	3.3	3.0	AF	2.8$^{P}_{F}$
22	2.9F	3.0F	2.9F	2.9	3.1F	3.0F	3.4	3.3	C	C	3.2	3.4^{P}	3.4	3.3	3.2H	3.2	3.4	A	AF	AF	C	C	C	C
23	C	C	C	C	C	C	C	C	C	3.6	3.4	3.5	3.3	3.6	3.4	3.5	3.5	3.3	3.0	3.4^{P}	3.4F	2.8	3.0^{P}	3.0
24	2.8	3.2^{P}	(3.5)$^{T}_{P}$	3.4F	3.4F	2.9	3.2	(3.6)$^{P}_{B}$	3.4^{S}	(3.3)^{T}	3.3	3.5	3.5	3.4	[3.4]^{B}	3.3	3.6	3.5	2.8	3.0^{P}	3.5$^{P}_{S}$	2.9	3.0^{P}	3.2
25	3.3	2.9^{P}	2.9^{P}	2.8^{P}	2.9	2.7$^{P}_{F}$	3.0F	B	(3.1)^{T}	(3.5)^{T}	3.2	[3.4]^{B}	3.6^{P}	3.4	3.4	3.5	3.1	3.3^{P}	3.3	2.8	3.0	2.4	B	B
26	BF	BF	B	2.7F	2.8F	3.3F	(2.9)^{T}	3.2	(3.5)^{T}	3.4	[3.4]^{B}	3.4	[3.4]^{B}	3.3	3.4	(3.5)^{T}	3.4^{P}	3.2^{P}	(3.2)^{P}	B	(2.9)^{P}	[3.1]^{B}	3.3^{P}	2.9
27	2.9^{B}	2.8	2.8	2.6$^{P}_{F}$	2.7$^{F}_{P}$	2.9	3.6	3.4	3.5	3.3	3.3	[3.3]^{B}	(3.3)^{P}	(3.7)$^{T}_{P}$	3.4	3.5	3.3	SB	SB	SB	SB	SB	2.8$^{2}_{F}$	2.8
28	2.8	(2.8)^{P}	3.1	3.3	3.0F	3.0	3.0	B	B	3.2	B	B	(3.4)^{P}	3.4	(3.5)^{P}	(3.5)^{P}	3.6^{P}	3.3	(3.3)^{T}	B	B	3.2	FB	B
29	B	3.1^{P}	3.5	F	F	2.8	3.5	3.2	(3.2)^{T}	3.3	B	3.6	3.5	3.6	3.5	3.6	3.4	3.2	(2.9)^{P}	B	B	3.3	F	F
30	F	F	F	F	2.8F	3.3F	2.9	[3.2]$^{B}_{S}$	(3.5)^{P}	3.3	B	B	B	(3.4)^{T}	3.5	3.3	[3.3]^{B}	(3.3)^{P}	[3.4]^{B}	3.6	[3.2]^{A}	2.8	2.7	2.8
31	3.0^{S}	3.0	2.9F	3.0F	3.2	2.8	3.4	3.4	(3.6)$^{T}_{P}$	3.4	3.2	C	B	B	(3.4)^{P}	[3.4]^{C}	3.3	C	C	C	C	C	2.8^{P}	[3.0]^{C}
Mean Value	3.0	2.9	3.0	3.0	3.0	2.9	3.0	3.2	3.4	3.3	3.3	3.4	3.4	3.4	3.3	3.5	3.4	3.3	3.3	3.2	3.0	3.0	3.0	3.0
Median Value	2.9	2.9	2.9	2.9	3.0	2.9	3.0	3.2	3.4	3.3	3.4	3.4	3.4	3.4	3.3	3.5	3.4	3.3	3.3	3.2	3.0	3.0	3.0	2.9
Count	19	21	21	21	21	22	26	26	24	24	15	22	26	27	27	28	30	24	23	23	18	18	18	22

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

K 9

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

IONOSPHERIC DATA

Jan. 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	1.6	1.5	1.6	[1.5]A	1.4	1.6	1.6	2.3	3.2	3.1	2.9	3.0	[3.0]C	2.9	2.3	2.3	1.8	[1.8]AF	1.8	1.8	1.6	1.7	1.7
2	1.6	E	E	AF	E	AF	AF	1.9	2.5A	3.0	3.0	3.5	3.2	3.2	3.0	3.0	1.9	1.7	1.9	1.7	1.8	AF	AF	AF
3	1.8F	1.7	1.7	1.6	AF	AF	1.7	1.9	2.5F	3.0	3.0	3.2	3.3	C	C	C	1.9	A	AF	AF	AF	1.7	1.6	AF
4	AF	1.4	AF	1.8	C	C	1.8	1.7	4.3A	2.7	3.0	3.0	3.0	C	C	2.8	2.4	[2.3]C	1.7	1.6	1.6	1.7	1.6	2.2A
5	F	A	E	E	E	E	1.6	1.6	2.5	6.2A	3.8A	3.7	3.0	[2.9]C	2.8	A	A	3.5A	3.0A	1.8	1.6	[1.7]AF	1.8	1.5
6	A	A	A	A	A	A	1.6	1.8	[2.2]C	2.7	2.8	[2.9]C	3.0	3.3	2.8	4.0A	4.8A	A	1.7	1.6	1.6	[1.7]C	1.8	1.8
7	1.7F	1.1	1.1	C	C	C	1.6	[2.0]A	2.3	2.8	3.0	3.2	3.0	3.5	2.9	2.5	2.2	1.6	1.6	1.9	1.7	1.6	1.6	1.6
8	1.6	1.3A	1.1	1.0	E	1.2	1.6	1.6	2.4	2.8	3.2	[3.4]C	3.7	3.2	3.5	2.8	2.7	1.7	AF	1.6	1.8	1.6	1.6	1.6
9	1.4	E	1.1	A	E	1.0	1.6	1.6	2.2	2.8	2.9	T	5.2	T	T	2.6	2.2	1.6	1.7	1.6	1.6	1.8	1.7	1.7
10	1.7	E	E	1.8	[1.6]A	1.3	1.7	1.7	2.4	2.9	3.2	3.3	3.4	3.2	3.0	2.6	2.5	(2.0)A	[2.0]A	1.9	1.7	1.9	1.6	1.8
11	1.7	E	E	E	E	1.2	1.8	1.6	2.4	2.9	3.4	3.5	3.4	3.6	3.4	2.9	2.3	1.7	1.8	1.7	1.6	1.7	1.7	1.8
12	1.8	1.0	E	1.0	E	1.2	1.7	1.7	2.6	2.8	3.0	4.7A	3.4	3.5	4.2	5.0A	3.7A	A	A	2.2A	1.9	(2.0)AF	2.2A	1.8
13	A	A	A	A	A	AF	1.8	1.7	(2.6)C	3.6A	3.0	3.2	3.3	3.5	3.0	3.5A	[2.9]A	2.3F	AF	AF	AF	AF	AF	1.8
14	1.7	(1.5)AF	1.3	AF	AF	1.8	1.7	1.7	2.4	4.5	3.3	4.0A	3.3	M	M	M	M	A	A	1.6	M	M	M	M
15	M	M	M	M	M	M	M	3.3A	[3.2]C	3.0	3.6	3.3	3.3	3.0	2.8	2.8	2.2	1.8	1.5	1.7	1.7	1.6	1.9	AS
16	AS	AS	M	M	M	M	M	1.8	2.6	3.1	[3.3]A	3.5	4.1A	4.7A	4.0A	2.7	2.4	1.9	2.0	A	AF	AF	AF	2.3A
17	1.5	1.3	1.0	1.0	1.3	1.2	1.9	1.9	2.7	3.0	3.0	3.2	3.1	3.1	2.8	3.0	2.4	1.9	1.5A	1.6	1.5	1.6	1.5	1.7
18	1.6	1.0	E	1.7	(1.7)AF	1.7F	1.6	1.7	2.3	3.5A	3.3	3.3	3.3	3.0	2.8	[2.5]C	2.2A	1.9	(1.8)A	1.7	(1.8)A	1.9	(2.2)AF	2.4A
19	1.5	E	1.1	E	1.0	1.0	1.6	1.7	2.2	2.8	2.9	3.3	3.2	3.0	2.7	2.5	2.7	1.7	(1.8)AF	1.8	1.6	1.8	1.7	[2.3]AE
20	2.9A	1.7	1.3	1.6	1.5	[1.8]A	2.0A	2.2A	C	C	C	3.7	3.5	4.2A	3.3	3.3	[2.4]A	1.6	2.3A	[2.0]AF	1.6	1.6	AF	C
21	1.6	E	E	1.0	E	E	1.5	1.7	5.0A	2.5	3.4	3.5	3.4	3.4	3.0	3.1	2.2	1.8	(1.7)AF	1.6	1.6	1.6	AF	1.8
22	1.7	1.7	1.0	E	E	E	1.6	1.6	C	C	3.3	3.5	3.3	3.0	2.8	2.8	2.0	A	A	AF	C	C	C	C
23	C	C	C	C	C	C	C	C	C	2.5	2.8	3.0	3.2	3.2	3.0	2.5	2.0	1.9	1.6	1.6	(1.6)A	1.7	1.6	1.7
24	1.4	E	E	E	E	E	1.7	1.7	2.2	2.6	2.9	3.3	3.4	3.2	2.8	2.8	2.3	1.7	1.7	1.7	1.6	1.6	1.7	1.7
25	1.7	1.7	E	E	E	E	1.8	1.7	2.7	3.1	3.5	3.3	3.2	3.3	3.0	3.0	2.1	1.7	1.6	1.7	1.6	1.7	2.0A	1.7
26	1.6	1.3	(1.2)A	1.0	E	1.2	1.8	1.9	2.2	2.7	3.1	3.5	3.1	3.0	2.9	2.7	2.1	1.6	1.8	1.7	1.7	1.8	1.8	1.5
27	1.9	1.0	E	1.8	(1.4)A	1.0	1.7	1.7	2.6	3.0	3.4	3.4	5.2A	3.5	3.5	3.0	2.4	2.8A	1.8	1.6	1.6	1.5	1.6	1.7
28	1.8	1.1	1.1	E	E	E	1.8	1.7	2.4	2.7	2.9	3.0	3.1	3.0	3.0	2.6	2.2	1.7	1.8	1.9	1.8	1.7	1.6	1.6
29	1.6	E	E	E	E	1.1	1.6	1.7	2.1	2.8	3.3	3.4	3.1	3.1	2.8	2.6	2.5	1.9	1.5	1.6	1.7	1.7	1.6	1.7
30	1.6	1.3	E	E	E	1.1	1.7	1.7	2.3	2.8	2.8	3.5	3.3	3.2	2.9	2.8	2.4	1.7	1.7	1.6	1.7	1.7	1.8	1.6
31	1.6	E	1.0	E	E	1.7	1.6	1.8	2.2	2.8	3.3	(3.3)C	3.3	3.3	3.0	[2.8]C	2.6	C	C	C	C	C	1.7	1.6
Mean Value	1.7	1.4	1.2	1.4	1.4	1.3	1.7	1.7	2.6	3.0	3.2	3.4	3.4	3.3	3.0	2.9	2.4	1.9	1.8	1.7	1.7	1.7	1.7	1.8
Median Value	1.6	1.1	1.0	1.0	E	1.2	1.7	1.7	2.4	2.8	3.1	3.3	3.3	3.2	3.0	2.8	2.3	1.8	1.8	1.7	1.6	1.7	1.7	1.7
Count	24	25	25	22	22	22	27	30	28	29	30	30	31	27	27	28	29	25	24	26	25	25	24	25

