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IONOSPHERIC DATA IN JAPAN

FOR JANUARY 1952

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PREPARED BY THE CENTRAL RADIO WAVE OBSERVATORY
THE RADIO REGULATORY COMMISSION

KOKUBUNJI, TOKYO, JAPAN

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

February, 1952

SITE OF THE IONOSPHERIC STATIONS

Ionospheric observation is carried out at four stations in Japan.

The stations are situated as follows :

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

REMARKS ON SYMBOLS

All symbols in the table are used in accordance with "Production and Reduction of Ionospheric Information" of "RESOLUTION OF THE IX GENERAL ASSEMBLY OF URSI SEPTEMBER 1950" (CRWO-F25) except f_{\min} E and f_{\min} F for E and F regions respectively instead of f_{\min} , taken as f_{\min} s in the above Resolution, in order to avoid the interruption of preceding form of data.

REVISIONS AND NEW RECOMMENDATIONS OF THE SYMBOLS
AND CONVENTIONS BY THE VI TH PLENARY
ASSEMBLY C.C.I.R. GENEVA, 1951

(REFER TO THE "PRODUCTION AND REDUCTION OF IONOSPHERIC
INFORMATION, IX GENERAL ASSEMBLY OF URSI,
SEPTEMBER 1950, GENEVA" IN IONOSPHERIC
DATA IN JAPAN VOL. 3, NO. 1)

ANNEX IV

Descriptive Symbols

2. B Characteristic not measurable because of absorption either partial or complete, and probably non-deviative in type;
7. G (a) F2-layer critical frequency equal to or less than F1-layer critical frequency;
(b) no Es (or E2s) echoes observed though regular E (or E2) layer echoes are present (i.e., a symbol for daytime usage);
14. P trace extrapolated to critical frequency (it is unnecessary to use this letter for small extrapolations of one or two per cent, but use should be made of symbol 3 of Ann. III if the extrapolation leads to a critical frequency which exceeds the last observed point on the tract by more than five per cent);
18. U hp or yp not measurable, for instance, because ordinary wave trace has horizontal tangent at or above the frequency 0.834 fo.

Notes on the Use of the Descriptive Symbols

1. The following descriptive symbols are used only in place of an observed numerical value:

C D E G M N Q T U and W

2. The following descriptive symbols may be used either in place of, or to qualify an observed numerical value:

A B F L and S

3. The following descriptive symbols may be used only to qualify an observed numerical value:

H J K P V Y and Z

5. When an observed numerical value has been replaced with certain of the descriptive symbols, it is frequently permissible to enter an interpolated value (See discussion of interpolation practice in Ann. III). Such symbols, when they qualify the interpolated value, are:

A B C F L M F S T and U

ANNEX V

Median Values, Median Counts, Conventions for Determination of Median Values of Ionospheric Characteristics

2. Conventions

2.3 Use of Figures indicating a limiting value only.—Hourly measurements which can be recorded only as greater than or less use of symbols 3 or 4 Ann. III may often have the force of unqualified numerical measurements and should contribute to the determination of the median. Judgement must be exercised, however, when using observations qualified in this manner to insure that the resulting median is not systematically displaced in an unrepresentative manner.

ANNEX VI

Standard Transmission Curve

The international standard 3000 km transmission curve used for obtaining (M 3000) F₂, as adopted in 1944 by the International Radio Propagation Conference at Washington, is defined by the following table, which gives the corrected secant factors for the standard 3000 km transmission curve.

Height in km	Factor
200	4.55
250	4.05
300	3.65
350	3.33
400	3.08
500	2.69
600	2.40
700	2.20
900	2.04

ANNEX VII

New Descriptive Terms

The following descriptive terms are coming into use:

1. Ionosonde: equipment which is employed in making ionospheric measurements.
2. Ionogram: the record of an ionospheric sounding.

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

Lat. 45° 28.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

f_oF2

Jan. 1952

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	4.0	3.2	S	3.3	3.0	1.35 ^F	2.7	4.7	4.8 ^H	S	S	C	6.6	8.5	7.3	7.0	6.6	4.3	C	C	2.4	2.6	2.7	C	
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	6.8	6.0	3.9	3.8	3.2J	2.9	2.8	2.8	2.6	
3	3.0	3.0	3.1	4.1J	2.82F	2.7	3.3	3.9	4.8	7.0	9.2FS	8.8	8.3	8.2	8.5	5.2	4.3	4.2J	2.7	2.4	2.6F	3.0F	3.2F	3.2F	
4	3.1F	3.1F	(3.2)JF	3.0F	(3.4)F	2.9F	2.6F	(3.7)F	5.6	8.2	(8.0)S	7.7	7.0	9.1	7.9	6.5	5.3	5.1F	4.5JF	3.6PF	3.3F	3.8PHF	2.8JF	3.8JF	
5	4.0JF	3.8F	4.0F	4.2F	3.4	3.8	2.4	4.0F	5.3	8.8	9.0	B	7.7	7.6	8.0	(8.6)P	S	4.9S	S	2.4	A	A	A	2.6J	
6	2.5J	2.3J	2.2	2.5J	2.3	2.4 ^F	2.6JF	4.4	7.3	8.3	9.7	9.0	8.5	(8.6)B	8.7	7.3	7.8	5.4	3.2	2.4	2.3	2.1	2.9	2.8	
7	2.6	3.0	2.9	3.0F	3.0F	3.2F	2.0	3.0	6.6	7.6	8.8PT	(9.5)PS	6.6	(9.3)PS	7.2	5.8	5.0	4.2	3.5	3.4	3.3	3.2	2.9	2.7	
8	3.0F	2.8F	3.3F	4.3 ^H F	3.9K	3.2F	2.3F	4.8F	5.6K	7.3K	7.0K	7.3H	7.2K	6.5K	7.3FF	6.2	4.5	4.4	3.8	3.1	3.0	(3.4)FF	3.9JF	3.9JF	
9	4.0F	4.2JF	4.2JF	4.2PF	3.3PF	4.3JF	4.1JF	(4.1)PF	5.5	6.8	8.0	7.0	B	7.1	7.0	S	4.9	3.4	C	C	C	C	(3.9)JF	C	
10	C	C	3.2	3.1	C	C	C	C	C	C	C	C	C	C	C	C	C	6.1J	5.2	4.7	4.4	4.3	4.0	4.3J	
11	4.8	4.3J	(4.0)PF	3.1	3.6	3.13F	2.6F	4.2	7.0	8.3	8.4	(8.8)PT	8.7	8.2	7.7	5.8	5.6	4.6	4.7	4.2	3.0	2.6	3.0F	3.2	
12	4.2	3.1H	3.0	2.9	3.2	3.6H	3.2	4.2	5.4	7.3F	7.5	8.5	8.2	7.1	6.6	7.1	B	7.1	A	4.0	4.3	4.0	4.0JF	4.0JF	
13	5.6	3.6JF	3.3PF	3.5JF	A	A	A	A	5.7	7.9	(8.6)C	9.3	8.5	8.4	8.8	8.5	5.5	5.0	4.4	S	S	S	S	3.7J	3.2J
14	3.2J	3.0J	3.0	A	2.5	2.4	2.7	4.0	6.7	8.3	8.2	7.4	7.3	7.1	7.2	7.5	5.8	C	4.3	A	3.0	A	3.7J	2.7	
15	2.8	2.9	(2.9)PF	3.0F	3.4J	2.4	A	4.2	6.8	7.0	8.7	9.6	8.0	7.0	7.4	6.5	6.2	4.7	3.2K	2.5K	2.8K	3.0K	(3.2)K	3.3K	
16	3.0K	3.0K	(3.1)K	3.2K	S	2.2K	A	4.2K	6.7	9.2	9.2	8.6	7.5	6.7	6.5	5.8	5.8	4.2	3.6	3.2	2.4	A	3.0	3.9	
17	3.2	3.2F	3.7F	3.8	2.9	2.4H	2.6	3.7P	C	C	C	C	B	C	C	C	5.8	3.4	C	S	2.4	3.0	3.0	3.6	
18	(3.6)PS	3.8J	3.4J	3.7JF	3.3	3.0	2.5	4.7P	6.6	C	C	C	C	C	C	6.5	5.5	3.8H	4.5	4.0J	2.5	2.6	3.0	2.9	
19	3.1	2.8	3.0	2.9	2.7	3.0	2.5	4.6P	6.0P	C	B	7.5	7.5	7.2	7.2	6.5J	5.1S	4.1	4.0S	3.0	[2.6]S	2.2	2.6	2.4	
20	2.6	2.9	3.3J	3.2	3.0	2.9	2.4	4.1	B	7.2	7.8	7.5	7.3	6.0	6.8	6.0	5.0	4.7	4.2	S	3.0	2.4	2.9	S	
21	2.6	(2.8)PS	2.9	3.0	2.9	2.8	2.3	4.3	5.4	7.1	7.0	8.2	7.3	6.5	7.3	6.5	5.4	4.2	3.3	3.5F	2.7	2.8	S	2.5	
22	3.0	3.4	3.5	3.5	3.6	3.7	3.5	3.7	5.6	8.1	9.2	9.2	8.4	7.1	6.5	6.4	5.0	4.9	4.3	4.3	[4.0]C	3.8J	S	S	
23	3.8J	C	C	C	C	C	C	C	C	7.4	8.4	8.1	7.7	7.1	S	6.7	5.9	4.5	3.9 ^S	3.3 ^S	3.0 ^S	3.0 ^S	3.1 ^S	S	
24	3.3	3.0	3.4	3.3	3.1 ^J	3.1	3.1	4.0	C	C	C	C	C	C	C	C	C	C	3.9J	4.0	C	C	S	S	
25	3.2	3.1	3.5	3.7J	2.7	1.7F	2.8	3.3	(4.8)F	6.4	8.3	8.8	7.4	7.3	7.7	6.1	6.7	4.3	C	C	C	C	C	3.9	
26	3.8	S	3.9J	3.7J	3.7H	3.1	3.2J	4.3	(5.5)F	6.7	7.7	7.3	8.3	7.1	6.8	7.0	5.7	3.5	3.1	2.6	3.4	3.0	2.7	2.9	
27	2.9	3.0	3.0	2.9	2.8	2.9	2.9	4.2	7.1	6.8	8.0H	8.0	8.0	6.1	7.0	6.7	6.0	4.3	3.2P	(3.1)PS	3.3JF	3.4JF	3.8JF	3.7JF	
28	3.2F	4.0JF	4.3F	4.0F	2.6F	3.0JF	3.8JF	5.1	C	C	C	8.2	C	C	C	C	5.0	4.2	4.3	3.8J	3.2	3.0	3.5	3.4	
29	3.0	3.5PS	3.0	3.1	3.3	3.1	2.9	4.5	7.8	7.1	8.5	8.7J	8.2	6.67	6.7	6.2	5.7	5.0	5.2	5.1	3.9JF	4.5JH	4.3J	4.2	
30	4.3JF	3.8JF	3.3JF	3.9JS	3.8	(2.6)JF	2.5	4.6	6.0	6.6	C	C	C	C	C	C	C	C	C	C	S	3.6JF	3.2JF	3.5JF	
31	3.6J	3.6J	3.7J	3.4	2.2	C	C	C	7.4	7.3	6.9	9.6	9.6	7.6	6.7	6.6	5.8	4.7	C	C	C	C	2.8	3.1	
Mean Value	3.4	3.3	3.3	3.4	3.2	3.0	2.8	4.2	6.0	7.6	8.2	8.3	7.5	7.4	7.3	6.7	6.7	4.5	4.0	3.3	3.0	3.0	3.2	3.3	
Median Value	3.2	3.1	3.2	3.3	3.0	3.0	2.6	4.2	5.7	7.4	8.4	8.2	7.7	7.1	7.2	6.5	5.6	4.4	4.0	3.2	3.0	3.0	3.0	3.2	
Count	29	27	25	28	26	26	24	26	23	23	22	23	23	24	23	25	26	28	23	22	25	23	26	25	

Sweep 1.0 Mc to 15.5 Mc in 2 min

Manual Automatic

Lat. 45° 28.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

Jan. 1952

f_oF₂

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	440	350	S	420	430	(340) F	A	300	310 ^H	S	S	C	C	260	290	280	230	290	C	C	300	340	440	C	
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	260	320	(310) J	370	370	400	380		
3	380	370	400	(410) J	360 F	340	300	310	280	320	290 S	290 S	290	290	290	270	310	(280) J	330	360	450 F	430 F	400 F		
4	400 F	400 F	(370) J	350 F	(350) F	320 F	330 F	(370) P	330	300	(290) S	280	300	310	280	270	270	290 F	(380) F	320 F	340 F	430 F	(290) F	(400) F	
5	(310) F	390 F	370 F	400 F	290	310	440	360 F	280	290	310	B	290	300	320	(310) P	S	320 S	S	380	A	A	A	(370) J	
6	(320) J	(320) J	A	(280) J	370	A	(320) F	350	290	310	300	270	290	(300) B	300	280	290	250	260	310	350	S	360	360	
7	420 A	410	350	350 F	310 F	300 F	300	320	290	300	(280) F	(280) F	310	(270) S	280	290	290	310	320	310	330	420	410	410 F	
8	390 F	380 F	360 F	(340) F	290 K	390 F	410 F	310 F	310 K	280 K	290 K	330 K	290 K	300 F	300 F	280	270	340	(330) S	320	340	(380) F	(400) F	(380) F	
9	(340) F	(340) F	(350) F	360 F	370 F	(320) F	(320) F	(280) F	290	300	290	290	B	300	290	S	270	310	C	C	C	C	C	(350) F	C
10	C	C	C	350	350	C	C	C	C	C	C	C	C	C	C	C	C	(320) J	320	330	320	390	340 F	(370) J	
11	360	(320) J	(350) F	420	450 F	(320) F	330 F	310	330	300	340	(270) F	290	300	270	320	330	270	310	(350) S	(360) S	330	400 F	450	
12	380	410 ^H	350	320	340	420 ^H	360	360	290	350 P	320	310	290	280	300	290	B	280	A	340	340	(350) S	(330) F	(380) F	
13	310	(360) F	370 F	(400) J	A	A	A	A	280	290	(280) C	280	310	300	310	290	290	260	330	S	S	S	(400) J	(390) J	
14	(340) J	(340) J	430	A	300	490	300	350	290	280	300	310	290	300	300	300	290	C	A	A	340	A	(340) J	A	
15	410	380	(370) F	330 F	(270) J	360	A	360	310	310	300	300	280	310	290	300	320	290	320 K	320 K	360 K	430 K	(415) S	390 K	
16	420 K	490 K	(470) S	450 K	S K	400 K	A K	500 K	360	320	290	290	290	280	290	280	290	320	340	330	380 ^A	A	320	(370) S	
17	340	390 F	410 F	330	290	360 ^H	410	340 P	C	C	C	C	B	C	C	C	340	310	C	S	380	400	370	430	
18	(480) P	(370) J	(320) J	(350) F	330	330	320	350 P	S	C	C	C	C	C	C	C	280	390 H	320	(290) J	320	410	420	390	
19	350	320	380	370	340	360	320	320	290	C	B	320	300 S	290	290	(280) J	290 S	350	370 S	360	(380) S	400	440	A	
20	420	390	(410) J	390	380	370	370	360	B	290	320	270	270	290	280	300	250	320	290	S	280	400	420	S	
21	380	(360) J	390	350	350	320	330	330	250	300	300	290	290	300 S	300	280	290	330	340	340 F	350	420	S	360	
22	370	400	400	350	380 S	350 S	340	320	320	* 300	300	310	300	290	290	270	300	350	340	350	(360) C	(360) J	S	S	
23	(360) J	C	C	C	C	C	C	C	C	300	320	300	300	310	S	250	270	330	350 F	350 S	330 S	410 S	420 S	S	
24	360	340	380	360	(340) J	330	350	380	C	C	C	C	C	C	C	C	C	C	(330) J	290	A	S	S	S	
25	360	410	390	(350) J	300	390 F	330	310	(300) S	300	310	290	290	320	280	270	280	330	C	C	C	C	C	390	
26	400	S	(390) J	(360) J	(330) J	330	(320) J	360	(300) S	300	310	290	300	300	300	300	290	320	350	360	330	340	400	400	
27	390	390	390	390	390	350	390	320	290	300	310	290	300	300	300	300	290	320	330 P	(310) S	(410) F	(400) F	(440) F	(430) F	
28	410 F	(420) J	330 F	350 F	330 F	(380) F	(400) F	320	C	C	C	C	C	C	C	C	300	310	(320) J	410	440	460	460	390	
29	340	370 S	340	350	350	360	340	330	290	310	310	(290) J	280	330 V	270	270	280	310	(310) S	300	(390) J	(400) F	(400) F		
30	(370) F	(380) F	(320) F	(340) J	350	(420) S	400	370	290	280	C	C	C	C	C	C	C	C	C	C	S	(430) F	(360) F	(370) F	
31	(350) J	(360) J	(340) J	310	340	C	C	C	C	320	310	320	290	290	280	280	290	310	C	C	C	C	C	440	
Mean Value	370	380	370	360	340	360	350	340	300	300	300	300	290	290	290	280	290	320	320	330	350	400	390	390	
Median Value	370	380	370	350	340	350	330	320	290	300	300	290	290	300	290	280	290	310	310	330	320	340	400	390	
Count	24	27	27	28	26	25	23	26	22	23	22	23	23	24	23	24	26	28	22	22	24	22	26	23	

f_oF₂

Sweep 1.0 Mc to 15.5 Mc in 2 min

Manual Automatic

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

IONOSPHERIC DATA

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

f'F2

Jan. 1952

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	310	300	400	330	330	240	300A	280	240 ^H	280	280	[210]C	260	280	280	270	230	280	C	C	290	300	430A	C	
2	330	C	C	C	C	C	C	C	C	C	C	C	C	C	C	240	240	250	280	290	320	320	370	350	
3	330	320	340	320	320	320	290	300	260	270	280	290	270	270	270	260	240	270	260	300A	310S	410FS	390F	350FS	
4	320	300	300	300	280	280	300SF	310	270	280	300	260	280	280	270	260	260	290	290	280	300	320FH	290F	370	
5	300F	320	300	300F	270	210	410 ^S	300	270	280	280	240	280	270	290	290S	290S	300S	270S	380S	A	A	A	360	
6	300	320	A	270	360A	A	310S	290	280	300	280	240	270	290	270	250	270	220	250	300	340	400A	330	360A	
7	420A	400A	300	300	220F	270F	300S	300	270	280	270	270	250	260	270	270	250	270	300	290	290	400 ^S	330	340	
8	360K	380K	300K	280K	270K	320K	260K	260K	270K	260K	270K	280K	290K	290K	290K	270	250	280	300	300	300	340F	370	320F	
9	300F	280	300F	300	300F	280	280	250	240	280	280	280	280	280	280	270	250	280	C	C	C	C	350	C	
10	C	330	320	C	C	C	C	C	C	C	C	C	C	C	C	C	C	300	270	300	300	310	300F	320	
11	290	270	310	330	370F	270F	300	270	300	280	280	260	270	280	250	270	280	240	240	290	310	310S	350	340	
12	310	320H	300	290	290	320H	300	270	250	280	270	300	280	270	280	270	A	250	A	300	300	320	310	350F	
13	290	300F	300F	310	A	A	A	A	240	270	[210]C	270	280	290	290	260	260	300	300	300	320	400	320	320	
14	300	330	(400)A	A	300A	490A	280	300	280	280	280	280	280	280	280	280	260	A	A	A	A	310	A	A	
15	320	300	320F	300F	260	350A	A	280	260	270	260	270	260	260	280	280	280	240	210K	280K	300K	370K	[370]S	370K	
16	350K	400K	[400]	400K	300K	A	A	480K	280	290	270	270	270	270	280	270	270	270	300	290	A	A	300	300	
17	290	320	360	290	240	230H	410S	290	C	C	C	C	310B	C	C	C	250	300	[300]	310	320	380	360S	380	
18	370	320	300	280	300	270	300	280	C	C	C	C	C	C	C	B	270	270	300H	290	260	310	380	350	
19	310	300	310	300	270	280	300	280	250	C	B	300B	290B	280	280B	260	230	330	300	290	(340)	400S	400S	400A	
20	350	350	300	300	300	300	310	280	280B	270	310	260	260	280	250	250	230	290	270	290	280	400	400	330	
21	300	310	310	300	270	250	320	300	230	280	280	280	280	280	280	280	240	270	300	270	260	330	380	310	
22	300	300	310	300	290	250	280	270	260	280	280	290	280	270	280	260	240	280	290	300	300	[300]C	310	340	
23	300	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	300	270	A	A	440	310	
24	310	310	310	310	300	300	300	320	C	C	C	C	C	C	C	C	C	C	300	270	A	C	340	320	
25	300	350	330	270	220	320F	320	260	[270]	280	280	280	270	290	270	250	270	270	C	C	C	C	350	350	
26	330	430	350	300	280H	270	300	300	[290]	280	280	280	280	280	280	280	270	280	270	330	290	310A	350	340	
27	340	310	340	320	310	300	320	280	270	230	260	270 ^H	270	270	280	260	240	230	250	300	380	390	390F	380F	
28	330	360	280	270F	220F	350	350	300	C	C	C	C	C	C	C	C	280	290	300	300	300	380	370	350	
29	310	300	300	300	300	250	300	290	280	<300	260	280	270	230	270	250	260B	240	260	250	300	350H	320	320	
30	290	300	280	280	260	350	300	300	270	260	C	C	C	C	C	C	C	C	C	C	S	400F	320F	310F	
31	300	300	280	250	300	C	C	C	C	280	280	270	280	280	270	270	270	280	C	C	C	C	310	360	
Mean Value	320	320	310	300	290	290	310	290	270	280	280	280	270	280	280	270	260	280	280	300	310	300	310	350	350
Median Value	310	320	310	300	290	280	300	290	270	280	280	280	280	280	280	270	260	280	290	300	300	300	370	350	350
Count	29	28	28	28	27	24	24	26	24	23	23	25	25	24	24	25	27	28	24	25	24	25	25	29	28

