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IONOSPHERIC DATA IN JAPAN

FOR NOVEMBER 1956

Vol. 8 No. 11

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Prepared by

THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

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THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

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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 <i>E</i> , <i>F1</i> and <i>F2</i> layers respectively
fE_s		highest frequency on which echoes of the sporadic type are observed from the lower part of the <i>E</i> layer
$h'E$ $h'F1$ $h'F2$	}	minimum virtual height on the ordinary-wave branch for the <i>E</i> , <i>F1</i> and <i>F2</i> layers respectively
h_pF2		virtual height of the <i>F2</i> layer measured on the ordinary-wave branch at a frequency equal to $0.834 f_0F2$
$ypF2$		semi-thickness of the <i>F2</i> 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 h_pF2 and the virtual height at $0.969 f_0F2$)
$(M3000)F2$		maximum usable frequency factor for a path of 3000 km for transmission by <i>F2</i> layer
$f_{\min}E$ $f_{\min}F$	}	frequency below which no echoes are observed for the <i>E</i> and <i>F</i> 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) <i>F2</i> -layer critical frequency equal to or less than <i>F1</i> -layer critical frequency b) no E_s (or $E2_s$) echoes observed though regular <i>E</i> (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 operator, 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	h_p or y_p 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

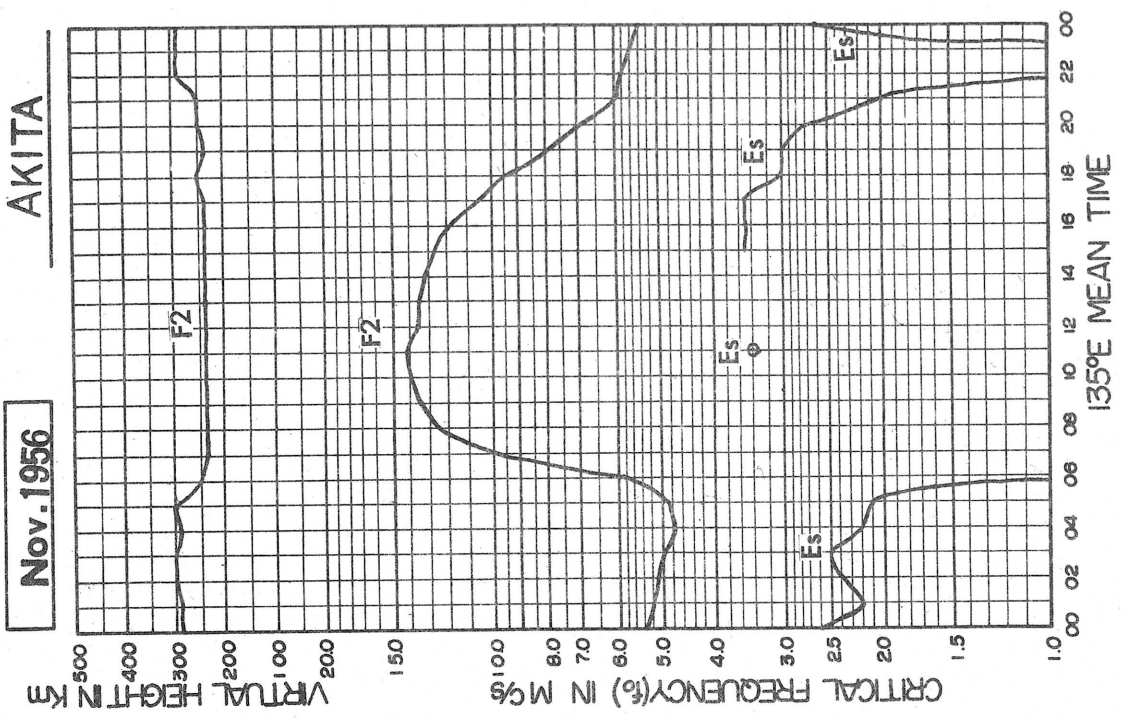
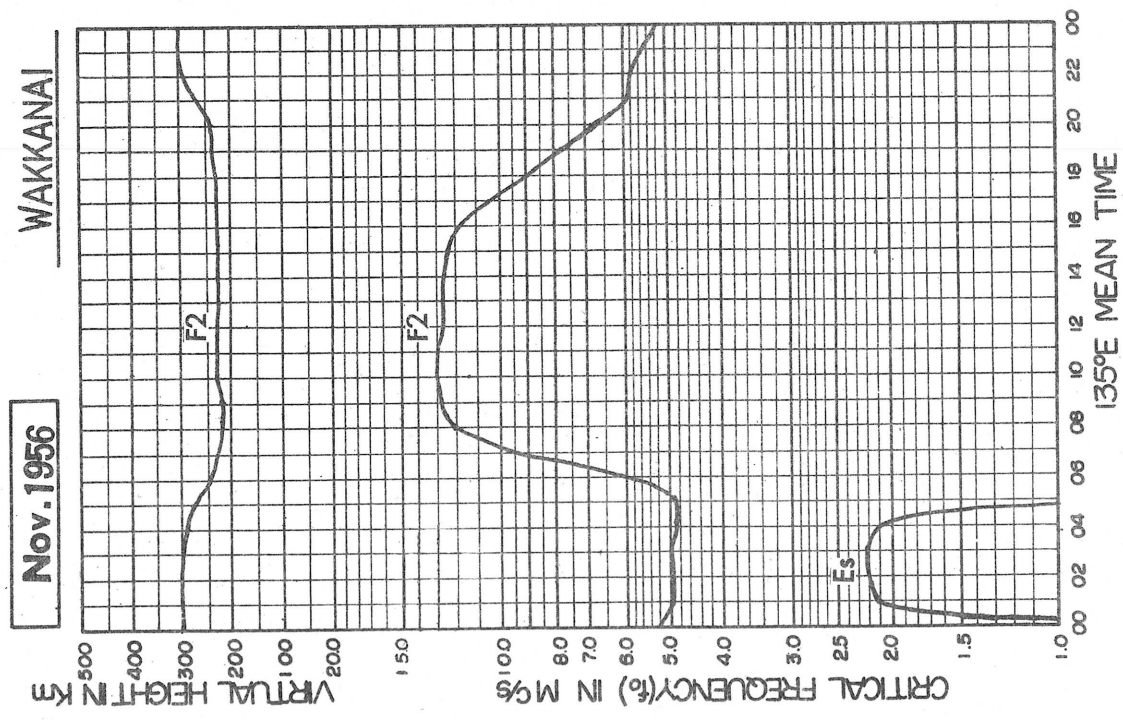
Ionospheric observation is carried out at the following four observatories in Japan.

	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

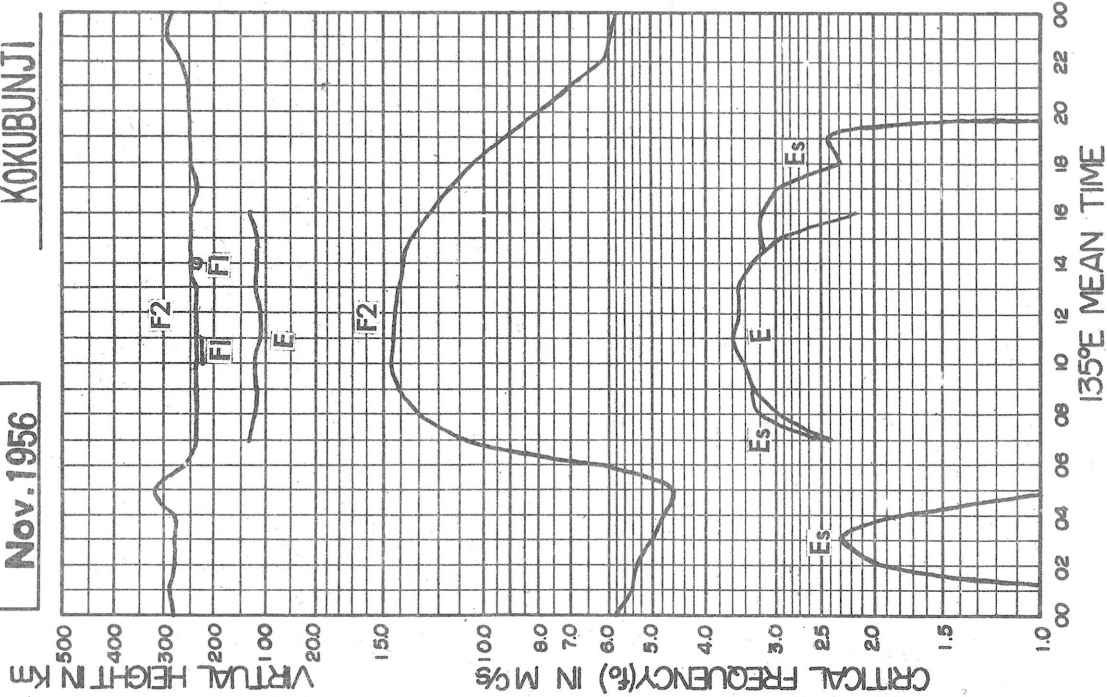
IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS



IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS

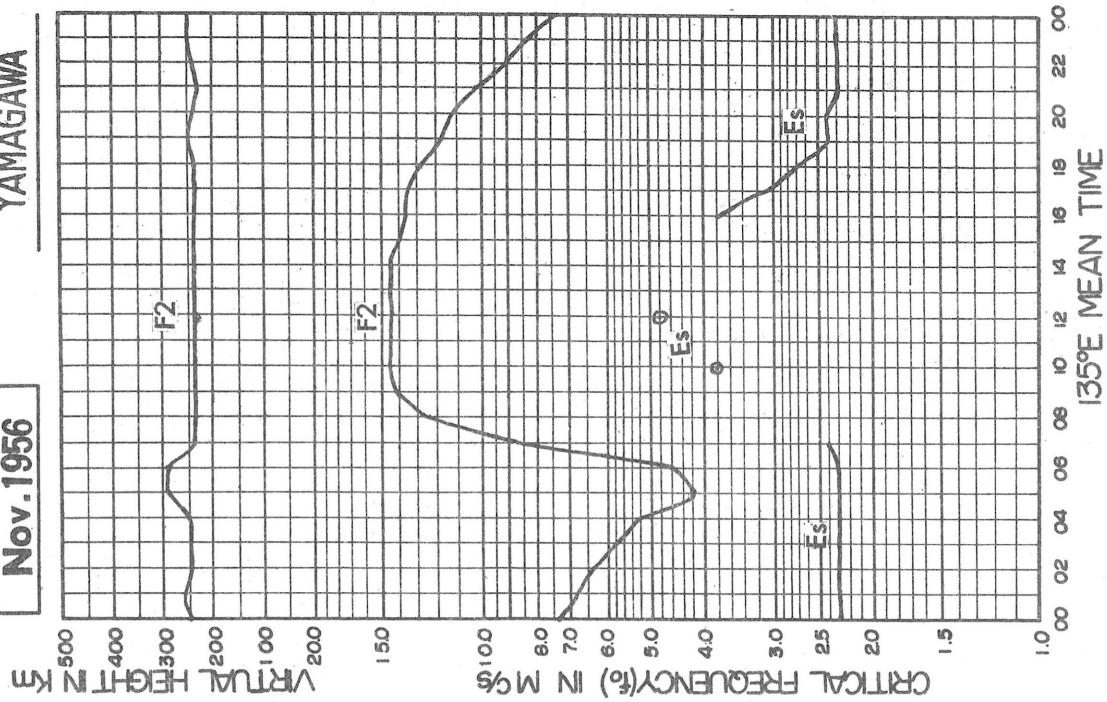
Nov. 1956

KOKUBUNJI



Nov. 1956

YAMAGAWA



135°E MEAN TIME

135°E MEAN TIME

Lat. 45° 28.6' N
Long. 141° 41.1' E

Wakanaï

IONOSPHERIC DATA

135° E Mean Time

foF2

Nov. 1956

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	5.7	5.0	5.2	5.2	5.4	5.5	6.8	10.0	12.3	12.6	12.8	12.9	12.6	12.5	12.7	12.2	11.3	10.3	9.0	8.4	6.8	6.5	6.0	5.8	
2	5.0	5.0	5.0	4.8	5.0	4.9	6.4	10.2	12.5	12.8	13.3	(13.3)	(13.1)	12.8	12.8	12.6	11.9	10.5	9.6	7.8	6.6	5.8	5.7	5.7	
3	5.8	5.8F	5.4F	5.5	5.5	5.7	6.6	9.7	12.3	13.2	13.4	13.3	13.0	12.8	12.7	12.5	12.3	11.2	9.8	9.2	7.2	6.0	6.3	6.6	
4	6.0	6.0	6.1	6.5	6.2	6.5	7.0	11.3	13.3	(13.5)	(13.4)	13.3	13.2	13.4P	12.8	12.8	12.7	11.5	10.0	8.0	7.3	7.0	6.0	5.8	
5	5.5	5.5	5.5	5.6	6.0	6.0	6.5	10.4	12.8	13.3	13.0	12.8	12.8	12.8	12.8	12.3	12.0	10.7	9.8	7.8	6.8	6.0	5.8	5.5	
6	5.3	5.2	4.8	5.0	5.0	4.9	6.5	11.2	13.2	13.0P	13.5	13.0	12.8	12.8	12.6	12.5	12.0	10.7	9.2	8.0	7.0	6.6	6.5	6.3	
7	6.1	5.5	5.5	5.0	5.5	5.7	6.6	9.5	12.8	13.0	13.0	13.0	13.0	12.8P	12.8	12.7	12.5	11.8	10.0	9.0	8.2	7.5	7.0	7.0	
8	6.5	6.3	6.3	6.3	6.3	6.0	6.2	10.5	13.7	13.3	13.3	13.3	13.2	12.8P	12.8	12.6	12.5	11.5	10.0	9.1	7.8	7.2	6.8	6.0	
9	6.0	6.0	6.0	6.0	5.8	5.6	6.6	10.0	13.3	13.3	13.3	12.9	12.8P	12.8	12.6	12.6	12.6	11.2	9.7	8.5	7.8	7.3	7.0	6.6	
10	6.6	6.6	6.5	6.7	5.5	6.1	6.2	10.0	12.5	13.0	13.5	13.5	13.0	12.8M	12.8	12.8	12.8	12.8	11.8	10.0	8.0	7.5	7.7	7.5	
11	7.0	6.5	6.8	6.6	5.5	6.6	7.9	12.0	13.5	13.5	13.5	13.5	13.5	13.5	13.0	12.8	12.8	12.8	11.8	10.0	8.0	7.5	8.5	7.5	
12	7.3	5.9	6.1	6.5	5.5	5.8	6.3	10.5	12.8	13.0	13.7	13.5	13.5	13.5	13.0	12.8	12.8	12.8	11.8	10.0	8.0	7.5	8.5	7.5	
13	4.8	4.8	4.5	4.6	4.7	4.5	5.3	8.2	11.8	13.5	13.3	13.3	13.3	13.1	13.0	13.3	12.8	12.5	10.2	9.5	6.8	6.5	6.0	5.2	
14	5.8	5.5	5.5	5.0	4.9	4.8	5.5	8.8	11.3	12.2	13.2	12.6	12.5	13.0	13.0	12.8	12.1	10.8	9.5	8.8	6.8	6.6	6.3	5.6	
15	5.0	4.8	5.0	4.5	4.4	4.3	4.6	7.5	10.2	12.2	12.8	12.6	12.5	12.5	12.4	12.0	11.8	10.8	10.8	8.8	7.0	6.5	6.7	7.0	
16	6.0	5.3	5.1	4.7	4.3	5.0	5.5	10.0	12.8P	12.8P	12.8P	13.0P	12.6	12.5	12.6	12.0	11.5	10.0	10.0	8.9	7.8	6.5	5.8	5.5	
17	5.5	5.0	5.0	5.0	4.8	4.8	6.0	10.6	11.1	12.6	12.5	12.6	12.5	12.6	12.5	12.3	10.5	9.0	8.9	7.8	6.0	5.5	5.0	4.3	
18	4.3	4.3	4.3	4.2	4.0	4.3	4.4	8.1	11.2	12.8	12.8	12.7	12.5	12.5	12.4	12.0	10.1	9.3	8.5	6.5	5.0	4.5	4.8	4.5	
19	4.4	4.4	4.4	4.2	4.5	4.2	4.5	8.8	11.5	12.8	12.8	12.8	12.1	12.3	12.0	11.2	10.0	9.0	8.5	6.3	5.0	4.1	4.3	4.1	
20	4.2	4.3	4.3	4.5	4.8	4.5	4.0	7.3	10.6	12.0	12.8	12.6	12.3	12.1	12.3	11.8	10.5	8.1	7.5	6.3	4.7	3.8	3.7	3.9	
21	3.7	3.5	3.5	3.8	3.7	3.6	3.7	9.0	11.8	12.7	13.0	12.8	12.5	12.8	12.5	11.8	11.2	9.0	8.5	6.3	5.5	5.2	5.2	5.2	
22	5.2	5.0	4.9	4.8	5.0	4.9	4.8	9.0	11.5	12.5	13.0	13.0	13.0	12.8	12.8	12.1	11.4	9.5	7.8	6.0	5.0	4.0	3.8	3.8	
23	3.6	3.7	3.7	3.6	3.2	3.2	3.8	8.3	12.0	12.5	13.0	13.0	12.9	12.8	12.7	12.6	12.7	10.2	8.6	6.0	5.0	4.0	3.8	3.8	
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
26	3.6	4.0	4.1	4.6	3.4	3.5	3.9	8.0	11.4	12.8	C	C	C	C	C	C	C	C	8.7	7.5	6.0	4.8	4.8	4.8	
27	4.7	C	C	C	C	C	C	C	C	C	C	C	12.8	12.6	12.5	12.3	10.8	9.2	8.0	6.7	5.0	4.5	4.5	4.6	
28	4.7	5.0	4.5	4.3	4.7	4.5	3.9	7.3	11.5	12.5	(12.8)	12.5	12.8	12.8	12.8	11.5	10.0	8.8	7.8	7.5	7.0	5.6	5.5	5.5	
29	5.0	5.1	4.9	4.8	4.8	5.0	5.5	9.5	12.2	(13.5)	(13.5)	(13.5)	13.0P	12.6	12.6	11.6	10.0	9.0	7.6	6.5	4.8	4.3	4.3	4.3	
30	4.5	4.4	4.4	4.3	3.7	3.6	4.3	8.0	12.0	12.8	(13.5)	(13.5)	13.0P	12.7	12.7	11.7	10.0	9.2	7.3	6.8	6.0	5.1	5.5	5.2	
31																									
Mean Value	5.3	5.1	5.1	5.1	4.9	4.9	5.6	9.3	12.1	12.8	13.1	13.1	12.8	12.7	12.7	12.3	11.6	10.4	9.0	7.9	6.5	5.9	5.7	5.5	
Median Value	5.2	5.0	5.0	5.0	4.9	4.9	6.0	9.5	12.2	12.8	13.0	13.0	12.8	12.8	12.7	12.3	11.9	10.5	9.0	7.8	6.8	5.9	5.8	5.5	
Count	28	27	27	27	27	27	27	27	27	27	26	26	27	27	27	27	27	27	27	28	27	27	27	28	

foF2

Sweep 1.0 Mc to 22.0 Mc in 1.0 min

Manual Automatic

W 1

Wakanai

IONOSPHERIC DATA

135° E Mean Time

R'F2

Nov. 1956

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	380	280	320	320	290	260	240	230	220	220	230	230	240	220	240	230	230	210	220	240	220	250	250	260
2	310	350	310	350	260	250	250	220	230	230	220	220	230	230	230	220	230	230	250	240	230	270	310	300
3	280	310	380	320	300	260	240	220	220	220	230	230	220	230	230	220	220	220	230	220	240	270	310	300
4	270	300	300	280	270	220	250	230	210	220	220	230	220	220	230	220	220	220	220	220	240	240	260	260
5	270	280	300	290	270	220	240	220	210	220	220	230	220	220	240	230	230	230	230	240	240	250	260	270
6	260	270	270	310	300	280	230	220	230	220	230	220	220	240	240	230	220	220	220	240	240	270	280	270
7	260	310	350	310	330	260	210	220	210	220	220	220	220	220	230	240	220	220	220	240	240	250	260	260
8	260	280	280	280	270	240	230	220	220	220	220	220	220	220	220	220	220	220	220	240	240	250	260	260
9	300	270	270	270	270	290	240	[230]c	220	220	220	220	230	230	220	230	230	240	240	250	260	280	280	270
10	270	260	[320]c	370	360	260	210	220	230	230	220	230	220	230	230	250	230	230	260	270	260	290	240	250
11	310	230	290	310	340	250	250	260	240	240	230	230	230	230	230	230	230	260	240	220	250	270	280	250
12	270	270	330	270	270	300	220	240	230	230	220	220	220	220	220	220	230	230	220	240	220	270	290	270
13	450	450	410	380	400	400	240	240	240	240	240	230	230	230	230	220	260	240	240	260	260	280	280	270
14	390	260	250	260	260	270	240	220	220	220	[220]c	230	220	240	230	220	260	270	[240]c	240	240	250	260	290
15	250	300	280	270	270	280	220	220	240	240	230	240	240	260	250	240	250	270	270	270	200	210	210	210
16	200	270	250	250	330	260	[300]c	230	220	220	220	220	220	240	240	220	220	270	[260]c	250	250	290	290	300
17	260	300	310	320	310	290	240	210	210	220	230	230	240	240	240	220	210	220	[230]c	240	240	250	270	310
18	320	360	350	370	360	310	230	240	230	220	220	230	240	230	240	220	220	230	230	230	230	230	230	310
19	360	340	300	250	270	300	250	220	220	240	230	220	230	230	230	220	220	240	230	210	240	270	270	320
20	350	320	300	270	260	220	220	220	210	220	220	220	220	220	220	220	210	220	230	240	220	260	290	320
21	350	390	380	310	250	240	290	230	230	220	240	240	240	240	240	230	220	220	230	260	[300]A	340	340	340
22	270	300	320	330	360	320	260	220	210	220	220	220	220	220	220	220	220	220	220	250	250	300	300	400
23	410	390	340	380	300	360	310	250	230	[240]c	240	220	[220]c	230	[230]c	230	240	[220]c	200	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	440	410	310	250	260	300	290	250	220	220	C	C	C	C	C	C	C	C	230	240	240	250	300	300
27	300	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	230	230	230	270	310	320
28	310	290	280	210	290	240	240	230	220	220	230	230	220	230	220	220	220	230	250	240	250	270	270	280
29	310	300	280	290	310	310	300	240	220	230	230	230	220	230	220	220	240	210	240	250	250	280	320	280
30	340	300	310	300	350	320	290	230	230	220	270	270	220	240	240	240	210	240	250	250	250	280	320	280
31																								
Mean Value	310	310	310	300	300	280	260	230	220	220	220	220	230	230	230	230	230	230	240	240	240	270	290	300
Median Value	300	300	300	300	290	280	250	230	220	220	220	220	230	230	230	230	230	230	230	240	240	270	290	300
Count	28	27	27	27	27	27	27	27	27	27	26	26	27	27	27	27	27	27	28	27	27	27	28	28

R'F2

Lat. 45° 23.6' N
Long. 141° 41.1' E

Wakkanai

IONOSPHERIC DATA

135° E Mean Time

fEs

Nov. 1956

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	3.5Y	3.5	E	E	F	G	G	G	G	G	G	G	G	G	G	4.3	3.5	E	E	E	E	E	E
2	F	2.8	2.2F	2.3	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E
3	E	2.3	2.3F	E	2.8	2.2	G	G	G	G	G	G	4.0	5.0	G	G	G	E	E	E	E	E	E	E
4	3.5	3.5	2.2	3.1	2.2	2.0	G	G	G	4.8	5.6	5.0	G	G	G	G	G	3.5	3.5	E	E	E	E	E
5	F	E	3.5	2.2	2.1Y	2.2	G	G	G	4.1	G	G	G	G	G	G	G	E	E	E	E	E	E	E
6	E	E	E	3.5	3.3	3.5	2.3	G	G	4.2Y	4.3	4.0	G	G	G	G	G	E	E	E	E	E	E	E
7	E	2.5	2.8	2.5	2.2	E	E	G	4.0	5.2	5.0	C	4.8	G	G	G	G	3.5	E	E	E	E	E	E
8	3.0	3.5	3.5	2.2	2.5	2.2	G	G	G	G	G	G	6.3	G	3.5	G	3.0	3.0	E	E	E	E	E	E
9	E	E	3.5	3.6	3.1	3.0	C	G	G	4.0	5.8	4.8	5.0	4.2	3.6	4.0	4.1	4.1	3.5	3.2	2.5	E	E	E
10	2.0	3.3	C	3.0	2.2	E	G	G	G	G	4.0	G	G	G	4.0	3.5	4.0	4.8	E	E	E	E	E	E
11	3.5	E	3.3	3.3	2.3	2.3	E	G	3.5	5.5	G	5.9	G	G	G	3.5	G	3.0	E	E	E	E	E	3.5
12	4.5	5.0	3.5	2.3	E	E	G	G	G	G	G	G	G	G	G	3.5	3.5	E	3.5	3.0	E	E	E	E
13	E	2.0	E	1.5	2.3	5.5	5.5	4.5	6.3	5.8	7.5	6.5	6.0	7.0	G	G	3.5	3.5	3.5	3.0	E	E	E	E
14	E	E	E	E	E	E	E	E	G	C	G	G	G	G	G	G	G	E	C	E	E	E	E	E
15	E	E	E	E	E	E	E	E	G	G	4.5	G	G	G	G	G	G	E	E	E	E	E	E	E
16	E	2.3	3.3	2.3	4.0Y	E	C	G	G	4.7	G	G	G	G	G	5.0	3.5	2.8	C	E	4.0	6.7	4.0	3.5
17	3.5	4.0	E	E	E	E	2.3	G	G	G	G	G	G	G	G	G	G	E	C	E	E	E	E	E
18	E	E	E	2.3	2.3	2.3	3.0	4.3	4.3	G	G	G	G	G	G	G	G	2.3	E	E	3.5	5.0	E	3.5
19	3.5	2.3F	2.3F	2.2	2.3	E	E	G	3.5	6.0	G	G	G	G	G	G	G	E	E	E	E	E	E	E
20	E	E	E	2.2	E	E	E	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E
21	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E
22	3.5	2.2	2.3	3.5	3.0	E	E	G	G	5.8	5.0	G	G	G	G	G	G	E	E	3.8	6.0	7.0	5.0	3.5
23	3.2	2.5	3.1	E	E	E	E	G	G	C	C	G	C	C	C	C	C	C	C	C	C	C	C	C
24	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	E	E	E	E	E	2.3	2.5	4.1	G	G	C	C	C	C	C	C	C	C	C	E	E	E	E	E
27	E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E	E	E	E	3.1	E	E
28	E	E	2.3	E	E	E	E	G	G	G	G	G	G	G	G	G	3.5	4.5	E	E	E	E	E	E
29	2.1	2.1	E	E	E	E	E	G	G	G	G	G	G	G	G	4.3	4.5	E	E	3.0	2.8	3.0	2.3	E
30	3.5	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E	E
31																								
Mean Value	3.3	2.9	2.9	2.6	2.6	2.8	3.1	6.3	4.3	5.0	5.2	5.2	5.2	5.4	3.4	4.0	3.8	4.3	3.7	3.7	3.8	4.3	3.7	4.0
Median Value	E	2.1	2.2	2.2	2.1	E	E	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E
Count	2.8	2.7	2.6	2.7	2.7	2.7	2.7	2.6	2.7	2.5	2.6	2.5	2.6	2.7	2.6	2.7	2.7	2.6	2.4	2.7	2.7	2.7	2.7	2.8

