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IONOSPHERIC DATA IN JAPAN

FOR AUGUST 1962

Vol. 14 No. 8

Issued in October 1962

Prepared by

THE RADIO RESEARCH LABORATORIES

MINISTRY OF POSTS AND TELECOMMUNICATIONS

KOKUBUNJI, TOKYO, JAPAN

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THE RADIO RESEARCH LABORATORIES

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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. 0234*x*)

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

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

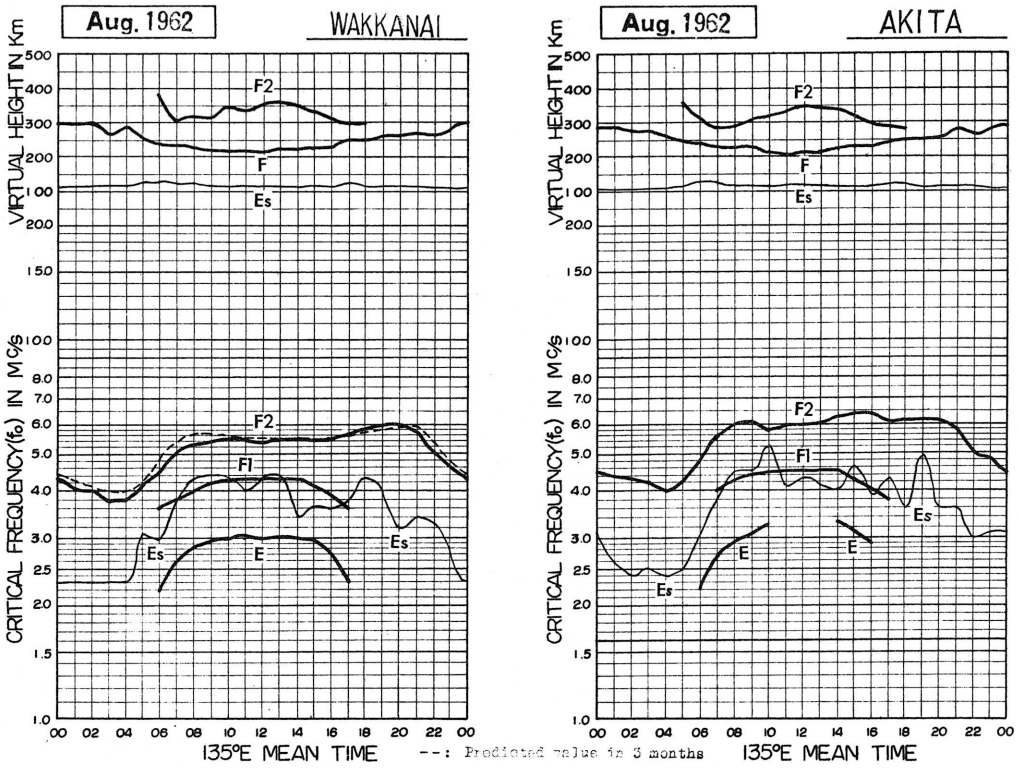
Degrees of SWF are classified into 9 grades according to the amplitude of fade-out;

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.*

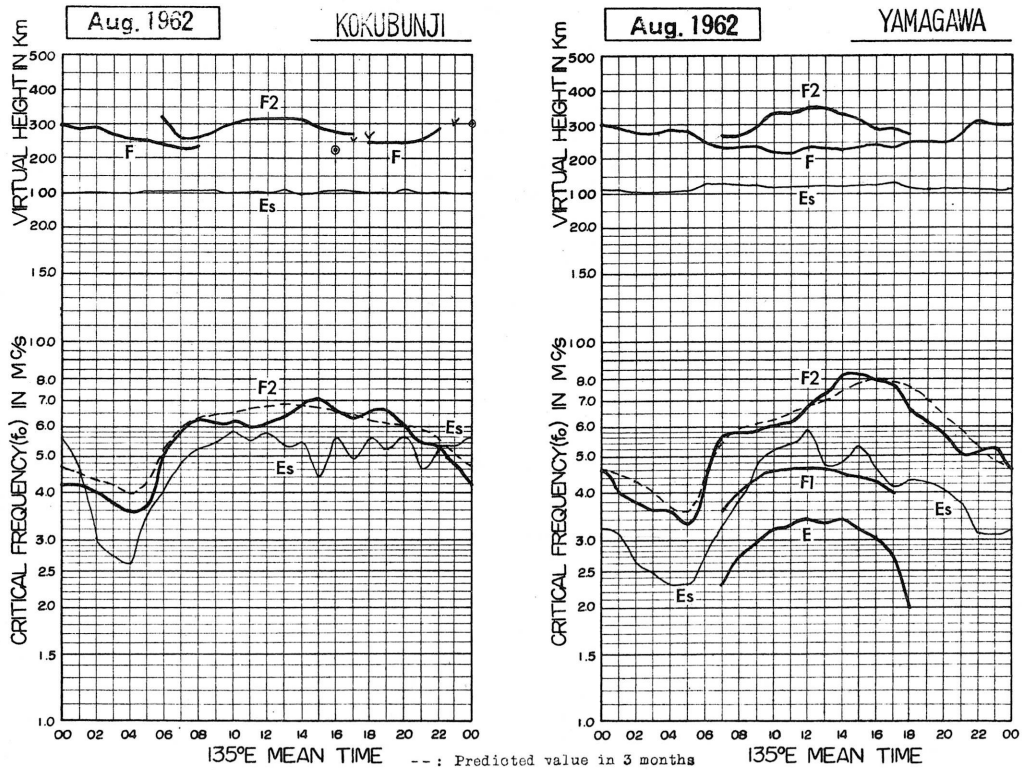
Besides, the time associated phenomena of SID's, that is, solar flare, solar radio noise outburst and crochet (solar flare effect in magnetic record) are given in this table from interchange messages or measurements at Hiraiso.