fminF

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

K 10

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

IONOSPHERIC DATA

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

Jan. 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	1.6	1.6	1.5	1.7	1.4	1.4	1.6	1.7	1.7	1.6	1.7	1.6	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
2	1.6	1.6	E	E	E	E	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.6	1.6	1.6	1.4	1.7	1.7	1.7	1.7	1.7	1.6
3	1.6	1.4	1.7	1.7	1.5	1.4	1.7	1.7	1.6	1.6	1.7	1.7	1.7	1.6	1.7	1.9	1.8	1.5	1.6	1.6	1.7	1.7	1.7	1.7
4	1.7	1.4	1.4	1.4	C	C	1.7	1.7	1.6	1.6	1.6	1.8	1.8	1.7	[1.6]C	1.6	1.7	1.8	1.6	1.6	1.6	1.6	1.6	1.6
5	1.6	E	E	1.7	1.6	1.7	1.7	1.6	1.6	1.6	1.5	1.7	1.7	[1.7]C	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.5	E	1.5
6	1.5	1.1	E	E	E	E	1.7	1.8	[1.7]C	1.6	1.6	[1.6]C	1.6	1.6	1.6	1.6	1.6	1.7	1.9	E	1.8	[1.8]C	1.7	1.7
7	1.6	E	E	C	C	C	1.7	1.7	1.7	2.0	1.9	[2.0]C	2.0	1.9	1.9	1.8	1.7	1.9	1.6	1.6	1.8	1.8	1.9	E
8	1.8	E	E	E	E	E	E	2.0	1.6	1.6	1.8	[2.1]C	2.4	1.9	2.2	1.9	1.7	1.9	1.5	1.6	1.6	1.6	1.9	1.9
9	1.8	E	E	E	E	E	1.8	1.9	1.7	2.0	2.0	2.3	2.2	[2.2]T	2.2	2.0	1.7	1.7	1.6	1.7	1.6	E	1.7	E
10	E	2.2	E	E	E	E	1.9	2.0	1.7	1.7	1.7	1.8	1.9	1.9	1.8	1.8	1.7	1.6	1.6	1.3	1.6	1.7	E	1.7
11	1.8	E	E	E	E	E	E	1.9	1.7	1.8	1.7	1.8	1.7	1.9	1.9	1.8	1.8	2.0	1.6	1.8	1.6	1.6	1.7	1.9
12	1.8	2.0	E	E	E	1.8	1.9	1.9	1.7	1.7	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.5	1.7	1.6	1.8	1.7	1.7	1.8
13	1.8	1.0	E	E	E	E	1.8	1.9	[1.8]C	1.8	1.8	1.9	1.7	1.8	1.8	1.7	1.5	1.6	1.7	1.5	1.7	1.6	1.7	1.6
14	1.7	E	E	E	E	E	E	2.2	1.7	1.9	1.9	1.8	1.8	M	M	M	M	1.5	1.7	1.7	M	M	M	M
15	M	M	M	M	M	M	M	1.7	[1.7]C	1.7	1.8	1.8	2.0	1.8	1.7	1.7	1.5	1.7	E	1.6	1.7	1.7	1.6	1.6
16	1.6	E	M	M	M	M	M	1.7	1.7	1.8	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.3	1.6	1.6	1.7	1.7	1.6	1.6
17	1.7	E	E	E	E	E	1.6	1.6	1.5	1.4	1.6	1.5	1.5	1.4	1.7	1.7	1.6	1.6	E	1.9	1.7	1.5	E	1.9
18	E	E	E	E	E	E	1.6	1.6	1.7	1.7	1.7	1.6	1.7	1.6	1.6	[1.4]C	1.3	1.3	1.5	1.5	1.5	1.6	1.6	1.7
19	1.6	E	E	E	E	E	1.7	1.8	1.6	1.5	1.6	1.7	1.7	1.6	1.6	1.6	1.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6
20	1.6	E	E	E	E	E	1.6	1.6	C	C	C	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.7
21	1.6	E	E	E	1.7	1.9	1.6	1.6	1.6	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.4	1.7	1.7	1.8	1.6	1.8	1.5	1.5
22	1.7	E	E	E	1.8	E	1.8	1.8	C	C	1.6	1.6	1.6	1.5	1.7	1.6	1.6	1.5	1.8	1.6	C	C	C	C
23	C	C	C	C	C	C	C	C	C	1.6	1.6	1.6	1.9	1.7	1.6	1.7	1.6	1.8	1.9	1.8	1.8	E	E	E
24	2.0	E	2.0	E	E	E	E	E	1.6	1.7	1.6	1.6	1.8	1.8	1.7	1.8	1.7	1.9	E	E	2.0	1.9	E	1.7
25	1.7	1.9	E	E	E	E	E	2.0	1.7	1.8	1.8	1.7	1.8	1.7	1.6	1.6	1.6	2.0	1.7	1.9	2.0	E	1.6	1.7
26	1.7	E	E	E	E	E	E	1.9	1.6	1.7	1.7	1.9	1.8	1.8	1.8	1.9	1.7	1.8	E	E	E	E	E	1.7
27	E	E	E	E	E	E	E	E	1.8	1.6	1.6	1.7	1.7	1.6	1.6	1.6	1.2	1.6	1.6	E	1.6	E	E	E
28	E	E	E	E	E	E	E	E	1.7	1.6	1.7	1.8	1.8	1.7	1.8	1.7	1.6	E	E	1.6	1.8	2.2	E	E
29	E	E	E	E	E	E	E	1.8	1.6	1.7	1.8	1.7	1.6	1.7	1.7	1.6	1.7	1.7	E	E	E	E	E	E
30	E	1.2	E	E	E	E	E	1.8	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.7	E	1.7	1.7	1.7	1.7	1.8	E
31	1.6	E	E	E	E	E	E	E	1.7	1.6	1.7	[1.7]C	1.7	1.7	1.7	[1.7]C	1.7	C	C	C	C	C	1.6	1.5
Mean Value	1.7	1.5	1.7	1.6	1.6	1.6	1.7	1.8	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.7	1.7	1.7	1.7
Median Value	1.6	E	E	E	E	E	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Count	29	29	28	27	26	26	28	30	28	29	30	31	31	30	30	30	30	30	30	30	28	28	29	29