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

Lat. 40° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

foF1

Jan. 1952

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	Q	Q	Q	Q	Q	Q	Q							
2								C	C	C	C	C	C	C	C	C	C							
3								Q	Q	Q	Q	B	Q	Q	Q	Q	Q							
4								Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
5								Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
6								Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
7								Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
8								Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
9								Q	Q	Q	Q	Q	B	Q	Q	Q	Q							
10								C	C	C	C	C	C	C	C	C	C							
11								Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
12								Q	Q	Q	Q	B	Q	Q	Q	Q	Q							
13								A	Q	A	C	Q	Q	Q	Q	Q	Q							
14								Q	Q	Q	Q	B	Q	Q	Q	Q	Q							
15								Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
16								Q	Q	Q	Q	Q	B	Q	Q	Q	Q							
17								Q	C	C	C	C	B	C	C	C	Q							
18								Q	Q	C	C	C	C	C	C	C	Q							
19								Q	Q	C	B	B	B	Q	Q	Q	Q							
20								Q	B	Q	B	42	38	Q	Q	Q	Q							
21								Q	Q	Q	Q	Q	40	Q	Q	Q	Q							
22								Q	Q	Q	Q	41	42	43	Q	Q	Q							
23								C	C	B	Q	Q	Q	Q	Q	Q	Q							
24								Q	C	C	C	C	Q	C	C	C	C							
25								Q	C	Q	Q	42	40	38	Q	Q	Q							
26								Q	C	Q	Q	Q	43	B	Q	Q	Q							
27								Q	Q	Q	Q	Q	B	Q	Q	Q	Q							
28								Q	C	C	C	C	Q	Q	C	C	Q							
29								Q	Q	M	Q	L	Q	Q	Q	Q	Q							
30								Q	Q	Q	C	C	C	Q	C	C	C							
31								C	C	Q	Q	Q	40	38	39	Q	Q							
Mean Value												4.2	4.1	4.0	3.9									
Minimum Value												4.2	4.0	3.8	3.9									
Count											2	6	3	3	1									

foF1

Sweep 1.0 Mc to 15.5 Mc in 2 min
 Manual Automatic

W 4

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

IONOSPHERIC DATA

Wakkanai
Lat. 46° 28.6' N
Long. 141° 41.1' E

Jan. 1952

f'F1

135° E Mean Time

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

Sweep 1.0 Mc to 15.5 Mc in 2 min Manual Automatic

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

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

f_oE

Jan. 1952

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	A	C	A	2.8	2.5	B	B							
2								C	C	C	C	C	C	C	C	C	B	B						
3								B	B	B	B	B	B	B	B	B	B	B						
4								B	2.1	B	B	B	B	B	B	B	B	B						
5								B	2.1	B	B	B	B	B	B	B	S	S						
6								B	A	B	B	B	B	B	B	B	B	B						
7								B	A	2.6	2.7P	2.8	B	3.1	2.9	2.6	B	B						
8								A	A	B	B	B	B	B	B	B	B	B						
9								B	B	B	B	B	B	B	B	B	B	B						
10								C	C	C	C	C	C	C	C	C	C	C						
11								B	A	B	B	B	B	2.9	B	B	B	B						
12								A	A	A	B	B	B	B	B	B	B	B						
13								A	A	A	C	2.8	2.9	A	2.8	B	1.6	1.6						
14								B	B	B	B	B	B	B	B	B	B	B						
15								A	2.2	B	A	A	B	B	B	B	B	B						
16								A	A	B	B	B	B	B	B	B	B	B						
17								B	C	C	C	C	C	C	C	C	C	C						
18								B	C	C	C	C	C	C	C	C	C	C						
19								B	B	C	B	B	B	B	B	B	B	B						
20								B	B	B	B	B	B	B	B	B	B	B						
21								B	2.2	2.6	2.8	3.0	2.8	B	B	2.4	B	B						
22								B	2.2	2.7	2.9	B	B	B	B	B	B	B						
23								C	C	2.8	2.8	B	B	B	B	2.1	B	B						
24								B	C	C	C	C	C	C	C	C	C	C						
25								B	C	A	B	B	B	A	2.6	B	B	B						
26								B	C	2.6	2.6	2.6 ^B	B	2.8	B	B	B	B						
27								B	1.9P	B	B	B	B	B	B	B	B	B						
28								B	C	C	C	C	C	C	C	C	C	C						
29								B	A	M	A	B	B	B	2.7	B	B	B						
30								1.4	B	B	C	C	C	C	C	C	C	C						
31								C	C	A	A	2.9	2.8	2.8	2.6	2.6	2.0	2.0						
Mean								1.4	2.1	2.7	2.8	2.8	2.8	2.9	2.7	2.4	1.8							
Median								1.4	2.2	2.6	2.8	2.8	2.8	2.8	2.6	2.5	1.8							
Value								1	6	5	5	5	3	5	6	4	2							
Court								1	6	5	5	5	3	5	6	4	2							

f_oE

Sweep f.0 Mc to 15.5 Mc in Z min Manual Automatic

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

Lat. 46° 28.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

f_oF₂

Jan. 1952

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

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

IONOSPHERIC DATA

Jan. 1952

fEs

135° E Mean Time

Wakanai

Lat. 46° 28.6' N
Long. 141° 41.1' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	1.2	E	E	E	E	E	3.0	2.9	3.0	3.0	C	4.0	7.4	3.0	B	D	S	C	C	E	4.2	3.0	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	B	E	E	E	E	E	E	E
3	E	1.4	E	E	E	E	E	B	B	B	B	B	B	B	B	F	B	E	2.2	3.4	S	S	S	S
4	S	E	1.4	E	E	E	S	B	G	B	B	B	B	B	B	B	2.8	1.5	S	S	S	S	S	S
5	3.0	1.5	S	E	1.3	E	S	B	B	B	B	B	B	B	B	B	S	S	S	S	7.8	6.4	4.2	3.1
6	E	E	2.0	2.2	2.2	S	S	3.2	4.0	3.0	B	B	B	B	B	B	B	E	E	E	E	3.0	3.0	4.2
7	4.0	3.0	1.6	E	1.6	S	S	2.6	3.0	G	G	G	B	G	G	3.2	B	E	E	E	E	S	E	E
8	3.2	2.8	2.6	1.6	1.6	3.6	E	3.4	2.6	G	B	B	B	B	B	B	2.7	1.7	E	E	E	E	E	E
9	E	E	E	E	E	E	E	B	G	B	B	B	B	B	B	B	B	E	C	C	C	C	C	C
10	C	C	E	E	E	C	C	C	C	C	C	C	C	C	C	C	C	S	E	E	E	E	E	E
11	E	E	E	E	E	E	E	B	2.6	B	4.0	B	4.6	G	B	B	D	2.2	E	2.8	E	S	3.8	4.0
12	1.6	E	E	E	E	E	E	2.4Y	5.1	3.0	B	B	B	B	B	B	6.0	3.5	6.2	5.6	3.0	3.5	3.0	E
13	1.6	1.6	E	E	9.0	8.0	6.2	5.4	4.7	5.0	C	G	G	3.1Y	G	G	G	2.8	E	E	E	E	E	E
14	1.6	E	2.8	3.6	3.0	2.8	2.2	G	8.0	B	B	B	B	B	B	B	B	>3.2	5.5	4.7	3.0	5.0	3.2	3.0
15	E	E	E	E	1.4	3.0S	3.2S	3.0	G	G	3.0	3.2	B	B	B	B	G	E	E	E	E	E	S	E
16	1.6	1.3	3.0Y	1.6	1.6	1.6	3.9	5.0	4.0	B	B	B	B	B	B	G	2.6	3.2	2.0	3.4	4.6	3.9	3.6	2.8
17	1.4	1.4	1.4	E	E	E	S	B	C	C	C	C	C	C	C	C	B	E	C	E	E	E	S	4E
18	1.2	1.3	1.2	E	E	E	1.4	E	B	C	C	C	C	C	C	2.6	B	E	E	E	E	E	E	E
19	E	1.3	E	E	E	E	E	B	B	C	B	B	B	B	B	B	B	E	E	E	E	E	E	E
20	1.6	E	1.6	E	1.2	1.3	E	B	B	B	B	B	B	B	B	B	B	E	E	E	E	E	E	E
21	E	E	E	E	E	E	E	B	G	G	G	G	G	G	G	G	B	E	E	E	E	E	E	E
22	E	E	E	E	E	E	E	B	G	G	G	G	B	B	B	B	B	E	E	E	E	E	E	E
23	E	C	C	C	C	C	C	C	C	C	C	C	G	G	G	G	B	E	E	E	E	E	E	E
24	E	1.2	2.1	E	E	E	E	B	C	C	C	C	C	C	C	C	C	C	E	E	E	E	E	E
25	E	E	E	1.4	E	E	E	B	C	3.6	G	G	G	3.0	G	G	B	E	C	E	E	3.0	2.6	E
26	E	S	S	E	E	E	E	B	C	G	G	G	B	G	B	B	G	1.8	1.6	1.6	3.4	3.2	E	E
27	E	E	3.2	1.4	E	E	E	B	G	B	B	B	B	B	B	B	B	E	E	E	E	E	E	E
28	E	E	E	E	E	E	E	B	C	C	C	C	C	C	C	C	B	E	E	E	E	E	E	E
29	E	E	1.3	E	E	E	E	B	2.9	6.0	4.5	B	B	G	G	B	B	1.6	E	E	2.7	E	E	E
30	E	E	E	E	E	E	E	G	B	B	C	C	C	C	C	C	C	C	C	C	S	E	E	E
31	E	1.6	E	E	E	E	E	C	C	2.8	3.8	G	G	G	G	G	2.6	2.6	C	C	C	C	E	2.6
Mean Value	2.1			1.7	2.5	2.7	3.6	3.6	4.0	3.8	3.7	3.2	4.3	4.5	3.0	2.8	3.3	2.3	3.5	3.6	4.0	4.0	3.3	3.3
Median Value	E	E	E	E	E	E	E	E	2.6	G	G	G	G	G	G	G	2.6	E	E	E	E	E	E	E
Count	28	27	27	29	28	27	22	10	15	14	11	7	7	10	8	8	8	25	23	24	23	24	26	27

fEs

Sweep 1.0 Mc to 15.5 Mc in 2 min

Manual Automatic

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

IONOSPHERIC DATA

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

Jan. 1952

(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	26	29	S	26	26	(29)F	32	30	30H	S	S	C	33	31	31	34	37	32	C	C	32	29	25	C	
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	31	35	29	30	(31)F	27	27	27	27	
3	28	28	27	(26)J	28F	30	31	31	32	29	33F	33	32	31	32	33	30	30	(32)F	29	25F	26F	27F	27F	
4	26F	26F	(27)F	28F	(27)F	30F	29F	(27)P	30	31	(32)S	33	31	30	32	32	34	32F	(27)F	29F	29F	25F	(32)F	(26)F	
5	(30)E	27F	27F	26F	32	30	25	28F	33	32	B	B	31	31	30	(30)P	S	30S	S	27	A	A	A	(28)F	
6	(30)J	(30)J	29	(32)J	28	(31)F	(30)P	29	32	30	30	32	33	(32)B	32	33	32	35	34	30	28	28	28	28	
7	26	26	28	29F	30F	31F	32	30	33	31	(33)F	(32)F	30	(32)F	32	32	32	29	30	31	30	29	26	26F	
8	27FK	29FK	28FK	(29)FK	32K	26FK	25FK	31FK	30K	32K	32FK	32FK	31K	31FK	32FK	33	32	28	(29)S	30	27	(27)F	(26)F	(27)F	
9	(28)F	(28)F	29F	28F	27F	(30)F	(29)F	(32)F	32	31	32	32	B	30	31	S	32	31	C	C	C	C	(29)F	C	
10	C	C	30	29	C	C	C	C	C	C	C	C	C	C	C	C	C	(30)F	30	30	30	26	29	(26)F	
11	28	(29)J	(26)F	25	25F	(30)F	30F	30	29	31	29	(33)F	32	31	32	30	29	27	30	28	27	30	26F	25	
12	27	26H	26	30	28	25H	28	29	32	28P	29	30	31	32	31	32	B	32	A	28	28	(28)S	(30)F	(27)F	
13	30	(27)F	28F	(26)F	A	A	A	A	32	31	(32)C	32	30	30	31	31	30	28	30	S	S	S	(26)F	(27)F	
14	(29)J	(29)J	26	A	32	25	32	28	33	33	30	30	31	31	30	31	31	C	(28)A	A	29	A	(28)F	(27)A	
15	26	26	(30)F	29F	(32)J	28	A	28	30	29	31	31	31	30	32	32	30	31	30K	30K	27K	25K	(26)S	28K	
16	27K	23K	(24)F	24K	S	25K	A	23K	28	30	32	32	32	32	32	32	32	30	29	30	28	A	32	(28)S	
17	30	28F	27F	30	32	27H	26	29P	C	C	C	C	B	C	C	C	27	30	C	S	27	28	28	26	
18	(26)S	(27)J	(30)J	(28)J	30	30	30	29P	33	C	C	C	C	C	C	32B	32	28H	30	(31)J	30	26	26	27	
19	29	31	27	27	29	28	30	30	32P	C	B	30	31S	31	31	(32)F	31S	28	27S	27	(27)S	27	25	28	
20	27	27	(26)J	27	27	27	27	32	B	32	30	34	33	32	33	30	34	30	32	S	32	27	26	S	
21	28	(27)S	27	28	28	30	30	30	34	32	31	32	33	30	32	32	32	29	30	29F	29	26	S	28	
22	28	26	26	29	28	28	29	30	34	32	31	30	32	31	32	33	30	28	28	28	(28)C	(28)J	S	S	
23	(28)J	C	C	C	C	C	C	C	C	31	30	31	30	30	S	34	32	29	29S	30S	30S	27S	26S	S	
24	28	30	28	29	(29)J	30	29	27	C	C	C	C	C	C	C	C	C	C	(30)F	32	A	S	S	S	
25	28	26	27	(28)J	31	25F	30	31	(30)F	31	30	31	32	29	33	32	32	29	C	C	C	C	C	26	
26	27	S	(27)F	(28)J	(29)F	29	(31)F	28	(30)F	31	31	33	31	32	31	31	32	30	30	28	28	30	27	26	
27	27	27	27	26	27	26	29	26	32	34	31	31H	32	C	C	C	31	30	30	(30)F	(27)F	(25)F	(25)F	(25)F	
28	26F	(26)F	30F	28F	27F	(27)F	(26)F	29	32	34	31	31	C	C	C	C	31	30	30	(30)F	(25)F	(26)F	(26)F	(26)F	
29	30	28F	28	29	29	29	29	29	32	30	31	(32)F	32	29V	33	33	33	30	(30)S	31	(28)F	(25)F	(26)F	(26)F	
30	(26)F	(27)F	(30)F	(30)F	(30)F	(30)F	28	27	31	33	C	C	C	C	C	C	C	C	C	C	C	C	(28)F	(27)F	
31	(28)J	(28)J	(29)J	30	28	C	C	C	C	30	30	30	31	31	33	32	31	31	31	31	31	31	28	24	
Mean Value	28	27	27	28	29	28	29	29	31	31	31	32	32	32	32	32	32	32	30	30	28	27	27	27	
Mean Value	28	27	27	28	28	28	29	29	31	31	31	32	32	32	32	32	32	32	30	30	28	27	27	27	
Count	24	27	28	28	26	24	24	26	23	23	22	23	23	24	23	25	26	28	28	23	22	24	23	26	25

Breep. 1.0 Mc to 1.5 Mc in 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

Jan. 1952

fminF

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	1.2	1.2	1.1	E	1.1	1.1	2.4	2.2 ^A	2.8	2.8	3.3	(3.17 ⁶)	4.1	4.0 ^A	3.4	2.6	2.1	2.4	C	C	1.8	1.6	2.2 ^A	C	
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	B	E	E	E	E	E	E	E	
3	E	1.1	E	E	E	E	E	B	B	3.0	3.2	6.0	3.3	3.8	3.6	3.6	1.7	1.6	2.2 ^A	2.0 ^A	1.8 ^S	1.8 ^{FS}	1.8 ^{FS}	1.8 ^{FS}	
4	1.8	E	1.4	1.2	E	E	1.8 ^S	1.8	2.1	2.8	3.4	3.4	3.4	3.6	3.6	2.3	2.3	1.9	1.9 ^S	1.8 ^S	1.8 ^S	1.8 ^S	1.8 ^S	1.8 ^S	
5	2.8 ^A	1.3	1.7	E	1.2	1.1	1.8 ^S	1.8	2.5	2.8	2.8	3.8	3.0	3.8	3.0	3.3	4.0 ^S	3.6 ^S	2.0 ^S	2.0 ^S	A	A	A	1.6	
6	1.8	1.7	2.0 ^A	1.3	1.8 ^A	2.2 ^A	1.9 ^S	2.2	2.8	3.2	3.6	3.6	3.8	3.5	3.2	2.7	2.2	2.0	2.0	1.8	1.8	1.9	1.8	2.2 ^A	
7	2.2 ^A	2.2 ^A	E	E	E	E	1.7 ^S	1.8	2.0	2.8	3.6	3.4	3.6	3.4	3.1	2.7	1.8	1.8	1.6	1.8	1.8	2.4 ^S	2.4	1.4	
8	1.6	1.8	1.6	1.2	1.2	1.1	1.4	1.8	2.2	2.8	3.6	3.8	3.7	4.0	3.6	3.2	2.4	2.0	1.9	2.0	2.0	1.8 ^F	1.8	1.6 ^F	
9	1.2 ^F	1.1	1.1 ^F	E	E	1.1	1.6	1.6	2.3	2.9	3.7	3.5	4.3	3.4	3.3	2.3	2.0	1.8	C	C	C	C	1.7	C	
10	C	C	1.6	1.7	C	C	C	C	C	C	C	C	C	C	C	C	C	2.4	1.8	1.7	1.7	2.0	2.0 ^F	E	
11	E	2.0	E	E	E	E	2.0	2.0	2.0	3.4	3.5	3.3	3.9	3.3	3.6	2.6	2.1	2.2 ^A	1.8	2.6 ^A	1.8	2.2 ^S	1.8	1.8	
12	E	E	E	1.8	E	A	1.8	1.8	2.2	3.4	3.3	4.0	3.8	3.6	3.6	3.0	A	2.0	2.0 ^A	2.0 ^A	2.0 ^A	2.4 ^A	2.0	2.0	
13	1.3	1.1 ^F	1.2 ^F	E	A	A	A	A	2.0	4.7 ^A	(3.8 ⁶)	3.0	3.6	3.8	3.4	3.0	1.9	1.8	1.8	1.7	1.7	1.8	1.7	1.6	
14	E	E	2.0 ^A	A	2.0 ^A	1.9 ^A	1.7	2.0	4.0	3.6	4.1	4.5	4.0	3.6	3.6	3.2	1.8	A	4.0 ^A	A	2.0 ^A	A	2.2 ^A	2.4 ^A	
15	E	E	E	1.1 ^F	E	1.8 ^A	A	1.8	2.2	2.7	3.0	3.0	3.8	3.6	3.2	2.8	2.2	1.6	1.8	1.6	1.7	1.8	(1.8 ^S)	1.8	
16	E	E	S	1.9	2.0	1.5	A	2.3	3.4	5.0	3.3	4.0	4.6	3.6	3.8	2.8	2.2	1.8	1.8	1.8	2.2 ^A	A	1.7	1.7	
17	1.6	1.2	1.6	E	E	E	2.2 ^S	1.8	C	C	C	C	7.5	C	C	C	2.2	2.0	{2.0 ⁶ }	2.0	1.4	1.8	2.2 ^S	1.8	
18	E	1.6	1.1	1.1	2.0	1.3	1.8	1.9	3.6	C	C	C	C	C	C	6.0	2.2	2.0	1.9	2.0	1.9	1.7	1.7	1.7	
19	1.7	1.7	1.3	E	E	E	1.8	1.8	2.4	C	B	5.0	6.0	3.9	5.0	3.0	2.0	2.0	1.9	1.7	(1.7 ^S)	1.7 ^S	1.7 ^S	2.2 ^A	
20	E	E	E	E	E	E	1.3	1.8	4.1	3.6	5.8	3.6	3.0	3.4	4.0	3.2	2.0	1.8	2.0	2.0	2.0	2.3	1.8	2.0	
21	1.2	E	1.1	E	E	E	1.8	2.4	2.2	2.8	3.2	3.4	3.1	3.3	3.0	2.7	2.3	1.6	1.8	1.4	1.4	E	1.8	1.4	
22	E	E	E	E	E	E	1.4	1.4	2.4	2.9	3.0	3.2	3.6	3.6	3.6	3.4	2.0	1.8	1.6	1.6	(1.6 ^C)	1.6	1.5	2.0	
23	1.1	C	C	C	C	C	C	C	C	2.8	2.9	3.6 ^s	3.6	3.3	3.6	2.6	2.2	1.8	1.5	2.0	2.0	2.0	2.0	1.8	
24	1.6	1.1	1.1	E	E	E	1.6	1.6	C	C	C	C	C	C	C	C	C	C	1.9	1.8	2.8 ^A	1.7	1.8	1.4	
25	E	E	E	E	E	E	2.0	2.0	(2.2 ⁶)	2.6	3.4	3.4	3.0	3.0	3.6	2.6	2.2	1.4	C	C	C	C	C	2.0	
26	E	2.2 ^S	2.2 ^S	E	E	E	E	1.8	(2.4 ⁶)	2.9	3.1	3.1	3.6	4.0	3.2	3.4	2.2	1.8	1.4	1.8	1.8	2.2 ^A	1.4	1.4	
27	1.4	1.1	1.4	1.2	1.2	E	1.4	1.6	2.7	3.6	4.0	4.4	3.8	3.8	3.8	3.6	2.2	1.8	1.4	1.8	1.8	1.9	1.7 ^F	1.8 ^F	
28	1.1	E	E	1.2 ^F	E	1.1	1.1	1.8	C	C	C	3.6	C	C	C	C	2.0	1.7	1.8	2.0	1.7	1.6	1.6	1.6	
29	E	E	1.3	E	E	E	1.6	1.6	2.0	4.5 ⁰	3.2	3.3	3.6	3.2	3.3	2.6	3.4	1.8	1.4	1.4	1.8	1.4	1.4	1.4	
30	1.2	E	E	E	E	E	1.2	2.1	2.2	3.3	C	C	C	C	C	C	C	C	C	C	S	1.8 ^F	1.4 ^F	1.3 ^F	
31	E	E	E	E	E	E	C	C	C	3.4	3.0	3.1	3.2	3.2	2.9	2.9	2.1	1.8	C	C	C	C	1.8	1.4	
Mean Value	1.6	1.5	1.4	1.4	1.6	1.4	1.7	1.9	2.6	3.2	3.5	3.7	3.9	3.6	3.5	2.9	2.2	1.9	1.8	1.8	1.8	1.9	1.8	1.9	
Median Value	1.1	1.1	1.1	E	E	E	1.7	1.8	2.3	2.9	3.3	3.6	3.6	3.6	3.6	2.9	2.2	1.8	1.8	1.8	1.8	1.8	1.8	1.7	
Count	24	28	28	28	27	26	24	25	23	23	23	24	26	24	24	25	26	28	25	25	25	26	25	24	29

fminF

Sweep 1.0 Mc to 15.5 Mc in 2 min

Manual

Automatic

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

IONOSPHERIC DATA

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

Jan. 1952

fminE

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	1.4	2.1	1.9	2.2	1.2, 2.1	2.3	2.2	2.0	B	B	S	C	C	E	1.9	1.6	C
2	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	B	E	E	E	E	E	E	E
3	E	1.1	E	E	E	E	E	B	B	B	B	B	B	B	B	B	B	E	1.8	1.8 ^s	S	S	S	S
4	S	E	E	E	E	E	S	B	1.8	B	B	B	B	B	B	B	1.9	1.3	S	S	S	S	S	S
5	1.2	1.1	S	E	1.1	E	S	B	1.8	B	B	B	B	B	B	S	S	S	S	S	1.8	2.0	1.9	2.2
6	E	E	E	E	E	E	S	1.9	1.8	2.5	B	B	B	B	B	B	B	E	E	E	E	1.9	1.8	1.8
7	E	E	E	E	E	E	S	2.0	1.8	1.8	2.2	2.1	B	2.2	2.2	1.8	B	E	E	E	E	E	E	E
8	1.1	E	E	E	E	E	E	1.8	2.0	2.2	B	B	B	B	B	2.2	1.4	E	E	E	E	E	E	E
9	E	E	E	E	E	E	E	E	2.0	B	B	B	B	B	B	B	B	E	C	C	C	C	C	C
10	C	C	E	E	C	C	C	C	C	C	C	C	C	C	C	C	C	S	E	E	E	E	E	E
11	E	E	E	E	E	E	E	E	1.9	B	3.4	B	3.6	2.6	B	B	B	1.8	E	2.2	E	1.6	1.8	1.8
12	1.1	E	E	E	E	E	E	1.3	2.0	2.5	B	B	B	B	B	B	2.4	2.0	1.9	1.9	1.6	2.3	2.0	E
13	E	E	E	E	E	E	E	1.1	1.2	2.0	2.2	(2.2) ^c	2.2	E	2.0	1.7	1.2	2.2	E	E	E	E	E	E
14	E	E	E	E	E	E	E	E	3.8	B	B	B	B	B	B	B	B	1.8	1.7	1.8	1.2	1.8	1.8	1.8
15	E	E	E	E	E	E	E	E	1.6	1.9	2.2	2.0	B	B	B	B	1.8	E	E	E	E	E	S	E
16	E	E	E	E	E	E	E	E	1.4	B	B	B	B	B	B	2.2	2.2	1.1	1.2	1.2	1.4	1.4	1.6	1.6
17	E	E	E	E	E	E	S	B	C	C	C	C	C	C	C	C	B	E	C	E	E	E	S	E
18	E	E	E	E	E	1.1	E	B	B	C	C	C	C	C	C	2.0	B	E	E	E	E	E	E	E
19	E	E	E	E	E	E	E	B	B	B	B	B	B	B	B	B	B	E	E	E	S	E	E	1.8
20	E	E	E	E	E	E	E	E	B	B	B	B	B	B	B	B	B	E	E	E	E	E	E	E
21	E	E	E	E	E	E	E	E	1.8	1.7	2.1	2.0	2.4	2.4	2.2	2.2	B	E	E	E	E	E	E	E
22	E	E	E	E	E	E	E	E	1.4	1.3	2.2	2.1	B	B	B	B	B	E	E	E	E	E	E	E
23	E	C	C	C	C	C	C	C	C	C	2.2	2.2	B	2.1	2.2	2.0	B	E	E	E	E	E	E	E
24	E	E	E	E	E	E	E	E	C	C	C	C	C	C	C	C	C	C	E	E	E	E	E	E
25	E	E	E	E	E	E	E	E	C	2.2	2.2	2.2	2.6	2.2	2.2	2.1	B	E	E	E	E	1.7	2.0	2.0
26	E	S	S	E	E	E	E	E	C	1.4	1.4	2.6	B	2.4	B	B	1.4	1.4	1.4	1.4	C	C	C	E
27	E	E	E	E	E	E	E	E	1.4	B	B	B	B	B	B	B	B	E	E	E	E	1.4	E	E
28	E	E	E	E	E	E	E	E	C	C	C	C	C	C	C	C	B	E	E	E	E	E	E	E
29	E	E	E	E	E	E	E	E	1.8	<5.0	2.1	B	B	2.2	2.2	B	B	1.4	E	E	E	E	E	E
30	E	E	E	E	E	E	E	E	1.1	B	C	C	C	C	C	C	C	C	C	C	S	E	E	E
31	E	E	E	E	E	E	E	E	1.6	1.2	1.2	1.6	1.6	1.6	1.2	1.4	1.4	1.4	C	C	C	C	E	1.4
Mean Value	1.1	1.1			1.1	1.1	1.1	1.5	1.9	2.0	2.2	2.1	2.4	2.2	2.0	1.9	1.8	1.6	1.6	1.7	1.5	1.8	1.8	1.8
Median Value	E	E	E	E	E	E	E	1.4	1.9	1.9	2.2	2.1	2.3	2.2	2.0	1.8	E	E	E	E	E	E	E	E
Count	28	27	27	29	28	27	22	10	17	13	12	9	11	10	8	8	8	26	23	24	23	24	26	27