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

Aug. 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	FS	FS	F	A	FS	3.8	I4.3A	4.9	4.8	5.2	4.6	I4.7A	I4.9R	5.1	5.6	5.6	4.9	5.3	5.8	6.5	5.0	5.5	5.0	5.0
2	3.3	3.3	2.5	I2.4FS	2.5	3.2	4.1	4.1	W	W	A	A	R	R	R	R	A	A	4.3	4.6	5.0	4.8	4.6	4.1
3	4.0	3.9	4.1	3.7F	3.8	4.1	4.4	5.1	5.3	5.6	I4.6A	4.7	5.0	5.1	5.0	4.6	4.7	5.1	5.8	5.1	4.6	4.6	4.5	U4.3S
4	4.3	4.1	4.3	3.3	3.0	4.2	I4.4R	4.6	I5.0A	5.1	5.2	5.5	5.3	5.0	4.9	5.1	5.5	5.3	I5.3A	I5.2A	5.3	SF	A	SF
5	FS	4.0F	3.7	I3.6SF	3.4	3.9	4.6	I4.7A	I4.9A	4.6	I4.9A	I4.8R	4.8	5.4	5.2	5.3	5.3	5.3	5.0	5.3	I5.5SF	5.7	5.4	4.8
6	4.7	4.6	4.3	4.2	3.8	3.9	4.3	5.0	4.7	5.2	4.8	5.1	5.3	5.4	4.9	5.0	5.0	5.3	5.1	5.3	5.9	5.6	5.2	I4.8SF
7	4.3	4.3	3.8	3.3	3.3	3.8	4.3	5.3	5.1	5.3	5.5	5.2	5.1	5.3	5.4	5.0	4.9	5.1	5.6	5.0	4.9	5.0	SF	SF
8	SF	3.8	3.8	3.5	3.2	I3.7A	I4.5A	5.6	4.7	5.5	4.8	I4.7A	I4.6A	I4.7A	I5.2A	4.7	4.7	4.7	4.9	5.8	6.0	5.1	4.9	4.6
9	4.0	3.9	SF	SF	SF	3.9	4.0	4.4	5.0	I4.4A	A	A	R	4.4	4.5	5.0	4.4	4.4	4.4	I4.7A	5.7	5.7	5.3	U3.8S
10	U3.7S	SF	SF	SF	SF	A	4.0H	4.1	I4.7A	A	A	A	A	A	4.5	4.8	5.0	5.0	A	A	S	U5.3S	A	SF
11	SF	SF	U3.5F	I3.0FS	3.3F	3.6H	I4.0A	I4.5A	5.0	I5.2A	I4.8A	I4.6A	I4.6A	I4.8A	4.9	4.8	4.8	I4.9A	I5.0A	5.3	SF	SF	SF	A
12	U4.3S	3.9	3.8	SF	SF	SF	4.2	U5.5R	5.0	5.2	I5.1A	I5.0A	5.0	5.1	5.0	4.9	4.9	5.4	5.8	6.4	6.3	U6.0S	5.5	5.0
13	SF	SF	SF	SF	SF	U4.3S	5.2	6.4	6.8	6.7	6.4	5.3	5.2	5.2	5.0	5.3	5.6	5.8	6.0H	U6.6S	6.1	5.4	4.3	I4.1SF
14	U4.0F	I4.0SF	U4.2S	SF	SF	SF	5.3H	5.5	6.0	5.4	5.4	5.4	5.0H	5.3	5.2	6.1	6.2	6.1	6.0H	6.8	6.3	5.9	5.3	5.1
15	5.0	4.5	4.5	4.3	4.3	4.6	5.0	5.1	5.4	4.8	5.1	5.4	5.7	5.5	5.7	6.0	6.0	7.2	6.6H	U7.3S	I6.8S	6.0	5.2	4.7
16	I4.3S	4.5	4.3	I4.0SF	U4.3S	I4.2A	I4.7A	5.3	5.0	5.3	5.5	5.9	5.6	5.8	5.8	5.5	I4.9A	5.3	I5.4A	I5.4A	I5.8S	U5.6S	U4.7S	4.3
17	4.1	4.0	U4.3S	U4.3S	4.4	4.2	5.6	U6.0S	6.3	6.7	5.6	5.9	6.3	6.0	5.6	5.5	5.7	5.7	5.9H	6.9	I7.2S	6.1	U6.3S	5.9
18	5.1	4.4	4.2	4.5	4.4	I4.5S	4.3H	5.6	5.7	6.9	7.3	7.5	6.0	6.4	5.4	6.0	6.0	6.3H	7.0	6.6	7.0	U6.5S	U5.8S	5.3
19	5.3	I4.8SF	4.2	4.0	3.8	3.7	4.8H	5.5	6.4	5.3	5.8	7.1	8.6	8.1	7.1	6.0	6.4	6.5	5.8	6.5	6.3	6.1	6.0	5.8
20	I4.7S	4.0	U4.1F	I4.0SF	3.3	I4.3A	4.7	5.3	6.0	5.4	5.8	5.7	5.7	6.3	5.7	6.0	5.6H	6.1H	5.8	5.9	U6.3S	5.9	I5.0S	4.9
21	4.8	I4.7SF	I4.6SF	U4.3SF	SF	A	S	4.6	5.0H	5.7	5.5	6.4	5.7	6.1	5.8	5.6	6.1	6.1	5.9	5.7	5.5	5.4	5.0	4.7
22	4.7	U4.6S	I4.6SF	I4.4SF	4.3	4.8	5.3	5.0	5.3	5.8	6.3	5.3	6.0	U6.6R	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	6.0	6.4	6.0	6.8	6.5	7.4	7.0	7.3	7.1	S	S	S	A	A
24	A	I4.2SF	4.0	U3.9S	4.0	I4.7A	6.2	5.1	5.9	5.9	5.2	5.4	5.1	5.7	6.1	7.3	7.5	7.4	7.2	U6.3S	6.2	I5.8A	I5.1A	4.6
25	4.3	I4.0A	3.9	3.8	I4.0SF	U4.3S	4.3	4.9	6.7	I6.1A	I5.5A	I5.6A	I5.5A	I5.1A	5.3	5.6	5.5	6.0	U6.5S	5.8	5.6	5.1	A	A
26	SF	S	SF	3.8F	I4.0SF	I4.2SF	5.1	I5.4A	5.8	6.3	I5.7A	5.5	I5.6A	5.7	5.5	5.3	5.9	6.1	5.3	4.6	A	S	SF	SF
27	SF	SF	SF	SF	SF	U4.3F	5.4	5.5	5.5	5.4	5.4	6.1	6.1	6.0	5.9	5.6	5.6	6.0H	U6.6S	U6.6S	6.1	5.8	4.6	U4.3S
28	I4.1SF	3.6	3.6	3.6	3.5	4.3	5.5	5.1	5.3	5.7	6.1	5.5	6.0	6.0	5.8	5.2	5.3	5.4	6.1	S	S	AS	S	A
29	A	I3.8A	3.6	3.7	4.0	U4.0S	5.4	6.7	I6.9S	I6.0R	6.4	5.0	5.3	4.9	5.7	5.3	5.0	I5.7A	6.6	7.8	U7.6S	6.0	I4.7A	I3.6A
30	3.3	3.3	3.5	3.6	3.1F	3.5	I4.1A	4.6	I5.4A	I5.7A	5.8H	5.5	5.3	I5.5A	5.5	5.4	5.8	5.6	5.7	6.2	5.7	5.0	I4.4S	U3.9S
31	3.8	3.8	I3.9SF	3.7	3.7	3.6	4.0	5.0	5.0	5.7	6.0	5.7	5.5	5.8	6.2	6.3	6.1	5.8	7.0	7.0	6.0	6.5	5.4	U4.3S
No.	21	24	24	23	22	26	29	30	29	28	28	28	28	29	29	29	29	29	29	27	25	25	22	22
Median	4.3	4.0	4.0	3.8	3.8	4.2	4.5	5.1	5.3	5.4	5.5	5.4	5.4	5.5	5.5	5.4	5.5	5.7	5.8	5.9	6.0	5.7	5.0	4.6
U.Q	4.7	4.4	4.3	4.2	4.0	4.3	5.2	5.5	6.0	5.8	5.9	5.8	5.8	6.0	5.8	6.0	6.0	6.1	6.6	6.6	6.3	6.0	5.4	5.0
L.Q	4.0	3.8	3.8	3.6	3.3	3.8	4.2	4.7	5.0	5.2	5.1	5.0	5.0	5.1	5.0	5.0	4.9	5.3	5.3	5.3	5.5	5.2	4.7	4.3
Q.R	0.7	0.6	0.5	0.6	0.7	0.5	1.0	0.8	1.0	0.6	0.8	0.8	0.8	0.9	0.8	1.0	1.1	0.8	1.3	1.3	0.8	0.8	0.7	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