fEs

Group 1.0 Mc to 2.40 Mc in 1.0 min
 Manual
 Automatic

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

Lat. 39° 33.5' N
Long. 140° 08.3' E

A k i t a

IONOSPHERIC DATA

135° E Mean Time

f'F2

Nov. 1956

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	290	260	310	290	290	260	240	240	240	230 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240	240	240	250	250	250	250
2	270	340	310	310	260	260	250	250	240	240	240	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240	240	240	240	240	270	300	300
3	280	280	360	350	300	290	250	220	240	240	240	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240	250	250	240	250	260	290	310
4	290	290	280	270	250	230	250	230	240	240	230 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240	230	230	230	250	250	250	270
5	290	270	300	300	270	240	230	230	240	240	230 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240	240	250	250	250	250	270	270
6	270	260	270	290	280	300	240	240	240	240	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240	250	240	240	250	250	270	280
7	250	280	300	350	280	290	250	240	230	240	240	240	240	240	240 ^H	240	240	240	240	250	250	250	280 ^A	280 ^A
8	290	250	280	270	260	280	240	240	230	240	230 ^H	240 ^H	240 ^H	240 ^H	250	240 ^H	250	280 ^A	260	280	260	250	250	260
9	290	290	250	250	250	310	270	240	240	240	240	240	240 ^H	240 ^H	250	240	240	250	250	250	260	250	290	290
10	280	270	280	370	370	300	240	240	230	240	240 ^H	[240] ^C	240 ^H	250 ^H	250 ^H	A	250 ^A	260 ^A	300	300	260	280	260	260
11	340	260	300	300	330	370	300	240	240	250	240	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	250 ^H	250	260	240	280	280	300	250
12	250	250	270	290	240	300	240	250	240	240	240 ^H	240 ^H	230 ^H	240 ^H	240	230 ^H	240	250	230	250	220	240	270	340
13	490 ^H	430	410	370	420	400	250	210	230	230 ^H	240 ^H	240 ^H	240 ^H	240 ^H	250 ^{AH}	230 ^H	230 ^H	230	230	230	240	250	250	260
14	280	240	260	250	260	260	240 ^H	240	230	230 ^H	240 ^H	240 ^H	230 ^H	240 ^H	240 ^H	240 ^H	240 ^H	230	230	230	250	250	300	300
15	270	250 ^H	280	300	300	250	320	250	230	240	250 ^H	250 ^H	250 ^H	250 ^H	250 ^H	250 ^H	250	240	250	250	300	300	310	260
16	240	250 ^H	320	290	260	390	310	240	210 ^H	240	240	240	240 ^H	240 ^H	240	240	220	230	250	260	230	250	300	330
17	270	300	310	320	290	300	260	220	240	240	240	240 ^H	240	240 ^H	240	240	220	240	250	250	260	250	250	290
18	330	370	350	360	340	300	280	240	240	240	240	240 ^H	240 ^H	240 ^H	240	240	230	220	250	230	230	250	300	300
19	350	370	300	230	210	330	270	230	240	240	240	240 ^H	230	240 ^H	240	240	240	200	250	240	220	270	260	270
20	300	350	300	280	250	240	210 ^H	230	220	230	230	240	240 ^H	240 ^H	240	240	220	210	230	230	240	250	290	310
21	330	370	370	320	250	370	250	240	230	230	230 ^H	240	240	240 ^H	240 ^H	240 ^H	240	240	250	240	310	310	310	330 ^A
22	300	280	340	320	350	330	300	220	[230] ^C	240	[240] ^C	240 ^H	240 ^H	230 ^H	[240] ^C	240 ^H	240	200	220	260	[240] ^A	260	310	380
23	420	360	330	260	380	C	C	C	240	240	240	[240] ^C	230 ^H	[240] ^C	240 ^H	230 ^H	240	200	220	230	220	300	350	340
24	350	370	340	300	320	310	260	230	230	230	[220] ^C	220 ^H	220 ^H	240	220	220	210	210	240	210	240	230 ^H	310	310
25	310	340	330	390	380	310	280	230	220	230 ^H	220 ^H	220 ^H	220 ^H	240 ^H	240	210 ^H	220	240	230	230	250	240	290	340
26	410	430	280	230	280	320	300	230	240	240	240	240	220 ^H	240	240	240	240 ^A	230	220	240	240	250	280	290
27	290	290	290	270	290	230	250	240	220	240	240	240 ^H	220 ^H	240 ^H	240	240	240	200	250	240	240	280	300	290
28	300	300	280	270	300	220	250	240	230	240 ^H	240 ^H	240 ^H	C	230 ^H	240	240	[250] ^A	270	250	240	240	300	290	290
29	300	300	280	260	300	340	320	250	240	240	240	240 ^H	240 ^H	240 ^H	240 ^H	230 ^H	240	[240] ^C	240	240	260 ^A	300	330	330
30	300	[300] ^C	310	[300] ^C	300	[300] ^C	300	C	240 ^H	240	240	240	240	240	270	240 ^H	240	240	240	230	260	270	280	280
31																								
Mean Value	310	310	310	300	300	300	260	240	230	240	240	240	240	240	240	240	240	240	250	240	250	260	280	300
Median Value	290	290	300	300	290	300	250	240	240	240	240	240	240	240	240	240	240	240	250	240	250	250	290	290
Count	30	30	30	30	30	29	29	28	29	30	30	30	29	30	30	29	30	30	30	30	30	30	30	30

f'F2

Sweep 0.5E Mc to 22.0 Mc in 2 min Manual Automatic

IONOSPHERIC DATA

Akita

Nov. 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	35	31Y	21F	35F	35F	31F	E	G	G	4.0Y	4.1Y	3.5	G	G	G	31	32	2.2	2.5	2.3	3.0Y	E	E	E	
2	22	21F	22F	22F	22F	E	E	G	G	G	G	4.6	G	G	G	35	35	3.1F	2.5F	3.5Y	2.2	E	E	E	
3	25F	22Y	32F	31F	22F	E	E	3.5Y	3.5	4.4	4.5	G	G	G	33	41	5.0F	3.5	E	E	2.7	2.5	E	E	
4	2.0Y	2.0Y	2.0F	22F	22F	21F	E	3.2	G	4.9	4.9	4.5	G	G	G	G	3.0	3.5	3.0	3.0Y	E	E	E	E	
5	2.6Y	2.2F	3.0F	32F	31F	3.0F	3.1F	3.5	3.4	G	4.3	4.2Y	3.8	G	3.5	3.5	3.3	2.2	2.0	E	E	E	E	E	
6	2.2Y	E	E	3.2	2.2F	2.0Y	3.1Y	G	G	G	G	4.3	4.3	G	G	G	3.0	3.5	E	E	E	E	2.2	2.4	
7	2.0Y	2.4Y	3.1	2.3	2.0	2.1Y	E	G	G	G	G	6.5	4.0	G	G	G	3.5	3.1Y	E	2.6	2.4	2.0	4.2	5.6	
8	3.5	2.2	3.0	3.0F	3.1F	2.1F	E	G	G	G	G	4.4	4.0	G	G	4.1	3.5	6.0	5.8	4.2	3.5	E	E	2.0	
9	2.0	2.0Y	2.4Y	2.1	2.1	3.0Y	2.7	G	3.5	G	G	G	G	G	G	G	3.0	3.0	3.0	2.9	E	E	E	E	
10	2.1Y	2.5	2.0	2.0	3.0Y	2.5	3.0	3.5Y	G	G	5.0	C	G	G	5.9Y	4.0	6.7	5.5	3.0	3.0	2.5	3.5Y	3.0	3.0Y	
11	2.0	3.1	3.5	3.0F	2.1F	2.4Y	2.1Y	G	G	6.0	4.5	4.3	G	6.5	4.4	4.5	5.2	4.1	3.5	4.4F	4.5	E	3.1F	3.1F	
12	3.1	2.2	2.2F	2.5	2.5F	2.0F	E	2.2	3.5	G	3.9	3.3Y	4.3Y	G	3.6	3.2	3.5	3.1F	3.1F	3.5F	4.9F	3.2	3.1Y	3.1Y	
13	4.2F	3.5F	3.0F	2.2F	2.0F	2.0Y	2.3Y	3.5	4.1	4.5	4.3	4.5	4.2	G	7.1	3.5	3.5	3.5	3.1Y	E	E	E	E	E	
14	3.1Y	3.5Y	3.0Y	2.2F	3.1	3.1	E	3.5	G	G	G	G	G	G	3.5	3.5	3.5	3.0Y	3.1	3.2F	2.2	2.2Y	E	E	
15	E	2.0Y	E	2.2Y	2.0F	E	E	G	G	G	G	G	G	4.0Y	3.5	G	G	2.2Y	E	E	2.7	2.0Y	2.4	2.2	
16	3.1F	3.0	3.1	2.9	2.9F	2.0F	E	G	4.5	5.7	5.0	4.4	4.2	3.5	3.5	G	3.5	2.5Y	3.0Y	3.5	2.8Y	3.0	3.0	3.5	
17	3.5	3.5	3.5F	3.5	3.0F	1.8Y	2.1Y	4.5	4.5	4.5	G	G	G	4.5	3.5	3.5	3.5	4.0	3.5	4.1	4.4	3.5	3.2	3.1	
18	3.4Y	3.4	3.4	2.2	2.2	2.2	3.5	2.8	4.5	3.5	G	5.5	6.5	G	G	G	3.0Y	3.5Y	E	2.1	2.1	3.5	3.5	3.5	
19	3.5	2.2	2.1	3.1	1.9	2.1Y	E	3.5Y	G	G	G	4.5	4.4	3.5	3.5	3.5	3.4Y	3.4Y	3.1	3.0	3.0Y	2.3Y	E	E	
20	3.5	2.3	2.1	2.5	3.0	2.0Y	2.2Y	3.0Y	4.1	G	G	G	G	G	G	G	3.5	3.4Y	E	E	3.1Y	3.0	E	E	
21	3.0	2.0Y	2.0Y	2.0Y	2.1Y	2.0Y	E	G	3.4Y	G	3.5	G	G	G	3.5	3.8	4.8	5.0F	3.5F	3.1F	4.5F	4.2Y	4.2Y	4.6	
22	5.9Y	4.9F	3.5F	2.5F	2.2F	2.2Y	E	G	C	G	C	G	G	G	G	3.5	3.2Y	E	2.0	3.8F	7.0F	3.2	6.0F	3.5F	
23	3.1F	3.0F	3.2F	3.0F	E	C	C	C	3.5	G	G	G	G	C	G	4.2	2.2	E	3.0	3.0	2.4Y	E	E	E	
24	E	2.2F	2.2Y	2.5F	2.2F	E	E	G	3.5	4.3	4.7	G	G	3.5Y	G	3.5	3.5F	3.5F	3.1F	E	3.2Y	2.3Y	E	E	
25	2.2	3.0F	2.5	2.5	2.5F	3.1Y	E	G	G	G	4.5	G	G	G	G	2.5	3.5Y	3.5	3.0F	3.2Y	E	E	E	E	
26	E	3.0	3.0F	2.5F	2.0Y	2.9Y	E	G	3.5	4.0Y	G	4.3	G	4.3	4.0	3.4	4.4	3.5	2.2Y	E	E	E	E	E	
27	2.1Y	E	1.5Y	3.0Y	2.0Y	2.0Y	2.0Y	G	3.5	G	G	3.5	3.3Y	3.5Y	G	G	2.1Y	2.4Y	4.2	2.4	3.5Y	E	2.1Y	E	
28	2.5Y	2.1Y	2.0Y	E	2.1Y	2.5Y	E	G	G	3.5	G	G	C	G	G	4.3	4.5	7.0	5.6Y	7.0	3.1Y	3.5	3.0Y	3.1	
29	2.6Y	2.1	2.1	3.5	2.1Y	2.4Y	2.4Y	3.0Y	G	G	G	G	G	5.9	4.6	4.2	G	C	2.6	2.6	3.5	2.2Y	3.0	3.0	
30	2.4Y	C	3.5	C	3.0	C	E	C	C	G	G	G	G	G	6.5	4.3	3.2	3.5	E	2.1Y	E	E	E	E	
31																									
Mean Value	2.9	2.7	2.7	2.7	2.4	2.4	2.6	3.3	3.8	4.5	4.4	4.4	4.3	4.3	4.7	4.1	3.6	3.6	3.2	3.3	3.3	2.9	3.3	3.2	
Median Value	2.6	2.2	2.4	2.5	2.2	2.1	E	G	G	G	G	3.4	G	G	G	3.5	3.5	3.5	3.0	3.0	3.0	2.7	2.0	E	
Count	30	2.9	30	2.9	30	2.8	2.9	2.8	2.8	30	2.9	2.8	2.9	2.9	30	30	30	30	2.9	30	30	30	30	30	30

fEs

Sweep 0.85 Mc to 22.0 Mc in 2 min

Manual

Automatic

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

Lat. 35° 42.4' N
Long. 139° 28.8' E

Kokubunji Tokyo

IONOSPHERIC DATA

h_pF₂

Nov. 1956

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	380	380	370	400	440	410	330	290	290	320	320	360 ^H	370 ^H	380 ^H	390	410 ^H	360	360	370	340	370	330	350	360
2	400	460	410	400	390	380	330	320	320	330	350	370 ^H	400 ^H	400 ^H	400 ^H	380	370	350	360	360	360	370	410	410
3	360	360	460	450	460	410	350	330	340	310	[340] ^C	380	400 ^H	410 ^H	390	370	360	360	370	360	370	380	400	440
4	390	410	360	340	290	390	340	310	310	340	340	390	400 ^H	400 ^H	400	390	370	370	360	350	360	360	330	380
5	370	360	380	350	300	360	340	290	300	310	380	370	390	390	390	380	390	370	380	350	350	330	370	360
6	370	360	360	360	380	430	320	300	320	320	330	360 ^H	400 ^H	390 ^H	410	380	360	370	370	360	360	360	360	360
7	370	370	380	470	460	390	310	310	[320] ^C	340 ^P	370	370	390 ^H	400 ^H	390 ^H	400 ^H	370	370	370	360	350	340	350	360
8	360	360	360	340	360	380	330	310	320	330	350	360 ^H	380 ^H	410 ^H	400 ^H	400	370	370	360	370	340	360	350	360
9	390	380	360	320	410	440	330	290	320	310	390	370 ^H	400 ^H	400	380	390	390	370	370	370	370	330	390	400
10	360	330	380	500	520	420	320	300	310	330	340	380 ^H	410 ^H	450 ^H	440 ^H	400	390	400	410	390	360	420	410	400
11	460	370	440	470	510	510	380	310	350	350 ^P	360	380 ^H	400 ^H	400	410	430 ^H	400	380	360	370	450	420	410	360
12	380	350	440	420	350	410	360	330	350	320	360	370 ^H	380 ^H	410	380	390	360	350	350	380	350 ^P	380 ^H	360	490 ^H
13	600	540	530	550	570	550	360	330	320	330	320	310	360 ^H	370 ^H	370	360	360	360	380	350	350	360	360	360
14	380	360	380	330	340	400	330	300	300	310	320	360 ^H	350	400 ^H	370	360	360	370	340	340	400	390	460	430
15	390	390	420	420	450	390	410	330 ^P	320	350	370	380	390	410 ^H	410 ^H	380	390	380	380	390	440	400	420 ^Z	380
16	360	360	410	350	370	500	410	280	320	330	320	330	380 ^H	380 ^H	370	350	340	340	330	360	370 ^F	370	420	430
17	380	390	380	370	370	400	380	290	310	320	320	340	350	370	360	350	330	350	360	350	340	320	350	390
18	450	480	460	490	490	470	380	320	320	330	320	360	380 ^H	390	380	C	C	380	370	340	330	360	400	380
19	410	470	380	300	400 ^H	450	370	290	300	340	340	360	340	370	360 ^H	340	340	320	350	320	310 ^F	370	370	370
20	380	440	400	340	290	310	380 ^H	300	300	330	360	330	370	380	380	340	330	330	380	[350] ^C	320	310	360	410
21	400	450	510	440	370	C	C	C	C	330	350	360	370	400	390	370	360	360	320	340	440	420	410	410
22	410	410	430	460	510	460	390	290	320	330	340	340	360	370 ^H	390 ^H	410	340	340	330	320	350	360	360	510
23	530	460	450	370	550 ^H	520	440	270	340	340	340	380	400	370 ^H	380 ^H	380	350	340	370	340	340	420	460	420
24	420	520	470	440	460	460	380	310	310	320	340	350	330	380 ^H	360	350	340	340	370	340	330	340	400	400
25	350	420	400	480	570	430	310	270	310	330	320	330	310	370	350 ^H	340	340	350	320 ^F	290	330	340	400	440
26	510	550	380	350	430	450	390	280	320	330	320	340 ^H	370 ^H	380 ^H	390 ^H	360	330	350	330	340	360	380	380	400
27	400	380	370	390	330	360	370	300	300	320	330	350	360 ^H	380	370	360	360 ^H	350 ^F	370	340 ^P	360	400	390	370
28	390	410	360	410	430 ^F	380	370	310	300	340	350	360	380	400 ^H	390	390	360	360	390	350	350 ^P	370	410	390
29	390	400	380	380	430	450	430	320 ^P	340	340	350 ^P	380 ^H	370	390	390	370	360	350	340	380	370	400	400	410
30	400	390	380	350	410	510	410	310	300	330	340	360	380	380	400 ^H	360	360	360	390	350	390	380	390	380
31																								
Mean Value	420	410	410	400	420	430	360	300	320	330	340	360	380	390	390	380	360	360	360	350	360	370	390	400
Median Value	390	390	380	400	420	420	370	300	320	330	340	360	380	390	390	380	360	360	360	350	360	370	390	400
Count	30	30	30	30	30	29	29	29	29	29	30	30	30	30	30	29	29	29	30	30	30	30	30	30