Sweep 1.0 Mc to 15.5 Mc in 2 min Manual Automatic

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

Lat. 39° 48.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

Akita

Jan. 1952

foF2

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.2	3.4	3.4	3.6	3.8	3.4	2.7	4.9	6.6	7.8 ^H	8.3	9.5	8.1	6.5	9.4	6.6	5.8	4.7	3.8	3.2	2.7	2.4	2.6	A
2	2.9	2.9	3.0	2.9	2.1	2.3	2.5	4.5	5.7	8.3	10.1	8.3	8.3	7.3	(8.8) ^M	(8.6) ^P	5.5	4.0	3.7	2.8	2.6 ^V	3.0 ^F	3.2 ^F	3.5 ^Z
3	3.6	3.1 ^V	4.0 ^M	3.8 ^F	3.1 ^F	(2.5) ^P	2.2 ^F	3.9	5.0	7.3	B	10.0	9.4	8.2	8.3	7.3 ^J	5.4	3.7	3.8	3.3	2.4	2.7 ^H	2.7 ^F	3.0 ^F
4	3.1 ^F	3.1 ^F	3.0 ^F	3.8 ^F	2.9 ^F	2.9 ^F	3.5	3.8	5.3	6.5	8.4	11.0	9.3	6.9 ^H	8.4	7.4	5.1	4.0	4.3	4.2	2.4	2.6 ^F	3.3 ^F	3.3 ^F
5	3.2 ^F	3.3 ^M	3.4 ^F	3.3 ^F	F	(2.8) ^F	F	3.9	6.4	8.1	10.4	8.6	8.7	7.5	7.1 ^H	7.6	6.9	4.3	3.4	2.7	3.2	3.1	3.0	4.0 ^F
6	A	A	3.4	3.1 ^F	2.8	2.9	2.9 ^V	5.0	7.5	9.2	10.5	10.8	8.4	7.2	8.6	9.3	7.6 ^J	5.3	3.7	2.8	2.7	2.4	2.8	A
7	A	3.3	3.0	3.0	3.3	3.5	2.3	4.6	6.6	8.7	8.5	9.8	6.8	6.4 ^F	B	6.3	5.0	4.5	3.9	4.3	3.4	2.7	2.4 ^J	3.0
8	3.2 ^F	3.3	4.1 ^K	2.2 ^K	3.0 ^K	2.8 ^K	2.5 ^K	4.5 ^K	5.4 ^K	6.5 ^K	7.4 ^K	6.2 ^K	7.1 ^K	7.7	6.4	6.4	5.1	4.2	4.0 ^Z	3.9	3.3	3.4	3.0	3.7 ^F
9	2.9	3.4	3.4	3.0	3.2 ^H	3.5	3.4	4.1	5.3	6.6	8.3	7.9	7.7	7.0	6.9	6.7	5.0	4.0	3.5	3.0	3.3	2.7	2.8	2.8 ^P
10	3.1	3.2	3.2	3.0	3.7 ^F	3.6 ^F	3.7	4.2	5.4 ^S	5.8	8.0	10.0	7.8	6.6	6.7	7.3	6.5	5.2	5.4	4.9	4.0	4.0 ^S	4.6	3.9
11	F ^S	F ^S	4.8 ^S	F	4.0 ^F	3.4 ^F	3.2 ^M	4.6 ^F	6.3	9.3	9.6	11.3	8.6	7.4	6.3	5.6	6.4	4.6	4.8 ^H	4.7	4.0	2.9	2.7	2.9
12	3.1	3.0	2.9	2.9	3.2 ^F	3.4 ^F	3.4	5.1	5.3	6.5	7.2	7.7	7.4	7.3	6.9	6.6 ^J	5.9	4.7 ^M	3.8	4.7	3.9 ^F	A	A	A
13	3.7 ^F	2.8 ^F	3.1 ^F	3.3 ^F	3.9 ^F	3.5 ^F	3.2 ^F	3.6	5.8	6.5	9.6	8.8	7.0	6.6	6.7	7.3	5.8	4.8	5.0	4.2	3.5	3.4	3.6	3.6
14	3.7	3.3	3.2 ^F	A	2.5 ^F	2.2 ^F	4.0	6.1 ^P	7.1	9.3	7.1	6.9	6.4	8.1	6.9	6.8	5.3	3.8	3.4	3.5	2.9 ^V	3.4	2.7	2.7
15	A	3.0	2.6	3.0 ^F	A	A	3.0	4.7	6.3	7.5	10.2	9.4	7.0	6.2	7.8	7.9	5.9	5.5	3.7	2.8	2.8 ^K	2.9 ^K	3.1 ^K	3.2 ^F
16	3.2 ^K	2.7 ^K	3.1 ^K	2.8 ^K	2.8 ^K	2.3 ^K	2.1 ^K	4.0	6.3 ^S	8.1 ^J	11.9	8.7	7.4	6.4	6.8	5.8	5.6	4.2	3.4	3.4	3.2	3.2	3.6	3.8
17	3.1	3.1	3.1 ^H	3.2 ^V	3.0	2.2 ^H	2.1	4.4	6.3	6.5	B	10.4	9.0	6.7	7.0	6.6	5.3	4.1	4.1	3.8	2.4	2.6	2.8	2.9
18	3.2	3.0	3.2	3.2	2.8	2.4	2.4	4.4 ^S	5.6	6.6	8.4	6.8	7.1	6.8	6.7	6.0	5.5	4.3	4.0	3.6	2.7	2.6	2.9	3.0
19	3.1	3.2	3.4	(3.1) ^C	2.8 ^J	3.6	2.8	C	C	C	C	C	6.5	6.7	8.0	B ^S	5.2	3.4	3.7	3.1	2.7	2.3	2.5	2.8
20	2.8	3.0	3.3	3.1	2.7	2.6	2.6	4.6	B	7.4	7.8	8.2	7.1	7.0	6.6	6.5 ^J	5.7	4.3	4.5	4.3	3.8	2.5	2.8	3.1
21	3.2	2.9	3.2	3.4	2.8	2.8	2.8	4.8	5.6 ^M	4.8	8.1	9.5	7.9 ^J	6.5	7.0	5.6	5.4	4.2	3.4	3.8	3.1	2.7	3.0	3.2
22	3.1	3.3	3.3	3.4	3.6	3.5	3.7	4.4	5.0	(7.4) ^S	9.9	9.1	9.0	7.1	7.4	5.9	5.7	4.8	5.2	4.6	4.0	3.8 ^J	3.5	3.6
23	3.9	3.8	4.0	4.0 ^S	2.2	2.4	2.4	4.5	6.0	6.8	9.4	10.5	7.5	6.6	8.2	8.1	5.3	4.5	3.8	3.1	3.2	3.4	3.2	3.7
24	3.7	3.6	3.7	3.3	3.3 ^H	3.2	2.6	4.6	6.7	11.0 ^J	10.8	9.0	8.8	8.7	7.3	6.1	7.0	5.2	3.5 ^H	3.7	3.1	3.7	3.2	3.5 ^Z
25	3.4 ^Z	3.3	3.7	3.4	3.2	2.4	2.4	4.8	5.8	6.8	10.4	10.8	8.5	6.8	7.2	6.7	5.8	4.4 ^F	3.0	4.0	2.6	2.5	2.9	3.2 ^F
26	3.1	3.4	3.1	3.1	3.0	2.8	2.6	4.1	6.0	6.7	6.8	7.4 ^H	6.9	6.9	6.8	6.7	6.1	4.2	3.0	3.1	3.4	2.8	2.6 ^V	2.6 ^V
27	2.8	2.8	2.8	2.7	3.0	2.9	2.6	5.1	7.2	7.3	7.2	7.4	7.5	7.0 ^M	6.0	6.7	6.2	4.2	3.2	3.0	2.8 ^F	F	3.3 ^F	3.4 ^F
28	3.6 ^F	3.7	3.6	2.5	2.5	2.4	2.4	4.8	7.1	7.8	10.8	11.8	7.5	7.2	6.1	5.0	5.8 ^H	5.1	4.0	4.3	3.6	3.4	3.6 ^V	3.4 ^F
29	(3.3) ^F	3.1	3.0	3.0	3.0	2.8	2.6	5.0	6.5	7.4	9.9	11.8	9.4	7.3	6.6	6.1	5.5	5.6	4.8	4.3 ^S	3.4	3.5	3.5	3.4
30	3.6	3.6	3.8	3.2	2.6	2.5	3.6	4.6	7.4	7.9 ^P	8.5	8.1	8.5 ^P	7.5	9.0	7.1	6.5	4.5	3.4 ^Z	3.2	3.3	3.9	5.1 ^F	4.2 ^F
31	4.6 ^F	4.3 ^F	4.2 ^F	2.3	2.2	2.3	2.5	5.0	6.9 ^S	6.1	8.2 ^M	10.0	10.4	8.3	6.8	6.8	6.2	5.8	5.9	5.1	4.0 ^F	4.7 ^F	4.7 ^F	4.1 ^F
Mean Value	3.3	3.2	3.4	3.0	3.0	2.9	2.7	4.5	6.1	7.4	9.1	9.2	8.0	7.1	7.3	6.8	5.8	4.6	4.0	3.7	3.2	3.0	3.2	3.3
Median Value	3.2	3.2	3.3	3.1	3.0	2.8	2.6	4.6	6.1	7.3	8.9	9.2	7.8	7.0	7.0	6.6	5.8	4.5	3.8	3.7	3.2	2.9	3.0	3.4
Count	27	29	31	29	28	30	30	30	29	30	28	30	31	31	30	30	31	31	31	31	31	29	30	28

foF2

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

Lat. 39° 48.5' N
 Long. 140° 08.2' E

IONOSPHERIC DATA

A k i t a

Jan. 1952

f_pF₂

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	370	350	350	350	300	280	U	290	240	330 ^H	270	260	270	280	250	230	240	250	280	250	280	3/0	330	A
2	350	350	300	290	370	330	250	240	240	290	280	260	260	270	(290)	(260)	230	270	270	260	3/0	(360)	(360)	330
3	330	310 ^V	(370)	(300)	280	(300)	310 ^F	260	250	290	B	240	250	240	270	(240)	230	240	290	230	260	(410)	(370)	(340)
4	320	320 ^V	310 ^F	270	300	330 ^F	320	270	240	300	250	270	230	280	270	240	250	250	250	260	240	(350)	(320)	(310)
5	(320)	(300)	320 ^F	330 ^F	F	(300)	F	250	240	250	280	250	270	240	310 ^H	250	260	240	310	370	270	280	380	370 ^F
6	A	A	300	300	270	360	310	270	260	280	290	280	250	290	270	260	(240)	270	270	290	300	340	370	A
7	A	320	360	360	310	340	U	270	240	290	290	250	230	290	B	240	220	250	300	280	260	320	(310)	410
8	370 ^F	390	250	230 ^K	260	330 ^K	290 ^K	250 ^K	230 ^K	240 ^K	240 ^K	230 ^K	260 ^K	260	260	240	240	300	320	270	280	330	330	320 ^F
9	340	330	310	310	350 ^H	330	290	270	230	250	260	240	260	240	240	230	220	270	270	280	270	320	350	370 ^F
10	350	340	300	270	(350)	(380)	290	230	220	250	320	250	250	220	270	260	250	290	290	280	260	330	360	310
11	F S	F S	250 ^S	F	(380)	310 ^F	310 ^H	260 ^F	240	270	280	260	260	260	230	230	260	250	270	310	270	260	370	400
12	380	350	320	310	370 ^H	(400)	310	260	240	240	280	260	230	240	260	(260)	240	310 ^H	280	250	270	A	A	A
13	(260)	290	310 ^F	350	300	290 ^F	(320)	320	230	270	270	250	240	240	250	240	250	240	280	270	290	360	360	300
14	320	270	380 ^F	A	A	350 ^F	320	300	220	250	230	220	250	240	250	240	230	250	280	320	280	340	350	370 ^F
15	A	320	320	(280)	A	A	A	240	260	280	260	260	260	240	280	250	230	270	270	250	310 ^F	340	350	370 ^F
16	330	400	350 ^K	420	300	320 ^K	370 ^K	280	(260)	(270)	280	250	260	260	250	240	250	260	270	270	320	370	340	320
17	310	360	320	290	250	280 ^H	290	250	240	250	B	270	250	250	260	260	230	250	260	260	400	350	350	350
18	330	340	310	280	270	310	270	(240)	250	250	270	280	280	280	250	240	260	230	310	280	250	320	350	360
19	340	330	300	(300)	(300)	300	280	C	C	C	C	C	C	C	C	B ^S	230	230	290	220	270	300	360	360
20	350	350	290	250	320	320	310	330	B	310	240	260	240	240	230	(290)	260	230	280	260	270	300	360	340
21	300	360	340	270	220	300	280	250	280 ^H	200	290	260	(230)	250	270	240	230	240	260	310	250	340	350	340
22	320	340	320	340	360	320	340	240	240	(260)	270	270	260	260	250	260	260	270	270	320	290	(330)	320	360
23	330	270	310	240	320	320	330	290	230	300	260	250	230	240	320	250	240	250	260	260	310	310	400	350
24	310	330	290	360	350	310	320	300	280	(280)	280	280	280	280	240	250	260	230	320	300	290	300	330	320
25	340	360	320	340	240	330	320	260	250	270	300	270	240	260	240	230	220	(220)	310	270	250	290	380	360 ^F
26	370	350	320	300	320	340	310	280	240	250	290 ^H	260	260	260	240	240	220	240	300	300	300	250	330	350 ^V
27	330	320	330	320	310	360	310	240	230	260	250	260	260	260 ^H	240	250	220	250	290	270	330 ^F	F	(390)	(380)
28	(340)	320	250	280	300	350	370	310	270	300	290	250	270	250	240	240	290	280	300	270	310	310	370	(340)
29	(310)	320	290	300	300	260	270	260	240	280	300	240	250	270	240	230	250	240	270	230	310	400	370	340
30	350	330	300	270	320	370	320	280	270	240	260	250	240	280	260	240	230	260	280	280	300	330	(360)	(270)
31	(340)	(300)	230 ^F	300	300	380	340	260	250 ^S	270	(290)	300	270	240	240	230	240	240	280	260	(250)	(290)	(310)	(310)
Mean Value	330	330	310	290	310	330	310	270	250	270	260	250	250	260	260	250	240	260	280	280	270	320	350	340
Median Value	330	330	310	300	330	330	310	260	240	270	280	260	250	250	250	240	240	250	280	280	270	320	360	340
Count	27	29	31	29	28	30	28	30	29	30	28	30	31	31	30	30	31	31	31	31	31	28	30	28

Sweep: 1.0 Mc to 17.0 Mc in 1.5 min

Manual Automatic

A 2

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

Lat. 39° 43.6' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

135° E Mean Time

Jan. 1952

f'F2

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	320	300	300	290	250	250	320	290	210	250 ^H	260	240	230	230	240	220	240	240	240	220	230	290	220	230
2	320	330	270	220	A	300	240	220	210	270	260	240	250	220	240 ^H	240	210	220	220	220	260	320	330 ^F	300
3	290 ^F	290	300 ^H	280	230	270	270	250	220	250	240	230	230	220	260	220	220	200	260	210	230	340	330	310
4	280	290	290	250	270	280	270	240	220	230	240	260	230	220 ^H	270	220	210	200	220	220	210	340 ^F	300	280
5	300	270 ^H	260	290	210	210	350 ^F	240	230	250	260	240	260	220	230 ^A	240	230	210	220	310	250	260	350	320 ^A
6	A	A	300 ^A	280	260	300	240	240	240	260	270	260	230	240	260	250	230	210	220	250	250	300	300	A
7	A	290	310	320	280	280	280	240	220	260	250	240	220	260	220	220	210	230	250	250	220	280	260	330
8	320	340	220 ^M	200	230 ^K	280 ^K	260	230 ^K	220	230 ^K	230 ^K	230 ^K	240 ^K	230 ^K	240	230	220	220	260	220	220	250	280	300
9	300	280	250	220	220 ^H	260	240	240	220	250	250	240	250	230	230	220	200	220	240	240	250	290	300	320
10	300	280	260	220	220	290	230	220	220	220	270	240	230	220	250	250	240	230	220	240	220	290	280	270
11	260	230	220	240	300	240	230 ^H	230	230	260	260	240	230	220	220 ^A	220	230	210	240 ^H	220	220	230	320	320
12	330	290	270	250	290	310	250	210	220	230	250	250	230	230	230	230	220	220	240	220	240	A	A	A
13	250	240	250	260	260	220	280	240	220 ^A	250	260	240	240	230	220	220	210	230	230	230	260	310	300	270
14	270	300	300	A	A	300	A	290	210	240	230	220	230	220	240	230	220	220	250	(310) ^A	250	A	300 ^A	280
15	A	300	260	260	A	A	A	220	230	270	250	230	220	230	270	240	220	240	220	220	250 ^K	320 ^K	310 ^K	340 ^K
16	270 ^K	330 ^K	320 ^K	380 ^K	240 ^K	250 ^K	330 ^K	240	230	240	280	240	250	230	240	230	220	210	230	250	270	300	280	270
17	260	300	270	230	200	200 ^H	B	230	230	210	250	230	220	230	230	230	220	230	220	250	280	300	300	300
18	300	290	270	240	220	250	270	220	220	220	240	250	250	240	230	240	230	220	230	230	220	270	290	300
19	300	270	260	[260]	270	230	240	C	C	C	C	C	C	C	220	240	210	220	250	210	240	280	350	320
20	310	280	260	220	280	270	260	200	210	270	230	250	230	230	220	260	230	210	240	220	220	280	310	310
21	250	290	280	230	200	240	260	210	200 ^H	200	270	240	220	230	260	240	230	220	260	220	220	290	310	290
22	260	280	280	280	280	280	260	220	210	[220] ^F	240	260	230	220	230	230	230	220	240	250	230	280	290	300
23	280	230	250	200	220	290	300	250	210	220	260	240	220	210	220	230	220	210	220	220	270	260	390	290
24	260	290	250	270	280 ^H	250	270	270	250	260	250	260	270	260	230	230	220	200	210	240	250	250	290	300
25	300	300	260	260	200	300	260	220	220	220	280	260	240	240	220	230	210	210	280	240	230	290	320	310
26	320	290	290	250	250	300	280	240	220	240	220	220	240	250	250	240	220	210	270	250	250	220	290	320
27	290	260	280	280	260	310	290	240	220	240	230	250	250	240	230	240	210	210	230	260	260	310	310	350
28	310	300	220	220	280	280	310	270	240	260	270	240	260	250	220 ^A	230 ^H	230	260	250	250	250	270	300	300
29	270 ^F	270	240	240	230	230	250	230	230	250	270	240	230	240	220	220	220	220	220	260	260	300	300	300
30	310	260	240	250	250	340	280	250	220	230	250	240	230	270	250	220	220	220	250	240	250	270	280	230 ^F
31	270	250	220	200	240	300	280	230	230	220	260 ^H	270	230	230	230	220	210	220	220	220	240 ^F	230 ^F	280 ^F	280
Mean Value	290	280	270	250	250	270	270	240	220	240	250	240	240	230	240	230	220	220	240	240	240	280	310	300
Median Value	300	290	260	250	250	280	270	240	220	240	250	240	230	230	230	230	220	230	230	230	250	290	300	300
Count	28	30	31	30	28	30	29	30	30	30	30	30	31	31	31	31	31	31	31	31	31	29	30	28

Sweep: 1.0 Mc to 17.0 Mc in 1/5 min

Manual Automatic

f'F2

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

Lat. 39° 43.6' N
Long. 140° 08.9' E

A k i t a

IONOSPHERIC DATA

135° E Mean Time

Jan. 1952

foF1

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							Q	Q	Q	3.8	L	Q	Q	Q	Q	Q	Q							
2							Q	Q	Q	L	L	L	L	L	3.5	L	Q							
3							Q	Q	Q	4.1	L	Q	Q	Q	L	Q	Q							
4							Q	Q	Q	Q	L	4.1	4.2	Q	3.8	Q	Q							
5							Q	Q	Q	Q	L	L	L	Q	Q	3.1	Q							
6							Q	Q	Q	Q	L	L	L	Q	L	L	Q							
7							Q	Q	Q	L	L	4.4	Q	Q	A	A	Q							
8							Q	Q	Q	Q	Q	Q	B	L	L	Q	Q							
9							Q	Q	Q	3.3	L	4.2	3.9	3.9	Q	Q	Q							
10							Q	Q	Q	Q	Q	4.4	4.4	3.8	3.3	Q	Q							
11							Q	Q	Q	L	L	L	L	Q	Q	Q	Q							
12							Q	Q	Q	Q	L	L	4.3	L	Q	Q	Q							
13							Q	Q	A	L	L	L	L	Q	Q	Q	Q							
14							Q	Q	Q	Q	Q	Q	B	L	L	Q	Q							
15							Q	Q	Q	L	L	L	4.1	3.9	L	Q	Q							
16							Q	Q	Q	Q	L	Q	L	3.8	L	Q	Q							
17							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
18							Q	Q	Q	Q	Q	Q	Q	Q	B	B	Q							
19							C	C	C	C	C	C	C	Q	Q	Q	Q							
20							Q	Q	Q	L	L	L	L	L	L	3.3	Q							
21							Q	Q	Q	Q	B	L	L	4.0	L	3.6 ⁷	Q							
22							Q	Q	Q	C	L	L	Q	Q	4.0	Q	Q							
23							Q	Q	Q	Q	L	B	L	Q	Q	Q	Q							
24							Q	Q	L	L	L	L	L	L	L	Q	Q							
25							Q	Q	Q	Q	L	L	4.2	L	3.9	3.4	Q							
26							Q	Q	Q	Q	Q	Q	Q	4.0	L	L	Q							
27							Q	Q	Q	L	3.7	3.9	L	4.0	Q	L	Q							
28							Q	Q	Q	L	4.0	4.0 ^H	4.4	L	Q	Q	Q							
29							Q	Q	Q	Q	L	L	L	L	L	Q	Q							
30							Q	Q	Q	L	4.0	4.2	4.3	4.4	L	Q	Q							
31							Q	Q	Q	Q	3.5	A	L	L	3.6	3.3	Q							
Mean Value										3.7	3.9	4.1	4.2	4.0	3.7	3.3								
Median Value										3.8	4.0	4.2	4.2	4.0	3.7	3.3								
Count										3	5	6	8	8	6	5								

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

Akita

IONOSPHERIC DATA

f'F1

Jan 1952

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

f'F1

Sweep 1.0-Mr 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

A k i t a

IONOSPHERIC DATA

f_oE

Jan. 1952

135° E Mean Time

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

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

A k i t a

IONOSPHERIC DATA

135° E Mean Time

14'E

Jan. 1952

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

14'E

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

Akita

IONOSPHERIC DATA

135° E Mean Time

fEs

Jan. 1952

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	G	G	3.2	3.0	3.0	3.4	3.2	G	G	3.7	E	E	E	2.4	E	E	4.0
2	2.7	3.4	3.2	2.6	3.4	2.5	2.2	B	G	3.6	3.8	G	3.6	G	G	G	B	2.1	2.2	E	E	E	E	E
3	E	E	2.8	2.7	E	1.7	2.5	2.1	G	3.8	3.3	G	3.6	G	G	G	G	2.2	2.3	2.8	2.3	2.6	2.2	2.6
4	2.2	2.6	2.4	2.2	1.7	E	E	B	G	2.7	G	G	G	G	G	G	2.5	2.3	2.5	2.2	E	E	E	E
5	E	2.2	2.4	1.5	1.4	E	E	B	G	6.4	3.0	G	B	B	G	G	B	E	E	E	E	E	2.4	3.8
6	4.6	4.8	3.8	3.4	3.2	2.6	2.4	2.4	2.4	G	3.2	6.4	3.6	B	G	G	2.4	1.7	2.4	E	E	E	E	5.0
7	6.2	2.2	3.0	3.4	2.2	E	E	G	G	3.6	G	G	3.8	4.8	4.9	4.8	3.0	3.2	3.5 ^F	E	2.3	3.3	2.4	E
8	E	2.3	1.8	E	1.3	2.4	E	2.5	3.4	3.4	G	G	3.2	B	G	G	B	2.8	E	E	E	E	E	E
9	E	E	E	1.6	2.3 ^Y	2.3 ^Y	E	B	G	G	G	G	G	G	G	G	2.6	3.2	3.0	2.5	E	E	E	2.4
10	E	E	E	E	E	E	E	B	G	G	G	G	G	3.0	G	G	G	E	E	E	2.6	2.6	2.4	E
11	E	E	E	2.2 ^Y	E	2.4 ^Y	E	B	G	3.3	3.4	3.0	G	G	3.4	G	G	E	E	E	2.4	2.4	2.8	2.6
12	2.4	2.2	E	E	E	E	E	2.7 ^F	3.3 ^F	3.6	G	G	G	3.2	G	G	B	E	E	2.2	E	5.3	5.7	5.2
13	3.4	2.5 ^Y	E	E	1.4	E	E	2.0	3.4	3.4	G	G	5.4	4.8	3.5	G	G	2.5	2.3	E	E	E	2.2	E
14	E	E	3.0	4.6	5.6	3.1	2.6	3.1	G	G	G	G	G	G	3.0	3.6	4.8	2.4	3.4	2.9	3.0	4.8	3.0	3.1
15	4.2	3.2	1.2	2.1	4.8	4.5	3.2	2.0	3.6	G	G	G	G	G	G	G	G	E	2.6	2.0	E	4.0	3.2 ^Y	2.4
16	2.2 ^Y	2.4	1.6	2.8	E	E	1.8	2.2	G	G	G	G	G	G	G	G	2.6	4.3	3.4	3.2	2.4	E	3.6	2.7
17	2.2	3.5	2.1	E	E	E	E	E	G	3.1	B	B	B	B	B	B	B	E	E	E	E	1.8	1.6	1.6
18	1.4	1.6	1.4	E	E	E	E	B	G	G	G	B	B	B	B	B	B	E	E	E	E	2.4	2.2	2.4
19	2.5	2.2	E	C	E	E	E	C	B	2.8	C	C	B	B	B	B	B	E	E	E	E	E	E	E
20	1.4	1.2	1.4	1.4	2.5 ^Y	E	E	2.4 ^Y	G	G	3.1	G	G	G	G	G	G	7.8	E	E	E	E	E	E
21	2.2	E	2.2	1.9	E	E	E	E	G	G	G	B	B	B	B	B	G	E	E	E	E	E	E	E
22	E	2.0	E	E	E	E	E	1.7	2.3	C	B	B	B	G	G	G	G	E	E	E	E	E	E	E
23	E	E	E	E	E	E	E	B	G	G	G	G	G	G	2.9	G	G	E	E	E	E	E	3.6	2.2
24	E	E	2.1	1.9	1.2	2.2	E	2.2	3.2 ^F	G	G	G	G	G	G	G	G	E	2.5 ^Y	E	E	E	2.4	2.6
25	2.2	1.8	1.6	2.6	E	E	E	2.2	G	3.8	3.2	3.4	3.4	G	G	G	2.4	2.4	3.6	2.6	2.1	E	E	E
26	E	E	3.1	3.4	2.4	2.3	2.5	2.0	G	G	G	G	G	G	G	G	G	2.6	2.0	E	2.4	2.2	E	E
27	E	E	E	1.6	2.4	3.0	2.4	2.4	G	G	G	G	G	G	G	G	G	2.8	3.5	3.6	3.2	E	E	E
28	E	E	E	E	1.4	2.2	E	G	G	G	G	G	3.8	5.4	3.4	3.4	2.7	2.8	3.4	2.4	2.4	3.2	2.2	E
29	E	E	E	E	E	E	E	B	G	3.6	G	G	9.0	5.0	G	G	G	E	3.1	3.0	E	2.4	E	2.2
30	2.6	2.4	E	E	E	E	E	3.8	G	3.5	G	G	G	G	B	B	G	E	E	E	2.4	3.8	3.0	E
31	2.0	2.7	E	E	2.4	E	E	G	3.5	G	G	4.0	G	G	G	G	G	G	E	3.1	3.7	2.4	2.2	E
Mean Value	2.8	2.5	2.3	2.5	2.5	2.6	2.5	2.4	3.1	3.6	3.3	4.0	4.2	4.2	3.5	3.6	2.9	2.6	2.9	2.7	2.5	3.3	2.8	3.0
Median Value	1.4	1.8	1.4	1.6	1.2	E	E	2.1	G	G	G	G	G	G	G	G	G	1.7	2.0	E	E	E	2.2	E
Count	31	31	31	30	31	31	31	21	30	30	28	26	25	24	26	27	24	31	31	31	31	31	31	31