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

K11

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

IONOSPHERIC DATA

Jan. 1953 | **ypF2** | 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	(100)^{P}	110^{P}	100^{F}	100^{F}	[100]^{A}	100	80	90	100^{P}	70	B	B	110	80	60	80	100^{P}	60	[70]^{AF}	80	AF	F	70	90^{F}
2	100^{FP}	100^{P}	F	AF	90^{F}	AF	AF	90	90^{P}	[80]^{B}	60^{P}	50	50	60	90	80	70^{P}	(60)^{P}	70	(90)^{P}	100^{F}	AF	AF	F
3	90	130^{F}	140^{F}	80^{F}	AF	AF	(70)^{P}	90	60	70	70	[60]B	(60)^{P}	C	C	C	80	A	AF	AF	AF	AF	(70)^{P}	AF
4	AF	70	[80]^{AF}	80^{PF}	[80]^{C}	70	80	(70)^{P}	90	(60)^{JP}	B	(100)^{P}	70	C	C	C	90	90	[90]^{C}	(90)^{P}	110	[90]^{F}	(70)^{JP}	A
5	[80]^{F}	80^{FP}	70^{F}	(90)^{F}	110	90	70^{F}	90^{P}	B	A	B	60	80	[80]^{C}	70	60	(100)^{P}	A	80^{P}	100^{K}	BF^{K}	BF^{K}	BF^{K}	140^{FK}
6	A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	F^{K}	60^{K}	[60]^{C}	(70)^{JK}	B^{K}	C^{K}	90^{K}	70^{K}	80^{K}	90^{K}	80^{K}	[80]^{AK}	80^{PK}	110^{K}	100^{K}	[100]^{CK}	90^{FK}	[90]^{CK}
7	90^{KF}	F^{K}	F^{K}	(90)^{KF}	C	C	100^{F}	A	B	B	B	60	60	[60]^{B}	50	50	70	80	150^{H}	[120]A	80	110	120	100
8	80	60	70^{P}	80	80^{F}	110^{F}	(70)^{F}	130	90	80	80	(120)^{P}	120	110	80	90	90	70^{P}	[80]^{AF}	90	100^{P}	F	FB	C
9	F	120^{F}	(120)^{F}	F	F	F	100^{F}	80	(80)^{P}	(70)^{J}	T	T	T	T	T	70	80	90	80	100	100^{F}	110^{P}	90	[90]^{F}
10	90^{FP}	80	90	100	[90]^{B}	80^{F}	90^{F}	90	80	50	[60]^{B}	60	70	70	50	30	50	40	50	[60]^{A}	80	(100)^{P}	[80]^{S}	70
11	(80)^{P}	70^{F}	(80)^{J}	[100]^{BF}	110	70^{F}	90^{F}	70	50	40	B	30	90	50	70^{P}	80	50	150	B	110	70^{FP}	80^{F}	70^{P}	50
12	FB	F	F	(60)^{J}F	90^{F}	60	70	[80]^{B}	(100)^{P}	40	B	50	40	[40]^{B}	50	(60)^{P}	50	A	A	130^{F}	130	[110]^{AF}	90^{F}	90
13	A	A	A	A	A	AF	120^{F}	70^{P}	[60]^{C}	60	[60]^{B}	60	70	80	80	70	[80]^{A}	80	AF	AF	AF	AF	AF	90^{F}
14	AF	AF	90^{F}	AF	AF	A	50^{F}	90^{P}	B	BS	90^{P}	60	70	M	M	M	M	A	A	90^{P}	M	M	M	M
15	M	M	M	M	M	M	M	90^{P}	[90]^{C}	90	(90)^{JP}	[80]^{B}	60	70^{P}	70	70	100	40	80	140	100	90	80	AS
16	AS	AS	M	M	M	M	M	M	50	B	B	B	(40)^{JP}	70	80	40	50	(50)^{P}	90	(60)^{P}	AF	AF	AF	100
17	80^{F}	70	90	70	110^{PF}	[100]^{F}	80^{F}	[60]^{B}	50	(100)^{P}	B	B	B	90	90	(60)^{J}	80	70	60	100^{P}	F	70	(70)^{JF}	[80]F
18	90	100^{F}	[100]^{F}	100^{P}	[110]^{AF}	120^{F}	100^{FP}	(50)^{JP}	80	80	60	(80)^{J}	[80]^{B}	80	(80)^{J}	[70]^{C}	60^{P}	90^{P}	[100]^{A}	100	A	A	AF	90^{F}
19	120	80	(130)^{FP}	(100)^{PH}	100^{F}	90	100	90^{P}	B	B	B	B	B	90	70	100^{H}	110	70	[70]^{AF}	70	100	70	80^{P}	[80]^{AF}
20	90	110^{F}	70	100	110	[100]^{A}	100^{F}	(70)^{P}	C	C	C	60	70	60	50	80	80	80	70	[80]^{AF}	90	F	AF	90
21	80	80	80	100	70^{P}	70	80	80	(40)^{J}	70^{H}	[70]^{B}	70	60^{P}	60	80	70^{P}	70	80	[80]^{AF}	70^{P}	80	90	AF	90^{FP}
22	90^{F}	80^{F}	60^{F}	60	100^{F}	80^{F}	50	90	C	C	70	80^{P}	70	80	100^{H}	80	90	A	AF	AF	C	C	C	C
23	C	C	C	C	C	C	C	C	C	110	90	70	50	60	80	80	110	90	100	60^{P}	90^{F}	120	140^{P}	100
24	100	90^{P}	(60)^{JP}	100^{F}	100^{F}	100	100	(60)^{PB}	70S	(40)^{J}	60	70	60	70	[70]^{B}	70	50	100	90	80^{P}	90^{PS}	100	70^{P}	60
25	90	60^{P}	50^{P}	100^{P}	60	70^{PF}	90^{F}	B	(90)^{J}	(40)^{J}	70	[50]^{B}	30^{P}	90	50	80	90	80^{P}	100	110	70	70	B	B
26	BF	BF	B	100^{F}	120F	30F	B	70	(60)^{J}	50	[50]^{B}	50	[60]^{B}	70	90	(70)^{J}	90^{P}	70^{P}	60^{P}	B	(70)^{P}	[80]^{B}	90^{P}	100
27	100^{B}	90	120	70^{PF}	70^{FP}	60	50	60	80	50	70	[80]^{B}	(80)^{P}	(60)^{JP}	60	60	70	SB	SB	SB	SB	SB	110^{ZF}	50
28	50	(100)^{P}	80	70	150^{F}	110	90	B	B	50	B	B	(70)^{P}	60	(60)^{P}	(40)^{P}	60^{P}	70	(60)^{J}	B	B	80	FB	B
29	B	60^{P}	60	F	F	120	60	70	(60)^{J}	60	B	60	50	60	60	50	60	130	(80)^{P}	B	B	90	F	F
30	F	F	F	F	110^{F}	100^{F}	90	[100]^{BS}	(110)^{P}	70	B	B	B	(50)^{J}	90	70	[70]^{B}	(70)^{P}	[70]^{B}	70	[80]^{A}	80	70	60
31	70^{S}	90	80^{F}	60^{F}	70	70	70	50	(40)^{JP}	70	60	C	B	B	(90)^{P}	C	110	C	C	C	C	C	(90)^{P}	[90]C
Mean Value	90	90	90	90	100	90	80	80	70	70	70	70	70	70	70	70	80	80	80	90	90	90	90	90
Median Value	90	80	80	90	100	90	80	80	80	70	70	60	70	70	70	70	80	80	80	90	90	90	80	90
Count	19	21	21	21	21	21	25	26	23	24	16	22	26	26	27	27	30	25	23	23	18	18	18	21

ypF2

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

Jan. 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	2.7	2.9	2.7	2.7	3.1	2.5	2.3	2.9	5.1	5.0^{P}	9.9^{J}	9.7	8.5	7.2^{P}	6.4	6.4	5.4	4.4	(2.5)^{J}	2.9	[3.2]^{A}	3.4	3.2	2.8
2	2.8	2.3	2.3	2.4	2.6	2.5	2.4	3.0	(5.0)$^{J}_{P}$	5.4^{J}	[6.6]^{T}	7.7	6.9	5.8	5.8	5.5	T	T	3.5	4.3	2.8	2.9	2.1	2.4
3	2.7	2.5	2.0	2.3	2.5	2.7	2.4	3.1	5.4^{J}	5.5	7.3^{P}	7.9	8.2^{J}	7.3	T	T	5.4	5.0	A	A	3.0	2.8^{J}	3.0	2.8
4	2.3	2.4	2.8	2.4	1.9	1.9	2.1	2.8	5.9	[7.0]^{T}	8.0	9.0	(9.8)^{P}	(11.7)^{P}	7.4^{J}	5.7	4.8	4.9	4.9	4.9^{P}	2.7	2.6	[2.6]^{A}	2.6
5	2.6	3.1	3.4	2.8	2.7	2.7	2.5	3.3	[5.0]^{T}	(6.0)$^{J}_{P}$	[7.6]^{T}	8.6	5.5^{P}	[6.2]^{C}	(6.8)$^{J}_{P}$	[6.1]^{T}	5.4	[5.6]^{A}	5.7	A	A	A	T	3.6
6	A	A	A	A	A	A	A	3.0	4.5	[7.4]^{T}	(10.2)$^{J}_{P}$	8.0	7.0	[6.8]^{T}	6.6^{P}	[6.3]^{S}	6.0	5.5	5.0	[4.0]^{A}	2.9	2.9	2.2	2.2
7	2.5	2.4	2.4	2.6$^{F}_{g}$	2.6	2.4^{F}	2.4^{F}	2.7	(4.8)$^{J}_{P}$	8.9	(10.9)^{P}	7.9	9.8^{P}	9.8	10.3	(8.9)$^{J}_{P}$	5.6	5.3	5.0	4.9	3.8	3.3	3.0	3.3
8	3.6	4.0	2.5	1.9	1.7	2.0	2.5$^{F}_{g}$	2.4	5.5	[8.3]^{C}	11.1^{J}	7.0	5.7	5.8	[6.0]^{C}	6.3^{J}	5.3	5.1	3.6	3.0	2.4	2.4	2.7	2.9
9	3.0	2.4	2.4	2.5	F	F	F	2.6	T	T	T	8.6	8.7	[7.4]^{T}	6.0	C	C	C	C	C	C	C	2.6	2.5
10	2.8	2.8	2.9	3.4	3.0	2.2	2.2	C	C	T	C	7.0	7.5	T	T	6.7^{P}	[6.0]^{T}	5.4	3.5	3.8	3.0	2.9	2.5	2.9
11	2.8	2.8	3.0	3.1	2.9	2.2	2.4	3.0	[4.2]^{T}	5.5^{J}	8.4^{J}	9.0	6.5^{P}	6.0	[6.4]^{B}	6.9	5.9^{J}	5.2^{P}	3.5	3.7	4.5	3.6	2.5	2.8
12	2.5	2.7	2.9	2.7	2.8	3.0	3.3	3.9	[4.4]^{T}	4.8	C	C	7.6	[7.3]^{C}	7.0	6.9	6.0	5.2	3.5	3.5	A	A	A	2.7
13	2.7	2.8	2.9	3.2	2.3^{F}	2.3	2.3	3.1	5.1	(5.7)^{P}	9.2^{J}	8.7	8.0	[7.7]^{T}	7.4	7.9	7.0^{P}	4.9	A	3.9	4.5^{H}	4.3^{P}	3.4	2.9
14	A	A	A	A	A	A	2.2	2.9	T	T	(7.9)$^{J}_{P}$	6.3	7.5^{J}	7.4	6.4^{P}	6.9	(5.9)$^{J}_{P}$	5.0	3.4	3.1	3.4	3.6	2.7	2.9
15	3.0	3.0	3.2	3.2	3.0	2.7	2.7	3.3	(5.0)^{P}	T	T	9.9^{P}	(9.7)$^{P}_{S}$	9.4^{P}	(7.6)^{P}	5.9^{J}	6.4^{P}	5.6	3.4	3.5^{P}	2.8	2.8	3.1	2.4^{J}
16	3.1	2.9	3.2	3.4	3.8	A	F	3.2	C	T	8.9^{J}	10.2	10.9	8.1^{P}	6.0	T	A	5.0^{P}	[4.6]^{T}	4.1^{J}	2.9	[2.6]^{A}	2.4	2.4
17	2.7	2.9	2.8	2.9	3.1	2.3	2.7	3.2	[4.8]^{T}	6.5	10.9	8.4^{P}	[8.2]^{C}	8.0^{J}	6.3	[5.6]^{C}	5.0	4.7	4.0	4.4^{J}	4.2^{J}	2.2	2.3	2.7
18	2.8	2.9	2.9	3.4	4.0	1.8	1.7^{J}	2.6	(4.9)$^{J}_{P}$	5.7	[6.6]^{C}	7.5	8.9	C	T	T	5.3	4.1	4.8^{J}	3.9	2.4	2.4	2.5	3.0
19	3.3	2.8	2.9	2.2	1.9	2.1	2.2	2.4	[5.4]^{T}	8.4	(9.2)$^{J}_{P}$	12.5	9.9^{J}	(7.4)^{P}	(6.7)^{P}	[6.2]^{T}	5.6	6.4^{J}	[4.7]^{T}	3.0	2.8	2.7	2.9	3.4
20	4.3	[3.6]^{A}	3.0	2.3	2.7	1.8	1.7	[3.3]^{A}	(4.9)$^{J}_{P}$	8.5	9.9^{J}	8.3^{P}	9.0	8.8	7.5	6.9	6.5	4.2^{J}	3.5	4.3	3.3	2.9	[3.1]^{A}	3.3
21	[2.9]^{A}	2.4	2.4	2.4	2.4	2.4	2.1^{F}	2.5	(5.8)^{P}	6.5	8.9	8.1	(6.9)^{P}	T	T	6.0	[5.6]^{T}	(5.1)^{P}	[4.2]^{A}	3.2	2.8	2.6	2.5	2.4
22	[2.7]^{F}	3.0^{F}	2.9	2.8	3.1	1.8	2.0	2.8^{P}	5.1	5.5	6.8^{J}	(8.7)$^{J}_{P}$	T	T	5.9	T	T	T	C	C	C	2.9	2.2	[2.2]^{A}
23	2.3	2.1	2.6	2.5	2.4	2.4^{S}	(1.8)^{F}	2.8	[4.1]^{T}	(5.4)^{P}	[6.1]^{T}	(6.8)$^{J}_{P}$	C	C	(6.4)$^{J}_{P}$	6.4^{J}	5.7^{P}	[4.6]^{C}	3.4	3.1	3.3	2.6^{J}	2.7	2.8
24	2.9	2.9	3.0	2.9	2.9	2.4	2.3	2.7	C	T	T	T	6.5	5.8	5.8	6.4	6.4^{P}	4.9	3.0	3.2	4.0	3.2	2.8^{J}	2.9
25	2.7	2.4	2.5	2.6	2.6	2.4	2.5^{F}	3.4	4.7	5.3	7.0	9.7	7.9	7.3^{J}	6.0	5.4	5.4	5.4	4.2	3.0	3.1	4.1	3.6	3.5
26	3.4	3.9	2.5	1.9	2.1	2.1	2.1	2.7	6.8^{J}	[6.6]^{T}	6.5^{P}	6.7^{J}	6.6	[6.6]^{T}	6.5	5.4	5.8	5.4^{J}	3.7^{J}	3.9	[4.0]^{A}	4.0	3.1	2.9
27	3.3	2.9	2.7	2.7	2.7	2.5	2.2	3.3	4.8	4.9	7.4	8.5	8.9	7.8	[7.1]^{C}	6.4	[6.6]^{C}	6.8	6.0	3.0	3.3	3.9	2.4	2.4
28	2.4	2.9	2.8	2.8	1.7	1.7^{J}	1.8	3.0	4.5	5.1	6.0	T	7.7	7.8^{J}	6.2	6.4	5.9	5.0	3.8	3.4^{H}	3.9	3.5	2.5	2.7^{P}
29	2.9	3.3^{H}	2.9	2.5	2.4^{F}	1.9^{J}	1.9	2.7	5.4^{J}	T	6.9^{J}	7.4^{J}	(6.3)^{P}	5.9	6.0	6.0	5.0^{P}	(4.1)$^{J}_{P}$	3.9	3.5	[3.6]^{T}	3.7	2.6	2.8
30	2.9	F	F	2.9	F	F	1.9	(3.0)$^{J}_{P}$	[4.4]^{T}	5.9	5.7	[7.0]^{T}	8.4	7.0	T	T	T	T	4.2	3.5	2.9	3.0	3.0	3.0
31	3.1	3.2	3.0	2.9	(3.8)$^{J}_{P}$	2.2	2.4	3.4	[4.1]^{C}	(4.8)$^{J}_{P}$	C	C	T	6.9	6.4	5.0	4.3^{J}	[4.2]^{T}	4.2	2.9	3.2	3.0	3.1	3.1
Mean Value	2.9	2.9	2.8	2.7	2.7	2.3	2.3	3.0	5.0	6.2	8.2	8.3	8.0	7.4	6.7	6.3	5.7	5.1	4.1	3.6	3.3	3.1	2.7	2.8
Median Value	2.8	2.9	2.8	2.7	2.7	2.3	2.2	3.0	5.0	5.7	7.9	8.3	8.0	7.3	6.4	6.3	5.6	5.0	3.9	3.5	3.2	2.9	2.7	2.8
Count	29	28	28	29	27	26	28	30	26	24	25	27	28	26	26	25	26	27	27	27	27	28	29	31