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

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

IONOSPHERIC DATA

135° E Mean Time

R'F2

Nov. 1956

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	270	280	260	280	300	300	270	240	230	230	250	230 ^H	250 ^H	230 ^H	250 ^H	240 ^H	260	250	240	250	230	250	260	250
2	270	340	330	290	260	270	260	240	230	240	230	230 ^H	240 ^H	240 ^H	240 ^H	250	250	240	230	250	250	260	290	310
3	270	270	330	310	270	290	280	240	230	260	230	250	240 ^H	250 ^H	270 ^L	260	260	230	250	250	260	260	290	300
4	290	300	270	260	230	260	270	240	240	240	230	270	240 ^H	240 ^H	250	260 ^A	240	240	250	230	250	250	240	270
5	280	270	280	270	230	260	260	240	240	240	230	260	270	260 ^L	260 ^L	260	250	250	250	250	230	250	270	270
6	290	270	280	270	270	320	250	240	230	240	240	250 ^H	230 ^H	240 ^H	260 ^L	260	250	240	250	250	270 ^A	270 ^A	260	260
7	280	280	280	350	320	290	260	230	240	240	240	260	230 ^H	240 ^H	240 ^H	240 ^H	260	250	260	270 ^A	260	250	260	260
8	270	260	280	270	250	280	260	230	230	240	240	240 ^H	250 ^H	250 ^H	250 ^H	260	270	260	270	250	250 ^A	240	250	260
9	270	280	260	260	250	330	270	240	230	240	230	240 ^H	240 ^H	240 ^H	240	230	250	250	260	260	270	250	260	280
10	280	240	270	360	370	320	260	230	240	240	230	230 ^H	230 ^H	250 ^H	250 ^H	270	250	260	280	280	260	250	280	270
11	300	270	280	280	360	380	280	240	260	240	250	240 ^H	270 ^H	250	230 ^H	250 ^H	270	250	260	230 ^A	300 ^A	290	290	280
12	260	260	250	250	250	290	270	230	250	230	230	230 ^H	230 ^H	240 ^H	260	250	240	250	240	260	250	220 ^H	240	250 ^H
13	490	410	370	420	410	420	280	250	250	260	250	240	230 ^H	240 ^H	250	230	250	240	280 ^A	270 ^A	240	240	240	260
14	270	250	230	260	250	240	250	240	230	230	230	230 ^H	230 ^H	240	240	240	250	270	250	230	290	250	260	310
15	270	270	250	270	300	270	290	260	230	270	240	250	250 ^H	250 ^H	250 ^H	270	240	240	260	260	330 ^A	280 ^A	290	280 ^A
16	270 ^A	250	270	270	250	390	340	240	230	250	240	260	240 ^H	240	230	240	230	250	250	260	210	260	290	290
17	270	290	300	290	260	280	250	230	230	240	260	240	240	240	250	240	240	230	260	270	270	240	250	270
18	350	370	350	370	350	340	310	240	240	250 ^A	260	240	250 ^H	260	260	C	C	230	250	240	240	250	280	290
19	310	340	300	230	210 ^H	340	300	260	250	240	250	240	240	250	250 ^H	260	240	230	260	250	220	240	270	290
20	300	360	320	280	250	240	230 ^H	230	240	240	230	270	(250 ^C	240	250	250	230	220	250	240	260	240	250	320
21	330	360	420	350	290	360	C	C	C	250	250	240	250	250	250	250	250	250	250 ^A	250	300	280	270	370 ^A
22	320 ^A	300	310	350	370	350	310	240	230	250	250	260	250	240 ^H	230 ^H	240	240	240	230	240	230	250	270	370
23	450 ^A	360	330	300	280 ^H	410	360	240	250	240	250	240	240	240	240 ^H	250	250	230	250	280 ^A	240	240	350	320
24	320	400	350	330	380	350	290	250	240	240	230	230	260	240 ^H	250	230	250	230	250	210	250	250	310	310
25	280	330	300	340	400	340	230	230	230	230	240	230	240	240 ^H	230	230	230	230	250	230	240	250	280	330
26	400	450	280	240	300	350	300	240	240	230	240	230 ^H	230 ^H	240 ^H	230 ^H	250	240	230	250	250	240	260	250	300
27	300	290	270	270	270	250	250	240	230	230	240	250	220 ^H	240	250	240	230 ^H	220	260	240	240	240	290	290
28	290	320	280	290	310	250	260	250	230	230	240	250	240	250 ^H	250 ^H	250	250	250	280	270	240	230	280	290
29	280	290	260	260	310	340	340	260	240	230	240	240 ^H	250	240	260	240	240	240	240	230	230	300	290	310
30	300	280	280	250	270	400	320	240	250	240	240	240	250	230	240 ^H	250	250	240	250	260	240	260	280	290
31.																								
Mean Value	300	310	290	290	290	320	280	240	240	240	240	240	240	240	250	250	250	240	250	250	250	250	270	290
Median Value	280	290	280	280	280	320	270	240	240	240	240	240	240	240	250	250	250	240	250	250	250	250	270	290
Count	30	30	30	30	30	30	29	29	29	30	30	30	29	30	30	29	29	30	30	30	30	30	30	30

R'F2

Sweep 10 Mc to 17.2 Mc in 2 min Manual Automatic

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

Lat. 35° 42.4' N
Long. 139° 28.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

foF1

Nov. 1956

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1							Q	Q	Q	Q	L	Q	Q	Q	Q	Q	Q	Q							
2							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
3							Q	Q	Q	L	Q	4.6 ^L	4.5 ^L	Q	L	Q	Q	Q							
4							Q	Q	Q	Q	Q	L	Q	Q	Q	A	Q	Q							
5							Q	Q	Q	Q	Q	L	L	L	L	L	Q	Q							
6							Q	Q	Q	Q	L	Q	Q	Q	L	Q	Q	Q							
7							Q	Q	Q	Q	Q	L	Q	Q	L	Q	Q	Q							
8							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A							
9							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
10							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
11							Q	Q	L	Q	Q	A	A	L	Q	Q	Q	Q							
12							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
13							L	Q	L	5.4	L	Q	Q	Q	Q	4.4	Q	A							
14							Q	Q	Q	Q	Q	L	Q	Q	Q	Q	Q	Q							
15							L	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
16							L	Q	Q	L	L	L	Q	Q	Q	Q	Q	Q							
17							Q	Q	Q	Q	4.9 ^L	Q	Q	Q	Q	Q	Q	Q							
18							Q	Q	Q	A	Q	A	5.0 ^L	L	L	C	C								
19							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
20							Q	Q	Q	Q	Q	L	Q	Q	Q	Q	Q	Q							
21							C	C	C	Q	Q	Q	Q	Q	Q	Q	Q	A							
22							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
23							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
24							Q	Q	Q	Q	L	Q	4.9 ^L	Q	Q	Q	Q	Q							
25							Q	Q	Q	Q	4.5	Q	Q	Q	Q	Q	Q	Q							
26							Q	Q	Q	Q	Q	Q	Q	Q	L	Q	Q	Q							
27							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	Q							
28							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
29							Q	Q	Q	Q	Q	4.5	Q	Q	L	Q	Q	Q							
30							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
31							Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q							
Mean Value									5.4	4.7	4.6	4.8													
Median Value									5.4	4.7	4.6	4.9													
Count									1	2	2	3													

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

Lat. 35° 42.4' N
Long. 139° 29.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Nov. 1956

R'F1

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

R'F1

Every 1.0 Mc to 17.2 Mc in _____ min Manual Automatic

K 5

IONOSPHERIC DATA

135° E Mean Time

Nov. 1956

foE

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	2.1	3.1 ^H	3.4	3.3 ^B	B	B	3.3	[3.2] ^H	3.0	2.3	B							
2						B	2.5	3.1	3.1 ^B	B	3.5 ^B	3.4 ^B	3.5 ^B	3.3 ^B	3.2	2.3								
3						B	2.4 ^H	3.0	3.3	B	A	3.4 ^B	[3.4]	3.3 ^B	3.0	A								
4						B	2.3	3.2	3.5	B	3.7 ^B	A	A	A	A	A								
5						B	2.5	3.2	[3.4] ^F	3.6 ^B	[3.7] ^B	3.8	B	B	3.1	2.3								
6						B	2.5	3.1	B	3.3 ^B	B	A	A	B	A	2.3	A							
7						1.7 ^T	2.4	3.2	3.4	A	A	A	A	3.3 ^B	3.0	2.3								
8						B	2.5	3.2 ^H	3.0	[3.2] ^F	3.4 ^B	3.6	3.7	B	A	A								
9						B	2.5	3.2	3.5	[3.6] ^B	3.7 ^B	B	A	B	3.1	2.4								
10						B	2.6	3.2	3.2	3.3 ^B	A	B	B	A	A	A								
11						B	2.5	3.1	3.3	3.6	3.7	[3.5] ^F	[3.3] ^H	[3.2] ^H	3.0	2.3								
12						B	2.2	3.0	B	B	B	B	B	B	3.1	2.1								
13						B	2.1	3.0	3.5 ^B	B	B	B	A	B	3.0	2.0 ^H								
14						B	2.4	[2.8] ^F	3.3 ^B	3.8	B	B	A	B	2.8	2.0 ^H								
15						B	2.1	2.5	3.3	3.6	[3.5] ^F	3.4	A	B	2.8	2.0 ^H								
16						B	2.4	A	B	A	3.3	3.2	3.6	3.4 ^B	3.4	A								
17						B	2.1	A	A	B	B	B	B	B	3.0	A								
18						A	A	3.0	A	A	A	3.7	A	B	C	C								
19						B	B	2.7	3.1	A	B	A	A	A	2.9	A								
20						B	2.5 ^H	3.0	3.2	3.2	B	A	A	B	A	B	2.3							
21						C	C	C	3.4	B	B	B	B	B	A	A								
22						B	2.3	2.8	B	B	B	B	B	3.5	3.3 ^B	[2.8] ^A	2.2							
23						B	2.3 ^H	2.9	B	A	3.6	B	B	B	3.3	2.9 ^H	1.9 ^A							
24						B	2.3 ^F	2.7	3.2	3.2	[3.3] ^B	3.4	B	A	2.9 ^H	2.1								
25						B	1.9	2.9 ^H	3.0	3.4	A	B	B	B	3.2	2.7	A							
26						B	B	2.6	3.0	[3.3] ^B	A	B	B	B	3.2	[2.8] ^A	2.5 ^H							
27						B	2.4 ^H	A	B	3.3 ^B	A	B	B	B	A	A								
28						B	2.3	2.8	3.3 ^B	[3.8] ^B	B	3.7	3.5	3.3	2.7 ^H	[2.4] ^B								
29						B	[2.2] ^H	2.6	3.3	3.4 ^B	[3.6] ^B	3.7	[3.6] ^B	[3.4] ^B	2.8	B								
30						B	B	2.7	3.3	B	B	B	B	3.5	3.3	2.7	2.1 ^A							
31																								
Mesh Value						1.8	2.3	2.9	3.3	3.4	3.5	3.5	3.5	3.3	2.9	2.2								
Median Value						1.8	2.4	3.0	3.3	3.4	3.6	3.5	3.5	3.3	3.0	2.3								
Count						2	25	26	22	16	11	11	10	13	21	17								

foE

Swamp L.O. Mc to J.Z.Z. Mc in 2 min

Manual

Automatic

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

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

IONOSPHERIC DATA

135° E Mean Time

Nov. 1956

K'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							170	120	110 ^H	110	110	[120]	120	120	[120]	120	130	B						
2							B	120	120	110	120	110	110	110	120	120	130							
3							B	120 ^H	[120] ^A	130 ^A	<130 ^C	A	110	[120] ^A	20 ^A	120	A							
4							B	130	120	110	120	120	A	A	A	A	A							
5							B	120	120	120	110	110	110	120	120	110	130							
6							B	120	110	120	110	110	A	A	120 ^A	A	150 ^A	A						
7							B	120	120	120	[120] ^A	A	A	A	110	120 ^A	160 ^A							
8							B	130	110 ^H	120	[120]	120	110	120 ^A	120	A	A							
9							B	140	110	110	120	110	120	[120]	110	120	130							
10							B	120	120	120	120	[120] ^H	110	110	A	A	A							
11							B	130	110	110	110	120	120	120	[120]	120	110							
12							B	120	120	[120] ^B	110	110	120	120	120	120	120							
13							B	130	120	120	120	120	120	A	A	A	A							
14							B	130	[120]	120	120	120	110	[120]	120	120	120	BH						
15							B	130	120	120	120	120	110	[120]	120	120	110 ^H							
16							B	130	[120]	120	[120]	110	110	120	120	120	A							
17							B	120	A	110	110	110	120	120	120	120	A							
18							A	A	130 ^A	A	A	A	110	[120]	120	C	C							
19							B	B	120	120	[120]	110	A	A	A	130 ^A	A							
20							B	140 ^H	120	120	110	110	[110] ^A	110	A	B	140							
21							C	C	C	110	110	110	110	110	110	A	A							
22							B	140	120	120	120	120	110	110	110	A	A							
23							B	140 ^H	120	120	[120]	110	120	120	120	120	120							
24							B	160	120	120	110	110	120	120	[120]	110 ^H	150							
25							B	140	120 ^H	120	110	[120]	120	110	110	110	A							
26							B	B	130	120	120	[120]	120	120	120	[140] ^H	150 ^H							
27							B	130 ^H	[120]	120	120	[120]	120	120	120	A	A							
28							B	180	A	110	110	110	110	110	110	120 ^H	150							
29							B	160	120	110	110	110	110	110	110	120	130 ^A	B						
30							B	B	120	120	120	110	110	110	110	120	A							
31																								
Mean Value							170	130	120	120	120	110	110	120	120	120	140							
Median Value							170	130	120	120	120	110	110	120	120	120	130							
Count							1	25	27	28	28	27	26	25	25	20	13							

