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IONOSPHERIC DATA IN JAPAN

FOR SEPTEMBER 1953

Vol. 5 No. 9

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PREPARED BY THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

IONOSPHERIC DATA IN JAPAN FOR SEPTEMBER 1953

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P R E F A C E

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

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

The First Division has the following three sections:

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

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

Data Coordination Section which shall conduct the collection and arrangement of observational results, supply of operational data relating to radio propagation, preparation of radio propagation forecasts and radio disturbance warnings broadcast of URSIGRAM and physical basic studies of wave propagation in general.

The Second Division has the following two sections:

Frequency Standard Section which shall carry on researches on the frequency standard and broadcast the standard frequencies and time signals (J. J. Y.); and

Apparatus Section which shall carry on researches on radio apparatus used for radio regulatory purpose and conduct the approval service of types of radio equipments.

The Administrative Division shall conduct the general affairs of the Laboratories.

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

This report 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 former Radio Regulatory Commission and it is hoped that it will make any contribution toward the progress in world-wide short wave communications.

This report is intended for distribution on request to the largest possible number of organizations concerned all over the world, and any and every information that the organizations concerned might forward to us in exchange therefor would be highly appreciated.

Shogo Amari
Chief, Radio Research Laboratories,
Ministry of Postal Services

Aug. 1952

SITE OF THE IONOSPHERIC STATIONS

Ionospheric observation is carried out at four stations in Japan.

The stations are situated as follows:

	longitude	latitude	site
Wakkanai	141° 41.1' E	45° 23.6' N	Wakkanai-shi, Hokkaido
Akita	140° 03.2' E	39° 43.5' N	Tegata Nishishin-machi, Akita-shi, Akita-ken
Kokubunji	139° 29.3' E	35° 42.4' N	Koganei-machi, Kitatama-gun, Tokyo-to
Yamagawa	130° 37.7' E	31° 12.5' N	Yamagawa-machi, Ibusuki-gun, Kagoshima-ken.

REMARKS ON SYMBOLS

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

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

Lat. 46° 28.8' N
Long. 141° 41.1' E
Wakkanai

IONOSPHERIC DATA

foF2

Sep. 1953

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.4	3.3	3.3	3.7P	2.5	3.0	3.6	4.3	4.4	4.6	4.8	4.8	4.8	4.7	4.6	4.3V	4.6	4.7	5.0	5.2	4.6T	[4.6]M	4.5	[3.8]M
2	3.2F	3.3F	3.0F	3.3	2.6	3.0	[3.6]P	4.1	A	A	5.0	4.8	[4.8]M	4.8	A	A	A	A	4.5	4.7	4.7	4.2	3.5	3.1
3	3.6F	3.2F	[3.2]S	3.1	2.9F	2.8	B	B	B	B	B	B	4.6	4.6	4.6	4.5Z	4.5	4.2	4.1	4.9	5.2	4.7	A	A
4	3.1	A	A	2.6	2.9	(3.3)P	4.0F	A ^K	B ^K	B ^K	B ^K	B ^K	4.7F	4.7F	4.3K	4.2K	4.4K	5.2K	4.8K	5.5K	5.7K	4.8F	2.8F	2.8K
5	2.9K	3.1K	2.8K	2.9K	4.1K	[4.2]M	4.3K	4.7K	5.8K	5.5K	5.2K	6.2K	6.5K	6.0K	6.4K	6.0K	6.1K	6.1K	5.3K	6.2Z	5.4K	[5.1]F	4.8K	3.8K
6	3.5K	3.3K	3.4K	3.0	2.8K	3.5K	4.5K	5.1K	5.4K	5.1K	4.7K	4.9K	4.7K	5.0K	4.7K	4.7K	[4.8]M	4.8K	4.8K	6.2K	5.7K	5.2K	A ^K	A ^K
7	2.7K	2.8K	[2.8]M	2.8	2.6	3.0	4.1	5.0	5.0	5.6	4.8	5.0	[5.1]C	5.2	5.4	4.6	4.8J	A	6.1	6.4P	6.6	5.4	4.5	(3.9)P
8	3.6	3.3	3.6	2.6F	3.0F	3.3	[4.0]M	4.7	5.8	6.4	6.0	6.0	6.2	5.7	5.7	5.2	5.0	5.2	5.3	5.0	4.8F	5.3	4.6V	[3.7]M
9	2.8F	[2.9]M	3.0	3.0	3.0	3.0	4.5	5.5	6.5	5.8	5.3	5.5	5.0	5.4	5.5	5.3	4.8	5.5	[5.6]M	5.6	5.7	5.5	5.3	3.8
10	3.7	3.7	3.6	3.6	3.5	3.8J	4.2	5.5	5.6	C	C	C	C	C	C	C	C	C	5.0	5.4	5.3	5.3F	4.6	4.1F
11	(3.8)P	4.1	4.7	(3.9)F	3.8Z	3.7F	4.8	5.2	5.1	5.8	5.8V	5.6V	6.4	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	5.6	5.4M	5.7	[5.6]F	5.6	6.0	5.8	6.3	6.3	(6.3)P	5.9	6.0	4.4V	3.7
13	3.4	3.5	3.6S	3.6S	3.6	3.6	4.7	5.6	5.9	5.8	5.6	5.8	6.0	5.4	5.2	5.5	5.7	6.3	6.6	6.2	5.9	5.4	5.2	4.6
14	4.0	3.7	3.3	(3.4)F	3.5	3.9	5.4	5.8	6.8Z	5.8	5.4	5.8	6.8	6.6	6.1	5.9	5.5	5.5	5.7	(6.0)P	5.5	5.2	4.8	4.6
15	4.5	4.4	4.2	4.5	4.6	4.5	5.3	5.6	6.9	6.3J	6.0	6.0	6.2	6.2	6.8	6.5	6.0	6.1	6.6K	(6.5)Z	6.2K	5.0K	(4.9)K	4.8K
16	(3.7)K	[3.7]K	(3.7)K	4.1K	3.2K	(3.8)K	5.1K	4.5K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	7.3K	7.8K	6.8K	6.2K	6.6K	5.9K	5.6K	F ^K	A ^K	A ^K
17	A ^K	A ^K	A ^K	(4.0)K	3.6K	3.6K	4.6K	6.0K	5.6K	5.8K	6.1K	6.2K	6.0K	6.1K	6.2K	6.3K	5.7K	6.2K	5.0	5.0	5.0	4.6	3.9	3.6
18	3.7	3.6	3.7	3.7J	(4.0)F	3.7	4.8	5.5	5.6	5.7	5.4	6.1	5.8	5.5	5.4	5.0	5.7	6.1	[6.4]M	(6.6)P	6.0P	4.4F	4.0	(3.5)F
19	3.3	3.7	3.5	3.5F	3.4F	3.7F	4.8	5.0K	5.9K	6.6K	5.5K	5.8K	6.7K	6.8K	(6.8)F	(6.6)F	5.9K	5.8K	6.4K	6.7K	5.8K	5.4K	4.2	4.1Z
20	4.0F	(3.8)F	(3.7)F	3.3K	3.0K	A ^K	B ^K	4.5K	5.9K	5.4K	5.6K	5.2K	5.3K	5.5K	5.6K	[5.7]K	5.8K	5.7K	5.2K	5.8K	4.9K	3.5K	[3.2]M	3.0K
21	3.4K	3.2K	3.0K	2.2K	A ^K	A ^K	A ^K	A ^K	A ^K	A ^K	4.6K	4.6K	5.3	5.0K	5.0K	4.7K	4.8K	4.8K	4.7K	5.2K	4.5K	4.2K	3.7K	3.4K
22	3.0K	2.6K	2.5K	2.3K	2.0K	A ^K	A ^K	A ^K	5.3K	5.5K	A ^K	A ^K	5.4K	5.3K	4.8K	5.1K	[4.8]K	4.5K	4.8K	5.8V	4.9	4.3	4.4	4.3
23	4.0P	3.3P	3.2	2.6F	2.7V	2.5F	3.9P	5.0	[5.2]F	5.5K	5.2K	5.8K	4.5K	5.1K	5.2K	4.7K	5.0K	5.5K	(6.0)P	(6.0)P	S	4.2	3.3P	3.0K
24	2.7K	2.9P	3.0K	A ^K	A ^K	2.4K	3.1K	(4.0)K	4.3K	4.6K	4.7K	B ^K	4.3K	G ^K	4.5K	4.7K	4.3K	4.4K	4.6K	4.8	S	4.2	4.2	2.8P
25	2.9	2.6	S	S	2.3	[2.9]M	3.5	5.1	5.0	5.0	5.0	5.0	5.8	5.6	5.6	[5.2]C	4.8	5.4	4.3	3.5	3.4	[3.4]M	3.4	3.5
26	3.2	2.8F	3.0F	C	C	C	C	C	C	5.9	6.0	6.4	5.6	5.4	5.7	5.2	4.7	4.7	4.7	4.8P	3.5	[3.4]M	3.3P	3.6
27	3.1	3.1	3.0	3.1	3.0	3.2	4.7	C	C	C	C	C	C	C	C	C	C	C	C	4.6	3.4	4.1F	3.9F	4.0F
28	(3.7)P	3.8P	3.7	3.6F	3.1F	3.0	[4.2]M	5.4	6.9	5.3	6.6	7.5	7.2	6.5	6.5	6.3	6.3	5.5	(4.8)P	4.4F	(4.2)F	[4.3]M	4.4F	3.9F
29	3.8P	3.9F	3.6	3.5	3.5	2.9V	4.1	4.5	5.1	(6.5)P	6.7	6.1	6.2	6.2	5.6	6.6	6.1	5.6	5.4	4.7	4.2	S	F ^S	F ^S
30	3.5P	3.4P	3.4	3.5	3.6F	3.7F	4.6	5.1	6.0	6.8	7.1	6.6	6.5	(6.1)F	6.0	5.3	(6.0)F	5.9	6.2	5.2	4.8	3.1F	3.1	2.8F
31																								
Mean Value	3.4	3.4	3.3	3.3	3.2	3.4	4.4	5.1	5.6	5.6	5.5	5.7	5.6	5.6	5.6	5.4	5.3	5.5	5.4	5.5	5.1	4.6	4.1	3.7
Median Value	3.4	3.3	3.4	3.4	3.0	3.3	4.4	5.1	5.6	5.6	5.4	5.8	5.7	5.5	5.6	5.2	5.2	5.2	5.2	5.4	4.7	4.6	4.2	3.7
Count	28	27	26	26	26	25	24	23	22	25	24	23	27	27	26	26	26	26	25	28	29	27	25	25

Sweep 1.0 Me to 1.5.5 Me in 2 min Manual Automatic

W 1

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

IONOSPHERIC DATA

Lat. 45° 2.8.6' N
Long. 141° 41.1' E

Wakkanai

Sep. 1953

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

f_pF₂

Sweep 1.0 Mc to 15.5 Mc in 2 min Manual Automatic

Lat. 45° 2.3.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

Sep. 1953

R'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	280	330	300	240	240	250	430	430	330	390	370	380	390	400	350	L	330	310	270	250	300 ^H	A	A	280
2	320	280	290	250	220	300	340 ^H	370	A	A	A	350	360 ^A	380	A	A	A	A	250	270	270	250	270	290
3	270	270	270	260	260	270	B	B	B	240	B	B	420	350	350 ^A	330 ^A	310 ^A	270	270	270	250	230	230	A
4	300	260 ^A	A	290 ^A	A	320 ^A	270 ^A	A	B	390 ^K	B	B	400 ^K	380 ^K	420 ^K	390 ^K	380 ^K	300 ^K	290 ^K	300 ^K	260 ^K	230 ^K	210 ^K	300 ^K
5	330 ^K	310 ^K	300 ^K	280 ^K	A	A	280 ^K	270 ^K	260 ^K	350 ^K	340 ^K	330 ^K	330 ^K	360 ^K	300 ^K	300 ^K	290 ^K	250 ^K	230 ^K	300 ^K	310 ^K	280 ^K	250 ^K	250 ^K
6	270 ^K	270 ^K	280 ^K	280 ^K	280 ^K	270 ^K	330 ^K	270 ^K	290 ^K	270 ^K	380 ^K	350 ^K	370 ^K	350 ^K	360 ^K	350 ^K	3300 ^K	260 ^K	270 ^K	260 ^K	230 ^K	A	A	A
7	300 ^K	M	A	300 ^A	280 ^A	260	300 ^L	270	270	280	330	320	320 ^L	330	A	A	A	A	260	240	240	230	250	250
8	270	290	250	250	290	260	3300 ^A	350 ^A	300	300	300	300	300	300	300	290	300 ^A	290 ^A	300 ^A	320 ^A	320	260	260 ^A	3300 ^A
9	340 ^A	340 ^A	340	300	280	300	3300 ^A	290	270	270	300	300	370	310	350	290	260	290	280 ^A	270	250	250	230	240
10	250	250	250	260	250	250	250	270	270	C	C	C	C	C	C	C	C	C	250 ^A	260	260	270 ^A	240	260
11	280	290	330 ^A	240	260	250	240	250	260	300	290	420	320	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	250	LH	320	330	320 ^L	310	290	300	270	280	300 ^A	250	240	240	250
13	260	260	300	260	260	250	240	270	290	270	290	330	280	280	L	300	300	260	250	260	260	250	250	250
14	250	250	270	270	260	250	240	240	250	250	270	270	300	270	300	270	250	250	250	250	260	240	240	250
15	250	260	250	260	260	250	230	240	250	250	270	290	320	280	280	270	260	260	250 ^K	250 ^K	230 ^K	270 ^K	270 ^K	280 ^K
16	310 ^K	320 ^K	310 ^K	250 ^K	210 ^K	250 ^K	240 ^K	240 ^K	A	A	A	A	A	A	A	A	250 ^K	250 ^K	270 ^K	300 ^K	280 ^K	270 ^K	A	A
17	A	A	A	A	320 ^K	290 ^K	250 ^K	A	290 ^K	300 ^K	280 ^K	280 ^K	300 ^K	300 ^K	300 ^K	280 ^K	250 ^K	250 ^K	270 ^K	300 ^K	300	250	250	280
18	300	300	300	270	250	230	240 ^A	260	270	260	350	310	300	310	300	(300 ^L)	290	A	A	250 ^A	250 ^A	260	270	270
19	300	300	320	290	290 ^A	260 ^F	260	260 ^L	260	240 ^K	280 ^K	390 ^K	310 ^K	320 ^K	300 ^K	260 ^K	260 ^K	280 ^K	270 ^K	250 ^K	250 ^K	260 ^K	230 ^K	300 ^K
20	300 ^K	300 ^K	300 ^K	350 ^K	A	A	B	440 ^K	310 ^K	400 ^K	310 ^K	370 ^K	340 ^K	290 ^K	350 ^K	330 ^K	280 ^K	250 ^K	260 ^K	260 ^K	240 ^K	310 ^K	A	A
21	340 ^K	310 ^K	300 ^K	260 ^K	A	A	A	A	A	370 ^K	440 ^K	460 ^K	350 ^K	310 ^K	310 ^K	290 ^K	270 ^K	250 ^K	250 ^K	270 ^K	280 ^K	290 ^K	280 ^K	300 ^F
22	310 ^K	260 ^K	260 ^K	250 ^K	A	A	A	A	A	340 ^K	A	A	310 ^K	300 ^K	310 ^K	300 ^K	280 ^K	250 ^K	250 ^K	280 ^K	250 ^K	270 ^K	300	300 ^F
23	260	250	250	250	300	300	250	300	3300 ^L	290 ^K	300 ^K	280 ^K	L	350 ^K	L	300 ^K	300 ^K	250 ^K	250 ^K	280 ^K	250 ^K	300	300	300 ^K
24	320 ^K	280 ^K	300 ^K	A	A	400 ^K	300 ^K	320 ^K	420 ^K	360 ^K	350 ^K	B	380 ^K	4	370 ^K	300 ^K	290 ^K	260 ^K	230 ^K	240 ^K	260	290	260	280
25	300	290	250	230	250	290 ^A	330	310	420	290	300	300	310	300	280	260 ^L	250	250	240	270	300	300	300	300
26	300	280	270	C	C	C	C	C	C	270	300	250	300	320	270	260	230	250	230	240	240	270	270	270
27	260	280	250	270	280	250	220	C	C	C	C	C	C	C	C	C	C	C	C	230	280	300 ^F	250 ^F	250 ^F
28	270	270	270	260	260 ^F	290	3300 ^A	300	240	280 ^L	310	260	270	280	270	250	250	250	(250 ^A)	300	270	1280 ^A	280	300
29	290 ^F	270 ^F	270	250	220	240	210	240	260	270	250	A	290	260	270	260	250	240	230	260 ^A	240	280	310	280
30	300	300	260	280	260	240	230	220	260	250	260	240	250	280	260	240	250	250	220	220	220	250	310	300 ^F
31																								
Mean Value	290	280	280	270	270	270	270	290	290	300	310	320	330	320	310	290	280	260	260	270	260	270	270	280
Median Value	300	280	280	260	260	250	270	270	270	280	300	320	320	310	300	290	280	260	250	260	260	260	260	280
Count	28	27	26	26	24	24	22	22	21	26	22	22	26	27	25	23	25	24	27	29	29	27	24	25

W 3

Manual Automatic

Group 1.0 Mc to 15.5 Mc in 2 min

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

Lat. 45° 28.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

foF1

Sep. 1953

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	4.1	A	A	4.2	4.2 ^H	4.1	4.2	4.1	L	3.7	3.4						
2					2.1		3.1	3.6	A	A	A	4.2	4.2	4.1	A	A	A	A						
3							3.1	3.7	3.6	3.8	3.9	4.0	[4.0] ^P	4.1	A	A	A	A						
4							Q	A	B	B	3.9	B	B	4.0	4.0	3.8	3.7	3.4						
5							A	3.4 ^L	4.0	4.0	4.2	4.2	4.2	4.2	4.1	3.9	3.7 ^H	3.3 ^H						
6							A	3.8	3.9	4.2	4.3 ^H	4.3	4.3 ^H	4.2	4.2	4.2	M	L						
7							L	3.7	4.0	4.1	4.2	4.3	[4.2] ^C	4.2	4.1	A	A	A						
8							A	A	3.9	[4.1] ^A	4.4	4.4	4.4	4.3	4.1	A	A	A						
9							A	3.8	3.9	4.2	4.3	4.3	4.4	4.3 ^H	4.2	3.9	Q	A						
10							Q	3.7	A	C	C	C	C	C	C	C	C	C						
11							Q	3.4	3.8	4.1	4.1	4.5	4.3	C	C	C	C	C						
12							C	C	C	4.2	(4.3) ^L	4.5	4.5	[4.4] ^C	4.2	4.0	Q	A						
13							Q	3.6 ^H	4.1	4.2 ^H	4.2	4.4	4.3 ^H	4.3	L	4.0 ^H	3.6	3.0 ^T						
14							Q	3.6	4.0	4.2	4.4	4.4	4.4	4.3	4.3	4.0	L	Q						
15							Q	L	4.0	4.1	4.3	4.4	4.4 ^H	4.4	4.2 ^H	4.0	3.7	L						
16							Q	A	A	A	A	A	A	4.2	4.2	3.8	L	Q						
17							Q	A	A	A	4.2	4.3	4.3	4.3	4.2	4.0	Q	Q						
18							Q	A	A	4.2	4.5	4.3	4.3	4.2	4.1	(4.0) ^L	A	A						
19							Q	L	3.8 ^L	4.0	4.2	4.5	4.2	4.3	4.1	3.8	L	Q						
20							3.5	4.1 ^P	4.2	4.2	4.1	4.1	4.4	4.2	4.0	[3.7] ^C	3.4	Q						
21							A	A	A	4.0	4.3	4.2	4.1	4.0	4.0	[3.7] ^C	L	Q						
22							A	A	A	A	A	A	4.2	4.2	4.0	3.8 ^H	C	Q						
23							Q	3.3	[3.5] ^C	4.0	4.2	4.2	[4.2] ^L	4.2	4.1 ^H	L	3.4	Q						
24							Q	3.3 ^L	3.4	3.8	4.2	4.0	4.0	4.3	4.1 ^H	3.5	L	Q						
25							(3.1) ^S	(3.6) ^P	4.0	4.0	4.0	4.3	4.2	4.2	4.0 ^H	[3.3] ^Q	2.6	Q						
26							C	C	C	4.2	4.1	[4.2] ^A	4.4	4.3	4.0 ^H	3.6	Q	Q						
27							Q	C	C	C	C	C	C	C	C	C	C	C						
28							A	3.6	A	L	4.3	4.3	4.2	4.3 ^T	[4.0] ^A	3.7	3.3	Q						
29							Q	3.0	4.0	4.3	4.3	A	A	4.2	4.0	3.9	3.0	Q						
30							Q	Q	4.0 ^L	[4.2] ^A	4.3	4.3	4.2	4.5	M	Q	Q							
31																								
Mean Value							2.1	3.2	3.6	3.9	4.1	4.2	4.3	4.2	4.1	3.8	3.4	3.2						
Minimum Value							2.1	3.1	3.6	4.0	4.1	4.2	4.3	4.2	4.1	3.8	3.5	3.3						
Count							1	4	17	17	22	24	24	25	27	23	20	10						

foF1

Sweep 1.0 Mc to 15.5 Mc in 2 min

Manual Automatic

W 4

7

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

Lat. 46° 28.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

Sep. 1953

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

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

Lat. 46° 23.6' N
Long. 141° 41.1' E

IONOSPHERIC DATA

Wakkanai

Sep. 1953

f_oE

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	2.0	2.5	2.6	2.8	2.9	3.0	2.8	2.5	A	A	A	A						
2						1.4 ^F	1.9	2.4	2.6	2.8	[2.9] ^A	3.0	2.9	2.8	[2.6] ^A	2.4	A	A						
3							1.7	2.3	2.5	2.8	3.0	3.1	2.8	[2.8] ^A	A	A	A	A						
4							B	2.3	2.5	2.7	2.8	3.1	3.2	3.1	2.9	2.7	2.4	1.9						
5							1.8	2.2	2.3	2.4	A	A	3.0	3.0	3.0	2.7	2.4	1.9						
6							A	A	A	A	A	A	A	A	A	2.6	2.4	1.6 ^B						
7							1.8	2.1	2.6	2.7	2.9	3.0	[3.0] ^F	3.1	3.0	2.8	2.4	1.9						
8						1.1	[1.8] ^B	2.4	2.5	2.5	A	A	3.0	2.9	2.8	2.7	2.5	2.0						
9							1.7	2.4	2.5	A	A	A	A	2.9	2.6	2.4 ^F	2.3	1.8						
10							2.0	2.5	2.8	C	C	C	C	C	C	C	C	C						
11							A	2.5	2.7	2.9	3.0	3.1	3.1	C	C	C	C	C						
12							C	C	C	3.0 ^F	3.0	3.1	3.0	[3.0] ^F	3.0	A	A	A						
13							A	2.2	2.7	2.7	A	A	A	A	A	A	2.6	A						
14							1.8	2.4	2.8	3.0	3.1	3.1	3.1	3.1	2.9	2.7	2.4	1.9						
15							A	2.3	2.4	(3.0) ^B	3.0	3.0	3.0	[3.0] ^A	3.0	2.8	2.5	1.7 ^J						
16							2.0	2.3	2.7	3.0	3.0	3.0	2.8	3.0	2.9	2.7	2.3	1.8						
17							1.7	2.2	2.7	2.7	2.8	2.8	[2.9] ^A	3.0	A	A	A	A						
18							A	A	A	A	A	A	A	A	3.2	3.0	2.6	2.4	A					
19							A	2.0	2.6	2.7	[2.8] ^B	3.0	3.0	3.0	3.0	2.6	2.4	2.0 ^J						
20							1.7	2.2	[2.4] ^F	2.7	3.0	3.0	2.9	2.9	A	C	2.2	1.7						
21							1.7	2.2	2.5	2.8	3.0	3.0	2.9	2.8	2.6	2.4	2.2	1.7						
22							A	1.9	2.5	2.7	2.7	2.8	2.6	[2.7] ^A	2.8	2.5 ^F	C	B						
23							(1.7) ^B	2.2	[2.4] ^F	2.6	2.9	3.0	[3.0] ^A	3.0	2.8	2.5 ^F	2.1	A						
24							B	1.8	A	A	2.9	[3.0] ^A	3.0	[2.9] ^A	2.8	2.3	2.2	A						
25							A	2.3	2.5 ^H	2.8	2.8	3.0	3.0	[2.9] ^A	2.8	C	B	B						
26							C	C	C	2.8	2.8	2.9	2.9	2.8	2.6	2.5	2.5	B						
27							A	C	C	C	C	C	C	C	C	C	C	C						
28							A	2.2	2.5	2.7	2.7	2.7	3.0	[2.8] ^A	2.6	2.5	2.0	A						
29							1.8	2.3 ^H	2.7	2.7	[2.6] ^A	2.6	2.7	2.7	2.7	2.4	2.2	B						
30							1.8	2.4 ^F	[2.6] ^A	2.8	2.9	A	A	2.8	2.7	[2.2] ^A	1.8	1.7						
31																								
Mean Value						1.3	1.8	2.3	2.6	2.8	2.9	3.0	2.9	2.9	2.8	2.6	2.3	1.8						
Median Value						1.3	1.8	2.3	2.6	2.8	2.9	3.0	3.0	2.9	2.8	2.6	2.4	1.8						
Count						3	16	25	24	24	22	21	23	25	22	20	21	13						

f_oE

Every 1.0 Mc to 1.5 Mc in 2 min

Manual Automatic

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

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

11'E

135° E Mean Time

Sep. 1953

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						130	130	110	120	120	120	120	110	110	A	A	A	A						
2						120 ^F	130	120	120	110	110 ^A	110	110	110	110 ^A	110	110	110	A					
3							130	120	110	110	110	110	110	110 ^A	120	A	A	A						
4							B	110	110	110	100	110	110	110	110	110	110	110	130					
5							130	120	110	110	A	A	110	110	110	110	110	120	130					
6							A	A	A	A	A	A	A	A	A	110	120	B						
7							130	110	100	110	110	110	110 ^C	110	110	110	120	120						
8						110	110 ^B	110	110	A	A	A	110	100	100	110	110	130						
9							130	110	110	A	A	A	A	100	100	100	100	130						
10							110	110	110	C	C	C	C	C	C	C	C	C						
11							A	110	110	110	110	110	110	110	110	110	110	C						
12							C	C	C	110 ^F	100	110	110	110 ^G	110	A	A	A						
13							A	110	110	110	A	A	A	A	A	A	120	A						
14							130	120	110	110	110	110	110	110	110	110	110 ^A	110	140					
15							A	120	110	110	110	100	100	100	100	100	110 ^A	110	150					
16							1140 ^B	110	110	110	110	110	110	110	110	110	120	130						
17							120	110	110	110	110	110	110 ^A	110	A	A	110	A						
18							A	A	A	A	A	A	A	110	110	120	120	A						
19							A	110	110	110	100	100	110	120	110	120	120	M						
20							120	120	1120 ^A	110	110	110	110	110	A	C	120	150						
21							140	120	120	110	110	110	110	110	120	110	120	140 ^B						
22							A	120	120	110	110	110	110	110	120 ^A	120	100	C	B					
23							B	110	110 ^C	110	120 ^A	110	110	110	130	110	120	130	A					
24							B	120	A	A	110	110 ^A	110	110	110 ^A	110	110	120	A					
25							A	110	110 ^H	110	110	110	110	110	110 ^A	110	C	B	B					
26							C	C	C	110	100	100	110	110	110	110	130	B						
27							A	C	C	C	C	C	C	C	C	C	C	C						
28							A	120	110	110	110	130 ^A	110	110	110	110	100	100	A					
29							150	130 ^H	120	110	110 ^A	110	110	110	120	110	110	110	B					
30							B	110	110 ^A	110	110	A	A	110	110	110	120	110						
31																								
Mean Value						120	130	110	110	110	110	110	110	110	110	110	110	120	130					
Median Value						120	130	110	110	110	110	110	110	110	110	110	110	120	130					
Count						3	14	25	24	24	22	21	23	25	22	20	21	11						