IONOSPHERIC DATA

Aug. 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						A	A	A	3.8	4.1	4.3	I4.3A	4.3	I4.3R	4.2	4.1	I3.9A	I3.6A						
2						2.8	3.3	3.8	3.8	4.0	I4.1A	I4.2A	4.2	U4.3R	I4.1R	4.0	A	A	L					
3							3.6	I3.6A	3.9	4.1	I4.2A	4.2	4.3	4.3	4.2	4.1	3.9	3.7	3.1					
4							3.8	A	A	A	A	4.3	4.3	4.3	I4.3A	4.1	4.0	A	A					
5						3.0	3.6	3.8	4.0	4.1	I4.2A	U4.3R	4.3	4.3	4.2	4.1	3.8	3.6	A					
6							3.5H	3.7	4.1	4.2	I4.2A	I4.3A	I4.3A	I4.3A	4.3	4.1	3.8	3.5						
7							3.6	I3.8A	I4.0A	4.2	4.3	4.3H	4.5	4.3	4.2	4.2	4.0	3.8						
8							I3.5A	3.7	4.0	4.3	I4.3A	I4.2A	I4.2A	I4.3A	I4.2A	4.1	3.9	A	A					
9						2.7	I3.2A	I3.7A	A	A	A	A	R	4.1	4.1	4.1H	3.8	3.6						
10								3.7	A	A	A	A	A	A	4.2	I4.1A	3.8	3.6	A					
11								A	4.0	I4.1A	I4.2A	I4.3A	I4.3A	I4.3A	4.2	4.1	A	A	A					
12								3.9	A	A	A	A	4.3	4.5	4.1	I4.1A	4.0	3.8	A					
13							U3.9L	4.0	I4.2A	I4.3A	I4.3A	4.3	4.5	4.5	4.3	4.3	4.0H	3.6						
14								4.0	4.2	I4.2A	4.3	4.3		4.3	4.3	4.2	4.0	3.8						
15							3.6	3.8	4.1H	4.3	4.4	4.4	4.4	4.4	4.3	4.2	4.1	3.7						
16								A	4.0H	4.3	I4.3A	I4.4A	4.3	4.3	4.3	4.2	A	A						
17							3.7	A	A	A	4.4	4.3	4.3	4.3	4.4	4.1	4.0	3.7						
18								3.9	I4.2A	4.3	4.5	4.4	4.4	4.4	4.3	4.3	4.0							
19								4.0	4.1	I4.3A	4.3	4.6	4.6	4.4	4.3	4.0	4.1H	3.5						
20								3.9	I4.1A	I4.2A	4.3	4.4	4.4	4.4	4.3	4.3								
21										4.3	I4.4A	4.4	I4.6A	I4.5A	4.3	4.2	3.9							
22									4.2	4.3	4.3	4.5	I4.4A	A	C	C	C	C	C					
23						C	C	C	C	C	A	4.4	4.5	A	A	A	A	A						
24								3.8	4.1	4.2	4.3	4.3	4.4	I4.5A	I4.3A	I4.1A	3.9	A						
25									A	A	A	A	A	A	A	A	4.0	A						
26									A	A	A	4.5	A	A	A	I4.1A	3.8	3.5						
27									4.0H	4.2	4.3	I4.2A	I4.3A	I4.3A	4.2	4.0	3.8							
28								4.0	4.0	4.2	4.3	4.3	4.3	4.3	4.3	A	A	A						
29							I3.3A	3.8	I4.0A	4.2	4.2	4.3	I4.3A	4.3	I4.3A	4.1	A	A						
30								I3.9A	I4.1A	I4.1A	4.2	4.3	I4.2A	I4.1A	4.1	4.1	A							
31								3.8	4.1	I4.2A	4.2	4.3	4.3	4.3	4.3	4.0	3.8							
No.						3	12	20	22	23	24	27	26	26	27	27	22	14	1					
Median						2.8	3.6	3.8	4.0	4.2	4.3	4.3	4.3	4.3	4.3	4.1	3.9	3.6	3.1					

foF1

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

The Radio Research Laboratories, Japan.