Sweep 1.0 Mc to 22.0 Mc in 2 min ☐ Manual

Y 1

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

IONOSPHERIC DATA

Jan. 1953 | h_pF2 | 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	340	300	310	340	270	270	320	290	250	250^{P}	(250)^{J}	250	(250)^{B}	250^{P}	260	260	230	230	(280)^{J}	320	A	260	300	330
2	260	320	310	350	300	350	320	290	(250)$^{J}_{P}$	(240)^{J}	[240]^{T}	250	250	260	260	240	T	T	290	240	250	260	250	350
3	300	300	350	340	350	390	340	290	(240)^{J}	240	290^{P}	270	(260)^{J}	250	T	T	240	250	A	A	260	A	310	250
4	300	310	270	280	A	A	290	290	250	[260]^{T}	280	260	(260)^{P}	(250)^{P}	(250)^{J}	250	250	270	280	240^{P}	330	300	[300]^{A}	310
5	340	320	250	330	310	300^{F}	300	270	[270]^{T}	(270)$^{J}_{P}$	T	220	250^{P}	[270]^{C}	(290)$^{J}_{P}$	[260]^{T}	230	[260]^{A}	290	A	A	A	T	250
6	A	A	A	A	A	A	A	240	240	T	(270)$^{J}_{P}$	250	250	[260]^{T}	260^{P}	[200]^{S}	270	240	230	A	A	260	250	350
7	300	290	300^{F}	350$^{F}_{E}$	260^{F}	300^{F}	350^{F}	310	(270)$^{J}_{P}$	270	(250)^{P}	270	310^{P}	270	270	(260)$^{J}_{P}$	220	230	230	220	290	290	320	360
8	320	270	220	350	[340]^{B}	340	360$^{F}_{E}$	350	300	[280]^{C}	(250)^{J}	240	240	300	[280]^{C}	(260)^{J}	240	270	250	250	270	340	320	270
9	260	280	290	300	F	F	F	310	T	T	T	290	270	[280]^{T}	300	C	C	C	C	C	C	C	310	290
10	300	340	310	250	210	230	430	C	C	T	C	270	C	T	T	270^{P}	[260]^{T}	240	260	260	290	260	340	320
11	300	320	310	250	240	350	300	300	[280]^{T}	(250)^{J}	(270)^{J}	290	250^{P}	200	[260]^{B}	250	(250)^{J}	240^{P}	300	300	300	250	A	330
12	320	350	340	350	330	350	330	260	[200]^{T}	250	C	C	250	[200]^{C}	280	270	270	240	250	290	A	A	A	300
13	310	350	350	300	340^{F}	290	300	290	240	(300)^{P}	(270)^{J}	270	280	[280]^{T}	280	300	250^{P}	240	A	310	300^{H}	290^{P}	270	260
14	A	A	A	A	A	A	340	350	T	T	(250)$^{J}_{P}$	200	(280)^{J}	200	290^{P}	270	(250)$^{J}_{P}$	250	250	300	300	260	350	300
15	350	340	350	290	280	260	260	270	(240)^{P}	T	T	280^{P}	(280)$^{P}_{S}$	270^{P}	(250)$^{P}_{B}$	(270)^{J}	250^{P}	230	240	300^{P}	260	330	280	(320)^{J}
16	300	310	300	260	250	A	F	280	C	T	(260)^{J}	290	250	250^{P}	200	T	T	250^{P}	[260]^{T}	(260)^{J}	A	A	A	300
17	340	340	340	300	260	280	290	280	[280]^{T}	280	260	300^{P}	[290]^{C}	(280)^{J}	250	[240]^{C}	240	250	260	(250)^{J}	(220)^{J}	260	310	320
18	350	360	310	270	220	350	[320]^{B}	300	(250)$^{J}_{P}$	270	[280]^{C}	300	300	C	T	T	240	220	(260)^{J}	240	250	330	350	350
19	290	320	250	250	B	350	350	350	[310]^{T}	270	(300)$^{J}_{P}$	260	(250)^{J}	(270)^{P}	(290)^{P}	[270]^{T}	250	(270)^{J}	[260]^{T}	240	330	350	390	350
20	280	[280]^{A}	280	300	250	B	B	A	(290)$^{J}_{P}$	270	(260)^{J}	260^{P}	290	290	280	250	250	(230)^{J}	270	270	270	270	[300]^{A}	320
21	[320]^{A}	320	300	320	310	300	340^{F}	300	(250)^{P}	290	250	250	(250)^{P}	T	T	260	[260]^{T}	(250)^{P}	[260]^{A}	260	290	290	300	350
22	[330]^{F}	310^{F}	300	330	240	270	300	280^{P}	250	260	(280)^{J}	(250)$^{J}_{P}$	T	T	290	T	T	T	C	C	C	250	300	[300]^{A}
23	300	[300]^{A}	310	270	300	300^{S}	B	280	[260]^{T}	(250)^{P}	[260]^{T}	(260)$^{J}_{P}$	C	C	(260)$^{J}_{P}$	(260)^{J}	270^{P}	[240]^{C}	220	270	250	(270)^{J}	350	340
24	320	300	300	300	250	270	300	270	C	T	T	T	250	260	290	270	250^{P}	230	240	320	250	280	(300)^{J}	300
25	250	310	350	340	300	350	340^{F}	280	240	260	250	290	250	(250)^{J}	270	270	250	250	250	300	300	340	330	350
26	300	250	240	350	280	200	A	310	(240)^{J}	T	250^{P}	(250)^{J}	250	[250]^{T}	250	270	250	(250)^{J}	A	310	[300]^{A}	300	250	300
27	340	260	300	300	340	340	300	230	230	250	260	310	270	260	[270]^{C}	280	[260]^{C}	250	240	250	320	250	280	360
28	350	290	260	230	B	B	B	270	220	250	330	T	260	(260)^{J}	250	250	250	250	250	300^{H}	300	270	360	300^{P}
29	310	290^{H}	250	350	300^{F}	B	B	300	(280)^{J}	T	(250)^{J}	(250)^{J}	(250)^{P}	250	270	250	240^{P}	(250)$^{J}_{P}$	250	310	[280]^{T}	250	280	300
30	300	F	F	240^{F}	F	F	B	(270)$^{J}_{P}$	[260]^{T}	250	260	T	250	250	T	T	T	T	270	250	300	300	300	310
31	340	310	290	270	(250)$^{J}_{P}$	280	300	250	[260]^{C}	(270)$^{J}_{F}$	C	C	T	250	250	250	(240)^{J}	[240]^{T}	240	250	300	320	340	290
Mean Value	310	310	300	300	280	310	320	290	260	260	270	270	260	260	270	260	250	250	260	270	280	290	310	310
Median Value	310	310	300	300	280	300	320	290	250	260	260	200	250	260	270	260	250	250	260	260	290	280	300	320
Count	29	28	28	29	24	22	22	29	26	22	24	20	27	26	26	25	26	27	26	26	24	26	27	31

