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IONOSPHERIC DATA IN JAPAN

FOR OCTOBER 1951

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PREPARED BY THE CENTRAL RADIO WAVE OBSERVATORY
THE RADIO REGULATORY COMMISSION

KOKUBUNJI, TOKYO, JAPAN

CRWO—F 34

THE CENTRAL RADIO WAVE OBSERVATORY
THE RADIO REGULATORY COMMISSION

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PREFACE

The radio administration in Japan has hitherto been carried out by the Radio Regulatory Agency. With the reorganization of part of the government offices effective on June 1, 1950, the Radio Regulatory Commission was established and the work of researches on radio propagation has become to fall under the charge of the radio wave observatories, auxiliary organs of the Radio Regulatory Commission.

The radio wave observatories are composed of the Central Radio Wave Observatory located at Kokubunji, Tokyo, and five local radio wave observatories established at Wakkanai, Akita, Hiraiso, Inubo and Yamagawa respectively.

The Central Radio Wave Observatory has the following four sections:

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

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

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, and physical basic studies of wave propagation in general; and

Administrative Section which shall conduct the general affairs of the observatory.

The ionospheric sounding is as heretofore being carried out by the four observatories at Wakkanai, Akita, Kokubunji (Tokyo) and Yamagawa.

This report provides the results of ionospheric sounding with symbols determined and in the form established on an international basis in the same way as followed by the Radio Regulatory Agency 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.

Uyeda Hiroyuki
Chief, Central Radio Wave Observatory,
Radio Regulatory Commission

November 1951

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.

Lat. 40° 23.8' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

foF2

Oct. 1951

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	4.4	4.6	4.2V	4.4V	4.5F	4.6P	6.3	7.4P	8.3P	8.3P	[8.2]S	8.0	8.2P	8.0P	7.9P	9.0	9.2	8.3	8.1	[7.0]C	5.9	5.2	5.0	5.0	
2	4.8	4.9F	4.6	4.5	4.3	4.6	5.2	7.4	8.3	8.4	8.6	(8.1)P	7.8	8.0	8.2	(8.4)P	8.9P	(8.9)P	7.8P	7.0	(6.3)P	6.0J	(5.4)P	5.2	5.2
3	5.0	5.1	5.2J	5.5	5.5	C	C	C	C	8.9	9.1	8.7	8.6	7.8	8.2	8.2	9.0	8.4	6.3	6.6	6.6P	5.7	5.1	5.2	
4	5.4	5.6	(5.3)P	5.2	5.3	5.3	6.1P	7.4P	9.0P	[9.2]C	(9.4)P	8.5	8.7	7.6	7.6	7.3	8.0	8.0P	6.4P	6.3P	5.6P	(5.3)P	5.0P	5.0	
5	4.8	5.3P	5.2	5.1	5.2	5.1	6.1	7.2	8.3	8.9P	9.0	(9.1)P	8.3	8.7	8.1	8.1	8.0	7.3	6.9	(6.3)P	S	(4.8)P	4.2	S	
6	S	3.6P	(3.9)P	4.7	4.5P	3.8	5.5	7.1	7.5	(9.3)P	8.3	9.0	8.1	8.4	8.0	8.3	7.8	7.1	6.6	(6.3)P	S	(5.0)P	5.0	5.3P	
7	(5.6)P	(5.8)P	5.8P	5.2	5.3	5.2	6.3	6.9	6.4	9.4P	(9.1)P	9.1	8.7	7.9	7.6	8.0	8.9	8.7	7.0	6.6	6.1	5.3	5.1	5.3	
8	3.1JK	3.3JK	4.1JF	4.6FK	3.8FK	3.9K	4.1K	4.1K	5.0K	4.8KF	5.1FK	5.5K	AK	6.0PK	6.3K	6.3K	6.3K	5.3K	5.1	4.9P	4.5J	4.5J	4.5J	4.8	
9	(4.0)P	3.5	S	2.8	3.7	3.3	4.9	6.3	6.2Z	A	6.0	B	B	6.4	6.0	7.0J	6.5J	B	4.9J	S	S	4.5J	4.6J	3.2	
10	S	3.6JP	S	4.2	3.7J	3.8	5.3	A	B	7.3	8.4	8.5	7.5	7.1	8.3	7.9	7.0	6.4	S	5.5P	S	A	4.3	3.9	
11	4.4JP	3.7J	3.1	3.5	3.4	S	4.4	7.1	7.2P	7.4	8.8P	7.5	9.3	8.5	7.6	8.7	7.4	6.9	5.4	5.4	4.6	5.6	4.6	4.5	
12	4.2	4.3	4.5	(4.3)P	4.1	4.1	5.5	8.2	8.2	8.4	8.6J	(8.9)P	9.1P	8.7	8.4	8.8	8.8	7.1	6.8	C	C	5.7P	4.7	4.5	
13	4.5	4.6	4.4	C	C	C	C	C	(8.3)P	(8.6)P	(8.6)P	8.7	[9.0]C	9.3P	9.1P	9.4	8.6	8.8	7.4	7.4	5.8	4.5J	4.3J	4.4J	
14	(4.5)P	C	C	C	C	C	6.1	(7.0)P	S	S	S	8.7	(9.0)C	9.3P	9.4P	9.1	8.6	8.4	6.2P	4.9	4.5	A	4.7	4.5	
15	4.5	4.5	4.4	S	4.1	4.4J	5.8P	6.3	(9.5)P	8.5	8.8	(9.5)P	9.4P	9.1P	9.1	9.4	8.6	7.4	6.2P	4.9	4.5	A	A	3.8	
16	S	(3.7)P	(3.8)P	3.5	3.3	C	C	7.9	(8.2)C	8.4P	9.3P	9.0	9.1	9.3	9.1	9.3	8.6	8.2	7.2	6.8	5.8P	4.5	4.9	4.5	
17	4.1	3.9	3.9	4.1	4.0	3.9	5.3	7.3	C	C	C	C	C	C	C	C	C	7.4	6.4	7.2	6.5J	5.2J	5.3P	5.4P	
18	4.4	5.2	4.6	4.0	4.5	4.8	5.8J	6.7J	8.3P	9.9J	S	S	C	C	C	C	C	8.0	5.6	4.3	3.8	3.7	4.3	4.1	
19	4.3J	4.2	4.2	4.2	4.0	3.6J	5.2P	7.2	S	9.3	9.6	9.6P	C	C	C	C	C	C	C	C	4.8	S	4.2	4.0	
20	4.0	4.2	3.7	3.6	3.5	3.5	5.1	7.2	8.6	9.3P	S	S	9.3P	(8.7)P	8.6	8.9	8.0	6.1	C	C	C	C	C	C	
21	C	C	C	C	C	C	C	C	S	9.3S	9.4	8.8P	S	8.7	9.4	9.2P	9.3	7.4	6.1	C	C	C	C	C	
22	4.4	(4.5)P	4.3JF	4.3JF	4.6JF	(5.3)P	5.5P	7.0	S	8.4	8.5	S	9.2P	8.5	8.8	7.8	6.0	(5.5)C	5.0P	5.3	5.2J	5.0	(4.8)P	4.2	
23	4.9JF	4.8FJ	5.0JF	4.7JF	4.4JF	4.5	6.3	8.4	(9.7)P	9.0	S	S	9.9P	8.3	8.6	8.5P	7.8	5.8	4.7	S	S	4.0JF	3.6P	A	
24	S	(3.6)P	3.7F	3.7F	3.9	3.8H	4.3	6.9	9.3P	9.1	S	C	8.9	8.3	7.5	8.0	7.5	6.5	6.1	(5.6)P	C	C	4.5	4.3	
25	4.1	4.2	4.3	4.3	4.3	4.0Z	4.7P	6.8	8.6	S	S	S	9.1	9.0	(9.1)P	8.3	7.8	6.2	5.3	5.3	A	C	C	C	
26	C	C	C	C	C	C	C	C	C	9.1	9.2J	(9.3)J	S	9.4	8.0	7.9	6.8	5.6	5.5	5.5	4.4	A	A	A	
27	4.4JF	4.0	3.8	3.6	3.9	3.6	4.7	7.5	8.3	(9.5)P	(10.6)P	8.8P	7.1	8.4	(9.1)P	8.2	7.2	6.6	4.8	S	4.8	4.6	4.3		
28	4.5	4.3	4.3	4.4	4.6	C	C	C	C	C	C	C	C	C	C	C	C	6.9	(6.8)P	5.3P	4.4PT	4.9J	3.2	3.2	
29	3.9	C	C	C	C	C	C	C	6.7	C	C	C	C	C	C	C	C	C	C	C	C	C	4.3JF	4.3JF	
30	4.8JF	(4.7)P	4.3J	4.0	4.1	4.3	5.2	7.4	8.6	9.4P	9.3P	S	9.0	8.0	7.6	8.3	7.3	S	5.5	5.1	3.9J	3.8J	3.9	3.6J	
31	3.8	4.3J	4.3	4.4	4.2	4.2	4.3	S	8.0	8.4	8.7	9.4	9.8P	8.6	8.4	7.4	6.6	C	C	5.6J	S	S	4.1	3.9J	
Mean Value	4.5	4.4	4.4	4.3	4.3	4.2	5.3	7.1	8.0	8.7	8.6	8.7	8.4	8.1	8.3	7.8	7.8	7.2	6.2	5.5	5.3	4.9	4.6	4.4	
Median Value	4.4	4.3	4.3	4.2	4.2	4.2	5.4	7.2	8.3	8.9	8.8	8.8	9.0	8.5	8.2	8.3	7.8	7.2	6.2	5.5	5.2	4.9	4.6	4.4	
Count	25	27	25	25	26	22	24	23	22	25	22	20	23	25	26	26	26	26	25	26	25	22	27	26	

W 1

Sweep 1.5 Mc to 15.5 Mc in 2 min Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 46° 23.8' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

fpF2

Oct. 1951

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	380	410	420V	410V	350F	(360)F	280	280P	(280)P	270P	(280)S	290	310P	310P	320P	320	320	280	310	(320)C	330	360	380	390	
2	360	360F	370	370	370	330	290	320	280	290	(290)P	300	300	320	(300)P	310P	310P	(310)P	320P	340	(300)P	A	(370)P	380	
3	360	380	(370)J	390	350	C	C	C	C	310	300	300	290	320	340	340	310	310	330	370	350P	350	380	410	
4	390	390	(370)F	380	380	360	280P	300P	310P	(300)F	(290)P	300	300	310	300	320	320	320P	290P	320P	330P	(310)P	330P	370	
5	350	420S	(350)	400	390	380	300	300	300	300	(300)P	300	(300)P	320	320	320	320	310	290	(300)P	S	(330)P	340	S	
6	S	(340)	(380)	390	330P	370	310	290	300	(290)F	310	310	310	330	310	310	300	310	310	310	(330)P	S	(330)P	370	
7	(360)P	(360)P	320P	400	340	320	300	300	290	310P	(300)P	320	320	320	320	310	310	310	310	350	380	360	490	460	
8	(430)P	(420)K	(430)K	400K	590K	390K	370K	350K	GK	AK	AK	AK	GK	AK	350K	350K	310K	320K	410	350P	(390)J	(410)J	(380)S	410	
9	(390)K	390	S	380	400	400	390	340	320Z	A	360	B	B	320	290	(290)J	(300)S	B	(350)S	S	S	(330)S	(300)S	370	
10	S	(430)P	S	350	(310)F	440	330	A	B	310	290	300	290	300	320	300	290	290	S	310P	S	A	380	450	
11	(400)P	(350)J	360	370	460	S	340	300	340P	290	330P	290	310	300	310	290	310	310	360	340	340	340	380	380	
12	(400)S	420	400	(310)K	420	420	320	300	320	310	(300)S	300	310P	310	300	300	290	340	C	C	(320)	(320)P	380	340	
13	400	410	400	C	C	C	C	C	(280)P	(280)S	(280)S	300	(300)P	300	(270)S	310	300	300	310	310	340	(440)J	(400)J	(430)J	
14	(350)P	C	C	C	C	C	340	(290)P	S	S	S	300	(300)C	300P	300	300P	300	300	300P	350	330P	A	A	350	
15	350	380	440	S	360	(370)J	310P	300	(300)P	320	310	(290)P	330P	330P	340	310	280	270	320P	310	350	A	A	420	
16	S	(380)P	(410)P	390	360	C	C	310	(300)C	300P	320P	300	320	330	310	300	300	280	320	300	390P	410	400	380	
17	420	420	(430)S	430	400	420	330	330	C	C	C	C	C	C	C	C	C	310	A	300	(360)J	(300)J	320P	350P	
18	320	320	360	370	400	320	(320)J	(310)P	320P	(330)J	S	S	C	C	C	C	C	300	320	390	420	360	460	410	
19	(390)J	420	360	380	360	(420)J	300P	300	S	320	310	310P	C	C	C	C	C	370	C	370	380	S	320	400	
20	410	360	390	430	420	430	330	330	310	320P	S	S	290P	(280)S	300	300	250	300	C	C	C	C	C	C	
21	C	C	C	C	C	C	C	C	S	280P	(280)P	280P	S	320	310	320P	300	300	350	400	380	360	(320)P	390	
22	380	(350)P	(410)F	(380)F	(390)F	(350)F	300P	280	S	350	300	S	290P	300	290	290	300	(310)S	320P	350	(340)J	350	(330)J	340	
23	(420)P	(400)P	(440)P	(420)J	(410)F	380	310	280	(290)F	280	S	S	290P	300	310	290P	280	330	310	S	S	S	380P	380P	A
24	S	(460)P	410F	360F	330	410H	290	300	300P	280	S	S	300	290	310	290	290	290	310	(330)P	C	C	C	A	
25	400	410	400	390	380	340Z	300P	290	300	S	S	S	320	330	(320)P	300	310	290	330	310	320	A	C	C	
26	C	C	C	C	C	C	C	C	C	300	(300)J	(300)J	S	290	290	300	300	310	320	300	320	A	A	A	
27	(370)P	350	370	360	350	320	310	260	280	(300)F	(300)F	290P	290P	270	330	(360)P	340	320	300	290	S	340	330	410	
28	450	430	380	360	320	C	C	C	C	C	C	C	C	C	C	C	C	310	(340)P	290P	(320)P	(430)P	410	420	
29	470	C	C	C	C	C	C	C	290	C	C	C	C	C	C	C	C	C	C	C	C	C	(380)P	(420)P	
30	(400)P	(350)P	(370)J	340	340	340	310	290	300	280P	300P	S	290	290	300	300	280	280	S	300	330	(320)P	(380)P	(420)P	
31	380	(350)J	370	360	350	320	300	S	280	290	310	310	300P	300	300	280	290	C	C	(320)P	S	S	340	C	
Mean Value	390	390	390	380	370	370	320	300	300	300	300	300	310	310	310	310	300	300	320	330	340	360	370	390	
Median Value	390	390	380	380	370	370	310	300	300	300	300	300	300	310	300	300	300	310	320	320	340	360	380	390	
Count	25	27	25	25	26	22	24	23	22	24	21	19	23	25	26	26	26	26	24	26	21	21	26	24	

Sweep 1.5 Mc to 1.55 Mc in 2 min

Manual Automatic

fpF2

W 2

Lat. 45° 23.8' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

Oct. 1951

4'F2

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	290	310	350	320	300	310	250	240	270	270	280	280	260	290	290	290	270	220	250	(250)C	250F	260	280	(340)A	
2	350A	290A	300	300	290	280	250	280	250	230	260	260	250	270	270	270	270	280	270	300	280	A	340	340A	
3	320A	340	340	320	360	C	C	C	C	280	290	280	280	290	270	280A	280	270A	280A	300	280	290	300	330	
4	330	320	300	300	300	280	250	270	270	(280)C	280	270	280	280	300	250	280	280	240	290	280	290	290	300	
5	310	330	310	310	300	280	250	280	270	290	280	290	280	290	290	290	270	260	280	280	280	300	310	300	
6	320	320	320	310	290	290	250	270	270	270	270	290	280	290	300	280	270	270	260	270	280	300	320	330	
7	320	300	280	280	300	270	270	260	280	300	300	280	280	280	280	300	280	260	300	280	320	320	370	400	
8	350K	330K	370K	320K	490K	300K	300K	300K	450K	A ^K	A ^K	A ^K	400K	A ^K	350K	330K	280K	300K	280	300	300	310	320	310	300
9	330	360	A	350S	360A	380A	350	320	300	A	340	320	310	310	290	290	270	280	310	A	A	300	260	350A	
10	A	360A	370	300	270	350	280	A	280	300	290	290	270	300	300	270	260	250	230	260	270	A	330	360	
11	350	300	320	350	400	A	300	300	300	280	300	270	280	280	270	280	270	270	270	C	300	300	300	240	
12	350S	350	320	270	270	320	290	280	270	300	290	270	280	280	270	280	270	270	270	C	300	280	280	300	
13	360	370	320	C	C	C	C	C	280	280	270	270	(260)S	250	280	280	280	270	270	300	270	390	390	380	
14	300	C	C	C	C	C	270	280	280	280	270	270	(280)C	270	280	280	270	280	280	330	300	A	A	300	
15	300	310	380	S	300	310	260	270	280	270	270	280	290	270	270	240	240	220	280	280	300	A	A	380	
16	A	340A	310	310	310	C	C	280	(270)C	(300)A	300	300	270	260	280	280	260	260	270A	260	330	320S	320S	320A	
17	360	360	330	370	320	370	280	280	C	C	C	C	C	C	C	C	C	300	A	310A	300	290	300	310	
18	290S	300	310	300	280	300	300	280	290	270	280	300	C	C	C	C	C	260	300	300	300	310	280	310	
19	350	380	300	320	300	380	280	280	290	280	280	280	C	C	C	C	C	C	300	300	300	310	270	360	
20	330	320	320	370	380	340	280	280	270	270	270	270	270	240	270	280	240	270	C	C	C	C	C	C	
21	C	C	C	C	C	C	C	C	270	270	270	270	280	280	280	280	280	270	270	300	310	300	290	300	
22	310	300	320	300F	310	300	250	280	260	270	280	270	280	280	280	270	260	250	300	310	290	300	300	300	
23	360	370	400	360	360	300	280	(270)A	280	280	290	280	270	270	270	260	280A	(280)	280	320	290	300	300	300	
24	A	370	370	300	290	280 ^H	280	280	270	270	280	(280)S	270	280	270	260	260	280	270	300	C	C	330	A	
25	370	(380)A	380	380A	380A	290	260	250	280	270	290	290	280	280	290	280	280	280	280	300	A	C	C	350A	
26	C	C	C	C	C	C	C	C	C	290	270	300	290	280	280	280	270	270	270	290	300	A	A	C	
27	320	320	330	330	300	290	250	210	230	270	280	260	280	230	270	310	270	280	270	230	A	310	290	360	
28	380	380	330	300	280	C	C	C	C	C	C	C	C	C	C	C	C	C	270	280	280	360	370	400	
29	410	C	C	C	C	C	C	C	270	C	C	C	C	C	C	C	C	C	C	C	300	320	330	360	
30	320	300	310	310	300	290	280	270	270	250	260	280	260	270	270	270	250	250	250	280S	280	350	310	310	
31	350	320	310	310	300	280	280	250	280	270	270	270	270	270	270	260	250	250	C	C	270	270	290	C	
Mean Value	340	340	330	310	320	310	270	270	280	280	280	280	280	280	280	280	270	270	260	290	290	310	300	330	
Median Value	330	330	320	310	300	300	280	280	280	280	280	280	280	280	280	280	270	270	270	270	290	300	300	330	
Count	26	27	26	25	26	22	24	24	27	26	27	27	26	25	26	26	26	27	25	27	26	22	26	26	

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

IONOSPHERIC DATA

Wakkanai

foF1

Oct. 1951

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							Q	Q	Q	4.4	4.3	4.4	Q	4.3	4.6	4.1	Q	Q						
2							Q	Q	Q	4.2	B	Q	Q	4.2	Q	Q	Q	Q						
3							Q	Q	4.2	C	4.5	L	L	L	L	Q	Q	Q						
4							Q	Q	Q	L	4.5	L	L	L	L	Q	Q	Q						
5							Q	Q	Q	L	4.6	L	4.3	L	L	L	Q	Q						
6							Q	Q	4.4	B	4.4	B	4.4	3.8	3.7	Q	Q	Q						
7							Q	Q	Q	L	L	A	4.3	4.2	Q	Q	A	Q						
8							Q	Q	L	A	A	A	4.7	5.0F	B	3.6	A	Q						
9							Q	L	A	A	L	4.3	A	Q	L	A	Q	Q						
10							Q	A	B	4.3	4.5	4.4	Q	4.2	Q	4.0	Q	Q						
11							Q	L	L	3.9	4.8	4.5	4.5	4.0	Q	Q	Q	Q						
12							Q	Q	Q	3.7	4.0	4.2	4.0	4.1	3.9	Q	Q	Q						
13							C	C	B	L	4.7	4.5	C	Q	Q	Q	Q	Q						
14							Q	Q	Q	4.0J	L	L	C	Q	Q	Q	Q	Q						
15							Q	Q	Q	4.0	A	A	L	L	Q	Q	Q	Q						
16							C	A	C	A	A	L	L	Q	Q	Q	Q	Q						
17							Q	Q	Q	C	C	C	C	C	C	C	C	C						
18							Q	Q	Q	Q	Q	L	C	C	C	C	C	Q						
19							Q	Q	L	Q	4.3	4.6	C	C	C	C	C	C						
20							Q	Q	Q	Q	Q	L	4.1	R	4.3	Q	Q	Q						
21							C	C	A	A	Q	Q	L	Q	Q	Q	Q	Q						
22							Q	Q	Q	Q	4.6	Q	Q	Q	Q	Q	Q	Q						
23							Q	A	A	4.0	A	4.1	4.3	4.0	Q	Q	Q	Q						
24							Q	Q	Q	Q	A	C	Q	4.0	Q	Q	Q	Q						
25							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q						
26							C	C	C	4.0	Q	4.4	4.7	4.4	Q	Q	Q	Q						
27							Q	Q	Q	4.1	4.2	L	Q	Q	Q	Q	Q	Q						
28							C	C	C	C	C	C	C	C	C	C	C	C						
29							C	C	Q	C	C	C	C	C	C	C	C	C						
30							Q	Q	Q	Q	Q	L	Q	L	3.9	Q	Q	Q						
31							Q	Q	L	Q	4.2	L	Q	L	Q	Q	Q	Q						
Mean							4.1	4.4	4.4	4.4	4.4	4.4	4.4	4.2	4.1	3.9								
Minimum							4.0	4.4	4.4	4.4	4.3	4.2	4.2	4.2	3.9	4.0								
Maximum							4.1	4.4	4.4	4.4	4.4	4.4	4.4	4.2	4.1	3.9								
Count							11	12	11	9	9	11	5	3										

foF1

Sweep 1.5 Mc to 15.5 Mc in 2 min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

Oct. 1951

f'F1

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

Sweep 1.5 Mc to 15.5 Mc in 2 min. Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kfutama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

foE

Oct. 1951

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	2.2 ^J	2.7	2.7	A	3.0	B	A	3.0	2.7	2.3	1.9						
2							A	A	C	3.4	B	3.5	A	A	A	B	B	B						
3							C	C	A	C	B	B	3.4	B	B	A	2.8	A						
4							B	2.3	2.8	[2.8] ^C	2.9 ^J	3.0	2.8 ^B	A	A	A	2.6	B						
5							B	2.5	B	3.3	B	B	B	B	B	A	B	B						
6							B	B	B	B	B	B	B	B	B	B	B	B						
7							B	2.7	2.9	B	B	B	B	A	3.2	A	A	A						
8							B	2.3	2.8	A	3.2	3.2 ^F	B	A	B	2.9	B	E						
9							A	A	2.5	A	A	B	A	B	B	A	B	B						
10							A	A	B	A	B	3.3	3.4	B	B	2.4	2.3	E						
11							B	B	A	2.6	2.9 ^P	A	3.0 ^P	3.2	2.9	2.3	2.2	E						
12							A	A	2.7	B	B	B	B	B	B	A	A	B						
13							C	C	B	B	B	B	C	B	B	B	2.3	B						
14							B	2.2	2.7	B	B	B	C	B	2.6	2.7	B	B						
15							E	2.2	2.8	B	B	A	A	2.8	2.8	B	B	B						
16							C	1.8	C	3.0	C	C	B	B	2.5	B	A	B						
17							E	2.1 ^B	C	C	C	C	C	C	C	C	C	S						
18							E	A	2.7	2.8	3.0	B	C	C	C	C	C	B						
19							B	A	2.9	2.8	3.2 ^B	B	C	C	C	C	C	C						
20							E	2.3	2.6	B	B	B	B	B	B	B	B	B						
21							C	C	A	S	B	B	B	B	B	B	B	B						
22							B	2.0	2.8	S	B	B	B	B	B	B	B	C						
23							B	B	A	2.8	A	C	3.1	B	B	A	A	B						
24							B	2.2	2.6	2.9	A	C	3.2	B	B	2.5	A	B						
25							B	A	A	A	A	A	B	B	B	A	A	B						
26							C	C	C	A	A	A	B	B	A	A	B	A						
27							B	B	A	2.5	2.8	2.9	3.1	A	2.7	2.4	B	B						
28							C	C	C	C	C	C	C	C	C	C	C	S						
29							C	C	2.9	C	C	C	C	C	C	C	C	C						
30							B	2.2	A	B	2.9	B	B	3.0	2.8	A	B	S						
31							B	B	B	2.4	2.3	2.4	2.3	2.6	2.2	B	B	C						
Mean								2.3	2.7	2.8	2.9	3.1	3.0	2.9	2.7	2.6	2.4	1.9						
Mean							E	2.2	2.8	2.8	2.9	3.0	3.1	2.9	2.8	2.5	2.3	1.9						
Value							4	12	14	12	8	8	7	4	10	7	6	4						
Count																								

foE

Group 1.5 Mc to 15.5 Mc in 2 min

Manual

Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 45° 28.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

11'E

Oct. 1951

135° E Mean Time

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

Frequency 1.5 Mc to 15.5 Mc in 2 min

Manual Automatic

W 7

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 45° 23.6' N
Long. 141° 41.1' E