Sweep 1.0 Mc to 15.5 Mc in 2 min Manual Automatic

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

Lat. 46° 23.8' N
Long. 141° 41.1' E

IONOSPHERIC DATA

Wakkanai

Sep. 1953

fEs

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.8	3.0	E	E	2.6	G	3.4	2.9	4.7	5.0	4.6	4.3	4.1	5.5F	4.1	2.8	4.3F	5.0F	5.0F	5.5F	3.6	5.8	5.2	6.0F
2	4.3	E	E	E	E	G	3.4	3.5	6.8	8.6	8.3	4.1	5.7	4.7	6.0	5.6	7.5F	6.5F	2.6	5.5	3.0	1.9	E	E
3	E	E	C	E	2.2Y	2.7	3.2	3.0	G	G	G	G	G	4.7	4.8	5.5	6.8	6.7	3.0F	E	3.0	3.0	5.3	5.5
4	2.7	5.1F	3.2	3.4	3.0	3.6	5.0	5.8	G	3.6	3.1	G	G	3.4	G	3.6	3.9	4.4	3.9	8.6	6.5	4.5	3.6	E
5	2.6	E	E	2.5	4.6	6.0	3.9	3.6	3.6	3.0	4.5	4.5	G	4.6	4.5	3.4	2.7	G	3.0	5.0	4.6	5.0	7.5	4.0
6	2.7	2.8F	2.2	3.2	3.0	3.0	4.6	4.5	4.0	4.9	3.3	5.0	4.7	3.6	4.8	3.5	3.2M	3.0	3.3	2.7	2.5	4.6	5.2	4.3
7	2.6	3.0	5.5	3.0	3.0	1.5	G	3.6	4.1Y	4.0Y	G	4.7	C	5.2	5.0	6.4	8.5	6.5	4.0	4.5	3.0	3.0	1.9	E
8	3.0	2.6	2.8	2.6	2.6	2.4	5.5	5.5	4.6	5.2	3.4	3.6	4.2	6.5	G	4.9	4.9	5.0	5.5	5.6	5.5	3.4F	4.5	5.0
9	3.2	4.5F	3.0	3.1	3.4	4.0	4.6	3.5	4.6	6.5	4.0	3.6	5.3	3.6	4.8	3.0	3.6F	5.0	8.7	6.0	E	E	3.2	E
10	E	E	2.4	E	E	2.4	G	G	5.2	C	C	C	C	C	C	C	C	C	3.2	3.0	2.6	4.5	2.5	2.7
11	4.3	3.1	5.5	2.6	4.8	2.9	3.2	G	4.2Y	4.7Y	5.1	4.5	5.5	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	3.4	3.5	G	4.8	C	4.4	6.5	5.5F	6.2	6.5	6.6	5.5	3.0	E	E
13	2.5Y	2.7	2.4	E	2.6	2.6	2.0Y	3.4	G	G	4.1Y	5.0	4.6	3.6	5.6	3.4	G	3.4	3.4	5.3	E	2.8	E	E
14	E	1.9	E	E	1.2	G	3.0	2.8	G	G	4.0	G	G	G	G	2.8	G	3.6	3.2	3.5	3.0	2.4F	2.5Y	2.3
15	2.4Y	2.7Y	2.0Y	2.1	2.5Y	2.5	3.0	2.8	3.6	G	G	G	G	3.3	G	3.4	3.2	3.0	3.3	E	3.2	3.0	4.4	2.6
16	2.3	2.5	2.4	2.6	1.5	E	3.2	5.1	8.7	8.5	8.5	8.0	7.5	5.5	G	G	G	3.1	5.2	6.0	3.4	2.0	4.5	5.0
17	6.5	6.0	7.0	3.0	3.0	E	3.4	6.5	5.0	6.0	3.3	4.1	4.2	G	3.4	4.2	4.1	4.0	4.2	2.7	4.6	2.0	3.0Y	3.0
18	3.0	3.0	3.1	3.0	1.5	2.0Y	3.0	5.4	5.8	5.5	6.5	5.4	6.5	4.2	G	G	5.5	6.5	8.0	4.4	3.5	5.4	3.2	2.9
19	2.9	2.6	3.0	2.7	5.5	3.0F	3.6	3.0	G	G	3.4	G	3.0	2.6	G	G	4.5	3.2	2.4	2.6	E	E	E	E
20	E	E	2.6	2.6	2.6	5.1	2.4	3.4	3.6	3.5	G	G	G	G	3.0	C	2.7	G	2.8	3.0	2.8	3.6	4.0	4.5
21	E	E	2.4Y	2.5Y	3.5	3.3	4.5	5.5	5.7	4.4	3.4	4.4	5.5Y	G	G	G	G	3.2	3.0	3.2	2.8	2.7	3.0	2.7F
22	3.0	E	E	1.1	3.3	3.4	6.7	7.0	5.6Y	5.5	7.6	8.6	4.5	5.0	5.5	3.1F	C	2.0	5.5	4.5	2.4	3.2	4.0	2.5
23	2.5	E	E	2.4Y	2.6Y	1.4	2.6	G	C	G	2.6	G	3.7	G	G	G	G	3.6	2.4	3.0	E	E	3.0	E
24	1.4	1.3	2.7	4.3	3.6	3.6	3.3	3.2	3.4	3.6	G	3.4	G	3.2	G	G	G	2.2	2.8	3.0	E	E	E	E
25	E	E	E	E	E	2.4	4.5	2.9	3.0	G	G	8.0	G	3.6	G	C	B	2.2	E	E	E	C	E	E
26	E	E	E	C	C	C	C	C	C	G	4.3	5.5	3.4	G	G	G	G	G	2.6	E	E	C	2.4	E
27	E	2.2Y	2.6	2.5	2.7	2.5	2.8Y	C	C	C	C	C	C	C	C	C	C	C	C	E	E	E	E	E
28	E	2.0Y	2.0	2.8	2.6	2.6	3.6	3.6	6.3	4.5	4.5	G	3.0	5.5	4.7	G	3.5	5.4F	6.8	6.5F	6.5	6.0	5.5	4.7
29	2.7	2.2	2.5	2.7	2.4	E	G	G	4.5	7.2	5.5F	6.6	6.1	4.5	3.3	4.0	G	B	3.0	4.0	3.2	3.4F	3.0F	2.9F
30	3.5	2.6	2.2Y	4.2F	2.6F	3.2F	2.8F	G	4.3F	6.5	4.3	5.4	3.0	G	G	2.8F	2.5	G	E	2.4F	2.5	E	2.6	2.3
31																								
Mean Value	3.0	2.8	3.1	2.8	2.9	3.0	3.7	4.2	4.8	5.2Y	4.6	5.2	4.7	4.4	4.6	4.1	4.6	4.3	4.1	4.5	3.7	3.6	3.8	3.7
Median Value	2.8	2.2	2.4	2.6	2.6	2.6	3.2	3.4	4.2	4.2	3.8	4.2	4.1	3.6	3.0	3.1	3.4	3.5	3.2	3.5	3.0	3.0	3.0	2.5
Count	2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.8	2.8	2.8	2.7	2.6	2.7	2.5	2.4	2.6	2.8	2.9	2.9	2.7	2.7	2.9

fEs

Sweep 1.0 Mc to 1.5.5 Mc in 2 min

Manual

Automatic

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

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

Sep. 1953

fminF

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	1.5	1.6	E	E	E	1.4	2.2	2.5	4.0 ^A	4.2 ^A	3.3	3.3	3.6	3.4	3.3	2.8	2.6	2.4 ^A	2.6 ^A	1.6	3.5 ^{MF}	[3.8] ^A	4.0 ^A	1.7	
2	2.0 ^A	E	E	E	E	1.4	2.6	2.9	A	A	4.5 ^A	3.7	3.8	3.9 ^A	A	A	A	A	4.0 ^A	1.7	1.7	1.5	1.7	1.6	
3	1.5	E	C	E	E	1.7	2.0	2.5	2.7	3.3	3.2	3.7	4.2	3.6	4.0 ^A	3.8 ^A	4.0 ^A	2.7 ^A	2.0 ^A	1.7	1.7	1.7	A	A	
4	1.5	2.2 ^A	[2.2] ^A	2.2 ^A	2.1 ^A	2.4 ^A	2.8 ^A	A	3.1	3.2	3.2	3.3	3.2	3.3 ^A	3.2	2.9	3.1	3.6 ^A	3.2 ^A	2.2 ^A	2.2 ^A	1.7	2.0 ^A	1.5	
5	1.5	E	E	1.5	3.6 ^A	[3.4] ^A	3.1 ^A	2.9	3.2	3.2	3.2	3.6	3.2	3.9 ^A	3.2	2.9	2.9	2.3	1.7	3.8 ^A	3.0 ^A	[2.4] ^A	1.7	1.7	
6	1.5	1.7	1.5	1.9	1.7	2.2 ^A	4.0 ^A	3.7 ^A	3.1	3.8 ^A	3.2	3.8	3.2	3.8 ^A	4.0 ^A	3.2	[2.8] ^A	2.4	2.1 ^A	2.1 ^A	1.7	4.0 ^A	A	A	
7	1.8	<3.0 ^{MF}	A	2.2 ^A	2.2 ^A	1.7	2.1	2.7	3.2	3.4	3.3	3.7	[3.8] ^C	3.8 ^A	4.0 ^A	4.2 ^A	5.3 ^A	A	2.2 ^A	1.7	1.7	1.7	1.6	1.6	
8	1.7	1.6	1.0	1.6	1.2	1.3	[2.6] ^A	4.0 ^A	3.6 ^A	4.3 ^A	3.4	3.3	3.3	4.0 ^A	3.0	4.2	4.1 ^A	4.2 ^A	4.5 ^A	4.0 ^A	3.9 ^A	1.8	3.7 ^A	[2.9] ^A	
9	2.1 ^A	[2.0] ^A	2.0 ^A	1.7	1.7	1.6	4.2 ^A	3.1	3.7 ^A	3.7 ^A	3.2	3.5 ^A	4.2 ^A	3.2	3.5	2.8	3.1	4.0 ^A	[2.8] ^A	1.7	1.7	1.6	1.7	1.7	
10	1.5	1.1	1.5	E	E	1.2	2.3	2.6	4.0 ^A	C	C	C	C	C	C	C	C	C	A	2.2 ^A	1.6	3.2 ^A	1.7	1.9	
11	1.6	2.2	3.9 ^A	1.2	1.7	2.0 ^A	2.4	3.0	3.4	4.0 ^A	4.0 ^A	3.6	3.7	C	C	C	C	C	C	C	C	C	C	C	
12	C	C	C	C	C	C	C	C	C	C	3.2	3.5	4.0 ^A	[3.8] ^C	3.6 ^A	3.8 ^A	3.6 ^A	4.0 ^A	4.5 ^A	4.5	1.7	1.7	1.7	1.7	
13	1.7	1.7	1.7	1.4	1.2	1.3	1.7	2.8	3.0	3.2	3.5	4.3 ^A	3.4	3.3	3.2	3.2 ^A	2.6	2.8 ^A	2.8 ^A	2.6 ^A	1.7	1.7	1.7	1.7	
14	1.5	1.2	1.2	1.1	E	1.5	2.4 ^A	2.9	3.2	3.3	3.7	3.4	3.4	3.3	3.4	3.2	2.6	3.0 ^A	1.6	2.6 ^A	1.7	1.7	1.7	1.7	
15	1.6	1.3	1.3	1.5	1.6	1.3	2.4	2.8	3.2	3.3	3.3	3.3	3.3	3.3	3.1	3.2	2.8	2.2	2.3 ^A	1.6	2.2 ^A	2.4 ^A	3.9 ^A	2.2 ^A	
16	1.7	1.7	2.0 ^A	1.8	1.3	1.3	2.4	3.4 ^A	A	A	A	A	A	4.0 ^A	3.2	3.0	2.5	2.0	3.7 ^A	5.0 ^A	2.1 ^A	1.6	A	A	
17	A	A	A	1.7 ^F	2.2 ^F	1.2	A	5.6 ^A	4.0 ^A	4.7 ^A	3.8 ^A	3.4	3.7 ^A	3.1	3.0	3.2	2.5	2.2	3.4	2.7 ^A	3.6 ^A	2.2	1.9	1.8	
18	1.7	1.7	2.2 ^A	2.1 ^A	1.7	1.2	A	4.2 ^A	4.3 ^A	3.6	3.8 ^A	3.7	4.2 ^A	3.5	3.2	2.8	4.2 ^A	5.3 ^A	[4.4] ^A	3.6 ^A	3.5 ^A	2.2 ^A	2.2 ^A	1.6	
19	1.7	1.6	1.7	1.8	2.3 ^A	2.2 ^A	2.9 ^A	2.5	3.2	3.1	3.8	3.3	3.3	3.2	3.5	3.1	2.7	2.8	1.7	1.6	1.7	1.7	1.7	1.7	
20	1.7	1.0	1.7	1.7	1.7	[1.8] ^A	1.9	2.4	2.8	4.2	3.7	3.2	3.2	3.1	2.8	[2.6] ^C	2.5	2.2	2.2	2.5 ^A	1.9	2.4 ^A	[2.4] ^A	2.4 ^A	
21	1.3	E	E	E	A	A	A	A	A	3.4	3.0	3.5	3.3	3.5	3.4	2.8	2.4	2.2	1.7	2.5 ^A	1.7	1.8	1.9	1.7	
22	1.7	1.2	1.1	E	1.7	A	A	A	4.7 ^A	4.7 ^A	A	A	3.8 ^A	3.8 ^A	3.0	2.7	[2.4] ^C	2.0	1.7	1.8	1.7	1.7	4.0 ^A	1.6	
23	1.7	1.1	E	E	E	1.3	2.0	2.8	[2.9] ^C	3.0	3.2	3.2	3.3	3.1	2.9	2.6	2.4	2.6	1.7	1.7	1.6	2.2 ^A	2.2 ^A	1.6	
24	1.3	1.2	1.7	A	A	2.0 ^A	2.4 ^A	2.2	2.8	3.2	3.2	3.3	3.2	3.5	3.2	2.6	2.5	1.6	1.8	1.8	1.8	1.6	1.6	1.7	
25	1.7	1.0	1.0	1.2	1.3	[1.8] ^A	2.4	2.4	2.7	2.9	3.1	3.5	3.1	3.0	3.0	[3.6] ^C	2.2	1.8	1.7	1.7	1.7	[1.6] ^C	1.6	1.6	
26	1.7	1.5	1.3	C	C	C	C	C	C	3.0	3.7	4.6 ^A	3.3	3.2	2.8	2.8	2.5	1.6	1.6	1.6	1.6	[1.6] ^C	1.6	1.7	
27	1.5	1.3	1.7	1.6	1.6	1.7	2.2	C	C	C	C	C	C	C	C	C	C	C	C	1.7	1.6	1.7	1.6 ^F	1.6 ^F	
28	1.5	1.1	1.1	1.7	1.3	1.7	A	A	5.0 ^A	3.9 ^A	4.0 ^A	3.5	3.5	3.5	4.0 ^A	3.0	2.5	3.3 ^A	4.0 ^A	2.2 ^A	1.6	[1.9] ^A	2.2 ^A	1.7	
29	1.5 ^F	1.2	1.6	1.7	1.3	E	2.2	2.7	3.9 ^A	3.8 ^A	5.4 ^A	4.3 ^A	3.8 ^A	3.4	2.8	2.2	2.2	1.7	2.1 ^A	3.3 ^A	2.3 ^A	2.2 ^A	1.7	1.7	
30	1.7	1.7	1.6	1.8	1.6	1.6	1.9	2.8	3.1	5.0 ^A	A	3.8	3.3	3.2	3.4	2.9	2.5	1.8	1.6	1.6	1.6	1.6	1.8	1.7 ^F	
31																									
Mean Value	1.6	1.5	1.6	1.7	1.7	1.7	2.5	3.0	3.5	3.6	3.5	3.6	3.6	3.5	3.3	3.1	2.8	2.7	2.5	2.5	2.1	2.0	2.1	1.9	
Median Value	1.6	1.3	1.5	1.6	1.6	1.6	2.4	2.8	3.2	3.4	3.3	3.5	3.4	3.4	3.2	3.0	2.6	2.4	2.1	2.2	1.7	1.7	1.7	1.7	
Count	28	27	26	27	26	26	23	23	24	26	25	26	27	27	26	25	26	25	27	29	29	29	29	26	26

fminF

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

Lat. 45° 23.8' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

f_{minE}

Sep. 1953

135° E Mean Time

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

Sweep 1.0 Mc to 15.5 Mc in 2 min

Manual Automatic

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

Lat. 39° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

135° E Mean Time

f_oF₂

Sep. 1953

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	350 ^F (360)	360 ^F (370)	366 ^F (376)	300 ^F (310)	270 ^F (310)	280 ^F (310)	240 ^U	U	U	C	U	U	U	U	U	U	350	A	A	300	310	310 ^F	320 ^F (330)	320 ^F (330)	330 ^F (340)	
2	340 ^F (380)	310 ^F (360)	340 ^F (390)	340 ^F (390)	240 ^F (310)	310 ^F (360)	280 ^U	U	U	U	U	U	U	U	U	U	290	280	320	300	280	330	320 ^F (360)	330 ^F (370)	340 ^F (390)	330 ^F (380)
3	350 ^F (390)	360 ^F (400)	350 ^F (390)	A	A	310 ^K (360)	280 ^U	U	A	A	U	U	U	U	U	U	320	300 ^P	310 ^K	290	280	340	330	330 ^F (380)	330 ^F (380)	
4	370 ^F (410)	390 ^F (430)	370 ^F (410)	310 ^K (360)	270 ^K (310)	260 ^K (310)	300 ^K (350)	310 ^K (360)	260 ^K (310)	A	U	U	U	U	U	U	340 ^K	310 ^K	270	350 ^K	310 ^K	250 ^K	380 ^K (420)	320 ^K (360)	350 ^K (390)	
5	340 ^F (380)	350 ^F (390)	340 ^F (380)	320 ^K (370)	330 ^K (380)	310 ^K (360)	250 ^K (300)	250 ^K (300)	270 ^K (320)	U	U	U	U	U	U	U	320 ^K	290 ^K	300 ^K	300	300	320 ^K	320 ^K (370)	320 ^K (370)	320 ^K (370)	
6	350 ^F (390)	350 ^F (390)	320 ^F (360)	300 ^F (340)	310	300	300	250	260	290	280	330	300	300	320	300	A	A	300	300	280	270	260 ^K	260 ^K	260 ^K	
7	350 ^F (390)	350 ^F (390)	320 ^F (360)	340 ^F (380)	370 ^F (410)	360 ^F (400)	320	280	280	270	250	A	U	U	U	U	290	290	300	300	340	320	320	320	270	
8	320	330	330	360	370 ^F (410)	360 ^F (400)	320	280	280	250	A	A	U	U	U	U	290	290	300	300	340	320	320	320	270	
9	330	340 ^F	340	320	(350)	320	280	240	270	250	A	U	U	U	U	U	340	280	270	280	320	(320)	(310)	(310)	270	
10	330 ^F	320 ^F	330 ^F	340 ^F	320 ^F	280 ^F	260	260	270	290	300	U	U	U	U	U	300	280	270	270	310	300	290	290	310	
11	350 ^F	350 ^F	350 ^F	350 ^F	330 ^F	310 ^F	280	260	(260)	260	U	U	U	U	U	U	300	280	270	280	270	280	260 ^F	260 ^F	300	
12	330 ^F	300	330	380	340	300 ^P	270	270	260	270	260	U	U	U	U	U	300	290	290	290	280	300 ^F	260 ^F	310 ^F	300	
13	330 ^F	310	320	340	330	340	250	250	250	260	270	U	U	U	U	U	280	280	270	290	270	270	270	270	300	
14	320	310	(320)	330	320	300	250	(230)	250	260	260	300	310	310	310	260	300	290	290	290	290	290	270	270	340	
15	340 ^K (380)	400 ^K (350)	350 ^K (300)	310 ^K (370)	280 ^K (360)	300 ^K (380)	300 ^K (360)	250 ^K (310)	250 ^K (310)	270 ^K (330)	300 ^K (360)	310 ^K (370)	330 ^K (390)	290 ^K (350)	280 ^K (340)	270 ^K (330)	270 ^K (330)	270 ^K (330)	280 ^K (340)	270 ^K (330)	260 ^K (320)	280 ^K (340)	280 ^K (340)	380 ^K (420)	340 ^K (380)	
16	340 ^F	350 ^F	350 ^F	310	290	300 ^F	260	260	260	250	300	U	U	U	U	U	290	280	260 ^P	260 ^P	260 ^P	290	310	310	330	
17	380 ^F	360 ^F	390 ^F	410 ^F	400 ^F	300 ^K	240	290	300	290	U	U	U	U	U	U	270 ^K	280 ^K	270 ^K	280 ^K	280 ^K	280 ^K	310 ^F	310 ^F	350 ^F	
18	340 ^F	350 ^F	350 ^F	310	290	300 ^F	260	260	260	250	300	U	U	U	U	U	290	280	260 ^P	260 ^P	260 ^P	290	310	310	330	
19	380 ^F	360 ^F	390 ^F	410 ^F	400 ^F	300 ^K	240	290	300	290	U	U	U	U	U	U	270 ^K	280 ^K	270 ^K	280 ^K	280 ^K	280 ^K	310 ^F	310 ^F	350 ^F	
20	380 ^F	360 ^F	390 ^F	410 ^F	400 ^F	300 ^K	240	290	300	290	U	U	U	U	U	U	270 ^K	280 ^K	270 ^K	280 ^K	280 ^K	280 ^K	310 ^F	310 ^F	350 ^F	
21	380 ^F	360 ^F	390 ^F	410 ^F	400 ^F	300 ^K	240	290	300	290	U	U	U	U	U	U	270 ^K	280 ^K	270 ^K	280 ^K	280 ^K	280 ^K	310 ^F	310 ^F	350 ^F	
22	330 ^F	280	300	290	320 ^F	310 ^F	270	350	320	270 ^K	290 ^K	U	U	U	U	U	300 ^K	290 ^K	290 ^K	290 ^K	290 ^K	310 ^K	310 ^K	310 ^K	370 ^K	
23	350 ^F	370 ^F	350 ^F	350 ^F	(310)	A	A	A	C	C	C	C	C	C	C	C	C	C	290 ^K	330 ^K	340	280	310	330 ^F	330 ^F	
24	350 ^F	370 ^F	350 ^F	350 ^F	(310)	A	A	A	C	C	C	C	C	C	C	C	C	C	290 ^K	330 ^K	340	280	310	330 ^F	330 ^F	
25	350 ^F	340	340	320	360	350	(320)	290	280	250	U	U	U	U	U	U	270	280	260	260	320	(380)	(360)	(350)		
26	(350)	(360)	(340)	(350)	(310)	(310)	280	270	300	250	260	300	290	290	300	280	260	260	260	260	260	(280)	(310)	(330)	(350)	
27	(350)	(360)	(340)	(350)	(310)	(310)	280	270	300	250	260	300	290	290	300	280	260	260	260	260	260	(280)	(310)	(330)	(350)	
28	(350)	(360)	(340)	(350)	(310)	(310)	280	270	300	250	260	300	290	290	300	280	260	260	260	260	260	(280)	(310)	(330)	(350)	
29	(350)	(360)	(340)	(350)	(310)	(310)	280	270	300	250	260	300	290	290	300	280	260	260	260	260	260	(280)	(310)	(330)	(350)	
30	(350)	(360)	(340)	(350)	(310)	(310)	280	270	300	250	260	300	290	290	300	280	260	260	260	260	260	(280)	(310)	(330)	(350)	
31																										
Mean Value	340	340	340	330	320	310	270	270	270	270	280	300	310	300	290	290	290	280	280	280	300	300	300	300	330	
Median Value	340	350	340	320	320	310	270	260	270	260	280	300	310	300	300	300	290	280	280	280	300	300	300	320	330	
Count	30	30	30	29	29	29	28	24	24	22	16	13	17	21	22	23	28	29	29	30	28	28	28	29		