h_pF2

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

Y 2

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

IONOSPHERIC DATA

Yamagawa

Lat. 31° 12.5' N
Long. 130° 37.7' E

Jan. 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	300	270	280	300	250	210	300	260	210[A]	240	250	240	240	240	250	260	210	210[A]	260	310	300[A]	230[A]	250	300[A]
2	240	(260)[B]	300	280	260	300	300	250	230[A]	220[A]	230	240	240	250	250	240	230	220	230	200[A]	210	210	250	300
3	270	260	320	300	310	330	300	250	220	220	270	250	250	240	250	260	230	220	A	A	240	200[A]	280	250
4	260	290	250	250	230	310	280	260	250[A]	260	260	250	250	240	240	240	230	230	230	210	320	270	[280][A]	300
5	310	300	210	310	250	300[F]	260	250	230	250	260	210	240	[260][C]	280	250	220	[240][A]	250	[260][A]	280	[240][A]	200[A]	220
6	A	A	A	A	A	A	A	230	230	280	250	240	250	260	260	250	250	210	210	[260][A]	320[A]	240	250	340
7	250[F]	250	290[F]	340[F]	250[F]	290[F]	300[F]	280	240	250	250	250	290	250	250	250	220	210	210	210	240	250	270	310
8	290	250	200	300	[310][B]	320	310[F]	300	270	[260][C]	250	230	240	250	260	250	240	250	220	220[A]	250	300	250	240
9	220	240	250	280	250[F]	300[F]	330[F]	300	250	240	280	260	250	260	280	C	C	C	C	C	C	C	290	250
10	300	300	260	240	200	220	400	C	C	260	[260][C]	260	[260][C]	270	270	250	250	210	220	230	250	240	300	290
11	260	290	250	240	220	300	290	260	240	250	260	280	250	250	[250][B]	250	240	220[A]	270[A]	270	260	220[A]	320[A]	260
12	280	320	300	300	270	300	270	250	210	220	C	C	250	[260][C]	270	250	250	220	240[A]	250	A	A	A	280
13	300[A]	320	300	210[F]	300	260	280	250	220	250	260	270	260	280	280	280	240	220	[250][A]	280	250[H]	250	210[A]	210[A]
14	A	A	A	A	A	A	300	290	250	250	240	260	270	250	270	260	240	220	240	290[A]	280[A]	250[A]	310[A]	280
15	310	270	290	250	250	230	240	250	220	280	270	260	250	250	250	270	240	220	200[A]	250	240	270	270	320
16	280	270	270	250	200[A]	[240][A]	290[F]	250	220	250	250	270	240	250	250	250	240	230	200[A]	240	A	A	A	290
17	300	300	320	270	230	280	260	250[A]	250	280	250	250	[260][C]	260	250	[240][C]	230	230	240	230	200	250	300	300
18	300	320	280	250	210	350	[310][B]	270	240	250	[260][C]	280	270	[260][C]	250	250	230	200	240	200	220	300	320	300
19	250	280	230	240	400	340	350	330[A]	280	250	270	250	240	270	270	250	250	250	200[A]	200[A]	290	270	310	300
20	240	[240][A]	250	290	240	400	400	[340][A]	270	250	250	250	280	260	250	250	240	230	210[A]	250	200[A]	250[A]	[280][A]	300[A]
21	[300][A]	300[A]	300	290	300	270	320	270	240	250	250	240	250	250	250	260	240	230[A]	[230][A]	230[A]	270[A]	250	260	300[A]
22	290[F]	280	260	290	220	(250)[B]	300	250	220	240	270	250	250	250	250	250	250	230	C	C	C	200[A]	280	[280][A]
23	290	300[A]	300	260	270	270	320[F]	250	230	[240][C]	250	250	250	250	260	250	240	[220][C]	200	250	220	250	300	300
24	280	270	270	250	240	250	280	220	[240][C]	250	250	250	250	250	290	270	240	220	200	270	240	230	270	270
25	250	270	310	300	290	320	300[F]	240	230	250	250	270	250	250	260	250	240	240	200	240	270	300[A]	290	300
26	270	240	230	(300)[B]	260	200	(400)[A]	270	230[A]	A	250[A]	250[A]	250[A]	250	250	240	240	250	200[A]	280	[280][A]	270	220	290
27	290	230	290	280	300	300	290	220	210	250	250	300	250	250	[260][C]	270	230	240	210	200	260	230	240	340
28	330	250	250	220	250	400	340	250	210	250	300	260	250	250	250	250	240	230	220	250[H]	250	240	320	260
29	270	250[H]	230	300	250[F]	270	350	270	250	230	240	240	240	250	250	250	240	250	230	270	250	230	250	280
30	270	270[F]	280[F]	230[F]	200	300[F]	350[F]	250	240	250	250	300	250	250	250	240	240	210[A]	230	230	250	260	260	270
31	290	250	250	250	230	240	280	240	240	260	250	[260][C]	270	250	250	240	240	240	220	230	250	290	270	250
Mean Value	280	270	270	270	260	290	310	260	240	250	260	260	250	250	260	250	240	230	220	240	250	250	270	280
Median Value	280	270	270	280	250	300	300	250	240	250	250	250	250	250	250	250	240	220	220	240	250	250	270	290
Count	29	29	29	29	29	29	30	30	30	30	30	30	31	31	31	30	30	30	28	28	27	28	29	31

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

Y 3

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

IONOSPHERIC DATA

Jan. 1953 | foF1 | 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								Q	A	L	4.0	4.1	4.0	4.0	4.0	3.8	Q	Q						
2								Q	A	A	3.8	4.1	4.0	4.2	4.0H	3.5	Q	Q						
3								Q	Q	3.4	4.5	4.3	4.2	4.0	4.5H	3.8	Q	Q						
4								Q	A	3.8	4.2	[4.2]A	4.2	4.1	4.0	3.5	3.C	Q						
5								Q	Q	3.7	4.0	4.0	B	C	4.4	4.0	3.5	A						
6								Q	Q	4.0H	[4.1]A	4.2	4.4	4.0	4.1	4.0	3.4	Q						
7								Q	Q	3.5	[4.0]A	4.4	4.5	4.5	4.2	3.9	3.5	Q						
8								Q	3.5	[3.8]C	4.2	4.3	4.2	4.2	4.0	4.0	Q	3.5						
9								Q	Q	3.7	4.5	4.2	4.4	4.4	4.4	C	C	C						
10								C	C	3.9	[4.0]C	4.0	C	C	4.3	4.0	3.5	Q						
11								Q	Q	4.0	4.2	4.4	4.2	4.3	[4.2]B	4.0	Q	Q						
12								Q	Q	Q	C	C	4.4	[4.4]C	4.5	4.0	3.5	Q						
13								Q	Q	3.5	A	A	A	4.5	4.0J	4.0	3.5	Q						
14								Q	Q	L	4.0	4.5	4.5	4.5	4.3	[3.6]A	3.0	Q						
15								Q	Q	4.3	A	A	4.5	4.5	4.2	3.9	Q	Q						
16								Q	Q	4.0	4.4	4.6	4.4	4.4	A	A	Q	Q						
17								Q	3.5	4.3	4.4	4.4	[4.4]C	4.3	4.0	C	C	Q						
18								Q	Q	3.5	[3.9]C	4.3H	4.4	[4.3]C	4.2	3.9	3.5	Q						
19								Q	3.5L	3.7	4.2	4.3	4.4	4.5	4.2H	3.4	3.1	Q						
20								A	3.5L	3.8	4.2	4.3H	4.5	4.5	4.0	3.9	3.5	2.7						
21								Q	Q	3.5	4.0	4.3	4.4	4.2	4.0H	4.0	3.5	A						
22								Q	Q	2.9	4.0	4.2	4.2	4.1	4.0	4.0	3.5	Q						
23								Q	Q	C	4.0	4.1	4.2	4.4	4.2	3.9	3.1L	C						
24								Q	C	4.0	4.0	4.1	4.2	4.2	4.2	4.0	3.5	Q						
25								Q	Q	3.6	4.0	4.1	4.3H	4.2	4.0	4.0	3.5	Q						
26								Q	A	A	A	A	A	A	4.0	3.7	3.3	Q						
27								Q	Q	3.0	3.9	4.0	4.1	4.0	[4.0]C	3.9	3.6	Q						
28								Q	Q	3.9L	4.0	4.3	4.1	4.0	4.0	4.0H	3.4	2.5						
29								Q	Q	3.5	4.0	4.2	4.0	4.2	3.9	3.6	3.0	Q						
30								Q	Q	Q	4.0	4.1	4.3H	4.2	4.0	3.5	3.1	A						
31								Q	Q	3.7	3.9	[4.0]C	4.2	4.3	4.0	3.7	3.2	Q						
Mean Value								—	3.5	3.7	4.1	4.2	4.3	4.3	4.1	3.8	3.4	2.9						
Median Value								—	3.5	3.7	4.0	4.2	4.3	4.2	4.0	3.9	3.5	2.7						
Count								—	4	24	27	27	27	28	30	28	22	3						

foF1

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

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

IONOSPHERIC DATA

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

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

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

IONOSPHERIC DATA

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

foE

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

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

IONOSPHERIC DATA

Jan. 1953 | R'E | 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								B	A	100	100	110	100	100	[100]A	100	A	A						
2								B	A	A	A	100F	[100]A	100F	100	AF	A	A						
3								B	AF	A	100	100	00	[100]A F	100A	A	AF	AF						
4								A	A	100	A	A	A	100A	100	100	100	A						
5								B	A	100	100F	100F	00	[100]C	100	100	110	A						
6								B	100	100	A	A	100	[100]A	100F	100	110	A						
7								B	100F	A	A	100	100	100	110	120	110	A						
8								B	150	[140]C	130	130	120	110	110	120	120	A						
9								B	120	120	120	120	120	130	120	C	C	C						
10								C	C	120	[110]C	100	[100]C	100	100	[100]A	100	A						
11								B	130	100	100	110	100	100	120	100	110	120						
12								B	120	100	C	C	100A	[100]C	100A	100	100	130						
13								B	110	110	A	A	A	A	100	100	A	A						
14								B	120	100	100	A	A	A	110	A	A	130						
15								B	120	110	A	A	A	A	A	100	A	A						
16								B	100	100	A	A	A	A	100	110	A	A						
17								A	A	A	A	100	[100]C	100	100	C	C	A						
18								B	130	A	A	100	100	[100]C	100	100	100	120						
19								A	140	120	100	[100]A	100	100	100	100	A	A						
20								A	150A	[120]A	100	100	110	100	100	[100]A	100	A						
21								B	120A	[110]A	100	100	100	130A	A	A	A	AF						
22								B	140A	100	[100]A	100	100	A	A	110	100	120						
23								B	140	100	[100]A	100	100	100	100	100	100	C						
24								B	C	A	100	110	[100]A	100	100	100	100	120						
25								B	140	100	100	100	100	100	100	[100]A	110	140						
26								B	A	100	100	100	100	100	100	100	100	A						
27								B	130	110	100	100	A	A	C	A	100	A						
28								B	120	110	00	00	A	A	A	100	100	A						
29								B	A	110	100	100	100	[100]A	100	100	[110]A	120						
30								B	140	110	100	100	100	A	A	A	A	A						
31								B	130	100	100	C	A	100	100	100	100	130						
Mean Value								—	130	110	100	100	100	100	100	100	100	130						
Median Value								—	130	100	100	100	100	100	100	100	100	120						
Count								—	21	25	21	23	23	23	25	23	19	9						

