F—166

IONOSPHERIC DATA IN JAPAN

FOR OCTOBER 1962

Vol. 14 No. 10

Issued in January 1963

Prepared by

THE RADIO RESEARCH LABORATORIES

MINISTRY OF POSTS AND TELECOMMUNICATIONS

KOKUBUNJI, TOKYO, JAPAN

F—166

IONOSPHERIC DATA IN JAPAN

FOR OCTOBER 1962

Vol. 14 No. 10

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°08.2′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

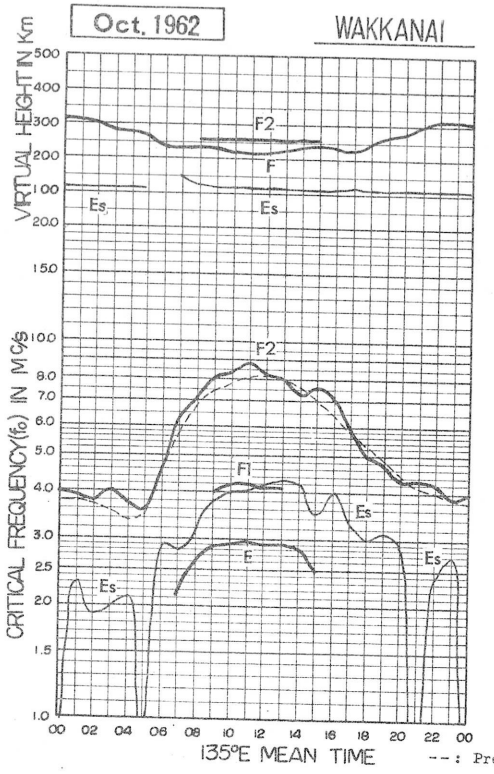
Degrees of SWF are classified into 9 grades according to the amplitude of fade-out;

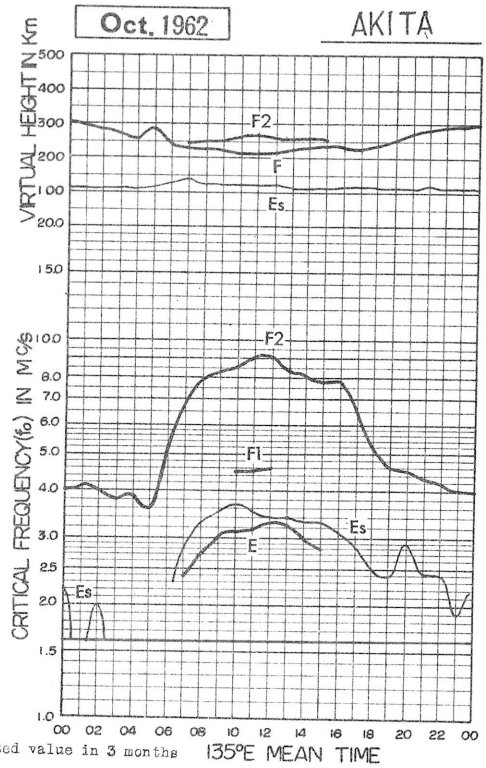
1—	1	1+
2—	2	2+
3—	3	3+

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.

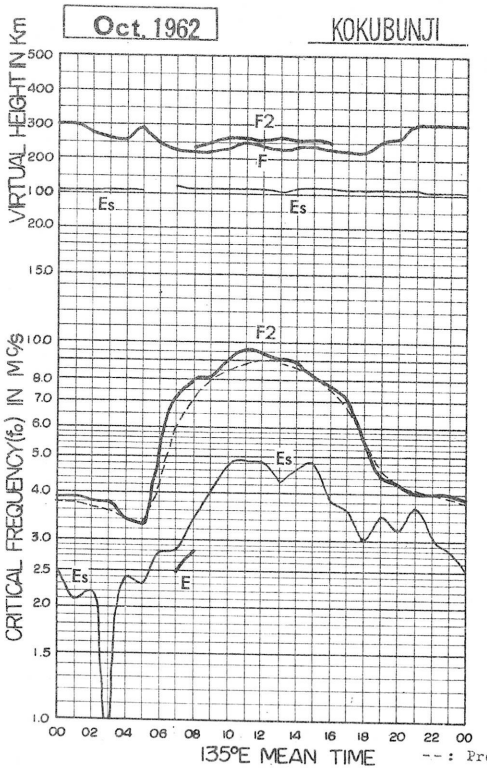
IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS

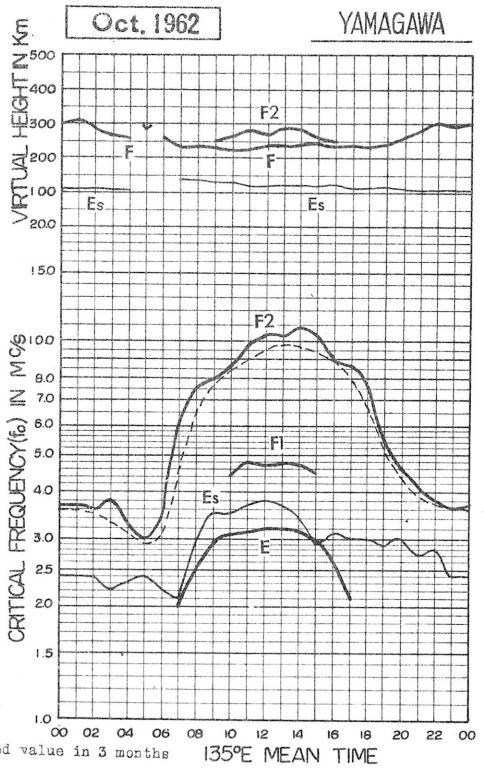




--: Predicted value in 3 months advance by R.R.L.

IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS





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

IONOSPHERIC DATA

Oct. 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	3.4F	I3.3F	I3.2F	3.0	2.6	2.6	2.9	4.0	4.3	5.0	4.9	4.9	4.7	5.2	5.0H	5.1H	5.1	5.0	5.0	5.1	4.7	I4.4A	3.8	3.2
2	3.1	3.3	2.3	2.8	2.7	2.6	3.8	3.6	I3.9A	I4.3A	4.5	4.8	4.7	4.9	4.9	5.5	5.0	5.3	4.9	4.8	3.6	3.7	3.6	3.4
3	3.4	3.6	3.4	3.4	3.3	3.2	4.4	5.5	I5.9A	6.8	6.3	6.1	6.0	6.4	5.9	6.2H	6.0	5.8	I4.8A	4.3	A	A	A	3.5
4	3.4	3.3	3.3	3.3	3.3	3.1	4.6	6.4	6.7H	7.2	7.3	7.0	6.0	6.3	6.5	6.4	6.3	5.3	4.6	4.5	4.1	4.2	4.0	3.8
5	3.8	I3.6A	3.8	3.5	3.3	3.6	4.9	6.0	8.7	8.0	I7.6A	7.0	7.2	6.3	6.0	6.7	6.5	6.6	5.8	5.3	5.0	U4.4S	4.1	4.0
6	3.8	3.9	4.0	4.0	3.8	3.6	5.1	5.8	7.5H	7.6H	7.0	7.3	7.2H	7.2	8.0	8.2	8.7	6.9	5.6	4.3	4.0	3.4	3.6	3.8
7	3.8	3.9	4.0	4.0	4.5	3.0	5.0	5.8	7.6H	7.9	7.6H	7.5	7.7	7.3	6.7	6.7	7.9	7.5	6.1	6.0	5.3	5.0	4.3	5F
8	5F	5F	5F	5F	5F	5F	5.8	6.5	6.1	7.3H	7.3	8.8	I7.1A	8.8	7.7H	8.8	6.8	5.3	5.2	5.3	5.5	5.2	5.3	5.0
9	4.3	3.7	3.9	4.0	4.1	I4.4SF	4.9	7.1	6.7	7.3	7.9	8.5	8.9	8.7	7.7	7.7H	7.3	6.2	6.5	6.3	5.0	4.7	3.8	3.7
10	3.6	I3.6A	3.5	3.5	3.3	2.8	5.0	5.5	7.1	7.7	8.0	9.1	8.5	7.6	7.5	7.5	8.0	7.3	6.5	5.3	I4.3A	3.7	3.6	I3.5FS
11	3.7	3.7	3.8	3.7	3.7	3.8	5.4	6.5	7.4	7.9	8.0	7.3	8.2	8.0H	7.4	7.7H	8.1	7.9	5.3	I5.0A	4.3	3.9	4.2	4.0
12	I4.2A	I4.5A	4.0	4.3	4.3	4.6	5.2	7.0	7.3	8.9	8.4	9.0	8.0	8.1	I7.1A	7.2	7.3	6.8	5.4	5.4	5.4	5.4F	5F	5F
13	5F	5F	5F	5F	5F	5F	5.5	6.3	7.0	8.5H	8.4H	8.7	7.9H	8.2	6.9H	7.9	7.9	U6.5S	5.3	5.0	5.0	4.9	4.3	4.0
14	I4.3SF	U4.3S	4.7	4.5	U4.5S	4.5	5.4	U6.8S	7.7H	C	C	C	C	C	C	C	C	5.4	5.1	5.0	5.0	5.0	5.3	4.5
15	4.8	U4.8S	4.7	4.4	3.7	3.6	U4.3S	6.8	7.0	7.1H	7.9	8.8	8.8H	9.3H	7.7	7.3	I7.0C	I5.9A	5.0	4.6	4.4	4.3	4.4	I4.4SF
16	I4.5SF	4.3	4.1	3.8	4.2	3.6	4.3	5.4	6.9H	7.5	8.5	8.3	8.6	7.7	7.1	7.5	7.1	5.8	U4.3S	4.6	4.3	I4.1SF	3.8	3.9
17	4.0	3.8	3.8	3.5	3.2	3.3	4.1	5.9	7.1H	7.8	7.8	7.9	8.6H	7.3	7.3	7.1	7.2	U7.3S	6.3	5.3	A	S	A	3.8
18	3.7	3.8	3.7	3.8	3.8	3.6	4.2	5.6	7.2	8.5H	9.0	9.3H	8.3	8.0	7.8	8.2	7.1	5.3	4.1	4.3	4.3	4.6	4.8	4.7
19	4.3	4.3	4.3	4.1	4.3	4.3	5.0	7.3	7.8H	9.4	10.5	9.4	8.5	8.1	7.9	8.1	8.0	6.1	4.6	4.3	4.3	4.0	4.3	U4.3SF
20	4.0	4.1	4.0	4.1	3.7	3.1	3.8	6.3	6.9	8.4	9.2	9.6	9.4	8.9	8.4	8.4	8.3	6.5	4.3	3.6	3.8	4.3	U4.3S	4.7
21	U5.0S	I4.5SF	I4.4FS	4.4	5.0	5.0	4.7	6.8	7.2	8.9	9.1	8.8	I7.9C	I7.5C	7.1	8.3	7.0	6.2	5.3	5.4	5.1	4.4	4.3	4.2
22	4.0	4.1	3.8	4.2	4.0	4.3	5.0	5.8	8.1	8.6	10.5	9.2H	9.6	9.6	7.1	8.7	8.4	6.7	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	9.9	8.2	8.4	7.6	8.8	9.3	5.9	4.7	I4.1A	3.7	3.6	I3.7A	3.7
24	I3.7A	3.7	3.6	3.5F	U3.6SF	3.6	U4.7S	7.1	7.7	9.4	I8.8A	9.5	8.6	8.6	8.1	8.0	7.0	5.7	A	A	A	U4.3S	U4.6S	I4.7FS
25	4.9F	U5.0SF	4.8	I4.3SF	3.9	4.3	4.2	6.8	7.5H	10.3	11.4	10.4	I9.0A	8.2	7.3	7.4	8.2	6.6	5.2	4.6	4.3	4.1	U4.5S	4.5
26	5.2	4.9	FS	FS	F	F	3.9	6.9	9.3	8.2	11.0	10.9	8.5	8.1	8.2	8.0	7.2	5.1	4.9	4.8	4.9	4.3	U4.3S	I3.8S
27	3.8	3.7	3.5	3.6	3.2	3.3	3.8	6.5	7.9	9.0	9.4	9.6	10.1	7.4	8.0	7.6	7.8	5.3	I4.6C	4.0	4.0	4.0	4.3	4.3
28	I4.7SF	I5.1F	U5.1F	U5.1SF	4.2	3.2	4.0	5.8	8.3	8.6	9.9	I9.9C	I9.6C	8.4	6.5	8.2	7.1	5.8	I4.8A	I4.0A	3.8	U3.6S	U3.7SF	U3.7SF
29	I3.9FS	FS	FS	FS	F	FS	4.3	6.2	7.5	I8.3C	8.9	8.9	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	8.2H	7.8	7.8	7.4	6.5	7.0	5.1	4.5	4.3	4.1	3.6	3.8	3.8
31	5F	5F	5F	I4.0SF	U4.0S	U3.3S	3.3	6.3	6.3	8.5	8.3	8.1	8.5	6.5	6.8	7.7	I7.4S	4.7	4.0	3.5	4.0	3.7	3.7	3.4
No.	26	25	24	25	25	25	29	29	29	28	28	30	29	29	29	29	29	30	28	28	26	27	26	27
Median	4.0	3.9	3.8	4.0	3.8	3.6	4.6	6.3	7.2	8.1	8.4	8.8	8.3	8.0	7.3	7.7	7.2	5.9	5.0	4.8	4.3	4.3	4.2	3.9
U.Q.	4.3	4.4	4.2	4.2	4.2	4.3	5.0	6.8	7.7	8.6	9.2	9.4	8.7	8.4	7.8	8.2	8.0	6.6	5.4	5.3	5.0	4.6	4.3	4.4
L.Q.	3.7	3.6	3.6	3.5	3.3	3.2	4.0	5.8	6.8	7.4	7.6	7.5	7.4	7.3	6.8	6.9	7.0	5.3	4.6	4.3	4.0	3.7	3.8	3.7
Q.R.	0.6	0.8	0.6	0.7	0.9	1.1	1.0	1.0	0.9	1.2	1.6	1.9	1.3	1.1	1.0	1.3	1.0	1.3	0.8	1.0	1.0	0.9	0.5	0.7

foF2

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

The Radio Research Laboratories, Japan.

W 1

6

IONOSPHERIC DATA

Oct. 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								3.3	3.8	4.0H	4.1	4.2	4.3	4.1										
2									A	A	4.1	I4.2A	4.1	4.1	4.0	3.8								
3									A	4.2	4.2	4.3	4.3	4.3	U4.1L									
4										A	4.2	4.3	4.2	4.5	4.1	A								
5									A	I4.2A	I4.2A	4.2	4.3	4.3	A									
6											4.2	4.2		4.1	4.1									
7															A	A								
8											U4.3L	4.3	I4.3A	I4.2A										
9										4.0		A	L	A	A									
10											A	A		U4.2L										
11													4.2											
12										3.9	4.3	A	A	L	A	A								
13												4.2												
14										C	C	C	C	C	C	C								
15												U4.3L												
16										A	A	A	U4.1L	A										
17										A														
18																								
19										4.3L	4.2L	4.1	I4.1A	L	A	A								
20										U4.1L	U4.1L	U4.1L	A	A	A	A								
21										L	A	A												
22										L	A	L	L	3.9										
23								C	C	C	C	A	I4.1L	A										
24										A	A	A	A	A	L									
25											A	U4.1L	I4.0A	U4.0L										
26									L	4.0	I4.0A	I4.2A	I4.1A	L										
27									L	R	A	A	I4.0A	I3.7A	A									
28										A	A	C	C	A										
29											A	U4.0L	C	C	C	C								
30								C	C	C	C		L											
31										3.6	I4.0L	A	A	L	A	A								
No.								1	1	9	12	14	13	11	4	1								
Median								3.3	3.8	4.0	4.2	4.2	4.1	4.1	4.1	3.8								

foF1

Sweep 10 Mc to 18.0 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

W 2

10

IONOSPHERIC DATA

Oct. 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	2.20	2.55	2.75	2.90	I2.90A	2.90	I2.90A	I2.85A	A	A	S						
2							S	2.15	I2.50A	2.85	2.90	2.95	I2.85R	I2.90A	I2.80A	I2.55A	S	S						
3							S	S	A	A	A	A	A	A	A	A	A	A						
4							S	S	2.60	2.85	2.95	3.00	I3.10A	3.00	A	A	A	A						
5							S	S	A	A	A	A	A	A	A	A	A	A						
6							S	S	2.70	2.95	3.00	R	R	R	R	A	A	A						
7							S	S	2.75	I2.85R	2.90	R	A	A	A	A	A	A						
8							S	S	2.60	2.85	2.90	2.95	A	A	A	I2.60A	2.15	S						
9							S	S	2.60	2.85	2.95	3.00	2.90	2.85	A	A	S	S						
10							S	S	2.70	2.90	2.90	A	A	A	A	A	S	S						
11							S	A	A	3.00	3.00	3.15	3.00	2.90	2.90	2.75	S	S						
12							S	S	2.70	2.90	3.00	2.95	2.90	2.75	A	A	A	S						
13							S	2.25	2.80	2.90	2.95	A	A	A	A	2.50	2.05	S						
14							S	S	2.60	C	C	C	C	C	C	C	C	S						
15							S	S	I2.50S	2.80	2.90	2.95	2.90	I2.95A	2.90	2.50	C	A						
16							S	B	B	B	2.95	2.90	A	A	A	A	S	S						
17							S	S	2.40	2.70	I2.75A	A	A	A	A	A	A	A						
18							S	2.15	2.70	I2.75A	2.80	3.00	R	A	A	2.40	S	S						
19							S	S	B	2.85	2.90	A	A	A	A	A	A	A						
20							S	2.15	2.60	2.75	2.90	2.85	A	A	A	A	A	S						
21							S	2.15	2.70	2.80	A	A	C	C	A	A	B	S						
22							S	S	2.50	2.90	2.90	2.95	I2.80A	2.70	A	A	S	S						
23							C	C	C	C	C	2.90	A	A	A	A	A							
24							S	2.05	2.45	2.85	2.90	2.95	A	A	A	A	A	A						
25							S	S	2.40	2.80	2.85	A	A	A	A	A	S	S						
26							S	S	2.50	2.75	2.85	2.85	I2.80A	2.60	A	S	S	S						
27							S	S	2.40	2.70	I2.70A	A	A	A	A	2.30	S	S						
28							S	S	2.30	I2.50A	2.50	C	C	A	2.65	2.20	S	S						
29							S	S	S	C	A	A	C	C	C	C	C	C						
30							C	C	C	C	C	2.90	B	B	B	2.30	S	S						
31							S	S	S	2.50	A	A	A	A	A	A	A	S						
No.								7	22	24	23	16	9	9	5	9	2							
Median								2.15	2.60	2.85	2.90	2.95	2.90	2.90	U2.85	2.50	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

Oct. 1962 | foEs | 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	2.0	E	E	E	E	S	3.1	3.6	3.4	3.9	5.1	G	4.3	3.0	3.0	3.2	S	E	2.3	3.1	4.3	2.4	2.8
2	E	E	E	E	E	E	S	G	4.4	5.4	3.6	4.0	G	3.2	3.9	3.5	S	3.0	3.3	3.1	2.9	E	2.4	2.5
3	2.8	2.3	2.4	E	E	E	S	S	9.5	3.7	3.3	5.1	5.0	3.8	4.2	4.3	3.3	3.0	6.0	3.3	5.0	4.4	8.0	3.1
4	E	E	E	3.0	E	E	S	S	G	7.4	G	G	3.3	G	3.6	4.0	4.3	5.1	5.3	4.3	5.3	3.1	3.0	5.4
5	7.3	9.8	6.5	5.2	5.1	4.3	5.1	2.8	5.5	4.3	8.4	4.3	3.3	3.3	4.2	2.6	3.7	3.1	2.9	3.1	E	3.0	E	E
6	2.3	2.6	1.9	2.3	2.3	2.5	S	S	G	G	G	G	G	G	G	4.0	5.0	6.3	5.3	4.3	3.0	S	E	3.0
7	3.0	4.3	3.3	2.0	2.3	E	S	S	G	G	G	G	3.3	4.5M	4.3	6.3	7.2	7.1	8.3	3.3	E	E	E	E
8	2.3	3.3	2.6	E	E	E	S	S	G	G	G	G	6.5	5.0	3.3	3.5	4.2	5.0	3.0	E	2.5	E	E	3.1
9	3.5	3.0	2.8	3.0	E	E	2.8	2.6	4.3	3.8	3.5	4.1	6.0	5.4	4.4	4.3	S	S	E	E	E	E	E	E
10	E	4.5	5.3	E	3.0	2.3	S	S	4.3	5.1	5.3	7.3	3.5	4.3	5.1	4.3	3.3	5.3	6.0	8.1	5.4	4.3	E	E
11	E	E	E	2.6	5.0	3.6	5.3	3.3	3.2	3.7	G	G	G	G	G	G	6.0	10.0	10.3	10.3	6.3	3.3	3.3	8.0
12	5.1	4.3	E	4.3	4.3	E	S	S	G	3.6	3.8	4.0	5.1	4.5	12.3	7.3	5.3	3.0	E	3.3	5.3	6.3	5.3	3.3
13	E	3.5	E	E	E	2.1	S	G	G	G	G	3.6	3.4	3.3	3.3Y	G	3.6	5.3	3.0	E	3.0	3.1	3.5	3.6
14	E	2.3	3.5	3.6	4.3	4.3	S	3.0	3.6	C	C	C	C	C	C	C	C	S	E	E	E	E	E	E
15	E	E	2.0	E	E	E	S	S	3.2	3.3	3.5	G	G	4.0	G	3.2	C	6.3	4.0	3.3	4.3	3.3	6.3	4.3
16	4.3	3.3	E	E	E	E	S	B	B	5.4	5.0	5.0	4.0	5.0M	3.6M	3.0M	S	3.3	8.3	8.3	E	E	3.1	4.3
17	3.0	2.3	2.6	2.3	2.0	E	S	S	3.8	4.8	6.3	7.8	3.5	4.3	5.5	5.0	5.0	5.3	2.5	4.3	5.1	4.5	4.3	E
18	E	E	5.1	4.0	3.3	2.4	3.3	G	G	6.0	4.3	G	G	3.6	5.1	G	S	S	E	E	2.5	E	E	E
19	E	E	E	E	E	E	S	S	B	5.0	G	3.6	5.5	4.3	4.1	6.3	5.1	3.3	3.1	E	2.9	E	E	E
20	E	E	E	2.1	2.2	E	S	G	2.9	G	3.8	4.0	4.5	4.9	5.2	4.3	3.2	2.5	E	E	E	E	E	E
21	5.2	3.0	3.0	E	E	E	S	G	G	3.8	6.9	10.0	C	C	4.3	3.4	B	S	E	E	E	E	3.3	3.3
22	E	2.8	E	2.0	2.4	E	S	S	3.1	3.5	7.3	4.4	6.3	G	6.3	4.3	2.5	2.9	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	5.0	3.3	5.5	3.1	3.0	2.3	2.8	4.3	6.3	3.3	3.3	8.0	5.0
24	7.0	5.1	2.2	3.0	5.3	5.0	S	2.9	3.8	6.7	9.4	10.0	5.1	7.3	3.3	5.3	6.2	5.2	10.3	8.0	5.1	6.0	5.0	3.0
25	2.4	3.3	5.3	2.5	3.4	E	S	2.5	3.0	4.1	5.8	3.6	10.0	4.0	5.0	3.3	S	S	E	E	E	E	E	E
26	E	E	E	E	E	E	S	S	2.9	3.3	4.3	5.8	4.3	3.5	3.3	2.7	S	3.1	2.4	E	2.5	E	E	2.7
27	E	E	E	E	2.1	E	2.9	3.0	3.6	3.9	8.0M	4.1	4.3	4.3	4.3	G	S	2.6	C	E	E	E	E	3.1
28	E	E	4.0	2.0	2.5	2.5	2.4	2.7	2.7	4.3	5.7	C	C	5.1	G	2.9	2.9	2.3	11.3	4.3	2.8	2.5	6.3	E
29	2.2	3.3	E	E	2.4	2.5	2.3	3.4	3.3	C	4.3	4.3	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	G	B	B	B	G	3.0	3.5	E	E	E	E	E	E
31	E	E	E	E	E	E	S	2.9	2.5	3.0	4.0	6.1	4.5	5.3	5.5	5.0	4.3	3.0	E	E	5.1	4.3	4.3	2.5
No.	29	29	29	29	29	29	7	16	27	27	28	29	26	27	28	29	20	24	28	29	29	28	29	29
Median	E	2.3	1.9	2.0	2.1	E	2.9	2.8	3.1	3.8	4.0	4.1	4.2	4.3	4.2	3.5	4.0	3.3	3.0	3.1	2.9	E	2.4	2.7
U.Q.	3.0	3.3	3.2	2.8	3.2	2.4	5.1	3.0	3.8	5.0	5.8	5.1	5.1	5.0	5.0	4.3	5.0	5.3	5.6	4.3	5.0	3.8	4.2	3.3
L.Q.	E	E	E	E	E	E	2.4	G	G	3.3	G	G	3.3	3.3	3.3	2.8	3.2	3.0	E	E	E	E	E	E
Q.R.							2.7			1.7			1.8	1.7	1.7	1.5	1.8	2.3						

foEs

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

The Radio Research Laboratories, Japan.

W 4

12

IONOSPHERIC DATA

Oct. 1962 | f_bE_s | 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					S	G	G	G	G	3.3		3.0	3.0	2.6	2.2	S		E	3.1	A	E	E
2							S		A	A	G	4.0		3.1	3.9	2.8	S	G	3.2	E	E		E	E
3	E	E	E				S	S	A	3.0	3.1	4.0	3.3	3.1	3.8	3.1	2.3	2.1	A	3.0	A	A	A	E
4				E			S	S		4.8			3.2		3.7	3.8	4.0	2.6	2.5	3.0	2.7	E	E	3.1
5	3.1	A	E	E	E	E	2.8	G	5.2	A	A	4.0	3.2	3.0	3.9	2.5	2.5	2.3	E	E		E		
6	E	E	E	E	E	E	S	S								3.5	3.2	4.0	E	2.7	E	S		E
7	E	E	E	E	E		S	S					3.2	3.8	4.3	5.8	7.1	6.2	3.0	2.5				
8	E	E	E				S	S					A	4.7	3.1	3.4	4.0	3.2	2.3		E			E
9	E	E	E	E			G	G	4.3	3.7	G	4.0	G	4.3	4.2	3.0	S	S						
10		A	E		E	E	S	S	4.0	5.0	5.0	6.8	3.4	4.0	3.1	4.1	G	G	2.6	4.0	A	E		
11				E	E	2.3	4.0	2.4	3.0	G							3.0	G	E	A	3.1	2.5	E	3.3
12	A	A		2.6	E		S	S		G	G	4.0	5.0	4.0	A	4.2	2.7	G		E	E	E	E	E
13		E				E	S					3.0	3.0	3.2	3.0		G	4.9	E		E	E	3.0	3.1
14		E	2.8	E	E	E	S	G	G	C	C	C	C	C	C	C	C	S						
15			E				S	S	G	G	G			3.2		G	C	A	4.0	3.0	E	E	3.0	2.2
16	E	3.0					S	B	B	5.0	4.8	4.9	4.0	4.7	3.2	2.6	S	3.0	3.1	3.9			E	2.5
17	E	E	E	E	E		S	S	G	4.4	4.0	6.0	3.2	4.1	4.3	3.0	4.5	2.8	E	4.2	A	A	A	
18			3.1	E	E	E	2.3			3.0	3.7			3.3	4.8		S	S			E			
19							S	S	B	4.0		3.1	4.1	3.7	4.0	4.1	4.9	2.6	E		E			
20				E	E		S		G		G	G	4.3	4.1	5.0	4.2	2.2	2.2						
21	3.2	E	E				S			3.8	6.9	6.0			3.2	3.0	B	S					E	E
22		E		E	E		S	S	G	G	7.0	3.7	3.6		2.7	3.0	G	G	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	4.7	3.0	4.5	2.7	3.0	2.0	E	3.0	A	E	2.5	A	E
24	A	E	E	E	E	E	S	G	G	6.7	A	5.9	4.6	4.8	3.0	3.6	4.3	3.0	A	A	A	3.3	3.0	E
25	E	E	4.3	E	3.0		S	G	G	G	5.3	3.1	A	3.2	3.3	2.9	S	S						
26							S	S	G	G	4.1	4.2	4.1	G	3.1	G	S	3.0	E		E			E
27					E		G	G	G	$E_{3.9}^{R}$	8.0	4.1	4.3	4.3	4.0		S	G	C					2.9
28			E	E	E	E	G	G	G	4.2	5.3	C	C	5.0		G	G	G	A	A	E	E	E	
29	E	E			E	E	G	G	3.2		4.0	3.0	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C		B	B	B		2.7	3.0						
31							S	G	G	G	3.2	4.8	4.2	3.0	3.9	4.6	4.0	2.5			3.2	E	E	E
No.																								
Median																								

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

The Radio Research Laboratories, Japan.

W 5

IONOSPHERIC DATA

Oct. 1962 | f-min | 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	E2.00S	E1.20S	E1.50S	E1.20S	E	E2.00S	E2.00S	2.00	2.00	2.00	2.15	2.10	2.10	2.00	2.00	1.90	1.90	E1.80S	E2.00S	E2.00S	E1.80S	E1.80S	E2.00S	E2.00S
2	E2.00S	E1.40S	E2.00S	E	E1.95S	E1.80S	E2.00S	2.00	2.00	2.15	2.10	2.15	2.15	2.10	2.00	2.00	E2.10S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S
3	E2.00S	E	E	E1.50S	E	E2.00S	E2.00S	E2.30S	2.20	2.05	2.05	2.00	2.00	2.05	2.05	2.00	2.00	E1.80S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S
4	E2.00S	E2.00S	E1.70S	E	E	E1.60S	E2.20S	E2.30S	2.00	2.00	2.00	2.05	2.30	2.40	2.05	2.05	2.00	2.00	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S
5	E2.00S	E1.70S	E	E	E	E1.70S	E2.00S	E2.20S	2.15	2.15	2.05	2.10	2.15	2.15	2.05	2.00	2.00	1.80	E2.00S	E2.00S	E2.10S	E2.00S	E2.00S	E2.10S
6	E1.85S	E	E	E	E	E	E2.10S	E2.50S	2.10	2.15	2.40	2.35	2.50	2.30	2.05	2.05	E1.90S	E2.00S	E1.90S	E2.00S	E2.10S	E2.70S	E2.30S	E2.10S
7	E2.00S	E1.50S	E	E	E	E1.70S	E2.10S	E2.50S	2.20	2.10	2.10	2.30	2.15	2.20	2.10	2.00	1.90	1.80	E1.90S	E2.00S	E2.15S	E2.10S	E2.00S	E2.15S
8	E2.00S	E1.50S	E	E	E	E	E2.00S	E2.50S	2.10	2.15	2.30	2.50	2.50	2.50	2.10	2.10	1.85	E2.15S	E2.00S	E2.10S	E2.00S	E2.40S	E2.10S	E2.00S
9	E2.00S	E1.50S	E1.70S	E	E1.20S	E	E2.00S	E2.30S	2.00	2.15	2.30	2.30	2.05	2.20	2.30	2.00	E2.10S	E1.80S	E1.90S	E2.00S	E2.00S	E2.20S	E2.10S	E2.00S
10	E2.00S	E2.00S	E2.00S	E	E	E	E2.10S	E2.10S	2.00	2.20	2.00	2.20	2.20	2.15	2.00	2.00	E2.20S	E2.00S	E1.80S	E2.00S	E2.05S	E2.05S	E2.00S	E2.00S
11	E2.00S	E1.70S	E2.00S	E	E	E	E2.10S	1.90	2.00	2.15	2.50	2.05	2.20	2.20	2.10	2.00	E2.10S	E2.00S	E2.00S	E2.00S	E2.05S	E2.10S	E2.10S	E2.20S
12	E2.00S	E1.90S	E2.00S	E	E	E1.60S	E2.00S	E2.30S	2.15	2.15	2.40	2.25	2.20	2.20	2.05	2.00	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S
13	E2.00S	E	E	E	E	E1.50S	E2.00S	2.00	2.00	2.05	2.20	2.15	2.15	2.15	2.05	2.00	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.40S	E2.00S
14	E2.00S	E1.60S	E2.00S	E	E	E	E2.00S	2.20	2.00	C	C	C	C	C	C	C	C	E2.10S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S
15	E2.00S	E1.50S	E	E	E	E1.50S	E2.00S	E2.50S	E2.50S	2.20	2.20	2.10	2.10	2.50	2.30	2.00	I2.05C	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S
16	E2.15S	E1.50S	E1.20S	E2.00S	E2.00S	E2.00S	E2.30S	2.50	3.00	3.10	2.50	2.40	2.20	2.10	2.00	2.00	E2.20S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S
17	E2.00S	E1.80S	E2.00S	E	E	E	E2.00S	2.20	2.30	2.15	2.70	2.50	2.05	2.05	2.00	2.00	E2.00S	E1.90S	E2.00S	E2.05S	E2.00S	E2.00S	E2.00S	E2.00S
18	E2.05S	E2.10S	E	E	E	E1.50S	E2.00S	2.00	2.00	2.50	2.30	2.50	2.20	2.00	2.00	2.00	E2.10S	E2.00S	E2.00S	E2.40S	E2.00S	E2.05S	E2.10S	E2.10S
19	E2.10S	E2.20S	E2.00S	E1.50S	E2.00S	E2.00S	E2.00S	E2.30S	2.85	2.40	2.50	2.20	2.40	2.15	2.30	2.00	2.00	E1.90S	E2.00S	E2.00S	E2.00S	E2.00S	E2.10S	E2.00S
20	E2.10S	E2.20S	E2.00S	E	E	E2.10S	E2.00S	2.00	2.20	2.15	2.50	2.50	2.30	2.50	2.30	2.00	2.00	E2.00S	E2.00S	E2.15S	E1.90S	E2.00S	E2.00S	E2.00S
21	E1.90S	E1.60S	E	E	E	E2.00S	E2.00S	1.90	2.00	2.05	2.00	2.10	I3.00C	I2.50C	2.00	2.15	2.30	E2.00S	E1.90S	E2.10S	E2.20S	E2.30S	E2.00S	E2.20S
22	E2.10S	E1.90S	E2.15S	E	E	E2.20S	E2.00S	E2.30S	2.15	2.00	2.30	2.00	2.00	2.00	2.00	1.90	E2.00S	E1.90S	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	2.30	2.30	2.20	2.15	2.00	1.85	E2.00S	E1.85S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S
24	E2.00S	E	E1.30S	E	E	E	E2.00S	1.80	2.00	2.05	2.15	2.00	2.05	2.05	2.00	2.00	1.80	E1.90S	E1.70S	E1.90S	E2.00S	E2.00S	E2.00S	E2.00S
25	E1.80S	E	E1.50S	E	E	E1.90S	E2.00S	E2.10S	2.00	2.15	2.15	2.00	2.15	2.05	2.05	2.00	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S
26	E2.00S	E2.10S	E	E	E	E1.70S	E2.00S	E2.30S	2.00	2.15	2.30	2.30	2.50	2.20	2.20	E2.20S	E2.10S	E2.00S	E2.00S	E2.10S	E2.00S	E2.00S	E2.00S	E1.90S
27	E2.00S	E1.50S	E2.00S	E	E	E1.70S	E2.00S	E2.00S	2.00	2.10	2.50	2.15	2.00	2.00	2.05	2.00	E2.20S	E1.85S	I1.95C	E2.10S	E2.00S	E2.00S	E2.15S	E2.00S
28	E2.00S	E2.00S	E2.00S	E	E1.70S	E1.60S	E2.00S	E2.10S	2.00	2.45	2.10	E2.40C	I2.10C	2.10	2.00	2.00	E2.00S	E1.80S	E2.00S	E1.80S	E2.00S	E2.00S	E2.00S	E1.90S
29	E1.90S	E1.60S	E1.40S	E	E	E	E1.90S	E2.00S	E2.25S	I2.20C	2.10	2.00	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	2.20	3.00	3.00	2.90	2.00	E2.10S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.40S	E2.00S
31	E2.00S	E1.90S	E1.20S	E	E2.00S	E1.50S	E1.90S	E2.10S	E2.10S	2.15	2.25	2.15	2.15	2.00	2.00	1.90	E2.00S	E1.85S	E2.00S	E2.00S	E2.10S	E2.00S	E2.00S	E2.00S
No.	29	29	29	25	23	29	29	29	26	28	28	30	29	29	29	29	29	30	29	29	29	29	29	29
Median	E2.00	E1.60	E1.50	E	E	E1.60	E2.00	E2.20	2.00	2.15	2.20	2.20	2.15	2.15	2.05	2.00	E2.00	E2.00	E2.00	E2.00	E2.00	E2.00	E2.00	E2.00