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IONOSPHERIC DATA

Aug. 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	2.30	2.70	2.95	3.10	3.15	3.10	2.85	I3.10A	3.15	3.00	2.70	2.30	S	S				
2						I1.60A	I2.10S	2.45	2.70	2.95	2.90	3.15	3.10	3.05	3.00	2.90	2.70	2.15	S					
3						I1.65S	2.30	2.60	2.90	3.00	3.00	I3.05A	I3.20A	3.20	3.25	3.00	2.65	2.25	S	S				
4						S	2.25	2.65	2.95	3.00	3.00	I3.00A	A	A	A	2.85	2.70	2.35	S	S				
5						S	2.20	2.70	2.85	2.90	3.00	3.00	3.10	3.10	3.20	3.05	2.80	2.30	S	S				
6						S	2.30	2.60	2.95	3.05	3.10	3.05	3.00	I3.00A	3.15	I3.00A	2.90	2.50	S	S				
7						S	2.30	2.50	2.75	2.95	2.95	2.90	2.95	2.90	I2.90A	3.00	2.75	2.35	S	S				
8						S	2.20	2.60	2.90	3.00	3.00	3.00	A	A	A	A	2.80	2.40	S	S				
9						S	2.10	2.50	2.85	2.90	3.05	3.05	2.95	2.95	2.90	2.95	2.65	2.30	S	S				
10						S	2.15	2.55	2.90	3.00	3.05	3.10	3.05	2.90	A	A	A	2.50	S	S				
11						S	2.20	2.50	2.85	2.95	2.95	2.90	3.00	I3.10A	3.20	3.00	2.80	2.20	S					
12						S	2.20	2.60	2.80	2.90	2.95	3.00	2.95	A	A	A	A	2.50	S	S				
13						S	2.20	2.65	2.95	3.05	I2.95A	2.90	A	A	A	2.90	2.90	2.50	S	S				
14						A	2.25	2.65	2.85	2.95	3.00	3.25	3.15	I3.10A	3.10	3.00	2.80	A	S	S				
15						S	2.15	2.60	2.85	2.95	3.25H	3.20	I2.95B	3.00	2.85	2.90	2.70	2.25	S					
16						A	2.20	2.60	2.90	3.05	3.10	3.10	3.15	3.10	2.70	I2.95A	2.50	2.30	S					
17						S	2.10	2.60	2.85	2.95	3.00	2.90	A	A	A	A	A	I2.35A	S	S				
18						S	2.15	2.70	2.90	3.00	3.05	3.10	3.15	3.15	3.00	2.90	I2.60A	I2.25A	S					
19						S	2.10	2.60	2.90	3.05	3.15	3.25	3.00	A	A	A	A	A	S					
20						S	2.20	2.70	3.00	3.10	3.15	I3.20B	3.25	I3.20B	I3.00B	2.70	2.65	2.40	S	S				
21						S	S	2.65	2.85	3.05	3.20	3.15	3.15	2.90	3.00	2.60	A	A	S	S				
22						S	2.45	2.60	2.80	3.15	I2.95R	3.25	3.10	3.05	C	C	C	C	C	C				
23						C	C	C	C	C	3.05	3.00	3.05	2.95	A	A	A	A	S	S				
24						S	2.15	2.45	2.75	2.95	I3.00R	3.10	2.95	3.00	A	A	A	A	S					
25						S	2.15	2.60	2.70	2.90	3.00	3.00	3.05	3.00	I2.80A	2.65	A	A	S					
26						S	S	2.35	2.70	A	A	A	A	A	A	A	A	A	S					
27						S	S	2.45	2.70	2.85	2.90	I2.95A	2.95	I2.95A	I2.90A	2.80	2.50	2.15	S					
28						S	S	2.55	2.85	2.90	3.05	3.05	3.00	3.00	2.85	2.95	2.60	2.15	S					
29						S	S	2.45	2.70	2.75	2.95	2.95	I2.95A	I2.90A	2.80	2.85	2.50	S	S					
30						S	S	2.40	2.65	2.95	3.10	3.00	2.85	2.75	A	A	A	S	S					
31						S	2.05	2.35	2.75	2.85	2.85	A	A	A	A	2.95	2.65	S	S					
No.						2	24	30	30	29	30	29	25	23	18	21	20	20						
Median						U1.60	2.20	2.60	2.85	2.95	3.00	3.05	3.00	3.00	3.00	2.95	2.70	2.30						

foE

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

The Radio Research Laboratories, Japan.

