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

IONOSPHERIC DATA IN JAPAN

FOR JULY 1956

Vol. 8 No. 7

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Prepared by

THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

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CONTENTS

SYMBOLS AND TERMINOLOGY

The following symbols and terminology have been used in accordance with the recommendation of the International Scientific Radio Union (U.R.S.I.), Zürich, 1950 and at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.), Geneva, 1951.

f_0E f_0F1 f_0F2	ordinary-wave critical frequency for the E, $F1$ and $F2$ layers respectively
fE_s	highest frequency on which echoes of the sporadic type are observed from the lower part of the E layer
$h'E$ $h'F1$ $h'F2$	minimum virtual height on the ordinary-wave branch for the E, $F1$ and $F2$ layers respectively
$hpF2$	virtual height of the $F2$ layer measured on the ordinary-wave branch at a frequency equal to 0.834 f_0F2
$ypF2$	semi-thickness of the $F2$ layer deduced from a parabolic fit to the "nose" of the electron density distribution with height and based on the observed $h'f$ trace. (The difference between $hpF2$ and the virtual height at 0.969 f_0F2)
$(M3000)F2$	maximum usable frequency factor for a path of 3000 km for transmission by $F2$ layer
$f_{\min}E$ $f_{\min}F$	frequency below which no echoes are observed for the E and F regions respectively
( )	doubtful value
[ ]	interpolated value
A	characteristic not measurable because of blanking by E_s
B	characteristic not measurable because of absorption either partial or complete, and probably non-deviative in type
C	characteristic not observed because of equipment or power failure
D	before a number (or>): greater than alone: characteristic at a frequency higher than the normal upper frequency limit of the equipment
E	before a number (or<): less than alone: characteristic at a frequency lower than the normal lower frequency limit of the equipment
F	spread echoes present
G	a) $F2$-layer critical frequency equal to or less than $F1$-layer critical frequency b) no E_s (or $E2_s$) echoes observed though regular E (or $E2$) layer echoes are present (i.e., a symbol for daytime usage)
H	stratification observed within the layer

J	ordinary wave characteristic deduced from measured extraordinary-wave characteristic
K	ionospheric disturbance in progress (this is always applied to a series of hourly values, never to an isolated value)
L	a) E1-layer characteristic emitted or doubtful because no definite or abrupt change in slope of the $h'f$ curve is observed either for the first reflection or any of the multiples b) $h'F2$ omitted because the F2-layer trace is continuous with the F1-layer trace and without a point of zero slope
M	characteristic not observed because of some failure or emission on the part of the operater, rather than owing to any mechanical or electrical fault in the equipment or its power supply
N	nature of the record is such that the characteristic cannot readily be interpreted
P	trace extrapolated to critical frequency (it is unnecessary to use this letter for small extrapolations of one or two percent, but use should be made of symbol of ( ) if the extrapolation leads to a critical frequency which exceeds the last observed point on the trace by more than five percent)
Q	distinct layer not present
S	characteristic observed by interference or by atmospherics
T	loss or destruction of successful observations
U	hp or yp not measurable, for instance, because ordinary-wave trace has horizontal tangent at or above the frequency 0.834 f_0F_2
V	trace forked near critical frequency
W	characteristic at a virtual height greater than the normal upper height limit of the equipment
Y	E_s trace intermittent in frequency range very short pieces of trace at the high frequency and should be ignored since they may be presumed to be due to short-lived echoes
Z	third magnet-ionic component of the $h'f$ trace is observed

SITES OF THE RADIO WAVE OBSERVATORIES

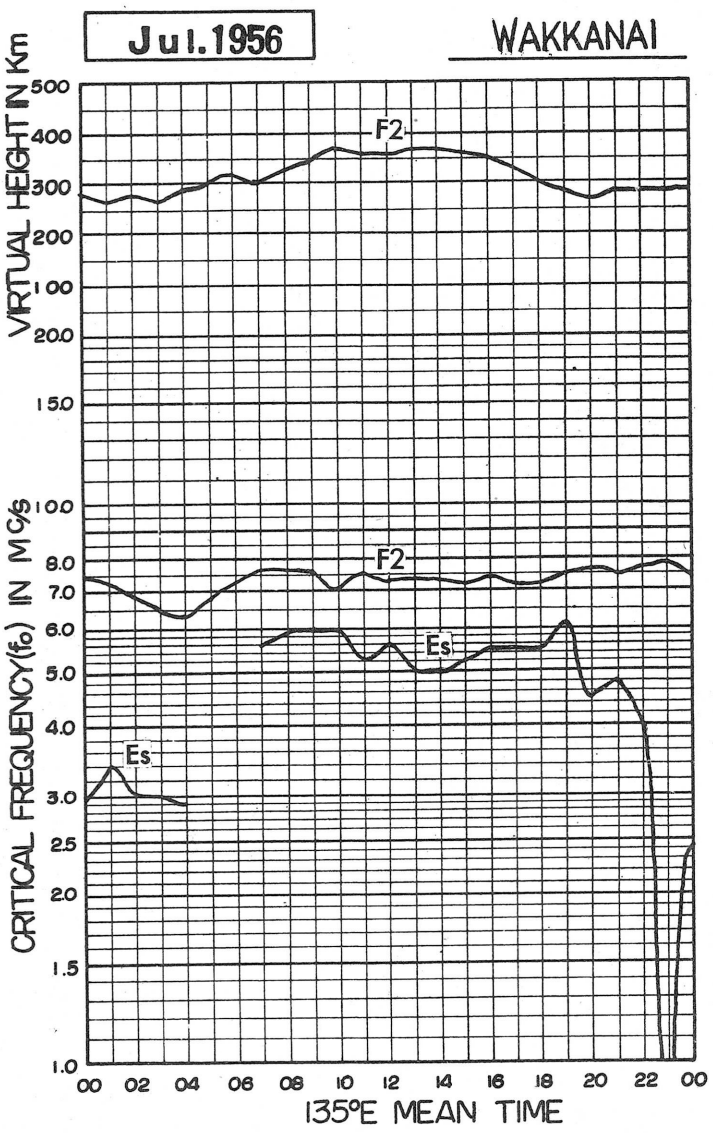
Ionospheric observation is carried out at the following four observatories in Japan.

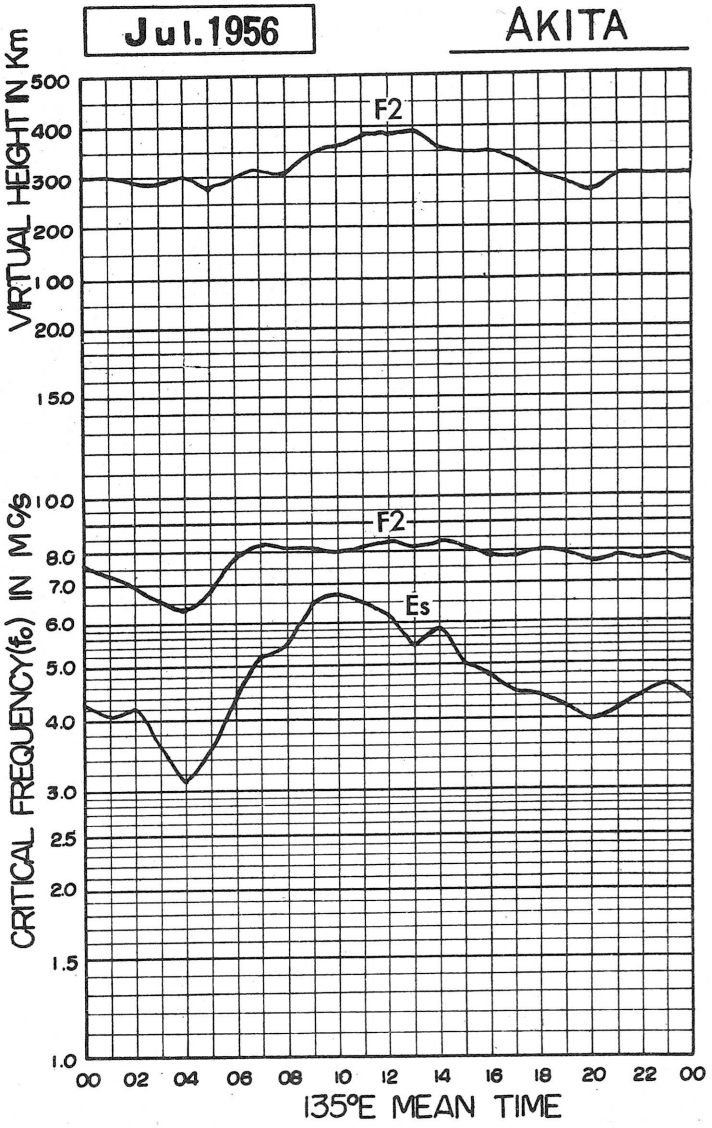
	Latitude	Longitude	Site
Wakkanai	45°23.6′N.	141°41.1′E.	Wakkanai-shi, Hokkaido
Akita	39°43.5′N.	140°03.2′E.	Tegata Nishishin-machi, Akita-shi, Akita-ken
Kokubunji	35°42.4′N.	139°29.3′E.	Koganei-machi, Kitatama-gun, Tokyo-to
Yamagawa	31°12.5′N.	130°37.7′E.	Yamagawa-machi, Ibusuki-gun, Kagoshima-ken

Solar radio emission is observed at Hiraiso Radio Wave Observatory.

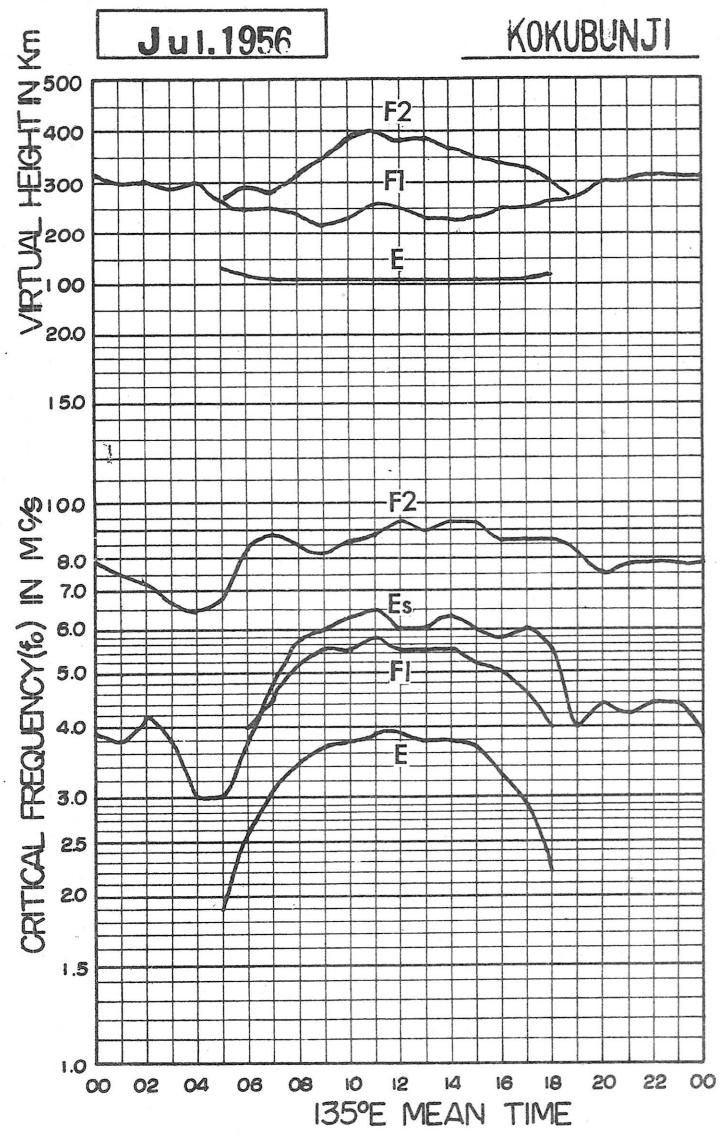
	Latitude	Longitude	Site
Hiraiso	36°22.0′N.	140°37.5′E.	Hiraiso-machi, Nakaminato-shi, Ibaragi-ken

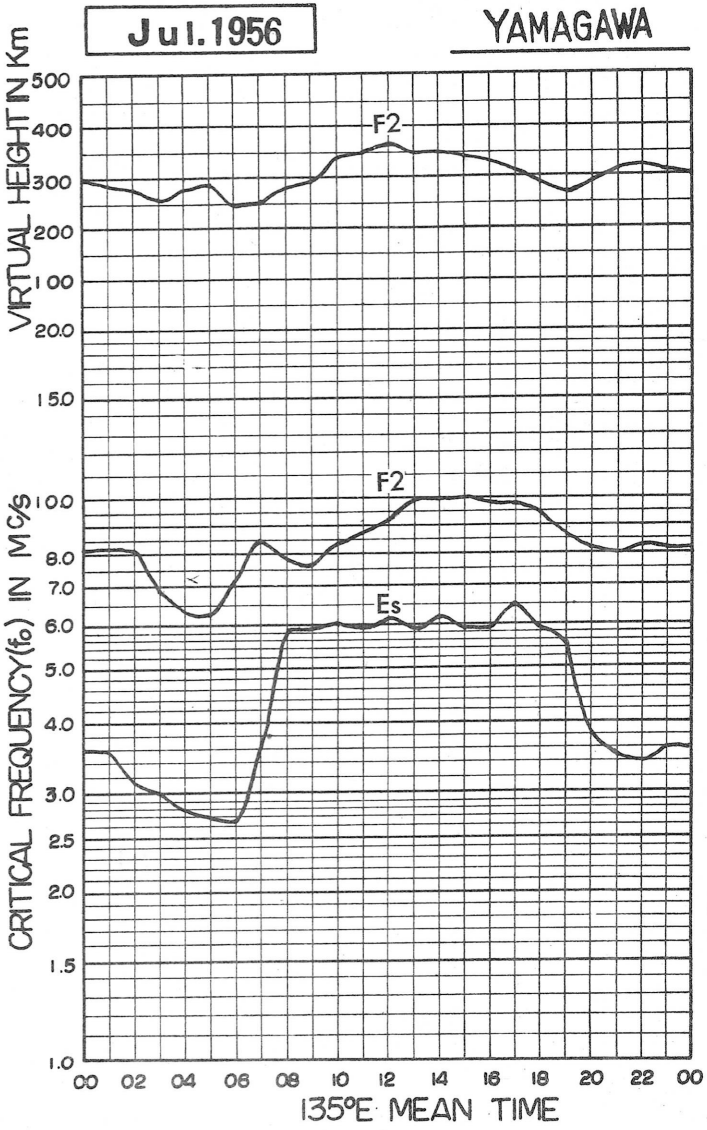
IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS





IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS





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

IONOSPHERIC DATA

Jul. 1956 | foF2 | 135° E Mean Time | Wakkanai | Lat. 45° 23.6' N | Long. 141° 41.1' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(7.3)FJS	7.3J	5.7	5.5J	5.8	6.5	6.2K	6.1K	AK	BK	BK	BK	AK	BK	5.3JK	5.5K	5.5K	5.5K	5.8K	6.3	6.4	6.5	6.5	6.5
2	6.3	6.0	6.0	6.0	6.4	6.0	6.7	7.7	8.0	6.1	6.1	[6.0]A	6.0	6.4	6.1	6.1	6.2	6.2	[6.9]JA	7.6	7.6	7.5	7.1	(6.5)SF
3	(7.1)FJ	F	F	(5.8)F	6.0F	6.5	A	A	A	A	A	A	A	6.2	[6.4]JA	6.5	6.0	6.0	6.0	6.3	6.3F	[6.8]JSF	7.2	SF
4	SF	6.2	5.8F	F	F	6.9	7.5	7.5	7.3	A	A	A	A	5.8	5.8	6.0	6.5	[6.8]JA	7.0	7.8	8.0	7.5J	7.8J	A
5	A	F	F	6.6	7.0P	7.8JP	(8.5)PJ	9.0	9.3J	7.9P	7.6	7.6	7.2P	7.3J	7.2	7.6	7.5	6.6	7.1	7.3J	7.5	(7.5)PJS	S	SF
6	7.8	(7.5)F	7.6F	6.4	5.7	6.8	6.8PJ	7.1	7.5P	6.6	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	A	M	A	A	A	A	A	A	7.5J	8.0P	7.4	7.1J
8	7.1	7.5	7.0	6.5	5.8J	6.8P	8.0	8.8PJ	[8.8]JA	(8.7)P	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	A	8.3J	8.5	8.2	8.4	6.7	7.3J	7.0	[7.5]JA	8.0	8.1	7.8	7.8	7.7
10	7.4	6.8	6.8	6.3	6.3	6.7	7.2J	7.6	6.4	7.3	6.3	6.3	6.8	6.5	6.4	7.0P	6.8	6.7	6.5	6.6	7.6	7.5P	7.6PJ	7.5
11	6.8	7.0	7.1	7.0	6.5	7.1	7.5J	7.8	7.5P	7.7J	5.8	6.3	7.3	7.7	8.0	8.0	8.0	7.2JH	7.1	7.0	6.7	7.5	8.0	7.8
12	7.3J	7.3	7.2	7.0	6.6	6.9	7.2	7.5	7.6	8.0	6.1	7.5	7.6	8.0	7.3JH	7.3J	7.5	7.6	7.6	7.6J	(7.5)PJ	S	S	S
13	FS	FS	(7.7)F	(7.0)J	6.6	7.0	7.8	8.0	8.0	7.5	(7.5)P	[7.5]JA	(7.5)P	7.8P	8.2	8.0	7.3J	7.3	7.5	7.5J	8.0	(8.3)P	8.1P	7.8J
14	7.8	7.8	7.5	7.2	6.8	7.1	7.5	7.1	6.8	6.8	7.0	7.1	6.6	(7.3)P	(6.9)P	6.7	6.6	7.1	7.1	7.3	7.3J	7.3P	7.3P	7.8
15	7.4	7.4	6.8P	6.5F	6.6	7.5	7.7	8.0	(8.3)PJ	7.9	7.1P	7.5J	8.5J	(8.0)P	8.0	8.0	7.6	7.7	7.5	7.7	8.0	8.3J	8.2	8.3P
16	8.1	7.9	(7.8)JF	7.4J	7.1	7.4	7.6	(8.0)F	7.7	7.3J	7.3J	7.1	7.0P	7.4PJ	7.5H	7.3J	[7.4]JA	7.5	7.2	7.6	8.0	7.7P	(7.8)PJS	(7.8)JS
17	7.5	7.3P	6.6	6.5	6.6F	7.5F	8.3J	9.5	8.5	7.8H	A	A	7.0	7.1	7.0P	7.2	7.7	7.7	7.4	7.3J	7.3J	(7.7)P	8.0	8.0
18	8.2	7.7	6.2	6.2	6.2	7.7	8.8	8.3	8.3	7.8J	7.0	8.0H	8.0	7.5	7.8J	7.5P	8.2	8.0	7.5	7.3J	7.5	7.5J	7.8	8.0
19	8.0	F	F	F	6.1	6.5	(7.3)P	9.0	7.7	8.0	8.0	8.6	8.7	[8.4]JA	8.0	8.4	8.2	7.5	7.4	7.8	8.3P	(8.3)PS	8.2	8.3J
20	7.3J	(6.8)JF	6.8	6.2	6.3	6.5	6.5	6.7	7.1	6.6	(7.5)P	8.0	9.0	8.3J	7.4	7.5	(7.4)P	7.6	8.4	8.0	8.2	[7.8]JS	(7.4)J	7.5
21	7.5	7.2	6.8	6.7	6.5	6.7	7.6	8.0	8.1P	8.0	8.2	8.4	8.3	8.0	8.0	8.1	8.2	8.2	A	A	8.3J	8.8J	8.5J	8.1P
22	8.3J	8.0PJ	8.3J	7.5P	7.0	7.0H	8.0H	C	C	C	C	C	C	C	C	C	C	8.0	7.8	7.9	8.0PJ	8.4J	8.6	8.6
23	8.0	7.3	7.2S	[7.0]JF	6.8	7.7	8.6	10.2	9.3	7.6	7.8	7.8	8.8	8.8	8.3	8.0	7.7	7.8	7.8P	8.5J	(9.5)PS	8.3J	7.5J	(8.3)JF
24	7.8	(7.3)FJS	F	F	Fs	6.0	6.6	6.8	6.3	7.5J	7.7	[7.4]JB	7.1	7.2	7.7H	7.1	7.0	7.2	8.0	8.5	7.8	7.9	(7.3)PJ	6.0
25	6.0F	6.1F	6.1	6.0	6.0	6.0	7.3	7.9	8.3J	8.3J	6.9P	8.0P	7.5	7.7P	7.8	8.6	8.2J	8.3	8.0	8.3J	8.5	8.3	7.8JS	(8.2)JS
26	8.0	7.3P	7.2P	[6.5]JA	5.8	5.8F	6.0	6.1	6.2	AK	AK	AK	AK	AK	AK	AK	AK	5.6K	6.0K	6.2K	6.7K	6.3PK	6.6K	6.0K
27	5.6K	(5.3)FSK	4.8K	4.8K	4.7K	5.6K	5.8K	5.0K	5.1K	AK	AK	BK	BK	5.1K	5.5K	5.5K	5.9K	5.7K	[5.7]JAK	5.7K	[6.0]JA	(6.4)JS	6.0	C
28	C	C	C	C	C	C	C	C	C	C	6.5	[6.6]JC	6.7	7.0	7.2	7.2	7.2	7.2	7.0	7.3	7.5	7.2	7.0	7.0P
29	6.5	6.3	6.7	5.9F	5.0	5.8	6.7	6.1	6.5	6.5	6.3	6.6	6.6	(7.0)P	7.3PH	(7.3)P	7.5P	7.1	8.3J	8.4P	8.3J	6.5	6.0	6.0
30	5.8	5.8	5.5	5.3	4.8	5.8	6.2	5.8	6.6	6.2	6.7	6.0	[5.9]JB	5.8	5.9	6.1	6.3	6.7	6.5	6.7	6.8P	6.8	6.5	6.5
31	6.4	6.1	6.0F	5.8F	5.6	6.5	6.8	7.1	7.2F	(6.2)FP	[6.0]JA	5.8	A	A	6.2P	6.5P	6.3	6.5	6.4	6.5	[6.8]JS	7.0	Fs	Fs
Mean Value	7.3	7.0	6.7	6.4	6.2	6.7	6.9	7.6	7.5	7.4	7.0	7.3	7.5	7.3	7.1	7.1	7.2	7.1	7.1	7.4	7.6	7.6	7.5	7.4
Median Value	7.4	7.3	6.8	6.5	6.3	6.8	7.3	7.6	7.6	7.6	7.0	7.5	7.3	7.4	7.3	7.2	7.4	7.2	7.2	7.5	7.6	7.5	7.6	7.8
Count	25	24	24	25	26	28	27	26	25	22	20	21	21	24	26	26	26	28	27	27	29	28	26	23

foF2

Sweep 1.0 Mc to 22.0 Mc in 1 min ☐ Manual ☒ Automatic

W 1

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

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Jul. 1956

h'F2

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	300	250	280	300	350	350	410K	400K	AK	BK	BK	BK	AK	BK	550K	460K	440K	380K	360K	300A	250	260	300	290
2	290	290	290	270	350	280L	350L	350	290	350L	410	[440]A	480	400	440	400	360	A	A	290A	270	260	260	260
3	300F	260F	270F	290F	310	330	A	A	A	A	A	A	A	450	[400]A	360	390	360	330	280	280	330	330	270
4	300	270	260	290	300F	300	330	340A	370	A	A	A	A	460	450	450	400	[360]A	330	A	A	290	280F	A
5	A	300	290F	270	260	290L	330	310	300	300	360	390	330	370	370	340	300	290	300	260	260	330	280	340F
6	260	250	250	250	350L	350	360	340	330	370	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	A	M	A	A	A	A	A	A	300A	260	240	270
8	280	280	300	270	240	360	380	330	[330]A	330	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	A	370	380	360	330	410	360	350L	[330]A	290	270	260	270	270
10	270	260	280	270	330	310	340	310	300L	380	380F	[380]L	370	430	450	380	360	[340]A	310	280L	280	300	310	280
11	260	310	280	260	330	300L	270	300	360	350	280L	430	430	420	370	360	330	[310]AH	290L	270	280	330	310	280
12	280	300	300	280	270	[330]L	410L	390	330	330	440	410	410	360	350H	360	360	340	310	[280]A	260	[310]A	280	260
13	A	A	300A	260	270	[330]L	360	300	330	360	370	[360]A	350	370	380	350	350	340L	300	[300]A	310	280	270	290
14	310	280	270	290	280	280L	360	360	410	420	440	460	490	410	450	410	410	380	300	300	270	300	330	310
15	290	260	250	330	300	280	270	270L	300	340	300	350	360	350	330	360	330	310L	270	260	280	270	280	290
16	280	280	280	270	280	310	290L	330	350	390	370	410	400	370	310H	A	A	330	280L	280	260	300	310	360
17	260	260	260	300	300	260	300	300	300L	300H	A	A	380	370	410	390	330	310	310	300A	[290]A	280	300	300
18	260	330	260	300	280	270	260	290	360	280	330	280H	360	400	370	340	330	310L	270L	260	360	370	300	300
19	270	240	260	260	270	360	260	260	370	370L	380	350	350	[360]A	370	330	330	280	290	280	300	310	300	360
20	260	260F	260	270	310	310	350	350	350	300L	310	400	310	330	350	330	360	330	300	300	350	300	290	270
21	270	260	260	260	270	350	310	270	330	310	310	310	330	360	330	330	350	310	A	A	310	260	260	260
22	280	270	270	240	330	350H	310LH	C	C	C	C	C	C	C	C	C	C	300	280L	260	260	260	300	270
23	240	240	340	350A	310	350L	270L	300	260	270	400	380	350	330	350	350	330	280L	290L	260	270	240	270	280
24	350A	360	280	310F	330	350	360L	300	290	330	380	[360]B	330	400	370H	350	350	330	300L	260	350	260	240	350
25	310	310	300	260	280	290	330	300	280	280	350	270LH	370	360	350	330	300	300L	280	[280]A	270	260	310	310
26	260	300	330F	[300]A	270L	A	A	400	430	AK	AK	AK	AK	AK	AK	AK	AK	390K	330K	[300]KA	270K	310K	270K	280K
27	260K	270K	310K	310K	330K	330K	370K	370K	460K	AK	AK	AK	AK	340K	500K	500K	400K	360K	AK	AK	A	310F	270	C
28	C	C	C	C	C	C	C	C	C	C	360	[350]C	340	340	340	310H	330	300	270	260	260	280	270	270
29	280	270	280	260	300L	300L	300	300	390	370	390	360	360	330	360H	310	310	260	300	260	330	330	280	290
30	300	290	290	290	300	280	270	290L	330	350	370	430	[440]A	470	420	370	360	340	300	260	310	290	310	290
31	280	290	280	290	300	340	280	300	360	410	A	A	A	A	430	350	370	330	290L	270	[280]A	300	[340]A	360
Mean Value	280	280	280	280	290	300	330	330	340	340	360	370	380	380	390	370	350	330	300	280	270	280	280	280
Median Value	280	270	280	270	290	300	330	300	330	340	370	360	360	370	370	360	350	330	300	280	270	280	280	280
Count	26	27	28	28	28	27	26	26	25	22	19	20	21	24	26	25	25	27	25	25	27	29	29	27

h'F2

Sweep 1.0 Mc to 22.0 Mc in 1 min ☐ Manual ☒ Automatic

W 2

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

IONOSPHERIC DATA

Jul. 1956 | fEs | 135° E Mean Time | Wakkanai | Lat. 45° 23.6' N | Long. 141° 41.1' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	4.2	3.0	3.3	3.5	3.5	4.0	4.2	6.0	8.0	G	G	4.8Y	7.8	5.0Y	5.0	4.7	4.4	3.5Y	G	9.0Y	3.2	E	5.0	E
2	2.8	1.8	2.5	E	G	G	4.8	7.2	7.8Y	G	G	7.0	G	G	G	5.3Y	5.3	12.0Y	7.3	7.2	6.6	3.5	E	E
3	3.3	E	E	2.3	3.5	6.0	10.0	12.0Y	6.5	9.5	6.0	9.0	6.5	5.0	8.0	G	G	G	5.0	G	4.5	6.0	7.0	3.5
4	4.0	3.5F	3.1F	5.5F	4.5	7.2	6.0	7.8	6.2	10.5	7.0	6.8	8.0Y	4.8	5.2Y	G	G	8.0	5.8	10.3	8.0	7.0Y	3.5	12.5
5	10.0	6.5	5.0	4.3	3.5	4.6	6.0	5.8	7.7	7.5	5.7	G	5.0Y	5.0Y	6.2	6.5	6.0	5.5	5.5	3.2	4.0	6.5	E	6.0
6	3.5F	3.5Y	2.3F	E	G	G	G	G	5.2	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	C	C	6.0	>4.3M	12.0	8.5	9.0	13.3	13.0	12.7	8.5	6.5	3.5	E
8	E	2.3	2.3	E	G	G	5.0	6.0	8.5	8.5	C	C	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	7.8	5.3	5.6	G	5.0	G	G	8.0	12.5	7.1	6.3	5.0	E	E
10	E	4.1	E	E	G	G	G	6.0	5.3	5.3	7.5	5.0Y	4.9	5.7	6.1	G	7.2	7.9	6.3	G	E	4.8	6.0	3.8
11	E	4.2	3.5	3.2	G	G	G	4.7	5.9	5.2	4.8	4.7	5.5	G	G	4.8	5.5	9.0	8.0	3.5	3.5	6.0	6.0	4.8
12	3.5	3.2	3.0	2.2	3.5	3.5	4.5	5.5	6.5	6.0	4.9	G	4.8	4.8Y	G	4.8	G	5.0	5.5	7.0	3.5	5.0	4.0Y	E
13	6.5	7.5	6.5	4.0	6.0	3.5	G	G	6.0	6.5	6.6	9.0	5.5Y	6.0	4.9Y	6.5	5.5	5.2	6.0	6.6	7.0	3.5Y	E	2.8
14	2.3	2.0	1.8	2.5	G	G	G	G	G	5.0Y	6.3	5.3	5.3Y	G	G	6.2	G	4.7	3.8	5.3	E	4.1	6.0	E
15	E	E	E	E	G	G	G	G	G	6.3	6.0	4.6	5.2Y	5.0Y	5.0	5.3	6.8	4.0	G	G	3.7	E	E	3.0
16	4.5	3.0	4.0	E	G	5.0Y	4.0	G	5.0	5.0	6.0	6.5	5.3	10.0	4.8	7.0	8.4	7.1Y	3.5Y	4.0	5.8	7.0	4.2	E
17	E	3.2	2.8	3.5	3.7	4.1	4.2	G	5.5	5.0Y	10.3Y	6.7	5.3	G	G	G	6.3	7.6	8.0F	6.9	10.0	3.2	3.2	E
18	2.3	3.5	2.5	2.3	G	G	G	5.3	10.2	6.5	4.8	G	6.0	6.4	5.8	5.2	4.8	4.2	3.5	5.8	4.3	3.9	3.5	E
19	2.2Y	4.3	4.6	E	2.3	3.5	G	6.5	12.0	7.5	6.2	5.0	6.5	9.5	5.3	G	G	4.4	5.2	7.0Y	7.6	5.6	3.8	E
20	E	E	2.3	3.5	G	G	G	4.7	5.3	5.3	5.8	5.8	5.6	5.5	5.6	5.5	5.6	11.0	G	8.0	2.3	7.9	5.0	4.1
21	3.6	E	2.3	5.0	3.3	G	G	6.1	G	5.1	G	5.2	9.5	7.1	4.6	5.3	7.0	7.9	8.4	11.0	5.6	E	4.2	2.8
22	3.5	3.1	3.5	4.1	3.0	G	G	C	C	C	C	C	C	C	C	C	C	6.0	4.0	3.5	4.5	4.2	4.5	5.0
23	3.5	4.2	8.0	6.5	4.5	4.0	5.2	12.5	12.7	4.0	7.2	6.3	6.4	6.2	4.8	6.6	5.9	G	G	E	5.8	4.2	4.5	E
24	7.2	8.1	3.5Y	6.0Y	3.5	4.5	4.8Y	5.6	5.8	9.1	6.0	5.3	G	G	5.0	G	5.6	G	4.2	4.0	3.7	E	3.0	E
25	3.0	4.0	3.5	3.0	3.5	5.0	10.0	6.1	9.2	6.0	5.3	5.5	6.1	G	5.5	4.9	4.8	5.0	6.2	7.4	3.5	5.6	6.1	5.8
26	E	4.2	3.5	10.5	6.7	7.5	5.0	10.5	5.5	6.4	6.0	6.0Y	8.0	7.0	10.5	5.5	7.0	7.2	6.2	6.3	3.5	4.1	3.1	E
27	E	2.2	2.1Y	E	2.5	3.5	5.3	4.3	4.8	6.7	5.5	4.9	4.7	G	G	G	4.8	11.5	9.0	6.7	9.0	5.6	10.5Fs	C
28	C	C	C	C	C	C	C	C	C	C	5.0	C	G	G	G	G	G	G	5.2	E	E	E	E	E
29	E	3.5	3.3	3.0	G	G	G	4.7	4.5	4.8	6.1	6.5	6.8	10.0Y	G	5.7	G	5.0	4.8	4.8	3.1	E	E	E
30	E	2.5	E	2.9	3.5Y	G	G	4.5	5.8	6.0Y	G	G	5.6	5.1	G	6.3	6.5	7.3	5.7	3.8	6.0	5.7	5.6	3.5
31	3.5	3.5	3.5	4.6	G	G	G	6.0	6.5	6.4	12.5	6.2	7.0	7.4	4.9Y	7.1	6.2	4.2	4.0	6.2	5.0	6.1	10.5	7.0
Mean Value	4.1	3.8	3.4	4.1	3.8	4.7	5.6	6.6	6.9	6.4	6.9	6.0	6.1	6.4	6.0	5.9	6.1	7.0	6.3	6.6	5.3	5.3	5.1	5.0
Median Value	2.9	3.4	3.0	3.0	2.8	G	G	5.6	5.9	6.0	6.0	5.3	5.6	5.0	5.0	5.2	5.5	5.5	5.5	6.2	4.5	4.8	4.0	E
Count	28	28	28	28	28	28	28	27	27	27	27	26	28	27	28	28	28	29	29	29	29	29	29	28