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

Lat. 39° 43.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

A k i t a

Sep. 1953

R'F2

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	330 ^F [300] ^F 310 ^F	320	290 ^F 280	240 ^F 250 ^F	210	260	250	320	290	[320] ^C	340	420	350	360	340	320	350	A	A	260	280	270 ^A [280] ^A	300 ^F 280 ^F	280 ^F 270 ^F	
2	300 ^F 250	290	280	210	270	280	280	310	A	A	440	380	360	480	320	310	290	260	260	240	230	260 ^F 270 ^A	270 ^A 350 ^K	280	
3	300 ^F 290	290	280	A F	A	260	310	300 ^K	260 ^K	[400] ^K	420 ^K	350	350	280	270 ^K	420 ^K	330 ^K	270 ^K	300 ^K	300 ^K	250 ^K 300 ^K	250 ^K 350 ^K	330 ^K 310 ^K	310 ^K	
4	290	320 ^K 300 ^K	300 ^K	270 ^K	[240] ^K	220 ^K	270 ^K	A K	350 ^K	[340] ^K	320 ^K	320 ^K	350 ^K	350 ^K	330 ^K	280 ^K	280 ^K	280 ^K	260 ^K	270 ^K	250 ^K	250 ^K	[240] ^K	270 ^K	
5	320 ^K [280] ^K	300 ^K 300 ^K	300 ^K 300 ^K	260 ^K 250 ^F	270 ^K 250	260 ^K 260	270 ^K 240	250 ^K 240	270 ^K 260	270 ^K 260	330 ^K 290	320 ^K 280	380 ^K 300	380 ^K 300	340 ^K 300	340 ^K 300	340 ^K 300	320 ^K A	[260] ^K	250 ^K	220 ^K	230 ^K	A K	A K	A K
6	A K	(350) ^A	250	250 ^F	250	260	300	240	260	260	290	280	300	290	290	300	A	270	280	260	270	220 ^A	280	(300) ^A	
7	AF (350)	270 ^F 250	250 ^F (280)	AF 250	AF 260	260	260	270	270	270	A	A	330	320	290	290	[280] ^L	260	[230] ^A	230 ^A	300 ^A	280	230	250	
8	290	280	290	260	280	260	260	270	270	250	A	A	330	320	290	290	280	270	[260] ^A	240 ^F	260	250	250 ^F	220 ^F	
9	260 ^A	300 ^F 270	260	260	290	280	240	240	270	250	[270] ^A	290	330	320	290	300	340	280	220 ^A	260	240 ^F	240 ^F	230 ^F	260	
10	270	260	250 ^F	300 ^F	270 ^F	270 ^F	220	260	260	270	300	320	360	300	290	270	290	260 ^A	280	260	260	250	250	260	
11	270	300	290	260	280	260	250	260	250	260	270	290	L	310	340	320	280	270 ^A	240	270 ^A	260	270	250	240	
12	270	250	260	260	280	260	240	270	260	260	290	270	310	270	270	320	270	270	260	250	260	250	250	240	
13	260	250	260	260	280	260	240	240	250	260	270	290	290	290	300	300	270	270	260	240	260	230	250	240	
14	250	250	260	260	280	260	240	240	240	250	260	270	290	290	300	260	270	270	260	240	240	230	250 ^F	280	
15	280 ^A	250	270	270	250	250	240	230	250	260	260	260	300	310	310	260	270	260	240	240	220 ^K	230 ^K	[260] ^A	280	
16	290 ^K 310 ^K	300 ^K 280 ^K	300 ^K 280 ^K	250 ^K 270 ^K	230 ^K 300 ^K	250 ^K 310 ^K	250 ^K 240 ^K	250 ^K 270 ^K	230 ^K [250] ^K	270 ^K (280) ^K	300 ^K 320 ^K	300 ^K 290 ^K	330 ^K 290 ^K	280 ^K 290 ^K	270 ^K 300 ^K	260 ^K 290 ^K	260 ^K 260 ^K	250 ^K 240 ^K	240 ^K	240 ^K	220 ^K	230 ^K	250 ^K [270] ^K	260 ^K 270 ^K	260 ^K 310 ^K
17	300 ^K AF 300 ^K	300 ^K 300 ^K	280 ^K 300 ^K	270 ^K 260	300 ^K 250	310 ^K 300 ^K	240 ^K 250	240 ^K 250	240 ^K 240	(280) ^K 250	300 ^K 260	300 ^K 320	290 ^K 320	280 ^K 320	300 ^K 330 ^K	290 ^K 300	260 ^K 260	260 ^K 240	260	260	250 ^K	240 ^K	290 ^K 300 ^K	290 ^K 300 ^K	290 ^K 310 ^K
18	A	(300) ^A	(300) ^A	260	240	240	240	250	250	250	300	320	280	340	310	300	290	260	250	240	240	220 ^K	250 ^F	A	
19	320 ^A	320 ^A (300) ^A	320 ^A (300) ^A	250	240	300 ^F	250	250	240	240	260	360	320	320	270	270	260	260	250	250	240	230 ^K	270 ^F	(300) ^A	280
20	300 ^K	350	300 ^K	320 ^K	330 ^K	260 ^K	220 ^A	290 ^K	300 ^K	280 ^K	420 ^K	320 ^K	330 ^K	330 ^K	300 ^K	270 ^K	270 ^K	260 ^K	260 ^K	240 ^K	240 ^K	240 ^K	300 ^K	320 ^K	
21	330 ^K	300 ^K	290 ^K	230 ^K	270 ^K	250 ^K	[240] ^K	244 ^K	[280] ^K	320 ^K	330 ^K	330 ^K	310 ^K	310 ^K	270 ^K	270 ^K	270 ^K	260 ^K	[280] ^K	300 ^K	230 ^K	300 ^K	270 ^K	270 ^K	
22	370 ^K	240 ^K	240 ^K	230 ^K	290 ^K	270 ^K	270 ^K	330 ^K	270 ^K	270 ^K	320 ^K	300 ^K	270 ^K	320 ^K	320 ^K	320 ^K	270 ^K	250 ^K	[280] ^K	320 ^K	270 ^F	300 ^F	300 ^F	290	
23	260	220	250	260	270	270	250	340	320	270 ^K	290 ^K	300 ^K	320 ^K	310 ^K	300 ^K	C K	[280] ^K	C K	260 ^K	240 ^K	230 ^K	250 ^K	240 ^K	310 ^K	
24	300 ^K [300] ^K	290 ^K 290	290 ^K 290	270 ^K 240	A K	A K	A K	A K	A K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	270 ^K	280 ^K	260	270	260	
25	300	280	250	260	270	300	[300] ^A	290	270	250	300	320	300	270	290	300	260	250	230	230	260	300	300 ^F	270 ^F	
26	270 ^F	270 ^F	260 ^F	270 ^F	250 ^F	260 ^F	250	270	300	250	250	300	290	300	290	280	280	240	240	220	280	250	300 ^F	300 ^F	
27	250 ^F	260 ^F	240	250	260	250	240	240	300	280	250	260	250	300	280	270	250	240	240	200	230	250	300 ^F	300 ^F	
28	250 ^F	280 ^F	240	240	250 ^F	270 ^F	250	260	280	250	A	A	A	270	260	260	240	230	240	260	320	360	[300] ^F	260 ^F	
29	310 ^F	300	260	270 ^F	230	300 ^F	230	220	280	270	(280) ^A	270	270	270	270	300	260	230	220	210 ^A	210 ^A	270 ^A	A A	A A	
30	A F	300	280	260	260	250	220	230	[250] ^K	270	250	250	250	250	270	270	250	250	230	210 ^A	210 ^A	A A	310 ^A	300	
31																									
Mean Value	290	290	270	260	260	270	260	270	280	280	310	320	320	310	300	300	280	260	250	250	250	270	280	280	
Median Value	290	300	280	260	260	270	250	260	270	270	300	310	310	300	300	300	280	260	250	250	240	260	260	280	
Count	27	30	30	29	29	29	29	28	28	28	27	26	26	29	29	29	28	28	29	29	30	29	28	27	

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

Lat. 39° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

135° E Mean Time

foF1

Sep. 1953

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							Q	3.6	3.8 ^A	(4.0) ^o	4.2	4.1	4.1	4.0	4.0	3.8	A	A						
2							3.0 ^L	3.7	3.8	4.0	4.1 ^H	4.2	4.2	4.3	(4.0) ^A	3.8	3.6	L						
3							Q	3.5	A	A	4.0	4.1	4.1	4.0	4.1	4.1	3.7	3.4						
4							3.4 ^L	A	A	A	4.4	4.0	(4.0) ^A	4.0	4.1	A	3.7	L						
5							(3.4) ^L	3.6 ^A	3.9	(4.1) ^L	4.3	(4.3) ^A	4.3	(4.3) ^A	4.3	4.1	A	A						
6							L	3.6	3.9	4.3	4.3	4.3	4.4	4.3	4.2	4.0	3.5	3.4 ^L						
7							3.0	3.6	4.0	4.2	4.0	4.4 ^L	(4.4) ^A	4.3	(4.2) ^A	4.0	A	L						
8							Q	A	3.8	4.1	4.4	4.5	4.4	4.4	4.2	L	L	A						
9							3.0 ^L	(3.5) ^A	4.0	4.1	A	A	4.5	4.3	4.2	4.0	3.9	A						
10							Q	3.6	3.9	4.0	A	A	4.4	4.3	4.2	3.8 ^A	3.8	A						
11							Q	3.7	4.0	4.2	4.4	4.5	4.5	4.3	4.2	4.0	3.7	A						
12							Q	3.5	4.0	4.2	4.4	4.4	(4.4) ^L	4.3	4.3	4.0	3.8	3.3						
13							Q	3.6	4.0	4.3	4.3	4.4	4.5	4.3	4.2	4.1	(3.6) ^L	3.2 ^L						
14							Q	3.6	4.0	4.2	4.3	4.4	4.5	4.2 ^L	4.3	4.0 ^L	3.6 ^L	3.2 ^L						
15							Q	3.6	4.0	4.3	4.4	4.5	4.5 ^L	4.5	4.4	3.7	4.0	3.0 ^L						
16							Q	A	A	A	4.5	4.5	4.8 ^H	4.5 ^H	4.4	4.0	Q	Q						
17							A	A	A	A	A	4.5	4.5	4.5	4.3	4.2	3.5	Q						
18							Q	3.5	3.9	4.1	4.3	4.5	4.5	4.5	4.2	4.0	3.7	A						
19							Q	3.6	3.9	4.1	4.0	4.5	4.5	4.4	4.2	3.8 ^L	3.5 ^L	Q						
20							Q	3.6	3.8	4.0	4.4 ^H	4.3	4.2	4.2	4.0	3.7	3.5 ^L	Q						
21							A	Q	A	4.0	4.3	4.3	4.2	4.2	4.0	3.8 ^L	L	Q						
22							L	3.7	3.9	4.0 ^A	(4.1) ^A	4.2	4.2	4.2	(4.2) ^L	4.0	3.6 ^L	A						
23							Q	3.7	4.0	4.0	4.3	4.3	4.2	4.0	4.1	3.9	(3.4) ^L	3.0 ^L						
24							A	3.4	C	C	C	C	C	C	C	C	C	2.9 ^L						
25							A	3.5	3.8	4.0	4.2	4.3	4.3	4.0	3.7	3.8	L	Q						
26							Q	3.7 ^L	4.0	4.0	4.3	4.1	4.4	4.2	4.0 ^L	3.9 ^L	3.4 ^L	Q						
27							Q	Q	4.0	4.1	4.1	4.3	4.5	4.3	4.0	3.9 ^L	3.5 ^L	Q						
28							Q	L	A	A	A	A	A	A	4.0	3.7	3.5 ^L	Q						
29							Q	Q	A	A	4.2	A	A	4.2	4.1	4.1	3.5	Q						
30							Q	Q	M	L	4.2	4.3	4.3	4.3	4.1 ^L	4.0 ^L	Q	Q						
31																								
Mean							3.2	3.6	3.9	4.1	4.3	4.3	4.4	4.3	4.1	3.9	3.6	3.2						
Median							3.0	3.6	3.9	4.1	4.3	4.3	4.4	4.3	4.2	4.0	3.6	3.2						
Value							5	2.1	2.1	2.2	2.5	2.5	2.7	2.8	2.9	2.8	2.1	8						
Count																								

Sweep 0.85 Mc to 2.20 Mc in 2 min

Manual Automatic

A 4

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

Lat. 39° 43.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

A k i t a

R'F1

Sep. 1953

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 240 ^A	A 240 ^A	A C	A	A	200	(270) ^A	[260] ^A	240	210	A	A						
2							250 ^A	240 ^A	200	A	190 ^H	A	A	A	A	250	240	240						
3							Q	A	A	A	230	230	(270) ^A	[250] ^A	230	220	210	260						
4							260	A	A	A	230 ^A	230	A	(270) ^A	240	[240] ^A	250	250						
5							250	[240] ^A	220	250	200	[240] ^A	280	A	A	270 ^A	A	A						
6							260	220	A	A	A	200	200 ^A	200	250 ^A	(270) ^A	230	250						
7							260 ^A	220	210	190	180	200	[210] ^A	220	[220] ^A	230	[220] ^A	220						
8							Q	A	A	A	200	200	200	220	250	240	240	A						
9							240	[240] ^A	230 ^A	200	A	A	A	A	220	220 ^A	230	A						
10							Q	230	230	A	A	A	220	220 ^A	210	A	A	A						
11							Q	240	220	240	240	A	A	200	200	210 ^A	220 ^{AF}	A						
12							Q	250	240	230	220	220	200	210	230	210	250	230 ^A						
13							Q	230	240 ^A	210	200	190	210	200	220	220	250	250						
14							Q	230	220	210	200	210	210	200	180	240	230	250						
15							Q	220	220 ^A	230	200	200	180	190	220	230	230	(250) ^A						
16							Q	A	A	A	(270) ^A	220	230 ^H	210 ^H	220	240	Q	Q						
17							A	A	A	A	A	260 ^A	240 ^A	(250) ^A	220	220	240	Q						
18							Q	210	230	200	180	180	250	210	250 ^A	240	250 ^A	A						
19							Q	250	230	220	180	200	220	270	270	240	250	Q						
20							Q	240	240	220 ^A	200 ^H	220	250	220	220	230	250	Q						
21							A	Q	A	(250) ^A	230 ^A	230 ^A	230 ^A	230 ^A	[240] ^A	250	250 ^A	Q						
22							250	A	A	A	A	220	210	220	210	210	230	A						
23							Q	240	230	C	C	C	C	C	C	C	C	270 ^A						
24							A	220 ^A	C	C	210	200	180	200	200	210	240	Q						
25							A	220	240	240	210	200	200	180	200	210	240	Q						
26							Q	230	230	210	240	200	190	190	210	250	240	Q						
27							Q	Q	240 ^A	230 ^A	200	210	200	200	220	240	240	Q						
28							Q	240	A	A	A	A	A	A	A	220	250	Q						
29							Q	Q	A	A	(260) ^A	A	A	220	200	220	240	Q						
30							Q	Q	M	A	A	220	250	220	210	250	Q							
31																								
Mean							250	230	230	220	210	210	220	220	220	230	240	250						
Maximum							250	240	230	220	200	210	210	220	220	240	240	250						
Minimum							17	20	17	17	21	23	23	25	26	28	24	24	11					
Count																								

R'F1

Sweep 0.85 Mc to 2.20 Mc in 2 min

Manual

Automatic

A 5

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

Lat. 39° 43.6' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

135° E Mean Time

f_oE

Sep. 1953

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

Sweep 0.85 Mc to 22.0 Mc in 2 min Manual Automatic

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

IONOSPHERIC DATA

Lat. 38° 48.6' N
Long. 140° 08.2' E

Akita

R'E

Sep. 1953

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

R'E

Sweep 0.85 Mc to 22.0 Mc in 2 min

Manual

Automatic

Lat. $39^{\circ} 43.5' N$
Long. $140^{\circ} 08.2' E$

Akita

IONOSPHERIC DATA

fEs

Sep. 1953

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	>2.3 ^c	2.8 ^Y	2.4 ^F	3.0 ^Y	2.3 ^Y	3.1 ^Y	4.2	4.9	C	5.6	5.5	6.9	5.4	4.2	5.4	6.8	6.5	6.6	7.8	5.6	5.6	4.6	4.7	
2	4.2	4.3	2.3	2.6	3.5	2.4	4.3	4.3	4.9	4.3	4.5	4.3	5.1	5.2	5.1	4.2	4.3	3.5	3.1	3.5	3.3	5.3	6.7	3.3 ^F	
3	1.8	2.4	2.9	2.3 ^F	2.3	3.6	4.2	4.2	5.2	5.0	4.5	4.1	5.3	6.5	3.6	3.4	3.5	4 ^F	2.6	2.3 ^Y	4.0	4.0	3.0	2.3	
4	2.3	2.8	2.3	5.3	3.8	2.3	3.1	5.4	5.0	7.7	4.6	4.3	7.0	4.5	4.2	4.7	3.5	6.3	5.1	4.0	4.0	5.5	3.5	2.7	
5	1.8	1.8	E	2.4	3.5	2.5	3.3	5.9	4.3 ^Y	5.2	4.0	5.5	4.7	6.5	4.6	4.7	4.9	5.0	4.5	3.0	3.0	2.6	4.5	6.8	
6	4.5	3.5	3.0	2.5	2.2 ^Y	2.3	3.4	3.1	4.5	4.8	6.4	6.2	4.7	5.5	4.1	5.0 ^F	4.9	4.0	7.0	4.2	4.3	7.0	6.7	5.5	
7	3.4	3.5	2.6 ^Y	3.0	4.0 ^Y	3.5 ^Y	4.4	4.0	3.7	4.0	4.2	4.3	6.8	4.4	5.4	5.8	6.5	4.7	7.2	4.4	6.5	3.2	6.7	5.5	
8	4.6	4.2	3.5	3.1	4.2	2.4	3.8	4.5	4.5	5.3	4.7	4.5	4.1	4.5	4.7	4.3	4.3	4.5	4.3	4.4	4.3	4.4	3.5	3.3	
9	3.2	3.0	2.3	2.3	3.1	2.2	3.1	4.5	4.2	5.0	6.0	5.8	5.1	5.5	4.5	4.7	4.2	6.0	7.0	7.2 ^F	6.5 ^Y	5.3	6.5 ^Y	6.5 ^Y	
10	3.2	4.2 ^F	2.6	2.3	3.1	3.2	3.1	4.7	4.1	4.5	3.8	5.5	4.6	5.6	4.4	5.6	5.5	4.8	3.6	4.3 ^Y	3.1	3.9 ^F	3.1 ^F	6.5 ^F	
11	4.3 ^F	4.3 ^F	2.2	6.7 ^F	7.0 ^F	5.4	3.6	3.5	4.3	4.6	4.7	5.5	5.2	4.0	4.7	4.3	4.5 ^F	7.0 ^F	6.6	3.5	3.5	4.0	4.4	4.3	
12	3.0	4.4	7.0	4.3	5.5	4.8 ^F	6.5	4.7	3.5	4.0	4.7	4.7	4.1	4.1	4.1	4.1	4.1	3.5	6.5	5.5	4.4	5.3	3.5	3.5 ^Y	
13	2.3	3.0 ^Y	2.9	2.4 ^Y	3.0 ^Y	3.1 ^Y	3.4	4.1	4.1	3.7	4.7	4.7	3.4	4.1	4.5	4.1	3.7	3.3	4.5	4.0	4.2	4.2	2.9	2.3	
14	2.5	2.3	E	2.2	2.3	2.2	2.9 ^Y	3.5	3.3	4.2	4.7	4.1	4.1	4.1	4.2	4.1	3.0	4.7	2.3	3.1	3.5	3.4	5.5	3.2	
15	6.9	2.3	E	2.3	2.3	E	4.7	4.7	4.3	4.3	4.1	4.2	4.0 ^Y	4.3	4.2	4.2	3.8	3.4	3.1	2.4	2.9	3.1	3.8	3.5	
16	3.3	3.0	3.5	2.3	2.3 ^F	E	3.5	4.5	6.8	6.8	7.0	4.8	4.3	4.3	4.3	4.2	4.3	3.5	2.0	2.9 ^Y	2.4	2.4	3.0	5.5 ^F	
17	5.5	4.3	3.0	2.3 ^F	2.2	2.4	4.0	6.0	8.0	7.1	5.7	5.0	4.3	5.1	5.5	3.5	3.5	3.5	5.5	4.2	4.5	4.2	3.8	3.7	
18	4.3	3.9	3.8 ^F	3.4	2.8 ^F	2.2	4.7	4.4	4.5	4.2	4.1	4.5	4.7	4.3	4.5	4.0	5.4	6.4 ^F	5.5	5.4 ^Y	6.8 ^Y	3.5	3.9	3.6	
19	3.8	3.4	4.4	4.3	3.5	4.2	3.5	4.7	4.1	4.0	3.5	4.5	4.1	4.1	4.5	4.5	4.3	3.5	4.0	3.0	2.3	2.8	3.0	2.6	
20	3.1	3.0	2.3 ^F	2.5 ^Y	2.5	2.5	4.4	6.5	4.5	4.5	3.7 ^Y	4.4	4.4	4.2	3.6	3.5	4.3	4.5	3.5	3.4 ^F	3.5	2.5 ^F	3.6	2.4	
21	2.3	3.0	2.2	2.4	2.0	2.5	4.7	4.7	5.7	4.4	4.5	4.7	4.0	4.8 ^Y	4.2	4.4	4.2	4.0	8.0	5.5	5.2	4.3	5.5	4.5	
22	3.0 ^F	3.0 ^Y	2.3 ^F	2.9	2.3 ^F	4.3	2.4	4.3	5.5	5.2	5.3	4.1	4.0	4.0	3.9	3.9	4.9	3.8	4.6	4.3	6.6 ^Y	3.3 ^F	4.3	3.5	
23	3.5 ^F	2.3 ^Y	2.3 ^Y	2.3 ^Y	2.3 ^Y	2.2 ^Y	2.3 ^F	4.7	4.1	3.5	4.2	3.2	4.1	4.0	4.3	4.1	3.8	5.1	3.5	4.2	3.5	3.2	2.7 ^Y	4.1 ^Y	
24	3.0	3.3	2.2 ^Y	2.3 ^Y	3.0	3.6	5.1	4.4	C	C	C	C	C	C	C	C	C	3.2	3.1	3.0	2.9	3.1	3.1	2.0	
25	2.8 ^Y	2.3	2.2	3.0 ^Y	2.0 ^Y	3.5	5.0	3.3	4.7	4.7	4.7	4.7	3.5	3.8	4.1	4.1	3.1	2.3	2.5 ^Y	2.3	2.2	2.3	1.7	1.8	
26	2.1	1.8	2.1	1.9	1.8	2.2	2.8	4.7	4.1	4.7	4.7	4.2	4.2	3.5	4.7	4.7	4.7	4.7	2.3	2.2	2.3	E	E	E	
27	E	2.2	E	2.0	3.0 ^Y	2.0 ^Y	3.0	4.7	4.3	4.5	4.7	3.5	3.5	4.7	4.7	4.7	4.7	3.5	4.1	3.2	4.1	3.0	3.1	3.4	
28	E	1.9	E	2.1	2.3	E	2.9	4.3	5.0	6.9	1.3.0	10.2	9.5	7.0	5.6	4.5	3.5	3.5	3.5	3.9	4.4	4.4	5.5	3.5	
29	4.3	4.6	2.4	3.1	2.2	2.4	3.1	3.9	5.5	5.5	7.0	10.5	6.5	4.5	3.5	3.5	3.2	3.0	3.0	2.4 ^Y	3.0	3.1	5.4 ^F	4.5 ^F	
30	4.3 ^F	3.5 ^F	2.5 ^F	2.3 ^F	2.3 ^F	2.8	4.7	4.7	M	5.0	6.5	6.8	6.0	4.0	4.2	4.0	3.5	3.6	3.8	4.2	3.5	4.4	3.5	2.3	
31																									
Mean Value	3.4	3.2	2.8	2.8	3.0	2.9	3.6	4.4	4.7	4.9	5.4	5.2	5.0	4.8	4.4	4.4	4.2	4.2	4.5	4.0	4.0	3.7	4.3	3.8	
Median Value	3.2	3.0	2.3	2.4	2.6	2.4	3.4	4.2	4.5	4.5	4.5	4.5	4.3	4.3	4.2	4.0	3.7	3.5	4.0	4.0	4.0	3.5	3.7	3.5	
Count	3.0	2.9	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	