IONOSPHERIC DATA

Wakkanai

Oct. 1951

fEs

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	24	20	29	E	33	33	28	38	4	35	38	35	G	33	4	G	Q	Q	30	C	29	40	29	48
2	71	45	28	E	E	E	34	37	47	G	G	G	39	42	52	B	G	B	23	23	S	62	27	34
3	37	32	33	E	E	C	C	C	C	C	C	C	G	G	G	64	G	44	42	30	S	26	28	E
4	E	E	E	22	21	27	26	G	G	C	G	G	35	43	45	80	G	22	30	E	E	E	E	E
5	E	E	E	E	22	22	B	G	G	G	B	B	B	42	G	32	B	B	30	E	S	E	E	E
6	E	E	E	E	28	E	B	G	45	52	34	B	B	33	G	B	B	B	E	E	E	E	E	E
7	E	E	E	E	26	32	B	G	G	G	49	58	38	34	46	48	54	54	52	32	42	22	E	30
8	26	E	E	32	22	E	B	G	G	52	52	57F	G	59F	B	33	29	E	E	E	E	E	27	E
9	28	27	32	S	26	28	38	27	32	70	48	B	50	G	G	60	G	B	G	48	30S	E	22	24
10	32	22	E	E	E	27	32	80	B	40	G	G	G	G	G	G	G	E	E	30	39	60	30	E
11	E	22	E	E	26	27	B	G	26	G	G	38	G	G	G	G	G	E	E	24	E	E	E	E
12	S	E	E	E	24Y	24	38	42	G	G	G	G	G	G	G	34	45	37	C	C	S	E	E	E
13	E	E	E	C	C	C	C	C	B	G	G	B	C	B	G	G	G	B	E	E	E	E	E	E
14	E	C	C	C	C	C	B	30	48	B	B	B	C	B	G	G	B	30	E	40	32	6.1	60	29
15	E	E	E	28	E	E	E	E	G	34	54	72	50	G	G	G	27	22	34	44	46	48	50	36
16	26	33	31	29	27	C	C	58	C	84	70	97	G	G	G	38	44	44	36	26	24	S	27	32
17	E	E	E	E	E	E	E	28	C	C	C	C	C	C	C	C	C	S	74	53	38	33	28	34
18	S	30	39	34	28	E	E	58	G	32	34	B	C	C	C	C	C	56	23	E	E	E	E	E
19	E	E	E	E	E	E	E	42	G	G	G	B	C	C	C	C	C	C	C	E	E	E	23	E
20	E	34	E	E	E	E	E	44	G	G	B	B	G	B	B	G	B	C	C	E	E	E	E	E
21	C	C	C	C	C	C	C	C	51	41	B	B	B	B	Q	Q	B	B	C	C	C	C	C	C
22	23	E	E	E	E	E	B	G	S	S	B	B	B	B	Q	B	33	58	58	52	50	23	32	30
23	30	50F	32	30	24	E	32	60	52	46	52	G	G	29Y	44	44	4.4	C	E	E	E	32	32	32
24	40	52	38	E	E	28	24	40	40	42	53	C	G	G	G	22	B	E	E	E	E	E	32	56
25	51	33	33	32	41	32	B	22	37	67	58	61	G	G	Q	42	37	57	42	28	56	C	80	48
26	C	C	C	C	C	C	C	C	C	32	33	3.5	B	B	30	30	B	31	58	5.6F	58F	61F	70	60F
27	31	30	S	24	S	E	B	B	44	38	G	G	G	38	Q	Q	32	26	E	E	32	44	34	38
28	S	E	E	E	E	C	C	C	C	C	C	C	C	C	C	C	C	J	E	E	E	E	E	23
29	E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	S	E	E	E
30	E	E	E	E	E	E	B	G	28	G	G	G	G	G	G	27	39	S	S	S	E	E	E	E
31	E	E	E	E	E	E	B	B	G	G	G	3.8	G	G	G	B	B	C	C	E	E	S	E	C
Mean Value	3.5	3.4	3.3	2.9	2.6	2.8	3.2	4.6	4.1	4.7	4.8	4.8	4.2	4.1	4.6	4.0	3.8	3.8	4.1	3.7	3.9	4.3	3.7	3.7
Median Value	E	E	E	E	E	E	2.7	2.8	2.6	3.2	3.3	3.5	G	G	G	G	2.7	3.0	2.3	E	E	E	2.7	2.4
Count	26	27	26	25	25	23	12	23	23	25	23	17	19	19	24	22	19	16	25	26	26	26	29	28

fEs

Sweep 1.5 Mc to 15.5 Mc in 2 min

Manual Automatic

Lat. 40° 28.6' N
Long. 141° 41.1' E

IONOSPHERIC DATA

Wakkanai

Oct. 1951

(M3000)F2

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.7	2.6	2.5V	2.7V	2.8F	2.8F	3.2	3.3P	(3.3)P	3.3P	(3.2)S	3.1	3.0	3.0P	3.0P	3.0	2.9	3.2	3.0	(3.0)C	3.0	2.7	2.7	2.7
2	2.8	2.7	2.7	2.7	2.7	3.0	3.1	3.1	3.2	3.2	(3.2)S	(3.2)S	3.0	3.2	2.9	(3.2)S	3.1P	(3.1)S	2.9P	(3.0)S	3.0	(2.7)A	(2.7)A	2.7
3	2.8	2.8	(2.7)J	2.6	2.8	C	C	C	C	3.1	3.1	3.0	3.1	2.9	2.9	3.0	2.8	3.0	2.9	2.9P	(3.0)S	2.9	2.7	2.5
4	2.6	2.6	(2.7)P	2.6	2.6	2.7	3.2P	3.1P	3.0P	(3.2)C	(3.3)P	3.1	3.0	3.0	3.0	3.0	2.8	3.0P	3.1P	2.9P	(3.0)S	(2.9)P	2.9	S
5	2.8	2.6	2.6	2.5	2.6	2.6	3.0	3.1	3.2	3.1P	3.1	(3.1)P	2.9	2.9	3.0	3.0	3.1	3.1	3.1	(3.0)S	(2.9)S	(2.9)S	2.7	2.7P
6	S	(2.8)S	(2.8)S	2.6	2.9P	2.7	3.0	3.2	3.2	(3.2)P	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.8	2.7	2.8	2.5	2.5
7	(2.8)P	(2.8)P	3.0P	2.8	2.8	3.0	3.1	3.1P	3.1P	(3.1)S	3.0	2.9	2.9	2.9	2.8K	2.8K	2.8K	2.9K	2.5	2.8P	(2.6)J	(2.5)S	(2.8)S	2.5
8	(2.6)P	(2.6)P	(2.7)P	2.6K	2.1K	2.6K	2.8K	2.8K	2.5K	2.2K	A ^K	2.3K	2.8K	A ^K	A ^K	2.8K	2.8K	3.0K	2.9K	2.5	2.8P	(2.9)S	(3.0)S	2.7
9	(2.7)S	2.7	S	2.6	2.6	2.4	2.9	A	AB	A	2.8	B	B	B	3.0	3.2	3.1	3.1	S	3.2P	S	A	2.7	2.4
10	S	(2.5)S	S	2.7	(3.1)S	2.4	2.9	A	AB	A	2.8	B	B	B	3.0	3.2	3.1	3.1	S	3.2P	S	A	2.7	2.4
11	(2.6)P	(2.8)P	2.8	2.8	2.4	S	2.9	3.2	2.8P	3.2	2.9P	3.1	2.9	3.1	3.1	3.0	3.0	3.0	2.7	2.9	3.0	2.7	3.0	2.8
12	2.6	2.6	2.7	(2.9)P	2.6	2.5	3.0	3.0	3.0	3.0	(3.1)S	(3.1)S	3.0P	3.0	3.0	3.0	3.2	2.8	C	C	(3.0)C	(2.9)S	2.6	2.8
13	2.6	2.6	2.6	C	C	C	C	C	(3.3)S	(3.2)S	(3.2)S	3.1	(3.1)S	3.1	(3.1)S	3.0	3.0	3.2	3.0	3.1	2.8	(2.5)S	(2.6)S	(2.5)S
14	(2.8)P	C	C	C	C	C	2.9	(3.2)S	S	S	S	3.1	(3.1)P	3.1P	3.0	3.1P	3.1	3.0	3.0P	2.9	2.9P	A	2.7	2.8
15	2.8	2.7	2.4	S	2.7	(2.7)S	2.9P	3.0	(3.1)P	3.0	3.0	(3.1)P	2.9P	2.9P	2.9	3.0	3.1	3.3	3.0P	3.1	2.9	A	A	2.5
16	S	(2.7)P	(2.6)P	2.6	2.9	C	C	3.0	(3.0)C	3.0P	3.0P	3.1	3.0	3.0	3.0	3.0	3.0	3.2	2.9	3.1	2.7P	2.6	2.6	2.7
17	2.6	2.6	2.5	2.5	2.6	2.4	2.9	2.9	C	C	C	S	C	C	C	C	C	C	3.0	2.8	2.9	(3.0)S	(3.0)S	2.9P
18	3.0	3.0	2.8	2.6	2.6	3.0	(2.9)P	3.1	2.9P	(3.0)S	S	S	C	C	C	C	C	3.0	3.0	2.7	2.4	2.7	2.4	2.6
19	(2.7)P	2.5	2.7	2.7	2.7	(2.5)P	2.9P	3.0P	S	3.0	3.0	3.1P	C	C	C	C	C	C	C	2.7	2.8	S	2.9	2.6
20	2.5	2.8	2.6	2.5	2.6	2.6	2.9	3.1	3.0P	3.0P	S	S	3.3P	(3.2)S	3.0	3.2	3.3	3.1	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	S	3.3S	3.2	3.2P	S	3.0	3.0	3.1P	3.1	3.2	2.8	2.5	2.7	2.8	(3.0)S	2.6
22	2.7	(2.7)S	(2.5)P	(2.7)P	(2.7)P	(2.7)P	3.1P	3.2	S	3.3	3.1	S	3.2	3.0	3.1	3.2	3.0	(3.0)S	3.0P	2.8	(2.8)S	2.8	(2.9)S	2.8
23	(2.5)P	(2.6)P	(2.5)P	(2.5)P	(2.6)P	2.6	3.0	3.3	(3.3)P	3.2	S	S	3.1P	3.1	3.1	3.1P	3.2	2.9	3.0	S	S	2.7P	2.7P	A
24	S	(2.4)P	2.7P	2.8P	3.0	2.8H	3.0	3.2	3.1P	3.3	S	S	3.1	3.2	3.0	3.1	3.3	3.2	3.0	(3.0)S	C	C	2.7	2.9
25	2.6	2.6	2.6	2.7	2.7	2.8Z	3.0	3.2	3.1	S	S	S	3.0	2.8	(3.0)P	3.1	3.1	3.1	2.8	3.0	A	C	C	C
26	C	C	C	C	C	C	C	C	C	3.2	(3.2)S	(3.1)S	S	3.2	3.2	3.2	3.2	3.0	3.0	3.1	3.0	A	A	A
27	(2.7)P	2.8	2.7	2.8	2.8	2.9	2.9	3.3	3.2	(3.1)P	(3.1)P	(3.2)P	3.1P	2.9	3.0	(2.8)P	2.9	2.9	3.0	3.1	S	2.9	2.9	2.6
28	2.5	2.5	2.7	2.8	3.0	C	C	C	C	C	C	C	C	C	C	C	C	3.0	(2.8)P	3.2P	(3.0)S	(2.5)S	2.7	2.5
29	2.4	C	C	C	C	C	C	C	3.3	C	C	C	C	C	C	C	C	C	C	C	C	(2.6)S	(2.6)S	(2.5)S
30	(2.6)P	(2.8)P	(2.7)P	2.8	2.8	2.8	3.0	3.1	3.0	3.1P	(3.2)S	S	3.2	3.2	3.1	3.1	3.2	S	3.1	2.9	2.9	(3.0)S	(2.7)S	2.6
31	2.8	(2.8)S	2.8	2.9	2.8	3.0	3.2	S	3.3	3.2	3.0	3.1	3.1P	3.1	3.1	3.3	3.1	C	C	(3.0)S	S	S	2.8	C
Mean Value	2.7	2.7	2.7	2.7	2.7	2.7	3.0	3.1	3.1	3.1	3.1	3.1	3.0	3.0	3.0	3.1	3.1	3.1	3.0	2.9	2.8	2.8	2.7	2.7
Median Value	2.7	2.7	2.7	2.7	2.7	2.7	3.0	3.1	3.1	3.1	3.1	3.1	3.0	3.0	3.0	3.1	3.1	3.1	3.0	3.0	2.8	2.8	2.7	2.7
Count	25	27	25	25	22	22	24	23	22	25	21	20	23	25	26	26	26	26	24	26	21	21	21	25

Manual Automatic

Survey 1.5 Mc to 15.5 Mc in 2 min

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japa.

IONOSPHERIC DATA

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

Oct. 1951

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	E	2.3	E	2.4	2.4	2.2	3.3	3.1	3.5	3.5	3.8	3.8	3.3	3.9	3.3	2.5	2.2	2.0	(1.8)C	1.6	2.2	E	2.3
2	3.7A	2.8A	E	E	1.8	1.8	2.3	2.3	2.5	3.4	4.4	3.9	3.7	3.5	3.8A	3.0	3.0	2.2	2.3	2.9	2.7	5.6A	3.4	3.0A
3	3.4A	E	E	E	1.9	C	C	C	C	3.2	3.5	3.6	3.6	3.4	3.4	3.6A	3.5	3.0A	2.8A	2.4	1.9	2.2	1.8	1.6
4	1.7	1.6	1.8	1.8	1.9	1.8	2.0	3.0	3.2	(3.4)C	3.6	3.6	3.6	3.4	3.4	3.4	2.9	2.1	2.0	2.0	1.8	1.8	1.8	1.8
5	1.8	2.0	2.0	2.0	2.0	1.9	2.0	3.0	3.0	3.6	3.6	3.6	3.8	3.6	3.4	3.4	3.3	2.2	2.0	1.8	3.0S	2.0	2.0	1.8
6	2.0	2.0	2.0	2.0	1.9	1.8	2.1	2.8	3.3	3.4	3.5	3.4	4.0	3.4	3.3	2.4	2.4	1.7	1.8	1.8	1.8	2.4	2.0	1.8
7	2.3	1.9	1.8	1.8	2.0	2.3	2.3	2.8	3.3	3.4	3.9	5.0A	3.8	3.6	4.0	4.0A	4.4	2.6	4.6A	2.2	3.0A	2.2	2.0	2.6A
8	1.8	2.2	1.8	1.6	1.9	1.7	2.0	2.4	3.2	4.5A	4.4A	4.6A	4.1	3.8A	4.4	3.1	2.8	1.7	1.8	2.3	1.8	1.8	2.0	1.8
9	2.0	2.0	A	2.0S	2.0	2.2	2.3	2.7	3.4	3.8	3.4	3.4	4.3	3.6	3.4	4.7A	2.4	1.8	1.8	A	A	2.0	2.0	2.4
10	A	2.0	2.0	2.0	1.7	1.8	2.5	A	4.0	3.1	3.4	3.3	3.4	3.4	3.3	2.6	2.6	2.0	1.8	E	2.3	A	2.0	2.0
11	2.0	2.0	1.8	2.0	2.0	A	1.9	2.4	2.6	3.0	3.4	3.4	3.4	3.4	3.6	3.1	2.4	1.6	1.7	1.7	1.6	E	1.8	1.6
12	3.0S	E	E	1.8	1.8	1.6	2.5	2.8	3.0	3.4	3.4	3.3	3.4	3.3	3.3	3.1	2.4	1.6	1.7	1.7	1.6	E	1.8	1.8
13	1.8	1.8	1.8	C	C	C	C	C	3.8	3.6	3.3	3.6	(3.6)S	3.6	3.7	2.9	2.3	1.9	2.0	2.2	2.0	2.0	2.0	2.0
14	1.9	C	C	C	C	C	C	C	3.7	4.0	3.4	3.9	(3.4)S	2.8	3.0	3.0	2.5	2.5	2.5	2.6A	2.6A	A	4.0A	2.3
15	2.0	2.0	1.8	S	1.9	2.0	1.7	2.0	3.3	3.0	4.0A	4.8A	4.0A	3.4	3.4	3.4	2.4	2.1	2.0	1.8	2.0	A	A	2.0
16	A	2.5A	2.0	2.1	1.8	C	C	4.3	(5.6)C	6.8A	4.4A	3.7	3.4	3.3	3.4	3.0	3.3A	2.4	3.6A	2.6A	2.4	2.3S	2.5S	2.4
17	2.2	2.2	1.8	2.2	2.0	1.8	1.8	3.0	C	C	C	C	C	C	C	C	C	3.6S	6.0A	4.2A	2.9A	3.8	2.6A	2.0
18	2.6S	1.8	2.0	2.0	2.0	2.2	1.9	2.8A	3.7	3.4	3.3	3.0	C	C	C	C	C	3.3A	2.0	1.9	2.0	1.7	1.8	1.8
19	2.0	1.8	1.8	1.8	2.0	1.8	1.8	2.0	3.5	3.6	3.6	4.0	C	C	C	C	C	C	1.8	E	1.8	2.2	2.0	2.0
20	E	2.2	1.8	1.8	1.8	1.8	1.8	3.5A	3.4	3.2	3.0	4.3	3.3	4.5	3.4	3.3	2.5	2.0	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	4.0A	4.0A	3.8	4.0	3.5	3.6	3.0	2.8	2.0	2.0	3.3A	2.8A	2.5A	2.0	2.0	2.2
22	2.0	1.8	2.0	1.9	2.0	1.8	2.0	2.6	2.9	3.3S	3.3	3.4	4.0	3.2	3.2	2.0	3.4A	(2.7)S	2.0	2.1	2.1	2.0	2.4	2.8A
23	2.0	3.4A	2.0	1.8	1.8	1.8	3.0A	A	4.5A	2.8	4.6A	3.7	3.4	3.4	3.4	3.4	4.0A	2.2	1.6	1.8	1.8	1.8	2.2	A
24	A	1.8	1.8	1.8	1.8	2.2	2.2	2.8	2.8	3.6	4.3A	(4.0)S	3.6	3.6	3.0	3.0	2.2	2.0	2.0	2.0	C	C	3.8A	3.7A
25	2.0	(3.0A)	2.2	3.0A	3.4A	2.0	2.0	2.5	3.1	3.1	4.3A	3.6	3.2	3.2	3.1	3.8A	2.9	4.0A	3.8A	3.8	A	C	C	C
26	C	C	C	C	C	C	C	C	C	3.4	3.3	3.5	3.6	3.4	4.0	3.0	3.0	2.9	3.0A	2.3	3.0A	A	A	A
27	2.0	2.0	2.0	2.0	2.2	1.9	2.0	2.0	2.3	3.0	3.2	3.6	3.2	3.2	3.4	2.5	2.2	2.1	2.0	E	A	2.2	2.2	2.1
28	2.2	1.8	1.6	C	E	C	C	C	C	C	C	C	C	C	C	C	C	C	2.2	2.2	2.1	2.2	2.0	2.0
29	1.9	C	C	C	C	C	C	C	3.2	C	C	C	C	C	C	C	C	C	C	C	2.2	2.2	2.0	2.0
30	1.8	2.0	2.0	1.8	2.0	2.0	1.8	2.6	2.9	3.4	3.5	3.4	3.2	3.3	3.2	2.8	3.0	S	2.0S	3.0S	2.0	2.0	2.0	2.0
31	1.8	2.3	2.0	2.0	2.0	2.0	2.0	2.4	2.0	3.0	3.0	3.1	3.7	3.4	3.4	3.4	2.0	C	C	1.6	2.0	S	2.0	2.6

Mean Value
Median Value
Count

fminF

Sweep 1.5 Mc to 15.5 Mc in 2 min

Manual Automatic

W 10

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 45° 28.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

fminE

Oct. 1951

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	1.7	E	E	E	E	E	1.7	E	1.6	1.7	2.2	2.2	2.4	1.7	2.0	1.8	1.6	1.6	E	C	E	E	E	E
2	E	E	E	E	E	E	E	E	E	2.4	E	2.4	1.8	2.4	1.6	B	E	B	2.0	1.8	S	E	E	1.8
3	E	E	E	E	E	C	C	C	C	E	2.0	1.8	1.8	2.0	1.8	E	1.8	1.6	1.8	1.8	1.6	E	E	E
4	E	E	E	1.9	1.9	2.0	1.9	1.9	2.3	(2.2)C	2.0	2.0	2.8	2.5	2.2	2.0	2.0	2.0	1.8	E	E	E	E	E
5	E	E	E	E	2.0	2.0	B	B	2.0	2.2	B	B	B	2.5	2.4	2.5	B	1.8	1.9	E	S	E	E	E
6	E	E	E	E	E	E	B	B	3.0	3.0	3.2	B	B	3.0	2.3	B	B	B	E	E	E	E	E	E
7	E	E	E	E	2.0	1.9	B	1.6	2.2	2.7	3.3	3.1	3.3	2.6	2.2	1.8	1.8	1.8	2.0	1.8	1.8	E	E	1.8
8	1.8	E	E	1.6	1.8	E	B	2.0	1.8	1.8	1.9	E	E	E	B	2.2	2.0	E	1.9	1.8	E	1.8	1.8	
9	2.0	2.1	1.8	S	E	1.7	1.9	1.8	2.3	2.2	2.2	B	3.0	2.0	1.9	1.9	E	B	1.9	1.8	E	2.0	1.8	
10	2.0	1.8	E	E	E	2.0	1.7	2.2	B	2.3	2.4	2.1	2.3	2.3	2.3	2.0	1.8	E	E	1.8	1.9	2.0	E	
11	E	1.9	E	2.0	1.8	1.9	B	1.8	1.8	2.0	2.0	1.8	2.2	1.8	2.0	1.6	E	E	E	1.6	E	E	E	
12	S	E	E	E	E	2.0	1.8	1.8	1.8	2.2	2.2	1.8	E	2.0	1.8	1.8	1.9	2.0	C	C	S	E	E	
13	E	E	E	C	C	C	C	C	B	2.2	2.0	B	C	B	2.1	2.0	1.9	B	E	2.5	2.5	2.5	1.8	2.0
14	E	C	C	C	C	C	C	B	2.0	B	B	B	C	B	2.0	2.4	B	2.6	E	2.5	2.5	1.8	1.8	
15	E	E	E	2.5	E	E	E	1.9	2.3	2.2	2.8	2.2	2.3	2.0	2.2	2.2	2.3	2.0	1.8	1.6	1.8	1.8	1.8	
16	2.0	2.1	2.0	2.0	2.4	C	C	2.2	(2.3)C	2.4	3.1	3.3	2.7	2.4	2.0	2.2	2.0	2.0	1.8	2.0	2.0	S	2.5	2.0
17	E	E	E	E	E	E	E	2.1	C	C	C	C	C	C	C	C	C	S	1.8	2.0	E	E	E	E
18	S	2.0	2.0	2.0	2.0	2.0	E	2.0	2.0	1.9	2.2	B	C	C	C	C	C	2.0	2.0	E	E	E	E	E
19	E	E	E	E	E	E	E	B	2.0	2.2	2.4	3.2	B	B	B	1.9	B	B	C	C	C	C	C	C
20	E	E	E	E	E	E	E	E	2.0	2.1	2.2	B	B	B	2.0	B	1.9	C	E	2.0	2.0	2.0	2.0	2.0
21	C	C	C	C	C	C	C	C	2.0	3.6	B	B	B	B	B	B	1.9	C	E	2.0	2.0	2.0	2.0	2.0
22	2.0	E	E	E	E	E	E	B	1.8	2.0	S	B	2.0	2.0	1.8	1.9	B	B	E	E	E	1.8	1.8	
23	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.0	2.6	1.9	(2.0)J	2.1	2.0	1.8	1.9	1.8	B	E	E	E	1.8	1.8	
24	1.8	1.8	1.8	E	E	1.8	2.0	1.8	1.9	2.0	2.4	2.0	2.0	B	2.0	2.0	1.8	B	E	E	C	1.9	1.8	
25	1.9	1.7	2.0	E	1.7	E	B	2.0	1.9	2.0	2.4	2.0	2.0	B	2.0	2.0	2.0	1.9	2.0	2.0	1.8	C	C	C
26	C	C	C	C	C	C	C	C	C	2.6	2.0	2.0	B	B	2.0	2.0	B	2.0	1.8	2.2	1.9	2.0	1.9	1.9
27	1.8	1.9	S	2.0	S	E	B	B	2.0	2.0	2.2	2.7	2.2	2.2	2.0	2.0	2.0	2.0	E	E	2.0	1.8	1.8	
28	S	E	E	E	E	C	C	C	C	C	C	C	C	C	C	C	C	S	E	E	E	E	2.1	
29	E	C	C	C	C	C	C	C	1.8	C	C	C	C	C	C	C	C	C	C	C	E	E	E	E
30	E	E	E	E	E	E	B	1.9	2.0	2.0	2.2	E	2.1	2.5	2.0	2.0	2.0	S	S	S	E	E	E	
31	E	E	E	E	E	E	B	B	B	2.0	2.0	2.0	2.0	2.2	2.0	B	B	C	E	E	E	E	E	E
Mean	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.2	2.3	2.2	2.3	2.2	2.1	2.0	1.9	2.0	1.9	1.9	2.0	1.9	2.0	1.9
Max	E	E	E	E	E	E	E	E	2.0	2.2	2.2	2.0	2.2	2.1	2.0	2.0	1.9	2.0	E	E	E	E	E	E
Min	2.6	2.0	2.6	2.5	2.5	2.3	1.2	2.3	2.4	2.6	2.3	1.8	1.9	1.9	2.4	2.2	1.9	1.7	1.7	2.6	2.6	2.6	2.6	2.9
Count	2.6	2.0	2.6	2.5	2.5	2.3	1.2	2.3	2.4	2.6	2.3	1.8	1.9	1.9	2.4	2.2	1.9	1.7	1.7	2.6	2.6	2.6	2.6	2.9

Swamp 1.5 Mc to 1.55 Mc in 2 min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

