F — 158

IONOSPHERIC DATA IN JAPAN

FOR FEBRUARY 1962

Vol. 14 No. 2

Issued in May 1962

Prepared by

THE RADIO RESEARCH LABORATORIES

MINISTRY OF POSTS AND TELECOMMUNICATIONS

KOKUBUNJI, TOKYO, JAPAN

F—158

IONOSPHERIC DATA IN JAPAN

FOR FEBRUARY 1962

Vol. 14 No. 2

THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

CONTENTS

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 and radio propagation conditions are observed at Hiraiso Radio Wave Observatory.

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

SYMBOLS AND TERMINOLOGY

A. IONOSPHERE

All symbols and terminology in the table of ionospheric data are used in accordance with the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, September 2, 1956, and the Second Report of the Committee, May, 1957, supplementary to the First Report.

Terminology

f_0F2, f_0F1, f_0E — The ordinary-wave critical frequency for the $F2$, $F1$ and E layers respectively.

f_0E_s — The ordinary wave top frequency corresponding to highest frequency at which a mainly continuous trace is observed.

f_bE_s — The ordinary wave frequency at which the highest blanketing E_s layer becomes effectively transparent. This is usually determined from the minimum frequency at which reflections from layers at greater heights are observed.

f-min — That frequency below which no echoes are observed.

$(M\,3000)\,F2$ — The maximum usable frequency factor for a path of 3000 km for transmission by $F2$ layer.

$(M\,3000)\,F1$ — The maximum usable frequency factor for a path of 3000 km for transmission by $F1$ layer.

$h'F2$ — The minimum virtual height, $h'F2$, refers to the highest, most stable stratification observed in the F region and can only be scaled when such stratification is present.

$h'F$ — The natural and most significant F region virtual height parameter is that for lowest F region stratification. This will be denoted by $h'F$. Thus $h'F$ is identical with the current $h'F2$ when F region stratification is absent, e. g., at night, and with the current $h'F1$ when $F1$ stratification is present.

$h'E_s$ The lowest virtual height of the trace used to give the f_0E_s.

$hpF2$ The virtual height of the $F2$ layer measured on the ordinary-wave branch at a frequency equal to 0.834 f_0F2.

$ypF2$ The 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).

a. Descriptive Symbols

Used following the numerical value on monthly tabulation sheets.

A Measurement influenced by, or impossible because of, the presence of a lower thin layer, for example E_s.

B Measurement influenced by, or impossible because of, absorption in the vicinity of f-min.

C Measurement influenced by, or impossible because of, any non-ionospheric reason.

D Measurement influenced by, or impossible because of, the upper limit of the nomal frequency range. Used in a qualifying sense, see below.

E Measurement influenced by, or impossible because of, the lower limit of the normal frequency range. Used in a qualifying sense, see below.

F Measurement influenced by, or impossible because of, the presence of spread echoes.

G Measurement influenced or impossible because the ionization density is too small compared with that of a lower thick layer.

H Measurement influenced by, or impossible because of, the presence of a stratification.

L Measurement influenced by or impossible because the trace has no sufficiently definite cusp between layers.

M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

N Conditions are such that the measurement cannot readily be interpreted, for example, in the presence of oblique echoes.

O Measurement refers to the ordinary component.

R Measurement influenced by, or impossible because of, absorption in the vicinity of a critical frequency.

S Measurement influenced by, or impossible because of, interference or atmospherics.

V Forked trace which may influence the measurement.

W Measurement influenced or impossible because the echo lies outside the height range recorded.

X Measurement refers to the extraordinary component.

Y Intermittent trace.

Z Third magneto-ionic component present.

b. Qualifying Symbols

Used as a preceeding symbol on monthly tabulation sheets.

D *greater than.....*

E *less than.....*

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.

U Uncertain or doubtful numerical value.

Z Measurement deduced from the third magnetoionic component.

c. Description of Standard Types of E_s

The nine standard types of E_s are identified by small (lower case) letters: *l*, *c*, *h*, *q*, *r*, *a*, *s*, *f*, *n*. These letters are suggestive of the names low, cusp, high, equatorial, retardation, auroral, slant, flat and unclassified, respectively; it is strongly emphasized that these names are suggestive, not restrictive. The standard types are:

l At flat E_s trace at or below the normal E layer minimum virtual height. Use in daytime only.

c An E_s trace showing a relatively symmetrical cusp at or below f_0E. This is usually continuous with the normal E trace though, when the deviative absorption is large, part or all of the cusp may be missing. Use in daytime only.

h An E_s trace showing a discontinuity *in height* with the normal E layer trace at or above f_0E. The cusp is not symmetrical, the low frequency end of the E_s trace lying clearly above the high frequency end of the normal E trace. Use in daytime only.

q An E_s trace which is diffuse and non-blanketing over a wide frequency range. The spread is most pronounced at the upper edge of the trace. (This type is common in daytime in the vicinity of the magnetic equator.)

r An E_s trace which is non-blanketing over part or all of its frequency range showing an increase in virtual height at the high frequency end similar to group retardation. This is distinguished at present from true group retardation (a blanketing thich layer included in the E layer tables: f_0E, $h'E$) by the lack of group retardation in the F traces at corresponding frequencies.

a An E_s pattern having a well defined flat or gradually rising lower edge with stratified and diffuse (spread) traces present above it. These sometimes exceed over several hundred kilometers of virtual height.

s A diffuse E_s trace which rises steadily with frequency. This usually emerges from another E_s trace which should be classified separately. At high latitudes the slant trace usually starts to rise from a horizontal E_s trace, *l*, *h* or *f*, and frequencies which greatly exceed the E layer critical frequency (e.g. about 6 Mc/s) whereas at low latitudes it usually rises from equatorial type E_s, *q*, at frequencies near the E region critical frequency.

f An E_s trace which shows no appreciable increase of height with

frequency. The trace is usually relatively solid at most latitudes. This classification may only be used at night; apparently flat E_s traces observed in the daytime are classified according to their virtual height: h or l.

n — An E trace which cannot be classified into one of the standard types. This must not be used for intermediate cases between any two classes. A choice should always be made whenever possible, even if it is doubtful.

d. Multiple Reflections from E_s

When the ionogram shows the presence of multiple reflections from E_s, the number of traces seen should be recorded after the letter indicating the type.

B. SOLAR RADIO EMISSION

Solar radio emission is received on 200 Mc at Hiraiso Radio Wave Observatory using a 6×4 dipole broadside array and an ordinary superheterodyne receiver. The type of observation is of intensity recording of both steady flux and outstanding occurrences.

a. Daily Data

Steady flux — The mean value of recorded base level. Outstanding occurrences are to be omitted except the phenomena with duration of hours or more.

Variability — Variability is expressed in four grades as follows:

0=no burst
1=a few bursts
2=many bursts
3=exceptionally many bursts

Number of bursts is determined relatively in comparison with the base level. If the number of bursts be fixed, the variability is greater, when bursts are widely distributed, than in the case of being concentrated in a short period.

b. Outstanding occurrences

Starting time — When the start is not obvious, 20% rise time of smoothed flux is adopted and x is suffixed. (e.g. 0234x)

Maximum time — When the instantaneous maximum can not be taken, the smoothed maximum is used and x is suffixed. (e.g. 0539x)

Time of end — When the phenomena have ended obscurely the time of 20% of maximum smoothed flux is written.

Type — Outstanding emissions are classified as follows: On another point of view, the classification in the URSI Interchange code is to be added.

S : simple rise and fall of intensity
C : complex variation of intensity
A : appears to be part of general activity
D : distinct from (i.e. apparently superposed upon) the general

activity

M : multiple peaks separated by relatively long period of quietness

F : multiple peaks separated by relatively short period of quietness

E : sudden commencement or rise of activity

Combined letters express one phenomenon (e.g. SD, ECD); letters joined by + express some phenomena occurring in parallel; the preceding term is more important (e.g. SD+F, SA+C).

Maximum intensity

Instantaneous: The highest value above the base level.

Smoothed: By multiplying the duration, the approximate total power of the phenomenon con be estimated.

C. RADIO PROPAGATION CONDITIONS

a. Radio Propagation Quality Figures

Radio propagation quality figures are usually expressed on the scale that ranges from one to five as follows:

1=very poor (very disturbed)
2=poor (disturbed)
3=rather poor (unstable)
4=normal
5=good

The tabulated circuits contain London (Commercial circuit), WWV (frequencies 10, 15, 20 Mc broadcast from Washington, D.C.), San Francisco (commercial circuit) and WWVH (frequencies 10, 15 Mc broadcast from Hawaii), which are received at Hiraiso Radio Wave Observatory near Tokyo.

Warnings of radio propagation broadcast from JJY station are expressed in three grades:

N=normal
U=unstable
W=disturbed

The letter W expresses disturbed condition expected to be during the following 12 hours after issue. The letter U and N means also unstable or normal conditions, respectively.

Whole day radio quality indices are the averages of the 6-hourly indices of London, WWV and S. F.

Start- and end-time of principal geomagnetic storms closely correlated to radio propagation conditions are tabulated from observations at Kakioka.

b. Sudden Ionospheric Disturbances (S. I. D.)

The data of short wave fade-out (SWF) are preparated from the field intensity records on following circuits received at Hiraiso. Characteristics of the phenomenon are classified as follows.

Circuits and Drop-out intensity

W S .....WWV 20 Mc, 15 Mc and 10 Mc (Washington)

S F .....Various commercial circuits (San Francisco)

H A.....WWVH 15 Mc and 10 Mc (Hawaii)

T O.....JJY 15 Mc and 10 Mc (Tokyo)

S H .....BPV 15 Mc and 10 Mc (Shanghai)

L N .....Various commercial circuit (London)

Start-time and Duration, Types and Importances are described from the data of a circuit whose Drop-out Intensity is underlined. Drop-out Intensities of 10 Mc ('), 15 Mc (none) and 20 Mc (").

Start-times and Durations

Types

S : sudden drop-out and gradual recoverly

Slow : slow drop-out taking 5 to 15 minutes and gradual recoverly

G : gradual disturbances; fade irregular in both drop-out and recoverly

Importances

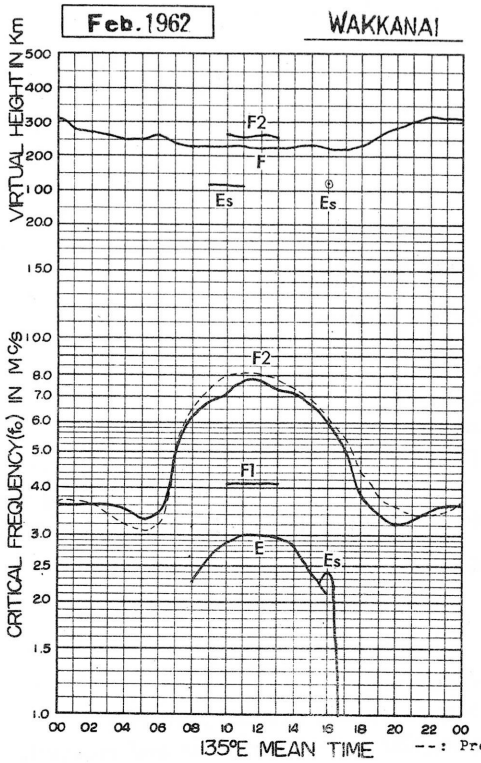
Degrees of SWF are classified into 9 grades according to the amplitude of fade-out;

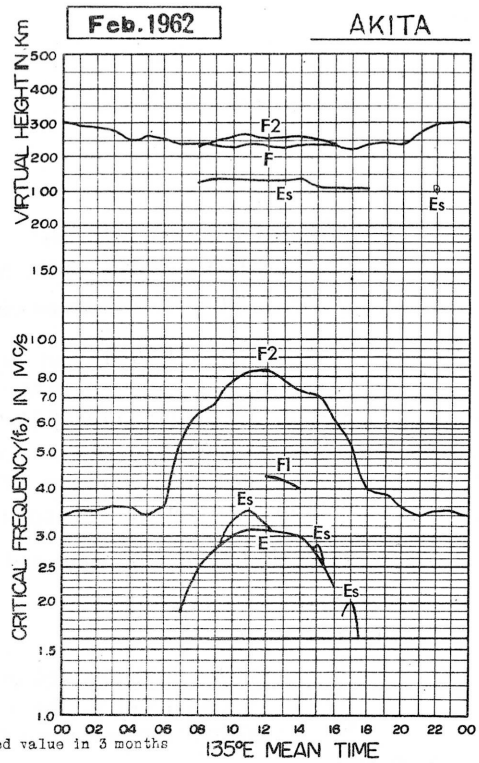
1—	1	1+
2—	2	2+
3—	3	3+

The data of sudden enhancement of atmospheric (SEA) observed on 28 kc are tabulated on each *Start-time, Duration and Importance.*

Besides, the time associated phenomena of SID's, that is, solar flare, solar radio noise outburst and crochet (solar flare effect in magnetic record) are given in this table from interchange messages or measurements at Hiraiso.

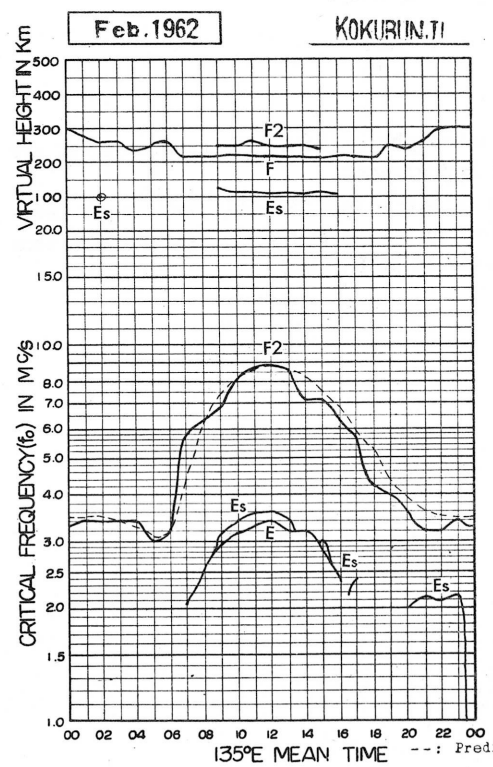
IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS

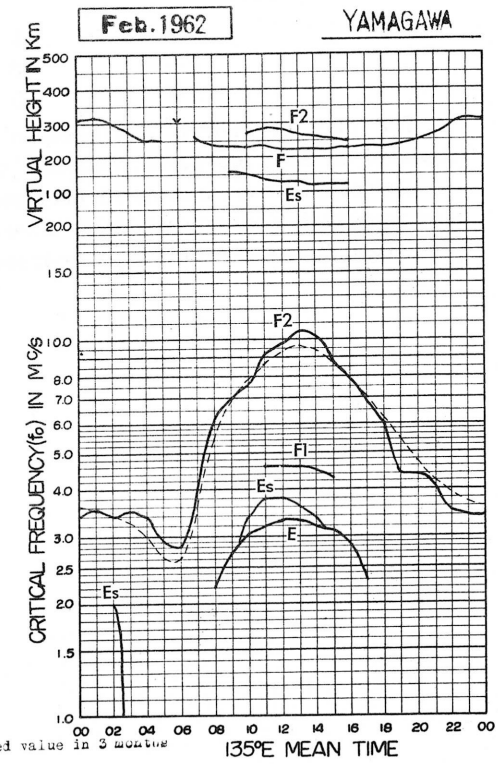




--: Predicted value in 3 months advance by R.R.L.

IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS





--: Predicted value in 3 months advance by R.R.L.

IONOSPHERIC DATA

Feb. 1962 | foF2 | 135° E Mean Time (G.M.T. + 9h.) | 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	3.5	3.5	3.7	3.8	3.8	4.1	3.0	4.5	5.5	6.6	6.2	6.4^{H}	6.5	6.6	6.5	6.7	5.3	4.5	3.7	3.0	^{I}2.6^{S}	2.7	2.7	2.8
2	3.0	3.0	3.0	3.1	3.0	3.0	2.7	4.1	6.0	6.5	6.3	6.5	6.7	7.2	6.1	6.4	6.0	3.7	2.9	2.8	2.9	3.1	3.1	3.3
3	3.3	3.5	3.5	3.4	3.5	3.3	3.5	4.8	6.5	6.1	6.2	6.4	7.2	6.6	6.8^{H}	5.8	5.6	4.1	3.5	3.5	3.2	2.9	2.7	2.9
4	2.9	3.0	3.0	3.0	3.2	3.3	2.6	4.3	6.3	5.4	6.2	6.4^{H}	6.4	6.3	6.1	5.5	6.0	4.0	3.3	3.4	3.3	2.6	3.0	3.0
5	3.2	3.3	3.2	3.6	^{I}2.6^{S}	2.4	3.0	4.2	5.0^{H}	7.6^{H}	8.8	8.0	8.5	7.7	6.7^{H}	6.4	6.0	4.3	3.6	3.4	4.1	4.3	^{U}4.0^{S}	4.2
6	^{U}4.3^{F}	4.3	4.2	4.0	3.8	4.0	3.5	4.7	6.3	6.5	7.1	8.1	7.6	6.6^{H}	6.4	6.6	5.8	4.1	3.8	3.3	3.0	3.2	F	F
7	F	SF	^{U}3.6^{S}	3.6	3.5	3.1	2.5	4.5	6.5	6.9	6.4^{H}	8.0	9.3	7.0	6.1	6.7	5.6	4.1	3.6	3.5	3.5	3.3	3.3^{H}	3.4
8	3.5	3.2	3.8	SF	SF	FS	SF	S	6.1^{H}	9.0	8.1	8.0	8.3	7.2	6.7	6.1	5.6	4.1	3.8	3.4	3.1	3.3	3.3	^{I}3.4^{F}
9	3.6	3.6	3.5	3.3	SF	SF	SF	4.8	6.0^{H}	6.4^{H}	6.9^{H}	6.8	6.8	6.3	6.8	6.7	5.5	4.4	3.0	3.2	2.9	F	FS	F
10	F	F	SF	FS	SF	S	^{U}3.5^{S}	^{U}4.8^{S}	5.8	5.3^{H}	6.4	7.2	6.7	6.7	6.7	6.2	5.8	4.1	3.7	^{U}4.5^{S}	^{U}3.5^{S}	^{U}3.9^{S}	F	F
11	F	4.1	^{I}4.3^{S}	^{I}4.4^{S}	^{U}4.3^{S}	SF	^{U}3.8^{S}	4.6	6.5	6.5^{H}	6.8^{H}	6.5	6.5	6.0	6.1	6.3	5.7	4.6	3.4	3.2	3.0	3.3	F	F
12	F	F	FS	SF	SF	SF	^{U}3.3^{F}	5.0	6.0	7.6	7.9	6.4	7.6^{H}	8.6^{H}	7.8	7.5	7.1	5.8	5.0	5.4	F	F	F	F
13	F	F	S	S	S	S	S	5.5	6.5	^{U}6.3^{S}	7.3^{H}	7.7^{H}	7.6	6.2	6.7^{H}	7.2^{H}	7.1	5.5	4.6	3.1	3.2	3.4	^{I}3.5^{FS}	^{U}4.3^{S}
14	^{I}4.5^{SF}	4.4	4.3	^{U}4.1^{S}	3.9	3.8	^{U}3.8^{S}	5.6	5.5	7.0^{H}	6.5^{H}	8.1	7.0^{H}	8.1	7.4	6.9	5.8	5.8	4.8	4.2	4.2	5.0	5.3	5.0
15	^{I}5.3^{SF}	5.2	5.0	^{U}5.5^{S}	^{U}5.3^{S}	4.9	4.5	5.1	6.2	6.3	6.9^{H}	7.5	6.7^{H}	7.3^{H}	7.6^{H}	6.7	7.0	5.0	4.2	^{I}2.8^{S}	3.0	3.8	^{U}4.3^{S}	^{U}4.5^{S}
16	F	F	SF	S	S	S	S	4.6	5.7	6.0	6.4	7.6	8.7	7.7	6.6^{H}	6.4	5.3	5.0	3.8	3.3	3.8	3.7	3.5	3.6
17	3.5	2.7	2.5	2.5	2.4	2.9	^{I}2.9^{S}	5.0	6.4^{H}	6.6^{H}	8.2	7.0	8.7	7.6^{H}	7.5	7.1^{H}	6.0	4.8	3.8	3.7	4.2	3.7	3.8	3.8
18	3.8	3.6	^{U}3.6^{S}	^{U}3.6^{S}	SF	SF	SF	^{U}5.3^{S}	6.3	7.2^{H}	9.0	7.8^{H}	7.5	7.1	7.3^{H}	8.0	6.4	4.6	3.0	2.9	^{I}3.2^{F}	^{U}3.3^{S}	SF	FS
19	FS	3.3	^{U}3.6^{S}	S	SF	FS	2.6	4.9	5.9	7.2	7.9^{H}	7.6	8.7	7.3	7.2	7.7	6.2	5.5	3.2	3.2	2.6	3.0	SF	SF
20	SF	SF	SF	SF	S	S	^{U}2.8^{S}	5.0	6.6	7.1	7.1^{H}	8.3^{H}	8.2^{H}	7.6	7.5^{H}	8.0	7.0	5.7	3.3	2.8	2.7	3.1	3.0	SF
21	FS	SF	3.6	3.3	3.6	3.6	3.6	6.1	6.4	6.8	7.8	7.1	7.7^{H}	7.5^{H}	7.1	6.6	7.0	6.0	4.9	4.2	3.4	3.1	3.3	3.4
22	3.6	3.7	3.8	3.8	3.6	3.6	3.3	5.8	7.4	8.1	8.4	8.6	8.1	8.0	8.1	7.7	6.7	5.3	4.3	4.5	3.8	3.6	3.8	3.9
23	3.9	3.8	3.7	3.5	3.3	3.2	3.2	5.6	7.2	^{U}7.5^{S}	8.6	8.3	8.3	7.8	7.5	7.5	7.2	6.1	4.3	4.1	4.3	4.3	4.3	^{U}4.5^{S}
24	4.5	4.3	4.7	4.7	4.5	4.2	4.3	6.7	7.8	8.1	9.1^{H}	8.9^{H}	7.8^{H}	7.3^{H}	7.3	7.3	7.5	6.1	4.3	3.6	3.2	3.6	3.6	3.6
25	3.8	3.6	3.6	3.9	3.5	3.3	3.7	6.2	7.1	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	8.8	8.7^{H}	8.0^{H}	7.8	7.4^{H}	7.2	6.6	6.0	5.3	F	F	F	F
27	F	SF	SF	4.3	3.5	3.0	3.5	6.1	7.8	7.8	8.3^{H}	8.6^{H}	8.4^{H}	8.6	9.6^{H}	9.1^{H}	8.5	7.8	^{U}7.5^{S}	^{U}6.1^{S}	5.7	5.7	5.3	4.6
28	4.4	4.1	3.8	3.3	3.3	3.0	3.4	5.6	7.1	8.4	9.0	8.4	7.7	8.5^{H}	8.8^{H}	7.9^{H}	6.8	6.6	5.3	5.0	4.3	F	F	S
29																								
30																								
31																								
No.	17	19	21	20	18	17	22	26	27	26	26	27	27	27	27	27	27	27	27	27	25	23	18	17
Median	3.6	3.6	3.6	3.6	3.5	3.3	3.4	5.0	6.3	6.8	7.2	7.7	7.7	7.3	7.1	6.7	6.0	5.0	3.8	3.4	3.2	3.3	3.5	3.6
U.Q	4.4	4.1	4.0	4.0	3.8	3.9	3.6	5.6	6.6	7.6	8.3	8.3	8.4	7.8	7.5	7.5	7.0	5.8	4.6	4.2	4.0	3.8	4.0	4.4
L.Q	3.4	3.3	3.5	3.3	3.3	3.0	2.9	4.6	6.0	6.4	6.4	6.8	6.8	6.6	6.6	6.4	5.7	4.1	3.4	3.2	3.0	3.1	3.1	3.4
Q.R	1.0	0.8	0.5	0.7	0.5	0.9	0.7	1.0	0.6	1.2	1.9	1.5	1.6	1.2	0.9	1.1	1.3	1.7	1.2	1.0	1.0	0.7	0.9	1.0

foF2 Sweep 1.0 Mc to 18.0 Mc in 1 ~~sec~~ min in automatic operation.

The Radio Research Laboratories, Japan.

W 1

IONOSPHERIC DATA

Feb. 1962 | foF1 | 135° E Mean Time (G.M.T. + 9h.) | 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													3.9											
2													4.2 H	4.0										
3													4.0											
4																								
5											U4.1 L	4.1	4.0											
6												L	U4.1 L											
7												U4.0 L	4.0 H											
8												U4.1 L	4.2	4.0										
9												4.1 H	4.0	3.9										
10													U4.1 L	4.1										
11												4.0 H	4.0	3.9										
12																								
13													4.1											
14												4.2		4.1										
15												4.1												
16											4.0	4.0		4.1										
17											4.1		4.1		4.0									
18											4.1		U4.2 L	4.1										
19													4.2	4.3	4.1									
20														4.3										
21											A	A												
22										L	L	L	L	L	L	L								
23											U4.1 L	U4.2 L	L	L										
24																								
25										C	C	C	C	C	C	C								
26										C	C													
27																								
28										3.9 A	4.0 H													
29																								
30																								
31																								
No.										1	6	9	14	10	2									
Median										U3.9	4.1	4.1	4.1	4.1	4.0									

foF1

Sweep 1.0 Mc to 18.0 Mc in 1 ~~sec~~ min in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Feb. 1962 | foE | 135° E Mean Time (G.M.T. + 9h.) | 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								S	S	2.70	2.95	3.00	2.95	3.00	2.70	2.40	S							
2								S	2.30	2.55	2.75	3.00	2.95	2.75	2.50	A	S							
3								S	2.00	2.50	2.95	2.95	3.00	2.85	2.55	2.40	S							
4								S	B	2.55	2.95	3.00	2.95	2.95	2.75	2.40	S	S						
5								S	2.25	2.65	2.90	2.95	3.00	2.95	2.65	2.25	S	S						
6								S	A	2.60	2.90	2.95	3.00	2.90	2.80	2.30	S							
7								S	2.25	2.40	2.50	3.00	3.00	2.85	2.70	2.30	A							
8								A	S	[1]2.60[A]	2.70	2.90	2.95	2.85	2.70	2.30	S							
9								S	A	2.60	2.80	2.95	2.95	2.90	2.60	2.30	S	S						
10								S	2.05	2.50	2.75	2.80	2.90	2.80	2.65	2.35	S	S						
11								S	2.30	2.60	2.80	2.90	2.95	2.90	2.75	2.40	S							
12								S	2.10	2.60	2.80	3.00	3.00	3.00	2.70	2.35	S							
13								S	2.20	2.60	[1]2.75[A]	2.95	3.00	2.95	2.80	2.45	S	S						
14								S	2.25	2.40[M]	2.75	2.95	3.00	2.95	2.75	2.30	S	S						
15								S	2.20	2.35	2.80	3.00	2.95	2.95	2.80	2.45	S							
16								S	2.25	2.50	2.90	[1]2.95[A]	2.95	2.80	2.70	2.40	2.05	S						
17								A	2.05	2.30	2.50	2.35	[1]2.70[A]	2.95	2.90	2.50	S	S						
18								S	2.20	2.65	3.00	3.05	[1]3.00[A]	3.00	3.00	2.65	A	S						
19								S	2.40	2.70	2.80	3.20	3.20	3.10	2.95	2.60	2.15	S						
20								2.15	2.40	2.90[M]	3.00	3.15	3.25	3.15	3.00	2.60	2.20	S						
21								S	2.40[R]	2.80	[1]2.95[A]	[1]3.10[A]	[1]3.15[A]	3.05	2.95	2.85	2.05	S						
22								S	2.05	[1]2.50[A]	[1]3.00[A]	3.15	3.25	3.10	2.95	2.60	2.05	S						
23								S	2.50	[1]2.75[A]	[1]3.00[A]	3.20	3.20	3.20	2.95	2.45	A	S						
24							S	S	[U]2.45[S]	[1]2.80[A]	3.00	3.25	3.20	3.10	3.00	2.60	S	S						
25								S	2.45	C	C	C	C	C	C	C	C	C						
26							C	C	C	C	C	3.10	3.25	3.00	2.90	2.70	2.10	S						
27								S	2.60	2.85	2.85	3.00	3.20	3.15	3.00	2.70	2.10	S						
28								S	A	A	A	A	A	3.05	2.95	2.65	[1]2.35[B]	S						
29														..										
30																								
31																								
No.								1	21	25	25	26	26	27	27	26	8							
Median								2.15	2.25	2.60	2.85	3.00	3.00	2.95	2.80	2.40	2.10							

foE

Sweep 1.0 Mc to 18.0 Mc in 1 min ~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

W 3

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Feb. 1962 | foEs | 135° E Mean Time (G.M.T. + 9h.)