Sweep 0.85 Mc to 22.0 Mc in 2 min

Manual Automatic

A 8

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

IONOSPHERIC DATA

Lat. 39° 48.6' N
Long. 140° 08.2' E

A k i t a

Sep. 1953

(M3000)F2

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	29F	[29]C	29F	33F	35F	32	36	32	34	[32]C	31	28	30	29	30	32	29	A	A	31	31	30F	29F	(29)	
2	28F	(28)	[29]F	(30)	31	30F	32	32	32	31	31	30	31	26	31	32	34	33	30	32	30	30F	2.8F	(28)	
3	(21)F	29F	(27)F	29F	35F	32	32	31	A	A	27	30	30	34	34	28	30	31P	31P	33	33	29	30	29F	
4	28	28F	29F	A	A	29F	28	30K	34K	[30]K	25K	27K	30K	32K	28K	32K	29K	30K	34K	29K	30K	35K	26K	29K	
5	28K	26K	28K	30K	32K	32K	31K	A	30K	29K	31P	30K	30K	27K	30K	31K	31K	33K	34K	30K	31K	30K	[30]A	30K	
6	[29]A	28K	29K	30K	30K	31K	(33)K	36K	34K	30K	[30]A	32K	29K	31K	32K	32K	32K	32K	[32]A	31K	35K	33K	A	A	
7	28K	29K	29K	32F	31	30	31	35	34	33	35	29	32	33	32	34	30	31	30H	31	32	34	29	29	
8	28F	30F	29F	29F	29	32	34	31Y	35	35	35	31	31	33	33	32	30	34	34	35P	29	29	34	32	
9	30	28	29	29	29F	28	30	34	33	36	33	33	31	32	34	33	31	32	[32]A	32	32	31	(30)F	32F	
10	29	29F	29	30	(27)F	29F	32	36	35	35	[35]A	(35)Y	32	34	37	32	29	34	34	32	30F	(30)F	(29)	30F	
11	29F	29F	30F	29F	30F	31F	33V	35	34	33	33	31	29	31	31	33	31	32	33	30	30	30	32	29	
12	28	28F	28F	28F	30F	31F	33	33	[34]T	35P	36	35	28	34P	31	32	32	34	33	33	32	30F	32P	31F	
13	30F	31	29	29	29	31P	33	35	35	35	33	35	32	33	34	31	31	31	32	32	31	33	30	33	
14	30	31	30	29	30	30	37	36	36	35	34	34	30	32	33	34	33	32	33	32	34	31	33	30	
15	30	31	(30)T	30	31	32	36	(38)J	36	36	34	34	31	31	30	34	31	30	34K	33K	32K	30K	[30]A	29F	
16	29K	28K	29K	31K	32K	31K	31K	35K	35K	34K	32K	32K	31K	32K	33K	33K	33K	30K	33K	33K	34K	30K	27K	28K	
17	(27)K	(28)K	29K	(27)K	(27)K	(27)K	34K	33K	[34]K	35K	31K	33K	31K	31K	31K	32K	35K	34K	33K	33K	31	30	27K	29K	
18	30F	28F	29F	31	32	30F	33	33	36	34	33	32	34	31	32	(32)P	32	33	34P	34	32	30F	29	29F	
19	27F	28F	30F	31F	32F	31F	29	34K	36K	36K	34K	28K	30K	30K	30K	32K	34K	30K	30K	31P	33K	27K	31	26K	
20	28K	27K	27K	26F	(27)K	32K	36K	33K	32R	31K	27K	31K	30K	30K	27K	33K	33K	33K	33K	29K	33K	29K	32K	27K	
21	27K	27K	28K	32K	28K	32K	[33]A	34K	[33]A	32K	31K	31K	32K	33K	34K	35K	32K	32K	[31]A	30K	31K	27K	27K	28K	
22	29K	31K	31K	29K	27K	28K	33K	31K	33K	35K	30K	33K	35K	32K	32K	30K	32K	35K	30K	28K	AF	27F	31F	28F	
23	30F	33	31	31	29F	29F	32	30	32	34K	32K	33K	32K	33K	32K	32K	31K	32K	32K	32K	32K	30K	32K	27K	
24	29K	27K	28K	28K	(32)K	A	A	A	C	C	C	C	C	C	C	C	C	C	30K	32K	29	33	30F	29	
25	28	28	29	29	28	28	[30]A	32	34	37	33	31	34	35	33	33	34	33	34	29	30	(27)F	(28)F		
26	(27)F	(28)F	(29)F	(28)F	(30)F	31F	32	33	32	35	35Z	32	33P	32	31	34	35	34	32P	(32)F	(29)P	30	(28)F	(28)	
27	(29)F	(29)F	32	30F	30F	31F	33	33	32	33	35	35	30	31	34	33	34	34	34	31	29	(26)F	(27)F	30F	
28	(29)F	(28)F	(28)F	(28)F	(27)F	(27)F	34	34P	33	37	A	A	A	A	35	33	35	35	33	33	(26)F	F	AF	(35)	
29	[31]AF	(29)F	(30)F	(30)F	(31)F	(28)F	36	36	33	34	34	34	34	33	34	32	33	34	35P	36	34	30	29	29	
30	[28]P	28F	29F	30F	30F	32	36	36	[34]M	33	35	34	35	34	32	33	34	34	35	37	B	A	28	29	
31																									
Mean Value	29	29	29	30	30	30	33	34	34	34	32	32	31	32	32	32	32	33	32	32	32	31	30	29	29
Median Value	29	28	29	30	30	31	33	34	34	34	33	32	31	32	32	32	32	33	33	33	32	31	30	30	29
Count	30	30	30	29	29	29	29	28	28	28	28	28	28	28	29	29	29	29	29	29	30	29	28	28	29

(M3000)F2

A 9

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

Lat. 39° 43.5' N
Long. 140° 08.2' E

Akita

IONOSPHERIC DATA

f min F

SEP. 1953

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	22 ^{AF}	15	10	10	10	13	A	A	38 ^A	[39] ^C	40 ^A	35	38	40 ^A	32	31	37 ^A	A	A	26 ^A	30 ^A	31 ^A	22 ^{AF}	23 ^{AF}	15 ^F
2	31 ^{AF}	AF	14	15 ^F	25 ^A	14	22	[29] ^A	36	32	32	37	39	43 ^A	43 ^A	33	26	24	17	17	24 ^A	34 ^A	19	19	15 ^F
3	14 ^F	11	11	10	11	14	25	32	A	A	32	32	38	38	33	30	26	25	18	15	15	17 ^F	19	19	15
4	15	10	E	AF	A	14	22	35 ^A	36	[36] ^A	36 ^A	34	58 ^A	36	32	[29] ^A	26	22	45 ^A	39 ^A	17	[16] ^A	15	17	15
5	15	10	10	14	24 ^A	16	24	55 ^A	34	34	28	44 ^A	36	52 ^A	37	35	37 ^A	36 ^A	28 ^A	17	20 ^A	17	[20] ^A	25 ^A	
6	[24] ^A	24 ^A	18	14	12	14	24	25	36	38 ^A	40 ^A	33	[33] ^A	33	35	34	27	27	[22] ^A	15	15	15	A	A	
7	24 ^A	24 ^A	10	[10] ^A	10	10	26	29	30	32	35	37	45 ^A	36	43 ^A	30	45 ^A	24	25 ^A	36 ^A	30 ^A	[28] ^A	21 ^A	34 ^A	
8	25 ^{AF}	18	14	20 ^A	21 ^A	22	33	33	36	39 ^A	33	34	33	32	32	32	32	32	35 ^A	A	A	15	[16] ^A	17	
9	19	17	13	13	14	14	22	36 ^A	[34] ^A	33	52 ^A	50 ^A	42 ^A	40 ^A	33	34 ^A	27	35 ^A	[25] ^A	15 ^F	25 ^A	16	19	[20] ^A	
10	20 ^A	20 ^{AF}	17	16	14	14	19	22	33	37	[42] ^A	46 ^A	36	37 ^A	34	38 ^A	35 ^A	40 ^A	[33] ^A	26 ^A	15	15 ^F	15 ^F	18	
11	17	14	10	15	20 ^A	24 ^{AF}	23	27	31	30	32	42 ^A	44 ^A	32	30	32	25 ^{AF}	34 ^{AF}	38 ^A	19	25 ^A	22 ^A	25 ^A	25 ^A	
12	15	19	18	23 ^A	15	25 ^{AF}	23 ^A	26	29	32	35	34	35	35	30	30	30	A	55 ^A	17	32 ^A	26 ^A	17	15	
13	15	14	14	10	14	17	25	27	33	32	33	33	35	32	32	31	27	22	21 ^A	25 ^A	17	21 ^A	17	16	
14	18	E	E	E	E	13	23	27	28	32	34	34	36	32	30	30	27	24	15	15	19 ^F	[18] ^A	16	16	
15	21 ^A	14	13	13	E	15	21	27	[31] ^A	35	[30] ^A	34	33	32	33	31	28	25 ^A	29 ^A	15	15	17	15 ^F	19	
16	18	15	15	E	E	11	22	[30] ^A	40	45 ^A	38	35	37	34	34	33	31	24	16	15	15	15	15	25 ^{AF}	
17	AF	AF	16	14	16	17	[34] ^A	50 ^A	[53] ^A	56 ^A	49 ^A	38 ^A	36	38	32	28	25	24	18	24 ^A	23 ^A	17	19	27 ^A	
18	28 ^A	A	A	21 ^A	15	14	24	27	32	32	32	34	36	35	37	28	32	32	36 ^A	37 ^A	26 ^A	24 ^A	25 ^A	20 ^A	
19	A	A	27 ^A	15	19	25 ^A	26	29	33	34	31	34	33	36	35	30	28	25	25 ^A	15	15	15	15	18	
20	15	19	10	10	10	10	[18] ^A	25	30	[30] ^A	31	32	33	31	30	28	26	34 ^A	27 ^A	16	16	16	19	15	
21	14	10	10	13	10	17	37 ^A	27	[30] ^A	34 ^A	36 ^A	36 ^A	[34] ^A	32	25	33	33	30 ^A	[30] ^A	29 ^A	15	15 ^F	17	15	
22	15	15	10	E	10	14	18	33 ^A	36 ^A	40 ^A	41 ^A	32	32	32	29	27	25	[31] ^A	37 ^A	25 ^A	15 ^F	16 ^F	15 ^F	20 ^A	
23	16	E	14	14	E	13	18	24	30	32	32	35	32	30	30	31	24	21	17	17	15	17	15	15	
24	20 ^A	25 ^A	13	10	10	A	A	27 ^A	C	C	C	C	C	C	C	C	C	25	18	21 ^A	[18] ^A	15	15	15	
25	14	10	10	10	10	E	A	23	29	32	32	32	30	29	30	27	26	22	15	15	15	15	15 ^F	15 ^F	
26	15 ^F	10	10	10	11	13	20	25	29	31	36	33	33	31	29	29	26	20	15	15	17	15	15 ^F	15 ^F	
27	14 ^F	10	10	10	10	10	26	26	33	[32] ^A	32	34	32	32	33	28	25	17	15	16	15	15 ^F	15 ^F	15	
28	14	10	E	E	E	E	20	[32] ^A	43 ^A	52 ^A	A	A	A	55 ^A	36	27	26	22	25 ^A	29 ^A	19	21 ^A	[18] ^A	15 ^F	
29	16 ^F	14	10	19	13	15 ^F	22	31	38 ^A	43 ^A	36	60 ^A	42 ^A	31	29	29	24	18	22 ^A	16	[18] ^A	20 ^A	27 ^A	27 ^A	
30	[20] ^A	14 ^F	14	13	13	14	18	26	[32] ^M	39 ^A	39 ^A	32	35	33	29	29	27	27	27	26 ^A	A	A	A	15	
31																									
Mean	18	15	13	14	14	15	24	30	34	36	37	37	37	35	33	31	29	27	25	21	20	19	18	19	
Median	16	14	11	13	11	14	23	27	33	34	34	36	36	33	32	30	27	25	24	17	17	17	17	16	
Count	28	26	29	29	29	29	27	29	28	28	28	28	28	29	29	29	29	28	28	28	28	29	29	28	29

Swamp 0.85 Mc to 22.0 Mc in 2 min Manual Automatic

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

Lat. 39° 43.5' N
Long. 140° 08.2' E

IONOSPHERIC DATA

Akita

Sep. 1953

f_{minE}

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

f_{minE}

Sheep 0.85 Mc to 22.0 Mc in 2 min

Manual Automatic

AI

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

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

IONOSPHERIC DATA

135° E Mean Time

Sep. 1953

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	A	F	F	F	2.2F	2.5	4.2	4.5	5.7	15.6J	5.5	5.6A	5.6	5.8	A	A	5.3J	A	A	A	A	A	A	A	
2	A	3.3F	3.1F	3.7F	2.6	2.8FP	4.0	4.2	A	A	5.0J	5.2JA	5.4P	A	5.7	6.0	5.9P	4.5	4.5	5.8P	5.6	4.3F	F	AF	
3	AF	F	3.4FP	3.2F	2.7FP	3.7H	4.7	4.7	A	A	A	5.8	6.3	6.6	5.7	4.9	5.0J	5.3P	6.1	7.4P	5.0P	4.1	3.7	3.7	
4	3.7F	3.3	3.2	3.1	AF	A	4.0H	6.4P	8.1R	4.7	5.3JK	6.5	B	5.7	5.0R	5.7	5.9	6.2K	7.5	7.5R	AFK	3.0K	3.2FK		
5	3.2K	3.2K	3.3K	3.2K	3.2K	2.8FK	4.5K	5.3FR	4.7	5.4K	5.9PK	6.3	7.5K	7.3R	7.3R	7.5	7.7R	6.8K	7.5K	6.6JK	5.7K	4.8	4.6	4.4R	
6	4.0FK	3.9FK	3.9K	3.9FK	4.0FK	3.5FK	5.5K	6.4R	5.9PK	5.4R	6.2	5.6	5.3	B	5.6	5.5K	5.2K	5.6K	6.4K	6.1K	6.1K	2.7F	2.8K	[2.8]A	
7	2.9K	2.8K	3.0	2.9	2.8	2.7	4.5	6.5	5.8	5.5	5.8J	6.7	6.2	6.0	5.2	A	A	5.5	6.1	(6.3)P	6.7	AF	3.4F	BF	
8	4.2F	3.7	3.4JF	3.0	2.9	3.3	4.5	5.9	5.6	6.1	6.0	6.5	6.5	7.0	6.6	6.1	6.3	7.0	7.7P	6.8P	5.3P	B	5.0P	3.8	
9	3.2	2.9	2.9	2.9	3.0	2.9	4.8P	6.6	(7.8)P	7.0	5.7	5.9	6.1	6.2	5.4J	5.4J	5.1	6.0	6.5	6.5F	AF	F	AF	3.6F	
10	A	A	3.5	(3.2)F	3.3F	5.1P	5.5	5.7	5.7	5.7	6.1	6.0	6.0	6.2	6.8	5	5.3J	6.5	8.0J	B	B	B	F	4.2P	
11	F	3.8F	4.1F	3.4F	3.2F	3.4FP	4.5P	5.2P	5.9P	5.5	6.1	16.1A	6.1	6.6J	7.2P	6.6	6.0	6.3	6.3	6.3	5.6	5.7	5.3P	[4.7]C	4.1F
12	3.8	4.1	4.1	C	T	A	A	6.0	7.3P	6.5	5.7	5.4	5.5	5.7	5.9P	5.8	6.5	8.1P	8.4	6.6	4.8P	(4.7)P	4.4	4.5F	
13	4.0	3.9	3.5	3.3	3.3	3.6	5.2	7.3P	7.4	7.5	6.0	5.9P	5.2	6.4	5.7	6.0	5.5	6.1	7.5P	7.4	6.1	6.0	.B	5.4	
14	4.3	4.2	3.8	3.8P	3.6	3.8	(5.7)P	7.7P	(7.3)P	6.9	7.2	5.7	5.7	5.7	6.1	6.1	7.3	7.2	6.9P	6.5	6.1P	3.3P	3.7	3.7P	
15	3.7	(3.7)C	(3.7)S	3.6	3.4	3.7F	6.2	6.9	5.7	6.4	6.5	5.8	5.7	6.5	7.0	7.0	7.5	8.4J	8.9JK	6.7R	4.9JK	4.4K	4.3K	[4.2]K	
16	4.2K	4.1K	3.7K	4.0K	(3.5)R	3.2K	5.5K	8.9JK	7.0K	5.6K	6.1K	6.8K	7.6K	9.0K	8.9K	7.5K	[7.4]A	7.4R	[7.2]A	6.9K	4.3K	4.3K	AFK	FK	
17	F	4.0FK	3.9FK	AFK	FK	FK	5.4K	5.8K	[5.8]A	5.9K	7.1K	7.7R	[8.0]A	8.5K	7.2K	7.5K	[7.0]B	6.6K	6.4	7.1P	AF	F	3.8	[3.7]C	
18	3.6	3.8	3.7	3.8P	C	C	C	C	C	6.1	5.5	6.0	6.5	6.0	6.2	6.5	6.8	7.5	9.0	6.8	[5.0]A	3.1	3.7H	4.0F	
19	4.0F	[4.0]F	4.1F	3.7	3.2	3.0	5.0J	8.5R	6.7K	5.6K	5.9K	5.6K	C	C	7.3K	7.0K	6.5K	6.8K	7.7K	7.3R	6.2K	4.0K	[4.7]P	3.4K	
20	3.7K	3.7K	3.7K	3.2K	3.2K	4.4R	T	C	6.3K	5.5K	5.7K	7.3K	6.9K	6.1K	6.6K	6.9K	7.0K	7.3R	(7.5)R	4.5K	4.0K	4.0K	3.7K	3.6K	
21	3.3K	3.0K	3.0K	3.1K	2.9K	2.9K	4.3R	4.9K	5.6K	5.7K	6.1K	6.0K	[6.2]A	6.5K	A	A	5.7K	6.1K	5.6K	4.8R	B	4.3P	FK	FK	
22	4.0K	4.2R	2.7R	3.0R	2.5K	2.7K	4.3R	5.5K	6.7K	6.6K	C	C	C	5.5K	5.5K	5.6K	6.4K	5.6K	4.5K	(4.8)A	4.6	4.2F	4.2		
23	4.2F	4.0	3.0	2.8	2.7	2.8	4.4	5.2	6.2	(7.7)P	6.1K	5.6K	5.6K	5.4K	5.7K	5.7K	5.5K	6.5K	7.6K	5.8R	4.7K	3.2K	3.5K	3.4K	
24	3.5K	[3.4]C	3.2F	3.2F	3.1K	2.7K	3.5K	[5.0]A	6.5K	6.2K	5.1K	5.0JK	4.8K	4.9K	4.8K	4.8K	5.5K	5.3R	5.0K	5.6	5.1P	3.8	3.7	3.7	
25	3.1	3.0	3.0	2.6	2.5	2.5	4.2	5.3J	5.7	6.6	5.5	5.1J	5.9	6.0	5.3	5.4	5.4	4.9	(4.9)P	3.5P	3.3	3.2F	3.0P	3.1F	
26	3.0F	3.0F	3.0F	(3.2)C	3.5F	2.4FP	4.1	5.6	7.2	8.2P	6.3	C	C	5.7	5.7	6.0	6.4	(5.5)P	(5.2)P	4.2	3.3F	3.4FP	3.3F	(3.3)P	
27	3.4	3.1F	3.2	2.7	2.5	2.4F	4.1	5.5	6.0	8.0P	7.6	7.0	6.1	7.3	6.7	7.5	7.1	7.0	4.7	4.0	3.2	F	3.4	(3.4)P	
28	3.8P	3.6F	3.8P	3.5F	[3.4]F	3.3F	5.0	6.1	[7.0]C	7.9	7.0	6.1	8.0R	9.0	8.5P	6.9	6.4	5.9	5.6	4.3P	[4.2]A	4.0	4.1P	3.7	
29	3.3	[3.4]C	3.4F	3.7F	3.0P	2.7P	4.7	5.2	6.0	6.3	7.0	8.0	7.3	6.5	6.2	6.0	7.0	8.3P	7.1	5.5	3.0	2.9	2.8	3.1	
30	3.6F	[3.4]C	3.3	3.4F	2.9	3.1	5.2P	6.0	6.2	6.3	7.0	7.6	7.0	6.1	5.7	6.5	7.6	7.5	(7.5)P	5.8	2.5	3.1	2.7F	2.9F	
31																									
Mean Value	3.7	3.6	3.4	3.3	3.0	3.1	4.7	6.0	6.4	6.3	6.1	6.2	6.3	6.5	6.3	6.2	6.3	6.5	6.7	5.9	4.8	4.0	3.7	3.7	
Median Value	3.7	3.7	3.4	3.2	3.0	3.0	4.5	5.7	6.2	6.2	6.0	6.0	6.1	6.2	6.0	6.0	6.4	6.5	6.9	6.0	5.0	4.0	3.7	3.7	
Count	24	21	29	27	26	26	27	28	28	28	28	28	26	27	28	26	29	29	29	28	24	21	23	25	

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

Manual

Automatic

K 1

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

IONOSPHERIC DATA

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

135° E Mean Time

Sep. 1953

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	A	F	F	F	250 ^F	280 ^F	260 ^F	U	320	(340) ^F	350	A	A	A	A	A	(300) ^F	A	A	A	A	A	A	A	
2	A	370 ^F	330 ^F	300 ^F	350 ^F	340 ^F	310 ^F	(270) ^F	A	A	U	A	A	A	A	290	300 ^F	280	310	310 ^F	280	320 ^F	320 ^F	AF	
3	AF	F	F	F	310 ^F	400 ^F	400 ^F	(270) ^F	A	A	A	330	300	290	290	U	(310) ^F	320 ^F	280	270 ^F	270 ^F	270 ^F	340	360	
4	330 ^F	350	320	250	AF	A	370 ^F	290 ^F	240 ^F	260 ^F	U	400 ^K	B	310 ^K	350 ^F	290 ^K	300 ^K	330 ^K	320 ^K	300 ^F	AF	AF	A	380 ^F	
5	370 ^K	380 ^K	370 ^K	320 ^K	260 ^K	300 ^F	280 ^K	(280) ^K	250 ^K	340 ^K	330 ^K	390 ^K	330 ^K	360 ^K	340 ^K	(300) ^K	270 ^K	270 ^K	280 ^K	300 ^K	(300) ^K	330 ^K	350 ^K	320 ^K	
6	350 ^F	350 ^F	(340) ^K	330 ^K	380 ^K	310 ^K	280 ^K	260 ^F	260 ^F	350 ^F	290 ^K	U	U	U	U	300 ^K	300 ^K	300 ^K	270 ^K	300 ^K	260 ^K	260 ^F	A	A	
7	A	440 ^K	300	300	290	310	300	230	280	380	(330) ^F	280	300	280	300	A	A	300	310	(310) ^F	300	AF	350 ^F	BF	
8	380 ^F	330	(350) ^F	300	(300) ^A	300	250	210	250	270	290	300	360	310	300	310	280	280	270 ^F	270 ^F	320 ^F	B	300 ^F	300	
9	320	320	330	330	350	350	310 ^F	260	(260) ^F	260	300	320	300	280	280	(320) ^F	300	300	300	300	AF	F	AF	300 ^F	
10	A	A	330	360	(350) ^F	340 ^F	250 ^F	260	(240) ^F	230	320	310	(310) ^F	310	290	S	(340) ^F	310	(280) ^F	B	B	B	F	310 ^F	
11	F	350 ^F	310 ^F	280 ^F	290 ^F	280 ^F	230 ^F	260 ^F	260 ^F	270	350	A	A	(300) ^F	300 ^F	280	300	270	280	300	290	280 ^F	(300) ^F	320 ^F	
12	A	340	320	C	T	A	A	280	260 ^F	250	U	U	U	U	350 ^F	330	310	290 ^F	270	250	300 ^F	(320) ^F	330	330 ^F	
13	300	310	320	330	320	300	270	260 ^F	250	260	250	280 ^F	320	300	280	310	330	310	300 ^F	270	310	340	B	300	
14	330	330	300	320 ^F	330	360	260	250 ^F	(250) ^F	270	260	280	280	320	320	290	300	290	280 ^F	300	240 ^F	420 ^F	300	330 ^F	
15	300	(320) ^F	(340) ^S	310	320	340 ^F	240	220	250	260	270	280	U	290	300	310	290	(290) ^F	(270) ^F	260 ^F	(300) ^F	320 ^K	360 ^K	(360) ^K	
16	350 ^K	370 ^K	390 ^K	320 ^K	(280) ^K	280 ^K	250 ^K	220 ^K	230 ^K	260 ^K	300 ^K	310 ^K	330 ^K	300 ^K	300 ^K	290 ^K	(300) ^K	300 ^F	AF	A	A	260 ^F	F	F	
17	F	340 ^F	330 ^F	AF	F	F	250 ^F	A	A	320 ^K	(320) ^F	320 ^F	(310) ^F	300 ^K	300 ^K	300 ^K	(280) ^F	260 ^F	270	A	AF	F	310	(320) ^F	
18	330	350	370	310 ^F	C	C	C	C	C	270	280	340	300	310	320	300	300	280	260	250	A	A	A	400 ^F	
19	350	(330) ^F	310 ^F	300	280	320	(300) ^F	260 ^F	230 ^K	240 ^K	A	A	C	C	C	260 ^K	300 ^K	300 ^K	280 ^K	270 ^K	400 ^K	(330) ^F	320 ^K		
20	380 ^K	410 ^K	320 ^K	410 ^F	440 ^F	280 ^F	T	C	300 ^K	280 ^K	320 ^K	290 ^K	300 ^K	290 ^K	310 ^K	270 ^K	290 ^K	280 ^F	(250) ^F	260 ^K	300 ^K	340 ^K	340 ^K		
21	380 ^K	360 ^K	350 ^K	320 ^K	320 ^K	340 ^F	250 ^F	A	A	A	A	310 ^K	A	A	A	A	280 ^K	270 ^K	280 ^K	340 ^F	B	380 ^F	F	F	
22	330 ^K	300 ^F	270 ^F	350 ^{HF}	370 ^F	320 ^F	290 ^F	300 ^F	270 ^F	270 ^F	C	C	C	C	320 ^K	310 ^K	310 ^K	250 ^K	300 ^K	(320) ^F	(330) ^F	350 ^F	350 ^F		
23	320 ^F	290	270	330	330	330	250	270	290	(250) ^F	250 ^K	290 ^K	300 ^K	310 ^K	310 ^K	280 ^K	270 ^K	290 ^K	280 ^K	260 ^F	290 ^K	320 ^K	370 ^K		
24	310 ^K	(330) ^C	350 ^F	360 ^F	300 ^K	350 ^K	350 ^K	(320) ^F	190 ^K	270 ^K	U	U	U	U	U	300 ^K	290 ^K	290 ^K	(320) ^F	300	270 ^F	320	310		
25	350 ^F	320	370	320	340	350	280	(260) ^F	300	260	280	U	300	290	310	300	270	260	(250) ^F	280 ^F	330	350 ^F	360 ^F		
26	320 ^F	330 ^F	330 ^F	(320) ^C	320 ^F	(350) ^F	260	300	290	260 ^F	250	C	C	C	280	300	260	(260) ^F	(280) ^F	270	330	330	260 ^F	(360) ^F	
27	320	330 ^F	300	290	320	310	260	260	300	280 ^F	270	280	300	310	290	300	270	250	280	270	280	F	390	(350) ^F	
28	300 ^F	300 ^F	250 ^F	360 ^F	(360) ^F	370 ^F	260	300	(290) ^F	280	280	310	320 ^F	280	280	250	260	260	260	260 ^F	(320) ^F	390	340 ^F	260	
29	330	(330) ^C	330 ^F	300 ^F	320 ^F	370 ^F	250	250	260	(280) ^F	300	280	290	280	300	300	280	280	270 ^F	260	220	300	310	350	
30	350 ^F	(340) ^K	320	320 ^F	330	300	(270) ^F	240	260	240	280	260	260	280	320	300	270	260	(260) ^F	230	250	340	320 ^F	370 ^F	
31																									
Mean Value	340	340	320	320	320	330	270	270	270	280	290	310	300	300	300	300	290	280	280	280	280	290	340	330	340
Median Value	330	330	320	320	320	320	270	260	260	270	290	310	300	300	300	300	300	280	280	280	280	300	340	340	340
Count	22	27	29	27	26	26	27	25	25	27	23	19	19	23	25	25	29	29	28	26	23	20	21	24	

f_pF₂

Sweep 1/2 Mc to 2.2 Mc in 2 min

Manual Automatic

K 2

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

Lat. 35° 42.4' N
Long. 139° 29.8' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Sep. 1953