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IONOSPHERIC DATA

Aug. 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	J4.8	J4.3	J5.3	J5.1	J3.3	J3.6	J6.4	J6.3	3.7	J4.5	3.9	J7.3	3.6	3.3	4.0	3.6	J4.3	J4.3	J4.0	2.6	E	E	E	E
2	E	J2.3	J7.0	J5.5	J3.3	J3.1	2.8	3.1	3.2	J4.3	J7.0	J5.3	4.3	G	G	G	J5.2	J7.4	J5.3	J4.3	J2.8	J3.1	E	E
3	E	E	J2.2	E	E	3.1	J4.0	J4.5	J4.3	3.7	J4.3	3.5	4.0M	G	3.0G	4.0	3.9	3.2	J3.6	4.0	3.0	E	E	E
4	E	E	E	J2.3	J3.3	2.5	3.4	J4.3	J5.3	5.3	J4.2	3.9	3.6	J4.4	J4.8	3.6	3.8	J4.3	J8.3	J7.3	J5.3	J4.3	J5.0	E
5	J4.1	J2.8	J4.3	J4.3	J3.0	3.0	3.0	J4.6	J5.1	J5.0	J5.3	3.5	G	G	G	G	3.3	3.2	5.0M	J6.0	J3.0	E	E	E
6	J2.3	2.2	E	J2.3	E	S	G	3.7	4.0	4.1	J4.3	4.5	5.0M	3.5	G	4.0	G	3.7	2.5	G	J3.0	J3.7	J3.4	J4.1
7	E	E	E	E	E	S	3.1	J4.3	4.0	3.9	3.7	3.3	3.5	3.6	3.4	3.6	3.8	3.7	J4.3	J3.3	J6.3	E	J4.3	E
8	E	E	E	J2.3	J2.6	J3.8	J5.0	J4.3	3.5	4.2	J4.6	J6.3	J4.3	J7.4	J7.1	4.4M	G	J4.6	J4.4	2.5	J3.0	E	E	E
9	E	E	E	E	E	2.3	3.5	J5.3	J4.3	J5.5	J6.0	J4.5	3.6	3.6	G	G	G	J4.3	J4.3	J5.1	J5.1	J5.0	J4.6	J3.1
10	J5.3	J3.2	J5.0	J2.3	J2.3	J4.0	2.8	3.3	J4.4	5.0	J5.1M	J4.3	J5.6	J6.5	4.3M	J6.0	J4.1	3.3	J5.5	J8.0	J6.0	J7.3	J6.3	J6.1
11	J4.3	J3.1	J2.3	J2.5	J3.1	2.4	J6.5	J8.1	J5.5	J8.3	J5.0	J5.0	J5.1	J5.5	3.8	3.7	J4.4	J7.5	J8.3	J6.3	J5.3	J3.3	J5.2	J5.2
12	E	J2.7	J3.8	J3.1	J3.1	S	2.6	3.6	J5.3	J4.5	J5.4	J5.5	J5.3	4.0	3.4	J4.2	J4.1	J4.3	J4.3	J6.3	J5.3	J5.1	J3.1	J2.6
13	E	E	E	E	E	S	2.6	3.3	J4.3	J4.3	J6.3	J4.3	J4.3	J4.3	3.3	G	G	3.2	S	S	J2.2	4.0	J9.3	J4.5
14	E	E	2.1	J3.3	J3.2	J3.0	2.6	3.8	4.2	4.6	5.0M	G	G	3.5	G	G	G	3.0	2.3	J4.1	J3.0	J3.5	J3.3	J3.5
15	E	E	E	E	E	S	2.9	3.5	3.3	3.5	G	3.6	3.5	G	G	G	3.3	4.0	J5.3	J4.0	J5.2	J6.3	J5.0	J3.1
16	3.0	E	E	J2.3	J3.6	J5.3	J5.0	J5.3	3.5	3.3	4.3	4.0	G	G	G	4.0	J6.5	J4.5	J9.0	J6.0	J6.1	J6.3	E	E
17	J2.3	J4.3	E	J2.3	J2.3	S	3.6	J4.3	J5.3	J5.0	3.4	J4.1	J4.3	4.0M	4.0	J4.0	3.2	2.8	S	2.3	J2.3	J4.3	J3.3	E
18	E	E	E	E	E	S	2.5	3.3	J4.3	G	3.7	3.7	G	G	3.5	G	2.8	J2.6	S	E	J3.1	E	E	E
19	E	E	E	E	E	S	2.6	3.3	3.7	J4.5	3.8	4.0	J4.4	J5.3	3.4	J3.3	J3.3	J3.5	J3.3	J2.4	E	E	E	J3.3
20	J3.3	J2.3	2.3	E	E	J4.3	3.0	3.6	J4.6	J4.3	4.3	B	3.8	B	B	G	G	G	S	S	E	E	E	E
21	J3.1	J4.0	J4.5	J2.5	J5.2	J5.2	J4.3	3.3	G	3.9	J4.8	3.9	J5.1	J4.6	3.5	J4.3	J3.3	J3.6	J3.5	J2.3	J2.3	J2.3	E	E
22	J2.5	J2.3	J2.3	2.0	1.6	S	G	G	G	G	G	G	J5.3	4.7	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	J5.2	3.9	4.0	J8.3	J11.6	4.2	J5.3	J8.3	J3.3	J5.3	J5.1	J5.3	J6.2	J9.1
24	J8.0	J3.0	J4.3	J4.3	J5.0	J5.5	J5.0	J10.3	J5.0	3.8	G	G	3.8	J5.0	5.0	J5.2	3.8	5.0M	J4.3	J4.3	J5.0	J10.3	J6.3	J3.3
25	J4.3	J5.1	J2.5	E	E	2.4	3.3	3.6	J5.3	J6.3	J8.5	J6.0	J6.5	J6.5	J4.3	J5.0	J4.3	J4.0	J3.0	J4.3	J3.3	J5.1	J6.3	J11.3
26	J5.1	J7.0	J3.1	J3.1	E	S	2.P	J9.0	J4.3	J8.0	J7.0	J5.5	J6.3	J5.6	48M	J4.5	J3.5	J3.3	2.7	J2.3	J5.0	J3.3	J5.0	J2.5
27	E	J2.5	J2.8	J2.0	2.0	S	S	G	2.4G	G	3.8	J4.9	J4.3	J5.3	3.2	G	3.3	3.0	2.5	E	2.3	J3.3	E	J3.3
28	E	J3.3	J2.3	J2.5	J2.3	S	2.8	J5.0	J4.6	3.8	3.6	J5.6	G	J6.3	3.5	4.4	3.8	J4.8	J5.3	J4.0	J10.3	J11.3	J10.3	J7.3
29	J5.3	J5.0	J4.3	J3.0	J3.3	S	J5.1	3.3	J5.1	J5.3	3.7	G	J5.3	4.3	J4.7	G	J4.5	J9.0	J4.3	J3.3	J5.3	J5.3	J7.3	J7.0
30	2.8	E	J3.1	E	J2.3	2.6	J4.3	3.9	J5.3	6.3	G	4.1	J4.3	J5.3	3.3	J3.4	J4.3	J5.0	2.3	J3.1	J4.3	E	E	J2.6
31	J3.0	J4.3	J3.3	J2.4	J3.0	S	G	3.6	3.6	J4.5	3.8	4.0	J6.0	J4.4	3.3	3.6	G	24	S	E	E	E	E	J4.0
No.	30	30	30	30	30	16	29	30	30	30	31	30	31	30	29	30	30	30	25	28	30	30	30	30
Median	2.3	2.3	2.3	2.3	2.3	3.1	3.0	3.8	4.3	4.4	4.3	4.0	4.3	4.4	3.4	3.6	3.6	3.8	4.3	4.0	3.2	3.4	3.3	2.8
U.Q	4.1	3.3	3.8	3.0	3.2	4.2	4.3	4.6	5.1	5.0	5.2	5.0	5.1	5.3	4.3	4.2	4.3	4.6	5.3	5.2	5.3	5.1	5.2	4.1
L.Q	E	E	E	E	E	2.6	2.6	3.3	3.6	3.8	3.7	3.6	3.6	3.5	G	G	2.8	3.2	3.2	2.4	2.3	E	E	E
Q.R						1.6	1.7	1.3	1.5	1.2	1.5	1.4	1.5	1.8			1.5	1.4	2.1	2.8	3.0			

foEs

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

The Radio Research Laboratories, Japan.