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	S	S	G	G	G	G	G	G	G	S	E	E	E	S	E	E	E
2	E	E	E	E	E	E	E	S	G	G	G	G	G	G	3.0	2.8	S	2.3	E	E	E	E	E	E
3	E	E	E	E	E	2.3	2.3	S	G	G	G	G	G	G	G	G	S	E	E	E	E	E	E	E
4	E	E	E	E	E	E	E	S	B	G	3.5	G	G	G	G	G	S	S	E	E	E	E	E	E
5	2.5	E	E	E	S	E	E	S	G	G	3.3	G	G	G	G	2.7	S	S	E	2.6	2.7	E	E	E
6	E	1.6	E	E	E	E	E	S	J4.3	G	G	G	G	G	G	G	S	E	E	2.5	J3.0	J3.0	E	E
7	E	E	E	E	1.6	E	E	S	G	3.4	3.2	G	G	G	G	G	3.0	E	E	E	E	E	E	2.3
8	E	E	E	E	J2.2	E	2.4	6.2	S	J4.3	G	G	G	G	G	G	S	E	E	E	E	E	E	E
9	E	E	E	E	E	E	E	S	J3.3	G	G	G	G	G	G	G	S	S	E	E	E	E	E	E
10	E	E	E	E	E	E	E	S	G	G	G	G	G	G	G	G	3.0	S	E	E	E	E	E	E
11	E	E	E	E	E	E	E	S	G	3.2	3.6	3.2	G	G	G	G	2.4	J2.5	J2.5	E	J2.8	2.7	E	E
12	E	E	2.3	E	E	E	E	S	2.5	G	G	2.7G	G	2.5G	3.1	3.1	2.4	E	E	E	E	E	E	E
13	E	E	E	E	E	E	E	S	G	G	3.1	2.5G	G	G	G	G	S	S	E	E	E	E	E	E
14	E	E	E	E	E	E	E	S	G	G	G	G	3.5	G	3.6	3.3	2.3	S	E	E	E	E	E	E
15	E	E	E	E	E	E	E	S	G	G	G	3.1	G	G	G	G	S	J2.8	J2.3	2.3	2.3	E	E	E
16	E	E	E	E	E	E	E	S	G	G	G	3.7M	2.8G	G	G	G	G	S	E	E	E	E	E	E
17	E	E	E	E	E	E	2.5	2.6	2.6	3.0	3.1	3.1	J3.6	3.5	G	G	2.5	S	2.2	E	E	E	E	E
18	E	E	E	1.4	E	E	E	S	G	3.2	G	3.3	3.2	2.9G	G	G	J3.0	S	E	E	E	E	E	E
19	E	E	E	E	1.6	E	E	S	G	3.6	3.2	G	G	G	G	G	G	S	E	E	E	E	E	E
20	E	E	E	2.4	E	J2.3	E	G	G	G	G	G	G	G	G	3.3	G	S	E	E	E	E	E	E
21	E	E	E	J2.2	J2.3	E	E	S	G	2.5G	4.0M	5.2M	5.0M	3.9	4.0	G	3.8	2.3	2.6M	E	E	E	E	E
22	E	E	E	E	E	E	E	S	3.0	J3.3	3.8M	G	G	G	G	G	G	S	2.7	2.5	2.2	E	E	E
23	E	E	2.5	1.8	J3.1	E	E	S	G	J4.5	J3.4	2.6G	G	G	4.2	J4.5	4.3	S	J4.3	J3.3	J2.6	J3.0	E	E
24	E	E	1.6	E	E	E	S	S	3.4	3.0	G	G	G	G	2.4G	G	S	S	E	E	E	E	J3.0	J2.3
25	E	E	E	1.3	E	E	E	S	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	G	2.5G	2.3G	G	G	G	S	E	E	E	E	E	E
27	E	E	E	E	E	E	E	S	G	G	G	G	G	3.6	3.9	3.0	3.0	J4.3	E	E	E	E	E	E
28	2.7	E	E	E	E	E	J3.0	2.8	J4.3	J6.4	J4.3	J4.5	J3.4	J2.9	G	G	B	S	E	J3.3	J4.3	E	E	E
29																								
30																								
31																								
No.	27	27	27	27	26	27	26	4	24	26	26	27	27	27	27	27	15	11	27	27	26	27	27	27
Median	E	E	E	E	E	E	E	2.7	G	G	G	G	G	G	G	G	2.4	E	E	E	E	E	E	E
U.Q	E	E	E	E	E	E	E	4.5	2.6	3.2	3.3	3.1	G	G	G	2.7	3.0	2.5	E	E	E	E	E	E
L.Q	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E
Q.R																								

foEs

Sweep 1.0 Mc to 18.0 Mc in 1 ~~sec~~ min in automatic operation.

The Radio Research Laboratories, Japan.

W 4

IONOSPHERIC DATA

Feb. 1962 | f_bEs | 135° E Mean Time (G.M.T. + 9h.) | 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								S	S								S				S			
2								S							G	2.7	S	E						
3						E	E	S									S							
4	E							S	B		G						S	S						
5		E			S			S			G					G	S	S		E	E			
6								S	2.3								S			E	E	E		
7					E			S	S	G	G						2.0							E
8					E		E	3.0	S	3.0							S							
9								S	2.3								S	S						
10								S									G	S						
11								S		G	G	G					G	E	E		E	E		
12			E					S	G			2.4		2.4	G	G	G							
13								S			3.1	G					S	S						
14								S					2.8		G	G	G	S						
15								S				G					S	E	E	A	E			
16								S				3.1	G					S						
17				E			A	2.5	G	G	G	G	3.4	G			G	S	E					
18					E			S		G		2.5	3.1	G			2.2	S						
19						E		S		G	G							S						
20				E		E										G		S						
21				E	E			S		G	3.8	3.8	3.6	G	G		G	G	E					
22								S	G	3.0	3.1							S	E	E	E			
23			E	E	E			S		3.0	3.1	G			4.0	4.1	3.2	S	E	E	E	E		
24			E				S	S	G	3.0					G		S	S					E	E
25				E				S		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C		G	G				S						
27								S						G	G	G	G	4.0						
28	E						E	2.7	4.1	4.0	3.1	4.0	3.4	2.7			B	S		E	E			
29																								
30																								
31																								
No.																								
Median																								

f_bEs Sweep 1.0 Mc to 18.0 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

W 5

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Feb. 1962 | f-min | 135° E Mean Time (G.M.T. + 9h.)

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	E2.00s	E1.20s	E	E	E	E	E2.00s	E2.00s	E2.20s	2.00	2.00	2.00	2.30	2.00	2.00	2.20	E2.10s	E2.00s	E1.90s	E2.00s	s	E2.00s	E2.00s	E2.00s
2	E2.00s	E1.50s	E	E	E	E1.50s	E1.90s	E2.00s	2.00	2.00	2.00	2.00	2.00	2.30	2.00	2.00	E2.00s	E1.70s	E1.90s	E1.90s	E2.00s	E2.00s	E2.00s	E2.00s
3	E2.00s	E1.80s	E	E	E	E	E1.80s	E1.80s	1.70	2.00	2.10	2.10	2.20	2.00	2.00	2.00	E2.00s	E1.80s	E1.90s	E2.00s	E2.10s	E2.00s	E2.00s	E2.00s
4	E2.00s	E1.50s	E	E	E	E1.60s	E1.90s	E1.80s	2.30	2.00	2.00	2.10	2.00	2.00	2.00	2.00	E2.00s	E1.90s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s
5	E2.00s	E1.20s	E	E	E	E1.80s	E2.00s	E2.00s	2.00	2.00	2.00	2.00	2.00	2.05	2.10	2.00	E2.00s	E1.80s	E1.90s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s
6	E2.00s	E	E	E	E	E1.70s	E2.00s	E2.00s	1.90	2.00	2.00	2.05	2.15	2.00	2.00	1.85	E2.00s	E2.00s	E2.00s	E1.85s	E1.90s	E1.90s	E1.90s	E1.90s
7	E2.00s	E	E	E	E	E1.70s	E2.00s	E1.90s	2.05	2.00	2.00	2.00	2.00	2.00	2.00	2.00	E1.80s	E1.90s	E1.90s	E2.00s	E2.00s	E2.00s	E2.00s	E1.90s
8	E2.00s	E1.20s	E	E	E	E1.50s	E1.80s	E1.80s	E2.20s	1.90	2.00	2.00	2.00	2.00	2.00	1.90	E2.00s	E1.90s	E1.80s	E1.90s	E2.00s	E2.00s	E2.00s	E2.00s
9	E2.00s	E1.30s	E	E	E	E1.15s	E1.80s	E2.00s	1.90	2.00	2.00	2.00	2.00	2.00	2.00	1.90	E2.00s	E1.85s	E1.90s	E1.85s	E2.00s	E1.95s	E2.00s	E1.70s
10	E1.80s	E1.50s	E	E	E	E	E1.90s	E1.90s	1.85	1.90	1.95	2.00	2.00	2.00	2.00	2.00	E1.85s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s
11	E1.90s	E	E	E	E	E1.50s	E1.90s	E1.90s	1.90	2.00	2.00	2.00	1.85	2.00	2.00	2.00	E2.00s	E2.00s	E1.70s	E1.90s	E1.90s	E1.90s	E1.90s	E2.00s
12	E1.90s	E	E	E	E	E1.50s	E1.90s	E2.00s	1.90	1.90	2.00	2.00	2.00	2.00	1.95	2.00	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E1.90s
13	E1.90s	E1.20s	E	E	E	E1.50s	E1.90s	E2.00s	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.95	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E1.95s	E1.80s	E2.00s
14	E1.90s	E1.60s	E	E	E	E	E2.00s	E2.00s	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	E2.00s	E2.00s	E2.00s	E1.90s	E2.00s	E2.00s	E2.00s	E2.00s
15	E1.90s	E	E	E	E	E1.50s	E1.90s	E2.00s	1.90	2.00	2.00	2.00	2.00	2.00	2.00	2.00	E2.10s	E1.90s	E1.80s	E1.90s	E1.80s	E2.00s	E2.00s	E2.00s
16	E2.00s	E1.70s	E1.20s	E	E	E1.20s	E1.70s	E2.00s	2.00	1.90	2.00	2.00	2.05	2.00	2.00	2.00	E1.95s	E1.90s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s
17	E2.00s	E1.20s	E1.20s	E	E	E	E1.95s	E1.90s	1.85	1.85	2.10	2.00	2.00	2.00	2.00	1.90	E1.90s	E1.90s	E1.70s	E1.90s	E2.00s	E2.00s	E2.00s	E1.90s
18	E2.00s	E1.50s	E	E	E	E	E1.70s	E2.00s	1.80	1.95	1.90	1.95	2.00	1.90	2.00	2.00	1.90	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E1.60s	E1.90s
19	E2.00s	E1.20s	E	E	E	E1.60s	E2.00s	E2.10s	1.95	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	E1.90s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s
20	E2.00s	E	E	E	E	E	E1.90s	1.90	1.95	2.00	2.00	2.00	2.00	2.10	2.00	2.10	1.85	E2.00s	E1.90s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s
21	E2.00s	E	E1.40s	E1.20s	E1.50s	E1.50s	E1.90s	E2.05s	2.00	2.00	2.00	1.80	2.00	2.00	2.00	1.90	1.90	E1.60s	E1.60s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s
22	E2.00s	E1.60s	E1.20s	E	E	E	E2.00s	E2.00s	1.90	2.00	2.00	2.00	2.00	2.05	2.00	2.00	2.00	E2.00s	E1.90s	E1.90s	E1.70s	E2.10s	E2.00s	E2.00s
23	E2.00s	E1.70s	E	E	E	E1.40s	E1.80s	E2.10s	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	E2.00s	E1.90s	E2.00s	E1.90s	E1.90s	E2.00s	E2.00s
24	E2.00s	E	E	E	E	E1.20s	E1.95s	E2.20s	1.90	2.00	2.00	2.00	2.00	2.00	2.00	2.00	E2.30s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E1.85s	E2.00s
25	E1.90s	E1.70s	E	E	E	E1.70s	E1.85s	E2.30s	1.90	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	2.20	2.05	1.90	2.00	2.00	2.00	E2.00s	E1.90s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s
27	E1.80s	E	E	E	E	E1.80s	E2.00s	E2.20s	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	E1.95s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s	E2.00s
28	E1.90s	E1.60s	E	E	E	E1.40s	E2.00s	E2.00s	2.00	2.00	2.00	2.00	2.00	2.00	2.30	2.00	3.00	E2.00s	E2.00s	E2.00s	E1.70s	E2.00s	E2.00s	E2.00s
29																								
30																								
31																								
No.	27	27	23	26	25	27	27	27	25	26	26	27	27	27	27	27	27	27	27	27	26	27	27	27
Median	E2.00	E1.20	E	E	E	E1.50	E1.90	E2.00	1.95	2.00	2.00	2.00	2.00	2.00	2.00	2.00	E2.00	E2.00	E1.90	E2.00	E2.00	E2.00	E2.00	E2.00

The Radio Research Laboratories, Japan.

f-min

Sweep 1.0 Mc to 18.0 Mc in 1 min/sec in automatic operation.

W 6

IONOSPHERIC DATA

Feb. 1962 | M(3000)F2 | 135° E Mean Time (G.M.T. + 9h.) | 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	2.85	3.00	2.95	3.00	3.05	3.40	3.10	3.50	3.70	3.55	3.50	3.40H	3.50	3.55	3.30H	3.50	3.60	3.30	3.30	3.35	I3.10S	2.95	2.65	2.85
2	2.85	3.05	3.00	2.95	3.10	3.35	3.15	3.40	3.55	3.60	3.50	3.55	3.45	3.40	3.30	3.50	3.60	3.55	3.10	3.20	3.05	3.00	2.90	2.90
3	3.05	2.90	3.05	3.10	3.10	3.35	3.20	3.40	3.60	3.50	3.55	3.40	3.45	3.65	3.55H	3.30	3.55	3.45	3.15	3.30	3.15	3.15	3.00	3.00
4	2.95	2.90	2.95	3.00	3.15	3.35	3.40	3.30	3.55	3.75	3.55	3.35H	3.45	3.50	3.50	3.45	3.65	3.55	3.05	3.25	3.35	2.90	2.90	2.75
5	2.70	2.80	2.75	3.15	I2.95S	2.80	3.05	3.25	2.95H	3.20H	3.25	3.25	3.30	3.15	3.50H	3.50H	3.35	3.40	3.20	3.05	2.95	3.05	U3.00S	2.85
6	U2.95F	2.95	3.00	3.05	3.00	3.20	3.25	3.40	3.65	3.55	3.25	3.50	3.50	3.60H	3.45	3.55	3.75	3.40	3.15	3.35	3.05	2.90	F	F
7	F	SF	U2.95S	3.10	3.05	3.25	3.20	3.35	3.50	3.50	3.50H	3.20	3.45	3.45	3.50	3.50	3.65	3.20	3.15	3.15	3.15	3.05	2.75H	2.90
8	3.00	2.90	3.05	SF	SF	FS	SF	S	3.30H	3.10	3.25	3.25	3.50	3.50	3.70	3.70	3.95	3.45	3.25	3.40	3.10	3.05	2.95	I2.90F
9	2.90	3.05	3.25	2.95	SF	SF	SF	3.40	3.40H	3.45H	3.40H	3.40	3.50	3.55	3.50	3.50	3.65	3.50	3.15	3.15	3.10	F	FS	F
10	F	F	SF	FS	SF	S	U3.30S	U3.55S	3.50	3.60H	3.25	3.35	3.45	3.45	3.50	3.55	3.60	3.60	3.15	U3.35S	U3.15S	U3.10S	F	F
11	F	2.80	I2.95S	I3.20S	U3.30S	SF	U3.15S	3.50	3.55	3.70H	3.25H	3.45	3.45	3.40	3.60	3.60	3.55	3.50	3.30	3.45	2.90	2.95	F	F
12	F	F	FS	SF	SF	SF	U2.75F	3.40	3.35	3.40	3.40	3.20	3.00H	3.35H	3.20	3.35	3.50	3.30	3.20	3.35	F	F	F	F
13	F	F	S	S	S	S	S	3.60	3.40	U3.40S	3.30H	3.25H	3.40	3.20	3.35H	3.35H	3.55	3.45	3.30	3.25	2.85	2.95	I2.85FS	U2.80S
14	I2.90SF	3.15	3.15	U2.85S	3.10	3.05	U3.15S	3.55	3.65	3.55H	3.55H	3.50	3.30H	3.35	3.50	3.50	3.45	3.30	3.35	3.20	2.95	2.95	3.20	2.90
15	I2.90SF	3.00	3.00	U3.25S	U3.20S	3.10	3.10	3.30	3.40	3.40	3.45H	3.45	3.50H	3.35H	3.45H	3.60	3.55	3.30	3.35	I3.20S	3.00	3.10	U2.90S	U2.90S
16	F	F	SF	S	S	S	S	3.35	3.50	3.45	3.35	3.30	3.10	3.40	3.50H	3.65	3.40	3.40	3.10	2.60	2.65	2.65	2.60	2.60
17	2.85	3.40	3.00	3.10	2.90	3.30	I2.90S	3.00	3.25H	3.30H	3.25	3.35	3.45	3.35H	3.40	3.55H	3.50	3.40	3.00	2.95	2.85	2.90	2.70	2.80
18	2.95	2.95	U3.10S	U3.05S	SF	SF	SF	U3.30S	3.25	3.35H	3.45	3.55H	3.55	3.45	3.30H	3.45	3.75	3.65	3.10	3.10	I2.85F	U2.90S	SF	FS
19	FS	3.05	U3.15S	S	SF	FS	3.15	3.45	3.40	3.35	3.25H	3.20	3.45	3.35	3.45	3.50	3.55	3.50	3.20	3.15	3.10	3.00	SF	SF
20	SF	SF	SF	SF	S	S	U3.05S	3.40	3.50	3.40	3.20H	3.30H	3.35H	3.30	3.35H	3.40	3.50	3.55	3.10	3.05	3.00	2.90	2.95	SF
21	FS	SF	2.90	3.05	3.05	3.45	3.55	3.50	3.45	3.40	3.35	3.40	3.25	3.35H	3.15	3.50	3.45	3.35	3.25	3.40	3.10	3.15	2.80	2.85
22	2.80	2.85	2.95	2.65	2.90	2.95	3.10	3.40	3.40	3.45	3.35	3.35	3.35	3.30	3.35	3.50	3.50	3.40	3.15	3.20	3.10	2.90	2.80	2.75
23	2.85	2.95	3.10	2.95	2.95	2.95	3.15	3.40	3.35	U3.35S	3.35	3.35	3.35	3.35	3.35	3.35	3.40	3.50	3.25	2.95	2.95	2.70	2.70	U3.00S
24	2.90	2.85	3.05	2.90	3.10	2.85	3.15	3.30	3.40	3.25	3.30H	3.40H	3.35H	3.40H	3.25	3.40	3.35	3.60	3.25	3.05	2.90	2.80	2.80	2.80
25	2.75	2.85	2.80	3.05	3.10	2.80	3.10	3.45	3.40	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	3.30	3.35H	3.25H	3.20	3.40H	3.40	3.30	3.20	3.20	F	F	F	F
27	F	SF	SF	2.80	2.85	2.65	2.90	3.30	3.35	3.35	3.25H	3.15H	3.15H	3.00	3.25H	3.30H	3.25	3.20	U3.20S	U3.25S	3.00	2.90	2.70	2.60
28	2.80	3.00	2.95	2.65	2.80	2.75	2.95	3.25	3.25	3.45	3.25	3.35	3.45	3.40H	3.40H	3.50H	3.55	3.35	3.20	3.10	3.20	F	F	S
29																								
30																								
31																								
No.	17	19	21	20	18	17	22	26	27	26	26	27	27	27	27	27	27	27	27	27	25	23	18	17
Median	2.90	2.95	3.00	3.00	3.05	3.10	3.15	3.40	3.40	3.40	3.35	3.35	3.45	3.40	3.40	3.50	3.55	3.40	3.20	3.20	3.05	2.95	2.80	2.85

M(3000)F2

Sweep 1.0 Mc to 18.0 Mc in 1 min ~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

W 7

IONOSPHERIC DATA

Feb. 1962 | M(3000)F1 | 135° E Mean Time (G.M.T. + 9h.)

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													3.85											
2													3.80^{H}	3.90										
3													3.75											
4																								
5											$^{U}3.65^{L}$	3.80	3.75											
6												L	$^{U}3.90^{L}$											
7												$^{U}3.75^{L}$	3.55^{H}											
8												$^{U}3.90^{L}$	3.80	3.80										
9												3.85^{H}	4.00	4.00										
10													$^{U}3.85^{L}$	3.75										
11												3.90^{H}	4.00	3.90										
12																								
13													3.75											
14												3.65		3.90										
15												3.90												
16											3.90	3.80		3.80										
17											3.65		3.70		3.80									
18											3.80		$^{U}3.85^{L}$	3.90										
19													3.80	3.80	3.90									
20														3.80										
21											A	A												
22										L	L	L	L	L	L	L								
23											$^{U}3.85^{L}$	$^{U}3.95^{L}$	L	L										
24																								
25										C	C	C	C	C	C	C								
26										C	C													
27																								
28										$^{I}3.80^{A}$	4.00^{H}													
29																								
30																								
31																								
No.										1	6	9	14	10	2									
Median										$^{U}3.80$	3.80	3.85	3.80	3.85	3.85									

M(3000)F1

Sweep 1.0 Mc to 18.0 Mc in 1 min ~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Feb. 1962 | h'F2 | 135° E Mean Time (G.M.T. + 9h.) | 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																								
2													250											
3													270	260										
4													260											
5																								
6											265	265	260											
7												240	250											
8												U270L	250											
9												245	245	250										
10												245	250	240										
11													255	255										
12												260	255	250										
13																								
14													260											
15												260		265										
16												245												
17											260	270		255										
18											270		265		250									
19											260		260	250										
20													260	255	250									
21														270										
22											260	250												
23										240	260	245	260	260	260	245								
24											260	260	260	250										
25																								
26										C	C	C	C	C	C	C								
27										C	C													
28																								
29										250	250													
30																								
31																								
No.										2	8	12	16	12	3	1								
Median										245	260	255	260	255	250	245								

h'F2 | Sweep 1.0 Mc to 18.0 Mc in 1 min (sec) in automatic operation.

The Radio Research Laboratories, Japan.

W 9

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Feb. 1962 | **h'F** | 135° E Mean Time (G.M.T. + 9h.)

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	305	290	285	260	250	225	250	225	220	240	230	220^{H}	225	245^{H}	245	245	220	245	230	240	$^{I}315^{S}$	310	390	350
2	320	280	275	260	235	230	280	245	235	230^{H}	225^{H}	200^{H}	195^{H}	210	215^{H}	240	215	215	280	275	300	300	310	310
3	300	300	270	255	250	255	260	240	230	230	200^{H}	240	240	230	235^{H}	235	225	210	250	250	270	270	305	305
4	315	300	290	275	250	235	235	230	225	225	240	235	260	240	240	235	230	210	265	260	250	350	330	350
5	350	330	310	250	$^{I}305^{S}$	370	270	245	240	250^{H}	260	235	220	220^{H}	230^{H}	240	225	210	250	275	290	270	300	290
6	290	260	260	240	240	245	250	225	225	215^{H}	245	240	210	205^{H}	220^{H}	235	220	210	260	250	275	310	310^{F}	325
7	300	280	265	245	250	250	305	240	220	230	210^{H}	240	215^{H}	225^{H}	230^{H}	240	215	220	260	265	260	295	315	310
8	290	270	280	290	260	250	250	250	200^{H}	240^{H}	215^{H}	220	220	220	230^{H}	225^{H}	210	215	250	245	285	290	300	315
9	300	270	255	270	260	250	230	220	220^{H}	210^{H}	190^{H}	220^{H}	200	225	215^{H}	235^{H}	215	215	245	250	275	270	260	285
10	275	285	265	250	250	230	235	215	220	200^{H}	180^{H}	245^{H}	230	230	245^{H}	225^{H}	220	210	250	250	250	255	265	295
11	320	290	270	240	215	245	250	225	240	225^{H}	210^{H}	200^{H}	195	200	230^{H}	235	220	220	225	245	300	320	310	300
12	295	285	270	250	215	230	295	235	235	230^{H}	235^{H}	230^{H}	235^{H}	250^{H}	250^{H}	245	225	235	230	235	250	255	245	285
13	310	280	285	285	245	240	210	220	235	230^{H}	260^{H}	240^{H}	240	225	235^{H}	230^{H}	225	220	230	250	305	310	325	310
14	285	260	265	265	245	250	255	225	215	230^{H}	235^{H}	230	245^{H}	200	240	235	230	225	230	230	265	280	250	275
15	290	260	255	235	245	225	255	230	235	210^{H}	210^{H}	205	190^{H}	215^{H}	240^{H}	220^{H}	225	210	225	$^{I}290^{SA}$	300	270	280	310
16	300	270	260	235	280	305	275	245	230	240	220	230	230	210	210^{H}	230	210^{H}	220	250	360	360	350	360	350
17	310	225	300	300	350	250	$^{I}325^{A}$	265	250^{H}	240^{H}	240	230^{H}	240	230^{H}	220	230^{H}	230	225	270	280	300	300	325	310
18	285	280	260	250	250	280	260	250	230	240^{H}	220	230^{H}	210	210	215^{H}	235	220	215	250	280	330	300	345	325
19	295	275	260	260	230	315	300	230	230	250	240^{H}	220^{H}	225	230	220	225^{H}	220	215	230	260	280	305	310	320
20	305	300	280	275	220	205	275	240	240	240	235^{H}	245^{H}	240^{H}	225	230^{H}	245	240	215	205	290	295	320	325	350
21	345	315	290	300	280	235	230	225	225	220^{H}	$^{I}190^{A}$	$^{I}220^{A}$	260^{H}	250^{H}	260	235	240	225	220	240	260	290	315	320
22	320	305	300	300	285	260	280	250	250^{H}	230	210	230	210	220	225	235	230	215	250	260	280	315	330	330
23	310	290	270	265	270	275	270	240	240	230	235	215	240	225	$^{I}230^{A}$	$^{I}240^{A}$	235	220	230	270	265	300	315	300
24	300	270	260	260	240	270	275	240	240	240	250^{H}	240^{H}	220^{H}	220^{H}	230	240	240	220	235	270	300	315	350	340
25	330	310	295	255	250	310	260	235	220^{H}	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	225^{H}	230^{H}	220^{H}	230^{H}	235^{H}	230	235	220	240	260	265	300	295
27	350	300	270	265	270	390	280	240	230	235	230^{H}	255^{H}	225^{H}	240^{H}	250^{H}	240^{H}	240	$^{I}230^{A}$	235	220	255	300	320	345
28	310	265	270	300	300	325	300	255	260^{A}	$^{I}230^{A}$	220^{H}	$^{I}245^{A}$	240	220^{H}	230^{H}	240^{H}	225	230	230	260	260	275	360	300
29																								
30																								
31																								
No.	27	27	27	27	27	27	27	27	27	26	26	27	27	27	27	27	27	27	27	27	27	27	27	27
Median	305	280	270	260	250	250	260	240	230	230	230	230	225	225	230	235	225	220	235	260	280	300	315	310

h'F

Sweep 1.0 Mc to 18.0 Mc in 1 min/~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

W 10

IONOSPHERIC DATA

Feb. 1962 | h'Es | 135° E Mean Time (G.M.T. + 9h.) | 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	E	E	E	E	E	E	E	S	S	G	G	G	G	G	G	G	S	E	E	E	S	E	E	E
2	E	E	E	E	E	E	E	S	G	G	G	G	G	G	120	115	S	110	E	E	E	E	E	E
3	E	E	E	E	E	110	110	S	G	G	G	G	G	G	G	G	S	E	E	E	E	E	E	E
4	E	E	E	E	E	E	E	S	B	G	150	G	G	G	G	G	S	S	E	E	E	E	E	E
5	115	E	E	E	S	E	E	S	G	G	145	G	G	G	G	120	S	S	E	110	110	E	E	E
6	E	110	E	E	E	E	E	S	115	G	G	G	G	G	G	G	S	E	E	110	110	110	E	E
7	E	E	E	E	105	E	E	S	G	120	120	G	G	G	G	G	110	E	E	E	E	E	E	110
8	E	E	E	E	120	E	115	105	S	105	G	G	G	G	G	G	S	E	E	E	E	E	E	E
9	E	E	E	E	E	E	E	S	120	G	G	G	G	G	G	G	S	S	E	E	E	E	E	E
10	E	E	E	E	E	E	E	S	G	G	G	G	G	G	G	G	125	S	E	E	E	E	E	E
11	E	E	E	E	E	E	E	S	G	130	120	120	G	G	G	G	135	105	105	E	110	105	E	E
12	E	E	105	E	E	E	E	S	170	G	G	110	G	115	140	125	120	E	E	E	E	E	E	E
13	E	E	E	E	E	E	E	S	G	G	115	110	G	G	G	G	S	S	E	E	E	E	E	E
14	E	E	E	E	E	E	E	S	G	G	G	G	130	G	125	120	120	S	E	E	E	E	E	E
15	E	E	E	E	E	E	E	S	G	G	G	110	G	G	G	G	S	105	105	105	100	E	E	E
16	E	E	E	E	E	E	E	S	G	G	G	120	115	G	G	G	G	S	E	E	E	E	E	E
17	E	E	E	E	E	E	125	120	125	120	115	115	105	140	G	G	110	S	105	E	E	E	E	E
18	E	E	E	105	E	E	E	S	G	140	G	115	110	110	G	G	105	S	E	E	E	E	E	E
19	E	E	E	E	105	E	E	S	G	125	120	G	G	G	G	G	G	S	E	E	E	E	E	E
20	E	E	E	110	E	110	E	G	G	G	G	G	G	G	G	125	G	S	E	E	E	E	E	E
21	E	E	E	120	115	E	E	S	G	115	110	105	105	145	140	G	120	120	115	E	E	E	E	E
22	E	E	E	E	E	E	E	S	115	110	110	G	G	G	G	G	G	S	105	105	105	E	E	E
23	E	E	110	110	105	E	E	S	G	110	110	110	G	G	115	115	110	S	125	110	115	110	E	E
24	E	E	110	E	E	E	S	S	115	110	G	G	G	G	105	G	S	S	E	E	E	E	110	110
25	E	E	E	105	E	E	E	S	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	G	110	110	G	G	G	S	E	E	E	E	E	E
27	E	E	E	E	E	E	E	S	G	G	G	G	G	140	120	130	125	110	E	E	E	E	E	E
28	125	E	E	E	E	E	125	120	110	105	105	105	105	105	G	G	B	S	E	110	110	E	E	E
29																								
30																								
31																								
No.	2	1	3	5	5	2	4	3	7	11	11	10	7	7	7	7	10	5	6	6	7	3	1	2
Median	120	110	110	110	105	110	120	120	115	115	115	110	110	115	120	120	120	110	105	110	110	110	110	110

h'Es Sweep 1.0 : to 18.0 Mc in 1 min ~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

W 11

IONOSPHERIC DATA

Wakkanai

Lat. 45° 23.6' N
Long. 141° 41.1' E

Feb. 1962

Types of Es

135° E Mean Time (G.M.T. +9h.)