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

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

IONOSPHERIC DATA

Jan. 1953 | fEs | 135° E Mean Time | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.2	2.1	2.5	E	2.1^{Y}	2.0	2.3	2.0	4.0	2.9	3.5	4.0	3.8	4.1	3.5	3.5	3.5	3.0	3.5	3.5	4.2	4.6	3.0	3.5
2	2.0	E	2.0	2.2	3.1^{Y}	2.5^{Y}	E	2.5	4.0	5.0	4.2	3.8^{F}	3.8	3.8^{F}	3.8^{F}	3.5^{F}	3.5	3.0	2.3	3.0	2.0	2.2	2.3	E
3	2.0	E	E	E	2.5	E	2.5	2.9	3.5^{F}	3.7	3.5	3.5	3.6	3.5^{F}	3.5	3.8	3.5^{F}	3.5^{F}	3.9	5.0	3.0	3.8	3.0	3.5
4	2.3	2.2	2.8	2.4	3.5	3.8	2.4	6.0	3.8	5.0	3.8	5.2^{F}	3.8	3.8	3.8	3.5^{F}	G	2.5	2.7	3.1	3.7	3.8	3.8	3.0
5	3.5^{F}	3.5	2.3	2.3	2.5	E	2.5	2.2	3.4	3.4	G	3.6^{F}	G	C	6.0	3.9	3.5	6.0	5.0	7.0^{Y}	5.0	3.5^{F}	3.0^{F}	3.0^{Y}
6	5.2	5.0	3.5	6.0	4.8^{Y}	3.4	3.8	2.5	3.5	3.5	6.0^{F}	4.5^{Y}	3.7	3.8	3.8	G	3.3	4.7	3.0	6.0	3.8	3.3	3.1	2.4^{F}
7	2.2	2.4	2.5	2.0	E	E	2.0	2.0	G	3.8	6.0	G	G	G	G	3.4	G	3.5	3.5^{F}	3.5^{F}	2.7	2.3	2.4	2.2
8	2.3	E	E	E	E	2.1	2.4	2.5	2.3	C	G	3.5	G	G	G	G	3.5	3.7	2.5	2.6	2.4	3.0	2.4	2.0
9	E	2.0	2.0	E	E	2.0^{Y}	2.0	2.0	G	G	3.4	G	G	G	G	C	C	C	C	C	C	C	E	E
10	E	2.0	E	2.5^{F}	2.1	2.5	2.0	C	C	G	C	3.8	C	C	3.8	3.5	3.5	2.6	2.1	E	2.4	2.5	E	E
11	E	2.0	E	E	1.8	2.5	E	2.0	G	G	G	G	3.5	G	G	3.8	4.6	4.0	4.3	3.8	3.7	4.1	3.5	3.5
12	E	2.2	2.5	2.5	2.0	2.0	2.1	B	2.5	G	C	C	4.5	C	3.5	G	3.8	3.5	3.6	3.0	5.5	6.0	5.0	3.5^{F}
13	3.5	3.1	2.5^{F}	6.0	3.7	3.5	2.5	2.1	2.9	3.5	7.0^{Y}	7.0	6.0	4.6	3.8	G	3.5	3.6	4.0	3.5	4.3	3.2	3.5	3.2
14	3.8	4.1^{F}	5.0	5.3^{Y}	3.8^{Y}	3.6^{Y}	2.0	B	G	G	3.8	5.0	7.0^{Y}	6.0	4.6	5.0	3.8	G	3.5	4.0	3.5	5.5	4.0	3.6^{F}
15	3.4	2.5^{F}	2.3	2.5	2.5	2.5^{Y}	3.0	2.9^{Y}	G	G	6.0	6.0^{Y}	6.0	3.7	3.6	3.5	4.5	3.5	3.6	3.8	3.5	2.7	3.5	3.2
16	3.0	3.0^{F}	3.5^{F}	3.8	3.8^{Y}	4.7	3.2	3.0	3.5	3.5	4.0	6.2	4.5	4.5	5.0	6.2	4.9	3.3	3.7^{F}	3.5^{F}	3.7^{F}	3.5	3.0	3.5
17	3.0^{Y}	2.6^{F}	3.1	2.5^{Y}	2.2	3.6	3.5	3.7	4.7^{Y}	4.5	4.5	G	C	3.6	3.8	C	3.5	3.0	2.5	2.1	2.2	E	E	E
18	E	E	2.0	E	2.0^{F}	2.3	2.2	2.1	3.0	3.3	3.5	3.5	3.7	G	G	3.5	G	G	3.0	2.5	2.5	2.3	2.1	2.7^{F}
19	2.6	2.9	3.0	2.5^{F}	2.3	2.0	2.0	3.0	3.4	3.5	4.5	4.5	G	G	G	G	3.5	3.7	3.8	3.0	3.0	2.5	3.0	2.9^{F}
20	3.0	3.8	4.2^{Y}	3.3^{Y}	2.5^{Y}	2.3	2.1	4.1	2.5	3.5	3.5	3.5	G	G	G	3.7	3.4	3.5	3.8	4.1	5.0	4.1	5.7	4.7
21	3.8^{F}	3.4	3.0^{Y}	2.2	2.2^{F}	2.2^{F}	2.0	2.3	2.5	5.0	6.0	G	3.5	3.8	3.7	4.0	4.5	4.0^{F}	4.8^{F}	6.0	6.0	2.3^{F}	2.3	2.9
22	2.5^{F}	3.0^{F}	3.0	2.5	2.9	2.5	2.4	2.4	G	3.5	3.8	G	G	3.8	3.7	G	G	G	C	C	C	3.5	3.0	6.0
23	3.8	4.2^{Y}	2.9	2.1	2.1	2.2^{Y}	2.2	2.2	G	C	4.4	3.7	G	G	G	G	3.0	C	2.0	E	E	E	E	2.0
24	2.5	2.5	2.0	1.8	2.0	E	E	2.0	C	3.2	G	3.7	3.9	G	G	G	G	G	2.5	2.4	2.4	2.3	E	1.8
25	E	E	1.8	2.4	2.3	2.0	E	2.0	G	G	3.9	G	G	G	G	3.9	G	G	E	2.0	2.4	3.0	2.5	2.4
26	2.1	2.2	3.0^{Y}	2.4	2.0	2.1	2.9	2.3	4.2	6.3	6.3	5.8	5.3	6.0	5.0	3.7	3.0	3.4	4.2	3.0	4.6	4.0	2.5^{F}	3.5
27	2.2	2.2	2.5	2.3	2.4	2.2	2.2	2.0	G	G	G	G	3.9	3.5	C	3.5	G	3.3	3.0	2.0	E	E	1.9	E
28	2.2	1.9	1.8	E	E	2.2	E	2.0	G	3.5	3.5	G	5.0	5.0	3.9	3.5	3.5	3.0	E	E	E	E	E	1.7
29	E	E	E	E	E	E	E	B	2.7	3.1	G	3.5	4.0	4.0	G	G	3.0	G	E	E	E	E	E	E
30	E	2.0^{Y}	E	E	E	E	E	B	G	G	G	G	G	4.2	3.8	3.9	3.9	4.2	2.5	2.5	2.5	2.0	E	E
31	E	E	E	E	E	E	E	B	G	G	G	C	3.7	G	G	G	G	G	E	2.5	2.3	2.9	2.5	2.9
Mean Value	2.9	2.8	2.7	2.8	2.6	2.5	2.4	2.6	3.3	3.9	4.5	4.4	4.4	4.2	4.0	3.9	3.7	3.4	3.3	3.5	3.5	3.3	3.1	3.1
Median Value	2.2	2.2	2.5	2.3	2.2	2.2	2.1	2.3	2.5	3.4	3.8	3.5	3.7	3.6	3.6	3.5	3.5	3.3	3.0	3.0	3.0	3.0	2.5	2.9
Count	31	31	31	31	31	31	31	25	29	29	29	29	29	28	30	29	30	29	29	29	29	30	31	31