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IONOSPHERIC DATA

Aug. 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	E	E	A	E	3.0	A	4.2	3.6	G	G	A	G	E3.3R	3.8	G	4.0	4.0	3.3	G				
2		2.2	E	E	E	2.1	G	G	G	G	A	A	G				A	A	G	3.0	E	E		
3			E			G	3.3	4.0	4.1	G	A	3.5	3.5		3.0	G	G	G	3.0	4.0	E			
4				E	E	G	G	4.0	A	4.8	4.2	3.5	3.6	3.6	4.2	G	3.7	4.0	A	A	E	E	A	
5	E	E	E	E	E	G	G	A	A	G	A	G					G	G	4.7	2.8	E			
6	E	E		E		S		G	G	4.0	4.2	4.3	4.7	3.5		3.1		G	G		2.3	2.8	2.7	E
7						S	3.0	4.2	4.0	G	G	G	G	G	3.4	G	G	G	3.3	3.0	2.8		E	
8				E	E	A	A	G	G	4.0	4.2	A	A	A	A	3.4		3.6	4.3	G	E			
9						G	3.2	3.9	4.0	A	A	A	A	3.5				G	3.3	A	2.9	4.1	E	E
10	E	E	E	E	E	A	G	G	A	A	A	A	A	A	3.6	4.2	3.1	G	A	A	4.0	E	A	E
11	3.2	E	E	E	E	G	A	A	G	A	A	A	A	A	E3.8R	G	4.3	A	A	E	3.0	E	E	A
12		E	E	E	E	S	G	G	4.2	4.4	A	A	G	3.5	3.3	4.2	3.0	3.2	3.1	2.3	E	3.1	E	E
13						S	G	G	4.1	4.2	4.6	4.0	3.5	3.6	3.3			G	S	S	E	2.5	A	3.2
14			E	E	2.4	1.8	G	2.3	3.9	4.3	4.0			3.4				2.4	G	3.6	2.5	3.1	E	3.0
15						S	G	3.5	G	G		G	G				G	G	G	E	E	E	3.0	2.3
16	E			E	E	A	A	5.0	G	G	4.3	E4.0R				3.2	A	4.1	A	A	E	4.7		
17	E	E		E	E	S	3.2	4.1	4.4	4.3	G	4.0	4.1	3.6	3.5	3.5	3.0	2.6	S	G	E	4.0	E	
18						S	G	G	4.0		G	G			G		2.8	2.3	S		2.7			
19						S	G	G	G	4.2	G	G	4.1	3.6	3.4	3.1	3.0	3.2	G	E				2.3
20	E	E	E			A	G	G	4.1	4.3	4.1	B	G	B	B				S	S				
21	E	E	3.0	E	E	A	A	G		G	4.6	G	4.4	4.6	G	3.9	3.2	3.5	3.5	2.1	E	E		
22	E	E	E	E	E	S							5.0	4.3	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	5.1	G	G	5.8	4.7	4.2	4.8	4.0	2.9	5.0	4.7	4.8	A	A
24	A	E	E	E	E	A	4.0	3.2	3.5	G			G	4.6	5.0	5.0	3.2	4.7	3.2	4.0	3.1	A	A	3.2
25	3.0	A	E			G	3.2	G	4.3	A	A	A	A	A	4.3	4.1	3.2	4.0	G	4.0	3.0	4.0	A	A
26	2.3	2.7	E	E		S	G	A	4.2	5.9	A	4.2	A	5.4	4.2	4.0	3.0	3.0	2.7	E	A	E	E	E
27		E	E	E	E	S	S		2.4		G	4.8	4.3	5.0	3.1		G	G	G		E	E		E
28		E	E	E	E	S	G	G	G	G	G	4.0		G	G	4.2	3.6	4.7	5.0	3.3	2.3	A	E	A
29	E	A	E	E	E	S	4.7	G	4.3	3.8	G		4.9	3.5	4.3		4.2	A	3.2	E	4.3	E	A	A
30	E		E		E	2.1	A	3.8	A	A		3.9	4.3	A	3.0	3.3	4.0	2.6	G	E	3.2			E
31	E	3.1	E	E	E	S		3.4	3.5	4.2	G	3.3	3.4	3.3	3.2	3.6		G	S					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

13

IONOSPHERIC DATA

Aug. 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	E2.00^5	E2.00^5	E2.00^5	E	E	E1.80^5	2.00	2.00	2.10	2.00	2.00	2.00	2.00	2.30	2.00	2.00	2.00	E2.10^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
2	E2.00^5	E	E1.90^5	E	E	1.40	E2.00^5	2.00	2.10	2.10	2.05	2.20	2.05	2.20	2.00	2.00	2.00	2.00	E2.00^5	E2.00^5	E1.90^5	E2.00^5	E2.00^5	E2.00^5
3	E2.00^5	E2.00^5	E	E	E	E2.00^5	2.00	2.10	2.00	2.05	2.20	2.50	2.10	2.15	2.30	2.00	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.05^5	E2.00^5	E2.00^5
4	E2.10^5	E2.00^5	E2.00^5	E1.60^5	E	E2.00^5	2.00	2.00	2.10	2.15	2.05	2.30	2.15	2.30	2.20	2.00	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
5	E1.85^5	E	E	E	E	E2.00^5	E2.00^5	2.05	2.05	2.00	2.00	2.15	2.00	2.15	2.10	2.00	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
6	E1.90^5	E	E2.00^5	E	E1.50^5	E2.00^5	2.00	2.00	2.00	2.00	2.30	2.15	2.50	2.85	2.20	2.05	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E1.90^5	E2.00^5
7	E2.00^5	E2.00^5	E2.00^5	E	E	E2.00^5	2.00	2.00	2.10	2.00	2.00	2.00	2.00	2.20	2.00	2.15	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E1.85^5	E2.00^5
8	E2.00^5	E2.10^5	E	E	E	E1.80^5	2.00	2.00	2.00	2.10	2.20	2.25	2.10	2.10	2.15	2.10	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
9	E2.00^5	E2.00^5	E2.00^5	E1.70^5	E1.60^5	E1.80^5	2.00	2.00	2.00	2.00	2.10	2.40	2.20	2.50	2.05	2.00	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