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															c	l		h						
2																								
3						h	h																	
4											h									h	h			
5	h										h					c								
6		h							l											h2	h	h2		h
7					h					c	c						l							
8					h		h	l2		l														
9									l															
10																	c							
11										c	c	c					c	h	h		h	h2		
12			h						h			l		l	c	c	c							
13											l	l												
14													c.l		c	c	c							
15												l						h	h	h	h			
16												l	c											
17							h	l	c	c	c	c	l2	h			c		h					
18				h						h		l	l	l			l							
19					h					c	c													
20				h		h										c								
21				h	h					l	l	l	l.h	h	h		c	c	h					
22									c	l	l								h	h	h			
23			h	h2	h					l	l	l			c	c2	l		h	h	h	h		h3 h
24			h						c	l					l									
25				h																				
26													l	l										
27														h	c	h	c	c2						
28	h2						h	c	l4	l3	l	l	l	l						h	h			
29																								
30																								
31																								
No.																								
Median																								

Sweep 1.0 Mc to 18.0 Mc in 1 min sec in automatic operation.

The Radio Research Laboratories, Japan.

Types of Es

W 12

IONOSPHERIC DATA

Feb. 1962 | foF2 | 135° E Mean Time (G.M.T. + 9h.) | 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	F	F	F	F	F	F	S	I 4.6 R S	6.1	6.1	6.7	6.5	6.1	6.2	7.2	6.7	6.0	4.3	3.9	3.8	2.5	2.5	I 2.8 F	2.9
2	3.0	3.1	3.1	3.1	3.0 S	2.5	2.4	4.9	5.6	6.5	6.6	6.6	7.4 R	6.4 H	6.7 H	6.7	6.0	4.5	3.1	3.1	3.4	F	F	F
3	F	F	F	F	I 3.6 F	3.4	3.3 S	5.1 S	6.3	6.0	6.3	6.5	7.4	7.4	6.1	6.6	6.0	5.0	3.4	3.9	3.8	3.6	2.8	2.7
4	3.1	3.1	3.1	3.1	3.4	3.1	2.5	4.7	5.7	6.0	6.0	6.5	6.1	7.1	6.6	6.1	5.9	5.0	3.4	3.9	3.3	2.9	2.8	3.0
5	3.2	3.2	3.3	3.6	U 3.0 R	2.5	3.3	5.2	5.5	7.5	8.1	10.7 R	9.6	7.6	6.5	6.6	5.6	4.8	3.5	3.8	3.7	I 3.7 F	3.7	I 3.6 F
6	I 3.4 R F	3.5	3.5	3.5	3.8	I 4.0 F	I 4.2 R F	5.1	6.1	6.2	7.1	7.9	8.3	6.8	6.7	6.9	5.8	4.6	I 3.5 C	3.8	3.2	2.8	F	F
7	3.0 F	3.1	3.1	3.2	3.2	I 3.1 F	I 2.9 F	4.8	6.9	6.3	6.5	C	C	C	C	6.2	6.0	4.6	4.3	4.0	3.7	3.4	3.4	3.4 R
8	3.6	3.5	3.4	3.2	3.4	3.4	3.7 F	5.3	6.9	8.0	I 8.8 R	9.3 R	I 9.6 R	7.4	7.0	7.1	5.5	4.1	3.9	3.9	3.3	3.4	3.6	3.5
9	3.5	3.4	3.5	3.5	I 3.3 C	2.9	2.9	5.1	5.4 R	6.4	7.4	8.2	8.1	6.4	6.9	6.2	6.1	C	C	C	3.3	3.0	3.1	F
10	F	F	F	F	3.6	I 3.5 E	I 3.7 S	5.3	5.0	5.9	6.2	7.6	8.2	6.6	6.7	6.7	5.5	4.3	3.4	I 4.0 R F	I 3.8 F	I 3.6 F	3.7 F	F
11	F	F	4.0 F	I 4.0 F	3.7 F	3.3 F	3.4 F	5.0	5.1	6.3	7.0	6.0	6.5	7.1	6.5	5.8	6.1	5.1	3.3	3.2	3.1	3.0 S	3.1 F	F
12	F	F	F	F	F	F	F	4.9	6.1	7.7	8.0	6.9	6.7 H	8.5	9.4	7.4	6.6	6.1	5.3	4.1	3.5	I 3.4 S	I 3.6 A	F
13	F	F	F	F	F	F	3.4	5.0	5.4	5.9	6.5	7.6	7.7	7.8	7.2	7.4	6.0	5.1	4.3	4.1	2.6	3.0	3.1	3.0
14	3.2	3.4	3.4	3.3	3.3	I 3.4 F	I 4.2 F	5.9	6.4	6.3	6.1	7.9	8.1	7.8	7.7	5.8	6.2	6.0	4.6	I 4.6 S	S	S	F	F
15	F	4.5 F	F	F	4.6 F	I 4.6 R F	4.6 F	6.1 H	7.5	7.7	8.0	8.0	7.2	7.9	8.1	I 7.1 C	6.4	5.9	3.7	3.6	3.6	3.9 S	I 4.2 S	4.6 S
16	R F	F	F	R	F	F	F	5.5	6.1	I 6.2 C	I 7.0 C	I 8.3 C	R	C	7.1	6.3	5.6	5.1	4.3	3.6	C	C	C	C
17	C	C	2.5	2.6	I 2.8 F	3.1	2.6	5.9	8.5	8.0	7.6	8.6	8.5	I 8.8 R	8.1	7.4	6.1	5.2	4.0	3.6	I 3.8 R S	I 4.0 S	3.8	3.6
18	4.0 S	I 3.7 R	3.3	F	F	3.0 F	I 2.9 F	5.5 S	7.1	8.0	8.4	8.9	U 8.5 R	7.0	6.6	7.9	6.6	5.2	3.5 S	3.0	2.6	I 3.0 E	3.3 F	3.1
19	F	F	F	F	F	F	F	5.0	6.1	6.7	8.1	I 9.6 R	U 9.5 R	I 9.3 R	7.7	6.6	7.1	5.8	3.9	3.1	3.0	2.9	I 3.4 R S	F
20	F	F	F	4.0	4.5 R	2.0	2.6 F	5.3	6.6	7.0	8.0	I 8.5 R	U 10.1 R	I 8.6 R	7.7	7.6	8.0	6.2	3.4	2.7	3.0	3.1	3.3	3.2
21	3.2	F	F	3.6 F	3.8 F	3.6	I 3.8 F	I 5.4 R	6.3	8.0	7.9	9.0	9.1	8.7	7.4	7.1	7.0	6.2	4.7 R	I 4.0 A	3.4	3.3	3.7	3.1
22	3.4	3.3	3.5	3.4	I 3.6 F	I 3.6 F	3.7	6.1	8.3 R	8.9	8.7 R	I 9.4 R	9.5 R	7.9	7.6	7.8	6.6	6.0	4.5	4.0	3.9	3.8	3.9	3.9
23	4.0	4.5	4.0	3.7	3.2	3.4	3.5	6.1	7.6	C	C	C	C	C	7.5	7.5	7.0	6.6	4.5	4.0	4.0	I 4.0 R S	I 3.9 F	I 4.0 F
24	4.0	4.0	4.1	4.0	4.0	3.6	3.6	6.5	8.5	8.2	8.3	U 9.3 R	8.8	7.7	7.5	7.2	7.2	6.5	4.5	4.3	3.6	3.5	I 3.5 A	I 3.5 A
25	A	A	3.6	3.6	3.2	3.1	3.6	6.3	7.4	8.2	8.3	9.0	8.9	8.1	7.8	8.2	7.5	6.1	5.0	4.9 R S	4.4	3.5	I 3.9 R S	I 4.2 R S
26	4.4 S	4.5	4.7 S	5.1	4.9	4.6	4.7	7.3	8.6	8.6 H	9.4	9.5	9.6	8.8	8.0	8.1	6.9	6.8	6.6	5.0	I 4.6 R S	3.9	I 3.8 S	I 3.9 R S
27	I 4.3 R S	I 4.5 F	I 4.6 R S	F	F	R F	4.1 S	6.4	7.8	C	C	C	C	C	C	C	C	C	C	5.8	I 4.5 R S	I 4.4 R S	4.1 S	I 4.4 S
28	I 4.4 R S	4.6 S	4.1 S	3.6	3.6	3.6	3.6	7.1	I 9.2 R	U 9.3 R	9.9 R	9.1	8.9 R	8.6	8.8	8.5	7.4	6.4	6.1	5.2	4.9	R S	F	F
29																								
30																								
31																								
No.	16	16	18	18	21	22	24	28	28	26	26	25	24	24	26	27	27	26	26	27	26	24	23	18
Median	3.4	3.5	3.5	3.6	3.6	3.4	3.6	5.3	6.4	6.8	7.8	8.3	8.4	7.8	7.3	7.1	6.1	5.2	4.0	3.9	3.6	3.4	3.5	3.5
U. Q	4.0	4.5	4.0	3.7	3.8	3.6	3.8	6.1	7.6	8.0	8.3	9.2	9.3	8.6	7.7	7.5	7.0	6.1	4.5	4.1	3.8	3.8	3.8	3.9
L. Q	3.2	3.2	3.3	3.2	3.2	3.1	2.9	5.0	5.9	6.2	6.6	7.2	7.4	7.0	6.7	6.6	6.0	4.8	3.5	3.6	3.2	3.0	3.1	3.1
Q. R	0.8	1.3	0.7	0.5	0.6	0.5	0.9	1.1	1.7	1.8	1.7	2.0	1.9	1.6	1.0	0.9	1.0	1.3	1.0	0.5	0.6	0.8	0.7	0.8

foF2

Sweep 1.60 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 1

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Feb. 1962

foF1

135° E Mean Time (G.M.T. + 9h.)

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											L	L	L		L									
2										L	L	L		I 37 L	L	L								
3										L		L	L	L	L	L								
4											L	L	L	L	L									
5										L	L	L	L	A	L									
6										L	L H	L	L	L	L	L								
7											L	C	C	C	C									
8									L	L	L		L	L	L	L	L							
9									L	L	L	L	I 41 L H	I 41 L	37 L									
10										3.6		L	L	L	L	A								
11										L	L	I 42 L	42 L	I 42 L	I 40 L	I 34 L								
12												L		45	L	L								
13									L		L	L	L	L	40 L	L								
14											L	L	L	L	L H									
15										L	L H	I 40 L	I 43 L	I 42 L	40 L	C								
16										C	C	C	L H	L	L	L								
17									A	L	A	I 42 A	A	L	L	L								
18										L	L	L	44 L	L	L	L								
19										L	L	I 45 L	45 L	L	L	L	L							
20										L	L	L	L	45 L	I 44 L	L								
21									L	L	L	L	L	L	L	L								
22										L	L	L	L	L	L	L	A							
23										C	C	C	C	C	L	L								
24											L	L	L	L	L	L	A							
25											L	L	L	A	L	L	A							
26										L	L	L	L	L	L	L								
27										C	C	C	C	C	C	C	C							
28								L		L	L	L	L	L	L	L	L							
29																								
30																								
31																								
No.										1		4	5	6	5	1								
Median										3.6		U 4.2	4.3	U 4.2	4.0	U 3.4								

The Radio Research Laboratories, Japan.

foF1

Sweep 1.60 Mc to 2.80 Mc in 20 ~~min~~ sec in automatic operation.

A 2

IONOSPHERIC DATA

Feb. 1962 | foE | 135° E Mean Time (G.M.T. + 9h.) | 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																								
2									2.50	2.85	3.05	3.10	3.20	3.10	I3.00A	2.80	2.20							
3									2.45	I2.80A	3.00	3.10	3.20	3.10	2.95	2.55	2.05							
4									I2.20R	2.70	2.95	3.05	3.10	3.00	A	I2.60A	R							
5								R	I2.50R	2.80	3.00	3.10	3.15	3.10	2.95	A	R							
6								1.90	2.55	2.85	I3.10R	I3.20R	3.20	I3.05A	3.00	A	A							
7								E	R	A	3.00	3.10	3.15	3.05	3.00	I2.80R	2.15							
8								E	A	I2.80A	3.05	C	C	C	C	I2.60A	R							
9									I2.15A	2.60	2.90	3.00	I3.10A	3.05	2.90	2.55	2.05							
10									A	2.80	2.95	3.05	3.05	3.00	2.95	2.60	2.20							
11									A	2.70	2.90	3.00	3.05	3.00	2.85	2.60	A							
12								1.90	I2.35R	2.75	I2.90A	I3.00A	3.05	3.00	2.90	2.60	R							
13								B	2.35	2.80	2.95	3.10	3.10	3.05	2.95	2.55	R							
14								B	I2.40A	2.80	I2.95R	I3.05A	I3.10A	3.05	2.90	2.80	A							
15								R	2.50H	2.80	2.90	3.05	3.05	3.00	2.95	I2.65R	A							
16								R	A	R	A	A	I3.05A	3.05	3.00	I2.70C	2.40	E						
17								R	2.45	I2.75C	I3.00C	I3.05C	3.05	3.00	2.85	2.65	2.10	E						
18								A	A	A	A	A	I3.05A	I3.00R	I2.90A	2.70	A	A						
19								R	2.45	2.75	3.00	A	A	A	3.05	I2.80A	2.25							
20								2.00H	2.55H	2.80	3.00	A	R	C	3.10	A	A							
21								B	2.60	I2.90C	I3.10A	I3.25A	3.40	3.35	3.20	3.05	A	A						
22								B	2.45	2.80	I3.10R	I3.20R	3.40	3.20	3.05	2.95	2.45	B						
23								R	A	A	A	A	A	3.30	3.20	A	A							
24								1.90	2.60	C	C	C	C	C	3.30	3.05	2.60							
25								R	2.65R	3.00	3.20	3.50	3.50	3.45	3.20	3.00	A							
26								2.00	2.60	3.00	3.10	3.25	I3.30A	3.30	3.15R	2.90	A							
27								1.90	I2.55A	2.95	I3.10R	3.30	3.35	3.20	3.10	2.95	A	A						
28								1.95	2.55H	C	C	C	C	C	C	C	C							
29								R	A	A	3.20	3.25	3.40	3.35	3.15	2.95	I2.60R	B						
30																								
31																								
No.								9	20	21	23	20	22	23	25	23	11	2						
Median								1.90	2.50	2.80	3.00	3.10	3.10	3.05	3.00	2.70	2.20	E						

foE

Sweep 1.60 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 3

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Feb. 1962 | foEs | 135° E Mean Time (G.M.T. + 9h.)

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	E	G	G	G	G	G	G	3.4	G	G	E	E	E	E	E	E	E
2	E	E	E	E	E	E	E	E	G	3.5	3.4	3.7	3.6	G	G	G	G	J2.2	J2.5	E	E	E	E	E
3	E	E	E	E	E	E	E	E	G	G	G	3.5	G	3.2	2.9	J2.8	G	E	E	E	E	E	E	E
4	E	E	E	E	E	E	E	G	G	G	3.3	3.5	G	G	3.2	3.0	G	E	E	E	E	E	E	E
5	E	E	E	E	E	E	E	G	2.7	3.1	3.6	4.0	3.7	4.1	3.6	J4.1	J3.3	J4.0	J2.5	J2.1	E	E	E	J1.8
6	J2.8	J2.5	J1.8	J2.2	E	E	E	G	G	J2.9	G	G	G	3.7	G	G	G	E	C	E	E	E	J1.8	E
7	E	E	E	E	E	E	E	G	J2.8	J3.1	G	C	C	C	C	2.7	J2.3	E	E	E	E	E	E	E
8	E	E	E	E	E	E	E	E	J2.4	J2.6[a]	3.2	G	J2.8[a]	G	G	G	G	E	J2.4[Y]	E	E	E	E	E
9	E	E	E	E	C	E	E	E	J2.9	G	2.7[a]	G	G	G	G	2.3[a]	2.0[a]	C	C	C	E	E	E	E
10	E	E	E	E	E	E	E	E	2.8	G	G	3.5	3.6	3.6	3.5	J4.3	J3.4	J2.9	J1.7	E	E	E	E	E
11	E	E	E	J1.7	E	E	J1.8	G	2.6	3.5	J5.3	3.7	3.5	3.3	3.5	3.2	G	2.2	E	E	J2.3	J2.9	J2.8	E
12	J1.7[Y]	J1.8	J2.4	J2.4	E	E	E	G	G	G	3.5	3.8	J3.2	2.5[a]	G	3.0	G	J2.1	E	J2.0	J2.5	J2.8	J3.4	J2.9
13	E	J1.8	E	E	J2.0	J1.8	J1.9	J1.8	J2.3	G	3.5	J3.9	J4.0	2.8[a]	J3.0	2.3[a]	J2.8	J1.8	J2.8	J2.4	E	E	E	E
14	E	E	E	E	E	E	E	G	G	G	3.1	3.5	3.5	G	G	2.6[a]	J2.1	E	E	S	E	E	E	E
15	E	E	E	E	E	E	E	G	J2.9	G	J3.3	3.1	J3.3	G	G	C	G	G	E	E	E	E	E	E
16	E	E	E	E	E	E	E	G	G	C	C	C	G	G	G	2.0[a]	G	G	E	E	C	C	C	C
17	C	C	E	E	E	E	E	J2.9	J5.9	3.0	J3.9	J4.8	4.5	G	J3.8	2.2[a]	2.8	J2.4	J1.8	E	J2.9	J3.2	E	J2.9
18	J1.8	E	E	E	E	E	E	J2.8[Y]	G	3.0	3.4	3.9	J4.0	3.6	G	3.0	G	E	E	E	E	E	E	E
19	E	E	J2.8	E	E	E	E	G	G	3.1	3.4	3.6	G	C	G	J3.2	2.5	E	E	E	E	E	E	E
20	E	E	E	E	E	E	E	G	G	C	3.8	4.0	G	3.9	G	3.4	J2.8	J3.1	J2.4	E	E	E	J1.8	E
21	E	E	E	E	E	E	E	G	G	G	3.6	G	3.7	3.6	3.6	3.3	G	2.3	J3.3	J3.3	J2.5	E	E	E
22	E	J2.4	E	E	E	E	E	G	J2.8	J4.0	J3.3	3.6	3.7	G	G	J3.4	3.8	J4.9	J2.8	J2.1	E	E	J2.3	E
23	J1.8	J2.5	J2.0	E	J2.4	J1.7	E	G	G	C	C	C	C	C	4.0	3.5	G	2.0	E	E	E	J2.3	J2.9	J2.4
24	J1.8	E	E	E	E	E	E	G	3.0	G	G	G	G	3.5	G	G	J4.5	J2.9	E	E	J2.1	E	J3.6	J3.4
25	J3.4	J4.0	J5.7[Y]	J2.8	J2.6	J1.7	E	G	G	G	4.0	3.9	J3.4	4.1	3.5	3.5	J6.1	B	E	J3.5	J2.6	E	E	J1.8
26	E	E	E	E	E	E	E	G	2.5	G	2.9[a]	3.2[a]	G	G	G	G	2.7	2.0	J2.0	E	E	E	S	E
27	E	E	E	E	E	E	E	G	G	C	C	C	C	C	C	C	C	C	C	E	E	E	J2.0	S
28	E	E	E	E	E	E	E	G	J2.9	3.4	3.1[a]	G	G	G	3.4	G	G	2.3	E	E	J2.0	E	J1.9	E
29																								
30																								
31																								
No.	27	27	28	28	27	28	28	28	28	24	25	24	25	24	26	26	27	25	25	26	27	27	26	26
Median	E	E	E	E	E	E	E	G	G	G	3.3	3.5	3.2	G	G	2.8	G	2.0	E	E	E	E	E	E
U.Q	E	E	E	E	E	E	E	G	2.8	3.1	3.6	3.8	3.6	3.6	3.5	3.3	2.8	2.4	2.4	E	2.0	E	1.9	E
L.Q	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E
Q.R																								

foEs

Sweep 1.60 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

A 4

24

IONOSPHERIC DATA

Feb. 1962 | foEs | 135° E Mean Time (G.M.T. + 9h.) | 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															3.0									
2										3.0	3.2	3.5	3.5					1.8	2.0					
3												3.4		3.2	^{U}2.9^{R}	2.8								
4											3.3	3.3			3.1	3.0								
5									^{U}2.7^{R}	3.0	3.4	3.6	3.6	4.1	3.4	^{U}4.1^{R}	3.0	4.0	2.5	2.1				E
6	2.5	E	E	2.1						2.8				G					C				E	
7									2.7	3.0		C	C	C	C	2.7	2.2		1.7					
8									1.8	2.3^{G}	2.3		2.8^{G}											
9					C				2.5		2.1^{G}					2.3^{G}	2.0^{G}	C	C	C				
10									2.6			3.5	3.5	3.6	3.5	4.2	2.3	1.9	E					
11				E			E		2.6	3.4	3.3	3.6	3.4	3.3	3.2	2.9		2.1			E	1.9	E	
12	E	E	E	E							3.4	3.5	G	2.5^{G}		3.0		1.8		E	2.1	A^{S}	A	E
13		E			E	1.8	1.9	1.8	2.4		3.5	3.7	3.2	2.6^{G}	2.1	2.3^{G}	2.5	1.8	2.4	2.0				
14											3.1	3.5	3.4			1.8^{G}	^{U}2.1^{R}			S				
15									2.6		3.2	^{U}3.1^{R}	3.2			C								
16										C	C	C				1.9^{G}					C	C	C	C
17	C	C							5.8	^{U}3.0^{R}	^{E}3.9^{R}	^{U}4.8^{R}	4.3		3.8	2.0^{G}	2.4	2.1	1.8		^{E}2.9$^{R}_{S}$	3.0		2.6
18	E							2.5		3.0	3.4	3.5	3.9	3.4		3.0								
19			E					G		3.1	3.2	3.5	3.5	C		3.2	2.5							
20										C	3.4	3.9		3.8		3.4	2.6	2.0	2.3				E	
21											3.5		3.7	^{U}3.6^{R}	3.6	3.2		3.3	^{U}3.3^{R}	A	^{U}2.5^{R}			
22		2.0							2.7	3.8	3.3	3.5	3.5			3.2	^{U}3.8^{R}	3.3	2.5	2.0			E	
23	E	E	E		E	E				C	C	C	C'	C	4.0	3.1		2.0				^{U}2.3^{S}	1.8	E
24	E								G					2.8			4.2	2.6			2.0		A	A
25	A	A	2.8	2.1	E	E					4.0	^{U}3.9^{R}	^{U}3.4^{R}	^{E}4.1^{R}	3.5	3.3	5.0	B		3.5	2.5			E
26									^{E}2.5^{R}		2.9^{G}	3.0^{G}					2.0	2.0	1.7				S	
27										C	C	C	C	C	C	C	C	C					1.7	S
28									2.9	3.2	2.9^{G}				3.3			2.1			E		E	
29																								
30																								
31																								
No.																								
Median																								

foEs

Sweep 1.60 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

A 5

25

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Feb. 1962

f-min

135° E Mean Time (G.M.T. + 9h.)

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	E	1.65	1.80	2.00	1.95	1.85	1.80	1.70	1.95	1.65	E	E	E	E	E	E	E
2	E	E	E	E	E	E	E	E	1.70	1.80	2.00	2.00	2.00	1.75	1.80	1.65	1.70	E	E	E	E	E	E	E
3	E	E	E	E	E	E	E	E	1.70	1.80	1.80	1.70	1.75	1.80	1.70	1.80	1.65	1.75	E	E	E	E	E	E
4	E	E	E	E	E	E	E	E	1.65	1.70	1.65	1.75	1.85	2.00	1.70	1.70	1.65	1.80	E	E	E	E	E	E
5	E	E	E	E	E	E	E	1.70	E	1.70	1.80	1.70	1.95	1.70	1.70	1.70	1.70	1.75	E	E	E	E	E	E
6	E	E	E	E	E	E	E	1.75	1.70	1.70	1.70	1.80	1.70	1.70	1.70	1.70	E	1.80	C	E	E	E	E	E
7	E	E	E	E	E	E	E	1.70	1.75	2.00	2.00	C	C	C	C	1.70	1.65	E	E	E	E	E	E	E
8	E	E	E	E	E	E	E	1.70	1.70	1.65	1.70	1.70	1.65	1.75	1.80	1.75	1.70	E	E	E	E	E	E	E
9	E	E	E	E	C	E	E	1.70	1.65	1.70	1.70	1.70	1.80	1.90	1.85	1.65	E	C	C	C	E	E	E	E
10	E	E	E	E	E	E	E	E	1.70	1.70	1.70	1.70	1.75	1.75	1.70	1.80	1.70	1.70	E	E	E	E	E	E
11	E	E	E	E	E	E	E	1.70	1.70	1.85	1.80	1.70	1.75	1.70	1.70	1.70	1.65	E	E	E	E	E	E	E
12	E	E	E	E	E	E	E	1.70	1.70	1.70	1.75	1.80	1.70	1.70	1.70	1.70	1.70	1.70	E	E	E	E	E	E
13	E	E	E	E	E	E	E	1.70	1.65	1.65	1.75	1.70	2.05	1.75	1.70	1.70	1.70	1.70	E	E	E	E	E	E
14	E	E	E	E	E	E	E	1.70	1.70	1.65	1.80	1.70	1.95	1.75	1.70	1.70	E	1.65	1.70	S	E	E	E	E
15	E	E	E	E	E	E	E	1.70	1.70	1.70	1.75	1.70	1.90	1.85	1.80	I 1.70C	1.70	1.65	E	E	E	E	E	E
16	E	E	E	E	E	E	E	1.70	1.65	I 1.65C	I 1.75C	I 1.70C	2.00	1.95	1.90	1.70	1.70	1.85	E	E	C	C	C	C
17	C	C	E	E	E	E	E	1.65	1.70	1.70	1.90	1.70	1.75	1.70	1.70	1.70	1.65	1.65	E	E	E	E	E	E
18	E	E	E	E	E	E	E	1.65	1.70	1.70	1.70	1.90	1.80	1.95	1.90	1.70	1.70	1.80	E	E	E	E	E	E
19	E	E	E	E	E	E	E	1.65	1.70	1.70	1.75	1.70	1.90	E 4.00C	1.85	1.75	1.75	1.75	E	E	E	E	E	E
20	E	E	E	E	E	E	E	1.75	1.70	E 3.00C	1.95	1.80	1.90	1.90	1.95	2.30	1.70	1.70	E	E	E	E	E	E
21	E	E	E	E	E	E	E	1.75	1.70	1.70	1.80	2.00	2.00	1.80	1.80	1.70	1.70	1.75	E	E	E	E	E	E
22	E	E	E	E	E	E	E	1.70	1.75	1.70	1.75	2.00	1.70	1.70	1.80	1.70	1.70	E	E	E	E	E	E	E
23	E	E	E	E	E	E	E	1.65	1.65	C	C	C	C	C	2.00	1.75	1.75	1.70	E	E	E	E	E	E
24	E	E	E	E	E	E	E	1.70	1.75	1.75	1.75	2.10	1.75	2.00	1.70	1.75	E 2.00C	1.70	E	E	E	E	E	E
25	E	E	E	E	E	E	E	1.75	1.70	1.70	1.95	1.95	1.75	1.80	1.95	1.80	1.75	2.05	E	E	E	E	E	E
26	E	E	E	E	E	E	E	1.65	1.70	1.70	2.00	1.90	1.80	1.95	1.70	1.75	1.70	1.70	E	E	E	E	S	E
27	E	E	E	E	E	E	E	1.65	1.70	C	C	C	C	C	C	C	C	C	C	E	E	E	E	S
28	E	E	E	E	E	E	E	1.70	1.65	1.70	1.80	2.15	1.80	2.00	1.95	1.80	2.20	1.70	E	E	E	E	E	E
29																								
30																								
31																								
No.	27	27	28	28	27	28	28	28	28	25	26	25	25	24	26	27	26	26	25	26	27	27	26	26
Median	E	E	E	E	E	E	E	1.70	1.70	1.70	1.80	1.75	1.80	1.80	1.75	1.70	1.70	1.70	E	E	E	E	E	E