f-min

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Oct. 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	2.95F	I2.95F	I2.90F	2.85	3.10	2.90	3.10	2.85	2.45	3.15	3.05	3.20	3.20	3.25	3.20H	3.40H	3.35	3.20	3.00	3.00	2.85	I2.85A	2.95	2.75
2	2.90	3.05	2.60	2.85	2.70	3.00	2.95	3.40	I3.30A	I2.90A	2.85	3.15	3.00	2.90	3.15	3.20	3.40	3.35	3.10	3.15	2.80	2.70	2.90	2.95
3	2.80	2.85	3.00	3.25	2.80	2.90	3.35	3.55	I3.25A	3.45	3.45	3.30	3.35	3.30	3.20	3.40H	3.35	3.40	I3.25A	3.00	A	A	A	3.05
4	2.95	2.95	2.80	3.05	3.05	3.15	3.15	3.60	3.45H	3.35	3.20	3.35	3.40	3.15	3.40	3.35	3.50	3.40	3.20	3.10	3.10	2.95	2.95	2.95
5	2.95	I3.00A	3.05	3.15	3.05	3.00	3.45	3.30	3.40	3.40	I3.40A	3.30	3.35	3.45	3.20	3.45	3.30	3.45	3.35	3.30	3.20	U3.00S	2.95	2.90
6	2.90	2.85	2.90	3.00	3.30	3.10	3.55	3.50	3.30H	3.40H	3.45	3.30	3.20H	3.15	3.30	3.20	3.35	3.35	3.35	3.25	3.20	3.00	2.95	2.90
7	2.75	2.90	2.90	3.10	3.50	3.55	3.40	3.45	3.40H	3.30	3.40H	3.25	3.40	3.35	3.30	3.20	3.25	3.35	3.10	3.20	3.20	3.15	2.90	SF
8	SF	SF	SF	SF	SF	SF	3.80	3.55	3.35	3.30H	3.30	3.30	I3.10A	3.30	3.10H	3.45	3.55	3.30	2.95	2.95	2.85	2.90	3.00	3.15
9	3.20	2.90	2.80	2.90	3.00	I3.10SF	3.20	3.50	3.50	3.35	3.15	3.10	3.30	3.30	3.25	3.30H	3.40	3.25	3.10	3.25	3.10	3.00	2.95	2.75
10	2.85	I2.85A	2.85	3.05	3.25	3.05	3.40	3.60	3.40	3.35	3.15	3.20	3.20	3.40	3.35	3.45	3.40	3.35	3.40	3.15	I3.20A	2.90	2.85	I2.75FS
11	2.85	2.95	2.90	2.95	2.95	3.10	3.50	3.55	3.50	3.50	3.30	3.35	3.25	3.30H	3.25	3.35H	3.35	3.30	3.25	I3.15A	3.20	2.85	2.85	2.75
12	I2.80A	I3.15A	2.85	2.95	2.85	3.10	3.45	3.50	3.40	3.45	3.25	3.35	3.35	3.30	I3.30A	3.35	3.40	3.40	3.25	3.10	3.05	3.15F	SF	SF
13	SF	SF	SF	SF	SF	SF	3.65	3.40	3.30	3.40H	3.40H	3.45	3.15H	3.30	3.35H	3.30	3.40	U3.45S	3.20	3.15	3.00	3.05	3.00	2.80
14	I2.85SF	U2.95S	3.00	3.10	U3.10S	3.10	3.45	U3.55S	3.25H	C	C	C	C	C	C	C	C	3.20	3.15	2.95	2.90	3.00	3.05	2.70
15	2.70	U2.85S	2.85	3.00	2.85	3.00	U3.35S	3.40	3.45	3.40H	3.30	3.35	3.20H	3.25H	3.30	3.35	I3.45C	I3.35A	3.20	3.05	3.00	2.80	2.95	I2.75SF
16	I2.65SF	2.85	2.90	3.05	3.05	3.15	3.30	3.50	3.45H	3.25	3.30	3.35	3.40	3.40	3.30	3.35	3.40	3.45	U3.20S	3.25	3.00	I2.70SF	2.90	2.80
17	2.80	2.95	3.20	2.85	2.95	2.80	3.15	3.20	3.40H	3.35	3.35	3.20	3.45H	3.40	3.35	3.25	3.35	U3.25S	3.15	3.25	A	S	A	2.90
18	2.85	2.95	2.95	3.10	3.15	3.30	3.35	3.50	3.35	3.35H	3.35	3.30H	3.35	3.40	3.20	3.20	3.50	3.40	3.00	2.95	2.80	2.80	2.95	3.15
19	2.85	3.00	3.00	3.00	3.15	2.80	3.40	3.40	3.40H	3.20	3.35	3.25	3.40	3.45	3.30	3.35	3.45	3.60	3.25	3.00	3.15	3.00	2.75	U2.80SF
20	2.95	2.90	2.95	3.20	3.45	3.25	3.45	3.40	3.50	3.35	3.25	3.30	3.30	3.40	3.30	3.45	3.40	3.55	3.40	2.85	3.15	2.80	U2.80S	3.00
21	U2.90S	I2.85SF	I2.95SF	3.05	3.00	3.30	3.20	3.55	3.55	3.40	3.30	3.20	I3.50C	I3.45C	3.40	3.30	3.45	3.40	3.05	3.10	3.00	3.05	2.80	2.75
22	2.90	2.95	2.80	2.85	2.95	3.30	3.40	3.50	3.30	3.35	3.30	3.05H	3.25	3.40	3.25	3.35	3.45	3.35	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	3.30	3.35	3.35	3.30	3.20	3.45	3.45	3.20	I3.20A	3.20	2.80	I3.00A	2.75
24	I2.75A	2.95	2.95	2.85F	U2.80SF	2.90	U3.20S	3.40	3.30	3.50	I3.35A	3.45	3.35	3.35	3.35	3.30	3.50	3.15	A	A	A	U2.90S	U2.85S	I2.85FS
25	2.85F	U2.70SF	3.10	I3.00SF	2.90	2.80	2.90	3.30	3.60H	3.30	3.25	3.35	I3.35A	3.40	3.40	3.35	3.35	3.50	3.10	3.10	3.00	2.95	U2.80S	2.75
26	3.00	2.80	FS	FS	F	F	3.05	3.20	3.40	3.15	3.30	3.45	3.55	3.35	3.40	3.40	3.45	3.25	3.00	2.90	3.05	3.00	U2.65S	I2.90S
27	2.75	2.85	2.70	2.90	2.80	3.05	2.90	3.15	3.15	3.20	3.45	3.25	3.35	3.30	3.40	3.30	3.35	3.10	I3.10C	3.20	3.15	2.90	2.80	3.00
28	I2.80SF	I2.80F	U2.90F	U2.95SF	3.00	3.15	3.20	3.45	3.40	3.30	3.40	I3.40C	I3.30C	3.40	3.55	3.35	3.50	3.35	I3.30A	I3.15A	3.10	U2.90S	U2.90SF	U2.85FS
29	I2.90FS	FS	FS	FS	F	FS	3.35	3.40	3.45	I3.40C	3.35	C	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	3.65H	3.35	3.45	3.50	3.35	3.70	3.35	3.30	3.25	3.15	3.25	3.05	3.10
31	SF	SF	SF	I2.95SF	U3.10S	U3.60S	3.35	3.65	3.50	3.55	3.50	3.35	3.40	3.55	3.40	3.45	I3.55S	3.40	3.25	3.10	3.25	3.05	3.05	3.05
No.	26	25	24	25	25	25	29	29	29	28	28	29	29	29	29	29	29	30	28	28	26	27	26	27
Median	2.85	2.90	2.90	3.00	3.00	3.10	3.35	3.45	3.40	3.35	3.30	3.30	3.35	3.35	3.30	3.35	3.40	3.35	3.20	3.10	3.10	2.95	2.90	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

Oct. 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								3.35	3.40	3.65"	3.65	3.65	3.65	3.65										
2									A	A	3.55	E3.45A	3.50	3.55	3.55	3.65								
3									A	3.65	3.80	E.75A	3.70	3.70	E3.85A									
4										A	3.85	3.75	3.90	3.60	A	A								
5									A	A	A	A	3.75	3.90	A									
6											3.85	3.80		3.65	3.70									
7															A	A								
8											U3.85L	3.75	A	A										
9										A		A	L	A	A									
10											A	A		A										
11													4.05											
12										4.05	3.95	A	A	LA	A	A								
13												3.85												
14										C	C	C	C	C	C	C								
15												U3.95L												
16										A	A	A	A	A										
17										A														
18																								
19										A	3.80L	3.90	A	L	A	A								
20										U3.85L	E4.00L	U3.90L	A	A	A	A								
21										LA	A	A												
22										L	A	L	L	3.75										
23								C	C	C	C	C	L	A										
24										A	A	A	A	A	L									
25											A	U3.95L	E3.95A	U4.00L										
26									L	3.95	E4.00A	E4.00A	U4.00A	L										
27									L	RA	A	A	E3.80A	E3.95A	A									
28										A	A	C	C	A										
29											A	U3.75L	C	C	C	C								
30								C	C	C	C		L											
31										3.95	E3.95L	A	A	L	A	A								
No.								1	1	6	11	13	9	9	3	1								
Median								3.35	3.40	3.90	3.85	U3.80	3.80	3.70	3.70	3.65								

M(3000)F1 Sweep 1.0 Mc to 18.0 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

W 8

16

IONOSPHERIC DATA

Oct. 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								425	530	350	370	340	400L	330										
2									A	A	450	375	400	365	325	310								
3									A	270	275	290	280	300	280									
4										270	285	270	260	310	275	270								
5									A	245	I260A	265	265	255	260									
6											260	260		270	275									
7															250	A								
8											260	255	I265A	260										
9										260		255	260	260	250									
10											255	I270A		255										
11													270											
12										255	255	260	260	260	I260A	260								
13												245												
14										C	C	C	C	C	C	C								
15												275												
16										A	250	255	255	250										
17										250														
18																								
19										265	245	250	245	L	250	250								
20										260	I250L	260	255	245	250	245								
21										250	I250A	I250A												
22										260	I255A	245H	255	250										
23								C	C	C	C	A	I240L	250										
24										A	A	A	255	250	L									
25											A	230	I230A	235										
26									L	230	250	240	250	L										
27									270	240	I255A	260	250	230	245									
28										250	255	I250C	I250C	245										
29											240	235	C	C	C	C								
30								C	C	C	C		240											
31										240	240	250	245	230	250	240								
No.								1	2	15	19	23	21	19	12	6								
Median								425	400	255	255	255	255	255	255	255								

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

Oct. 1962 | h'F | 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	300	300	300	290	310	370	275	310	250	240H	225	230	205	230	240H	235H	260	260	270	290	3300A	3300A	300	345
2	310	265	430	320	340	325	295	260	1245A	1250A	260	1250A	260	245	245	250	260	250	1270A	270	305	335	330	315
3	350	330	300	250	315	300	255	245	1235A	235	220	1210A	210	225	1250A	260H	240	235	1270A	305	A	A	A	300
4	300	300	310	300	295	250	250	240	230H	225	210	205	225	210	1230A	1240A	1240A	245	275	300A	300A	300	310	1330A
5	1325A	1315A	290	280	310	300	240	250	1245A	A	A	A	210	220	1235A	200H	255	240	235	250	255	270	275	310
6	315	320	300	290	250	300	225	225H	235H	235H	215	215	225H	235	225	265A	240	1230A	235	270A	290	E330S	335	335
7	345	350	310	260	240	230	225	225	220H	240	225H	220	215	260A	A	A	A	A	A	250	250	260	285	300
8	315	300	310	295	290	260	215	230	220	245H	225	210	1215A	1230A	245H	245	1245A	1250A	270	305	310	290	285	250
9	270	310	320	300	260	270	245	245	1230A	1240A	230H	1230A	230	1230A	1235A	250H	250	230	250	250	255	260	310	335
10	330	1340A	350	285	230	310	235	230	245A	1245A	1220A	1230A	240	1250A	220H	1245A	245	225	230	C 260 A	E245A	305	310	345
11	275	295	305	320	305	300	1235A	240	225	240	205H	220H	215	230H	235	250H	250	220	235	1255A	1270A	340	300	E305A
12	1300A	1265A	300	300	300	260	225	235	205H	235	220	A	A	A	A	A	235	230	240	270	290	270	270	270
13	290	310	300	275	260	255	215	220	225	245H	220H	215	210H	240	230H	240	240	1220A	235	260	285	245	285A	370A
14	310	305	300A	260	275	270	240	230	250H	C	C	C	C	C	C	C	C	225	250	270	280	290	260	310
15	310	300	300	245	285	285	240	245	245	225H	225	205	230H	210H	240	245	1240C	1245A	1260A	1270A	290	315	1325A	335
16	320	325	305	300	265	250	240	235	250H	A	A	A	A	A	235	240H	240	240	1255A	1270A	285	335	355	345
17	335	305	270	290	305	300	260	245	235H	1235A	250A	1220A	245H	245A	1245A	250	1245A	245A	245	A	A	A	A	305
18	315	310	1315A	285	280	250	230	235	240	235H	230H	240H	225H	230	1240A	250	220	220	260	305	310	315	300	260
19	360	290	295	255	285	300	245	230	240H	1230A	215	220	1235A	250	1250A	1245A	1230A	220A	240	275	260	300	315	310
20	310	325	300	255	240	260	225	240	235	230	245	240	A	A	A	A	225	215	220	300	260	300	320	300
21	1300A	315	275	220	260	235	240	220	220	1225A	1225A	1220A	1230C	1240C	250	250	220	225	260	280	280	250	315	350
22	300	305	350	305	300	250	235	220	240H	240	1245A	220	250	215	235	250	230	210	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	A	230	1235A	235	260	225	210	1255A	1265A	260	325	1330A	350
24	1350A	300	275	300	330	325	220	235	230	A	A	A	A	A	245	230A	A	A	A	A	A	1315A	1325A	310
25	310	300	1290A	275	1305A	290	285	240	230H	245	1240A	225	1230A	230	230	230	230	210	250	255	280	270	300	310
26	285	290	300	300	295	300	260	240	240	220	1230A	1235A	1230A	230	240	230	220	1230A	280	290	270	270	350	330
27	340	310	340	300	310	275	305	260	270	A	A	A	1210A	1215A	1240A	1235A	230	240	1245C	260	265	300	310	315A
28	310	315	300	260	250	260	255	230	225H	A	A	C	C	A	235	250	225	220	1260A	1295A	265	300	310	305
29	265	290	260	270	280	250	235	230	240	1240C	1215A	200	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	200H	205	230	240	230	220	1230A	240	260	260	255	300	275
31	315	300	260	260	260	220	260	225	225	230	240	1220A	1225A	230	A	A	A	240	250	285	280	270	300	300
No.	29	29	29	29	29	29	29	29	29	23	23	23	24	24	25	25	26	28	27	27	26	26	27	29
Median	310	305	300	285	285	270	240	235	235	235	225	220	225	230	240	245	240	230	250	270	275	300	310	310

h'F

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Oct. 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	105	E	E	E	E	S	130	125	120	115	110	G	105	105	105	105	S	E	135	120	115	115	115
2	E	E	E	E	E	E	S	G	115	115	115	110	G	110	110	110	S	135	120	115	115	E	110	110
3	110	110	110	E	E	E	S	S	110	110	105	105	105	105	105	105	110	110	115	115	110	110	110	105
4	E	E	E	105	E	E	S	S	G	115	G	G	115	G	115	110	110	110	110	110	110	110	110	110
5	110	110	110	110	110	110	110	150	115	120	105	105	110	110	105	110	110	110	110	110	E	115	E	E
6	110	110	110	110	110	110	S	S	G	G	G	G	G	G	G	105	105	105	110	110	110	S	E	110
7	110	105	105	105	105	E	S	S	G	G	G	G	105	105	105	105	105	105	105	105	E	E	E	E
8	110	105	105	E	E	E	S	S	G	G	G	G	110	110	125	160	135	110	110	E	110	E	E	110
9	110	110	110	110	E	E	165	160	125	120	120	120	110	110	110	115	S	S	E	E	E	E	E	E
10	E	110	110	E	125	120	S	S	125	120	110	110	105	110	110	105	145	130	115	110	110	110	E	E
11	E	E	E	115	120	115	110	120	110	125	G	G	G	G	G	G	125	125	115	115	115	115	115	110
12	105	110	E	110	120	E	S	S	G	115	115	115	110	110	110	110	105	130	E	115	110	110	110	110
13	E	105	E	E	E	105	S	G	G	G	G	105	105	105	105	G	125	115	110	E	110	110	110	105
14	E	110	110	110	110	110	S	150	125	C	C	C	C	C	C	C	C	S	E	E	E	E	E	E
15	E	E	135	E	E	E	S	S	140	130	120	G	G	115	G	140	C	115	105	105	125	130	115	115
16	110	110	E	E	E	E	S	B	B	120	115	110	110	110	110	110	S	120	115	115	E	E	120	110
17	115	110	110	110	105	E	S	S	130	115	110	110	110	105	105	105	105	105	120	110	110	110	110	E
18	E	E	110	105	105	105	105	G	G	115	115	G	G	105	105	G	S	S	E	E	110	E	E	E
19	E	E	E	E	E	E	S	S	B	120	G	110	110	105	105	105	105	105	105	E	105	E	E	E
20	E	E	E	105	105	E	S	G	150	G	120	115	110	110	110	110	115	115	E	E	E	E	E	E
21	110	110	105	E	E	E	S	G	G	120	110	105	C	C	105	105	B	S	E	E	E	E	115	110
22	E	110	E	115	115	E	S	S	150	120	110	110	105	G	105	105	140	125	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	C	120	115	110	110	115	115	115	120	120	110	110	110	110
24	110	110	110	125	110	110	S	160	140	125	115	110	110	110	110	110	110	110	110	110	110	110	110	115
25	115	110	110	110	125	E	S	170	135	130	110	110	105	110	110	110	S	S	E	E	E	E	E	E
26	E	E	E	E	E	E	S	S	150	125	120	115	110	115	110	120	S	130	130	E	115	E	E	115
27	E	E	E	E	125	E	150	130	130	120	110	110	110	110	110	G	S	120	C	E	E	E	E	115
28	E	E	110	110	110	110	110	160	130	115	110	C	C	110	G	165	145	125	110	110	115	110	110	E
29	110	110	E	E	110	105	125	115	110	C	110	105	C	C	C	C	C	C	C	C	C	C	C	C
30	C	C	C	C	C	C	C	C	C	C	C	G	B	B	B	G	125	120	E	E	E	E	E	E
31	E	E	E	E	E	E	S	135	125	125	115	105	105	105	105	105	105	105	E	E	115	110	110	110
No.	13	18	15	15	16	10	7	11	19	22	21	22	20	23	24	24	20	24	18	16	19	14	15	17
Median	110	110	110	110	110	110	110	150	125	120	115	110	110	110	110	110	110	115	110	110	110	110	110	110

h'Es

Sweep 10 Mc to 180 Mc in 1 ~~sec~~ min in automatic operation.

The Radio Research Laboratories, Japan.

W 11

19

IONOSPHERIC DATA

Oct. 1962 | **Types of 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		F						c	c	c	c	e		e	e	e	e			f	f2	f	f	f
2									e	c3	c	c		e	e2	e		h	f4	f2	f2		f2	f
3	f	f	f						e2	e	e	e2	e2	e	e2	e2	e	e	f3	f2	f3	f3	f3	f
4				f2						c2			e		e	e2	e2	e	f	f2	f2	f	f	f4
5	f3	f3	f2	f2	f3	f2	e2	h	c.e	c.e	e2	e	e	e	e2	e	e	e	f	f		f		
6	f	f	f	f	f	f										e2	e2	e2	f	f	f			f
7	f	f3	f	f	f								e	e	e2	e2	e5	e3	f2	f				
8	f	f	f2										e	e	e	h.e	h	e2	f		f			f
9	f2	f2	f	f			h	h	c	c2	c	c	c	c2	e	e2								
10		f4	f		f	f			c2	c	c2	e3	e	e2	e	e2	h	c	f	f2	f2	f2		
11				f2	f2	f	c3	e	e	c							c	c	f	f3	f2	f2	f2	f3
12	f2	f5		f2	f					c2	c	c	c2	c	e2	e2	e	c		f2	f2	f2	f2	f
13		f2				f						e	e	e	e		c	c2	f		f	f	f2	f2
14		f	f2	f2	f2	f2		h	c															
15			f						h	c	c			e		c		c2.e2	f	f	f	f	f2	f2
16	f	f3								c	c	c	e	e	e	e		c	f2	f2			f	f2
17	f	f	f	f	f2				c	c2	e2	e2	e	e2	e3	e2	e3	e	f	f	f2	f5	f2	
18			f2	f	f2	f	e			e	c	e		e	e2						f			
19										c		e	e	e	e	e3	e2	e2	f		f			
20				f	f				h		c	c	e2	e	e2	e3	e	e						
21	f3	f2	f							c	e	e2			e	e							f	f
22		f		f	f				h	c	c2	c	e2		e	e2	h	c						
23												c	e	e2	e	e	e	f	f2	f2	f	f	f2	f2
24	f3	f2	f	f	f2	f2		h	c	c	c3	c2	e2	e2	e	e2	e3	e2	f2	f3	f3	f2	f2	f
25	f	f	f	f	f2			h	c	c	c4	e	e3	e	e2	e								
26									h	c	c	c	c	c	e	c		c2	f		f			f
27					f		h	c	c	c	e3	e	e	e2	e			c						f
28			f	f	f	f	c	h	c	e	e2			e2		h	h	c	f4	f3	f	f	f2	
29	f	f			f	f	c	c	c		e	e												
30																	c	c						
31								c	c	c	e	e2	e2	e2	e2	e2	e3	e			f	f	f	f
No.																								
Median																								

Types of Es | Sweep 1.0 Mc to 18.0 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

W 12

20

IONOSPHERIC DATA

Oct. 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	4.0 S	3.7	F	F	3.6 F	3.2	3.6	4.3	5.2	5.9	I 5.6 R	5.6	5.5	I 5.8 A	I 6.0 A	6.0	5.9	5.0 R	5.1	I 5.4 R	I 5.3 R	4.4 S	I 4.3 F S	3.9 S
2	3.4	3.3	3.1	2.6	2.7	2.9	4.1	R	R	R S	6.0 R I	6.0 C	6.1	6.9	6.2	6.6	6.8	6.0	A	A	A	A	A	F S
3	3.8 F S	I 3.9 A	3.8	3.5	I 2.8 A	2.7 S	4.5 R	6.2 R S	5.8	7.2	7.7	7.6	6.7	6.2	7.0	6.3	6.8	6.5	5.6	4.1 S	4.1 R S	3.8 S	A	C
4	C	3.5 F	I 3.4 F	3.5 F	I 3.3 R	3.0	I 4.8 R I	6.8 R S	7.0	7.4	7.2	7.2	8.0	7.4	7.3	6.6	7.0	5.8	4.4	4.3	4.8	4.3	4.1 R S	3.7
5	3.6	3.7	3.8	3.9	3.6 F	3.8	5.3 S	6.8	7.4	8.6	8.2	8.6 R	7.1	7.1	6.4	6.3	7.4	7.5	6.2	5.1	4.9	4.4	I 4.0 A	4.0
6	3.9	3.9 F	4.1	4.1	4.6	3.1	5.2 R	6.7	6.2	8.1	7.0	7.8	8.1	7.4	9.1	8.2	I 9.5 R	8.0	5.6	4.2	3.5	3.4	3.4 S	I 3.8 F S
7	3.9 S I	3.7 R S	I 4.0 F S	3.9	4.4	2.8	5.0 R	6.7 R	7.4 S	8.4 R	7.7	8.4	9.1	7.7	6.7	7.1	7.9	8.6	7.3 S	I 5.6 A	A	R S	F S	I 4.4 R S
8	4.1 S	4.3 S	4.2	4.3 F	4.1	4.4	6.1	7.1 S	6.1	6.9	8.2	9.4	8.1	9.1	8.1	I 9.0 R	7.9	6.1	5.4	5.7	I 5.7 R	5.8	5.5	5.6
9	4.1	3.6	3.9 F	I 4.1 F	I 4.3 S	4.6	I 5.9 R S	6.6 R	8.1	7.9	8.0	I 9.2 R	U 10.0 R	9.6	8.1	8.0	I 8.6 R S	7.8	6.7	6.7 R S	I 5.5 S I	5.0 S R	F S	F S
10	F	F S	4.4 S	4.1	4.1 S	3.6 S	5.4	7.1	7.2	6.9	8.6 R	8.9	9.7 R	9.4	7.5	8.1	8.8 R S	I 8.4 R	5.9	4.6	A	A	A	A
11	A	A	I 3.9 A	3.7	4.0	3.9	6.2 S	6.9	7.5	7.2	8.7 S	9.5	8.2	9.0	8.2	8.0	8.3	7.9	I 7.1 R I	5.5 R	4.3	I 8.9 R S	4.1	4.0 R
12	4.1	4.1 R S	3.7 S I	3.8 F	4.1	4.3	J 6.2 R	7.5	I 8.1 R	7.5	8.6	8.2	9.7	8.3	8.1	6.9	7.8	6.5	I 5.6 A U	5.1 R	5.1	5.1	5.1	I 4.8 R
13	4.3	4.5	4.8	4.9	I 4.9 F S	I 4.2 R F	I 5.6 R	6.8	7.8	8.0	I 9.0 S A	8.6	8.9 R	7.4 H	7.7	7.7	8.3	7.4	5.4	5.2 R S	4.9 S I	4.7 F S	I 4.6 F S	4.5 S
14	4.6 S I	I 4.8 F S	4.9 S	4.6	4.5	4.5	6.1	7.6	I 8.9 R S	I 9.3 R	9.0	9.0	I 9.4 R	8.5	8.5	7.3	7.8	J 6.8 R	R S	A	A	5.0	5.1	4.3
15	I 4.4 R S	I 4.5 A	4.6	I 4.6 A	4.3	4.0	J 4.9 R	7.0	I 8.6 R S	I 8.4 R	I 8.0 R I	8.2 R	J 8.8 R I	9.6 R	9.2	7.8	7.8	U 6.3 R	4.8	I 4.6 R S	I 4.5 A I	4.3 R S	I 4.5 R S	4.5 R S
16	4.6	4.5	4.5	I 4.5 R S	4.5	4.0	I 4.6 R	6.3 R	7.7	7.5	8.3	9.0	9.3	8.3	7.3	7.5	7.8	7.0	5.3	I 4.6 R S	4.4	4.1 R	4.0	4.0
17	I 3.8 A	4.3	3.6	3.5	3.4	3.3	I 4.6 R	6.8	U 8.3 R	7.8	8.0	I 8.6 R	9.7	U 8.8 R	7.6	7.5	7.8	7.4	6.5	5.4	4.3	4.3 R	3.8	3.7
18	I 3.8 R S	3.8	4.0	3.8	3.6	3.6	4.6 R I	5.8 R S	7.0	8.5	U 9.4 R	9.5	I 9.1 R S	8.0	7.0	8.7	8.0	5.4	4.0 R	I 4.3 R I	I 4.3 R	I 4.4 R S	4.5 R S	4.5
19	4.0	4.1	4.0	3.8	3.6	3.6	I 4.9 R U	6.7 R	8.2	8.2	9.1	9.6	9.5	8.6	7.9	7.6	8.3	6.2	4.5	4.5	4.5 R	4.4 R	4.3 R	4.5
20	5.0 R	4.8	4.7	4.6 R	4.5 R	4.3 R I	5.3 R	6.6 R	8.3 R	11.2	10.8 R	9.3	9.2	9.1 R	8.6	9.1	8.5 R	6.6	A	A	4.5	4.1	4.1	I 4.2 F
21	4.1	4.2	4.4	4.4	3.6	2.8	4.8 R	6.1	7.2	I 8.8 R	9.7	10.0 R	I 9.8 R	9.7	9.3	8.5	9.1	6.4	3.8	3.7	I 4.1 C	4.4 R	4.5 R	4.0
22	4.3 R	4.5	4.6 R	4.5	4.0 R I	5.4 R	4.8 R I	6.3 R	7.9	7.8	10.0	I 9.8 R	10.0 R	11.2 R	J 8.8 R	8.5	I 7.8 R	7.1 R	A	A	A	4.0 R	I 4.3 R S	4.1 R
23	4.1	U 4.6 R	3.6	3.5	U 3.3 R I	2.7 R	I 4.2 R I	7.0 R S	I 8.8 R I	11.0 R	13.0	11.3 R	9.2	8.0 R I	8.7 R U	8.8 R	I 8.3 R I	7.3 R I	5.0 A U	4.2 R	I 4.0 R I	3.6 R	3.6 R	4.0 R
24	I 3.7 R S	4.0	3.5 R I	3.6 R F	3.6 R	3.5	I 5.0 R I	6.1 R	9.2	U 9.8 R	9.5 R	9.1	8.3	I 9.6 R I	9.2 R I	8.2 R S	8.0	6.5	4.5	I 4.4 R S	R	C	C	C
25	3.8 S	4.2 R	4.0	3.5	3.1	3.4	4.3 R	7.0 R I	9.3 R	R	R	R	R	R	U 8.3 R	7.8	8.0	I 7.2 A I	6.0 A U	5.3 R	4.3 R	4.1	U 4.3 R I	I 4.3 R S
26	4.3 R	4.6 R	4.5	4.5 R I	4.6 R	4.1 R I	5.3 R	7.6 R I	I 11.8 R I	I 11.3 R I	I 11.5 R U	I 11.8 R	U 9.7 R	8.3 R I	9.0 R	9.1	7.4 R I	5.7 R U	4.3 R	R	I 4.8 R	4.3	4.4 R	4.4 R
27	U 4.1 R	4.1	3.9	3.8	I 3.6 R	3.6	3.9	7.7	R	C	R	R	R	R	9.1	8.5	7.5	6.2 R	5.1	I 4.7 R U	U 4.6 R	3.9	4.0	4.3
28	R S	F	R	4.0	3.7	2.6 R	4.3 R I	6.4 C	8.3	I 9.0 R	8.2	I 9.4 R I	I 9.5 R I	9.3 R	8.2 R	7.1 R I	8.0 C	6.5 R	4.3	3.3 R	3.5 R	3.7	3.7 F	4.0
29	4.0	3.5	3.3	U 3.6 R	U 3.8 R	3.7 R I	J 4.3 R I	6.6 R	8.0	J 8.8 R	8.8 R I	8.7 R	I 8.6 R U	8.8 R	7.5	7.5	7.3	R	R	3.8	I 3.8 R	3.7 R	4.2	4.0
30	3.8	3.7	4.0	3.7	I 3.9 F S	I 4.0 F R I	5.3 R I	7.1 C	8.1	8.8 R	8.8 R I	8.8 R	J 8.8 R	7.5	7.2	8.2	7.3	I 5.3 R	4.5 R I	4.6 R S	4.5 R	4.2 R	U 3.8 R	3.7
31	3.3 R	3.8	3.8	3.8	4.4 R	2.6 S	3.8	6.0 R	8.1	8.8 R I	8.4 R I	9.0 R	8.0 R	7.4	7.3	U 8.5 R	8.0	4.5 R	3.7	3.8 R	4.1 R	3.9 R	3.7	4.0 R
No.	27	28	29	30	31	31	31	30	29	28	29	29	29	29	31	31	31	30	26	26	25	27	25	26
Median	4.0	4.1	4.0	3.8	3.9	3.6	4.9	6.8	8.0	8.3	8.6	9.0	9.1	8.3	8.1	7.8	7.9	6.5	5.2	4.6	4.5	4.3	4.2	4.0
U. Q.	4.3	4.5	4.4	4.4	4.4	4.1	5.3	7.0	8.3	8.8	9.2	9.4	9.6	9.2	8.7	8.5	8.3	7.4	5.9	5.3	4.8	4.4	4.5	4.4
L. Q.	3.8	3.7	3.8	3.6	3.6	3.0	4.3	6.3	7.2	7.5	8.0	8.3	8.1	7.4	7.3	7.1	7.4	6.1	4.5	4.2	4.1	3.9	3.9	4.0
Q. R.	0.5	0.8	0.6	0.8	0.8	1.1	1.0	0.7	1.1	1.3	1.2	1.1	1.5	1.8	1.4	1.4	0.9	1.3	1.4	1.1	0.7	0.5	0.6	0.4

foF2

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

The Radio Research Laboratories, Japan.