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. 39° 43.5' N
Long. 140° 08.2' E

Akita

135° E Mean Time

Jan. 1952

(M3000)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	2.8	2.9	2.8	2.9	3.0	3.2	3.2	3.2	3.5	3.1 ^H	3.5	3.4	3.4	3.2	3.4	3.7	3.6	3.4	3.1	3.4	3.0	3.0	2.9	A	
2	2.9	2.8	3.1	3.2	2.7	3.0	3.4	3.5	3.4	3.2	3.4	3.4	3.5	3.2	(3.2) ^{PH}	(3.4) ^F	3.5	3.3	3.3	3.2	2.9 ^V	(2.7) ^{VF}	(2.7) ^{VF}	2.9 ^Z	
3	2.9	3.0 ^V	(2.7) ^{PH}	(3.1) ^{VF}	3.2 ^F	(2.8) ^{VF}	2.9 ^F	3.3	3.6	3.2	B	3.5	3.4	3.5	3.4	(3.5) ^F	3.5	3.5	3.2	3.6	3.3	(2.5) ^{VF}	(2.8) ^{VF}	(3.0) ^F	
4	3.0 ^F	3.0 ^F	3.1 ^F	3.2 ^F	3.2 ^F	2.9 ^F	3.0	3.3	3.4	3.0	3.5	3.2	3.6	3.2 ^H	3.3	3.4	3.5	3.0	3.4	3.5	3.5	(2.8) ^F	(3.0) ^F	(3.0) ^F	
5	(3.0) ^F	(3.2) ^H	3.0 ^F	2.9 ^F	F	(3.0) ^F	F	3.3	3.5	3.3	3.2	3.6	3.4	3.5	3.1 ^H	3.5	3.4	3.4	3.0	2.7	3.4	3.2	2.8	2.7 ^F	
6	A	A	3.2	3.0 ^F	3.3	2.7	3.0 ^V	3.2	3.6	3.2	3.2	3.3	3.5	3.1	3.4	3.4	(3.6) ^F	3.3	3.3	3.2	3.2	2.9	2.7 ^F	A	
7	A	3.0	2.8	2.8	3.1	2.8	3.4	3.2	3.5	3.2	3.1	3.6	3.8	3.1 ^P	B	3.5	3.5	3.3	3.1	3.2	3.4	2.9	(3.0) ^F	2.5	
8	2.8 ^F	2.7	3.5 ^K	3.8 ^F	3.1 ^F	3.1 ^F	3.5 ^K	3.7 ^K	3.7 ^K	3.5 ^K	3.5 ^K	3.7 ^K	3.4 ^K	3.4	3.3	3.5	3.6	3.1	3.0 ^X	3.1	3.1	2.9	2.9	2.9 ^F	
9	3.0	2.9	3.1	3.0	2.8 ^H	2.8	3.2	3.4	3.7	3.6	3.5	3.7	3.4	3.5	3.6	3.6	3.6	3.2	3.2	3.3	3.3	3.3	3.0	2.7 ^P	
10	2.7	2.9	3.1	3.3	(2.7) ^F	(2.6) ^F	3.1	3.6	3.7 ^S	3.4	3.1	3.4	3.5	3.8	3.3	3.4	3.6	3.2	3.2	3.2	3.5	3.0 ^S	2.8	3.1	
11	FS	FS	3.4 ^S	F	(2.7) ^F	3.1 ^F	3.1 ^{PH}	3.3 ^F	3.5	3.3	3.3	3.5	3.3	3.4	3.6	3.6	3.3	3.4	3.2 ^H	3.0	3.2	3.3	2.7	2.6	
12	2.7	2.8	3.1	3.1	2.7 ^F	2.7 ^F	3.1	3.3	3.5	3.5	3.2	3.5	3.7	3.7	3.3	(3.4) ^F	3.4	3.1	3.1	3.4	3.3 ^F	A	A	A	
13	(3.3) ^F	3.2 ^F	3.0 ^F	2.9 ^F	3.2 ^F	3.1 ^F	(2.9) ^F	3.0	3.4	3.2	3.4	3.4	3.5	3.6	3.4	3.5	3.4	3.1	3.2	3.3	3.2	3.1	2.7	2.8	
14	2.9	2.7	2.6 ^F	A	A	2.8 ^F	3.0 ^F	3.1	3.7 ^F	3.4	3.7	3.6	3.3	3.4	3.5	3.4	3.7	3.4	3.2	3.0	3.2	2.9 ^V	3.1	3.1	
15	A	3.0	2.9	(3.3) ^F	A	A	3.4	3.3	3.4	3.3	3.4	3.7	3.5	3.5	3.3	3.5	3.7	3.2	3.2	3.3	2.9 ^F	2.8 ^F	2.8 ^F	2.7 ^F	
16	2.9 ^K	2.6 ^K	2.9 ^K	2.5 ^K	3.0 ^K	3.0 ^K	2.6 ^K	3.2	(3.5) ^S	3.4 ^T	3.4	3.4	3.5	3.4	3.6	3.4	3.5	3.3	3.3	3.2	3.0	2.7	3.0	3.0	
17	3.0	2.8	3.1 ^H	3.2 ^V	3.5	3.1 ^H	3.1	3.4	3.5	3.4	B	3.3	3.6	3.4	3.4	3.3	3.5	3.4	3.4	3.3	2.5	2.8	2.8	2.8	
18	2.9	2.9	3.1	3.2	3.2	3.0	3.4	(3.4) ^S	3.5	3.5	3.4	3.2	3.3	3.6	3.6	3.5	3.4	3.7	3.0	3.3	3.4	3.0	2.8	2.8	
19	2.8	2.9	3.2	(3.2) ^C	(3.1) ^F	3.1	3.2	C	C	C	C	C	3.8	3.2	3.4	B ^S	3.6	3.6	3.3	3.6	3.3	3.2	2.8	2.8	
20	2.8	2.9	3.3	3.4	3.0	3.0	3.0	3.5	B	3.2	3.6	3.4	3.5	3.5	3.4	(3.3) ^F	3.4	3.4	3.3	3.2	3.2	3.0	2.7	3.0	
21	3.1	2.8	2.9	3.3	3.7	3.5	3.2	3.5	3.4 ^{ZH}	3.9	3.2	3.4	(3.8) ^F	3.3	3.4	3.6	3.7	3.5	3.3	3.0	3.4	2.9	2.7	2.8	
22	3.0	3.0	3.0	2.9	2.8	3.0	2.9	3.4	3.3	(3.2) ^C	3.2	3.2	3.5	3.3	3.5	3.4	3.4	3.3	3.2	3.0	3.3	(2.8) ^S	3.0	2.8	
23	3.0	3.1	3.1	3.5 ^S	3.0	3.0	2.9	3.2	3.5	3.1	3.5	3.5	3.6	3.6	3.1	3.5	3.6	3.3	3.4	3.2	3.1	3.0	2.6	2.8	
24	3.0	3.0	3.2	2.7	2.8	3.0	3.0	3.1	3.2	(3.4) ^F	3.2	3.3	3.3	3.4	3.6	3.4	3.4	3.5	3.1 ^H	3.1	3.2	3.2	3.0	3.0 ^S	
25	2.9 ^Z	2.8	2.9	2.9	3.4	2.9	3.1	3.3	3.4	3.4	3.3	3.6	3.6	3.5	3.6	3.7	3.8	(3.8) ^F	3.0	3.3	3.4	2.8	2.6	2.8 ^F	
26	2.8	2.8	2.9	3.1	3.0	2.9	3.0	3.3	3.5	3.5	3.4	3.3 ^H	3.4	3.6	3.4	3.5	3.6	3.4	3.0	3.1	3.2	3.5	3.0	2.8 ^V	
27	2.9	3.0	2.9	3.0	3.0	2.8	3.0	3.5	3.6	3.4	3.5	3.5	3.5	3.3 ^H	3.5	3.5	3.5	3.4	3.1	3.2	3.0 ^F	F	(2.7) ^{VF}	(2.8) ^F	
28	(2.8) ^{VF}	2.9 ^F	3.5	3.2	3.2	2.9	2.7	3.1	3.5	3.1	3.1	3.6	3.3	3.4	3.5	3.6	3.3 ^H	3.3	3.0	3.1	3.0	3.0	2.7	2.9	
29	(3.0) ^F	3.0	3.1	3.1	3.1	3.4	3.3	3.4	3.5	3.3	3.2	3.7	3.6	3.4	3.4	3.5	3.3	3.5	3.5	3.5	3.1	2.7	2.7	2.9	
30	2.8	2.8	3.0	3.2	3.0	2.6	3.0	3.2	3.3	3.5 ^P	3.5	3.5	3.6 ^P	3.2	3.5	3.5	3.6	3.3	3.2 ^X	3.3	3.2	3.0	(2.7) ^{VF}	(3.1) ^{VF}	
31	(2.8) ^{VF}	(3.1) ^{VF}	3.3 ^F	3.0	3.1	2.6	2.8	3.4	3.5 ^{PS}	3.2	(3.2) ^H	3.2	3.3	3.6	3.6	3.5	3.5	3.2	3.4	(3.3) ^F	(3.3) ^F	(3.2) ^F	(3.2) ^F	(3.1) ^F	
Mean Value	2.9	2.9	3.1	3.1	3.1	2.9	3.1	3.3	3.5	3.3	3.4	3.5	3.5	3.4	3.4	3.5	3.5	3.4	3.2	3.2	3.2	3.0	2.8	2.9	
Median Value	2.9	2.9	3.1	3.1	3.0	3.0	3.0	3.3	3.5	3.3	3.4	3.4	3.5	3.4	3.4	3.5	3.5	3.3	3.2	3.2	3.2	2.9	2.8	2.8	
Count	27	29	31	29	28	30	30	30	29	30	28	30	31	31	30	30	31	31	31	31	31	29	29	30	28

Sweep 1.0 Mc to 17.0 Mc in 15 min

Manual Automatic

(M3000)F2

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

Lat. 39° 43.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

Akita

Jan 1952

f min F

135° E Mean Time

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

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. 39° 43.5' N
Long. 140° 03.2' E

Akita

IONOSPHERIC DATA

Jan. 1952

fminE

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	1.6	1.4	1.6	1.8	1.8	1.8	1.8	1.6	1.7	1.6	1.8	E	E	1.5	E	E	1.5
2	1.2	E	E	E	E	E	1.8	B	1.6	1.6	1.9	2.0	2.1	2.1	1.8	1.8	B	1.6	1.6	E	E	E	E	E
3	E	E	E	E	E	E	1.4	1.5	1.6	1.6	1.6	1.7	1.9	1.6	2.0	1.6	1.6	1.8	1.5	1.5	1.5	1.5	1.5	1.5
4	1.2	E	E	E	1.2	E	E	B	1.6	1.6	1.7	1.7	2.0	2.2	2.2	1.9	1.6	1.5	1.5	1.6	E	E	E	E
5	E	E	E	E	E	E	E	B	1.7	1.8	2.4	2.3	B	B	2.2	2.0	2.0	1.5	E	E	E	E	1.6	1.6
6	1.2	E	E	E	E	E	1.7	1.5	1.6	1.8	2.2	2.0	2.0	B	1.9	1.7	1.6	1.6	E	E	E	E	E	1.4
7	1.4	E	E	E	E	E	E	1.6	1.6	1.8	2.1	2.1	1.9	1.9	1.6	1.6	1.6	1.6	E	E	1.6	1.5	1.5	E
8	E	E	E	E	E	2.1	E	1.5	1.5	1.6	1.7	1.6	1.7	B	1.6	1.7	B	1.6	E	E	E	E	E	E
9	E	E	E	E	E	E	E	B	1.7	2.0	2.2	2.2	2.5	2.4	2.4	2.0	1.6	1.5	2.3	E	E	E	E	1.5
10	E	E	E	E	E	E	E	B	1.6	2.0	2.2	2.2	2.2	2.2	2.1	1.9	1.6	E	E	E	1.5	1.6	1.8	E
11	E	E	E	E	E	E	E	B	1.5	1.7	1.9	1.9	1.9	1.9	1.8	1.8	1.7	E	E	E	1.6	1.6	1.6	1.6
12	E	E	E	E	E	E	E	E	1.5	1.5	1.7	2.0	2.0	2.1	2.0	2.0	B	E	E	1.6	E	1.5	1.5	1.5
13	E	E	E	E	E	E	E	E	1.2	1.4	1.6	2.0	1.6	1.8	1.6	1.6	1.5	1.5	1.5	1.6	E	1.5	1.5	1.5
14	E	E	E	E	E	E	1.5	1.6	1.9	2.2	2.2	2.4	2.2	2.2	2.1	1.7	1.6	1.5	1.6	1.5	1.6	1.6	1.6	1.6
15	1.3	E	E	E	E	E	1.4	1.5	1.5	1.7	1.7	2.2	2.0	2.0	2.0	1.7	1.6	E	E	1.6	1.5	1.5	1.5	1.5
16	1.1	E	E	E	E	E	1.3	1.5	1.6	1.6	1.7	1.8	1.8	1.8	1.8	2.0	1.6	1.4	1.4	1.5	1.6	1.6	1.6	1.5
17	1.9	E	E	E	E	E	E	1.4	1.5	2.4	B	B	B	B	B	B	B	E	E	E	E	1.6	1.4	1.2
18	E	E	E	E	E	E	E	B	1.7	2.7	2.9	B	B	B	B	B	B	E	E	E	E	E	2.0	2.0
19	1.2	E	E	E	E	E	E	C	B	1.7	C	B	B	B	B	B	B	E	E	E	E	E	E	E
20	1.2	E	E	E	E	E	E	E	1.5	1.6	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.6	E	E	E	E	E	E
21	1.4	E	E	E	E	E	E	E	2.2	1.7	1.7	1.9	B	B	B	2.2	1.6	E	E	E	E	E	E	E
22	E	E	E	E	E	E	E	E	1.4	1.4	C	B	B	B	2.2	2.2	1.8	E	E	E	E	E	E	E
23	E	E	E	E	E	E	E	E	1.7	1.7	2.0	2.0	2.2	2.2	2.2	1.8	1.6	E	E	1.6	E	E	1.6	1.6
24	E	E	E	E	E	E	E	E	1.6	1.6	1.8	1.9	2.0	2.0	2.0	1.8	1.7	E	E	1.6	E	E	1.6	1.4
25	1.4	E	E	E	1.4	E	E	E	2.0	1.8	1.8	1.8	1.9	1.9	1.8	1.9	1.6	1.6	1.5	1.5	E	E	E	E
26	E	E	1.1	E	E	1.2	1.5	1.5	1.6	1.8	1.8	2.1	1.9	2.0	1.8	1.8	1.7	1.7	1.7	1.4	1.7	E	E	E
27	E	E	E	E	E	1.2	1.6	1.6	1.6	1.6	1.6	1.9	1.8	2.0	1.8	1.8	1.6	1.5	1.5	1.5	E	E	E	E
28	E	E	E	E	E	E	E	E	1.6	1.6	1.7	1.7	1.8	1.7	1.8	1.7	1.6	1.6	1.6	1.6	1.5	1.5	1.5	E
29	E	E	E	E	E	E	E	E	2.4	1.7	1.8	1.8	1.7	1.8	1.6	1.6	1.6	E	1.6	1.7	E	1.6	E	1.6
30	E	E	E	E	E	E	E	E	1.5	1.7	1.8	2.0	2.0	2.1	B	B	1.8	E	E	E	1.5	1.5	1.5	E
31	1.6	E	E	E	E	E	E	E	1.5	1.6	1.8	1.7	1.6	1.8	1.8	1.7	1.7	1.6	E	1.6	1.5	1.5	1.9	E
Mean Value	1.3	E	1.1	1.4	1.3	1.5	1.5	1.6	1.6	1.8	1.9	2.0	1.9	2.0	1.9	1.8	1.6	1.6	1.5	1.6	1.5	1.6	1.6	1.5
Median Value	E	E	E	E	E	E	E	E	1.5	1.6	1.7	1.9	2.0	1.9	1.8	1.6	1.6	1.5	1.4	E	E	E	1.5	E
Count	31	31	31	30	31	37	31	2.1	30	30	28	26	25	24	26	27	24	37	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

IONOSPHERIC DATA

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

Jun. 1952

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	3.1	3.3	3.1	3.3	3.0	3.6	2.2 ^V	4.6	7.3	7.2 ^H	11.4	11.9	7.4	7.8	9.8	7.5	5.8	5.4	3.2	3.2	0.5	2.3	2.6	2.7
2	3.0	3.0	3.1	3.6	1.9	2.1	3.5	4.5	5.9	6.7	10.6	10.1	8.2	8.2	8.6	7.9	6.6	4.5	4.0	3.4	2.1	3.0	3.2 ^F	3.2 ^C
3	3.1 ^F	3.3	3.3 ^M	3.3	2.9	2.5	2.5 ^F	4.5	6.3	6.4	9.0	11.2	10.5 ^P	8.7	8.7 ^J	7.4	(5.7) ^P	3.9	3.3	3.7	2.8	2.1 ^F	2.7 ^F	3.0
4	2.8	3.1	3.3 ^F	3.7	2.7 ^F	2.2	3.5	5.4	6.4	6.4	8.2	9.3	11.6 ^J	7.4	6.8	5.9	5.0	4.2	4.2	4.8	3.4 ^S	2.8	2.6	3.0
5	3.0 ^F	2.9 ^F	3.3	3.0	3.1	3.1 ^P	2.1	4.2	6.3 ^P	7.5	9.3	9.4	9.7	9.2	7.0	8.2	4.8	4.8	3.6	2.9	3.6	3.0	2.8	3.2 ^F
6	A	3.4 ^F	A	A	A	2.6 ^F	3.2 ^V	5.8	7.9	8.7	10.9	(11.8) ^P	9.2	7.1	C	C	C	C	4.2	3.0	2.6	2.5	2.6	2.9
7	2.9	3.1	3.4	3.1	3.3 ^F	3.1 ^F	2.5 ^F	4.4	6.9	(8.0) ^P	(10.5) ^P	(10.6) ^P	8.5	5.9	7.6	6.7	5.6	4.3	3.8	4.2	2.7	2.7	2.6	2.6
8	2.9	2.8	5.5 ^K	2.0 ^K	2.4 ^K	2.2 ^K	2.6 ^K	4.2 ^K	5.4 ^K	6.3 ^K	7.4 ^K	(7.5) ^K	6.6 ^K	7.4	6.8	6.7	5.6	4.6	3.1	3.8 ^P	4.1	2.9 ^F	2.9 ^F	F
9	2.8 ^F	2.9	3.4	2.7	(3.2) ^F	2.9	2.9	4.8	5.9	6.5	7.9	9.1	7.8	7.8	6.3	7.7	5.4	4.4	3.9	3.3	(3.3) ^S	2.8 ^S	2.7	2.8
10	2.9	3.1	3.8	3.1	2.6	2.5	2.9	4.8	5.0	5.5	7.9	10.4	9.5	7.5	6.5	7.3	7.6	5.8	5.1 ^H	4.2	4.2	3.0 ^F	3.1 ^F	3.3 ^F
11	S ^F	S ^F	M	3.0 ^F	3.2 ^F	3.8 ^F	4.0	4.7	6.4	(9.2) ^P	10.7	11.7	10.4	7.4 ^S	6.7	6.6	6.7	5.8	4.5	5.5	4.4	2.8 ^F	2.4	2.4
12	2.8	2.8	2.4	2.5	2.4	2.5	3.7	4.7	5.4	6.3	7.3	9.5	(8.4) ^P	8.0	6.8	6.7	6.2	4.8	4.9	5.4	3.5	7.0	3.1	3.2
13	2.9	3.3	3.1	3.5	3.2 ^F	2.9 ^F	3.2	4.9	6.3	6.1	10.6	9.5	7.8	7.0	7.5	6.7	6.2	4.9	4.6	5.0	3.7 ^H	3.5	3.3	3.8
14	3.7	3.3	3.1	2.6	3.0	2.4	2.9	4.4	6.0	7.2	9.4	8.4 ^J	6.7	6.9	6.8	7.7	6.5	5.5	3.7	3.5	3.3	2.6	2.9	2.9
15	2.7	2.8	(2.7) ^C	2.6	2.4	2.4	2.2	4.3	6.7 ^H	0.5	(11.4) ^S	10.8 ^P	6.5	8.0	7.5	9.4	6.8	5.1	4.5	0.5	2.6 ^K	2.8 ^K	2.9 ^K	2.8 ^K
16	3.0 ^K	2.7 ^K	2.7 ^K	2.8 ^F	2.4 ^K	2.1 ^K	2.0 ^K	4.0	6.7	8.3	9.5 ^S	10.3	7.6	7.1	6.7	6.0	5.7	4.7	3.5	3.1	3.5	3.2	3.9	3.5
17	2.8	2.8	3.0	2.9	2.5	2.6	2.7	4.8	6.0	7.5	8.1	10.0	9.3	7.9	7.4	7.5	5.5	4.7	4.8	2.9	3.5	2.5 ^H	2.7	2.9
18	3.1	(3.2) ^P	3.3	3.1	2.8	2.6	2.6	4.6	C	C	C	C	8.0	C	C	C	5.0	3.7	3.1 ^H	3.9	2.9	3.6 ^S	2.4	2.8
19	2.8	3.1	3.7	2.4	2.7	M	2.8	4.7	5.5	6.9	7.3	9.6	7.2	7.0	7.2	7.9	5.5	4.3	3.4	4.3	3.4	3.3	2.7	3.1
20	2.7	2.8	3.3	3.0	2.4	2.4	2.4	4.6	5.6	4.9	7.8	6.3 ^Z	7.8	7.5	6.0	6.3	6.3	5.2	4.5	4.3	3.4	3.3	2.7	3.1
21	3.2	2.8	2.9	3.7	2.5	2.7	3.0	4.2	5.5	6.4	7.8	9.9 ^J	9.9	7.0	6.6	6.8	5.8	4.9	3.6 ^F	3.6	3.5	2.8	2.7	2.5
22	3.5	3.1	3.7	3.2	2.6	2.7	2.9	5.0	5.8	6.8	9.5	8.9	9.4	8.0	6.7	6.3	5.9	5.0	4.9	5.3	4.1	3.7	3.8	3.8
23	4.0	4.0	4.1 ^J	4.2	1.9 ^H	2.1	2.1	5.1	6.6	5.8	9.5	10.7	8.4	7.3	6.9 ^S	8.2 ^J	6.2	4.6	4.3	3.7	3.2 ^J	3.3 ^J	2.7	3.0
24	3.2 ^F	3.1 ^S	3.8	3.6	(2.9) ^P	3.1	2.5	4.4	7.9	13.1	B	8.0 ^S	8.2	8.1 ^P	7.9	6.3	6.3	C	3.5	2.9	3.5	3.1	3.1	3.5
25	3.1	3.2	3.5	3.0	2.5	2.2	2.3	5.2	C	C	9.3	11.3	8.9	7.5	7.1	7.0	5.7	5.0 ^H	3.2 ^H	2.2	3.8 ^H	2.2	2.5	2.6
26	2.7	3.0	3.0	2.9	2.6	2.6 ^S	2.1	4.3 ^J	6.2	7.2	7.9 ^P	7.6	7.2	7.5	7.3	6.5	6.3	4.7	0.5	(3.3) ^P	[3.4] ^C	3.4 ^J	2.3	2.4
27	2.8	2.7	2.8	2.7	2.6	2.5	2.4	4.8	6	6.4 ^P	7.7	7.5	7.3	6.9	6.8	7.2	5.7	5.0	S	3.3	2.9	3.6 ^F	3.1 ^F	2.8
28	4.0 ^F	4.2	3.6	2.3	2.3	2.1 ²	2.1 ^F	4.7	7.7	8.5	10.4	10.7	8.5	7.2	5.8	5.7	6.1	4.8	4.1	4.3	4.3	3.5	3.4 ^J	3.1 ^P
29	3.5	3.5 ^P	3.3	3.9 ^F	3.5	2.8	4.5	6.0	6.6	7.3	10.2	12.2	8.3 ^P	6.8	A	6.5	5.7	5.3	5.7 ^H	3.8	2.8	3.8 ^F	3.2 ^P	3.8 ^F
30	3.5 ^F	3.5	3.3	2.3	2.5	2.6	3.1 ^F	4.4	8.0	11.3 ^P	10.7	8.9	9.4	8.1	8.8	8.2	6.9	4.4	3.1	3.8 ^P	3.6 ^J	3.3 ^F	3.3 ^F	3.4 ^F
31	3.5 ^J	3.7	3.7 ^J	1.8	1.9 ^F	2.2	2.1	5.3	(7.8) ^P	7.9	8.4 ^H	11.2 ^S	11.1	9.5	7.0	6.4	5.0	4.8	4.8	4.8	3.9	(4.5) ^F	4.0 ^F	3.8 ^F
Mean Value	3.1	3.2	3.4	3.0	2.7	2.6	2.8	4.7	6.4	7.3	9.2	9.8	8.6	7.6	7.2	7.2	6.1	4.8	4.0	3.8	3.4	3.0	2.9	3.0
Min Value	3.0	3.1	3.3	3.0	2.6	2.6	2.6	4.7	6.3	7.0	9.3	10.0	8.4	7.5	7.0	7.1	5.9	4.8	4.0	3.7	3.4	3.0	2.8	3.0
Count	29	30	29	30	30	30	31	31	28	28	29	30	31	30	28	28	29	29	29	30	30	30	31	30