fEs

Sweep 1.0 Mc to 22.0 Mc in 1 min ☐ Manual ☒ Automatic

W 3

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

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Jul. 1956 | foF2 | 135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	7.2 JF	7.2 F	6.5 F	6.6	6.4	6.9	6.5 K	6.5 K	A K	B K	A K	5.7 JK	[5.6] KB	5.6 PK	5.8 PK	5.7 K	5.8 K	6.1 K	6.1 K	6.5	6.7	6.5	6.5	6.5 F
2	6.5	6.1	6.0 V	6.0	6.1	5.3 PH	6.5	7.8	7.7	7.6	6.3 H	6.5	6.8 P	6.7	6.9	6.4	6.3	A	A	8.0	7.6 J	7.6 PF	7.5 F	7.0 F
3	6.6 F	6.7 F	6.4 F	5.8 F	6.0	6.1 F	6.3	6.6	6.3	6.4	6.0	6.0	6.0	6.4	6.6	6.8	6.3	6.1	6.3	6.5	6.6	6.8	[6.8] B	6.8 F
4	[6.8] AF	6.8 F	6.2 ZF	5.2 F	4.9 F	6.4 F	8.3 P	8.2	8.1	7.4	6.7	6.5	6.5	6.3	6.5	6.8	7.0	7.5	8.0	7.6	7.4	7.6 F	7.7 PF	8.0
5	7.7 F	7.1 F	6.6	6.5	6.5 F	7.3 F	9.1	9.6	9.5	8.8	A	A	8.2	8.2	7.6	8.2	7.4	7.6	7.4	[7.4] A	7.5	(8.4) P	(8.0) P	8.3 P
6	7.7 PF	7.4	7.4 F	6.5	5.7	6.5	6.9	7.6	7.5	A	A	6.6	7.0	7.1	7.3	7.4	7.2	[7.6] A	8.1	7.9	A	C	C	C
7	C	6.8 F	6.3 F	6.2 F	6.4 F	7.1	9.4	9.0	7.6	6.7	6.7	6.6 J	7.0	[7.0] A	7.0	6.8	6.8	6.9	6.7	6.9	7.5 P	7.8 JF	[7.4] AF	7.0 F
8	7.0 F	7.0 F	6.7	6.5	6.5 F	7.0	(8.5) P	9.7 P	8.6	7.9	8.3	8.5	8.4	7.8	8.3 P	7.9	8.1	7.8	8.0	7.7	6.8	7.2 P	7.5	7.5 F
9	7.6 JF	7.7 F	6.8	6.0 F	5.8	6.8	8.4	9.4	8.2	9.0	9.1	[9.3] A	9.5	10.2	9.4	[8.6] A	7.7	7.7 P	8.1	8.9	7.8 P	7.7 P	7.7	7.9
10	7.6	7.5	7.4 F	7.4	7.0	7.0	8.1	8.5	8.0	8.5 P	8.0	[7.8] A	7.7	7.6	[7.5] A	7.4	6.9	7.5	7.1 P	7.1	7.6	7.1 P	A F	A
11	7.4	7.5	7.0	6.5 F	6.8	7.1 F	9.0	9.0	9.2	8.3	7.6	8.9 J	8.5 P	9.1	10.6	9.6	9.0	8.3 P	7.7	8.0	7.5	7.5	7.9 F	8.0 F
12	7.6 F	8.0	7.6 F	7.5 F	7.2 F	7.1	7.7	8.1	8.1	8.1 H	(8.4) P	8.4 P	9.0	9.0	[8.6] A	8.1	7.7	7.9 P	8.0	8.5	(7.8) P	8.2	8.6	8.4 JF
13	8.1 F	7.7 F	8.0	6.6	6.5 F	7.0	8.1	9.4	9.0	8.7	9.0	9.5	10.0	9.5	[9.6] A	9.6	9.0	8.3 P	(8.5) P	8.1	8.2	8.1 F	8.2 F	8.5 JF
14	8.2 F	8.4 PF	7.4	7.2	7.0	7.9	8.7	8.1	8.2	(8.1) B	8.0	7.8	8.5	8.4	8.3 P	7.5	7.2	7.5	8.0	7.5	(7.3) P	C	C	C
15	C	C	C	(6.9) C	[7.2] C	7.4	C	C	8.8	(8.3) PH	8.5	8.6	9.0	9.1	9.0	8.5	8.5	7.9	8.1	8.1	8.0	8.1 J	8.4	8.1
16	8.1	8.0	7.7 F	8.2	7.8	8.0	8.6	9.5 P	7.5 H	7.7 H	7.9	7.7	7.7	8.4 P	8.1	8.2	(8.1) M	8.0	7.8	8.0	8.1	8.1	8.2	8.4 P
17	8.1	8.0	7.0	7.0	6.7	7.0 P	(8.5) P	10.5	9.6	[9.1] M	8.6	8.8	(8.5) A	8.2	A	A	(8.0) PJ	7.8	8.2	7.6	7.5	7.9	8.4 JF	9.0
18	9.6	C	C	C	C	C	C	C	C	8.3 JH	8.8	9.5	9.0	8.1	C	C	9.1	8.8	7.6	7.8	7.7	8.0	7.8 P	7.8 P
19	8.0	7.0	6.8	6.6	6.6	7.4	8.3 Z	9.4 PJ	8.5 P	8.2	8.2	9.1	10.5	9.4	9.5	9.4	8.8	8.3 P	7.8	7.5	7.7	8.1	8.4 JF	8.3 P
20	7.6	7.4	7.3	6.7	6.8	6.9	6.6	7.2	7.8 H	7.6	7.6	8.9	10.2	9.0	9.0	8.3	7.9	8.2	9.3	8.2	8.0	7.9 F	8.2 F	8.5
21	8.7	8.2 F	(8.2) P	7.8	6.9	7.0	8.5	9.0	10.2	9.7	9.1	9.1	9.7	9.6	9.3	9.3	9.4	8.4 V	7.9	7.9	(8.4) P	8.4	8.5 F	8.0
22	8.1 F	7.6 F	8.0	8.1	(5.9) PH	6.3	7.9	9.1	9.6	8.5	8.3	9.1	8.6 P	8.7 P	8.9	9.1	8.8	8.7	8.5	8.1	(8.4) P	(8.9) P	8.5 J	8.3 J
23	(8.2) B	8.1	7.6 VF	7.0 V	6.8 VF	6.9	8.5	10.3	10.2	8.5 J	(8.4) P	9.3	10.1	10.1 P	9.6	9.5	8.5	8.7	8.8	9.0	(9.4) P	8.0 P	7.6 P	7.5 F
24	A F	F	7.5 F	6.9 F	(6.0) P	6.5	(7.0) P	(7.0) A	6.9	[7.0] A	7.1 P	7.6	7.8	8.2	8.6	8.7	8.0	8.1	(8.5) P	(8.6) A	8.7	7.7	7.0	6.6
25	6.3	6.4 F	6.5	6.0	6.0	6.3 H	7.3	9.5	8.8 H	8.1	8.1	8.5	8.4 P	8.9	8.8 P	9.4	8.8	8.2	8.7 P	8.8 J	8.1	8.5 P	(7.6) P	8.4 J
26	8.4 J	7.8	[7.4] B	6.9	5.5	6.4	7.9 J	(8.3) P	7.6	A K	A K	A K	A K	B K	B K	5.3 K	5.7 K	5.8 K	6.6 K	6.2 K	6.3 K	6.6 K	7.2 K	6.1 K
27	6.0 PK	5.9 K	5.3 K	5.2 K	5.6 K	5.6 K	5.8 K	6.0 K	5.8 K	5.5 K	A K	G K	5.6 K	(5.8) PK	5.9 K	5.9 K	6.1 K	6.4 K	6.1 K	6.4	6.6	6.6	(6.4) A	(6.1) PF
28	5.6 F	6.1 F	5.3	5.2 F	5.2	5.9	7.0	6.8	(5.9) P	6.9	7.8 P	8.0	8.2 P	8.0 PJ	8.4	8.2 P	8.1	8.0	8.0 F	8.0	B	B	B	7.5 PF
29	7.0	6.7	7.2 PF	6.5 V	4.9	5.3	6.9	7.9	7.6	7.3	7.2	6.7	8.7 J	9.0	9.1	9.0	9.1	8.6	9.1	9.2 P	8.2	6.7	6.6	6.7
30	(6.6) P	6.1	5.7	5.5	5.7	5.8	6.8	7.1	6.9	6.9	7.1	6.7 PJ	6.5	6.4	6.1	6.9	7.5	7.5	6.8	6.8	7.0	6.8	6.6 V	6.5
31	6.3	6.3	5.9	5.7	5.6 V	6.6	6.7	7.0	7.0	[6.4] A	5.7 J	A	A	6.6	7.0	7.3	6.8	6.7	6.4	6.6 P	6.7	(6.4) PJ	7.1	6.7
Mean Value	7.5	7.2	6.9	6.6	6.3	6.7	7.7	8.3	8.1	7.8	7.8	8.0	8.2	8.1	8.1	7.9	7.7	7.7	7.7	7.7	7.6	7.6	7.6	7.6
Median Value	7.6	7.3	7.0	6.6	6.4	6.9	7.9	8.3	8.1	8.1	8.0	8.2	8.4	8.2	8.4	8.2	7.9	7.8	8.0	7.9	7.6	7.8	7.7	7.8
Count	28	28	29	30	30	30	29	29	29	28	26	28	29	30	28	29	31	30	30	31	29	28	27	28

foF2

Sweep 0.85 Mc to 22.0 Mc in 2 min ☐ Manual ☒ Automatic

A 1

6

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

IONOSPHERIC DATA

Jul. 1956 | h'F2 | 135° E Mean Time | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	330F	330AF	320F	350F	360	350	380K	A K	A K	B K	A K	550K	[560]BK	570 K	490 K	520 K	410 K	360K	350K	300	280	290	300	340
2	340	300	330	290	270	210H	360	330	330A	330	AH	450	400	400	390A	340	420	A	A	370	A	A	A	340A
3	310A	300AF	300F	330F	300	300L	400A	390	490	420	480A	500	490	480	410	A	380	360L	360	290	280	290	[300]A	310
4	[300]A	300	290A	300A	330F	270	280	330	320A	320	370	530	390	450	430	430	380	330	310	270	240	320	330	310
5	300	290	280	300	300	260	300A	280	A	A	A	A	370	380	400	320	300	320	280	A	A	330	A	310
6	300F	300	300	280	350A	[380]L	400	A	310	A	A	470	410	400	400	370	380	[340]A	300	300A	A	C	C	C
7	C	310	310F	300F	310	310	300	350L	A	670	A	A	430	[420]A	400	380	380	340	310	A	A	A	A	300F
8	310F	300F	300F	290	310	350	300	310	300	A	380	350	390	430	380	360	370	350	300	260	270	330	320F	330A
9	310F	280	260	310A	310	280L	310	300A	A	370	300	[340]A	380	360	310	A	A	310	330	270	250	350AF	310AF	300
10	290	290	290	310F	310	280L	300	310	370	330	350	[360]A	380A	370	[360]A	340	380	360A	320A	290	270	300	A	A
11	340A	330	290	300F	280	250	330	320	310	[360]L	400	380	410	[400]A	380	340	360	340	320	290	280	340	340	310
12	350A	300	300F	300	290	250	300L	320	290	270H	[320]A	370	340	350	[360]A	380	370	350	300	280	260	280	290	310F
13	270	A	270	260	280	250	320L	260	300	320	390	400	350	380A	[360]A	350	330	350	300	280	260	330	300	300F
14	300F	300	250	290	350	L	350	L	390	390	440	520	420	410	360	390	410	350	320	280	280	310	C	C
15	C	C	C	C	C	C	C	C	300	290H	340	380	380	360	350	360	340	L	300L	270	290	300	290	300
16	290	290	290	290	300F	300	350	300	270H	320H	390	390	M	M	M	M	M	M	M	M	M	M	M	M
17	M	M	M	M	M	M	M	M	M	M	370	A	A	400	A	A	340	330	300	260	260	350	350F	310
18	250	C	C	C	C	C	C	C	C	370H	340	360	380	420	C	C	300	290	260	270	260	290	300	300
19	250	250	260	270	290	[320]L	360	250	280	350	350	380	340	360	350	320	300	290	280	270	270	290	310	280
20	260	260	270	290	310	280	280	360	290AH	370	420	400	330	380	360	350	370	340L	280	240	250	300	330	320
21	300	260	300A	260	290	250	270L	[280]L	290	290L	310	340	350	320	340	330	300	280L	260	260	280	310A	AF	A
22	290F	290F	270F	240	210AF	240	280L	280	270	L	360	A	380	350	380	310	330	300	270	260	290A	280	290	290
23	[280]A	260	280A	270	300A	240	310L	290	280	[320]A	350A	370	350	350	350A	330	330	310	290	270	260	240	290	300
24	[320]A	340	A	AF	330	380	290	[300]A	320	[340]A	350	350	390	360	350	330	340	330	320A	[300]A	260	280	260	280
25	340	340A	290	260	280	260H	280	280	250H	350	330	350	340	340	350	330	300	310L	280	280	280	300	310	310
26	260	300	300A	260	270	360	[360]A	360	350	A K	A K	A K	A K	A K	340 K	560K	430 K	390K	310K	290K	320K	360FK	290K	KA 310
27	300K	290K	290K	310K	310K	340K	430K	380K	400K	510K	A K	G K	520K	440K	450K	420K	390K	330K	320KL	290A	270	280	[280]A	270
28	310F	270F	280	300AF	290	280	290	290	290L	440L	A	340	330	B	340	320	310	290	290	270	300A	300B	300	280
29	280	290	280	220A	280	330L	290	320	280L	300	330	300L	[310]C	320	330	300	310	290L	290	280	240A	320A	310	300
30	300	300	290	270	270	300L	310	370	340	370	360	420	410	410	450	370	330	290	[280]A	260	270	280	340A	300
31	280	320A	280	300	290	260	290	360	370	[420]A	480	A	A	450	380	350	350	290L	270	270	280	290	360A	320
Mean Value	300	300	290	290	300	280	320	320	320	370	370	400	390	400	380	370	350	330	300	280	270	310	300	310
Median Value	300	300	290	290	300	280	300	310	300	350	360	380	380	390	360	350	350	330	300	280	270	300	300	300
Count	28	27	27	27	28	27	28	25	25	24	23	25	27	28	28	26	29	28	29	28	26	27	24	26

h'F2

Sweep 0.85 Mc to 22.0 Mc in 2 min ☐ Manual ☒ Automatic

A 2

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

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Jul. 1956 | **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	5.8F	5.0	6.4F	4.4F	3.1	4.0	4.7	7.0	7.1	5.4Y	6.7	6.1	4.9	G	G	G	G	G	3.5	4.4	3.1	5.4	3.1	6.6
2	4.8	3.1	3.1	3.5	3.8	3.1Y	6.5	6.2	6.5	6.5	5.6	4.7	6.3	G	6.1	7.0	6.5	16.0Y	10.0	6.7	6.7	11.5	8.9Y	8.0Y
3	6.6	7.2F	4.7YF	3.5	3.1	3.0Y	5.6	5.6	6.0	6.5	9.2	G	6.6	4.4	5.7	8.0	G	4.2	5.3	3.4	2.1Y	3.0	3.0	6.2Y
4	6.4	6.1	5.4F	4.4	4.6YF	3.4Y	3.4Y	4.5	6.7	6.5	6.5	6.0	G	5.3	G	4.0	G	4.5	4.6	3.5	3.0Y	4.4	5.2	4.1
5	5.7	4.1Y	4.5	4.1	3.5	3.5F	7.5	11.5	12.0	7.5	8.5	10.0	5.7	5.1	5.5	4.7	5.6	6.8	4.5	8.8Y	6.5YF	3.5	6.9Y	6.5
6	7.6Y	6.7	4.5	4.6F	4.5	3.5Y	5.3	7.7	5.2	7.3	7.3	4.3	5.4Y	6.5	6.5	5.8	11.5	8.0	6.5	4.8	9.2	C	C	C
7	C	6.6F	11.6F	11.0YF	6.7F	4.0	5.8	4.9	8.0	7.1	9.2Y	7.1	6.2	8.0	5.9	5.4	5.1	5.3	5.5	6.6	9.0F	8.7YF	7.0F	5.0F
8	3.1F	2.6F	3.0F	3.1F	3.2F	4.3	4.5	7.5	5.4	8.0	6.5Y	6.2	7.7	G	11.0	5.0	4.3	4.9	3.9	3.1	4.3F	4.5F	9.0F	7.2
9	7.0F	4.7F	4.3F	4.0F	4.7F	4.6F	4.4	7.0	8.0	6.5	6.2	10.3	6.5	6.1	5.0Y	9.5	11.1	11.7	7.0	7.5	3.0F	7.0F	6.5F	3.2
10	3.0F	3.1	2.4F	3.1F	2.5F	3.1Y	4.6	5.8	7.1	4.3	8.0	10.5	9.1	6.5	8.0	7.5	G	7.5	8.0	3.2F	3.0	3.4	7.1	4.7
11	4.8	4.4	3.5	3.7F	3.2F	3.5F	G	5.9	4.5	3.8	7.0	7.5	7.1	8.6	8.0	4.9	4.8	4.5	4.1Y	4.1	7.3Y	3.9	4.7	9.0Y
12	6.6Y	8.6Y	4.4	4.4	3.6	3.1	4.7	6.4	5.2	6.5	9.5	7.5	7.6	7.8	10.0	7.5	6.1	6.5	3.5	3.5	3.5	5.3	4.4	7.5
13	4.5	7.7F	6.6F	4.1F	3.1F	3.5F	3.2	G	5.6	6.3	7.8	7.0	10.0	9.0	10.1	10.0	6.6	4.5	4.5	4.4	2.4	5.4Y	4.1	7.4Y
14	2.8	3.0	2.6Y	3.1	3.1	3.2F	3.5	G	5.4	G	5.9	7.3	G	G	G	G	4.5	G	4.0	4.2	3.5	C	C	C
15	C	C	C	C	C	C	C	C	G	G	G	5.8	7.5	6.7	6.3	G	4.0	4.0	G	3.1	4.4	4.4	2.6	19Y
16	3.0Y	4.6	3.1	4.5YF	4.4F	4.5	4.2	4.5	4.7	8.0	6.1Y	6.5	M	M	M	M	M	M	M	M	M	M	M	M
17	M	M	M	M	M	M	M	M	M	M	7.1	8.0	10.6	6.5	10.8	11.3	10.8	6.5	4.2	4.2	3.9	7.0	3.2F	3.5
18	3.1	C	C	C	C	C	C	C	C	6.2	4.8	G	G	6.8	C	C	G	4.5	3.5	11.3Y	4.2	3.1	3.5	2.5F
19	2.2	2.3F	2.2F	2.5F	2.2F	3.2Y	G	G	5.8	5.7	G	8.1	4.4	5.0	5.2	4.2	4.3	4.2	4.2	3.5	4.1F	4.2	3.7F	5.9
20	2.7	4.1F	2.0F	2.6F	3.1F	3.5F	4.3	5.1	6.5	6.7	6.7	6.7	5.4	4.5	7.1	G	4.1	4.3Y	4.1	4.2Y	3.5	3.2F	4.9	4.6
21	4.2	4.1	4.2	2.4	2.2Y	G	G	G	5.0	4.2	5.1Y	G	G	G	G	4.6Y	5.3	4.5	3.5	3.1	3.1	10.0YF	10.0YF	10.3F
22	3.5YF	2.2F	4.1YF	3.5F	3.5F	3.5Y	4.3	4.8	G	G	6.0Y	10.5	7.3Y	6.1Y	5.7	4.5	4.5	6.2Y	4.0	3.8	4.8	3.1	4.0Y	3.2
23	5.2	3.5	4.8F	3.8F	4.5	3.5	6.6	5.4	5.2	9.0	8.0	6.4	G	6.5	6.5	6.3	G	3.8	4.0Y	3.1	3.4Y	4.5	3.1Y	3.6
24	6.8	5.5	8.0	5.5	2.6	4.8	4.7	11.9	10.2Y	10.0	6.0	5.4	6.2Y	5.0	4.8Y	5.2	5.0	6.7	7.0	11.0Y	5.1Y	2.5Y	2.1	2.1
25	2.7	3.3	3.5	2.5YF	2.9YF	4.5	3.5	4.8	G	G	B	B	B	B	5.1	4.5	7.0	4.7	4.7	3.1Y	2.0	4.1Y	4.0Y	3.3Y
26	4.4	4.1	4.9	5.1	2.2	4.5	6.5	6.0	6.0	11.8	7.8	10.9	6.3	6.0Y	B	4.9	G	5.1	5.4	7.0	3.1Y	2.2	4.4Y	6.5Y
27	2.2	E	1.2	2.2Y	2.1Y	G	4.8F	6.5Y	5.1	6.5Y	6.5	6.5	4.6	5.4	B	G	4.9	4.5	3.5F	5.2	4.5F	3.5Y	9.5F	5.3F
28	8.0F	E	4.7	5.2F	2.4F	3.5Y	G	4.8	5.2	5.4	7.7	5.3	4.6Y	4.2	B	4.1Y	G	4.3Y	5.0F	5.2F	4.5F	2.3	2.2F	E
29	3.5YF	4.8Y	2.2F	2.2F	2.2F	2.2Y	G	G	4.7	G	7.6Y	G	>5.5C	G	G	5.0F	6.1	4.2Y	4.4	4.5	4.5Y	7.0	3.1Y	2.4
30	2.7Y	E	1.1	2.4Y	3.5F	2.2F	G	4.7	5.0	4.9Y	7.1	6.2Y	4.5	G	G	5.5	5.2	4.5	6.6	2.2	4.5Y	3.1Y	5.3F	4.2Y
31	3.1YF	4.6	3.5F	2.2YF	2.2F	4.6Y	5.0Y	3.5	6.4	9.0Y	5.4	9.4Y	9.2	6.7	6.6	8.0	6.5Y	4.8	5.4	2.5	3.2	3.0	5.2	2.4Y
Mean Value	4.5	4.6	4.2	3.8	3.3	3.6	4.9	6.2	6.3	6.8	7.0	7.3	6.7	6.2	7.0	6.1	6.1	5.8	5.0	4.8	4.2	4.8	5.0	5.1
Median Value	4.3	4.1	4.2	3.6	3.1	3.5	4.4	5.2	5.4	6.5	6.7	6.5	6.2	5.4	5.8	5.0	4.8	4.5	4.4	4.2	4.0	4.2	4.4	4.6
Count	28	28	28	28	28	28	28	28	29	30	30	30	28	29	26	29	30	30	30	30	30	28	28	28