A 1

21

IONOSPHERIC DATA

Oct. 1962 | foF1 | 135° E Mean Time (G.M.T. + 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

22

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	4.0	4.2	I 4.3 AI	4.5 RS	A	A	A	L								
2								3.5 L	A	A	A	C	L	R	A	L								
3								L	L	R	4.5	4.5	U 4.5 RI	4.6 L	4.5 L	L	L							
4										L	I 4.6 AI	4.6 AI	4.6 AI	4.6 L	U 4.6 R	L								
5								A	L	L	L	I 4.5 L	4.6 L	4.5 LI	4.0 L	L								
6									I 3.9 L	4.1	I 4.1 LI	I 4.2 LH	I 4.6 LI	4.5 R	L	L								
7										4.4 LI	I 4.6 LI	I 4.5 L	4.4 LH	L	L	A	A							
8									L	L	L	L	L	L	L	L								
9										A	A	L	L	L	A	A								
10									L	L	L H	A	L	A	L									
11									L	L	L	L H	U 4.5 R	L	L	L	A							
12									L	L	L H	R	R	L	L	L								
13								L	L	L	4.6 L	L	L H	L	L H	L								
14									L	4.3	R	R	S	L H	L	L								
15									L	R	L	R	4.8 L	L	L	L								
16									L	L	L	4.5 L	U 4.5 R	L	L	L								
17								L	L	L H	4.3 L	R	L	L	L	L								
18								L	L	L	C	I 4.5 L	L	L	L	L								
19									L	L	R	L	L	L	L	L								
20									L	L	L	L	L	L	A	A	A							
21										L	L	L	L	L	L	L								
22									L	L	A	L	L	L	L	L								
23									L	A	L	A	L	R	L	L								
24									L			R	L	A	A	L								
25								L	L		R	L	L	L	A	L								
26									R	L	L	L	L	L	L									
27										C	A	A	R	R	L	L								
28									L	L	L	L	A	R	L	L	C							
29										A	A	A	L	R	L	L								
30									L	L	L	L	L	L	L									
31									L	R	L	R	L	R	A	A								
No.								2	2	4	7	8	8	4	3									
Median								3.5	U 4.0	4.2	U 4.5	U 4.5	U 4.6	U 4.6	U 4.5									

foF1

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

The Radio Research Laboratories, Japan.

A 2

IONOSPHERIC DATA

Oct. 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							A	I230A	A	A	A	A	A	A	A	A	A	A						
2							B	A	A	A	A	C	A	A	A	270	A	B						
3							A	245	A	A	R	R	A	A	A	290	A							
4									A	A	R	A	A	R	A	A	A							
5								A	A	A	A	A	330R	325	315	300	245	B						
6							B	225	275	3.10	R	R	340	A	R	295	R	A						
7							B	A	A	A	R	R	R	325	R	A	A	A						
8							B	I240A	A	A	R	R	B	325	305	275	235	B						
9							S	R	275	A	A	R	R	A	A	A	A	B						
10							B	I240S	R	R	R	A	A	A	A	A	A	B						
11							B	A	R	R	R	R	A	R	R	A	A							
12								250	A	A	A	R	R	R	A	280	A							
13								250	290	R	A	B	I340RI325RI295R			R	A	S						
14								R	A	330	I325RI335A		I345S	360	A	A	R							
15									R	I305A	R	R	A	A	R	A	B							
16								I240RI270RI300S		A	A		A	320	320R	280	A							
17								230	I275A	320R	320	A	A	A	310	A	B							
18							B	230	A	A	R	320R	I325RI325BI295A			280	A	B						
19								I245RI	280AI	295RI	300R	R	R	310RI	300AI	270A	R							
20							B	230	270R	290	A	A	A	A	A	A	A							
21							B	A	A	I300A	310RI	315R	R	A	A	A	B							
22								A	A	320RI	305AI	305R	320RI	330RI	300R	A	A							
23								A	A	A	I300RI	310R	I315R	A	A	A	A							
24							B	A	A	A	A	R	A	A	A	A	A							
25								220	A	A	R	A	A	A	A	A	A							
26							B	A	A	A	A	R	A	A	A	A	R							
27								B	A	C	R	A	R	R	A	A								
28								C	A	A	R	R	R	R	A	A	C							
29								A	A	A	A	A	A	A	A	I265A	A	B						
30								C	260R	300R	A	A	R	290R	R	A	A	B						
31								A	240R	A	A	R	A	A	A	A	A							
No.								13	9	10	6	5	7	10	8	10	2							
Median								240	275	3.00	U3.10	U3.15	U330	325	U300	280	240							

foE

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

The Radio Research Laboratories, Japan.

A 3

23

IONOSPHERIC DATA

Oct. 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	2.6	2.0	1.9	E	E	E	2.1	2.9	3.5	4.2	4.9	3.6	5.9	7.8	6.4	3.8	3.4	2.5	2.5	3.1	3.6	2.9	2.9	2.3
2	2.0	E	E	E	E	2.1	G	2.6	3.9	4.1	4.5	C	3.7	4.0	5.0	G	3.2	4.6	6.4	8.3	7.8	6.2	5.3	E
3	2.4	3.9	2.5	2.8	2.9	2.6	2.5	2.7	3.5	4.0	G	3.3	3.0	3.0	3.3	2.4[q]	2.5	2.6	3.6	4.1[Y]	6.1	7.5	6.3	C
4	C	3.5	2.0	2.5	2.8	2.5	2.9	4.1	3.8	3.9	4.0	6.0	7.0	4.1	3.7	7.6	6.6	3.1	3.1	2.4	2.5	2.1	E	5.3[S]
5	3.9	4.2	3.3	2.3	3.0	3.3	2.5	3.1	3.9	3.8	7.4	3.7	G	G	G	G	G	2.1	E	E	2.0	2.6	4.2	3.2
6	2.5	2.2	E	E	E	E	G	G	G	G	G	G	G	3.4	G	G	G	2.1	2.5	3.0	2.9	E	E	E
7	E	2.4	E	E	2.4	2.1	G	2.5	3.5	3.3	G	G	G	G	G	3.5	4.3	5.3	6.7	5.3	3.8	2.8	2.2	E
8	E	E	E	2.5	2.5	2.0	G	2.7	3.1	6.4	G	G	B	G	G	G	2.7	G	E	2.1	E	2.3	2.1	S
9	E	E	2.1	2.5	E	2.3	S	3.0	3.9	5.3	6.1	G	3.6	3.5	5.2	6.1	3.8	2.2	2.5	E	2.1	E	E	E
10	E	E	E	E	E	E	G	S	G	G	G	5.5	4.2	5.1	3.8	3.7	4.3	G	E	E	6.3	6.1	6.5	6.1
11	6.1	5.1	4.3	E	E	2.4	3.6	3.2	G	G	G	G	2.3	G	G	3.7	3.1	3.7	2.5	4.0	2.5[F]	E	E	E
12	E	E	2.9	E	3.5	2.5	E	G	3.1	3.5	3.4	G	G	G	3.3	G	2.4	2.4	6.8	3.3	4.5	3.5	3.3	6.0
13	2.1	2.3	2.3	E	E	E	E	G	G	3.1	3.1	B	G	G	G	3.0	3.1	2.8	2.5	E	3.2	2.4	E	E
14	2.3	E	E	E	2.5	E	E	G	3.2	3.7	G	3.4	S	G	3.8	3.6	3.5	4.1	3.0	7.1	7.5	3.0	3.1	E
15	E	3.8	3.3	3.9	2.7	E	2.0	3.2	3.2	3.7	3.8	3.6	3.5	4.0	2.8[q]	3.4	2.6	2.8	2.8	E	6.0[S]	2.6	E	E
16	E	E	E	E	E	E	E	2.3	3.1	3.4	3.5	3.0	3.3	G	G	G	2.6	E	E	E	E	E	2.9	4.8
17	4.2	3.8	2.6	E	E	E	E	2.9	3.3	3.3	3.7	3.6	3.1	4.0	3.0[q]	2.9	2.4	2.5	2.8	2.1	E	E	E	E
18	6.3	E	2.0	E	E	E	G	2.8	3.2	3.5	G	G	G	B	3.2	G	3.0	3.0	E	E	E	E	E	E
19	E	E	E	E	E	E	E	G	3.3	3.2	3.4	3.5	G	G	3.3	3.3	2.5	E	E	E	3.0	E	E	E
20	E	2.6	2.5	2.6	1.8	2.4	2.4	2.5	G	3.4	4.3	3.7	3.7	6.8	7.3	8.5	5.3	3.7	5.4	4.0	3.0	5.9[Y]	3.5	2.3
21	E	E	E	E	E	2.4	2.2	2.7	3.4	3.7	4.2	3.7	3.4	3.5	3.5	3.3	2.4	E	E	2.0	C	2.0	2.4	1.9
22	2.5	E	E	E	E	E	E	3.5	3.3	3.2	5.6	G	G	G	G	3.3	4.4	4.7	6.5	5.0	3.0[S]	2.5	E	E
23	E	E	E	E	E	S	E	2.9	3.7	4.4	4.3	7.1	4.0	6.1	3.6	3.7	3.1	4.3	5.7	2.3[S]	E	2.5[S]	2.5[S]	2.5[S]
24	3.7[S]	E	E	E	E	E	G	3.1	3.7	5.5	5.8	7.0	4.4	7.2	7.7	3.8	6.5[S]	3.7	2.6	3.0	5.1	C	C	C
25	3.5	2.1	2.5	2.3	E	E	E	3.0	3.1	4.2	4.2	4.2	4.2	3.5	6.9	6.8	7.4	6.6	6.1	5.0	E	E	E	2.1
26	2.8	3.0	2.5	2.3	E	2.9	2.6	2.9	3.3	3.4	3.7	3.5	3.8	3.5	3.2	3.3	2.3	E	2.5	2.6	2.9	3.3	2.3	2.3
27	E	E	2.1	2.8	2.3	E	2.5	3.3	3.5	C	6.5	7.3	G	G	3.1	3.0	3.1	2.9	2.1	2.8	2.5	E	2.5	E
28	2.3	E	E	E	E	E	E	C	3.3	3.2	3.4	G	7.1	3.8	3.5	3.2	C	2.7	2.3	E	3.1	7.0	2.8	2.9
29	2.9	2.4	3.0	2.5	E	E	2.5	6.2[S]	6.5[S]	6.1	4.8	8.1	3.5	3.5	3.2	3.3	2.8	3.7	2.5	2.5	1.8	E	3.0	3.0
30	E	E	1.8	E	2.3	E	E	C	2.5[q]	G	3.4	3.4	G	G	G	3.2	6.0	3.3	2.9	E	2.4	2.3	E	1.9
31	2.5	2.0	2.0	2.2	1.8[S]	2.3	2.0	2.5	G	3.1	3.6	G	3.5	3.4	3.7	3.9	2.8	3.2	E	E	E	E	2.5	2.9
No.	30	31	31	31	31	30	30	28	31	30	31	29	29	30	31	31	30	31	31	31	30	30	30	28
Median	2.2	E	2.0	E	E	E	G	2.8	3.3	3.5	3.7	3.5	3.4	3.4	3.3	3.3	3.1	2.8	2.5	2.4	2.9	2.4	2.4	1.9
U.Q.	2.8	2.6	2.5	2.5	2.4	2.4	2.4	3.1	3.5	4.1	4.5	4.0	3.9	4.0	3.8	3.7	4.3	3.7	3.6	4.0	3.8	3.0	3.0	2.9
L.Q.	E	E	E	E	E	E	E	2.5	3.1	3.2	G	G	G	G	G	2.4	2.5	2.1	E	E	1.8	E	E	E
Q.R.								0.6	0.4	0.9						1.3	1.8	1.6			2.0			

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Oct. 1962 | **f_bEs** | 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	2.1	1.9	1.8				2.0	2.6	3.3	4.0	E 4.9 R	3.6	4.7	A	A	3.0	2.7	1.9	1.9	E 3.1 R	E 3.6 R	E	2.5	2.0
2	E					E		2.5	E 3.9 R	E 4.1 R	4.3	C	3.5	4.0	U 5.0 R		3.1	E 4.6 R	A	A	A	A	A	
3	1.9	A	1.8	2.5	A	2.3	2.0	2.6	3.2	E 4.0 R		U 3.3 R	U 3.0 R	U 3.0 R	3.3	2.2 9	U 2.5 R	2.5	2.6	2.8	2.2	2.3	A	C
4	C	E	E	1.8	2.3	1.8	2.9	4.1	3.4	3.5	3.2	5.4	4.9	3.6	3.3	3.0	3.3	2.2	E	E	E	1.9		E
5	1.8	2.0	2.2	1.9	1.8	2.6	2.0	2.9	3.3	3.4	3.5	3.5						2.0			1.9	1.9	A	2.0
6	E	E												3.4				2.0	E	1.9	2.3			
7		1.8			2.1	E		2.5	3.2	3.3						3.5	E 4.3 R	4.7	5.5	A	A	2.5	2.0	
8				2.0	2.0	1.9		2.7	3.1	4.1			B				2.7			2.0		2.0	1.8	S
9			E	2.3 S		2.0	S	2.9	3.7	5.3	5.5		3.5	3.5	U 5.2 R	5.3	U 3.8 R	2.0	E		E			
10								S				E 5.5 R	4.0	5.1	3.7	3.2	E 4.3 R			-	A	A	A	A
11	A	A	A			2.0	3.4	2.7					E 2.3 R			3.2	2.9	3.0	1.8	2.3	1.9			
12			2.0		2.5	2.1			3.0	3.5	U 3.4 R				3.0		2.4	2.1	A	1.9	2.3	2.1	E	3.2
13	E	1.9	E							3.1	U 3.1 R	B				3.0	2.7	2.7	E		1.9	E		
14	2.0				2.2				3.1	3.3		3.4	S		3.6	3.2	3.5	2.6	2.4	A	A	2.5	2.1	
15		A	3.3	A	2.0		2.0	3.2	3.2	3.6	3.8	3.6	3.5	3.5	E 2.8 R S	3.3	2.5	2.0	2.2		A	1.8		
16								U 2.3 R	2.5	3.3	3.2	E 3.0 R	3.3				U 2.6 R						2.4	3.0
17	A	3.0	2.2					2.3	3.0	3.2	3.6	3.5	U 3.1 R	4.0	2.7 S	2.7	U 2.4 R	E 2.5 R	2.2	1.9				
18	U 2.0 R		1.9					2.4	3.2	3.2				B	3.2		2.3	2.1						
19									3.0	3.2	3.2	3.4			3.2	2.9	2.5				2.5			
20		1.9	2.0	1.8	1.8	1.8	2.2	2.5		3.2	3.2	3.2	3.6	3.0	5.2	7.1	U 5.3 R	E 3.7 R	A	A	U 3.0 R	2.5	2.2	1.7
21						1.8	1.9	2.7	3.3	3.2	3.6	3.7	3.3	3.5	3.3	2.5	2.3			2.0	C	1.9	1.9	1.8
22	1.8							U 3.5 R	3.0	3.0	U 5.6 R					2.8	2.2	2.1	A	A	A	2.1		
23						S		2.7	2.8	4.4	3.5	5.9	3.3	5.5	3.3	2.7	2.3	2.0	A	1.8		A	1.8	1.8
24	A							3.0	3.0	3.2	3.5	3.6	3.5	7.0	5.5	3.7	2.2	2.1	1.8	2.0	2.5	C	C	C
25	2.2	1.7	1.7	1.8				2.2	U 3.1 R	3.4	E 4.2 R	3.8	3.9	U 3.5 R	5.8	3.0	6.3	A	A	3.4				1.9
26	2.0	3.0	1.7	1.8		1.8	2.0	2.9	3.3	3.2	3.5	3.5	3.2	2.8	3.2	3.1	2.0		2.2	2.0	E 2.9 R	1.9	1.8	1.8
27			1.7	2.0	2.2		2.3	3.3	3.0	C	5.1	6.6			3.3	3.0	2.2	2.0	2.1	2.0	1.8		1.8	
28	1.8							C	3.2	3.0	3.3		6.8	U 3.8 R	3.1	2.7		1.7	1.8		1.7	1.8	2.0	2.3
29	2.0	1.8	2.1	1.7			1.8	5.0	3.5	5.5	U 4.8 R	6.0	3.3	E 3.5 R	3.0	2.9	2.2	A	A	2.4	A		1.9	2.1
30			1.8		1.8			C	U 2.5 R S		3.4	U 3.4 R				3.2	3.3	2.1	2.7		1.8	1.8		1.8
31	1.8	1.8	1.7	1.8	1.8	1.8	2.0	2.3		3.1	3.5		3.5	3.3	E 3.7 R	U 3.9 R	2.8	2.0					2.0	2.9
No.																								
Median																								

f_bEs

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

The Radio Research Laboratories, Japan.

A 5

IONOSPHERIC DATA

Oct. 1962 | **f-min** | 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	1.70	1.70	E	E	E	1.65	1.80	1.75	1.80	1.95	2.00	1.90	2.00	2.00	1.70	1.75	1.70	1.70	1.70	1.65	1.70	1.70	1.65
2	1.70	E	E	E	E	E	1.80	1.70	1.80	1.80	2.00	I 2.00 C	1.95	2.10	1.80	1.90	1.80	1.80	1.75	1.70	1.70	1.70	1.70	E
3	1.70	1.70	E	1.70	1.70	1.65	1.70	1.70	1.80	1.95	2.20	2.00	1.90	1.85	1.80	1.70	1.80 S	1.70	1.70	1.65	1.70	1.70	1.75	C
4	C	1.70	1.70	1.70	1.75	1.75	1.70	1.70	1.75	1.70	1.95	2.00	2.00	1.90	2.00	1.95	1.70	1.65	1.75	1.70	1.75	1.70	1.80	1.65
5	1.70	E	1.80	1.75	1.70	1.80	1.70	1.75	1.75	1.80	1.80	1.95	1.95	1.70	1.70	1.70	1.70	1.75	1.70	1.70	1.70	1.65	1.65	1.70
6	1.70	1.70	E	E	E	1.70	1.85	1.95	1.80	1.90	1.95	2.00	2.10	2.00	2.00	1.90	1.70	1.70	1.70	1.65	1.70	E	E	E
7	1.70	1.65	E	E	1.70	1.70	1.95	1.95	1.75	1.90	1.95	2.05	2.00	2.05	2.00	1.75	1.70	1.70	1.65	1.70	1.70	1.70	1.70	1.80
8	E	1.75	1.70	1.75	1.70	1.70	1.90	2.00	1.95	1.80	2.10	1.95	3.70	2.05	2.00	2.00	1.85	1.75	1.75	1.95	1.95	1.70	1.70	E 2.00 S
9	1.70	1.80	1.75	E 1.90 S	1.70	1.75	E 3.00 S	2.05	1.80	1.95	2.00	2.00	2.00	1.75	2.00	1.90	1.75	1.80	1.70	1.70	1.70	1.65	1.70	E
10	E	E	E	1.70	1.70	1.70	1.95	E 5.50 S	1.75	2.00	2.00	2.00	2.20	2.30	2.00	1.80	1.95	1.80	1.80	1.75	1.70	1.70	1.70	1.75
11	1.70	1.65	1.70	E	E	1.65	1.75	1.75	1.70	1.80	2.05	2.10	1.80	2.30	2.00	2.00	1.75	1.65	1.65	2.00	1.75	E	1.90	E
12	E	1.95	1.80	E	E	1.65	1.90	1.75	2.00	1.80	1.90	2.00	2.15	1.95	2.00	1.85	1.70	1.70	1.75	1.80	1.75	1.70	1.70	1.75
13	1.75	1.75	E	E	1.80	1.75	1.90	1.80	1.95	1.80	2.30	3.50	2.50	2.00	2.00	1.90	1.70	E 2.00 S	1.70	E	1.70	E	E	E
14	1.70	1.70	1.70	E	1.70	1.70	1.70	2.00	1.95	2.00	2.10	2.00	2.00	2.00 S	2.15	1.85	1.70	1.70	1.70	1.65	1.75	1.75	1.75	E
15	2.30	1.75	1.80	1.70	1.70	E	E	2.40	1.80	2.05	2.15	1.90 S	1.90	2.00	2.15	1.90	2.10	1.75	1.75	E	1.70	1.80	E	1.75
16	E	1.70	1.75	E	E	E	1.80	2.15	1.95	2.05	2.00	2.00	2.00	2.00	2.00	2.00	1.70	1.90	1.70	1.75	1.75	1.70	1.80	1.70
17	1.75	1.80	1.75	1.70	1.75	1.75	1.80	1.90	1.80	2.00	2.00	2.35	2.15	2.10	2.00	2.00	1.95	1.80	1.75	1.70	1.75	1.75	1.65	1.75
18	1.70	1.80	1.70	1.75	1.75	1.80	1.75	1.80	1.90	1.95	2.15	1.90	1.95	3.35	1.95	1.90	1.75	1.80	1.80	1.75 S	1.80	2.00 S	1.75	1.95
19	1.90	1.80	1.95	1.70	1.75	1.70	1.75	1.75	1.90	1.70	1.90	2.15	1.90	2.25	1.90	1.75	2.10	1.80	1.75	1.75	1.65	2.05	1.80	1.80
20	1.80	1.90	1.70	1.75	1.75	1.75	1.70	1.70	1.75	1.70	2.00	2.00	2.00	2.15	2.00	1.95	1.80	1.70	1.70	1.90	1.90	1.70	2.05	1.70
21	1.75	1.70	1.70	1.75	1.75	1.75	1.90	1.95	2.15	2.20	2.10	2.25	2.20	2.00	2.10	2.00	2.00	1.90	1.75	1.90	I 1.75 C	1.70	1.90	1.80
22	1.80	1.70	1.85	1.80	1.75	1.75	1.90	1.75	2.00	1.95	2.00	2.00	1.90	1.80	2.00	1.90	1.70	2.00	1.90	E 2.00 S	1.75	1.70	2.00	2.00
23	1.95	1.95	1.70	1.95	1.80	E 2.50 S	1.90	1.95	1.70	1.90	2.00	1.90	2.15	1.90	1.70	1.95	1.75	1.90	1.75	1.75	1.80	E 2.00 S	1.75	1.75
24	1.75	1.75	1.70	1.75	1.80	1.80	1.80	1.90	1.75	1.75	2.00	2.00	2.00	2.00	2.00	1.90	1.75	1.90	1.70	1.70	1.70	C	C	C
25	1.70	1.70	1.70	1.80	1.70	1.80	1.85	1.70	1.95	1.70	1.90 S	E 2.20 S	2.00	2.00	1.90	1.90	1.70	1.70	1.70	1.80	1.70	1.95	1.75	1.75
26	1.70	1.75	1.70	1.75	1.80	1.80	1.95	1.70	1.75	1.75	2.00	2.00	1.95	1.80	1.70	2.00	2.00	2.00	1.80	1.75	1.75	1.70	1.80	1.75
27	1.75	1.75	1.70	1.70	1.70	1.90	1.75	2.00	1.75	I 2.05 C	2.10	2.20	2.05	1.80	1.80	1.70	1.75	1.75	1.70	1.70	1.75	1.70	1.75	1.75
28	1.75	1.70	1.70	1.80	1.70	1.75	1.75	I 1.70 C	1.80	1.75	2.05	2.15	2.10	2.00	1.85	2.10	C	1.70	1.75	1.70	1.70	1.70	1.70	1.75
29	1.75	1.70	1.70	1.70	1.75	1.75	1.75	1.75	1.75	2.00	2.00	2.00	2.00	1.80	1.95	1.75	1.70	1.75	1.75	1.75	1.80	1.85	1.75	1.75
30	1.80	1.70	1.75	1.80	1.75	1.75	1.75	I 1.80 C	2.00	2.15	2.00	2.00 S	2.05	2.05	2.00	1.75	1.75	1.75	1.80	1.75	1.75	1.75	1.75	1.75
31	1.75	1.80	1.70	1.75	1.80	1.80	1.75	1.80	1.75	2.00	2.00	2.15	1.80	2.00	1.80	1.75	1.70	1.80	1.80	1.95	2.00	E 2.30 S	1.75	1.90 S
No.	30	31	31	30	31	30	30	30	31	31	31	30	31	31	31	31	30	30	31	30	31	28	30	28
Median	1.70	1.70	1.70	1.70	1.70	1.75	1.80	1.80	1.80	1.90	2.00	2.00	2.00	2.00	2.00	1.90	1.75	1.75	1.75	1.70	1.75	1.70	1.75	1.75

f-min

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

The Radio Research Laboratories, Japan.

A 6

IONOSPHERIC DATA

Oct. 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	3.00 S	2.80	F	F	2.80 F	2.70	2.85	2.70	3.00	3.10	I 3.10 R	3.10	3.40	I 3.20 A	I 3.20 A	3.25	3.45	3.05 R	3.00	I 3.20 R	I 3.05 R	2.80 S	I 2.85 S	3.10 S
2	2.65	2.80	3.20	2.55	2.60	2.70	2.95	R	R	R S	3.05 R	I 3.15 C	3.25	3.35	3.20	3.35	3.40	3.40	A	A	A	A	A	F S
3	2.65 S	I 2.70 A	3.00	3.05	I 2.70 A	2.70 S	3.20 R	3.30 S	3.50	3.35	3.25	3.30	3.45	3.30	3.40	3.40	3.45	3.40	3.55	3.30 S	2.80 S	2.75 S	A	C
4	C	2.85 F	3.00 F	3.00 F	I 2.90 R	3.00	I 3.45 R	I 3.55 S	3.60	3.40	3.55	3.35	3.40	3.20	3.40	3.50	3.55	3.55	3.30	2.90	2.90	3.00	3.00 S	3.00
5	2.90	2.85	2.90	3.35	2.90 F	2.95	3.45 S	3.40	3.40	3.45	3.25	3.30 R	3.40	3.40	3.55	3.15	3.30	3.45	3.40	3.10	3.10	3.00	I 2.80 A	2.70
6	2.85	2.80 F	2.85	3.05	3.30	2.90	3.40 R	3.50	3.35	3.60	3.40	3.25	3.25	3.05	3.20	3.20	I 3.30 R	3.50	3.35	3.20	3.05	2.90	2.80 S	I 2.70 S
7	2.70 S	I 2.85 R	I 2.90 S	2.90	3.35	3.20	3.40 R	3.50 R	3.45 S	3.40 R	3.25	3.20	3.45	3.30	3.45	3.40	3.25	3.30	3.30 S	I 3.25 A	A	R S	F S	I 2.90 S
8	2.85 S	2.85 S	2.90	2.80 F	2.95	3.00	3.60	3.80 S	3.55	3.05	3.20	3.20	3.25	3.25	3.15	I 3.30 R	3.55	3.45	3.00	2.90	I 2.90 R	3.00	2.85	3.05
9	3.20	2.80	2.80 F	I 2.85 F	I 3.00 S	2.90	I 3.50 S	3.50 R	3.55	3.40	3.00	I 2.90 R	U 3.15 R	3.30	3.30	3.25	I 3.40 S	3.45	2.95	3.30 S	I 3.20 S	I 2.95 S	F S	F S
10	F	F S	2.85 S	3.15	3.00 S	3.00 S	3.40	3.65	3.55	3.25	3.30 R	3.30	3.15 R	3.35	3.35	3.25	3.25 S	I 3.50 R	3.45	3.10	A	A	A	A
11	A	A	I 2.85 A	2.95	2.95	2.90	3.55 S	3.55	3.60	3.45	3.30 S	3.20	3.25	3.20	3.40	3.40	3.40	3.30	I 3.50 R	I 3.30 R	2.90	I 2.85 S	3.00	3.00 R
12	2.90	3.15 R	3.20 S	I 3.00 F	3.05	3.00	I 3.30 R	3.45	I 3.50 R	3.45	3.20	3.25	3.40	3.45	3.45	3.50	3.50	3.45	I 3.15 A	U 3.05 R	2.90	2.95	3.20	I 3.05 R
13	3.05	2.95	2.90	2.90	I 3.15 F	I 3.50 F	I 3.45 R	3.55	3.60	3.40	I 3.40 S	3.35	3.40 R	3.15 H	3.40	3.50	3.50	3.55	3.50	I 3.05 S	I 2.85 S	I 2.80 S	I 2.90 S	2.60 S
14	2.80 S	I 2.80 S	2.90 S	3.00	3.10	3.15	3.30	3.40	I 3.30 S	I 3.35 R	3.20	3.20	I 3.20 R	3.40	3.50	3.40	3.45	I 3.50 R	R S	A	A	2.90	2.85	3.00
15	I 2.90 R S	I 2.90 A	2.85	I 2.95 A	3.15	3.00	I 3.70 R	3.40	I 3.60 S	I 3.50 R	I 3.40 R	I 3.40 R	I 3.25 R	I 3.20 R	3.35	3.35	3.45	U 3.45 R	3.10	I 3.15 S	I 3.10 A	I 2.90 S	I 2.75 S	I 3.05 S
16	2.95	3.10	3.00	I 3.05 S	3.10	3.10	I 3.45 R	3.50 R	3.50	3.45	3.45	3.30	3.35	3.45	3.55	3.35	3.45	3.50	3.25	I 3.10 S	2.90	2.90 R	2.75	2.90
17	I 2.75 A	3.10	3.10	2.85	2.80	2.90	I 3.35 R	3.40	U 3.50 R	3.65	3.50	I 3.20 R	3.40	U 3.35 R	3.40	3.40	3.45	3.40	3.40	3.35	3.25	2.90 R	3.00	3.00
18	I 2.95 S	2.90	3.00	2.95	3.30	3.10	3.25 R	I 3.50 R	3.45	3.45	U 3.55 R	3.35	I 3.40 S	3.30	3.45	3.30	3.55	3.40	3.05 R	I 3.00 R	I 2.80 R	I 2.80 S	3.00 S	3.05
19	2.75	2.90	3.05	3.10	2.90	2.90	I 3.40 R	U 3.60 R	3.55	3.40	3.25	3.40	3.30	3.40	3.40	3.40	3.50	3.65	3.20	3.10	3.00 R	3.15 R	3.00 R	2.95
20	3.00 R	2.90	2.75	2.70 R	3.10 R	3.30 R	I 3.40 R	3.55 R	3.15 R	3.35	3.50 R	3.20	3.30	3.30 R	3.40	3.30	3.55 R	3.65	A	A	3.00	3.05	2.90	I 2.75 F
21	2.80	2.85	3.10	3.30	3.55	2.90	3.45 R	3.60	3.50	I 3.30 R	3.30	3.20 R	I 3.25 R	3.30	3.35	3.40	3.50	3.75	3.15	2.90	I 2.80 C	3.00 R	2.90 R	2.90
22	2.90 R	2.65	3.00 R	3.10	3.15 R	I 3.30 R	3.40 R	I 3.40 R	3.35	3.40	3.20	I 3.20 R	3.30 R	3.30 R	U 3.40 R	3.30	I 3.50 R	3.75 R	A	A	A	2.90 R	I 2.85 S	2.75 R
23	2.55 U	3.10 R	3.05	3.00	U 3.40 R	I 2.80 R	I 3.15 R	I 3.40 R	I 3.20 R	I 3.30 R	3.20	3.35 R	3.60	3.25 R	I 3.35 R	U 3.30 R	I 3.45 R	I 3.75 R	I 3.05 R	U 3.35 R	I 3.10 R	I 2.90 R	2.80 R	2.75 R
24	I 2.85 R S	3.10	3.00 R	I 2.90 F	2.80 R	3.00	I 3.30 S	I 3.50 R	3.25	U 3.25 R	3.50 R	3.40	3.25	I 3.30 R	I 3.40 R	I 3.45 S	3.60	3.45	3.20	I 3.10 S	R	C	C	C
25	3.00 S	2.80 S	3.10	2.90	3.15	2.70	3.15 R	I 3.40 R	I 3.30 R	R	R	R	R	R	U 3.40 R	I 3.45 S	3.40	I 3.30 A	I 3.15 A	U 3.00 R	2.90 R	2.70	U 2.90 R	I 2.80 R S
26	2.90 R	3.00 R	2.85	2.95 R	I 2.95 R	2.65 R	I 3.00 R	3.15 R	I 3.15 R	I 3.30 R	I 3.35 R	U 3.35 R	U 3.40 R	3.50 R	I 3.30 R	3.40	3.60 R	I 3.40 R	U 3.00 R	R	I 3.00 R	3.00	2.60 R	2.85 R
27	U 2.50 R	2.70	2.90	2.75	I 2.90 R	2.80	2.80	3.25	R	C	R	R	R	R	3.30	3.50	3.45	3.60 R	3.05	I 3.10 R	U 3.15 R	2.90	2.95	2.80
28	R S	F	R	3.25	3.25	2.90 R	3.30 R	I 3.55 C	3.40	I 3.45 R	3.25	I 3.35 R	I 3.15 R	I 3.20 R	I 3.50 R	3.45 R	I 3.40 C	3.30 R	3.30	2.95	2.95 R	2.90 R	2.85 F	3.00
29	3.20	2.85	3.20	U 2.90 R	U 3.20 R	3.10 R	I 3.25 R	I 3.50 R	3.30	I 3.40 R	3.40 R	I 3.45 R	I 3.50 R	U 3.30 R	3.45	3.45	3.65	R	R	3.00	I 2.90 R	3.00 R	3.10	2.75
30	2.85	2.85	3.00	2.90	I 2.95 F	I 3.10 F	I 3.00 R	I 3.65 C	3.45	3.50 R	I 3.40 R	I 3.40 R	I 3.40 R	3.45	3.40	3.55	3.30	I 3.20 R	3.05 R	I 3.05 S	3.05 R	3.10 R	U 2.95 R	3.20
31	2.70 R	3.00	2.95	2.95	3.40 R	3.55 S	3.50	3.35 R	3.65	3.60 R	I 3.50 R	I 3.40 R	3.50 R	3.40	3.35	U 3.50 R	3.50	3.55 R	3.10	3.00 R	3.20 R	3.10 R	2.85	3.00 R
No.	27	28	29	30	31	31	31	30	29	28	29	29	29	29	31	31	31	30	26	26	25	27	25	26
Median	2.85	2.85	3.00	2.95	3.05	3.00	3.40	3.50	3.45	3.40	3.30	3.30	3.35	3.30	3.40	3.40	3.45	3.45	3.20	3.10	3.00	2.90	2.90	2.90