K 1

Manual Automatic

Sweep 1.0 Mc to 17.2 Mc in 2 min

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Jun. 1952

f_pF₂

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

Sweep 1-10 Mc to 17.2 Mc in 2 min

Manual Automatic

f_pF₂

K 2

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

Jun. 1952

f'F2

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	300	340	330	310	260	250	270	240	230	220 ^H	290	260	260	310	280	250	230	240	230	250	260	260	290	320
2	310	300	320	240	400	300	250	220	240	210	270	250	250	270	250	240	240	220	240	210	230	210	310 ^F	300 ^F
3	300 ^F	290	260	230	250	250	230	220	220	240	280	270	270	260	270	250	230	210	250	250	230	400	380	340
4	280	280	250	220 ^F	250	250	250	250	250	230	290	300	290	280	250	250	220	240	240	240	210	320	310	290
5	300	300	280	280	290	280	250	240	240	270	250	260	280	270	270	250	230	220	250	260	290	260	370	290 ^F
6	A	340	A	A	A	320	250	260	270	280	270	260	230	260	C	C	C	C	240	250	260	260	340	310
7	260	330	280	300	310	300	270	240	230	250	270	240	230	220	280	250	230	240	230	240	230	290	260	330
8	370	320	330	380 ^K	270 ^K	290 ^K	280 ^K	220 ^K	220 ^K	240 ^K	250 ^K	250 ^K	250 ^K	240	240	250	250	230	240	260	250	240	300 ^F	350
9	290	280	250	230	250	260	250	240	240	240	250	250	250	250	250	250	230	240	270	260	260	250	310	320
10	330	330	260	230	310	290	260	230	230	220	290	290	260	270	280	290	250	250	250	230	230	220	290	290 ^F
11	270 ^F	270	210	260	310	290	230	230	240	300	280	260	260	250	230	280	280	230	270	250	250	240	290	360
12	360	290	230 ^A	280	330	330	220	270	230	240	250	280	280	260	260	260	230	230	260	240	240	250	300	260
13	310	270	260	300	290	300	300	240	230	240	290	250	260	270	260	250	220	220	230	240	220 ^H	270	300	300
14	270	270	300	300	320	340	320	250	250	240	290	250	240	270	270	270	250	220	210	240	240	300	310	260
15	240	300	280	250	250	260	290	220	250 ^H	260	260	250	250	280	270	270	230	270	250	260	250 ^K	280 ^K	310 ^K	340 ^K
16	330 ^K	320	380 ^K	310 ^K	300 ^K	300 ^K	380 ^K	240	270	260	260	260	230	250	250	230	230	210	230	230	230	280	280	250
17	250	290	300	250	230	250	290	250	220	220	250	280	250	240	270	240	220	240	250	230	280	320 ^H	320	330
18	300	290	270	280	300	380	280	240	C	C	C	C	270	C	C	C	C	230	240	210	240	240	270	310
19	320	300	250	220	270	M	220	240	220	300	240	250	230	280	270	270	230	210	220 ^H	230	260	260	340	340
20	300	300	280	250	280	300	280	220	230	240	250	240	240	280	240	240	240	240	250	220	260	250	300	330
21	270	300	320 ^A	220	200	290	260	240	230	240	310	290	260	270	260	260	250	230	250	290	250	300	320	340
22	330	340	280	230	290	280	260	230	240	230	270	250	280	260	260	260	230	230	250	240	240	280	290	300
23	290	270	250	220	180 ^H	290	310	240	240	240	300	260	270	260	280	260	230	230	250	250	280	290	300	340
24	300	300	260	270	330	300	300	280	270	270	250	260	270	260	260	250	230	240	210	280	250	290	310	320
25	320	330	320	300	230	330	300	250	C	C	280	270	240	240	270	250	210	220 ^H	230 ^H	280	240 ^H	330	330 ^F	310
26	340	310	290	280	280	310	320	270	250	230	260	280	270	260	270	250	240	220	230	280 ^S	260	270	300	300
27	300	270	260	280	250	280	280	250	240	210	250	240	260	270	260	260	240	250	230 ^A	270	260	310	360	370
28	320	260	250	290	290	300	310	270	290	260	270	250	250	240	230	260	240	230	250	260	250	250	A	340
29	300	260	230	220	300	280	280 ^F	250	230	300	280	270	240	260 ^A	A	240	240	240	230 ^H	220	250	320	310	330 ^F
30	310	250	250	260	310	400	310	250	300	250	260	250	290	270	290	240	230	210	240	270	220	280	290	320 ^F
31	310	240	220	210	290	320	320	250	250	260	260 ^H	270	250	260	250	230	230	220	220	220	230	260	290	390 ^H
Mean Value	300	290	270	260	280	300	280	240	240	250	270	260	260	260	260	250	230	230	240	250	250	280	310	320
Median Value	300	300	260	260	290	300	280	240	240	240	270	260	260	260	260	250	230	230	240	250	250	270	310	320
Count	30	31	30	30	30	30	31	31	29	29	30	30	31	30	28	29	29	30	31	31	30	31	30	31

Sweep 1.0 Mc to 17.2 Mc in 2.0 min

Manual

Automatic

K 3

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

foF1

Jun. 1952

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	AF	L	L	L	L	Q	Q	Q						
2								Q	Q	Q	L	L	L	L	L	L	L	Q	Q					
3								Q	Q	Q	4.0	L	L	L	L	L	L	Q	Q					
4								Q	Q	Q	L	L	L	L	L	L	Q	Q	Q					
5								Q	Q	Q	L	L	L	L	L	L	Q	Q	Q					
6								Q	Q	Q	L	L	L	L	L	L	C	C	C					
7								Q	Q	Q	L	Q	4.3	Q	L	L	L	Q	Q					
8								Q	Q	Q	L	4.5	L	L	4.0	3.2	L	Q	Q					
9								Q	Q	Q	L	4.3	L	L	Q	Q	Q	Q	Q					
10								Q	Q	Q	L	L	L	L	L	L	Q	Q	Q					
11								Q	Q	Q	L	L	4.5	L	Q	B	Q	Q	Q					
12								L	Q	Q	Q	L	L	L	L	L	L	Q	Q					
13								Q	Q	Q	L	4.5	L	L	4.2	L	Q	Q	Q					
14								Q	Q	Q	L	L	Q	L	L	L	A	Q	Q					
15								Q	Q	Q	Q	4.5 ^v	L	4.2	L	L	L	Q	A					
16								Q	L	L	L	L	L	L	L	L	L	Q	A					
17								Q	Q	Q	L	L	L	L	L	L	Q	Q	Q					
18								L	C	C	C	C	L	L	L	Q	Q	Q	Q					
19								Q	L	L	L	L	L	L	L	L	L	L	Q					
20								Q	Q	Q	L	Q	L	L	L	L	L	Q	Q					
21								Q	Q	Q	L	L	L	L	L	L	L	Q	Q					
22								Q	Q	Q	4.5	L	L	L	L	L	L	Q	Q					
23								Q	Q	Q	L	L	L	L	L	L	L	Q	Q					
24								Q	Q	Q	L	B	L	L	L	L	L	Q	Q					
25								Q	C	C	4.4	L	4.4	L	L	L	L	Q	Q					
26								Q	Q	Q	L	L	L	L	L	L	L	Q	Q					
27								Q	L	Q	L	L	L	L	L	L	L	Q	A					
28								Q	L	L	L	L	4.4	L	L	L	L	A	Q					
29								L	L	L	L	L	L	L	L	L	L	Q	Q					
30								Q	L	L	4.4	L	L	L	L	L	L	Q	Q					
31								Q	L	L	L	4.5	L	4.4	L	L	L	Q	Q					
Mean Value											4.4	4.5	4.4	4.3	4.0	3.2								
Minimum Value											4.4	4.5	4.4	4.3	4.0	3.2								
Count										5	5	5	4	4	4	4	4	4	4	4	4	4	4	4

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° 39.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time
f'F1

Jun. 1952

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

Sheep 1.0 Mc to 17.2 Mc in _____ 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

135° E Mean Time

f_oE

Jun. 1952

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

f_oE

Sweep 1.0 Mc to 17.2 Mc in 2.0 min

Manual Automatic

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

Lat. 35° 42.4' N
Long. 139° 29.3' E

IONOSPHERIC DATA

Kokubunji Tokyo

Jun. 1952

8'E

135° E Mean Time

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

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° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

fEs

Jun. 1952

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	B	G	G	6.5	G	G	G	G	3.6	3.7	3.4	2.8	E	E	E	E	E
2	2.3	2.7	3.0	3.2	2.8	1.9	1.9	2.4	G	3.4	5.7	4.1	4.2	4.0	4.5	4.2	2.9	2.9	3.2	2.8	2.2	1.6	1.7	C
3	2.2	E	M	E	E	E	E	B	G	3.6	3.6	G	G	G	3.6	3.4Y	3.6	1.8	2.2	2.2	1.9	1.8	2.1	
4	1.8	2.2	1.8	2.4	1.9	E	E	B	G	G	4.5	4.0	3.9	B	4.0Y	3.5Y	2.6	3.6	3.8	2.8	1.8	E	E	
5	1.8	2.4	2.4	2.2	2.0	E	E	G	G	4.1	G	G	G	G	G	G	G	2.0	1.9	E	3.3	E	2.2	2.3F
6	4.8	4.0	4.4	4.4	3.9	2.8	2.3	G	G	G	3.7	4.1	3.9	4.0	C	C	C	C	2.0	2.4	2.6	2.5	2.1	2.4
7	2.1	3.6	2.0	2.6	2.4	2.4	F	G	G	3.6	4.2	5.7	4.8	3.6	3.8	3.6	4.6	4.1	1.4	2.3	F	1.9	E	E
8	2.3	2.1	1.5	E	2.0	2.1	1.8	2.5Y	G	G	G	G	B	G	B	G	G	B	E	E	E	E	2.1	3.2
9	1.6	2.0	1.8	2.4	2.0	2.4	E	B	G	G	G	G	G	G	G	G	3.4	2.7	2.6	2.9	2.0	E	E	1.8
10	2.0	E	1.6	E	E	F	E	G	G	3.8F	3.7	G	G	G	G	G	G	1.8	1.7	E	E	E	E	E
11	E	E	M	2.2	E	2.3	E	E	G	G	4.3	3.8	3.5	G	2.8	G	G	1.8	1.7	E	E	E	2.0F	2.3
12	2.4F	2.1	2.3	2.2	2.3	2.2	2.5	2.8	G	G	G	3.0	G	4.0	4.0	5.2	2.8	2.8Y	2.7	1.9	1.8	E	2.0	1.9
13	2.0	2.6	2.0F	E	E	E	E	B	G	G	G	G	G	4.0	5.2	6.5	B	B	E	E	E	E	2.1	2.2
14	1.9	2.1Y	2.1	1.7F	1.9Y	E	E	B	G	3.7	5.8	B	4.0	4.7	5.2	6.5	B	4.4	3.9	2.5	1.7	E	E	2.8
15	2.8F	2.3	C	1.8	1.8	E	E	E	G	4.4	G	G	G	G	G	G	G	2.0	E	E	E	E	E	2.8
16	3.5	2.1	2.2	2.5	E	2.3	2.5	2.5	G	5.6	3.8	G	G	G	G	G	G	4.6	2.8	2.2	2.3	E	E	2.4
17	2.0	1.6F	2.0	E	E	E	E	G	C	3.8	C	C	B	C	C	C	C	C	E	E	E	E	E	2.4
18	2.2	2.0	1.8	1.8	E	E	E	G	C	3.6	B	B	B	B	B	B	B	B	E	E	E	E	E	E
19	2.4F	2.3	2.2	2.0	E	M	E	2.4	G	G	3.6	3.6	G	G	G	G	G	2.2	2.2	2.2	2.2	2.4	2.2	1.8
20	E	E	2.3	1.5	E	E	E	G	G	G	G	3.6	G	3.6	G	G	G	2.5	2.1	1.8	2.0	2.2	1.8	1.8
21	2.0	1.8	2.5	E	E	E	E	E	B	G	G	G	G	3.6	G	G	G	3.0	E	E	E	E	E	E
22	2.3	E	2.1	1.5	2.1Y	E	E	E	G	3.6	3.8	3.8	G	G	G	G	G	3.0	E	E	E	E	E	E
23	1.8	E	E	E	E	E	E	B	G	3.5F	3.8	4.2	G	G	G	G	G	2.3	1.6	E	E	2.6	1.9	E
24	2.3	E	1.8	E	1.7	2.1	2.5	G	C	C	4.1	4.4	3.7	G	G	G	G	2.3	1.6	E	2.0	E	E	E
25	2.3F	2.0	2.4	2.2	E	E	E	G	C	C	4.1	4.4	3.7	G	G	G	G	2.3	1.6	E	2.0	E	E	E
26	E	E	E	2.0	1.6	E	E	B	G	G	G	G	G	G	G	G	3.2	1.8	2.4	2.4	C	E	E	E
27	E	E	E	E	2.1	2.1	1.9	B	G	G	G	G	G	G	3.8	G	2.4	4.0	3.9	2.3	1.8	1.6	E	E
28	E	E	E	E	E	1.7	1.7	G	G	G	4.4Y	G	G	4.6	3.6	4.4	3.8	2.4	1.6	E	E	1.8	3.6	2.2
29	E	E	E	E	E	E	E	B	G	G	G	G	G	7.2	8.8	G	G	1.7	E	2.6	2.0	E	E	E
30	E	2.0	1.8	2.4F	2.6	E	E	B	G	G	4.2	3.7	3.5	G	4.7	3.4	3.3	G	E	E	2.0	2.5	2.2	E
31	2.2	2.2	2.4	2.0	1.8	2.2	E	B	3.7Y	5.8	3.6	3.8	G	4.2	G	G	G	B	E	E	F	E	E	2.8
Mean Value	2.4	2.3	2.3	2.3	2.2	2.2	2.1	2.5	3.0	4.1	4.3	4.2	3.1	4.4	3.8	4.0	3.4	2.8	2.4	2.4	2.2	2.2	2.1	2.3
Minimum Value	2.0	2.0	2.0	1.8	1.7	E	E	G	G	G	3.6	G	G	G	G	G	G	2.3	1.7	E	1.8	E	1.7	E
Count	31	31	28	31	31	30	31	19	28	29	29	28	28	28	27	29	27	25	31	31	30	31	31	30

fEs

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

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

Kokubunji Tokyo

Lat. $35^{\circ}42.4'N$
Long. $139^{\circ}28.8'E$

IONOSPHERIC DATA

Jun. 1952

(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	2.6	2.8	3.1	3.1	3.1	3.5	3.5	3.5	3.1	3.2	3.4	3.1	3.2	3.4	3.2	3.1	3.3	3.4	3.4	3.0	2.9	2.7	
2	2.7	2.8	2.7	3.4	2.7	3.0	3.3	3.3	3.4	3.4	3.3	3.4	3.2	3.3	3.2	3.5	3.4	3.3	3.3	3.7	3.4	3.7	(2.9) ^F	(2.8) ^C	
3	2.8 ^F	3.0	(3.2) ^M	3.3	3.1	3.0	2.9	3.3	(3.4) ^P	3.3	(3.2) ^J	3.6	(3.5) ^P	3.1	3.3	3.1	3.3	3.1	2.9	3.1	3.3	2.7 ^F	(2.5) ^F	2.6	
4	2.8	2.9	3.1 ^F	3.7	3.3 ^F	3.3	3.4	3.1	(3.1) ^J	3.2	3.4	3.3	3.4	3.3	3.2	3.4	3.5	3.2	3.2	3.4	3.6 ^S	2.6	2.9	2.8	
5	(2.7) ^F	3.0 ^F	3.0	3.0	3.1	2.7 ^P	3.3	3.1	2.3 ^P	3.4	3.2	3.4	3.3	3.2	3.1	3.3	3.5	3.3	3.0	3.0	3.2	2.9	2.6	2.8 ^F	
6	A	2.7 ^F	A	A	A	3.0 ^F	3.2 ^V	3.1	3.2	3.2	3.2	(3.3) ^P	3.5	3.2	C	C	C	C	3.3	3.3	3.1	3.3	2.8	2.8	
7	3.0	2.9	3.0	2.9	(2.9) ^F	3.0 ^F	2.8 ^F	3.3	3.3	(3.2) ^P	(3.4) ^P	3.4	3.7	3.0	B	B	3.6	3.2	3.4	3.3	3.2	3.1	3.2	2.8	
8	2.6	2.7	3.6 ^K	2.6 ^K	2.8 ^K	2.7 ^K	3.0 ^K	3.5 ^K	3.3 ^K	3.4 ^K	3.5 ^K	(3.4) ^R	3.4 ^K	3.5	3.4	3.3	3.3	3.3	3.1	3.2 ^P	3.2	3.2 ^F	(3.0) ^F	F	
9	(2.9) ^F	3.1	3.3	3.5	(2.9) ^F	3.1	3.2	3.3	3.4	3.5	3.3	3.5	3.4	3.4	3.3	3.1	3.5	3.3	3.0	3.1	(3.1) ^S	3.2 ^S	2.7	2.8	
10	2.7	2.8	3.1	3.3	2.7	2.9	3.1	3.2	3.3	3.4	3.3	3.4	3.3	3.4	3.3	3.1	3.3	3.3	3.1 ^H	3.2	3.3	2.6 ^F	(3.0) ^F	(3.0) ^F	
11	SF	SF	M	2.9 ^F	(2.8) ^F	2.9 ^F	3.5	3.6	3.1	(2.9) ^P	3.2	3.3	3.4	3.4	3.1	3.1	3.1	3.3	2.7	3.0	3.2	(3.3) ^F	2.7	2.7	
12	2.7	3.0	3.0	2.8	2.8	2.6	3.1	3.3	3.3	2.8	3.0	3.2	(3.2) ^P	3.1	3.4	3.4	3.4	3.3	3.0	3.4	3.2	3.0	2.7	3.2	
13	2.9	2.9	2.9	2.6	2.8 ^F	2.7 ^F	2.8 ^F	3.2	3.3	2.9	3.3	3.5	3.3	3.2	3.2	3.2	3.2	3.4	3.0	3.3	2.9 ^H	3.0	2.7	2.9	
14	3.0	3.0	3.0	2.8	2.8	2.6	3.1	3.2	3.1	3.2	3.3	(3.4) ^J	3.4	3.2	3.1	3.2	3.2	3.4	3.0	3.1	3.2	2.8	2.8	2.9	
15	3.2	3.0	(3.0) ^C	3.0	3.0	3.0	2.8	3.5	3.3 ^H	BS	(3.3) ^P	3.5 ^P	3.5	3.2	3.2	3.3	3.4	3.1	3.3	BS	3.0 ^K	(3.1) ^{K^T}	2.5 ^K	2.6 ^F	
16	2.9 ^K	2.8 ^K	2.5 ^K	2.8 ^K	3.0 ^K	3.0 ^K	2.8 ^K	3.3	3.4	3.3	3.3 ^S	3.3	3.6	3.5	3.3	3.6	3.3	3.6	3.1	3.3	3.2	2.9	2.7	2.9	
17	2.8	2.7	2.8	3.5	3.4	3.4	3.0	3.3	3.6	3.4	3.3	3.3	3.5	3.5	3.4	3.6	3.6	3.1	3.3	3.2	2.9	2.9 ^H	2.8	2.7	
18	2.8	(2.8) ^P	3.1	3.2	3.1	2.6	3.1	3.2	C	C	C	C	C	C	C	C	C	3.3	3.0	3.4	3.2	3.4	3.2	2.7 ^F	
19	2.6	2.9	3.0	3.5	3.1	M	3.5	3.3	3.8	3.2	3.2	3.6	3.1	3.3	3.3	3.3	3.4	3.3	2.9 ^H	3.1	3.0	3.2 ^S	2.7	3.1	
20	2.9	2.9	3.1	3.3	2.9	2.7	3.1	3.5	3.5	3.4	3.4	3.3 ^Z	3.6	3.3	3.2	3.1	3.2	3.2	3.1	3.4	3.2	3.1	2.8	2.7	
21	3.2	2.8	3.1	3.4	3.2	2.9	3.2	3.1	3.4	3.3	3.0	(3.3) ^J	3.4	3.3	3.3	3.4	3.4	3.4	2.8 ^F	3.0	3.2	2.9	2.8	2.9	
22	2.9	2.9	3.0	3.3	2.8	2.9	3.1	3.4	3.4	2.9	3.3	3.4	3.3	3.2	3.4	3.4	3.3	3.3	3.0	3.1	3.2	2.9	2.7	2.6	
23	2.8	2.9	(3.3) ^J	3.5	2.6 ^H	2.8	2.7	3.4	3.5	3.3	3.1	3.3	3.3	3.4	3.0 ^S	(3.5) ^J	3.7	3.3	3.0	3.4	(3.1) ^J	(3.1) ^J	2.8	2.6	
24	(2.8) ^F	2.8 ^S	3.1	3.0	(2.6) ^P	2.9	3.1	2.9	3.2	3.3	θ	3.5 ^S	3.2	3.2 ^P	3.4	3.5	3.3	C	3.2	2.7	3.1	3.0	3.0	3.0	
25	2.7	2.6	2.8	2.8	3.1	2.8	2.7	3.3	C	C	3.2	3.4	3.3	3.6	3.4	3.5	3.6	3.6 ^H	3.3 ^H	3.3	3.3 ^H	2.8	2.6	2.9	
26	2.7	2.8	3.0	3.1	2.8	2.8 ^S	2.8	(2.7) ^J	3.5	3.2	3.4 ^P	3.2	3.3	3.5	3.3	3.5	3.4	3.7	BS	(3.1) ^P	(3.1) ^C	3.1	3.0	3.0	
27	2.7	3.0	3.0	3.0	3.2	3.0	2.8	3.2	θ	3.4 ^P	3.6	3.4	3.4	3.4	3.5	3.3	3.1	3.4	S	3.0	3.0	2.8 ^F	(2.7) ^J	2.7	
28	2.7 ^F	2.9	3.2	2.8	2.9	2.6 ^Z	2.8 ^F	3.0	3.3	3.3	3.2	3.4	3.5	3.5	3.3	3.3	3.2	3.3	3.0	3.0	3.1	3.1	(2.9) ^J	2.6 ^P	
29	2.8	2.9 ^P	3.3	3.0 ^F	2.8	2.9	3.1	3.3	3.4	3.1	(3.3) ^J	3.3	3.6 ^P	A	3.5	3.4	3.4	3.3	3.4 ^H	3.4	3.2	2.6 ^F	2.8 ^F	2.6 ^F	
30	2.8 ^F	3.2	3.3	3.1	3.0	2.6	2.9 ^F	3.1	3.2	3.3 ^P	3.3	3.4	3.2	3.2	3.3	3.3	3.3	3.2	2.9	3.0 ^P	(3.2) ^J	(3.0) ^J	(2.8) ^J	2.7 ^F	
31	(2.7) ^J	3.2	(3.6) ^J	3.5	3.1 ^F	2.9	3.0	3.3	(3.4) ^P	3.4	3.0 ^H	3.2 ^S	3.6	3.4	3.6	3.4	3.6	3.1	3.3	3.3	(3.1) ^F	F5	(2.7) ^F	2.5 ^F	
Mean Value	2.8	2.9	3.1	3.1	2.9	2.9	3.1	3.3	3.4	3.2	3.2	3.4	3.4	3.3	3.3	3.4	3.4	3.3	3.1	3.2	3.2	3.0	2.8	2.9	
Median Value	2.8	2.9	3.0	3.0	2.9	2.9	3.1	3.3	3.4	3.3	3.3	3.4	3.4	3.3	3.3	3.4	3.4	3.3	3.1	3.2	3.2	3.0	2.8	2.8	
Count	2.9	3.0	2.9	3.0	3.0	3.0	3.1	3.1	2.8	2.8	2.9	3.0	2.9	3.0	2.8	2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.1	3.0