f-min

Sweep 1.60 Mc to 2.00 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 6

IONOSPHERIC DATA

Feb. 1962 | M(3000)F2 | 135° E Mean Time (G.M.T. + 9h.) | 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	F	F	F	F	F	F	S	I 340 R/S	365	350	360	355	345	360	345	350	345	355	300	330	340	280	I 270 F	280
2	275	290	300	300	340 S	285	295	330	370	355	365	330	360 R	330 H	340 H	365	340	325	325	310	325	F	F	F
3	F	F	F	F	I 320 F	320	295 S	330 S	365	360	355	330	350	345	340	355	340	340	295	310	315	320	310	280
4	295	290	295	310	325	330	310	355	365	370	360	330	345	340	355	360	335	360	300	310	320	305	265	270
5	260	275	280	310	U 335 R	260	305	350	330	325	300	320 R	335	345	340	360	340	340	310	315	300	I 310 F	300	I 305 F
6	I 330 R/S	300	290	305	300	I 310 F	I 325 R/S	355	375	365	340	330	350	350	340	360	370	340	I 310 C	320	315	300	F	F
7	280 F	295	295	310	310	I 300 F	I 290 F	325	355	350	350	C	C	C	C	340	360	320	310	305	320	300	300	285 R
8	305	295	280	290	300	300	320 F	345	350	345	I 330 R	335 R	I 340 R	350	360	375	365	345	325	325	315	305	295	290
9	290	300	300	310	I 310 C	295	305	370	345 R	350	350	350	360	350	360	350	370	C	C	C	315	305	320	F
10	F	F	F	F	310	I 330 E	I 335 S	355	370	325	340	340	345	350	350	360	360	355	305	I 325 R/E	I 320 F	I 310 F	305 F	F
11	F	F	300 F	I 320 F	330 F	290 F	300 F	355	360	350	360	345	340	350	355	370	345	375	320	330	325	300 S	295 F	F
12	F	F	F	F	F	F	F	330	340	345	350	350	290 H	310	350	340	345	345	330	325	325	I 300 A	I 280 A	F
13	F	F	F	F	F	F	325	320	360	355	320	325	325	340	340	365	350	350	320	345	270	275	295	275
14	290	295	295	290	305	I 300 F	I 320 F	355	360	360	345	345	355	360	360	360	345	335	325	I 310 S	S	S	F	F
15	F	310 F	F	F	320 F	I 310 R/E	295 F	345 H	350	345	340	350	350	350	360	I 365 C	340	340	325	330	310	290 S	I 295 S	300 S
16	R F	F	F	R	F	F	F	345	355	I 320 C	I 320 C	I 320 C	R	C	355	350	340	330	305	280	C	C	C	C
17	C	C	260	265	I 280 F	295	280	330	320	350	320	340	315	I 340 R	360	360	360	340	315	295	I 290 R/S	I 300 R/S	285	295
18	300 S	I 330 R	310	F	F	300 F	I 300 F	340 S	350	350	325	340	U 345 R	365	340	355	365	350	310 S	320	290	I 295 E	300 F	320
19	F	F	F	F	F	F	F	345	345	330	320	I 320 R	U 325 R	I 345 R	340	360	355	370	330	295	315	285	I 290 R/S	F
20	F	F	F	320	335 R	345	300 F	340	340	335	320	J 330 R	J 325 R	I 340 R	350	330	365	375	325	280	295	285	290	285
21	260	F	F	295 F	320 F	310	I 335 F	J 360 R	340	330	330	330	330	340	340	355	340	350	320 R	I 330 A	310	305	295	295
22	265	275	290	290	I 290 F	I 300 F	300	325	340 R	340	325 R	I 325 R	325 R	330	330	345	350	345	315	305	315	270	260	265
23	290	300	330	300	290	275	315	355	345	C	C	C	C	C	345	350	340	365	310	300	295	I 285 R/S	I 275 F	I 280 F
24	290	290	300	280	300	295	295	335	345	345	340	U 330 R	330	335	340	345	340	345	315	310	295	280	I 280 A	I 270 A
25	A	A	300	290	290	275	310	360	350	345	320	330	320	340	335	345	340	360	300	305 R/S	305	290	I 290 R/S	I 280 R/S
26	280 S	290	300 S	295	305	295	305	345	340	325 H	325	320	325	340	340	320	350	330	335	305	I 320 R/S	290	I 290 S	I 290 R/S
27	I 280 R/S	I 290 F	I 285 R/S	F	F	RF	300 S	345	345	C	C	C	C	C	C	C	C	C	C	310	I 300 R/S	I 285 R/S	265 S	I 270 S
28	I 280 R/S	285 S	300 R/S	280	275	275	295	330	I 340 R	U 330 R	345 R	335	340 R	325	340	340	340	345	330	310	315	R S	F	F
29																								
30																								
31																								
No.	16	16	18	18	21	22	24	28	28	26	26	25	24	24	26	27	27	26	26	27	26	24	23	18
Median	285	290	300	300	310	300	300	345	350	345	340	330	340	340	340	355	345	345	315	310	315	295	290	280

M(3000)F2 | Sweep 160 Mc to 200 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Feb. 1962

M(3000)F1

135° E Mean Time (G.M.T. + 9h.)

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											L	L	L		L									
2										L	L	L		I 4.20 L	L	L								
3										L		L	L	L	L	L								
4											L	L	L	L	L									
5										L	L	L	L	A	L									
6										L	L H	L	L	L	L	L								
7											L	C	C	C	C									
8									L	L	L		L	L	L	L	L							
9									L	L	L	L	I 3.90 L H	I 3.90 L	4.05 L									
10										4.20		L	L	L	L	A								
11										L	L	I 4.00 L	3.90 L	I 3.75 L	I 3.85 L	I 4.15 L								
12												L		3.40	L	L								
13									L		L	L	L	L	3.75 L	L								
14											L	L	L	L	L H									
15										L	L H	I 3.90 L	I 3.90 L	I 3.85 L	3.80 L	C								
16										C	C	C	L H	L	L	L								
17									A	L	A	I 3.80 A	A	L	L	L								
18										L	L	L	3.85 L	L	L	L								
19										L	L	I 3.60 L	3.65 L	L	L	L	L							
20										L	L	L	L	3.75 L	I 3.60 L	L								
21									L	L	L	L	L	L	L	L								
22										L	L	L	L	L	L	L	A							
23										C	C	C	C	C	L	L								
24											L	L	L	L	L	L	A							
25											L	L	L	A	L	L	A							
26										L	L	L	L	L	L	L								
27										C	C	C	C	C	C	C	C							
28								L		L	L	L	L	L	L	L	L							
29																								
30																								
31																								
No.										1		4	5	6	5	1								
Median										4.20		U 3.85	3.90	U 3.80	3.80	U 4.15								

M(3000)F1

Sweep 1.60 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 8

IONOSPHERIC DATA

Feb. 1962 | h'F2 | 135° E Mean Time (G.M.T. + 9h.) | 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											250	245	245		260									
2										250	245	250L		255H	250H	250								
3										245		290L	255	255	250	250								
4											250	250L	250	280	255									
5										280	270	255	255	250	250									
6										240	260	270L	255	250	255	250								
7											255	C	C	C	C									
8									270	250	255		250	250	250	245	215							
9									215	245	255	255	245	250	250									
10										250		280	260	255	255	245								
11										250	250	255	275	270	250	240								
12												255		300	250	245								
13									220		260L	295	290	255	255	245								
14											245	255	255	250	250									
15										250	250	250	250	260	250	C								
16										C	C	I 280C	255	250	245	245								
17									235A	255	255A	260	280	255	250	250								
18										250	280	250	255	250	250	250								
19										255L	275L	270	255	255	255	245	245							
20										255	280L	245	260	255	255	280								
21									245	260	255	285	285	260	255	250								
22										250	280	280	255	255	265	255	245							
23										C	C	C	C	C	255	250								
24											255	280	270	255	270	255	245							
25											255	270	290	250	280	255	245							
26										245H	255	280	280	260	255	250								
27										C	C	C	C	C	C	C	C							
28								265		245	245	265	255	255	255	250	250							
29																								
30																								
31																								
No.								1	5	17	22	24	23	24	26	20	6							
Median								265	235	250	255	270	255	255	255	250	245							

h'F2 | Sweep 160 Mc to 200 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

A 9

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Feb. 1962 | h'F | 135° E Mean Time (G.M.T. + 9h.)

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	305	310	290	265	250	230	245	240	235	240	230	205	230	240	205	245	240	205	250	225	230	E 325 E	305	310
2	305	295	260	255	240	E 255 E	285	245	220	230	215	205	245	200	205	215	230	205	240 A	250	245	250	300	290
3	295	295	295	290	250	245	275	245	225	225	245	240	230	220	235	240	240	220	255	245	245	245	245	335
4	300	300	300	285	245	230	245	245	230	240	235	225	235	245	240	245	245	210	250	250	295	255	320	340
5	345	340	300	285	210	350	290	225	240	250	245	255	245	I 240 A	245	245	240	I 250 A	I 255 A	255 A	265	260	265	290
6	I 285 A	260	290	290 A	255	250	245	240	230	200	200 H	240	225	220	215	220	220	230	I 240 C	245	245	270	255	335
7	290	290	290	270	250	245	275	245	240	245	225	C	C	C	C	245	235	245	245	245	250	260	285	300
8	270	260	305	290	295	255	250	240	245	210	250	260	215	225	205	230	210	205	245	245	245	255	295	295
9	295	265	265	255	I 255 C	280	250	240	205	195	210	200	195 H	205	200	245	230	C	C	C	245	250	245	300
10	300	245	300	275	250	240	210	220	205	195	260	250	250	230	245 A	I 240 A	230	205	245	240	230	245	255	280
11	305	295	280	240	235	270	250	235	240	245	230	200	195	240	245	235	245	205	245	245	245	I 290 A	295	305
12	295	295	265	255	245	245	250	245	245	245	250	240	235 H	230	250	230	245	245	235	240	I 240 A	AS	A	295
13	300	295	295	295	245	245	205	220	205	245	245	240 A	230	230	220	235	210	230	240 A	235	E 300 E	290	300	305
14	300	290	290	295	260	265	250	240	240	235	205	245	230	205	205 H	220	245	240	235	E 250 S	250	280	275	295
15	280	265	245	240	225	245	255	245	245	220	195 H	210	200	205	210	I 230 C	240	220	205	245	245	275	260	275
16	270	280	245	210	270	340	295	245	245	I 240 C	I 230 C	I 200 C	200 H	230	240	235	240	230	245	295	C	C	C	C
17	C	C	E 380 E	360	E 345 E	295	265	255	I 245 A	245	I 240 A	I 240 A	I 240 A	250	I 235 A	230	240	225	245	260	I 290 A	I 260 A	295	I 300 A
18	285	240	255	290	250	285	290	250	245	245	220	245	240	210	220	240	240	225	225	250	E 295 E	E 340 E	290	245
19	330	290	290	245	235	290	290	235	245	245	240	245	230	230	245	215	210	220	230	255	250	275	285	300
20	345	310	285	245	220	205	295	245	245	245	240	240 A	245	240	240	245	245	220	I 230 A	270	295	300	295	300
21	345	325	295	295	245	245	235	230	200	205	230	195	245	245	245	245	245	235	I 230 A	I 245 A	I 250 A	270	295	300
22	340	345 A	295	300	300	295	255	250	245	I 235 A	215	215	240	220	225	230	I 240 A	240	245	255	245	310	340	325
23	300	260	245	260	255	300	255	245	245	C	C	C	C	C	I 240 A	230	245	225	220	255	280	I 295 A	310	300
24	290	295	290.	295	255	290	290	245	245	245	245	245	230	220	235	235	I 245 A	230	245	250	I 260 A	295	I 305 A	I 320 A
25	A	A	A	290 A	280	300	260	225	245	240	245 A	250	240	I 220 A	235	215	I 245 A	225	225	I 260 A	250 A	270	295	295
26	295	295	280	245	245	255	255	245	250	205	195	245	245	240	230	225	240	245	240	210	245	245	I 295 S	300
27	300	305	295	265	255	315	280	240	240	C	C	C	C	C	C	C	C	C	C	240	250	305	310	I 310 S
28	295	280	255	295	310	335	295	245	245	220	215	220	250	240	200	225	235	230	235	245	235	245	245	340
29																								
30																								
31																								
No.	26	26	26	28	27	28	28	28	28	26	26	25	25	25	26	27	27	26	26	26	25	24	26	27
Median	300	295	290	280	250	260	255	245	240	240	230	240	235	230	235	235	240	225	240	245	245	270	295	300

h'F

Sweep 160 Mc to 200 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 10

IONOSPHERIC DATA

Feb. 1962 | h'Es | 135° E Mean Time (G.M.T. + 9h.) | 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	E	E	E	E	E	E	E	E	G	G	G	G	G	G	105	G	G	E	E	E	E	E	E	E
2	E	E	E	E	E	E	E	E	G	140	145	135	155	G	G	G	G	100	100	E	E	E	E	E
3	E	E	E	E	E	E	E	E	G	G	G	155	G	135	130	105	G	E	E	E	E	E	E	E
4	E	E	E	E	E	E	E	G	G	G	155	155	G	G	145	135	G	E	E	E	E	E	E	E
5	E	E	E	E	E	E	E	G	155	155	155	145	145	120	125	115	110	105	105	105	E	E	E	105
6	105	105	105	105	E	E	E	G	G	115	G	G	G	130	G	G	G	E	C	E	E	E	105	E
7	E	E	E	E	E	E	E	G	145	135	G	C	C	C	C	110	115	E	E	E	E	E	E	E
8	E	E	E	E	E	E	E	E	105	105	105	G	100	G	G	G	G	E	145	E	E	E	E	E
9	E	E	E	E	C	E	E	E	110	G	105	G	G	G	G	110	110	C	C	C	E	E	E	E
10	E	E	E	E	E	E	E	E	115	G	G	155	155	150	145	130	120	105	105	E	E	E	E	E
11	E	E	E	105	E	E	105	G	150	140	130	135	145	140	145	145	G	130	E	E	105	105	105	E
12	105	105	105	105	E	E	E	G	G	G	155	145	100	105	G	145	G	105	E	110	105	105	105	105
13	E	105	E	E	105	105	100	105	105	G	155	105	105	105	105	100	100	100	100	100	E	E	E	E
14	E	E	E	E	E	E	E	G	G	G	155	145	145	G	G	100	100	E	E	S	E	E	E	E
15	E	E	E	E	E	E	E	G	125	G	135	120	125	G	G	C	G	G	E	E	E	E	E	E
16	E	E	E	E	E	E	E	G	G	C	C	C	G	G	G	100	G	G	E	E	C	C	C	C
17	C	C	E	E	E	E	E	125	125	130	115	110	140	G	105	105	100	100	100	E	120	110	E	110
18	105	E	E	E	E	E	E	125	G	150	145	130	125	115	G	130	G	E	E	E	E	E	E	E
19	E	E	105	E	E	E	E	G	G	145	135	125	G	C	G	105	120	E	E	E	E	E	E	E
20	E	E	E	E	E	E	E	G	G	C	130	135	G	140	G	130	110	105	105	E	E	E	135	E
21	E	E	E	E	E	E	E	G	G	G	140	G	170	155	150	155	G	145	110	115	115	E	E	E
22	E	105	E	E	E	E	E	G	130	110	110	105	105	G	G	105	100	100	100	100	E	E	115	E
23	110	105	105	E	105	105	E	G	G	C	C	C	C	C	140	135	G	120	E	E	E	110	110	110
24	105	E	E	E	E	E	E	G	145	G	G	G	G	105	G	G	115	115	E	E	125	E	105	105
25	110	105	105	105	105	120	E	G	G	G	145	145	105	145	145	145	135	B	E	115	105	E	E	105
26	E	E	E	E	E	E	E	G	105	G	110	105	G	G	G	G	105	115	105	E	E	E	S	E
27	E	E	E	E	E	E	E	G	G	C	C	C	C	C	C	C	C	C	C	E	E	E	105	S
28	E	E	E	E	E	E	E	G	110	115	115	G	G	G	135	G	G	135	E	E	110	E	105	E
29																								
30																								
31																								
No.	6	6	5	4	3	3	2	3	13	11	19	17	14	12	12	19	13	14	10	6	7	4	9	6
Median	105	105	105	105	105	105	100	125	125	135	135	135	130	130	140	115	110	105	105	110	110	110	105	105

h'Es

Sweep 1.60 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

A 11

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Feb. 1962

Types of Es

135° E Mean Time (G.M.T. + 9h.)

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															l									
2										h	h	h	h					f	f					
3												h		h	h	l2								
4											h	h			h	h2								
5									h	h	h	h	h	c2	h2	c3	l2	f2	f2	f2				f
6	f2	f	f2	f2						c				h									f	
7									h	h						l	c							
8									l	l2	l		l2						f					
9									l		l					l	l							
10									c2			h	h2	h2	h2	h4	c2	f	f					
11				f			f		h	h2	h2	h2	h2	h2	h	h		h2			f2	f2	f2	
12	f	f	f2	f							h	h	l	l		h2		f		f	f2	f2	f2	f2
13		f			f2	f2	f2	l	l		h	c3	l	l2	l2	l2	l2	f	f	f				
14											h	h2	h			l	l2							
15									c		h	c	h											
16																l								
17								c2	h4	h2	c2	c2	h		l2	l	l2	l	f		f5	f2		f3
18	f							c		h	h	h	h2	c2		h								
19			f2							h	h	h				l2	c2						f	
20											h	h		h		h	l2	l	f2					
21											h		h	h	h	h		h2	f3	f2	f2			
22		f2							h2	c2	c	l	l			l2	l2	f2	f2	f			f	
23	f2	f2	f		f	f									h	h		c				f	f2	f2
24	f								h					l			c3	l2			f		f2	f2
25	f2	f3	f2	f2	f	f					h2	h	l	h	h	h2	h2			f2	f2			f2
26									l2		l	l2					l	c	f					
27																							f	
28									l	c2	l				h			h2			f2		f	
29																								
30																								
31																								
No.																								
Median																								

Types of Es

Sweep 160 Mc to 200 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Feb. 1962 | foF2 | 135° E Mean Time (G.M.T. + 9h.) | 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	I 3.0 S	3.0	I 3.0 S I	3.0 S	I 3.8 S	S	I 3.2 S I	4.6 S	I 6.0 S	6.4	7.1	7.0	6.4	6.2 S	6.4	7.1	6.0	U 5.1 S	4.0	4.1	3.6	2.4 R	2.6 R I	3.0 S
2	J 3.1 R	3.1	J 3.2 S	3.4	2.9	I 2.1 S	S	D 6.0 S	S	I 5.6 S	6.9	7.1	7.5	7.4 R U	6.6 R	6.4	5.9	5.4	3.4	3.2	3.6	3.1	J 3.0 R U	3.2 S
3	J 3.3 S	2.8	3.4 S	3.6	4.0 S I	3.2 S	3.0	I 4.5 S	6.7	6.3	6.4	7.1	7.6	6.6	6.7	7.0	6.4	5.4	4.2	R	J 4.3 R	3.6 R	3.1	2.8
4	2.7 R	3.1	3.1	3.1	3.4 R	2.9	2.5 R	5.0	5.6 U	5.9 R	5.4 R J	6.4 R	6.8	6.1 J	6.8 S	6.9	5.8 S	5.4	I 3.8 S	3.6	I 3.6 S U	2.8 S I	2.8 S I	2.8 S
5	U 2.9 S	S	3.1	S	S	S	U 3.2 S U	6.8 S	I 5.4 S U	6.8 S	8.3 S	10.6	J 11.4 R	9.0	6.8	S	5.8 R	5.0	U 3.4 S	4.0	3.7 J	3.7 S J	3.6 S	3.6
6	3.7 R	3.3	3.1	3.3	3.2	3.2	3.2	5.6	I 6.2 R U	6.1 R J	6.5 R	7.6	8.8	8.2	7.1	6.7	5.7	4.5	3.6	U 3.7 S	J 4.0 R I	2.7 R J	2.7 R	3.1
7	3.0	3.1	3.1	2.9	2.9	U 2.3 S	2.3	J 4.9 S	U 7.1 S	6.5	6.9	7.6	I 8.3 R	8.8	6.5	5.8	6.0	J 5.1 S	4.1	J 4.2 S	U 3.8 S U	3.4 S I	3.4 S	3.4
8	3.8 S	3.6	L 3.4 S	3.6	3.5	3.3	3.4	S	6.8	J 8.4 S J	8.6 S	C	J 8.9 R	9.2	U 7.1 S	6.8	5.7	4.7	I 3.5 R	3.4	T 3.3 S	3.1	3.2	3.1
9	3.3	3.2	3.3	3.3	3.0	2.6	2.9	U 5.9 S	S	6.8	J 8.6 R J	8.9 R J	8.4 S	7.5	6.5	6.7	6.8	5.3 S	3.4	3.0	3.4	3.1	3.1 S	2.8
10	2.9 J	3.3 S	3.1 F	3.3	3.6	3.0	2.5	J 5.0 S	5.2	5.4	6.4	7.8 S	9.0	8.2	6.7	6.6	5.9	4.6	3.2	3.2	3.6	3.2	3.3	3.6
11	3.0	3.2	3.4	3.6	3.2	2.6	2.9 S	5.1 S	5.6	5.8	7.0	7.3 S	6.0	7.1 S	7.1	6.1	5.5	J 5.3 R U	3.2 S I	3.2 A	3.3 S	2.7	2.9	3.0
12	3.0	3.3	3.3	3.4	J 3.0 S	2.8	2.7 J	5.6 S	6.2	6.8	7.4	7.0	U 6.9 S	7.5 J	9.7 S J	8.7 S	6.0	6.1	5.7	4.5	3.4	2.9	3.1	3.3
13	J 3.4 S	3.4	3.5	3.6	4.2	2.7	2.7 J	5.6 S	5.7	6.4 S I	6.0 R	R	8.2 I	9.0 S	8.3 R J	7.8 R	6.4	5.6	4.5 R	4.1	3.1	3.0	3.2	3.1
14	3.3	3.4	3.2	3.2	3.2	3.2	3.2	5.9	6.5	6.3	6.4	7.2	9.2	7.4	6.6	7.1	6.3	5.8	I 5.0 S I	4.2 S U	3.8 S	3.5 S U	3.0 S	3.8
15	J 3.4 S J	4.0 S U	3.9 S J	3.6 S	3.6 2 J	3.3 S J	3.3 S	5.8	6.2 I	8.2 R J	8.2 S	9.7 S	8.4 S	7.3	C	S	C	C	C	C	3.1 U	2.8 S J	3.3 S	3.4 S
16	3.4	U 4.0 S J	6.1 S U	4.1 S U	3.0 S	2.8	3.8 S	6.4 S	5.6	6.3 I	7.3 C J	8.8 R J	9.9 S	9.3	6.9	6.2	I 5.9 S U	5.1 S	4.0	S	U 3.2 S U	4.0 S U	4.9 S I	3.6 S
17	J 4.1 S J	4.7 S I	3.4 S I	2.5 S	J 2.9 S	S	3.2 F	6.4	9.9 S	7.5	7.0 S I	8.4 S I	8.4 S J	9.5 S	8.8	6.7	5.6	6.0	4.4 S	3.6	3.8 S	C	C	C
18	C	C	C	C	C	C	C	C	C	C	8.6	9.8	8.9	8.1	7.1	7.1	6.3 S	5.7	4.0	2.9	2.6	2.9 U	3.0 F	3.4
19	U 3.4 S J	3.3 S L	3.2 C	3.3	I 2.8 S I	2.6 S	S	5.3 S I	6.0 S	6.5	8.7	10.5	10.8	S	7.7	7.0	6.7	6.0	4.4	3.1	3.0	2.9	3.1	3.2
20	J 3.0 S	3.2	3.4 S	S	U 3.9 S	S	L 2.8 S J	4.3 S	6.4	7.1	8.1	9.4	11.4	10.3	8.4	7.9	8.0	5.9	3.9	2.9	3.0	3.1	3.2 U	3.4 S
21	3.1	J 3.4 S	3.4	L 3.7 S U	4.2 S	3.1	J 3.0 S U	4.8 S	6.4 S	8.0	8.9 J	10.0 S J	10.4 R J	9.8 S	8.8	7.3	6.9	6.2	4.9	4.0	3.6	3.5	3.3	3.3
22	U 3.3 S	3.4 S	3.6	A	S	3.4	3.4 S U	6.3 S J	8.5 R	8.7	9.3	10.2	11.1	9.1	7.7	7.2	6.9	6.4	4.6	3.7	3.9 R	3.6	3.7 S	3.8
23	4.0	4.8	3.6	3.1	3.1	3.0	3.5 S	6.4	7.9	7.8	8.8	9.4	9.7	8.8	8.0	7.4	6.9	6.5	4.7	4.1	3.8	3.8 S	3.8 S	3.8
24	4.0	3.8	3.7	3.6 S	3.9	3.7	3.7 S	6.2	8.3	8.9	8.6	8.6	9.6	9.3	8.0	7.6	6.9	6.7	4.9	4.2	3.8	3.3 S J	3.4 S U	3.4 S
25	L 3.4 S	3.6 L	3.6 A	3.3	3.1	2.9	3.5	6.1	7.4	8.4	8.6	8.9	8.8	8.6	7.7	7.8	7.2 R	6.1	4.8	4.9	4.6	I 3.6 A	3.9 J	3.9 R
26	3.9	4.0	4.0	3.9	J 3.8 S	4.1	J 4.4 S L	6.9 S	J 7.9 R	9.2 L	8.9 S J	9.8 S	J 10.1 R J	10.1 R	8.0	7.3	7.4	6.5	6.5	5.5	A	3.4	3.6	3.9
27	4.1	I 4.4 S J	4.1 S	4.3	J 3.8 S	3.6	U 4.0 S L	6.9 S	7.2 S	7.6	8.4 J	9.4 S	10.9	9.5	8.9	9.6 S	9.2	8.5 R	6.2	5.6	4.0	4.4	J 4.5 S U	4.4 S
28	4.4	4.4 S	4.1	3.9	J 3.6 S	I 3.8 S	3.9 S J	8.0 S	U 9.6 S	10.3	J 10.2 S	9.1	10.4 R	8.5	8.7	8.6	7.9	6.4	6.3	5.4	5.1	4.4	J 3.8 S	3.1
29																								
30																								
31																								
No.	27	26	27	24	25	23	25	26	25	27	28	26	28	27	27	26	27	27	27	25	27	27	27	27
Median	3.3	3.4	3.4	3.4	3.4	3.0	3.2	5.8	6.4	6.8	8.2	8.8	8.9	8.6	7.1	7.1	6.3	5.7	4.2	4.0	3.6	3.2	3.2	3.4
U. Q	3.8	4.0	3.6	3.6	3.8	3.3	3.5	6.4	7.6	8.2	8.6	9.7	10.2	9.3	8.3	7.6	6.9	6.2	4.9	4.2	3.8	3.6	3.6	3.6
L. Q	3.0	3.2	3.2	3.2	3.0	2.7	2.8	5.0	5.8	6.3	6.9	7.3	8.2	7.4	6.7	6.7	5.9	5.1	3.6	3.2	3.3	2.9	3.0	3.1
Q. R	0.8	0.8	0.4	0.4	0.8	0.6	0.7	1.4	1.8	1.9	1.7	2.4	2.0	1.9	1.6	0.9	1.0	1.1	1.3	1.0	0.5	0.7	0.6	0.5

foF2

Sweep 1.0 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 1

IONOSPHERIC DATA

Feb. 1962 | foF1 | 135° E Mean Time (G.M.T. + 9h.) | 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											L	L	L	L	L									
2										L	L	L	"4.2"	L	L	L								
3											L	L	L	L	L	L								
4												L	L	L	L									
5											L	L	L	L										
6											L	L	L	L	L	L								
7												L	S	L		L								
8										L	L	C	A	L	L	L								
9									L	L	L	C	L	L		L								
10									LH		L	L	L	L	L	L								
11										L	L	S		L	L	L								
12												L		"4.5"	L									
13												S	L	S	L									
14												L	L											
15											L	L	L	L	C	S	C	C						
16											C	L	S		L									
17												S	S	L	A	L								
18								C	C	C	L	A	L	L	L	L								
19										L	S	L	L	L	L									
20										L	L	L	L	L	L	L								
21										L	L	L	L	L	L									
22										L	L	S	S	L	S	S	L							
23										L	L	L	L	L	L	L								
24										L	L	L	L	L	L	A	A	A						
25										L		L	L	A	L	L								
26									L	L	L	L	L	L	L									
27											L	L	L	L	L	L								
28										L	L	L	"5.0"	L	L		A	A						
29																								
30																								
31																								
No.													2	1										
Median													"4.6	"4.5										

foF1

Sweep 10 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Feb. 1962 | foE | 135° E Mean Time (G.M.T. + 9h.) | 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								S	S	A	A	I 3.10 A	A	B	S	B	B	S						
2								S	A	S	S	I 3.10 S	B	R	3.20 R	I 2.70 R	S	S						
3								S	2.55	2.95	U 3.00 S	U 3.15 R	B	I 3.00 B	A	A	R	B						
4								S	2.50	2.85	3.05	R	R	3.10	S	2.80	S	S						
5								S	S	S	S	3.20	3.20	3.05	S	A	A	B						
6								I 1.70 A	2.50	A	R	3.25 R	3.25	3.20	3.00	I 2.80 A	S	S						
7								1.90	2.60	U 3.05 R	R	R	B	A	A	A	A	S						
8								S	2.30	R	3.05	C	A	B	B	2.75	2.20 R	1.75						
9								S	2.60	U 2.80 R	R	C	3.20	B	R	2.70	2.30	S						
10								S	I 2.40 A	2.80	I 3.20 R I	3.35 S	I 3.30 R I	3.20 R I	3.05 B	2.85	2.40	S						
11								S	2.60	2.80	A	A	S	3.10	3.00	2.70	2.35	S						
12								S	2.55	3.00	B	R	S	2.95	3.05	B	2.35 R	S						
13								I 2.10 S	2.30	2.80	R	S	R	R	A	A	2.30	S						
14								2.20	2.45	U 2.90 S	S	I 3.15 S	U 3.20 S	S	S	S	R	S						
15								S	2.55	I 2.90 A	3.20	A	A	3.25	C	S	C	C						
16								S	2.55	2.80	I 3.15 C	R	S	S	S	S	S	S						
17								S	U 2.50 R	3.10	3.15	3.20	S	S	A	2.80	B	S						
18								C	C	C	3.10	3.20	3.20	A	A	3.00	S	S						
19								S	2.45	2.90	S	A	A	A	A	A	S	S						
20								S	2.55	3.00	3.30	3.30	L 3.40 A	3.30	I 3.15 A	B	B	S						
21								S	2.50	3.05	3.15	3.50	3.50	A	2.25	2.90	2.55	S						
22								A	S	2.60	2.75	A	A	3.45	A	A	A	S						
23								S	2.70	3.00	I 3.20 A	3.35	3.50	3.35	3.30	3.10	S	S						
24								S	2.75	R	R	R	3.60	3.45	3.35	2.95	A	S						
25							S	S	2.90	3.20	3.40	3.60	3.55	3.50	3.40	3.10	A	R						
26							S	I 2.05 SI	I 2.70 R	3.00 R	A	3.30	R	3.45	3.35	3.05	R	S						
27							S	S	2.70	3.20	L 3.30 R	3.40	3.40 R I	3.30 A	3.20	A	S	1.95						
28							S	A	U 2.50 A	3.00	3.20	3.50	3.40	L 3.20 A	R	2.95	I 2.40 B	S						
29																								
30																								
31																								
No.								5	23	21	15	16	13	16	12	15	8	2						
Median								U 2.05	2.55	2.95	3.15	3.30	3.40	3.20	3.20	2.85	2.35	1.85						

foE

Sweep 1.0 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 3

IONOSPHERIC DATA

Feb. 1962 | foEs | 135° E Mean Time (G.M.T. + 9h.)