M(3000)F2 Sweep 1.60 Mc to 20.0 Mc in 20 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

A 7

27

IONOSPHERIC DATA

Oct. 1962 | M(3000)F1 | 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								3.45	3.35	A	I 3.65 AI	3.60 S R	A	A	A	L								
2								3.30 L	A	A	A	C	L	R	A	L								
3								L	L	R	3.65	3.45	U 3.55 RI	3.60 L	3.35 L	L	L							
4										L	I 3.65 AI	3.65 A	I 3.60 AI	3.35 L	U 3.30 R	L								
5								A	L	L	L	I 3.65 S	3.75 L	3.65 LI	3.80 L	L								
6									I 3.90 L	4.00	I 4.10 LI	I 4.10 H LI	I 3.75 LI	3.70 R	L	L								
7										3.85 LI	3.70 LI	3.85 L	3.80 H	L	L	A	A							
8									L	L	L	L	L	L	L	L								
9										A	A	L	L	L	A	A								
10									L	L	L H	A	L	A	L									
11									L	L	L	L H	U 3.65 R	L	L	L	A							
12									L	L	L H	R	R	L	L	L								
13								L	L	L	3.50 L	L	L H	L	L H	L								
14									L	3.70	R	R	S	L H	L	L								
15									L	R	L	R	3.65 L	L	L	L								
16									L	L	L	3.55 L	U 3.80 R	L	L	L								
17								L	L	L H	4.05 L	R	L	L	L	L								
18								L	L	L	C	I 3.55 L	L	L	L	L								
19									L	L	R	L	L	L	L	L								
20									L	L	L	L	L	L	A	A	A							
21										L	L	L	L	L	L	L								
22									L	L	A	L	L	L	L	L								
23									L	A	L	A	L	R	L	L								
24									L			R	L	A	A	L								
25								L	L		R	L	L	L	A	L								
26									R	L	L	L	L	L	L									
27										C	A	A	R	R	L	L								
28									L	L	L	L	A	R	L	L	C							
29										A	A	A	L	R	L	L								
30									L	L	L	L	L	L	L									
31									L	R	L	R	L	R	A	A								
No.								2	2	3	7	8	8	4	3									
Median								3.40	U 3.60	3.85	U 3.65	U 3.60	U 3.70	U 3.60	U 3.35									

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

Oct. 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								445	350	340	I 315 A	I 325 R	275	I 325 A	I 320 A	285								
2								310	A	A	340	I 315 C	290	290	300	275								
3								250	255	295	275	280	275	300 L	285	270 L	265 L							
4										280 L	255	290 A	280	300 L	275	270								
5								240	255 L	255	275	270	260	270	260	270								
6									240	245	260	280	260	305	280	270 L								
7										260	265	295	265	250	265	260	255							
8									230	270	280	265	255	285	280 L	255								
9										255	285	290	265	255	245	270								
10									240	240	260	255	280	255	250									
11									230	240	275	270	275	275	255	260	250							
12									240	245	265	265	265	260	250	250 L								
13								220 L	235	255	250	260	250	250 L	260	255								
14									265	230	255	265 L	270	250	250	250								
15									235	235	260	250	270	275	250	240								
16									255	245	265	255	255	250	240	250								
17								235	235	225	255	280	250	265	265	250								
18								225	250	250	250	260	250	240	265 L	255								
19									245	250	270	260	260	255	265	255								
20									280	255	230	240	250	265	260	260	230							
21										250	250	265	260	255	250	260								
22									235	260	265	245	260	260	250	255								
23									255 L	255	255	235	235	250	270	260								
24									250			240	260	275	230	250								
25								260	240		265	255	260	240	250	235								
26									250	230	250	250	250	250	260									
27										I 235 C	230	265	255	260 L	240	245								
28									250	230	250	255	265	265	250	250 L	C							
29										235	235	250	255	255	255	235								
30									250	220	255	235	245	250	260									
31									225	235	250	265	230	270	255 R	245								
No.								8	24	28	30	31	31	31	31	28	4							
Median								245	250	250	260	265	260	260	260	255	250							

h'F2 | Sweep 1.60 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 9

IONOSPHERIC DATA

Oct. 1962 | **h'F** | 135° E Mean Time (G.M.T. + 9h.) | **Akita** | Lat. 39° 43.5' N | Long. 140° 08.2' E

30

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	310	310	280	285	315	290	255	250	I 240 A	I 230 A	225	A	A	A	245	250	245	285	I 275 A	I 290 A	305	I 295 A	240 A
2	315	305	255 E	380 E	360	320	280	255	A	A	A	C	230	I 240 A	I 240 A	240	255	A	A	A	A	A	A	275
3	340 A	I 330 A	295	A	A	A	245	245	230	I 205 A	195 H	200	205	205	220	230	260	240	235	I 250 A	300 A	360 A	A	C
4	C	310	305	290	I 320 A	300	250	260	240	230	245	I 205 A	I 215 A	225	230	225	250	230	225	270	265	275	275	270
5	245	325 A	305	250	250 A	I 290 A	240	I 240 A	235	240	240	215	215	220	235	240	255	240	230	225	245	270 A	A	A
6	295	300	300	270	240	260	240	245	220	205	200	200	245	205	260	250	255	235	215	240	I 275 A	295	330	305
7	310	300 A	290	270	225	240	230	240	230	210	220	200	195	235	230	I 225 A	I 240 A	245	255 A	I 260 A	I 270 A	290 A	290 A	290
8	300	310	295	300	295	265	220	210	210	I 220 A	205	205	240	225	250	245	240	245	245	290	295	275	280	245 S
9	220	290	300	305	255	280	225	225	240	I 240 A	I 225 A	205	210	245	A	A	245	240	245	240	230	245	270	295
10	305	300	295	250	245	255	240	240	225	215	190 H	I 220 A	255	I 250 A	240	250	250	240	215	230	A	A	A	A
11	A	A	A	290	290	290	240	235	220	205	200	200	I 195 A	240	245	A	A	230	215	I 235 A	250	280	295	295
12	275	280	270	280	I 285 A	295	225	230	220	225	190 H	200	200	205 H	220	220	235	225	I 240 A	265	270	265	255	I 255 A
13	255	280	295	280	250	235	220	220	225	215	200	200	200 H	210	195 H	240	245	230	220	245	280 A	290	280	305
14	300	295	255	245	275	250	245	240	220	220	210	185 H	I 190 S	180 H	250	245	240	230	240	A	A	A	295	265
15	300	A	A	A	255	295	225	240	230	I 230 A	210	215	215	I 200 A	245	I 235 A	230	225	250	250	I 280 A	290	305	280
16	270	270	270	265	240	250	235	235	230	225	205	210	215	210 H	235	240	235	225	225	250	265	295	350 A	340
17	I 330 A	300	265	275	300	310	250	230	230	205 H	195	200	195 H	I 215 A	230	245	245	235	230	240	235	280	290	285
18	320	300	285	270	255	255	230	I 225 A	230	220	I 205 C	210	I 200 R	225	I 220 A	245	225	215	230	275	285	320 S	290	265
19	290	280	280	250	300	295	230	225	230	225	210	210	210 H	210	230	235	230	215	250	260	255	270	295	305
20	275	295	330	320	250	240	240	225	220	235	230	225	220	210	A	A	A	A	A	A	A	305	320	320
21	300	305	270	230	220	290	230	225	230	235	235	230	235	240	230	235	230	210	210	270	I 300 C	275	285	330
22	280	290	275	245	260	250	220	215	210	220	I 215 A	225	200	235	225	230	240	220	A	A	I 270 A	310 R	300	320
23	330	270	240	250	230	I 275 S	250	230	230	I 230 A	240	I 235 A	230	I 235 A	235	230	235	215	I 275 A	235	240	I 300 A	340	315
24	I 350 A	250	260	300	305	310	220	220	230	240	235	230	225	A	A	A	225	220	220	255	285	C	C	C
25	285	260	270	275	260	325	245	245	220	225	I 220 A	200 A	225	A	A	230	260 A	A	A	270	250	265	300	300
26	305	280	285	300	255	325	245	235	245	225	225	225	225	225	225	235	220	220	290	290	I 270 A	290	305	270
27	330	310	300	355	350	310	275	275	240	A	A	I 215 A	I 230 R	225	I 230 A	I 230 A	225	220	250	230	250	260	290	280
28	305	300	280	245	225	310	235	I 220 C	230	220	200 H	215	I 230 A	250	235	225	I 225 C	205	225	235	300	305	330	300
29	255	270	300	275	250	235	230	255	240	A	A	A	205	I 240 A	230	235	225	I 220 A	I 255 A	300	I 290 A	275	275	300
30	300	295	280	270	275	300	245	I 215 C	210	210	200	205	195	235	240	235	230	210	265	255	260	235	275	250
31	275 A	280	275	280	230	240	230	230	225	230	225	215	210	200 A	I 225 A	I 230 A	215	200	250	265	265	270	300	310 A
No.	29	29	29	28	30	30	31	31	30	28	28	29	30	28	26	27	29	28	27	27	27	27	26	27
Median	300	295	285	275	255	290	240	235	230	225	210	210	215	225	230	235	240	225	240	255	270	280	295	295

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

The Radio Research Laboratories, Japan.

A 10

IONOSPHERIC DATA

Oct. 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	100	100	105	E	E	E	145	145	130	125	115	110	110	105	105	105	105	110	105	130	120	120	115	115
2	110	E	E	E	E	105	G	110	125	120	115	C	110	105	105	G	145	140	125	120	115	120	110	E
3	105	100	100	105	110	110	120	145	120	115	G	115	110	105	105	105	105	105	105	100	115	120	110	C
4	C	110	110	105	105	105	150	135	130	130	125	120	115	120	120	115	115	115	115	120	110	115	E	120
5	115	115	115	120	115	110	110	110	125	125	120	110	G	G	G	G	G	145	E	E	115	110	105	110
6	110	110	E	E	E	E	G	G	G	G	G	G	G	115	G	G	G	145	115	110	110	E	E	E
7	E	105	E	E	100	110	G	125	120	120	G	G	G	G	G	105	105	105	105	105	105	105	110	E
8	E	E	E	105	105	110	G	145	145	130	G	G	B	G	G	G	155	G	E	120	E	110	105	S
9	E	E	130	110	E	110	S	155	140	125	120	G	130	135	120	120	115	115	125	E	105	E	E	E
10	E	E	E	E	E	E	G	S	G	G	G	110	110	110	110	135	145	G	E	E	110	115	110	105
11	105	105	120	E	E	120	120	125	G	G	G	G	120	G	G	135	145	130	125	115	115	E	E	E
12	E	E	125	E	115	115	E	G	125	120	130	G	G	G	125	G	130	130	120	115	115	115	115	110
13	115	110	110	E	E	E	E	G	G	125	135	B	G	G	G	155	140	125	120	E	115	115	E	E
14	110	E	E	E	105	E	E	G	130	130	G	130	S	G	175	150	140	125	125	125	125	120	115	E
15	E	110	105	105	105	E	110	140	135	125	125	125	120	115	115	110	150	120	115	E	110	110	E	E
16	E	E	E	E	E	E	E	165	120	130	110	110	120	G	G	G	105	E	E	E	E	E	115	115
17	110	110	110	E	E	E	E	130	120	125	120	120	115	110	110	125	120	120	115	110	E	E	E	E
18	110	E	110	E	E	E	G	135	120	120	G	G	G	B	130	G	100	100	E	E	E	E	E	E
19	E	E	E	E	E	E	E	G	125	130	130	120	G	G	105	105	150	E	E	E	110	E	E	E
20	E	110	105	105	105	105	105	170	G	135	120	115	110	105	110	105	105	105	105	100	100	100	110	110
21	E	E	E	E	E	110	110	155	135	125	120	120	120	120	125	120	100	E	E	110	C	110	110	110
22	110	E	E	E	E	E	E	145	125	130	115	G	G	G	G	130	125	115	110	110	110	110	E	E
23	E	E	E	E	E	S	E	130	120	120	125	125	120	120	120	115	115	110	110	110	E	110	115	120
24	110	E	E	E	E	E	G	130	125	125	125	120	115	115	115	115	115	110	115	110	110	C	C	C
25	110	115	120	120	E	E	E	140	125	120	115	115	110	105	105	110	105	105	105	100	E	E	E	110
26	105	110	110	110	E	110	175	150	130	130	125	120	115	115	100	110	125	E	130	125	120	110	115	125
27	E	E	130	125	120	E	160	140	135	C	115	110	G	G	105	105	110	110	110	110	110	E	105	E
28	105	E	E	E	E	E	E	C	120	120	120	G	125	125	125	135	C	125	125	E	130	115	110	105
29	105	105	105	120	E	E	130	120	110	110	105	105	105	105	110	105	110	110	105	105	100	E	110	110
30	E	E	130	E	130	E	E	C	115	G	110	105	G	G	G	110	125	110	105	E	125	115	E	105
31	105	105	105	105	105	105	160	110	G	130	115	G	105	105	105	105	105	105	E	E	E	E	115	105
No.	17	15	18	12	12	13	12	23	25	26	23	19	19	18	22	24	28	25	23	20	23	19	18	15
Median	110	110	110	110	105	110	125	140	125	125	120	115	115	110	110	110	115	115	115	110	110	115	110	110

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

The Radio Research Laboratories, Japan.

A 11

31

IONOSPHERIC DATA

Oct. 1962

Types of Es

135° E Mean Time (G.M.T. + 9h.)

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

32

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	f2	f2	f2				h	h	h2	h2	c2	c	l2	l3	l2	l2	l2	l	f	f6	f7	f2	f2	f2
2	f					f2		l2	h2	h2	c		c	l2	l2		h2	h4	f2	f5	f4	f2	f3	
3	f2	f5	f2	f2	f3	f2	c	h	h2	c		c	l	l2	l	l	l	f	f	f	f2	f3	f2	
4		f2	f2	f2	f3	f2	h2l2	h2l	h2	h c	h	h	h	h	h	l	l2	f2	f	f	f	f		f
5	f2	f2	f	f	f2	f2	f	l	h	h	h	c						h			f	f3	f3	f2
6	f2	f2												c				h c	f	f2	f			
7		f2			f2	f		h2	h	c						l2	l4	l3	f2	f2	f	f2	f2	
8				f	f	f2		h	h	h							h			f		f	f	
9			f	f2		f2		h	h	h2	c		h	h	c2	c2	c2	c	f		f			
10												l2	l2	l2	l2	h	h2				f2	f4	f3	f3
11	f3	f3	f3			f2	c2	c					c			h	h	f	f2	f	f			
12			f2		f2	f3			h	h	h				h		h	f	f3	f	f2	f	f	f2
13	f	f	f							h	h					h	h3	h2	f		f2	f		
14	f				f2				h	h		h			h	h	h	f2	f2	f2	f3	f2	f2	
15		f2	f3	f3	f2		f	f	h	h	h	h	h	c	l	l2	h	f	f		f4	f		
16								h	c	h	c	l	h				l2						f4	f3
17	f2	f2	f					h	c	h	c	c	c	l2	l2	h	c	f5	f3	f				
18	f2		f2					h	c	h					h		l	l						
19									h	h	h	h			l	l	h				f5			
20		f2	f	f2	f	f	l2	h		h	c	l	l	l	l2	l4	l3	f3	f2	f4	f3	f2	f2	f
21						f	l	h	h	h	h	c	c	c	h	c	l			f2		f2	f	f
22	f							h	h	h	c2					h	h	f4	f2	f2	f2	f		
23								h	c	h2	h	h	h	h2	c	l	l	f2	f2	f		f	f	f
24	f2							h	h	h	h	h	l	l2	l2	l2	l	f	f	f4	f2			
25	f2	f	f2	f2				h	h	h	c	c	l	l2	l2	l	l3	f	f3	f3				f
26	f2	f2	f	f		f	h	h	h	h	h	c	l	c	c	l2	h		f2	f2	f3	f2	f	f
27			f2	f2	f3		f2	h	h		l2	l			l2	l2	f2	f	f	f	f		f	
28	f								h	h	h		h2	h	h	h		f2	f		f	f	f2	f2
29	f2	f2	f2	f			f	c2	l2	l2	l2	l2	l	l2	c	c	c	c2	f	f	f		f2	f2
30			f		f				l		l	l				l	h2	l	f2		f	f		f
31	f2	f	f	f	f	f	h	l		h	c		l	l2	l2	l2	l2	f2					f2	f2
No.																								
Median																								

Types of Es

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

The Radio Research Laboratories, Japan.

A 12

IONOSPHERIC DATA

Oct. 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	3.5	3.5	3.5	4.0	3.0	3.3	3.7R	5.6	6.3	7.0	6.9	6.9	6.3	6.4	6.5	6.8	6.1	5.5	5.2S	5.9	J 5.4S	J 4.4S	J 4.5R	J 4.4S
2	3.0	3.2	3.2	2.5	2.6	I 3.3A	5.2	5.8	6.5	7.4R	J 9.2R	7.5	7.6	7.9	7.4	7.1	7.4	6.5	I 5.5A	J 4.9S	I 5.4F	J 4.6R	I 4.4F	J 4.5F
3	I 4.4A	4.1	4.2	3.7R	2.8	2.7J	5.0R	6.2	6.5	6.2	8.3	J 9.5R	7.4	6.4	7.2	6.6	7.0	7.1	6.3	3.6	I 3.4A	I 3.4A	3.3	I 3.3A
4	J 3.2A	3.1	3.2	3.2	I 2.8A	I 2.8A	5.0	7.3	u 7.9RI	7.8C	7.8	7.3R	8.9	8.6	7.2	7.1	7.2	6.2S	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	9.3	8.5	7.3	7.0	6.5	6.6	J 7.8R	6.4	J 4.6R	J 4.4R	4.1	3.8	3.7
6	3.4	3.4	3.5	J 3.6R	3.9	2.7	5.5	J 7.8R	7.0	C	C	C	S	C	C	C	J 9.8R	8.8	5.8	4.0	3.7I	3.2A	3.3	3.3
7	3.6	3.6	3.7	4.0S	3.0	2.8	5.2R	7.0S	6.9	7.3	8.3	8.2	9.0	8.8	7.4R	7.6R	8.1R	8.7u	7.3S	4.9	4.0	3.7	3.8	3.7
8	3.8	3.9	3.9	3.9	3.8	3.9	4.8	5.3	6.1S	6.3	8.2	10.0	9.4	7.4	8.8	9.4	7.2	6.8	5.7	5.6R	5.1J	5.4R	5.0	5.5
9	3.6	3.2	3.3	3.6	4.1	4.3	7.0	6.6	7.8	7.7	8.0	10.9	10.6	9.6	9.2	8.5R	8.6	8.7	6.8	6.2	4.4	4.4J	4.2SI	4.0F
10	4.0	3.9F	4.2	3.9	3.8FJ	4.2F	5.8J	7.5S	6.7	7.3	8.8	10.5	9.7J	10.2C	9.0	8.5	9.1	9.0	5.8	4.0S	3.8R	3.2	3.5R	3.3R
11	u 3.7R	3.7R	3.7R	3.7	3.8	3.9	6.5R	7.3S	7.7S	6.7	7.4R	10.1R	8.9	9.2	9.7	8.6	7.7S	8.0S	7.4	4.3	3.3	A	3.2	3.8R
12	3.9	3.8	3.8	3.2	3.2	3.6	6.5	7.7S	9.7	7.8	7.6J	9.5R	8.8	9.4	8.9J	7.7R	7.0	6.8	5.8	u 5.0S	5.2	5.0	5.2J	4.1S
13	4.0	u 4.0R	4.1	4.3	4.3	3.7	6.0	7.3	7.9	7.2	8.4	10.7	10.1	7.8	8.2	8.4	8.0u	7.5R	5.7	4.6	4.3I	4.1S	4.3I	4.1S
14	S	S	S	S	I 4.0SI	4.2S	6.3u	7.4S	9.3J	10.2RI	9.2C	9.5	I 9.7C	9.9	10.1	7.6	7.5	7.1	5.7	5.2	5.2I	4.4AJ	4.8S	4.7
15	4.7	4.5	4.7S	4.4	J 4.4R	3.8	5.5	6.7	9.0	8.6R	9.2	9.8	10.4	I 10.5C	10.4	9.5	7.5R	7.2	4.4	4.0	I 4.7FJ	4.3F	C	C
16	C	C	C	C	C	C	C	C	C	8.7	8.6	8.8R	J 9.4R	9.3	8.4	6.8	I 7.8CU	7.8S	5.9	4.8R	4.4	4.5	4.2S	4.1S
17	I 4.0A	4.3	3.9	3.5	3.3	3.3	5.0	7.4S	8.5R	8.5R	8.2R	9.3	9.4	9.7	8.1	8.4	7.5	7.7S	6.4S	5.0	4.1	4.0S	4.2S	3.9
18	3.5S	3.6	3.8	3.7	3.2	3.0	5.3	6.5S	7.0	7.8R	9.4R	9.6	9.6	9.0	7.9	7.9	9.0	5.9	4.0	3.9	4.2	3.9	4.2	4.1R
19	3.9	3.8	3.7	3.8	3.1	3.2	5.4	7.2R	8.0R	8.0R	9.1	10.1	9.3	8.9	8.8R	8.0	7.4	7.5	4.6SJ	4.4SI	4.6A	4.6	4.6S	4.5
20	4.7	4.6	4.5	4.5	4.7	3.8	5.1	7.2	8.5	9.8I	9.6C	9.4	8.7	8.8	9.7I	9.5A	8.9	6.8	4.4	3.8R	4.1	4.0RI	4.0S	3.8
21	3.9	4.1R	4.2	4.4	2.8	2.7R	5.0	6.5	7.9	8.1	9.7	10.3	10.9	10.1	10.1	8.8	8.9	7.6	3.8	3.9	3.9R	4.0	4.1	4.0
22	4.0	4.1	4.0	4.0S	I 3.9C	3.9	4.9RI	6.4CI	8.4C	8.3	9.2	11.3	10.7	11.3	10.2	8.9	8.6	7.1	4.6S	4.4	4.6	4.0u	4.0R	4.0
23	4.0	4.4	3.9	3.1	3.1	I 2.7S	4.5	7.5R	8.9R	11.1	12.7	12.5	9.9	8.3	8.7	9.6R	10.3	7.3	3.8	4.0	3.4	A	A	A
24	3.8	4.0	3.1	3.3	3.1	3.2	5.5	6.3R	8.5	9.2	11.6	9.0	8.3	9.9R	10.7	9.0	8.8	6.8	4.4J	4.0S	I 4.0A	4.0	4.0R	4.0
25	3.9	3.8J	3.7R	3.6	3.2	J 3.3R	4.7	6.9	10.0	9.3	9.4	10.8	10.9	10.5	9.0	7.9	7.7I	7.2AI	5.4A	5.1	4.0	3.7	3.9	4.0
26	4.2	4.9	4.1	4.4	4.1	4.2	5.8	7.6	10.5	12.6	10.7	10.4	10.1	8.8	9.9	9.5R	8.2	5.7J	4.5A	A	5.0	4.9	4.5	4.5
27	F	I 3.8F	u 3.9F	4.0	3.7I	3.5FI	4.4SU	7.5S	12.5	11.4	11.0	10.4	11.6	10.1	9.5	8.5	7.5	6.2	4.8	4.8	4.6	4.4R	3.9	3.8
28	3.9	4.0	3.8	J 5.0R	2.8	2.4	4.8	8.2S	8.1	9.3	9.6	10.2	9.8	11.4	10.3	8.0	8.0	8.6R	4.0	I 3.8AI	I 3.8A	3.9	4.0	I 4.2A
29	4.2F	3.9	3.7	3.7	J 3.4F	2.9R	4.3R	7.8	8.3	8.4	9.5	J 9.7R	8.8	9.7	9.3	8.0	7.2	A	A	A	3.8	u 3.8S	4.0	3.8
30	3.1R	3.5	3.8	3.8	J 3.6FI	3.3F	4.7	7.9	8.0	u 8.9C	9.0	9.4	9.0RU	7.8R	8.1R	7.7	7.0	6.0R	4.6	4.4	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	9.1	I 9.6C	9.7R	7.4R	8.9	8.3	7.3	5.8RI	3.9SU	4.3S	3.9R	3.7SU	3.8SI	3.5S
No.	26	27	27	27	28	28	28	28	28	28	29	30	30	30	30	30	31	30	29	28	29	27	27	27
Median	3.9	3.9	3.8	3.8	3.4	3.3	5.2	7.2	8.0	8.2	9.1	9.6	9.4	9.1	8.9	8.2	7.7	7.2	5.4	4.4	4.2	4.0	4.0	4.0
U.Q.	4.0	4.1	4.1	4.0	3.9	3.8	5.6	7.5	8.7	9.2	9.6	10.4	10.1	9.9	9.7	8.8	8.6	7.8	5.8	5.0	4.6	4.4	4.4	4.2
L.Q.	3.6	3.6	3.7	3.6	3.0	2.8	4.8	6.5	7.0	7.4	8.2	9.3	8.8	7.9	8.1	7.6	7.2	6.5	4.4	4.0	3.8	3.8	3.8	3.8
Q.R.	0.4	0.5	0.4	0.4	0.9	1.0	0.8	1.0	1.7	1.8	1.4	1.1	1.3	2.0	1.6	1.2	1.4	1.3	1.4	1.0	0.8	0.6	0.6	0.4

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

Oct. 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								S	L	S	4.5	4.5L	U 4.5L	L	A	A								
2									A	A	A	A	A	A	A	A	A	A	A					
3								A	R	A	A	L	A	L	U 4.5L	A	A	A						
4									L	C	4.9L	A	B	4.6L	A	A	A	A						
5							C	C	C	C	C	L	S	U 5.0L	L									
6									B	C	C	C	L	C	C	C	A							
7										L	L	L	L	S	S	L	L							
8									L	L	U 4.8L	L	L	L	L	L								
9								S	L	L	L	L	U 4.8L	L	L	A								
10											L	L	L	L	L	L								
11									L	L	S	L	S	L	L	S								
12									L	L	S	5.0L	U 4.5L	S	L	L								
13									L		U 5.1L	4.8L	L	L	U 4.5L	L								
14										L	C	L	C	L	L	A		S						
15									L	S	A	A	L	C	L									
16							C	C	C	L	S	S	S	S	L	L	C							
17									L	4.5	L	L	S	L	S	L								
18										L	L	L	L	S	S	S								
19										L	L	L	L	L	S									
20										L	C	L	L	A	L	A								
21										L	S	L	L	L	L	S								
22								C	C		L	A	L	L	L	L								
23									L	L	L	L	L	L	L	L								
24										L	A	A		L	L	A								
25									L	L	L		L	L	L	A	A	A						
26									L	L	L	L	A	A	A	A								
27									L	L	L	A	L	A	L	L								
28									L	L	L	S	L	L	L	L								
29									A	L	L	A	S	A	A	A	A	A						
30								L	L	L	S	U 4.5L	A	S	S	S	L							
31							C	C	C	C	S	C	S	S	S									
No.										1	4	4	3	2	2									
Median										4.5	U 4.8	4.6	U 4.5	U 4.8	U 4.5									

foF1

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

The Radio Research Laboratories, Japan.

K 2

IONOSPHERIC DATA

Oct. 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	z.50	S	R	A	A	A	A	A	A	A	A					
2							u1.75s	Iz.35s	Iz.70s	uz.90s	Iz.90s	A	A	A	A	uz.65s	z.30	S	S					
3							B	A	A	B	A	A	A	A	A	A	A	A						
4							B	B	A	C	R	S	B	3.15s	Iz.95s	A	A	A						
5							C	C	C	C	C	S	S	S	S	S	S	S						
6							B	S	B	C	C	C	S	C	C	C	z.25	S						
7							B	Iz.45s	z.95s	S	S	S	S	S	S	B	S	A						
8							S	uz.50s	S	S	S	S	S	S	S	S	S	S						
9							S	S	S	S	S	S	S	S	S	Iz.90s	A	S						
10							S	z.60	Iz.80s	S	S	S	S	S	S	S	S	S						
11							S	S	S	S	S	S	S	S	S	S	S	S						
12							S	A	S	S	S	S	S	S	S	S	S	S						
13							S	S	B	S	S	B	S	S	S	S	S	A						
14							S	S	S	S	C	S	C	S	B	A	S	S						
15							B	Iz.55s	S	S	A	S	A	C	S	S	B	S						
16							C	C	C	A	S	S	S	S	S	S	C	S						
17							S	S	S	S	S	S	S	S	S	S	S	S						
18							S	S	S	S	S	S	S	S	S	S	S	S						
19							S	S	S	S	S	S	S	S	S	S	S	S						
20							S	S	R	A	C	A	A	A	S	S	A	A						
21							A	S	S	S	A	S	S	S	S	S	S	S						
22							S	C	C	S	B	A	S	A	S	A	B	B						
23							S	S	S	S	S	R	S	S	S	A	A	B						
24							S	z.30	z.95	Iz.15s	S	S	S	S	S	uz.50s	A	C						
25							S	z.55	Iz.85s	S	S	A	A	S	S	A	Iz.65s	A						
26							S	S	Iz.00s	A	S	A	A	A	A	A	B	S						
27							S	S	z.70	A	A	A	A	A	B	S	S	S						
28							S	uz.50s	R	S	S	S	S	S	S	R	S	S						
29							S	Iz.30s	S	A	S	S	A	A	A	S	A	A						
30							S	uz.30s	S	C	A	S	A	A	A	S	A	S						
31							C	C	C	C	S	C	S	S	S	A	S	S						
No.							1	10	8	2	1			1	1	3	3							
Median							u1.75	uz.50	uz.80	uz.00	uz.90			3.15	uz.95	uz.65	z.30							