135° E Mean Time

Oct. 1951

foF2

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	4.7 ^{JF}	4.1 ^J	4.1	4.1	4.1	4.2	6.6	8.2 ^J	8.3	9.3	8.3	9.2	8.5	8.1	8.5	8.7	10.4	10.5	6.8	5.8	5.2	4.7	4.6	4.6
2	4.5	4.5	4.3	4.1	4.0	4.1	B	8.3 ^P	8.3	8.4 ^H	8.0	8.7	8.2	8.0	8.2	9.9	8.7	8.6	7.8	7.0	6.4	6.2	5.2	5.2
3	5.5	A	5.4	5.3	5.0	5.3	6.2	7.2	8.1	9.0	9.3 ^H	8.7	8.3	8.5	8.2	8.5	9.0	B	B	5.7	5.3 ^P	5.1 ^H	5.1	5.1
4	5.0	5.1	5.0	4.8	4.6	4.6	5.9	7.7	9.2	8.9	9.5	8.8	8.0	8.2	8.1	7.7	8.1	8.7	7.4	5.7	5.2	5.0	4.7	4.8
5	4.7	4.6	4.8	4.5	4.6	4.7	6.8	7.9	8.4	8.6	9.1	8.4 ^H	8.0 ^H	8.6	9.2	9.2	9.1	8.4	6.2	5.7	4.9	4.7	4.9 ^H	5.0
6	4.8	4.8	4.6	4.7	4.7	3.3	5.2	6.8	8.5 ^P	8.8	7.9	8.1	8.0	7.8	8.4 ^H	8.0	8.2	8.3	7.5	5.4 ^S	5.0 ^S	4.8 ^S	4.9 ^S	5.0 ^S
7	5.0	5.2	5.0	5.0	4.9	4.7	5.7	7.0	7.7	8.9	9.3	9.0	8.6	8.4	8.2	8.7	9.4	9.5	8.1	A	5.6	4.8	5.0	5.0
8	5.0	4.9	4.7	4.8	3.5 ^H	4.6 ^K	4.1 ^K	5.2 ^K	5.1 ^K	6.4 ^K	5.6 ^K	6.5 ^K	7.6 ^K	6.0 ^K	8.1	9.8	8.6	6.2	4.7	5.1	5.4	4.9	5.0 ^H	4.7
9	3.8	4.0 ^H	4.0	3.9	3.4	3.9	5.0	6.9	7.5 ^P	7.2	7.6	8.0	8.4	7.5	8.3	9.1	8.0	7.5	6.0	6.4	5.7	5.7 ^H	4.8 ^H	4.0
10	3.3	3.5	3.5	3.7	3.4	A	4.6	6.9	7.9	8.9	9.2	10.2	8.4	7.3	7.9	8.7 ^J	8.2 ^J	7.3 ^P	(5.4) ^F	5.6	5.5 ^S	4.6	3.9	A
11	3.9	4.1	4.1	3.6	3.3 ^H	3.4	5.0	8.4 ^J	8.2	8.5	9.7	9.8	8.4	8.0	8.3	7.7	7.6	6.9	6.9	5.2	4.6	4.8 ^H	4.5	4.2
12	3.9	3.9	(3.9) ^C	3.9 ^H	S	4.6	6.1	8.7	9.1	10.3	10.9	10.3	9.6	9.0	8.5	8.7	8.2	6.9	6.4	5.9 ^P	6.6	6.4	4.6	4.8
13	4.8	4.6	4.9	4.9	4.7	4.7	6.6	8.2	8.4	8.7	10.1	10.9	9.8	8.6	8.9	9.3	8.9	7.3	6.3	5.5	4.7	4.6	4.7 ^F	4.6 ^F
14	4.9	5.1	3.4	3.9	3.8 ^H	3.7	5.8	8.4 ^H	10.5	10.0	9.6	10.1	11.0	9.4	8.4	8.2	9.7	8.1	7.0	4.6	4.5	4.4	4.4 ^F	4.6 ^F
15	4.5 ^H	4.4 ^F	4.8 ^F	4.7 ^F	F	4.3 ^{JF}	6.0	7.4	8.7	9.1	9.6	10.1	11.0	10.2	10.2 ^H	10.7	9.6	8.2	5.8	5.0	4.5	3.4	A	3.7
16	3.9	4.0 ^J	3.6 ^J	(3.6) ^J	3.9	3.1	5.2	6.7	7.6	8.0	8.2	8.5	9.9	9.7	10.4	9.3	8.8	(8.0) ^C	7.3	6.1	5.0	4.0	4.5	4.2
17	3.6	3.6	3.8	3.6	3.7	3.6	5.7	7.3	9.7	8.7	10.6	10.7	10.5	10.7	9.7	10.6	9.4 ^H	9.4	A	(5.2) ^S	6.7	(5.4) ^S	4.2	4.5
18	(4.4) ^C	4.3	A	3.6	4.0	4.2	5.9	S	8.2	10.8	10.5	(10.6) ^F	10.1	10.4	10.9	9.9	9.3	7.8	5.5	5.2	4.6	4.2	3.9	3.9
19	4.3	4.5 ^H	4.7	4.1	3.7	3.4	5.5	7.4	8.7	9.7	11.7	(11.5) ^C	11.3	10.4	10.8	9.8	7.5	6.3	5.9	5.4	4.9	4.7	4.5	3.8
20	4.0	4.0	4.1	4.5	3.6	3.2	5.6	8.8	9.7	9.3	9.8	10.7 ^H	12.0	10.5 ^H	8.0	8.7	8.6	7.3	6.6	(5.1) ^S	5.6	(4.1) ^F	4.0 ^S	3.5
21	3.9	4.1 ^P	4.0	3.8	3.2	3.2	5.1	7.8	10.7	9.7	9.1	9.5	9.1	9.0	9.6	9.2	8.3	7.0 ^H	5.5	5.2	5.4	S	4.8	4.1
22	4.5	4.6	4.6	4.0	4.7	4.4	5.7	7.1	9.2	8.6	7.8	9.7 ^H	9.7	9.5	8.7	9.4	8.5	6.1 ^J	5.1 ^H	5.0	5.2	4.4	4.6	4.5
23	4.2	4.6	3.8	4.2	4.0	4.0	5.2	7.8	8.8	8.7	10.1	11.4	11.7	9.7	8.8	8.9	8.0	5.8	4.5	4.6 ^F	4.7	3.8	3.1	3.2 ^F
24	3.4 ^F	3.5 ^F	3.0 ^F	3.3	3.5	2.9	4.3	6.2	7.3	10.2	9.2	9.6	10.2	9.9	8.2	8.4	8.4	6.8	5.7	6.5	4.9	3.0	3.6	3.5
25	3.8	4.0	4.0	4.1	4.2	4.1	5.0	6.6	8.7	9.0	9.0	10.4	10.0	9.4	9.5	9.2	8.6	5.8	5.0	4.9	3.6	3.1	3.3 ^H	A
26	3.4 ^J	3.4	3.6	3.8	4.1	3.4	4.8	6.9	7.1	7.3	8.3	10.4	10.4	9.4	9.3	8.0	7.3	5.1	4.6	5.2	4.4	3.4 ^F	3.4 ^F	3.5
27	3.8	3.9	3.8	3.7	3.7	3.9	4.6	6.8	8.5	8.6	10.7	10.8	8.4	7.5 ^H	7.8	9.1	8.6	6.6 ^H	5.5	5.1	4.5	4.6	4.6	4.3
28	4.0	4.2	4.3	4.3	3.8	3.3	4.6	6.9	8.7	8.5	8.2	10.3	10.1	8.2	7.4	7.9	8.0	7.0	6.3	5.7	4.6	3.4	3.3	3.6
29	3.5	3.6	4.0	4.4	5.2	3.4	4.2	5.8 ^H	10.6	10.0	10.5	11.8	12.2	11.3	9.4	8.2	9.2	6.7	5.9	5.1	4.7 ^H	4.5	4.5	4.4
30	4.4	4.6	4.2	4.1	3.8	3.4	4.4	7.6	8.3	9.4	9.6	9.6	9.6	8.8	8.4	8.2	7.4	6.5	5.1 ^H	4.8	4.0	3.6	3.8	3.8
31	3.4	3.7	3.8	(3.7) ^S	3.7	3.5	4.7	7.1	8.5	8.9	9.4	9.6	9.3	8.0	8.0	8.0	7.1	5.1	4.7	5.2	4.7	3.6	3.6	3.9
Mean Value	4.2	4.2	4.2	4.2	4.0	3.9	5.3	7.3	8.5	8.9	9.3	9.7	9.6	8.9	8.8	8.8	8.5	7.3	6.1	5.4	5.0	4.5	4.3	4.3
Median Value	4.2	4.2	4.1	4.1	3.9	3.9	5.2	7.2	8.5	8.9	9.3	9.8	9.6	8.8	8.5	8.7	8.5	7.2	5.9	5.2	4.9	4.6	4.5	4.3
Count	31	30	30	31	29	30	30	30	31	31	31	31	31	31	31	31	30	30	29	30	31	30	30	29

Sweep 1.0 Mc to 17.0 Mc in 1.5 min

Manual

Automatic

foF2

A 1

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 36° 43.6' N
Long. 140° 08.9' E

Akita

IONOSPHERIC DATA

135° E Mean Time

1pF2

Oct. 1951

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(310) ^F	(330) ^F	380	360	310	330	270	(240) ^F	240	240	250	290	290	280	290	290	270	250	230	280	290	330	370	370
2	330	360	340	330	350	330	B	250 ^F	250	260 ^N	250	280	280	300	300	280	270	260	260	320	310	330	340	350
3	350	A	370	350	290	270	250	250	360	270	300 ^N	260	270	290	300	290	300	B	B	300	270	270	370 ^N	360
4	340	310	300	350	310	310	260	230	260	250	260	270	270	270	290	280	270	270	250	290	290	300	320	330
5	320	330	380	330	290	290	260	260	240	260	230	270 ^N	280 ^N	300	300	280	280	260	270	280	260	310	320	340
6	340	330	330	320	280	330	260	250	240 ^F	250	240	270	280	280	290 ^N	270	290	270	280	260	260	300	330	340
7	340	320	300	320	270	310	260	250	250	260	270	260	270	260	280	280	290	270	260	A	310	A	370	400
8	370	320	360	350	420 ^K	340 ^K	270 ^K	380 ^K	G	310 ^K	B	310 ^K	290 ^K	280 ^K	280	280	300	270	250	330	370	320	350	380
9	370	410 ^N	380	360	370	340	290	270	270 ^F	270	290	300	270	260	270	270	260	280	300	290	260	300 ^N	320	320
10	340	400	400	300	250	A	270	220	270	280	270	280	280	280	320	(270) ^F	(280) ^F	270 ^F	(270) ^F	310	310 ^S	290	290	360
11	400	330	260	400	410 ^F	410	270	(280) ^F	260	230	290	250	260	280	280	250	250	240	250	290	300	330 ^N	300	360
12	330	350	(340) ^F	350 ^F	S	330	290	260	260	290	270	270	270	270	290	260	250	240	300	300	360	320	350	360
13	360	380	330	330	350	340	280	250	260	270	300	290	260	270	290	260	280	280	280	350 ^F	360	350	380	(370) ^F
14	360	270	390	340	360 ^N	340	270	310 ^N	260	280	260	290	260	270	290	260	280	260	260	260	290	A	360 ^N	320 ^F
15	270 ^N	(340) ^F	370 ^F	390 ^F	F	(290) ^F	230	250	270	270	280	290	300	300	290 ^N	270	270	240	280	280	290	300	290	A
16	400	A	A	(350) ^F	300	290	240	240	250	270	260	270	270	270	310	280	260	(270) ^F	280	280	280	280	330	310
17	320	370	350	390	370	410	250	290	270	280	310	300	310	290	300	320	280 ^N	290	A	(370) ^F	290	(300) ^F	300	380
18	(340) ^F	300	A	400	400	320	280	S	240	250	280	(260) ^F	290	290	280	270	280	260	250	290	270	360	390	360
19	340	380 ^N	300	270	320	400	270	250	250	310	310	(300) ^F	300	310	310	260	240	280	290	310	280	340	350	350
20	320	350	360	350	400	370	290	260	250	250	280 ^N	280 ^N	280	270 ^N	230	260	250	280	280	(230) ^F	310	(280) ^F	310	350
21	380	330 ^F	300	280	310	300	280	260	260	240	280	260	270	290	280	270	270	260 ^N	280	320	300	S	300	310
22	330	350	330	320	320	330	240	250	240	240	240	270 ^N	280	280	290	270	260	(250) ^F	290 ^N	310	310	310	330	350
23	400	380	360	390	330	350	360	250	260	270	270	280	260	260	270	250	230	240	290	(310) ^F	290	260	270	320 ^F
24	350	350	340 ^F	340	250	300	260	230	230	250	260	270	290	280	270	260	240	250	310	310	290	300	370	310
25	320	360	360	340	280	320	240	250	240	270	260	270	270	280	270	260	240	250	300	280	300	340	400 ^N	A
26	A	A	350	330	270	300	270	240	250	260	280	280	300	300	270	250	230	240	350	270	260	330 ^F	380 ^F	410
27	350	340	330	380	360	330	280	240	270	300	300	290	270	290 ^N	280	280	260	270 ^N	300	300	320	330	340	340
28	400	380	320	280	270	270	250	230	240	240	250	300	270	260	270	250	260	270	290	310	270	330	400	430
29	430	440	420	270	270	390	220	350 ^N	290	270	310	300	300	300	250	240	250	260	280	280	340 ^N	360	350	350
30	370	330	310	300	300	310	250	240	230	260	270	250	250	270	260	270	250	270	300 ^N	280	330	350	330	310
31	310	330	320	(290) ^S	290	330	250	240	240	260	260	280	250	260	250	250	240	240	290	290	260	260	310	320
Mean Value	350	350	340	340	320	330	260	260	260	270	280	280	280	280	280	270	260	260	280	280	300	300	320	340
Median Value	340	340	340	340	310	330	260	250	260	270	280	280	280	280	280	270	260	260	280	280	300	300	330	340
Count	30	28	29	31	29	30	30	30	31	31	30	31	31	31	31	31	31	30	30	29	30	30	29	30

Sweep 1.0 Mc to 17.0 Mc in 15 min Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

Akita

Oct. 1951

RF2

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 ^A	310	330	320	280	290	240	220	220	220	220	260 ^A	240 ^A	250	260	270	250	230	200	210	230	240	280	280
2	290	270	270	270	290	290	220	230	220	220	240	250	260	260	260	250	240	250	220	260	260	240	270	270
3	250	A	300	320	280	240	210	230	220	220	220	250	250	270	290	280	270	240	220	300	250	230	260	290
4	290	260	250	250	240	250	240	230	250	240	240	260	260	260	260	230	260	230	220	270	260	260	260	260
5	260	260	280	280	260	250	230	240	230	220	220	240 ^H	240 ^H	270	290	280	250	220	250	270	280	260	280	290
6	280	270	270	260	220	190	220	220	230	240	240	250	240	250	250 ^H	240	250	230	220	220	230	260	270	270
7	270	250	240	250	240	230	220	220	220	240	260	260	250	260	230	260	260	230	230	A	280	A	340	350
8	320	300	300	280	260	260 ^H	260 ^H	380 ^K	440 ^K	310 ^K	B	300 ^K	290 ^K	260 ^K	270	280	250	220	230	270	260	270	290	270
9	270	300 ^H	300	310	280	300	270	260	260	260	260	270	270	250	250	240	240	230	240	240	240	240	250	270
10	300 ^A	300 ^A	A	270	280	A	230	220	230	260	250	250	250	260	290	270	260	230	240	240	250	230	300	A
11	350 ^A	290	220	310	330 ^H	350	240	260	240	230	270	230	240	250	250	240	230	240	220	220	260	280	260	320 ^A
12	310	300	(280 ^C)	250 ^H	220	280	230	240	220	280	260	240	240	230	250	260	240	240	220	250	250	250	270	290
13	280	260	260	260	270	280	270	230	240	240	270	260	230	230	250	240	220	220	230	230	300	320	310	320
14	300 ^F	240	250 ^A	280	250 ^H	240	250	220	250	250	240	260	250	240	240	240	250	220	220	240	A	260	260	270
15	240 ^H	240	240	300 ^F	260 ^F	250 ^F	210	220	220	220	260	L	260	240	270 ^H	250	230	220	220	240	250	250	A	A
16	A	A	A	290	290	250	220	210	230	240	220	240	240	220	270	250	230	(230)	230	240	240	(310 ^A)	310 ^A	260
17	280	300	300	300	300	320	230	230	230	240	260	260	250	270	240	280	220	240	A	300	240	240	280	300
18	(280)	270	A	290	320	280	230	240	230	250	260	240	270	250	240	250	240	220	220	250	250	310	300	320
19	280	290	250	210	260	280	220	210	220	280	260	260	260	270	250	220	220	230	240	240	240	280	280	290
20	290	290	300	260	300	320	250	250	230	(240 ^A)	250	250 ^H	250	250 ^H	220	250 ^A	240	220	220	230	240	240	270	250
21	310	280	270	250	220	240	250	230	220	220	220	240	230	230	260	240	230	210 ^H	240	250	250	230	250	250
22	260	300 ^A	290	290	260	290	220	230	220	230	210	210 ^H	250	260	240	250	220	220	220	250	250	250	250	280
23	300	300	290	300	270	240	220	230	250	230	240	250	240	240	250	220	220	220	220	240	220	250	250	280
24	300	300	290	290	230	260	220	210	210	240	230	230	240	240	250	240	230	210 ^A	250	240	220	250	290	260
25	260	280	330	290	240	260	210	210	220	230	250	260	230	220	240	230	220	230	230	300 ^A	250	330	330	A
26	A	A	A	250	250	230	230	220	230	250	250	250	270	290	220	220	220	220	290	250	240	310	350	360
27	330	340	300	310	310	270	230	220	230	280	280	270	250	240 ^H	240	240	230	210	230	260	260	270	270	290
28	350	300	270	240	220	220	230	220	220	230	240	260	240	240	240	230	210	220	220	230	230	240	300	340
29	340 ^A	350 ^A	360	300	240	340	220	260 ^H	260	150	250	280	240	250	230	220	230	220	220	220	250 ^H	290	290	300
30	300	260	260	230	240	250	220	220	220	230	240	220	230	220	250	220	230	230	230	220	230	250	290	250
31	250	250	250	260	260	290	230	230	230	230	250	240	240	220	230	230	220	210	250	280	220	260	250	280
Mean Value	290	280	280	270	260	260	230	230	240	240	250	250	250	250	250	250	240	230	230	250	250	260	280	290
Median Value	290	290	280	270	260	260	230	230	230	240	250	250	250	250	250	240	230	220	220	240	250	260	280	280
Count	29	28	27	31	31	30	31	31	31	31	30	30	31	31	31	31	31	31	30	30	30	30	30	28

RF2

Manual Automatic

Sweep 1.0 Mc to 17.0 Mc in 1.5 min

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

135° E Mean Time

foF1

Oct. 1951

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						A	Q	Q	Q	A	A	A	A	A	4.4	4.2	Q	Q						
2						Q	Q	A	Q	L	L	L	L	L	L	L	Q	Q						
3						Q	Q	Q	L	Q	L	L	L	L	4.7	L	Q	A						
4						L	L	L	4.3	4.6	4.6	4.6	4.4	4.4	L	Q	L	Q						
5						Q	Q	Q	A	Q	A	Q	Q	Q	L	L	Q	Q						
6						Q	Q	Q	Q	A	A	A	Q	Q	L	L	Q	Q						
7						Q	Q	Q	L	4.6	L	L	A	A	Q	L	L	Q						
8						Q	3.8	4.1	4.6	B	Q	4.5 ^B	4.5	4.6	Q	L	L	Q						
9						Q	L	Q	A	Q	4.6	4.6	A	4.6	Q	L	L	Q						
10						Q	Q	Q	L	Q	4.7	4.7	Q	Q	L	L	L	Q						
11						A	Q	Q	Q	L	L	Q	L	L	L	L	Q	4.0						
12						Q	Q	Q	Q	4.8	L	L	4.9	4.8	L	L	Q	L						
13						L	Q	Q	L	L	B	L	4.6	4.5	4.4	L	Q	Q						
14						Q	Q	L	L	L	L	4.9	4.6	4.5	L	L	Q	Q						
15						Q	Q	Q	A	L	L	L	L	Q	L	Q	Q	Q						
16						Q	Q	Q	Q	Q	Q	Q	Q	Q	L	A	Q	Q						
17						Q	Q	Q	Q	Q	Q	A	Q	Q	L	L	Q	A						
18						Q	Q	Q	L	L	L	Q	4.6	L	Q	L	L	Q						
19						Q	Q	Q	Q	L	Q	Q	L	L	4.2	Q	Q	Q						
20						Q	Q	Q	A	4.3	4.0	Q	Q	L	Q	A	L	Q						
21						Q	Q	Q	Q	Q	L	L	Q	Q	L	Q	Q	Q						
22						Q	Q	Q	L	Q	Q	Q	L	L	L	3.8	Q	Q						
23						Q	Q	Q	L	Q	Q	L	4.4	Q	L	Q	Q	Q						
24						Q	Q	Q	Q	Q	Q	Q	Q	Q	L	Q	Q	A						
25						Q	Q	Q	Q	L	L	L	Q	Q	Q	Q	Q	Q						
26						Q	Q	Q	Q	L	L	Q	L	L	Q	Q	Q	A						
27						Q	Q	Q	4.6	4.6	4.7	4.7	Q	Q	Q	Q	Q	Q						
28						Q	Q	Q	L	L	4.6	L	L	L	L	Q	Q	Q						
29						Q	Q	Q	Q	Q	L	L	Q	Q	L	Q	Q	Q						
30						Q	Q	Q	L	L	L	L	Q	Q	L	Q	Q	Q						
31						Q	L	3.8	L	L	L	L	L	L	Q	Q	Q	Q						
Mean Value							3.8	4.0	4.5	4.6	4.5	4.6	4.6	4.6	4.4	4.0	-	4.0						
Median Value							3.8	4.0	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.0	-	4.0						
Count							1	2	3	5	6	7	7	4	4	2	-	1						

A 4

Manual Automatic

Sweep 1.0 Mc to 17.0 Mc in 15 min

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 03.2' E

A k i t a

IONOSPHERIC DATA

Oct. 1951

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

135° E Mean Time

Swamp 1.0 Mc to 17.0 Mc in 1.5 min

Manual Automatic

A k i t a

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

135° E Mean Time

f_oE

Oct. 1951

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						A	2.3		2.7	2.7	B	B	A	A	3.1	2.7	2.4	2.2						
2						A	A	A	2.7	3.0	A	A	A	A	A	A	2.5	A						
3						B	2.1 ^J		A	A	A	A	A	A	A	A	2.5	A						
4						B	2.2		2.8	2.9	3.1	3.1	3.0	3.1	3.1	3.1	2.3	A						
5						B	2.4		2.5	A	A	A	A	A	2.2	3.0	2.6	2.0 ^J						
6						A	2.4		2.8	A	A	A	A	A	A	A	A	A						
7						B	2.5		2.8	3.0	3.2	3.2	A	A	A	2.8	2.5	1.8						
8						B	2.3		2.8	3.1	3.0 ^J	3.2 ^J	A	3.2	3.2	2.8	2.3	B						
9						A	A		2.6	3.0	3.2	3.2 ^J	A	A	3.2	3.0	2.5	2.1						
10						A	2.2		2.6	3.1	3.4	A	A	A	A	B	2.3	B						
11						A	A		2.7	3.1 ^H	B	B	A	A	3.0	2.6	2.3	1.7						
12						B	1.8		2.8	3.2	3.2	3.4	3.5	3.2	3.0	2.7	2.4	B						
13						B	2.4		2.8	2.8	A	3.4	3.4	3.3	3.0	2.8	A	A						
14						1.6	2.1		2.6 ^J	A	3.3	3.2	3.4	3.2	3.1	2.6	2.4	B						
15						B	2.5		A	A	A	3.2	3.2	3.1	2.2	2.9	2.4	A						
16						B	B		A	2.8	A	A	B	B	A	A	A	A						
17						1.6	2.3		2.9	3.0	3.1	B	B	B	B	2.7	A	A						
18						A	2.0		2.6	2.7	3.0	3.0	A	A	2.7	2.8 ^J	2.3	A						
19						B	2.3		2.7	A	3.3	3.3	3.4	3.3	3.1	2.8	2.3	B						
20						B	2.3		2.8	A	A	3.4	3.3	3.3 ^H	2.7	2.7	2.2	A						
21						1.6 ^J	A		2.6	2.6	A	B	A	A	2.8	A	2.2	A						
22						1.9	2.3 ^H		2.6	2.9	3.0	3.3	A	A	B	2.5	2.2	B						
23						B	2.0		2.0	2.4	2.6	A	A	3.2	2.8	A	2.1	A						
24						B	A		A	A	3.1	3.1	3.1	3.1	3.0	A	2.5	A						
25						B	2.0		2.7	A	A	A	A	3.1	2.8	A	A	A						
26						A	2.2		2.8	3.1	A	3.2	3.1	3.2	A	A	2.6	A						
27						B	2.2		3.0	A	A	3.1 ^J	A	A	A	A	2.1	A						
28						B	2.2		2.8	3.2	3.2 ^J	3.1 ^J	3.1	3.3	3.0	2.6	2.2	B						
29						B	A		A	A	A	3.2	A	A	A	A	A	A						
30						B	1.9		2.6	2.9	B	A	3.0	3.0	A	A	A	A						
31						B	2.0		2.8	2.9	A	3.4	3.1 ^B	3.0	A	2.6	2.0	A						
Mean Value						1.7	2.2		2.7	2.9	3.2	3.2	3.2	3.2	3.0	2.8	2.3	2.0						
Minimum Value						1.6	2.2		2.7	3.0	3.2	3.2	3.2	3.2	3.0	2.8	2.3	2.0						
Maximum Value						4	2.4		2.6	2.0	1.4	1.8	1.2	1.5	1.8	1.8	2.3	5						
Count																								

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.6' N
Long. 140° 08.2' E

A k i t a

IONOSPHERIC DATA

f' E

Oct. 1951

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A 110	110	110	110	110	110	A	A	100	90	A	90						
2							A A	A 110	110	110	A	A	A	A	A	A	A 110	A						
3							B 110	A	A	A	A	A	A	A	A	A	A 110	A						
4							B 120	110	110	110	110	100	100	100	100	100	110	A						
5							B 120	110	A	A	A	A	A	A	100	110	100	120						
6							A 110	110	A	A	A	A	A	A	A	A	A	A						
7							B 120	110	110	110	110	110	A	A	A	110	110	110						
8							B 110	110	110	110	110	110	A	110	110	110	110	B						
9							A A	110	110	110	110	110	A	A	110	110	120	110						
10							A 120 ^A	110	100	110	A	A	A	A	A	110	120	B						
11							A A	110	110 ^H	110	110	110	A	A	110	110	110	110						
12							B 120 ^B	110	110	110	110	110	110	110	110	110	110	B						
13							B 110	110	110	110	110	110	110	110	110	110	120	B						
14							120	100	110	A	110	110	110	110	110	110	100	A						
15							B 120	A	A	A	A	110	110	110	100	100	100	A						
16							B B	A	110	A	A	A	110	110	A	A	A	A						
17							B 110	110	110	110	110	110	110	110	110	110	A	A						
18							A 110	110	130	110	110	A	A	A	100	100	A	A						
19							B 110	110	A	120	110	110	110	120	130	120	120	B						
20							B 120	110	A	A	100	100	100	100 ^H	110	110	110	A						
21							B A	110	110	A	110	A	A	A	100	A	A	A						
22							130	120 ^H	110	110	110	110	A	A	110	110	120	B						
23							B 110	110	120	110	A	A	A	110	110	A	A	A						
24							B 110	A	A	A	110	110	110	110	100	A	A	A						
25							B 110	110	A	A	A	A	A	100	100	A	A	A						
26							A 100	110	110	A	110	110	110	110	A	A	100	A						
27							B 120	110	A	A	110	A	A	A	A	A	100	A						
28							B 110	A	110	100	100	110	110	110	110	110	110	B						
29							B A	A	A	A	A	100	A	A	A	A	A	A						
30							B 120	110	110	110	A	100	100	A	A	A	A	A						
31							B 120	110	110	A	110	110	110	A	A	110	110	A						
Mean Value							130	110	110	110	110	110	110	110	110	110	110	110						
Median Value							120	110	110	110	110	110	110	110	110	110	110	110						
Count							2	24	25	20	17	22	15	17	20	19	22	5						