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	S	S	S	E	E	S	S	S	S	J 3.7 S	3.7 S	3.7	3.6	B	G	B	B	S	S	E	E	S	S	S
2	E	E	E	E	E	S	S	S	2.6	S	S	S	B	2.1 H	G	2.4 H	S	S	S	S	E	E	S	S
3	E	S	E	E	E	S	S	S	G	3.7	3.2	G	3.8	3.4	3.3	2.8	G	B	2.8 M	2.4 M	S	E	S	S
4	E	J 1.8	E	E	E	E	E	S	G	G	G	G	G	2.7	S	G	S	S	S	S	S	S	S	S
5	S	S	S	S	S	S	S	S	S	S	4.0 S	4.0	3.5	3.7 S	J 4.0	3.4	2.5	B	S	S	E	E	S	E
6	E	S	J 2.5	E	1.9 M	E	S	J 2.0	G	3.2	2.7 H	G	G	2.7 H	G	3.1	S	S	S	S	S	S	S	J 3.0 S
7	2.2	S	S	E	E	S	S	G	G	G	G	G	3.9	4.3	4.0 M	2.7	J 3.0	S	S	S	S	S	S	S
8	S	S	J 3.4	3.1 M	S	E	S	2.3	G	G	G	C	4.5	B	B	G	G	G	S	S	S	S	E	S
9	E	E	E	E	E	E	S	S	G	G	G	C	G	B	7.0 H	G	G	S	S	S	E	E	E	E
10	E	E	E	E	E	E	S	G	2.5	3.6	2.5 H	S	3.8	G	B	3.4	J 3.9	J 2.4	S	S	1.8	S	2.4 M	2.8 M
11	S	S	J 2.7	J 2.2	E	J 2.1	J 3.1	S	G	3.3	J 3.9	4.4	S	3.4	G	3.0	G	S	S	3.1 M	2.9 M	J 2.3	S	2.2 M
12	S	S	E	E	E	S	S	S	2.9	3.4	B	4.0	S	G	G	B	G	S	S	S	S	S	S	S
13	S	S	J 3.3	2.8 M	2.1 M	S	S	S	G	3.2	G	S	3.2	3.0 H	4.2 M	3.7	G	S	2.2	S	S	S	S	S
14	S	S	E	E	E	E	S	G	G	3.3	S	S	3.4	S	S	G	G	J 2.8	S	S	S	S	S	S
15	S	S	E	E	S	S	S	S	G	3.2	G	3.3	3.4	2.9 H	C	S	C	C	C	C	S	S	S	S
16	E	S	E	E	S	S	S	S	G	G	C	2.5 H	S	S	S	S	S	S	S	S	S	S	S	S
17	S	S	S	2.2	E	S	S	S	G	3.6	3.8	5.1 S	S	S	J 5.2	3.0 M	3.5	3.4 M	2.0	S	2.9 H	C	C	C
18	C	C	C	C	C	C	C	C	C	C	3.6	4.6	4.4	J 4.0	3.4	G	S	S	S	S	S	S	E	S
19	S	S	C	E	S	S	S	S	S	G	G	4.0	J 3.9	3.5	J 3.8	3.1	S	B	S	S	S	S	S	S
20	S	S	E	S	S	S	S	G	G	3.2	3.7	J 4.3	4.0 M	3.7	3.4	3.7	2.9	2.2	J 3.5	S	S	S	S	2.6 H
21	S	E	S	S	S	S	S	S	G	G	3.5	G	3.9	3.7 S	G	G	G	S	S	S	J 3.4	J 4.0	S	S
22	S	S	2.2 M	4.8 M	2.3	S	S	2.8 S	3.0	3.4	J 5.1	J 3.8	3.3	G	J 3.8	3.8	J 2.9	S	2.3	S	2.2	S	S	J 2.6
23	J 2.4	S	2.0	2.3 M	2.3 M	S	2.3	S	G	G	3.6	3.4	3.8	G	3.6	G	S	S	S	S	S	S	2.9	J 2.3
24	2.3	2.3	2.3	S	S	S	S	S	G	G	G	G	G	2.9 H	G	J 5.5	5.7	5.8 M	3.4	2.1	S	S	2.2 M	S
25	S	2.3	3.9 M	J 2.3	S	S	S	S	G	3.7	3.9	4.6	3.9	J 7.0	3.0 H	G	3.2	G	S	2.4	S	J 3.8	J 3.4	S
26	S	S	J 2.8	2.4 M	2.4 M	S	S	S	2.6 H	2.8 H	4.2	3.8	G	3.8	G	3.8	G	S	S	S	J 5.0	2.4 M	3.1 M	S
27	S	S	S	E	S	S	S	S	G	3.4	G	3.5	3.7	3.9	3.4	3.1	S	G	S	S	S	S	S	S
28	S	S	2.1	S	2.3	2.1	2.4	2.3	2.9	4.4 M	3.9	G	2.7 H	J 3.4	G	3.7	4.5	4.8 M	S	S	S	2.4	E	E
29																								
30																								
31																								
No.	10	7	20	22	17	8	4	8	24	25	24	22	23	22	22	24	18	9	6	5	10	9	9	9
Median	E	E	E	E	E	E	2.4	G	G	3.2	3.4	3.6	3.6	3.4	G	3.0	G	2.4	2.6	2.4	2.0	2.3	2.2	2.3
U.Q.	2.2	2.3	2.6	2.3	2.2	E	2.8	2.3	G	3.4	3.8	4.0	3.9	3.7	3.8	3.6	3.2	4.1	3.4	2.8	2.9	3.1	3.0	2.7
L.Q.	E	E	E	E	E		E	G		G	G	G	G	G	G	G	G	G	2.2	E	E	E	E	E
Q.R.																			1.2					

foEs

Sweep 1.0 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

K 4

IONOSPHERIC DATA

Feb. 1962 | f_bE_s | 135° E Mean Time (G.M.T. + 9h.) | 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	S	S	S			S	S	S	S	2.9	3.4	3.5	3.4	B		B	B	S	S			S	S	S
2						S	S	S	u 2.6 s	S	S	S	B	E 3.1 R		E 2.4 R	S	S	S	S			S	S
3		S				S	S	S		3.5	3.1		3.5	3.4	3.3	2.8		B	2.0	E	S		S	S
4		E						S						3.7	S		S	S	S	S	S	S	S	S
5	S	S	S	S	S	S	S	S	S	S	3.5	3.5	3.5	3.5	3.9	2.9	2.5	B	S	S				
6		S	1.7		E		S	1.8		2.9	E 2.7 R			2.7 T		2.9	S	S	S	S	S	S	S	2.0
7	E	S	S			S	S						E 3.9 s	3.7	3.5	2.7	2.8	S	S	S	S	S	S	S
8	S	S	E	2.2	S		S	S				C	4.5	B	B				S	S	S	S		S
9							S	S				C		B	E 3.0 s			S	S	S	S	S		S
10							S		2.5	3.5	E 2.5 R	S	3.8		B	3.2	3.5	2.1	S	S	1.6	S	E	2.0
11	S	S	1.5	E		1.9	1.9	S		3.2	3.6	E 4.4 s	S	3.4		2.9		S	S	A	2.1	2.0	S	2.0
12	S	S				S	S	S	2.8	C T	B	4.0	S			B		S	S	S	S	S	S	S
13	S	S	2.6	1.8	E	S	S	S		3.2		S	E 3.2 R	E 3.0 s	3.6	3.6		S	E	S	S	S	S	S
14	S	S					S			3.1	S	S	3.4	S	S			2.1	S	S	S	S	S	S
15	S	S			S	S	S	S		3.2		3.1	3.4	2.8 T	C	S	C	C	C	C	S	S	S	S
16		S			S	S	S	S			C	E 2.5 R	S	S	S	S	S	S	S	S	S	S	S	S
17	S	S	S	S		S	S	S		3.6	3.8	E 5.1 s	S	S	5.0	2.2 T	3.3	2.7	2.0	S	1.9	C	C	C
18	C	C	C	C	C	C	C	C	C	C	3.5	4.5	3.9	3.6	3.2		S	S	S	S	S	S		S
19	S	S	C		S	S	S	S	S			3.7	3.8	3.5	3.5	3.1	S	B	S	S	S	S	S	S
20	S	S		S	S	S	S			3.1	3.6	4.0	3.4	3.6	3.4	3.6	2.7	2.0	2.6	S	S	S	S	2.3
21	S		S	S	S	S	S	S			3.4		3.8	3.7				S	S	S	2.1	2.5	S	S
22	S	S	1.8	A	2.0	S	S	2.5	2.8	2.8	3.6	3.6	3.3		E 3.8 s	3.8	2.7	S	2.0	S	1.9	S	S	1.9
23	2.1	S	1.9	1.9	1.9	S	E	S			3.5	3.4	3.4		3.2		S	S	S	S	S	S	E	1.9
24	1.9	1.9	2.0	S	S	S	S	S						2.9 T		5.4	4.6	4.5	2.5	E	S	S	E	S
25	S	2.0	A	1.9	S	S	S	S		3.6	3.9	4.2	3.9	4.6	3.0 T		3.0		S	1.9	S	A	1.8	S
26	S	S	E	1.7	E	S	S	S	E 2.6 R	2.7 T	u 4.1 s	3.8		3.7		3.8		S	S	S	A	E	2.8	S
27	S	S	S		S	S	S	S		3.4		3.5	3.7	3.5	3.4	3.1	S		S	S	S	S	S	S
28	S	S	E	S	1.7	E	E 2.4 s E 2.3 s		2.9	3.6	3.6		2.7 T	E 3.4 R		3.4	4.5	4.3	S	S	S	E		
29																								
30																								
31																								
No.																								
Median																								

f_bE_s | Sweep 1.0 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

K 5

IONOSPHERIC DATA

Feb. 1962 | f-min | 135° E Mean Time (G.M.T. + 9h.) | 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	S	E 1.60 S	S	1.10	1.40	S	S	E 2.30 S	E 2.50 S	E 2.65 S	2.90	2.80	2.65	3.30	E 2.85 S	2.80	2.40	E 1.95 S	E 1.60 S	1.30	1.40	E 1.60 S	E 1.80 S	S
2	1.40	1.40	1.40	1.20	1.10	S	S	E 2.40 S	E 2.10 S	E 3.00 S	E 3.10 S	E 3.30 S	3.95	2.00	2.60	1.90	E 2.80 S	E 1.90 S	E 1.80 S	E 1.70 S	1.30	1.30	E 1.65 S	E 1.90 S
3	1.40	E 1.80 S	1.40	1.20	1.50	E 1.70 S	E 1.50 S	E 2.40 S	2.00	2.15	2.25	2.40	3.20	3.20	2.20	2.10	2.00	1.80	E 1.90 S	E 1.80 S	E 1.60 S	1.40	E 1.90 S	E 1.95 S
4	1.50	1.60	1.40	1.60	1.40	1.50	1.60	E 1.80 S	1.90	2.10	2.10	2.90	2.40	2.30	E 3.40 S	2.20	E 1.90 S	E 2.00 S	E 1.80 S	1.80	E 1.90 S	E 1.70 S	S	S
5	E 1.90 S	S	E 1.50 S	1.50 S	S	S	E 1.90 S	E 2.40 S	S	E 3.20 S	E 2.50 S	2.40	2.20	E 2.30 S	E 2.30 S	2.00	2.00	2.00	E 1.80 S	1.80 S	1.40	1.40	E 1.80 S	1.50
6	1.50	E 1.50 S	E 1.50 S	1.40	1.40	1.40	E 1.50 S	1.25	1.95	1.90	2.40	2.30	2.25	2.20	2.20	2.10	E 2.30 S	E 1.60 S	E 1.80 S	E 1.70 S	E 1.90 S	E 1.50 S	E 1.80 S	E 1.70 S
7	E 1.50 S	E 1.50 S	E 1.60 S	1.40	1.40	E 1.50 S	E 1.50 S	1.40	1.90	2.80	2.45	2.60	3.40	2.30	2.20	2.10	1.80	E 1.80 S	E 1.60 S	E 1.80 S	E 1.50 S	E 1.70 S	E 2.10 S	E 1.70 S
8	E 1.90 S	E 1.50 S	E 1.80 S	E 1.70 S	E 1.70 S	1.20	E 1.70 S	E 1.95 S	1.95	2.10	2.40	C	2.60	3.70	3.80	2.20	1.90	1.50	E 1.80 S	E 1.85 S	E 1.60 S	E 1.90 S	1.50	E 1.85 S
9	1.60	1.50	1.60	1.20	1.00	1.40	E 1.85 S	E 1.95 S	2.00	2.10	2.10	E 6.40 S	2.20	4.25	2.30	1.90	E 1.90 S	E 1.70 S	E 1.60 S	E 1.60 S	1.40	1.40	1.50	1.40
10	1.30	1.40	1.30	1.30	1.20	1.40	E 1.50 S	1.20	1.95	1.90	2.10	E 3.80 S	2.20	2.20	3.20	2.00	2.10	E 1.90 S	E 1.90 S	E 1.90 S	E 1.50 S	E 1.50 S	E 1.60 S	E 1.80 S
11	E 1.70 S	E 1.80 S	1.40	1.20	1.20	1.30	E 1.70 S	E 2.10 S	1.80	2.20	2.40	E 3.00 S	E 4.10 S	2.10	2.10	2.00	2.10	E 2.00 S	E 1.95 S	E 1.80 S	E 1.80 S	E 1.60 S	E 1.70 S	E 1.60 S
12	E 1.90 S	E 1.80 S	1.40	1.20	1.50	E 1.80 S	E 1.70 S	E 1.95 S	1.80	2.00	3.70	2.40	E 5.10 S	2.40	2.20	2.90	1.90	E 1.70 S	E 2.00 S	E 1.75 S	E 1.80 S	E 1.95 S	E 1.90 S	E 1.90 S
13	E 1.90 S	E 1.60 S	E 1.50 S	1.30	1.15	E 1.50 S	E 1.80 S	E 2.20 S	1.80	1.90	2.50	E 3.80 S	2.20	2.10	2.10	2.00	2.00	E 2.00 S	E 1.70 S	E 1.80 S	E 1.95 S	E 1.70 S	E 1.50 S	E 1.70 S
14	E 1.80 S	E 1.70 S	1.40	1.40	1.30	1.40	E 1.50 S	1.55	1.95	E 2.65 S	4.80	E 3.50 S	2.10	E 3.50 S	E 2.90 S	2.20	2.00	E 1.90 S	E 1.80 S	E 1.90 S	E 1.90 S	E 1.95 S	E 1.80 S	E 1.95 S
15	E 1.50 S	E 1.75 S	1.40	1.50	E 1.85 S	E 1.90 S	E 1.80 S	E 2.60 S	2.00	2.10	1.90	2.00	2.20	2.30	C	S	C	C	C	C	E 1.50 S	E 1.60 S	E 1.50 S	E 1.50 S
16	1.50	E 1.80 S	1.10	1.30	E 1.70 S	E 1.50 S	E 1.90 S	E 2.40 S	E 2.15 S	2.00	I 2.30 C	2.20	E 3.80 S	E 3.90 S	E 3.20 S	E 2.90 S	E 2.60 S	E 2.70 S	E 1.90 S	S	E 2.00 S	E 1.90 S	E 2.00 S	E 1.60 S
17	E 2.40 S	E 1.50 S	E 1.50 S	1.50 S	1.10	E 1.80 S	E 1.80 S	E 2.60 S	2.10	2.30	2.25	2.40	E 3.60 S	E 3.60 S	1.90	1.90	2.60	E 1.90 S	E 1.50 S	E 1.50 S	E 1.70 S	C	C	C
18	C	C	C	C	C	C	C	C	C	C	2.10	2.00	2.40	2.30	2.20	2.10	E 2.60 S	E 2.00 S	E 1.80 S	E 1.70 S	E 1.80 S	E 1.50 S	E 1.40 S	E 1.70 S
19	E 1.90 S	E 1.70 S	C	1.40	E 1.50 S	S	S	E 2.20 S	E 2.00 S	2.00	2.30	2.15	2.25	2.20	2.10	2.20	E 2.60 S	E 2.10 S	E 1.90 S	E 1.50 S	E 1.50 S	E 1.70 S	E 2.20 S	E 1.70 S
20	E 1.85 S	E 1.70 S	1.40	E 1.70 S	E 1.90 S	S	S	E 1.80 S	1.80	2.00	2.25	2.20	2.70	2.50	2.30	3.45	2.55	E 1.90 S	E 1.90 S	E 1.50 S	E 1.60 S	E 1.50 S	E 1.70 S	E 1.80 S
21	E 1.50 S	1.10	E 1.70 S	E 1.90 S	E 1.50 S	E 1.70 S	E 1.40 S	E 2.40 S	1.80	2.10	2.35	2.30	2.25	2.20	2.20	2.15	2.00	E 1.95 S	E 1.85 S	E 1.70 S	E 1.80 S	E 1.80 S	E 1.80 S	E 1.50 S
22	E 1.85 S	E 1.50 S	1.40	E 1.50 S	E 1.80 S	E 2.00 S	E 1.50 S	E 2.00 S	E 1.90 S	2.00	2.00	2.40	2.30	2.05	1.90	2.25	2.00	E 2.60 S	E 1.85 S	E 1.95 S	1.65	E 2.00 S	E 1.90 S	E 1.70 S
23	E 1.65 S	E 1.90 S	E 1.70 S	E 1.60 S	1.50	E 1.55 S	E 1.90 S	E 2.55 S	2.10	2.00	2.20	2.90	2.70	2.20	2.40	2.25	E 2.80 S	E 2.40 S	E 1.75 S	E 1.80 S	E 1.70 S	E 1.80 S	E 1.85 S	E 1.70 S
24	E 1.75 S	1.40	E 1.70 S	E 1.75 S	E 1.80 S	E 1.90 S	E 2.05 S	E 2.90 S	2.10	2.30	2.80	2.95	2.50	2.30	2.80	2.20	2.10	E 1.95 S	2.00	E 1.95 S	E 1.80 S	E 1.80 S	1.45	E 1.95 S
25	S	E 1.50 S	E 1.60 S	E 1.50 S	E 1.50 S	E 1.75 S	E 1.50 S	E 2.50 S	1.95	2.60	2.30	2.70	2.50	2.60	2.20	2.10	2.10	1.80	E 1.50 S	E 1.50 S	E 1.80 S	E 1.55 S	E 1.50 S	E 1.50 S
26	E 1.50 S	E 1.60 S	1.40	1.50	E 1.50 S	E 1.50 S	E 1.50 S	E 2.20 S	1.90	2.30	2.50	2.10	2.35	2.25	2.20	2.20	1.90	E 2.50 S	E 1.80 S	E 1.95 S	E 1.50 S	1.30	E 1.50 S	E 1.80 S
27	E 1.80 S	E 1.95 S	E 1.80 S	1.20	E 1.70 S	E 2.00 S	E 1.80 S	E 2.70 S	1.95	2.20	2.40	2.10	2.30	2.50	2.15	2.00	E 2.50 S	E 1.60 S	E 1.50 S	E 1.50 S	E 1.70 S	E 1.50 S	E 1.95 S	E 1.80 S
28	E 1.70 S	E 1.90 S	E 1.60 S	E 2.00 S	1.25	1.40	E 1.75 S	E 1.70 S	1.90	2.00	1.90	2.40	2.30	2.30	2.15	2.15	2.85	E 1.70 S	E 1.70 S	E 1.70 S	E 1.70 S	1.40	1.40	1.50
29																								
30																								
31																								
No.	25	26	13	17	15	22	23	27	22	23	25	21	24	25	22	26	20	27	27	26	28	27	26	25
Median	E 1.70	E 1.60	1.40	1.30	1.30	E 1.50	E 1.70	E 2.20	1.95	2.10	2.30	2.40	2.30	2.30	2.20	2.10	2.00	E 1.90	E 1.80	E 1.80	E 1.70	E 1.60	E 1.80	E 1.70

f-min

Sweep 1.0 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 6

38

IONOSPHERIC DATA

Feb. 1962 | M(3000)F2 | 135° E Mean Time (G.M.T. + 9h.) | 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	S	2.65	I 2.85 S	I 2.90 S	I 3.05 S	S	I 3.05 S	I 3.75 S	S	3.45	3.25	3.45	3.60	3.25 S	3.25	3.40	3.50	U 3.50 S	3.35	3.25	3.35	2.85 R	2.75 R	I 2.70 S
2	J 2.95 R	2.95	J 3.10 S	3.25	3.45	I 3.70 S	S	S	S	I 3.45 S	3.45	3.50	3.50	3.65 R U	3.25 R	3.45	3.55	3.30	3.45	3.10	3.20	3.25	J 3.15 R U	2.80 S
3	J 2.75 S	2.80	2.75 S	2.90	3.25 S I	3.20 S	2.85	I 3.30 S	3.60	3.50	3.10	3.40	3.40	3.35	3.30	3.45	3.45	3.55	3.35	R	J 3.25 R	3.30 R	3.25	2.80
4	2.95 R	2.90	2.90	3.05	3.50 S	3.45	3.05 R	3.40	3.55	U 3.40 R	3.55 R	J 3.40 R	3.55	3.20	J 3.55 S	3.65	3.45 S	3.55	I 3.50 S	3.05	I 3.30 S	U 2.90 S	I 3.20 S	S
5	U 2.70 S	S	3.15	S	S	S	U 2.90 S U	3.85 S	I 3.60 S	U 3.10 S	3.25 S	3.15	J 3.45 R	3.45	3.30	S	3.45 R	3.40	U 3.20 S	3.25	3.20	J 3.10 S	J 3.15 S	3.05
6	3.25 R	3.05	2.95	2.80	3.15	2.95	3.10	3.55	I 3.55 R U	3.60 R	J 3.30 R	3.30	3.40	3.55	3.50	3.70	3.65	3.55	3.20 U	3.25 S	J 3.40 R	I 3.25 R	J 2.95 R	2.75
7	2.95	2.85	3.05	3.10	3.30	U 3.00 S	3.00	J 3.35 S	U 3.65 S	3.40	3.35	3.40	I 3.25 R	3.65	3.50	3.60	3.35	J 3.40 S	3.15	J 3.25 S	U 3.15 S	U 2.95 S	S	3.20
8	2.95 S	3.15	I 2.90 S	3.05	3.15	3.15	3.25	S	3.70	J 3.30 S	J 3.25 S	C	J 3.60 R	3.50	U 3.45 S	3.55	3.70	3.50	I 3.75 R	3.35	S	3.15	2.95	2.90
9	3.00	3.10	3.05	3.25	3.20	3.05	2.95	U 3.70 S	S	3.35	J 3.45 R	J 3.50 R	J 3.45 S	3.60	3.25	3.60	3.55	3.40 S	3.35	3.00	3.20	3.20	3.25 S	2.95
10	2.70	J 3.20 S	2.85 R	2.95	3.30	3.30	3.55	J 3.60 S	3.60	3.20	3.40	3.20	3.45	3.40	3.40	3.55	3.70	3.50	3.30	3.10	3.35	3.15	3.30	3.05
11	2.85	2.95	2.95	3.05	3.10	3.05	2.95 S	3.55 S	3.60	3.45	3.55	3.70	3.35	3.45 S	3.50	3.45	3.40	J 3.40 R U	3.35 S I	3.10 A	3.20 S	3.00	3.30	2.80
12	2.95	3.00	3.15	3.25	J 3.35 S	3.20	3.20	J 3.20 S	3.40	3.50	3.40	3.30	U 3.20 S	3.10	J 3.40 S	J 3.45 S	3.35	3.30	3.30	3.20	3.35	2.95	3.00	2.95
13	J 2.75 S	2.80	3.00	3.10	3.20	3.35	3.15	J 3.40 S	3.65	3.60	I 3.30 R	R	3.15	I 3.30 S	3.35 R	J 3.45 R	3.45	3.40	3.35 R	3.30	3.25	3.00	2.95	2.90
14	2.85	3.10	2.95	2.95	3.10	3.05	3.10	3.50	3.70	3.50	3.45	3.30	3.60	3.50	3.30	3.50	3.50	3.45	I 3.30 S	I 3.20 S	U 3.45 S	I 2.95 S U	I 2.95 S	3.05
15	J 2.95 S	J 3.05 S	U 3.20 S	J 3.35 S	3.15 Z	J 2.90 S	J 2.95 S	3.45 S	3.55	R	J 3.40 S	3.60 S	3.30 S	3.30	C	S	C	C	C	C	3.20 U	2.80 S	J 2.85 S	2.90 S
16	2.80	U 2.90 S	J 3.30 S U	3.60 S	U 2.80 S	2.80	2.90 S	3.45 S	3.40	3.30	I 3.20 C	J 3.30 R	J 3.35 S	3.45	3.45	3.55	I 3.40 S	U 3.50 S	3.35	S	2.75 S U	3.05 S U	3.00 S I	2.90 S
17	J 2.80 S	J 3.10 S	S	I 2.80 S	J 2.75 S	S	3.05 F	3.15	3.55 S	3.45	3.45 S I	3.30 S	J 3.30 S	J 3.30 S	3.50	3.55	3.40	3.40	3.30 S	3.05	3.05 S	C	C	C
18	C	C	C	C	C	C	C	C	C	C	3.35	3.35	3.60	3.45	3.50	3.50	3.50 S	3.55	3.50	3.15	3.05	2.75	U 2.80 F	3.20
19	U 2.80 S	J 2.90 S	I 2.95 C	3.35	I 3.35 S	L 2.95 S	S	3.40 S	S	3.20	3.10	3.35	3.35	S	3.40	3.45	3.40	3.50	3.30	3.05	3.00	2.95	2.90	2.80
20	J 2.80 S	2.85	2.95 S	S	U 3.55 S	S	L 3.00 S	J 3.35 S	3.30	3.25	3.10	3.20	3.25 S	3.20	3.35	3.30	3.50	3.60	3.20	3.10	3.00	2.90	2.95 U	2.80 S
21	2.90	J 2.65 S	2.95	I 3.10 S	U 3.35 S	3.25	J 3.00 S U	3.75 S	3.15 S	3.10	3.25	J 3.15 S J	3.15 R	J 3.25 S	3.30	3.30	3.40	3.40	3.30	3.20	3.05	2.95	3.00	2.90
22	U 2.75 S	2.85 S	3.00	A	S	2.95	3.05 S U	3.00 S	J 3.30 R	3.20	3.15	3.15	3.25	3.30	3.25	3.45	3.35	3.30	3.25	2.80	2.85 R	2.80	2.75 S	2.65
23	2.85	3.10	3.35	2.85	2.70	2.95	2.85	3.20	3.30	3.20	3.15	3.10	3.10	3.20	3.25	3.30	3.20	3.25	3.10	3.00	3.15	2.90 S	2.90 S	2.85
24	3.05	2.90	3.00	2.85 S	2.80	2.75	2.75 S	3.20	3.15	3.35	3.35	3.15	3.35	3.15	3.25	3.30	3.20	3.30	3.15	3.10	3.10	2.90 S J	2.80 S U	2.70 S
25	I 2.85 S	2.80 I	3.00 A	2.95	2.90	2.90	3.05	3.45	3.40	3.35	3.25	3.15	3.30	3.25	3.25	3.20	3.45 R	3.45	3.10	3.00	3.20 I	2.90 A	2.85	J 2.85 R
26	2.85	2.95	3.10	3.10	J 3.05 S	3.00	J 3.20 S I	3.30 S	J 3.20 R	3.25	I 3.15 S J	3.05 S	J 3.05 R	J 3.25 R	3.25	3.15	3.40	3.20	3.10	3.25	A	2.95	2.80	2.70
27	2.80	S	J 2.95 S	2.85	J 2.70 S	2.60	U 2.90 S I	3.50 S	3.45 S	3.30	3.10	J 3.10 S	3.20	3.15	3.15	3.15 S	3.35	3.30 R	3.25	3.10	3.00	2.75	J 2.65 S U	2.75 S
28	2.80	2.95 S	2.90	2.80	J 2.80 S I	2.70 S	2.85 S	J 3.25 S U	3.45 S	3.50	J 3.35 S	3.20	3.25 R	3.30	3.25	3.35	3.35	3.25	3.30	3.15	3.15	3.20	J 3.05 S	2.60
29																								
30																								
31																								
No.	26	25	26	24	25	23	25	25	23	26	28	26	28	27	27	26	27	27	27	25	26	27	26	26
Median	2.85	2.95	3.00	3.05	3.15	3.00	3.05	3.40	3.55	3.35	3.30	3.30	3.35	3.30	3.30	3.45	3.45	3.40	3.30	3.10	3.20	2.95	2.95	2.85

M(3000)F2 | Sweep 1.0 Mc to 20.0 Mc in 20 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

K 7

IONOSPHERIC DATA

Feb. 1962 | M(3000)F1 | 135° E Mean Time (G.M.T. + 9h.)