K'E

Sweep 1.0 Mc in 1.2.2 Mc in 2 min
 Manual Automatic

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

Nov. 1956

fEs

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.2	2.9	3.1	3.0	3.2	3.0	G	G	3.5	G	B	B	G	2.4	4.2	G	G	B	2.4	E	E	E	E	E
2	E	E	E	E	E	E	B	G	3.4	G	G	3.8	4.7	G	3.5	G	G	E	E	E	E	E	E	E
3	E	E	E	E	2.3	2.3	B	G	3.3	3.3	3.2	4.6	G	3.3	3.0	3.3	4.6	3.2	2.4	E	1.9	E	E	E
4	E	E	E	E	E	E	B	3.0	3.5	4.8	4.7	4.7	4.9	4.8	6.6	6.7	4.8	E	E	E	E	E	E	E
5	E	E	E	E	2.3	2.3	B	3.0	3.5	4.4	G	G	G	G	G	G	G	3.0	E	E	E	E	E	E
6	E	E	E	E	2.2	2.2	B	3.0	3.2	G	4.7	G	4.5	5.2	3.2	4.7	3.2	2.5	E	E	5.5	E	E	E
7	E	E	E	E	3.0	3.0	G	3.0	G	5.1	5.7	4.8	4.6	4.7	G	3.2	3.3	3.2	3.2	3.2	2.4	E	E	2.2
8	E	E	E	E	E	E	B	2.8	3.4	3.2	4.5	3.8	G	3.8	G	4.9	5.0	3.4	3.2	2.9	3.0	E	E	E
9	E	E	E	E	E	E	B	G	G	4.4	G	G	G	4.8	G	3.3	G	3.0	2.9	3.0	E	E	E	E
10	E	E	E	E	2.1	2.2	2.5	3.0	3.5	G	5.7	4.5	G	G	4.3	4.5	3.2	3.0	2.7	E	2.4	E	E	3.0
11	2.3	3.2	2.2	2.2	2.2	2.2	B	G	G	4.9	4.9	6.0	7.1	4.8	4.4	2.7	G	3.0	2.3	3.2	5.4	2.9	E	E
12	E	E	E	E	3.0	3.0	B	2.7	G	B	G	G	G	G	G	4.3	3.6	3.0	E	E	E	E	E	E
13	E	E	E	E	E	E	B	3.2	4.5	4.8	5.2	4.3	G	5.0	5.6	3.6	6.8	6.8	6.7	4.8	2.2	E	E	E
14	E	E	E	E	E	E	B	G	5.4	3.7	G	G	G	3.7	G	G	G	3.0	2.3	2.0	E	E	E	E
15	E	E	E	E	E	E	B	2.4	2.9	2.9	G	G	G	4.3	G	3.2	G	3.0	2.3	2.0	3.2	3.0	3.2	3.2
16	3.2	2.1	E	E	2.2	2.2	B	G	3.3	3.3	4.4	G	G	G	3.6	G	3.2	2.9	2.3	2.4	E	2.4	2.5	2.5
17	E	E	E	E	E	E	B	3.2	5.2	6.0	G	3.2	G	3.2	G	3.2	3.5	3.2	3.0	4.8	2.5	E	E	2.2
18	2.5	2.5	2.1	2.5	E	E	3.2	3.2	3.2	6.4	6.5	6.6	G	6.7	G	C	C	E	E	E	E	E	E	E
19	E	E	E	E	E	E	B	B	3.2	3.2	3.8	3.2	3.8	4.9	3.6	3.2	3.2	3.2	3.2	2.5	3.2	2.6	E	E
20	2.4	E	E	E	1.6	E	B	G	G	G	G	G	3.6	G	4.9	B	2.5	2.4	3.0	3.2	3.3	E	E	E
21	E	E	E	E	E	E	C	C	C	G	G	G	G	G	G	4.9	3.9	3.2	3.2	2.8	2.3	2.5	3.0	1.8
22	4.8	3.2	3.2	3.1	2.3	E	B	2.7	G	G	G	G	4.4	3.8	G	4.5	2.3	E	E	2.5	E	3.2	3.0	E
23	5.7	3.2	3.8	3.9	2.5	2.0	B	G	3.3	G	4.3	G	G	G	3.3	3.2	4.7	3.2	3.2	6.7	6.6	2.5	E	E
24	E	E	E	E	E	E	B	G	G	3.8	G	G	G	G	5.0	3.2	2.4	2.3	2.0	E	E	E	E	3.0
25	2.1	2.1	E	E	E	2.0	B	G	3.2	3.2	G	4.8	G	G	G	G	3.3	3.0	3.0	E	E	E	E	E
26	E	E	E	E	2.2	E	B	G	2.8	3.5	4.5	4.5	G	G	G	3.2	G	E	E	2.9	E	E	E	E
27	2.0	E	E	E	2.0	2.1	B	G	3.0	G	3.7	4.5	G	G	G	4.9	5.4	4.3	E	2.3	1.9	2.2	2.4	2.3
28	E	E	E	E	E	E	B	1.9	3.3	G	G	4.8	4.0	4.8	5.5	4.7	3.0	E	3.0	3.2	2.3	E	E	2.5
29	2.5	2.2	2.1	E	E	E	B	2.8	3.2	3.3	G	4.8	5.3	3.3	4.4	3.2	B	E	E	2.1	E	E	2.5	E
30	E	E	E	E	2.3	E	B	B	3.3	G	G	G	G	4.8	3.2	4.7	3.5	2.9	E	E	E	E	E	E
31																								
Mean Value	3.0	2.7	2.7	2.7	2.7	2.5	2.9	2.8	3.5	4.2	4.7	4.6	4.7	4.4	4.3	4.0	3.8	3.2	3.0	3.2	3.1	2.7	2.8	3.2
Median Value	E	E	2.0	2.3	1.8	E	G	G	3.2	3.3	G	G	G	G	G	3.2	3.2	3.0	2.3	2.4	E	E	E	E
Count	3.0	3.0	3.0	3.0	3.0	3.0	5	27	29	29	30	29	30	30	30	28	28	29	30	30	30	30	30	30

Automatic

Manual

Sweep 1.0 Mc to 17.2 Mc in 2 min

fEs

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

Lat. 35° 42.4' N
Long. 139° 29.8' E

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

(M3000)F2

Nov. 1956

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	2.6	2.7	2.6	2.4	2.6	3.0	3.2	3.1	2.9	3.0	2.8 ^H	2.6 ^H	2.7 ^H	2.6	2.6 ^H	2.8	2.8	2.7	2.9	2.7	2.9	2.8	2.7
2	2.6	2.4	2.6	2.6	2.6	2.7	3.0	3.1	3.0	3.0	2.8	2.7 ^H	2.6 ^H	2.6 ^H	2.6 ^H	2.6	2.7	2.8	2.8	2.8	2.8	2.8	2.5	2.5
3	2.8	2.7	2.4	2.4	2.4	2.6	2.8	3.0	2.9	3.0	[2.8] ^C	2.6	2.5 ^H	2.5 ^H	2.6	2.7	2.8	2.9	2.7	2.8	2.7	2.7	2.6	2.4
4	2.7	2.5	2.8	2.9	3.1	2.6	2.9	3.1	3.0	2.9	2.8	2.6	2.6 ^H	2.6 ^H	2.6	2.6	2.7	2.7	2.9	2.8	2.8	2.7	2.9	2.6
5	2.7	2.7	2.7	2.8	3.1	2.7	2.8	3.2	3.1	3.0	2.6	2.7	2.6	2.6	2.6	2.7	2.7	2.8	2.7	2.8	2.8	2.9	2.7	2.7
6	2.8	2.8	2.8	2.8	2.6	2.5	3.0	3.2	3.0	2.9	2.9	2.7 ^H	2.6 ^H	2.6 ^H	2.5	2.7	2.7	2.7	2.7	2.8	2.7	2.8	2.7	2.7
7	2.8	2.7	2.7	2.4	2.4	2.6	3.1	3.1	[3.0] ^C	2.9 ^P	2.7	2.7	2.5 ^H	2.5 ^H	2.6 ^H	2.6 ^H	2.7	2.8	2.8	2.7	2.9	2.9	2.9	2.8
8	2.8	2.8	2.8	2.8	2.7	2.6	3.0	3.2	3.0	3.0	2.8	2.7 ^H	2.7 ^H	2.5 ^H	2.5 ^H	2.6	2.7	2.7	2.8	2.8	2.9	2.8	2.8	2.8
9	2.6	2.7	2.8	3.0	2.5	2.4	2.9	3.2	3.0	3.0	2.7	2.7 ^H	2.6 ^H	2.6 ^H	2.7	2.6	2.6	2.7	2.7	2.7	2.7	2.9	2.7	2.6
10	2.8	2.9	2.7	2.3	2.2	2.5	3.0	3.1	3.0	3.0	2.8	2.6 ^H	2.5 ^H	2.5 ^H	2.4 ^H	2.6	2.6	2.6	2.5	2.6	2.8	2.5	2.6	2.6
11	2.4	2.8	2.4	2.3	2.2	2.2	2.7	3.0	2.9	2.8 ^P	2.8	2.7 ^H	2.6 ^H	2.6 ^H	2.5 ^H	2.5 ^H	2.6	2.6	2.8	2.6	2.3	2.5	2.5	2.8
12	2.7	2.8	2.4	2.5	2.9	2.5	2.9	2.9	2.8	3.0	2.8	2.7 ^H	2.6 ^H	2.6 ^H	2.6	2.6	2.8	2.8	2.9	2.7	2.8 ^P	2.7 ^H	2.7	2.2 ^H
13	2.1	2.2	2.2	2.2	2.1	2.2	2.7	3.0	3.0	2.9	3.0	2.9	2.7 ^H	2.7 ^H	2.7	2.7	2.7	2.9	2.7	2.8	2.8	2.8	2.7	2.8
14	2.6	2.8	2.6	2.8	2.9	2.6	2.9	3.1	3.1	3.1	3.0	2.8 ^H	2.8 ^H	2.8	2.7 ^H	2.7	2.8	2.7	2.9	2.8	2.6	2.6	2.3	2.5
15	2.6	2.6	2.5	2.5	2.4	2.6	2.5	3.0 ^P	3.0	2.8	2.7	2.7	2.6	2.5 ^H	2.5 ^H	2.6	2.6	2.7	2.7	2.8	2.6	2.5	2.5	2.7
16	2.8	2.7	2.5	2.8	2.6	2.3	2.5	3.2	3.0	2.9	2.9	3.0	2.7 ^H	2.6	2.7	2.8	2.8	3.0	2.9	2.8	2.7 ^P	2.7	2.5	2.5
17	2.6	2.6	2.7	2.7	2.8	2.6	2.6	3.1	3.1	2.9	2.9	2.9	2.8	2.7	2.8	2.8	2.9	2.8	2.8	2.8	2.9	3.0	2.8	2.5
18	2.4	2.3	2.4	2.2	2.3	2.4	2.7	3.0	3.0	2.9	3.0	2.8	2.6 ^H	2.6	2.7	C	C	2.7	2.8	2.9	2.9	2.8	2.6	2.6
19	2.5	2.3	2.6	3.1	2.6 ^H	2.4	2.6	3.2	3.2	2.9	2.9	2.8	2.8	2.7	2.8 ^H	2.9	2.9	3.0	2.8	3.1	3.0 ^P	2.7	2.7	2.7
20	2.7	2.4	2.5	2.9	3.2	3.0	2.6 ^H	3.0	3.2	2.9	2.8	2.9	2.7	2.7	2.8	2.9	2.8	2.9	2.7	[2.8] ^C	3.0	3.0	2.7	2.5
21	2.6	2.4	2.3	2.4	2.7	C	C	C	C	2.9	2.9	2.8	2.6	2.6	2.6	2.7	2.8	2.8	2.9	2.8	2.4	2.5	2.5	2.6
22	2.5	2.6	2.5	2.4	2.2	2.5	2.6	3.2	2.9	2.9	2.9	2.8	2.8	2.7 ^H	2.6 ^H	2.7	2.8	2.9	3.0	2.7	2.7	2.8	2.2	2.2
23	2.2	2.3	2.4	2.6	2.2 ^H	2.3	2.4	3.2	2.8	2.9	2.8	2.7	2.6	2.7	2.7 ^H	2.7	2.8	2.8	2.8	2.8	2.4	2.3	2.5	2.5
24	2.5	2.2	2.4	2.4	2.4	2.4	2.4	3.2	3.0	3.0	2.9	2.9	3.0	2.6 ^H	2.8 ^H	2.9	2.9	3.0	3.1	2.8	2.8	2.6	2.6	2.6
25	2.8	2.5	2.6	2.3	2.2	2.5	2.9	3.2	3.1	2.9	3.0	2.9	2.9	2.7	2.8 ^H	2.8	2.8	3.0 ^P	3.0	2.7	2.8	2.7	2.4	2.4
26	2.3	2.1	2.7	2.7	2.4	2.4	2.6	3.2	3.0	2.9	3.0	2.9 ^H	2.8 ^H	2.6 ^H	2.6 ^H	2.7	2.9	2.8	2.9	2.7	2.8	2.8	2.5	2.5
27	2.6	2.6	2.7	2.6	2.8	2.7	2.6	3.1	3.0	2.9	2.8	2.8	2.8 ^H	2.7	2.7	2.8	2.7 ^H	2.8 ^P	2.7	2.9 ^P	2.7	2.6	2.6	2.7
28	2.6	2.6	2.7	2.4	2.4 ^F	2.6	2.6	3.0	3.1	2.9	2.8	2.7	2.6	2.7	2.6 ^H	2.7	2.8	2.7	2.8	2.8	2.8 ^P	2.6	2.5	2.6
29	2.6	2.6	2.6	2.7	2.5	2.4	2.5	2.9 ^P	2.8	2.8	2.9 ^P	2.7 ^H	2.7	2.6	2.6	2.7	2.8	2.8	2.9	2.7	2.7	2.6	2.6	2.5
30	2.6	2.6	2.6	2.8	2.5	2.3	2.6	3.0	3.1	2.9	2.9	2.8	2.7	2.7	2.6 ^H	2.8	2.8	2.8	2.6	2.8	2.6	2.6	2.6	2.7
31																								
Mean Value	2.6	2.6	2.6	2.6	2.5	2.5	2.7	3.1	3.0	2.9	2.9	2.8	2.7	2.6	2.6	2.7	2.8	2.8	2.8	2.8	2.7	2.7	2.6	2.6
Median Value	2.6	2.6	2.6	2.6	2.5	2.5	2.7	3.1	3.0	2.9	2.9	2.8	2.7	2.6	2.6	2.7	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.6
Count	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0