Automatic

Manual

freq. 1.0 Mc to 17.2 Mc in 2 min

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

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

IONOSPHERIC DATA

135° E Mean Time

Jun 1952

fminF

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.3	1.4	1.2	1.2	1.2	1.1	1.6	2.0	2.7	2.9	5.0A	3.5	3.2	3.0	2.7	2.6	2.1	2.4A	1.8	1.7	BS	1.4	1.4	1.5
2	1.4	1.6	1.2	2.5A	1.3	E	1.2	1.6	2.6	2.6	3.9A	3.8	3.2	3.0	3.7	2.9	2.3	1.6	1.8	1.2	1.6	2.6	1.7	C
3	E	E	M	1.1	1.2	1.1	1.2	1.7	2.3	2.6	3.6	3.4	3.1	3.1	3.0	2.7	2.6	1.4	1.3	1.6	1.4	1.7	1.4	1.3
4	1.2	1.2	1.3	A	1.2	1.2	1.2	1.7	2.7	2.9	3.1	3.2	3.5	3.3	3.2	2.6	2.7	2.1	2.0A	2.0A	1.6	1.2	1.6	1.4
5	1.3	1.3	1.6	1.2	1.4	1.3	1.5	1.4	2.4	3.1	3.2	3.4	3.2	3.2	3.2	2.5	2.1	1.8	1.7	1.2	2.2A	1.5	1.8	1.6
6	A	2.3A	A	A	A	1.6	1.3	1.9	2.5	2.9	3.2	3.4	3.3	3.2	C	C	C	C	C	1.9	1.6	1.7	1.4	1.5
7	1.7	2.1	1.4	1.2	1.6	1.6	1.5	2.0	2.6	2.7	2.9	3.2	3.6	3.4	3.8A	2.7	2.5	2.4A	1.3	1.6	1.4S	1.6S	1.2	1.2
8	1.7	E	1.2	1.4	1.2	1.1	1.5	1.7	2.1	2.8	3.6	3.4	3.3	3.6	3.2	2.6	2.2	1.8	1.5	1.3	1.4	1.3	1.3	1.8
9	1.2	1.3	F	1.4	1.4	1.4	1.2	1.6	2.5	2.8	3.3	3.2	3.3	3.5	3.1	2.7	2.1	1.8	2.0A	2.0A	1.6	1.6	1.5	1.6
10	1.8	1.8	1.6	1.2	1.1	E	1.2	1.7	2.5	3.3	3.2	3.4	3.3	3.2	3.2	2.6	2.1	1.5	1.4	1.5	1.5	1.2	1.2	1.6
11	1.3	1.1	M	1.1	1.1	1.1	1.1	1.8	2.5	3.3	4.0	3.0	3.5	4.0	2.8	3.6	2.3	1.7	1.6	1.5	1.4	1.6	1.5	1.4
12	1.6	1.5	A	1.2	1.2	E	1.4	1.9	2.6	3.2	3.6	3.2	3.8	3.6	3.2	2.7	2.3	1.8	1.2	1.3	1.3	1.3	1.3	1.3
13	1.5	1.3	1.2	1.3	1.2	1.2	1.6	2.0	2.7	3.2	3.2	3.2	3.3	3.7	3.4	3.5	2.5	1.7	1.5	1.3	1.4	1.2	1.3	1.3
14	1.1	1.3	1.1	E	E	1.2	1.7	1.6	2.8	3.5	3.3	3.9	3.4	4.1A	3.2	3.4	2.5	1.6	1.6	1.4	2.0A	1.8	1.7	1.5
15	1.6	1.2	1.2	1.2	1.2	1.2	1.5	2.2	2.6	3.2	3.2	3.6	3.2	3.2	3.2	2.7	2.4	3.1A	2.4A	1.8	1.5	1.4	1.3	1.3
16	1.6	1.4	E	1.6	1.3	1.2	1.3	1.8	2.7	2.7	3.3	3.6	3.6	3.2	3.6	2.7	2.4	1.7	1.4	1.3	1.3	1.4	1.5	1.5
17	1.3	1.3	1.1	1.1	1.1	1.2	1.4	1.8	2.4	3.2	3.2	3.2	3.4	3.2	2.9	2.8	2.4	1.8	1.9	1.6	1.5	1.4	1.2	1.6
18	1.2	1.2	1.5	1.4	1.3	1.3	1.3	2.0	C	C	C	C	3.5	C	C	C	C	C	1.6	1.8	1.2	1.5	1.2	1.2
19	1.2	1.2	1.3	E	E	M	1.6	1.8	2.3	2.9	3.6	3.8	3.7	3.6	3.8	2.8	2.2	1.9	1.3	1.5	1.6	1.6	1.4	1.3
20	1.4	1.2	E	E	E	E	1.2	1.7	2.7	3.3	3.5	3.5	3.6	3.3	3.3	2.8	2.3	1.6	1.5	1.6	1.4	1.8	1.6	1.7
21	2.0A	1.3	A	1.2	1.2	1.2	1.3	1.4	2.0	3.0	3.3	3.8	3.3	3.2	3.1	2.7	2.2	1.9	1.5	1.7	1.4	1.7	1.5	1.5
22	1.5	1.7	1.1	1.2	1.2	1.1	1.5	1.5	2.6	2.8	3.2	3.2	3.5	3.3	3.2	3.0	2.6	2.6A	1.6	1.2	1.2	1.5	1.3	1.2
23	1.1	E	E	E	E	E	1.2	1.6	2.7	2.7	2.9	3.1	3.3	3.2	3.2	2.7	2.2	1.8	1.3	1.5	1.3	1.8	1.3	1.3
24	1.2	1.1	1.1	E	1.3	1.2	1.2	1.9	C	C	2.7	2.9	3.6	3.2	3.0	2.8	2.2	2.1	1.4	1.3	1.8	1.3	1.6	1.4
25	1.3	1.2	1.4	1.6	1.3	1.2	1.2	1.9	2.3	2.9	3.1	3.4	3.5	3.1	3.1	2.9	2.4	1.8	1.8	2.3A	1.6	1.4	1.3	1.3
26	1.3	1.3	1.2	1.6	1.4	E	1.3	1.8	E	2.5	3.3	3.4	3.7	3.5	3.6	3.0	2.4	2.9A	A	1.8	1.3	1.5	1.2	1.2
27	1.2	E	E	E	E	1.4	1.3	1.9	2.5	3.3	3.3	3.4	3.7	3.5	3.6	3.0	2.4	2.9A	A	1.8	1.3	1.5	1.2	1.2
28	E	1.2	E	1.1	E	E	1.2	1.6	2.4	2.8	3.1	3.2	3.6	3.4	2.6	3.2	3.4A	2.2	1.6	1.8	1.6	1.6	3.2A	1.6
29	1.2	E	1.1	1.1	1.1	1.2	1.3	1.6	2.8	2.9	3.2	3.5	3.5	6.2A	A	2.9	2.6	1.9	1.5	1.6	1.6	1.3	1.5S	1.5S
30	1.2	1.3	1.7	1.7	1.5	1.5	1.8	1.5	3.2	2.8	3.3	3.2	3.2	3.2	3.2	2.9	2.8	1.6	1.3	1.4	1.6	2.2A	1.6	1.5
31	1.8	1.2	E	E	E	1.2	1.6	2.0	2.8	3.2	3.1	3.3	3.2	3.5	3.2	2.8	2.3	1.9	1.3	1.5	1.4	1.2	1.2	1.5
Mean Value	1.4	1.4	1.3	1.3	1.2	1.2	1.4	1.8	2.6	3.0	3.3	3.4	3.4	3.5	3.3	2.8	2.4	1.9	1.6	1.5	1.5	1.5	1.5	1.4
Median Value	1.3	1.3	1.2	1.2	1.2	1.2	1.3	1.7	2.6	2.9	3.2	3.4	3.4	3.3	3.2	2.8	2.3	1.8	1.6	1.5	1.5	1.5	1.4	1.4
Count	3.0	3.1	2.6	2.9	3.0	3.0	3.1	3.1	2.9	2.9	3.0	3.0	3.1	3.0	2.8	2.9	2.9	3.0	3.0	3.1	3.0	3.1	3.1	3.0

K 10

Manual Automatic

Sweep 1.0 Mc to 17.2 Mc in 2 min

fminF

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

Lat. 35° 42.4' N
Long. 139° 28.3' E

IONOSPHERIC DATA

Kokubunji Tokyo

Jun. 1952

fminE

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	B	1.3	1.4	1.4	1.5	1.5	1.5	1.4	1.2	1.2	1.6	1.8	E	E	E	E	E
2	Z.O	E	E	E	E	E	E	B	1.2	1.2	1.5	1.7	1.9	1.7	1.8	1.7	1.7	1.1	1.2	1.2	1.2	1.3	1.4	0.6)C
3	1.8	E	M	E	E	E	E	B	1.6	1.4	1.4	1.4	1.4	1.6	1.4	1.4	1.3	2.0	1.5	1.6	1.3	1.5	1.6	1.7
4	1.2	1.4	1.1	1.1	1.1	E	E	B	1.7	1.6	1.8	1.6	1.8	B	1.8	1.9	1.6	1.3	1.2	1.6	1.4	E	1.5	E
5	1.3	1.2	1.2	1.2	1.2	1.3	E	1.3	1.4	1.6	2.0	2.0	2.4	2.3	2.7	1.7	1.7	1.5	1.3	E	1.5	E	1.7	1.6
6	1.2	1.5	1.1	E	E	E	E	1.2	1.4	1.6	1.4	1.8	2.0	1.8	C	C	C	C	1.7	1.1	1.4	1.4	1.8	1.5
7	1.4	1.1	E	1.1	1.2	E	E	E	1.4	1.6	1.4	1.6	1.4	1.4	1.4	1.4	1.4	1.2	1.2	1.2	E	E	1.6	E
8	1.1	E	E	E	E	E	E	1.2	1.4	1.6	2.0	2.8	B	2.0	B	2.7	1.8	B	E	E	E	E	1.3	1.3
9	1.3	1.1	1.6	1.1	1.2	1.1	E	B	1.3	1.6	1.6	1.6	1.9	2.0	2.0	1.9	1.3	1.3	1.3	1.3	1.2	E	E	1.6
10	1.5	E	E	E	E	E	E	1.3	1.3	1.6	1.6	1.7	1.8	2.1	2.1	1.6	1.4	B	E	E	E	E	E	E
11	E	E	M	1.1	E	E	E	1.5	1.5	1.6	1.6	1.6	1.8	1.8	1.6	1.5	1.5	1.3	1.3	E	E	E	1.7	1.7
12	1.1	1.8	E	E	E	E	1.9	1.3	1.3	1.2	1.5	1.8	1.8	1.9	1.8	1.8	1.7	1.5	E	E	E	E	E	E
13	1.5	1.3	1.2	E	E	E	E	B	1.4	1.7	1.7	1.7	1.8	1.5	1.3	1.3	1.4	1.8	1.8	1.6	1.7	E	1.8	1.8
14	1.8	1.3	1.3	1.2	E	E	E	B	1.9	3.3	2.5	B	3.6	2.7	2.4	2.3	B	B	E	E	E	1.2	1.5	1.7
15	1.6	1.1	[1.2]C	1.4	1.2	E	E	1.5	1.4	1.4	1.6	1.6	1.8	1.6	1.6	1.6	1.5	1.4	1.5	1.8	1.6	E	E	1.2
16	1.2	E	1.3	E	E	E	E	1.2	1.2	1.4	1.6	1.6	1.6	1.6	1.6	2.2	2.0	1.6	E	E	E	1.4	1.3	1.2
17	1.1	1.1	1.7	E	E	E	E	1.4	1.4	1.5	1.8	2.0	2.6	2.5	2.4	2.2	C	B	E	E	E	E	E	1.3
18	1.2	1.2	1.2	1.5	E	E	E	1.8	C	C	C	C	C	C	C	C	C	C	E	E	E	E	E	E
19	1.4	1.2	E	1.6	E	M	E	1.7	1.2	2.2	B	B	B	B	B	1.2	B	1.4	1.6	1.5	E	E	E	E
20	E	E	E	1.3	E	E	E	1.2	1.4	1.7	1.6	1.7	1.8	1.9	1.6	1.5	1.4	1.3	2.0	1.6	1.6	1.6	1.6	1.6
21	1.1	1.3	1.2	E	E	E	E	E	B	1.4	1.6	1.6	1.8	1.8	1.7	1.6	1.3	1.3	1.4	1.5	1.7	1.7	1.5	1.5
22	1.7	E	1.2	1.4	1.2	E	E	1.6	1.6	1.4	1.4	1.4	1.5	1.6	1.4	1.2	1.3	1.5	E	E	E	E	E	E
23	1.4	E	E	E	E	E	E	B	1.4	1.3	1.4	1.6	1.8	1.8	1.8	1.6	1.6	1.3	1.4	E	E	1.4	1.6	E
24	1.9	E	1.4	E	1.3	1.4	1.2	1.4	1.6	1.2	1.3	1.8	1.8	1.8	1.6	1.4	1.6	1.4	1.3	E	1.3	E	E	E
25	1.1	1.1	1.2	E	E	E	E	1.2	C	C	1.3	1.4	1.4	1.3	1.3	1.3	1.3	F	E	E	E	E	E	E
26	E	E	E	E	E	E	E	B	1.8	1.4	1.4	1.6	1.7	1.4	1.4	1.4	1.2	1.4	1.4	1.7	C	E	E	E
27	E	E	E	E	E	E	E	B	1.3	1.4	1.4	1.6	1.5	3.3	1.8	1.5	1.5	1.3	1.4	1.3	1.4	1.4	E	E
28	E	E	E	E	E	E	E	1.4	1.3	1.4	1.4	1.6	1.7	1.6	1.6	1.6	1.6	1.4	1.4	E	E	1.6	1.8	1.4
29	E	E	E	E	E	E	E	E	1.6	1.3	1.6	1.6	1.6	1.5	1.5	1.6	1.4	1.3	E	1.5	1.8	E	E	E
30	E	1.1	E	E	E	E	E	B	1.8	1.4	1.4	1.5	1.6	1.6	1.6	1.6	1.6	1.3	E	E	1.6	1.3	1.3	E
31	1.1	1.2	E	E	E	E	E	B	1.5	1.8	1.6	1.6	1.4	1.2	1.8	1.6	1.4	B	E	E	E	E	E	1.3
Mean Value	1.4	1.3	1.3	1.3	1.2	1.4	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.8	1.7	1.6	1.5	1.4	1.5	1.5	1.5	1.5	1.6	1.5
Median Value	1.2	1.1	E	E	E	E	E	1.3	1.4	1.4	1.6	1.6	1.8	1.8	1.6	1.6	1.4	1.4	1.3	E	1.2	E	1.3	1.2
Count	31	31	29	31	31	30	31	19	28	29	29	28	28	28	27	29	27	25	31	31	30	31	31	31

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual

Automatic

K 11

Lat. 36° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Jun. 1952

YPF2

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	70	50	60	ZO ^V	140	70	70 ^H	70	50	70	70	60	60	130	100	70	60	BS	140	220	90	
2	120	80	150	90	U	50	60	110	90	100	50	90	80	70	70	70	70	100	70	50	70	B	(70) ^F	(70) ^C	
3	70 ^F	70	(80) ^M	80	100	90	90 ^F	80	60	120	130	50	(40) ^P	60	(80) ^V	60	(70) ^P	70	80	70	50	60 ^F	(70) ^F	50	
4	60	90	100 ^F	90	70 ^F	40	80	70	70	70	60	70	(70)	60	70	90	90	100	100	70	60 ^S	90	50	100	
5	(120)	60 ^F	60	90	70	90 ^P	100	80	100 ^P	60	90	50	50	90	80	70	80	100	100	110	70	130	120	100 ^F	
6	A	90 ^F	A	A	A	30 ^F	80 ^V	80	60	60	50	(60) ^P	70	80	C	C	C	C	60	80	70	60	80	80	
7	100	40	60	70	(70) ^F	70 ^F	90 ^F	60	80	(130)	(80) ^P	(120) ^S	70	40	100	B	40	70	50	70	70	60	50	30	
8	100	60	50 ^K	110 ^K	180 ^K	140 ^K	90 ^K	80 ^K	130 ^K	60 ^K	50 ^K	(110) ^K	100 ^K	70	120	100	110	80	110	60 ^P	60	80 ^F	(50) ^F	F	
9	(70) ^F	60	60	70	(70) ^F	70	80	80	90	70	80	70	70	60	90	60	90	70	90	100	(70) ^S	90 ^S	150	70	
10	90	80	100	70	110	80	70	60	70	70	60	60	60	30	60	100	50	50	60 ^H	60	80	(60) ^F	(60) ^F	(30) ^F	
11	SF	SF	M	60 ^F	60 ^F	90 ^F	50	50	70	(80) ^P	70	60	50	60 ^S	90	70	60	60	100	70	60	(70) ^F	40	70	
12	60	100	110	110	50	80	160	90	90	170	120	90	(80) ^P	80	60	70	70	90	90	80	40	80	90	50	
13	70	90	60	120	50 ^F	80 ^F	70 ^F	100	90	100	30	40	50	90	70	60	120	90	80	50	90 ^H	100	80	80	
14	80	80	140	110	120	130	90	150	110	80	40	(70) ^V	90	80	80	70	60	80	140	100	60	80	80	90	
15	90	60	(70) ^C	80	100	90	80	100	40 ^H	BS	(80) ^V	70 ^P	70	50	70	70	80	80	100	BS	100 ^K	(70) ^K	100	80 ^K	
16	100 ^K	80 ^K	110 ^K	90 ^K	80 ^K	90 ^K	100 ^K	70	40	50	70	70	50	70	80	80	90	60	90	40	90	110	70	160	
17	100	100	100	40	70	50	120	70	50	70	70	60	50	70	50	50	50	110	60	100	120	80 ^H	80	90	
18	60	(80) ^P	70	50	70	60	80	120	C	C	C	C	90	C	C	C	C	80	90	100 ^H	100	50	70	90 ^F	
19	120	80	70	110	110	M	60	90	50	60	80	50	40	80	60	70	110	90	100 ^H	100	190	70 ^S	90	70	
20	70	80	90	50	120	80	120	60	60	90	60	130 ^S	70	50	70	70	80	70	60	50	60	90	70	70	
21	60	70	60	50	70	80	80	140	60	90	90	(30) ^V	50	70	60	30	60	120	SF	70	120	70	110	90	
22	100	60	130	50	100	100	80	60	80	110	70	80	60	70	60	60	70	60	80	90	90	80	100	100	
23	80	90	(40) ^V	70	110 ^H	90	110	80	60	80	50	80	50	50	100 ^S	(40) ^V	70	60	80	90	120	(60)	100	100	
24	(100)	90 ^S	100	140	(80) ^P	90	80	90	70	60	B	40 ^S	80	80 ^P	70	60	70	70	90	90	90	90	50	120	
25	110	100	80	90	(130)	80	90	110	C	C	60	40	50	40	60	70	80	70 ^H	80 ^F	30	50 ^H	50	50	50	
26	50	90	80	60	90	70 ^S	60	(60) ^V	40	80	80 ^P	90	100	40	50	50	50	70	BS	(60) ^P	60 ^V	50	40	40	
27	70	70	80	70	70	60	70	70	B	120 ^P	50	90	90	60	90	80	100	90	S	90	110	70 ^F	(40) ^F	50	
28	40 ^F	110	100	110	120	90 ^S	130 ^F	70	40	90	70	70	60	70	130	50	70	110	110	90	70	50	(100) ^V	50 ^P	
29	80	60 ^P	80	100 ^F	80	110	90	90	60	70	(60) ^V	40	50 ^P	A	50	50	50	70	40 ^H	60	70	80 ^F	70 ^P	40 ^F	
30	60 ^F	60	110	70	90	100	90 ^F	100	40	70 ^P	50	50	70	80	50	90	70	90	80	60 ^P	(90) ^V	(60) ^F	(80) ^V	70 ^F	
31	(90) ^V	80	(60) ^V	90	70 ^F	60	70	70	(70) ^P	80	70 ^H	90 ^S	50	40	40	60	60	60	70	80	90	(80) ^F	(70) ^F	90 ^F	
Mean Value	80	80	90	80	90	80	90	90	70	80	70	70	70	60	70	70	80	80	80	80	80	80	80	80	80
Median Value	80	80	80	80	80	80	80	80	70	80	70	70	70	70	70	70	70	70	80	80	80	80	80	80	80
Count	29	30	29	30	29	30	31	31	28	28	29	30	31	29	28	28	29	29	28	28	30	29	31	30	