foE

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

IONOSPHERIC DATA

Oct. 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	2.3	S	S	S	S	S	3.2	S	4.2	4.9^{M}	4.0	3.9	6.6^{M}	4.5^{M}	3.7	3.0^{M}	2.5	3.0	5.6^{M}	$^{T}3.5$	3.5^{M}	4.0^{M}
2	$^{T}2.9$	4.0^{M}	2.5^{M}	E	2.4^{M}	3.9^{M}	G	3.8	5.0^{M}	5.5^{M}	5.7^{M}	5.8^{M}	5.8^{M}	$^{T}8.2$	6.6^{M}	4.8^{M}	3.6	$^{T}4.3$	6.9^{M}	3.5^{M}	4.1^{M}	3.6^{M}	2.9^{M}	$^{T}4.9$
3	$^{T}11.3$	3.5^{M}	2.5^{Y}	E	2.5^{M}	2.3^{M}	B	4.1^{M}	4.1^{M}	5.5^{M}	5.6^{M}	4.0	5.8^{M}	4.8^{M}	3.8	4.9^{M}	$^{T}4.1$	$^{T}4.4$	3.0	3.6^{M}	8.3^{M}	8.2^{M}	3.8	$^{T}7.6$
4	3.9	3.0^{M}	3.1^{M}	2.2	3.5^{M}	4.3^{M}	3.6	3.8^{M}	3.0	C	4.0	5.0^{M}	B	3.9	4.8^{M}	8.0^{Y}	5.3	8.0^{M}	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	S	S	S	S	S	S	S	B	S	S	3.1^{M}	S	S
6	B	E	E	E	E	E	B	S	B	C	C	C	S	C	C	C	3.8^{M}	S	S	S	$^{T}3.4^{S}$	4.0^{M}	2.1^{S}	2.3^{M}
7	S	E	S	E	E	S	B	G	G	3.9	S	S	S	S	S	B	S	$^{T}3.2$	S	S	S	3.8^{M}	3.8^{M}	2.5
8	2.3	E	E	E	E	S	S	2.8	S	S	S	S	S	S	S	S	S	S	S	S	3.0^{M}	3.5^{M}	2.4^{M}	S
9	E	E	E	E	2.5	2.4^{M}	S	S	S	3.7	4.1^{S}	S	S	S	S	$^{T}3.9^{S}$	4.8^{M}	2.4	S	$^{T}3.8$	3.0^{M}	2.8^{M}	2.5^{S}	S
10	S	E	E	E	E	S	S	G	S	S	S	S	S	S	S	S	S	S	2.9	S	$^{T}3.1$	S	$^{T}3.4$	2.3
11	2.3	2.3	E	E	$^{T}3.1$	2.9^{T}	6.1	S	S	S	S	S	S	S	S	S	S	S	S	2.8	E	4.0	2.0	E
12	2.5	2.1	S	S	E	E	$^{T}4.3$	$^{T}4.1$	S	S	S	S	S	S	S	S	S	S	S	S	S	5.3^{M}	$^{T}3.0^{Y}$	S
13	$^{T}7.3^{Y}$	5.5^{M}	3.4^{M}	2.2	3.2^{M}	S	S	S	B	S	S	B	S	S	S	S	3.7	3.2^{M}	S	1.8	S	S	3.0	S
14	S	S	S	S	S	S	S	2.8	S	S	C	S	C	S	B	4.7^{M}	S	S	S	S	7.3^{M}	6.0^{M}	3.9^{M}	3.8^{M}
15	2.5^{M}	E	E	E	E	S	B	S	S	S	4.8^{MD}	6.3^{S}	4.3^{S}	C	S	S	2.5	2.5	2.8^{S}	2.7^{M}	S	S	C	C
16	C	C	C	C	C	C	C	C	C	2.8	S	S	S	S	S	S	C	S	S	S	S	S	S	S
17	$^{T}4.5$	$^{T}4.3$	$^{T}4.9$	$^{T}3.3$	2.4	2.4	S	S	S	S	S	S	S	S	S	S	S	S	E	E	S	S	S	E
18	S	2.2	2.2	$^{T}4.3$	1.6	2.1	S	S	S	S	S	S	S	S	S	S	S	S	S	S	E	S	2.0	S
19	E	E	E	E	E	S	S	S	S	S	S	S	S	S	S	S	S	$^{T}4.2$	3.7^{M}	S	4.7^{M}	S	3.4^{M}	2.3^{M}
20	2.1	2.5	2.4^{Y}	2.5^{M}	2.4^{M}	2.3	S	S	G	1.8	C	2.9	$^{T}5.8$	4.2	3.9	$^{T}10.6$	6.7	$^{T}7.8$	S	$^{T}3.5$	S	2.4	S	$^{T}2.3$
21	$^{T}3.2$	S	E	E	2.4	2.2	2.4	3.4	3.4	S	5.6	S	4.2	4.0	4.0	S	2.4	S	S	S	3.2	2.9	S	2.8
22	S	$^{T}2.1$	2.2	E	C	S	S	C	C	3.9	B	$^{T}5.2$	S	$^{T}4.7$	S	2.2	B	B	3.0	$^{T}3.8$	$^{T}3.0$	2.5	$^{T}3.1$	3.2
23	2.2	2.3	2.3	2.2	2.4	S	2.3	S	3.4	3.7	S	4.3	5.5	4.3	5.5	5.9	3.7	2.4	$^{T}2.4$	2.1	2.3^{T}	8.4^{T}	6.1^{T}	4.0
24	S	E	E	E	2.1	E	S	3.7	$^{T}4.1$	5.4^{M}	5.2^{MT}	5.7^{T}	$^{T}4.9$	4.1^{S}	3.7^{T}	$^{T}3.9$	3.7^{M}	C	S	5.1^{M}	5.3^{M}	3.8^{M}	2.8^{M}	2.8^{M}
25	2.6^{S}	1.9	E	E	E	E	S	G	3.4	S	S	4.9	4.0^{Y}	S	S	5.0	6.0^{M}	6.8^{MT}	7.1	S	S	2.5	2.5^{S}	3.2^{M}
26	3.4^{M}	2.5	2.5	2.5	3.3	3.3	S	S	G	4.2^{Y}	S	4.8^{Y}	7.3^{T}	6.7^{M}	4.9^{TT}	5.3	B	S	5.4^{M}	7.3^{M}	6.8^{MT}	$^{T}5.1$	4.0^{M}	2.5
27	2.0	E	S	$^{T}2.5$	$^{T}3.4$	S	2.8	3.7^{MT}	$^{T}5.3$	$^{T}10.8$	$^{T}6.8$	4.9^{M}	3.9^{ST}	7.6	3.1	S	S	S	2.9^{M}	3.5^{M}	3.3	3.0^{M}	2.2	2.6^{Y}
28	2.3	2.1	S	2.2^{Y}	E	E	2.4	G	G	S	S	S	S	S	S	3.8	S	2.3	S	6.3	3.8^{M}	3.8^{M}	3.5^{M}	5.7
29	$^{T}3.3^{Y}$	2.8	2.4	2.5	3.0^{M}	2.4^{M}	3.3^{M}	G	$^{T}4.3$	5.0^{M}	S	$^{T}5.0^{Y}$	3.5^{Y}	4.4	6.8^{MT}	7.7^{TT}	$^{T}5.2$	7.3	8.5^{M}	$^{T}8.3$	2.5	S	S	S
30	S	E	E	1.7	1.4	S	S	G	S	C	3.8	S	5.0^{M}	3.4	4.5^{MT}	4.2^{Y}	4.5^{Y}	$^{T}3.6^{Y}$	3.8^{M}	3.8^{M}	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	3.9	C	S	S	S	2.5	S	S	S	S	E	S	S	S
No.	19	25	23	25	25	16	9	15	14	12	11	13	13	13	12	16	15	15	14	17	20	20	21	19
Median	2.5	2.1	2.2	E	2.4	2.3	2.8	2.8	3.4	4.0	4.8	4.9	4.9	4.3	4.6	4.8	3.8	3.6	3.0	3.5	3.2^{M}	3.7^{M}	3.0	2.8
U.Q.	3.4	2.6	2.5	2.4	2.8	2.6	4.0	3.8	4.1	5.4	5.6	5.4	5.8	5.8	6.0	5.6	5.2	6.8	5.4	4.4	5.0	4.6	3.6	4.0
L.Q.	2.2	E	E	E	E	E	2.4	G	G	3.7	4.0	4.6	4.0	4.0	3.8	3.9	3.7	2.5	2.8	2.8	2.8	3.0	2.4	2.3
Q.R.	1.2						1.6			1.7	1.6	0.8	1.8	1.8	2.2	1.7	1.5	4.3	2.6	1.6	2.2	1.6	1.2	1.7

foEs

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

The Radio Research Laboratories, Japan.

K 4

IONOSPHERIC DATA

Oct. 1962 | **f_bEs** | 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	2.2	S	S	S	S	S	3.1	S	4.0	4.0	4.0	3.6	5.4	4.0	2.9	2.1	2.5	2.1	4.5	u 3.0A	2.7	2.5
2	1.9	1.8	2.4		E	A		2.9	4.5	4.6	4.9	4.4	4.5	5.9	5.2	4.1	3.2	4.0	A	E 3.5S	3.0	2.4	E	2.4
3	A	2.1	2.1		2.0	E	B	E 4.1R	E 4.1R	4.5	5.0	E 4.0S	5.1	4.1	3.8	4.1	3.3	3.4	2.8	2.7	A	A	2.5	A
4	3.1	E	2.2	2.1	A	A	2.8	3.0	E 3.0R	C	E 4.0R	4.7	B	E 3.9S	4.0	3.4	4.2	4.5	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	S	S	S	S	S	S	S	B	S	S	2.5	S	S
6	B						B	S	B	C	C	C	S	C	C	C	3.4	S	S	S	2.2	A	E	2.0
7	S		S			S	B			3.9	S	S	S	S	S	B	S	3.1	S	S	S	3.0	2.5	2.5
8	2.0					S	S	2.8	S	S	S	S	S	S	S	S	S	S	S	S	2.5	3.2	E 2.4S	S
9					2.2	E	S	S	S	3.7	4.0	S	S	S	S	3.9	4.0	2.2	S	2.8	2.8	2.1	1.5	S
10	S					S	S		S	S	S	S	S	S	S	S	S	S	2.0	S	E 2.7A	S	E 3.0AE	2.3S
11	E 2.3S	E			2.7	2.8	E 5.3A	S	S	S	S	S	S	S	S	S	S	S	S	2.0		A	1.8	
12	2.0	2.0	S	S			3.7	3.7	S	S	S	S	S	S	S	S	S	S	S	S	S	E	2.1	S
13	3.1	3.2	2.8	E	2.0	S	S	S	B	S	S	B	S	S	S	S	3.3	2.6	S	1.7	S	S	2.0	S
14	S	S	S	S	S	S	S	S	S	S	C	S	C	S	B	4.5	S	S	S	S	3.4	A	3.3	2.5
15	2.1					S	B	S	S	S	4.2	5.7	4.0	C	S	S	2.5	2.1	1.8	E	S	S	C	C
16	C	C	C	C	C	C	C	C	C	E 2.8S	S	S	S	S	S	S	C	S	S	S	S	S	S	S
17	A	E 3.4A	2.5	1.7	E	1.9	S	S	S	S	S	S	S	S	S	S	S	S			S	S	S	
18	S	E	E	1.4	1.4	1.9	S	S	S	S	S	S	S	S	S	S	S	S	S	S		S	1.9	S
19						S	S	S	S	S	S	S	S	S	S	S	S	3.3	3.0	S	A	S	2.2	1.9
20	2.0	1.7	1.7	1.7	1.8	2.1	S	S		1.8	C	2.9	4.1	4.0	3.6	A	5.8	5.1A	S	2.6	S	2.0	S	2.0
21	2.2	S			E	E	1.7	2.4	3.4	S	5.0	S	4.0	3.8	E 4.0S	S	E 2.4S	S	S	S	2.2	2.2	S	2.1
22	S	1.7	E		C	S	S	C	C	3.8	B	4.9	S	4.0	S	E 2.2S	B	B	1.8	3.3	1.8	E	2.9AE	3.2A
23	1.9	E	E	E	1.4	S	G	S	3.1	3.6	S	3.8	3.8	4.0	4.0	4.6	2.8	E	1.7	E	E	A	A	A
24	S				E		S	2.8	3.1	3.7	4.7	5.2	4.1	3.8	3.7	3.8	2.8	C	S	3.0	A	2.1	2.1	1.9
25	2.1	1.9					S		E 3.4S	S	S	4.2	4.0	S	S	4.8	5.1	A	A	S	S	2.0	2.0	2.1
26	2.7	1.6	1.8	1.7	2.1	2.4	S	S		3.5	S	4.1	E 7.3A	5.9	4.3	4.5	B	S	3.2	A	E	2.6	2.7	2.0
27	E 2.0C		S	E	1.4	S	S	2.7	3.4	3.8	3.9	4.6	3.8	5.3	3.1	S	S	S	2.3	2.8	2.1	2.0	E	1.7
28	2.2	E	S	E			2.3			S	S	S	S	S	S	3.2	S	2.3	S	A	A	2.1	E	A
29	1.9	2.0	2.0	1.7	1.8	1.9	3.1		4.2	4.3	S	4.8	E 3.5S	u 4.4S	4.9	4.2	4.4	A	A	A	2.5	S	S	S
30	S			E	1.2	S	S		S	C	E 3.8S	S	u 5.0S	E 3.4SE	4.5S	4.0	3.4	2.5	3.0	2.9	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	E 3.9S	C	S	S	S	E 2.5S	S	S	S	S		S	S	S
No.																								
Median																								

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

The Radio Research Laboratories, Japan.

K 5

IONOSPHERIC DATA

Oct. 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	E1.95 SE1.90 SE2.10 SE1.75	E1.85 SE1.80 SE3.05 SE3.55	2.00 E4.00 S 2.25	2.90	2.95	2.75	2.25	2.00	1.95	2.00	1.45	E1.50 SE1.50 SE1.50 SE1.50
2	E1.50 SE1.45 SE1.50	E	1.50	E1.50 SE1.40 SE2.50	2.10	2.10	2.95	2.90	2.90	2.70	2.10	1.95	2.10	E2.00 SE1.75 SE1.50	SE1.50 SE2.00 SE2.10 SE2.00
3	E1.50 SE1.10 S	1.25	1.95	1.45	1.55	2.10	2.50	2.90	3.80	2.10	2.20	2.10	2.10	2.00	1.50	1.60	1.30	E1.70 SE2.00	SE2.10 SE2.10 SE2.00 SE1.95
4	E1.90 SE1.70 S	1.90	1.95	1.80	1.80	2.10	2.50	2.50	C	2.10	E3.40 S	5.40	2.70	E3.10 S	2.10	2.00	1.70	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	E3.20 S	4.40 S	3.90	E3.30 SE2.90	SE2.80 SE1.90 S	1.50	E2.00	SE2.00 SE1.90 SE1.80 SE2.00
6	2.40	1.90	1.40	1.40	1.30	1.80	2.50	E2.80 S	4.50	C	C	C	E4.20 S	C	C	C	E2.00	SE1.80 SE1.50 SE1.50	SE1.50	1.20	1.20	E1.40 S
7	E1.50 S	1.50	E1.50 S	E	1.10	E1.50 S	2.00	1.50	2.10	E3.00 SE3.50 SE4.00	SE4.00 SE4.40 SE4.60 S	2.50	E2.70 S	1.60	E1.70 SE1.50	SE1.50 SE1.40 SE1.40 S	1.10
8	1.40	1.40	1.20	1.50	1.20	E1.50 SE2.20 S	2.00	E3.00 SE3.40 SE4.00 SE4.30	SE3.60 SE3.30 SE3.20 SE3.20	E3.05 SE2.20 SE2.00 SE2.10	SE1.50 SE1.50 SE2.10 SE1.60 S
9	1.30	1.50	1.40	1.40	E1.50 SE1.50 SE1.50 SE4.30	E3.30 SE3.20 SE3.50 SE4.10	SE4.10 SE4.00 SE3.50 SE2.60	1.50	E2.00 SE1.70 SE1.50	SE1.50 SE1.50 SE1.20 SE1.40 S
10	E1.80 S	1.40	1.00	E	1.00	E1.50 SE2.00 S	1.80	E3.10 SE4.00 SE4.20 SE4.40	SE4.10 SE4.00 SE3.70 SE3.10	E3.00 SE2.80 S	1.70	E1.90 SE2.00 SE2.00 SE1.90 SE2.00 S
11	E1.90 SE1.70 S	1.50	E	1.30	E1.80 SE1.90 SE3.15	SE3.20 SE3.00 SE4.20 SE4.30	SE4.40 SE4.05 SE3.55 SE3.60	E3.05 SE3.30 SE2.05 S	1.80	1.40	E1.80 S	1.45	1.50
12	E1.90 SE1.80 SE1.60 SE1.80 S	1.50	1.45	E2.00 S	2.00	E3.40 SE3.70 SE4.30 SE4.10	SE3.80 SE3.90 SE3.50 SE3.30	E2.90 SE2.10 SE1.50	SE1.90 SE1.90 SE1.50 SE1.90 S
13	1.20	E1.50 SE1.70 S	1.50	1.40	E1.50 SE1.80 SE2.80 S	3.20	E3.30 SE3.80 S	3.50	E4.00 SE3.50 SE3.50 SE3.50	SE2.40	1.50	E1.50 SE1.50 SE1.80 SE1.90 SE1.50 SE2.70 S
14	E2.55 SE2.10 SE2.60 SE2.50 S	E1.70 SE2.00 SE2.50 SE2.70 S	E4.10 SE3.50	C	E4.30 S	C	E4.10 S	3.50	1.50	E3.00 SE3.70 SE1.70 SE1.60 S	E1.50 SE1.70 SE1.50 SE1.50 S
15	E1.80 S	1.20	1.20	1.10	1.00	E1.70 S	1.70	E2.70 S	E2.90 SE4.50 SE2.50 SE3.30 S	3.00	C	E3.80 SE2.90 S	1.95	E1.50 SE1.70 SE1.80 S	E1.80 SE1.50 S	C	C
16	C	C	C	C	C	C	C	C	C	1.70	E3.80 SE4.65 S	E4.90 SE5.00 SE3.30 SE2.75 S	C	E1.95 SE2.05 SE2.45 S	E2.10 SE2.05 SE2.05 SE2.05 S
17	E2.00 SE1.90 SE1.70 S	1.45	E1.60 SE1.70 SE2.05 SE2.85 S	E3.40 SE3.30 SE3.60 SE4.00 S	E4.15 SE3.20 SE4.00 SE3.05 S	E3.20 SE2.05 S	1.25	1.45	E1.70 SE2.05 SE2.00 S	1.50
18	E2.00 S	1.50	E1.85 S	1.05	1.05	E1.70 SE1.70 SE3.10 SE3.40	SE3.15 SE3.40 SE4.05 SE3.85	E4.20 SE4.60 SE3.05 S	E2.70 SE2.10 SE1.70 SE1.60 S	1.25	E1.70 SE1.70 SE1.70 S
19	1.35	1.50	1.10	E	E	E1.90 SE2.00 SE2.95 S	E3.15 SE3.80 SE3.70 SE4.00 S	E3.95 SE3.80 SE4.60 SE3.20 S	E3.10 SE1.90 SE1.80 SE2.50 S	E1.70 SE1.60 SE1.50 SE1.70 S
20	E1.80 SE1.60 S	1.10	E	E	E1.50 SE1.80 SE2.40 S	2.00	1.70	C	E2.60 S	3.20	3.05	E3.20 SE2.80 S	2.00	1.70	E1.95 SE1.70 SE1.70 S	S	1.35
21	1.35	E1.55 S	1.50	1.30	1.45	E1.65 S	1.30	E2.10 SE2.85 SE3.00 SE3.25 SE4.00 S	E3.20 SE3.20 SE2.55 SE2.30 S	E2.05 SE1.95 SE1.80 SE1.90 S	1.45	E1.95 SE1.55 SE1.75 S
22	1.55	1.35	1.35	1.05	C	E1.95 SE2.10 S	C	C	E3.15 S	3.05	2.90	E3.20 S	2.00	E3.25 S	2.00	2.50	2.00	E1.65 SE1.90 S	1.50	E1.85 SE1.75 SE1.80 S
23	1.15	1.45	E1.60 S	1.40	1.30	S	E1.70 SE2.50 S	E2.90 SE3.20 SE3.90 S	3.00	E3.60 SE3.50 SE3.25 S	2.75	1.80	1.75	1.50	E1.65 SE1.85 SE1.65 SE1.85 S	1.50
24	E1.85 S	1.35	1.25	E	1.50	1.50	E1.75 S	1.50	2.10	E3.20 SE3.30 SE3.20 SE3.30	SE3.10 SE3.10 S	2.10	E2.00 SE4.50 CE1.50	E1.70 SE1.50 SE1.80 SE1.70 S
25	E1.50 SE1.50 SE1.70 S	1.50	1.30	1.40	E1.90 S	1.80	E2.20 SE4.00 SE3.50 SE3.00	SE2.20 SE3.50 SE3.50 S	2.10	2.10	1.80	E1.80 SE2.10 S	E1.90 SE1.50 SE1.50 SE1.50 S
26	E1.50 SE1.50 SE1.60 S	1.00	1.40	1.40	E1.80 SE2.60 S	E1.90 SE2.75 SE3.00 S	3.10	3.00	2.50	E2.50 S	2.10	2.80	E1.50 SE1.90 SE2.00 S	E1.50 SE1.80 SE1.80 SE1.50 S
27	E1.50 S	1.40	E1.50 S	1.00	1.30	E1.50 SE1.50 SE2.30 S	1.80	E1.90 S	2.00	E3.00 SE2.95 S	2.10	2.80	E2.90 S	E2.50 S	E1.90 SE1.50 SE1.50 S	E1.60 SE1.60 SE1.50 SE1.50 S
28	E1.80 SE1.50 SE1.50 S	1.00	E	1.10	E1.50 SE2.10 S	E1.90 SE3.80 SE3.30 SE4.10 S	E3.70 SE3.80 SE3.10 S	2.10	E2.70 S	E1.50 SE1.80 SE1.60 S	E1.50 SE1.50 SE1.50 SE1.50 S
29	E1.50 SE1.70 S	1.20	E	E	E1.40 SE1.70 SE2.00 S	E2.80 S	2.10	E3.70 SE3.20 S	2.15	3.10	2.20	E2.80 S	E1.70 S	1.60	E1.50 SE1.50 SE1.50 SE1.50 S	E1.50 SE2.30 SE2.00 SE2.00 S
30	E2.10 S	1.20	1.40	1.10	E	E1.60 SE1.50 S	1.95	E3.10 SE3.90 SE2.10 SE3.60 S	2.30	2.60	2.70	E3.00 S	2.00	E1.90 SE1.80 SE1.50 S	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	E3.55 S	C	E4.50 SE4.05 SE4.15 SE2.25 S	E3.00 SE2.80 SE2.05 SE3.55 S	1.50	E1.95 SE3.50 S	S
No.	28	28	15	25	23	27	28	27	27	27	27	29	30	29	30	30	30	31	30	30	29	29	27	27
Median	E1.70	E1.50	1.25	1.05	1.30	E1.50	E1.85	E2.50	E2.90	E3.20	E3.50	E3.50	E3.65	E3.50	E3.30	E2.70	E2.45	E1.90	E1.70	E1.70	E1.50	E1.70	E1.70	E1.60

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Oct. 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	3.10	2.75	2.85	3.00	2.85	2.70	3.00R	2.85	3.15	3.15	3.05	2.90	3.10	3.15	2.80	3.20	3.35	3.25	3.00S	2.95	J2.95S	J2.80S	J3.00R	3.00S
2	2.75	2.75	3.05	2.65	2.90	A	3.15	3.25	3.10	2.55R	J2.80R	3.20	2.75	3.00	3.00	3.05	3.25	3.40	A	A	F	J3.00R	F	J2.95R
3	A	2.80	3.00	3.05R	2.80	2.85	J3.25R	3.45	3.25	2.90	3.05	J3.25R	3.25	3.20	3.05	3.20	3.15	3.25	3.35	3.15	I2.95R	A	2.90	A
4	A	2.85	2.70	2.95	A	A	3.20	3.30	U3.65R	C	3.20	2.90R	3.05	3.50	3.20	3.25	3.35	3.25S	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	3.25	3.30	3.55	3.25	3.20	3.20	R	3.60	R	R	3.00	2.85	2.95
6	2.95	2.95	2.70	R	3.20	3.10	3.50	R	3.45	C	C	C	S	C	C	C	J3.40R	3.55	3.45	3.45	3.25	A	2.80	2.90
7	2.95	2.85	3.05	3.60S	3.40	3.45	3.60R	3.50S	3.30	3.40	3.30	3.15	3.30	3.50	3.40R	3.25R	3.45R	3.35	U3.60S	3.55	3.50	A	2.95	2.90
8	3.05	2.95	2.90	3.00	3.05	3.55	3.90	3.75	3.50S	3.30	3.00	3.00	3.20	2.95	3.15	3.25	3.35	3.55	3.05	2.95R	2.95	J3.05R	2.95	3.20
9	3.30	2.80	2.95	2.95	3.00	3.00	3.10	3.55	3.45	3.25	3.00	3.10	3.25	3.25	3.30	3.25R	3.50	3.30	3.65	3.25	3.40	3.00	J3.25S	F
10	3.05	2.90R	3.05	3.30	3.20F	J3.35S	3.50	J3.50S	3.60	3.35	3.05	3.30	3.00	J3.05C	3.20	3.25	3.40	3.55	3.55	3.30S	2.95R	3.10	2.75R	3.05R
11	U3.00R	2.80R	2.85R	2.85	2.95	3.00	3.35R	3.30S	3.40S	3.35	3.20R	3.20	3.10	3.00	3.25	3.30	3.25S	3.25S	3.40	3.35	3.55	A	3.05	2.95R
12	2.85	3.00	3.25	2.95	3.05	2.95	3.35	3.30S	3.40	3.70	3.15	J3.30R	3.05	3.40	3.45	J3.50R	3.40	3.55	3.30	U3.20S	3.05	3.25	J3.20S	
13	A	A	3.00	3.05	3.25	3.20	3.40	3.35	3.55	3.45	3.15	3.40	3.55	3.45	3.30	3.30	3.40	U3.55R	3.45	3.25	3.00	S	2.80	S
14	S	S	S	S	I3.25S	I3.25S	3.25	U3.55S	3.40	J3.45R	C	3.10	C	3.30	3.45	3.45	3.35	3.35	3.05	3.00	3.05	A	J2.75S	2.95
15	2.80	2.80	2.85S	3.00	J3.35R	2.80	3.45	3.45	3.35	3.50R	3.15	2.90	3.20	L3.20C	3.20	3.25	3.50R	3.35	3.35	3.05	F	J2.80F	C	C
16	C	C	C	C	C	C	C	C	C	3.40	3.25	3.30R	J3.25R	3.20	3.10	3.20	C	U3.25S	3.20	3.00R	2.80	3.00	3.00S	2.75S
17	A	3.15	3.00	2.95	3.05	2.80	3.20	3.25S	3.55R	3.65R	3.00R	3.25	3.25	3.25	3.25	3.35	3.25	3.10S	3.20S	3.25	3.15	2.90S	3.20S	3.00
18	2.95S	2.80	2.95	2.95	3.05	3.20	3.25	3.40S	3.45	3.35R	3.40R	3.25	3.15	3.25	3.15	3.25	3.55	3.40	3.20	3.10	2.95	2.90	3.00	3.00R
19	2.75	2.95	3.05	3.25	3.00	2.85	3.35	3.50R	3.30R	3.40R	3.25	3.20	3.25	3.20	3.30R	3.55	3.35	3.55	3.35S	J3.00S	A	2.95	2.80S	2.80
20	2.90	2.80	2.80	2.95	3.05	3.30	3.25	3.30	3.20	3.25	I3.30C	3.30	3.15	3.05	3.15	A	3.40	3.50	3.40	2.85R	2.85	3.05R	S	2.95
21	2.80	2.80R	3.25	3.30	3.55	3.05R	3.30	3.35	3.30	3.20	3.00	3.25	3.20	3.25	3.25	3.25	3.30	3.30	3.00	2.65	2.75R	3.10	3.00	2.95
22	2.85	3.00	3.15	3.30S	C	3.00	3.30R	C	C	3.50	3.10	3.20	3.10	3.25	3.25	3.25	3.35	3.50	3.00S	3.10	3.00	2.85	U2.80R	2.90
23	2.80	3.00	3.25	3.40	3.40	S	2.95	3.25R	3.00R	3.25	3.20	3.20	3.35	3.35	3.00	3.40R	3.50	3.50	3.55	3.30	3.05	A	A	A
24	3.05	3.25	3.00	3.05	2.65	2.70	3.45	3.55R	3.25	3.20	3.25	3.30	3.05	3.05R	3.25	3.35	3.30	3.55	3.35	J2.95S	A	2.85	3.05R	3.00
25	3.20	3.25	J2.80R	3.30	3.15	J2.65R	3.30	3.15	3.40	3.25	2.95	3.15	3.30	3.35	3.55	3.30	3.35	A	A	3.10	3.20	3.10	3.00	2.90
26	2.80	3.10	3.00	2.90	2.85	2.80	3.25	3.10	3.05	3.25	3.20	3.20	A	3.20	3.00	3.35R	3.55	3.25	A	A	3.20	3.00	2.95	3.05
27	F	F	F	C	C	F	S	C	C	3.45	3.45	3.05	3.20	3.20	3.25	3.50	3.40	3.35	3.20	3.25	3.00	3.25R	2.95	2.85
28	2.80	3.05	2.85	J3.00R	3.65	2.95	3.15	3.55S	3.30	3.30	3.30	3.15	3.20	3.25	3.20	3.35	3.25	3.65R	3.40	A	A	3.00	3.05	A
29	3.25R	3.25	3.05	3.00	J3.30R	3.40R	3.40R	3.35	3.50	3.45	3.05	J3.45R	3.00	3.20	3.15	3.35	3.40	A	A	A	2.95	U3.10S	3.00	3.30
30	2.95R	2.90	3.00	3.00	J2.95R	F	3.25	3.35	3.25	U3.25S	3.25	3.30	3.30RU	3.20R	3.25R	3.30	3.35	3.65R	3.20	3.00	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	3.50	C	3.25R	3.35R	3.50	3.40	3.45	3.40R	S	S	3.00R	3.15SU	2.80S	S
No.	22	25	26	25	25	23	27	25	26	27	28	29	28	30	30	29	30	28	25	24	23	22	25	22
Median	2.95	2.90	3.00	3.00	3.05	3.00	3.30	3.35	3.40	3.35	3.20	3.20	3.20	3.20	3.25	3.30	3.35	3.40	3.35	3.10	3.00	3.00	2.95	2.95

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

The Radio Research Laboratories, Japan.

K 7

IONOSPHERIC DATA

Oct. 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								S	L	S	4.00	4.00	"4.20"	L	A	A								
2									A	A	A	A	A	A	A	A	A	A	A					
3								A	R	A	A	L	A	L	L	A	A	A						
4									L	C	3.85	A	B	3.50	A	A	A	A						
5							C	C	C	C	C	L	S	"3.80"	L									
6									B	C	C	C	L	C	C	C	A							
7										L	L	L	L	S	S	L	L							
8									L	L	"3.80"	L	L	L	L	L								
9								S	L	L	L	L	"3.80"	L	L	A								
10											L	L	L	L	L	L								
11									L	L	S	L	S	L	L	S								
12									L	L	S	3.80	"4.00"	S	L	L								
13									L		"3.80"	3.80	L	L	"4.00"	L								
14										L	C	L	C	L	L	A		S						
15									L	S	A	A	L	C	L									
16							C	C	C	L	S	S	S	S	L	L	C							
17									L	4.00	L	L	S	L	S	L								
18										L	L	L	L	S	S	S								
19										L	L	L	L	L	S									
20										L	C	L	L	A	L	A								
21										L	S	L	L	L	L	S								
22								C	C		L	A	L	L	L	L								
23									L	L	L	L	L	L	L	L								
24										L	A	A		L	L	A								
25									L	L	L		L	L	L	A	A	A						
26									L	L	L	L	A	A	A	A								
27									L	L	L	A	L	A	L	L								
28									L	L	L	S	L	L	L	L								
29									A	L	L	A	S	A	A	A	A	A						
30								L	L	L	S	"4.00"	A	S	S	S	L							
31							C	C	C	C	S	C	S	S	S									
No.										1	4	4	3	2	1									
Median										4.00	"3.80	3.90	"4.00	"3.65	"4.00									

M(3000)F1 Sweep 1.0 Mc to 20.0 Mc in 7.0 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 8

40

IONOSPHERIC DATA

Oct. 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								375	305	300	290	305	300	305	310A	260								
2									300AE	310A	260A	265	300A	300A	300A	305	250A	240A	A					
3								E250R	255	280A	305	275	260A	305	300	255	255	250A						
4									250	C	270	300A	300	260	E260A	250A	E250A	E250A						
5							C	C	C	C	C	280	255	250	255									
6									240	C	C	C	275	C	C	C	260							
7										275	275	250	275	255	275	275	255							
8									225	265	300	275	255	300	260	255								
9								245	230	250	275	285	250	275	255	255								
10											300	260	295	255	260	265								
11									230	230	255	270	255	295	260	255								
12									240	245	255	280	275	260	255	255								
13									240		300	260	250	260	275	250								
14										245	C	270	C	255	250	240		E245S						
15									235	280	270A	250	260	C	260									
16							C	C	C	255	260	260	255	245	255	240	C							
17									245	245	280	255	255	255	255	255								
18										250	255	260	255	265	255	240								
19										245	260	270	260	255	260									
20										260	C	255	275	270	255	A								
21										255	260	275	260	255	255	255								
22								C	C		275	265	255	280	255	255								
23									260	260	255	255	255	255	265	255								
24										260	250	240		275	250	240								
25									240	250	255		230	260	250	240	250A	A						
26									260	250	245	245	E290AE	270A	255A	230								
27									U230Q	225	225	230	250	255A	240	230								
28									230	250	245	E250S	250	260	235	235								
29									235	230	260	230	240	260	250	240	230	A						
30								230	225	240	250	250	240	E250S	E250S	245	230							
31							C	C	C	C	250	C	255	260	255									
No.								3	19	23	27	28	28	28	29	25	8	4						
Median								245	240	250	260	260	255	260	255	255	250	E250						

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

Oct. 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	Z60	310	320	Z60	300	325	310	Z75	Z25	I Z20 S	Z50 A	E Z50 A	E Z50 A	Z10	I Z35 A	I Z50 A	Z45 A	Z45 A	Z60 A	Z60 A	E 390 A	E 350 A	310 A	300 A
2	E 350 A	300 A	300 A	360	350 A	I 320 A	Z50	E Z50 A	A	A	A	A	A	A	A	A	A	A	A	E 355 S	E 300 A	310 A	E 350 A	E 300 A
3	I 315 A	350 A	Z60	Z55	E 350 A	E 340 A	Z50	I Z45 A	I Z35 A	A	A	E 300 S	I Z45 A	Z50 A	E Z50 A	A	A	A	A	Z25	Z70 A	I 300 A	I Z25 A	E 350 A	A
4	E 355 A	310	330 A	Z85	I 345 A	I 315 A	Z50 A	Z50 A	E Z55 S	I Z25 C	Z30	A	B	E Z50 S	A	A	A	A	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	Z55	I Z50 S	Z00	Z45	E Z55 S	Z45	Z45	Z10	Z10	Z55	Z60	300	Z55
6	E 355 B	305	305	Z55	Z25	Z50	Z25	Z45	I Z10 B	C	C	C	E Z60 S	C	C	C	A	Z20	Z15	Z15	Z60 A	I Z90 A	325	350 A
7	300	320	Z60	Z15	Z10	Z55	Z25	Z25	Z20	Z10	Z30	Z50 S	E Z50 S	I Z30 S	I Z20 S	Z35	E Z55 S	Z40	Z15	Z10	Z45	E 380 A	350 A	E 350 A
8	300 A	305	300	Z90	Z60	Z50	Z15	Z20	Z05	Z05	E Z50 S	E Z70 S	Z05	Z30	Z30	E Z55 S	Z25	Z30	Z55	Z60	305	300 A	E 320 S	Z50
9	Z45	305	310	300	Z75	Z60	Z65	I Z30 S	Z25	Z45	Z25	Z55	E Z55 S	E Z50 S	E Z50 S	I Z45 A	Z45 A	Z30	Z30	Z45	Z60 A	300 A	Z55	300
10	305	310	Z65	Z25	Z25	Z55	Z35	Z25	Z25	Z50	Z55	Z70	Z55	Z55	Z60	Z30	Z50	Z30	Z15	Z25	E 320 A	305	E 360 A	345
11	355	300	Z70	Z80	320	310	E Z50 A	Z45	Z25	Z10	I Z60 S	Z80	I Z55 S	Z55	Z55	I Z45 S	Z45	Z45	Z10	Z25	Z60	I 305 A	325	350
12	305	Z95	Z50	Z80	Z90	300	Z50	Z30	Z50	E Z55 S	S	E Z50 S	Z15	I Z25 S	E Z45 S	E Z45 S	Z30	Z25	Z25	Z55	Z60	Z55	Z55	E Z55 S
13	E 340 A	E 360 A	325 A	Z95	Z55	Z45	Z30	Z25	Z25	Z25	Z25	Z20	E Z55 S	Z05	E Z30 S	E Z55 S	Z50	Z25	Z15	Z45	Z55	300	310	E 320 S
14	300	Z95	Z55	Z55	Z30	Z50	Z45	Z25	E Z45 S	Z10	I Z40 S	E Z55 S	C	E Z50 S	Z45	I Z30 A	Z30	I Z20 S	Z45	Z55	E 280 A	I Z65 A	E 350 A	E 310 A
15	305	300	Z95	Z55	Z10	E 300 S	Z30	Z30	Z30	I Z50 S	A	A	Z45	I Z30 C	E Z50 S	Z45	Z25	Z25	Z05	Z60	300	305	C	C
16	C	C	C	C	C	C	C	C	C	Z50	Z20	S	S	S	Z45	Z15	I Z25 C	Z30	Z30	Z60	Z80	300	300	355
17	I 310 A	E 325 A	Z65	Z90	Z95	340	Z50	Z45	Z20	Z30	Z10	Z60	I Z60 S	Z25	I Z30 S	Z40	Z55	Z25	Z25	Z30	Z35	305	Z60	Z55
18	300	320	Z85	Z90	Z45	Z95	Z30	Z30	Z45	Z20	Z10	Z70	Z50	I Z30 S	I Z40 S	I Z45 S	Z30	Z25	Z50	Z75	Z55	320	Z85	Z50
19	Z60	Z75	Z50	Z45	Z55	325	Z50	Z30	Z35	Z25	Z25	E Z50 S	Z45 S	E Z50 S	I Z30 S	Z45	Z25	Z40	E Z55 A	E Z95 S	I Z70 S	Z95	310 A	Z95
20	300	305	300	300	Z50	Z50 A	Z40	Z25	Z55	Z30	I Z40 C	Z55	Z50	I Z60 A	Z60	A	E Z35 A	E Z50 A	Z10	300	Z90	Z75	I 305 S	335
21	345	300	Z55	Z20	Z05	Z90	Z50	Z25	Z40	Z15	I Z50 S	Z55	Z55	Z45	Z60	I Z40 S	Z35	Z15	Z15	Z75	310	305	Z85	330
22	330	Z70	Z85	Z20	I Z40 C	Z70	Z25	I Z25 C	I Z25 C	Z30	Z45	I Z45 A	Z10	Z75	Z40	Z50	Z30	Z10	Z20	E 305 A	Z70	Z90	E 330 A	E 315 A
23	305	Z80	Z25	Z25	Z05	I 350 S	Z60	Z30	Z55	Z35	Z55	Z50	Z45	Z45	Z35	Z25	Z30	Z60	Z20	Z50	Z55	A	A	A
24	Z80	Z55	Z70	Z70	325	330	Z35	Z20	Z45	Z45	A	A	E Z40 A	E Z40 A	E Z55 A	I Z25 A	Z25	E Z25 C	Z05	E 350 A	I Z95 A	350 A	Z70 A	300 A
25	Z80 A	Z55	300	Z30	Z50	345	Z50	Z25	Z35	E Z50 S	Z10	Z45	E Z50 A	E Z45 S	Z45 S	I Z35 A	A	A	A	Z55	Z45	Z60	305	310 A
26	E 340 A	Z55	Z70 A	Z75	310 A	340 A	Z45	Z40	Z45	Z45 A	Z45	Z35	A	A	A	A	Z20	Z05	E 310 A	A	Z50 A	300 A	300 A	Z95
27	E 340 CU	300 CU	Z55 CU	Z45 CU	Z40 CU	Z55 CU	Z40 CU	Z45 CU	Z15 C	Z25	Z30 A	I Z20 A	Z45 A	I Z30 A	Z35	Z30	Z25	Z15	Z50 A	Z60 A	Z60 A	Z50 A	Z80	305
28	330 A	Z75	310	Z25	Z00	305	Z50 A	Z30	Z25	E Z45 S	Z05	I Z15 S	Z25	E Z55 S	Z45	Z25	Z30	Z15	Z05	A	A	310 A	Z95	I Z75 A
29	Z55	Z50 A	Z75	Z65	Z55	Z55	Z60 A	Z45	I Z30 A	E Z35 A	Z45	I Z45 A	Z45 S	A	A	A	A	A	A	A	310 A	Z60	Z70	Z55
30	E 320 S	310	Z85	Z50	Z80	Z95	Z30	Z25	Z25	E Z25 S	I Z30 S	Z05	I Z15 A	I Z10 S	I Z40 S	I Z20 S	Z05	Z15	Z70 A	E 300 A	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	I Z50 S	I Z55 C	Z40 S	I Z40 S	I Z50 S	Z45	Z20	Z20	Z65	E 320 S	Z70	Z50	300	I 300 S
No.	21	26	28	28	27	26	27	27	25	22	23	22	20	19	21	20	23	25	25	21	24	26	21	22
Median	300	300	Z80	Z60	Z55	Z95	Z45	Z30	Z25	Z25	Z30	Z50	Z45	Z30	Z40	Z40	Z30	Z25	Z20	Z55	Z60	300	300	300

h'F

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

The Radio Research Laboratories, Japan.