fEs

Sweep 0.85 Mc to 22.0 Mc in 2 min ☐ Manual ☒ Automatic

A 3

11

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

IONOSPHERIC DATA

Jul. 1956 | foF2 | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(8.6)F	7.5P	7.3	7.2F	7.2	7.4	7.0K	6.5K	5.8K	AK	GK	5.8K	6.1K	6.2K	6.2K	AK	AK	AK	6.5K	6.9	6.5	6.4	6.4	6.1
2	6.0	6.5	6.2	6.1F	6.0JF	5.7	6.6	7.1	7.4	8.4	7.2	A	A	7.6	[7.0]A	6.5	6.6	7.2	7.6	7.6	[7.4]A	7.3	7.2	(7.3)P
3	7.2P	6.4JF	6.5F	6.0F	5.9F	6.3F	6.7	6.7	6.5	6.3	6.0	6.3	6.6	7.0	7.5	7.5	7.4	6.7	6.8	7.1	7.0	6.9	7.0	7.1
4	6.8	7.0V	6.8	5.4F	4.9F	6.1	7.9	8.0	8.6	7.6	7.0	7.5	6.9	7.1	7.0	7.6	[8.0]A	8.3	8.4	8.0	7.2	7.4	7.7P	7.8
5	7.3	7.2	6.9	6.5	6.1F	6.6	8.5	9.1	8.7	8.0	[8.5]A	9.0	9.0	9.1	8.8	8.5P	8.4	[8.0]A	7.6	6.8	7.1F	8.0F	8.6	7.3FP
6	8.0	7.0	7.1	7.0F	5.9	6.0	7.1	8.3	7.4	7.3	6.9	7.4	7.5	8.1	8.3	[8.2]A	8.1	8.6	9.0	(8.5)A	7.9	7.9	7.9	8.0
7	7.3	7.2	6.5	6.0	6.5F	6.6F	8.8	9.6	[9.1]A	8.6	7.9P	8.7	8.7	8.5	8.1	7.8	7.7	7.5	7.5	7.5	7.2	7.0	7.6F	[7.0]A
8	6.4JF	6.6F	6.5	6.5F	6.0	6.6	8.7	10.0	8.5H	7.5	8.6	C	C	C	C	C	C	C	C	C	6.6	7.6	[7.6]C	7.7P
9	7.5	7.0	6.6	6.5	6.2	6.8	8.3	9.1	C	A	9.0	9.7	10.0	10.4	10.5	9.3	8.5	8.6	9.0	9.0	7.4	7.8	7.9	8.2
10	7.4	7.5	7.4	7.2	7.1	7.6	8.9	8.0	8.5	8.6	9.0	[9.0]A	8.9	8.6	8.5	7.6	7.3	7.6	7.9	7.0	7.4	7.5	7.6	7.8F
11	8.5	8.5F	7.5ZF	7.5F	7.5	7.0	9.0	9.1	9.1	8.4H	8.6	9.6	9.6H	9.6	10.6	10.4	9.6	9.0	8.7	8.1	7.5	6.8JP	8.0	8.5
12	7.9	8.0	7.8	7.6	7.5F	7.6	8.5	8.9	8.5	8.7	9.1	9.2	9.6	9.2	9.5	8.6	8.1	8.4	8.6	9.0	8.0	8.2	8.6	8.3
13	8.3	8.0	7.6F	6.8F	6.5F	6.6	8.3	9.7	10.4	9.5	9.1H	10.0	10.8	10.4	10.5	10.6	[10.0]A	9.5	9.5	8.5	8.4	8.5	8.7	8.8
14	8.8	8.5	7.8	6.9	6.9	7.9	8.6	8.6	9.4	8.8	8.5	8.6	9.8	9.7	9.7	9.0	8.6	8.4	8.4	7.0	7.1	8.0	8.0	8.0
15	8.0	8.1	7.5	7.0	6.9	7.4	8.5H	9.0	8.7	8.6	9.0	9.0	9.7	9.2	9.3	9.5	9.4	8.7	8.9	9.0	8.1	8.4	8.5	8.5
16	8.2	8.2	8.1	8.1	7.5	8.1H	9.3	9.6	8.8	8.1	8.6	8.4	8.5	8.8	8.8	9.0	8.8	8.4	8.6	8.5	8.6	8.5	9.0	9.0
17	8.9	9.0	8.0	7.5	7.0	7.7	9.4	10.0H	9.2	8.7	9.0	9.0	9.5	9.6	9.6	9.5	8.5	8.6	8.8	8.1	8.0	8.0	8.1	(8.7)J
18	9.4P	6.8	6.5	6.5	6.5	7.6	8.5	8.6	7.5H	8.4	9.0	9.6	9.5	9.0	9.4	10.4	10.0	8.6	8.3	8.2	8.0	7.8	8.2	8.7
19	7.9	7.5	7.0	6.6	6.4	6.9	8.8	9.3P	8.6	8.5	9.1	10.2	11.2	10.3	10.5	10.0	9.9	9.5	8.1	7.0	7.8	8.2	8.4	8.0
20	8.1	7.7	7.5	7.6	(7.0)F	7.5	7.5	A	C	7.5	7.9	>8.5B	10.5	9.9	(9.5)JB	9.5	9.0	9.4	8.8	8.5	8.0	8.0	7.9	8.0
21	8.4	9.0	8.9	8.4F	7.5	7.9	9.0	9.0H	10.3	10.0	9.5	9.5	10.4	10.3	10.2	10.0	9.6	8.8	A	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	9.0	9.4	9.6	9.4	8.9	8.7	8.6	8.7	9.0	8.5	7.5
23	7.9	7.9	7.4	6.6	6.5	7.2	9.2	10.0	9.4	[9.2]C	9.0	9.5	10.4	10.3	10.7	10.7	10.0	9.8	9.5	9.8	9.0	8.2	7.9	[7.7]B
24	7.5	7.5	7.5	7.2	7.0	6.9	7.7	8.2	7.0	7.5	8.0	[8.2]A	8.3	9.0	9.4	9.7	9.2	9.2	9.3	9.8P	8.3	7.5Z	7.1	7.2
25	6.7	6.8	7.0	6.6	6.0	6.2	8.0	9.6	7.8	7.5H	8.6	8.8	9.4	9.5	9.4	9.6	9.2	9.0	9.7	8.6	7.5	8.1	8.2	8.5
26	7.9	7.9	7.6Z	7.0	5.9	6.2	8.0	8.4	8.3	7.4	6.2K	6.2K	6.5K	5.8K	[5.6]AK	5.5K	6.0K	6.4K	7.2K	5.7K	6.0K	6.7K	6.9K	6.2K
27	6.0K	CK	CK	CK	CK	CK	CK	CK	CK	CK	CK	CK	6.5K	6.5K	6.8K	6.6K	6.6K	7.3	7.1	7.2	6.9	6.8	6.3	6.1V
28	5.8	6.4ZF	6.4F	5.9	5.9	6.1	8.1	7.5	7.2H	8.1	8.6	8.7	9.4	9.7	10.1	10.1	9.4	8.6	8.8	8.3	7.8	[7.8]A	7.7	7.9J
29	7.4	6.7	7.0	6.3	4.9	5.1	6.7	8.5	8.0	7.6	7.9	8.0	9.4Z	10.4	10.1	10.2	10.5	10.1	9.4	9.5	7.5	7.3	7.2	7.3
30	7.0	6.6	6.4	6.0	5.9	6.0	7.4	8.0	7.5	7.4	7.3	7.9	7.5	6.9	6.9	7.5	8.2	8.4	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	7.3	7.4	7.6	C	C	(7.9)J	7.5	6.7	6.5	6.9	7.5	7.5	7.4
Mean Value	7.6	7.5	7.2	6.9	6.5	6.8	8.2	8.7	8.3	8.2	8.3	8.5	8.8	8.8	8.9	8.9	8.6	8.4	8.3	8.0	7.6	7.7	7.8	7.7
Median Value	7.9	7.5	7.2	6.7	6.5	6.8	8.4	8.9	8.5	8.2	8.6	8.8	9.4	9.0	9.4	9.4	8.6	8.6	8.6	8.2	7.5	7.8	7.9	7.8
Count	29	28	28	28	28	28	28	27	26	26	28	26	28	30	29	28	29	29	28	28	29	29	29	29

foF2

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

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

Jul. 1956 | h_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	(390)^{F}	380^{P}	380	440^{F}	410	330	490^{K}	380^{K}	A^{K}	A^{K}	G^{K}	A^{K}	A^{K}	U^{K}	A^{K}	A^{K}	A^{K}	A^{K}	360^{K}	320	350	400	430	400
2	440	410	390	360^{F}	(360)^{JF}	330	330	330	360	340	350	A	A	380	[360]^{A}	350	370	[360]^{A}	350	350	[360]^{A}	380	380	(360)^{P}
3	360^{P}	(360)^{JF}	350^{F}	370^{F}	380^{F}	340^{F}	360	360	A	U	U	U	U	430	390	350	360	370	360	360	380	420	410	390
4	400	380^{V}	320	390^{F}	410^{F}	330	310	330	330	360	330	390	380	430	[410]^{A}	390	[380]^{A}	360	330	330	390	370	410^{P}	360
5	400	370	370	370	370^{F}	390	340	350	370	390	[380]^{A}	370	400	370	360	360^{P}	380	[350]^{A}	320	340	430^{F}	420^{F}	A	400^{FP}
6	350	390	360	360^{F}	410	420	380	A	360	A	420	390	390	380	380	[370]^{A}	360	360	350	A	410	420	420	350
7	360	360	370	390	380^{F}	370^{F}	380	350	[360]^{A}	370	420^{P}	410	380	380	370	360	350	350	330	350	360	400	370^{F}	[380]^{A}
8	(400)^{JF}	390^{F}	400	390^{F}	400	390	350	330	400^{H}	450	410	C	C	C	C	C	C	C	C	C	390	C	C	350^{P}
9	360	380	380	390	390	310	330	310	C	A	460	430	420	410	370	360	380	380	370	330	370	420	440	400
10	380	390	400	400	390	390	340	280	370	360	430	[420]^{A}	420	380	380	370	390	350	320	370	400	410	400	490^{F}
11	400	370^{F}	360^{2F}	410^{F}	360	340	360	340	380	380^{H}	430	410	440^{H}	440	420	390	370	360	360	340	390	(410)^{JP}	420	410
12	420	390	390	400	390^{F}	380	350	330	310	370	380	410	400	410	380	380	390	[390]^{A}	390	360	400	420	B	370
13	380	360	390^{F}	350^{F}	380^{F}	390	380	390	360	380	420^{H}	420	400	400	410	380	[380]^{A}	370	360	A	420	410	420	410
14	400	370	350	440	460	380	370	420	390	360	460	460	420	400	400	390	380	380	320	360	450	450	430	390
15	390	360	370	400	410	370	370^{H}	350	350	370	370	410	380	410	400	410	380	370	360	340	390	440	420	410
16	390	390	390	350	370	410^{H}	380	300	370	390	360	420	410	400	410	380	380	360	340	360	420	410	410	410
17	380	390	360	370	390	390	340	360^{H}	360	420	430	410	410	390	380	370	A	370	340	360	420	440	440	(380)^{J}
18	290^{P}	400	390	400	410	310	280	310	280^{H}	460	410	410	420	410	410	380	360	320	360	340	410	410	420	380
19	370	370	370	370	400	400	330	260^{P}	320	420	420	430	390	400	380	350	360	320	310	A	420	410	390	380
20	400	380	420	400	(420)^{F}	390	340	A	C	A	A	B	400	400	(390)^{JB}	380	370	360	340	330	400	410	420	420
21	410	360	350	330^{F}	410	410	330	360^{H}	340	340	360	390	380	360	360	370	340	310	A	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	410	390	360	360	320	330	350	400	370	360	360
23	400	340	330	370	400	380	320	340	370	[390]^{C}	410	410	400	400	370	360	[360]^{A}	350	320	320	320	370	390	[400]^{B}
24	400	440	410	430	390	410	360	330	360	340	390	A	A	380	380	360	350	370	360	340^{P}	340	420^{2}	400	390
25	440	420	370	360	380	350	360	300	330	370^{H}	360	380	350	360	360	370	360	360	330	330	410	420	430	420
26	390	410	380^{2}	320	410	430	410	420	390	410	500^{K}	U^{K}	U^{K}	U^{K}	A^{K}	U^{K}	420^{K}	370^{K}	330^{K}	360^{K}	450^{K}	460^{K}	390^{K}	370^{K}
27	420^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	420^{K}	430^{K}	U^{K}	370^{K}	380^{K}	340	310	360	370	400	400	410^{V}
28	380	410^{2F}	380^{F}	390	350	350	300	290	A	380	350	380	370	360	360	330	320	350	320	340	380	[400]^{A}	410	(360)^{J}
29	380	410	380	360	350	360	360	350	320	360	320	410	370	350	350	360	340	320	360	320	330	400	410	390
30	380	410	370	390	390	380	300	310	340	330	A	380	410	U	U	370	330	330	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	410	380	380	C	C	(350)^{J}	320	350	360	410	400	400	420
Mean Value	390	390	370	390	390	370	350	340	350	380	400	410	400	390	380	370	370	350	350	340	390	410	410	390
Median Value	390	380	380	390	390	380	350	340	360	370	410	410	400	400	380	370	360	360	340	340	400	410	410	390
Count	29	28	28	28	28	28	28	26	23	23	25	22	24	27	25	27	28	29	28	25	29	28	26	29

h_pF2

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

K 2

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

IONOSPHERIC DATA

Jul. 1956 | h'F2 | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	350	290	310^{A}	360^{A}	310	290	350^{K}	A^{K}	A^{K}	A^{K}	G^{K}	500^{K}	490^{K}	430^{K}	430^{K}	A^{K}	A^{K}	A^{K}	320^{A}	290^{A}	280^{A}	270	300	320
2	340	370^{A}	360^{A}	260^{F}	210^{F}	250	320	300	360	340	350	A	A	380	[360]^{A}	350	370	[340]^{A}	320	300^{A}	A	A	320^{A}	300^{A}
3	310^{A}	300	270	280	270	270	340	360	430	430	460	490	450	430	390	350	340	340^{A}	340^{A}	300^{A}	300^{A}	300	340^{A}	300
4	300	300	240	270	330	300	260	300	320	350	310	390	380	430	400^{A}	390	[360]^{A}	330	300	260	270	280	320	300^{A}
5	310^{A}	300	300^{A}	290	290	270	290	310	280	340	[350]^{A}	360^{A}	380	350	350	340	360	[320]^{A}	280^{A}	270^{A}	350^{A}	360^{A}	[320]^{A}	290
6	270	290	290	290	300	370	350	360^{A}	340	360	420	390	390	380	370	[360]^{A}	350	330^{A}	350^{A}	A	310^{A}	330^{A}	350^{A}	280
7	260	300^{A}	300^{A}	320^{A}	310^{A}	290	310	310	[340]^{A}	360	420	400	380	370	360	350	350	340	300	270^{A}	310^{A}	A	300^{A}	[320]^{A}
8	340	320	350^{A}	320	330^{A}	280	330	300	280^{H}	450	400	570	C	C	C	C	C	C	C	C	310^{A}	C	C	290^{A}
9	300^{A}	300	300^{A}	310	300	260	300	280	C	A	430	430^{A}	390	380	330	340	350	340	310	260	[280]^{A}	300	350^{A}	350^{A}
10	320^{A}	310	300	320	300	280	280	260	360	340	420	[420]^{A}	410	370	370	370	370	330	290	340^{A}	290	290	310^{A}	380^{A}
11	310^{A}	300^{A}	290^{A}	350^{A}	270	260	310	290	300^{L}	300^{H}	420	390	310^{H}	410	380	360	320	320	310^{A}	280	330^{A}	360	330	310
12	350^{A}	330^{A}	310	310	310^{A}	260	290^{L}	280	260	370	360	[370]^{A}	380	390	360	340	390	[340]^{A}	290	280^{A}	260	300	B	280
13	310^{A}	290^{A}	310^{A}	250	280	260	260	320	320	340	300^{H}	400	360	370	380	350	[340]^{A}	340	300	A	(350)^{A}	360^{A}	310	340^{A}
14	310	300	260	290	320	260	260	L	370	350	450	450	400	380	370	370	370	360	300	260	310	340	310	320^{A}
15	300	270	250	260	300	270	240^{H}	280	290	350	370	390	370	390	370	380	350	330	310	280	260	300	300	300
16	290	310	300	270	290	250^{H}	310	270	360	380	360	410	390	390	390	360	350	330	310	280^{A}	340^{A}	330^{A}	360^{A}	340^{A}
17	310^{A}	270	260	270	300	290	290	260^{H}	310	410	410	410	380	370	360	360^{A}	A	340	300	270	260	330	330	310
18	250	260	330^{A}	300	310	260	260	270	270^{H}	460	330	380	340	390	380	350	310	280	290	270	260	300	320	310
19	260	280	280	260	280	270	270	240	270	330	410	400	350	350	350	320	320	290	280	A	330^{A}	350^{A}	300	280
20	310	310^{A}	320	300	(320)^{F}	260	280	A	C	440	[430]^{A}	420	350	380	370	360	340	340^{A}	260	250	300	300	330^{A}	330
21	350^{F}	290	280	260	280	260	270	250^{H}	320	320	340	360	350	330	340	340	310	270	A	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	380	370	330	320	290	270^{L}	270	270	280	270^{A}	280
23	310	280^{A}	310^{A}	240	300	270	280	270	270	C	C	A	360	370	350	320	380^{A}	310^{A}	280^{A}	280^{A}	270^{A}	270^{A}	300	310^{A}
24	310	330	290	330	310	360	300	320	360	340	390	A	A	340	360	340	320	330^{A}	310	270	280^{A}	290	310	330^{A}
25	330	350^{A}	280	280	240	270	260	260	260	280^{H}	340	370	340	330	350	340	300	330	280	260	300^{A}	320	330	330^{A}
26	270	310^{A}	230	250	280^{F}	430^{A}	380	380	360	400	500^{K}	490^{K}	450^{K}	430^{K}	[470]^{A}	510^{K}	420^{K}	370^{K}	310^{K}	270^{K}	330^{K}	370^{A}	310^{K}	270^{K}
27	320^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	420^{K}	430^{K}	370^{K}	370^{K}	380^{K}	320	290	300^{A}	260	280	280	300
28	300	360^{A}	300^{A}	300^{A}	270	270	280	270	AH	370	330	370	360	340	350	310	300	290	290	250	280^{A}	[300]^{A}	310	280
29	270	310	280	210	260	270	300^{L}	300	280	320	320	400	320	310	330	330	310	280	280	270	260^{A}	310^{A}	330^{A}	310
30	300	310	280	300	280^{A}	310^{A}	270	280	310	330	380^{A}	360	400	380	440	370	320	310	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	410	380	370	C	C	320	300	260	270^{A}	300	310	310^{A}	330^{A}
Mean Value	310	310	290	290	290	280	290	290	320	360	380	410	380	380	370	360	340	320	300	280	290	310	320	310
Median Value	310	300	300	290	300	270	290	280	320	350	390	400	380	380	370	350	340	330	300	270	300	300	310	310
Count	29	28	28	28	28	28	28	25	24	25	27	26	27	30	29	28	28	29	28	25	28	26	27	29