Sweep 1.0 Me to 17.2 Mc in 2 min

Manual Automatic

YPF2

K 12

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

Lat. 35° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

foF2

Jan 1952

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.9	3.2	3.2	3.4	4.0	2.6	2.5	3.4	7.0	7.3	C	C	C	(8.6)P	C	B	6.7	6.7	4.0	3.2	3.5	3.2	2.4	2.7
2	3.0	3.1	3.0	3.4	2.5	A	2.0	3.8	6.0	6.5	7.6	C	C	C	C	C	8.1	7.8	4.4	4.0	2.7	2.5	2.6	3.1
3	2.8	3.1	3.3	3.4	3.0	2.2	[3.1] ^c	4.0	6.5	[6.5] ^c	6.5	B	B	(8.5)P	B	B	6.7	5.3	C	C	C	C	C	C
4	C	2.8	3.2	4.0	1.6	1.9	2.1	C	7.1	6.7	6.8	B	(10.8)P	(11.3)P	8.2	6.6	7.9	6.7	4.8	4.3	3.7	2.3	2.3	(2.8)F
5	3.0	F	3.6	4.2	3.4	2.8	2.4	3.2	6.4	6.4	q.6	B	q.6	q.6	B	q.1	q.2	6.6	5.0	3.7	4.0	4.3	2.9	3.3
6	3.2	3.4	3.8	C	C	C	C	C	6.7	6.8	C	(12.4)P	q.0	6.8	B	B	B	6.5	4.5	4.5	3.7	4.0	2.9	2.6
7	3.1	2.9	3.3	3.0	3.3	2.8	2.7	3.4	5.5	7.6	B	B	q.3	7.3	6.7	q.0	q.4	4.5	4.5	4.5	3.7	2.6	2.3	2.6
8	2.8	3.0	3.3	4.1	C	C	C	3.2	5.6	6.0	6.7	q.3	8.4	8.4	7.1	7.3	6.7	5.9	4.2	2.9	3.2	3.5	2.5	2.8
9	C	C	C	C	C	C	C	C	7.1	7.0	8.0	8.4	8.4	9.3	7.5	7.7	5	5.6	5.0	4.5	4.1	3.9	2.8	2.7
10	2.9	2.9	3.3	3.1	3.0	2.5	2.7	3.9	5.3	5.0	6.5	8.2	11.9	8.2	6.5	6.8	(8.9)P	7.6	4.5	4.3	4.3	3.3	2.5	3.2
11	3.8	F	5	4.5	F	F	F	3.5	5.8	7.6	B	10.7	9.7	8.3	7.4	6.9	6.8	7.4	4.5	4.5	4.8	3.1	2.2	2.6
12	2.8	3.0	3.2	2.6	2.6	2.3	2.0	3.2	C	C	C	C	C	C	C	C	C	C	C	(4.1)P	4.9	3.2	[3.0] ^c	2.9
13	2.7	2.8	3.0	3.2	2.6	2.7	3.5	3.8	6.7	(5.7)P	(7.8)P	(8.7)P	8.7	8.0	8.2	7.3	7.0	7.0	5.5	5.2	5.4	5.4	3.4	3.3
14	4.0	3.2	2.8	2.8	2.3	2.4	2.2	3.0	(6.1)P	6.7	7.0	B	(8.9)P	7.8	7.1	7.5	5	7.6	4.7	4.0	4.6	4.4	2.5	3.3
15	2.5	2.7	3.1	2.5	2.2	2.4	2.5	3.1	5.4	7.4	C	C	7.3	B	B	B	7.3	(5.2)P	4.5	4.5	4.2	[2.7] ^c	2.6	2.7
16	2.9	2.9	2.7	4.2	C	C	C	C	5.7	5	q.2	C	C	C	C	7.7	7.3	6.7	6.5	4.1	4.7	4.1	2.9	3.2
17	2.8	2.9	2.9	3.0	3.0	1.8	2.1	3.3	5.8	6.5	7.6	q.0	10.4	11.0	q.6	q.0	(7.5)P	6.2	4.8	3.6	3.4	3.1	2.7	2.9
18	3.0	3.2	3.5	3.7	2.7	2.0	2.1	3.0	5.7	6.3	6.2	7.2	10.2	7.6	7.2	7.0	6.7	6.3	(5.4)P	4.2	4.2	(4.5)P	2.5	2.6
19	2.8	2.8	3.2	3.2	3.3	2.5	2.5	3.2	5.6	7.0	7.8	q.3	5	B	(12.3)P	(12.8)P	8.8	4.7	4.2	4.0	3.2	3.3	2.9	
20	2.9	2.8	3.1	3.2	3.5	2.2	2.3	3.4	[4.6] ^c	5.8	5.8	B	7.5	7.0	6.3	6.3	6.5	5.1	4.0	4.0	4.5	3.7	2.9	
21	3.0	3.1	3.1	3.1	3.4	2.5	2.7	3.4	5.9	7.0	7.2	q.0	12.2	12.3	11.5	9.7	11.0	B	5	4.1	(4.5)P	4.1	3.7	2.9
22	3.2	3.2	3.4	3.2	2.4	2.4	2.5	C	5.8	6.6	7.5	(7.4)P	8.5	5	q.1	7.2	6.3	6.3	5.2	4.2	4.5	4.2	5.0	4.2
23	4.0	4.0	4.3	3.5	2.4	1.9	1.8	3.0	7.1	6.4	8.0	10.6	q.3	8.5	q.1	8.4	5	6.5	4.1	4.0	3.8	3.4	2.5	2.6
24	2.8	2.9	3.3	3.1	2.7	2.8	2.5	2.9	7.3	B	B	B	B	(8.4)P	B	5	6.8	6.5	4.0	4.5	4.5	4.0	3.1	
25	3.0	3.0	3.0	3.3	3.7	1.8	2.1	3.0	6.0	7.4	B	5	5	5	8.5	7.5	7.1	6.6	4.4	3.2	4.2	2.8	2.5	2.6
26	F	3.0	3.6	2.6	2.3	2.3	2.3	2.7	C	C	C	C	C	C	C	C	C	C	C	3.4	3.5	3.6	3.9	2.7
27	2.7	2.8	2.8	2.7	3.0	2.8	2.5	2.9	6.0	7.2	B	B	B	7.2	(7.9)P	(7.3)P	6.7	6.4	5.2	3.4	3.4	3.5	3.4	3.5
28	3.6	3.3	3.4	2.6	2.8	2.0	2.1	3.0	6.5	5	(10.5)P	10.8	q.6	7.1	6.7	6.8	6.4	5.7	4.7	4.7	4.6	3.9	3.2	A
29	C	C	C	C	C	C	C	C	7.1	6.7	q.1	B	10.4	7.6	(8.0)P	6.5	6.4	5.7	5.5	4.3	4.3	3.1	3.2	3.0
30	3.2	3.5	3.3	2.6	2.5	2.7	2.3	3.3	6.5	11.2	11.2	B	q.7	11.5	11.7	(11.2)P	6.7	5.5	4.3	3.4	4.7	3.7	3.1	3.0
31	3.5	3.9	3.8	2.5	2.1	2.1	2.4	3.5	6.4	(7.3)P	q.2	12.2	5	(10.2)P	8.4	7.0	5.9	5.4	5.2	4.3	3.9	2.9	2.7	2.9
Mean Value	3.1	3.1	3.3	3.2	2.8	2.4	2.4	3.3	6.2	6.9	7.9	q.7	q.7	8.8	8.3	8.0	7.4	6.6	4.8	4.1	4.1	3.6	3.0	3.0
Median Value	3.0	3.0	3.2	3.2	2.7	2.4	2.4	3.2	6.0	6.7	7.6	q.3	q.6	8.4	8.0	7.3	6.8	6.5	4.7	4.1	4.2	3.4	2.8	2.9
Count	2.8	2.7	2.8	2.8	2.5	2.4	2.5	2.6	2.9	2.6	2.1	1.4	1.9	2.2	2.3	2.3	2.4	2.8	2.6	3.0	3.0	3.0	3.0	2.9

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

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

Jan. 1952

fpF2

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	340	370	350	250	250	280	310	250	290	C	C	C	(270) ^J	C	B	240	250	240	320	290	260	390	350
2	320	290	320	320 ^F	200	A	310	250	(270) ^J	240	(270) ^J	C	C	C	C	C	230	300 ^P	260	230	290 ^F	320	350	300
3	300	320	310	250	220	350	[310] ^C	270	230	[260] ^C	(290) ^J	B	B	C	(250) ^P	B	210	220	C	C	C	C	C	C
4	C	300 ^F	270	220	U	370	320	[280] ^C	250	250	300	B	(260) ^F	(270) ^F	250	290 ^F	260	240	220	250	260	350	400	(400) ^F
5	350 ^F	F	340 ^F	300 ^F	240 ^F	310 ^F	350 ^F	300	(240) ^J	270	300	B	260	290	B	300	250	260	270	290	330	270	350	310
6	360	350	280	C	C	C	C	C	250	300 ^H	(250) ^J	(260) ^J	(260) ^J	(260) ^J	B	B	B	240	290	250	270	290 ^F	360	350 ^F
7	350	340	340 ^F	350 ^F	320 ^F	390 ^F	300	270	240	230	B	B	260	260	(290) ^J	310 ^F	250	(260) ^B	310	320	250	320	330	350
8	360	370	280	210	C	C	C	C	320	240	250	260	260 ^P	240	240	290	250	260	290 ^H	270	320	250 ^F	290 ^F	C
9	C	C	C	C	C	C	C	C	260	250	250	(260) ^J	240 ^P	290	250	270	S	240	260	250	250	250	250	370
10	350	300	290	270	300	300	350	260	240	230	290	(320) ^J	250	250 ^P	(250) ^J	320	(280) ^J	260	300	290	270	230	370	400 ^F
11	400 ^F	F	S	210	F	F	F	340 ^F	260	270	B	(260) ^F	260	270 ^F	310	280	260	250	250	340	260	230	390	400
12	400	290	280	330	440	420 ^F	350	270	C	C	C	C	C	C	C	C	C	C	C	(360) ^J	290	320	[300] ^C	290
13	340	360	350	280	360	400	350	250	250 ^P	(240) ^P	(290) ^P	(270) ^J	(260) ^J	270	280	270	250	250	270	300	300	260	300 ^P	390
14	320	290	390	280	370	330	300	300	(270) ^J	(250) ^J	270	B	(270) ^F	260	260	300	S	230	270	310	320	260	370	270
15	360	320	320 ^F	260	390	380	260	270	260	280	C	C	280	B	B	B	B	(250) ^B	(300) ^J	(250) ^J	260	[280] ^C	300	420
16	390	400	420	270	C	C	C	C	290 ^P	S	270 ^P	C	C	C	C	C	C	(240) ^J	260	300	300 ^P	270	310	320
17	340	350	360	310	250	350	350	300	250	250	300	260	310	290	320	300	(250) ^J	250 ^P	260	270	260	310	330	350
18	350	340	310	270	260	350	300	300	250	250 ^P	250	280	290	260	(280) ^J	260	270	250 ^P	260	270	300	(270) ^P	270	300 ^F
19	370 ^F	370 ^F	340	290	320 ^F	250	340	280	250	250	290	250 ^P	S	B	(290) ^J	(280) ^J	(270) ^J	230	250	340	240	300	280	390
20	350	340	300	230	270	350	310	300	[280] ^C	250	250	B	B	290	250	270 ^P	250 ^P	250	250 ^P	290	340	290	250	330
21	370	340	340	290	240	320	350	310	250	250	280	310	B	290	(260) ^J	300 ^P	290	B	S	260	(290) ^F	270	320	350
22	350	300	290	300	350	350	310	280 ^C	250 ^P	250 ^P	260	(250) ^F	290	S	(280) ^J	260	280	260 ^F	250	320	300	350	270	320
23	350	330	(250)	250	270 ^H	360	U	310	250	260	290 ^F	(280) ^J	250	280	(290) ^J	270	S	(250) ^J	270	260	290	250	270	380
24	380 ^P	350	350	260	350	360	320	320	290	B	B	B	B	(260) ^P	B	S	(250) ^J	270	S	300	310	300	300	320
25	360	350	350	340	220	450	350	300	250 ^P	290	B	S	S	270 ^P	260	260	250	240	230	320	260	270	340	360
26	380 ^F	370	270	250	260	370	400	320	C	C	C	C	C	C	C	C	C	C	C	290	280	320	290 ^V	350 ^V
27	360	300	340	320 ^F	320 ^F	250	320	350	(250) ^J	260	B	B	B	300	(270) ^P	(260) ^F	280	290 ^J	250 ^P	270	310	360	370 ^F	440 ^F
28	400 ^F	270 ^F	220	330 ^F	350 ^F	340	350	320	300	S	(280) ^J	250 ^F	250	250	280	240	240	(250) ^J	250 ^P	270	280	250	300	A
29	C	C	C	C	C	C	C	C	300	250	260	300	B	(250) ^J	(250) ^F	240	(250) ^J	250	250	250	240	290	330 ^F	300
30	390	260	270	220	250	400 ^F	350 ^F	300	310	270	240	B	310	290	(250) ^S	250	250	250	340	270	290	290	320	A
31	380	300	220	280	250	310	350	300	250	(270) ^F	300	280	S	(250) ^J	290	250	240 ^F	250	260 ^P	250	230	250 ^F	340	400 ^F
Mean Value	360	330	310	290	290	350	330	300	260	260	270	270	270	270	270	280	250	250	260	290	280	280	320	350
Max Value	360	340	320	290	270	350	330	300	250	250	280	260	260	270	270	280	250	250	260	290	280	280	320	350
Count	28	27	28	28	24	24	24	24	29	26	21	14	19	19	22	23	24	28	26	30	30	30	30	27

fpF2

Sweep 1-2 Mc to 2.20 Mc in 2 min

Manual Automatic

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

Lat. 35° 12.5' N
Long. 139° 37.7' E

Yamagawa

IONOSPHERIC DATA

Jan. 1952

f'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 ^A	3.1	3.0	2.9	2.7	2.7	2.4	2.4	2.2	2.4	2.6	2.5	2.5	2.5	2.5	2.5	2.2	2.1	1.9	2.6	2.2	2.3	3.0	3.0 ^F
2	2.7	2.4	2.6	2.6	2.0 ^A	A	2.9	2.3	2.1	2.2	2.6	2.5	[2.5] ^C	2.5	2.5	2.3	2.3	2.7	2.0 ^A	2.0 ^A	2.0 ^A	2.8	3.0	2.6
3	2.5	2.6	2.6	2.2	2.0	2.7	[2.5] ^C	2.4	2.1	2.3	2.8	2.7	2.4	2.4	2.4	2.3	2.0	2.1	C	C	C	C	C	C
4	C	2.7	2.5	2.0 ^A	2.0	3.5	3.0	C	2.3	2.2	2.7	2.6	2.5	2.5	2.4	2.0	2.4	2.1	2.0 ^A	2.2	2.6	2.3	2.5	2.8
5	3.0 ^F	2.8	2.7	2.4	2.0 ^A	2.8	3.2	2.6	2.2	2.3	2.5	2.5	2.5	2.5	2.7	2.7	2.3	2.1	2.0 ^A	2.0 ^A	2.4	2.5	3.0	3.3
6	3.0 ^F	3.0	2.4	C	C	C	C	C	2.3	2.4 ^H	2.9	2.4	2.5	2.5	2.5	2.5	2.4	2.0 ^A	2.0 ^A	2.3	2.4	2.5	3.0	3.3
7	2.7	3.0 ^A	2.7	3.0	2.8	3.1 ^F	2.6	2.4	2.2	2.2	2.6	2.5	2.4	2.5	2.7	2.9	2.3	2.0	2.0 ^A	2.5	2.1	2.2	2.8	3.0
8	3.0	3.1	2.5	2.0	C	C	C	C	2.2	2.3	2.4	2.5	2.3	2.6	2.2	2.5	2.2	2.2	2.6 ^H	2.2	2.6	2.5 ^F	2.1	C
9	C	C	C	C	C	C	C	C	2.3	2.3	2.4	2.5	2.4	2.8	2.5	2.7	2.5	2.0	2.1	2.4	2.2	2.3	2.2	3.4
10	3.0	2.7	2.5	2.4	2.5	2.3	2.9	2.3	2.2	2.3	2.9	3.0	2.4	2.5	2.5	2.7	2.5	2.1	2.1	2.5	2.2	2.1	3.2	3.1
11	3.0	2.7	2.3	2.0 ^A	3.5 ^H	3.0 ^F	2.5	2.5	2.4	2.6	2.6	2.5	2.5	2.5	2.7	2.5	2.5	2.4	2.0	2.5	2.1	2.0	2.3	2.5
12	3.0	2.5	2.4	2.3	3.5	3.7	3.1	2.4	C	C	C	C	C	C	C	C	C	C	C	2.3	2.3	2.3	[2.4] ^C	2.5
13	2.5	3.0	3.0	2.4	2.5	3.4	2.8	2.2	2.4	2.2	2.3	2.6	2.6	2.5	2.5	2.4	2.5	2.2	2.0 ^A	2.6	2.5	2.3	3.5	2.5
14	2.7	2.3	3.1	2.4	3.0	2.9	2.7	2.4	2.4	2.2	2.4	2.4	2.4	2.4	2.5	2.7	2.3	2.2	2.2	2.2	2.2	2.3	[2.4] ^C	2.5
15	3.0	2.8	2.7	2.2	3.2	3.2	2.5	2.5	[2.4] ^C	2.4	2.5	2.4	2.4	2.4	2.5	2.7	2.3	2.2	2.2	2.2	2.3	2.3	2.5	3.5
16	3.2	3.5	4.0	2.5	C	C	C	C	2.2	2.5	2.5	2.6	2.4	2.5	2.5	2.7	2.3	2.2	2.2	2.5	2.4	2.3	2.7	2.8
17	2.5	3.0	3.0	2.6	2.2	3.0	3.1	2.6	2.2	2.3	2.6	2.4	2.4	2.5	2.5	2.4	2.5	2.1	2.2	2.5	2.2	2.5	2.7	3.0
18	3.0	2.7	2.5	2.3	2.1	2.5	2.8	2.6	2.3	2.2	2.2	2.4	2.6	2.5	2.7	2.5	2.3	2.2	2.1	2.3	2.4	2.1	2.5	2.6
19	3.1	3.1	3.0	2.5	2.5	2.1	3.0	2.5	2.3	2.4	2.7	2.5	2.7	2.5	2.4	2.5	2.4	2.1	2.4	2.6	2.2	2.4	2.5	3.0
20	3.0	2.9	2.5	2.0	2.2	2.8	2.9	2.5	[2.4] ^C	2.3	2.3	2.4	2.4	2.8	2.5	2.1	2.3	2.4	2.1	2.2	2.7	2.4	2.2	2.7
21	3.0	2.8	2.7	2.5	2.2	2.2	2.9	2.5	2.4	2.4	2.5	2.4	2.5	2.5	2.5	2.1	2.5	2.2	2.0	2.2	2.5	2.4	2.5	2.9
22	3.1	2.5	2.5	2.5	2.2	3.0	2.8	[2.6] ^C	2.3	2.4	2.5	2.4	2.6	2.5	2.6	2.5	2.2	2.2	2.1	2.6	2.5	2.7	2.5	2.5
23	2.6	2.6	2.3	2.1	2.0 ^H	3.0	3.8	2.6	2.4	2.4	2.6	2.5	2.7	2.7	2.7	2.6	2.5	2.1	2.0	2.5	2.4	2.3	2.5	3.5
24	3.2	3.0	2.7	2.3	2.5	3.0	3.0	2.9	2.5	2.5	2.3	2.7	2.5	2.6	2.6	2.5	2.2	2.5	2.1	2.2	2.5	2.4	2.4	2.5
25	3.0	3.0	2.9	2.6	2.0	4.3	3.0	2.6	2.3	2.5	2.5	2.8	2.5	2.5	2.5	2.4	2.5	2.2	2.0 ^A	2.4	2.3	2.2	2.4	3.2
26	3.2	3.0	2.5	2.0	2.4	3.3	3.5	2.8	C	C	C	C	C	C	C	C	C	C	C	2.1	2.3	2.5	2.4	3.1
27	3.2	3.0 ^A	3.1	2.8	2.5 ^F	2.3	2.5	2.7	2.3	2.0	2.5	2.5	2.9	2.9	2.7	2.6	2.3	2.2	2.0	2.5	2.0	2.3	3.0	3.5
28	3.4	2.6	2.0	2.5	2.5	3.0	3.5	2.9	2.5	2.5	2.4	2.5	2.5	2.5	2.5	2.7	2.4	2.0 ^A	2.0 ^A	2.5	2.5	2.5	2.5	A
29	C	C	C	C	C	C	C	C	2.5	2.4	2.8	2.3	2.5	2.5	2.5	2.4	2.2	2.0 ^F	2.3	2.3	2.0	2.4	2.7	2.5
30	3.1	2.5	2.5	2.0	2.4	3.4	3.4	2.6	2.5 ^A	2.4	2.2	2.5	3.0	2.6	2.5	2.3	2.2	2.2	2.2	3.0	2.5	2.4	3.0	4.7
31	3.1	2.5	2.0	2.4	2.2	3.0	3.0	2.5	2.4	2.3	2.7	2.5	2.5	2.4	2.5	2.5	2.3	2.2	2.2	2.2	2.0	2.1	3.0	3.5
Mean Value	3.0	2.8	2.7	2.4	2.9	2.9	2.5	2.5	2.3	2.3	2.5	2.5	2.5	2.6	2.5	2.5	2.3	2.2	2.1	2.4	2.3	2.4	2.7	3.1
Median Value	3.0	2.8	2.6	2.4	3.0	2.9	2.5	2.5	2.3	2.3	2.5	2.5	2.5	2.5	2.5	2.5	2.3	2.2	2.1	2.3	2.4	2.4	2.6	3.0
Count	2.8	2.9	2.9	2.8	2.6	2.5	2.6	2.7	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	3.0	3.0	3.0	3.0	2.8

Manual Automatic

Sweep 1.0 Mc to 2.2.0 Mc in 2.0 min

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

Lat. 35° 12.6' N
Long. 139° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

foF1

Jan. 1952

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	L	L	L	L	L	L	Q	Q						
2								Q	Q	L	L	L	C	L	L	L	L	L						
3								Q	Q	Q	L	L	L	L	L	L	L	L						
4								Q	Q	Q	L	L	L	L	L	L	L	L						
5								Q	Q	Q	L	L	L	L	L	L	L	L						
6								Q	Q	Q	L	L	L	L	L	L	L	L						
7								Q	Q	Q	L	L	L	L	L	L	L	L						
8								Q	Q	Q	L	L	L	L	L	L	L	L						
9								Q	Q	Q	L	L	L	L	L	L	L	L						
10								Q	Q	Q	L	L	L	L	L	L	L	L						
11								Q	Q	Q	L	L	L	L	L	L	L	L						
12								Q	Q	Q	L	L	L	L	L	L	L	L						
13								Q	Q	Q	L	L	L	L	L	L	L	L						
14								Q	Q	Q	L	L	L	L	L	L	L	L						
15								Q	Q	Q	L	L	L	L	L	L	L	L						
16								Q	Q	Q	L	L	L	L	L	L	L	L						
17								Q	Q	Q	L	L	L	L	L	L	L	L						
18								Q	Q	Q	L	L	L	L	L	L	L	L						
19								Q	Q	Q	L	L	L	L	L	L	L	L						
20								Q	Q	Q	L	L	L	L	L	L	L	L						
21								Q	Q	Q	L	L	L	L	L	L	L	L						
22								Q	Q	Q	L	L	L	L	L	L	L	L						
23								Q	Q	Q	L	L	L	L	L	L	L	L						
24								Q	Q	Q	L	L	L	L	L	L	L	L						
25								Q	Q	Q	L	L	L	L	L	L	L	L						
26								Q	Q	Q	L	L	L	L	L	L	L	L						
27								Q	Q	Q	L	L	L	L	L	L	L	L						
28								Q	Q	Q	L	L	L	L	L	L	L	L						
29								Q	Q	Q	L	L	L	L	L	L	L	L						
30								Q	Q	Q	L	L	L	L	L	L	L	L						
31								Q	Q	Q	L	L	L	L	L	L	L	L						
Mean Value																								
Median Value																								
Count																								

foF1

Sweep 1.0 Me to 2.2.0. Me in 2 min

Manual Automatic

Y 4

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'F1

Jan. 1952

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

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

foE

Jan. 1952

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

foE

freq. 1.0 Mc to 2.2 Mc in 2 min

Manual Automatic

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

Lat. 35° 12.5' N
Long. 139° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E

Jan. 1952

Mean Time

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

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

Jan. 1952

fEs

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	2.1Y	2.3	1.9	E	E	1.9	2.2	G	4.2F	4.2	5.2F	4.0	5.4	4.0	G	4.7	4.5F	2.9	2.2	E	2.5	E	E	
2	E	2.5F	2.5F	3.0	2.5	2.9	2.3	2.3	G	4.0F	4.5F	7.0Y	C	5.2Y	4.3F	4.3F	4.3	4.2	3.2	3.1F	2.9F	2.2F	2.1	2.3	
3	1.8	2.2Y	2.5	E	E	E	C	2.5	G	G	4.4	4.0F	4.0	4.3F	G	3.9	3.5	G	C	C	C	C	C	C	
4	C	2.2F	3.0F	3.0F	4.0Y	3.0F	3.2F	C	3.3F	3.9Y	4.3F	4.5	4.8	4.0	Y	G	4.0	2.7F	3.0Y	3.5F	3.3	2.6F	2.5F	2.3	
5	2.1	2.2	2.6	2.5F	2.8	2.6	2.8	2.3	3.0Y	G	5.4	4.2	4.4	4.4	4.0	4.1F	3.5F	4.0	2.6	2.9F	2.3	2.5	2.5	2.4	
6	2.5F	2.5F	2.6F	C	C	C	C	C	G	3.1F	4.4	7.3Y	5.4	7.2Y	5.0	7.2Y	3.5F	5.0	3.1F	3.9F	2.5	2.2	2.0	E	
7	5.4	4.2F	2.8	4.3F	3.2	4.1F	2.6	4.0Y	3.4	3.5	4.7	6.7Y	5.0	4.7	4.5	4.1F	4.0F	4.1F	3.9F	2.5	2.5	E	2.0	2.0	
8	E	E	E	E	C	C	C	C	G	4.4	4.5	4.0	4.2	4.0	3.8Y	3.9Y	4.7	4.0F	3.4	3.2	3.5	4.0	2.6	3.5F	3.0
9	C	C	C	C	C	C	C	C	G	3.5	G	4.0	4.6	5.5	8.4F	4.7	4.0F	3.4	G	E	2.0	E	E	E	
10	3.3	2.8	2.5	2.5	2.5	E	E	2.3	G	4.0F	4.3	4.5	4.0	G	G	G	3.3	G	E	E	2.0	E	E	E	
11	2.5	2.2F	2.9F	3.0F	2.5F	E	2.3F	3.0	4.0F	3.0	4.0F	4.5	7.0Y	4.1	4.0	4.0	3.9Y	3.0F	E	2.5F	2.2	E	E	E	
12	E	E	E	E	2.0	2.6	2.0	B	C	C	C	C	C	C	C	C	C	C	C	E	E	1.9	C	E	
13	E	E	E	E	1.9	2.0	2.0	1.9	G	G	5.5	5.6	4.2	4.3F	4.0	4.0	4.0F	4.8F	4.9	4.2	3.0	2.0	2.2	E	
14	E	E	E	E	E	E	E	1.9	G	G	5.5	5.6	5.5	5.5	4.7	4.5	4.5	4.7	3.3	2.5	2.5F	2.9F	3.0	2.5	
15	2.0F	2.3	2.5Y	2.0Y	E	E	E	2.1	B	C	G	5.8	4.5	4.5	G	G	4.0	4.0	3.3Y	2.7	2.5	C	2.0	2.2F	
16	E	2.5	2.9	4.0	C	C	C	C	4.3	4.5	4.7	4.5	5.4	4.7	7.5Y	7.5Y	3.0	3.1	3.4	2.9	3.1Y	3.1	2.3	2.4	
17	2.4F	2.3F	2.5	2.3F	2.2	2.3F	2.2	E	2.3	3.0Y	3.3	3.9	4.2F	4.2F	4.3F	4.3F	4.0F	3.9	3.9	2.5F	E	E	2.2	E	
18	2.2	E	E	2.5F	2.2F	2.5	E	B	3.2	4.0F	4.3	4.4F	4.0	3.9F	G	4.0F	4.0Y	3.0Y	2.5F	E	E	E	E	E	
19	2.5F	2.8F	2.5F	2.5F	2.5F	2.5F	2.5F	2.3F	3.4	3.9Y	G	4.2	4.3	G	G	4.0F	4.0F	3.0F	2.5F	E	E	E	E	E	
20	2.2F	E	E	E	E	E	E	B	C	G	4.0	4.0	4.3	G	4.0	G	G	3.0F	4.5	4.4	3.2	4.9	E	2.5	
21	2.3	2.3	2.0	2.5	E	2.5	E	B	G	3.9	4.5	4.5	5.4	4.1	4.0	3.9	3.4	G	E	E	2.0	E	2.3	1.8	
22	3.0	2.5	3.0	2.2	E	E	E	C	G	4.2	4.2	4.2	4.5F	4.8	4.0F	4.0	3.5F	3.2	3.0Y	3.3	3.2	3.0	4.0Y	2.4F	
23	E	2.5	2.5F	2.5F	E	2.1	2.0	B	G	G	4.0	4.2	4.0	4.0F	G	G	G	G	2.3	2.0	2.5	2.0	E	E	
24	E	E	E	E	E	E	E	B	3.5F	3.5	4.0	4.0	G	G	G	3.4	3.4	G	E	E	2.0	2.0	E	E	
25	E	E	E	E	E	2.5F	E	B	3.0	3.4	4.0	4.7	5.5	4.7	3.8	3.5F	4.4F	4.0F	2.5F	2.5	E	E	E	E	
26	E	E	E	E	2.0	2.3	2.0	2.5F	C	C	C	C	C	C	C	C	C	C	C	E	E	E	E	E	
27	2.5	2.9	2.9F	2.5F	E	E	E	B	G	G	4.0	3.9	4.1	4.0F	G	G	3.4	G	2.5F	2.0	E	2.5	2.6		
28	2.3	E	E	E	E	E	E	2.3	G	G	4.7	5.2	4.0	G	G	5.2F	G	4.8F	3.9Y	4.5	4.1	3.6	2.3Y	4.3	
29	C	C	C	C	C	C	C	B	G	3.3	4.0	3.9	4.7	4.0	4.0	G	4.6	4.8F	3.3	3.4	2.5	2.2	2.5F	2.3	
30	2.3	E	E	E	2.6	E	E	B	3.5	5.4	5.0	4.5F	4.7	G	4.0	4.0	G	2.9Y	3.0	2.3Y	2.3F	4.3	4.7F	4.7	
31	4.5	2.3Y	3.1Y	3.0Y	E	E	E	B	G	G	4.1	5.3	4.3F	G	4.0	G	G	G	2.5	2.1	2.1	6.2	3.0	2.9Y	
Mean Value	2.7	2.5	2.6	2.7	2.5	2.6	2.3	2.5	3.3	3.9	4.4	4.6	4.8	4.6	4.6	4.4	4.0	3.9	3.2	2.9	2.7	2.9	2.6	2.7	
Median Value	2.2	2.2	2.5	2.5	2.0	2.2	1.9	2.3	G	3.4	4.3	4.4	4.3	4.0	3.9	3.9	3.9	3.2	3.0	2.5	2.3	2.2	2.3	2.2	
Count	28	29	29	28	26	26	25	13	2.7	2.9	2.9	2.9	2.7	2.9	2.9	2.9	2.9	2.9	2.8	3.0	3.0	2.9	2.9	2.9	