A 7

Manual Automatic

Sweep 1.0 Mc to 17.0 Mc in 15 min

f' E

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

fEs

Oct. 1951

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.8	4.0	3.8	3.3	2.7	3.0	4.8	G	4.0	3.6	G	G	G	3.4	G	3.6	3.4	2.8	3.0	E	3.0	3.4	E	2.6
2	2.8	2.4	2.4	2.2	1.6	2.1 ^F	3.2	3.6	4.1	4.4	4.0	3.6	3.8	3.7	4.0	3.7	4.2	4.4	4.4	3.4	4.4	3.2	2.8	2.4
3	3.2	6.8	4.6	4.4	2.8	2.1	G	G	3.4	4.4	3.4	4.2	3.4	G	3.6	4.3	4.3	4.8	3.2	3.8	2.8	E	2.0	2.0
4	2.2	2.2	2.4	2.2	2.2	3.2	G	G	3.6	G	G	G	G	G	G	G	3.0	4.0	4.0	4.3	4.4	3.4	3.0	3.8
5	E	1.2	1.8	1.6	2.0	2.2	2.4	G	3.2	4.6	4.2	3.8	4.6	4.1	G	G	3.5	G	3.8	4.2	3.2	2.6	2.2	2.6
6	2.0	E	E	1.2	E	E	2.2	G	G	4.8	4.6	7.0	4.8	6.0	4.2	3.6	3.0	3.4	3.2	E	2.4	2.6	2.4	E
7	3.1	3.0	2.4	1.4	E	E	G	2.4	3.6	G	4.6	4.8	6.6	6.0	3.7	G	G	G	4.5	7.2	4.6	4.2	4.0	3.2
8	2.7	2.0	2.4	2.2	2.4	2.0	B	G	G	3.6	4.2	4.2	3.4	G	3.4	3.8	3.8	G	E	E	2.3	2.5	2.6	2.4
9	2.8	2.3	2.6	3.4	2.0	2.3	3.0	3.1	4.0	5.0	4.0	G	6.8	5.0	4.1	G	G	G	4.0	3.8	4.0	4.6	2.6	2.4
10	2.6	2.0	2.5	3.0	2.6	4.6	2.6	3.2	3.7	3.7	G	G	3.4	4.2	3.8	G	G	G	3.0	2.9	2.2	E	4.6	4.6
11	2.2	2.6	2.0 ^Y	2.2 ^Y	2.0 ^Y	2.6	3.4	3.6	3.3	3.7	G	G	3.4	3.4	G	3.1	G	G	2.8	2.1	3.7	2.7	2.7	3.0
12	3.0	2.0 ^Y	C	1.9	2.7	2.6	3.2	4.1	3.6	3.6	G	G	G	3.3	3.6	G	3.8	B	E	E	3.0	2.6	2.8	2.2
13	E	E	E	E	E	2.6	2.3	G	G	3.8	3.7	G	3.6	3.3	3.6	3.9	3.0	4.2	2.4 ^Y	E	E	2.6	2.8	2.2
14	3.5	3.4	2.8	1.6	2.0	1.3	G	G	3.7	4.2	G	G	G	G	G	G	3.0	3.2	3.0	3.5	4.0	2.6	E	2.2
15	E	E	E	E	2.7	2.6 ^F	G	2.5	3.9	3.0	3.4	3.4	G	G	3.8	G	G	3.2	3.4	2.4	2.4	3.4	4.4	4.6
16	4.0	4.6	4.1	3.2	2.9	1.7	B	G	4.4	3.4	3.8	3.4	G	G	5.0	4.7	4.8	C	4.6	4.6	4.2	4.2	4.4	3.2
17	2.2	2.4	2.6	3.0	2.2	2.4	G	G	3.4	4.7	4.3	3.8	G	G	G	G	3.5	3.6	4.8	4.7	4.4	3.8	3.2	2.7
18	C	2.4	2.2 ^S	2.6 ^Y	E	3.8	3.6 ^F	3.4	3.6 ^Y	G	G	4.0	4.0	4.2	3.8	4.0	G	G	3.0	3.1	2.8	3.4	2.6	2.8
19	E	1.3	E	E	E	2.0 ^Y	B	G	G	4.6	G	G	G	G	G	G	G	B	E	E	E	2.4	2.4	2.4
20	2.6	2.8	2.5	3.0	2.2	2.3	G	G	4.6	7.8	4.7	G	3.8	G	G	3.3	G	4.0	3.4	4.7	3.4	2.7	E	2.6
21	2.6	2.7	2.6	2.6	1.3	E	G	2.8	3.8	3.4	3.2	G	3.6	3.6	3.8	3.8	3.6	3.2	3.6	3.7	4.0	3.4	3.4	3.6
22	1.7	3.0	2.4	3.0	2.4	2.1	2.4	G	G	G	3.9	G	4.0	3.5	G	G	G	B	E	2.0	E	3.0	3.0	3.0
23	2.4	E	E	E	1.8	E	B	B	3.3	6.4	4.5	3.8	3.8	3.7	G	3.2	G	1.8	E	2.0	E	E	E	E
24	2.6	2.2	2.5	2.0	E	E	B	3.0	2.8	3.6	G	6.2	5.0	3.2	G	4.8	G	2.6	3.1	2.3	2.2	E	E	E
25	2.4	2.4	3.2	3.0	2.4	2.6	B	G	3.3	4.0	3.7	6.2	6.2	3.8	2.2	2.6	2.0	3.2	2.0	2.7	3.2	3.5	3.0	6.7
26	4.4	4.8	3.1	3.4	E	3.0	3.0	3.5	G	G	3.6	3.8	G	G	3.6	4.6	3.0	3.0	3.8	3.6	3.4	3.0	4.6 ^F	4.4
27	4.6	4.7	3.0	2.6	2.2	1.6	B	G	G	4.6	5.0	5.6	3.8	4.5	3.6	4.7	4.6 ^Y	3.8	2.2	E	3.1	2.6	3.4	4.3
28	3.8	3.4	2.6	3.0	2.2	E	B	G	3.4	3.4	G	4.4	G	3.4	G	G	G	B	E	E	E	E	E	E
29	1.8	2.0	E	E	E	E	2.2	4.4	4.6	6.6	4.7	G	3.8	3.4	3.6	3.7	3.6	2.6	1.8	E	E	E	E	E
30	E	E	E	E	E	1.2	B	G	3.2	G	4.0	3.2	G	3.1	3.4	2.6	4.0	3.4	2.3	E	E	E	2.3	E
31	E	1.2	E	2.3	3.2	1.9	B	G	G	3.4	4.0	3.4	3.6	3.7	4.0	3.4	G	2.8	3.4	E	2.4	E	E	E
Mean Value	2.9	2.9	3.0	2.6	2.3	2.4	2.9	3.5	3.8	4.5	4.1	4.6	4.4	3.9	4.2	3.8	3.7	3.5	3.7	3.8	3.4	3.2	3.1	3.2
Median Value	2.6	2.4	2.4	2.2	2.0	2.1	2.3	G	3.4	3.8	3.7	3.4	3.6	3.4	3.6	3.1	3.0	3.2	3.1	2.7	3.0	2.7	3.0	2.6
Count	3.0	3.1	3.0	3.1	3.1	3.1	2.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.5	3.1	3.1	3.1	3.1	3.1	3.1

Sweep 1.0 Mc to 17.0 Mc in 1.5 min Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 48.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

Akita

Oct. 1951

(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	(3.0) ^{3F}	(2.9) ^{3F}	2.7	2.8	3.0	2.9	3.3	(3.7) ^T	3.5	3.5	3.4	3.2	3.1	3.0	3.2	3.2	3.2	3.5	3.6	3.2	3.2	3.1	2.7	2.8
2	2.9	2.8	2.9	2.9	2.9	3.0	B	2.6 ^P	3.5	3.4 ^H	3.4	3.3	3.4	3.2	3.1	3.2	3.2	3.4	3.4	3.0	3.0	2.9	2.8	2.8
3	2.8	A	2.8	2.9	3.2	3.3	3.6	3.5	3.4	3.3	3.1 ^H	3.3	3.3	3.2	B	3.2	3.2	B	B	3.3	3.2	3.3 ^H	2.7	2.7
4	3.0	3.1	3.1	2.9	3.0	3.0	3.3	3.5	3.4	3.3	3.2	3.2	3.2	3.1	3.2	3.2	3.2	3.3	3.4	3.1	3.1	3.0	2.9	2.9
5	3.0	2.8	2.6	2.8	3.2	3.1	3.3	3.4	3.5	3.4	3.3	3.4	3.1 ^H	3.2	3.0	3.3	3.2	3.4	3.3	3.2	3.0	2.9	2.8 ^H	3.0
6	2.9	2.9	3.0	3.0	3.1	2.9	3.4	3.5	3.5 ^P	3.5	3.6	3.3	3.2	3.1	3.3 ^H	3.2	3.1	3.2	3.1	3.3 ^{PS}	3.0 ^S	3.0 ^S	3.1 ^S	2.9 ^S
7	3.0	3.0	3.0	3.0	3.3	3.0	3.3	3.6	3.5	3.5	3.5	3.3	3.4	3.3	3.2	3.2	3.2	3.3	3.3	A	3.0	3.0	2.8	2.7
8	2.8	3.1	2.8	2.8	2.6 ^H	2.8 ^H	3.2	2.8 ^K	3.2	3.2	B	3.2	3.3 ^H	3.1	3.1	3.3	3.3	3.5	2.8	2.8	3.0	2.8	2.7	2.9
9	2.7	2.6 ^H	2.7	2.7	2.7	2.8	3.2	3.2	3.2	3.4	3.1	3.2	3.2	3.3	3.1	3.2	3.2	3.3	3.1	3.1	3.3	3.1 ^H	3.0 ^H	3.0
10	2.8	2.6	2.6	3.1	3.5	A	3.2	3.7	3.2	3.1	3.3	3.2	3.2	3.2	3.0	(3.4) ^T	(3.3) ^T	3.2 ^P	3.1	3.1	3.0 ^{PS}	3.1	3.0 ^H	3.0
11	2.6	2.9	3.4	2.6	2.6 ^H	2.5	3.2	(3.3) ^T	3.4	3.1	3.1	3.5	3.4	3.2	3.3	3.4	3.5	3.3	3.6	3.2	3.1	2.9 ^H	3.1	2.8
12	2.9	2.9	(2.9) ^S	2.9 ^H	S	3.0	3.1	3.5	3.3	3.2	3.4	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.3	2.8 ^F	2.8	2.9	2.8	2.7
13	2.7	2.7	2.9	2.9	2.9	2.9	3.0	3.5	3.4	3.3	3.2	3.3	3.4	3.3	3.2	3.2	3.4	3.6	3.1	3.1	2.7	2.7	(2.8) ^{PT}	(2.7) ^{PT}
14	2.8	3.3	2.6	2.8	2.8 ^H	2.9	3.2	3.0 ^H	3.4	3.2	3.3	3.0	3.1	3.3	3.4	3.2	3.2	3.3	3.4	3.0	2.9	2.7	2.7	(2.7) ^{PT}
15	3.2 ^{HF}	(2.9) ^{PT}	2.7	2.5 ^F	F	(3.0) ^{PT}	3.5	3.3	3.2	3.2	3.2	3.1	3.2	3.2	3.2 ^H	3.3	3.4	3.6	3.2	3.0	2.9	2.7	2.7	(2.7) ^{PT}
16	2.7	A	A	(2.7) ^S	3.3	3.1	3.5	3.5	3.5	3.2	3.5	3.3	3.3	3.1	3.0	3.2	3.3	(3.2) ^C	3.1	3.2	3.2	3.1	3.2	A
17	3.0	2.8	2.7	2.6	2.7	2.6	3.4	3.1	3.3	3.2	3.1	3.1	3.1	3.2	3.0	3.0	3.3 ^H	3.2	A	(2.8) ^{PS}	3.2	3.0	3.1	3.2
18	(2.8) ^S	3.0	A	2.6	2.6	3.0	3.3	S	3.5	3.5	3.2	(3.3) ^P	3.1	3.1	3.2	3.3	3.1	3.3	3.3	(3.2)	3.2	2.8	2.6	2.9
19	2.8	2.7	3.2	3.3	3.0	2.6	3.3	3.4	3.5	3.0	3.1	(3.1) ^C	3.1	3.1	3.0	3.3	3.5	3.1	3.3	3.1	3.2	2.9	2.8	2.9
20	3.0	2.8	2.7	2.7	2.6	2.9	3.2	3.4	3.5	3.3	3.0	3.2 ^H	3.2	3.4 ^H	3.6	3.3	3.3	3.1	3.3	3.1	3.2	2.9	2.8	2.9
21	2.7	2.9 ^P	3.1	3.2	3.0	3.1	3.2	3.4	3.5	3.5	3.2	3.4	3.3	3.2	3.2	3.3	3.3	3.4 ^H	3.2	3.0	3.1	S	3.0	3.1
22	2.9	2.8	3.0	3.0	2.9	3.0	3.4	3.4	3.5	3.6	3.4	3.4 ^P	3.3	3.2	3.3	3.4	B ^S	3.3	3.2 ^H	3.0	3.0	3.0	2.9	2.8
23	2.6	2.6	2.8	2.7	3.7	2.9	3.4	3.9	3.4	3.2	3.4	3.2	3.4	3.4	3.4	3.5	3.6	(3.3) ^T	3.2	3.0	3.1	3.0	2.9	2.8
24	2.9	2.8 ^F	3.0 ^F	2.8	3.4	3.1	3.2	3.5	3.6	3.4	3.2	3.2	3.5	3.4	3.4	3.5	3.6	3.5	3.1	(3.0) ^{PT}	3.1	3.3	3.1	2.8
25	3.0	2.8	2.8	2.9	3.2	3.1	3.4	3.6	3.5	3.2	3.3	3.3	3.3	3.2	3.4	3.3	3.4	3.3	3.1	3.0	3.1	3.1	3.1	3.1
26	A	2.9	2.9	2.9	3.2	3.1	3.3	3.4	3.5	3.4	3.2	3.2	3.0	3.1	3.3	3.5	3.5	3.4	3.0	3.4	3.2	3.4	2.7 ^F	A
27	2.9	3.0	2.9	2.7	2.7	2.9	3.2	3.4	3.2	3.2	3.3	3.4	3.4	3.3 ^H	3.2	3.1	3.4	3.3 ^H	3.1	3.1	3.0	3.0	3.0	3.0
28	2.6	2.7	3.0	3.2	3.2	3.3	3.6	3.6 ^H	3.6	3.4	3.4	3.0	3.2	3.3	3.2	3.3	3.3	3.2	3.1	3.0	3.2	2.8	2.5	2.5
29	2.5	2.5	3.5	3.3	3.3	2.6	3.8	2.9	3.2	3.3	3.3	3.0	3.2	3.1	3.3	3.3	3.5	3.3	3.2	3.3	2.9 ^H	2.8	2.5	2.5
30	2.7	2.9	3.0	3.1	3.2	3.0	3.2	3.5	3.7	3.2	3.3	3.4	3.4	3.2	3.5	3.3	3.6	3.2	3.1 ^H	3.2	2.7	2.8	2.7	3.0
31	3.1	3.0	3.0	(3.3) ^{PS}	3.1	3.0	3.4	3.5	3.5	3.4	3.5	3.3	3.4	3.5	3.4	3.5	3.5	3.5	3.1	2.8	3.3	3.0	2.9	2.8
Mean Value	2.8	2.9	2.9	2.9	3.0	2.9	3.3	3.4	3.4	3.3	3.3	3.2	3.3	3.3	3.2	3.3	3.3	3.3	3.2	3.1	3.1	3.0	2.9	2.8
Median Value	2.8	2.9	2.9	2.9	3.0	3.0	3.3	3.4	3.5	3.3	3.3	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.2	3.1	3.1	3.0	2.8	2.8
Count	30	29	29	31	29	30	30	30	31	31	30	31	31	31	31	31	30	30	29	30	30	31	30	29

(M3000)F2

Sweep 1.0 Mc to 17.0 Mc in 15 min

Manual Automatic

A 9

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

A k i t a

IONOSPHERIC DATA

135° E Mean Time

f min F

Oct. 1951

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	2.0 ^A	2.5 ^A	2.5 ^A	1.7	2.0 ^A	4.2 ^A	2.7	4.0 ^A	3.0	A	A	4.9 ^A	4.6 ^A	3.9	3.1	2.7	2.4	2.2 ^A	1.5	2.0 ^A	1.5	1.6	1.7
2	1.4	1.2	1.2	1.2	1.2	1.1	2.2	A	2.8	3.9	4.0	4.0	3.9	3.9	3.8	3.0	2.9	1.9	2.6 ^A	3.8 ^A	2.8 ^A	2.0 ^A	1.8	2.2 ^A
3	1.8	A	2.8 ^A	3.8 ^A	3.6	2.0 ^A	1.8	2.8	A	3.4	3.8	4.0	3.4	3.2	4.4 ^A	3.2	2.6	4.0 ^A	3.8 ^A	4.3 ^A	3.0 ^A	2.3 ^A	1.6	1.6
4	1.5	1.8	1.2	E	E	1.7	1.9	2.7	3.2	3.4	3.6	4.0	3.8	3.8	3.2	3.1	3.2	2.5	A	4.0 ^A	2.8 ^A	2.6 ^A	1.8	1.6
5	1.2	1.3	1.2	1.2	1.4	1.2	1.4	N	3.0	4.6 ^A	4.2	5.8 ^A	4.3	4.4	4.4	3.6	2.6	2.3	2.1 ^A	3.6 ^A	2.8 ^A	1.6	1.6	1.5
6	1.4	E	E	1.2	1.2	E	2.2	2.9	3.6	3.8	4.4 ^A	4.6 ^A	4.2	4.4 ^A	3.4	3.0	2.8	3.2 ^A	1.8	1.4	1.4	1.4	1.5	1.5
7	1.5	1.2	1.1	1.2	1.2	E	2.0	2.6	3.0	3.4	4.0	4.5 ^A	5.5 ^A	4.6 ^A	3.4	3.2	2.6	2.0	2.0 ^A	A	3.4 ^A	4.2 ^A	3.0 ^A	2.0 ^A
8	1.4	1.6	E	E	E	E	1.9	2.5	3.0	3.4	4.6	4.2	4.0	3.3	4.2	3.2	3.1	1.8	1.6	1.6	1.4	1.5	1.6	1.7
9	1.6	1.6	1.5	2.0 ^A	1.4	1.8	1.9	2.6	3.4	4.2 ^A	4.0	4.0	6.0 ^A	6.0 ^A	3.9	3.7	2.7	2.3	2.6 ^A	2.6 ^A	1.8	2.2 ^A	1.6	2.0 ^A
10	A	A	2.7 ^A	1.8	1.6	A	1.8	2.4	3.0	3.2	4.0	3.2	4.2	4.2	3.8	3.2	2.5	2.8 ^A	1.8	1.9	1.6	1.6	1.5	A
11	2.2 ^A	2.0 ^A	1.1	E	E	E	3.2 ^A	2.8	2.9	3.2	3.3	3.8	4.0	3.2	3.4	3.0	2.6	1.8	1.8	1.6	1.6	1.6	1.6	1.6
12	3.0 ^A	1.3	C	E	E	E	1.5	1.9	A	3.2	3.3	4.2	4.0	3.4	3.2	3.1	2.6	1.9	1.6	1.6	1.6	1.6	1.6	1.6
13	E	E	E	E	E	E	1.2	1.9	2.7	3.0	3.3	3.4	4.7	4.1	3.6	3.1	2.9	2.2	1.5	1.7	4.1 ^A	2.2 ^A	1.5 ^F	1.5 ^F
14	2.0 ^{MF}	2.0 ^A	1.5	E	E	E	1.9	2.2	3.2	4.2 ^A	4.0	4.0	3.6	4.1	3.3	2.6	2.7	2.2	1.5	1.7	4.1 ^A	2.2 ^A	1.5 ^F	1.5 ^F
15	1.2	1.2	E	E	E	E	1.8	2.5	2.8	A	3.0	3.4	3.3	3.5	3.3	3.1	N	2.3	2.1 ^A	1.6	1.6	1.8	A	3.2 ^A
16	3.2 ^A	4.4 ^A	3.7 ^A	2.0 ^A	2.3 ^A	1.2	1.7	3.4	3.8 ^A	3.4	3.8	4.4 ^A	4.0	4.0	4.3	3.6	3.0	3.4	2.8 ^F	2.2 ^A	2.3 ^A	1.8	3.0 ^A	3.4 ^A
17	1.4	1.4	1.4	E	E	1.4	1.6	2.2	3.0	3.6	4.4	6.4 ^A	4.0	4.0	4.0	4.3	2.9	2.4	5.3 ^A	A	2.0 ^A	3.2 ^A	2.4 ^A	1.8
18	[1.7] ^C	1.8	A	E	1.4	1.8	1.7	2.2	2.9	3.1	3.7	4.4	3.7	3.7	3.5	3.8 ^A	2.4	2.8 ^A	2.6 ^A	2.4 ^A	2.0 ^A	1.8	1.7	1.7
19	1.4	1.6	E	E	E	E	1.7	2.4	3.0	3.2	3.9	4.0	4.0	3.4	3.1	2.9	2.4	1.6	1.4	1.4	1.4	1.4	1.4	1.6
20	1.6	1.4	1.4	1.1	1.2	E	1.6	2.4	4.0 ^A	7.4 ^A	4.0	3.4	4.0	3.4	3.6	5.2 ^A	2.4	3.0 ^A	A	3.8 ^A	2.0 ^A	2.4 ^A	1.5	1.5
21	1.5	1.6	2.2 ^A	1.8	1.1	E	1.6	2.8	2.8	3.2	3.4	4.1	3.6	3.4	3.2	3.0	2.4	2.2	2.7 ^A	1.6	1.9	1.4	2.0 ^A	1.7
22	1.3	A	E	1.2	1.4	1.6	2.0	2.3	2.8	3.0	3.2	3.3	3.8	3.5	3.2	3.0	2.3	1.7	1.6	1.8	1.6	1.6	1.6	1.6
23	E	E	E	E	E	E	1.6	2.2	2.0	2.8	4.0 ^A	3.8	3.4	3.3	3.2	2.9	3.0	2.8	1.8	1.6	1.8	1.7	1.5	1.5
24	1.5	1.3	1.4	1.4	1.4	1.4	1.4	1.8	A	3.6	4.1	4.4	4.2 ^A	4.1	3.1	4.2 ^A	N	A	1.8	1.8	1.6	1.6	1.6	1.6
25	1.3	1.3	2.3 ^A	1.9	1.4	1.2	1.5	2.2	2.7	4.0 ^A	3.8	4.0	4.0	4.0	3.2	3.4	2.6	1.8	2.6 ^A	2.0 ^A	1.7	3.0 ^A	1.9	1.6
26	3.8 ^A	3.0 ^A	2.8 ^A	1.4	1.4	1.5	1.5	2.5	2.8	3.1	3.3	3.6	3.9	3.6	3.5	2.8	2.8	A	1.9	2.0 ^A	1.8	1.5	1.8	1.4
27	1.6	1.6	2.2 ^A	1.8	2.0 ^A	1.4	1.7	2.5	3.6	3.4	4.2	4.2	3.9	3.4	3.3	3.2	2.6	3.0 ^A	1.9	1.5	1.5	1.5	1.5	2.1 ^A
28	2.3 ^A	1.7	1.5	1.6	1.3	E	1.5	2.4	2.9	3.6	4.0	4.0	3.6	3.5	3.2	2.8	2.3	1.8	1.6	1.6	1.6	1.4	1.4	1.4
29	1.6	1.4	E	1.4	1.2	1.4	2.0	3.4 ^A	3.4	3.1	4.4 ^A	3.9	4.0	3.4	3.8	3.4	2.4	2.0	1.6	1.5	1.5	1.5	1.5	1.5
30	1.4	E	E	E	E	E	1.6	2.0	2.7	3.2	A	3.6	3.6	3.2	3.1	2.8	2.5	2.2	1.7	1.5	1.5	1.5	1.5	1.5
31	1.2	E	E	E	E	E	1.2	1.6	2.2	2.8	3.1	3.2	3.4	3.3	3.1	3.2	2.6	1.9	2.6 ^A	3.0 ^A	1.6	1.6	1.6	1.6
Mean Value	1.7	1.7	1.7	1.7	1.5	1.5	1.9	2.5	3.1	3.6	3.8	4.1	4.0	3.7	3.4	3.2	2.6	2.4	2.0	2.2	2.0	1.9	1.7	1.7
Mean Value	1.5	1.4	1.2	1.2	1.2	1.2	1.8	2.5	3.0	3.4	3.9	4.0	4.0	3.5	3.4	3.1	2.6	2.2	1.8	1.8	1.7	1.6	1.6	1.6
Count	29	28	29	31	31	30	31	29	28	30	29	30	31	31	31	31	29	29	28	30	31	31	30	29

Manual Automatic

Sweep 1.0 - Mc to 17.0 - Mc in 15 min

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 39° 43.5' N
Long. 140° 08.2' E

A k i t a

IONOSPHERIC DATA

fminE

Oct. 1951

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.5	E	E	E	E	E	1.6	1.6	1.7	1.6	1.8	2.0	1.8	1.8	1.6	1.6	1.5	1.5	E	E	1.5	1.5	E	1.5
2	E	E	E	E	E	E	1.5	1.5	1.6	1.8	1.9	2.2	2.0	2.2	1.7	1.6	1.6	1.5	1.5	1.8	1.8	1.8	1.7	1.8
3	E	E	E	E	E	E	1.6	1.6	1.6	1.6	1.8	1.9	2.0	2.0	1.9	1.9	1.7	1.6	1.6	1.6	1.6	1.6	E	1.8
4	1.7	1.6	1.4	E	E	E	1.6	1.5	1.7	1.8	1.8	1.8	1.8	1.8	1.6	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6
5	E	E	E	E	1.2	1.2	1.4	1.4	1.6	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.7	1.6	1.6	1.5	1.5	1.6	1.6	1.5
6	1.4	E	E	E	E	E	1.6	1.6	1.6	1.7	1.9	1.8	1.9	1.9	2.0	2.0	1.6	1.6	1.4	E	1.6	1.4	1.5	E
7	1.5	E	1.1	E	E	E	1.6	1.6	1.6	1.6	1.8	1.7	1.6	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.4
8	E	E	E	E	E	E	1.6	1.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.6	E	E	2.0	1.9	1.5	1.5
9	1.5	E	E	E	E	E	1.5	1.5	1.6	1.6	1.6	1.8	2.2	1.9	1.8	1.8	2.0	1.7	1.8	1.6	1.4	1.4	1.4	1.4
10	E	E	E	E	E	E	1.5	1.5	1.7	1.8	2.0	2.0	2.0	2.0	1.9	1.7	1.7	1.6	1.6	1.6	1.9	E	E	1.5
11	1.2	E	E	E	E	E	1.5	1.6	1.6	1.8	2.0	1.8	1.8	1.8	1.7	1.6	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6
12	1.2	1.2	C	E	E	E	1.5	1.5	1.6	1.7	1.8	1.9	1.9	1.7	1.6	1.8	1.6	1.6	E	E	1.6	1.6	1.6	1.6
13	E	E	E	E	E	E	2.0	1.7	1.8	1.8	2.1	1.9	1.7	1.7	1.6	1.6	1.5	1.5	E	E	E	E	E	1.6
14	1.5	E	E	E	E	E	1.4	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.8	1.8	1.8	1.8	1.5	1.5	1.5	1.5	E	1.6
15	E	E	E	E	E	E	1.6	1.6	1.7	1.7	1.9	2.0	2.0	2.0	1.7	1.5	1.6	1.5	1.6	1.5	1.5	1.5	E	1.6
16	1.2	1.1	1.1	E	E	E	1.2	B	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	1.6	1.5	2.0	1.6	1.6	1.5	1.5
17	1.4	E	E	E	E	E	1.5	1.6	1.6	2.0	2.1	2.6	2.6	1.9	1.9	1.7	1.7	1.6	1.5	1.5	1.5	1.5	1.5	1.4
18	(1.4) ^c	1.2	E	E	E	E	1.4	1.5	1.5	1.7	2.4	2.0	2.2	2.0	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7
19	E	E	E	E	E	E	E	B	1.6	1.8	2.4	2.0	2.1	1.7	2.1	1.9	1.7	1.6	B	E	E	E	1.4	1.4
20	1.4	1.4	1.4	1.3	E	E	E	1.5	1.6	1.6	1.8	1.9	2.2	1.8	1.9	1.8	1.6	1.5	1.5	1.5	1.5	1.5	E	1.9
21	1.2	E	E	E	E	E	E	1.7	1.6	1.6	1.6	1.6	2.0	1.6	1.6	1.6	1.6	1.6	1.6	1.4	1.4	1.4	1.4	1.4
22	1.2	E	E	E	E	E	1.4	1.4	1.5	1.6	1.7	1.8	1.8	1.9	1.7	1.7	1.7	1.7	E	E	E	1.6	1.6	1.6
23	1.8	E	E	E	E	E	E	B	1.6	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.6	E	1.6	E	E	E	E
24	1.2	E	E	E	E	E	E	B	1.4	1.8	2.0	1.8	1.8	1.8	1.9	1.7	1.6	1.6	1.5	1.7	1.6	E	E	E
25	1.9	1.3	E	E	E	E	E	B	1.6	1.5	1.6	2.0	1.8	1.6	1.6	1.6	1.6	1.6	1.4	1.6	1.6	1.6	1.6	1.5
26	1.4	E	E	E	E	E	E	E	1.5	1.8	1.6	1.6	1.6	1.6	1.7	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4
27	E	E	E	E	E	E	E	B	1.6	1.6	1.7	1.7	1.8	1.7	1.6	1.6	1.6	1.6	E	E	1.5	2.4	1.5	1.3
28	1.3	1.2	E	E	E	E	E	B	1.5	1.6	1.7	1.6	1.8	1.6	1.7	1.7	1.7	1.6	E	E	E	E	E	E
29	1.4	1.3	E	E	E	E	E	1.9	1.6	1.6	1.6	1.9	2.0	2.1	1.9	1.5	1.6	1.6	1.5	E	E	E	E	E
30	E	E	E	E	E	E	E	B	1.5	1.8	1.8	2.0	2.0	1.6	1.5	1.5	1.5	1.6	1.9	E	E	E	1.6	E
31	E	E	E	E	E	E	E	B	1.5	1.7	1.7	1.9	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	E	1.6	E	E
Mean Value	1.4	1.3	1.3	1.3	1.2	1.3	1.6	1.6	1.6	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
Median Value	1.2	E	E	E	E	E	1.5	1.6	1.6	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
Count	31	31	30	31	31	31	21	31	31	31	31	31	31	31	31	31	31	28	31	31	31	31	31	31

fminE

Sweep 1.0 Mc to 17.0 Mc in 15 min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