h'F2 | Sweep 1.0 Mc to 17.2 Mc in 2 min | ☐ Manual ☒ Automatic | K 3

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

IONOSPHERIC DATA

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Jul. 1956

foF1

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						3.0	4.0	A	A	A	5.1	A	A	5.0	A	A	A	A	A					
2							4.4	4.5^{L}	A	A	A	A	A	5.5	[5.4]^{A}	5.2	A	A	4.1					
3						L	4.0	4.5	A	5.0	5.0	A	B	4.9	4.9	A	A	A	A					
4						3.3^{L}	4.0^{L}	4.7^{L}	4.8	5.3	B	5.5	4.9	A	A	5.0	[4.8]^{A}	4.5^{L}	4.0					
5							L	4.9^{L}	[5.2]^{A}	5.5	A	A	5.6	5.6	A	A	A	A						
6						L	4.3	A	A	A	5.5	A	B	A	A	A	5.1	A						
7						L	L	A	A	A	A	A	A	5.4	A	5.1	5.5	4.7	3.9					
8							4.5	4.6	5.0	5.6	A	A	C	C	C	C	C	C	C					
9							L	4.7	C	A	6.0	[6.0]^{A}	5.9	5.6	[5.5]^{A}	5.4	5.1	L	A					
10						Q	L	4.3^{L}	A	5.3	A	A	5.9	5.3	5.8	5.4	5.0^{L}	A	L					
11						Q	L	L	L	5.1	[5.4]^{A}	5.8	5.0	5.5	5.7	A	A	A	A					
12							L	5.0^{L}	A	A	6.0	[5.8]^{A}	5.5	5.8	5.7	5.0	5.4	A	L					
13						Q	Q	L	5.5	A	A	5.5	5.7	5.9	5.9	5.6	A	A	A					
14						Q	Q	L	5.5	5.5	6.5^{H}	6.3	6.0	6.0	5.5	5.5	5.1	5.0^{H}	L					
15							Q	L	5.5^{L}	6.0	5.5	5.9	5.9	6.5	5.5	5.7	5.2	5.4	4.0^{L}					
16							L	5.0	6.2^{L}	6.1^{H}	5.5	6.1^{H}	6.0	A	6.0	5.5	5.0	4.6	4.4^{L}					
17							L	L	L	6.1^{H}	5.7^{H}	6.0	5.5	5.7	5.5	A	A	5.0	L					
18							3.5	4.5	5.2	6.0	5.3	5.4	5.5	5.5	5.5	5.2	4.8	4.3^{L}	L					
19							L	4.5	4.9	6.2^{H}	6.1	A	5.6	5.4	5.4	A	5.0	L	A					
20						Q	L	A	C	A	A	5.7	A	6.2	A	5.1	4.8	A	L					
21							L	Q	A	A	A	A	A	5.2	5.5	L	A	A	A					
22						C	C	C	C	C	C	C	C	6.0	5.4	5.1	5.0	4.4^{L}	L					
23						Q	L	A	A	C	C	A	5.6	5.4	5.4	A	A	A	A					
24						3.5	L	A	L	A	A	A	A	A	A	5.4	A	A	4.0					
25							L	L	L	L	5.2	5.6	5.5	5.5	5.2	5.0	A	L	A					
26						A	3.7	A	A	A	B	B	5.0	4.9	[4.8]^{A}	4.7	4.5	4.2	3.5^{L}					
27						C	C	C	C	C	C	C	A	A	5.0	[4.8]^{A}	4.5	A	L					
28							L	4.5^{L}	A	A	A	5.4	A	A	5.5	5.0	4.7	L	3.5^{L}					
29						Q	L	4.4^{L}	4.9	5.0	5.2	6.0	5.0	5.5	5.5	5.5	5.0^{L}	L	L					
30							Q	4.4^{L}	A	A	A	5.1	5.4	5.4	5.3	5.0	4.8	4.3^{L}	C					
31						C	C	C	C	C	C	5.4	5.3	5.3	A	C	A	A	Q					
Mean Value						3.3	4.1	4.6	5.3	5.6	5.6	5.7	5.5	5.5	5.5	5.2	5.0	4.6	3.9					
Median Value						3.3	4.0	4.5	5.2	5.5	5.5	5.8	5.5	5.5	5.5	5.2	5.0	4.6	4.0					
Count						3	8	14	10	13	14	16	19	24	22	20	18	10	8					

foF1

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

K 4

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

IONOSPHERIC DATA

Jul. 1956 | h'F1 | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

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

h'F1 | Sweep 1.0 Mc to 17.2 Mc in 2 min | ☐ Manual ☒ Automatic | K 5

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

IONOSPHERIC DATA

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Jul. 1956

foE

135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						1.8	2.4	3.0	3.5	3.5	3.7	3.9	3.7	3.9	3.8	3.4	A	A	A					
2							2.5	3.0	3.4	3.7	3.9	[3.8]^{A}	3.7^{B}	3.8	3.8	3.6	3.3	2.9	A					
3						A	2.4	3.1	3.5	3.6	3.8	3.8	3.9	3.8	3.6	3.5	3.3	A	A					
4						B	2.6	3.1	3.4	3.8	3.8	(3.9)^{B}	3.8	3.8	3.7	3.5	3.1	2.7	2.2					
5							2.3	2.8	3.1	3.3	3.3	3.4	3.3	3.3	3.4	A	A	A						
6						1.9	2.5	3.0	3.5	3.6	3.9	A	B	3.9	3.5	3.3	[3.2]^{A}	3.0						
7						1.7	2.6	3.1	3.2	3.5	3.9	4.0	4.2^{B}	4.0	3.9	3.7	3.5	3.1	2.3					
8							A	A	A	A	C	A	C	C	C	C	C	C						
9							C	A	C	3.8	[3.8]^{A}	3.9	[3.8]^{A}	(3.8)^{B}	3.8	3.8	3.4	2.9	A					
10						1.8	A	A	3.4	3.5	A	A	A	A	A	3.8	3.5	3.0	A					
11						1.7^{B}	2.6	3.3	3.4	A	A	A	A	A	A	A	A	A	A					
12							A	A	3.7	3.9	3.8	3.9	[3.8]^{A}	(3.8)^{A}	3.8	A	A	2.7	2.5					
13						1.9	(2.6)^{B}	3.1^{A}	3.6	[3.8]^{A}	3.9	3.9	[3.9]^{A}	3.9	A	A	3.3	A	A					
14						B	2.9	3.2	3.5	3.7	3.8	3.9	4.1	3.8^{B}	3.9^{B}	3.6	3.5	3.3	2.1					
15							A	3.0	A	3.7^{B}	3.7^{B}	3.9	3.9	(3.9)^{A}	4.0	(3.5)^{A}	A	A	A					
16							A	3.1^{A}	3.5	3.8	3.8	3.8^{B}	B	B	3.9	3.7	3.5	3.1	A					
17							2.5	[3.0]^{B}	3.6	3.8	3.9	3.9	3.9	3.9	3.9	A	A	A	A					
18							B	3.2	3.4	3.7	3.8	A	4.0	3.9	3.7	3.4	3.3	A	A					
19							>2.4^{B}	3.1	3.5	3.7	3.8	3.8	3.5	A	A	A	3.4	2.9	A					
20						1.8	2.7	3.1	C	3.8	3.8	3.8	[3.8]^{B}	3.9	3.9	3.8	3.5	2.9	A					
21							2.7	3.3	3.5	3.7	3.6	A	A	A	A	A	A	A	A					
22							C	C	C	C	C	C	C	3.7	3.9	3.8	A	A	2.3					
23						1.7	2.6	3.1	3.5	C	C	A	A	4.0	(3.6)^{A}	A	A	A	A					
24						1.7	2.5	3.0	3.3	[3.6]^{A}	3.8	4.0	(3.9)^{A}	[3.8]^{A}	3.8	A	A	(2.8)^{A}	A					
25							A	B	A	A	A	B	3.9	3.9	3.9	3.8	3.3	2.9	2.0					
26						1.6^{B}	2.6	3.0	3.5	3.4	3.7^{B}	3.8^{B}	A	3.5	A	3.8	3.2	3.0	A					
27						C	C	C	C	C	C	C	A	A	3.8	3.8	3.5	A	A					
28							2.6	3.0	3.4	3.6	3.8	3.8	3.6	3.5	[3.6]^{A}	3.7	(3.4)^{A}	A	2.0					
29						1.8^{H}	B	A	3.4	3.6	3.7	3.9	3.9	3.9	3.8	3.4	3.3	A	A					
30							2.7	2.9	3.5	3.7	3.8	3.9	3.9	3.8	3.9	3.8	3.3	2.8	A					
31							C	C	C	C	C	B	A	3.9	3.8	C	A	A	A					
Mean Value						1.8	2.6	3.1	3.4	3.7	3.8	3.9	3.8	3.8	3.8	3.6	3.4	2.9	2.2					
Median Value						1.8	2.6	3.1	3.5	3.7	3.8	3.9	3.9	3.8	3.8	3.7	3.3	2.9	2.2					
Count						11	18	22	23	24	23	20	20	24	24	20	19	15	7					

foE

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

K 6

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

IONOSPHERIC DATA

Jul. 1956 | R'E | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

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

R'E

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

K 7

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

IONOSPHERIC DATA

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

Jul. 1956 | fEs | 135° E Mean Time

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	4.0	2.9	4.8	4.4	3.9	3.8	4.2	6.5	8.6	10.5	5.3	4.5	5.8	6.2	7.5	9.5	10.0	9.5	4.5	5.5	3.8	2.9	6.5Y	2.7
2	6.9Y	5.8	9.0	3.3	2.6	3.0	4.2	5.0	6.8	6.0	6.1	10.4	9.9	G	11.3	6.0	7.0	8.4	10.2	10.6	11.3	6.5	4.9	6.0
3	4.8	3.1	3.2	4.4	3.6	4.0	G	4.5	5.8	5.5	G	6.3	4.6	4.1	3.9	6.7	6.5	4.6	5.2	5.9	4.1	2.9	3.7	3.0
4	3.2	3.4	2.4	3.7	5.0Y	G	3.5	3.9	4.2	G	5.9	G	G	6.4	6.6	6.0	8.2	4.3	3.0	E	3.2	2.5	5.7	4.3
5	5.7	4.5	4.5	3.2	2.9	3.8	3.6	3.7	6.0	5.1	11.0	10.0	6.0	5.6	9.0	9.0	8.6	11.0	6.4	3.7	5.7	8.4	7.5	5.9
6	3.7	3.5	3.5	3.9	2.4F	2.0	3.6	7.5	6.5	7.2	6.0	10.0	B	6.4	6.4	8.4	4.4	7.1	8.4	8.9	13.0	6.9	5.6	4.4
7	4.4	7.3	5.6	4.6	12.6	2.1	4.8	6.3	9.6	6.9	6.6	6.5	6.7	5.8	5.7	5.5	5.7	5.8	5.8Y	4.4	5.5	6.6	9.0	7.0
8	3.9	3.8	5.5	3.8	4.2	2.9	3.9	3.7	5.8	4.9	C	>7.0C	C	C	C	C	C	C	C	C	4.7	C	C	5.5
9	4.7	5.5	4.2	3.0	4.2	3.5	C	5.8	C	11.0	12.0	9.5	6.1	G	8.0	G	5.7	3.5	7.2	3.5	7.0	5.8	5.6	6.0
10	4.8	3.5	3.5	3.5	3.5	2.3	3.7	5.7	9.4	10.4	6.9	12.5	6.5	6.1	5.5	3.9	3.8	6.0	5.5Y	10.0	3.5	8.5	4.5	3.5
11	7.0	4.8	4.8	3.8	2.5	3.1	3.8	5.5	5.5	4.2	7.2	5.6	5.4	4.4	6.4	7.2	6.4	5.7	5.7	3.5	5.7	4.4	2.9	6.5
12	5.9	6.5	4.3	4.8	3.9	4.6	3.8	4.4	6.3	7.2	10.0	10.2	8.0	7.9	5.7	6.2	6.4	8.0	3.5	3.4	2.9	3.6	6.5	9.0
13	6.8	4.4	9.0	7.0	4.5	3.0	G	3.9	5.0	6.9	6.2	9.5	8.9	5.9	7.0	10.4	11.5	6.7	9.5	10.1	6.0	5.8	4.3	5.3
14	3.9	3.7	2.9	3.1	2.9	B	3.9	3.8	4.2	7.2	4.5	5.2	5.6	G	G	3.8	3.9	3.8	4.5	3.5	3.0	2.5	E	6.0Y
15	2.6	3.2	2.3	3.0Y	2.9	3.9	3.8	3.7	3.5	G	G	6.5	6.5	8.0	5.8	5.7	5.5	4.0	3.6	E	E	1.9	2.6	2.1
16	E	3.0	2.5	3.2	3.0	3.0	3.8	3.9	7.4	6.2	6.5	6.5	B	6.4	9.7	4.2	6.6	5.8	2.5	5.7	7.0	5.7	7.9	7.0
17	4.5	2.9	2.8	4.0Y	2.5	B	G	4.5	4.3Y	5.2	5.8	G	4.4	G	G	8.5	7.8	3.9	3.7	2.7	E	1.9	2.4	2.4
18	5.8	3.8	4.2	2.4	3.0	E	B	4.7	5.5	5.8	6.7	3.8	5.8	6.6	G	3.8	3.6	3.6	5.8	1.9	3.8	2.4	4.3	5.7
19	E	2.1	1.7Y	2.3Y	2.2	2.0	G	3.7	3.8	5.8	6.4	7.0	10.1	6.5	3.8	5.6	4.0	6.4	6.2	7.5	4.4	6.0	3.3	3.8
20	3.5	4.6	6.5	7.0	2.9	3.2	3.9	8.5	C	7.4	7.0	7.0	8.6	5.5	12.5	G	G	10.0	6.5	3.6	3.8	4.0	3.5	5.8
21	4.5	4.4	4.4	2.5	3.7	2.8	3.8	6.1	6.4	6.4	6.3	8.0	7.5	7.0	6.4	6.2	13.0	10.3	9.5	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	4.3	5.0	G	4.4	3.7	3.4	2.5	4.0	2.3	3.7	3.0
23	3.0	7.0	6.8	3.0	2.8	2.8	4.0	5.0	6.5	C	10.3	8.5	5.5	6.4	6.4	8.5	9.2	10.2	6.2	6.9	5.7	3.5	3.0	3.9
24	4.5	E	3.7	7.0	2.3	2.5	6.0Y	6.5	5.7	7.3	12.0	10.5	8.3	10.5	10.0	10.0	8.5	6.1	4.1	5.9	6.7	4.5	4.4	5.9
25	3.0	3.9	4.0	4.4	2.2	2.8	4.4	6.1	3.7	5.9	3.9	G	G	G	6.2	8.0	5.9	7.0	4.3	3.9	3.8	3.2	5.9	6.0
26	3.8	3.5	3.0	3.2	4.6	5.8	3.7	7.0	5.8	5.8	G	G	3.8	4.5	6.9Y	G	3.8	4.4	3.8	6.0	5.8	6.5	3.4	4.2
27	3.5	C	C	C	C	C	C	C	C	C	C	C	4.3	9.3	G	5.8	4.5	6.5	3.8	4.2	3.0	E	E	2.5
28	3.8	6.0	5.8	4.3	4.0	3.9	3.9	5.5	8.0	5.4	6.1	6.0	6.9	4.5Y	5.7	G	3.7	6.4	5.8Y	3.5	6.5	8.9	3.1	E
29	E	3.4	3.0Y	2.3	2.1Y	1.8	G	3.8	3.8	G	G	5.2	4.5	8.2	6.0	9.0	4.5	4.3	4.4	3.2	5.8Y	6.6	5.9	3.4
30	E	3.9	4.6	7.0	7.0	4.2	3.7	3.8	6.0	6.1	7.0	5.8	6.7	6.6	G	G	3.8	5.7	>4.9C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	G	6.0	6.0	7.9	C	9.5	7.0	7.0	4.3	3.7	3.8	4.4	4.2
Mean Value	4.5	4.2	4.4	4.0	3.7	3.2	4.0	5.1	6.0	6.7	7.2	7.6	6.5	6.4	7.0	6.9	6.4	6.3	5.5	5.2	5.3	4.8	4.8	4.8
Median Value	3.9	3.8	4.2	3.8	3.0	3.0	3.8	4.8	5.8	6.0	6.3	6.5	6.0	6.0	6.3	6.0	5.8	6.0	5.5	4.0	4.4	4.2	4.4	4.4
Count	29	28	28	28	28	26	26	28	26	27	27	29	27	30	30	29	30	30	29	28	29	28	28	29