K 10

42

IONOSPHERIC DATA

Oct. 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	100	S	S	S	S	S	110	S	110	105	105	105	100	105	105	105	105	105	105	110	105	105
2	105	100	100	E	105	100	G	115	110	105	105	105	105	100	100	110	125	115	110	105	110	105	105	105
3	110	105	105	E	105	105	B	105	105	105	105	105	100	100	100	100	100	100	100	110	115	110	110	110
4	105	105	105	105	105	105	105	145	105	C	115	110	B	115	115	115	110	105	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	S	S	S	S	S	S	S	B	S	S	105	S	S
6	B	E	E	E	E	E	B	S	B	C	C	C	S	C	C	C	115	S	S	S	105	105	105	115
7	S	E	S	E	E	S	B	G	G	110	S	S	S	S	S	B	S	110	S	S	S	105	105	100
8	100	E	E	E	E	S	S	140	S	S	S	S	S	S	S	S	S	S	S	S	105	110	105	S
9	E	E	E	E	110	110	S	S	S	120	110	S	S	S	S	125	110	120	S	105	105	110	105	S
10	S	E	E	E	E	S	S	G	S	S	S	S	S	S	S	S	S	S	115	S	110	S	105	105
11	105	110	E	E	125	120	120	S	S	S	S	S	S	S	S	S	S	S	S	115	E	110	115	E
12	110	105	S	S	E	E	105	110	S	S	S	S	S	S	S	S	S	S	S	S	S	110	110	S
13	105	105	105	105	100	S	S	S	B	S	S	B	S	S	S	S	130	115	S	110	S	S	105	S
14	S	S	S	S	S	S	S	115	S	S	C	S	C	S	B	105	S	S	S	S	115	110	105	100
15	100	E	E	E	E	S	B	S	S	S	115	110	110	C	S	S	110	105	105	110	S	S	C	C
16	C	C	C	C	C	C	C	C	C	125	S	S	S	S	S	S	C	S	S	S	S	S	S	S
17	115	110	110	105	105	105	S	S	S	S	S	S	S	S	S	S	S	S	E	E	S	S	S	E
18	S	110	100	105	105	110	S	S	S	S	S	S	S	S	S	S	S	S	S	S	E	S	125	S
19	E	E	E	E	E	S	S	S	S	S	S	S	S	S	S	S	S	120	120	S	105	S	105	105
20	100	125	125	100	100	105	S	S	G	130	C	125	110	110	110	105	105	105	S	115	S	110	S	100
21	105	S	E	E	105	105	110	145	135	S	120	S	115	120	120	S	125	S	S	S	110	105	S	105
22	S	110	105	E	C	S	S	C	C	115	B	110	S	110	S	125	B	B	110	110	110	110	105	110
23	105	105	110	110	100	S	105	S	130	130	S	125	125	125	115	115	115	110	110	115	125	110	110	110
24	S	E	E	E	105	E	S	135	125	120	120	115	115	110	110	110	110	C	S	105	100	105	105	105
25	105	110	E	E	E	E	S	G	115	S	S	105	105	S	S	125	120	115	110	S	S	110	110	105
26	100	100	105	105	105	105	S	S	G	110	S	110	110	105	110	105	B	S	115	115	115	110	105	110
27	u105c	E	S	u100c	u105c	S	u135c	u120c	u105c	105	100	105	110	105	120	S	S	S	150	105	110	105	110	110
28	110	110	S	110	E	E	150	G	G	S	S	S	S	S	S	115	S	150	S	110	110	105	105	105
29	105	100	100	105	100	105	145	G	115	110	S	110	105	100	100	110	110	110	110	105	100	S	S	S
30	S	E	E	100	100	S	S	G	S	C	100	S	100	100	100	105	105	110	110	100	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	115	C	S	S	S	105	S	S	S	S	E	S	S	S
No.	17	15	12	11	16	11	8	9	10	12	11	13	13	13	12	16	15	15	13	16	17	20	21	17
Median	105	105	105	105	105	105	115	120	110	110	110	110	110	105	110	110	110	110	110	110	110	110	105	105

h'Es

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

The Radio Research Laboratories, Japan.

K 11

IONOSPHERIC DATA

Oct. 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			f						C		C	l	l	l	fz	l	l	l	fz	f	f3	f4	f3	fz
2	fz	f3	fz		f	f4		l	Cz	Cz	Cz	l	l	lz	fz	C	h	lz	fz	fz	fz	fz	f	fz
3	fz	fz	f		fz	fz		lz	l	lz	lz	l	lz	lz	lz	lz	lz	lz	f	fz	f3	f3	fz	f3
4	f3	f	fz	f	fz	f3	lz	h	l		h	lz		h	l	l	lz	lz						
5																								
6																						fz		
7										l							C				fz	fz	fz	f
8	f							h										l				fz	fz	fz
9					fz	f				h	l					h	lz	h	f	f	fz	fz	f	
10																					f			
11	f	f			fz	f	lz																	
12	f	f					lz	l												f		fz	f	
13	f3	f3	f3	f	fz												h	l		f		fz	f	
14								l								lz					fz	fz	f3	fz
15	f										l	lz	lz				lz	lz	f	f				
16										l														
17	fz	f3	fz	fz	f	f																		
18		f	f	fz	f	fz																		
19																							f	
20	f	fz	fz	f4	fz	f				h		l	l	l	l	lz	lz	h	fz		f3		f3	f
21	fz				f	fz	l	hh	h		h		l	h	h		l	lz		f		fz		f
22		f	f							l		lz		l		l	h				fz	fz		fz
23	fz	f	f	f	f		l		h	h		h	h	h	l	l	l	l	f	f	fz	f	fz	f3
24					f			h	h	h	h	hz	l	l	l	Cz	l	l			fz	f	fz	f4
25	fz	f							C			lz	l			h	h	hz	f3	f3				fz
26	f3	f	fz	fz	fz	f3				l		l	lz	lz	lz	lz			f2	f2	f2	f2	f2	f
27	f			fz	fz		h	h	Cz	l	l	l	l	lz	h				f2	f2	f2	f2	f2	f
28	f	f		f			h									C		hz		f3	f2	f2	f	f4
29	fz	fz	fz	fz	f3	f	hz		lz	l		l	l	l	lz	C	lz	fz	f3	f3	f	f2	fz	
30				f	f						l		l	l	l	l	l	l		fz				
31											l					l								
No.																								
Median																								

Types of Es

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

The Radio Research Laboratories, Japan.

K 12

IONOSPHERIC DATA

Oct. 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	305	380	350	310	335	395	315R	380	310	305	305	330	310	305	350	Z90	Z60	Z70	320S	330	A	J380S	J340RJ	330F
2	380	360	320	405	355	A	300	Z80	305	405RJ	350R	Z90	355	320	315	305	Z80	Z60	A	A	F	J340R	F	J340F
3	A	380	325	305R	355	355	J275R	Z55	Z75	320	310	J290R	Z90	305	300	Z95	Z95	Z80	Z55	Z80	A	A	350	A
4	A	355	380	305	A	A	Z90	Z75	U255R	C	Z90	345R	310	Z90	300	Z95	Z80	255S	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	Z95	Z85	Z50	Z95	Z95	Z95	R	Z40	R	R	305	325	325
6	345	345	350	R	Z90	300	Z40	R	Z50	C	C	C	S	C	C	C	J280R	Z50	Z50	Z50	Z90	A	360	350
7	340	350	305	250S	Z50	Z55	Z50R	Z55S	Z60	Z90	300	Z85	Z95	Z75	Z85R	300R	Z75R	Z70U	Z50S	Z55	Z55	A	355	350
8	330	345	340	320	315	Z65	Z25	Z30	Z40S	Z80	325	310	Z80	330	305	Z80	Z55	Z50	300	325R	350	J340R	350	Z85
9	Z70	350	350	360	320	320	Z90	Z45	Z55	Z90	330	310	Z75	Z95	Z80	Z80R	Z55	Z70	Z55	Z80	Z90	320	J295S	F
10	305	370F	305	Z80	Z95F	J290F	Z55	J250S	Z45	Z70	320	Z75	320	J300C	Z80	Z80	Z60	Z55	Z35	Z95S	345R	355	A	350R
11	U355R	380R	355R	355	350	345	Z55R	Z65S	Z50S	Z55	Z95R	Z80R	320	320	Z80	Z65	Z75S	Z80S	Z45	Z65	Z65	A	350	350R
12	350	345	Z80	345	335	350	Z60	Z60S	Z55	Z50	300	J300R	305	Z80	Z60	J255R	Z55	Z55	Z65U	300S	320	300	Z90	J285S
13	A	A	325	310	Z95	Z90	Z55	Z55	Z55	Z55	310	Z75	Z60	Z65	Z85	Z65	Z70U	Z50R	Z55	Z80	310	S	355	S
14	S	S	S	S	IZ70SI	Z75S	Z60U	Z50S	Z70	J255R	C	305	C	Z70	Z60	Z55	Z55	Z60	300	315	300	A	J385S	345
15	365	355	340S	320	J260R	350	Z55	Z55	Z55	Z50R	Z95	325	300	IZ95C	Z90	Z65	Z55R	Z55	Z55	305	F	J355H	C	C
16	C	C	C	C	C	C	C	C	C	Z80	Z75	Z80R	J270R	Z75	325	Z70	C	U275	Z75	325R	365	345	355S	405F
17	A	325	320	345	345	395	Z80	Z75S	Z50R	Z45R	305R	Z75	Z95	Z70	Z90	Z75	Z80	Z95S	Z85S	Z80	305	360S	Z95S	360
18	345S	375	350	360	305	320	Z75	Z50S	Z60	Z70R	Z60R	Z80	Z80	Z75	305	Z95	Z55	Z45	305	340	345	385	325	345R
19	370	345	335	Z95	365	360	Z65	Z50R	Z60R	Z70R	Z80	Z90	Z80	Z80	Z85R	Z55	Z55	Z55	Z60J	330S	A	340	350S	355
20	330	360	350	340	305	Z65	Z75	Z70	Z90	Z85	IZ70C	Z60	305	300	Z85	A	Z55	Z55	Z50	355R	365	335R	S	370
21	395	390R	300	Z65	Z45	340R	Z70	Z60	Z60	Z90	350	305	Z95	Z80	Z75	Z70	Z65	Z65	315	395	390R	340	350	380
22	395	335	340	Z85S	C	350	Z65R	C	C	Z55	305	300	Z90	Z95	Z75	Z75	Z65	Z50	325U	310	330	360	U355R	350
23	380	330	Z85	Z50	Z50	S	325	Z75R	305R	305	Z75	Z75	Z80	Z75	305	Z80R	Z55	Z60	Z55	300	330	A	A	A
24	345	305	355	325	415	380	Z55	Z35R	Z65	300	Z90	Z80	305	310R	Z80	Z55	Z60	Z45	Z55	J355S	A	375	310R	320
25	305	Z80J	355R	Z60	Z90J	390R	Z80	Z80	Z70	Z70	330	Z90	Z60	Z80	Z55	Z65	Z55	A	A	300	Z80	300	340	340
26	355	300	320	330	350	365	Z75	Z95	305	Z80	Z90	Z80	A	300	305	Z60R	Z50	Z70	A	A	Z90	315	320	325
27	F	F	F	C	C	F	S	C	C	Z50	Z50	305	Z95	Z85	Z70	Z50	Z50	Z55	Z80	Z90	315	Z70R	325	330
28	360	310	350	J255R	Z20	330	Z95	Z50S	Z55	Z75	Z60	300	Z75	Z85	Z80	Z55	Z65	Z50R	Z55	A	A	335	310	A
29	Z85R	Z80	305	325	J265F	Z55R	Z80R	Z55	Z50	Z60	300	J255R	305	305	Z85	Z55	Z50	A	A	A	320	U300S	310	Z65
30	320R	330	315	310	J325F	F	Z70	Z55	Z75	U285C	Z90	305	Z60RU	Z95R	Z70R	Z60	Z55	Z35R	300	310	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	Z70	C	Z70R	Z75R	Z60	Z60	Z65	Z55R	S	S	355R	Z95U	355S	S
No.	22	25	26	25	25	23	27	25	26	27	28	29	28	30	30	29	30	28	25	24	21	22	24	22
Median	345	345	340	310	305	340	Z70	Z65	Z60	Z75	300	Z90	Z90	Z90	Z85	Z70	Z60	Z55	Z55	300	320	340	345	345

hpF2

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Oct. 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	55	60	50	85	65	55	80R	70	65	65	80	100	70	55	90	70	70	90	80S	80	A	T 70S	T 60R	T 75E
2	75	105	80	95	70	A	65	70	75	115RT	130R	70	45	80	75	85	70	65	A	A	F	T 65R	F	T 70E
3	A	70	80	105R	95	85	T 75R	55	75	85	85	T 55R	45	90	95	95	85	65	55	80	A	A	50	A
4	A	90	115	95	A	A	65	70	U 40R	C	60	100R	85	60	60	55	70	50S	C	C	C	C	C	C
5	C	C	C	C	C	C	C	C	C	C	C	70	60	50	55	55	55	R	60	R	R	90	70	70
6	95	55	95	R	60	80	60	R	45	C	C	C	S	C	C	C	T 45R	50	65	105	70	A	80	70
7	75	90	95	50S	100	65	50R	55S	90	30	45	100	50	35	40R	50R	35R	70U	45S	50	60	A	50	95
8	65	65	75	85	85	40	30	45	65S	65	75	95	75	70	60	55	70	60	90	90R	60T	60R	60	80
9	85	110	55	50	125	80	105	55	60	60	75	65	75	55	60	70R	55	70	50	70	50	75	T 60S	F
10	90	55E	90	65	60F	T 55E	50	T 55S	50	60	60	65	85	T 80C	70	70	60	45	65	55S	55R	55	A	50R
11	U 50R	65R	95R	95	55	55	95R	90S	100S	95	65R	75R	60	80	70	80	75S	70S	100	65	45	A	50	55R
12	90	55	70	60	55	55	75	90S	75	30	70	T 40R	105	45	55	T 50R	70	50	85	U 55S	75	50	65	T 65S
13	A	A	70	80	55	105	70	90	50	60	60	50	40	50	60	75	50	U 50R	60	75	85	S	90	S
14	S	S	S	S	I 70S	I 75S	95	U 35S	45	T 60R	C	70	C	75	60	60	70	80	90	95	85	A	T 70S	70
15	80	100	110S	85	T 90R	90	60	60	100	55R	70	120	55	I 60C	65	80	50R	90	90	85	F	T 95E	C	C
16	C	C	C	C	C	C	C	C	C	45	75	60RT	85R	100	50	80	C	U 75S	75	75R	80	60	50S	55S
17	A	50	80	60	55	60	75	75S	55R	45R	95R	75	55	80	60	55	65	85S	70S	70	60	65S	75S	45
18	60S	75	60	45	95	40	80	90S	55	60R	70R	70	85	70	60	60	50	105	60	45	75	40	75	60R
19	85	60	65	55	75	80	70	55R	95R	60R	70	65	65	75	60R	45	85	50	90ST	70S	A	75	105S	90
20	85	90	95	75	85	85	75	70	75	65I	80C	95	65	85	115	A	65	55	100	75R	65	60R	S	40
21	55	55R	50	75	55	55R	70	65	90	70	50	45	60	70	70	80	90	100	85	100	80R	45	55	45
22	45	60	35	65S	C	55	90R	C	C	50	70	55	90	55	70	75	65	55	80S	65	75	80	U 95R	80
23	65	75	80	75	80	S	80	95R	95R	45	75	75	50	60	95	50R	50	50	50	45	55	A	A	A
24	55	50	50	75	80	90	60	65R	85	55	60	60	85	70R	70	80	80	60	85T	70S	A	65	90R	110
25	60	70T	90R	105	110T	110R	65	105	55	75	80	75	100	50	50	80	80	A	A	85	120	100	65	100
26	90	85	80	90	90	90	75	70	75	60	65	85	A	65	90	90R	50	85	A	A	75	90	90	70
27	F	F	F	C	C	F	S	C	C	65	65	90	60	70	75	55	85	75	85	65	95	85R	85	110
28	90	95	85	T 70R	90	85	75	55S	95	65	90	65	90	60	115	80	95	55R	115	A	A	70	80	A
29	65F	85	85	80	T 80F	95R	75R	75	60	55	85	T 60R	95	60	110	85	95	A	A	A	85	U 90S	70	120
30	115R	110	100	95	T 90F	F	80	90	85	U 60C	60	40	80R	U 65R	80R	90	90	45R	60	85	C	C	C	C
31	C	C	C	C	C	C	C	C	C	C	40	C	75R	50R	50	60	50	90R	S	S	50R	100SU	85S	S
No.	22	25	26	25	25	23	27	25	26	27	28	29	28	30	30	29	30	28	25	24	21	22	24	22
Median	75	70	80	75	80	80	75	70	75	60	70	70	70	65	70	70	70	65	80	70	75	70	70	70

ypF2

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

IONOSPHERIC DATA

Oct. 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	I3.6S	3.4	I3.6S	J3.7S	2.3	2.7	3.1	J6.1S	9.0S	9.4S	8.8	J9.0S	9.3S	8.9	I9.2S	9.0S	7.3	6.9	6.7	I6.9S	J6.1S	3.4S	A	A
2	A	3.6	A	A	A	3.2	I4.2SH	5.3	6.6	I9.3S	J8.0S	I7.9S	10.2S	10.6S	10.5	J10.0S	I7.9S	J6.2S	6.3 S	I5.9A	5.4	A	S	S
3	S	S	4.1	4.0 S	J3.2S	3.3	I4.4S	J6.4S	6.2H	6.7	8.6	11.5	J10.0S	9.0	8.5	8.3	J7.4S	J8.3S	I7.8S	5.1	I3.8A	J3.9S	I3.8S	3.5
4	3.3	3.3	3.3	J3.6S	3.1	3.1	J3.6S	I6.2S	J7.9S	I8.0S	I7.7S	I7.8S	J9.6S	J10.2S	9.0	J8.2S	J7.4S	7.2	I6.4S	A	A	A	4.4S	I4.0S
5	I3.9S	J3.9S	I3.8S	I3.8S	I3.4S	I3.5S	I 4.8S	6.5	I6.9S	7.8	8.1	I9.4S	J9.9S	J10.1S	J10.4S	8.6	I7.7S	6.9	I6.5S	I5.9S	I5.3S	I4.3S	S	S
6	S	J3.5S	3.4S	J3.3S	I3.2A	2.8	J3.9S	I6.3S	6.1H	6.6	6.6	I7.5S	8.6	9.2	J9.7S	10.5	S	I9.1S	I7.8S	5.8	I4.1S	I3.3S	J3.2A	J3.2S
7	I3.7S	J3.6S	I4.0S	J5.0S	2.1	2.3	3.3	J6.2S	7.0S	7.8	I7.2S	8.6	10.2	10.2	I10.3S	J9.9S	8.9	8.7S	9.2	J6.2S	4.8S	I3.9S	3.8S	J3.7S
8	3.8	I3.7S	J3.6S	I3.8S	I3.8S	I3.6S	I3.7S	5.6	J6.4S	6.7	7.2	J9.9S	J 9.6S	J7.6S	10.9	10.0	I8.8S	J 7.7S	7.2S	I6.7S	S	S	5.6	J5.4S
9	I4.0S	J3.6S	3.4S	J3.6S	J3.9S	I3.6S	4.8	5.8	6.7	7.0S	8.7	11.3S	11.3	9.3	J9.9S	I9.4S	9.2S	J10.3S	I7.8S	6.0	I4.1S	I4.1S	J3.9S	J3.1S
10	S	S	4.1	I3.9S	J3.8S	I4.0S	I 4.8S	6.1	6.8	6.9	8.8	10.5	10.6	10.8	12.2	J12.2S	11.4H	I9.6S	I7.8S	5.0	I4.1S	I3.5S	I3.5S	I3.6S
11	I3.6S	I3.6S	I3.7S	I3.6S	3.5S	I3.6S	I4.2S	I6.2S	I7.0S	7.0	J7.8S	J9.7S	J11.3S	10.7	12.3	I11.3S	9.1	9.0	8.3	I5.7S	3.6	3.8S	I3.6S	I3.6S
12	I3.7S	J3.7S	4.1	3.1	3.3	3.1	I3.6S	I6.4S	J8.1S	8.6	J7.8S	8.3	10.6	11.4	11.1	9.1H	7.4HS	I7.2S	I6.8S	5.9S	5.5S	I5.0S	4.7	4.4
13	I3.9S	I3.7S	I3.6S	I4.0S	4.6 S	2.9	3.3	I6.1S	I7.6S	8.2S	7.6	J10.5S	11.4	9.3	8.7	I9.3S	J 9.6S	9.3	6.9	S	SH	S	4.2S	4.3S
14	I4.1S	4.1S	4.2	4.3	J3.7S	3.0	3.6	J 6.5S	8.4	I9.5SH	9.0	9.2	11.0	11.0	12.1S	J10.6S	J 8.0S	J8.0S	I8.0S	I5.2S	S	S	S	S
15	S	S	S	3.8S	5.4	I4.1S	I5.6S	6.8	I7.4SH	8.4H	8.6	J10.1S	11.6S	13.2	I14.0S	I14.6S	I12.5S	I9.6S	I6.9S	S	S	S	S	S
16	S	3.8	J4.0S	S	S	J3.7S	I4.7S	S	S	J8.0SH	9.3SH	8.8	11.0S	I12.0S	11.8S	11.0H	9.2	S	S	4.9S	I4.6S	4.4	I4.3S	4.2
17	I3.3S	I3.7S	J3.8S	I3.9S	3.5	I3.5S	I3.8S	I6.3S	8.2H	8.0	7.8	9.2	10.7	J11.4S	J12.7S	12.1HS	I11.3S	I10.4S	J8.2S	6.0	J5.2S	I4.4S	I4.2S	I3.5S
18	3.4	3.4	I3.4S	3.4S	3.1	I3.0C	3.3	I6.2S	I6.8S	7.1S	9.0	C	C	C	J10.2S	I10.3S	10.9S	I7.6S	5.8	I4.7S	I4.5S	I4.4S	I4.4S	S
19	S	S	S	I3.5S	3.3	I3.3S	I4.2S	I5.8S	6.8	I7.6 S	8.1	J9.7S	8.6	I9.5S	10.6	J10.4S	7.8S	6.9	6.1	S	S	S	A	J3.9S
20	S	S	I4.2S	I4.2S	4.2	2.9	3.2S	I6.3S	I8.1S	I10.9S	I9.9S	10.7	J9.9S	J10.5S	11.7S	10.8S	I10.0S	8.1	I6.3S	4.4	4.3	I4.5S	I4.4S	I3.9S
21	I3.8S	3.9	I3.9S	I4.2S	2.6	2.2	2.9	5.7	6.7	J7.9S	8.7	10.4	11.4	11.6	11.1	11.6S	I9.5S	J7.7 S	5.5	4.3S	4.2	I4.2S	J3.6S	I3.7S
22	I3.8S	I4.0S	I3.5S	I3.8S	3.4	2.8	3.1	6.4S	I7.5SH	J8.0S	9.0	11.0S	J11.7S	11.5	12.6	I11.3S	I9.3S	I7.7SH	6.5	5.8S	I5.0SH	S	A	S
23	S	I4.3S	I4.9S	J3.9S	J2.3S	2.2	2.6	I6.0S	I8.4S	10.7SU	11.9S	11.8S	11.6	J10.0S	10.6	11.7	J10.4S	8.9	J6.2S	I5.2S	I4.8S	I4.1S	I3.6S	S
24	S	S	3.0	3.2	2.7	2.9	I4.1S	I6.1S	I7.6S	I9.5SH	11.5	10.8	8.6	J10.1SH	12.2S	J12.7S	I9.7S	I8.6 S	J6.6S	I5.2S	I4.5S	J3.8S	I3.8S	3.5S
25	S	S	J3.6S	J3.4S	3.2	2.7	3.1S	6.0	J8.6S	8.1H	9.2	11.4S	11.3S	10.0	J11.5S	J9.6S	J8.2S	I7.4S	6.1S	I5.8S	5.8	S	SH	S
26	A	S	3.2S	3.1	J3.3S	J3.2S	I4.3S	5.9	I8.2S	I11.7HS	11.6 S	10.4	10.7	J9.7SU	J10.3S	I 9.9HS	8.1H	6.9	5.7	5.5	5.9	I5.9S	I5.6S	J4.5S
27	4.4	I4.2S	C	C	C	C	C	C	C	S	10.9	12.1	I13.7S	J11.9SU	J12.2S	11.6HS	7.8HS	I7.4S	J6.3S	5.3	4.8	J4.8S	3.3	3.3S
28	I3.4S	I3.9S	J3.5S	J3.8S	3.1	J2.0S	2.7	I6.3S	J7.8SH	8.2	9.4S	9.5S	10.2	11.7S	13.4S	J12.5SH	10.8H	9.3S	I7.4S	A	A	S	I3.8S	4.0
29	J3.6S	2.7	2.8	3.0	3.5	2.1	2.7	6.5	J7.8S	J8.0S	U9.3S	10.9S	J9.5S	12.1	J13.5S	I12.5S	J10.1S	7.2S	4.9	I4.4S	I4.0S	I3.7S	J3.6S	I3.6S
30	J3.8S	3.6	3.4	3.3	3.2	3.3S	3.3	I6.1S	I7.8S	I9.3S	9.2	9.2	10.0	J9.4SU	J10.4S	8.6H	8.1HS	J6.5S	5.6	4.6 S	4.2	I4.1S	3.1	2.8
31	3.1	3.1	I3.2S	3.3S	3.3S	2.5	2.9S	5.8	8.2	I8.3HS	8.6S	9.0	I9.6S	10.4	J9.9S	9.1	J8.1S	6.1	5.0	3.5SH	I4.2SH	J3.8S	2.8	2.9S
No.	19	23	27	28	28	30	30	29	29	30	31	30	30	30	31	31	30	30	30	26	24	21	23	22
Median	U3.7	3.7	3.6	3.8	3.3	3.0	3.6	6.2	7.6	8.0	8.7	9.8	10.4	10.3	10.9	10.4	9.0	7.7	6.6	5.4	U4.6	U4.1	3.8	3.6
U.Q.	3.9	3.9	4.0	3.9	3.6	3.5	4.2	6.4	8.2	9.3	9.3	10.8	11.3	11.4	12.2	11.6	10.0	9.0	7.8	5.9	5.2	4.4	4.4	4.0
L.Q.	3.4	3.5	3.4	3.4	3.1	2.7	3.1	6.0	6.8	7.6	7.8	9.0	9.6	9.5	10.2	9.3	7.9	7.2	6.1	4.9	4.2	3.8	3.6	3.5
Q.R.	0.5	0.4	0.6	0.5	0.5	0.8	1.1	0.4	1.4	1.7	1.5	1.8	1.7	1.9	2.0	2.3	2.1	1.8	1.7	1.0	1.0	0.6	0.8	0.5

foF2

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Oct. 1962 | foF1 | 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								L	4.2^{L}	4.4	4.6	4.8	L	4.7^{L}	$I_{4.7}{}^{L}$	4.5	L							
2									L	L	4.6	L	4.6	$I_{4.7}{}^{L}$	L	A	A							
3										L	A	$I_{4.8}{}^{L}$	4.7	4.8	A	L	L	A						
4									L	4.5	4.6	L	A	A	L	L	A							
5									L	A	4.5	4.8	L	5.0	4.7	4.5	L							
6										4.2^{H}	$I_{4.4}{}^{L}$	$I_{4.9}{}^{LH}$	4.7	5.0^{L}	$I_{4.7}{}^{L}$	4.3	L							
7										L	L	5.2^{H}	L	4.8	L	L	L							
8										L	L	$I_{4.8}{}^{H}$	$I_{4.6}{}^{L}$	4.7	4.7	L								
9											L	4.7	4.8	$I_{4.8}{}^{L}$	L	LH								
10											L	L	L	L	4.9^{L}	L								
11										L	L	L	4.8	$I_{4.8}{}^{L}$	4.6									
12											$I_{4.4}{}^{L}$	4.8^{H}	L	4.7	L									
13										L	L	L	LH	L	LH	4.5								
14											4.3	L	L	L	L	L								
15											LH	L	L	L	LH	L								
16												LH	L	L	LH									
17										L	L	L	L	L										
18										4.0	$I_{4.4}{}^{L}$	C	C	C	L									
19											L		L	LH	L	A								
20												A	A	LH	L									
21											L	A	A	A	A	L	L							
22											L	L	$I_{4.6}{}^{L}$	4.7	LH	L	L							
23											L	4.6	A	L	L	A	A							
24											A	A	A	L	A	L								
25											L	LH	L	L	A	A								
26												L	L	L	L									
27							C	C	C		L	L	LH	L	L									
28											L	L	L	L	L									
29												L	L	L	A	A	A							
30										L	LH	4.7^{L}	L	4.4	LH									
31											L	4.3	LH	$I_{4.3}{}^{L}$	L	3.4								
No.									1	4	8	11	7	13	6	5								
Median									4.2	4.3	4.4	4.8	4.7	4.7	4.7	4.5								

foF1

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

The Radio Research Laboratories, Japan.