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	300 ^A	330 ^F	300 ^H	220	200	250	250	340	230	300	350	A	A	A	A	A	300	A	A	A	A	A	A	A
2	A	330	280	250 ^F	320	300	300	270	A	A	320 ^H	320 ^A	380	340 ^A	380	370	280	270 ^L	250	250	220	250	300 ^F	AF
3	AF	300 ^F	270 ^F	220	220	260 ^F	270 ^H	260	A	A	A	330	300	280	290	370	310	290	250	230	210	270	280	340
4	260	280	260	200	AF	A	250 ^H	280 ^K	230 ^K	L	480 ^K	400 ^K	270 ^K	310 ^K	350 ^K	290 ^K	280 ^K	300 ^K	260 ^F	260 ^F	AF	AF	A ^K	310 ^K
5	310 ^K	310 ^K	300 ^K	260 ^K	220 ^K	250 ^A	240 ^K	260 ^K	250 ^K	340 ^K	330 ^K	380 ^K	330 ^K	350 ^K	340 ^K	300 ^K	260 ^K	270 ^K	250 ^K	250 ^K	250 ^K	250 ^K	270 ^K	310 ^A
6	270 ^K	290 ^K	280 ^K	260 ^K	230 ^K	270 ^K	280 ^K	250 ^K	260 ^K	350 ^K	290 ^K	330 ^K	320 ^K	340 ^K	320 ^K	300 ^K	300 ^K	280 ^K	260 ^A	250 ^K	220 ^K	200 ^K	A	A
7	350 ^N	400 ^K	280	250	240	270	220	230	250	[290 ^L]	330	270	300	280	300	A	A	280	250	250	250 ^A	210 ^A	250	380
8	300 ^F	250	230	230	[250 ^A]	270	230 ^A	260	250	270	290	300	350	310	290	310	280	270	230 ^A	230 ^A	250	260	240	230
9	280	270	300	300	270	300	300	250	250	240	300	320	300	280	310	310	290	280	250 ^A	250 ^A	[260 ^H]	270	250	220 ^F
10	A	A	290 ^A	A	AF	300 ^A	240	250	[240 ^H]	230	310	310	[310 ^A]	310	290	280	340	290	240 ^A	220 ^A	230	230	330	260 ^F
11	310	260	250	230	260	250	220	230	260	270	350	A	A	300	300	270	280	260	250	240	250 ^A	240	[260 ^L]	270
12	[260 ^A]	240	260	[240 ^L]	220	A	A	250	250	250	270	300	320	350	350	330	300	260	250	220	250	300	300	270
13	260	250	230	270	260	250	250	250	250	240	250	280	320	300	280	[300 ^H]	320	270	240	220	250	250	300	250
14	250	250	240	240	260	280	250	230	250	260	250	280	280	L	290	290	270	250	230	230	210 ^A	380	250 ^F	290
15	260	270	270	250	260	260	220	220	240	260	260	270	280	290	290	290	280	250	220 ^A	210 ^A	250 ^K	240 ^K	300 ^K	[300 ^K]
16	290 ^A	320 ^A	320 ^K	250 ^K	200 ^K	250 ^K	250 ^K	240 ^K	220 ^K	250 ^K	280 ^K	300 ^K	310 ^K	290 ^K	290 ^K	270 ^K	260 ^K	[260 ^L]	260 ^K	AF	A	A	[330 ^L]	350 ^F
17	310 ^F	300 ^K	270 ^F	[300 ^H]	330 ^F	300 ^F	220 ^K	A	A	300 ^K	[300 ^A]	310 ^K	[300 ^A]	280 ^K	290 ^K	290 ^K	260 ^K	240 ^K	220 ^A	[380 ^A]	340 ^F	370	280 ^A	270
18	270	[290 ^L]	310 ^A	250	C	C	C	C	C	270	270	340	290	310	320	300	280	260	240	210 ^A	A	A	320 ^A	300 ^F
19	300 ^F	280 ^F	260	250	230	290	240	230 ^C	230 ^H	240 ^K	[300 ^A]	370 ^A	C	C	C	280 ^K	270 ^K	270 ^K	260 ^A	250 ^A	220 ^K	300 ^K	280 ^K	240 ^K
20	320 ^K	330 ^K	350 ^K	300 ^K	340 ^F	250 ^F	220 ^K	[260 ^L]	300 ^K	280 ^K	310 ^K	290 ^K	290 ^K	290 ^K	290 ^K	260 ^K	270 ^K	240 ^K	230 ^A	230 ^K	260 ^K	270	290 ^K	310 ^K
21	310 ^K	300 ^K	290 ^K	260 ^K	250 ^K	270 ^A	230 ^K	A	A	A	310 ^K	310 ^K	A	A	A	A	270 ^K	250 ^K	250 ^K	250 ^K	240 ^K	300 ^K	290 ^F	250 ^F
22	270 ^F	230 ^K	210 ^K	220 ^H	300 ^K	260 ^K	250 ^K	300 ^K	270 ^K	260 ^K	C	C	C	C	C	300 ^K	270 ^K	230 ^A	250 ^K	[270 ^A]	290 ^A	290	300	500
23	270	230	230	260	260	260	230	260	280	250 ^K	250 ^K	290 ^K	300 ^K	320 ^K	310 ^K	270 ^K	[270 ^L]	270 ^K	240 ^K	210 ^K	210 ^K	280 ^K	320 ^K	310 ^K
24	260 ^K	[280 ^K]	300 ^K	280 ^K	250 ^K	280 ^K	270 ^H	[280 ^H]	290 ^K	270 ^K	330 ^K	350 ^K	320 ^K	360 ^K	330 ^K	[300 ^L]	280 ^K	260 ^K	260 ^K	260	230	270	270	250
25	280	260	260	250	270	290	250	300	250	280	310	300	290	290	310	300	260	230	230	220	290	300	310	300
26	290	270	290	[270 ^L]	250	280	240	300	280	240	250	C	C	270	300	290	260	230	220	220	260	280	230	320
27	250	240	240	240	260	260	230	250	300	260	270	270	300	290	270	270	250	230	210	230	240	320 ^F	330 ^F	310 ^F
28	260	250	220	220 ^F	260	270 ^F	250	280	[270 ^L]	260	250	300	300 ^H	270	250	240	250	230	220	220	[270 ^A]	320 ^A	300 ^A	240
29	300 ^A	[280 ^L]	260	250	250	260	220	240	260	[280 ^A]	300	260	270	280	280	260	260	240	220	200	260 ^A	270	330 ^A	[320 ^A]
30	310 ^F	[300 ^L]	300 ^A	270	[260 ^A]	260	220	230	240	240	270	250	250	270	240	280	270	240	230	200	220	270	310	300
31																								
Mean Value	290	280	270	250	260	270	240	260	260	270	300	310	300	300	300	290	280	260	240	230	250	280	280	290
Median Value	280	280	270	250	260	270	240	250	250	260	300	300	300	290	300	290	270	260	240	230	250	270	270	290
Count	27	29	30	29	27	27	28	27	25	26	28	26	24	25	28	27	29	29	28	28	27	27	27	27

Sweep Manual Automatic

Swamp L.O. Me to J.7.2. Me in 2 min

K 3

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

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

IONOSPHERIC DATA

foF1

Sep. 1953

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							Q	3.7L	3.8	[4.0]A	4.2	A	A	A	A	A	3.8	A						
2							Q	3.6	A	A	4.2	A	A	4.2	[4.1]A	4.0	3.9	L						
3							Q	3.5L	A	A	A	A	A	A	4.2	4.4	3.7	3.0						
4							Q	3.7	4.0	L	4.5	4.3	4.2	4.2	4.2L	4.1	3.5L	3.5L						
5							L	3.6L	3.8L	4.1	4.2	4.5	[4.4]A	4.4	[4.2]A	4.0	3.8	A						
6							L	3.8L	4.0	4.4	4.3	4.4	4.3	4.4	4.2A	4.2	3.9	A						
7							Q	3.7	4.0	[4.2]L	4.4	4.4	4.5	4.4	4.2	A	A	L						
8							A	3.7L	4.0	[4.2]A	4.4	4.4	4.5	[4.4]A	4.3	4.2	4.0	A						
9							L	3.6	[3.9]A	4.2	4.4	4.5	4.5	[4.4]A	4.2L	4.1L	L	A						
10							Q	L	A	4.2	A	A	A	4.4	[4.4]A	4.3	4.0	3.5L						
11							Q	Q	3.7L	4.2L	4.4	A	A	4.5	4.3	4.1	3.7L	3.5L						
12							A	A	4.1	4.3	4.4	4.4	4.3	4.5	4.3L	4.4	4.0H	3.5L						
13							L	3.7	4.2	4.6	4.4	4.4L	4.4H	4.5	4.3	[4.2]L	4.0L	3.5L						
14							Q	3.7	4.1	4.4	4.5	4.5L	4.5	[4.4]L	4.4	4.1L	3.7	3.3L						
15							Q	3.7L	4.0L	4.4L	4.5	4.5	4.5	4.5L	4.5	4.0	4.0	3.0						
16							L	A	A	4.1L	4.2L	4.7	4.8H	4.4	4.5L	4.1	A	A						
17							Q	A	A	4.4L	A	A	A	4.3	4.2L	L	L	L						
18							C	C	C	4.3	4.3	4.3	4.4H	4.4	4.3	A	A	3.2L						
19							Q	3.7	AF	A	A	A	C	C	4.1	4.0L	3.7L	A						
20							Q	C	4.2	4.2L	4.3L	4.5H	4.3	4.3	4.3	4.0	3.7L	L						
21							Q	A	A	A	4.3	A	A	A	A	A	A	A						
22							Q	3.7	4.0	4.1	C	C	C	L	4.0	4.0	3.7	A						
23							Q	L	4.1	4.0	4.3	4.3	4.4	4.2	4.1H	4.0L	L	L						
24							Q	A	3.8	4.0	4.1	4.3	4.2	4.4L	4.0L	[3.8]L	3.6L	L						
25							Q	3.5L	4.1	4.1L	4.4	4.4	4.3	4.2	4.2	4.0L	3.8L	L						
26							Q	3.8L	4.0	4.1	4.2	C	C	4.3H	4.2L	4.0L	3.6L	Q						
27							Q	L	4.2	4.2	4.3	4.4	4.5H	4.4	4.1	3.7L	3.5L	Q						
28							Q	4.1L	[4.1]C	4.1	[4.2]A	4.2L	4.1	4.1	4.2L	A	A	L						
29							Q	A	4.0L	A	A	4.4	4.4	4.5	4.2	L	L	Q						
30							Q	Q	4.0L	4.2	4.4L	4.3	4.4L	4.5L	[4.2]A	4.0	3.7	Q						
31																								
Mean Value							2.9	3.7	4.0	4.2	4.3	4.4	4.4	4.4	4.2	4.1	3.8	3.3						
Minimum Value							2.9	3.7	4.0	4.2	4.3	4.4	4.4	4.4	4.2	4.0	3.7	3.5						
Count							1	17	22	24	24	20	20	24	28	24	21	9						

foF1

Sweep 1.0. Mc to 1.7.2. Mc in 2. min

Manual

Automatic

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

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

R'F1

Sep. 1953

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							Q 230	230	A	A	A	A	A	A	A	A	A	A						
2							250	230	A	A	220	A	A	[240] ^A	240	250	230							
3							Q 250	A	A	A	A	A	A	A	220	230	220	230						
4							Q A	A	230 ^A	230	250	230	250	240	240	270	210	250						
5							A A	210	210	200	210	[240] ^A	(260) ^B	A	B	A	A	A						
6							250	220	220	200	200	190	230	230	A	A	230	A						
7							Q 230	220	190	210	190	A	A	A	240	A	A	A	250					
8							A 250 ^A	240	[240] ^A	230 ^A	200	200	[220] ^A	240	230	270	A							
9							240 ^A	240	[230] ^A	220	200	[220] ^A	230	[240] ^A	(250) ^A	210	230	A						
10							Q 230	[230] ^A	230	A	A	A	A	210	[220] ^A	230	260 ^A	260						
11							Q 240	230	210	A	A	A	A	200	220	230	250	240						
12							A A	(240) ^A	230	210	200	200	200	220	220	210	220 ^H	230						
13							230	230 ^A	220 ^A	200	200	190	190 ^H	220	210	240	220	250						
14							Q 230	220	210	200	200	200	200	190	200	230	230	240						
15							Q 220	210	200	200	200	200	180	180	200	230	220	240 ^A						
16							240	A	A	220	220	220	200 ^H	210	A	A	A	A						
17							Q A	A	200	A	A	A	A	A	220	200	240	240						
18							C C	C	200 ^A	200	190	170 ^H	210	210	200	A	A	250						
19							Q 220	AF	A	A	A	A	C	C	250	240 ^A	250	A						
20							Q C	250 ^A	210	[200] ^A	200 ^H	230	230	230	220	240	250	240						
21							Q A	A	A	A	A	A	A	A	A	A	A	A						
22							Q 240	240	230	C	C	C	C	230	220	210	250	A						
23							Q 230	230	210	220	200	190	200	200	200 ^H	230	220	250						
24							Q A	210	200	190	210	220	240	230	230	250	240							
25							Q 230	[260] ^A	280	220	210	200	190	190	210	230	200	230						
26							Q 240	230	210	200	C	C	C	190 ^H	210	220	250	Q						
27							Q 220	230	220	200	220	200 ^H	220	220	200	230	230	Q						
28							Q 210	[220] ^A	220	[210] ^A	200 ^A	190	190	190	A	A	A	200						
29							Q A	250 ^A	A	A	220	[210] ^A	200	210	210	220	220	Q						
30							Q Q	220	220	200	190	190	220	[230] ^A	240	240	Q							
31																								
Mean Value							240	230	230	220	210	210	200	210	220	230	240	240						
Median Value							240	230	230	220	200	200	200	220	220	230	230	240	250					
Count							5	18	22	24	22	20	19	24	24	22	23	16	1					

Sweep 1.0 Mc to 17.2 Mc in 2 min Manual Automatic

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

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

IONOSPHERIC DATA

f_oE

Sep. 1953

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	2.4	2.6 ^B	2.9	3.0	3.0	A	A	A	A	2.5	2.1								
2							A	2.3	2.6	[2.8] ^A	2.9	A	A	A	A	A	2.4	A								
3							1.8	2.4	2.7	3.0 ^A	3.1	A	A	A	A	A	2.6	A								
4							A	2.2	2.5	2.7 ^A	[2.8] ^A	3.0	3.2	3.2	A	A	2.0									
5							1.6	2.3	2.5	2.7	2.8	[3.0] ^B	3.2 ^B	[3.1] ^B	3.0	2.8	2.5 ^F	2.0 ^F								
6							A	A	A	A	A	A	A	B	3.1 ^F	2.9	2.5	2.1								
7							1.9	2.3	2.6	2.9	3.1	B	B	3.3	[3.0] ^B	2.8	2.5 ^F	1.9	A							
8							A	2.2	2.7	2.8	A	A	A	3.2	[3.0] ^B	2.9	2.7	2.1								
9							A	2.4	2.7	2.9	A	A	A	A	A	A	2.5 ^F	1.9								
10							1.7	2.5 ^F	2.7	2.9	2.9	B	A	A	3.2	A	A	A								
11							1.8	A	A	A	A	A	A	A	A	A	2.9	A	A							
12							A	A	A	A	3.0	[3.2] ^B	3.4 ^A	[3.3] ^B	3.2 ^B	3.0	2.7 ^F	2.0 ^F								
13							A	2.5 ^F	2.8 ^A	3.2 ^J	3.2 ^J	B	B	B	3.0 ^H	3.0	2.6 ^F	2.1								
14							1.7	2.5	2.8	3.0 ^B	3.1 ^B	[3.2] ^B	3.2	3.1	[2.9] ^B	2.7	2.4	A								
15							1.8 ^F	2.5	2.8 ^F	A	A	A	A	A	A	3.0 ^B	3.0	2.5	1.9							
16							1.7	2.4	2.7	A	A	A	A	3.1	3.0 ^B	3.0	2.8	2.4 ^F	A							
17							A	2.3	2.7 ^F	[2.8] ^A	2.9	A	A	A	A	A	A	A								
18							C	C	C	A	A	A	A	A	3.0	3.0	A	A								
19							A	2.4	A	A	A	A	A	C	C	A	2.8 ^A	A								
20							1.7	[2.0] ^C	2.4	A	A	A	3.0	A	A	A	A	2.3	1.8							
21							1.7	2.2	2.6	2.9	2.9	3.0	2.9	3.0	2.7	A	A	1.8								
22							1.8 ^J	2.3	2.7	2.7	C	C	C	C	3.0	3.0	2.8	2.3 ^H	1.8							
23							1.8	2.3	[2.6] ^A	2.9	3.0	3.0	[3.0] ^B	3.0	3.0	2.8	2.3	1.8								
24							A	A	2.5	A	A	3.0	3.0 ^B	3.0	2.9	2.7	2.4	1.9								
25							1.8	A	A	3.0	3.1	3.2	3.3	3.3	3.0	2.6	2.5 ^F	1.9								
26							A	2.5 ^F	2.6	2.8	3.0	C	C	C	3.0	2.9	2.7	2.3	1.6							
27							1.6	2.4	2.6	2.7 ^F	3.0	A	A	A	2.9	2.7	2.4 ^F	1.9 ^F								
28							A	2.5	[2.6] ^C	2.7	2.7	A	B	A	A	A	A	A								
29							A	2.3 ^F	2.8	3.0	3.0	3.1	A	A	A	3.0	2.7	2.2	2.0 ^B							
30							A	2.3 ^F	2.7	3.0	3.0	A	A	A	A	A	2.7	2.2	B							
31																										
Mean Value							1.7	2.3	2.5	2.9	3.0	3.1	3.1	3.1	3.0	2.8	2.4	1.9								
Median Value							1.8	2.4	2.6	2.9	3.0	3.0	3.2	3.0	3.0	2.8	2.5	2.0								
Count							1.4	2.4	2.5	2.1	1.9	1.1	1.9	1.5	1.8	1.9	2.3	1.9								

f_oE

Sweep 1.0 Mc to 1.7.2 Mc in 2 min Manual Automatic

Lat. 35° 42.4' N
Long. 139° 28.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Sep. 1953

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

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

IONOSPHERIC DATA

Lat. 35° 42.4' N
Long. 139° 39.3' E

Kokubunji Tokyo

fEs

Sep. 1953

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	3.8	3.9	4.2	2.9	3.0	2.3	3.3	3.8	6.5	5.5	5.5	6.9	7.5	6.0	7.5	7.0	5.5	5.5	7.5	7.4	7.0	7.2	6.0	5.0	
2	5.5Y	4.1	4.3	3.5	3.0	2.2Y	2.9	4.0	7.0	6.5	4.3	6.7	5.2	6.8	7.2	3.4	5.0	5.0	2.6	2.4	E	E	3.8F	4.5F	
3	5.3F	4.0F	2.7F	2.6F	2.8F	2.2Y	2.8	3.6	7.0	7.5	5.4	6.6	7.0	6.5	3.9	4.0	2.7	3.0	3.0	2.7	2.7	2.2	2.7	4.5	
4	3.5	3.0	2.3	2.2	3.0	3.1	4.9	7.5	4.3	4.3	4.1	4.7	4.3	4.3	4.2	4.0	4.5F	4.0F	4.5F	6.6F	F	9.0	4.0F	2.4F	
5	2.3	1.7	1.7Y	1.7Y	2.3	2.3Y	3.1	3.8	3.7	3.7	4.0	4.2	6.3	6	7.0F	5.0	7.5F	6.6F	4.2F	6.5	4.5F	2.7	6.5F	4.2F	
6	3.7	2.7	C	1.8	2.5	2.5	3.0	3.3	4.3	4.2	5.5	4.1	3.8	3.9	5.6	5.0	3.8	4.2	6.6	7.5	4.7	7.0	6.8	7.0Y	
7	4.4	3.7	C	2.5	2.9F	4.0Y	2.6	3.7	4.3	4.1	6.8	3.5	4.7	4.8	4.5	7.5	10.4	4.2	2.7	2.9	7.0	5.5	2.9	4.5	
8	2.4	2.0Y	2.2	2.2	3.2	2.8	3.7	3.8	4.5	5.2	5.0	5.2	4.1	6.8	6	6	4.0	4.5Y	3.8	3.0	3.7	3.0	3.5	3.0	
9	3.4Y	3.0Y	3.0	3.5	2.2	2.1	3.8	3.8	6.0	4.4	4.2Y	4.5	5.6	5.0	4.6	3.8	6	4.5	8.0	7.0FS	9.15	4.2	6.0	4.2	
10	5.5	3.9F	2.9	4.2	4.2	3.6	2.9	2.9	5.5	4.3	6.2	5.3	6.0	4.2	6.5	4.5	4.8	4.2	3.2	4.2	3.6YF	4.3	3.5	4.0	
11	3.0	7.0Y	4.5	3.9	3.5	3.1S	2.3S	5.0	3.7	7.0	4.4Y	7.0Y	6.9	5.0	4.7	2.9	2.9	2.9	2.5Y	E	4.3	2.8	C	3.7	
12	4.5	4.4S	2.4	C	3.2	6.6	7.0	7.0	3.7	4.3	6	4.3	3.8	6	6	4.0F	3.7	3.0	4.0	4.3	6.7	4.0	4.0F	4.0F	
13	2.9F	2.7F	E	2.5Y	E	E	2.9	3.9	4.2	4.3	3.7	6	6	6	6	6	3.8F	3.5	2.9F	4.0	3.7	2.6	2.6	2.8	
14	2.4	2.6	E	1.5	E	2.5Y	2.8	2.8	6	3.8	3.5	4.0	6	6	6	3.5Y	2.9	3.0	2.5	2.4	3.7	4.2F	2.8F	2.7	
15	2.5	2.4	(3.0)S	2.0	2.2Y	E	2.8	3.6	3.7	4.0	4.0	4.4	4.1	4.0	6	6	2.7	3.0	3.3	3.0	3.0	2.2	2.5	5.3Y	
16	3.5	3.0	2.8	2.5	2.8	1.5	3.0	5.5	7.0	7.4	4.5	3.7	3.6F	3.7	5.5	5.5	8.5	4.5	8.5	7.0F	3.0F	4.0F	7.0F	3.7	
17	3.1F	3.0	3.3F	3.7	2.9	2.5	3.0	5.7	9.5	10.0F	8.2	5.7	16.0F	5.5	4.2	3.7F	4.2	4.0	4.0	7.5F	5.6F	4.0F	5.1	C	
18	3.3	3.8	3.2	3.3	C	C	C	C	C	6.0F	4.2	4.5	4.0	3.7	4.5	5.0F	7.0F	5.7F	3.7	4.0	4.3	4.0	4.0	3.0F	
19	2.6F	2.7F	3.0F	3.2F	3.0F	3.0	2.7	3.5	5.8	5.4	5.6	4.7	C	C	4.3	3.7	3.8	4.7	5.4	3.2	3.0	2.7	2.6	2.7F	
20	3.0	2.4	2.7	2.5Y	2.4Y	E	2.5Y	C	5.0	5.3	5.5	3.9	4.0Y	4.1	3.8	3.8	3.9	4.0F	4.8	3.5	3.8	2.7	2.5	2.5	
21	2.0	2.5Y	2.4	2.4	2.5Y	2.8	4.0	5.5	5.5	5.5	5.0	4.5	6.5	7.1	7.8	7.2	4.2	3.8	4.3	2.7	4.0	3.2	2.6	2.5	
22	2.4	2.0	2.0	1.9	1.8	2.8	6	3.9	6	6	C	C	C	6	3.3	2.9	2.6	4.8	9.1	8.7Y	4.5	4.2	3.5	3.7	
23	3.3	2.4	2.9	1.4	2.5Y	1.8	2.5	6	3.5	3.0	6	3.0	6	3.6	2.9	2.9	6	2.8F	3.0F	2.8Y	2.8	3.8	2.5Y	2.4	
24	E	C	2.2Y	1.8Y	2.0Y	2.2Y	3.0	4.9	3.8	3.7	3.8	3.5	6	6	6	6	3.6	3.2	3.0	2.9	2.9	3.0	3.0	2.8	
25	E	2.4Y	1.5	1.6	1.6	E	2.6	3.5	4.3	6	6	6	6	6	6	3.0	6	3.0	E	2.1	E	E	E	E	
26	E	2.5	2.8Y	C	E	E	2.5Y	3.0	4.0	4.9	6	C	C	6	6	6	6	6	2.9	E	E	E	E	E	
27	E	2.5	1.5	1.5	1.5	2.0Y	3.0	3.4	4.0	7.0	3.6	4.1	5.5	3.5	3.5	3.0	3.2	3.0F	2.7	3.0F	2.6F	E	2.3	2.5	
28	E	E	2.5Y	1.6	1.5Y	E	2.6	4.2	C	4.4	5.5	4.3	6	5.2	4.8	5.5	5.5	2.8	3.5	3.0	4.0	3.7	3.2	3.5	
29	3.5	C	2.8	3.0	2.7	2.9Y	3.7	4.4	4.5	7.1	6.1	4.4	5.0	4.4	6	3.0	3.0	2.5	2.5Y	2.6	3.1	2.6	3.0	3.5	
30	3.0F	C	3.0F	2.9F	3.0F	2.8F	2.9F	3.0	3.8	6	6	4.0	3.8	5.6	5.5	3.1	6	2.7	E	E	E	E	E	2.4	
31																									
Mean Value	3.4	3.1	2.8	2.5	2.6	2.8	3.2	4.2	5.0	5.3	4.7	4.7	5.3	4.9	5.1	4.3	4.6	3.9	4.3	4.3	4.5	4.0	3.8	3.6	
Median Value	3.0	2.7	2.8	2.5	2.5	2.3	2.9	3.8	4.3	4.4	4.3	4.4	4.1	4.1	4.2	3.7	3.8	3.9	3.4	3.0	3.7	3.1	3.0	3.5	
Count	30	27	29	28	29	29	29	28	28	30	29	28	27	29	30	30	30	30	30	30	30	30	29	29	29