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											L	L	L	L	L									
2										L	L	L	"3.90" L	L	L	L								
3											L	L	L	L	L	L								
4												L	L	L	L									
5											L	L	L	L										
6											L	L	L	L	L	L								
7												L	S	L		L								
8										L	L	C	A	L	L	L								
9									L	L	L	C	L	L		L								
10									LH		L	L	L	L	L	L								
11										L	L	S		L	L	L								
12												L		"3.55" L										
13												S	L	S	L									
14												L	L											
15											L	L	L	L	C	S	C	C						
16											C	L	S		L									
17												S	S	L	A	L								
18								C	C	C	L	A	L	L	L	L								
19										L	S	L	L	L	L									
20										L	L	L	L	L	L	L								
21										L	L	L	L	L	L									
22										L	L	S	S	L	S	S	L							
23										L	L	L	L	L	L	L								
24										L	L	L	L	L	L	A	A	A						
25										L		L	L	A	L	L								
26									L	L	L	L	L	L	L									
27											L	L	L	L	L	L								
28										L	L	L	"3.60"	L	L		A	A						
29																								
30																								
31																								
No.													2	1										
Median													"3.75	"3.55										

M(3000)F1 | Sweep 1.0 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 8

40

IONOSPHERIC DATA

Feb. 1962 | h'F | 135° E Mean Time (G.M.T. + 9h.) | 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	S	305	I 300 S	295	220	S	I 255 S	215	215	225	210	205	205	205	215	240	215	205	250	245	210	E 325 S	E 330 S	I 300 S
2	250	260	255	220	205	S	S	245	205	195	205	225	240	215	200	205	215	230	205	255	225	240	265	E 325 S
3	295	E 310 S	305	260	240	245	265	245	225	220	200	205	205	225	225	200	220	205	205	250	225	245	245	E 345 S
4	295	300	265	260	205	200	260	210	205	215	205	225	235	235	210	230	205	205	200	255	245	250	I 280 S	S
5	E 350 S	S	290	300	S	S	E 295 S	200	I 205 S	225	225	225	245	205	245 A	205	210	205	245	250	230	250	250	250
6	245	250	295	290	240	250	250	210	205	200	200	205	200	205	215	205	205	205	220	245	210	250	295	350 A
7	300	295	255	250	225	295	310	225	225	220	245	225	I 245 S	245 A	220	200	225	210	245	250	245	260	260 S	255
8	285	255	295	295	255	250	250	205	210	205	180	I 225 C	I 195 A	245	245	200	205	205	245	220	230	255	285	305
9	265	255	255	245	210	250	255	205	200	190	220	I 210 C	200	205	205	180	230	205	210	255	225	250	245	250
10	345	255	295	260	220	240	225	200	180 M	240	200	240	245	205	200	240	205	200	205	250	240	245	260	255
11	305	300	260	245	210	290	290	210	210	200	245	I 240 S	245	180	225	205	210	200	225	I 260 A	250 A	290 A	305	345
12	310	260	250	270	210	250	260	230	220	230	240	245	E 260 S	215	225	205	205	210	210	215	205	300	295	295
13	305	300	310	275	215	200	260	225	210	240	240	S	210	E 250 S	245 A	245	215	210	205	240	210	300	300	305
14	310	280	255	265	250	250	250	205	210	220	E 250 S	205	215	240	225	220	210	210	200	245	210	255	295	295
15	310	260	245	205	210	295	295	205	205	240	200	200	205	200	C	S	C	C	C	C	250	305	300	255
16	300	300	225	200	250	345	300	205	210	235	I 220 C	200	225	245	205	225	225	210	230	S	350	305	300	310
17	310	245	245	I 365 S	350	350	295	255	230	240	245	I 220 S	200	215	I 225 A	210	225	230	225	250	260	C	C	C
18	C	C	C	C	C	C	C	C	C	C	240	I 240 A	225	230	220	205	225	210	210	220	295	350	345	260
19	E 350 S	255	I 265 C	225	245	S	S	225	225	225	225	240	215	225	205	215	220	210	200	245	255	255	E 350 S	345
20	350	345	255	245	205	S	S	240	240	240	225	245	225	225	225	225	220	200	E 250 A	245	260	300	295	300 A
21	305	315	300	265	225	225	245	245	225	190	220	205	245	225	205	210	225	205	220	250	255	E 300 A	260	305
22	310	305	260	A	320 A	300	250	240	225	210	235	205	215	215	I 210 S	I 200 S	205	225	205	275	250	300	345	325
23	305	250	215	300	300	E 355 S	280	235	230	225	215	220	215	215	210	215	230	225	220	250	250	275	300	305
24	255	280	300	260	260	290	295	230	230	210	225	225	205	210	215	A	A	I 220 A	230 A	250	250	300	300	310
25	I 310 S	310	I 310 A	250 A	255	305	250	215	225	225	245	240	230	L 225 A	210	225	230	205	210	245	215	L 280 A	310	300
26	295	295	260	245 A	250	255	245	215	225	210	210	205	205	225	205	240	240	225	225	205	A	260	E 350 A	300
27	300	300	300	255	250	E 355 S	280	205	205	225	205	210	225	220	220	225	240	220	205	210	210	300	300	300
28	300	260	250	E 300 S	310	300	310	245	225	220	210	200	205	205	200	240	L 220 A	L 210 A	215	225	225	225	245	350
29																								
30																								
31																								
No.	24	25	27	25	26	20	23	27	27	27	27	27	27	27	27	26	26	27	26	26	27	25	24	24
Median	300	280	260	260	240	250	260	215	215	220	220	220	215	215	215	210	220	215	210	250	240	260	295	300

h'F

Sweep 1.0 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

K10

IONOSPHERIC DATA

Feb. 1962 | h'F2 | 135° E Mean Time (G.M.T. + 9h.) | 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											260	250	245	250	260									
2										240	250	245	255	240	260	245								
3											240	250	250	250	255	250								
4												255	250	280	250									
5											260	290	240	240										
6											250	260	250	250	245	220								
7												260	255	255		225								
8										250	250	I 250 C	245	240	250	220								
9									215	245	240	E 245 C	230	230		245								
10									200		255	280	245	240	250	245								
11										245	250	245		255	240	240								
12												280		300	250									
13												270	290	255	250									
14												280	250											
15											240	250	225	250	C	S	C	C						
16											I 270 C	250	250		240									
17												E 300 S	S	260	240	240								
18								C	C	C	250	255	250	250	245	245								
19										250	S	260	250	250	240									
20										260	280	290	255	250	250	250								
21										255	255	275	255	255	250									
22										245	270	275	250	250	255	250	245							
23										250	255	260	255	260	250	245								
24										250	245	300	255	260	260	E 250 A	E 250 A	E 245 A						
25										250		290	250	260	250	250								
26									245	250	255	260	280	250	250									
27											250	260	260	255	260	260								
28										240	250	255	260	245	250		E 240 A	E 240 A						
29																								
30																								
31																								
No.									3	13	20	27	25	26	23	15	3	2						
Median									215	250	250	260	250	250	250	245	E 245	E 240						

h'F2 | Sweep 1.0 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 9

IONOSPHERIC DATA

Feb. 1962 | h'Es | 135° E Mean Time (G.M.T. + 9h.) | 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	S	S	S	E	E	S	S	S	S	115	110	110	110	B	G	B	B	S	S	E	E	S	S	S
2	E	E	E	E	E	S	S	S	110	S	S	S	B	105	G	100	S	S	S	S	E	E	S	S
3	E	S	E	E	E	S	S	S	G	E 170	120	G	120	110	105	100	G	B	100	100	S	E	S	S
4	E	120	E	E	E	E	E	S	G	G	G	G	G	150	S	G	S	S	S	S	S	S	S	S
5	S	S	S	S	S	S	S	S	S	S	105	130	110	110	105	105	105	B	S	S	E	E	S	E
6	E	S	100	E	100	E	S	120	G	110	100	G	G	100	G	110	S	S	S	S	S	S	S	100
7	100	S	S	E	E	S	S	G	G	G	G	G	105	100	100	100	100	S	S	S	S	S	S	S
8	S	S	100	100	S	E	S	100	G	G	G	C	100	B	B	G	G	G	S	S	S	S	E	S
9	E	E	E	E	E	E	S	S	G	G	G	C	G	B	105	G	G	S	S	S	E	E	E	E
10	E	E	E	E	E	E	S	G	110	170	100	S	140	G	B	145	110	105	S	S	100	S	100	100
11	S	S	100	100	E	100	100	S	G	125	110	105	S	125	G	125	G	S	S	100	100	100	S	100
12	S	S	E	E	E	S	S	S	E 195	150	B	145	S	G	G	B	G	S	S	S	S	S	S	S
13	S	S	100	100	100	S	S	S	G	160	G	S	100	100	100	100	G	S	100	S	S	S	S	S
14	S	S	E	E	E	E	S	G	G	145	S	S	115	S	S	G	G	100	S	S	S	S	S	S
15	S	S	E	E	S	S	S	S	G	105	G	100	100	100	C	S	C	C	C	C	S	S	S	S
16	E	S	E	E	S	S	S	S	G	G	C	100	S	S	S	S	S	S	S	S	S	S	S	S
17	S	S	S	110	E	S	S	S	G	140	125	110	S	S	100	100	105	100	100	S	110	C	C	C
18	C	C	C	C	C	C	C	C	C	C	140	110	110	105	110	G	S	S	S	S	S	S	E	S
19	S	S	C	E	S	S	S	S	S	G	G	110	105	110	100	110	S	B	S	S	S	S	S	S
20	S	S	E	S	S	S	S	G	G	E 190	130	110	110	110	120	115	110	105	100	S	S	S	S	115
21	S	E	S	S	S	S	S	S	G	G	155	G	155	110	G	G	G	S	S	S	105	105	S	S
22	S	S	100	100	105	S	S	120	110	110	100	100	100	G	100	105	100	S	100	S	115	S	S	100
23	100	S	100	100	100	S	100	S	G	G	110	115	125	G	135	G	S	S	S	S	S	S	110	105
24	100	105	100	S	S	S	S	S	G	G	G	G	G	100	G	110	105	100	100	100	S	S	105	S
25	S	100	100	100	S	S	S	S	G	150	140	125	125	115	100	G	100	G	S	100	S	100	105	S
26	S	S	105	100	100	S	S	S	105	110	145	140	G	130	G	110	G	S	S	S	100	105	100	S
27	S	S	S	E	S	S	S	S	G	E 170	G	140	115	115	120	115	S	G	S	S	S	S	S	S
28	S	S	110	S	105	110	105	110	125	110	110	G	100	110	G	110	105	100	S	S	S	100	E	E
29																								
30																								
31																								
No.	3	3	10	8	6	2	3	4	5	13	15	15	18	18	13	16	9	6	6	4	6	5	5	6
Median	100	105	100	100	100	105	100	115	110	125	110	110	110	110	105	110	105	100	100	100	100	100	105	100

h'Es

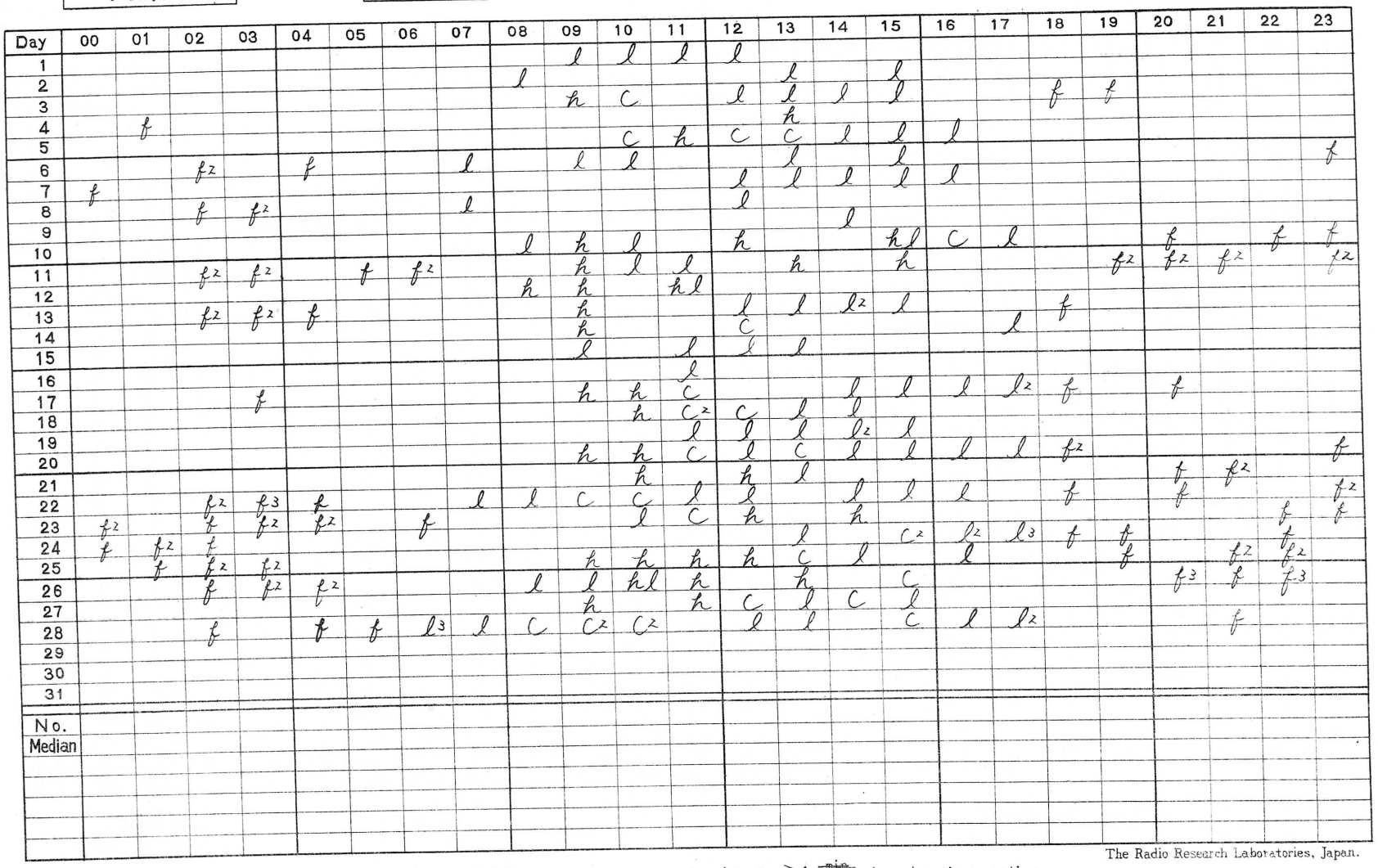
Sweep 1.0 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 11

IONOSPHERIC DATA

Feb. 1962 | Types of Es | 135° E Mean Time (G.M.T. + 9h.) | 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										l	l	l	l											
2									l					l		l								
3										h	C		l	l	l	l			f	f				
4		f												h										
5											C	h	C	C	l	l	l							
6			f2		f			l		l	l			l		l								f
7	f												l	l	l	l	l							
8			f	f2				l					l											
9															l						f		f	f
10									l	h	l		h			hl	C	l						
11			f2	f2		f	f2			h	l	l		h		h				f2	f2	f2		f2
12									h	h		hl												
13			f2	f2	f					h			l	l	l2	l		l	f					
14										h			C											
15										l		l	l	l										
16												l												
17				f						h	h	C			l	l	l	l2	f		f			
18											h	C2	C	l	l									
19												l	l	l	l2	l								
20										h	h	C	l	C	l	l	l	l	f2					f
21											h		h	l							f	f2		
22			f2	f3	f			l	l	C	C	l	l		l	l	l		f		f		f2	
23	f2		f	f2	f2		f				l	C	h		h							f	f	f
24	f	f2	f											l		C2	l2	l3	f	f		f2	f2	
25		f	f2	f2						h	h	h	h	C	l		l			f				
26			f	f2	f2				l	l	hl	h		h		C					f	f	f3	
27										h		h	C	l	C	l								
28			f		f	f	l3	l	C	C2	C2		l	l		C	l	l2				f		
29																								
30																								
31																								
No.																								
Median																								

The Radio Research Laboratories, Japan.

Types of Es | Sweep 1.0 Mc to 20.0 Mc in 20 sec in automatic operation.

K 12

IONOSPHERIC DATA

Feb. 1962 | hpF2 | 135° E Mean Time (G.M.T. + 9h.) | 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	S	355	I 350 S	I 330 S	I 295 S	S	I 295 S	I 270 S	S	250	280	255	250	280 S	280	255	250	U 240 S	300	290	250	350 R	355 R	I 350 S
2	J 300 R	310	J 305 S	280	250	I 260 S	S	S	S	I 260 S	255	250	255	250 R	U 290 R	260	250	255	250	300	280	275	J 295 R	U 350 S
3	J 345 S	350	360 S	305	290 S	I 260 S	330	I 290 S	245	250	290	250	255	255	260	255	250	245	250	R	J 255 R	260 R	275	355
4	330 R	340	315	300	255 R	240	305 R	250	245	U 250 R	245 S	J 260 R	250	300	J 255 S	250	250 S	250	I 250 S	305	I 260 S	U 300 S	I 330 S	S
5	U 360 S	S	305	S	S	S	U 310 S	U 225 S	I 220 S	U 300 S	300 S	305	J 255 R	250	275	S	250 R	255	U 280 S	290	290	J 305 S	J 300 S	300
6	280 S	300	310	335	280	305	305	250	I 245 R	U 250 R	J 265 R	280	260	255	250	245	230	250	255	U 280 S	J 255 R	I 285 R	J 305 R	355
7	315	345	300	295	255	U 305 S	345	J 250 S	U 250 S	255	270	270	I 265 R	250	250	250	250	J 250 S	295	J 275 S	U 285 S	U 305 S	S	295
8	330 S	295	I 340 S	320	300	300	275	S	245	J 265 S	J 285 S	C	J 255 R	250	U 255 S	245	245	245	I 255 R	255	S	300	315	355
9	315	315	295	275	270	300	305	U 225 S	S	295	J 250 R	J 250 R	J 250 S	245	265	250	250	250 S	255	310	295	280	275 S	305
10	390	J 265 S	305 R	310	255	250	250	J 215 S	245	270	260	290 S	260	250	255	250	225	240	255	300	265	300	305	305
11	355	350	310	300	300	310	305 S	240 S	245	255	255	245 S	255	270 S	250	250	245	J 235 R	U 250 S	I 300 R	290 S	300	350	380
12	360	315	295	265	J 250 S	295	300	J 255 S	250	250	255	295	U 270 S	305	J 265 S	J 250 S	250	250	250	280	250	345	305	345
13	350 S	355	330	305	280	275	295	J 245 S	230	250 S	I 260 R	R	305	I 280 S	265 R	J 255 R	250	255	250 S	285	255	310	350	355
14	355	305	325	330	300	305	300	250	230	250	255	295	250	250	255	250	250	250	I 255 S	I 285 S	U 250 S	330 S	U 305 S	345
15	J 345 S	J 310 S	U 300 S	J 260 S	295 R	J 310 S	J 320 S	250	250	R	J 280 S	255 S	255 S	285	C	S	C	C	C	C	300	U 355 S	J 350 S	340
16	350	U 350 S	255 S	U 230 S	U 355 S	375	355 S	250 S	255	280	I 300 C	J 285 R	J 275 S	255	255	250	I 250 S	U 250 S	255	S	U 390 S	U 340 S	U 330 S	I 325 S
17	345 S	J 290 S	S	I 385 S	J 395 S	S	310 F	300	250 S	250	250 S	I 290 S	I 280 S	J 290 S	250	250	250	250	255 S	310	345 S	C	C	C
18	C	C	C	C	C	C	C	C	C	C	255	285	250	250	250	255	250 S	250	250	285	310	380	U 390 R	300
19	U 390 S	J 305 S	I 300 C	250	I 265 S	I 350 S	S	250 S	S	290	300	295	260	S	255	250	250	250	250	300	300	330	355	390
20	J 395 S	375	310 S	S	U 260 S	S	I 335 S	J 255 S	255	290	300	300	295	295	255	255	250	220	275	295	315	350	330	U 345 S
21	365	J 395 S	345	I 300 S	U 255 S	255	J 300 S	U 290 S	265 S	300	295	J 300 S	J 300 R	J 295 R	275	265	250	250	260	300	300	305	310	355
22	U 380 S	355 S	330	A	S	330	300 S	U 305 S	J 280 R	265	295	300	300	255	260	265	255	245	255	345	345 R	370	395 S	400
23	375	295	255	355	385	355	345	295	275	270	295	295	290	295	260	255	255	255	290	305	300	350 S	355 S	355
24	315	350	345	350 S	355	350	355 S	265	255	270	270	315	295	300	290	260	260	255	290	305	300	350 S	J 355 S	U 355 S
25	I 365 S	355	I 325 A	310	305	350	300	250	250	265	285	305	280	290	270	290	255 R	250	300	305	260	I 330 A	355	J 365 R
26	350	350	315	300	J 305 S	330	J 300 S	I 265 S	J 285 R	275	I 290 S	J 305 S	J 305 R	J 285 R	290	275	255	265	295	255	A	330	360	385
27	365	S	J 330 S	340	J 355 S	420	U 335 S	I 250 S	245 S	255	305	J 300 S	300	295	300	300 S	275	255 R	260	295	305	390	J 365 S	U 355 S
28	355	310 S	325	350	J 375 S	I 385 S	345 S	J 295 S	U 255 S	255	J 280 S	295	295 R	260	290	255	255	255	285	290	290	265	J 300 S	380
29																								
30																								
31																								
No.	26	25	26	24	25	23	25	25	23	26	28	26	28	27	27	26	27	27	27	25	26	27	26	26
Median	350	340	310	305	295	305	305	250	250	260	280	290	260	270	260	255	250	250	255	295	290	330	330	355

hpF2

Sweep 1.0 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 13

IONOSPHERIC DATA

Feb. 1962 | ypF2 | 135° E Mean Time (G.M.T. + 9h.) | 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	S	95	I 70S	I 90S	I 90S	S	I 80S	I 40S	S	50	60	45	45	65S	60	45	95	U 55S	60	50	55	55R	90R I	75S
2	J 95R	85	J 85S	70	50	I 90S	S	S	S	I 50S	55	45	40	40R	U 55R	40	45	50	50	50	75	70	J 55R U	55S
3	J 70S	90	85S	95	65S	I 85S	75	I 45S	20	50	70	55	45	55	45	50	55	50	55	R	J 90R	85R	70	85
4	65R	60	80	55	45R	60	90R	50	35	U 55R	60R	J 40R	45	55	J 45S	30	50S	45	I 50S	90	I 50S	U 95S	I 65S	S
5	U 95S	S	50	S	S	S	U 85S	U 30S	I 50S	U 65S	50S	45	J 60R	55	40	S	50R	50	U 75S	60	65	J 50S	J 95S	95
6	35R	95	85	70	70	90	90	40	I 60R	U 45R	J 65R	40	45	40	45	25	65	55	75	U 65S	J 55R	I 55R	J 100R	90
7	90	60	95	50	55	U 80S	55	J 60S	U 45S	50	45	35	I 80R	40	50	50	65	J 50S	55	J 70S	U 65S	U 90S	S	55
8	65S	60	I 60S	80	50	50	70	S	15	J 80S	J 60S	C	J 40R	50	U 45S	55	20	50	I 70R	85	S	55	80	45
9	80	40	55	70	80	95	90	U 35S	S	15	J 55R	J 45R	J 45S	45	85	40	45	55S	90	90	55	75	70S	90
10	55	J 50S	100F	85	50	60	50	J 80S	50	90	45	55S	45	55	45	45	55	55	90	95	45	55	40	50
11	90	55	90	95	80	85	90S	55S	50	50	45	35S	60	25S	45	45	55	J 55R	U 65S	I 55A	60S	95	90	65
12	75	80	95	80	J 50S	55	95	J 60S	50	45	50	50	U 90S	75	J 35S	J 55S	55	90	90	75	95	60	90	55
13	J 65S	90	60	60	70	80	60	J 60S	65	45S	I 80R	R	50	I 40S	40R	J 45R	50	50	50R	60	95	90	95	50
14	95	90	80	70	60	95	90	50	25	45	40	45	45	50	55	45	45	60	I 55S	I 65S	U 55S	75S	U 100S	60
15	J 50S	J 90S	U 90S	J 50S	100R	J 100S	J 85S	45	30	R	J 25S	40S	70S	60	C	S	C	C	C	C	50	U 90S	J 95S	65S
16	55	U 65S	J 50S	U 60S	U 90S	70	60S	50S	50	50	I 50C	J 30R	J 55S	50	50	45	I 50S	U 55S	95	S	U 65S	U 60S	U 75S I	65S
17	J 95S	J 105S	S	I 60S	J 55S	S	85F	55	45S	90	55S	I 30S	I 50S	J 55S	45	40	50	50	55S	85	55S	C	C	C
18	C	C	C	C	C	C	C	C	C	C	55	25	50	50	45	35	45S	45	55	70	90	65	U 60F	55
19	U 55S	J 90S	I 60C	55	I 65S	I 70S	S	55S	S	55	60	50	50	S	50	45	50	50	60	95	95	75	90	95
20	J 100S	70	90S	S	U 40S	S	I 85S	J 50S	50	60	50	45	45	45	85	55	45	40	80	100	90	95	80	U 100S
21	80	J 100S	55	I 80S	U 90S	90	J 95S	U 65S	80S	95	50	J 55S	J 95R	J 20S	70	75	55	45	60	55	95	90	85	85
22	U 75S	90S	65	A	S	70	55S	U 95S	J 30R	95	80	95	100	95	95	80	90	90	90	90	105R	75	80S	80
23	95	100	95	95	100	85	100	100	110	80	60	65	70	60	90	95	95	90	110	90	95	100S	95S	90
24	90	90	60	85S	90	95	100S	95	100	35	40	45	50	55	40	60	65	50	60	50	95	60S	J 90S U	100S
25	I 80S	100	I 70A	95	100	55	90	45	50	45	35	60	65	35	50	55	40R	50	55	90	85	I 90A	55	J 80R
26	95	65	80	95	J 90S	70	J 50S	I 35S	J 70R	55	I 60S	J 90S	J 50R	J 20R	55	65	45	85	55	90	A	75	90	70
27	90	S	J 70S	100	J 110S	80	U 60S	I 65S	50S	55	85	J 50S	40	55	60	45S	30	55R	80	60	85	60	J 130S U	95S
28	85	80S	75	95	J 80S	I 65S	60S	J 50S	U 50S	40	J 65S	50	45R	60	55	50	50	85	65	60	55	85	J 50S	75
29																								
30																								
31																								
No.	26	25	26	24	25	23	25	25	23	26	28	26	28	27	27	26	27	27	27	25	26	27	26	26
Median	80	90	80	80	70	80	85	50	50	50	55	45	50	50	50	45	50	50	60	70	70	75	90	75