fEs

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

K 8

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

IONOSPHERIC DATA

Jul. 1956 | (M3000)F2 | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(2.7)^{F}	2.8^{P}	2.7	2.5^{F}	2.6	2.9	2.6^{K}	2.7^{K}	2.5^{K}	A^{K}	G^{K}	2.5^{K}	2.4^{K}	2.6^{K}	2.7^{K}	A^{K}	A^{K}	A^{K}	2.8^{K}	3.0	2.8	2.6	2.6	2.6
2	2.6	2.6	2.7	2.7^{F}	(2.8)$^{J}_{F}$	3.0	3.0	2.8	2.7	3.1	3.0	A	A	2.8	[2.8]^{A}	2.9	2.8	2.8	2.9	2.8	[2.8]^{A}	2.8	2.8	(2.9)^{P}
3	2.9^{P}	(2.9)$^{J}_{F}$	2.8^{F}	2.7^{F}	2.7^{F}	2.9^{F}	2.8	2.9	2.7	2.7	2.5	2.4	2.6	2.7	2.7	2.9	2.8	2.8	2.8	2.8	2.7	2.6	2.6	2.8
4	2.7	2.7^{V}	3.0	2.7^{F}	2.7^{F}	2.8	3.1	3.0	3.0	2.9	2.9	2.8	2.7	2.7	2.7	2.7	[2.8]^{A}	2.9	2.9	3.1	2.7	2.8	2.7^{P}	2.9
5	2.7	2.8	2.7	2.8	2.7^{F}	2.7	2.9	2.9	2.7	2.7	[2.8]^{A}	2.8	2.6	2.8	2.8	2.7^{P}	2.8	[2.9]^{A}	3.0	2.9	2.6^{F}	2.7^{F}	2.7	2.7$^{F}_{P}$
6	3.0	2.8	2.8	2.8^{F}	2.5	2.6	2.7	2.8	2.9	2.8	2.6	2.9	2.8	2.8	2.7	[2.8]^{A}	2.8	2.8	2.9	A	2.6	2.6	2.6	2.8
7	2.8	2.8	2.7	2.6	2.8^{F}	2.8^{F}	2.6	2.8	[2.8]^{A}	2.7	2.6^{P}	2.6	2.7	2.7	2.8	2.9	2.9	2.9	3.0	2.9	2.8	2.7	2.8^{F}	[2.8]^{A}
8	(2.8)$^{J}_{F}$	2.8^{F}	2.6	2.7^{F}	2.6	2.7	2.9	2.9	2.7^{H}	2.6	2.7	C	C	C	C	C	C	C	C	C	2.8	C	C	2.8^{P}
9	2.9	2.8	2.8	2.7	2.7	3.0	2.9	3.1	C	A	2.4	2.5	2.5	2.6	2.8	2.8	2.7	2.7	2.7	2.9	2.8	2.6	2.6	2.7
10	2.8	2.7	2.7	2.7	2.7	2.7	2.8	3.4	2.7	2.8	2.5	[2.5]^{A}	2.5	2.7	2.7	2.8	2.7	2.9	3.0	2.7	2.7	2.6	2.7	2.4^{F}
11	2.6	2.8^{F}	2.9$^{Z}_{F}$	2.8^{F}	2.9	2.8	2.8	2.8	2.7	2.7^{H}	2.5	2.6	2.5^{H}	2.5	2.6	2.6	2.7	2.7	2.8	2.9	2.7	(2.7)$^{J}_{P}$	2.6	2.6
12	2.6	2.7	2.7	2.6	2.7^{F}	2.6	2.8	2.9	3.0	2.7	2.7	2.6	2.7	2.6	2.7	2.7	2.7	2.7	2.6	2.8	2.7	2.5	2.6	2.8
13	2.7	2.8	2.8^{F}	2.8^{F}	2.7^{F}	2.6	2.6	2.6	2.8	2.7	2.5^{H}	2.6	2.7	2.6	2.5	2.7	[2.8]^{A}	2.8	2.8	2.8	2.6	2.6	2.6	2.6
14	2.7	2.8	2.9	2.5	2.5	2.7	2.6	2.5	2.7	2.8	2.5	2.5	2.6	2.6	2.7	2.7	2.7	2.7	2.9	2.8	2.5	2.5	2.6	2.7
15	2.7	2.8	2.8	2.6	2.6	2.6	2.8^{H}	2.9	2.8	2.7	2.7	2.7	2.7	2.6	2.7	2.6	2.7	2.8	2.8	2.9	2.6	2.5	2.6	2.6
16	2.6	2.6	2.7	2.8	2.8	2.7^{H}	2.7	3.1	2.8	2.7	2.8	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.5	2.6	2.5	2.6
17	2.7	2.7	2.8	2.8	2.7	2.7	2.8	2.8^{H}	2.7	2.6	2.5	2.6	2.6	2.7	2.8	2.7	2.7	2.7	2.9	2.8	2.6	2.5	2.6	(2.8)^{J}
18	3.1^{P}	2.7	2.7	2.7	2.7	3.1	3.2	3.0	3.1^{H}	2.4	2.5	2.5	2.5	2.6	2.6	2.7	2.8	2.9	2.7	2.9	2.6	2.5	2.6	2.7
19	2.8	2.9	2.8	2.8	2.7	2.6	2.7	3.3^{P}	2.9	2.5	2.5	2.5	2.8	2.7	2.7	2.8	2.8	2.9	3.0	2.7	2.6	2.6	2.7	2.7
20	2.7	2.7	2.6	2.6	(2.6)^{F}	2.7	2.8	A	C	2.6	2.7	B	2.7	2.7	(2.7)$^{J}_{B}$	2.7	2.7	2.8	2.9	3.0	2.7	2.7	2.6	2.6
21	2.5	2.8	2.9	3.0^{F}	2.6	2.6	2.9	2.9^{H}	2.9	2.9	2.8	2.7	2.7	2.8	2.8	2.8	2.9	3.0	A	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	2.6	2.7	2.8	2.8	3.0	2.9	2.8	2.6	2.8	2.8	2.9
23	2.7	3.0	2.6	2.7	2.7	2.6	3.0	2.9	2.7	[2.6]^{C}	2.6	2.6	2.7	2.7	2.8	2.8	2.8	2.8	3.0	2.9	3.0	2.8	2.7	[2.7]^{B}
24	2.7	2.5	2.6	2.5	2.7	2.6	2.8	3.0	2.8	2.9	2.7	[2.8]^{A}	2.6	2.7	2.7	2.8	2.9	2.8	2.7	2.9^{P}	2.9	2.5^{Z}	2.7	2.7
25	2.5	2.6	2.7	2.8	2.7	2.9	2.8	3.0	2.8	2.8^{H}	2.8	2.7	2.8	2.8	2.8	2.7	2.8	2.8	2.9	3.0	2.7	2.6	2.6	2.6
26	2.7	2.6	2.7^{Z}	2.9	2.5	2.5	2.6	2.5	2.6	2.6	2.5^{K}	2.5^{K}	2.6^{K}	2.6^{K}	[2.6]$^{A}_{K}$	2.5^{K}	2.7^{K}	2.8^{K}	3.0^{K}	2.8^{K}	2.5^{K}	2.5^{K}	2.7^{K}	2.7^{K}
27	2.6^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	2.7^{K}	2.7^{K}	2.9^{K}	2.8^{K}	2.8^{K}	2.9	2.9	2.8	2.7	2.7	2.6	2.6^{V}
28	2.5	2.6$^{Z}_{F}$	2.8^{F}	2.6	2.8	2.9	3.2	3.2	2.7^{H}	2.8	2.8	2.8	2.8	2.8	2.8	3.0	3.0	2.9	3.0	2.9	2.7	[2.7]^{A}	2.7	(2.8)^{J}
29	2.8	2.7	2.7	2.7	2.8	2.7	2.8	3.0	3.1	2.8	3.1	2.7	2.8	2.9	2.9	2.8	2.9	3.0	2.8	3.0	2.9	2.7	2.7	2.7
30	2.8	2.8	2.7	2.8	2.6	2.7	3.1	3.1	2.9	3.0	2.9	2.8	2.7	2.9	2.7	2.8	3.0	2.9	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	2.7	2.8	2.9	C	C	(3.0)^{J}	3.0	2.8	2.8	2.6	2.7	2.6	2.5
Mean Value	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.9	2.8	2.7	2.7	2.6	2.7	2.7	2.7	2.8	2.8	2.8	2.9	2.9	2.7	2.6	2.7	2.7
Median Value	2.7	2.8	2.7	2.7	2.7	2.7	2.8	2.9	2.8	2.7	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.8	2.9	2.9	2.7	2.6	2.6	2.7
Count	29	28	28	28	28	28	28	27	26	26	28	26	28	30	29	28	29	29	28	27	29	28	28	29

(M3000)F2 | Sweep 1.0 Mc to 17.2 Mc in 2 min | ☐ Manual ☒ Automatic

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

IONOSPHERIC DATA

Jul. 1956 | fminF | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.0	1.7	[2.2]^{A}	2.6^{A}	1.5	2.9^{A}	3.6^{A}	5.0^{A}	5.0^{A}	[4.7]^{A}	4.4	5.0^{A}	5.0^{A}	4.3	5.0^{A}	A	A	A	4.0^{A}	4.4^{A}	3.0^{A}	1.8	1.7	1.8
2	1.8	4.0^{A}	4.0^{A}	E	A	2.5	2.8	4.2^{A}	6.0^{A}	4.9^{A}	5.0^{A}	A	A	4.1	[4.6]^{A}	5.0^{A}	5.4^{A}	6.5^{A}	3.4	4.0^{A}	[4.5]^{A}	5.0^{A}	4.1^{A}	3.9^{A}
3	3.6^{A}	2.1	1.8	1.5	1.7	2.1	2.8	3.9	5.0^{A}	4.2	4.5	4.9^{A}	4.9	4.3	4.1	5.9^{A}	5.5^{A}	4.4^{A}	4.9^{A}	[4.0]^{A}	3.2^{A}	2.1	3.1^{A}	1.8
4	2.0	1.8	1.0	1.7	1.4	2.1	2.8	3.3	4.1	4.0	4.1	4.2	4.1	5.8^{A}	6.0^{A}	4.9^{A}	[4.6]^{A}	4.2^{A}	2.7	1.8	2.7	1.8	2.1	3.2^{A}
5	2.7^{A}	1.7	[1.4]^{A}	1.2	1.7	2.1	2.8	3.2	4.9^{A}	4.3	[5.9]^{A}	7.5^{A}	4.9^{A}	4.9^{A}	6.4^{A}	5.5^{A}	6.2^{A}	[5.6]^{A}	4.9^{A}	3.4^{A}	3.3^{A}	A	7.5^{A}	2.0
6	1.6	1.7	2.5	1.8	E	2.0	2.9	7.0^{A}	5.3^{A}	6.2^{A}	4.9	5.9^{A}	5.7	5.9^{A}	5.8^{A}	[5.0]^{A}	4.3	5.9^{A}	7.5^{A}	6.5^{A}	3.7^{A}	2.6^{A}	3.4^{A}	2.1
7	2.1	2.7^{A}	2.7^{A}	[2.6]^{A}	2.4^{A}	2.0	4.1^{A}	4.9	A	6.1^{A}	6.0^{A}	5.8^{A}	6.3^{A}	4.9^{A}	5.0^{A}	4.4	4.9^{A}	3.9	3.5^{A}	3.3^{A}	4.0^{A}	5.0^{A}	A	A
8	2.0	2.0	3.2^{A}	2.0	2.9^{A}	2.0	3.0	4.0	4.5	4.2	5.1^{A}	5.9^{A}	C	C	C	C	C	C	C	C	3.5^{A}	C	C	2.6^{A}
9	2.5^{A}	2.5	3.5^{A}	1.4	1.5	2.0	2.9	4.5	C	A	4.9^{A}	7.5^{A}	4.9^{A}	4.1	5.7^{A}	4.0	4.9^{A}	3.2	4.9^{A}	2.1	4.9^{A}	1.7	4.0^{A}	4.9^{A}
10	4.1^{A}	2.3	2.1	2.0	1.7	2.1	3.1	3.3	5.5^{A}	4.5	5.9^{A}	[5.4]^{A}	4.9^{A}	4.9^{A}	4.9^{A}	4.1	4.1	4.9^{A}	3.0	5.0^{A}	2.1	1.7	2.6^{A}	2.3^{A}
11	A	A	A	2.6^{A}	1.7	2.2	3.2	4.1	4.0	4.6	5.7^{A}	4.8	4.6	4.9	5.4^{A}	6.0^{A}	4.9^{A}	4.9^{A}	4.9^{A}	2.6	4.1^{A}	2.9	2.0	1.7
12	4.1^{A}	4.0^{A}	1.9	1.7	[2.4]^{A}	2.7	2.9	4.1	4.9^{A}	7.0^{A}	4.9^{A}	7.5^{A}	4.9^{A}	5.3^{A}	4.9^{A}	4.9^{A}	4.9^{A}	7.5^{A}	2.7	3.3^{A}	2.0	2.3	7.5	2.4
13	2.9^{A}	3.0^{A}	A	E	1.5	2.1	3.1	3.5	4.4	6.0^{A}	5.0^{A}	5.0^{A}	5.0^{A}	4.5	4.9^{A}	4.9^{A}	[4.9]^{A}	4.9^{A}	4.7^{A}	7.3^{A}	4.9^{A}	4.9^{A}	1.6	4.9^{A}
14	2.0	2.8	1.7	1.6	1.3	2.1	3.1	3.8	4.3	4.5	5.0^{A}	5.0^{A}	5.0^{A}	5.0	4.1	4.2	4.0	3.4	3.4	2.6	2.1	1.8	1.6	[1.6]^{A}
15	1.6	1.5	1.3	1.0	1.7	2.0	2.8	3.4	4.0	4.0	4.4	5.6^{A}	5.0^{A}	5.0^{A}	4.9^{A}	4.2	3.3	3.3	3.3	1.8	1.4	1.7	1.8	1.8
16	1.6	1.5	1.0	1.7	1.9	2.0	2.9	3.5	4.7	4.0	4.9^{A}	5.0^{A}	4.9	6.0^{A}	4.9^{A}	4.4	4.2	4.3^{A}	2.6	3.5^{A}	4.4^{A}	2.6	4.4^{A}	4.9^{A}
17	3.3^{A}	1.5	1.4	1.0	E	2.1	2.8	3.3	4.5	4.9^{A}	4.6	4.9	4.9	5.0	4.3	7.4^{A}	7.5^{A}	3.4	2.7	1.9	1.6	1.7	1.8	1.6
18	2.0	2.1	2.8^{A}	1.7	1.4	2.0	2.7	3.2	4.3	4.9^{A}	5.1^{A}	5.0	5.0^{A}	4.9^{A}	4.3	4.0	3.3	3.4	3.3	1.8	1.5	1.8	1.8	2.6
19	1.5	1.7	E	1.0	E	2.1	2.9	3.4	4.0	4.5^{A}	5.2^{A}	6.0^{A}	5.0^{A}	4.9^{A}	4.2	5.0^{A}	4.2	3.7	4.5^{A}	6.4^{A}	3.3^{A}	4.1^{A}	1.6	2.6
20	2.0	3.7^{A}	1.9	1.7	1.1	2.2	3.5	A	C	6.3^{A}	7.5^{A}	5.0^{A}	6.5^{A}	5.0^{A}	5.7^{A}	4.0	4.0	[3.4]^{A}	2.7	1.9	2.7	2.7	2.6^{A}	1.9
21	2.6	2.7	1.3	2.3	1.3	2.1	3.1	4.6	5.9^{A}	5.4^{A}	5.9^{A}	5.5^{A}	6.9^{A}	4.9^{A}	4.9^{A}	4.9^{A}	5.0^{A}	4.9^{A}	A	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	4.9	4.4	4.1	4.1^{A}	3.3	2.6	1.6	1.5	1.5	2.7^{A}	1.6
23	2.1	2.6^{A}	[2.1]^{A}	1.6	E	2.0	2.7	5.0^{A}	5.0^{A}	C	<7.5^{C}	7.9^{A}	5.0^{A}	4.4	5.0^{A}	5.0^{A}	8.5^{A}	A	5.0^{A}	5.0^{A}	4.1^{A}	2.6^{A}	2.1	2.5^{A}
24	1.6	1.7	E	1.3	E	1.7	3.4	5.1^{A}	5.0^{A}	5.0^{A}	6.4^{A}	[6.8]^{A}	7.5^{A}	5.5^{A}	5.0^{A}	5.0^{A}	5.4^{A}	[4.2]^{A}	2.9	2.6	4.0^{A}	2.7	2.5	4.0^{A}
25	1.8	2.8^{A}	1.7	2.0	1.3	1.8	3.0	4.1	4.0	4.2	4.1	4.6	5.0	5.0	5.0^{A}	4.4	5.0^{A}	4.1^{A}	3.3	2.7	2.6^{A}	2.3	2.1	2.7^{A}
26	2.0	2.5^{A}	1.9	1.9	1.7^{F}	5.0^{A}	2.9	5.0^{A}	5.0^{A}	5.0^{A}	5.0	5.0	4.4	4.1	[4.2]^{A}	4.2	4.1	4.0^{A}	3.2^{A}	2.0	2.2	2.7^{A}	2.0	1.7
27	1.5	C	C	C	C	C	C	C	C	C	C	C	5.0	5.0^{A}	4.2	5.0^{A}	4.1	5.0^{A}	2.6	4.1^{A}	2.1	1.5	1.5	1.7
28	2.0	3.3^{A}	3.4^{A}	A	1.9	2.6	2.9	4.1^{A}	5.6^{A}	5.0^{A}	5.1^{A}	5.0^{A}	5.4^{A}	5.0^{A}	5.0^{A}	4.1	4.0	2.8	2.9	2.0	2.7^{A}	[2.1]^{A}	1.5	1.5
29	1.6	1.6	1.6	1.0	1.3	1.8	2.8	3.3	3.7	4.3	4.5	5.0^{A}	5.0^{A}	5.0^{A}	4.3	5.0^{A}	4.0	3.3	3.4	2.6	3.0^{A}	3.2^{A}	3.2^{A}	2.1
30	1.7	1.6	1.4	1.8	2.1^{A}	2.9^{A}	2.9	3.2	5.0^{A}	5.0^{A}	6.4^{A}	4.2	5.0^{A}	5.0^{A}	4.2	3.8	3.4	3.8^{A}	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	5.0	5.1^{A}	5.0^{A}	C	C	5.0^{A}	4.8^{A}	2.9	2.8^{A}	2.1	1.8	A	2.6^{A}
Mean Value	2.2	2.3	2.1	1.7	1.7	2.3	3.0	4.1	4.7	4.9	5.2	5.5	5.2	4.9	4.9	4.8	4.7	4.3	3.7	3.3	3.0	2.5	2.8	2.5
Median Value	2.0	2.1	1.8	1.7	1.5	2.1	2.9	4.0	4.9	4.8	5.0	5.0	5.0	5.0	4.9	4.9	4.6	4.2	3.3	2.8	3.0	2.3	2.1	2.2
Count	28	27	26	27	27	28	28	27	25	26	27	28	28	30	29	28	29	28	28	28	29	27	26	28