foF2

135° E Mean Time

Oct. 1951

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	4.5	M	3.8	3.8	4.0	3.9	6.1	9.0	10.3	8.6	7.9	9.0	9.2	9.8	9.3	9.1	10.2	11.0 ^J	9.1	5.3	4.9	4.6	4.5	4.4
2	4.7	4.5	4.2	4.2	3.9	5.2	7.4	9.0	(9.3) ^P	8.2	8.3	8.5	7.9	8.6	9.7	10.9	9.9	8.8	7.5	6.1	5.7	4.5	3.7	4.3
3	4.1	A	4.7	4.7	4.9	4.7	6.5	8.1 ^S	7.9	8.6	8.7	8.8	7.8	8.0	8.6	8.7	(8.9) ^P	S	B	6.6	6.1	5.2	4.4	4.6
4	4.6	5.0	4.5	4.2	3.8	3.7	5.9	8.3	9.0	8.0	8.6	8.9	7.6	(8.3) ^P	8.2 ^P	(8.2) ^S	8.2	B	B	5.8	4.7	4.8	4.8	4.8
5	4.6	4.4	4.2	4.2	4.1	3.9	6.9 ^S	8.5	8.3 ^P	8.5	9.0	8.6	8.0	9.0	9.7	10.4	9.6	9.7	6.3	4.9 ^S	4.8	4.6	4.6	4.6
6	4.6 ^H	4.5	4.3	4.6	3.7	3.3	5.5	7.2	9.5 ^H	7.8 ^N	8.4	(8.0) ^P	8.1	8.6	(9.0) ^S	(9.0) ^P	(9.2) ^P	9.0	7.2	5.9	4.5	4.1	4.5	4.8
7	4.0	4.6	4.3	4.4	4.3	3.4	5.7	7.1	8.2	8.2	8.2 ^P	9.6	9.0	9.0	9.9	9.0	9.3	10.1	9.3	6.0	5.7	4.7	4.3	(4.1) ^P
8	5.0	4.7	4.6	4.4	3.7 ^K	4.3 ^K	5.0 ^S	5.9 ^K	5.8 ^K	8.5 ^K	8.3 ^P	8.6 ^V	9.6	(9.2) ^C	8.6	9.0	10.1	7.5	5.5	5.9	6.2 ²	4.6 ^S	4.6	4.8 ^H
9	4.4	4.2	4.4	B	A	4.5	5.7	7.5	8.2 ^P	8.0 ^P	8.6	10.2	9.6	(8.3) ^P	8.2	C	(8.0) ^P	(7.9) ^P	7.8	7.4	6.5	3.7	3.8	3.7
10	3.1	3.3	3.3 ^P	3.9	3.3	3.0	5.2	8.6 ^V	9.0	9.2	9.9	9.5	8.9	8.5	C	C	8.6	(8.1) ^S	5.2 ^H	5.1	4.0	5.1	3.7	3.6
11	3.9	4.2	3.9	2.9	2.9	3.0	5.4	7.6	(9.1) ^P	(10.1) ^P	10.0 ^P	11.7	9.1	8.3	8.5	(8.3) ^P	(7.9) ^P	7.2	7.4 ^S	5.6 ^S	4.5	4.2	3.8	3.8
12	3.8	3.9	3.8	3.9	3.8 ^P	4.0 ^J	5.8	7.9 ^J	11.0 ^P	9.8 ^J	10.7	11.0 ^P	10.5	9.6	8.9	8.9 ^P	8.3	8.4	6.7	5.7	6.0	4.9	4.2	4.3
13	4.2	4.2	4.4	4.4	4.4 ^F	5.2 ^F	6.6	8.0 ^S	8.8	9.2	(9.9) ^P	11.8	11.7	9.0	9.5	9.5	8.4	(8.4) ^S	5.8	4.8	4.3	3.6	4.3 ^F	3.6 ^F
14	3.0	3.1 ^F	4.2 ^F	3.4	(3.3) ^P	3.3 ^P	6.3	8.4	(10.2) ^P	8.9	9.6 ^J	(10.3) ^P	11.6	10.1 ^P	9.0	8.2 ^J	9.7 ^P	B	(6.2) ^P	A	A	3.6	B	3.7 ^J
15	3.6 ^P	(4.4) ^F	4.6 ^P	3.7	3.5 ^F	3.5	5.2	7.8	8.0	C	C	C	C	C	C	C	C	C	C	C	4.7	(4.2) ^C	3.7 ^S	3.1 ^J
16	3.4 ^J	3.6	3.5	3.7	3.7	3.8	5.6	7.3	8.1	7.8	C	C	C	C	C	(11.9) ^P	9.5 ^P	(7.9) ^P	7.6	6.3	4.9	3.9	4.4	4.4
17	3.8	3.4	3.5	3.3	3.4	3.4	5.6	7.1	10.1	9.9	10.4	10.8	11.7	11.7	11.1	11.3	10.8	9.4	7.7 ^S	5.2	7.2	5.1	8.5	4.4
18	3.5	4.3	2.9 ^F	3.3	3.8	4.0	6.4	9.5 ^J	10.7 ^J	(10.8) ^F	10.9 ^P	9.5 ^J	(10.4) ^P	10.9	11.6	(9.6) ^P	9.6 ^J	(8.7) ^F	6.7	4.8	4.4	(4.0) ²	(3.7) ^P	4.1
19	4.1	4.2	4.6	3.8	3.5	3.1	5.7	8.1	9.0 ^H	(10.4) ^P	11.8	13.4	12.3 ^P	11.7	10.8	10.9	8.7 ^J	6.4	5.5	5.3	4.7	4.3	4.5	3.5
20	3.5	3.4	3.7	2.9	3.2	2.9	7.0	9.1	9.5	9.9	9.2	(11.1) ^P	11.9	12.0	9.8	7.5	8.8	9.1	6.7	5.7	4.5	3.7	3.5	3.7
21	C	C	C	C	C	C	C	C	10.2	9.1	9.2	(10.4) ^P	9.2	9.4	10.0	8.8	7.7 ^H	8.6	A	5.3	5.9 ^H	4.4	4.2	4.0
22	3.5	3.7	3.9	4.0	3.6	3.6	5.6	(7.4) ^P	8.2 ^S	8.8	9.4	8.2	9.8	10.3	9.8	9.3	8.2	6.8	5.4	4.4	5.2	4.7	3.9	3.8
23	4.2	3.9	3.5	3.7	3.8	3.8	6.5	7.2	7.8 ^P	8.9	10.2 ^P	11.8	11.4	11.1	9.3	9.2	7.9 ^S	6.8	4.7	4.5	4.7	3.7 ²	2.8	3.0
24	2.9	3.1 ^F	3.2 ^F	3.3	3.4	3.4	4.2	6.0 ^P	7.5	10.4 ^H	10.1 ^P	9.6	9.6	(9.6) ^P	8.2 ^V	8.3	8.7	7.2	5.2	5.4	4.1	3.2	3.0 ^P	3.2
25	3.3	3.7	3.6	3.7	3.6	3.5	6.3	7.3 ^P	(8.0) ^P	8.7	9.6 ^J	(9.8) ^P	10.5	10.0	9.7	9.2	7.4	6.1	4.5	4.2	4.0	2.9	3.2	3.2
26	3.2	3.4	3.5	3.7	3.6	3.7	4.3	7.0	8.3	8.6	9.5 ^P	10.9 ^P	9.8	11.1 ^P	(10.0) ^P	C	C	5.3	4.2 ^H	5.3	4.7	3.0	3.2	(3.2) ^P
27	S	3.8 ^P	3.1	3.0	3.4	3.6	5.7	6.7 ^H	6.7	8.7 ^H	10.9	10.4	9.0	8.0 ^P	(8.4) ^M	8.8	8.8	7.5	5.3	5.3	4.8	4.4	4.2	3.8
28	3.7	4.0 ^P	4.5 ^P	4.9	2.8	3.0	5.1 ^P	7.4	(7.9) ^P	8.8	8.8	9.0	10.0	9.6	8.1 ⁵	7.7	7.3	6.7	5.8	4.9	4.8	3.2	3.3	3.2
29	3.1 ^K	3.2 ^K	3.5 ^K	4.0 ^K	3.4 ^K	3.4 ^K	4.3	5.3	9.7	11.9	12.0	11.2	(12.5) ^P	12.1	10.9	9.8	8.1	7.0	7.0	5.0	4.4	4.2	4.5	4.5
30	4.4	4.7	4.5 ^H	4.5	3.5	3.1	5.1	9.3	9.5	10.2	10.6	10.4	10.1	10.1	8.6	8.8	8.0	6.3	5.0	4.6 ^H	4.1 ^P	3.8	3.9	3.7 ^J
31	3.7	3.2	3.3 ^H	3.6	3.4	3.8	4.1	7.5 ^F	8.7	9.2	8.9	9.4	8.9	8.7	8.6	C	C	C	4.2	4.2	4.2	(3.3) ^P	(3.4) ^P	(3.5) ^P
Mean Value	3.9	4.0	3.9	3.9	3.6	3.7	5.7	7.7	8.8	9.1	9.6	10.0	9.9	9.7	9.4	9.2	8.8	7.9	6.4	5.4	5.0	4.1	4.0	3.9
Median Value	3.8	4.0	3.9	3.8	3.6	3.6	5.7	7.7	8.8	8.8	9.5	9.8	9.8	9.6	9.3	9.0	8.7	7.9	6.3	5.3	4.7	4.2	4.2	3.8
Count	2.9	2.8	2.9	2.9	2.9	3.0	2.9	2.9	3.0	3.1	3.0	2.9	2.9	2.9	2.8	2.7	2.8	2.6	2.7	2.9	2.9	3.1	2.9	3.1

Swamp 1.0 Mc to 17.2 Mc in 2 min

Manual

Automatic

K 1

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Oct. 1951

f_oF₂

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	M	370	360	300	350	300	260	260	250	280	310	300	310	310	290	290	(280)	240	310	350	330	380	370
2	380	370	350	340	340	270	280	260	(250)	250	280	290	280	340	320	280	270	300	290	300	300	290	340	370
3	370	A	A	380	350	280	280	250	270	270	B	270	310	310	310	300	(300)	S	C	290	310	310	330	370
4	360	330	320	310	320	360	270	250	260	260	280	280	260	(320)	300	(290)	290	B	B	280	B	330	360	340
5	340	360	340	350	330	320	270	260	250	280	290	280	320	320	300	300	290	260	270	350	330	370	360	370
6	350	H	350	340	290	320	270	270	250	250	H	270	(300)	300	(310)	(300)	(290)	270	260	310	360	320	360	370
7	320	330	300	330	250	320	250	270	250	270	290	300	310	320	320	300	320	300	260	260	260	370	410	(450)
8	350	370	380	420	330	350	K	360	310	(310)	(320)	(310)	310	(310)	310	310	270	230	300	360	330	290	360	320
9	380	320	320	B	A	310	280	240	240	(280)	310	270	260	310	(250)	260	(260)	(260)	290	390	290	300	330	310
10	330	420	400	350	370	370	260	(270)	240	300	290	260	280	320	C	C	260	280	330	320	320	340	300	
11	340	390	290	440	450	440	280	300	(280)	(300)	290	260	270	280	C	(250)	(250)	280	250	250	290	360	340	330
12	360	370	340	350	380	(350)	S	(270)	270	(280)	300	290	290	300	280	290	260	260	260	320	300	280	360	370
13	350	340	330	310	310	270	F	260	230	300	(270)	310	270	310	300	230	240	(270)	S	280	380	350	390	330
14	330	390	420	370	(350)	(320)	280	270	(270)	250	(290)	(300)	310	260	300	(290)	280	B	(250)	A	A	340	B	(310)
15	360	P	(360)	360	380	320	F	330	280	240	C	C	C	C	C	C	C	C	C	C	C	C	A	(370)
16	A	320	330	320	310	290	260	240	240	250	C	C	C	C	C	(300)	280	(280)	290	290	290	350	380	330
17	320	350	350	370	360	400	300	260	280	260	310	320	310	320	300	290	300	310	310	370	310	300	58	380
18	320	340	310	420	400	350	300	(290)	(270)	(280)	280	(290)	(300)	310	300	(280)	(270)	(290)	250	300	280	280	(400)	(390)
19	350	360	360	270	360	370	260	270	H	320	310	310	350	300	330	290	(270)	250	320	300	300	360	310	400
20	380	330	310	340	420	410	300	260	290	290	300	(330)	320	290	260	270	310	280	280	280	290	320	350	350
21	C	C	C	C	C	C	C	C	290	260	290	(290)	280	280	280	250	270	H	A	360	310	330	400	320
22	390	400	390	390	330	340	280	(260)	270	270	300	320	280	330	270	270	270	300	260	370	360	280	320	390
23	330	390	370	410	340	400	260	260	270	300	310	310	280	290	270	290	260	270	310	320	270	330	340	410
24	420	430	F	310	280	270	240	220	250	310	H	280	270	(300)	(280)	300	280	250	290	280	260	320	360	340
25	370	380	360	330	320	340	270	(250)	(250)	260	(270)	(280)	270	280	260	260	240	250	260	310	290	320	360	340
26	380	390	360	350	350	310	320	240	250	270	280	290	300	280	P	C	C	300	350	320	270	340	370	(320)
27	S	(320)	330	350	340	320	280	240	250	280	H	260	260	(260)	M	270	250	270	300	340	320	330	360	360
28	400	K	370	300	250	260	260	240	(270)	280	290	300	320	280	270	280	280	250	300	310	270	380	390	400
29	430	K	410	400	360	400	K	250	330	300	320	310	(320)	300	290	290	300	270	300	280	360	340	360	370
30	360	390	340	310	290	320	300	260	270	260	270	300	280	290	260	280	250	270	280	H	320	350	350	(310)
31	(330)	310	320	340	320	340	300	280	350	270	260	270	290	290	300	C	C	C	B	310	330	(290)	(320)	(310)
Mean Value	360	360	350	350	340	340	280	260	270	280	290	290	290	290	290	280	280	270	280	310	310	330	360	360
Median Value	360	360	340	350	330	340	280	260	270	280	290	290	290	290	300	290	270	270	280	310	310	330	360	370
Count	28	28	28	29	29	30	29	30	31	30	28	29	29	29	28	27	28	26	25	29	29	30	28	31

f_oF₂

Swamp 1.0 Me to 17.2 Me in Z min

Manual Automatic

K 2

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 28.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

f'F2

Oct. 1951

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

Empty 1.0 Me to 12.2 Me in _____ min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Kokubunji Tokyo
Lat. 35° 42.4' N
Long. 139° 28.3' E

Oct. 1951

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	A	Q	L	L	L	L	L	L	L	Q	Q						
2							Q	Q	L	L	4.8	4.8	L	Q	L	L	Q	Q						
3							Q	L	L	L	L	4.7	L	Q	L	L	Q	B						
4							Q	L	L	L	4.6	4.8	(4.5)P	L	L	L	L	Q						
5							Q	Q	L	L	B	4.2	L	Q	L	L	L	Q						
6							Q	Q	Q	Q	L	L	L	4.8	A	L	Q	Q						
7							Q	Q	L	L	L	L	A	L	L	L	Q	Q						
8							Q	Q	A	L	L	L	L	L	L	L	Q	L						
9							A	A	A	C	L	L	L	B	L	L	Q	Q						
10							Q	Q	Q	A	L	L	L	L	C	C	Q	Q						
11							Q	Q	L	4.5	L	L	L	L	L	L	Q	L						
12							Q	Q	A	A	L	L	L	L	L	L	Q	Q						
13							Q	Q	L	L	L	L	L	Q	L	L	A	Q						
14							Q	Q	L	A	L	A	L	L	L	L	Q	Q						
15							Q	Q	L	C	C	C	C	C	C	C	C	C						
16							Q	Q	Q	L	L	L	L	L	L	L	L	Q						
17							Q	Q	L	L	L	L	L	L	L	L	L	Q						
18							Q	Q	Q	B	L	L	L	L	L	L	L	B						
19							Q	Q	Q	L	L	L	L	Q	L	L	Q	Q						
20							Q	Q	Q	Q	Q	L	L	L	L	L	Q	Q						
21							C	C	L	L	L	L	L	L	L	L	L	L						
22							Q	Q	L	Q	L	L	L	L	L	L	Q	Q						
23							Q	Q	L	Q	4.3	L	Q	L	L	L	Q	Q						
24							Q	Q	Q	Q	L	L	L	L	L	L	L	Q						
25							Q	Q	Q	L	L	L	L	L	L	L	L	L						
26							Q	Q	Q	L	L	L	L	L	L	L	L	L						
27							Q	Q	L	Q	L	L	L	L	L	M	Q	A						
28							Q	Q	Q	L	L	L	L	L	L	L	Q	Q						
29							Q	Q	Q	L	A	A	A	B	L	L	L	Q						
30							Q	Q	Q	L	4.2	L	L	L	L	L	Q	Q						
31							Q	Q	L	L	L	L	L	L	L	L	L	C						
Mean Value									4.5	4.5	4.6	4.5	4.8											
Median Value									4.5	4.4	4.8	4.4	4.8											
Count									1	4	4	4	2	1										

foF1

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

K 4

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

f'F1

Oct. 1951

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	Q	220	210	190	210	270 ^A	230	250	Q	Q						
2							Q	240 ^A	Q	220	210	230	220	Q	240	250	Q	Q						
3							Q	240	Q	240	230	220	250 ^B	Q	Q	Q	Q	Q						
4							Q	Q	Q	220	220	200	210	240 ^A	240	240	Q	Q						
5							Q	220	Q	210	B	220 ^B	250	Q	230	260	240	Q						
6							Q	Q	Q	220	220	220	210	A	A	240	Q	Q						
7							Q	Q	250	230	220	210	A	230	220	Q	Q	Q						
8							Q	Q	A	240	220	220	220	230	230	260	Q	210						
9							A	A	A	C	240	230	220	B	Q	220	Q	Q						
10							Q	Q	Q	A	230	210	220	240	C	C	Q	Q						
11							Q	Q	240	220	210	210	230	220	Q	220	Q	230						
12							Q	Q	A	A	230	230	230	220	250	210	Q	Q						
13							Q	Q	220	230	230	250	260	Q	230	A	Q	Q						
14							Q	Q	230	A	210	A	230	220	220	Q	Q	Q						
15							Q	Q	220	C	C	C	C	C	C	C	C	C						
16							Q	Q	220	C	C	C	C	C	C	260	Q	Q						
17							Q	Q	240	240	240	230	A	Q	Q	210	B	Q						
18							Q	Q	Q	B	Q	Q	230	230	230	Q	Q	Q						
19							Q	Q	Q	250	260	250	Q	Q	Q	B	Q	Q						
20							Q	Q	Q	Q	Q	270	250	250	Q	Q	Q	Q						
21							C	C	240	240	240	240	B	240	240	230	Q	240						
22							Q	Q	230	Q	220	240	Q	240	A	Q	Q	Q						
23							Q	Q	220	Q	230	200	Q	240	220	Q	Q	Q						
24							Q	Q	Q	Q	A	Q	Q	B	A	Q	A	A						
25							Q	Q	Q	220	210	210	230	230	220	230	Q	A						
26							Q	Q	Q	200	210	200	220	250	Q	C	C	Q						
27							Q	Q	240	Q	220	220	230	230	M	Q	A	Q						
28							Q	Q	Q	220	240	230	260 ^A	260	Q	Q	Q	Q						
29							Q	Q	Q	230	A	B	A	B	Q	250	Q	Q						
30							Q	Q	Q	220	180	210	220	240	A	Q	Q	Q						
31							Q	Q	210	220	240	240	240	240	C	C	C	C						
Mean Value								240	230	230	220	220	230	240	230	240	240	230						
Median Value							240	240	220	220	220	230	240	240	230	240	240	240	230					
Count							1	14	19	24	25	21	20	14	14	14	14	2						

Swing 1.0 Mc to 157.2 Mc in 2 min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Khatama-gun, Tokyo, Japan

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

IONOSPHERIC DATA

foE

Oct. 1951

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	2.8	3.2	B	B	3.3	A	A	2.9	2.7	A						
2						2.0	A	2.9 ^A	A	2.6	B	B	3.6	A	A	3.1	2.6	A						
3						A	2.3	2.6	2.6	B	B	B	B	B	B	B	2.7	A						
4						1.6	2.7	2.8	3.3	B	B	3.1	3.2 ^B	2.9	2.6	2.5	1.6							
5						A	2.5	2.8	B	B	3.0	B	B	B	B	2.8	B	A						
6						A	2.7	2.9	B	3.2 ^B	A	A	A	A	A	A	A	A						
7						A	B	3.0	3.0	2.9	3.2 ^B	B	2.9	2.9	2.8	2.5	1.9							
8						1.4	2.2	2.9	2.9	A	A	A	3.2	B	A	B	2.4	A						
9						A	A	2.8	C	A	A	A	B	B	B	2.8	2.5	A						
10						A	A	A	A	3.3	A	A	3.3	3.2	C	C	2.5	1.6						
11						E	A	A	B	3.1	B	3.4	A	A	A	2.0	2.4	1.7						
12						B	A	A	A	A	B	B	B	B	B	2.8	2.4	1.7						
13						1.4	2.3	2.8	B	B	B	B	B	B	B	2.8	A	A						
14						A	2.2	2.5	A	A	A	A	B	3.4	2.9	2.8	2.3	A						
15						B	2.4	A	C	C	C	C	C	C	C	C	C	C						
16						1.3	2.3	2.5	3.1	C	C	C	C	C	C	C	2.3	A						
17						B	2.3	2.8	2.8 ^H	B	3.5 ^H	B	B	B	3.0 ^H	2.8	B	A						
18						B	A	B	B	3.0	3.1	A	BH	BH	3.0	2.7	A	A						
19						B	A	2.8	3.0 ^B	BH	B	BH	BH	BH	B	2.6	B	B						
20						1.7	2.0	2.6	2.9	B	B	B	B	B	A	B	B	A						
21						C	C	2.6 ^H	B	A	B	B	B	3.0	2.8	2.8	A	A						
22						1.6	2.3	2.5	A	A	B	3.0	3.0 ^B	A	A	2.4	1.3 ^J							
23						1.5 ^J	2.0 ^J	2.8	2.9	A	A	A	3.1	BH	2.9	A	A	A						
24						B	2.5	A	B	A	A	A	B	B	A	2.7 ^A	2.2 ^A	A						
25						1.3	A	A	A	A	2.9	3.2	3.2	BH	2.8	2.5 ^J	A	A						
26						E	A	3.0	3.1	3.1 ^H	3.0	3.0	3.0	3.0	2.9	C	C	A						
27						B	A	A	B	B	3.0 ^J	3.0	3.0	A	M	2.6	2.4	1.8 ^J						
28						B	2.1	2.5	2.8	A	A	3.3 ^A	A	B	2.8	2.2	1.6							
29						E	2.0	2.5	2.9	3.0	3.5	A	B	3.1 ^J	A	A	A							
30						1.6	A	2.5	3.1	2.9	2.9	B	B	2.9	A	2.2	B							
31						E	2.4 ^J	2.8	3.1	B	B	B	B	B	B	C	C	C						
Mean Value						1.5	2.3	2.7	3.0	3.1	3.1	3.2	3.1	2.9	2.7	2.4	1.7							
Median Value						1.4	2.3	2.8	3.0	3.0	3.0	3.2	3.0	2.9	2.8	2.4	1.6							
Count						14	17	22	16	8	9	11	10	9	18	19	8							

foE

Sweep 1.0 - Mc to 17.2 - Mc in 2 min

Manual Automatic

K 6

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Oct. 1951

f'E

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

Sweep 1.0 Mc to 17.2 Mc in 2 min Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 29.8' E

Kokubunji Tokyo

IONOSPHERIC DATA

Oct. 1951

fEs

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	3.4	M	3.4	2.4	2.2	2.2	2.7	4.9	4.1	G	G	G	G	5.8	3.6	G	G	G	2.6	2.0	E	2.8	2.4	E	
2	2.0	2.2	2.4	2.4	2.4	2.5	G	3.7	4.2	4.2	4.3	G	G	G	4.2	G	4.8	3.6	2.7	3.0	5.0F	2.8	2.0	3.0	
3	3.8F	5.0F	5.2F	3.0	2.9	3.2	2.7	G	4.4	4.4	5.4	G	G	4.5	G	G	G	2.8	C	3.6	4.6	3.6	3.2	2.4	
4	2.4	1.5	E	2.2	2.7	1.6	G	G	G	G	G	G	G	G	G	G	G	G	3.4	5.4	3.4	3.6	3.4	3.0	
5	2.4	2.6	2.2	2.2	E	E	2.3	2.8	G	G	G	3.5	G	G	G	G	5.3	2.8	5.3	4.5	4.1	2.7	2.4	2.6	
6	2.0	2.8	2.4	2.4	2.5	2.3	2.2	G	4.5	G	4.4	5.2	4.2Y	4.2	5.6	3.4	3.6	3.6	3.0	3.0	3.6	3.3	2.4	2.0	
7	2.8	2.6	3.2	2.6	2.8	2.8	2.0	G	4.0	4.0	4.7	4.8	5.2	4.3	G	G	3.0	2.7	3.7	3.2	2.8	2.7	2.8	4.2	
8	2.5	2.2	2.8	2.6	2.4	E	G	3.0	G	3.8	3.8	3.6	G	G	4.1	4.2	4.2	3.6	3.6Y	2.8	2.4	3.8	3.8	2.8	
9	2.0	2.6	2.8	3.6	5.2F	2.5	3.6	4.5	5.6	C	4.2	4.4	G	4.3Y	G	G	G	2.4	2.5	2.6	3.7	4.0Y	2.5	2.3	
10	2.2	2.2	E	E	2.5	2.9	2.4	4.1	6.5	4.3	3.5	4.3	G	G	C	C	G	G	2.9	3.9	1.8	E	2.0	2.1	
11	2.2	2.0	E	1.6	2.6	2.1	2.8	2.8	3.7	4.4	G	G	G	3.6	8.2	4.2	G	2.5	2.5	2.4	2.3	2.8	2.8	E	
12	2.1	E	E	E	E	E	2.6	5.0	4.4	6.4	3.8	G	G	G	G	G	G	2.8	3.8	2.3	2.0	2.2	3.0	2.0	
13	E	2.3	2.0	2.5	2.4	2.5	2.5	2.9	3.4	G	G	G	G	G	G	5.7	3.2	2.9	3.5	4.1	3.0	3.7	2.8	2.6	
14	2.3	1.5	2.3	2.4	2.1	1.6	2.1	3.4	G	5.0	4.6	6.0	G	G	G	G	2.7	3.7	4.4	5.7	7.0	2.8	2.5	2.7	
15	2.0	2.0	2.8	1.9	E	2.0	B	3.1	4.0	C	C	C	C	C	C	C	C	C	C	C	3.8	C	3.4	3.2	
16	4.0	3.6	3.7	2.6	2.4	2.2	2.4	G	4.2	4.4	C	C	C	C	C	G	2.9	2.8	3.6	2.8	3.4	2.6	2.8	3.2	
17	3.1	E	1.4	1.2	2.4	2.7	G	G	G	G	G	G	4.8	G	G	4.7Y	G	3.4	4.2	4.5	3.5	2.2	2.6	2.6	
18	1.8	E	2.5	1.6	2.0	2.5	B	3.0	G	G	G	G	4.6	G	G	G	3.8	2.8	3.1	3.6	2.4	2.5	2.4F	2.3	
19	2.2	2.5	2.7	2.6F	2.0	1.8	2.9	2.5F	G	G	G	G	G	G	G	G	G	G	B	E	E	2.4	E	2.7	
20	2.2	2.2	1.6	2.3	1.4	E	2.8	3.6	3.9	4.7	6.4	5.6	G	G	4.5	G	G	2.0	3.2	5.8	3.0	3.6	3.4	2.6	
21	C	C	C	C	C	C	C	C	G	G	4.4	G	G	G	4.2	G	6.4	7.5	9.7	5.5	3.5	E	1.9	2.0	3.4
22	2.5	2.5	1.6	E	1.7	E	G	G	4.0	3.4	3.7	G	G	G	4.2	G	5.6	G	1.8	2.0	E	E	2.0	3.4	
23	4.0	2.0	2.6	2.0	1.5	1.8	G	3.1	3.6	3.4	4.6	5.6	4.5	G	3.8	4.6	3.5Y	2.4	2.4	E	E	E	E	E	
24	2.4F	2.2F	2.2	2.4	2.4	2.6	B	G	3.7	G	6.5	4.1	G	G	5.0	3.3	3.2	3.6	3.6	3.2	2.0	E	2.6	E	
25	2.6	1.4	2.6	2.5	2.5	2.5	2.3	2.9	3.8	4.0	3.6	G	G	G	G	G	G	4.3	3.4	3.2	2.0	2.3	1.7	E	
26	E	E	2.1	2.7	2.5	E	2.3	2.8	G	G	G	G	G	G	G	C	C	2.5	2.8	4.0	4.0	2.3	2.0	E	
27	2.4	3.0	2.7	2.6	E	2.3	B	4.5F	3.4	G	G	4.7	G	4.2	M	4.4	4.8	G	3.2	2.8	1.7	1.5	2.7	2.8	
28	3.5	2.4	2.8	2.8	1.6	2.4	B	G	3.6	3.5	5.1	4.7	5.5	5.1	G	G	G	G	2.8	2.2	1.8	E	E	2.4	
29	2.2	2.2	2.4	2.4	2.3	2.6	E	4.0	4.1	5.0	5.7Y	6.2Y	5.8	G	G	3.8	3.3	2.8	2.8	2.0	2.2	2.0	1.6	1.6	
30	2.0	2.3	2.1	2.4	2.2	1.6	G	2.5	3.2	G	G	G	G	G	3.8	3.6	G	2.6	2.9	E	E	E	E	E	
31	E	E	E	1.8	1.8	2.0	1.7	G	G	3.7	G	G	G	G	G	C	C	C	3.4	4.8	3.0	E	E	2.2	
Mean Value	2.6	2.4	2.6	2.4	2.4	2.3	2.5	3.5	4.1	4.3	4.7	4.8	4.9	4.5	4.6	4.1	4.0	3.2	3.4	3.5	3.2	2.8	2.6	2.6	
Minimum Value	2.2	2.2	2.4	2.4	2.4	2.2	2.3	2.8	3.7	3.4	3.7	G	G	G	G	G	2.8	2.8	3.2	3.0	2.9	2.5	2.4	2.4	
Count	3.0	2.9	3.0	3.0	3.0	3.0	2.5	3.0	3.1	2.9	2.9	2.9	2.9	2.9	2.7	2.7	2.8	2.8	2.9	3.0	3.1	3.0	3.1	3.1	