ypF2

Sweep 10 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 14

IONOSPHERIC DATA

Feb. 1962 | foF2 | 135° E Mean Time (G.M.T. + 9h.) | 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	3.0	3.1	3.0	3.2	3.6	2.9	2.3	3.3	5.8	6.3	6.5	7.6	8.8	7.3	6.8	7.5	6.9	7.6	6.9	4.6	4.9	5.1	4.2	3.2
2	3.2	3.1	3.0	3.1	3.5	2.8	2.1	2.9	6.0	6.6	6.7	8.1	8.2	6.9	6.9	7.2	6.2	6.6	6.0	3.3	3.7	4.1	2.9	2.8
3	2.9	2.9	3.1	3.2	3.8	2.8	2.4	3.0	6.1	6.9	7.6	10.1	9.7	9.0	9.5	9.4	8.0	7.6	6.4	5.3	5.0	5.0	3.9	3.2
4	3.1	3.2	3.4	3.4	3.7	2.8	2.8	3.3	6.1	6.1	5.8	7.1	7.7	7.0	8.2	7.2	6.3	6.0	5.8	4.3	4.4	3.7	2.4	A
5	A	S	3.0	3.1	3.0	2.6	2.9	5.1	5.6	5.9	8.7	11.9	13.8	13.6	10.1	8.6	7.9	6.0	5.0	4.1	4.8	4.9	3.6	C
6	C	C	C	C	C	C	C	C	C	6.2	7.1	6.7	9.1	11.2	9.5	8.7	6.3	6.3	5.3	4.1	3.7	3.0	3.0	3.2
7	3.2	3.2	3.3	3.2	3.4	2.8	2.7	3.1	6.4	7.1	7.1	8.6	10.6	11.8	11.1	8.9	8.3	9.1	5.8	4.6	5.2	4.5	4.0	3.8
8	3.6	3.8	3.4	3.6	3.6	3.3	3.2	3.9	6.4	7.6	7.9	11.4	11.9	11.2	10.4	7.4	6.0	5.7	4.7	4.0	3.7	3.2	3.0	3.2
9	3.1	3.1	3.2	3.3	3.3	3.1	2.3	3.6	S	7.0	7.8	9.7	9.9	10.2	11.1	5.4	8.0	6.8	5.5	4.2	3.6	3.2	3.2	F
10	F	3.1	3.3	3.2	3.6	3.0	S	3.3	5.3	5.7	6.1	6.7	9.0	9.1	8.4	7.6	6.7	5.8	4.8	2.9	3.5	3.5	2.6	2.8
11	2.8	2.9	3.0	3.1	3.1	2.9	2.7	3.7	5.3	5.8	6.2	6.8	6.2	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	6.5	7.9	8.7	11.7	10.0	8.5	8.4	8.0	6.6	4.4	3.4	3.1	3.3
13	3.4	3.4	3.4	3.6	4.0	3.9	3.9	3.6	5.4	6.1	6.6	7.0	8.0	9.3	10.5	9.8	8.9	7.5	5.5	4.4	4.5	4.2	3.5	3.2
14	3.1	3.2	3.3	3.2	3.3	3.0	3.0	4.1	6.2	6.6	6.9	6.7	9.5	8.5	7.2	6.9	8.1	6.6	5.9	4.9	3.6	3.3	3.2	3.4
15	3.5	3.6	4.0	3.1	2.7	2.4	2.6	3.8	6.3	7.3	7.7	9.2	9.0	8.5	8.8	9.3	7.6	6.4	5.7	4.0	3.3	3.0	3.1	3.4
16	3.7	3.8	4.6	3.8	S	F8	F5	3.9	5.3	5.8	7.7	10.4	11.3	9.1	10.1	7.2	6.2	6.0	4.7	4.1	3.7	S	S	5.8
17	5.6	5.8	S	3.8	3.5	3.5	3.7	4.2	8.6	7.0	6.6	7.7	9.5	9.3	8.3	7.2	6.3	6.7	5.7	4.5	S	S	S	3.5
18	3.6	3.6	3.5	3.1	3.1	2.5	2.5	4.0	6.4	8.2	9.2	8.1	9.6	9.2	9.1	7.6	7.1	6.9	5.5	4.2	3.2	3.1	3.4	3.3
19	3.4	3.5	3.5	3.5	2.4	2.0	2.1	3.9	6.0	5.9	7.7	11.0	11.2	10.7	9.2	7.5	7.1	S	6.1	4.1	3.2	3.5	3.2	3.1
20	3.1	3.1	3.3	4.2	S	3.6	2.1	3.7	5.7	7.0	8.9	10.4	11.0	12.5	12.8	10.5	C	S	6.1	5.1	4.5	3.7	3.7	3.5
21	3.3	3.3	3.5	3.9	4.4	2.7	2.1	4.1	6.8	7.3	9.3	11.0	12.4	13.5	S	S	S	8.0	6.6	5.8	5.2	4.1	3.6	3.8
22	3.8	3.6	3.6	3.5	3.2	3.5	3.4	4.9	6.8	8.2	9.5	10.1	12.1	12.0	11.2	10.2	8.4	7.4	6.1	4.2	4.4	4.4	4.3	4.2
23	4.2	4.4	4.0	3.5	2.9	2.6	2.8	4.6	7.6	7.7	8.7	9.8	10.6	11.0	10.2	8.6	7.8	6.9	6.7	5.7	4.6	4.2	4.0	3.8
24	4.1	3.6	3.2	3.6	3.7	3.6	3.1	4.6	7.4	8.7	9.2	9.5	10.8	12.3	12.2	11.5	10.5	8.1	7.8	S	5.4	S	S	4.1
25	3.8	3.5	3.7	3.9	3.1	3.0	2.9	5.0	6.9	8.2	8.5	9.0	9.6	10.5	10.1	8.0	7.9	7.5	7.3	5.5	5.0	4.4	3.6	3.5
26	3.8	3.7	3.7	3.9	3.7	3.5	3.3	4.9	6.8	8.2	9.1	9.4	11.2	12.2	10.7	9.1	8.2	8.1	S	7.5	5.3	4.6	4.1	3.8
27	3.7	3.6	3.7	3.8	3.4	3.5	3.4	S	7.0	7.2	7.9	9.8	10.7	10.8	10.5	9.6	10.3	9.0	7.4	5.6	S	S	S	S
28	4.4	4.7	4.5	4.3	3.7	3.9	3.9	6.0	9.8	8.3	9.4	10.5	11.0	10.8	10.3	9.5	8.0	7.7	6.7	5.9	5.8	5.6	4.4	3.8
29																								
30																								
31																								
No.	24	25	25	26	24	25	24	25	25	27	27	28	28	27	26	25	25	25	26	26	25	23	23	23
Median	3.4	3.5	3.4	3.5	3.4	2.9	2.8	3.9	6.3	7.0	7.7	9.3	9.8	10.5	10.1	8.6	7.9	6.9	6.0	4.4	4.4	4.1	3.5	3.4
UQ	3.8	3.6	3.7	3.8	3.7	3.5	3.2	4.6	6.8	7.7	9.1	10.2	11.1	11.8	10.7	9.6	8.2	7.8	6.6	5.5	5.0	4.5	4.0	3.8
LQ	3.1	3.1	3.2	3.2	3.1	2.6	2.3	3.4	5.8	6.1	6.7	7.4	9.0	9.0	8.8	7.4	6.5	6.3	5.5	4.1	3.6	3.3	3.1	3.2
QR	0.7	0.5	0.5	0.6	0.6	0.9	0.9	1.2	1.0	1.6	2.4	2.8	2.1	2.8	1.9	2.2	1.7	1.5	1.1	1.4	1.4	1.2	0.9	0.6

foF2

Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 1

IONOSPHERIC DATA

Yamagawa

Lat. 31° 12.5' N
Long. 130° 37.7' E

Feb. 1962 | foF1 | 135° E Mean Time (G.M.T. + 9h.)

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												4.6 L	4.6	I 4.6 L	4.4 L	L								
2												4.6	4.6 L	4.5 L	I 4.5 L	4.2 L								
3											L	4.4	I 4.4 C	4.5 L	4.6	I 4.3 L	L							
4												L	A	L	C	L	L	C						
5											L	L H	L	L	L	4.3	I 3.7 L							
6							C	C	C		L	L	4.6	L	L	L								
7											L	4.5 L	I 4.6 L	4.6 L	4.4 L	L								
8												L H	L	L H	4.5 L	4.0 L	3.4							
9											L	4.5	4.3	4.4	4.2 L H									
10											L	4.5	I 4.5 L	I 4.5 A	I 4.5 L	I 4.4 L	L							
11											L	4.4	4.6 L	C	C	C	C	C						
12							C	C	C	C	C	L	L	I 4.6 L	I 4.4 L	4.4 L H	L	L						
13												L	C	L	4.4 L	L	L							
14											L	L	I 4.6 L	I 4.6 L	4.3	L	L							
15												4.5	4.5	I 4.6 L	4.4									
16											L	4.6 H	4.6 H	L	L H	L								
17											L	L	L	L	L									
18											L	L	I 4.6 L	I 4.7 L	L H	L	L							
19											L H	4.7 L	4.8 L	4.8 L	L	L	L							
20											L	4.7	4.9	4.8	4.6	L	C							
21										L H	L	4.7 L	4.8	4.8 L	4.7	L H								
22											L	L H	4.7	4.7	4.8	I 4.5 A	L	I 2.9 C						
23											L	L	L	L	L	L	L							
24											L	L	L	5.0 L	I 4.9 L	L	L							
25											L	L	L	L	L	L	L							
26											L	L	L	4.9 L	L	L	L							
27												L	L	L	L	L	L							
28											L	L	L	4.8 L	L	L								
29																								
30																								
31																								
No.												12	16	17	15	7	2	1						
Median												4.6	4.6	4.6	4.5	4.4	U 3.6	U 2.9						

foF1

Sweep 1.0 Mc to 20.0 Mc in 30 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 2

IONOSPHERIC DATA

Feb. 1962 | f_oE | 135° E Mean Time (G.M.T. + 9h.) | **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								S	I 2.05 A	2.80	3.15	3.30	3.40	3.30	3.30	3.15	2.75	2.05						
2								S	1.90	2.60	3.05 H	A	A	A	3.15	3.15	2.80	2.15						
3								S	2.10	2.70	3.00	3.15	I 3.20 C	3.30	3.10	2.90	2.40	2.25						
4								S	2.10	2.65	3.00	3.25 R	3.25	3.30	I 3.15 C	3.00	I 2.60 A	C						
5								S	2.00 H	2.60 H	2.90	3.10	I 3.25 A	3.15	3.10	2.90	I 2.60 A	2.10						
6							C	C	C	2.70	2.90	A	A	3.30	3.20	3.10	I 2.70 A	2.20						
7								S	2.40	3.05	3.15	3.25 R	3.30 R	A	A	A	A	2.20						
8								S	1.90	2.60 H	2.90 H	3.10	3.20	3.25	3.20	3.00	2.60	A						
9								S	2.10	2.60	A	A	A	A	R	3.00	A	A						
10								S	2.15	2.70	3.00	3.20	3.30	3.40 R	3.25	3.00 H	I 2.70 A	2.30						
11								S	2.15 H	2.80 H	3.10 H	3.15	3.25	C	C	C	C	C						
12							C	C	C	C	C	I 3.20 A	I 3.30 A	3.25	I 3.20 R	3.00	2.70	2.20						
13								A	2.15	2.60	2.90	3.20	I 3.30 C	3.20	I 3.20 A	3.00	2.60	1.90						
14								S	1.80 S	2.75 H	3.10	I 3.10 C	3.20 R	3.20	3.15	3.05	2.75	2.20 S						
15								S	2.30	2.70	3.05	3.20	3.20	I 3.10 A	I 3.20 R	3.10	2.75	2.20						
16								S	2.35	2.60 H	3.00	3.05	3.15 H	3.20 R	3.20	3.15	2.80	2.40						
17								S	2.15	2.60 H	3.00 H	I 3.15 R	R	R	3.10	3.00	2.80	2.30						
18								S	2.20	2.70	3.05	3.15	3.20	I 3.30 A	I 3.30 R	3.15	2.85	2.40						
19								S	2.30 H	2.80	3.05	3.20	3.30	3.30	3.25	I 3.20 A	I 2.90 A	2.40						
20								S	2.30	2.85	3.10	3.30	3.40	I 3.40 A	3.30	3.25	I 2.85 C	I 2.40 A						
21								S	2.30	2.80	3.10	3.30	I 3.40 A	3.40	3.35	3.20	2.80	2.40						
22								S	2.15	I 2.60 A	3.00	3.15	A	A	A	A	2.95	I 2.40 C						
23								S	2.40	2.70	3.10	3.30	3.40	3.40	3.35	3.25	3.00	A						
24								S	2.35	2.80	3.20 H	I 3.40 R	I 3.45 A	3.50 R	I 3.40 A	I 3.30 A	3.05 H	2.40						
25								S	2.30	3.05	3.30	3.50 R	I 3.55 R	3.55	I 3.40 A	3.25	2.90 H	2.30						
26								S	2.40	2.95	3.30 R	I 3.40 R	R	R	R	3.40	3.00	2.35						
27								S	2.30	2.90	3.20	I 3.35 B	3.45	3.40 R	3.40 R	3.25	3.00	2.40						
28								S	2.65	3.00	3.25 R	3.30	3.50 R	I 3.50 A	3.50 R	3.30	I 2.95 B	2.45						
29																								
30																								
31																								
No.									26	27	26	25	22	21	23	25	25	23						
Median									2.20	2.70	3.05	3.20	3.30	3.30	3.20	3.15	2.80	2.30						

f_oE

Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 3

IONOSPHERIC DATA

Feb. 1962 | foEs | 135° E Mean Time (G.M.T. + 9h.) | 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	S	S	↓2.0	2.0	E	S	S	S	2.3	3.1	G	G	G	3.5	3.1G	3.1G	G	1.8G	S	S	S	S	S	S
2	S	S	S	E	E	S	S	S	G	G	3.3	3.7	3.5	3.9	2.8G	3.1G	↓2.3G	1.8G	S	S	S	S	S	S
3	S	S	E	E	E	S	S	S	G	G	G	3.7	C	3.7	3.6	3.4	3.2	2.2G	S	↓3.8	2.8M	2.4	↓2.5	S
4	S	S	E	E	E	S	S	S	G	3.3	3.7	4.3	4.6	↓4.9	C	3.8	2.6	C	S	S	S	S	S	2.7M
5	↓4.4	S	S	1.4	E	S	S	S	G	2.9	3.2	G	↓3.4	3.6	3.4	3.2	2.8	2.1G	S	S	S	S	S	C
6	C	C	C	C	C	C	C	C	C	G	3.1	3.3	3.5	3.1G	3.1G	2.8G	2.8	G	S	S	S	S	S	S
7	S	2.3	S	E	↓2.0	↓2.4	S	S	G	G	3.3	3.6	3.7	3.6	3.8	3.1	3.1	G	S	↓1.8S	↓2.1	↓2.2	↓2.6	S
8	S	S	S	E	E	S	S	S	G	G	G	G	3.4	3.4	3.3	G	G	↓3.3	↓2.2	↓2.6	↓2.1	↓2.1	S	S
9	S	S	↓2.1	↓2.0	↓2.3	S	S	S	G	G	3.5	↓6.2	3.8	3.5	3.1G	2.9G	2.8	2.1	S	S	S	S	S	S
10	S	S	S	1.1	E	S	S	G	G	3.1	3.7	4.2	4.2	4.8	3.7	3.7	2.9	2.8	2.5	S	S	S	S	2.7M
11	S	2.4	↓2.4	↓2.3	↓1.6	S	S	↓1.7S	G	G	3.3	3.9	4.4	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	3.7	3.8	3.3	3.0G	4.7	2.8	G	S	S	2.6	S	S	S
13	S	S	S	E	↓2.3	S	S	↓2.2	G	G	3.4	4.0	C	2.6G	3.3	G	2.8	G	S	S	S	S	S	S
14	S	S	S	E	E	S	S	S	G	G	3.5	3.9	3.9	3.7	G	3.0G	G	G	S	S	S	↓1.9S	S	S
15	S	2.3	2.3	E	E	S	S	S	G	3.1	3.7	3.6	3.7	3.4	3.1G	G	G	G	S	S	S	S	S	S
16	S	S	S	↓1.4	E	S	S	S	G	G	3.2	3.1	G	3.1G	G	G	2.4G	2.7	S	2.7	↓2.2	2.7	S	S
17	S	2.1	E	↓2.2	E	S	S	S	G	G	3.5	4.1	3.8	3.1G	3.6	3.9	3.1	G	S	S	4.4	↓5.1	↓5.1	2.9M
18	S	↓3.3	↓2.0	↓2.4	E	2.0	S	S	G	3.0	3.4	3.6	3.7	3.4	3.2G	3.1G	2.7G	2.0G	S	S	S	S	S	S
19	S	S	E	E	E	S	S	S	G	3.2	3.1	4.0	3.7	3.7	3.7	3.3	3.3	G	S	S	S	S	S	S
20	2.6	S	S	E	E	S	S	S	G	3.3	3.6	3.7	4.8	4.8	3.8	G	C	2.5	S	S	S	S	S	2.2
21	S	S	S	S	S	S	S	G	G	3.1	3.4	G	3.6	G	G	G	3.3	2.8	2.1	S	S	S	S	2.9
22	3.0	↓2.6	E	E	E	E	S	S	2.4	3.3	3.9	3.6	5.0	↓5.0	5.3	↓5.5	3.1	C	S	S	S	↓4.4	S	↓2.3
23	↓2.3	↓3.6	↓2.6	E	E	S	2.1	S	G	G	3.4	↓5.3	4.3	4.8	4.2	4.4	3.7	3.2	↓2.6	↓2.3	2.4	S	S	S
24	S	3.2M	3.2M	2.3	↓1.9	S	S	G	G	G	3.6	4.2	3.8	3.7	4.0	3.3	3.6	2.8	S	S	S	S	S	S
25	S	S	S	↓2.6	3.0	2.9	S	G	G	G	3.7	4.2	↓5.3	4.6	↓5.3	G	3.1	3.4	2.1	2.5	2.7	↓2.5	↓2.5	2.2
26	S	S	3.3	3.6M	E	S	S	↓1.8S	G	3.4	3.9	3.8	4.0	G	G	G	G	G	S	S	S	S	S	S
27	S	S	S	S	S	S	S	S	G	G	3.4	4.1	4.0	4.1	3.6	3.4	3.3	2.3G	S	S	S	S	S	S
28	S	S	S	E	E	S	S	S	2.9	G	3.8	3.9	4.7	4.2	G	3.4	B	2.6	S	S	S	S	S	↓2.6
29																								
30																								
31																								
No.	4	8	13	24	24	4	1	7	26	27	27	28	26	27	26	27	25	25	5	6	8	8	4	8
Median	2.8	2.5	2.0	E	E	2.2	2.1	G	G	G	3.4	3.8	3.8	3.6	3.3	G	2.8	G	2.2	2.6	2.5	2.4	2.6	2.6
U.Q	3.7	3.2	2.5	2.1	E	2.6		1.8	G	3.1	3.7	4.1	4.3	4.2	3.7	3.4	3.2	2.8	2.6	2.7	2.8	3.6	3.8	2.8
L.Q	2.4	2.3	E	E	E	E		G	G	G	3.2	3.6	3.6	3.3	G	G	G	G	2.1	2.3	2.2	2.2	2.5	2.2
Q.R	1.3	0.9									0.5	0.5	0.7	0.9					0.5	0.4	0.6	1.4	1.3	0.6

foEs

Sweep 1.0 Mc to 20.0 Mc in 30 min sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Feb. 1972 | f_bE_s | 135° E Mean Time (G.M.T. + 9h.) | 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	S	S	1.4	1.8		S	S	S	2.1	2.3				G	3.1G	3.1G		1.8G	S	S	S	S	S	S
2	S	S	S			S	S	S			G	3.5	3.4	3.6	2.8G	2.7G	2.2G	1.8G	S	S	S	S	S	S
3	S	S				S	S	S				3.7	C	3.7	3.6	3.4	3.2	2.1G	S	E3.8S	2.5	A	2.5	S
4	S	S				S	S	S		G	3.6	4.2	4.6	4.4	C	3.4	G	C	S	S	S	S	S	A
5	A	S	S	1.4		S	S	S		G	G		3.4	3.4	G	G	G	2.0G	S	S	S	S	S	C
6	C	C	C	C	C	C	C	C	C		G	3.3	3.4	3.0G	3.0G	2.7G	G		S	S	S	S	S	S
7	S	2.1	S		1.6	A	S	S			G	3.6	3.6	3.5	3.5	E3.1R	2.7		S	S	1.8	2.1	A	S
8	S	S	S			S	S	S					G	G	G			2.5	2.0	2.0	E2.1S	E	S	S
9	S	S	2.1	1.3	1.7	S	S	S			G	4.2	3.6	3.4	E3.1R	2.9G	G	G	S	S	S	S	S	S
10	S	S	S	1.1		S	S			G	3.6	4.0	4.1	4.7	3.6	3.7	G	2.5	2.4	S	S	S	S	2.3
11	S	2.2	1.6	2.0	1.1	S	S	S			3.3	3.9	4.3	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	3.6	3.7	G	3.0G	2.7	2.5		S	S	E	S	S	S
13	S	S	S		2.0	S	S	2.1			3.4	4.0	C	2.6G	3.3		G		S	S	S	S	S	S
14	S	S	S			S	S	S			3.3	3.9	3.9	3.5		3.0G			S	S	S	S	S	S
15	S	2.1	2.0			S	S	S		G	3.3	3.6	3.5	3.4	3.1G				S	S	S	S	S	S
16	S	S	S	E1.4S		S	S	S			3.2	E3.1R		G			2.4G	2.0	S	E	2.2	2.2	S	S
17	S	2.0		1.9		S	S	S			3.5	4.1	3.8	3.0G	E3.6R	3.5	G		S	S	A	A	3.3	2.1
18	S	2.1	2.0	E		1.9	S	S		G	3.4	3.5	3.6	E3.4R	E3.2R	3.1G	2.2G	2.0G	S	S	S	S	S	S
19	S	S				S	S	S		3.2	G	4.0	3.6	3.6	3.4	E3.3R	3.0		S	S	S	S	S	S
20	E	S	S			S	S	S		G	3.6	3.6	4.4	4.0	3.6		C	G	S	S	S	S	S	E
21	S	S	S	S	S	S	S			G	3.2		3.6				G	2.7	2.1	S	S	S	S	2.5
22	2.7	2.2					S	S	G	3.1	3.9	E3.6R	3.9	3.6	4.1	4.7	E3.1C	C	S	S	S	A	S	2.3
23	2.3	E	1.8			S	E	S			3.4	4.1	4.2	4.1	3.7	4.0	3.5	3.2	2.4	E	2.2	S	S	S
24	S	2.1	1.6	1.2	1.7	S	S				3.6	4.2	3.8	E3.7R	3.8	E3.3R	3.5	2.6	S	S	S	S	S	S
25	S	S	S	2.4	2.4	2.2	S				3.7	4.1	4.7	4.5	4.5		G	3.4	E	2.3	1.9	2.3	2.3	E
26	S	S	2.2	2.4		S	S	S		3.4	3.9	3.8	4.0						S	S	S	S	S	S
27	S	S	S	S	S	S	S	S			C	4.1	4.0	4.0	E3.6R	3.4	A	2.2G	S	S	S	S	S	S
28	S	S	S			S	S	S	G		3.6	3.8	4.5	4.0		G	B	G	S	S	S	S	S	2.2
29																								
30																								
31																								
No.																								
Median																								

f_bE_s

Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 5

51

IONOSPHERIC DATA

Yamagawa

Lat. 31° 12.5' N
Long. 130° 37.7' E

Feb. 1962

f-min

135° E Mean Time (G.M.T. + 9h.)

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	E2.05S	S	E	E	1.40	E1.80S	E2.00S	E1.50S	E1.60S	1.70	2.20	2.05	2.00	2.25	2.20	2.50	2.20	1.20	E2.05S	E2.00S	E2.10S	E2.10S	E2.05S	E2.00S
2	S	E2.00S	E2.00S	1.30	1.40	E1.50S	E1.90S	E1.50S	E1.50S	1.60	1.95	1.95	2.00	2.00	2.10	2.00	1.90	E1.40S	E1.60S	E1.95S	E2.00S	E2.10S	E2.15S	E2.05S
3	E1.90S	E2.10S	1.50	1.50	1.10	E2.00S	E2.00S	E1.50S	1.30	1.60	1.70	2.00	E6.35C	2.00	2.00	2.00	E1.50S	1.30	E1.70S	E1.50S	E1.80S	E1.80S	E1.90S	E2.70S
4	E2.10S	E2.20S	1.30	E	1.00	E1.50S	E1.80S	E2.00S	E1.50S	1.80	1.70	2.00	2.00	2.00	I2.08C	2.20	E1.70S	C	E2.00S	E2.05S	E2.20S	E2.05S	S	E1.50S
5	E1.50S	S	E1.90S	E	E	E1.70S	E2.00S	E1.65S	E1.60S	1.80	1.60	2.00	2.20	2.30	2.30	2.05	E1.80S	E1.50S	E2.00S	E1.90S	E1.50S	E1.80S	E1.90S	C
6	C	C	C	C	C	C	C	C	C	1.40	2.00	2.00	2.00	2.10	2.05	2.00	E1.60S	E1.70S	E2.00S	E2.05S	E1.80S	E2.00S	E2.00S	E2.00S
7	E2.00S	E1.50S	E2.00S	1.40	E	E1.80S	E2.10S	E2.00S	1.80	2.00	2.45	2.20	2.55	2.25	2.20	2.00	E1.50S	E1.60S	E1.90S	E1.80S	E1.60S	E1.75S	E2.00S	E2.50S
8	E2.00S	E2.55S	E2.00S	1.35	1.40	E2.10S	E2.10S	E2.00S	E1.70S	1.60	1.95	2.00	1.95	2.50	1.60	2.05	1.90	E1.50S	E1.70S	E1.60S	E1.90S	E1.80S	E2.00S	E1.70S
9	E1.90S	E1.90S	E	E	E	E1.60S	E1.90S	E1.70S	E1.50S	1.50	1.60	2.00	2.20	2.05	2.00	2.00	E1.70S	E1.80S	E1.90S	E1.70S	E1.90S	E1.70S	E2.10S	E1.90S
10	E1.60S	E2.00S	E2.10S	E	1.10	E1.50S	E1.60S	E1.35S	E1.60S	1.70	1.60	1.70	1.95	2.00	2.00	1.85	E1.80S	E1.80S	1.30	E1.90S	E1.80S	E2.00S	E2.00S	E2.10S
11	E2.00S	E1.90S	1.25	E	E	E1.40S	E1.80S	E1.80S	E1.40S	1.60	1.90	1.55	2.20	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	2.00	2.05	2.10	2.00	2.00	2.00	E2.00S	E2.00S	E2.00S	E2.15S	E2.10S	E2.20S	E2.20S
13	E1.60S	E1.90S	E1.95S	1.50	1.10	E1.60S	E2.20S	E1.60S	E1.70S	1.60	1.70	2.00	I2.00C	2.00	2.00	2.20	2.10	E1.60S	E2.00S	E2.10S	E1.95S	E2.00S	E1.80S	E1.95S
14	E2.00S	E2.20S	E1.50S	E	1.40	E1.80S	E2.00S	E2.00S	E1.50S	E1.65S	1.70	2.05	2.20	2.05	2.50	2.00	1.85	E1.70S	E2.00S	E2.00S	E2.00S	E1.90S	E1.60S	E1.85S
15	E1.90S	E1.85S	E1.50S	E	E	E2.00S	E1.85S	E2.10S	E1.90S	1.60	2.05	2.00	2.00	2.00	2.05	2.20	2.10	E2.00S	E1.90S	E1.60S	E2.00S	E2.00S	E2.05S	E1.80S
16	E2.00S	E2.00S	E2.00S	E	E	E1.70S	E2.00S	E1.90S	E1.90S	1.90	2.05	2.00	2.00	2.20	2.20	2.20	2.20	E1.90S	2.00	E2.00S	E1.50S	E1.85S	E2.20S	E1.80S
17	E2.05S	E1.80S	2.00	E	E	E2.00S	E2.00S	E2.10S	E2.00S	E1.50S	2.00	2.10	2.20	2.10	2.20	2.00	2.00	E1.60S	E2.00S	E2.00S	E1.50S	E2.00S	E2.15S	E2.00S
18	E2.10S	E1.65S	E1.70S	E	2.00	E1.70S	E2.00S	E2.00S	E1.50S	1.40	1.80	2.05	1.80	1.80	2.05	2.00	E1.70S	E1.80S	1.95	E1.70S	E2.00S	E2.20S	S	E2.00S
19	E2.10S	E2.00S	1.50	E	1.20	E1.80S	E2.20S	E1.70S	E1.70S	1.50	2.00	2.00	2.15	2.20	2.20	2.00	1.95	E1.90S	E1.90S	E2.00S	E2.00S	E1.90S	E2.00S	S
20	E1.80S	E1.70S	E2.20S	E	E	E1.70S	S	E1.95S	E1.50S	1.70	2.00	2.10	2.20	2.20	2.20	2.20	C	E1.60S	2.00	E2.00S	E2.00S	E1.90S	E1.95S	E1.70S
21	E1.90S	E2.20S	E1.95S	E2.20S	E1.60S	E1.70S	E1.70S	E1.50S	E1.70S	1.55	1.95	2.20	2.20	2.25	2.30	1.80	E1.60S	E1.50S	E1.70S	E1.60S	E1.70S	E2.20S	E1.70S	E1.70S
22	E1.80S	E2.00S	2.20	2.20	1.90	1.90	E1.90S	E1.90S	E1.60S	1.80	1.70	2.30	2.00	2.20	2.00	1.80	E2.30C	C	E1.70S	E1.80S	E2.00S	E1.70S	E1.80S	E1.85S
23	E1.60S	E1.90S	1.30	1.50	1.60	E1.80S	E1.70S	E1.80S	E1.80S	1.60	1.80	2.25	2.20	2.20	2.25	2.20	1.90	E1.60S	E1.80S	E1.60S	E1.70S	E1.75S	E1.80S	E1.80S
24	E2.10S	E1.90S	E1.30S	E	E	E1.70S	E1.60S	E1.70S	E1.60S	1.80	1.95	2.45	2.30	2.70	2.20	2.05	E1.70S	1.90	2.00	E1.80S	E1.90S	E1.95S	E2.25S	E1.80S
25	E1.90S	E2.00S	E2.20S	E	E	E1.50S	E2.00S	E1.70S	E1.60S	1.90	1.90	2.20	2.20	2.20	2.20	1.85	1.70	E1.80S	E1.75S	E1.60S	E1.80S	E1.60S	E1.90S	E1.70S
26	E1.80S	E1.90S	E1.70S	E	1.10	E1.70S	E1.70S	E1.80S	E1.80S	1.60	1.85	2.30	1.90	2.30	2.20	1.85	E1.80S	E1.70S	E2.30S	E2.50S	E2.20S	E2.20S	E2.30S	E2.15S
27	E2.00S	E2.60S	E2.10S	E2.00S	2.00	E2.10S	E1.90S	E1.90S	E1.55S	1.60	2.05	2.25	2.20	2.55	2.50	2.00	1.80	E1.70S	E1.90S	E1.70S	E1.80S	E1.90S	S	E2.50S
28	E1.90S	E1.90S	E1.60S	E	E	E1.80S	E1.60S	E1.80S	E1.70S	1.60	1.60	2.20	1.85	2.20	2.25	2.20	4.25	E1.65S	E1.80S	E1.80S	E1.80S	E1.90S	E1.70S	E1.65S
29																								
30																								
31																								
No.	25	24	26	24	25	26	25	26	26	26	27	28	27	27	27	27	25	25	27	27	27	27	24	25
Median	E1.90	E1.95	E1.80	E	1.10	E1.70	E1.90	E1.80	E1.60	1.60	1.90	2.00	2.05	2.20	2.20	2.00	1.80	E1.70	E1.90	E1.90	E1.90	E1.90	E2.00	E1.90