fminF

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

K 10

21

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

IONOSPHERIC DATA

Jul. 1956 | fminE | 135° E Mean Time | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.5	1.6	1.0	E	E	1.5	1.8	1.6	2.0	2.0	2.0	2.1	2.3	2.0	2.2	1.9	1.8	1.8	1.5	1.6	1.6	1.7	1.5	1.5
2	1.6	1.3	E	E	E	1.5	1.7	1.9	2.1	1.9	2.2	2.0	2.1	3.2	2.1	2.4	2.0	1.7	1.7	1.6	1.5	1.7	1.6	1.5
3	1.5	1.5	E	E	E	1.5	1.8	2.0	1.8	2.1	2.7	2.1	2.1	2.1	2.1	2.1	1.5	1.6	1.5	1.5	1.5	1.5	1.7	1.5
4	1.4	1.4	E	E	E	1.5	2.0	2.1	2.1	2.0	2.1	2.2	2.1	1.9	1.8	1.8	1.5	1.8	1.5	E	1.5	1.5	1.6	1.5
5	1.4	1.4	E	E	E	1.4	1.6	1.4	1.6	1.5	2.1	2.1	2.8	2.2	1.8	1.7	2.1	1.7	1.7	1.5	1.7	1.6	1.6	1.6
6	1.5	1.4	E	E	E	1.5	1.9	1.6	2.7	1.6	2.1	2.1	B	2.5	2.1	2.4	1.7	1.8	1.8	1.7	1.5	1.5	1.7	1.6
7	1.3	1.5	E	E	1.0	1.5	1.7	1.3	1.8	2.6	1.6	1.8	2.6	2.2	1.9	2.0	1.7	1.7	1.7	1.5	1.4	1.5	1.6	1.6
8	1.5	1.5	E	E	E	1.6	1.7	1.8	1.7	2.0	[2.0]C	2.1	C	C	C	C	C	C	C	C	<2.4C	C	C	1.7
9	1.7	[1.6]C	1.5	1.4	1.0	1.6	C	2.0	C	1.8	2.1	2.2	2.1	3.3	2.2	2.1	1.3	1.5	1.4	1.4	1.5	1.5	1.5	1.5
10	1.5	1.5	1.4	E	E	1.6	1.7	1.5	2.2	2.1	2.1	2.3	2.2	2.7	2.3	2.1	1.8	1.8	1.8	1.5	1.6	1.5	1.7	1.6
11	1.5	1.5	E	1.0	E	1.7	1.6	1.7	1.7	2.1	2.1	2.4	2.4	2.3	2.6	2.1	1.5	1.7	1.5	1.5	1.7	1.7	1.6	1.5
12	1.5	1.4	E	E	E	1.5	1.6	2.0	2.7	2.1	2.2	2.2	2.6	1.7	1.5	1.7	1.7	1.5	1.5	1.6	1.5	1.5	1.5	1.6
13	1.3	1.5	E	E	E	1.4	2.0	1.8	2.1	2.1	2.5	2.7	2.7	2.2	2.1	2.1	1.8	1.6	1.6	1.5	1.5	1.7	1.6	1.5
14	1.3	1.6	1.0	E	E	B	1.6	1.6	2.4	2.0	2.0	2.1	2.0	2.5	2.8	2.1	2.1	2.0	1.8	1.6	1.6	1.6	E	1.5
15	1.4	1.5	E	E	E	1.4	1.6	1.8	2.5	1.6	2.0	1.6	2.0	1.8	2.0	2.0	1.7	1.8	1.6	E	E	1.7	1.8	1.7
16	E	1.5	E	E	E	1.5	1.8	1.8	1.8	1.9	1.6	2.0	[2.0]B	2.1	2.1	2.1	1.7	2.1	1.8	1.6	1.5	1.5	1.4	1.5
17	1.5	1.5	E	E	E	B	1.6	3.3	2.1	2.7	2.1	2.1	2.7	1.8	2.1	2.1	1.9	1.7	1.6	1.5	E	1.7	1.7	1.3
18	1.5	1.5	E	1.4	1.0	E	B	1.5	1.7	2.1	2.5	1.7	2.8	2.1	1.7	2.1	2.8	2.1	2.1	1.6	1.6	1.6	1.5	1.5
19	E	1.5	E	E	E	1.5	1.5	1.7	1.5	2.3	2.7	2.3	1.7	2.6	2.1	1.8	2.1	1.8	1.5	1.5	1.7	1.4	1.7	1.5
20	1.3	1.2	E	E	1.2	1.7	2.1	1.6	C	2.8	2.1	2.2	2.1	2.2	2.5	1.7	1.6	2.0	1.5	1.2	1.6	1.6	1.3	1.5
21	1.5	1.3	E	E	E	1.5	1.8	1.6	1.8	2.0	2.1	2.0	2.3	2.6	2.2	1.7	1.8	1.7	1.5	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	2.1	2.1	1.7	1.6	2.1	1.5	1.5	1.5	1.5	1.6	1.8
23	1.3	1.3	E	E	E	1.5	1.6	1.7	1.8	C	<7.5C	3.4	3.2	2.7	1.7	2.1	1.5	1.8	1.7	1.6	1.5	1.5	1.5	1.5
24	1.5	E	E	E	E	1.3	1.6	2.1	3.1	2.0	2.1	2.2	2.3	2.2	2.3	1.6	2.0	1.6	1.7	1.5	1.6	1.3	1.5	1.6
25	1.5	1.5	E	E	E	1.3	1.7	3.0	2.5	1.8	1.6	2.4	2.1	2.2	2.1	2.7	1.6	1.6	1.3	1.6	1.5	1.4	1.5	1.6
26	1.3	1.4	E	E	E	1.6	1.7	1.4	2.1	1.6	2.1	2.8	1.5	2.0	2.1	2.2	2.8	2.1	1.7	1.5	1.6	1.6	1.5	1.5
27	1.6	C	C	C	C	C	C	C	C	C	C	C	1.6	2.1	3.3	1.8	2.8	2.1	1.7	1.5	1.6	E	E	1.7
28	1.6	1.4	E	1.0	E	1.3	1.7	1.7	2.1	2.1	2.1	2.0	2.2	1.8	2.0	2.1	2.0	1.5	1.6	1.5	1.4	1.5	1.5	E
29	E	1.6	1.4	1.0	1.0	1.7	1.7	1.7	1.3	1.6	1.6	1.7	1.9	1.8	2.1	1.5	1.5	2.1	1.7	1.4	1.5	1.5	1.6	1.6
30	E	1.4	E	E	E	1.5	1.7	1.6	1.5	1.8	2.1	2.4	2.2	2.1	2.2	1.6	1.7	1.5	1.6	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	3.3	3.3	2.5	2.1	[2.5]C	2.9	2.1	1.7	1.8	1.5	1.5	1.5	1.6
Mean Value	1.5	1.5	1.3	1.2	1.0	1.5	1.7	1.8	2.0	2.0	2.1	2.2	2.3	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.5	1.5	1.6	1.6
Median Value	1.5	1.5	E	E	E	1.5	1.7	1.7	2.0	2.0	2.1	2.1	2.2	2.2	2.1	2.1	1.8	1.8	1.6	1.5	1.5	1.5	1.6	1.5
Count	29	28	28	28	28	26	26	28	26	27	27	29	28	30	30	30	30	30	30	28	28	28	28	29

fminE

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

K 11

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

IONOSPHERIC DATA

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Jul. 1956

ypF2

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	(40)F	60P	90	70F	90	80	30K	110K	AK	AK	GK	AK	AK	UK	AK	AK	AK	AK	90K	90	110	90	80	70
2	70	100	60	80F	(70)JF	120	80	100	130	20	30	A	A	50	[70]A	90	60	[60]A	50	60	[60]A	70	70	(50)P
3	50P	(60)JF	100F	80F	70F	100F	90	90	A	U	U	U	U	50	90	60	90	70	100	90	100	100	90	70
4	80	80V	80	60F	60F	110	90	100	70	70	130	90	90	50	[70]A	90	[80]A	60	90	90	90	80	60P	100
5	100	80	100	90	90F	80	110	50	50	120	[100]A	70	100	60	120	110P	80	[80]A	80	80	50F	80F	A	50FP
6	70	70	60	90F	110	80	90	A	60	A	100	30	40	90	70	[70]A	70	80	70	A	90	80	90	70
7	90	70	90	90	70F	80F	120	110	[100]A	80	60P	80	70	90	70	50	70	70	70	70	80	90	70F	[60]A
8	(50)JF	60F	100	90F	80	100	50	90	80H	60	80	C	C	C	C	C	C	C	C	C	60	C	C	90P
9	50	100	70	80	90	100	80	70	C	A	110	100	110	100	100	100	100	100	110	90	100	70	60	80
10	70	90	110	90	80	110	110	70	90	90	90	[100]A	110	80	90	50	100	60	90	110	70	70	60	70F
11	80	60F	60ZF	70F	50	140	90	120	80	100H	130	100	110H	110	80	110	100	110	80	90	80	(50)JP	80	70
12	80	60	80	80	90F	120	80	120	90	80	100	100	70	80	110	90	60	[80]A	100	70	90	100	B	100
13	90	100	70F	100F	90F	110	170	100	100	100	100H	100	80	100	100	90	[90]A	90	90	A	130	90	80	100
14	80	90	80	90	80	120	120	100	110	80	100	90	40	70	60	80	80	70	80	80	100	90	70	60
15	70	70	60	110	100	130	80H	100	100	90	80	50	70	90	100	110	100	60	90	90	100	80	80	90
16	70	80	70	70	80	70H	80	70	80	50	70	90	100	70	90	90	90	140	80	110	80	90	100	80
17	90	90	70	80	90	80	110	100H	140	80	100	100	110	80	80	100	A	80	80	90	90	90	60	(40)J
18	50P	100	70	70	110	60	90	100	170H	140	130	140	100	90	120	100	100	90	100	70	90	80	80	90
19	110	50	70	90	80	150	130	80P	130	120	110	80	110	80	90	110	100	100	70	A	110	90	110	90
20	70	70	90	80	(80)F	110	100	A	C	A	A	B	80	100	(100)JB	120	100	100	120	120	80	90	80	60
21	110	100	70	120F	100	90	120	80H	60	80	110	130	120	90	90	90	80	90	A	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	80	110	90	90	100	80	90	80	70	100	60
23	60	50	70	130	80	110	80	80	130	[100]C	80	90	70	90	80	80	[90]A	100	80	90	80	90	50	[60]B
24	70	110	90	90	80	120	100	60	90	70	70	A	A	70	90	80	90	80	120	80P	80	110Z	100	90
25	100	130	120	110	80	100	90	70	110	80H	70	90	40	110	90	110	90	60	70	80	70	80	70	80
26	110	90	80Z	140	120	80	100	120	90	120	80K	UK	UK	UK	AK	UK	60K	90K	70K	120K	90K	60K	80K	100K
27	70K	CK	CK	CK	CK	CK	CK	CK	CK	CK	CK	CK	80K	40K	UK	60K	80K	60	80	80	130	100	100	80V
28	120	90ZF	70F	110	90	50	80	90	A	60	80	80	90	90	80	80	90	70	90	110	80	[60]A	50	(60)J
29	90	80	130	100	100	100	90	70	90	70	60	70	80	90	70	70	70	90	100	80	80	100	90	70
30	80	80	90	70	130	100	70	90	100	70	A	50	70	U	U	50	70	90	C	C	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	C	60	70	40	C	C	(60)J	80	130	100	90	70	80	130
Mean Value	80	80	80	90	90	100	90	90	100	80	90	90	80	80	90	90	80	80	90	90	90	80	80	80
Median Value	80	80	80	90	80	100	90	90	90	80	100	90	80	80	90	90	90	80	80	90	90	80	80	70
Count	29	28	28	28	28	28	28	26	23	23	24	22	24	27	25	27	28	29	28	25	29	28	26	29

ypF2

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

K 12

123

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

IONOSPHERIC DATA

Jul. 1956 | foF2 | 135° E Mean Time | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	8.1 J	8.1	A	A	S	6.6	6.8	6.8 K	7.0 K	6.0 K	A K	A K	A K	A K	A K	8.1 K	7.4 K	7.9 K	[7.9] A K	7.9	[7.2] S	6.4 J	6.9	S
2	S	A	S	6.3	6.4	5.9	6.2	7.0	8.2	8.5	8.6	[8.4] A	8.3	8.9	8.8	8.9	8.2	8.7	8.6	8.9	8.8	8.5	7.9	7.8
3	FS	A	7.2	F	F	5.4 F	(6.5) P	7.0	8.0 J	7.1	7.0	7.0	[7.4] B	7.8	8.2	8.2	8.7	8.0	7.9 J	8.1	(7.8) S	7.0	7.1 S	8.0
4	7.9 J	8.0	8.1	5.5 H	5.5 H	5.3	7.6	8.5	7.9	7.7	8.2	7.3	7.5	8.4	8.4	8.6	9.1	9.1	9.0	(9.4) J P	8.6	8.2	8.2	8.1
5	8.1	8.5 F	8.6	7.6 J	7.0	6.5	7.1	8.6	9.1	8.2 H	8.9	9.8	9.8 J	9.8	9.4	[9.4] A	9.5	9.0	[7.8] M	6.7 S	7.4	8.1	8.2	S
6	S	A	A	6.6 J F	6.0	5.7 F	7.0	7.9	7.4	A	A	8.0	8.5	9.3	9.5	9.0	9.2	9.7 S	9.8 S	A	S	8.5	8.3	8.1
7	8.3	8.1	7.9	6.8	6.2	6.2	7.3	9.0	7.3 H	8.5 H	8.5 H	9.3 P	9.8	10.8	10.6	9.8	10.0	9.6	9.5 P	8.6	A	A	SH	A
8	A	6.7	S	SH	SF	6.4	8.0	7.7	7.0 J	7.5 H	8.6	8.5 H	9.2	(9.5) P	10.6	10.6	9.3	9.2	8.6	8.6	S	S	S	S
9	8.3 J H	7.8 V	6.8	6.2	5.9 F	6.0	7.2	8.9	8.3	(7.1) P H	8.6	9.5	10.1	10.9	11.6	11.5	10.0	10.9	10.4	9.4	7.0 P H	A	S	A
10	8.1 J	8.0	S	S	C	7.2	7.8	7.7 H	8.5	8.0 H	9.5	9.5	10.1	10.8	10.5	9.5	9.2	9.3	(9.5) P	S	S	(6.9) P	S	S
11	7.8	S	S	S	7.2 H	7.3	8.5	8.8	8.3	A	A	9.0	9.5	[10.6] S	11.8	11.7	10.3	10.3	9.8	8.7	7.3	6.5	[7.4] S	8.3
12	8.5	[8.4] S	8.4	S	S	7.6	9.4	9.6 P	9.0	8.5 H	9.0 H	9.5	9.5	10.0	10.2	10.4	9.3	9.6	S	S	(9.5) P	8.5	S	S
13	8.7	8.0 J	8.7	7.0	F	F	6.5	9.0	9.8	9.4	9.5 P	10.0	10.8	11.0	11.2	11.6	11.7 S	[10.6] S	9.6 J	[9.2] S	8.8 P	(9.5) P	9.3 P	9.2
14	[9.4] S	9.5	8.9	8.0 J	7.7 J	[7.4] S	7.1	9.2 H	[9.5] S	9.8 P	9.0	[9.8] S	10.6 S	10.7	11.1	11.2	12.1	[11.4] S	10.7	8.1 J	7.7 J	7.8	S	S
15	S	7.9 J	8.2	8.4	8.1	8.1	8.7	9.5	9.1	8.8 H	8.8 H	9.4	9.8 H	10.0 H	9.8 H	10.8	[10.6] S	10.5	10.6	10.0 J	9.0	[9.2] S	9.5	[9.6] S
16	9.7	[9.4] S	9.0	8.5	6.7	6.6	7.9 J	8.5	8.9	8.6 H	8.5 H	9.0 H	9.3 H	[9.6] S	9.8 J	S	A	9.6	9.5	C	C	C	C	C
17	S	9.0	9.2	8.0	7.3	7.3	8.6	9.5	7.8	7.8 H	7.5	8.1	9.2	10.6	[9.8] S	9.1	[9.5] S	9.9	9.5	8.5	S	S	8.3	[8.4] S
18	8.5	7.4	6.5	6.8	6.8	7.4	8.1	7.9	7.4 H	7.0	8.5 H	SH	SH	S	S	S	S	10.0 S	10.0	S	S	S	S	8.9
19	[9.0] S	9.2	S	7.0	6.3	6.1	7.8	9.1	7.9	6.5	8.3	S	S	S	C	C	11.6	[10.0] S	8.5	SH	S	S	S	S
20	S	8.5 H	7.9 J	8.0 J	8.7	8.0 J	S	S	S	6.8	[7.2] A	7.7 H	11.2	10.1	10.1	10.0	11.5 S	11.0	9.7	[9.1] S	8.5	8.2	[8.1] S	8.0 J
21	8.0	[8.2] S	8.4	7.9 J	6.4	6.5	7.7	10.0 S	8.7	8.5	A	S	S	10.0	[10.2] S	10.4	S	A	S	9.5	S	S	8.4	9.9 J
22	(9.6) P S	9.3	S	7.5	5.8	5.4	7.2	9.5	8.7	8.7	7.3	9.3	10.0	10.1	10.5	[10.5] S	10.5 H	10.0	S	S	9.1	8.9	8.6	8.5
23	8.3	8.7	8.2	6.7	6.3	6.8	C	C	C	C	C	C	C	11.7	12.4	12.6	[12.6] S	12.5	A	S	8.8	S	S	8.4
24	[8.2] S	8.0	8.1 J	7.8 J	7.8	7.8 J	9.5	8.4 V	6.4	7.2 H	8.3	6.9 H	[8.4] A	10.0	10.6 H	11.0 H	[11.0] A	11.0	A	S	8.4	[7.4] S H	(6.5) P	6.8
25	6.3	6.3	6.5 F	6.4	5.8	5.4	(6.3) P	8.0	7.0	7.2 J	8.5	9.2	9.8	9.8	10.0	S	S	10.4	10.9	10.2	7.7 P	8.3	10.1	S
26	S	8.8	8.1	6.9	6.4	5.8	6.1 P	7.0	6.8	7.7 S	7.5 K	[7.0] S K	6.6 K	7.7 J K	7.0 K	6.6 K	7.2 K	7.7 K	8.4 K	6.5 K	6.3 K	6.9 H K	6.4 K	6.7 K
27	6.4 K	6.4 K	5.9 K	6.0 K	5.5 K	5.3 K	5.4 K	6.2 K	5.5 K	5.5 K	6.1 K	6.8 K	[6.9] A K	7.0 K	7.8 K	7.9 K	7.9 K	8.5	8.8	8.5	7.0	6.6	6.6	6.5
28	6.3	6.0	5.8 H	5.5	5.4	5.1	6.3	6.5	7.2 H	[7.4] C	7.5	8.5	9.1	9.5	11.1	11.8	10.5	10.0	S	S	S	6.4	7.0 S	8.1
29	7.5 J	6.5	6.6	6.4 F	4.6	4.3	6.0	8.5	7.5	7.3	7.7 J H	7.9 J	9.0	9.5 H	10.0 J	11.0	11.9	[10.8] S	9.6	8.4 H	6.7	[6.8] S	6.8	7.2
30	6.4 P	8.2	7.8	7.7	7.0	6.2	7.2	8.8	8.2	7.9	7.7	8.5	9.1	8.5	8.8	9.5	9.8	9.3	A	A	8.1	7.3 J	S	A
31	7.6	8.1	7.6 J	6.5	5.9 F	5.7 J F	6.2	7.5	7.8	6.8	8.2	8.9	8.7	9.3	9.2	9.8	9.7	8.6 J	8.3 J H	[8.3] A	8.3	8.8	8.8	9.0
Mean Value	8.0	8.0	7.8	7.0	6.5	6.4	7.3	8.3	7.9	7.7	8.2	8.6	9.2	9.7	10.0	10.0	9.9	9.8	9.3	8.6	8.0	7.8	7.9	8.2
Median Value	8.1	8.1	8.1	6.9	6.4	6.3	7.2	8.5	7.9	7.7	8.4	8.7	9.2	9.9	10.0	10.0	9.8	9.8	9.5	8.6	8.1	8.0	8.2	8.1
Count	23	27	23	25	25	30	29	29	29	28	26	26	26	28	28	27	27	30	24	20	21	22	20	19