fEs

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

Y 8

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

IONOSPHERIC DATA

Jan. 1953 | (M3000)F2 | Yamagawa | Lat. 31° 12.5' N, Long. 130° 37.7' E

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.0	3.1	3.1	2.9	3.3	3.4	3.0	3.2	3.5	3.5^{P}	(3.6)^{J}	3.8	3.5	3.6^{P}	3.4	3.4	3.7	3.8	(3.4)^{J}	3.1	[3.2]^{A}	3.4	3.1	3.0
2	3.5	3.0	3.1	2.9	3.3	2.9	3.0	3.4	(3.6)$^{J}_{P}$	(3.6)^{J}	[3.6]^{T}	3.6	3.5	3.4	3.3	3.4	T	T	3.2	3.6	3.4	3.2	3.3	2.9
3	3.2	3.1	2.9	3.0	3.1	2.8	3.0	3.3	(3.6)^{J}	3.4	3.3^{P}	3.4	(3.5)^{J}	3.6	T	T	3.6	3.6	A	A	3.4	(3.6)^{J}	3.2	3.5
4	3.1	3.3	3.3	3.3	3.7	3.1	3.2	3.2	3.5	[3.4]^{T}	3.4	3.3	(3.4)^{P}	(3.4)^{P}	(3.5)^{J}	3.4	3.5	3.4	3.3	3.5^{P}	2.9	3.3	[3.2]^{A}	3.0
5	3.0	3.1	3.5	2.8	3.1	2.9	3.2	3.2	[3.4]^{T}	(3.5)$^{J}_{P}$	[3.6]^{T}	3.7	3.5^{P}	[3.4]^{C}	(3.3)$^{J}_{P}$	[3.5]^{T}	3.7	[3.5]^{A}	3.3	A	A	A	T	3.5
6	A	A	A	A	A	A	A	3.6	3.5	[3.4]^{T}	(3.4)$^{J}_{P}$	3.5	3.5	[3.6]^{T}	3.6^{P}	[3.5]^{S}	3.4	3.6	3.7	[3.4]^{A}	3.2	3.1	3.6	2.9
7	3.3	3.1	3.1	2.9$^{F}_{E}$	3.3	3.1^{F}	2.9^{F}	3.1	(3.3)$^{J}_{P}$	3.3	(3.5)^{P}	3.3	3.1^{P}	3.3	3.4	(3.3)$^{J}_{P}$	3.7	3.5	3.7	3.6	3.4	3.2	3.5	2.8
8	3.1	3.3	3.7	2.8	3.1	2.9	2.9$^{F}_{E}$	2.9	3.2	[3.4]^{C}	(3.6)^{J}	3.5	3.8	3.1	[3.2]^{C}	(3.4)^{J}	3.6	3.3	3.4	3.5	3.3	3.0	3.1	3.4
9	3.4	3.3	3.2	3.1	F	F	F	3.0	T	T	T	3.3	3.3	[3.2]^{T}	3.1	C	C	C	C	C	C	C	3.2	3.4
10	3.0	2.7	3.1	3.5	3.8	3.5	2.5	C	C	T	C	3.4	3.4	T	T	3.5^{P}	[3.6]^{T}	3.6	3.4	3.4	3.3	3.4	3.1	3.1
11	3.1	3.0	3.1	3.5	3.5	3.0	3.3	3.3	[3.4]^{T}	(3.5)^{J}	(3.4)^{J}	3.3	3.6^{P}	3.5	[3.4]^{B}	3.4	(3.5)^{J}	3.6^{P}	3.1	3.2	3.2	3.6	3.1	3.1
12	3.0	2.9	2.9	2.9	3.0	3.0	3.0	3.3	[3.4]^{T}	3.5	C	C	3.5	[3.4]^{C}	3.4	3.4	3.4	3.7	3.5	3.3	A	A	A	3.1
13	3.1	2.9	2.9	3.2	3.0^{F}	3.3	3.2	3.3	3.6	(3.2)^{P}	(3.4)^{J}	3.4	3.4	[3.4]^{T}	3.3	3.3	3.4^{P}	3.3	A	3.1	3.2^{H}	3.4^{P}	3.3	3.2
14	A	A	A	A	A	A	3.0	2.9	T	T	(3.6)$^{J}_{P}$	3.4	(3.3)^{J}	3.5	3.2^{P}	3.4	(3.6)$^{J}_{P}$	3.5	3.6	3.2	3.1	3.3	2.9	3.1
15	3.0	3.0	3.0	3.1	3.3	3.3	3.3	3.4	(3.7)^{P}	T	T	3.4^{P}	(3.2)$^{P}_{S}$	3.2^{P}	(3.5)^{P}	(3.4)^{J}	3.6^{P}	3.7	3.6	3.3^{P}	3.3	2.9	3.3	(3.3)^{J}
16	3.1	3.1	3.1	3.2	3.4	A	F	3.3	C	T	(3.6)^{J}	3.4	3.4	3.5^{P}	3.4	T	A	3.6^{P}	[3.4]^{T}	(3.3)^{J}	3.1	A	A	3.2
17	3.3	3.2	3.2	3.2	3.5	3.2	3.3	3.3	[3.3]^{T}	3.3	3.4	3.2^{P}	[3.3]^{C}	(3.4)^{J}	3.4	[3.6]^{C}	3.7	3.5	3.3	(3.5)^{J}	(3.8)^{J}	3.4	3.1	3.1
18	2.8	2.8	3.0	3.3	3.7	2.9	(2.7)^{J}	3.1	(3.6)$^{J}_{P}$	3.4	[3.4]^{C}	3.4	3.2	C	T	T	3.5	3.6	(3.5)^{J}	3.5	3.4	3.0	3.0	3.0
19	3.3	3.0	3.5	3.6	2.7	2.8	2.9	2.9	[3.2]^{T}	3.4	(3.3)$^{J}_{P}$	3.5	(3.6)^{J}	(3.4)^{P}	(3.2)^{P}	[3.4]^{T}	3.5	(3.2)^{J}	[3.4]^{T}	3.6	3.0	2.8	2.7	2.9
20	3.4	[3.4]^{A}	3.3	3.1	3.5	2.7	2.7	[3.0]^{A}	(3.2)$^{J}_{P}$	3.4	(3.5)^{J}	3.4^{P}	3.2	3.3	3.4	3.5	3.5	(3.6)^{J}	3.4	3.2	3.3	3.4	[3.2]^{A}	3.0
21	[3.0]^{A}	3.1	3.2	3.1	3.1	3.1	2.9^{F}	3.3	(3.4)^{P}	3.2	3.5	3.5	(3.4)^{P}	T	T	3.5	[3.5]^{T}	(3.5)^{P}	[3.4]^{A}	3.4	3.3	3.2	3.2	2.9
22	[3.0]^{F}	3.2^{F}	3.1	3.0	3.6	3.3	3.2	3.3^{P}	3.5	3.4	(3.2)^{J}	(3.5)$^{J}_{P}$	T	T	3.3	T	T	T	C	C	C	3.5	3.1	[3.1]^{A}
23	3.1	3.3	3.1	3.3	3.2	3.1^{S}	(3.2)^{F}	3.2	[3.4]^{T}	(3.5)^{P}	[3.5]^{T}	(3.5)$^{J}_{P}$	C	C	(3.4)$^{J}_{P}$	(3.5)^{J}	3.5^{P}	[3.6]^{C}	3.6	3.3	3.5	(3.3)^{J}	2.9	3.0
24	3.0	3.1	3.2	3.3	3.4	3.2	3.0	3.3	C	T	T	T	3.6	3.3	3.1	3.4	3.6^{P}	3.7	3.6	3.0	3.5	3.4	(3.2)^{J}	3.2
25	3.4	3.1	3.0	3.0	3.1	2.9	3.0^{F}	3.3	3.5	3.4	3.4	3.4	3.5	(3.6)^{J}	3.3	3.3	3.5	3.4	3.5	3.2	3.2	3.0	3.0	3.0
26	3.2	3.4	3.6	2.8	3.3	3.8	2.8	3.1	(3.6)^{J}	[3.6]^{T}	3.5^{P}	(3.5)^{J}	3.6	[3.6]^{T}	3.6	3.3	3.5	(3.5)^{J}	(3.6)^{J}	3.1	[3.2]^{A}	3.2	3.4	3.2
27	2.9	3.4	3.0	3.3	2.9	3.0	3.1	3.6	3.7	3.4	3.4	3.1	3.3	3.5	[3.4]^{C}	3.3	[3.4]^{C}	3.5	3.8	3.6	3.1	3.5	3.1	2.8
28	3.0	3.3	3.3	3.7	3.5	(3.0)^{J}	2.9	3.4	3.7	3.6	3.1	T	3.5	(3.5)^{J}	3.5	3.7	3.5	3.5	3.5	3.2^{H}	3.1	3.3	2.8	3.2^{P}
29	3.0	3.2^{H}	3.5	3.0	3.2^{F}	(3.3)^{J}	2.9	3.1	(3.4)^{J}	T	(3.7)^{J}	(3.7)^{J}	(3.6)^{P}	3.5	3.5	3.5	3.6^{P}	(3.5)$^{J}_{P}$	3.4	3.0	[3.2]^{T}	3.5	3.3	3.2
30	3.3	F	F	3.4	F	F	3.0	(3.3)$^{J}_{P}$	[3.4]^{T}	3.5	3.5	T	3.6	3.5	T	T	T	T	3.3	3.7	3.2	3.2	3.2	3.1
31	3.0	3.1	3.3	3.2	(3.6)$^{J}_{P}$	3.4	3.1	3.3	[3.4]^{C}	(3.4)$^{J}_{P}$	C	C	T	3.6	3.6	3.6	(3.7)^{J}	[3.6]^{T}	3.6	3.4	3.3	3.1	3.1	3.2
Mean Value	3.1	3.1	3.2	3.1	3.3	3.1	3.0	3.2	3.5	3.4	3.5	3.4	3.4	3.4	3.4	3.4	3.6	3.5	3.5	3.3	3.3	3.3	3.2	3.1
Median Value	3.1	3.1	3.1	3.1	3.3	3.1	3.0	3.3	3.4	3.4	3.5	3.4	3.5	3.4	3.4	3.4	3.5	3.5	3.4	3.3	3.2	3.3	3.2	3.1
Count	29	28	28	29	27	26	28	30	26	24	25	26	28	26	26	25	26	27	27	27	27	27	28	31