Sweep 1.0 Mc to 17.2 Mc in 2 min
 Manual Automatic

fEs

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Kokubunji Tokyo
Lat. 36° 42.4' N
Long. 139° 28.3' E

IONOSPHERIC DATA

(M3000)F2

Oct. 1951

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	3.1	M	2.8	2.8	2.7	2.8	3.2	(3.4) ^B	3.5	3.3	3.3	3.1	3.1	3.0	3.1	3.1	3.2	(3.3) ^J	3.5	3.0	2.8	3.0	2.7	2.7
2	2.7	2.7	2.8	2.8	2.9	3.3	3.2	3.3	(3.5) ^P	3.5	3.2	3.4	3.2	2.9	3.0	3.3	3.3	3.2	3.3	3.1	3.1	3.1	2.9	2.7
3	2.7	A	A	2.7	2.8	3.2	3.3	3.4	3.4	3.5	(3.2) ^B	3.3	3.1	3.1	3.1	(3.1) ^B	(3.2) ^P	S	(3.3) ^P	3.2	3.2	3.0	2.9	2.6
4	2.9	3.0	3.0	3.1	3.0	2.8	3.2	3.4	3.6	3.4	3.2	3.3	3.4	(3.0) ^P	3.1	(3.3) ^S	3.2	B	B	3.2	B	2.9	2.9	
5	3.0	2.7	2.9	2.9	2.9	3.0	3.3	3.4	3.5	3.3	3.3	3.2	3.0	3.0	3.1	3.1	3.3	3.2	3.2	2.9	2.9	2.7	2.7	
6	2.8 ^H	2.8	2.8	2.9	3.1	3.1	3.4	3.3	3.5	3.5	(3.1) ^P	3.1	3.1	3.1	(3.0) ^S	(3.2) ^P	(3.2) ^P	3.4	3.3	3.1	2.7	3.0	2.7	
7	3.0	2.9	3.1	2.9	3.3	3.0	3.5	3.3	3.5	3.3	3.2	3.1	3.0	3.0	3.1	3.1	2.9	3.1	3.3	3.4	2.7	2.8	(2.4) ^P	
8	2.8	2.8	2.6	2.5	2.9	2.8	(3.4) ^S	2.7	2.9	(3.0) ^J	(3.0) ^J	(3.1) ^J	(3.0) ^C	(3.0) ^C	(3.4) ^P	3.4	(3.4) ^P	3.7	3.0	2.9	2.9	3.1	2.8	3.0 ^H
9	2.6	3.1	3.0	B	A	3.0	3.1	3.3	3.5	(3.3) ^C	3.1	3.3	3.3	2.9	(3.4) ^P	3.4	(3.4) ^P	(3.5) ^P	3.3	3.2	3.1	(3.1) ^S	2.9	3.1
10	2.9	2.6	2.7	2.8	2.7	2.7	3.4	(3.3) ^J	3.5	3.1	3.1	3.3	3.2	2.8	C	C	3.3	(3.4) ^S	3.2	2.9	3.1	2.8	3.0	
11	3.0	2.7	3.2	3.2	2.4	2.5	3.2	3.2	(3.3) ^P	(3.0) ^P	3.2	3.5	3.5	3.2	3.3	(3.4) ^B	(3.5) ^B	3.2	3.3	3.5	3.2	2.8	3.0	2.9
12	2.8	2.8	2.9	2.8	2.7	(2.8) ^J	3.3	(3.3) ^J	3.4	(3.3) ^J	3.1	3.2	3.2	3.2	3.3	3.3	3.4	3.4	3.3	3.0	3.2	3.2	2.8	2.7
13	2.9	2.9	2.9	3.0	3.1	3.2	3.4	3.6	3.5	3.1	(3.3) ^P	3.2	3.3	3.0	3.1	3.7	3.5	(3.2) ^S	3.0	3.1	2.7	2.8	2.6	2.8
14	3.0	2.6	2.6	2.8	(2.9) ^P	(3.0) ^P	3.1	3.3	(3.4) ^P	3.5	(3.2) ^J	(3.1) ^P	3.1	3.3	3.2	(3.3) ^J	3.3	B	(3.3) ^P	A	A	3.0	B	(3.0) ^F
15	2.9	(2.7) ^F	2.8	2.7	2.9	2.8	3.1	3.4	3.2	C	C	C	C	C	C	C	C	C	C	C	3.0	(2.9) ^C	(2.9) ^S	(2.7) ^J
16	(2.8) ^J	2.9	2.9	3.0	3.0	3.1	3.3	3.5	3.4	3.4	C	C	C	C	C	(3.2) ^P	3.3	(3.2) ^P	3.2	3.1	3.2	2.8	2.7	2.9
17	3.0	2.8	2.8	2.8	2.9	2.7	3.1	3.3	3.3	3.4	3.1	3.0	3.0	3.0	3.1	3.3	3.2	3.2	3.0	2.7	3.1	3.2	S	2.7
18	3.0	2.7	2.9	2.5	2.6	2.8	3.0	(3.2) ^J	(3.3) ^J	(3.2) ^P	3.4	(3.2) ^J	(3.1) ^P	3.0	3.1	(3.1) ^P	(3.3) ^J	(3.2) ^P	3.4	3.1	3.2	(2.6) ^S	(2.7) ^P	2.7
19	2.8	2.8	2.8	3.2	2.8	2.6	3.5	3.2	3.0	(3.0) ^B	3.0	3.1	2.7	3.1	2.9	3.2	(3.3) ^J	3.5	3.0	2.9	3.1	2.8	3.1	2.6
20	2.7	3.0	3.0	2.8	2.5	2.7	3.1	3.4	3.2	3.2	3.0	(3.0) ^P	3.0	3.2	3.4	3.2	3.0	3.4	3.2	3.1	3.1	3.1	2.8	2.8
21	C	C	C	C	C	C	C	C	3.3	3.4	3.3	(3.2) ^P	3.2	3.2	3.3	3.4	3.3	3.4	2.9	A	2.8	2.8	2.6	3.0
22	2.6	2.6	2.7	2.7	2.9	3.0	3.2	(3.3) ^P	3.2	3.2	3.2	2.9	3.2	3.0	3.3	3.3	3.3	3.0	3.3	3.0	3.0	3.3	2.9	2.7
23	2.9	2.6	2.7	2.7	2.8	2.7	3.2	3.4	3.4	3.1	3.0	3.2	3.2	3.2	3.3	3.2	3.4	3.3	3.1	3.0	3.4	3.0	2.8	2.7
24	2.6	2.6	2.8	3.0	3.3	3.2	3.5	3.7	3.4	3.1	(3.5) ^J	3.3	3.4	(3.2) ^P	(3.2) ^J	3.0	3.3	3.5	3.1	3.2	3.4	3.0	2.8	2.7
25	2.8	2.7	2.8	2.9	3.0	3.5	3.0	(2.8) ^J	(3.5) ^P	3.4	(3.2) ^J	(3.3) ^P	3.3	3.3	3.4	3.4	3.5	3.3	3.3	3.1	2.9	2.9	3.0	2.6
26	2.8	2.7	2.8	2.7	2.8	3.1	2.9	3.6	3.4	3.3	3.2	3.3	3.1	3.2	(3.3) ^P	C	C	3.0	2.8	3.0	3.4	2.9	2.9	(3.0) ^P
27	S	(2.9) ^J	3.0	2.8	2.9	3.0	3.3	3.7	3.6	3.3	3.3	3.3	3.4	3.5	(3.4) ^M	3.3	3.5	3.4	3.1	3.1	3.1	3.0	2.9	2.8
28	2.7	2.8	3.2	3.5	3.3	2.9	3.3	3.5	(3.4) ^P	3.3	3.2	3.2	3.1	3.2	3.3	3.2	3.3	3.3	3.1	3.2	3.0	3.3	2.8	2.6
29	2.5 ^K	2.7	2.6	2.7	2.9	2.6	3.4	3.2	3.4	3.2	3.0	3.0	(3.0) ^P	3.2	3.2	3.3	3.1	3.2	3.1	3.2	2.8	2.8	2.7	2.7
30	2.7	2.8	2.9	3.0	3.1	3.0	3.1	3.3	3.4	3.3	3.2	3.2	3.2	3.2	3.5	3.2	3.5	3.2	3.2	3.2	3.2	2.9	2.9	(3.1) ^J
31	2.9	3.1	3.0	2.8	3.0	2.8	3.1	3.1	3.6	3.2	3.3	3.3	3.2	3.2	3.1	C	C	C	2.8	2.9	2.9	(3.1) ^P	(2.9) ^P	(3.1) ^P
Mean Value	2.8	2.8	2.9	2.9	2.9	3.2	3.3	3.4	3.3	3.2	3.2	3.2	3.2	3.1	3.2	3.2	3.3	3.3	3.2	3.1	3.0	3.0	2.8	2.8
Minimum Value	2.8	2.8	2.8	2.8	2.9	3.0	3.2	3.3	3.4	3.3	3.2	3.2	3.2	3.1	3.2	3.2	3.3	3.2	3.2	3.1	3.1	3.0	2.8	2.7
Count	2.9	2.8	2.9	2.9	2.9	3.0	2.9	3.0	3.1	3.0	2.9	2.9	2.9	2.9	2.8	2.7	2.8	2.6	2.7	2.9	2.9	3.1	2.9	3.1

Sweep 1. P. Mc to 17.2. Mc in 2. minit

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Kokubunji Tokyo
Lat. 35° 42.4' N
Long. 139° 28.8' E

Oct. 1951

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	2.2A	M	2.6A	E	1.3	E	2.0	4.1A	3.5	3.6	3.6	3.8	3.6	4.6A	3.5	3.2	2.7	2.5	A	2.0A	1.6	2.5A	2.0A	1.3
2	1.3	1.4	1.6	1.1	E	1.2	2.0	2.8	4.2A	3.3	3.6	4.0	4.0	3.4	3.5	3.2	2.8	3.2A	2.8A	2.2A	2.8A	1.5	1.3	2.0A
3	2.2A	A	A	2.3A	2.1A	2.1A	2.0	2.5	3.7A	3.8A	4.1	4.0	4.4	14.4	4.0	4.0	3.8	4.2S	C	4.0A	3.4A	3.4A	2.6A	2.2A
4	1.3	1.5	E	E	1.3	1.4	1.9	2.7	3.1	3.4	3.6	3.7	3.4	3.5	3.5	3.2	2.6	2.0	1.6	1.6	2.2A	2.6A	2.2A	2.0A
5	1.4	1.3	1.1	E	E	E	1.8	2.6	3.1	3.5	4.1	4.0	4.1	4.2	3.6	3.6	4.0A	2.0	1.6	2.0A	1.2F	1.6	1.3	A
6	2.0	1.6	1.2	1.6	1.6	1.4	2.0	3.0	3.4	3.6	3.8	4.0	4.0	3.6	4.2	3.2	2.6	2.0	2.1A	3.0A	2.2A	1.6	1.5F	1.3
7	1.3	1.3	2.0A	1.3	1.3	1.3	2.0	2.3	3.3	3.6	3.8	3.7	4.6A	3.8	3.3	3.2	2.7	1.9	3.0A	2.2A	2.0A	2.0A	1.9	2.4A
8	1.1	1.1	1.3	1.6	2.1A	1.5	2.4	3.0	3.6	3.6	3.5	3.6	4.0	3.8	3.6	3.4	2.5	2.0	3.0A	1.6	2.0A	2.0A	1.3	1.6
9	1.6	2.0A	2.6A	A	A	1.4	A	4.0A	5.0A	4.4A	3.8	4.0	4.0	4.7	3.8	3.2	2.5	2.0	2.0A	1.6	3.4A	1.4	1.5	1.3
10	1.3	E	E	E	E	1.6	1.9	A	3.5	4.0A	3.5	3.6	3.5	3.6	C	C	2.6	2.0	2.1A	2.2A	1.5	1.3	2.0A	2.2A
11	E	E	1.1	E	E	E	1.2	2.1	2.1	3.6	3.6	3.6	3.7	3.4	3.2	2.8	2.5	2.0	1.9	1.4	1.5S	1.9	1.9	1.1
12	1.2	E	E	E	E	E	1.2	2.4	4.4A	5.6A	4.0	4.1	4.0	3.6	4.0	3.2	2.6	N	A	1.6	1.2	2.0A	2.0A	1.2
13	1.3	E	E	E	E	E	1.6	2.4	3.3	3.7	3.4	4.5	4.0	3.7	3.8	5.9	4.1	1.9	1.3	1.2	2.5A	1.3	A	1.3
14	1.5F	1.2	1.4	E	E	E	1.8	2.8	2.6	4.6A	4.0	5.3A	4.1	3.6	3.4	3.4	2.7	2.0	A	A	A	1.4	1.6	1.5
15	1.3	1.1	1.3	1.1	1.6	1.3	1.4	2.3	2.7	C	C	C	C	C	C	C	C	C	C	C	2.4A	(2.9)C	3.4A	2.2A
16	3.4A	2.0A	2.3A	1.6	1.3	1.1	1.5	2.5	3.2	4.0	C	C	C	C	4.2	3.4	2.4	2.4	2.4A	2.6A	2.4A	2.0A	2.0A	1.7
17	2.0A	1.1	1.2	E	1.2	1.2	1.9	2.0	3.2	4.1	4.0	4.1	5.0	4.6	4.2	4.1	4.1	3.2A	3.8A	3.9A	2.3A	1.8	1.2	1.3
18	1.3	1.2	1.1	1.1F	1.1	1.2	1.4	2.0	3.5	4.6	3.8	4.1	4.0	3.6	3.6	3.3	3.4	2.1	2.2A	2.6A	1.6	1.1	1.7	1.1
19	1.6	1.1	1.1	1.1	1.3	1.1	1.2	2.1A	2.5	3.2	4.0	4.0	4.0	3.8	4.0	4.2	2.5	1.8	2.0A	1.3	1.6	1.3	1.2	2.0A
20	1.4	1.2	E	E	E	E	2.0	2.3	3.2	3.8	4.1	4.2	3.5	3.7	3.5	3.3	2.5	1.9	2.0A	3.6A	2.0A	2.2A	1.6	1.3
21	C	C	C	C	C	C	C	C	3.1	3.8	4.0	4.1	4.2	4.0	3.2	2.8	A	1.8	A	4.1A	1.6F	1.2	1.5	1.6
22	1.2	1.3	1.3	1.2	E	E	1.8	2.4	3.2	3.8	3.4	3.5	4.0	3.4	3.6	3.1	2.5	1.5	1.7	1.7	1.7	1.8	1.6	1.6
23	1.6	1.6	1.1	1.2	E	E	1.5	2.2	3.1	3.1	4.0	3.6	3.6	3.5	3.3	3.8	3.3	2.0	1.7	1.3	1.3	1.3	1.1	1.3
24	1.1	1.6	1.2	E	1.4	1.2	B	2.5	3.3A	4.2	4.3A	4.1	4.5	4.4	4.0	2.8	2.3	2.6	2.2A	1.6	1.4	1.2	1.3	1.4
25	1.4	1.6	1.4	E	E	E	1.3	2.3	3.5	3.3	N	3.4	3.6	3.5	3.2	2.8	3.0	3.6A	2.5A	2.2A	1.9	1.8	2.0	1.5
26	1.3	1.3	E	1.3	1.2	1.2	1.2	2.3	3.4	3.3	3.3	3.8	3.8	3.6	3.8	C	C	1.6	1.5	2.6A	2.7A	1.7	1.9	1.2
27	1.2	1.6	1.6	1.5	1.8	1.8	2.0	2.5	3.3	3.8	3.4	3.6	3.8	4.2	(4.0)	3.7	4.2A	2.5	2.0A	1.9	1.3	1.4	1.8	1.7
28	2.0A	1.6	1.3	2.0A	1.6	1.2	1.6	2.5	3.6A	3.2	3.9	4.1	4.6A	4.1	3.6	2.9	2.4	2.0	2.0A	1.3	1.2	1.3	1.1	1.2
29	1.3	1.3	1.3	E	1.2	1.3	1.2	3.2A	3.5A	4.2A	5.7A	5.8	5.7A	4.0	4.1	3.5	3.6	3.3	2.0A	1.6	1.5	1.3	1.2	1.3
30	1.2	1.1	1.1	1.4	1.2	E	1.6	2.3	3.1	3.2	3.2	3.3	3.6	3.5	3.5	3.4	2.5	1.5	2.0A	1.4	1.4	1.2	1.3	1.2
31	1.3	1.2	E	1.2	1.1	1.2	1.1	2.5	2.9	3.4	3.4	3.6	3.8	3.5	3.4	C	C	C	2.7A	2.1A	1.4	1.2	1.2	1.2
Mean Value	1.5	1.4	1.5	1.4	1.4	1.4	1.7	2.6	3.3	3.8	4.0	4.0	4.0	3.8	3.7	3.4	2.9	2.3	2.2	2.2	1.9	1.7	1.7	1.5
Median Value	1.3	1.3	1.2	1.1	1.2	1.2	1.8	2.5	3.3	3.8	4.0	4.0	4.0	3.7	3.6	3.3	2.6	2.0	2.0	2.0	1.6	1.6	1.6	1.4
Count	3.0	2.8	2.9	2.9	2.9	3.0	2.8	2.9	3.1	3.0	2.8	2.9	2.9	2.9	2.8	2.7	2.7	2.8	2.5	2.9	3.0	3.1	3.0	3.0

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

fminF

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Kokubunji Tokyo
Lat. 36° 42.4' N
Long. 139° 28.3' E

IONOSPHERIC DATA

f_{min}E

Oct. 1951

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	1.3	M	E	E	E	E	1.2	1.3	1.4	1.4	1.4	1.6	1.5	1.4	1.2	1.2	1.2	1.2	1.3	1.3	E	1.3	1.2	E
2	1.3	1.2	1.2	1.1	E	1.2	1.2	1.3	1.4	1.3	1.9	1.9	2.0	1.9	1.4	1.5	1.1	1.2	1.3	1.3	E	1.3	1.3	1.2
3	1.6F	1.4	1.4	E	E	E	1.2	1.2	1.2	1.6	2.1	1.6	2.0	2.2	1.3	1.5	1.5	1.3	1.3	1.3	1.3	1.3	1.3	1.3
4	1.3	1.3	E	E	E	E	1.2	1.2	1.3	1.8	1.8	1.9	2.0	1.9	2.0	2.0	2.0	1.3	1.3	1.5	1.2	1.2	1.3	1.2
5	1.3	1.2	E	E	E	E	1.2	1.3	1.5	1.5	2.0	2.0	2.0	2.2	2.0	2.1	2.0	1.7	1.4	1.3	1.2	1.3	1.2	1.2
6	1.3	1.3	E	E	E	E	1.2	1.7	1.2	1.8	2.0	1.9	2.0	2.0	1.8	2.0	1.8	1.7	E	1.3	1.3	1.3	1.4	1.3
7	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.3	1.3	1.3	1.2	1.3	1.3	1.3	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1
8	1.1	E	E	E	E	E	1.3	1.2	1.2	1.4	1.9	2.0	1.5	1.6	1.5	1.5	1.2	E	1.1	1.2	1.2	1.3	1.5	1.3
9	1.3	1.3	1.3	1.2	E	E	1.2	1.2	1.2	(1.4) ^C	1.6	1.6	1.9	2.4	1.8	1.6	1.3	1.2	1.4	1.2	1.5	1.5	1.5	1.6
10	1.3	1.8	E	E	E	E	1.3	1.3	1.3	1.3	1.4	1.6	1.4	1.4	C	C	1.4	1.3	1.4	1.2	1.3	E	1.3	1.1
11	1.5	1.8	E	E	E	E	1.2	1.1	1.2	1.3	1.6	1.6	1.6	1.6	1.5	E	2.0	1.2	1.2	1.2	1.1	1.3 ^S	1.1	E
12	1.1	E	E	E	E	E	1.2	1.2	1.2	1.5	1.6	2.0	1.2	1.6	1.6	1.2	1.3	1.1	1.2	1.3	1.6	1.3	1.3	1.1
13	E	1.9	1.3	1.4	1.3	1.9	1.3	1.2	1.2	1.3	1.2	1.4	1.4	2.0	2.0	2.0	2.0	1.3	1.2	1.2	1.3	1.2	1.1	1.2
14	1.2	1.2	1.4	E	E	1.3	1.2	1.4	1.3	1.4	1.6	2.4	2.0	1.8	1.6	1.5	1.4	1.3	1.2	1.3	1.4	1.6	1.3	1.5
15	1.3	1.2	1.3	1.1	E	1.3	1.5	1.5	1.7	C	C	C	C	C	C	C	C	C	C	C	C	1.2	1.2	1.2
16	1.2	E	E	E	E	E	E	1.1	1.3	1.6	1.6	C	C	C	C	1.5	1.4	1.2	1.2	1.2	1.6	1.2	1.3	1.3
17	1.3	E	1.2	E	E	E	1.2	1.5	1.5	1.6	1.7	2.0	2.0	2.0	1.8	2.0	1.3	1.2	1.2	1.2	1.3	1.2	1.7	2.0
18	1.1	E	1.3	1.3	1.1	1.2	1.5	1.5	1.8	1.4	1.4	1.4	1.8	1.6	1.6	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.7	2.0
19	1.1	1.1	1.1	1.4	1.6	1.4	2.0	1.3	1.7	2.0	1.3	2.0	2.0	2.0	1.6	1.6	2.0	1.2	1.2	E	1.2	2.0	E	1.2
20	1.1	E	E	E	E	E	1.1	1.2	1.2	1.5	1.6	2.0	1.4	1.5	1.6	1.3	1.3	1.3	1.6	1.5	1.4	1.2	1.2	1.3
21	C	C	C	C	C	C	C	C	1.2	1.4	1.6	1.3	1.6	1.9	1.8	1.8	2.0	1.5	1.3	1.2	1.2	1.2	1.2	1.2
22	1.2	1.3	1.2	E	1.3	E	1.3	1.2	1.2	1.2	1.2	1.4	1.4	1.3	1.2	1.2	1.2	1.3	1.2	1.8	E	1.6	1.4	1.5
23	1.6	1.7	1.2	1.2	1.1	E	1.2	1.2	1.4	1.2	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.5	1.3	E	E	E	E	E
24	1.3	E	E	E	E	1.2	2.0	1.2	1.5	1.5	1.6	1.5	1.5	1.3	1.5	1.2	1.3	1.2	1.3	1.6	E	E	1.3	E
25	1.2	1.2	1.3	E	1.3	E	2.0	1.2	1.2	1.4	1.4	1.6	1.8	1.8	1.8	1.8	1.8	1.2	1.2	1.2	1.2	1.2	2.0 ^S	E
26	E	E	1.4	1.2	1.1	E	1.2	1.3	1.5	1.2	1.4	1.3	1.6	1.4	1.4	C	C	1.3	1.3	1.2	1.4	1.8	1.2	E
27	1.8	1.2	1.1	1.2	E	1.1	1.5	1.5	2.0	2.0	2.0	1.6	1.3	1.4	(1.5) ^M	1.6	1.2	1.1	1.1	1.1	1.1	1.1	1.3	1.2
28	1.1	1.1	1.1	1.1	1.2	1.2	E	1.3	1.4	1.5	1.5	1.4	1.4	1.5	1.4	1.5	1.4	1.2	1.2	1.2	1.6	E	E	1.2
29	1.8	E	E	E	E	E	E	1.2	1.2	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.4	1.3	1.2	1.2	1.2	1.2	1.2	1.3
30	1.2	1.1	1.2	1.4	1.2	1.2	1.3	1.2	1.3	1.2	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.3	E	E	E	E	E
31	E	E	E	1.4	1.3	1.4	1.2	1.6	1.2	1.3	1.2	1.6	1.6	1.4	1.6	C	C	C	1.1	1.1	1.2	E	E	2.0
Mean	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.5	1.6	1.7	1.7	1.7	1.6	1.6	1.5	1.3	1.2	1.3	1.3	1.3	1.3	1.4
Median	1.3	1.2	1.1	E	E	E	1.2	1.2	1.3	1.4	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.2	1.2	1.2	1.2	1.2	1.3	1.2
Count	3.0	2.9	3.0	3.0	3.0	3.0	2.7	3.0	3.1	3.0	2.9	2.9	2.9	2.9	2.8	2.7	2.8	2.8	3.0	3.0	3.1	3.1	3.1	3.1

Sweep 1.0. Mc to 17.2. Mc in 2. min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 42.4' N
Long. 139° 28.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