Y 2

48

IONOSPHERIC DATA

Oct. 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	1.85	2.45	2.80	3.00	3.05	A	A	A	3.10	2.70	A	A					
2							S	2.05	2.50	2.80	3.10	3.15	A	A	A	3.05	2.70	A	S					
3							S	1.90	$I_{2.45}^{A}$	$I_{2.75}^{A}$	3.00	A	A	C	3.10	$I_{2.90}^{A}$	A	A	S					
4							S	2.10	2.60^{H}	3.00	3.10	3.25	3.20	3.20	3.00	A	A	A	S					
5							S	A	2.60	A	A	A	3.25	$I_{3.20}^{A}$	3.20^{C}	3.15	A	A	S					
6							s	A	A	A	2.85	3.00^{C}	3.20	3.30	$I_{3.25}^{C}$	3.10	2.60	2.20	S					
7							S	2.00	2.60	2.90	3.05	$I_{3.25}^{C}$	C	C	$I_{3.20}^{C}$	3.15	2.80	2.15	S					
8							S	2.10	2.60	2.95	3.10	C	A	A	A	3.00	2.70	2.25	S					
9							S	2.00	2.55	2.90	A	A	A	C	C	3.05	2.50	S	S					
10							S	2.25	2.60	3.00	3.20	A	C	A	C	3.15	2.70	A	A					
11							S	A	A	A	$I_{3.20}^{C}$	A	A	R	3.30	3.10	2.60	A	S					
12							S	1.90	2.55	$I_{2.95}^{A}$	3.10	C	C	3.30	3.20^{C}	3.00	2.70	A	S					
13							S	2.10	2.70	2.95	2.95	3.10	3.10	$I_{3.20}^{C}$	3.15	$I_{2.95}^{C}$	2.65^{H}	2.05	S					
14							S	1.95	2.65	3.00	$I_{3.05}^{A}$	$I_{3.15}^{C}$	$I_{3.20}^{C}$	$I_{3.20}^{C}$	$I_{3.15}^{C}$	2.90	2.60	2.10	S					
15							S	1.95	2.50	3.00	3.15	3.20	A	A	A	3.10	2.75	A	S					
16							S	S	$I_{2.50}^{A}$	2.90	3.10	$I_{3.10}^{C}$	A	A	3,10	$I_{2.90}^{A}$	A	A	S					
17							S	2.00	2.60^{H}	2.95	3.10	$I_{3.10}^{A}$	$I_{3.15}^{A}$	$I_{3.20}^{C}$	$I_{3.20}^{A}$	3.05	2.60	A	S					
18							S	2.20	2.70	2.90	3.05	C	C	C	3.20	2.90	2.50	A	S					
19							S	S	2.50	2.90	3.20	3.30	3.35	3.30	3.10	3.10	2.60	2.05	S					
20							S	2.10	2.45^{H}	3.00	3.15	3.15	$I_{3.30}^{C}$	3.30	3.20	3.00	2.55	1.90						
21							S	2.00	2.60	3.00	3.15	3.25	3.25^{R}	$I_{3.25}^{A}$	2.95	2.80	A	A						
22							S	1.80	2.50	2.95	3.10	3.25	3.25	3.20	3.15	3.00	A	A						
23							S	S	2.40	2.95	3.15	3.25	$I_{3.35}^{R}$	3.30	3.20	2.95	2.40	A						
24							S	1.95	2.40	2.95	3.15	3.25	3.20	3.25	3.05	2.80	A	S						
25							S	2.00	$I_{2.50}^{A}$	2.90	3.05	$I_{3.10}^{A}$	3.20^{H}	$I_{3.25}^{R}$	3.20	2.80	2.60	S						
26							S	S	2.60	2.80^{H}	3.10	3.35^{H}	3.05	2.90	2.80	2.80	2.50	A						
27							C	C	C	A	A	A	A	3.00	$I_{3.10}^{RH}$	2.80^{H}	2.45	S						
28							S	2.00	2.50	2.80	3.00	3.15	3.20^{R}	3.20^{R}	3.05	$I_{2.80}^{A}$	2.45	S						
29							S	1.85	2.40	2.70	2.80	2.95	$I_{3.10}^{A}$	3.20	3.00	A	A	A						
30							S	S	2.40	$I_{2.80}^{A}$	3.05	$I_{3.10}^{R}$	3.15	3.15	3.05	2.90	2.50	S						
31							S	S	2.40	$I_{2.90}^{A}$	3.10	$I_{3.10}^{R}$	3.20	3.15	3.10	2.85^{H}	2.40	S						
No.								21	28	27	28	22	18	20	25	29	23	7						
Median								2.00	2.50	2.90	3.10	3.15	3.20	3.20	3.15	3.00	2.60	2.10						

f_oE

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

The Radio Research Laboratories, Japan.

Y 3

IONOSPHERIC DATA

Oct. 1962 | **foEs** | 135° E Mean Time (G.M.T. + 9h.) | **Yamagawa** | Lat. 31° 12.5' N, Long. 130° 37.[illegible]' 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	2.9	J2.3	J3.1	J2.2	S	S	S	2.0	2.9	3.5	3.5	3.9	J5.0	4.4	3.9	G	3.1	5.9	2.9	J2.2	2.8	2.6	5.7	4.0M
2	5.8	3.1	4.3	J3.9	3.9	2.7	3.0	2.5	3.5	3.2	3.6	3.8	J5.3	4.5	3.6	J4.9	J5.4	J3.2	J5.1	7.9M	J3.2	5.6	J4.1	J3.3
3	J2.4	J2.4	J2.2	2.1	J2.2	J2.2	J1.8	2.6	J2.9	3.5	J4.8	4.3	J5.3	4.4	J8.3	J4.6	3.8	J4.8	7.0M	4.5	J5.4	J3.2	S	J2.6
4	2.2	3.1	2.2	2.4	2.2	S	S	2.2	3.0	3.4	4.2	4.4	J5.6	J6.5	6.1	5.9M	J8.3	J3.6	6.7M	6.7M	6.8	5.9	3.0	J2.3
5	J2.1	2.7	S	S	S	S	S	J3.0	3.1	4.4	4.7	4.2	G	3.4	G	G	2.6	J3.6	J5.5	3.8	J2.6	J2.3	J2.4	J2.1
6	2.4	J2.6	J2.6	J2.2	J3.6	2.9	J2.2	2.4	2.9	3.1	3.2	3.3	3.5	2.8G	2.1G	2.2G	2.1G	2.7	J2.0	J2.5	J2.9	3.1	J3.6	J2.4
7	2.7	2.7	S	S	S	S	S	G	3.1	3.2	3.4	G	G	G	G	3.5	3.3	J2.2	J2.3	S	S	S	J2.3	J2.6
8	2.9	J2.4	S	S	1.3	S	S	2.6	3.1	3.5	3.8	3.9	4.4	4.4	4.4	2.3G	J4.6	4.5	J3.9	J3.3	J4.7	4.8	4.0M	3.0
9	J2.8	S	S	S	S	S	S	2.2	G	5.7	J4.9	3.7	3.7	G	2.2G	G	2.8	2.0	S	S	S	J2.4	2.7	2.3
10	S	2.4	S	J1.7	S	S	S	G	2.8	G	G	3.3	3.3G	3.5	3.1G	G	3.0	3.1	2.7	J3.0	J3.9	2.3	J2.1	S
11	2.1	J2.3	2.1	J2.3	3.6	S	J2.3	J4.0	3.8	3.8	G	3.7	4.0	3.1G	3.0G	2.3G	3.2	3.2	J2.2	S	S	S	S	J2.2
12	J3.5	J2.4	S	S	S	S	S	G	G	J3.4	G	3.0G	2.5G	2.7G	G	3.6	2.1G	J2.5	J3.2	S	S	S	3.1	J2.4
13	J2.3	S	S	S	S	S	S	G	G	J3.2	3.8	3.2	3.6	3.7	3.4	2.8G	3.2	2.9	2.2	2.2	J2.4	J2.4	J2.4	2.1
14	J2.1	S	S	S	S	S	S	G	G	G	3.2	3.0G	G	G	G	2.4G	G	G	S	S	S	J2.2	S	J2.5
15	J2.2	S	S	S	S	S	S	2.1	2.9	J5.1	3.4	3.7	3.3	3.3	3.3	G	2.7G	2.0	J2.6	4.3	J3.2	S	S	S
16	S	S	S	S	S	S	S	G	2.5	3.1	2.8G	G	J5.0	4.3	2.8G	3.0	3.1	J3.9	J3.6	J2.2	J2.1	J2.1	S	S
17	J3.7	S	S	S	S	S	S	G	G	3.2	3.5	J5.1	4.4	G	3.3	G	3.1	J2.2	2.3	J2.4	J2.5	J2.6	2.8	J2.2
18	J2.1	S	S	J2.2	J2.4	C	S	G	3.0	3.3	G	C	C	C	3.6	2.2G	2.7	3.9	3.4	J2.6	J3.1	S	J2.2	2.7
19	S	S	S	E	E	S	S	G	G	3.2	3.5	3.7	4.0	3.8	3.7	J5.3	3.9	3.0	3.2	3.0	J2.5	2.9	4.8M	2.3
20	2.8	2.2	S	S	E	S	S	2.5	3.0	3.6	J5.4	4.6	J5.4	J6.3	4.0	J4.9	2.9	G	S	J2.1	S	S	S	S
21	J2.2	J4.0	2.9	J2.3	1.4	S	2.4	J2.1	3.1	3.7	4.1	4.8	J4.8	J5.3	J5.5	J4.5	3.0	J5.1	J5.4	J2.3	2.9	3.6	3.0	J2.2
22	J2.0	S	J1.8	S	S	S	S	2.1	2.9	3.5	3.5	4.5	3.8	3.7	3.5	G	2.9	1.9	S	S	S	J3.5	6.2M	S
23	2.9M	2.0	2.5	S	S	S	2.8	2.1	3.8	3.5	3.9	4.1	4.6	4.4	4.5	J5.1	J4.9	J3.8	2.6	2.8	2.3	2.3	S	S
24	S	S	S	S	S	S	S	2.2	2.9	3.9	5.1	6.0	J5.4	3.7	J5.5	3.5	2.7	2.2	J2.5	J2.5	J2.1	S	2.8	S
25	2.7	2.7	2.8	2.4	2.4	S	S	2.0G	3.1	G	2.9G	J3.6	G	3.9	5.0	J4.8	J5.2	2.8	J2.2	3.7M	S	2.3	S	2.4
26	J5.2	J2.3	2.1	J2.1	J2.3	S	S	2.3	3.1	3.5	3.9	G	3.2	3.3	2.9	2.9	2.8	2.9	J2.4	J2.4	2.4	4.7M	S	S
27	S	S	C	C	C	C	C	C	C	5.9M	J5.3	3.4	4.1	J3.9	G	G	G	G	S	J5.3	4.3M	J2.6	J2.3	J2.0
28	S	S	S	S	S	S	S	G	G	2.6G	G	G	3.5	3.5	3.5	3.6	J4.9	4.4	3.8M	5.9	6.0M	3.8	2.7	J2.1S
29	2.3	J2.2	J2.4	2.8	2.3	2.1	2.1	2.3	2.7	3.7	J5.1	5.6M	J3.6	4.1	J5.3	J4.5	J3.9	J3.7	J3.6	J3.8	4.1M	2.7	S	S
30	S	S	E	2.4	S	2.4	2.2	1.8	2.1G	J3.8	2.9G	3.0G	G	G	3.2	2.4G	G	S	S	J2.6	3.5M	3.2	J2.2	2.7
31	2.2	S	S	S	S	S	S	S	2.8	J3.3	J3.5	3.1G	3.1G	3.4	J3.2	3.0	3.5	S	S	S	S	S	2.8	S
No.	24	17	13	14	13	5	8	29	30	31	31	30	30	30	31	31	31	29	24	24	22	23	21	21
Median	2.4	2.4	2.4	2.2	2.3	2.4	2.2	2.1	2.9	3.5	3.5	3.7	3.8	3.7	3.4	2.9	3.1	3.0	3.0	2.9	3.0	2.7	2.8	2.4
U.Q.	2.9	2.7	2.8	2.4	3.0	2.8	2.6	2.4	3.1	3.7	4.2	4.3	4.8	4.4	4.4	4.5	3.9	3.8	3.8	4.0	4.1	3.6	3.8	2.6
L.Q.	2.2	2.3	2.1	2.1	1.4	2.2	2.2	G	G	3.2	G	G	G	G	G	G	2.7	2.2	2.4	2.4	2.5	2.3	2.4	2.2
Q.R.	0.7	0.4	0.7	0.3	1.6	0.6	0.4			0.5							1.2	1.6	1.4	1.6	1.6	1.3	1.4	0.4

foEs

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Oct. 1962 | 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	2.6	2.3	A	$E_{2.2}^{S}$	S	S	S	G	G	3.5	3.5	3.9	4.3	4.0	3.5		2.6	4.8	1.9	E	E	E	A	A
2	A	2.3	A	A	A	1.9	2.2	G	3.5	3.2	3.6	$E_{3.8}^{C}$	3.8	4.5	$E_{3.6}^{R}$	4.8	5.1	2.9	4.8	A	2.0	1.9	1.9	2.2
3	E	2.1	1.9	E	E	E	1.8	2.3	2.8	3.5	4.7	4.0	4.2	4.4	4.8	4.1	3.4	4.7	A	3.4	A	A	S	2.5
4	E	2.3	1.9	1.9	E	S	S	G	2.9	3.3	4.1	4.2	5.4	6.3	4.4	4.2	4.0	3.0	4.5	A	A	A	2.0	2.2
5	1.8	1.9	S	S	S	S	S	2.3	2.9	4.3	4.2	4.0		$E_{3.4}^{C}$			$E_{2.6}^{R}$	3.1	4.5	A	2.5	2.3	2.4	$E_{2.1}^{S}$
6	2.1	2.4	2.5	2.0	A	1.9	1.8	G	2.8	G	G	$E_{3.3}^{C}$	G	2.6^{G}	2.1^{G}	2.2^{G}	2.1^{G}	2.4	G	A	A	A	2.5	2.1
7	2.0	1.9	S	S	S	S	S		2.9	G	3.4					3.4	3.2	G	G	S	S	S	E	2.6
8	2.3	2.3	S	S	1.3	S	S	G	3.1	3.5	3.6	3.7	4.1	4.1	4.0	2.3^{G}	4.5	4.0	3.9	3.3	A	2.3	3.8	2.6
9	2.4	S	S	S	S	S	S	G		4.6	4.0	3.6	3.6		2.2^{G}		G	G	S	S	S	2.2	2.4	1.8
10	S	2.1	S	$E_{1.7}^{S}$	S	S	S		2.4			$E_{3.3}^{C}$	$E_{3.3}^{C}$	$E_{3.5}^{C}$	$E_{3.1}^{C}$		G	3.0	2.4	2.8	A	1.9	1.9	S
11	2.1	2.2	E	2.0	2.0	S	2.2	3.9	3.8	3.4		3.7	4.0	$E_{3.1}^{R}$	2.5^{G}	2.3^{G}	3.2	3.2	G	S	S	S	S	2.2
12	A	2.1	S	S	S	S	S			$E_{3.4}^{R}$		3.0^{G}	2.5^{G}	2.6^{G}		3.6	2.0^{G}	2.3	2.4	S	S	S	2.4	2.0
13	2.1	S	S	S	S	S	S			2.5	3.6	$E_{3.2}^{C}$	3.6	$E_{3.7}^{C}$	3.4	2.2^{G}	3.2	2.9	2.1	2.0	2.2	1.8	2.0	E
14	2.1	S	S	S	S	S	S				$E_{3.2}^{C}$	$E_{3.0}^{C}$				2.4^{G}			S	S	S	E	S	2.4
15	E	S	S	S	S	S	S	G	G	4.5	3.4	3.5	$E_{3.3}^{C}$	$E_{3.3}^{C}$	$E_{3.3}^{C}$		2.6^{G}	G	2.4	A	2.8	S	S	S
16	S	S	S	S	S	S	S		2.4	G	2.8^{G}		4.1	4.2	2.8^{G}	G	3.0	3.9	3.5	E	2.1	2.0	S	S
17	A	S	S	S	S	S	S			3.2	3.4	4.0	4.1		$E_{3.3}^{C}$		G	2.2	G	2.3	2.4	2.5	2.2	2.1
18	1.9	S	S	1.9	2.3	C	S		2.9	3.3		C	C	C	$E_{3.6}^{C}$	2.2^{G}	2.4	3.9	3.4	E	A	S	E	E
19	S	S	S			S	S			G	$E_{3.5}^{S}$	$E_{3.7}^{C}$	4.0	3.7	3.7	5.0	3.9	2.6	2.4	2.6	2.2	A	A	1.9
20	2.1	E	S	S		S	S	2.5	3.0	3.6	4.1	4.5	$E_{5.4}^{C}$	4.7	3.9	4.8	2.8		S	2.0	S	S	S	S
21	1.9	2.6	2.0	1.8	1.3	S	2.0	1.8	3.0	2.5	4.0	4.6	4.6	5.1	5.4	4.1	2.9	4.6	4.6	1.8	2.1	A	2.3	A
22	2.0	S	1.8	S	S	S	S	G	G	3.5	3.5	4.4	3.7	3.6	3.3		2.7	1.9	S	S	S	2.6	A	S
23	2.3	2.0	E	S	S	S	G	G	3.7	3.5	3.9	4.0	4.4	4.0	4.3	4.7	2.2	A	2.1	2.2	2.0	E	S	S
24	S	S	S	S	S	S	S	G	G	3.6	4.9	5.7	4.9	3.6	5.3	3.5	2.6	G	2.0	2.2	2.1	S	2.5	S
25	2.1	1.9	1.8	E	E	S	S	1.8^{G}	2.8		2.8^{G}	$E_{3.6}^{R}$		3.8	4.2	4.4	5.2	2.4	2.0	3.3	S	E	S	1.9
26	A	E	E	E	1.6	S	S	2.3	3.0	3.3	3.9		$E_{3.2}^{R}$	$E_{3.3}^{R}$	$E_{2.9}^{R}$	G	G	2.1	1.8	1.9	E	2.0	S	S
27	S	S	C	C	C	C	C	C	C	4.6	3.3	3.4	3.5	3.6					S	3.4	2.4	2.2	2.0	E
28	S	S	S	S	S	S	S			2.4^{G}			3.5	3.5	3.5	3.4	2.9	A	1.9	A	A	A	E	S
29	E	2.0	2.0	1.9	E	E	G	2.2	G	3.6	4.9	4.0	3.6	4.0	4.9	4.5	3.8	3.7	3.3	A	A	A	S	S
30	S	S		1.9	S	E	G	G	2.0^{G}	3.8	2.4^{G}	$E_{3.0}^{R}$			2.8	2.3^{G}		S	S	2.0	2.2	2.1	2.1	E
31	2.1	S	S	S	S	S	S	S	2.0	G	2.9	$E_{3.1}^{R}$	3.0^{G}	3.4	2.2	G	G	S	S	S	S	S	2.3	S
No.																								
Median																								

f_bE_s | Sweep 1.0 Mc to 20.0 Mc in 20 $\frac{min}{sec}$ in automatic operation.

The Radio Research Laboratories, Japan.

Y 5

IONOSPHERIC DATA

Oct. 1962. | **f-min** | 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	E1.80S	E1.80S	E1.70SE1.75S		E1.70S	E1.80SE1.80S		E1.70S	1.80	2.00	1.90	2.20	2.40	2.00	2.20	1.90	E1.80S	E1.70S	E1.80S	E1.70S	E1.80SE1.80S		E1.90SE1.90S	
2	E1.80S	E1.80SE1.80S		E1.80S	E1.70S	E1.70SE1.80S		E1.70S	1.80	1.75	1.80	2.10	2.20	2.00	2.00	E1.70S	E1.70S	E1.70S	E1.80S	E1.90S	E1.70SE1.80S		E1.80SE1.80S	
3	E1.80S	E1.80SE1.80S		E1.80S	E1.50S	E1.70SE1.70S		E1.80S	1.75	1.90	1.80	2.00	2.00	2.25	1.80	1.90	1.40	E1.70S	E1.80S	E1.70S	E1.70SE1.80S		E1.70SE1.80S	
4	E1.80S	E1.80SE1.80S		E1.80S	E1.80S	E1.90SE1.85S		E1.70S	1.90	1.85	2.00	2.30	2.30	2.40	2.20	1.90	E1.60S	E1.70S	E1.70S	E1.70SE	1.70SE1.70S		E1.70SE1.85S	
5	E1.60S	E1.70SE1.70S		E1.90S	E1.80S	E1.80SE1.80S		E1.70S	1.40	1.90	2.00	2.00	2.20	2.20	2.10	1.90	E1.70S	E1.70S	E1.70S	E1.80SE	1.70SE1.70S		E1.80SE1.70S	
6	E1.90S	E1.80SE1.70S		E1.80S	E1.70S	E1.70SE1.70S		E1.70S	E1.70S	1.80	1.80	2.00	2.00	1.85	1.80	1.80	E1.70S	E1.80S	E1.70S	E1.80SE	1.90S	E1.70S	E1.80SE1.90S	
7	E1.80S	E1.70SE1.70S		E1.80S	E1.70S	E1.80SE1.60S		1.80	1.90	1.70	2.00	1.95	1.95	2.00	1.80	2.20	E1.70S	E1.80S	E1.80S	E1.70SE	1.80SE1.70S		E2.20SE1.90S	
8	E1.80S	E1.80SE1.80S		E1.60S	E	E1.90SE1.75S		E1.70S	1.85	1.95	1.90	2.20	1.80	1.90	1.80	1.80	1.80	E1.70S	E1.70SE	1.70S	E1.80S	E1.80S	E1.85SE1.80S	
9	E1.75S	E1.95SE1.70S		E1.80S	E1.70S	E1.80SE1.70S		1.85	1.70	1.90	1.80	1.75	1.90	1.90	1.80	1.95	E1.70SE	1.80S	E2.20S	E1.80SE	2.10SE1.70S		E2.00SE1.60S	
10	E2.00S	E1.90SE1.80S		E	E1.90S	E1.50SE1.70S		E1.70S	1.75	2.05	2.30	2.30	2.30	2.30	2.40	2.00	E1.70SE	1.60S	E1.70S	E1.70SE	1.70SE1.80S		E1.80SE	1.90S
11	E1.70S	E1.80SE1.70S		E1.70S	E	E1.70SE1.70S		E1.70S	1.80	2.00	1.95	2.00	1.90	1.90	1.90	1.75	E1.70SE	1.60S	E1.80S	E1.70SE	1.70SE1.60S		E1.90S	E1.90S
12	E1.75S	E1.50SE1.60S		E1.80S	E1.90S	E1.80SE1.70S		E1.50S	1.90	1.95	2.00	2.00	2.20	1.80	2.20	1.75	1.70	E1.70S	E1.70S	E1.80S	E1.90SE2.00S		E1.70S	E1.90S
13	E1.70S	E1.80SE1.70S		E1.90S	E1.80S	E1.80SE1.90S		E1.70S	E1.80S	1.90	1.75	1.90	1.90	1.85	1.90	1.70	E1.60SE	1.90S	E1.80S	E1.80S	E1.90SE1.70S		E1.70S	E1.90S
14	E1.80S	E1.90SE1.80S		E1.80S	E1.80S	E1.70SE1.80S		E1.60S	1.90	1.80	2.20	2.00	2.40	1.90	1.95	1.90	1.70	E1.80S	E1.70S	E1.60S	E1.90SE1.70S		E1.80S	E1.80S
15	E1.70S	E1.90SE2.00S		E1.75S	E1.80S	E1.70SE1.70S		E1.70S	E1.70S	2.00	2.20	2.50	2.30	2.30	2.30	1.90	1.80	E1.70S	E1.70S	E1.80S	E1.80SE1.80S		E2.00S	E2.00S
16	E1.70S	E1.70SE1.80S		E1.80S	E1.80S	E1.80SE1.70S		E1.70S	E1.70S	1.80	2.00	2.30	1.85	1.80	1.70	1.80	1.30	1.90	E1.90S	E1.70S	E1.80SE1.80S		E1.90S	E2.00S
17	E1.80S	E2.00SE1.80S		E1.80S	E2.00S	E1.80SE1.80S		E1.70S	1.90	1.75	1.90	1.70	1.80	2.40	2.15	1.90	1.90	2.00	E1.90S	E1.80S	E1.80SE1.80S		E1.70S	E1.80S
18	E1.80S	E1.70SE1.80S		E1.80S	E	C	E1.75S	E1.80S	1.90	1.90	2.00	C	C	C	2.30	1.80	1.80	E1.70SE	1.70S	E1.90S	E1.70SE1.70S		E1.90S	E1.70S
19	E1.80S	E1.80SE1.70S		1.30	1.20	S	E1.90S	E1.80S	E1.70S	1.70	2.25	2.40	2.30	2.20	2.20	2.25	1.80	E1.90SE	1.95S	E1.80S	E1.80SE1.90S		E1.70S	E1.80S
20	E1.80S	E1.60SE2.00S		E1.90S	1.20	E1.60SE1.90S		E1.80S	1.80	1.80	2.00	2.20	2.30	2.25	2.30	1.90	E1.70S	E1.70SE	1.70S	E1.70S	E1.80SE1.75S		E1.80S	E2.00S
21	E1.75S	E1.60SE1.70S		E	E	E1.70SE1.80S		E1.70S	1.75	1.50	1.60	2.20	1.60	1.80	1.60	1.90	1.80	E1.60SE	1.70S	E1.50S	E1.60SE1.70S		E1.70S	E1.60S
22	E1.70S	E1.80SE1.70S		E1.70S	E1.70S	E1.80SE1.60S		E1.60S	1.80	1.90	1.80	2.20	2.40	2.25	2.00	1.80	1.70	E1.60SE	1.90S	E1.80S	E1.70SE1.70S		E1.85S	E1.80S
23	E1.70S	E1.70SE1.70S		E1.70S	E2.00S	E2.00SE1.50S		E1.80S	1.90	1.80	2.05	2.00	2.50	2.30	2.00	2.00	1.70	E1.60SE	1.60S	E1.80S	E1.70SE1.70S		E1.90S	E1.80S
24	E1.80S	E1.90SE1.90S		E1.70S	E1.80S	E1.70SE1.80S		E1.70S	E1.60S	2.20	2.00	2.20	2.20	2.00	2.00	1.85	E1.60S	E1.60SE	1.70S	E1.80S	E1.90SE1.90S		E1.80S	E1.90S
25	E1.70S	E1.80SE1.70S		E1.70S	E1.70S	E1.80SE1.90S		E1.70S	1.70	1.75	1.90	2.00	2.00	2.25	1.90	1.80	1.70	E1.90SE	1.60S	E1.70S	E2.00SE1.90S		E1.70S	E1.80S
26	E1.80S	E1.80SE1.90S		E1.70S	E	E1.80SE1.90S		E1.70S	E1.80S	1.90	2.00	2.30	2.20	2.20	2.00	2.00	1.70	E1.60SE	1.60S	E1.60S	E1.70SE1.90S		E2.00S	E1.40S
27	E1.90S	E1.70S	C	C	C	C	C	C	C	1.70	1.80	1.80	2.00	2.00	2.00	1.70	1.70	2.10	E1.80S	E1.75S	E1.80SE1.60S		E1.80S	E1.70S
28	E1.80S	E1.80SE1.80S		E1.70S	E1.70S	E2.00SE1.80S		E1.70S	E1.70S	1.70	1.80	2.00	2.00	1.90	1.90	1.70	E1.60S	E1.80SE	1.80S	E1.70S	E1.75SE1.75S		E1.90S	E1.80S
29	E1.70S	E1.80SE1.75S		E1.80S	E1.80S	E1.80SE1.70S		E1.75S	1.70	1.80	2.10	2.00	2.40	2.40	2.30	1.90	E1.60S	E1.60SE	1.90S	E1.80S	E1.90SE1.90S		E1.80S	E2.00S
30	E1.80S	E1.80S	1.30	E1.80S	E1.70S	E1.80SE1.70S		E1.50S	1.60	1.70	1.90	1.70	1.95	2.05	1.70	1.70	1.80	E1.70SE	1.70S	E1.80S	E1.85SE1.90S		E2.00S	E1.80S
31	E1.90S	E2.00SE2.40S		E1.50S	E1.60S	E1.80SE1.80S		1.90	1.60	1.80	1.80	1.95	2.00	1.90	1.70	1.95	1.80	2.00	E1.80S	E2.20S	E1.80SE1.95S		E1.70S	E2.40S
No.	31	31	30	30	30	28	30	30	30	31	31	30	30	30	31	31	30	31	31	31	31	31	31	31
Median	E1.80	E1.80	E1.80	E1.80	E1.70	E1.80	E1.80	E1.70	E1.80	1.80	1.95	2.00	2.10	2.00	2.00	1.90	E1.70	E1.70	E1.70	E1.80	E1.80	E1.80	E1.80	E1.80

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

The Radio Research Laboratories, Japan.