fEs

Sweep 1.0 Mc to 17.2 Mc in 1 min

Manual

Automatic

Lat. 35°42.4' N
Long. 139°29.3' E

Kokubunji Tokyo

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

IONOSPHERIC DATA

135° E Mean Time

(M3000)F2

Sep. 1953

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

IONOSPHERIC DATA

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

Sep. 1953

fminF

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	(2.2) ^A	1.8	(1.6) ^A	1.3	E	1.4	1.9	2.9	3.1	4.5	4.1	(4.4) ^A	4.8	5.0	A	A	3.5	A	A	A	A	A	A	A	
2	A	1.9	1.9	1.8	1.8	1.3	1.9	2.3	A	A	3.3	(4.0) ^A	4.7	3.5	5.0	3.3	3.3	2.3	3.3	1.6	1.5	1.5	1.9	AF	
3	AF	1.7	E	E	1.0	1.0	2.0	2.5	A	A	A	4.5	5.0	5.0	3.3	3.3	2.6	2.2	2.2	2.0	1.6	1.5	1.5	2.6	
4	1.4	1.0	1.2	1.0	AF	A	2.5	3.6	3.6	3.7	3.5	3.6	3.3	3.5	3.3	3.2	2.6	2.1	2.1	3.3	AF	AF	2.5	1.5	
5	1.5	E	1.0	1.1	1.6	1.4	2.4	3.3	2.7	3.3	3.3	3.3	5.5	3.9	5.6	3.8	3.3	5.0	2.5	2.2	1.9	1.6	1.5	3.4	
6	1.7	E	C	1.0	E	1.4	2.2	2.6	3.4	3.4	3.6	3.4	3.6	3.7	4.2	3.7	2.9	3.3	5.2	3.0	(2.2) ^A	1.5	2.5	(2.3) ^A	
7	2.1	1.5	1.9	1.4	1.5	1.5	1.9	2.7	3.4	3.4	3.9	3.5	4.0	4.3	3.7	A	A	3.3	1.6	1.5	3.3	(2.4) ^A	1.5	2.0	
8	1.5	E	E	1.2	2.7	1.9	(2.6) ^A	3.4	3.1	4.5	3.9	3.6	3.6	5.4	3.6	3.3	3.5	3.5	A	A	2.5	1.6	2.0	1.6	
9	2.0	A	1.8	1.9	1.8	1.0	(2.2) ^A	3.3	5.0	3.3	3.4	4.0	3.7	4.5	4.0	3.3	2.8	3.5	3.5	3.5	(2.6) ^A	1.6	2.4	1.5	
10	A	A	A	2.3	AF	A	1.9	2.7	4.9	3.7	4.5	4.9	5.5	3.6	4.5	3.3	3.3	2.7	2.4	(2.0) ^A	1.5	1.5	2.3	2.0	
11	1.6	1.0	1.4	1.6	2.0	1.9	2.4	3.0	3.5	3.5	3.7	(4.6) ^A	5.5	3.8	3.5	3.5	2.8	2.3	1.6	1.5	3.4	2.1	(1.8) ⁰	1.6	
12	3.3	1.5	1.4	C	E	A	A	3.5	3.4	3.5	3.5	3.5	3.4	3.5	3.3	3.2	2.8	2.1	1.9	2.1	3.3	3.2	2.2	1.9	
13	1.8	1.2	E	E	E	E	2.1	A	A	3.3	3.5	3.5	3.4	3.5	3.4	2.8	2.9	2.8	1.7	1.8	2.2	1.5	1.5	2.0	
14	1.5	1.1	E	E	E	1.0	2.2	2.7	3.4	3.3	3.4	3.5	3.3	3.3	3.3	3.3	2.7	2.2	1.8	1.5	(1.7) ^A	1.9	1.5	2.2	
15	1.5	1.5	1.0	E	E	1.4	1.0	2.0	2.7	2.9	3.3	3.6	3.7	3.4	3.3	3.1	2.8	2.8	A	A	2.2	1.5	1.6	(2.1) ^A	
16	2.6	2.2	1.8	1.5	1.1	1.0	2.4	4.2	(3.8) ^A	3.3	3.3	3.5	3.3	3.5	3.8	3.8	(3.7) ^A	3.6	(4.8) ^A	6.1	1.6	1.7	(1.8) ^A	1.8	
17	1.8	1.7	2.0	(2.0) ^A	2.0	1.0	2.1	5.0	(4.2) ^A	3.4	6.2	5.0	(4.7) ^A	4.4	3.4	2.8	2.7	2.5	(3.3) ^A	4.1	(3.0) ^A	2.0	2.5	1.7	
18	1.5	(2.0) ⁰	2.5	2.0	C	C	C	C	C	A	3.3	3.3	3.3	3.3	3.0	4.0	4.5	2.5	1.9	2.8	(2.8) ^A	2.8	2.7	1.6	
19	1.7	E	1.7	1.7	1.9	1.7	1.9	2.5	5.0	4.3	5.2	4.5	C	C	3.5	3.3	3.0	3.7	5.0	2.2	2.0	1.9	1.8	1.7	
20	1.7	1.3	1.1	E	E	E	2.0	(2.8) ⁰	3.7	3.3	3.7	3.5	3.5	3.6	3.0	3.0	2.7	1.9	(1.8) ^A	1.7	2.2	1.7	1.5	1.6	
21	1.5	1.2	1.2	1.3	E	A	2.3	4.3	5.0	5.0	4.2	5.0	(5.6) ^A	6.3	A	A	3.6	2.7	3.3	1.6	1.6	1.5	1.5	1.5	
22	1.5	1.3	1.0	1.2	1.0	E	1.9	2.8	2.8	3.2	C	C	C	3.4	3.3	2.8	2.5	(2.4) ^A	2.3	(2.3) ^A	2.3	1.9	(2.0) ^A	2.2	
23	2.2	1.3	1.7	E	E	1.0	1.8	2.5	2.8	3.4	3.2	3.4	3.3	3.3	3.0	2.9	2.8	2.2	1.7	1.7	1.5	1.6	1.8	1.5	
24	1.4	(1.3) ⁰	1.2	1.1	1.3	1.3	2.2	(2.6) ^A	3.0	2.8	3.5	3.4	3.5	3.3	3.3	3.0	2.5	1.9	1.8	2.2	1.5	1.6	1.8	1.5	
25	1.5	1.1	E	E	1.0	E	1.8	2.4	3.5	3.6	3.3	3.3	3.4	3.0	3.3	3.0	2.5	2.2	1.8	1.5	1.5	1.5	1.5	1.6	
26	1.5	1.4	1.5	(1.2) ⁰	1.0	1.1	1.8	2.5	3.3	3.2	3.3	C	C	3.2	3.1	2.9	2.5	2.0	1.7	1.5	1.5	1.5	1.5	1.5	
27	1.3	1.0	1.0	E	1.0	E	2.2	2.5	2.8	3.3	3.3	3.5	3.3	3.5	3.2	2.7	2.5	2.0	1.5	1.5	1.5	1.4	1.5	1.5	
28	1.5	1.0	E	E	E	E	1.7	2.5	(3.1) ⁰	3.7	5.2	(4.2) ^A	3.3	3.4	4.0	3.9	4.0	2.0	2.2	2.2	(2.2) ^A	2.2	2.2	2.2	
29	2.2	(1.6) ⁰	1.1	1.7	1.5	1.3	2.6	3.4	(4.7) ^A	6.0	5.0	3.3	4.2	3.3	3.2	2.8	2.5	2.2	1.5	1.7	2.2	1.9	2.2	2.6	
30	2.2	C	A	1.9	2.2	1.5	1.9	2.3	2.9	3.3	3.3	3.3	3.4	3.5	4.6	2.9	2.4	1.9	1.5	1.5	1.5	1.5	1.5	1.5	
31																									
Mean Value	1.8	1.4	1.5	1.5	1.5	1.3	2.1	3.0	3.6	3.6	3.8	3.8	4.0	3.8	3.6	3.2	3.0	2.6	2.4	2.2	2.1	1.8	1.9	1.9	
Median Value	1.6	1.3	1.2	1.2	1.0	1.1	2.0	2.7	3.4	3.4	3.5	3.5	3.5	3.5	3.4	3.2	2.8	2.3	1.9	2.0	2.1	1.6	1.8	1.7	
Count	27	28	28	28	27	25	28	28	26	27	28	28	27	29	28	27	29	29	28	27	27	28	28	29	28

fminF

Sheep 1.0 Mc to 1.7.2 Mc in 2 min
 Manual Automatic

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

Lat. 35° 42.4' N
Long. 139° 29.8' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

f_{min}E

Sep. 1953

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	1.5	E	E	E	E	E	1.8	1.8	1.6	1.4	1.8	1.7	1.4	1.9	1.8	1.4	1.4	1.4	1.5	1.6	1.7	1.8	1.6		
2	1.5	E	E	E	E	E	1.1	1.2	1.4	1.5	1.8	1.9	1.9	1.8	1.5	1.4	1.2	1.0	1.0	1.5	E	E	1.5	1.5	
3	1.2	E	E	E	E	E	1.0	1.3	1.3	1.4	1.7	1.6	1.9	1.8	1.9	1.4	1.2	1.2	1.2	1.5	1.5	1.5	2.2	1.5	
4	1.4	1.0	E	E	E	E	1.5	1.4	1.4	1.5	1.5	1.5	2.2	1.5	1.4	1.4	1.3	1.0	1.5	1.5	1.5	1.4	1.5	1.4	
5	1.5	1.0	E	E	E	E	1.4	1.4	1.4	1.4	1.4	1.8	1.6	2.3	1.6	1.4	1.4	1.2	1.4	1.5	1.5	1.5	1.4	1.5	
6	1.4	E	C	E	E	E	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.2	1.3	1.5	1.4	1.5	1.5	1.6	
7	1.4	1.1	E	E	E	E	1.5	1.4	1.5	1.4	1.8	1.4	1.5	1.5	1.5	1.5	1.0	1.5	1.5	1.4	1.4	1.4	1.4	1.5	
8	1.5	E	E	E	E	E	1.4	1.4	1.4	1.5	1.4	1.5	1.4	1.5	1.4	1.5	1.4	1.2	1.4	1.5	1.5	1.5	1.5	1.6	
9	1.4	1.0	E	E	E	E	1.2	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5	
10	1.2	1.0	E	E	E	E	1.2	1.4	1.4	1.5	1.7	1.5	2.2	2.6	1.2	2.4	1.5	1.2	1.4	1.5	1.5	1.5	1.5	1.5	
11	1.3	1.0	1.0	E	E	E	1.0	1.3	1.8	1.4	1.4	1.5	2.1	1.4	1.2	1.2	1.2	1.2	1.5	E	1.6	1.4	(1.2) ^c	1.0	
12	1.2	E	E	C	E	E	1.0	1.2	1.4	1.5	1.6	2.3	1.5	1.5	1.4	1.4	1.2	1.3	1.2	1.5	1.5	1.4	1.5	1.4	
13	1.3	1.0	E	E	E	E	1.4	1.3	1.3	1.3	1.4	1.5	1.4	1.4	1.4	1.3	1.3	1.2	1.5	1.3	1.5	1.5	1.5	1.4	
14	1.1	1.0	E	E	E	E	1.2	1.3	1.3	1.3	1.4	1.3	1.3	1.3	1.5	1.4	1.3	1.3	1.4	1.5	1.3	1.4	1.5	1.4	
15	1.5	1.0	1.0	1.1	E	E	1.2	1.3	1.3	1.3	1.4	1.5	2.0	1.7	1.4	1.4	1.2	1.4	1.4	1.5	1.5	1.6	1.4	1.4	
16	1.5	1.0	E	E	E	E	1.4	1.2	1.5	1.3	1.4	1.4	1.5	1.5	1.4	1.4	1.1	1.2	1.5	1.4	1.8	1.3	1.2	1.5	
17	1.3	1.1	E	E	E	E	1.6	1.3	1.3	1.7	1.8	1.8	1.7	1.7	1.4	1.3	1.0	1.2	1.6	1.6	1.2	1.5	1.5	1.6	
18	1.7	C	C	E	E	E	C	C	C	1.3	1.3	1.2	1.3	1.9	1.7	1.6	1.3	1.3	1.5	1.6	1.2 ^s	1.5	1.5	1.5	
19	1.3	E	E	E	E	E	1.3	1.3	1.5	1.8	1.7	1.2	C	C	1.2	1.2	1.4	1.3	1.2	1.2	1.6	1.4	1.8	1.6	
20	1.4	E	E	E	1.4	1.3	1.4	(1.3) ^c	1.2	1.2	1.5	1.5	1.5	1.5	1.6	1.4	1.3	1.5	1.5	1.6	1.4	1.5	1.7	1.6	
21	1.6	1.0	E	E	E	E	1.5	1.3	1.2	1.5	1.5	1.9	1.4	1.3	1.6	1.3	1.4	1.5	1.2	1.8	1.2	1.4	1.8	1.4	
22	1.7	E	E	E	E	E	1.4	1.2	1.3	1.4	1.5	1.6	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.3	1.5	1.4	
23	1.4	E	E	E	1.1	1.4	1.4	1.2	1.3	1.4	1.5	1.6	1.4	1.4	1.4	1.3	1.5	1.5	1.7	1.7	2.2	1.4	1.5	2.2	
24	E	C	E	E	E	E	1.0	1.5	1.3	1.4	1.5	1.6	1.5	1.5	1.5	1.4	1.4	1.3	1.5	1.4	1.5	1.5	1.5	1.5	
25	E	1.4	1.4	1.4	E	E	1.5	1.3	1.5	1.5	1.5	1.5	2.2	2.2	2.2	1.3	1.5	1.5	E	1.7	E	E	E	E	
26	E	1.0	1.2	C	E	E	1.5	1.5	1.4	(1.4) ^M	1.4	C	C	1.3	1.3	1.2	1.5	1.5	E	E	E	E	E	E	
27	E	1.4	1.0	1.0	E	E	1.5	1.4	1.5	1.4	1.4	1.5	1.4	1.4	1.5	1.4	1.4	1.5	1.5	1.5	1.6	E	1.6	1.5	
28	E	E	1.2	1.3	E	E	1.5	1.4	[1.4] ^c	1.4	1.5	1.5	1.6	1.4	1.3	1.3	1.5	1.4	1.4	1.6	1.4	1.5	1.5	1.5	
29	1.0	(1.0) ^c	1.0	E	E	E	1.0	1.5	1.3	2.2	2.0	2.2	1.5	2.2	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.7	
30	1.4	C	E	E	E	E	1.3	1.5	1.5	2.2	2.2	2.2	1.9	2.2	1.5	1.3	1.3	1.5	E	E	E	E	E	1.6	
31																									
Mean Value	1.5	1.1	1.1	1.2	1.3	1.2	1.4	1.4	1.4	1.5	1.6	1.6	1.6	1.7	1.5	1.4	1.3	1.3	1.4	1.5	1.5	1.4	1.5	1.5	
Median Value	1.4	1.0	E	E	E	E	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.5	1.5	
Count	30	27	28	28	30	29	29	29	29	30	29	28	27	29	30	30	30	30	30	30	30	30	30	30	30

Sweep 1.0 Mc to 17.2 Mc in 2 min Manual Automatic

K 11

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

Lat. 35° 42.4' N
Long. 139° 28.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

YP F2

Sep. 1953

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	F	F	F	110 ^F	80 ^F	70	U	40	[40 ^P]	40	A	A	A	A	A	(60 ^J)	A	A	A	A	A	A	A
2	A	80 ^F	70 ^F	60 ^F	60	80 ^{FP}	60	(80 ^J)	A	A	U	A	80 ^P	A	A	80	70 ^P	100	90	80 ^P	50	80 ^F	A	A
3	AF	F	80 ^{FP}	70 ^F	120 ^{FP}	150 ^{FP}	60 ^H	80	A	A	A	50	70	60	60	80 ^K	80 ^J	80 ^P	80 ^P	80 ^P	80 ^P	90	70	60
4	70 ^F	80	80	90	AF	A	160 ^H	70 ^R	60 ^K	100 ^K	U ^K	80 ^K	B ^K	80 ^K	80 ^K	80 ^K	80 ^K	80 ^K	80 ^K	70 ^F	AF ^K	AF ^K	A ^K	80 ^F
5	60 ^K	90 ^K	80 ^K	80 ^K	80 ^K	80 ^K	100 ^K	[90 ^K]	90 ^K	60 ^K	70 ^K	100 ^K	U ^K	70 ^K	90 ^K	[70 ^K]	60 ^K	80 ^K	90 ^K	[80 ^K]	70 ^K	100 ^K	70 ^K	80 ^K
6	70 ^F	80 ^F	[90 ^F]	100 ^F	90 ^F	80 ^F	70 ^F	70 ^F	60 ^F	70 ^F	30 ^F	U ^F	U ^F	B ^F	U ^F	100 ^F	50 ^F	50 ^F	50 ^F	60 ^F	40 ^F	90 ^F	A ^F	A ^F
7	A	A	60 ^K	70	100	70	100	60	60	120	[150 ^J]	50	60	70	40	A	A	100	90	(60 ^P)	50	AF	90 ^F	BF
8	70 ^F	100	[90 ^F]	100	[100 ^F]	90	70 ^P	80	50	80	60	50	90	90	90	90	80	70	40 ^P	70 ^P	50	B	100 ^P	80
9	80	80	70	70	100	100	80 ^P	80	(40 ^J)	90	50	80	90	70	90	(60 ^J)	60	100	100	80 ^F	AF	F	AF	70 ^F
10	A	A	70	60	[80 ^F]	100 ^F	50 ^P	70	[50 ^F]	30	70	30	[40 ^F]	40	60	S	(60 ^J)	60	(170 ^J)	B	B	B	F	60 ^P
11	F	70 ^F	60 ^F	70 ^F	70 ^F	60 ^{FP}	70 ^P	50 ^P	50 ^P	60	60	A	U	A	(50 ^J)	60 ^P	90	50	50	50	100 ^P	50 ^P	[60 ^F]	80 ^F
12	A	70	80	C	T	A	A	90 ^P	70	50	U	U	U	U	60 ^P	70	60	90 ^P	60	100	100 ^P	(80 ^P)	70	70 ^F
13	80	70	80	70	80	A	90	90 ^P	70	60	50	80 ^P	80	70	80	60	110	60	70 ^P	90	60	100	B	100
14	100	90	70	80 ^P	70	80	(110 ^P)	70 ^P	(50 ^P)	80	80	50	70	50	60	80	80	90	120 ^P	70 ^P	80 ^P	70 ^P	80	70 ^P
15	50	[60 ^J]	(60 ^S)	80	80	100 ^F	80	90	50	60	60	U	U	U	70	90	60	(90 ^J)	(90 ^J)	70 ^K	(80 ^K)	90 ^K	90 ^K	[90 ^K]
16	90 ^K	80 ^K	60 ^K	100 ^K	(80 ^{FP})	90 ^K	90 ^P	(120 ^{FP})	90 ^K	40 ^K	70 ^{KP}	90 ^{KP}	80 ^K	80 ^K	70 ^K	80 ^K	(80 ^K)	A	80 ^K	A	60 ^K	F	F	F
17	F	60 ^F	70 ^F	AF ^K	F ^K	F ^K	100 ^K	A ^K	A ^K	80 ^K	80 ^K	80 ^K	80 ^K	80 ^K	80 ^K	70 ^K	[60 ^J]	60 ^K	80	A	AF	F	60 ^K	F
18	60	100	80	80 ^P	C	C	C	C	C	60	110	70	70	90	80	80	80	70 ^K	50	100	100	A	A	60 ^H
19	90	[90 ^F]	90 ^F	100	90	60	(80 ^J)	90 ^R	50 ^K	40 ^K	A ^K	A ^K	C ^K	C ^K	70 ^K	80 ^K	160 ^K	70 ^K	50	80 ^K	80 ^K	70 ^K	80 ^K	
20	60 ^K	70 ^K	100 ^K	90 ^K	80 ^K	70 ^K	80 ^K	C ^K	50 ^K	100 ^K	50 ^K	70 ^K	60 ^K	60 ^K	50 ^K	100 ^K	40 ^K	70 ^K	70 ^K	70 ^K	70 ^K	60 ^K	60 ^K	
21	60 ^K	60 ^K	70 ^K	70 ^K	70 ^K	60 ^K	90 ^R	A ^K	A ^K	A ^K	80 ^K	70 ^K	A ^K	A ^K	A ^K	A ^K	70 ^K	80 ^K	60 ^K	60 ^K	B ^K	50 ^K	F ^K	
22	80 ^K	100 ^K	80 ^K	70 ^K	80 ^K	80 ^K	60 ^R	80 ^K	40 ^K	70 ^K	C ^K	C ^K	C ^K	180 ^K	120 ^K	60 ^K	50 ^K	50 ^K	90 ^K	40 ^K	60 ^K	60 ^K	60 ^K	
23	100 ^F	90	110	120	120	120	60	50	60	(60 ^P)	30 ^K	50 ^K	[50 ^K]	50 ^K	40 ^K	70 ^K	70 ^K	80 ^K	50 ^K	60 ^K	60 ^K	70 ^K	90 ^K	
24	60 ^K	[60 ^K]	50 ^K	40 ^K	60 ^K	80 ^K	100 ^K	[100 ^K]	90 ^K	80 ^K	U ^K	U ^K	U ^K	U ^K	U ^K	90 ^K	110 ^K	60 ^K	(80 ^K)	70 ^P	50	100 ^F	50 ^F	
25	100	70	60	80	110	80	50	(50 ^J)	80	40	50	U	40	40	50	100	80	(80 ^J)	100	80 ^F	60 ^F	50 ^F	60 ^F	
26	80 ^F	70 ^F	70 ^F	[80 ^F]	80 ^F	(50 ^{FP})	50	40	50	60 ^P	50	C	C	70	70	70	60	(70 ^P)	100	80 ^F	60 ^F	70 ^F	(80 ^F)	
27	70	100 ^F	80	80	90	90 ^F	70	80	90	70 ^P	70	90	50	60	60	70	60	90	100	60	80	F	50	(70 ^F)
28	70 ^P	70 ^F	60 ^{FP}	70 ^F	[80 ^F]	80 ^F	60	60	[70 ^F]	80	70	60	80 ^H	70	90 ^P	70	70	80	80	80 ^P	[70 ^A]	80	60 ^P	60
29	70	[70 ^F]	70 ^F	60 ^F	80 ^F	80 ^F	90	60	70	[80 ^F]	80	60	70	70	70	60	90	90 ^P	80	80	60	60	50	60
30	70 ^F	[70 ^F]	70	90 ^F	70	60	(80 ^J)	100	60	60	60	60	70	60	80	70	60	90	(90 ^J)	50	120	80	80 ^F	80 ^F
31																								
Mean Value	70	80	80	80	90	80	80	80	60	70	60	70	70	70	70	80	70	80	80	70	70	80	70	70
Median Value	70	70	70	80	80	80	80	80	60	60	60	70	70	70	70	70	70	80	80	70	70	80	80	70
Count	22	27	29	27	26	26	27	25	25	27	23	19	19	23	25	25	29	29	28	26	23	20	21	24