Sweep 1.0 Mc to 22.0 Mc in 3 min ☐ Manual ☒ Automatic

Y 9

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

IONOSPHERIC DATA

Yamagawa

Lat. 31° 12.5' N
Long. 130° 37.7' E

Jan. 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	1.6	1.5	1.5	1.6	1.4	1.5	1.6	1.6	[2.0]^{A}	2.5	2.8	3.1	3.5	2.8	3.0	3.0	2.3	[2.0]^{A}	1.8	1.8	2.0^{A}	[1.8]^{A}	1.6	2.0^{A}
2	1.6	1.6	1.6	E	1.4	1.6	1.6	1.5	A	A	3.0	3.0	3.2	3.0	3.0	2.8	2.8	1.9	1.5	[1.5]^{A}	1.5	1.5	1.6	1.6
3	1.6	1.6	1.4	1.6	1.6	1.6	1.6	1.6	2.5	2.5	3.5	3.0	3.0	3.0	3.0	[2.8]^{A}	2.6	2.2	A	A	1.6	[1.6]^{A}	1.6	1.6
4	1.6	1.6	1.0	1.6	1.6	1.6	1.5	1.7	2.8^{A}	2.7	3.0	4.3^{A}	3.0	3.2	3.0	2.7	2.5	2.1	1.5	1.6	1.6	1.5	[1.7]^{A}	1.9
5	1.9	1.7	1.6	1.5	1.3	1.4^{F}	1.6	1.6	2.3	2.7	3.0	3.0	3.1	[3.5]^{C}	3.9	2.8	2.5	A	A	A	2.7^{A}	A	A	1.6
6	A	A	A	A	A	A	A	1.7	2.5	2.7	4.2^{A}	3.1	3.1	3.3	3.0	2.8	2.6	2.2	1.6	[2.0]^{A}	2.4^{A}	1.6	1.7	1.6
7	1.6^{F}	1.4	1.5	1.6^{F}	1.4	1.6	1.5^{F}	1.6	2.0	3.0	4.5^{A}	3.0	3.8	3.5	3.5	2.9	2.5	2.3	2.2	1.9	1.6	1.6	1.6	1.6
8	1.6	1.4	1.4	1.4	1.6	1.6	1.5	1.6	2.1	[2.6]^{C}	3.2	3.5	3.1	3.3	3.5	3.1	2.9	2.7	1.6	[1.6]^{A}	1.6	1.6	1.5	1.6
9	1.5	1.6	1.4	1.0	1.4	1.4^{F}	1.6^{F}	1.6	2.2	2.7	3.3	3.4	3.3	3.3	3.4	C	C	C	C	C	C	C	1.6	1.6
10	1.5	E	E	1.4	E	1.8	1.7	C	C	C	C	3.2	<7.0	<5.8	3.0	2.9	2.7	1.8	1.5	1.5	2.0^{A}	1.6	1.6	1.6
11	1.6	1.4	1.0	1.6	1.4	1.6	1.6	1.6	2.2	2.8	3.1	3.3	3.5	3.3	[3.3]^{B}	3.3	2.5	[2.6]^{A}	2.7^{A}	1.8	2.0^{A}	A	A	1.6
12	1.6	1.6	1.6	1.6	E	1.5	1.5	1.6	2.3	3.0	C	C	3.9	[3.6]^{C}	3.4	3.1	3.0	2.7	[2.3]^{A}	1.9	A	A	A	1.6
13	2.0^{A}	1.6	1.6	[1.6]$^{A}_{F}$	1.5	1.3	1.6	1.5	2.0	2.8	4.6^{A}	6.8^{A}	5.6^{A}	A	3.2	3.0	2.7	1.6	[1.8]^{A}	1.9	1.6	2.2^{A}	A	A
14	A	A	A	A	A	A	1.6	1.6	2.3	2.8	2.9	4.0^{A}	4.0^{A}	4.3^{A}	4.1^{A}	4.0^{A}	A	2.0	2.3^{A}	2.3^{A}	2.0^{A}	2.6^{A}	[2.2]^{A}	1.7
15	1.5	E	1.5	1.4	1.6	1.6	1.6	1.6	2.2	2.7	4.5^{A}	4.5^{A}	4.3^{A}	3.4	3.0	2.8	2.7	2.0	[1.8]^{A}	1.6	1.6	1.6	1.7	1.9
16	2.1^{A}	1.6	1.4	2.0^{A}	A	A	1.6^{F}	1.6	2.2	2.8	3.0	4.0^{A}	3.5	3.2	3.0	[3.0]^{A}	3.0^{A}	2.2	[1.9]^{A}	1.6	2.7^{A}	[2.4]^{A}	2.2^{A}	2.0^{A}
17	1.7	1.4	1.8	1.5	1.6	1.7	1.6	A	A	3.0	[3.1]^{A}	3.2	[3.1]^{C}	3.0	3.0	C	C	2.0	1.6	1.6	1.5	1.6	1.6	1.5
18	1.5	1.6	E	1.5	1.6	1.5	1.9	1.5	2.3	2.7	3.0	3.1	3.2	[3.2]^{C}	3.1	2.8	2.5	2.3	1.6	1.5	1.6	1.6	1.6	1.6
19	1.6	1.5	1.6	1.5	1.6	1.6	1.6	1.9	2.4	2.9	2.9	3.0	3.4	3.0	3.3	2.9	2.9	2.4	A	A	1.6	1.6	1.5	1.6
20	1.6	[1.7]^{A}	1.8	1.6	1.6	1.6	1.6	[1.8]^{A}	1.9	2.7	2.8	3.0	3.0	3.1	3.0	2.8	2.5	2.5	[2.6]^{A}	2.7^{A}	[2.4]^{A}	2.0^{A}	[2.2]^{A}	2.5^{A}
21	A	A	1.6	1.4	1.6	1.5	1.6	1.6	2.2	[2.7]^{A}	3.2	3.3	3.5	3.3	[3.2]^{A}	3.0	3.2^{A}	3.0^{A}	[2.5]^{A}	2.0^{A}	2.0^{A}	1.6	1.5	[1.6]^{A}
22	1.6^{F}	1.4	1.5	1.6	1.6	1.3	1.6	1.6	1.9	2.5	2.9	3.0	3.0	3.1	3.1	2.9	2.7	2.0	C	C	C	A	1.6	[1.6]^{A}
23	1.6	1.9	1.6	1.6	E	1.6	1.6	1.5	2.3	C	A	3.1	3.0	3.0	2.8	2.5	[2.0]^{C}	1.6	1.6	1.6	1.6	1.6	1.6	1.7
24	1.5	1.4	1.4	1.6	1.6	1.5	1.6	1.6	[2.0]^{C}	2.5	3.0	3.2	3.2	3.2	3.0	2.8	2.6	2.2	1.6	1.6	1.6	1.6	1.6	1.6
25	1.6	1.4	1.5	1.6	1.6	1.4	1.6	1.6	2.4	2.8	3.2	3.0	3.1	3.2	3.1	2.8	2.5	2.0	1.5	1.6	1.6	[1.6]^{A}	1.6	1.6
26	1.5	1.0	1.6	1.4	1.5	1.6	1.9	1.6	A	A	A	A	A	A	A	3.1	2.5	2.3	[2.2]^{A}	2.2^{A}	[2.2]^{A}	2.3^{A}	1.6	1.6
27	1.6	1.6	1.4	1.6	1.6	1.6	1.6	1.5	2.3	2.7	2.8	3.4	3.0	3.1	[3.0]^{C}	2.9	2.5	2.3	1.6	1.6	1.6	1.6	1.5	1.6
28	1.6	1.0	1.6	1.4	1.6	1.7	1.6	1.6	2.3	2.9	3.1	3.2	3.2	3.2	3.0	2.8	2.5	1.9	1.6	1.6	1.6	1.6	1.5	1.6
29	1.6	1.6	1.6	1.5	1.6^{F}	1.6	1.6	1.6	2.3	2.7	2.9	3.4	3.2	3.3	2.9	2.9	2.7	2.2	1.6	1.6	1.6	1.6	1.6	1.6
30	1.5	1.6^{F}	1.6^{F}	1.6^{F}	E	E	1.6^{F}	1.6	2.1	3.0	3.0	3.1	3.2	[3.0]^{A}	2.7	2.6	2.7	[2.2]^{A}	1.6	1.6	1.6	1.6	1.5	1.6
31	1.6	1.6	1.6	1.6	1.4	1.6	1.5	1.6	2.0	2.9	3.0	[3.2]^{C}	3.4	3.2	3.2	2.9	2.7	2.5	1.7	1.6	1.6	1.6	1.6	1.6
Mean Value	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.6	2.2	2.8	3.2	3.4	3.4	3.2	3.2	2.9	2.6	2.2	1.8	1.8	1.8	1.7	1.7	1.7
Median Value	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	2.2	2.7	3.0	3.2	3.2	3.2	3.0	2.9	2.6	2.2	1.6	1.6	1.6	1.6	1.6	1.6
Count	28	28	29	29	28	28	30	29	27	27	27	29	29	28	30	29	28	29	26	26	28	26	27	30

fminF

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

Y 10

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

IONOSPHERIC DATA

Jan. 1953 | foE | 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	1.6	1.0	1.6	E	E	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.5
2	1.9	E	1.6	1.4	1.0	1.0	E	1.6	1.5	1.5	1.5	1.5	1.5	1.5F	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	E
3	1.6	E	E	E	1.6	E	1.6	1.6	1.5F	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.6F	1.5F	1.5	1.5	1.5	1.5	1.5	1.5
4	1.5	1.6	1.4	1.6	1.4	1.4	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5
5	1.6F	1.4	1.3	1.7	1.5	E	1.6	1.7	1.5	1.5	1.5F	1.6	1.4	[1.4]C	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5F	1.6F	1.5
6	1.6	1.4	1.4	1.3	E	1.4	1.5	1.6	1.5	1.5	1.5F	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.6F	1.6F
7	1.6	1.6	1.6	1.6	E	E	1.6	1.7	1.6F	1.6	1.5	1.6	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5F	1.6	1.6	1.6	1.6
8	1.0	E	E	E	E	1.6	1.6	1.7	1.6	[1.8]C	2.0	2.5	2.5	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.7	1.6	1.6	1.9
9	E	1.8	1.8	E	E	E	1.7	1.6	1.6	1.8	2.5	2.5	2.0	2.5	2.5	C	C	C	C	C	C	C	E	E
10	E	1.8	E	1.5F	E	1.5	1.5	C	C	1.6	[1.6]C	1.5	[1.6]C	1.7	1.6	1.6	1.6	1.6	1.6	E	1.5	1.6	E	E
11	E	1.6	E	E	1.6	1.6	E	1.8	1.5	1.5	1.6	1.6	1.6	1.6	1.9	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
12	E	1.5	1.6	1.6	1.6	1.6	1.6	[1.6]B	1.5	1.5	0	C	1.6	[1.6]C	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5F
13	1.5	1.4	1.6F	1.3	1.4	1.4	1.6	1.6	1.5	1.6	1.6	1.6	1.8	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
14	1.5	1.4F	1.4	E	E	E	1.6	[1.5]B	1.4	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.5F
15	1.5	1.6F	1.6	1.6	1.3	1.0	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5F	1.5	1.5	1.6	1.5	1.5	1.5	1.6
16	1.5	1.4	1.4	E	E	1.4	1.5	1.6	1.5	1.5	1.6	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.5F	1.5F	1.6F	1.6	1.6	1.6
17	1.6	1.6F	1.6	1.1	1.6	1.4	1.6	1.5	1.5	1.5	1.5	1.5	[1.5]C	1.5	1.4	[1.4]C	1.5	1.5	1.5	1.7	1.8	E	E	E
18	E	E	1.8	E	1.6F	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	[1.6]C	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6F
19	1.5	1.4	1.4	1.4F	1.7	1.7	1.7	1.5	1.6	1.5	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6F
20	1.6	1.4	E	E	E	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.7	1.6	1.6	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5
21	1.5	1.4	1.0	1.6	1.6F	1.7F	1.6	1.6	1.5	1.5	1.4	1.5	1.4	1.5	1.6	1.5	1.5	1.5F	1.5F	1.6	1.6	1.6F	1.6	1.6
22	1.5F	1.6F	1.4	1.6	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.5	C	C	C	1.5	1.6	1.5
23	1.5	E	1.4	1.6	1.7	E	1.6	1.7	1.6	1.5	1.5	1.6	1.5	1.5	1.5	1.6	1.5	[1.6]C	1.6	E	E	E	E	1.6
24	1.5	1.6	1.7	1.0	1.8	E	E	1.8	[1.6]C	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.6	1.6	1.6	1.6	E	1.6
25	E	E	1.6	1.0	1.6	1.6	E	1.6	1.5	1.5	1.5	1.6	1.5	1.6	1.5	1.5	1.5	1.6	E	1.6	1.6	1.6	1.5	1.6
26	1.7	1.0	E	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.6	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6F	1.5
27	1.6	1.6	1.4	1.7	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.5	[1.5]C	1.5	1.5	1.5	1.6	1.6	E	E	1.6	E
28	1.6	1.6	1.6	E	E	1.6	E	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.5	1.6	1.5	1.5	E	E	E	E	E	1.6
29	E	E	E	E	E	E	E	B	1.5	1.5	1.5	1.6	1.5	1.6	1.5	1.5	1.5	1.5	E	E	E	E	E	E
30	E	E	E	E	E	F	E	B	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.6	1.5	1.6	1.6	E	E
31	E	E	E	E	E	E	E	B	1.5	1.5	1.5	[1.5]C	1.5	1.5	1.6	1.6	1.6	1.6	E	1.5	1.7	1.5	1.6	1.5
Mean Value	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.6	1.6
Median Value	1.5	1.4	1.4	1.3	1.4	1.4	1.6	1.6	1.5	1.5	1.5	1.6	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Count	31	31	31	31	31	31	31	27	30	31	30	30	31	31	31	30	30	30	29	29	29	30	31	31

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

IONOSPHERIC DATA IN JAPAN FOR JANUARY 1953

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