YPF2

Oct. 1951

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	7.0	M	7.0	10.0	10.0	8.0	8.0	7.0	3.0	9.0	8.0	6.0	9.0	8.0	10.0	9.0	8.0	(5.0) ^J	7.0	13.0	11.0	7.0	9.0	7.0	
2	7.0	11.0	9.0	13.0	11.0	10.0	9.0	9.0	(9.0) ^P	8.0	7.0	9.0	10.0	9.0	8.0	8.0	11.0	5.0	6.0	14.0	9.0	12.0	7.0	10.0	
3	8.0	A	A	7.0 ^F	11.0	9.0	5.0	5.0 ^S	7.0	7.0	8.0	8.0	6.0	7.0	8.0	10.0 ^P	(5.0) ^P	S	C	6.0	5.0	9.0	9.0	11.0	
4	5.0	7.0	8.0	8.0	8.0	12.0 ^F	6.0	10.0 ^S	6.0 ^P	5.0	7.0	11.0	8.0	(8.0) ^P	8.0 ^P	(4.0) ^P	9.0	6.0	8.0	8.0	6.0	7.0	6.0	8.0	
5	6.0	11.0	10.0	8.0	12.0 ^F	6.0	10.0 ^S	8.0	6.0 ^P	5.0	7.0	11.0	8.0	8.0	7.0	7.0	4.0	18.0	13.0	8.0 ^S	11.0	11.0	12.0	10.0	
6	8.0 ^H	9.0	8.0	8.0	10.0	5.0	6.0	8.0	6.0 ^H	8.0 ^H	7.0	(8.0) ^P	9.0	9.0	(9.0) ^S	(6.0) ^P	(7.0) ^F	6.0	10.0	10.0	13.0	10.0	11.0	10.0	
7	12.0	7.0	11.0	10.0	9.0	6.0	8.0	8.0	4.0	8.0	7.0 ^P	9.0	13.0	12.0	10.0	9.0	10.0	9.0	8.0	6.0	11.0	7.0	6.0	(6.0) ^P	
8	9.0	8.0	11.0	11.0	9.0 ^K	8.0 ^K	(1.0) ^S	11.0 ^K	16.0 ^K	(12.0) ^J	(7.0) ^J	(6.0) ^J	8.0	(8.0) ^C	8.0	9.0	5.0	4.0	8.0	6.0	10.0 ^Z	11.0 ^S	9.0	8.0 ^H	
9	10.0	8.0	6.0	8.0	A	14.0	10.0	7.0	7.0 ^P	(7.0) ^C	7.0	8.0	9.0	9.0	(10.0) ^P	7.0	(8.0) ^P	(5.0) ^P	6.0	7.0	10.0	9.0	8.0	7.0	
10	8.0	8.0	7.0 ^P	9.0	10.0	13.0	8.0	(8.0) ^J	9.0	7.0	7.0	10.0	6.0	9.0	C	C	7.0	(4.0) ^S	10.0 ^H	11.0	9.0	9.0	10.0	10.0	
11	5.0	8.0	6.0	8.0	15.0	16.0	7.0	5.0	(6.0) ^P	(7.0) ^B	8.0 ^P	7.0	4.0	8.0	8.0	(7.0) ^B	(5.0) ^B	8.0	5.0 ^S	7.0 ^S	8.0	8.0	6.0	8.0	
12	7.0	8.0	6.0	9.0	7.0 ^P	(8.0) ^J	5.0	(6.0) ^J	6.0 ^P	(6.0)	10.0 ^P	7.0 ^P	6.0	6.0	6.0	6.0 ^P	6.0	7.0	9.0	8.0	7.0	10.0	11.0	10.0	
13	8.0	8.0	10.0	7.0	8.0 ^F	13.0 ^F	9.0	5.0 ^S	7.0	8.0	(10.0) ^F	4.0	7.0	12.0	6.0	7.0	7.0	(1.0) ^S	5.0	8.0	10.0	9.0	10.0 ^F	10.0 ^F	
14	7.0	11.0 ^F	5.0 ^F	7.0	(7.0) ^F	(8.0) ^F	9.0	7.0	(6.0) ^P	5.0	(6.0) ^J	(10.0) ^P	8.0	8.0 ^P	6.0	(6.0) ^J	7.0 ^P	6.0	(11.0) ^P	A	A	8.0	B	(8.0) ^J	
15	6.0 ^P	(8.0) ^F	8.0 ^P	9.0	10.0 ^F	10.0	11.0	14.0	7.0	C	C	C	C	C	C	C	C	C	C	C	10.0	C	A	(7.0) ^J	
16	A	11.0	10.0	8.0	11.0	8.0	7.0	7.0	8.0	9.0	C	C	C	C	C	(6.0) ^F	9.0 ^F	(8.0) ^P	5.0	10.0	7.0	9.0	9.0	11.0	
17	6.0	8.0	8.0	9.0	7.0	10.0	11.0	11.0	5.0	6.0	5.0	7.0	11.0	9.0	10.0	6.0	5.0	4.0	10.0 ^S	8.0	7.0	6.0	5.0	6.0	
18	9.0	8.0	5.0 ^F	9.0	10.0	9.0	13.0	(7.0) ^J	(4.0) ^J	(10.0) ^P	3.0 ^P	(6.0) ^J	(9.0) ^P	8.0	6.0	(8.0) ^P	(8.0) ^J	(9.0) ^P	7.0	7.0	7.0	7.0	(9.0) ^Z	(9.0) ^P	
19	9.0	9.0	7.0	7.0	8.0	11.0	4.0	8.0	7.0 ^H	(9.0) ^B	11.0	6.0	12.0 ^F	8.0	8.0	7.0	(8.0) ^J	7.0	8.0	8.0	8.0	9.0	6.0	9.0	
20	8.0	5.0	12.0	11.0	16.0	7.0	9.0	8.0	6.0	7.0	12.0	(6.0) ^P	8.0	7.0	8.0	13.0	9.0	5.0	7.0	12.0	11.0	6.0	9.0	10.0	
21	C	C	C	C	C	C	C	C	5.0	9.0	7.0	(8.0) ^P	10.0	5.0	6.0	7.0	9.0 ^H	10.0	A	14.0	9.0 ^H	12.0	9.0	13.0	
22	13.0	10.0	14.0	8.0	13.0	7.0	13.0	(1.0) ^S	9.0 ^S	10.0	14.0	14.0	6.0	6.0	6.0	9.0	7.0	12.0	11.0	12.0	13.0	9.0	11.0	9.0	
23	13.0	11.0	13.0	6.0	8.0	7.0	13.0	8.0	7.0 ^P	9.0	9.0 ^P	7.0	8.0	6.0	6.0	12.0	9.0	9.0 ^S	7.0	9.0	6.0	5.0	6.0	7.0	
24	7.0	6.0 ^F	8.0	9.0	7.0	8.0	6.0	6.0 ^P	8.0	6.0 ^H	(5.0) ^J	7.0	5.0	(5.0) ^P	9.0	7.0	7.0	7.0	12.0	7.0	8.0	8.0	9.0 ^P	7.0	
25	8.0	10.0	8.0	12.0	9.0	10.0	7.0	(6.0) ^J	(8.0) ^P	8.0	(9.0) ^J	(7.0) ^F	10.0	6.0	7.0	8.0	9.0	9.0	11.0	6.0	8.0	18.0	13.0	13.0	
26	6.0	8.0	8.0	15.0	11.0	9.0	14.0	5.0	9.0	8.0	9.0 ^P	6.0 ^P	8.0	8.0 ^P	(13.0) ^P	C	C	9.0	9.0 ^H	9.0	6.0	7.0	5.0	(8.0) ^P	
27	S	(8.0) ^J	7.0	8.0	6.0	6.0	5.0	4.0 ^H	5.0	8.0 ^H	8.0	8.0	7.0	5.0 ^P	(6.0) ^H	8.0	5.0	5.0	9.0	8.0	5.0	7.0	10.0	8.0	
28	9.0	8.0 ^P	6.0 ^P	6.0	14.0	11.0	7.0 ^P	7.0	(6.0) ^P	5.0	6.0	6.0	6.0	9.0	7.0 ^B	9.0	6.0	10.0	7.0	10.0	8.0	7.0	8.0	8.0	
29	8.0 ^K	6.0 ^K	4.0 ^K	8.0 ^K	7.0 ^K	9.0 ^K	10.0	12.0	8.0	5.0	9.0	9.0	(8.0) ^P	6.0	9.0	10.0	10.0	12.0	9.0	10.0	9.0	12.0	10.0	9.0	
30	13.0	8.0	8.0 ^H	8.0	8.0	8.0	9.0	8.0	5.0	9.0	9.0	8.0	6.0	11.0	4.0	8.0	5.0	9.0	10.0	10.0 ^H	6.0 ^P	(6.0) ^B	7.0	(6.0) ^J	
31	(9.0) ^B	6.0	7.0 ^H	7.0	11.0	14.0	13.0	14.0 ^F	8.0	9.0	8.0	6.0	6.0	6.0	8.0	C	C	C	C	6.0	7.0	6.0	(10.0)	(7.0) ^P	
Mean Value	8.0	8.0	8.0	9.0	10.0	9.0	9.0	8.0	7.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.0	8.0	8.0	9.0	9.0	9.0	9.0	9.0	9.0
Median Value	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Count	28	28	28	29	30	29	30	30	31	30	28	29	29	29	28	27	28	26	25	29	29	30	28	31	

YPF2

Sweep 1.0... Mc to 17.7... Mc in 2... min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitama-gun, Tokyo, Japan

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

f_oF2

Oct. 1951

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	5.2	4.6	4.4	4.4	3.8	4.0	C	S	9.6 ^P	10.5	B	B	B	12.8	13.1	11.3 ^P	11.5 ^P	{11.2} ^S	10.8	6.2 ^P	5.4	5.6	5.0	4.6
2	4.6	4.6	4.6	4.3	3.8	3.7	4.5	8.2	9.4 ^P	8.6	8.8	9.0	{4.2} ^C	{4.4} ^P	{11.4} ^S	12.4	11.4 ^J	9.8	A	7.2	A	5.2	4.3	4.2
3	4.3	4.3	4.3	4.3	4.0	S	C	C	C	T	T	8.8	9.2	9.3	{9.3} ^C	9.3	M	S	9.5 ^P	7.1	6.7	5.6	5.4	
4	5.8	{5.8} ^S	5.7	5.1	4.0	3.7	C	C	8.8 ^P	S	S	9.0	9.2	9.8	10.1 ^J	9.5 ^P	8.6	{9.0} ^S	9.3	7.0	5.6	5.2	5.1	5.1
5	5.0	4.8	4.7	4.6	4.6	C	C	7.5	7.8	7.5	7.5	{9.4} ^C	9.4 ^P	B	11.9	12.4	12.1	S	9.2	6.7	5.8	5.7	5.1	5.4
6	5.3	4.4	4.6	4.5	3.4	C	C	C	B	{8.7 ^J	7.9	B	B	C	B	{11.6 ^P	B	{8.8 ^P	S	S	5.6 ^P	4.6	4.7	4.7
7	4.6	4.4	4.4	4.3	4.1	3.3	3.6	B	B	B	B	B	9.0	B	B	11.3	B	S	7.4 ^J	5.0	5.2	5.1	4.9	
8	{7.7 ^P	6.0	5.0	4.5	4.0	4.0	4.5	7.1 ^S	7.6 ^S	C	C	11.6 ^J	B	B	{9.4 ^P	S	S	S	S	S	5	6.6 ^J	5.6	4.7
9	4.6	4.5	4.2	4.6	4.4	4.4	4.0	S	5	4.6	C	C	C	C	C	S	S	S	S	S	5.4	4.3	4.5	4.3
10	3.4	3.2	3.3	3.5	4.0	2.4	2.5	6.3 ^P	7.7	{4.6 ^S	10.6	B	B	B	B	B	B	B	B	S	5.5	6.0	S	5.6
11	4.9	4.8	4.7	3.1	3.1	3.1	2.5	{6.7 ^J	8.6	9.7	11.8 ^P	13.2	12.3	11.0	{11.3 ^P	B	S	{7.5 ^S	{7.6 ^S	7.7 ^S	4.4	4.4	4.3	3.9
12	4.1	4.0	3.7	3.8	3.3	3.4	3.9	7.1	9.2 ^P	{10.8 ^P	10.8 ^J	12.7	12.1	{10.5 ^P	11.2	9.3 ^P	{9.0 ^P	S	S	S	5.4	S	4.3	4.3
13	4.3	4.3	4.2	4.5	3.9	3.6	3.8	6.7	S	10.0	B	B	12.8	B	10.7	11.3	9.3 ^P	{9.3 ^S	9.3	7.3	4.2 ^H	5.0	5.7	5.1
14	5.1	5.0	3.1	2.9	3.1	3.1	3.3	B	C	S	B	B	B	{12.0 ^P	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	5.5	3.6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	4.0	4.2 ^V	4.2	5.2	2.7 ^H	2.9	2.6	S	7.5	{7.8 ^P	B	B	T	B	13.0	B	B	12.9	11.4 ^J	5	6.4 ^S	5.6	5.0	4.6
19	3.8	3.7	3.8	2.8	3.8	3.1	3.0	{5.9 ^P	T	T	T	T	13.2	T	T	9.3	T	T	S	S	S	5.3	4.5	3.0
20	3.3	3.3	3.7	3.6	2.9	2.4	3.1	S	9.3	S	B	B	B	10.5	B	B	{6.5 ^P	S	S	S	S	4.0	4.3	4.0
21	3.5	C	C	C	C	C	C	S	9.1 ^J	B	B	B	B	B	12.2 ^P	12.1 ^J	S	8.9 ^J	S	5.9	C	S	3.6	3.7
22	3.9	M	M	M	M	M	M	M	M	B	B	B	B	B	{10.8 ^S	11.1	9.3	7.4	S	5.9	S	5.6	3.0	2.8
24	3.2	3.0	3.1	3.2	3.1	C	C	C	S	S	S	11.0 ^J	9.8	10.0	S	S	9.0	S	S	5.2	5.1 ^H	4.6	3.9	2.9
25	3.3	3.2	3.5	3.5	3.8	2.8	3.0	6.3	T	T	T	T	T	T	T	T	T	T	T	4.6	4.7	4.6	3.7	3.3
26	3.2	3.5	3.6	3.6	3.9	3.1	2.9	T	T	C	C	C	C	C	C	C	C	C	6.0	5.6	S	5.0	4.2	4.0
27	4.0	C	C	C	C	C	3.5	6.2	S	S	10.0	B	12.4	B	10.4	10.4 ^J	10.0 ^P	9.5 ^P	S	5.7	5.7	5.5	4.6	4.2
28	4.1	4.0	4.2	5.5	4.0	2.3	2.6	5.5	7.6 ^P	{8.2 ^C	8.9 ^P	C	S	S	S	C	S	S	5.7	5.7	5.5	5	4.2	
29	3.6 ^H	3.5 ^H	3.2 ^K	3.2 ^K	2.4 ^K	2.9 ^K	3.4 ^K	4.5 ^K	M	B	12.1	12.7	11.7	12.8	11.7	9.9	8.2	8.2	S	S	4.3 ^H	4.5	4.6	4.7
30	5.1	4.6	4.4	4.3	3.0	2.5	2.7	S	9.0	{10.0 ^C	11.3	11.5 ^P	12.0	12.7	12.5	11.2	9.7	8.6	5.8 ^S	4.8	5.0	4.7	4.3	
31	{3.8 ^C	3.8	2.9	3.1	3.3	2.4	C	S	S	C	4.7	10.0	4.3	4.5	10.1	10.0	9.3	7.1	6.3 ^P	4.8	4.3	3.9	4.1	
Mean Value	4.4	4.2	4.1	4.1	3.6	3.2	3.4	6.5	8.5	9.2	10.3	10.7	10.8	10.9	11.2	10.8	9.8	9.1	8.0	6.2	5.3	5.0	4.4	4.3
Median Value	4.2	4.3	4.2	4.3	3.8	3.1	3.4	6.5	8.8	9.6	10.6	11.0	10.8	10.6	11.2	11.2	9.3	8.9	8.4	5.9	5.4	5.0	4.3	4.3
Count	28	25	24	24	24	20	18	12	13	12	13	11	16	12	16	16	14	13	8	20	23	24	28	27

Sweep 1.0 Mc to 22.0 Mc in 2.0 min

Manual Automatic

Y 1

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

IONOSPHERIC DATA

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

Oct. 1951

f_oF₂

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	350	350	340	350	250	280	C	S	280 ^P	260	B	B	B	320	300	300 ^P	300 ^P	(280) ^S	250	250 ^P	340	320	330	340
2	370	350	330	340	360	350	310	260	250 ^P	270	280	(320) ^B	(340) ^C	(350) ^P	300	(300) ^T	300	A	A	A	A	330	380	420
3	400	400	390	340	320	350	C	C	C	T	T	300	310	(300) ^C	300	M	S	S	270 ^P	300	300	320	400	
4	370	(340) ^S	320	240	330	350	C	C	250 ^P	S	S	(300) ^B	(330) ^T	300 ^P	300	300	300	(280) ^S	270	300	310	350	350	
5	350	340	350	350	340	C	C	250	250	260	(280) ^B	(320) ^C	350 ^P	350	300	300	S	S	260	260	330	350	300	350
6	360	350	350	300	340	C	C	C	B	(270) ^T	260	B	B	C	B	(330) ^P	B	(250) ^P	S	S	300 ^P	340	370	370
7	350	310	320	320	300	350	340	B	B	B	B	B	310	B	B	310	B	S	S	(250) ^T	380	350	410	400
8	(300) ^S	310	380	370	300	470	400	(310) ^S	280 ^S	C	C	(280) ^B	B	B	(350) ^P	S	S	S	S	S	S	(300) ^T	320	330
9	380	360	410	360	360	350	350	S	S	300	C	C	C	C	C	S	S	S	S	S	S	300	380 ^H	330
10	330	400	340	350	240	250	350	240 ^P	270	(300) ^S	300	B	B	B	B	B	B	B	S	S	350	330	S	(320) ^C
11	350	350	240	380	420	410	350	(260) ^T	260	330	310 ^P	240	300	300	(300) ^B	B	S	(260) ^S	(260) ^S	250 ^S	340	360	340	(320) ^C
12	380	360	400	350	400	380	350	280	270 ^P	(280) ^B	(300) ^T	300	300	(320) ^P	(300) ^B	(280) ^P	(240) ^P	S	S	S	330	S	350	400
13	380	320	310	300	320	340	350	250	S	300	B	B	(320) ^B	B	320	300	270 ^P	(270) ^S	270	250	400 ^H	420	400	400
14	350	270	240	380	320	350	350	B	C	S	B	B	B	B	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	300	360	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	(300) ^B	260	440	440
19	400	400 ^V	350	230	450 ^H	380	400	S	270	(350) ^P	B	B	T	S	B	(300) ^B	B	B	B	230	380	300	340	400
20	350	340	240	280	400	370	340	(250) ^P	T	T	T	T	310	T	T	310	T	T	S	S	310	250	320	A
21	370	A	350	310	320	380	300	S	260	S	B	B	300	B	B	B	(260) ^P	S	S	S	380	350	370	310
22	350	C	C	C	C	C	C	S	(270) ^T	S	B	B	B	B	B	(310) ^T	S	(260) ^T	S	270	C	S	240	370
23	340	M	M	M	M	M	M	M	M	M	B	300	B	B	(300) ^S	(300) ^S	S	(260) ^T	S	280	S	280	370	340
24	400	350	320	310	320	C	C	S	S	S	S	B	B	(300) ^S	(240) ^C	280	260	270	S	280	S	270	290	340
25	350	360	370	320	260	320	350	260	T	T	T	T	T	T	S	S	240	S	S	290	310 ^H	270	290	340
26	400	380	320	310	270	300	350	T	T	T	C	C	C	C	C	T	T	T	T	310	350	280	350	400
27	350	C	C	C	C	C	C	250	250	S	320	B	310	B	(300) ^B	(300) ^T	300 ^P	270 ^P	S	240	S	300	360	380
28	380	400	350	260	220	340	330	260	270 ^P	(240) ^C	310 ^P	C	S	S	S	C	S	S	290	240	340 ^S	S	340	430 ^K
29	430 ^H	400 ^H	460 ^K	250 ^K	520 ^K	450 ^K	240 ^K	260 ^K	M	B	300	300	320	320	280	300	300	300	S	S	380 ^H	340	400	380
30	350	300	300	240	230	370	380	S	260	(280) ^C	300	240 ^P	300	300	310	260	290	250	250 ^S	300	340	320	320	340
31	(300) ^C	270	280	350	280	250	C	S	S	C	270	300	280	310	300	280	250	250	260 ^P	260	350	370	360 ^F	380
Mean Value	360	350	350	320	340	350	340	260	260	240	290	300	310	310	310	300	290	270	260	280	340	350	350	370
Median Value	350	350	350	320	350	350	350	260	270	280	300	300	310	310	300	300	300	270	260	270	340	320	350	380
Count	28	24	24	24	24	20	18	12	13	12	13	11	16	11	16	16	14	13	8	19	23	24	28	27

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

f'F2

Oct. 1951

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	280	250	300	270	260	250	250	240	240	250	250	260	270	300	270	270	270	250	220	210	250	250	240	260
2	300	240	260	260	260	260	270	230	230	250	250	270	(280) ^c	300	300	240	250	260	A	300	A	280	260	320
3	300	300	300	300	260	220	240	C	C	250	250	270	300	300	(240) ^c	290	(270) ^M	260	A	230	230	250	200	310
4	300	250	250	230	250	260	(250) ^c	240	240	250	250	250	280	240	300	270	280	240	220	220	250	260	300	300
5	260	290	280	240	270	C	C	240	230	230	260	260	300	300	310	240	260	240	220	220	270	270	260	280
6	280	240	260	250	250	C	C	C	240	240	250	270	280	300	300	300	A	250	240	210	210	270	300	350
7	310	260	240	270	240	260	260	230	230	250	A	300	270	(280) ^b	B	270	250	260	240	220	220	280	330	340
8	250	250	260	240	260	370	300	250	230	C	260	270	280	270	300	260	250	240	250	270	280	250	240	260
9	300	300	350	300	240	300	240	240	300	250	270	270	270	250	250	270	250	250	250	220	210	250	250	250
10	250	250	310	280	240	230	240	240	240	260	260	260	260	A	260	280	260	260	220	220	260	250	250	(260) ^c
11	290	270	250	300	350	330	280	230	250	300	270	250	260	260	280	250	250	250	240	230	260	280	250	300
12	240	300	300	280	320	320	260	250	250	250	270	270	260	250	270	250	240	250	230	210	260	260	260	300
13	300	270	270	250	240	260	270	220	240	270	(250) ^b	260	260	260	260	250	240	250	240	230	250	350	300	300
14	270	230	240	310	270	280	240	230	(240) ^c	240	250	280	240	B	C	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	250	240	C	C	C	C	C	C	C	250	250	250	310	B	300	260	250	240	220	200	260	200	360	350
19	320	300	280	210	300	300	310	230	240	250	280	260	(280)	240	270	250	230	240	210	210	260	240	260	250
20	260	280	250	250	350	330	300	230	250	250	270	240	270	270	270	240	300	250	220	200	250	210	250	A
21	350	400	300	250	210	300	260	240	240	250	B	270	270	270	260	250	230	260	250	210	240	350	350	250
22	260	C	C	C	C	C	C	240	230	250	250	270	270	300	280	260	240	230	210	210	(230) ^c	250	250	300
23	260	M	M	M	M	M	M	M	M	280	290	250	260	270	260	250	230	230	200	230	230	210	210	310
24	310	270	250	250	250	C	C	230	220	240	260	250	250	270	270	250	240	230	220	230	250	250	230	240
25	300	300	300	240	240	250	270	240	230	250	250	280	(240) ^c	300	300	250	230	230	200	200	300	240	270	300
26	350	320	300	250	250	250	300	250	220	C	C	C	C	C	C	C	C	C	200	300	260	230	280	300
27	260	C	C	C	C	C	220	220	210	240	240	270	250	270	260	290	250	230	220	220	250	240	250	270
28	300	300	290	240	200	250	240	230	(240) ^c	260	270	270	270	280	270	250	250	230	230	220	250	240	250	270
29	270	340	320	250	490	400	230	240	(240) ^M	250	250	240	270	290	240	240	230	240	240	220	340	300	300	300
30	270	250	250	250	210	240	240	240	(240) ^c	250	250	250	260	270	250	250	230	230	210	240	260	260	250	240
31	250	250	230	270	250	230	(240) ^c	250	240	(250) ^c	260	260	250	280	270	240	240	220	220	220	250	270	300	300
Mean Value	290	290	280	270	270	280	270	240	240	250	260	270	270	280	280	260	250	240	230	230	260	260	270	300
Median Value	300	280	280	260	260	260	240	240	240	250	260	270	270	280	270	250	250	240	220	220	250	250	260	300
Count	28	25	24	24	24	21	22	24	25	26	24	24	27	24	25	26	25	26	25	27	27	27	28	27

Sweep 1.0 Mc to 22.0 Mc in ___ min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

Oct. 1951

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	Q	L	L	L	L	5.4	L	5.0	L	Q						
2								Q	Q	L	A	A	C	L	L	L	Q	A						
3								C	C	L	A	L	L	5.4	(5.0) ^C	4.5	M	Q						
4								Q	Q	L	4.9	L	L	L	L	L	L	Q						
5								Q	Q	L	L	L	L	L	L	L	L	Q						
6								C	Q	L	L	L	L	L	L	L	A	A						
7								Q	Q	Q	A	L	L	L	L	L	Q	Q						
8								Q	Q	C	C	4.8	5.1	L	L	L	L	Q						
9								Q	L	L	L	L	5.0	4.2	L	A	L	Q						
10								Q	Q	A	L	L	L	A	L	L	L	Q						
11								Q	L	L	L	4.8	L	L	L	L	L	Q						
12								Q	Q	L	L	L	L	L	4.7	Q	Q	Q						
13								Q	L	L	L	L	L	4.4	A	L	Q	Q						
14								Q	C	L	L	L	L	L	L	C	C	C						
15								C	C	C	C	C	C	C	C	C	C	C						
16								C	C	C	C	C	C	C	C	C	C	C						
17								C	C	C	C	C	C	C	C	C	C	C						
18								C	C	L	L	L	L	L	L	A	A	Q						
19								Q	Q	L	L	5.2	T	L	L	4.2	Q	Q						
20								Q	L	L	L	L	L	L	L	A	L	Q						
21								Q	Q	L	L	L	L	L	L	Q	Q	A						
22								Q	Q	L	L	L	L	L	L	L	Q	Q						
23								M	M	L	L	L	L	4.5	L	4.2	L	Q						
24								Q	Q	L	L	L	L	L	A	A	Q	Q						
25								Q	Q	L	L	L	L	L	L	L	Q	Q						
26								Q	C	C	C	C	C	C	C	C	C	C						
27								Q	Q	Q	L	4.4	4.6	L	A	L	Q	Q						
28								Q	Q	C	L	L	L	L	4.8	Q	Q	Q						
29								Q	M	4.6	L	L	L	L	4.6	L	L	Q						
30								Q	Q	C	L	L	L	L	L	L	Q	Q						
31								Q	Q	C	L	L	L	L	L	L	Q	Q						
Mean Value								4.6	4.9	4.9	4.8	4.8	4.8	4.8	4.8	4.5								
Median Value								4.6	4.9	4.8	4.8	4.8	4.8	4.5	4.8	4.4								
Count								1	1	5	4	4	5	4	4	4								

weep / 0.0 Mc to 22.0 Mc in ___ min

Manual

Automatic

foF1

Y 4

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

f'F1

Oct. 1951

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1								Q	Q	220	220	Z10	Z10	Z10	230	250	250	Q							
2								Q	Q	230	A	C	C	Z30 ^A	230	250	Q	A							
3								C	C	220	A	Z00	Z00	(250) ^C	250	M	Q								
4								Q	Q	220	Z00	Z00	Z00	190	Z10	Z00	Z50	Q							
5								Q	Q	Z10	Z00	Z00	Z00	Z50	Z30	Z40	Z50	Q							
6								C	Q	Q	Z20	Z40	Z10	Z50	Z20	Z10	A	A							
7								Q	Q	Q	Z40	Z10	Z00	Z00	Z50	Z30	Q	Q							
8								Q	Q	C	C	Z30 ^A	Z00	Z00	Z30	Z30	Z40	Q							
9								Q	Z30	Z20 ^A	Z10	Z40	Z30	Z10	Z20	A	Z60	Q							
10								Q	Q	A	Z30	Z10	Z10	A	Z30	Z20	Z50	Q							
11								Q	Z30	Z30 ^A	Z30	Z00	Z10	Z10	Z20	Z30	Z10	Q							
12								Q	Q	Z30	Z10	Z00	Z10	Z10	Z10	Q	Q	Q							
13								Q	Z20	Z10	Z30	Z20	Z10	Z00	A	Z00	Q	Q							
14								Q	C	Z110	Z20 ^H	Z00	Z00 ^H	Z00	Z50	C	C	C							
15								C	C	C	C	C	C	C	C	C	C	C							
16								C	C	C	C	C	C	C	C	C	C	C							
17								C	C	C	C	C	C	C	C	C	C	C							
18								C	C	Z20	Z20	Z10	Z30 ^A	Z50	Z30	A	A	Q							
19								Q	Q	Z40	Z20	Z20	(Z30) ^T	Z40	Z40	Z20	Q	Q							
20								Q	Z40	Z40	Z20	Z20	Z50	Z30	Z40	A	Z40	Q							
21								Q	Q	Z20	Z50 ^A	Z20	Z10	Z30	Q	Q	A								
22								Q	Q	Z20	Z00	Z30	Z10	Z00 ^H	Z20	Z50	Q	Q							
23								M	M	Z10 ^H	Z10	Z00	Z20	Z00	Z50	Z30	Q	Q							
24								Q	Q	Q	Z20 ^A	Z30	Z00	Z50 ^A	A	A	Q	Q							
25								Q	Q	Z00	Z20	Z00	(Z10) ^C	Z20 ^H	Z10 ^H	Z20	Q	Q							
26								Q	Q	C	C	C	C	C	C	C	C	C							
27								Q	Q	Q	Z40	Z00 ^A	Z20	Z40	A	Z60	Q	Q							
28								Q	Q	C	Z20	Z10	Z20	Z20	Z50	Q	Q	Q							
29								Q	M	Z20 ^A	Z40 ^A	Z30	Z20	Z20	Z20	Z20	Z10	Q							
30								Q	Q	C	Z00	Z00	Z10	Z40	Z40	Z40	Q	Q							
31								Q	Q	C	Z40	Z30	Z20	Z20	Z40	Q	Q	Q							
Mean Value								230	220	220	210	210	220	230	230	230	240								
Median Value								230	220	220	210	210	220	230	230	230	240								
Count								4	18	24	26	26	26	26	24	18	10								