10	E2.00^5	E2.00^5	E1.80^5	E	E	E2.00^5	2.00	2.00	2.00	2.10	2.20	2.40	2.30	2.20	2.15	2.05	2.00	2.00	E2.00^5	E2.00^5	E1.90^5	E2.00^5	E2.00^5	E1.90^5
11	E2.00^5	E1.80^5	E	E1.80^5	E	E2.00^5	E2.00^5	2.00	2.00	2.00	2.15	2.30	2.50	2.50	2.10	2.00	2.15	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
12	E2.00^5	E	E	E	E	E2.00^5	E2.00^5	2.00	2.00	2.20	2.30	2.40	2.20	2.20	2.40	2.20	2.00	2.00	E2.00^5	E1.90^5	E1.90^5	E2.00^5	E2.00^5	E2.00^5
13	E2.00^5	E2.00^5	E	E1.70^5	E1.60^5	E2.10^5	2.00	2.00	2.00	2.10	2.30	2.00	2.30	2.40	2.10	2.05	2.00	1.90	E2.10^5	E2.00^5	E2.00^5	E1.90^5	E2.00^5	E2.00^5
14	E2.00^5	E2.00^5	E	E	E	E	2.00	2.00	2.10	2.10	2.05	2.50	2.50	2.50	2.20	2.10	2.30	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
15	E2.00^5	E2.00^5	E2.00^5	E1.85^5	E	E2.00^5	2.00	2.05	2.00	2.20	2.10	2.40	3.00	2.35	2.40	2.00	2.00	2.00	E2.00^5	E2.00^5	E1.90^5	E2.00^5	E1.90^5	E2.00^5
16	E2.00^5	E2.00^5	E2.00^5	E	E	1.50	2.00	2.15	2.10	2.30	2.30	2.90	2.30	2.30	2.30	2.15	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
17	E2.00^5	E	E2.00^5	E	E	E2.00^5	E2.00^5	2.00	2.20	2.20	2.40	2.20	2.50	2.10	2.05	2.00	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E1.80^5	E2.00^5
18	E2.00^5	E2.10^5	E2.10^5	E	E	E2.00^5	E2.00^5	2.00	2.00	2.05	2.10	2.00	2.40	2.10	2.20	2.00	2.00	2.00	E2.00^5	E2.00^5	E1.80^5	E2.15^5	E2.00^5	E2.00^5
19	E2.00^5	E2.00^5	E2.00^5	E	E1.80^5	E2.00^5	E2.00^5	2.00	2.00	2.00	2.30	2.40	2.20	2.40	2.00	2.30	2.00	2.00	E2.00^5	E2.00^5	E1.90^5	E2.00^5	E2.00^5	E2.00^5
20	E1.90^5	E2.00^5	E1.90^5	E1.80^5	E1.95^5	E2.00^5	E2.00^5	2.00	2.20	2.20	2.40	3.40	3.40	4.20	3.40	2.30	2.15	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.15^5	E2.00^5
21	E2.00^5	E1.85^5	E	E	E	E2.00^5	E2.00^5	2.00	2.00	2.15	2.15	2.20	2.30	2.30	2.30	2.15	2.20	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.10^5	E2.00^5
22	E2.00^5	E	E	E	E	E1.90^5	2.00	2.10	2.50	2.20	2.40	2.30	2.10	2.40	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	2.00	2.00	2.00	2.05	2.00	2.05	2.05	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.10^5
24	E2.00^5	E2.00^5	E2.00^5	E	E1.90^5	E2.00^5	E2.00^5	2.00	2.00	2.20	2.20	2.20	2.00	2.00	2.00	2.00	2.10	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
25	E1.85^5	E1.80^5	E	E	E	E2.00^5	E2.00^5	2.00	2.00	2.10	2.10	2.25	2.20	2.60	2.30	2.10	2.10	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
26	E2.00^5	E1.90^5	E1.60^5	E	E1.60^5	E2.00^5	E2.00^5	E2.20^5	2.15	2.00	2.15	2.30	2.10	2.15	2.20	2.10	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E1.85^5
27	E2.00^5	E1.80^5	E1.85^5	E	E	E2.00^5	E2.20^5	2.00	2.00	2.15	2.15	2.20	2.20	2.00	2.05	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
28	E2.00^5	E1.85^5	E2.00^5	E	E2.00^5	E1.90^5	E2.10^5	2.00	2.00	2.20	2.15	2.10	2.00	2.00	2.00	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
29	E2.00^5	E2.00^5	E2.00^5	E	E	E2.00^5	E2.05^5	2.20	2.00	2.10	2.40	2.40	2.20	2.10	2.15	2.00	2.10	E2.05^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5	E2.00^5
30	E2.00^5	E2.00^5	E2.00^5	E	E	E2.00^5	E2.00^5	2.00	2.20	2.00	2.40	2.30	2.15	2.10	2.20	2.00	2.00	E2.00^5	E2.00^5	E2.00^5	E1.90^5	E2.00^5	E2.00^5	E2.00^5
31	E2.00^5	E	E	E	E	E1.80^5	E2.00^5	2.00	2.00	2.00	2.00	2.15	2.00	2.00	2.00	2.00	2.00	E2.00^5	E2.00^5	E1.90^5	E2.00^5	E2.00^5	E2.00^5	E1.90^5
No.	30	30	30	24	22	30	30	29	30	30	31	31	31	31	30	30	30	28	30	30	30	30	30	30
Median	E2.00	E2.00	E1.90	E	E	E2.00	E2.00	2.00	2.00	2.10	2.15	2.25	2.20	2.20	2.15	2.00	2.00	2.00	E2.00	E2.00	E2.00	E2.00	E2.00	E2.00