fEs

Sweep 1.0 — Mc to 22.0. Mc in 2. min

Manual

Automatic

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

IONOSPHERIC DATA

Yamagawa

Lat. 31° 12.6' N
Long. 130° 37.7' E

Jan. 1952

(M3000)F2

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.9	2.6	2.8	2.9	3.5	3.5	3.3	3.0	3.7	3.2	C	C	C	(3.3)P	C	B	3.7	3.5	3.6	3.1	3.3	3.4	2.7	2.9F
2	2.5	3.2	3.0	3.1F	4.0	A	3.1	3.4	(3.7)P	3.8	(3.5)P	C	C	C	C	C	3.7	3.1P	3.4	3.7	3.2F	2.9	2.9	3.2
3	3.1	3.0	3.1	3.4	3.8	2.8	[3.0]C	3.3	3.6	[3.4]C	(3.3)P	B	B	C	(3.5)P	B	3.8	3.7	C	C	C	C	C	C
4	C	3.0F	3.2	3.8	3.8P	2.8	3.0	C	3.7	3.5	3.2	B	(3.7)P	(3.4)P	3.6	3.2P	3.4	3.6	3.7	3.5	3.4	2.6H	2.6	(2.6)F
5	2.8F	F	3.0F	3.2F	3.6F	3.0F	2.9F	3.1	(3.8)P	3.4	3.2	B	3.5	3.3	3.3	3.2	3.6	3.3	3.3	3.2	3.0	3.3	2.7	2.9
6	2.8	2.8	3.3	C	C	C	C	C	3.5	3.2H	C	(3.7)P	(3.4)P	3.1	B	B	B	3.6	3.2	3.4	3.3	3.2F	2.8	2.8F
7	2.8	2.9	3.1F	2.9F	3.0F	2.7F	3.1	3.3	3.6	3.8	B	3.3	3.4	(3.3)P	3.4	3.4	3.7	3.3	3.1	3.1	3.5	3.0	3.0	2.8
8	2.8	2.8	3.3	3.9	C	C	C	2.9	3.7	3.5	3.4	3.4P	3.6	3.4	3.8	3.4	3.4	3.3	3.1H	3.3	3.1	3.4F	3.2F	C
9	C	C	C	C	C	C	C	C	3.5	3.6	3.6	(3.5)P	3.6P	3.3	3.5	3.3	S	3.4	3.3	3.5	3.5	3.0	3.5	2.8
10	2.9	3.2	3.3	3.3	3.1	3.1	2.9	3.5	3.7	3.6	3.3	(3.1)P	3.6	3.6P	(3.5)P	3.0	(3.3)P	3.4	3.2	3.3	3.3	3.6	2.8	2.6F
11	2.6F	F	S	3.7	F	F	2.9F	3.1	3.4	3.4	B	(3.4)P	3.5	3.3P	3.2	3.3	3.2	3.4	3.4	3.0	3.4	3.7	2.6	2.6
12	2.6	3.3	3.4	2.9	2.5	2.6F	3.0	3.4	C	C	C	C	C	C	C	C	C	C	C	(3.0)P	3.2	3.0	[3.1]C	3.2
13	2.8	2.8	2.9	3.4	2.7	2.7	3.2	3.4	3.6P	(3.6)P	(3.3)P	(3.4)P	3.3	3.3	3.3	3.3	3.4	3.4	3.3	3.2	3.1	3.3	3.2P	2.7
14	3.1	3.1	2.7	3.3	2.8	2.9	3.1	3.2	(3.3)P	(3.5)P	3.4	B	(3.4)P	3.4	3.5	3.1	S	3.7	3.3	3.0	3.0	3.4	2.8	3.3
15	2.8	3.0	3.1F	3.4	2.7	2.7	3.3	3.1	3.3	3.3	C	C	3.4	B	B	B	B	3.5	(3.0)P	(3.4)P	3.3	[3.2]C	3.0	2.5
16	2.7	2.6	2.6	3.2	C	C	C	C	3.2P	S	3.3P	C	C	C	C	3.6	3.3	(3.6)P	3.4	3.2	3.1	3.4	3.1	3.1
17	2.9	2.8	2.8	3.1	3.6	2.8	3.0	3.2	3.6P	3.6	3.1	3.4	3.1	3.3	2.9	3.1	(3.5)P	3.4P	3.4	3.3	3.3	3.0	2.9	2.8
18	2.9	2.9	3.1	3.4	3.4	3.0	3.2	3.2	3.5	3.5P	3.5	3.2	3.3	3.5	3.4P	3.5	3.3	3.4P	(3.3)P	3.1	3.2	(3.2)P	3.0	3.2F
19	2.8F	3.0F	2.9	3.3	3.1F	3.6	3.1	3.2	3.7	3.7	3.3	3.3P	S	B	(3.3)P	(3.4)P	(3.4)P	3.7	3.5	2.9	3.5	3.1	3.2	2.7
20	2.9	2.9	3.2	3.7	3.3	2.9	3.0	3.2	[3.3]C	3.5	3.3	B	3.3	3.3	3.7	3.2P	3.4P	3.4	3.4P	3.2	2.9	3.3	3.5	3.0
21	2.8	3.0	2.9	3.3	3.6	3.0	2.8	3.1	3.5	3.5	3.2	3.1	3.2	(3.4)P	3.4P	3.3P	3.2	B	S	3.3	(3.2)P	3.2	2.9	2.7
22	2.9	3.1	3.3	3.2	3.1	2.9	3.1	[3.2]C	3.4P	3.6	3.5	(3.6)P	3.3	S	(3.4)P	3.4	3.4	3.4P	3.6	3.0	2.9	2.9	3.3	3.0
23	2.9	3.1	(3.4)P	3.6	3.3H	2.8	3.1	3.7	3.4	3.4	3.2P	(3.4)P	3.4	3.2	(3.3)P	3.3	S	3.6	3.3	3.3	3.2	3.3	3.4	2.7
24	2.7P	2.8	3.1	3.5	2.8	2.8	3.0	2.9	3.2	B	B	B	B	(3.4)P	B	S	(3.5)P	3.5	S	3.0	3.1	3.2	3.1	3.0
25	2.8	3.0	3.0	2.9	3.5	3.6	2.9	3.1	3.5P	3.2	B	S	S	S	3.4P	3.4	3.5	3.6	3.6	3.2	3.4	3.2	2.9	2.8
26	2.8F	2.8	3.2	3.5	3.3	2.7	2.6	3.0	C	C	C	C	C	C	C	C	C	C	C	C	3.2	3.0	3.3P	2.8V
27	2.8	3.0	3.0	2.9F	3.2F	3.4	3.0	2.7	(3.5)P	3.4	B	B	B	3.1	(3.4)P	(3.4)P	3.3	(3.5)P	3.6P	3.3	3.0	2.7	3.7F	2.5F
28	2.6F	3.0F	3.6	2.9F	2.8F	3.0	2.8	3.0	3.2	[3.2]S	3.3F	3.3F	3.4	3.6	3.2	3.4	3.1P	3.4P	3.1	3.2	3.2	3.5	3.1	A
29	C	C	C	C	C	C	C	C	3.1	3.5	3.4	3.2	B	(3.5)P	3.5	(3.4)P	3.7	(3.7)P	3.4	3.3	3.6	3.2	3.1F	3.2
30	2.7	3.4	3.3	3.8	3.4	2.7F	2.7F	3.0	3.0	3.4	3.6	B	3.1	3.2	3.2	(3.5)P	3.5	3.4	3.4	2.9	3.3	3.2	2.9	3.1
31	2.8	3.1	3.7	3.2	3.4	2.7	2.7	3.1	3.6	(3.4)P	3.1	3.4	[3.4]S	(3.5)P	3.5	3.6	3.7P	3.4	3.4P	3.5	3.5	3.4F	2.9	2.7E
Mean	2.8	3.0	3.1	3.3	3.3	2.9	3.0	3.1	3.5	3.5	3.3	3.4	3.4	3.4	3.4	3.3	3.5	3.5	3.4	3.2	3.2	3.2	3.0	2.8
Median	2.8	3.0	3.1	3.3	3.3	2.8	3.0	3.1	3.5	3.5	3.3	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.2	3.2	3.2	3.0	2.8
Count	28	27	28	28	25	24	25	27	29	27	21	14	20	22	23	23	24	28	26	30	30	30	30	28

Sweep 1.0... Mc to 2.2... Mc in ... min

Manual Automatic

Y 9

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

Jan. 1952

fminF

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	1.2	1.1	1.3	1.0	1.3	1.4	1.5	2.2	2.6	2.8	3.2	3.5	3.7	3.0	2.9	3.0	2.0	1.6	1.5	1.5	1.5	1.5	1.6 ^F
2	1.4	1.0	1.4	1.4	A	A	1.5	1.5	2.3	2.8	3.2	A	C	3.5	3.4	3.1	A	A	A	A	A	A	1.5	1.5
3	1.6	1.3	1.8	1.2	1.2	1.2	[1.4] ^C	<1.1	2.2	2.8	2.6	3.3	3.4	3.3	3.2	3.0	2.8	2.0	C	C	C	C	C	C
4	C	1.1	1.5	A	1.3	1.3	1.5	C	2.4	2.7	3.4	3.3	3.3	3.3	3.0	2.8	2.5	1.8	1.6	2.0 ^A	2.2 ^A	1.7	1.6	1.5
5	1.4 ^F	1.1	1.3	1.3	A	1.6	1.7	1.5	2.1	2.7	3.0	3.0	3.2	3.2	3.0	2.9	2.5	1.8	A	1.5	1.5	1.5	1.6	1.5
6	1.5	1.5	1.6	1.3	C	C	C	C	2.1	2.4	3.1	A	A	4.0 ^A	3.2	2.8	6.3 ^A	A	A	2.0 ^A	1.6	1.6	1.5	1.5
7	1.5	A	1.2	A	1.7	1.8	1.5	1.5	2.3	2.6	2.8	2.8	A	A	A	3.0	2.6	2.0	A	1.5	1.5	1.5	1.5	1.5
8	1.4	1.2	1.2	1.1	C	C	C	1.5	2.4	2.5	3.0	3.3	3.3	3.1	3.0	2.9	2.4	2.1	A	1.5	1.5	2.0 ^F	1.7	C
9	C	C	C	C	C	C	C	C	2.3	2.5	2.8	3.0	3.3	A	5.1 ^A	3.1	2.7	1.8	2.1	2.5 ^A	2.5 ^A	1.7	1.5	2.1
10	1.7	1.8	1.8	1.4	1.3	1.2	1.4	1.5	2.3	2.8	3.0	3.3	3.3	3.4	3.4	3.0	2.5	2.0	1.5	1.5	1.5	1.5	1.6	1.5
11	1.5	1.1	1.4	A	1.1 ^F	1.0 ^F	1.5	1.5	2.2	2.7	2.8	3.2	A	3.2	3.1	2.8	2.5	2.1	1.6	1.5	1.5	1.5	1.5	1.6
12	1.5	1.2	1.1	1.2	1.1	1.3	1.5	1.5	C	C	C	C	C	C	C	C	C	C	C	1.5	1.5	1.5	[1.6] ^C	1.6
13	1.5	1.3	1.3	1.2	1.2	1.3	1.6	1.6	2.2	2.5	2.9	3.3	3.2	3.2	3.1	2.8	2.5	2.5	3.3 ^A	2.8 ^A	1.8	1.6	1.6	1.5
14	<1.5	1.2	1.3	1.1	1.2	1.2	1.5	1.5	2.3	2.8	3.0	5.0 ^A	A	A	A	3.1	3.0	2.9	A	1.5	1.5	1.5	2.0 ^A	1.5
15	1.5	1.2	1.2	1.2	1.3	1.2	1.6	1.6	[2.4] ^C	3.1	3.0	3.2	A	3.4	3.1	3.2	2.6	1.8	1.5	1.7	1.7	[1.6] ^C	1.5	1.6
16	1.5	1.3	1.6	2.0 ^A	C	C	C	C	2.1	2.8	A	3.4	3.5	A	A	A	2.7	2.0	1.6	1.7	1.5	1.8	1.6	1.5
17	1.5	1.2	1.4	1.3	1.3	1.3	1.5	1.5	2.1	A	2.9	3.2	3.2	3.3	3.5	3.0	2.5	2.1	2.2 ^A	1.5	1.5	1.5	1.6	1.5
18	1.6	1.3	1.2	1.2	1.3	1.2	1.4	1.6	2.3	2.7	3.0	3.1	3.7	3.2	3.2	3.0	2.7	2.1	1.4	1.5	1.5	1.5	1.5	1.5
19	1.5	1.3	1.4	1.2	1.2	1.2	1.5	1.5	2.0	2.5	3.1	3.5	3.4	3.6	3.9	3.3	3.0	3.0	1.7	1.7	1.8	A	1.6	1.5
20	1.5	1.2	1.2	1.2	1.2	1.2	1.2	1.5	[2.0] ^C	2.5	3.4	3.4	3.4	3.5	3.3	3.0	2.7	2.2	1.5	1.5	1.4	1.5	1.5	1.5
21	1.4	1.2	1.2	1.3	1.2	1.2	1.2	1.5	2.4	2.7	3.2	3.5	3.5	3.3	3.1	3.0	2.5	2.0	1.5	1.5	1.6	1.6	1.6	1.6
22	2.0 ^A	1.8	2.0 ^A	1.3	1.3	1.4	1.5	[1.8] ^C	2.2	2.7	2.9	2.9	3.5	3.8	3.1	3.0	2.6	2.1	1.6	2.3 ^A	1.6	1.9	1.5	1.5
23	1.4	1.3	1.2	1.2	1.2	1.2	1.5	1.5	2.2	2.7	2.8	3.2	3.2	3.1	3.2	2.9	2.6	2.0	1.5	1.6	1.5	1.5	1.6	1.5
24	1.6	1.3	1.3	1.2	1.2	1.2	1.5	1.5	2.3	2.6	3.0	3.2	3.3	3.3	3.1	3.0	2.6	2.5	1.4	1.5	1.5	1.3	1.6	1.5
25	1.4	1.2	1.2	1.2	1.2	1.2	1.5	1.6	2.1	2.5	2.8	A	4.4 ^A	A	3.2	2.9	A	2.1	A	1.6 ⁵	1.5	1.5	1.6	1.5
26	1.4	1.2	1.2	1.2	1.2	1.2	1.5	1.6	C	C	C	C	C	C	C	C	C	C	C	1.4	1.5	1.6	1.5	1.9
27	1.7	A	2.0 ^A	1.2	1.2	1.2	1.5	1.5	2.1	2.7	3.0	3.5	3.6	3.2	3.3	3.1	2.9	2.1	1.5	1.4	1.5	1.6	1.6	1.7 ^F
28	1.4	1.1	1.6	1.3	1.3	1.0	1.6	1.5	2.2	2.7	3.0	3.4	3.6	3.4	3.1	A	3.1	A	A	2.5 ^A	2.7 ^A	1.6	1.6	A
29	C	C	C	C	C	C	C	C	2.1	2.6	3.0	3.2	3.9	3.4	3.0	3.0	2.5 ^F	AF	2.7 ^A	2.2 ^A	A	1.5	1.5	1.3
30	1.5	1.3	1.3	1.2	1.3	1.3	1.4	1.5	A	2.5	2.8	3.1	A	3.4	3.0	3.1	2.6	2.1	2.1 ^A	1.6	1.5	1.4	2.4 ^A	2.7 ^A
31	A	1.3	1.6	1.2	1.2	1.2	1.5	1.5	2.2	2.8	3.0	3.5	3.3	3.3	3.4	2.8	2.5	2.4	1.6	1.6	1.5	1.5	A	1.5
Mean Value	1.5	1.3	1.4	1.3	1.2	1.3	1.5	1.5	2.2	2.7	3.0	3.3	3.5	3.4	3.3	3.0	2.8	2.1	1.9	1.7	1.6	1.6	1.6	1.6
Median Value	1.5	1.2	1.3	1.2	1.2	1.2	1.5	1.5	2.2	2.7	3.0	3.2	3.4	3.3	3.2	3.0	2.6	2.1	1.6	1.5	1.5	1.5	1.6	1.5
Count	26	27	29	26	24	25	26	27	28	28	28	26	22	24	26	27	27	25	20	29	28	29	29	28

Y 10

Manual Automatic

Sweep 1.0 Mc to 2.29 Mc in 2 min

fminF

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

IONOSPHERIC DATA

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

Jan. 1952

fminE

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.3	1.6	1.7	1.6	E	E	1.6	1.8	1.3	1.5	1.5	1.4	1.5	1.5	1.4	1.4	1.4	1.5	1.6	1.6	E	1.7	E	E
2	E	1.8F	1.8F	1.2	E	1.1	1.5	1.6	1.5	1.5	1.2	1.4	[1.4]C	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5F	1.6F	1.6	1.6
3	1.7	1.1	1.2	E	E	E	C	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	C	C	C	C	C	
4	C	1.6F	1.2F	1.2	1.2	1.2	1.6F	[1.5]C	1.4	1.4	1.5	1.4	1.5	1.7	1.8	1.8	1.5	1.6	1.5	1.4	1.5	1.5	1.8	1.8
5	1.8	1.8	1.2	1.2	1.2	1.2	1.5	1.6	1.5	1.5	1.8	1.8	1.9	1.9	1.8	1.6	1.5	1.5	1.5	1.6	1.5	1.5	1.7	1.8
6	1.6F	1.8F	1.6	C	C	C	C	C	1.5	1.4	1.4	1.5	1.5	1.7	1.7	1.5	1.4	1.4	1.4	1.5	1.6	1.8	1.8	E
7	1.5	1.1F	1.1	1.3F	1.0	1.1	1.5	1.5	1.5	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.3	E	1.5F	1.5F	C
8	E	E	E	E	C	C	C	C	1.2	1.4	1.4	1.4	1.5	1.4	1.5	1.4	1.4	1.4	1.5	1.6	E	1.5F	1.5F	C
9	C	C	C	C	C	C	C	C	1.2	1.4	1.4	1.4	1.5	1.4	1.5	1.4	1.4	1.4	1.5	1.6	E	1.5F	1.5F	C
10	1.5	1.3	1.3	1.4	1.8	E	E	1.6	1.5	1.5	1.4	1.4	1.6	1.8	2.4	1.8	1.5	1.5	E	E	1.7	E	E	E
11	1.8	1.2F	1.0F	1.0F	1.2F	E	1.8F	1.8F	1.3	1.5F	1.5	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.7F	E	E	E	E
12	E	E	1.5	1.1	1.6	1.2	1.6	B	C	C	C	C	C	C	C	C	C	C	C	E	E	1.7	C	E
13	E	E	E	1.2	1.8	1.3	1.6	1.6	1.5	1.5	1.7	1.4	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.8	E
14	E	E	E	E	1.8	1.8	1.8	1.8	1.5	1.7	1.8	1.8	1.7	1.6	1.7	1.5	1.6	1.5	1.4	1.6	1.6	1.5	1.5	1.5
15	1.7F	1.8	1.4	1.4	E	E	C	1.8	[1.6]C	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.6	1.6	[1.7]C	1.8	1.7F
16	E	1.6	1.4	1.4	C	C	C	C	1.5	1.5	1.4	1.6	1.5	1.8	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
17	1.6	1.4	1.2	1.4	1.8F	1.8	E	2.2	1.5	1.5	1.4	1.5	1.5	1.4	1.4	1.4	1.5	1.5	1.4	1.8F	E	E	1.7	E
18	1.8	E	E	1.6F	1.8F	1.8	E	B	1.4	1.4	1.4	1.4	1.4	1.5	1.6	1.4F	1.5F	1.5	1.8F	E	E	E	E	E
19	1.8	1.5	1.3	1.3F	1.3	1.3	1.8F	1.8F	1.6	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5
20	1.8F	E	E	1.8	E	1.6	E	B	C	1.4	1.5	1.6	1.4	1.5	1.5	1.4	1.4	1.5	1.4	1.7	1.6	E	1.5	1.5
21	1.7	1.6	1.8	1.4	E	1.9	E	B	1.4	1.5	1.4	1.4	1.5	1.4	1.5	1.4	1.5	1.5	E	1.7	1.6	E	1.5	1.5
22	1.3	1.3	1.2	1.4	E	E	E	C	1.4	1.5	1.4	1.6	1.5	1.5	1.5	1.4	1.5	1.5	1.6	1.6	1.5	1.6	1.5	1.6
23	E	1.8	1.3	1.3	E	1.8	1.8	B	1.5	1.5	1.4	1.6	1.5	1.5	1.4	1.6	1.5	1.5	1.8	1.8	1.8	1.8	E	E
24	E	E	E	E	E	E	E	B	1.5	1.5	1.6	2.0	1.8	1.8	1.5	1.6	1.4	1.5	E	E	1.8	1.8	1.8	E
25	E	E	E	E	E	1.4	E	B	1.5	1.5	1.5	1.5	1.6	1.4	1.4	1.5	1.4	1.5	1.4 ^S	1.6	E	E	E	E
26	E	E	E	E	1.8	1.8	1.8	1.6F	C	C	C	C	C	C	C	C	C	C	C	1.5	2.1	E	1.5	1.4
27	1.5	1.2	1.3	1.2F	E	E	E	B	1.5	1.6	1.5	1.5	1.4	1.4	1.5	1.4	1.4	1.7	1.7	1.6	1.5	E	1.6	1.6
28	1.7	E	E	E	E	E	E	1.6	1.6	1.5	1.4	1.8	1.8	1.4	1.3	1.5	1.6	1.4	1.5	1.5	1.5	1.5	1.5	1.5
29	C	C	C	C	C	C	C	B	1.4	1.5	1.6	1.6	1.8	1.7	1.5	1.5	1.5	1.4	1.5	1.4	1.5	1.7	1.6F	1.7
30	1.8	E	E	E	1.2	E	E	B	1.5	1.5	1.5	1.6	1.4	1.5	1.5	1.4	1.4	1.5	1.4	1.5	1.7F	1.7	1.6	1.5
31	1.4	1.2	1.3	1.2	E	E	E	B	1.5	1.5	1.4	1.4	1.5	1.5	1.4	1.5	1.5	1.5	1.6	1.5	1.5	1.6	1.4	1.5
Mean Value	1.6	1.5	1.4	1.3	1.5	1.5	1.7	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6
Median Value	1.5	1.2	1.2	1.2	1.0	1.2	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Count	28	29	29	28	26	26	25	15	28	29	29	29	29	29	29	29	29	29	29	30	30	30	29	29

IONOSPHERIC DATA IN JAPAN FOR JANUARY 1952

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編集兼
發行人

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