(M3000)F2

Group 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

Kokubunji Tokyo

IONOSPHERIC DATA

135° E Mean Time

fminF

Nov. 1956

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	1.9	1.7	1.5	1.4	1.4	1.4	1.8	2.8	3.3	4.0	4.0	4.1	4.1	4.0	4.0	3.1	2.6	1.7	1.5	1.6	1.6	1.6	1.6	1.6	
2	1.5	1.8	1.3	E	E	1.3	1.8	2.7	3.4	4.0	4.1	4.1	4.1	4.0	3.7	3.4	2.4	1.7	1.7	1.7	1.7	1.6	1.7	1.7	
3	1.4	1.4	E	E	1.3	1.4	1.8	2.6	3.4	4.1	4.1	4.1	4.0	4.1	4.0	3.4	2.7	1.9	1.7	1.6	1.9	1.8	1.7	1.7	
4	1.4	1.7	1.0	E	E	1.4	1.6	2.6	3.4	4.2	4.1	4.0	4.2	4.1	4.5	5.5 ^A	2.6	1.7	1.6	1.6	1.6	1.6	1.7	1.6	
5	1.4	1.4	E	E	E	1.4	1.7	2.7	3.5	4.1	4.1	4.0	4.2	4.0	4.0	3.4	2.5	1.8	1.7	1.6	1.6	1.6	1.6	1.7	
6	1.6	1.4	E	E	E	1.4	1.7	2.7	3.4	4.1	4.0	4.3	4.0	4.2	4.1	4.0	2.6	1.8	1.7	1.6	2.6 ^A	1.7	1.7	1.7	
7	1.7	1.4	E	1.4	1.0	1.4	1.7	2.6	4.0	4.2	4.1	4.1	4.0	4.0	3.6	3.0	2.5	2.3	2.4	2.1 ^A	1.6	1.6	1.6	1.7	
8	1.6	1.4	1.8	1.4	1.4	1.4	1.7	2.8	3.4	3.7	4.0	4.1	4.1	4.0	3.8	5.2	4.0 ^A	2.7	2.4	2.0	2.4 ^A	1.6	1.6	1.6	
9	1.6	1.4	1.3	1.7	1.3	1.4	1.6	2.6	3.3	4.1	4.1	4.2	4.1	4.0	4.0	4.0	2.6	1.9	2.0	1.9	1.6	1.6	1.6	1.7	
10	1.4	1.4	E	E	E	1.4	1.8	2.7	3.4	4.1	4.0	4.0	4.1	4.1	4.1	4.1	2.6	2.1	1.9	1.7	1.6	1.6	1.6	2.0	
11	1.4	1.6	1.3	1.4	1.2	1.4	1.6	2.6	3.2	4.0	4.2	5.1 ^A	6.3 ^A	4.0	4.1	3.3	2.5	2.2	1.6	2.5 ^A	4.0 ^A	1.9	1.7	1.8	
12	1.6	1.4	E	E	E	1.4	1.7	2.6	3.4	4.2	4.1	4.1	4.1	4.0	4.1	3.7	2.6	1.9	1.6	1.6	1.6	1.6	1.6	1.6	
13	1.7	1.4	1.2	1.3	1.3	1.4	1.6	2.9	3.4	4.0	4.5	4.1	4.4	4.5	4.6	4.0	5.5 ^A	2.8	4.0 ^A	2.6 ^A	1.6	1.6	1.6	1.6	
14	1.6	1.7	1.3	E	1.3	E	1.6	2.6	4.0	4.0	4.0	4.0	3.8	3.7	4.0	3.3	2.5	1.6	1.5	1.6	1.6	1.6	1.6	1.6	
15	1.5	1.4	1.2	E	E	1.3	1.7	2.6	3.0	3.7	4.0	4.2	4.1	4.1	3.6	2.9	2.4	1.7	1.5	1.6	1.7	1.6	1.6	1.6	
16	1.8	1.8	1.2	E	1.3	1.4	1.6	2.6	3.1	4.1	4.0	4.1	4.0	4.1	3.5	3.4	2.5	1.8	1.7	1.6	1.6	1.6	1.9	1.6	
17	1.7	1.7	1.5	E	1.3	1.4	1.6	2.6	3.5	4.0	4.1	4.4	4.1	4.1	4.1	3.1	2.6	2.5	1.7	2.0	1.6	1.6	1.6	1.7	
18	1.7	1.4	1.4	1.4	1.3	1.3	2.1	2.5	3.1	4.8 ^A	4.1	5.4 ^A	4.1	4.0	C	C	1.8	1.6	1.7	1.7	1.6	1.6	1.6	1.6	
19	1.7	1.4	1.4	E	E	1.4	1.7	2.5	3.1	3.4	4.2	4.1	4.0	4.1	4.1	4.2	2.5	2.0	1.7	1.7	1.6	1.6	1.6	1.6	
20	1.7	1.7	1.4	1.4	1.3	1.4	1.7	2.5	3.0	3.5	4.0	4.2	[4.2]	4.1	3.5	3.5	2.4	1.6	1.7	1.9	1.7	1.7	1.7	1.6	
21	1.7	1.4	1.3	1.4	<1.5°	1.4	C	C	C	3.5	4.1	4.0	4.0	4.0	4.0	3.6	3.8	2.6	2.7 ^A	1.6	1.6	1.8	1.8	4.0 ^A	
22	A	1.7	1.7	1.7	1.4	1.4	1.7	2.4	2.9	4.0	4.0	4.2	4.1	4.1	4.0	2.8	2.3	1.6	1.6	1.6	1.7	2.0	1.7	1.7	
23	2.6 ^A	1.6	1.5	1.4	1.4	1.4	1.6	2.5	2.9	3.4	3.7	4.0	4.0	4.0	4.0	4.0	3.0	2.1	2.6	4.2 ^A	1.9	1.7	1.7	1.6	
24	1.6	1.7	1.5	1.3	1.3	1.3	1.7	2.3	2.9	3.6	3.6	4.1	4.2	3.6	4.0	2.9	2.5	1.6	1.7	1.7	1.7	1.6	1.7	1.6	
25	1.4	1.7	1.0	E	E	1.4	1.5	2.3	2.9	3.8	3.8	4.1	4.1	4.0	3.5	2.9	2.3	1.8	1.8	1.6	1.5	1.6	1.7	1.6	
26	1.4	1.8	E	1.4	E	1.4	1.7	2.3	2.9	4.0	4.1	4.1	4.1	3.5	3.5	4.0	2.8	1.6	1.5	1.6	1.6	1.6	1.6	1.6	
27	1.7	1.7	E	E	1.4	1.4	1.5	2.5	2.8	3.5	4.1	4.0	4.2	4.1	3.6	4.0	4.0 ^A	1.7	1.7	1.7	1.6	1.6	1.8	1.7	
28	1.7	1.7	E	1.3	1.3	1.4	1.6	2.3	2.8	3.5	4.1	4.1	4.0	4.0	4.1	4.1 ^A	2.6	1.7	1.7	1.6	1.6	1.5	1.7	1.7	
29	1.4	1.4	1.4	1.4	1.4	1.4	1.7	2.5	2.9	3.6	4.0	4.1	4.7 ^A	4.0	4.0	2.9	2.2	1.7	1.6	1.6	1.7	1.9	1.7	1.6	
30	1.7	1.4	E	1.5	1.3	1.4	1.6	2.6	3.0	3.5	4.0	4.0	4.0	4.0	3.5	4.0	2.7	2.2	2.0	1.6	1.6	1.6	1.7	1.7	
31																									
Mean Value	1.6	1.6	1.4	1.4	1.3	1.4	1.7	2.6	3.2	3.9	4.0	4.2	4.2	4.0	3.9	3.6	2.8	1.9	1.9	1.8	1.8	1.7	1.7	1.8	
Median Value	1.6	1.5	1.2	1.3	1.3	1.4	1.7	2.6	3.2	4.0	4.1	4.1	4.1	4.0	4.0	3.5	2.6	1.8	1.7	1.6	1.6	1.6	1.7	1.7	
Count	29	30	30	30	29	30	29	29	29	30	30	30	30	30	29	29	30	30	30	30	30	30	30	30	30

Manual

Swing 1.0 Mc to 1.2 Mc in 2 min

fminF

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

f_{min}E

Nov. 1956

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	1.7	1.4	E	E	E	1.7	1.5	1.6	1.5	1.7	1.8	(2.3) ^B	2.6	1.7	2.1	1.8	1.8	B	1.6	E	E	E	E	E	
2	E	E	E	E	E	1.5	1.6	1.7	1.6	2.1	2.1	2.2	2.5	2.1	2.1	2.1	1.6	E	E	E	E	E	E	E	
3	E	E	E	E	E	1.7	1.8	1.7	1.8	1.8	(1.8) ^B	1.8	2.0	1.8	1.5	1.7	1.6	1.7	1.7	E	E	E	E	E	
4	E	E	E	E	E	1.5	1.8	1.8	1.6	1.7	2.1	2.1	2.4	1.6	2.1	1.6	1.7	E	E	E	E	1.7	E	E	
5	E	E	E	E	1.5	E	B	1.6	1.8	2.1	1.8	2.0	1.6	2.1	2.1	1.7	1.7	1.6	E	E	E	E	E	E	
6	E	E	E	E	E	1.8	B	1.6	1.4	2.0	1.9	2.0	2.3	2.1	1.6	1.4	2.1	1.6	E	E	E	E	E	E	
7	E	E	E	E	E	1.5	1.9	1.6	2.2	2.1	2.1	2.1	2.1	1.9	1.8	1.6	1.6	1.6	1.6	1.6	1.7	E	E	1.6	
8	E	E	E	1.3	E	E	B	1.6	1.7	2.1	2.0	2.2	2.5	2.0	2.1	1.7	1.1	1.6	1.6	1.6	1.6	E	E	E	
9	E	E	E	E	1.4	E	B	2.0	1.4	1.7	2.2	2.0	2.2	2.1	2.0	2.1	2.0	1.6	1.7	1.6	E	E	E	E	
10	E	E	E	E	1.8	1.7	1.9	1.7	1.7	2.1	2.1	2.1	2.1	2.5	1.8	1.6	1.6	1.6	1.6	E	E	E	E	1.6	
11	1.8	1.8	E	E	E	E	B	1.8	1.6	1.8	2.1	2.2	2.4	2.1	2.0	2.1	1.8	1.6	1.8	1.6	1.6	2.0	E	E	
12	E	E	E	1.4	E	1.5	B	1.7	2.0	(2.0) ^B	2.1	2.4	1.6	1.7	2.0	1.7	1.6	1.5	E	E	E	E	E	E	
13	E	E	E	E	E	E	1.8	1.7	1.8	2.1	2.2	2.2	1.8	2.0	2.3	1.8	1.6	1.6	1.6	1.6	1.6	E	E	E	
14	E	E	E	E	1.7	E	B	1.8	2.0	2.2	2.2	2.5	2.5	2.1	2.1	2.1	1.9	1.7	1.6	1.7	E	E	E	E	
15	E	E	E	E	E	E	B	1.8	1.8	2.3	2.3	2.3	2.5	2.1	2.0	1.8	1.6	E	E	1.6	1.5	1.6	1.6	1.6	
16	2.6A	1.9	E	E	E	E	B	1.8	2.1	1.9	2.0	2.3	2.1	2.1	2.1	2.0	1.6	1.6	1.9	1.8	E	2.1	1.5	1.9	
17	E	E	E	E	E	2.1	B	1.6	1.8	1.8	2.1	2.4	2.2	2.0	2.8	1.4	1.6	1.7	1.5	1.6	1.6	E	E	1.7	
18	1.7	1.4	E	E	E	E	1.6	1.6	1.7	1.8	1.9	2.5	2.3	2.3	2.2	C	C	E	E	E	E	E	E	E	
19	E	E	E	E	E	E	B	1.8	1.6	1.8	2.1	1.8	1.9	1.7	1.6	1.6	1.7	1.6	1.6	1.7	1.6	1.7	E	E	
20	1.7	E	E	E	E	1.4	E	1.8	1.7	1.5	1.8	2.1	1.8	1.6	2.0	(2.0) ^B	1.9	1.9	1.6	1.7	1.6	1.6	E	E	
21	1.4	E	E	E	E	E	C	1.7	C	1.7	1.8	1.8	1.8	2.1	1.7	1.7	1.7	1.6	1.6	1.6	1.7	1.6	1.6	1.6	
22	1.4	1.4	E	1.4	1.4	E	B	1.7	1.7	2.0	2.2	2.1	1.8	2.0	1.8	1.7	1.7	E	E	1.6	1.6	1.6	1.6	1.6	
23	1.6	1.4	1.0	E	1.3	1.7	B	1.7	1.7	1.6	1.6	1.6	1.8	2.1	1.8	1.8	1.6	1.5	1.7	1.7	1.6	1.7	E	E	
24	E	E	1.2	E	E	E	B	1.7	1.6	1.6	1.9	1.5	2.1	2.0	1.6	1.4	1.6	1.6	1.7	E	E	E	E	1.6	
25	1.6	1.8	E	E	E	1.4	(1.5) ^B	1.6	1.6	1.5	1.5	1.9	2.5	2.0	1.8	1.7	1.7	1.6	1.5	E	E	E	E	E	
26	E	E	E	E	E	E	B	2.0	1.8	2.0	2.4	2.5	2.5	2.1	2.2	1.8	1.8	E	E	1.6	E	E	E	E	
27	1.8	E	E	1.5	1.5	1.7	(1.7) ^B	1.7	2.0	1.7	2.2	2.5	2.5	2.3	2.1	1.7	1.8	1.6	E	1.7	1.6	1.6	1.6	1.7	
28	E	E	E	E	E	E	B	1.7	1.7	1.7	1.7	1.9	2.3	1.7	1.7	1.8	1.7	1.6	E	1.7	1.6	1.7	E	1.7	
29	1.7	1.5	E	E	E	E	B	1.7	1.6	1.5	1.7	1.8	1.7	1.7	2.0	1.7	B	E	1.6	1.6	1.7	E	1.7	E	
30	E	E	E	E	E	E	B	1.7	1.7	1.6	1.8	1.8	1.7	2.0	1.6	1.6	1.6	1.6	E	E	E	E	E	E	
31																									
Mean Value	1.8	1.6	1.4	1.3	1.5	1.7	1.7	1.7	1.7	1.7	2.0	2.1	2.1	2.0	2.0	1.7	1.7	1.6	1.6	1.6	1.7	1.8	1.7	1.7	
Median Value	E	E	E	E	E	E	1.6	1.7	1.7	1.8	2.0	2.1	2.1	2.0	2.0	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
Count	30	30	30	30	30	30	8	27	29	30	30	30	30	30	30	29	28	29	30	30	30	30	30	30	