Sweep 1.0 Mc to 22.0 Mc in 2 min

Manual Automatic

Y 5

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12' N
Long. 130° 37.7' E

IONOSPHERIC DATA

Yamagawa

foE

Oct. 1951

135° E Mean Time

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

foE

Sweep 1.0 Mc to 22.0 Mc in ___ min
 Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 35° 12.6' N
Long. 139° 37.7' E

Yamagawa

IONOSPHERIC DATA

f_oE

Oct. 1951

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

Sweep 1.0 Mc to 22.0 Mc in 2 min

Manual Automatic

Y 7

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

Oct. 1951

fEs

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	4.3	3.3	2.5	2.1	2.2	2.1	C	2.5	5.2	4.4	4.6	4.1	G	G	G	4.3	4.2	3.8	3.8	3.4	2.3	3.2	4.3	4.0
2	1.9	E	E	2.3	E	2.2	E	4.8	4.0	4.9	5.2	5.4	C	4.6	C	4.4	5.5	7.0	8.5	6.4	7.1	5.0	4.4	2.8
3	2.1	2.2	1.8	E	1.8	E	E	C	C	4.1	5.4	4.4	4.6	4.2	C	4.4	M	4.0	7.0	6.8	6.0	4.4	2.8	2.7
4	2.8	2.7	2.2	2.0	2.1	2.2	C	G	4.2	4.2	G	G	G	G	G	G	G	4.3	3.9	5.0	4.4	4.3	4.4	3.4
5	2.3	2.7	2.3	2.3	E	C	C	3.2	4.2	4.6	G	G	G	G	B	G	G	G	B	2.8	4.6	3.1	2.3	3.0
6	2.4	2.1	1.8	1.9	E	C	C	C	4.0	4.6	5.0	4.9	4.5	5.0	4.5	4.2	7.6	5.5	4.0	2.8	3.3	1.9	2.4	4.4
7	4.3	2.4	E	2.5	E	E	2.1	3.3	4.2	4.5	5.0	4.3	4.4	G	4.0	4.4	4.3	G	3.1	2.1	3.2	E	E	E
8	E	E	E	E	E	E	1.7	3.0	4.3	C	C	4.4	4.0	G	4.0	4.3	4.2	4.1	2.7	2.3	4.6	2.5	4.2	3.2
9	2.5	E	2.3	3.3	3.3	4.1	2.8	3.3	4.5	5.1	4.4	G	4.1	4.0	4.4	5.0	G	G	B	4.4	4.5	4.4	3.1	2.1
10	2.3	E	E	E	E	2.2	2.4	G	4.0	6.7	4.9	4.1	G	5.1	G	G	G	3.3	G	4.4	3.2	4.0	2.2	C
11	2.2	1.9	E	E	E	E	G	2.7	4.0	4.9	G	G	G	G	G	G	G	G	2.1	E	2.8	2.2	2.1	E
12	E	E	E	1.8	E	E	1.8	2.8	G	4.3	G	G	G	G	4.6	G	G	3.4	3.1	3.3	3.8	3.8	2.2	2.0
13	1.9	2.2	E	E	E	E	E	G	4.0	4.1	G	G	G	4.4	5.6	G	G	G	2.2	4.6	2.2	3.0	2.2	1.8
14	E	2.1	E	E	E	E	E	G	C	4.1	4.2	4.1	4.5	4.4	G	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	4.0	2.9	C	C	2.5	2.6	E	G	4.0	G	G	G	5.4	4.0	4.0	5.3	5.2	4.2	3.5	2.5	2.8	2.6	2.5	2.5
19	2.5	2.4	E	E	E	E	E	G	4.4	4.0	4.5	G	T	G	4.4	G	G	2.6	2.5	2.8	3.0	E	2.2	E
20	2.3	1.9	E	E	E	E	E	2.5	4.4	4.0	4.5	G	G	G	3.1	5.6	3.8	G	4.0	2.5	3.0	2.0	E	5.2
21	4.2	5.2	4.0	3.2	2.4	2.4	2.4	2.9	3.3	4.1	4.2	5.0	4.9	4.9	4.1	4.4	5.6	4.8	4.7	5.3	4.3	4.6	5.4	2.8
22	3.3	C	C	C	C	C	C	G	G	4.0	3.9	4.0	4.3	G	G	4.1	4.0	4.3	4.0	2.2	C	2.9	3.1	2.1
23	2.5	M	M	M	M	M	M	M	M	3.9	4.3	4.0	G	4.1	G	G	G	4.3	2.3	3.1	3.0	2.9	2.1	2.3
24	2.6	2.4	2.3	2.0	E	C	C	G	G	4.0	5.2	4.5	4.6	5.4	5.2	5.2	4.4	5.2	3.8	3.6	2.0	3.0	2.3	2.3
25	2.4	2.5	E	E	2.4	E	E	2.6	4.0	4.0	G	G	G	G	G	G	3.8	3.2	2.6	2.6	3.6	2.2	2.2	2.6
26	2.5	2.4	2.4	2.5	E	2.0	2.6	2.4	3.8	4.6	G	5.2	5.2	4.2	4.6	4.4	4.0	4.4	4.6	4.6	3.2	2.9	2.3	2.5
27	2.5	C	C	C	C	C	C	3.3	4.7	4.7	4.6	G	G	4.8	4.2	3.8	4.2	3.3	3.4	4.2	2.4	3.2	2.0	2.3
28	E	2.5	2.5	E	E	E	E	G	G	C	4.1	G	G	5.5	4.5	G	3.4	3.0	2.6	3.3	3.3	E	2.6	2.5
29	2.0	2.1	2.5	E	4.4	E	E	2.4	M	4.6	4.4	G	G	G	G	G	4.0	3.3	3.0	3.8	E	1.7	E	E
30	2.7	2.4	2.6	2.4	2.5	E	E	3.2	G	C	G	G	G	G	G	G	4.0	3.3	3.0	3.8	E	2.2	2.7	3.0
31	E	E	E	E	E	E	C	G	G	C	G	3.9	G	G	4.4	3.8	G	G	2.1	2.6	E	2.2	2.7	3.0
Mean	2.7	2.5	2.4	2.4	2.6	2.5	2.2	3.1	4.2	4.5	4.6	4.5	4.6	4.6	4.4	4.5	4.5	4.1	3.6	3.7	3.6	3.1	2.9	2.8
Median	2.4	2.2	1.8	2.0	E	E	E	2.6	4.0	4.2	4.2	3.9	G	4.0	4.0	3.8	3.8	3.3	3.4	3.3	3.2	2.9	2.4	2.5
Count	28	25	24	24	24	21	19	24	23	23	26	27	24	27	25	26	25	26	25	27	27	28	28	27

Sweep 1.0 Mc to 22.0 Mc in 2 min

Manual Automatic

fEs

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

(M3000)F2

Oct. 1951

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	2.8	2.9	2.8	2.9	2.8	3.1	C	5	3.4P	3.3	B	B	B	3.2	3.2	3.2P	3.2P	(3.3)S	3.4	3.3P	2.9	2.9	2.4	2.9	
2	2.9	2.9	3.0	2.9	2.8	2.8	3.0	3.4	3.4P	3.4	3.4	3.2	(3.0)C	(2.9)P	(2.9)S	3.1	(3.0)J	3.2	A	3.2	A	2.9	2.7	2.6	
3	2.6	2.7	2.7	2.7	2.9	5	C	C	C	T	T	3.1	3.1	3.0	(3.1)C	3.2	M	5	5	3.2P	3.1	2.9	2.7	2.8	
4	2.7	(2.8)S	3.0	3.2	3.0	2.7	C	5	3.4P	5	5	3.2	3.2	3.0	(2.9)J	3.1P	3.3	(3.3)S	3.3	3.3	3.1	3.0	2.9	3.0	
5	2.9	2.9	2.9	2.8	2.9	C	C	3.5	3.5	3.4	3.2	(3.1)C	3.0P	B	3.0	3.1	3.2	5	3.4	3.2	3.0	2.9	3.0	2.9	
6	2.8	2.8	2.9	3.1	3.2	C	C	C	B	(3.3)J	3.3	B	B	C	B	(3.0)P	B	(3.5)P	5	5	3.0P	2.7	2.8	2.7	
7	2.8	3.0	3.0	3.0	3.2	2.8	2.9	B	B	B	B	B	3.0	B	B	3.1	B	5	5	(3.6)J	2.7	2.8	2.7	2.7	
8	(3.1)S	3.0	2.6	2.7	2.6	2.5	2.7	(2.9)S	3.2S	C	C	(3.2)J	B	B	(2.8)P	5	5	5	5	5	5	(3.3)J	2.9	3.0	
9	2.8	2.8	2.7	2.8	2.8	2.7	2.8	5	5	3.2	C	C	C	C	C	5	5	5	5	5	5	5	(3.3)J	2.9	3.0
10	3.0	2.6	2.7	2.9	3.2	3.5	2.8	3.1P	3.3	(3.2)S	3.1	B	B	B	B	B	B	B	B	5	2.8	3.0	2.8	3.1	
11	2.9	2.8	3.1	2.7	2.5	2.6	2.9	(3.2)J	3.3	2.9	3.1P	3.3	3.1	3.1	(3.1)P	B	5	(3.4)S	(3.4)S	3.5S	3.0	2.8	3.2	(2.0)C	
12	2.7	2.8	2.5	2.8	2.6	2.7	2.9	3.3	3.3P	(3.2)B	(3.2)J	3.3	3.2	(3.1)P	3.1	3.1P	(3.2)P	5	5	5	2.8	5	2.8	2.8	
13	2.7	3.0	2.9	3.1	2.8	2.9	2.9	3.5	5	3.2	B	B	3.1	B	3.0	3.1	3.2P	(3.2)S	3.3	3.3	2.6H	2.6	2.7	2.7	
14	2.8	3.2	3.2	2.7	3.0	2.9	2.8	B	C	5	B	B	B	(3.1)P	C	C	C	C	C	C	C	C	C	C	
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
18	3.2	2.6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
19	2.5	2.6	2.9	3.6	2.4H	2.7	2.8	5	3.4	(3.0)P	B	B	2.8	B	3.2	B	B	B	B	3.5	2.7	3.0	2.6	2.6	
20	2.9	2.9	3.1	3.0	2.5	2.7	2.7	(3.4)P	T	T	T	T	3.1	T	T	3.1	T	T	T	5	5	3.0	3.2	3.0	
21	2.7	2.7	2.9	3.1	3.0	2.6	3.0	5	3.5	5	B	B	3.2	B	B	B	(3.5)P	5	5	5	2.6	2.8	2.8	3.1	
22	2.7	C	C	C	C	C	C	5	(3.4)J	T	B	B	3.2	B	(3.2)J	(3.4)J	5	(3.3)S	5	3.1	C	5	3.2	2.7	
23	2.9	M	M	M	M	M	M	M	M	B	3.3	B	B	(3.1)P	(3.2)C	3.3	3.4	3.3	5	3.1	5	3.2	2.7	2.7	
24	2.6	2.9	3.0	3.0	2.9	C	C	5	5	5	5	(3.2)J	3.2	3.2	5	5	3.4	5	5	3.1H	3.2	3.0	2.6	2.6	
25	2.8	2.8	2.7	2.9	3.4	2.9	2.8	3.2	T	T	T	T	3.2	3.2	5	5	T	T	T	3.1	2.8	3.1	2.7	2.6	
26	2.6	2.7	2.9	3.0	3.2	3.0	2.8	T	T	T	C	C	C	T	T	T	T	T	T	3.1	2.8	3.1	2.7	2.6	
27	2.8	C	C	C	C	3.2	3.4	3.4	5	5	3.1	B	B	3.2	3.3	(3.1)J	3.2P	3.3P	5	3.0	2.7	3.1	2.8	2.8	
28	2.8	2.7	2.9	3.3	3.5	2.8	2.9	3.2	3.3P	(3.2)C	3.2P	C	5	5	5	3.3	C	5	5	3.0	3.1	3.0	3.1	2.8	
29	2.4K	2.6K	2.3K	3.5K	2.2K	2.4K	3.4K	3.3K	M	B	3.1	2.7	2.9P	3.1	3.3	3.2	3.1	3.0	5	5	2.9H	5	2.7	2.5K	
30	2.8	3.0	3.0	3.2	3.4	2.6	2.7	5	3.5	(3.3)C	3.2	3.2P	3.1	3.2	3.3	3.4	3.4	3.4	3.4S	3.0	2.9	2.9	3.0	2.9	
31	(3.0)C	3.1	3.2	2.8	3.1	3.3	C	5	5	C	3.4	3.3	3.3	3.2	3.4	3.4	3.4	3.5	3.2P	3.2	2.8	2.6	2.7	2.7	
Mean Value	2.8	2.8	2.9	3.0	2.9	2.8	2.9	3.3	3.4	3.2	3.2	3.2	3.1	3.1	3.1	3.2	3.3	3.3	3.3	3.2	2.9	2.9	2.8	2.8	
Median Value	2.8	2.8	2.9	3.0	2.9	2.8	3.3	3.4	3.4	3.2	3.2	3.2	3.1	3.1	3.2	3.1	3.2	3.3	3.4	3.2	2.9	2.9	2.8	2.8	
Count	28	25	24	24	24	20	18	12	13	12	13	11	16	12	16	16	14	13	8	20	23	24	28	27	

Swing 1.0 Mc to 22.0 Mc in 2 min

Manual Automatic

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

Oct. 1951

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	Z.0 ^A	Z.0 ^A	1.4	1.6	1.6	1.4	(1.8) ^C	Z.1	2.4	3.1	3.8	3.5	3.7	3.5	3.4	3.3	3.2	2.3	Z.2	A	1.6	1.6	Z.1 ^A	1.3
2	1.6	1.7	1.5	1.5	1.3	E	1.5	Z.3	2.5	3.0	4.5 ^A	4.7 ^A	C	A	3.5	3.3	3.1	3.8 ^A	A	6.4 ^A	A	3.1 ^A	Z.0 ^A	1.6
3	1.5	1.5	1.6	1.5	E	1.4	1.6	C	C	3.1	A	3.8	4.0 ^A	4.2	(3.8) ^C	3.3	(3.1) ^M	2.9	A	A	A	Z.0 ^A	1.7	Z.0 ^A
4	A	1.6	1.6	1.6	1.5	1.5	(1.8) ^C	Z.0	2.7	3.0	3.3	3.6	3.6	3.6	3.3	3.1	3.2	2.6	A	A	Z.4 ^A	Z.3 ^A	Z.0 ^A	Z.0 ^A
5	1.7	1.9	1.7	1.6	1.6	C	C	Z.0	Z.8	3.0	3.3	3.6	3.7	4.0	4.0	3.3	3.0	2.4	1.7	1.7	3.0 ^A	1.6	1.7	1.6
6	1.7	1.6	E	1.6	1.6	C	C	C	2.9	3.0	3.3	3.8	3.8	4.2	3.4	2.2	A	3.0 ^A	1.9	A	A	1.7	1.6	3.0 ^A
7	A	1.6	1.4	1.4	1.6	1.6	1.6	2.3	3.1	3.1	3.5	3.8	3.7	3.6	3.8	3.7	3.0	2.2	2.2	1.6	Z.0 ^A	1.4	1.6	1.6
8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.1	3.0	C	C	3.2	3.6	3.6	3.3	3.1	3.1	3.0	1.7	1.6	1.7	1.6	1.6	Z.0 ^A
9	A	1.6	1.6	1.7	1.7	Z.1 ^A	1.6	Z.0	3.3 ^A	A	3.0	3.7	3.8	3.4	3.5	4.2 ^A	3.2	2.3	1.6	A	A	Z.1 ^A	1.6	1.6
10	1.6	1.6	1.6	1.1	1.6	1.4	1.6	1.9	2.7	6.5 ^A	3.4	3.4	3.6	A	3.5	3.2	2.8	2.3	1.6	A	1.7	1.6	1.6	(1.6) ^C
11	1.6	1.6	1.6	1.6	1.6	E	1.6	1.6	2.5	A	3.3	3.3	3.4	3.3	3.3	3.0	2.8	2.3	1.7	1.6	1.6	1.5	1.6	1.7
12	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.1	2.8	3.1	3.2	3.4	3.5	3.8	3.5	3.5	3.0	2.4	1.5	A	Z.0 ^A	Z.1 ^A	E	1.6
13	1.6	1.6	1.6	1.6	E	1.6	1.6	1.9	2.6	3.0	3.7	3.8	3.8	4.0	5.0 ^A	3.0	3.0	2.5	1.6	Z.0 ^A	1.6	1.7	1.6	1.6
14	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.0	(2.4) ^C	2.9	3.4	3.5	4.0	3.7	3.6	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	1.9	1.8	C	C	C	C	C	C	C	3.0	3.2	3.3	4.2	3.8	3.3	4.4 ^A	3.5 ^A	2.7	1.6	A	Z.7 ^A	A	Z.2 ^A	1.6
19	1.4	1.5	1.2	1.2	1.3	1.3	1.4	1.9	2.6	3.0	3.4	3.4	(3.4) ^T	3.5	3.3	3.1	2.9	1.2	1.6	1.5	1.5	1.6	1.5	1.5
20	1.4	1.4	1.3	1.2	1.4	1.2	1.3	1.9	2.2	2.7	3.0	3.6	3.6	3.6	2.4	2.5	A	2.7	2.4	Z.1 ^A	A	1.6	1.5	1.5
21	Z.6 ^A	Z.8 ^A	A	1.6	1.2	1.2	1.5	1.9	2.6	3.2	3.3	4.1	3.4	3.4	3.6	3.1	2.7	4.1 ^A	4.0 ^A	A	Z.4 ^A	3.4 ^A	Z.9 ^A	1.5
22	A	C	C	C	C	C	C	1.8	2.5	2.9	3.1	3.3	3.4	3.3	3.3	3.1	2.7	1.7	1.6	1.5	(1.6) ^C	1.6	Z.0 ^A	1.5
23	1.2	M	M	M	M	M	M	M	M	M	2.6	3.3	3.2	3.3	3.5	3.0	2.5	2.2	1.4	1.5	A	1.1	1.2	1.5
24	1.4	1.0	1.1	E	1.1	C	C	1.9	2.8	3.1	3.3	3.4	3.4	3.9	4.0	3.5	2.9	2.8	2.4 <td>1.7</td> <td>1.5</td> <td>Z.1^A</td> <td>1.6</td> <td>1.4</td>	1.7	1.5	Z.1 ^A	1.6	1.4
25	A	1.6	1.6	1.3	1.4	1.1	1.4	1.6	2.5	2.8	3.1	3.3	(3.3) ^C	3.3	3.2	2.4	2.8	2.0	A	A	1.6	1.5	1.5	1.6
26	1.6	1.8	1.4	1.4	1.2	1.3	1.4	1.5	2.5	C	C	C	C	C	C	C	C	C	C	A	1.9	1.5	1.4	1.4
27	1.4	C	C	C	C	C	1.4	2.2	A	3.1	3.4	A	3.8	3.8	3.6	3.3	2.7	2.0	1.8	A	1.8	1.2	1.5	1.5
28	1.4	1.2	1.2	1.2	E	1.1	1.4	1.8	2.5	(2.8) ^C	3.1	3.4	3.4	4.1 ^A	3.4	3.5	2.7	2.2	A	3.3 ^A	1.7	Z.4 ^A	1.4	1.6
29	1.1	1.1	1.1	1.2	1.4	1.1	1.6	1.7	M	A	3.5	3.3	3.4	3.2	3.1	2.8	2.4	2.3	1.7	1.7	1.5	1.5	1.5	1.5
30	1.5	1.2	1.4	1.3	1.1	1.2	1.4	1.8	2.5	(2.8) ^C	3.1	3.2	3.3	3.6	3.3	3.1	2.6	1.9	1.6	1.6	1.4	1.5	1.5	1.4
31	1.4	1.4	1.4	1.3	1.3	1.3	(1.6) ^C	2.0	2.6	(3.0) ^C	3.4	3.4	3.5	3.5	3.5	3.1	2.5	2.3	1.5	A	1.5	1.5	1.5	1.5
Mean Value	1.6	1.6	1.5	1.5	1.4	1.4	1.5	1.9	2.7	3.1	3.4	3.5	3.6	3.6	3.5	3.2	2.9	2.5	1.9	2.1	1.8	1.8	1.7	1.7
Median Value	1.6	1.6	1.6	1.6	1.4	1.3	1.6	2.0	2.6	3.0	3.3	3.4	3.6	3.6	3.5	3.2	2.9	2.4	1.7	1.6	1.7	1.6	1.6	1.6
Count	23	25	23	24	24	21	22	24	23	23	24	26	26	25	27	25	25	26	21	13	23	27	28	27

Manual Automatic

Sweep 1.0 Mc to Z.2.0 Mc in 3 min

fminF

The Central Radio Wave Observatory
Koganei-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

fminE

Oct. 1951

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	1.4	1.6	E	E	C	1.6	1.6	1.7	1.7	1.9	2.0	2.0	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.6
2	1.6	E	E	1.6	E	1.6	E	1.5	1.6	1.6	3.0	2.0	(1.9) ^C	1.6	1.6	2.0	1.6	1.5	1.6	1.5	1.5	1.5	1.5	1.6
3	1.6	1.6	1.6	E	1.6	E	E	C	C	1.6	1.6	1.7	1.6	2.0	(1.8) ^C	1.6	(1.6) ^M	1.6	1.6	1.6	1.6	1.4	1.6	1.4
4	1.6	1.1	1.1	1.6	E	E	C	1.6	1.6	1.6	2.0	1.6	1.6	2.0	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6
5	1.6	1.0	1.6	1.6	E	E	C	1.5	1.5	1.6	1.6	1.8	2.6	3.0	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.6
6	1.1	1.1	1.6	1.4	E	E	C	C	1.6	1.6	1.7	2.0	1.9	2.0	2.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
7	1.0	1.7	E	1.4	E	E	E	1.6	1.6	2.0	1.7	2.0	1.6	1.6	3.3	3.0	1.8	1.6	1.7	1.7	1.6	1.6	1.6	1.5
8	E	E	E	E	E	E	E	1.6	1.6	3.2	C	C	1.6	2.1	2.0	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
9	1.5	E	1.1	1.2	E	E	E	1.6	1.6	1.6	1.6	1.7	2.0	1.9	2.0	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
10	1.6	E	E	E	E	E	E	1.6	1.6	1.6	1.6	1.6	2.0	2.0	2.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
11	1.6	1.6	E	E	E	E	E	1.7	1.5	1.6	1.7	2.0	1.9	2.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
12	E	E	E	1.6	E	E	E	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
13	1.5	1.6	E	E	E	E	E	1.6	1.6	1.6	1.9	1.6	1.6	2.1	1.9	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
14	E	E	1.7	E	E	E	E	(1.6) ^C	1.7	1.6	2.0	2.0	1.9	1.9	2.0	C	C	C	C	C	C	C	C	C
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
16	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
18	1.2	1.2	C	C	C	C	C	C	C	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.5	1.4	1.3	1.2	1.6	1.6	1.6
19	(1.6) ^F	1.7	F	E	1.6	1.7	E	1.6	1.4	1.6	1.6	1.6	(1.6) ^T	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.6
20	1.6	1.4	E	E	E	E	E	1.6	1.4	1.7	1.7	1.6	1.6	1.5	1.4	1.4	1.4	1.2	1.5	1.5	1.5	1.5	1.5	1.5
21	1.4	E	E	1.1	1.0	1.1	1.6	1.5	<2.1	1.6	1.7	1.4	1.6	1.6	1.6	1.6	1.6	1.4	1.5	1.5	1.4	1.5	1.2	1.5
22	1.4	C	C	C	C	C	C	1.5	1.4	1.4	1.4	1.4	1.6	1.6	1.6	1.5	1.4	1.4	1.4	1.4	(1.3) ^C	1.2	1.3	1.6
23	1.2	M	M	M	M	M	M	M	M	1.5	1.5	1.4	1.6	1.4	1.4	1.3	1.5	1.5	1.6	1.4	1.4	1.6	1.6	1.5
24	1.6	1.3	1.8	1.7	E	C	1.5	1.5	1.4	1.4	1.4	1.6	1.4	1.4	1.4	1.3	1.3	1.3	1.4	1.4	1.6	1.5	1.6	1.6
25	1.4	1.2	E	1.3	1.1	E	E	1.4	1.4	1.5	1.7	2.0	(1.8) ^C	1.6	1.6	1.6	1.5	1.3	1.4	1.5	1.5	1.7	1.6	1.6
26	1.4	1.4	1.6	1.6	E	1.3	1.6	1.7	1.5	C	C	C	C	C	C	C	C	1.3	1.4	1.4	1.5	1.6	1.6	1.6
27	1.6	C	C	C	C	C	1.6	1.2	1.4	1.4	1.5	1.5	1.4	1.4	1.6	1.4	1.5	1.4	1.6	1.5	1.6	1.7	1.7	1.7
28	E	1.7	1.6	E	E	E	E	1.5	1.4	(1.5) ^C	1.6	1.6	1.6	1.6	1.5	1.4	1.4	1.5	1.4	1.5	1.4	1.7	1.4	1.8
29	1.7	1.7	1.6	E	1.1	E	E	1.4	(1.4) ^M	1.4	1.5	1.5	1.6	1.5	1.3	1.4	1.5	1.6	1.5	1.5	1.5	E	1.5	1.6
30	1.6	1.4	1.4	1.7	1.6	E	E	1.4	(1.4) ^C	1.5	1.4	1.4	1.4	1.5	1.4	1.4	1.2	1.5	1.4	1.5	1.5	E	1.6	E
31	E	E	E	E	E	E	C	1.3	1.2	(1.3) ^C	1.4	1.4	1.4	1.4	1.4	1.3	1.5	1.5	1.7	1.5	E	1.6	1.4	1.5
Mean Value	1.5	1.4	1.5	1.5	1.4	1.3	1.6	1.5	1.6	1.6	1.7	1.7	1.7	1.8	1.7	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6
Median Value	1.5	1.2	E	1.2	E	E	E	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.6
Count	28	25	24	24	24	21	19	24	26	26	26	27	27	27	26	26	26	26	26	27	28	28	28	28

Y 11

Manual Automatic

Sweep 1.0 Mc to 22.0 Mc in 2 min

IONOSPHERIC DATA IN JAPAN FOR OCTOBER 1951

電波觀測報告 第3卷 第10号

1951年11月25日 印刷
1951年11月30日 發行

(不許複製非売品)

編集兼
發行 人

菅 野 菊 雄
東京都北多摩郡小金井町小金井新田一之久保573

發行所

電波監理委員会 中央電波觀測所
東京都北多摩郡小金井町小金井新田一之久保573
電話 因分寺 138, 139, 151

印刷所

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