YP F2

Lat. $31^{\circ}12.6'N$
Long. $130^{\circ}37.7'E$

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

SEP. 1953

foF₂

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.6	3.5 ^T	A	(4.0) ^P	A	A	3.9	5.2	5.4	5.2	5.4 ^H	6.1	6.3	7.2	6.2	6.6	6.7	6.0	7.4	B	B	3.8	3.7	(3.5) ^A
2	3.3 ^P	2.6 ^F	2.9 ^F	2.9 ^F	2.5 ^F	2.5 ^F	3.4	4.9	5.5	[5.2] ^A	4.9	5.2	6.3	6.6 ^T	6.7 ^T	7.2	6.7 ^T	6.0	5.0	(5.4) ^S	7.2 ^S	4.3	3.2	(3.3) ^{S^F}
3	(3.6) ^F	3.9 ^F	3.4 ^F	3.4 ^F	(3.4) ^{H^F}	2.1	3.4	4.8	4.9	5.0	5.7	5.9	6.6	7.1	6.9	[6.1] ^S	5.3	6.0	7.6	7.5	4.2	3.9 ^H	4.1	4.6 ^H
4	3.9	3.5	3.3	3.0	3.2	2.6	[4.8] ^A	7.0 ^K	5.7 ^K	4.8 ^K	5.6 ^K	7.1 ^K	9.7 ^{H^K}	6.1 ^K	5.9 ^K	(7.3) ^{S^K}	7.5 ^K	7.3 ^K	9.4 ^{S^K}	S ^K	B ^K	4.3 ^K	3.8 ^{H^K}	A ^K
5	A ^K	4.0 ^F	3.9 ^F	(4.5) ^P	[3.2] ^A	1.9 ^F	3.2 ^K	5.4 ^K	5.6 ^K	5.5 ^K	5.4 ^K	6.5 ^K	B ^K	7.4 ^K	7.3 ^K	[8.2] ^R	9.2 ^K	(7.8) ^R	A ^K	A ^K	(5.4) ^P	5.7 ^H	(4.6) ^{S^R}	[4.2] ^R
6	3.9 ^K	3.8 ^K	3.5 ^K	3.5 ^K	2.9 ^K	3.2 ^K	4.2 ^K	7.3 ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	6.2 ^K	A ^K	A ^K	A ^K
7	A ^K	2.8 ^K	3.1	3.5 ^S	2.6	2.5 ^H	3.1	7.2	6.1	(6.8) ^P	7.0	6.6	6.8	6.9	6.4	6.3	6.0	5.9	6.3 ^P	6.6	5.9	4.1	A	A
8	7.6	3.5	(3.0)	3.5 ^S	2.9	2.8	[4.3] ^B	5.8	5.3	6.0	5.8	6.6	7.5	7.1	7.3	7.2	6.9	6.5	7.0	7.8	6.2	4.7 ^F	4.4 ^F	(4.6) ^{F^P}
9	3.7 ^F	3.5 ^F	(3.6) ^F	3.5 ^F	3.2	2.6 ^H	3.7	6.2	S	6.3	6.5	7.1	8.1	6.1	5.9	6.0	6.4	6.4	(8.0) ^S	[7.6] ^S	7.3 ^H	6.0	4.1 ^F	3.5 ^F
10	3.6	[3.2] ^A	2.9	3.0	3.1	3.1	4.8 ^T	5.7	5.6	5.9 ^T	5.3	6.6	6.2	7.0	7.5	7.7	6.9	7.7	7.8	8.4	(6.7) ^S	4.0	3.8 ^F	3.7 ^F
11	F	3.6 ^F	3.4 ^F	[3.3] ^C	3.2	2.9 ^F	4.3	5.0	5.3	6.3	5.8	6.4	6.4	6.4	8.2	8.2	7.0	7.4	8.2	[7.6] ^S	7.1 ^H	5.6	A	A
12	3.7 ^F	4.0 ^F	4.0	3.9	3.0	3.1	4.0	5.7	6.5 ^T	6.5	5.8	5.9	5.9	6.1	6.4	7.0	8.4 ^P	(9.0) ^P	9.0 ^T	7.5 ^S	5.4	4.2	4.6	4.0
13	4.0	3.8	3.7	3.3	3.3	3.2	4.0	6.3	8.5	8.0	6.1	6.0	6.1	6.7	7.4	5.5	7.3	7.2	7.7	6.0	5.4	5.1	3.9 ^H	3.8 ^H
14	4.5 ^H	4.3 ^H	4.2 ^F	3.9 ^F	3.5	3.5 ^F	4.0	6.8	6.9	8.0	8.5	5.8	5.8	6.8 ^T	7.4	7.7	7.3	7.8	7.3 ^T	6.0	5.4	5.1	3.9 ^H	3.8 ^H
15	3.9 ^H	3.9	3.4	3.4	3.2	3.0	4.0	6.4	5.9	6.7	6.1	6.3	6.1 ^H	7.3	7.0	7.4	(9.0) ^S	S	S ^K	S ^K	5.7 ^K	3.9 ^H	3.8 ^K	3.8 ^R
16	3.9 ^K	3.7 ^K	3.2 ^K	2.9 ^K	2.6 ^K	2.7 ^K	2.9 ^K	8.6 ^K	7.8 ^K	6.0 ^K	5.9 ^K	[7.7] ^{S^K}	(8.3) ^{S^K}	9.8 ^{S^K}	9.5 ^R	(9.1) ^R	8.5 ^R	9.0 ^R	8.3 ^R	(7.5) ^R	A ^K	F ^K	A ^K	A ^K
17	4.3 ^F	4.5 ^F	(3.7) ^F	3.3 ^F	3.2 ^F	3.2 ^F	3.2 ^F	3.2 ^F	5.8 ^K	6.4 ^K	6.4 ^K	8.5 ^K	(8.9) ^{S^K}	10.3 ^{H^K}	11.0 ^K	[9.6] ^C	8.2 ^K	6.8 ^K	7.4	6.2	4.3	A	A	3.0 ^F
18	[3.4] ^A	(3.7) ^F	3.3 ^F	3.3 ^F	3.2 ^F	3.2 ^F	3.2 ^F	5.8	8.1 ^P	6.4	5.6	6.9	6.6	6.7	7.0	7.1	[7.8] ^S	8.4 ^T	S	7.6	3.8 ^F	S	A	2.9 ^F
19	3.1	3.1	2.9	3.4	2.5	2.6	3.0	6.2 ^K	7.1 ^K	5.6 ^K	5.6 ^K	5.3 ^K	8.0 ^K	(9.0) ^H	7.9 ^K	6.3 ^K	7.8 ^K	7.9 ^S	(8.2) ^S	7.6 ^K	6.9 ^K	3.1 ^K	4.0 ^K	4.2 ^K
20	3.5 ^K	3.3 ^K	3.6 ^K	3.5 ^K	3.4 ^K	3.8 ^K	3.8 ^K	5.4 ^R	7.2 ^K	5.9 ^K	6.3 ^K	6.3 ^K	9.8 ^K	7.1 ^K	7.0 ^K	7.5 ^K	7.5 ^K	9.3 ^R	(4.3) ^S	5.8 ^K	4.9 ^H	4.7 ^K	4.3 ^K	4.2 ^K
21	3.9 ^K	3.6 ^K	3.4 ^K	3.6 ^K	3.4 ^K	2.8 ^K	3.9 ^K	5.8 ^K	5.7 ^K	6.7 ^H	8.1 ^R	7.4 ^K	8.7 ^K	9.6 ^K	6.6 ^K	6.7 ^K	7.5 ^K	7.7 ^K	[7.0] ^A	6.2 ^K	5.9 ^K	[5.2] ^A	4.4 ^K	4.7 ^R
22	4.7 ^R	4.7 ^R	3.5 ^R	3.1 ^K	2.6 ^K	2.5 ^K	3.0 ^K	5.5 ^K	7.5 ^K	6.7 ^K	7.0 ^K	7.0 ^K	7.6 ^K	7.3 ^T	7.5 ^K	7.5 ^K	7.9 ^K	7.4 ^K	5.8 ^K	(5.8) ^R	5.5 ^F	5.1	4.2	5.0
23	4.6	3.7 ^F	3.2 ^F	2.9	2.5	2.5	3.0	5.5	[7.0] ^C	8.4 ^K	6.3 ^K	6.2 ^K	6.7 ^K	6.8 ^K	6.4 ^K	6.8 ^K	6.6 ^K	7.0 ^S	S ^K	S ^K	5.7 ^K	3.1 ^K	3.3 ^K	3.4 ^K
24	3.5 ^K	3.0 ^K	2.9 ^K	2.6 ^K	3.0 ^K	2.9 ^K	2.7 ^K	3.8 ^K	8.1 ^K	[6.8] ^A	5.4 ^K	5.3 ^K	5.4 ^F	5.7 ^K	4.9 ^K	5.5 ^K	6.0 ^K	6.3 ^K	6.1 ^K	6.3	(6.4) ^S	F	4.6	3.9 ^F
25	3.3	3.1	2.9	2.6	2.6	2.5	3.1	6.1	5.2	5.7	5.6	5.9	5.9	6.7	5.8	5.4	5.8	5.5	5.5	5.0	3.7	3.5	3.1 ^F	2.7 ^F
26	3.3 ^F	3.0	2.8	2.8	2.2	2.0	2.7	5.5	7.4	8.3	7.2	5.9	5.9	6.3	5.7	6.1	6.8 ^P	5.7	5.6	5.0	3.9	2.7	3.5	2.9 ^F
27	3.3 ^F	3.1 ^F	3.1	2.7	2.4	2.4 ^F	2.8	5.5	6.5	8.1	7.7	6.2	6.2	7.2	8.2	8.2	S	7.3	7.2	4.6	4.8	2.4	2.0	2.3 ^F
28	3.4 ^F	4.1	3.0 ^H	2.0 ^F	2.0 ^H	2.0	3.1	[4.8] ^C	6.5	7.8	7.0	6.1	6.8	9.2 ^T	8.6	8.1 ^P	7.3	6.9	7.2	5.0	3.3 ^H	2.9	3.2	3.0
29	F	F	3.7 ^F	2.8 ^F	2.1 ^F	2.2 ^F	3.0	5.5	5.9	6.6	6.6	8.2	8.5	8.1	7.6	7.4	(8.3) ^P	S	8.0 ^S	5.9	3.6	3.0 ^F	2.9	2.9
30	3.0 ^F	3.0	2.8	2.9	2.9	2.9	2.9	3.0	6.1	6.7	6.5	7.1	8.1 ^T	7.3	7.2	7.2	7.9	9.0	7.9 ^T	5.8	3.5 ^H	2.8	2.9	2.8
31																								
Mean	3.9	3.6	3.4	3.2	2.9	2.7	3.6	5.9	6.4	6.5	6.2	6.6	7.1	7.4	7.1	7.1	7.3	7.2	7.3	6.5	5.4	4.1	3.8	3.7
Median	3.6	3.6	3.3	3.3	3.0	2.6	3.6	5.7	6.1	6.4	6.1	6.4	6.6	7.1	7.0	7.2	7.3	7.3	7.4	6.2	5.5	4.1	3.8	3.7
Count	26	29	29	30	29	28	30	30	28	29	29	29	28	29	29	29	28	27	25	24	27	25	24	25

Sweep ϕ - 8 Mc to 25.0 Mc in \downarrow 5 min

Manual Automatic

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

Lat. 35° 12.5' N
Long. 139° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

Sep. 1953

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

Manual Automatic

Sweep 0.8 Mc to 2.0 Mc in 1.5 min

f_pF₂

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

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

9' F2

Sep. 1953

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	330 ^A	A	A	350	A	A	260	250	270	300	390	350	350	320 ^A	330	330 ^A	300	350	290	240	220	340	340	350	
2	380 ^A	380	(350 ^A)	290	A	300	250	300	280	A	L	430	330	330	340	300	310	300	260	280	250	220	(360 ^A)	330	
3	360	280	280	290	270 ^H	A	260	250	250	330	(330 ^A)	350	350	300	300	[320 ^N]	350	330	260	240	240	260 ^H	340 ^A	300 ^A	
4	280	300	290	280	280	270	[270 ^A]	270 ^A	240 ^A	(280 ^N)	440 ^A	440 ^A	270 ^K	280 ^K	350 ^K	300 ^K	280 ^K	340 ^K	280 ^K	250 ^K	220 ^K	220 ^K	A ^K	A ^K	
5	A ^K	350 ^K	A ^K	260 ^K	[270 ^A]	280 ^K	[280 ^A]	270 ^K	270 ^K	300 ^K	330 ^K	430 ^K	320 ^K	330 ^K	350 ^K	[310 ^A]	270 ^K	280 ^K	A ^K	A ^K	270 ^K	280 ^H	330 ^A	[320 ^A]	
6	300 ^K	300 ^K	290 ^K	260 ^K	240 ^K	280 ^K	280 ^K	250 ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	240 ^A	A ^K	A ^K	A ^K	
7	A ^K	320 ^K	270	240	270	280 ^H	290	260	250	300	300	300	340	290	330 ^K	300	330	290	250 ^A	260	270	A	A	A	
8	290	260	300 ^A	300 ^A	300 ^A	300 ^A	[280 ^A]	250	250	280	310	340	310	300	320	300	290	270	280	270	300 ^A	300 ^A	280 ^F	280	
9	250	270 ^H	290	300	290	230 ^H	250 ^A	290	250	260	300	320	300	300	350	320	300	310	260	250	240	240 ^H	300	280	
10	A	A	260	(290 ^A)	280	270	220	240	240	250	[280 ^L]	300	370	340	310	300	310	260	280	230	240 ^A	(250 ^A)	300 ^F	270	
11	280 ^F	300	290 ^H	[270 ^K]	250	(310 ^A)	250	250	240	280	300	330	350	330	290	300	310	300	260	240	220 ^H	230	A	A	
12	310 ^F	310 ^F	280	270	270	290	260	250	260	260	280	280	330	360	350	340	300	270	250	230	230	250 ^A	280	280	
13	290	270	280	280	280	290	270	250	280	250	260	300	300	330	300	310	350	300 ^F	280	260	230	250	290	270	
14	280 ^H	300 ^H	260 ^F	260	290	270	270	240	250	260	250	260	310	340	310	310	300	280	250	240 ^A	240 ^A	240	260 ^H	320 ^H	
15	300 ^H	300	290	260	260	260	260	260	240	240	270	250	310	320 ^H	320	320	300	[280 ^A]	250 ^K	[240 ^A]	220 ^A	240 ^K	330 ^K	300 ^K	
16	300 ^K	310 ^K	250 ^K	340 ^K	310 ^K	300 ^K	320 ^K	240 ^K	220 ^K	240 ^K	350 ^K	[330 ^A]	310 ^K	300 ^K	280 ^K	300 ^K	290 ^K	270 ^K	250 ^K	230 ^A	[260 ^A]	300 ^K	A ^K	A ^K	
17	300 ^K	300 ^K	250 ^K	260 ^K	300 ^K	350 ^K	270 ^K	260 ^K	240 ^K	280 ^K	350 ^K	350 ^K	300 ^K	300 ^H	300 ^K	[280 ^K]	260 ^K	260 ^K	250	240	230 ^A	A	A	350 ^A	
18	[340 ^A]	330 ^A	(310 ^A)	310 ^A	280	270	260	250	260	250	290	300	320	300	330	320	300	300	250	210 ^A	(250 ^A)	A	A	360 ^F	
19	330	320	310	250	250	[280 ^A]	300	250 ^N	240 ^N	250 ^N	300 ^N	[320 ^N]	340 ^N	270 ^K	270 ^K	310 ^K	300 ^K	280	290 ^K	240 ^K	220 ^A	350 ^A	350 ^K	320 ^K	
20	(360 ^A)	340 ^K	320 ^K	320 ^H	350 ^K	250 ^K	250 ^K	250 ^K	250 ^K	270 ^K	360 ^K	290 ^K	280 ^K	300 ^K	290 ^K	300 ^K	300 ^K	270 ^K	240 ^K	240 ^K	270 ^H	260 ^K	300 ^A	320 ^K	
21	330 ^K	340 ^K	360 ^K	310 ^K	320 ^A	340 ^A	260	250 ^K	250 ^K	290 ^H	320 ^K	280 ^K	300 ^K	270 ^K	280 ^K	300 ^K	280 ^K	280 ^K	[280 ^A]	300 ^A	(310 ^A)	[300 ^A]	290 ^K	290 ^K	
22	280 ^K	260 ^K	240 ^K	(280 ^A)	290 ^K	290 ^K	290 ^K	240 ^K	260 ^K	250 ^K	290 ^K	270 ^K	300 ^K	300 ^K	300 ^K	290 ^K	270 ^K	250 ^K	250 ^K	250 ^K	250 ^K	310 ^A	250	300 ^A	
23	250	250	250	280	310	290	290	250	[250 ^K]	250 ^K	260 ^K	280 ^K	320 ^K	300 ^K	320 ^A	300 ^K	240 ^K	290 ^K	250 ^K	210 ^A	210 ^A	350 ^K	350 ^K	330 ^K	
24	300 ^K	280 ^K	330 ^A	350 ^K	320 ^K	310 ^K	(350 ^A)	260 ^K	250 ^K	[280 ^K]	300 ^K	300 ^K	340 ^K	310 ^K	L ^K	360 ^K	320 ^K	280 ^K	260 ^K	270 ^A	250	340 ^F	270	260	
25	330 ^A	300	300	280	320	340	240	250	250	310	320	300	300	330	310	330	280	250	250	230	260	240	370 ^F	360 ^F	
26	320	300	280	220	300	270	300	300	250	250	250	300	300	320	300	310	260	240	250	220	230	300	250	320 ^F	
27	360 ^F	260 ^H	270	290	320 ^B	250	290	250	290	250	250	300	310	320	310	310	270	250	240	240	240	300	330	340	
28	300	240	230 ^H	200 ^F	300 ^H	300	[280 ^H]	250	270	270	270	270	350	290	270	270	260	260	250	230	220 ^H	300	300	300	
29	350	300	260	210 ^A	280 ^B	300 ^B	270	240	250	250	340	300	290	300	300	300	290	260	240	230	240	[280 ^A]	310	350	
30	300	320	340 ^A	320	240	260	250	240	250	250	260	300	300	280	320	320	290	260	240	220	220 ^H	300	280	330	
31																									
Mean	310	300	290	280	290	290	270	260	250	270	300	320	320	310	310	310	290	280	260	240	240	280	310	310	
Median	300	300	280	280	280	280	270	250	250	260	300	300	310	300	310	310	300	280	250	240	240	270	300	320	
Count	27	28	28	30	28	30	30	30	29	28	28	29	29	29	28	29	29	29	29	28	28	30	26	23	25

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

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

foF1

Sep. 1953

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							Q	Q	L	A	4.2	A	A	A	4.4	[4.2] ^A	4.0	Q	A					
2							Q	3.4	A	A	L	4.3	A	A	A	3.8 ^B	[3.7] ^A	3.6	L					
3							Q	Q	Q	A	A	A	A	A	4.3	4.3	4.1	3.9	L					
4							A	A	A	A	A	A	4.3	4.3	4.5	4.3	3.8	3.9	L					
5							Q	L	3.6 ^L	4.2	4.2	4.5	4.2	4.5	A	A	A	3.8	A					
6							Q	L	C	C	C	C	C	C	C	C	C	C	C					
7							Q	A	L	4.0	4.4	[4.4] ^A	4.5	4.2	4.4	4.3	4.2	3.8	A					
8							A	Q	Q	4.2	4.5	4.6	4.6	4.4	4.4	4.3	4.1	3.3	A					
9							A	L	3.9	4.3	4.5	4.4	4.4	4.6	4.5	4.3	4.0	3.8	Q	L				
10							Q	Q	Q	Q	L	A	4.7	4.3	4.2	[4.2] ^B	4.3	3.8	L					
11							Q	Q	Q	4.2	4.5	A	A	4.4	4.3	4.4	4.2	3.8	A					
12							Q	Q	3.5	4.0	4.2	4.4	4.6	4.7	4.6	[4.3] ^A	4.0	3.8	A					
13							Q	L	L	4.2	4.3	4.3	4.5	4.5	4.4	4.3	4.3	3.2	3.0 ^L					
14							Q	Q	3.5	[4.0] ^L	4.4	4.5	4.7	4.8	4.7	4.5	3.6	(3.4) ^L	L					
15							Q	A	L	4.4	4.2	4.6	4.7 ^L	4.5	4.2	4.4	4.3	A	Q					
16							Q	Q	4.4 ^H	5.0	[4.8] ^A	4.7	4.7	A	A	4.7 ^H	3.8	A	Q					
17							Q	L	A	L	L	A	A	4.6	A	C	L	L	A					
18							Q	Q	3.9	4.1	[4.2] ^B	4.3	4.6	4.5	4.2	4.4 ^B	4.2	3.4	Q					
19							Q	Q	3.9 ^V	4.2 ^L	(4.4) ^L	A	S	B	4.3	L	L	L	A					
20							Q	Q	Q	4.3	4.7	4.5	4.3	4.6	4.5	4.4	[4.0] ^A	3.7 ^L	A					
21							Q	Q	Q	4.1	A	A	4.6	4.4	A	A	A	A	A					
22							Q	Q	L	4.1	[4.3] ^L	4.5 ^H	4.6	4.6	4.6	4.4	4	0	Q	Q				
23							Q	Q	C	4.2	4.3	4.5 ^H	4.8	4.5	4.5	4.4	4.0	3.7	Q					
24							Q	Q	A	A	4.2	4.3	4.4	4.5	[4.4] ^L	4.4 ^L	L	L	Q					
25							Q	L	L	4.2	4.4	4.3	4.5	4.5	4.5	4.2	4.0 ^H	Q	Q					
26							Q	L	3.7	[4.0] ^L	4.4	4.3	[4.4] ^L	4.6	4.3	4.4	4.2	L	Q					
27							Q	Q	4.0	[4.2] ^L	4.4	4.4	4.6 ^H	4.5	4.5	4.3	4.0	L	Q					
28							Q	C	4.1	4.4	4.3	4.4	4.4	4.4	4.3	4.0	3.9	3.3	Q					
29							Q	Q	Q	A	A	A	4.7	4.5 ^H	4.4	4.5	4.1 ^H	L	Q					
30							Q	Q	L	4.2	4.3	L	L	4.1	4.2	4.4	3.7	Q	Q					
31																								
Mean Value							3.4	3.8	4.2	4.4	4.4	4.5	4.5	4.4	4.4	4.3	4.0	3.6	3.0					
Median Value							3.4	3.9	4.2	4.4	4.4	4.6	4.5	4.4	4.4	4.3	4.0	3.8	3.0					
Count							1	9	21	22	1.9	2.2	2.5	2.4	2.4	2.5	2.3	1.6	1					

foF1

Sweep 0.8 Mc to 2.0 Mc in 1.5 min

Manual Automatic

Y 4

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

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

R'F1

Sep. 1953

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	260	A	A	A	A	A	250	[260]A	260	Q	A					
2							Q	250	A	A	210	200	A	A	A	250	[240]A	240	240					
3							Q	Q	Q	A	A	A	A	230	250	260A	250	250	250					
4							A	A	A	A	A	A	220	240	[240]A	250	230	280	270A					
5							Q	250	240	240	220	250	[270]A	290	A	A	A	A	A					
6							Q	240	C	C	C	C	C	C	C	C	C	C	C					
7							Q	A	230A	200	200	[210]A	220	250	250	230	250	250A	A					
8							A	Q	Q	220	220	230A	210	200	190	230	240	250	A					
9							A	260	250	240	[220]A	210	250A	250	240	250	250	260	Q	230				
10							Q	Q	Q	Q	220	[230]A	240	220	210	220	230	220	250					
11							Q	Q	Q	250	230A	[230]A	230	220	250	250	230	250	A					
12							Q	Q	250	230	210	200	230	230	[270]A	[260]A	240	250	A					
13							Q	250	260	220	210	200	200	200	230	250	(280)A	240	250F					
14							Q	Q	220	240	220	200	210	200	200	200	200	240	250					
15							Q	A	220	220	210	(270)B	200	200	220	220	250A	A	Q					
16							Q	Q	Q	220H	210	A	A	A	A	(260)AH	250	A	Q					
17							Q	250A	A	250	240A	A	A	250	A	C	B	250	A					
18							Q	Q	240	230	[220]A	210	170	170	240	[240]B	250	240	Q					
19							Q	Q	240	220	230	A	S	A	250	A	A	A	A					
20							Q	Q	Q	220A	230	230	210	210	240	200	[240]A	270	A					
21							Q	Q	Q	230	A	A	240	240	A	A	A	A	A					
22							Q	Q	240	230	200	200H	190	(260)B	220	250	Q	Q	Q					
23							Q	Q	C	230	200	200H	200	260	220	220	200	250	Q					
24							Q	Q	A	A	210	250	240	250	210	230	250	270	Q					
25							Q	250	240	230	[230]A	230	200	220	200	200	250H	Q	Q					
26							Q	270	270	250	210	220	220	200	250	260	250	240	Q					
27							Q	Q	250	250	230	220	300H	210	230	220	250	250	Q					
28							Q	C	250	230	200	210	210	210	240	240	240	240	Q					
29							Q	Q	Q	A	A	A	A	220H	230	250	250H	230	Q					
30							Q	Q	240	220	210	200	[200]B	190	240	220	240	Q						
31																								
Mean							250	240	230	220	220	220	220	220	230	240	240	250	250	230				
Median							250	240	230	220	210	210	220	240	240	260	250	250	250	230				
Value							8	16	22	24	21	22	25	24	25	24	24	20	6	1				
Count																								