f-min

Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Feb. 1962 | M(3000)F2 | 135° E Mean Time (G.M.T. + 9h.) | **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	2.75	2.75	2.85	2.95	3.50	3.75	2.90	3.20	3.45	3.55	3.40	3.30	3.50	3.40	3.25	3.60	3.30	3.45	3.50	3.20	3.05	3.20	3.10	2.80
2	2.90	3.00	3.00	3.25	3.35	3.55	2.95	3.15	3.65	3.50	3.45	3.30	3.55	3.40	3.35	3.60	3.50	3.45	3.50	3.40	3.10	3.15	3.25	3.00
3	3.00	2.85	2.75	3.05	3.40	3.50	3.15	3.00	3.55	3.40	3.15	3.35	3.60	3.00	3.10	3.30	3.25	3.30	3.45	3.40	3.10	3.20	3.10	3.05
4	2.80	2.80	2.90	3.00	3.35	3.20	3.50	3.05	3.55	3.60	3.50	3.35	3.60	3.00	3.30	3.50	3.55	3.40	3.50	3.20	3.20	3.50	3.00	A
5	A	S	2.75	2.70	3.15	2.70	2.80	3.35	3.55	3.15	2.75	3.05	3.20	3.40	3.25	3.20	3.40	3.45	3.40	3.00	3.10	3.35	3.30	C
6	C	C	C	C	C	C	C	C	C	3.55	3.40	3.00	3.10	3.40	3.35	3.55	3.50	3.55	3.50	3.40	3.20	3.05	2.90	2.80
7	2.90	2.80	2.90	2.80	3.10	3.00	2.95	2.95	3.40	3.55	3.00	3.05	3.05	3.25	3.35	2.90	2.80	3.00	3.50	3.05	3.30	2.90	2.95	3.00
8	2.80	2.90	2.75	3.05	3.30	3.05	2.95	3.00	3.40	3.15	3.15	3.25	3.40	3.30	3.35	3.60	3.50	3.55	3.45	3.30	3.25	3.25	3.00	2.95
9	2.90	2.75	2.95	3.05	3.30	3.60	2.85	3.15	S	3.45	3.35	3.35	3.45	3.20	3.35	S	3.40	3.50	3.30	3.50	3.10	3.30	2.95	F
10	F	2.90	3.00	2.90	3.10	3.30	S	3.15	3.50	3.60	3.40	3.15	3.25	3.30	3.40	3.20	3.60	3.50	3.65	2.90	3.10	3.50	3.10	3.05
11	2.95	2.85	2.95	3.05	3.20	3.10	3.05	3.50	3.60	3.65	3.40	3.50	3.35	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	3.25	3.20	2.85	3.25	3.40	3.05	3.15	3.30	3.25	3.40	2.95	2.75	2.80
13	2.75	2.75	2.80	2.90	3.30	3.80	3.55	3.35	3.50	3.45	3.40	3.30	3.10	3.10	3.45	3.35	3.30	3.30	3.50	3.00	3.10	3.05	3.10	3.15
14	3.05	2.95	3.00	2.95	3.05	3.20	3.00	3.15	3.45	3.50	3.40	3.30	3.45	3.35	3.45	3.25	3.45	3.40	3.40	3.50	3.10	2.85	2.85	2.80
15	2.75	3.05	3.40	3.55	3.15	2.90	3.10	3.20	3.50	3.30	3.40	3.30	3.40	2.90	3.30	3.55	3.45	3.45	3.50	3.20	2.85	3.05	2.80	3.10
16	2.90	2.90	3.55	3.70	S	FS	FS	3.60	3.55	3.00	3.00	3.30	3.40	3.10	3.45	3.40	3.40	3.65	3.40	2.90	2.50	S	S	2.85
17	2.90	3.10	S	2.75	2.65	2.60	2.65	2.80	3.50	3.55	3.40	3.15	3.25	3.25	3.30	3.45	3.40	3.45	3.50	3.10	S	S	S	2.95
18	2.80	3.05	3.25	2.95	3.25	2.80	2.80	3.10	3.50	3.30	3.40	3.30	3.30	3.35	3.10	3.40	3.40	3.40	3.50	3.35	2.80	2.85	2.85	3.05
19	3.00	3.15	3.15	3.45	3.60	2.70	2.70	3.35	3.50	3.20	3.10	3.20	3.30	3.35	3.35	3.55	3.45	S	3.55	3.10	2.95	2.85	2.80	2.75
20	2.70	2.70	3.15	3.55	S	3.40	3.25	3.10	3.25	3.15	3.05	3.10	3.00	3.20	3.30	3.05	C	S	3.40	3.05	2.95	3.30	2.75	2.90
21	2.85	2.75	2.75	3.15	3.40	3.65	2.65	3.20	3.35	3.10	3.00	3.10	3.10	3.20	S	S	S	3.30	3.20	3.15	3.15	3.15	2.85	2.55
22	2.85	2.90	2.90	2.95	2.80	2.85	2.95	3.30	3.20	3.25	3.20	3.00	3.15	3.10	2.90	3.15	3.20	3.30	3.40	3.10	3.00	2.85	2.65	2.75
23	2.70	3.05	3.25	3.05	2.95	2.90	2.90	3.20	3.30	3.20	3.10	3.10	3.10	3.10	3.15	3.30	3.35	3.45	3.25	3.20	3.20	2.95	2.80	2.75
24	3.20	2.90	2.80	3.10	3.00	3.20	2.90	3.10	3.30	3.30	3.30	3.15	3.05	3.15	3.15	2.95	3.05	3.20	3.20	S	3.00	S	S	2.90
25	2.90	2.75	2.80	2.95	2.90	2.75	2.75	3.35	3.45	3.35	3.30	3.10	3.15	3.15	3.25	3.25	3.40	3.50	3.50	3.10	3.10	3.05	2.80	2.80
26	2.70	2.80	2.80	2.90	3.10	3.05	2.80	3.25	3.30	3.20	3.25	3.05	3.05	3.30	3.20	3.30	3.15	3.25	0	2.90	3.00	3.10	3.00	2.95
27	2.90	2.85	2.75	3.20	2.90	2.60	2.45	S	3.45	3.30	3.25	3.10	3.05	3.10	3.15	3.10	3.25	3.40	3.40	3.10	S	S	S	S
28	2.90	2.90	3.00	2.95	2.75	2.90	2.75	3.15	3.45	3.45	3.15	3.20	3.15	3.15	3.15	3.30	3.35	3.35	3.35	3.15	3.15	3.35	3.20	3.30
29																								
30																								
31																								
No.	24	25	25	26	24	25	24	25	25	27	27	28	28	27	26	25	25	25	26	26	25	23	23	23
Median	2.90	2.90	2.90	3.00	3.15	3.05	2.90	3.15	3.45	3.35	3.30	3.20	3.20	3.20	3.30	3.30	3.40	3.40	3.45	3.20	3.10	3.10	2.95	2.90

M(3000)F2 | Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 7

IONOSPHERIC DATA

Feb. 1962 | M(3000)F1 | 135° E Mean Time (G.M.T. + 9h.) | 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												3.70 L	3.70	I 3.75 L	3.90 L	L								
2												3.70	3.70 L	3.80 L	I 3.80 L	3.80 L								
3											L	3.85	I 3.90 C	3.65 L	3.55	I 3.70 L	L							
4												L	A	L	C	L	L	C						
5											L	L H	L	L	L	3.75	I 3.95 L							
6							C	C	C		L	L	3.70	L	L	L								
7											L	3.70 L	I 3.50 L	3.50 L	3.65 L	L								
8												L H	L	L H	3.65 L	4.00 L	4.30							
9											L	3.80	3.95	3.90	3.85 LH									
10											L	3.60	I 3.50 L	I 3.70 A	I 3.70 L	I 3.65 L	L							
11											L	3.85	3.75 L	C	C	C	C	C						
12							C	C	C	C	C	L	L	I 3.50 L	I 3.65 L	3.65 LH	L	L						
13												L	C	L	3.50 L	L	L							
14											L	L	I 3.55 L	I 3.70 L	3.85	L	L							
15												3.75	3.75	I 3.70 L	3.75									
16											L	3.55 H	3.70 H	L	L H	L								
17											L	L	L	L	L									
18											L	L	I 3.80 L	I 3.70 L	L H	L	L							
19											L H	3.55 L	3.60 L	3.60 L	L	L	L							
20											L	3.60	3.50	3.55	3.65	L	C							
21										L H	L	3.65 L	3.65	3.55 L	3.60	L H								
22											L	L H	3.95	3.85	3.75	I 3.75 A	L	I 4.35 C						
23											L	L	L	L	L	L	L							
24											L	L	L	3.50 L	I 3.55 L	L	L							
25											L	L	L	L	L	L	L							
26											L	L	L	3.65 L	L	L	L							
27												L	L	L	L	L	L							
28											L	L	L	3.75 L	L	L								
29																								
30																								
31																								
No.												12	16	17	15	7	2	1						
Median												3.70	3.70	3.70	3.65	3.75	L 4.10	L 4.35						

M(3000)F1 | Sweep 1.0 Mc to 20.0 Mc in 30 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 8

IONOSPHERIC DATA

Feb. 1962 | h'F2 | 135° E Mean Time (G.M.T. + 9h.) | 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												270	255	265	260	250								
2												285	255	265	280	255								
3											285	255	260	270	290	270	245							
4												290	245	305	I275 C	250	250	C						
5											325	280	280	250	250	250	245							
6							C	C	C		250	300	300	255	255	245								
7											305	280	295	265	250	250								
8												280	260	270	250	245	240							
9											270	250	255	260	250									
10											270	325	280	255	255	280	240							
11											270	255	275	C	C	C	C	C						
12							C	C	C	C	C	280	300	335	260	255	250	250						
13												290	I305 C	300	260	265	250							
14											260	280	275	250	255	265	255							
15												270	250	290	260									
16											300	280	250	280	255	250								
17											260	295	280	280	255									
18											255	275	280	255	270	255	240							
19											305	285	250	260	260	245	250							
20											305	280	290	280	255	250	I245 C							
21										275	290	275	290	270	255	255								
22											280	295	280	280	285	260	255	I240 C						
23											285	290	290	280	270	260	255							
24											255	290	290	280	275	255	255							
25											270	285	290	280	260	275	260							
26											275	290	290	265	270	255	250							
27												280	290	280	280	280	260							
28											255	265	265	260	280	255								
29																								
30																								
31																								
No.										1	20	28	28	27	27	24	17	2						
Median										275	270	280	280	270	260	255	250	H245						

h'F2 | Sweep 4.0 Mc to 20.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 9

IONOSPHERIC DATA

Feb. 1962 | h'F | 135° E Mean Time (G.M.T. + 9h.) | 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	340	I340S	305	300	240	210	E350S	270	240	240	230	225	240	200	210	240	225H	240	230	225	250	240	250	325
2	I310S	300	300	250	240	235	I280S	275	230	205H	235H	205	250	225	205	205	205H	240	235	215	280	245	255	300
3	300	E350S	300	275	240	230	E300S	270	250	230	205	225	I225C	245	205	225	240	240	230	250	270	I240A	275	E320S
4	350	355	290	260	240	250	230	270	235	235	230	E275A	A	E280A	I250C	240	240	I230C	225	225	250	235	I340S	A
5	A	S	345	310	240	E355S	345	255	230	245	230	230H	220	245	225	220	235	200H	230	250	250	240	255	C
6	C	C	C	C	C	C	C	C	C	225	225	210	200	200	200	230	210H	205H	230	240	250	275	305	310
7	290	320	300	295	255	I285A	E310S	290	245	240	230	240	225	235	240	225	220H	240	225	250	240	250	I300A	300
8	305	305	320	260	250	295	300	270	230	210H	235H	210H	215	200H	220	205	200	230	220	245	260	250	290	295
9	305	330	310	285	255	220	E350S	255	230	190H	245	E250A	200	220	200H	220H	220H	200H	210	220	250	240	300	300
10	295	330	305	305	260	215H	205	255	240	240H	250	250	E275A	A	240	245	230	230	220	275	260	225	E290S	E310A
11	310	350	300	290	240	250	290	240	230	230	225	225	250	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	250	250	255	240	230H	210	210	230	230	225	275	325	320
13	300	330	325	290	255	210	S	240	240	190H	230H	260	I250C	240	205	215	220	240	210	240	255	250	270	260
14	300	310	275	280	250	255	290	255	230	240	240	240	250	235	210	210	235	250	240	210	250	290	260H	315
15	310	300	255	225	205	E350S	290	260	240	240	210H	240	225	225	205	230H	205H	230	225	240	260	275	330	290
16	300	300	245	220	255	400F	370	230	235	210H	235	195H	200H	205	195H	240	230H	240	225	280	410	305	260	295
17	285	270	240	325	320H	400	330	E300S	245	240	240	260	215	220	240	240	215H	245	235	245	I300A	I325A	260	300
18	300	275	250	255	250	E330A	350	260	240	235	230	220	250	225	200H	205	220	235	225	230	300	300	I305S	345
19	300	300	250	225	220	E400S	S	250	230	230	205H	250	240	240	220	210	220	240	220	230	255	280	300	I340S
20	360	350	305	240	205	S	S	260	250	245	240	240	E270A	240	240	240	I235C	225	210	240	250	260	275	300
21	350	350	340	285	225	205	400	275	250	200H	200	215	205	205	230	205H	235	230	235	225	240	250	280	390
22	340	320	300	300	305	300	295	250	230	205H	250	225H	220	220	230	I245A	235	I210C	230	240	250	I280A	290	325
23	340	290	235	250	265	300	300	260	240	240	240	250	250	240	230	250	240	240	230	225	250	270	290	320
24	260	280	330	290	255	250	290	260	240	240	240	250	225	225	225	250	235	240	250	205	240H	265	290	290
25	295	325	310	290	E320A	E340A	340	240	235	245	240	250	A	E270A	I250A	220	230	240	235	245	250	250	310	325
26	330	310	310	305	245	255	275	240	215H	245	250	225	235	240	230	220	225	240	245	225	220	285	300	305
27	315	350	305	255	260	370	400H	240	225	240	I245C	250	225	230	250	240	235A	235	230	220	235	330	I305S	305
28	290	300	260	260	255H	305	320	260	250	235	230	250	250	220	220	225	245	240	230	240	250	235	240	265
29																								
30																								
31																								
No.	25	24	26	26	25	20	20	25	26	27	27	26	24	24	27	27	27	27	27	27	27	27	27	23
Median	305	315	300	280	250	250	E300	260	240	235	235	240	225	225	225	225	230	240	230	240	250	260	290	305

h'F

Sweep 10 Mc to 200 Mc in 30 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 10

IONOSPHERIC DATA

Feb. 1962 | h'Es | 135° E Mean Time (G.M.T. + 9h.) | 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	S	S	105	105	E	S	S	S	125	115	G	G	G	130	120	120	G	105	S	S	S	S	S	S
2	S	S	S	E	E	S	S	S	G	G	185	110	110	120	120	120	105	105	S	S	S	S	S	S
3	S	S	E	E	E	S	S	S	G	G	G	180	C	140	130	130	120	120	S	140	110	105	105	S
4	S	S	E	E	E	S	S	S	G	180	155	140	130	130	C	125	120	C	S	S	S	S	S	115
5	110	S	S	120	E	S	S	S	G	160	155	G	120	130	130	130	120	120	S	S	S	S	S	C
6	C	C	C	C	C	C	C	C	C	G	140	115	110	120	110	110	110	G	S	S	S	S	S	S
7	S	100	S	E	105	105	S	S	G	G	145	130	130	120	120	120	110	G	S	S	110	105	105	S
8	S	S	S	E	E	S	S	S	G	G	G	G	140	140	140	G	G	105	105	100	100	100	S	S
9	S	S	110	110	110	S	S	S	G	G	170	115	120	120	120	120	120	120	S	S	S	S	S	S
10	S	S	S	105	E	S	S	G	G	155	165	155	150	140	155	140	160	135	125	S	S	S	S	105
11	S	105	110	110	110	S	S	S	G	G	155	140	130	C	C	C	C	C	C	C	C	C	C	C
12	C	C	C	C	C	C	C	C	C	C	C	120	150	140	120	115	125	G	S	S	110	S	S	S
13	S	S	S	E	105	S	S	105	G	G	160	150	C	105	110	G	105	G	S	S	S	S	S	S
14	S	S	S	E	E	S	S	S	G	G	140	140	130	130	G	125	G	G	S	S	S	S	S	S
15	S	110	110	E	E	S	S	S	G	125	140	130	130	110	110	G	G	G	S	S	S	S	S	S
16	S	S	S	105	E	S	S	S	G	G	140	150	G	120	G	G	105	105	S	105	105	105	S	S
17	S	105	E	110	E	S	S	S	G	G	155	145	145	120	130	125	140	G	S	S	130	125	115	120
18	S	110	110	105	E	105	S	S	G	155	140	130	125	115	120	120	120	115	S	S	S	S	S	S
19	S	S	E	E	E	S	S	S	G	180	150	130	125	130	120	110	110	G	S	S	S	S	S	S
20	110	S	S	E	E	S	S	S	G	175	155	155	135	110	135	G	C	150	S	S	S	S	S	140
21	S	S	S	S	S	S	S	G	G	140	140	G	120	G	G	G	155	140	135	S	S	S	S	110
22	110	110	E	E	E	E	S	S	130	110	115	125	110	110	105	105	145	C	S	S	S	115	S	110
23	110	110	110	E	E	S	105	S	G	G	150	130	135	130	130	120	125	115	120	120	115	S	S	S
24	S	110	110	105	105	S	S	G	G	G	145	140	120	140	120	120	130	120	S	S	S	S	S	S
25	S	S	S	110	105	105	S	G	G	G	150	145	140	135	110	G	150	120	120	110	115	110	125	125
26	S	S	120	110	E	S	S	S	G	180	145	150	140	G	G	G	G	G	S	S	S	S	S	S
27	S	S	S	S	S	S	S	S	G	G	170	140	140	130	145	140	125	125	S	S	S	S	S	S
28	S	S	S	E	E	S	S	S	155	G	140	140	130	110	G	140	B	150	S	S	S	S	S	105
29																								
30																								
31																								
No.	4	8	8	11	6	3	1	1	3	11	24	24	24	25	21	19	20	16	5	5	8	7	4	8
Median	110	110	110	110	105	105	105	105	130	155	150	140	130	130	120	120	120	120	120	110	110	105	110	110

h'Es

Sweep 10 Mc to 200 Mc in 30 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 11

IONOSPHERIC DATA

Feb. 1962 | **Types of Es** | 135° E Mean Time (G.M.T. + 9h.) | **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			f	f2					l	l				h	l2	l		l						
2											h	l	l	l h	l	h l	l	l						
3												h		h2	h	h	C2	l2		f2	f	f	f2	
4										h2	h2	h	h	h2		h	l							f
5	f3			f						h	h		l	h	h	h	l2	l						
6											h	l	l	l	l	l2	l							
7		f2			f2	f2					h	h	h	l	l	l	l			f	f	f2	f2	
8													h	h	h l			l2	f	f2	f2	f		
9			f2	f2	f2						h l	l2	l2	l	l	l2	l2	l						
10				f						h	h	h2	h	h2	h	h	h2 l	C2	f2					f
11		f	f2	f2	f			l			h	h2 l	h2											
12												l	h l	h	l	l2 h	l				f			
13					f			l			h	h		l	l l		l							
14											h	h	h	h		l						f		
15		f	f							h	h	h	h	l	l2									
16				f							h	h		l			l	l		f	f	f2		
17		f		f2							h3	h	h2	l	h	h	h				f3	f	f	f
18		f2	f2	f		f				h2	h	h	h	l	l	l	l	l						
19										h	h	h	h	h	h	l	l3							
20	f2									h	h	h	h	l	h			h l						f
21										h	h		l				h	h	f					f2
22	f2	f							h	l2	h	h	l	l	l2	l3	h					f3		f
23	f2	f2	f2				f				h	h	h	h	h	C	C2	l3	f	f	f			
24		f2	f2	f	f						h	h	l	h	l	l	h	C2						
25				f5	f3	f					h	h	h	h	l2		h	C3	f	f3	f f	f f	f2	f
26			f	f2				l		h	h	h	h											
27											h	h	h	h	h	h2	h2	l						
28									h		h	h	h	l		h		h						f2
29																								
30																								
31																								
No.																								
Median																								

Types of Es

Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

SOLAR RADIO EMISSION 200 Mc/s

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

HIRAISO

Time in U.T.

Feb. 1962	Steady Flux					Variability				
	00-03	03-06	06-09	21-24	mean	00-03	03-06	06-09	21-24	mean
1	7	8	6	(9)	7	0	0	0	(0)	0
2	8	8	8	(8)	8	0	0	0	(0)	0
3	8	(8)	-	(9)	8	0	(0)	-	(0)	0
4	8	6	6	(7)	7	0	0	0	(0)	0
5	6	6	7	(7)	6	0	0	0	(0)	0
6	7	7	6	(7)	6	0	0	0	(1)	0
7	6	7	7	(7)	7	0	0	0	(0)	0
8	6	6	5	(6)	6	0	0	0	(0)	0
9	6	7	7	(8)	6	0	0	0	(0)	0
10	7	7	7	(5)	7	0	0	0	(0)	0
11	6	5	(5)	-	6	0	0	(0)	-	0
12	(5)	(5)	(5)	(5)	(5)	(0)	(0)	(0)	(0)	(0)
13	5	6	5	(7)	5	0	0	0	(0)	0
14	6	6	6	(4)	6	0	0	0	(0)	0
15	(5)	6	6	(6)	6	(0)	0	0	(0)	0
16	5	6	6	(6)	6	0	0	0	(0)	0
17	6	6	6	(5)	6	0	0	0	(0)	0
18	5	6	6	(5)	6	0	0	0	(0)	0
19	5	5	6	(5)	5	0	0	0	(0)	0
20	5	6	6	5	6	0	0	0	0	0
21	5	6	6	(6)	6	0	0	0	(0)	0
22	5	5	5	-	5	0	0	0	-	0
23	6	6	(6)	(39)	6	0	0	(0)	(2)	0
24	50	84	48	(124)	59	2	2	2	(2)	2
25	127	144	84	(102)	123	2	2	2	(2)	2
26	54	67	61	(17)	65	2	2	2	(2)	2
27	21	16	25	(11)	20	1	2	2	(1)	2
28	24	10	8	(6)	14	2	1	1	(0)	1

Outstanding Occurrences

Feb. 1962	Start-time	Dura-tion	Type	Max. Int.		Max. Time	Remarks
				Inst.	Smd.		
6	<2133	>60	CD/8	-	-	-	
27	2258.6	1.2	CD/4	>1000	150	-	off scale
28	0648.1	8.5	CD/8	>1400	>1400	-	off scale

RADIO PROPAGATION QUALITY FIGURES

HIRAISO

Time in U.T.

Feb. 1962	Whole Day Index	L. N. 06 12 18 / 12 18 24	W W V 00 06 12 18 / 06 12 18 24	S. F. 00 06 12 18 / 06 12 18 24	W W V H 00 06 12 18 / 06 12 18 24	Warning 00 06 12 18 / 06 12 18 24	Principal Magnetic Storms Start	End	ΔH
1	4-	4 4 3	- - - 4	3 (3) 4 (4)	4 4 3 4	N N N N			
2	4-	4 4 4	- - - 3	3 4 4 3	4 4 4 4	N N N N			
3	3+	4 3 3	- - - 4	(4 3) 3 3	4 4 4 4	N N N N			
4	3+	4 3 3	- - - 4	3 3 3 4	4 4 3 4	N N U U	0930	---	135γ
5	4o	4 4 4	- - - 4	4 4 4 4	5 4 4 4	U U N N	---	06xx	
6	4o	4 4 4	- - - 5	4 4 4 3	4 5 3 3	N N N N			
7	3+	4 3 4	- - - 4	3 3 3 3	4 4 4 4	N N N N			
8	3+	4 3 3	- - - 4	4 4 3 3	4 4 3 4	N N N N			
9	4o	5 5 5	- - - 4	3 3 3 4	4 3 4 5	N N N N			
10	5-	5 5 3	- - - 4	5 5 5 5	5 5 5 4	N N N N			
11	4-	4 3 3	- - - 5	4 3 4 4	4 3 4 5	N N N N			
12	4+	5 4 4	- - - 5	4 4 4 4	4 4 5 4	N N N N			
(13)	4o	5 3 4	- - - 5	5 4 3 4	4 3 4 4	N N N N			
(14)	4o	4 3 3	- - - 4	5 4 4 4	4 3 4 4	N N N N			
(15)	4o	4 4 4	- - - 4	3 4 4 4	4 3 4 3	N N N N	16xx	---	
16*	3o	4 3 3	- - - 2	4 3 3 3	4 4 3 3	N N N N	---	---	149γ
17*	3+	3 3 3	- - - 3	3 3 4 4	4 4 4 4	N N N N	---	21xx	
18	4-	3 3 3	- - - 5	4 4 4 4	4 3 4 3	N N N N			
19	4+	3 3 4	4 - - 5	5 5 5 5	4 4 4 3	N N N N			
20	4o	4 3 5	5 - - 5	4 4 3 4	4 5 5 5	N N N N			
21	5-	4 4 5	4 - - 5	5 5 5 4	5 5 4 4	N N N N			
22	4+	4 4 4	4 - - 3	5 5 5 4	5 4 3 4	N N N N			
23	4o	4 4 4	4 - (5) 5	3 3 4 4	4 4 4 4	N N N N			
24	4+	4 4 4	5 - - 4	5 4 5 4	4 5 4 4	N N N N			
25	4+	(4 4) 4	4 - (5) 5	5 4 4 5	4 5 4 4	N N N N			
26	4+	(4 4) 4	5 - - 4	5 4 5 3	4 4 4 3	N N U U			
27	4-	(3) 4 4	4 - - 5	4 3 3 4	4 5 4 3	N N N N			
28	4-	(4 4) 4	3 - - 5	3 3 3 4	4 4 4 3	N N N N			

* = day of Special World Interval

( ) = Regular World Day

\- = impossible to evaluate

( ) = inaccurate

C = artificial accident

--- = continuing magnetic storm

Note : Estimation of propagation quality figures has been revised from July 1960 issue. See Symbols and Terminology.

SUDDEN IONOSPHERIC DISTURBANCES

(S.I.D.)

HIRAISO

Time in U.T.

Feb. 1962	S W F									S E A			Correspondence		
	Drop-out Intensities (db) WS	SF	HA	TO	LN	SH	Start-time	Dura-tion	Type	Imp.	Start-time	Dura-tion	Imp.	Flare	Solar Noise	Mag.
1		32			-	25	03.33	20	S	2+				x	x	
24		27					06.20	24	S	2						
28		9	13				06.55	10	S	1-	06.50	40	1	x	x	

IONOSPHERIC DATA IN JAPAN FOR FEBRUARY 1962
第 14 号　第 2 巻

昭和37年 5 月20日　印　刷
昭和37年 5 月25日　発　行　（不許複製非売品）

編集兼
発行人　糟谷績
東京都小金井市貫井北町4の573

発行所　郵政省電波研究所
東京都小金井市貫井北町4の573
電話 (0423) (2) 1211 (代)

印刷所　山内欧文社印刷株式会社
東京都豊島区日ノ出町2の228
電話 (971) 9341