foF2

Sweep 1.0 Mc to 22.0 Mc in 1 min ☐ Manual ☒ Automatic

Y 1

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

IONOSPHERIC DATA

Jul. 1956 | h'F2 | 135° E Mean Time | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	310	290	A	A	300^{A}	290	330	420^{K}	A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	360^{K}	300^{KA}	[290]^{KA}	280^{A}	320^{A}	(350)^{A}	320	350
2	340^{A}	310^{A}	280	270	270	280^{A}	260	300	300	340	320	A	A	350	360	330	350	330	310	270	(290)^{A}	(320)^{A}	290	290
3	330	[300]^{A}	280	250^{A}	(300)$^{A}_{F}$	280^{A}	250	290	300	380	A	450	[420]^{A}	(400)^{A}	370	350	340	320	330	290	290	(310)^{A}	340	330
4	290	290	240	220^{H}	300^{H}	310	280	250	270	[300]^{L}	320	290	440	350	390	350	340	300	290	280	250	290	320^{A}	310^{A}
5	300	320	260	240	260	290	290	270	290	270^{H}	400	340	370	340	350	[320]^{A}	300^{A}	300	280	(290)^{A}	350^{A}	350^{A}	350	300
6	350	A	A	240	(370)^{A}	300	300	290	300	A	A	400	350	350	340	350	340	340	300^{A}	[290]^{A}	280	(340)^{A}	300^{A}	320
7	300	290	290	260	290	300	300	250	250^{H}	250^{H}	270^{H}	360	370	340	340	340	320	320	290^{A}	270^{A}	[310]^{A}	(350)^{A}	(360)$^{A}_{H}$	[340]^{A}
8	330	300^{A}	300	300^{H}	300^{F}	280	250	260	300	250^{H}	(370)^{A}	270^{H}	370	390	390	350	340	350	350	270	300	310	340	[320]^{A}
9	290^{H}	270	240	300	350^{A}	280^{A}	240	250	250	[340]$^{L}_{H}$	440	400	360	[360]^{A}	(350)^{A}	320	360	310	290	240	250^{H}	[300]^{A}	340	[340]^{A}
10	350	300	290	290	[280]^{C}	270	240	240^{H}	290	240^{H}	340	370	390	350	320	340	350	340	290	290^{A}	310	320^{A}	(370)^{A}	350^{A}
11	340^{A}	290	290	300	250^{H}	260	250	260	250	A	A	400	400	400^{A}	(380)^{A}	360	320	330	290	250	250	340	310	310
12	320	300^{A}	260	280	290	290	250	240	250	270^{H}	280$^{A}_{H}$	350	430	340	360	360	380	370	320	270	(350)^{B}	270	290	290
13	340^{B}	250	300^{A}	240	250	350$^{A}_{F}$	240	290	[300]^{L}	320	[370]^{A}	420	390	390	390^{A}	360	330	310	310	250	250	290	300	300
14	290	310	250	250	290	320	240	280^{H}	270	260	A	A	350	380	370	340	320	[320]^{A}	320	250	290	340	330	300
15	290	290	260	270	300	290	250	230	290	290$^{L}_{H}$	310^{H}	340	320^{H}	300$^{L}_{H}$	310^{H}	[330]^{A}	350	360	290	270	250	320	320	290
16	290	290	290	250	240	310	250	240	290	250^{H}	270^{H}	300^{H}	270^{H}	370	380	350	[350]^{A}	350	290	[300]^{C}	300	C	C	C
17	270	300	300	270	290^{A}	280	240	250	240	240^{H}	290	430	410	340	330	360	360	320	290	270	300	310	320	290
18	240	[260]^{A}	290	300^{A}	280	250	240	240	240^{H}	290	290^{H}	300^{H}	300^{H}	370^{S}	380	350^{S}	330	290	280	240	250	290	290	290
19	270	250	250	230	270	280	240	240	240	250^{L}	400	350	340	350	C	C	310	[280]^{A}	260	250^{H}	A	A	340^{A}	A
20	A	300$^{A}_{H}$	300	290	290	290	240	A	A	350^{A}	A	LH	360	340	350	350	310	290	290	270^{A}	250^{A}	330^{A}	360^{A}	340^{A}
21	330	280	280^{A}	230	260	250	250	250	250	280	A	S	S	340	330	330	340	[320]^{A}	(290)^{A}	250^{A}	A	A	280	290
22	290	290	250	200^{A}	250	260	250	240	250	270	270	330	390	390	350	340	290^{H}	300	290	260	250	270	250	290
23	290	260	240	240	270	330	C	C	C	C	C	C	C	350	340	320	310	300	[280]^{A}	250	250	320	310^{A}	310
24	290	330	290	270	290	290	280	240	240	270^{H}	320	290^{H}	[320]^{A}	340	340^{H}	300^{H}	[300]^{A}	310^{A}	[280]^{A}	250	230	200^{H}	320	310
25	320	310	290	300	280^{A}	240	240	250	240	310	340	360	340	350	320	340	330^{A}	300	270	240	320	340	A	A
26	300^{A}	270	280^{A}	240	270^{A}	330^{A}	340^{A}	300	300	390	400^{K}	[420]$^{A}_{K}$	450^{K}	350^{K}	380^{K}	400^{K}	370^{K}	330^{K}	280^{KA}	(290)^{KA}	310^{KA}	310^{KH}	(360)^{KA}	300^{K}
27	310^{K}	340$^{A}_{K}$	(290)$^{A}_{K}$	300$^{A}_{K}$	280^{K}	320^{K}	260^{K}	330^{K}	400^{K}	440^{K}	440^{K}	440^{K}	[400]$^{A}_{K}$	350^{K}	380^{K}	370^{K}	380^{K}	310	290	260	240	260	290	300^{A}
28	300^{A}	290	290^{H}	280	240	240	240	260	250^{H}	[300]^{C}	340	400	380	(390)^{A}	340	290	290	310	290	A	A	250	320	330^{A}
29	240	300	290	220	250	290	250	240	300	310	290^{H}	350	340	310^{H}	(360)^{A}	300	300	[280]^{A}	270	240^{H}	250	270^{A}	280^{A}	340^{A}
30	340^{A}	320^{A}	280	270	240	260	240	270	290	260	370	350	340	360	(380)^{A}	340	310	290	A	A	(300)^{A}	(300)^{A}	300^{A}	[320]^{A}
31	340^{A}	290	250	260	290	320	240	240	280	290	360	320	340	340	300	340	300	300	250^{H}	[300]^{A}	350^{A}	290	290	340^{A}
Mean Value	310	290	280	260	280	290	260	270	280	300	340	360	370	360	350	340	330	320	290	270	280	310	320	310
Median Value	300	290	280	260	280	290	250	250	280	290	340	350	370	350	350	340	330	310	290	270	290	310	320	310
Count	30	30	29	30	31	31	30	29	28	27	23	25	27	30	29	29	31	31	30	29	28	28	29	28

h'F2 | Sweep 1.0 Mc to 22.0 Mc in 1 min | ☐ Manual ☒ Automatic | Y 2

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

IONOSPHERIC DATA

Jul. 1956 | fEs | 135° E Mean Time | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	5.9	7.1	12.2	8.9	5.9	5.9	3.5	5.6	7.2	8.0	8.5	11.0	8.9	12.2	8.2	7.7	6.4	7.0	9.6	7.0	6.7	5.9	3.3	5.9
2	3.8	8.9	5.1	3.6	3.0	3.6	3.7	5.5	6.4	6.5	12.2	12.5	8.3	6.0	5.9Y	3.8	5.9	5.7	5.9	2.9	4.9	7.0	3.4	3.1
3	5.1F	7.0	5.9	6.6	8.2	5.9	5.9Y	5.8	5.6	13.1	7.0	B	7.0	7.9	6.5	5.9	5.9	4.8	G	3.2	5.9	5.9	3.3	4.9
4	2.4	2.3	E	E	2.2	2.3	3.1	3.5	G	G	6.2Y	5.5	8.9Y	7.0	6.8	5.9Y	G	G	G	5.9	3.5	3.3	5.0	5.9
5	4.8	3.8	2.3	2.3	2.4	2.0	G	3.5	5.0	5.9	5.9	6.4	5.9	5.9	11.2	13.0	11.5	6.5	6.7	5.9	7.0	5.9	5.9	5.9
6	7.0	8.8F	8.9	5.9	6.3	3.6	4.9	4.5	7.7	9.6	8.9	6.2	6.6	5.1	6.2	5.9	5.1	7.5	8.7	9.5	3.2	5.9	5.9	3.8
7	5.9	3.0	5.0	2.3	3.8F	5.9Y	6.6	8.5	5.9	5.9	G	5.5Y	B	B	6.6	6.7	5.9	5.3	5.9	4.9	9.0	7.9	5.9	8.9
8	8.9	5.9	3.0	2.3	2.3	E	G	3.5	5.9	8.0	10.5	5.7	B	B	G	5.9	5.9	G	6.2	2.3	5.9	2.3	3.5	3.8
9	3.8	5.5	3.1	3.8	5.9	6.5	3.0	G	5.9Y	5.9	5.9	5.9	6.2	12.9	8.7	G	G	G	3.7	5.7Y	3.4	8.9	5.2	8.9
10	5.9	3.7	3.7	5.7	C	3.8	3.8	5.9	7.5	5.9	4.9	G	5.9	B	B	4.8	3.7	G	5.9	6.5	3.8	5.9	6.6	5.9
11	3.6	3.8	2.3	3.0	2.3	2.3	G	G	5.9	9.6	13.8	8.0	7.0	10.0	8.6	4.8	G	G	5.9	3.6	2.4	3.2	E	2.4
12	2.4	7.0	3.0	2.4	2.3	3.0	G	G	5.9	5.9	5.9	6.4	6.0	G	G	5.9	7.6	7.2	G	4.9	5.9	E	E	2.4F
13	5.9	3.4	9.0	3.8	5.9F	5.9F	G	G	5.9	6.1	8.0	5.9	5.9	6.5	9.5	8.9	6.2	5.9	5.0Y	3.2	2.4	2.3	2.3	E
14	3.2	3.8	3.8	3.0F	2.4	2.3	G	G	G	5.3	6.5	6.9	5.9	5.6Y	G	5.9	5.9	9.2	8.0	12.2	2.3	3.6	2.4	2.3
15	2.3	3.2	3.4	2.4	2.8	2.3	3.5	3.7	5.9	5.1	G	5.9	G	5.9	4.8	9.5	9.5Y	6.7	3.8	3.3	3.2	3.1	2.4	E
16	E	E	2.3	3.2	E	E	G	5.9	5.9	6.3	G	5.9	5.9	5.9Y	6.6	G	10.1	6.8	3.6	C	C	C	C	C
17	2.3	5.9	5.9	3.7	5.4Y	5.9Y	G	G	G	G	G	G	B	B	G	G	G	G	G	G	3.5	2.4	2.1	E
18	2.3	3.5	2.3F	2.4	3.1	2.3	2.3	G	G	5.0	G	5.9	5.9	5.9	5.9	7.0	G	G	5.9Y	5.9Y	3.8	2.3	3.2	2.3
19	E	2.3	2.3	E	E	E	G	G	5.9	G	5.9	6.8	G	4.9	C	C	7.0	6.9	3.5	3.2	5.9	4.8F	5.9F	5.9F
20	8.9	5.1	3.8	3.6	2.4	2.3	3.7	8.5	8.0	6.5	12.9	5.9	G	5.9	8.0	5.4	9.5	5.9	5.9Y	7.2	5.9	6.2F	5.8	3.4
21	3.6	2.4	3.2	2.4	2.4	2.4	G	G	3.8	5.9	8.9	4.8	6.5	5.9	4.8	5.9	6.3	10.0	8.1	8.0	5.9	3.6	3.2	2.3
22	2.4F	2.3	2.5	3.5	3.1	2.4	3.7	3.7	3.5	B	G	G	6.6	5.9	5.9	3.9	6.1	8.9	13.5	8.9F	3.6	3.2	E	2.4
23	E	2.3F	2.4	2.3	2.4	3.8	C	C	C	C	C	C	C	5.8Y	8.0	5.9	5.9	5.4	11.5	6.5	3.7	3.3	3.2	2.4
24	2.3	2.3	2.3	E	E	3.0	G	G	4.7	5.9	6.4	6.3	14.5	8.6	5.1	4.6	12.2	8.9	13.0	5.5	3.0	2.3	E	E
25	2.3	3.6	5.9	5.9	3.7	3.1	2.3	4.8	4.8	5.9	5.3	5.9Y	G	B	5.9	5.9	8.9	6.2	5.0	3.8	4.7	3.5	8.9	7.2
26	5.2	2.3F	3.8	2.4	3.7	5.9	5.1	5.5	5.9	5.9	6.4	7.0	4.8	5.7Y	G	G	4.8	8.8	5.9	5.4	3.2	3.5	5.9	3.0F
27	3.1	5.9	5.8	3.5	3.0	E	G	5.9	6.5	4.3	5.9	5.9	7.9	8.5Y	5.9	7.0	5.9	5.9	3.7	3.1	3.1	2.4	3.4	3.2
28	3.6	2.4F	E	E	2.4	2.3	G	3.8	5.5	C	6.2	8.9	8.9	8.7	6.7	G	5.4	13.0	5.9	8.0	6.7	3.0	3.8	5.9
29	2.3	2.3	2.4	2.4F	2.4F	2.3	2.4	3.7	G	G	5.9	6.5	8.9	5.9	8.9	3.8	G	8.9	5.9	5.5	3.4	3.2	3.4	3.7
30	5.9F	6.5	3.1	2.4	2.4	3.0	3.3	6.9	5.9	6.3	6.2	6.7	5.8Y	6.8	8.3	6.9	5.9	8.9	9.6	12.5Y	8.7F	5.9	8.9	8.9
31	5.9	3.2	3.0	3.6F	3.0	2.4	G	G	4.9	3.8	5.9	5.9	B	B	5.7Y	5.9	7.5	8.9	8.5	8.5	7.0	3.6	3.4	7.0
Mean Value	4.3	4.3	4.2	3.6	3.5	3.6	3.8	5.2	5.8	6.5	7.5	6.7	7.2	7.1	7.0	6.5	7.0	7.5	6.8	6.0	4.7	4.3	4.5	4.7
Median Value	3.6	3.6	3.1	3.0	2.6	2.4	2.3	3.7	5.9	5.9	6.0	5.9	6.1	5.9	6.2	5.9	5.9	6.5	5.9	5.6	3.8	3.5	3.4	3.6
Count	31	31	31	31	30	31	30	30	30	28	30	29	26	25	29	30	31	31	31	30	30	30	30	30

fEs

Sweep 1.0 Mc to 22.0 Mc in 1 min ☐ Manual ☒ Automatic

Y 3

SOLAR RADIO EMISSION

JULY, 1956

Observing Station: HIRAISO

Frequency: 200 Mc/s

Flux in 10^{-22} w.m.$^{-2}$(c/s)$^{-1}$, 2 polarizations

Time in U.T.

Daily Data

Date	Steady Flux		
	00-03	03-06	Daily Averages
1	8	9	8
2	7	8	7
3	6	6	6
4	7	9	8
5	9	9	9
6	14	15	14
7	25	17	22
8	12	11	12
9	9	10	10
10	10	12	11
11	9	8	9
12	6	9	8
13	8	6	7
14	5	6	5
15	-	9	(9)
16	7	7	7
17	7	8	8
18	7	6	6
19	11	10	10
20	15	17	16
21	6	10	8
22	19	19	19
23	13	20	17
24	18	13	16
25	29	111	70
26	99	29	64
27	16	14	15
28	(17)	22	20
29	23	18	20
30	13	10	12
31	12	14	13

Outstanding Occurrences

Date	Starting Time	Duration	Type	Peak Flux	Time
5	0133	2m30s	CD	98	0134-30s
	0410	16m	SD	40	0419
	0636	1m	SD	1640	-
11	0458-10s	1m20s	CD	330	0458-10s
19	0028	6m30s	CD	> 2500	0030
	0652	3m	CD	> 2500	0652-30s
	2209	6m	CD	670	2211

Active Day

Hourly Mean Flux

Date	22-23	23-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	(U.T.)
25	40	45	30	26	34	97	184	53	32	22	
26	46	118	120	105	72	35	31	20	18	19	

IONOSPHERIC DATA IN JAPAN FOR JULY 1956
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