Y5

Manual Automatic

Sweep 0.8 Mc in 20.0 Mc in 15 min

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

IONOSPHERIC DATA

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

foE

Sep. 1953

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							B	A	2.6 ^H	2.7	3.0	3.2	3.2	3.0	3.2 ^H	3.1	2.9	2.5	1.8					
2							1.3 ^J	2.0	2.5	2.6	3.0 ^B	[3.0] ^A	2.9	A	A	A	A	A	A					
3							B	A	2.5	2.8	3.1	3.1	A	A	A	A	A	A	A					
4							A	A	A	A	A	A	B	A	A	A	2.8	2.5 ^H	2.0 ^A					
5							A	2.2	2.4	2.9	3.0	3.2	3.2 ^H	2.6	2.4	A	A	2.5 ^A	2.4					
6							A	1.6 ^B	C	C	C	C	C	C	C	C	C	C	C					
7							B	A	A	2.9 ^H	A	A	3.3	3.2	3.2	3.1	2.8	2.4	A					
8							A	1.9	2.3	2.5	2.6	2.8	3.4	3.2	3.1	2.8	2.6 ^F	A						
9							A	A	2.5	2.7	2.9	3.2	A	A	3.0	2.9	2.8 ^F	2.4 ^F	A	B				
10							A	1.8 ^J	2.4	2.8	3.2	3.2	3.2	3.6	[3.3] ^B	3.0	2.6	2.0	2.0					
11							B	2.1	2.6	3.2 ^A	[3.2] ^A	3.2	3.1	3.4	[3.0] ^A	2.7	2.9	2.5	S					
12							B	1.6 ^J	2.6	2.8 ^H	3.0	3.2	3.3	3.3 ^B	3.2	3.1	2.8	2.5	1.8					
13							A	A	2.3	2.9	[3.1] ^A	3.3	3.3	3.3	3.2	3.1	2.8	2.4 ^H	2.0 ^F					
14							B	2.2	2.7 ^H	3.1	3.2	3.2	B	A	A	B	A	A	1.7 ^B					
15							A	A	2.6	3.0	3.1	[3.2] ^A	3.4	3.4	3.4 ^H	3.1	2.8 ^A	A	A					
16							B	1.4 ^J	2.7 ^J	3.0	3.4	A	A	A	A	A	A	2.8	A					
17							B	A	2.5	2.7	2.6	2.7	A	A	A	C	2.8	2.3	2.0					
18							A	A	2.7	2.9	2.8	A	A	A	3.0	2.9	A	A	A					
19							B	1.6	2.6 ^A	2.8	A	A	B	A	3.4	[3.0] ^A	2.6	2.4	A					
20							B	A	A	A	A	A	3.1	3.1	2.9	2.9	2.7	2.3	A					
21							A	A	2.5	2.8	2.8	3.0	3.0	2.8	2.9	2.8	2.7	2.3	B					
22							B	B	2.4	2.8	3.0	[3.1] ^A	3.2	[3.2] ^B	3.1	3.0	2.5	A	A					
23							B	A	C	2.9 ^H	3.1	3.2	3.2	3.2	3.0	2.9	2.7	2.2	1.6 ^B					
24							A	1.7	[2.0] ^A	2.4	A	A	A	3.0	[3.0] ^A	2.9	2.8	2.4	1.6 ^B					
25							B	B	2.3	2.7 ^H	[3.0] ^A	3.2 ^H	3.2	3.2	3.0	2.8	2.6 ^H	2.2	1.7					
26							B	B	2.2	2.8	3.0	[3.0] ^A	3.0	[3.0] ^A	3.0	3.0	2.7	2.2	1.8 ^J					
27							B	2.0	2.5	2.8	3.0	3.1	3.2	A	A	2.9	2.6	AF	A					
28							A	C	2.4	2.8	2.8 ^J	A	A	3.2	3.2	2.9	2.7	2.3	A					
29							B	2.1	[2.5] ^A	2.9	3.1	3.1	A	A	B	S	2.5 ^H	1.9 ^A	A					
30							B	2.0	2.6	2.8	3.0	3.0	3.3	3.1	3.1	2.9 ^H	2.5	2.2	1.6					
31																								
Mean Value							1.3	1.9	2.5	2.8	3.0	3.1	3.2	3.2	3.1	3.0	2.7	2.3	1.8					
Minimum Value							1.3	2.0	2.5	2.8	3.0	3.2	3.2	3.2	3.1	3.0	2.8	2.4	1.8					
Count							1	15	25	27	24	21	18	18	21	22	24	21	13					

foE

Sweep $\frac{0.8}{\text{Mc}}$ to $\frac{2.0}{\text{Mc}}$ in $\frac{1.5}{\text{min}}$

Manual Automatic

Y6

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

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

3'E

Sep. 1953

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

Manual Automatic

Sheep o.g. Mc to 2.0.0 Mc in 1.5 min

Y7

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

Lat. 31° 12.5' N
Long. 130° 37.7 E

Yamagawa

IONOSPHERIC DATA

Sep. 1953

fEs

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	3.4	3.9	3.6	5.0	5.7	4.0	2.6	3.5	4.7	5.6	6.2	6.6	5.3	7.1	4.6	5.4	6.0	3.8	3.4	2.6	4.2	2.8	4.8		
2	4.1	4.2	4.8	4.1	4.2	1.1	5	3.1	5.1	8.3	4.3	4.1	8.2	6.0	4.6	3.2	6.4	2.6	2.3	2.2	E	3.0	2.4		
3	4.1	2.8	4.0	2.0	3.4	2.4	B	3.4	4.0	5.1	5.9	5.4	5.5	4.5	5.0	4.0	5.0	4.9	3.0	3.3	3.0	2.1	3.2	2.1	
4	12.1	E	E	E	E	2.4	6.8	4.6	4.4	5.9	7.8	7.2	5	5.7	5.0	5.7	4.3	4.2	4.5	2.3	E	4.3	6.8		
5	8.7	3.6	5.1	7.5	4.2	2.4	3.2	3.6	5	3.6	4.2	4.6	4.4	4.4	6.6	7.0	7.0	8.4	8.0	5.9F	6.0F	4.4	4.8		
6	2.6	3.1	2.1	E	2.0	2.2	2.5	3.4	C	C	C	C	C	C	C	C	C	C	C	C	2.4	4.8F	6.9	6.3	
7	5.5	2.9	2.6	2.4	2.4	2.2	B	6.8	4.4	3.8	3.8	6.1	5.2	5.8	5	5	4.4	4.8	2.2	5.0	5.1	5.8	6.8		
8	5.5	3.0	2.4	2.2	1.9	2.2	3.2	4.0	4.3	6.0	5.0	4.6	5.7	6.4	4.4	4.4	3.8	6.5	2.4	4.4	4.2	3.2	5.9		
9	E	2.0	E	E	1.5	1.2	2.8	3.6	4.3	4.4	4.9	5.7	5.8	6.4	4.4	4.4	5	5.6F	5.6F	3.3	5.6	3.9F	3.2F		
10	4.8	5.2	3.0	2.4	2.8	2.2	3.2	5	4.2	5.6	5.6	5.7	5.8	5.8	5	5	3.5	4.1	3.8	4.4	3.8	4.4	5.1		
11	4.2	4.0	3.6	C	2.4	2.2	3.4	3.2	3.4	4.4	4.6	6.6	5.3	4.0	3.8	3.4	3.5	3.5	4.1	3.8	4.4	3.8	4.4	5.1	
12	3.4	3.7F	2.6F	2.0	2.0	2.6	2.0	5	5	4.4	5	3.4	3.2	4.4	4.8	6.4	3.8	4.3	2.4F	3.2F	3.4	3.4F	2.2		
13	2.7	1.1	E	0.9	1.0	E	2.4	3.5F	4.1	5	3.3	5	5	5	5	5	4.3	7.6F	3.2F	4.0	2.0	4.0F	3.6F	3.0F	
14	3.0	2.6	2.1	2.2	2.2Y	1.9Y	B	5	5	5	5	3.2	3.2	4.0	3.3	5	2.8	2.6	2.4	3.8	2.6	1.8	2.6	3.0	
15	2.4	2.6F	2.2	2.2	2.2	2.0	2.2	3.0	4.0	4.0	5	3.8	4.1	5	5	5	4.2	7.7	6.5F	5.1	3.7	2.7	3.3	2.3	
16	1.8	3.7	1.7	2.0	2.4	2.4	B	5	5	5	5	12.6	5.6	6.1	6.5	5.8	4.3	4.5	5.6	5.6	8.8	3.4F	4.2F	6.8	
17	4.0	3.0	2.4	2.2	E	E	B	4.2F	5.0	6.6F	4.8	5.8	7.2	6.4	6.4	C	5	3.0	4.4	3.9	3.7	7.7	6.7	3.2	
18	4.3	4.7	2.7	3.6	3.0	2.2	2.8	3.0	5	5	5	3.5	4.6	4.6	5	5	4.0	3.8	4.5Y	5.0	4.0	3.6	4.2	2.2	
19	2.6	2.5F	2.2	E	3.4	2.2	B	3.0	3.2	5	5.7	4.9	5	4.3	4.0	3.8	4.4	4.0	4.7	3.2	5.0	2.6	2.8	3.2	
20	3.6	3.2	3.4	2.8	E	2.8	2.6	2.8	3.5	4.3	4.1	4.0	5	5	5	5	5.0	3.9	4.3	4.1	2.2	3.2	2.3	2.4	
21	E	2.9	3.8	2.4	3.5	2.4	3.0	3.0	4.2	4.2	5.3	5.5	4.8	4.5	5.0	5.7	4.0	6.6	7.0	4.7	7.3	7.6F	3.0F	2.5	
22	2.9	2.4	2.6	3.0	2.6	2.4	1.8	2.8	3.6	5	5	4.2	5	5	5	5	5	3.0	3.5	5.6F	4.2	4.9F	3.8F		
23	2.6	E	2.2F	2.8	2.8	2.4	2.2	2.8	C	5	5	5	5	4.2	5	5	3.0	5	3.3	3.2	3.1	2.3	2.8	3.1	
24	2.8	2.6	2.4	2.2	2.0	2.0	2.0	5	3.6	7.2	3.7	4.0	3.3	5	3.6	3.2	3.2Y	5	4.0	4.1	4.2F	2.6	2.7	4.1	
25	2.6	2.3	E	2.0Y	2.1Y	2.2	2.6	3.4	3.3	3.6	3.4	5	5	5	5	5	5	5	2.8	2.1	E	E	2.2	2.2	
26	2.2	2.2	E	E	E	E	2.2	3.0F	3.6	5	5	3.6	5	3.0	3.5	5	2.7	3.5	5	2.6	E	E	E	E	
27	E	E	E	E	E	E	B	3.0	3.6	4.3	4.4	4.2	5	4.0	4.0	3.2	2.9	3.8	3.6	2.8	3.2	2.1	2.4	2.0	
28	E	E	E	E	1.2	E	B	C	3.6	5	4.2	3.4	3.6	3.8	4.2Y	2.4	4.3	3.0	3.1	2.4	2.8	2.9	2.9	2.7	
29	2.8	2.9	3.0	2.2	1.2	E	B	3.0	5.6	6.5	6.0	6.3	4.9	4.2	3.0	5	5	1.9	3.5	3.2	3.8Y	3.3	2.2	2.1	
30	1.8	2.4	3.4	3.2	1.1	E	B	5	5	5	5	5	5	5	5	5	5	5	5	2.0	1.8	1.8	1.8	E	
31																									
Mean Value	3.5	3.1	3.0	2.8	2.5	2.3	2.8	3.5	4.1	5.2	4.8	5.1	5.1	4.8	4.6	4.5Y	4.2	4.2	4.2	3.8	3.8	3.8	3.6	3.7	
Median Value	2.8	2.8	2.4	2.2	2.1	2.2	2.6	3.0	3.6	4.0	4.1	4.2	3.6	4.2	3.6	5	2.9	3.8	3.9	3.5	3.2	3.4	3.0	3.0	
Count	30	30	30	29	30	30	20	29	28	29	29	29	29	29	29	28	29	29	29	29	29	30	30	30	30

fEs

Sweep 0.8 Mc to 2.0 Mc in 1.5 min

Manual Automatic

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

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

8ep. 1953

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

Manual Automatic

Sweep 0.8 Mc to 2.0 Mc in 1.5 min

Y9

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

IONOSPHERIC DATA

Yamagawa

Lat. 35° 12.6' N
Long. 130° 37.7' E

Sep. 1953

f minF

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	2.0A	3.4A	[2.4]A	1.4	A	1.6	2.4	2.8	4.6A	4.1A	5.4A	4.6A	6.0A	3.8	4.8A	3.1	3.0	2.9	2.6A	1.8	2.0A	1.8	2.0A	2.2A	
2	2.1A	1.8	2.4A	1.9	2.0A	1.4	1.7	2.4	3.7A	[3.6]A	3.5	3.8	4.6A	4.8	3.2	6.0A	2.5	2.0	1.6	1.7	1.7	1.7	2.4A	1.7	
3	1.9	1.4	1.6	1.8	1.8	1.8	2.3	2.7	4.1A	5.3A	4.8A	4.5A	3.7	3.7	3.9	3.6	2.8	2.1	2.9A	2.4A	1.7	2.8A	[2.2]A		
4	1.7	1.8	1.7	1.4	1.4	1.6	[2.7]A	3.8A	A	4.2A	4.6A	6.5A	3.5	3.4	4.1A	3.1	3.0	3.0	2.8	2.9A	1.6	1.5	2.7A	A	
5	A	2.4A	2.8A	2.3A	[1.8]A	1.4	2.4	2.3	3.0	3.2	3.6	3.7	4.1	3.8	6.5A	[5.0]A	3.4	3.6A	A	2.6A	2.8A	A	A	A	
6	1.7	1.8	1.5	1.2	1.1	1.1	1.6	1.8	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	
7	A	1.4	1.6	1.4	1.4	1.4	1.8	5.8A	A	3.0	3.2	4.6A	3.6	3.9	3.6	3.6	3.3	3.3	3.8A	3.6	4.1A	3.7A	A	A	
8	4.0A	1.6	A	A	A	A	A	N	N	3.1	3.6	[3.6]A	3.5	3.5	3.4	3.3	2.9	2.8	4.0A	A	2.5A	1.6	1.7		
9	1.3	1.4	E	A	E	E	A	3.0A	3.4	2.9	4.2A	3.6	4.0A	3.8	3.6	3.4	3.2	2.6F	2.3	1.7	4.8A	A	2.2A	1.6	
10	3.5A	[2.4]A	1.3	2.2A	1.4	1.4	1.8	2.0	2.6	3.3	3.5	4.5A	3.9	4.0	3.5	3.0	3.1	2.6	2.3	1.6	[2.2]A	2.9A	2.2A	1.6	
11	1.5F	1.8	1.6	[1.6]C	1.6	1.8	1.6	2.5	2.8	3.6	A	5.3A	3.7	3.5	3.7	3.3	2.9	2.6	2.8A	1.7	1.7	1.6	A	A	
12	2.4A	1.7F	1.4	1.4	1.2	1.3	1.3	2.0	2.9	3.1	3.2	3.3	3.7	3.9	4.1	5.5A	3.1	2.8	3.4A	1.6	1.6	2.0A	1.6	1.6	
13	1.6	E	E	E	1.1	E	1.6	2.5	3.5A	3.1	3.2	3.4	3.5	3.4	3.6	3.6	3.7	2.4	2.1	1.8	1.6	2.2A	1.9	1.7	
14	1.6	1.6	1.7F	1.2	1.1	1.1	1.4	2.3	2.9	3.4	3.8	3.5	3.5	4.0	3.4	3.4	2.8	2.9	2.4	A	A	1.6	1.7	1.6	
15	1.4	1.4	1.8	1.6	1.6	1.8	1.4	3.0	2.8	3.0	3.2	4.2	3.5	3.4	3.5	3.1	3.5	[3.1]A	2.7A	[2.8]A	2.8A	1.9	1.8	1.7	
16	1.7	1.8	1.7	1.4	1.2	1.2	1.4	1.7	2.8	3.1	3.6	[4.0]A	4.5A	5.0A	5.6A	3.8	3.3	3.8A	2.2	A	A	1.6	A	A	
17	1.8	1.7	1.4	1.1	1.3	1.0	1.6	3.2A	[3.1]A	3.0	[3.9]A	4.8A	6.6A	4.1	4.7A	[4.2]C	3.8	2.6	3.0A	2.9A	2.5A	A	A	A	
18	A	A	A	A	1.7	1.7	2.0	2.2	2.7	3.3	4.1	3.9	3.6	3.6	3.5	4.4	3.1	2.8	2.7	[3.0]A	3.2A	A	A	1.7	
19	1.7	1.4	1.4	E	2.0A	2.0A	1.6	1.8	3.2A	3.0	3.8	4.5A	4.6	4.5	3.6	3.5	3.8A	3.4A	3.8A	3.0A	[2.5]A	2.0A	1.8	2.4A	
20	2.6A	1.8	1.9	1.4	1.3	0.9	1.2	1.7	2.6	[2.8]A	2.9	3.4	3.4	3.4	3.3	3.1	4.4A	3.2	4.0A	2.6A	1.7	1.7	1.7	1.7	
21	1.4	1.7	1.5	1.1	2.5A	1.9	2.2	2.0	2.6	2.9	4.2A	4.5A	3.5	3.6	4.5A	4.8A	4.0A	5.3A	[4.8]A	4.3A	4.8A	[3.4]A	1.9	1.7	
22	1.8	1.6	1.7	2.2A	1.6	1.1	1.6	1.8	2.5	[3.0]M	3.4	3.5	3.4	4.0	3.3	3.6	3.0	2.9	2.0	2.6A	3.0A	2.2A	3.0A	[2.2]A	
23	1.4	E	E	1.6	1.8	1.8	2.2	2.1	[2.6]C	3.1	3.5	3.3	3.5	3.8	3.4	3.2	3.0	2.8	2.6	A	A	2.0A	1.6	1.6	
24	1.6	1.1	[1.2]A	1.3	1.2	1.2	1.7	1.7	3.5A	[3.4]A	3.3	3.8	3.8	3.7	3.4	3.2	3.0	2.8	2.8A	2.8A	2.4A	1.6F	1.8	1.7	
25	2.0A	1.7	1.7	1.1	1.4	1.1	1.5	2.0	2.6	3.0	3.4	3.7	3.3	3.6	3.2	2.9	3.2	2.6	2.2	1.6	1.6	1.6	1.6	1.7F	
26	1.6	1.1	1.0	0.8	1.0	0.9	1.5	1.8	2.1	3.4	3.6	3.4	3.4	3.5	3.6	3.4	3.1	2.5	1.8	1.8	1.8	1.6	1.7	1.8F	
27	1.7	1.7	E	1.2	1.4	1.8	1.6	2.3	2.5	3.0	3.3	3.4	3.3	3.4	3.2	3.0	2.8	2.4	2.2	2.4A	2.0A	1.4	1.2	1.4	
28	1.7	1.1	E	E	1.2	E	1.7	[2.1]C	2.5	3.2	3.4	3.2	3.6	3.6	3.2	3.1	2.9	2.3	2.1	1.9	1.5	1.6	1.7	1.9	
29	1.8	2.1A	1.6	[1.6]A	1.6	1.6	1.6	2.7	2.8	4.7A	4.6A	4.9A	4.3A	3.5	3.5	3.2	2.7	2.3	2.1	2.7A	2.4A	2.3A	1.8	1.7	
30	1.4	1.7	1.8	1.3	1.4	1.1	1.4	2.2	2.6	3.2	3.2	3.0	4.6	3.4	3.6	3.2	2.8	2.7	1.8	1.7	1.7	1.7	1.7	1.6	
31																									
Mean Value	1.9	1.7	1.7	1.5	1.5	1.4	1.7	2.4	2.9	3.3	3.7	4.1	3.9	3.8	3.8	3.6	3.3	2.9	2.7	2.5	2.4	2.0	1.9	1.8	
Median Value	1.7	1.7	1.6	1.4	1.4	1.4	1.6	2.2	2.8	3.1	3.6	3.8	3.6	3.7	3.6	3.4	3.1	2.8	2.5	2.6	2.2	1.8	1.8	1.7	
Count	27	29	28	28	28	28	28	29	26	29	28	29	29	29	29	29	29	29	28	28	25	25	26	23	23

f minF

Sweep 0.8 Mc to 2.0 Mc in 1.5 min

Manual

Automatic

V 10

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

f_{min}E

Sep. 1953

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	1.6	E	E	E	E	E	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.7	1.7	1.5	1.6	1.4	1.6	1.7	1.7	1.7	1.7	
2	1.6	1.0	0.9	0.9	E	0.9	1.8	1.7	1.6	1.4	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.5	1.6	1.8	1.7	E	1.6	1.7	
3	1.6	1.3	1.0	1.4	1.8	0.9	[1.3]B	1.7	1.6	1.7	1.7	1.7	1.7	2.1	1.7	1.6	1.5	1.3	1.6	1.6	1.6	E	1.6	1.6	
4	1.7	E	E	E	E	1.4	1.4	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.2	1.6	1.6	E	1.5	1.6	
5	1.4	0.9	E	E	E	E	1.5	1.6	1.6	1.7	1.6	1.6	1.8	1.8	1.8	1.8	1.6	1.6	1.6	1.7	1.5	1.6	1.6	1.5	
6	1.3	E	E	E	E	E	1.0	1.6	C	C	C	C	C	C	C	C	C	C	C	C	1.6	1.6	1.6	1.7	
7	E	E	E	E	E	E	E	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.5	1.5	1.6	1.8	1.5	1.6	1.7	
8	1.6	1.6	E	E	E	E	E	1.5	1.4	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6	1.4	1.3	1.6	1.6	1.6	1.7	1.6	
9	E	1.4	E	E	E	E	1.1	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.4	0.9	E	1.6	1.6	1.7	1.6	1.6	1.6	
10	1.6	E	1.0	1.1	E	E	1.3	1.6	1.5	1.5	1.7	1.7	1.7	1.8	1.7	1.6	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	
11	1.3	E	E	C	E	E	1.4	1.7	1.7	1.8	1.6	1.9	1.7	1.6	1.5	1.2	1.1	1.1	1.6	1.6	1.6	1.6	1.5	1.6	
12	1.2	E	1.0	1.2	E	E	1.2	1.2	1.1	1.5	1.6	1.7	1.7	1.7	1.7	1.7	1.2	1.2	1.3	1.6	1.6	1.6	1.4	1.6	
13	1.1	E	E	E	E	E	E	1.1	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.0	1.1	1.6	1.7	1.5	1.6	1.6	
14	1.6	1.4	E	E	E	E	E	1.6	1.6	1.6	1.8	1.6	1.8	1.8	1.6	1.8	1.8	1.8	1.7	1.2	1.4	1.6	1.7	1.6	
15	1.8	E	E	E	E	E	1.8	1.2	1.6	1.6	1.6	1.6	1.5	1.7	1.7	1.6	1.3	1.1	1.1	1.7	1.6	1.6	1.7	1.7	
16	1.6	1.8	1.2	1.2	E	E	1.2	1.2	1.2	1.3	1.5	1.6	1.5	1.7	1.5	1.6	1.4	1.7	1.6	1.6	1.4	1.6	1.5	1.6	
17	1.6	1.6	E	E	E	E	E	1.1	1.6	1.6	1.7	1.7	1.7	2.0	1.8	[1.8]C	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
18	1.3	E	E	E	E	E	1.2	1.5	1.6	1.6	1.8	1.8	2.3	1.6	1.6	1.8	1.7	1.7	1.5	1.5	1.3	1.6	1.6	1.7	
19	1.5	E	E	E	E	E	E	1.3	1.6	1.2	1.2	1.4	1.6	1.6	1.4	1.2	1.2	1.2	1.5	1.6	1.6	1.6	1.6	1.6	
20	1.4	E	E	E	E	E	1.2	1.4	1.3	1.1	1.6	1.6	1.6	1.6	1.6	1.5	1.6	0.9	0.9	1.6	1.5	1.6	1.7	1.6	
21	E	1.2	E	E	E	E	E	E	0.9	1.5	1.5	1.5	1.6	1.5	1.7	1.1	1.1	E	1.7	E	1.6	1.2	1.4	1.2	
22	1.3	E	E	E	E	E	E	1.6	1.5	1.7	1.7	2.3	2.3	2.2	1.7	1.6	1.6	1.6	1.4	1.6	1.8	1.6	1.6	1.5	
23	E	E	E	E	E	E	1.4	1.8	[1.7]C	1.6	1.6	1.7	1.6	1.6	1.7	1.6	1.5	1.4	1.6	1.5	1.8	1.6	1.6	1.7	
24	1.7	1.1	1.0	E	1.2	1.2	1.0	1.2	1.6	1.2	1.5	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.6	1.6	1.5	1.6	1.6	1.5	
25	1.5	1.7	E	E	E	E	1.8	1.5	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.7	E	E	1.7	1.7	
26	1.6	1.3	E	E	E	E	E	1.8	E	1.6	1.6	1.8	1.8	1.6	1.6	1.7	1.6	1.6	1.8	1.7	E	E	E	E	
27	E	E	E	E	E	E	E	1.6	1.6	1.5	1.6	1.6	1.5	1.6	1.6	1.7	1.5	1.2	1.3	1.4	1.6	1.2	1.3	1.4	
28	E	E	E	E	E	E	E	C	1.1	1.5	1.5	1.3	1.5	1.6	1.5	1.2	0.9	E	E	1.7	1.5	1.6	1.6	1.7	
29	1.7	1.7	1.6	E	E	E	E	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.0	1.6	1.5	1.5	1.3	1.6	
30	1.4	0.9	E	E	E	E	E	1.6	1.5	1.6	1.7	1.8	1.7	1.6	1.8	1.4	1.4	1.6	1.2	1.7	1.7	1.7	1.7	E	
31																									
Mean Value	1.5	1.4	1.1	1.1	1.4	1.3	1.4	1.5	1.5	1.5	1.6	1.7	1.7	1.7	1.6	1.6	1.5	1.4	1.4	1.6	1.6	1.6	1.6	1.6	
Median Value	1.4	E	E	E	E	E	1.3	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.6	
Count	30	30	30	29	30	30	21	29	29	29	29	29	29	29	29	29	29	29	29	29	30	30	30	30	

Sweep 0.8 Mc to 20.0 Mc in 1.5 min

Manual Automatic

IONOSPHERIC DATA IN JAPAN FOR SEPTEMBER 1953

電波觀測報告 第5卷 第9号

1953年10月25日 印刷
1953年10月30日 發行

(不許複製非売品)

編集兼
發行 人

好 川 得 太 郎
東京都北多摩郡小金井町小金井新田一之久保573

發行所

郵 政 省 電 波 研 究 所
東京都北多摩郡小金井町小金井新田一之久保573
電 話 国分寺 138, 139, 151

印刷所

今 井 印 刷 所
東京都新宿区筑土八幡町8番地