Y 6

52

IONOSPHERIC DATA

Oct. 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	$I_{2.90}^{S}$	2.80	$I_{3.15}^{S}$	$J_{3.50}^{S}$	3.20	2.75	2.85	$J_{3.10}^{S}$	3.20^{S}	3.30^{S}	3.20	$J_{3.10}^{S}$	3.00^{S}	3.05	$I_{3.20}^{S}$	3.35^{S}	3.50	3.60	3.30	$I_{3.25}^{S}$	$J_{3.35}^{S}$	3.15^{S}	A	A
2	A	2.80	A	A	A	3.05	$I_{3.10}^{S}$	3.60	3.10	$I_{3.30}^{S}$	$J_{3.25}^{S}$	$I_{3.00}^{S}$	3.05^{S}	3.10^{S}	3.15	$J_{3.25}^{S}$	$I_{3.55}^{S}$	$J_{3.40}^{S}$	3.20^{S}	$I_{3.30}^{A}$	3.15	A	S	S
3	S	S	3.15	3.05^{S}	$J_{3.15}^{S}$	2.75	$I_{3.20}^{S}$	$J_{3.45}^{S}$	3.65^{H}	3.30	2.95	3.25	$J_{3.20}^{S}$	3.10	3.05	3.25	$J_{3.40}^{S}$	$J_{3.35}^{S}$	$I_{3.30}^{S}$	3.55	$I_{3.20}^{A}$	$J_{2.80}^{S}$	$I_{3.15}^{S}$	3.05
4	2.85	2.75	2.85	$J_{2.95}^{S}$	2.75	2.85	$J_{3.20}^{S}$	$I_{3.50}^{S}$	$J_{3.40}^{S}$	$I_{3.50}^{S}$	$I_{3.40}^{S}$	$I_{3.10}^{S}$	$J_{3.15}^{S}$	$J_{3.10}^{S}$	3.20	$J_{3.05}^{S}$	$J_{3.40}^{S}$	3.45	$I_{3.30}^{S}$	A	A	A	3.05^{S}	$I_{3.10}^{S}$
5	$I_{2.80}^{S}$	$J_{2.90}^{S}$	$I_{2.90}^{S}$	$I_{3.00}^{S}$	$I_{3.00}^{S}$	$I_{2.90}^{S}$	$I_{3.15}^{S}$	3.60	$I_{3.35}^{S}$	3.20	3.20	$I_{3.05}^{S}$	$J_{3.10}^{S}$	$J_{3.00}^{S}$	$J_{3.15}^{S}$	3.35	$I_{3.30}^{S}$	3.30	$I_{3.30}^{S}$	$I_{3.30}^{S}$	$I_{3.30}^{S}$	$I_{3.00}^{S}$	S	S
6	S	$J_{2.95}^{S}$	2.95^{S}	$J_{3.10}^{S}$	$I_{3.15}^{A}$	3.20	$J_{3.40}^{S}$	$I_{3.70}^{S}$	3.70^{H}	3.50	3.35	$I_{3.10}^{S}$	3.10	3.00	$J_{3.10}^{S}$	3.05	S	$I_{3.35}^{S}$	$I_{3.35}^{S}$	3.50	$I_{3.25}^{S}$	$I_{3.00}^{S}$	$J_{2.80}^{A}$	$J_{3.15}^{S}$
7	$I_{2.90}^{S}$	$J_{2.65}^{S}$	$I_{2.95}^{S}$	$J_{3.65}^{S}$	3.15	3.10	3.10	$J_{3.70}^{S}$	3.45^{S}	3.50	$I_{3.25}^{S}$	3.10	3.15	3.15	$I_{3.20}^{S}$	$J_{3.25}^{S}$	3.25	3.30^{S}	3.50	$J_{3.05}^{S}$	3.25^{S}	$I_{3.10}^{S}$	3.00^{S}	$J_{2.85}^{S}$
8	2.90	$I_{3.05}^{S}$	$J_{3.05}^{S}$	$I_{3.05}^{S}$	$I_{3.10}^{S}$	$I_{3.15}^{S}$	$I_{3.40}^{S}$	3.55	$J_{3.55}^{S}$	3.30	2.85	$J_{3.15}^{S}$	$J_{3.35}^{S}$	$J_{2.80}^{S}$	3.10	3.20	$I_{3.30}^{S}$	$J_{3.40}^{S}$	3.20^{S}	$I_{3.25}^{S}$	S	S	3.05	$J_{3.15}^{S}$
9	$I_{3.10}^{S}$	$J_{3.05}^{S}$	2.75^{S}	$J_{3.00}^{S}$	$J_{3.05}^{S}$	$I_{3.25}^{S}$	3.50	3.60	3.60	3.15^{S}	2.85	3.10^{S}	3.25	3.10	$J_{3.15}^{S}$	$I_{3.20}^{S}$	3.25^{S}	$J_{3.40}^{S}$	$I_{3.40}^{S}$	3.35	$I_{3.00}^{S}$	$I_{2.95}^{S}$	$J_{3.10}^{S}$	$J_{3.30}^{S}$
10	S	S	3.05	$I_{3.05}^{S}$	$J_{2.90}^{S}$	$I_{3.15}^{S}$	$I_{3.45}^{S}$	3.55	3.40	3.20	3.20	3.15	3.20	3.05	3.05	$J_{3.20}^{S}$	3.40^{H}	$I_{3.50}^{S}$	$I_{3.50}^{S}$	3.30	$I_{3.00}^{S}$	$I_{2.85}^{S}$	$I_{2.75}^{S}$	$I_{2.80}^{S}$
11	$I_{2.80}^{S}$	$I_{2.90}^{S}$	$I_{3.05}^{S}$	$I_{3.10}^{S}$	3.00^{S}	$I_{3.10}^{S}$	$I_{3.25}^{S}$	$I_{3.50}^{S}$	$I_{3.55}^{S}$	3.45	$J_{3.25}^{S}$	$J_{3.20}^{S}$	$J_{3.20}^{S}$	3.05	3.15	$I_{3.20}^{S}$	3.30	3.30	3.35	$I_{3.60}^{S}$	2.90	2.55^{S}	$I_{2.80}^{S}$	$I_{2.85}^{S}$
12	$I_{2.90}^{S}$	$J_{3.05}^{S}$	3.25	3.10	3.05	2.85	$I_{3.25}^{S}$	$I_{3.40}^{S}$	$J_{3.50}^{S}$	3.50	$J_{3.30}^{S}$	3.00	3.05	3.25	3.25	3.35^{SH}	3.40^{SH}	$I_{3.40}^{S}$	$I_{3.30}^{S}$	3.05^{S}	2.90^{S}	$I_{3.00}^{S}$	3.00	3.00
13	$I_{3.00}^{S}$	$J_{2.90}^{S}$	$I_{2.85}^{S}$	$I_{2.95}^{S}$	3.35^{S}	3.45	2.90	$I_{3.45}^{S}$	$I_{3.50}^{S}$	3.50^{S}	3.10	$J_{3.10}^{S}$	3.20	3.20	3.15	$I_{3.25}^{S}$	$J_{3.35}^{S}$	3.45	3.50	S	SH	S	2.85^{S}	2.80^{S}
14	$I_{2.80}^{S}$	3.00^{S}	3.00	3.25	$J_{3.40}^{S}$	3.00	3.00	$J_{3.40}^{S}$	3.35	$I_{3.40}^{SH}$	3.30	2.95	3.10	3.10	3.25^{S}	$J_{3.20}^{S}$	$J_{3.40}^{S}$	$J_{3.15}^{S}$	$I_{3.35}^{S}$	$I_{3.30}^{S}$	S	S	S	S
15	S	S	S	2.95^{S}	3.40	$I_{2.85}^{S}$	$I_{3.15}^{S}$	3.60	$I_{3.55}^{S}$	3.40^{H}	3.25	$J_{3.10}^{S}$	3.15^{S}	3.10	$I_{3.10}^{S}$	$I_{3.20}^{S}$	$I_{3.35}^{S}$	$I_{3.40}^{S}$	$I_{3.20}^{S}$	S	S	S	S	S
16	S	2.95	$J_{3.05}^{S}$	S	S	$J_{3.05}^{S}$	$I_{3.10}^{S}$	S	S	$J_{3.40}^{S}$	3.45^{S}	3.15	3.05^{S}	$I_{3.10}^{S}$	3.20^{S}	3.30^{H}	3.15	S	S	3.10^{S}	$I_{3.00}^{S}$	3.00	$I_{2.80}^{S}$	2.60
17	$I_{3.05}^{S}$	$I_{2.80}^{S}$	$J_{3.10}^{S}$	$I_{3.15}^{S}$	2.75	$I_{2.75}^{S}$	$I_{2.95}^{S}$	$I_{3.45}^{S}$	3.50^{H}	3.50^{S}	3.30	3.20	3.10	$J_{3.15}^{S}$	3.15^{S}	3.30^{SH}	$I_{3.10}^{S}$	$I_{3.35}^{S}$	$J_{3.30}^{S}$	3.30	$J_{2.75}^{S}$	$I_{3.00}^{S}$	$I_{3.10}^{S}$	$I_{3.05}^{S}$
18	2.75	2.80	$I_{3.00}^{S}$	3.00^{S}	3.05	$I_{2.95}^{C}$	3.05	$I_{3.55}^{S}$	$I_{3.45}^{S}$	3.40^{S}	3.60	C	C	C	$J_{3.10}^{S}$	$I_{3.10}^{S}$	3.30^{S}	$I_{3.40}^{S}$	3.30	$I_{3.10}^{S}$	$I_{2.90}^{S}$	$I_{2.75}^{S}$	$I_{2.85}^{S}$	S
19	S	S	S	$I_{3.05}^{S}$	2.80	$I_{2.75}^{S}$	$I_{3.10}^{S}$	$I_{3.45}^{S}$	3.55	$I_{3.35}^{S}$	3.30	$J_{3.40}^{S}$	3.15	$I_{3.15}^{S}$	3.20	$J_{3.45}^{S}$	3.45^{S}	3.40	3.50	S	S	S	A	$J_{3.10}^{S}$
20	S	S	$I_{2.85}^{S}$	$I_{2.90}^{S}$	3.30	3.95	2.90^{S}	$I_{3.25}^{S}$	$I_{3.30}^{S}$	$I_{3.30}^{S}$	$I_{3.30}^{S}$	3.35	$J_{3.15}^{S}$	$J_{2.95}^{S}$	3.25^{S}	3.35^{S}	$I_{3.45}^{S}$	3.45	$I_{3.45}^{S}$	3.15	3.00	$I_{2.90}^{S}$	$I_{3.00}^{S}$	$I_{3.00}^{S}$
21	$I_{2.85}^{S}$	2.90	$I_{3.10}^{S}$	$I_{3.50}^{S}$	3.60	2.85	2.95	3.40	3.35	$J_{3.40}^{S}$	3.20	3.20	3.25	3.25	3.15	3.30^{S}	$I_{3.45}^{S}$	$J_{3.50}^{S}$	3.25	2.90^{S}	2.85	$I_{2.75}^{S}$	$J_{3.15}^{S}$	$I_{2.90}^{S}$
22	$I_{2.90}^{S}$	$I_{3.05}^{S}$	$I_{3.10}^{S}$	$I_{3.20}^{S}$	3.40	2.65	3.05	3.30^{S}	$I_{3.45}^{S}$	$J_{3.40}^{S}$	3.05	3.40^{S}	$J_{3.20}^{S}$	3.15	3.25	$I_{3.30}^{S}$	$I_{3.40}^{S}$	$I_{3.35}^{S}$	3.40	3.05^{S}	$I_{3.00}^{S}$	S	A	S
23	S	$I_{3.05}^{S}$	$I_{3.30}^{S}$	$J_{3.40}^{S}$	$J_{2.85}^{S}$	2.75	2.85	$I_{3.25}^{S}$	$I_{3.20}^{S}$	3.25^{S}	$U_{3.35}^{S}$	3.15^{S}	3.30	$J_{3.20}^{S}$	3.10	3.35	$J_{3.35}^{S}$	3.60	$J_{3.55}^{S}$	$I_{3.05}^{S}$	$I_{3.10}^{S}$	$I_{3.00}^{S}$	$I_{2.85}^{S}$	S
24	S	S	2.85	3.05	3.05	2.75	$I_{3.15}^{S}$	$I_{3.50}^{S}$	$I_{3.40}^{S}$	$I_{3.20}^{H}$	3.40	3.40	3.05	$J_{3.05}^{S}$	$I_{3.20}^{S}$	$J_{3.40}^{S}$	$I_{3.40}^{S}$	$I_{3.20}^{S}$	$J_{3.50}^{S}$	$I_{3.15}^{S}$	$I_{3.10}^{S}$	$J_{3.05}^{S}$	$I_{2.95}^{S}$	2.85^{S}
25	S	S	$J_{3.10}^{S}$	$J_{3.05}^{S}$	2.95	2.80	2.85^{S}	3.35	$J_{3.60}^{S}$	3.45^{H}	3.05	3.20^{S}	3.45^{S}	3.20	$J_{3.25}^{S}$	$J_{3.35}^{S}$	$J_{3.35}^{S}$	$I_{3.25}^{S}$	3.15^{S}	$I_{3.00}^{S}$	3.10	S	SH	S
26	A	S	3.30^{S}	2.90	$J_{2.85}^{S}$	$J_{2.90}^{S}$	$I_{3.00}^{S}$	3.35	$I_{3.10}^{S}$	$I_{3.35}^{S}$	3.35^{S}	3.25	3.30	$J_{3.20}^{S}$	$J_{3.20}^{S}$	$I_{3.35}^{S}$	3.35^{H}	3.40	3.35	2.95	2.90	$I_{3.10}^{S}$	$I_{3.10}^{S}$	$J_{2.90}^{S}$
27	3.00	$I_{2.75}^{S}$	C	C	C	C	C	C	C	S	3.20	3.25	$I_{3.30}^{S}$	$J_{3.15}^{S}$	$J_{3.30}^{S}$	3.45^{H}	3.50^{H}	$I_{3.50}^{S}$	$J_{3.25}^{S}$	3.00	3.00	$J_{3.40}^{S}$	2.90	2.75^{S}
28	$I_{2.80}^{S}$	$I_{3.10}^{S}$	$J_{3.45}^{S}$	$J_{3.30}^{S}$	3.60	$J_{3.20}^{S}$	2.95	$I_{3.40}^{S}$	$J_{3.35}^{S}$	3.30	3.30^{S}	3.30^{S}	3.15	3.15^{S}	3.30^{S}	$J_{3.30}^{S}$	3.45^{SH}	3.60^{S}	$I_{3.60}^{S}$	A	A	S	$I_{2.90}^{S}$	3.00
29	$J_{3.60}^{S}$	3.35	3.05	3.05	3.35	3.60	3.00	3.40	$J_{3.45}^{S}$	$J_{3.45}^{S}$	$U_{3.25}^{S}$	3.40^{S}	$J_{3.05}^{S}$	3.10	$J_{3.35}^{S}$	3.35^{S}	$J_{3.45}^{S}$	3.60^{S}	3.60	$I_{3.20}^{S}$	$I_{2.90}^{S}$	$I_{3.15}^{S}$	$J_{3.10}^{S}$	$I_{2.95}^{S}$
30	$J_{2.90}^{S}$	3.05	3.05	3.15	2.85	3.10^{S}	3.15	$I_{3.55}^{S}$	$I_{3.50}^{S}$	$I_{3.45}^{S}$	3.45	3.35	3.20	$J_{3.10}^{S}$	$J_{3.35}^{S}$	3.35H	3.35^{SH}	$J_{3.55}^{S}$	3.35	3.15^{S}	3.10	$I_{3.20}^{S}$	3.40	2.70
31	2.95	2.75	$I_{3.00}^{S}$	3.30^{S}	3.50^{S}	3.05	3.25^{S}	3.45	3.40	$I_{3.40}^{H}$	3.45^{S}	3.30	$I_{3.40}^{S}$	3.35	$J_{3.45}^{S}$	3.40	$J_{3.60}^{S}$	3.50	3.45	2.60^{SH}	$I_{3.00}^{S}$	$J_{3.15}^{S}$	2.85	2.85^{S}
No.	19	23	27	28	28	30	30	29	29	30	31	30	30	30	31	31	30	30	30	26	24	21	23	22
Median	$U_{2.90}$	2.90	3.05	3.05	3.10	2.95	3.10	3.45	3.45	3.40	3.25	3.20	3.15	3.10	3.20	3.30	3.40	3.40	3.35	3.20	$U_{3.00}$	$U_{3.00}$	3.00	2.90

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

The Radio Research Laboratories, Japan.

Y 7

IONOSPHERIC DATA

Oct. 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								L	3.55^{L}	3.60	3.70	3.70	L	3.60^{L}	I3.55^{L}	3.60	L							
2									L	L	3.70	L	3.70	I3.60^{L}	L	A	A							
3										L	A	L	3.70	3.55	A	L	L	A						
4									L	3.65	3.75	L	A	A	L	L	A							
5									L	A	3.75	3.75	L	3.60	3.45	3.60	L							
6										4.05^{H}	I3.95^{L}	I3.60^{LH}	3.65	3.40^{L}	I3.50^{L}	3.65	L							
7										L	L	3.50^{H}	L	3.55	L	L	L							
8										L	L	I3.65^{H}	I3.60^{L}	3.60	3.55	L								
9											L	3.60	3.60	I3.60^{L}	L	LH								
10											L	L	L	L	3.45^{L}	L								
11										L	L	L	3.75	I3.60^{L}	3.60									
12											I3.90^{L}	3.75^{H}	L	3.60	L									
13										L	L	L	LH	L	LH	3.60								
14											3.95	L	L	L	L	L								
15											LH	L	L	L	LH	L								
16												LH	L	L	LH									
17										L	L	L	L	L										
18										4.10	I3.95^{L}	C	C	C	L									
19											L		L	LH	L	A								
20												A	A	LH	L									
21											L	A	A	A	A	L	L							
22											L	L	I3.70^{L}	3.65	LH	L	L							
23											L	3.70	A	L	L	A	A							
24											A	A	A	L	A	L								
25											L	LH	L	L	A	A								
26												L	L	L	L									
27							C	C	C		L	L	LH	L	L									
28											L	L	L	L	L									
29												L	L	L	A	A	A							
30										L	LH	3.65^{L}	L	3.85	LH									
31											L	4.00	LH	I3.95^{L}	L	4.15								
No.									1	4	8	10	7	13	6	5								
Median									3.55	3.85	3.80	3.70	3.70	3.60	3.50	3.60								

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

The Radio Research Laboratories, Japan.

Y 8

54

IONOSPHERIC DATA

Oct. 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								290	285	265	285	280	295	300	290	265	250							
2									300	260	255	320	300	290	290	255	250							
3										285	305	290	265	290	295	285	260	255						
4									255	255	250	300	295	280	285	270	260							
5									250	260	280	285	290	285	290	270	260							
6										250	270	305	295	305	300	285	255							
7										250	270	315	295	290	285	275	265							
8										255	300	295	260	300	290	255								
9											310	290	265	280	285	290								
10											280	280	275	290	290	260								
11										240	280	290	270	290	275									
12											255	290	300	275	275									
13										245	305	290	260	255	285	280								
14											250	280	300	275	265	240								
15											260	255	280	290	280	260								
16												280	285	255	260									
17										240	255	275	285	275										
18										235	250	C	C	C	280									
19											265		255	290	280	250								
20												265	280	300	275									
21											270	275	280	275	260	260	240							
22											280	290	255	290	280	250	240							
23											265	260	260	260	300	255	245							
24											255	250	255	295	280	250								
25											280	260	240	275	255	255								
26												250	255	260	255									
27							C	C	C		250	270	260	255	250									
28											250	260	255	280	255									
29												245	240	295	275	240	230							
30										25	240	255	245	265	255									
31											250	270	270	260	250	245								
No.								1	4	13	27	29	30	30	30	21	11	1						
Median								290	270	250	265	280	270	280	280	260	250	255						

h'F2

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

IONOSPHERIC DATA

Oct. 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	325	340	I_{345}^{A}	255	250	350	300	250	250	240	220	225	250	245	220	245	235	250	245	250	220	260	I_{350}^{A}	I_{320}^{A}
2	I_{280}^{A}	305	A	A	A	295	230H	240	255	235	220	225	220	A	250	A	A	240	280	I_{260}^{A}	250	290	255	305
3	260	325	300	250	260	330	250	225	220H	230	I_{220}^{A}	E_{260}^{A}	250	280	I_{245}^{A}	275	255	I_{250}^{A}	I_{240}^{A}	240	I_{270}^{A}	330^{A}	250	300
4	300	350	310	290	300	300	270	240	240	230	250	240	A	A	A	A	A	250	250	A	A	A	275	290
5	285	290	260	280	275	300	260	230	240	A	250	210	245	255	220	250	245	245	255	I_{250}^{A}	245	280	305	320
6	295	330	335	295	A	270	240	230	220H	190H	200	220H	205	210	220	240	250	240	230	220^{A}	I_{275}^{A}	I_{330}^{A}	370	345
7	310	340	300	225	E_{260}^{S}	E_{290}^{S}	260	225	225	225	205	205H	270	235	255	240	240	250	230	220	230	255	300	340
8	335	325	300	260	255	255	220	220	240	240	240	200H	255	255	255	250	250	250	255	275	I_{255}^{A}	300	305	255
9	260	285	340	300	270	275	230	230	240	260	240	230	240	230	220	225H	255	250	225	220	250	295	290	295
10	325	315	290	275	300	275	245	225	230	225	235	240	205	250	240	245	250H	240	225	235	I_{265}^{A}	270	340	340
11	340	320	275	290	280	255	260	235	240	225	210	205	240	240	210	250	240	240	235	210	230	310	320	320
12	I_{335}^{A}	305	250	250	285	300	255	240	240	250	220	200H	240	255	240	240H	240H	240	240	240	255	255	280	280
13	290	305	310	290	240	220	280	220	240	230	210	240	200H	240	200H	245	250	250	220	220	280H	305	300	305
14	310	290	290	255	240	250	255	235	240	220H	220	205	270	240	230	240	240	245	230	210	260	305	340	295
15	275	330	340	290	235	275	250	230	230H	I_{240}^{AH}	230H	220	205	220	220H	240	245	240	220	I_{280}^{A}	325	310	300	290
16	275	300	280	280	225	250	250	240	230	220H	205H	200H	250	E_{250}^{A}	230H	240H	240	245	230	225	275	275	310	350
17	I_{290}^{A}	305	270	255	300	340	290	240	225H	225	205	250	225	205	260	250H	240	240	220	235	290	290	255	280
18	305	310	290	275	300	I290C	255	235	240	220	245	C	C	C	250	250	245	235	250	250	I_{285}^{A}	300	305	270
19	260	285	275	260	270	I_{330}^{S}	290	230	230	245	240	250	240	200H	255	A	240	225	215	255	320	A	A	270
20	340	310	300	300	230	270	300	250	240	250	245	I_{225}^{A}	I_{250}^{A}	275H	255	255	240	230	210	240	285	285	270	295
21	300	305	295	235	200	E_{325}^{S}	295	235	240	250	250	A	A	A	A	I_{250}^{A}	240	235	E_{285}^{A}	245	285	I_{325}^{A}	295	I_{290}^{A}
22	300	260	290	245	225	350	285	235	225H	240	230	E_{260}^{A}	225	220	220H	240	230	225H	220	235	240H	300	A	260
23	300	285	240	220	S	E_{420}^{S}	305	250	250	250	E_{250}^{A}	235	I_{245}^{A}	245	270	I_{250}^{A}	I_{240}^{A}	225^{A}	215	250	250	240	305	325
24	255	255	285	E_{295}^{S}	275	355	275	225	240	240H	I_{250}^{A}	I_{240}^{A}	I_{245}^{A}	230	I_{260}^{A}	250	230	230	205	235	260	270	290	320
25	350	260	255	255	270	355	300	240	235	235H	225	205H	230	240	I_{250}^{A}	I_{245}^{A}	250	235	205	295	245	240	290H	305
26	I_{325}^{A}	255	245	325	310	300	260	235	250	230H	250	205	240	235	245	240H	235H	230	230	260	260	250	255	255
27	290	310	C	C	C	C	C	C	C	245	225	240	205H	240	240	240H	230H	230	230	250	255	250	E_{290}^{A}	330
28	335	275	245	250	220	S	300	240	225H	230	225	230	220	230	250	245H	240H	225^{A}	210	A	A	A	305	280
29	235	275	300	290	240	250	300	245	240	240	265	240	210	E_{255}^{A}	I_{250}^{A}	I_{240}^{A}	A	230	230	A	A	I_{260}^{A}	260	295
30	285	275	255	270	325	250	255	235	240	E_{245}^{A}	205H	225	210	205	200H	220H	210H	220	225	230	260	255	245	E_{320}^{S}
31	295	310	300	255	210	E_{300}^{S}	250	225	240	220H	225	210	220H	220	205	210	230	220	225	E_{305}^{SH}	290H	225	E_{380}^{A}	E_{370}^{S}
No.	31	31	29	28	27	26	30	30	30	29	30	27	28	25	29	28	28	31	30	27	28	28	28	29
Median	300	305	290	265	260	E_{290}	260	235	240	235	225	225	240	240	240	245	240	240	230	240	260	280	300	295

h'F

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

The Radio Research Laboratories, Japan.

Y10

IONOSPHERIC DATA

Oct. 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	105	105	100	105	S	S	S	130	125	120	120	110	110	110	110	G	110	105	105	105	105	105	125	120
2	115	110	105	105	105	105	105	150	135	145	135	125	130	120	145	130	130	105	130	120	115	120	110	110
3	115	105	105	105	105	105	105	135	105	140	130	105	105	120	120	105	125	120	120	110	110	110	S	110
4	115	105	105	105	105	S	S	145	130	130	125	125	120	110	120	110	105	110	110	105	105	105	105	105
5	105	105	S	S	S	S	S	110	140	130	130	130	G	110	G	G	105	105	100	100	100	100	100	100
6	100	110	105	105	105	105	105	150	105	130	130	125	140	105	105	105	105	140	105	105	105	105	105	105
7	105	105	S	S	S	S	S	G	140	130	130	G	G	G	G	155	140	105	105	S	S	S	110	135
8	105	105	S	S	105	S	S	145	140	135	130	130	105	100	130	105	145	140	130	125	110	110	105	105
9	105	S	S	S	S	S	S	155	G	125	110	105	105	G	105	G	130	125	S	S	S	105	105	105
10	S	105	S	100	S	S	S	G	115	G	G	120	125	125	125	G	150	130	110	110	105	110	110	S
11	105	105	105	130	130	S	125	120	120	110	G	105	100	105	105	105	150	140	105	S	S	S	S	105
12	105	105	S	S	S	S	S	G	G	105	G	105	110	105	G	150	105	105	100	S	S	S	110	110
13	105	S	S	S	S	S	S	G	G	100	125	130	125	125	140	105	145	130	120	110	105	105	105	105
14	105	S	S	S	S	S	S	G	G	G	120	110	G	G	G	110	G	G	S	S	S	105	S	105
15	110	S	S	S	S	S	S	155	150	130	135	125	120	115	120	G	120	115	120	110	105	S	S	S
16	S	S	S	S	S	S	S	G	115	150	105	G	100	100	105	105	100	100	100	105	105	100	S	S
17	105	S	S	S	S	S	S	G	G	140	130	120	120	G	110	G	150	100	100	120	105	105	105	105
18	105	S	S	105	100	C	S	G	150	130	G	C	C	C	135	105	105	140	140	140	120	S	105	105
19	S	S	S	E	E	S	S	G	G	160	150	140	125	130	125	140	140	140	120	125	110	110	105	105
20	105	105	S	S	E	S	S	155	155	150	130	140	130	130	130	130	130	G	S	105	S	S	S	S
21	110	110	110	110	105	S	105	105	150	130	130	125	120	115	120	125	120	110	110	110	105	105	105	105
22	105	S	105	S	S	S	S	145	135	140	140	130	125	130	140	G	110	110	S	S	S	105	105	S
23	105	105	105	S	S	S	140	140	140	140	140	140	135	135	125	120	120	110	110	105	105	105	S	S
24	S	S	S	S	S	S	S	130	135	130	125	120	120	130	120	120	125	120	110	105	105	S	105	S
25	105	105	105	105	105	S	S	125	110	G	110	105	G	145	140	130	135	145	125	130	S	120	S	120
26	115	120	115	110	110	S	S	140	140	130	125	G	125	125	130	145	130	120	120	110	110	120	S	S
27	S	S	C	C	C	C	C	C	C	110	110	110	105	115	G	G	G	G	S	110	105	105	105	100
28	S	S	S	S	S	S	S	G	G	110	G	G	150	145	140	130	125	110	125	105	105	105	105	S
29	105	105	105	105	125	110	110	155	150	130	120	125	125	125	120	120	110	110	110	105	105	105	S	S
30	S	S	E	105	S	120	120	105	110	105	105	105	G	G	100	105	G	S	S	110	105	105	105	105
31	105	S	S	S	S	S	S	S	110	110	105	105	105	135	105	135	145	S	S	S	S	S	105	S
No.	24	17	12	13	11	5	8	19	23	28	26	26	25	25	26	23	28	26	24	24	22	23	21	20
Median	105	105	105	105	105	105	110	140	135	130	130	120	120	120	120	120	125	110	110	110	105	105	105	105

h'Es

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Oct. 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	f2	f2	f4	f				c	h2	c	c2	c	1	1	1		1	12	12	f	f	f	f2f2	f
2	f2	f2	f4	f4	f5	f2	12	h	h2	h	h	h	h12	h21	h1	h212	c212	12c2	c212	f2f	f2	f2	f2	f3
3	f	f3	f2	f	f2	f2	12	c	12c	c12	c212	1	12	c1	c212	12	c212	c31	c2	f3	f3f	f3		f2
4	f	f3	f2	f2	f			h	h	h	c1	c1	c31	c2	c	1	12	13	c2	f2	f3	f3	f2	f2
5	f2	f2						12	c1	h13	h12	h1		1			12	12	12	f4	f3	f	f2	f
6	f	f2	f2	f	f2	f2	12	h1	12	h12	h1	h1	h1	1	1	1	1	h1	1	f3	f3	f2	f2	f2
7	f2	f2							h	h	h					h	h1	1	1				f	f3f
8	f2	f2			f			h2	h12	c12	h1	h1	12	12	c1	1	h2	h2	c2	f2	f2	f2	f5	f2
9	f2							h		h2	1	1	12		1		h	c				f2	f	f
10		f		f					1			1	1	1	1		h	h21	12	f5	f5	f2	f2	
11	f	f	f	f2	f2f3		12	12	13	12		1	12	12	1	1	h1	h12	1					f2
12	f4	f								12		1	1	1		h1	1	12	12				f2	f
13	f									12h	c1	h1	c	c1	h1	1	h1	c3	c	f	f	f2	f2	f
14	f2										1	1				1						f		f
15	f							h	h	h2	h	c	1	1	1		1	1	1	f3	f2			
16									1	h	12		12	12	12	12	13	12	13	f	f	f		
17	f4									h	h	h1	h1		12		h	1	1	f	f	f2	f3	f
18	f2			f	f2				h	h					h	1	1	h12	h21	ff	f2		f	f2
19										h	h	h	h	h	h	h2	h2	h2	h2	ff	f2	f2	f4	f2
20	f2	f						h	h2	h	h	hh	h	h	h	h3	h			f2				
21	f	f4	f2	f2	f		12	1	h12	h21	h1	h2	c1	c212	c21	c2	12	14	f2	f2	f4	f3	f2	f2
22	f		f2					h	h	h	h	h	h	h	h		12	1				f3	f3	
23	f2	f	f				12	h	h2	h	h2	h	h	h	h	c	12	13	f3	f	f2	f2		
24								c	h2	h	h2	c2	c2	h	h2	c	1	1	f3	f2	f		f	
25	f2	f2	f2	f	f2			1	12		12	12		h	h	h	h3	h2	f	f		f		f
26	f3	f2	f2	f2	f2			h2	h2	h	h		h	h	h	h	h	1	f	f2	f	f2		
27										12	12	1	1	c						f4	f3	f3	f2	f2
28										1			h	h	h	h12	c212	c2	ff	f3	f2	f4	f	f
29	f	f2	f2	f2	f	f	1	h2	h	h21	c21	h	h	c2	c2	1	121	12	f2f	f2	f2	f3		
30				f		f2	1	1	1	12	1	1			12	1				f2	f2	f2	f	f
31	f								12	13h	12	12	12	h12	1	h1	h						f	
No.																								
Median																								

Types of Es

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

The Radio Research Laboratories, Japan.

Y 12

58

SOLAR RADIO EMISSION 200 Mc/s

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

HIRAISO

Time in U.T.

Oct. 1962	Steady Flux					Variability				
	00-03	03-06	06-09	21-24	mean	00-03	03-06	06-09	21-24	mean
1	7	7	7	-	7	0	0	0	-	0
2	7	7	7	5	7	0	0	0	0	0
3	7	6	7	5	6	0	0	0	0	0
4	7	7	7	-	7	0	0	0	-	0
5	7	8	8	7	7	0	0	0	0	0
6	7	7	7	7	7	0	0	0	0	0
7	7	6	6	7	6	0	0	0	0	0
8	7	6	6	-	6	0	0	0	-	0
9	7	6	7	7	7	0	0	0	0	0
10	7	7	7	6	7	0	0	0	0	0
11	6	6	6	5	6	0	0	0	0	0
12	6	7	7	5	6	0	0	0	0	0
13	6	(6)	-	5	6	0	(0)	-	0	0
14	6	6	6	5	6	0	0	0	0	0
15	7	6	6	5	6	0	0	0	0	0
16	6	6	7	5	6	0	0	0	0	0
17	7	6	6	5	6	0	0	0	0	0
18	7	7	7	6	7	0	0	0	0	0
19	6	6	7	5	6	0	0	0	0	0
20	6	7	7	7	6	0	0	0	0	0
21	7	7	6	7	6	0	0	0	0	0
22	7	6	7	7	6	0	0	0	0	0
23	7	6	6	-	6	0	0	0	-	0
24	6	6	7	5	6	0	0	0	0	0
25	6	6	5	5	6	0	0	0	0	0
26	6	6	(5)	6	6	0	0	(0)	0	0
27	6	7	6	6	6	0	0	0	0	0
28	7	6	7	5	6	0	0	0	0	0
29	6	7	7	6	6	0	0	0	0	0
30	8	8	8	8	8	0	0	0	0	0
31	7	8	8	6	7	0	0	0	0	0

Note No observations during the following periods:

1st 2030 - 2nd 0100
4th 2030 - 2300
8th 2040 - 9th 0000
13th 0400 - 1700
23rd 2050 - 24th 0000

Outstanding Occurrences

Oct. 1962	Start-time	Dura-tion	Type	Max. Int.		Max. Time	Remarks
				Inst.	Smd.		
12	2301.1	2.2	CD/4	1300	210	-	off scale
13	0151.7	1.3	CD/4	920	70	0152.3	
	0343.2	1.6	CD/4	1100	140	0343.7	
28	0027.4	1.1	CD/4	230	80	0028.2	
	0711.8	1.2	CD/4	200	40	0712.2	

RADIO PROPAGATION QUALITY FIGURES

HIRAISO

Time in U.T.

Oct. 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*	2o	4 2 1	1 - - 1	(3) 2 2 2	4 4 3 3	U U W W			
2	2+	3 3 3	1 - - 2	2 2 3 3	3 4 3 4	W W U U			
3	3-	3 3 3	2 - - 2	3 2 2 3	4 3 3 4	U N N N			
4	3o	3 3 3	2 - - 3	3 3 (4) 3	4 3 4 4	N N N N			
5	3+	4 3 3	3 - - 4	3 3 4 4	4 4 4 4	N N N N			
6	4-	3 3 4	4 - - 4	4 3 4 4	4 3 3 4	N N N N			
7	4+	4 4 5	5 - - 4	3 4 5 (4)	4 4 3 4	N N N N	2026	---	86γ
8	3+	4 3 3	3 - - 4	4 3 3 3	4 3 4 4	N N U U	---	---	
9	3+	4 (4) 4	3 - - 4	3 3 (3 3)	4 5 4 4	U U U U	---	2100	
10	3+	4 (3) 4	3 - - 4	3 (3) 3 3	4 3 3 (4)	U N N N			
11	4-	4 3 3	4 - - 4	3 4 4 4	4 3 3 4	N N N N			
12	4-	4 4 4	5 - - 4	3 3 3 3	4 5 4 4	N N N N			
13	3+	5 3 3	3 - - 4	3 3 3 3	4 5 4 4	N N N N			
14	4-	4 3 3	3 - - 4	4 3 4 4	4 5 5 4	N N N N			
15	4+	4 5 5	3 - - 4	4 5 4 4	4 4 4 4	N N N N			
(16)	4-	4 3 3	5 - - 4	(3) 3 4 4	4 5 4 3	N N U U			
(17)	5-	3 C 5	5 - - 5	4 5 5 4	4 4 4 4	N N N N			
(18)	4-	3 4 3	4 - (4) 5	3 4 4 4	4 3 4 4	N N N N			
19	4o	3 3 4	5 - - 4	4 4 4 4	4 4 4 4	N N U U			
20	4+	5 4 5	4 - - 4	4 4 5 4	4 4 4 4	N N N N			
21	5-	5 3 5	5 - - 5	5 4 4 5	4 (4) 5 4	N N N N			
22	5-	C C C	(4) - - (5)	5 5 (4 5)	4 4 (5) 4	N N N N			
23	4+	4 4 4	4 - - 4	5 4 5 4	4 3 4 3	N N N N			
24	4o	5 4 4	4 - - 3	4 4 4 (4)	4 (3) 4 4	N N N N			
25	4-	3 3 2	4 - - (3)	4 5 5 5	4 (4) 3 4	N N N N			
26	3+	3 2 2	4 - - 3	4 3 4 4	5 5 (4) 4	N U U U			
27	3o	3 3 2	3 - - 3	4 3 (3) 3	5 4 4 4	U N N N			
28	3+	3 3 3	2 - - 3	4 4 5 4	5 5 4 4	N N N N			
29	4o	4 4 4	3 - - 4	4 5 4 4	4 (3) 4 4	N N N N			
30	4-	3 3 4	4 - - 4	4 3 4 4	4 4 3 4	N N N N			
31	4-	3 3 4	(3) - - 3	4 4 4 4	3 3 3 4	N N N N			

* = day of Special World Interval

( ) = inaccurate

[ ] = Regular World Day

C = artificial accident

- = impossible to evaluate

--- = continuing magnetic storm

Erratum:

Read

Aug. 1962	Principal magnetic storms Start	End
1*	---	24xx

For

Aug. 1962	Principal magnetic storms Start	End
1*		

SUDDEN IONOSPHERIC DISTURBANCES

(S.I.D.)

HIRAISO

Time in U.T.

Oct. 1962	S W F								S E A			Correspondence		
	Drop-out Intensities (db)						Start-time	Dura-tion	Type	Imp.	Start-time	Dura-tion	Imp.	Flare	Solar Noise	Mag.
	WS	SF	HA	TO	LN	SH										
	None															

IONOSPHERIC DATA IN JAPAN FOR OCTOBER 1962
第 14 号　第 10 巻

昭和 38 年 1 月 20 日　印　刷
昭和 38 年 1 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