f_{min}E

Sheep 1.0 Mc to 1.7 Mc in ___ min
 Manual Automatic

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

Lat. 35° 42.4' N
Long. 139° 28.3' E

Kokubunji Tokyo

IONOSPHERIC DATA

YPF2

Nov. 1956

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	130	120	140	110	110	110	80	70	80	80	90	70 ^H	90 ^H	80 ^H	120	100 ^H	90	100	110	90	100	110	100	140	
2	160	110	100	130	110	120	90	60	80	80	100	100 ^H	90 ^H	100 ^H	100 ^H	120	110	100	100	100	90	120	140	100	
3	80	140	110	110	100	100	90	110	90	90	[100] ^C	100	120 ^H	140 ^H	110	110	100	110	90	70	110	100	110	120	
4	110	90	80	100	120	110	110	110	90	90	110	80	100 ^H	100 ^H	80	110	110	120	100	100	90	130	110	130	
5	120	120	130	100	100	120	120	80	70	110	110	90	110	100	90	110	90	110	110	100	140	110	90	100	
6	80	80	70	90	150	150	110	70	90	90	110	90 ^H	100 ^H	90 ^H	130	100	140	100	90	110	120	100	120	140	
7	90	110	120	90	90	110	90	60	[60] ^C	70 ^P	100	100	80 ^H	130 ^H	120 ^H	100	100	90	90	100	100	90	100	90	
8	90	120	90	120	110	110	90	70	70	80	80	90 ^H	80 ^H	100 ^H	110 ^H	130	100	100	80	80	110	100	100	90	
9	120	110	90	90	190	130	80	70	90	100	70	100 ^H	100 ^H	100	110 ^H	100	110	100	100	90	90	100	130	130	
10	80	20	110	130	130	110	80	100	100	70	70	90 ^H	90 ^H	80 ^H	110 ^H	100	110	90	120	100	90	130	90	110	
11	70	80	130	130	140	100	100	100	70	60 ^P	70	90 ^H	80 ^H	80 ^H	100 ^H	80	110	110	100	100	150	100	120	90	
12	120	80	140	140	120	110	50	100	70	80	90	90 ^H	80 ^H	90 ^H	100	100	90	100	80	80	100 ^P	110 ^H	110	150 ^H	
13	100	110	100	100	110	110	130	80	60	80	70	130	90 ^H	90 ^H	90	80	100	90	80	110	110	90	100	120	
14	120	100	130	120	120	100	20	70	60	70	60	60 ^H	70	80 ^H	100	110	110	80	80	120	110	110	140	130	
15	130	140	140	130	110	110	100	70 ^P	100	70	60	90	120	100 ^H	110 ^H	130	120	90	80	100	90	110	140 ^Z	80	
16	80	120	110	100	150	100	140	70	90	80	80	80	80 ^H	80	100	90	90	70	80	80	80 ^P	100	110	130	
17	120	100	80	110	90	110	130	80	60	90	100	70	90	120	90	100	100	100	90	90	90	100	110	140	
18	120	120	110	140	90	80	110	100	90	80	70	90	90 ^H	90	110	C	C	100	90	90	80	120	110	110	
19	110	160	120	100	120 ^H	200	110	70	60	100	70	80	40	100	90 ^H	90	110	80	90	80	90 ^P	110	100	100	
20	80	90	90	90	70	110	120 ^H	110	100	70	70	80	80	70	60	70	90	90	80	[80] ^C	90	140	110	90	
21	90	80	90	100	80	C	C	C	C	C	80	70	90	100	110	110	110	90	90	120	120	130	150	100	
22	140	120	120	110	140	90	100	110	90	80	100	110	90	90 ^H	100 ^H	60	110	90	80	80	140	140	110	130	
23	120	130	90	100	100 ^H	120	130	70	90	100	110	80	100	100	90 ^H	120	100	100	110	110	110	200	130	120	
24	80	120	120	100	140	120	170	70	140	60	70	70	50	90 ^H	80	60	90	80	50	100	100	120	100	80	
25	100	120	100	120	140	110	90	90	60	70	80	80	100	80	80 ^H	90	90	80	70 ^P	80	110	110	80	110	
26	90	120	90	150	160	110	100	60	70	70	60	80 ^H	120 ^H	90 ^H	90	90	90	60	70	80	100	80	120	100	
27	110	120	90	90	90	130	110	50	80	90	90	90	80 ^H	90	90	110 ^H	100 ^P	120	80 ^P	130	130	120	90	90	
28	110	110	90	150	120 ^F	110	140	100	100	120	90	90	110	110	100 ^H	110	80	100	80	100	80 ^P	130	110	110	
29	90	90	120	130	90	100	90	60 ^P	80	90	60 ^P	90 ^H	80	100	110	120	140	90	110	90	110	140	90	110	
30	110	90	110	130	140	100	100	90	90	80	70	90	110	120	130 ^H	90	80	100	90	80	110	120	100	100	
31																									
Mean	110	110	110	110	120	110	110	80	80	80	80	90	90	100	100	100	100	90	90	90	100	120	110	110	
Minimum	110	120	110	110	120	110	100	70	80	80	80	90	90	100	100	100	100	100	90	90	100	110	110	110	
Value	30	30	30	30	30	29	29	29	29	30	30	30	30	30	30	29	29	29	30	30	30	30	30	30	30
Count																									

YPF2

Sweep 1.0 Mc to 17.2 Mc in 2 min

Manual Automatic

Yogane-machi, Kitatama-gun, Tokyo, Japan

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

foF2

Nov. 1956

Day	00	01	02	03	04	05	06	07	08	08	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	8.7	8.4	7.9	7.5	5.6 ^H	5.4	5.7	9.8	13.0	12.6	14.3 ^H	14.5 ^H	14.7 ^H	14.7 ^H	14.5 ^H	13.7 ^H	13.8 ^H	14.0	14.2 ^P	14.2 ^P	(14.5) ^P	14.0 ^P	12.3	11.0 ^J	
2	10.0	8.9	8.8	9.2	8.0 ^P	6.4	6.2 ^H	10.1	13.7	13.7	(14.5) ^P	(14.5) ^P	SH	SH	SH	SH	14.4 ^H	14.4 ^H	13.8	13.1	(14.2) ^P	12.6	9.8 ^P	9.2	
3	10.0	8.5	6.2	5.9	5.7	4.9 ^H	5.3	9.0	12.6	14.3 ^H	(14.5) ^P	14.5 ^H	14.5 ^H	14.5 ^H	SH	SH	14.6 ^H	13.6 ^H	12.3 ^H	12.3	13.0	11.5	9.8 ^P	8.7	
4	8.7	8.5	8.5	8.4	6.3 ^H	4.0 ^H	4.7 ^H	9.0	13.0	14.4 ^P	(14.7) ^P	SH	SH	SH	SH	SH	14.6 ^H	14.6 ^H	B	S	14.5 ^P	12.1 ^S	11.9 ^J	9.8	
5	9.1 ^J	8.4	7.3	7.0	6.6	3.5	3.7	8.6	12.3 ^J	13.4	14.3	14.5 ^H	14.7 ^H	14.4 ^H	[14.4] ^H	14.5 ^H	14.2 ^H	14.0 ^H	13.5	11.8	13.1	12.0	9.8	8.5	
6	8.1	7.9 ^J	6.7	5.6	4.9	3.8 ^H	4.5	8.8	11.3 ^H	14.5 ^H	C	C	C	C	C	C	C	13.0	12.8	11.7	10.5	9.3	9.0	9.0	
7	7.4	7.0	6.2	6.0	5.7 ^H	5.6 ^H	6.1 ^H	10.6	13.5	S	C	C	14.5 ^H	14.6 ^H	[14.4] ^C	14.2 ^H	[13.7] ^C	13.2	13.0	11.8	11.0	11.0	10.3	10.2	
8	10.4 ^J	9.8	8.6	7.9	6.5	4.0 ^H	4.5	9.0	12.7 ^H	14.5 ^H	14.4 ^H	14.4 ^H	14.6 ^H	14.4 ^H	14.1 ^J	14.0 ^J	13.8 ^H	14.1	13.1	13.0	13.0	11.7	9.8	9.3	
9	8.4	7.0	6.7	6.0 ^H	4.9	4.1	4.8	9.6	12.5	15.2 ^H	14.6	14.6 ^H	13.5 ^H	14.7 ^H	[14.5] ^H	14.3 ^H	C	C	C	C	C	C	C	C	
10	C	C	C	C	C	C	C	C	C	14.5 ^H	14.7 ^H	14.6 ^H	14.6 ^H	14.5 ^H	13.9 ^H	14.5 ^H	13.7 ^H	12.8 ^H	12.9	11.6	11.5	10.2	9.7	9.2	
11	8.5	9.4	7.0	6.6 ^H	6.2	6.9	9.2	12.2	S	S	SH	14.6 ^H	SH	SH	14.4 ^H	13.7 ^H	13.3 ^H	13.6 ^H	13.2 ^H	12.5	10.2 ^H	9.7	9.1	8.6	
12	8.7	8.9	7.2	6.5	5.8	4.1	5.1	9.8	12.9	14.6 ^H	14.6 ^H	SH	SH	14.5 ^H	C	CH	13.8	13.0	13.0	11.0	12.0	10.2 ^J	8.7	6.6 ^H	
13	5.7	6.0	6.0	5.5	5.7 ^H	5.8	6.6	10.8	14.5 ^H	14.4 ^H	14.5 ^H	C	CH	CH	CH	C	CH	13.0 ^H	C	CH	10.2	[10.3] ^C	10.4	9.4	
14	8.3	8.6	7.4	6.2 ^H	5.9	4.8 ^H	5.1 ^H	8.6	12.0	SH	C	C	14.5 ^H	14.0 ^H	C	C	C	13.6	14.5	13.2	10.7	11.5	9.0	8.7	
15	8.5	8.0	6.9	5.4	4.5 ^H	4.9 ^H	4.5	7.9	10.8	13.0 ^H	14.0 ^H	13.2 ^H	13.7 ^H	13.0 ^H	13.6 ^H	14.0 ^H	13.3 ^H	12.9 ^H	12.9	13.0	11.9 ^H	11.8	9.4	8.9	
16	8.6	7.7 ^H	5.4	5.0	4.0	3.9	4.3	8.7	11.0	13.4 ^H	15.1 ^H	15.4 ^H	14.8 ^H	14.7 ^H	14.9 ^H	[14.7] ^H	14.5 ^H	14.2 ^H	12.7	12.6	13.3	10.6	8.7	7.9	
17	7.4 ^H	6.4	6.5	6.5	5.8	3.9 ^H	4.1 ^H	7.9	11.2	12.7 ^H	14.6 ^H	15.2 ^H	[5.2] ^H	15.2 ^H	14.6 ^P	13.8 ^H	13.0 ^H	11.8 ^H	10.2 ^H	10.0	10.1	9.4	8.4	6.7	
18	6.0	5.3	5.2 ^H	4.8 ^V	4.3	4.7 ^H	5.3	8.1	13.0	14.6 ^H	14.6 ^H	15.7 ^H	SH	SH	15.8 ^H	15.5 ^H	SH	SH	14.3 ^H	14.0	13.0	11.0 ^J	9.0	7.5	
19	6.8	6.4 ^H	6.3	6.0	3.8 ^H	2.8	3.3	8.1	12.1	13.0 ^H	14.4	14.6 ^P	14.5 ^H	13.7 ^H	13.8 ^H	13.8 ^H	13.1	12.3	11.3 ^H	11.3	11.2	9.6	7.7 ^H	6.5	
20	5.4	4.5	4.5	5.0	5.2	4.1	3.0 ^H	6.7	10.5 ^H	12.6	14.5 ^H	[14.5] ^H	[5.0] ^H	15.4 ^H	15.3 ^H	14.5 ^H	14.6	14.2	13.2 ^H	11.7 ^H	11.3 ^H	9.4 ^H	7.0 ^H	6.3	
21	5.4	4.8	4.5	4.8	5.1 ^H	3.7	4.1	7.5	11.0	13.6	(15.0) ^P	14.6 ^H	15.2 ^H	14.6 ^H	14.6 ^H	14.6 ^H	C	C	C	C	C	C	C	C	
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	13.6 ^H	12.2	11.5	9.3	9.0	7.6	6.3 ^H	
23	5.4 ^H	5.5	5.3 ^V	4.5	3.9	4.0	4.2	(8.7) ^P	11.1 ^H	14.5 ^H	14.8 ^H	14.8 ^H	14.4 ^H	[14.4] ^H	14.5 ^H	14.4 ^H	14.6	13.4 ^H	11.6	10.5	9.9	9.0 ^H	7.2 ^H	6.9	
24	6.2	5.5 ^P	5.3 ^H	5.4 ^H	5.4	5.1 ^H	5.6	8.7	13.3 ^H	14.8	14.9 ^H	15.1 ^H	15.2 ^H	14.6 ^H	14.3 ^H	14.3 ^H	15.3 ^H	14.5 ^H	13.4	12.3	11.6 ^P	10.1 ^H	8.5 ^H	6.8 ^H	
25	7.5	6.3	4.8 ^H	4.5	4.0 ^H	4.5	5.4	7.7 ^H	10.4	13.0 ^H	14.1 ^H	14.5 ^H	13.5 ^H	(14.4) ^H	[13.7] ^H	13.4 ^H	13.2 ^H	12.6 ^H	12.1	10.5	9.5 ^H	8.5 ^H	6.9	6.1	
26	5.5	5.2	6.4	5.0 ^H	5.0 ^H	4.2	6.2 ^H	9.2	12.4	14.2 ^H	14.5	14.6 ^H	14.2 ^H	12.5 ^H	13.4 ^H	13.0 ^H	13.0 ^H	12.5 ^H	1.08	10.0	9.0	9.2	9.4	8.2 ^H	
27	6.7	6.3	6.5	6.2	6.4	4.4	3.9	6.9	11.5	13.0 ^H	14.2 ^H	13.6 ^H	14.0	14.0 ^H	14.5 ^H	13.7 ^H	13.0 ^H	11.9 ^H	10.0	10.1	9.5	9.3 ^H	8.5	7.0	
28	6.2	6.3	6.1	5.5	5.0	4.0	4.1	6.8	11.4	13.3 ^H	C	C	14.2 ^H	14.5 ^H	12.9 ^H	12.8 ^H	12.9 ^H	12.6 ^H	12.2	11.9	10.6	9.9	8.9	8.4	
29	6.9	6.6	6.2	4.8	4.4	4.4	4.6	8.2	13.5	14.8	15.2	15.1 ^H	14.6 ^H	14.0 ^H	14.1 ^H	13.9 ^H	13.4 ^H	12.0 ^H	10.0	9.5	8.7 ^H	8.4	8.7	8.5	
30	7.2	6.7	6.1	5.6	4.5	4.0	4.2	8.7	12.3	14.5	14.6 ^H	14.2	14.0 ^H	13.0 ^H	11.9 ^H	12.6 ^H	12.0 ^H	10.6	10.0	9.8	9.5	9.8	8.6	7.4	
31																									
Mean Value	7.6	7.1	6.4	6.0	5.3	4.5	4.9	8.8	12.2	13.9	14.6	14.6	14.5	14.3	14.2	14.0	13.7	13.2	12.4	11.8	11.4	10.4	9.1	8.1	
Median Value	7.4	6.8	6.4	5.8	5.3	4.2	4.6	8.7	12.3	14.2	14.6	14.6	14.5	14.5	14.4	14.0	13.7	13.5	12.9	11.8	11.2	10.2	9.0	8.4	
Count	28	28	28	28	28	28	28	28	27	26	24	22	22	23	22	22	22	26	26	26	28	28	28	28	28

foF2

Group 1.0 Mc to 2.2.0 Mc in 1 min

Manual

Automatic

Y I

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

Lat. 31° 12.6' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

135° E Mean Time

R'F2

Nov. 1956

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	240	250	250	240	240 ^H	260	260	250	240	240	240 ^H	240 ^H	230 ^H	230 ^H	240 ^H	250 ^H	250 ^H	250 ^H	250 ^H	240	240	230	250	240
2	240	250	280	250	250	210	250 ^H	260	240	240	240 ^H	240 ^H	230 ^H	270 ^H	240 ^H	250 ^H	240 ^H	240 ^H	240 ^H	240	240	220	250	290
3	240	240	260	300	240	250 ^H	300	250	240	240 ^H	240 ^H	240 ^H	240 ^H	250 ^H	240 ^H	260 ^H	240 ^H	240 ^H	230 ^H	260	250	250	240	250
4	270	290	250	240	200 ^H	290 ^H	300 ^H	250	250	240	240 ^H	240 ^H	240 ^H	240 ^H	250 ^H	240 ^H	240 ^H	250 ^H	240 ^H	230	240	220	220	240
5	250	240	240	250	220	250	270	240	240	240	240 ^H	240 ^H	230 ^H	230 ^H	240 ^H	240 ^H	240 ^H	250 ^H	250 ^A	250 ^A	210	220	220	250
6	240	250	240	250	250	300 ^H	270	240	240 ^H	240 ^H	C	C	C	C	C	C	C	C	240	240	250	240	240	250
7	240	260	250	300	280 ^H	240 ^H	250 ^H	260	240	240	C	C	240 ^H	240 ^H	[240] ^C	240 ^H	[240] ^C	250	250	250	240	230	240	240
8	240	240	240	240	230	240 ^H	290	240	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	250 ^H	240 ^H	240 ^H	240 ^H	240	250	250	240	220	240	240
9	240	260 ^A	240	240 ^H	330	300	290	240	220	240 ^H	240 ^H	240 ^H	220 ^H	220 ^H	240 ^H	240 ^H	240 ^H	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	240 ^H	240 ^H	240 ^H	230 ^H	240 ^H	240 ^H	250 ^H	240 ^H	260 ^H	270	290 ^A	290	240	250	290
11	290	290 ^A	220	270 ^A	340	400	290	240	250	240	240 ^H	240 ^H	220 ^H	240 ^H	240 ^H	240 ^H	240 ^H	250 ^H	250 ^H	290 ^A	230 ^H	250	240	270
12	250	240	240	240	240	290	290	240	250	240 ^H	220 ^H	240 ^H	230 ^H	230 ^H	[240] ^C	240 ^H	240 ^H	240	240	250	250	210	220	220 ^H
13	440	360	290	390	340 ^H	390	360	260	220 ^H	230 ^H	240 ^H	240 ^H	240 ^H	240 ^H	220 ^H	[220] ^C	230 ^H	250 ^H	250	250 ^H	260	250	230	220
14	230	240	220	240 ^H	240	240 ^H	250 ^H	240	240	210 ^A	C	C	220 ^H	230 ^H	C	C	C	240	240	230	250	230	230	280
15	250	260	240	230	260 ^H	270 ^H	250	260	240	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	250 ^H	240 ^H	250 ^H	250	260	300 ^H	250	230	230
16	240	220 ^H	240	250	240	360	330	240	240	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240	250	260	250	230	230
17	260 ^H	260	260	250	250	220 ^H	280 ^H	240	240	240	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	220 ^H	200 ^H	250	240	210	230	240
18	290	290	320 ^H	330	330	350 ^H	310	270	240	240 ^H	240 ^H	240 ^H	230 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	200 ^A	250	220	220	240	250
19	250	270 ^H	240	210	200 ^H	340	340	250	240	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240	230 ^H	240	240	200	240 ^H	240
20	250	290	290	250	240	200	320 ^H	240	230 ^H	230	240 ^H	220 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240	230 ^H	200 ^A	230 ^H	210 ^H	210 ^H	250
21	270	290	400	340	220 ^A	250	300	240	240	240	230 ^H	250 ^H	240 ^H	240 ^H	240 ^H	240 ^H	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	230 ^H	210	240	230	230	220	280 ^H
23	380 ^H	330	300 ^A	(360) ^A	380 ^A	400	340	240	240 ^H	240 ^H	240 ^H	250 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	250	240 ^H	220	220	210 ^H	280 ^H	290
24	250	300	290 ^H	300 ^H	290	290 ^H	300	270	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	230 ^H	240 ^H	210	250 ^A	200	230 ^H	230 ^A	280 ^H
25	260	240	290 ^H	300	360 ^H	350	250	200 ^H	220	230 ^H	240 ^H	240 ^H	230 ^H	240 ^H	240 ^H	240 ^H	230 ^H	230 ^H	240	240	210 ^H	230 ^H	240	250
26	340	420	250	220 ^H	250 ^H	340	280 ^H	240	230	240 ^H	230	240 ^H	230 ^H	240 ^H	240 ^H	240 ^H	240 ^H	240 ^H	200	240	210	240	240	200 ^H
27	250	270	270	240	240	210	240	240	230	240 ^H	230 ^H	240 ^H	240 ^H	250 ^H	240 ^H	240 ^H	240 ^H	210 ^H	200	220	250	240 ^H	240	240
28	250	250	250	250	250	220	250	290	240	230 ^H	C	C	240 ^H	240 ^H	240 ^H	250 ^A	240 ^H	250 ^H	240	240	230	210	210 ^A	250
29	250	280	220	240	250	300	300	290	250	240	240 ^H	240 ^H	240 ^H	240 ^H	230 ^H	230 ^H	250 ^H	240 ^H	210	240	240 ^H	240	260	240
30	250	240	240	240	240	410	340	260	240	230	240 ^H	240 ^H	240 ^H	240 ^H	220 ^H	240 ^H	240 ^H	240 ^H	240	250	240	250	260	220
31																								
Mean Value	270	270	260	270	260	290	290	250	240	240	240	240	240	240	240	240	240	240	240	250	240	230	240	250
Median Value	250	260	250	250	250	290	290	240	240	240	240	240	240	240	240	240	240	240	240	240	240	230	240	250
Count	28	28	28	28	28	28	28	28	28	29	25	25	28	28	27	27	25	27	28	28	28	28	28	28

Y 2

Manual Automatic

Swamp 1.0 Mc to 2.2.e Mc in 1 min

R'F2

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

Lat. 31° 12.5' N
Long. 130° 37.7' E

Yamagawa

IONOSPHERIC DATA

fEs

Nov. 1950

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	2.0	1.9	1.9	1.9	1.9	E	E	G	G	4.2	4.9	4.7Y	5.0	G	5.3	G	G	G	E	E	2.2	2.1	3.6	3.0
2	2.0	1.9	1.8	1.9	E	E	E	G	G	G	4.8	G	6.7	6.2	G	4.2	G	G	E	E	E	E	2.0	E
3	1.9	E	1.9	E	E	E	E	G	G	G	4.7	G	4.8	G	G	3.5	G	G	1.9	1.9	1.9	E	1.9	1.9
4	E	E	1.9	1.9	E	E	E	G	G	G	4.5	G	4.8	5.0	4.6	G	4.0	G	E	E	E	E	E	1.9
5	2.0	1.9	1.9	E	E	E	E	G	G	G	4.8	G	G	G	G	4.6	5.0	4.6	4.1	3.2	3.1	2.1	2.1	2.1
6	E	E	E	E	E	E	E	G	G	4.7	C	C	C	C	C	C	C	C	2.1	E	4.0	2.3	2.2	2.4
7	3.6	3.0	2.3	2.3	2.3	2.3	2.3	G	G	G	C	C	7.0	5.7	C	6.6	C	4.0	3.4	3.2	2.4	2.3	2.4	2.4
8	2.4F	2.4	2.3	2.5	3.1	2.3	2.3F	2.3	G	3.8	6.5	5.9	5.4	5.9	G	G	3.7	4.5	3.8	2.4	2.4	E	2.3	2.4
9	2.2	3.8	3.3	2.4	2.4	2.3	2.4	2.4	G	4.2	G	4.6	G	G	8.2	G	C	C	C	C	C	C	C	2.4
10	C	C	C	C	C	C	C	C	C	5.7	5.7	4.9	G	G	G	G	G	3.7	5.0F	4.0F	3.9F	2.4	2.3	2.4
11	2.3	3.2	3.8	3.8	2.4	3.5	2.3	3.0	5.7	G	5.9	5.8	5.7	5.8	G	G	5.8	6.5	4.8	4.8	3.6	2.4	2.3	2.3
12	2.4F	3.0	2.4	3.1F	3.3F	3.2	2.3	3.2	G	G	G	4	5.4	G	C	5.7Y	5.0	5.7	2.4	2.4	2.4	2.3	2.3	2.3
13	2.3F	2.3	2.3	2.3	3.0	2.4F	2.3F	3.2	G	G	3.8	6.6Y	G	5.5	G	C	5.0	3.8	4.2	4.8	3.3	3.5	3.4	2.3F
14	2.3F	2.3	2.3	2.3	2.3	2.3	2.1	2.3	5.7	G	C	C	5.9	5.5	C	C	C	3.7	2.4	2.4	2.0	3.2	2.3	2.9
15	2.3	E	2.4	2.4	E	2.3	2.3	3.0	5.9	G	G	G	G	G	G	G	G	3.1	2.9	3.1	2.4	2.4	2.4	2.2
16	2.3	2.4	E	2.4	3.1	2.4	2.4F	2.3	G	G	G	G	G	G	G	5.8Y	3.8	G	2.4	2.4	5.9	3.6	3.0	3.7
17	2.4F	2.4	2.4	2.4	2.4	3.4	2.4F	2.4	G	G	G	G	5.9	6.6	3.8	G	G	2.4	2.4	2.7	2.3	2.4	2.3	2.5
18	2.2	2.3	2.3	2.3	2.4	2.4	2.3F	2.5	G	G	G	G	8.9Y	G	5.9	5.3	5.9	5.9	5.9	3.2	2.6	3.1	2.3F	2.3
19	2.3F	2.4	2.3	3.1F	2.5F	2.4	2.3	3.3	3.8	G	4.8	6.4	5.9	4.1	G	G	3.5	3.4F	3.5	3.2	3.7	3.5	4.3	2.5
20	2.3	2.4	2.4	3.4	2.4	3.2F	2.3	3.1F	G	G	5.9	5.6Y	7.8	G	G	3.3	4.2	3.9	4.2	4.3	3.4	2.4F	2.4	2.6
21	2.3F	2.3	2.4	2.8	2.4F	2.4	E	3.2	G	5.9	G	G	G	3.8	G	G	C	C	C	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	2.3	2.3	2.3	E	3.2	2.3F
23	2.3	2.3	6.5	6.5F	6.7	5.5	2.3	3.8	5.9	G	G	G	G	G	3.9	G	G	G	2.4	2.6	2.3	2.9	2.3	2.2
24	2.3	3.8	2.3	2.3	2.3	E	4.9	3.1	G	4.1	G	G	G	5.0	6.5F	G	G	G	3.5	6.5	3.2	2.3	3.6	2.4
25	2.8	3.7F	3.2F	3.2F	3.1F	2.3	2.3	2.3	G	G	G	G	G	G	G	5.3	3.4	3.1	3.8	3.6	2.6	2.3	E	2.3
26	3.2	E	E	2.5	2.3	2.5	2.4	2.3	G	5.9	7.5	6.6	6.5	6.8	5.9	G	5.9Y	2.5	3.0	2.1	2.7F	2.7	2.6	3.2
27	E	E	E	E	2.3	E	E	3.0Y	G	G	G	5.1	4.9	G	5.9Y	4.2	4.3	G	2.7	E	E	E	2.3	2.3
28	2.3	E	E	E	E	2.5	2.3	3.0	G	8.9Y	C	C	G	G	5.9	6.6	8.9	5.7	2.7	2.4	2.4	3.3	2.9	3.4
29	3.5	2.4	2.3	E	2.3	E	E	B	G	G	5.9	G	G	4.0	G	G	3.8	2.3	2.3	2.5	2.3	2.3	E	E
30	2.3	E	2.2	2.3F	E	2.4	2.3	3.2	G	G	5.9	G	6.8	6.4	7.1	5.0	4.0	G	2.3	2.3	2.3	2.3F	3.5	2.3F
31																								
Mean Value	2.4	2.6	2.6	2.7	2.7	2.7	2.4	2.8	5.5	5.3	5.5	5.5	6.2	5.5	5.7	5.0	4.8	4.1	3.2	3.1	2.9	2.6	2.6	2.5
Median Value	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	G	G	3.8	G	4.8	G	G	G	3.8	3.1	2.7	2.4	2.4	2.3	2.3	2.3
Count	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.8	2.9	2.5	2.5	2.8	2.8	2.5	2.6	2.4	2.7	2.8	2.8	2.8	2.8	2.8	2.8

fEs

Sweep J. J. 0. Me to 2.2.0 Mc in 1 min

Manual Antennae

SOLAR RADIO EMISSION

NOV. 1956

Observing Station: HIRAISSO

Frequency: 200 Mc/s

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

Time in U.T.

Daily Data

Date	Steady Flux		
	00-03	03-06	Daily Averages
1	12	10	11
2	19	13	16
3	9	10	10
4	14	13	13
5	14	17	15
6	--	11	(13)
7	25	37	31
8	82	75	78
9	46	70	58
10	91	106	99
11	95	120	107
12	87	108	99
13	104	90	97
14	35	38	36
15	22	35	29
16	13	13	13
17	32	32	32
18	41	35	38
19	26	27	27
20	33	47	40
21	33	31	32
22	79	64	71
23	45	42	43
24	66	89	78
25	(220)	(183)	(201) *
26	85	100	93
27	38	39	39
28	11	12	11
29	10	13	12
30	9	14	10

* ... estimated flux and not precise, because
the antenna did not always trace the sun

Outstanding Occurrences

Date	Starting Time	Duration	Type	Peak Flux	Time
3	0037	30s	SD	290	-
	0404	30s	SD	490	-
	0533	2m	CD	580	-
4	0536	5m	SD	110	0532
	2115	1m	SD	> 500	-
	2217	3m	SD	160	2218-30s
5	0235	30s	SD	720	-
	0624	40s	SD	490	-
7	0426	2m	CA	760	-
	0601	1m	CA	510	-
	0609	1m	CA	360	-
	2225	1m	CA	510	-
	2250	50s	CA	> 800	-
	2312	1m	CA(M)	750	-
8	2328	7m	M	500.....	median
	0118	1m30s	CA	700	-
	0313	40s	M	130.....	median
	0438	20m	M	300.....	median
	2217-30s	30s	SA	680	-
	2303	3m	CA	330	-
9	0012-20s	30s	SA	540	-
	0055	4m	CA	> 800	0055
	0253-30s	1m	SA	> 800	-
10	0631-30s	4m	CA	> 800	0632
	0144-30s	2m	CA	> 1000	-
	0425-30s	30s	SA	850	-
	0450	1m	CA	620	-
11	0322-30s	1m30s	SA	960	-
16	0316	1m	SD	880	-
	0354	2m	SD	500	0355
	0556-30s	1m	SD	610	-
	0641-?	< 1m	SD	550	-
17	0447	20s	SD	> 1000	-
18	0026	2m	CA	> 1000	-
	0529	1m	CA	> 1000	-
19	0135-30s	30s	SA	> 800	-
	0434	6m	CA	180	0435.....1st peak
21				90	0439.....2nd peak
	0040	ca 15m	M+SD	250	0047
	0513	1m30s	CD	320	0514
	0543	2m30s	CD+M	380	0543-30s
	0608	2m	CD	220	0608-30s
	0326	1m	SD	> 1000	-
22	2230-30s	1m30s	SD	340	-
26	0041	1m30s	SD	280	-
27	0028	40s	SD	250	-
	0526-x	3m xs	SD	> 1000	0527-30s
	0549	1m	SD	220	-
29	0023	2m	CD	170	0023-20s
	0507	1m	SD	290	-
30	0113	40s	SD	> 1000	-
	0114	50s	SD	> 1000	-
	0543	2m	SD	270	0543-30s

18th and 22nd: M-type emission continued through each day.

IONOSPHERIC DATA IN JAPAN FOR NOVEMBER 1956

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