f-min

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

The Radio Research Laboratories, Japan.

W 6

IONOSPHERIC DATA

Aug. 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	FS	FS	F	A	FS	2.80	I2.75A	2.80	2.55	3.10	2.80	I3.00A	I2.90R	2.80	3.00	3.00	2.85	3.15	3.10	3.25	2.70	2.95	2.80	2.95
2	2.75	3.05	2.90	I2.75FS	2.80	2.45	2.80	2.90	W	W	A	A	R	R	R	R	A	A	2.80	3.05	3.00	2.90	3.05	2.95
3	2.95	2.85	3.15	2.95F	3.15	3.00	2.75	2.90	3.25	3.35	I2.90A	2.60	2.95	3.05	3.10	2.95	3.00	3.15	3.40	3.35	3.05	2.90	2.90	U2.75S
4	3.00	3.15	3.35	3.20	3.00	3.10	I3.30R	2.95	I3.00A	3.35	3.10	3.25	3.15	2.85	2.90	3.00	3.30	3.30	I3.20A	I3.10A	3.10	SF	A	SF
5	FS	2.95F	2.85	I3.00SF	2.95	3.10	3.00	I3.45A	I3.30A	2.90	I3.10A	I2.90R	2.55	3.05	3.10	3.15	3.25	3.35	3.35	3.15	I2.85SF	2.95	3.05	3.10
6	3.00	3.05	3.20	2.95	3.05	3.10	2.95	3.05	3.40	3.10	2.85	3.15	3.00	3.20	2.70	3.05	3.25	3.20	3.20	3.05	2.90	3.10	3.00	I3.00SF
7	3.05	3.00	2.90	2.80	2.95	2.95	2.80	3.35	3.15	3.20	3.10	3.30	2.85	3.00	3.30	3.00	3.05	2.95	3.30	3.20	2.95	2.95	SF	SF
8	SF	2.90	3.05	2.90	2.85	I2.90A	I2.75A	3.05	3.15	3.05	3.10	I2.75A	I2.55A	I2.70A	I3.05A	3.20	3.10	3.20	3.00	3.00	3.10	3.05	2.90	2.90
9	2.90	2.90	SF	SF	SF	2.70	2.75	2.65	2.90	I2.80A	A	A	R	2.45	2.80	3.00	3.00	3.20	3.05	I3.00A	2.95	3.00	3.25	U3.20S
10	U2.85S	SF	SF	SF	SF	A	3.25H	2.65	I2.55A	A	A	A	A	A	2.65	2.90	3.00	3.10	A	A	S	U3.15S	A	SF
11	SF	SF	U3.05F	I2.90FS	2.75F	2.95H	I3.25A	I3.15A	3.05	I3.30A	I3.20A	I2.80A	I2.80A	I2.85A	3.00	3.10	3.15	I3.15A	I3.20A	3.15	SF	SF	SF	A
12	U2.90S	2.95	3.10	SF	SF	SF	3.20	U3.60R	3.20	3.40	I3.05A	I3.00A	2.90	3.05	3.00	3.05	3.00	3.15	3.15	3.00	3.15	U3.00S	3.05	3.05
13	SF	SF	SF	SF	SF	U3.30S	3.00	3.15	3.25	3.45	3.45	3.20	3.00	2.90	2.80	3.20	3.20	3.20	3.15H	U3.30S	3.00	3.30	3.00	I3.00SF
14	U3.00F	I3.00SF	I3.05S	SF	SF	SF	3.35H	3.25	3.40	3.55	3.20	3.20	3.55H	3.00	2.75	3.00	2.95	3.10	3.15H	3.05	3.05	3.10	3.10	2.90
15	3.10	2.95	2.95	3.25	3.05	3.25	3.20	3.40	3.35	3.55	3.05	2.90	3.05	3.00	3.15	3.05	2.85	3.05	3.00H	U3.05S	I3.10S	3.05	3.00	3.00
16	I2.80S	2.85	3.00	I2.90SF	U2.80S	I3.30A	I3.35A	3.40	3.00	3.15	2.80	3.10	3.05	2.95	3.10	3.35	I3.15A	3.00	I3.25A	I3.10A	I2.90S	U3.05S	U3.00S	2.95
17	2.95	2.95	U2.80S	U3.00S	3.15	3.35	3.40	U3.10S	2.95	3.10	3.05	3.00	3.00	3.15	3.20	3.10	3.20	3.10	2.95H	2.90	I3.00S	2.85	U2.90S	3.00
18	3.00	2.90	2.80	2.90	3.20	I3.30S	3.20H	3.10	3.25	3.20	3.10	3.25	3.15	3.15	3.15	3.15	3.10	3.00H	3.15	2.95	3.00	U3.10S	U3.05S	2.90
19	2.95	I2.80SF	2.80	2.90	2.95	3.15	2.75H	3.65	3.45	3.75	3.10	2.85	3.15	3.15	3.15	3.10	3.15	3.30	3.15	2.95	2.75	2.95	3.05	3.05
20	I3.20S	2.85	U2.90F	I2.95SF	3.10	I3.35A	3.45	3.35	3.65	3.20	3.30	3.35	3.10	3.15	3.15	3.35	3.20H	3.35H	3.20	3.10	U3.00S	3.20	I3.05S	3.00
21	2.90	I3.00SF	I3.15SF	U3.10SF	SF	A	S	3.50	3.20H	3.20	3.10	3.15	2.95	3.30	3.30	3.20	3.35	3.35	3.25	3.05	3.10	3.05	3.00	3.00
22	3.00	U2.85S	I3.05SF	I3.05SF	3.25	3.40	3.50	3.40	3.10	3.10	3.20	3.00	2.95	U2.95R	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	2.85	3.15	3.00	3.10	2.90	3.15	3.20	3.20	3.10	S	S	S	A	A
24	A	I2.80SF	2.90	U2.80S	2.90	I2.95A	3.35	3.35	3.40	3.40	3.25	3.20	3.15	3.00	2.95	3.05	3.10	3.20	3.20	U3.00S	2.95	I3.05A	I2.80A	2.85
25	2.80	I2.70A	2.80	2.90	I3.00SF	U3.25S	3.30	3.05	3.45	I3.35A	I2.95A	I2.95A	I3.15A	I3.10A	2.85	3.20	3.10	3.15	U3.25S	3.10	3.20	3.25	A	A
26	SF	S	SF	3.05F	I3.10SF	I3.15SF	3.25	I3.35A	3.25	3.40	I3.30A	3.15	I3.15A	3.15	3.25	3.05	3.20	3.45	3.50	3.20	A	S	SF	SF
27	SF	SF	SF	SF	SF	U3.15F	3.50	3.45	3.50	3.35	3.15	3.25	3.30	3.10	3.30	3.25	3.25	3.20H	U3.20S	U3.15S	3.10	3.15	3.05	U2.90S
28	I2.95SF	3.15	3.05	3.10	3.15	3.50	3.60	3.35	3.60	3.50	3.50	3.25	3.15	3.40	3.15	3.10	3.30	3.35	3.20	S	S	AS	S	A
29	A	I3.00A	3.05	3.15	3.05	U3.00S	3.20	3.60	I3.55S	I3.55R	3.80	3.20	3.20	3.25	3.10	3.40	3.05	I3.00A	2.95	3.10	U3.25S	3.20	I3.15A	I3.10A
30	2.90	2.80	2.95	3.05	2.90F	2.95	I3.05A	3.05	I3.25A	I3.15A	3.10H	3.30	3.20	I3.15A	3.10	3.15	3.20	3.20	3.10	3.10	3.20	3.25	I3.15S	U2.95S
31	2.65	2.90	I2.80SF	3.05	2.95	3.30	3.50	3.35	3.15	3.35	3.45	3.30	3.25	3.10	3.20	2.95	3.30	3.05	3.15	2.95	2.95	2.95	3.25	U3.00S
No.	21	24	24	23	22	26	29	30	30	29	28	28	28	29	29	29	29	29	29	27	25	25	22	22
Median	2.95	2.90	3.00	2.95	3.00	3.10	3.20	3.30	3.25	3.30	3.10	3.15	3.05	3.05	3.10	3.10	3.15	3.20	3.15	3.10	3.00	3.05	3.05	3.00

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

Aug. 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						A	A	A	I3.65A	3.75	3.80	I3.95A	4.00	E3.60R	L3.65A	3.65	A	A	A					
2						3.20	3.50	3.40	3.95	3.90	I3.95A	I3.90A	3.80	U3.75R	I3.75R	3.85	A	A	L					
3							I3.50A	I3.60A	3.75	3.90	I4.00A	4.00	3.80	3.75	3.80	3.70	3.65	3.40	A					
4							3.60	A	A	A	A	4.00	3.85	3.75	I3.75A	3.80	A	A	A					
5						3.35	3.70	I3.80A	I3.90A	4.15	I4.00A	U3.95R	3.80	3.70	3.65	3.80	3.90	3.65	A					
6							3.35H	3.80	3.65	A	A	A	I3.90A	I3.75A	3.70	3.75	3.80	3.80						
7							A	A	A	3.85	3.95	3.80H	3.80	3.70	3.70	3.65	3.60	3.60						
8							I3.55A	3.70	3.90	A	A	A	A	A	A	3.75	3.85	A	A					
9						3.30	A	A	A	A	A	A	RA	3.70	3.65	3.45H	3.90	3.60						
10								4.05	A	A	A	A	A	A	3.70	I3.65A	3.80	3.55	A					
11								A	3.80	I3.95A	I4.00A	I3.95A	I3.95A	I3.80A	I3.65A	3.65	A	A	A					
12								3.70	A	A	A	A	4.20	3.80	3.90	I3.70A	3.70	A	A					
13							U3.45L	3.55	I3.75A	I3.85A	I3.90A	I3.75A	3.85	3.60	3.75	3.75	3.60H	3.70						
14								3.70	I3.70A	I3.85A	I3.00A	4.00		4.15	3.55	3.55	3.55	3.40						
15							3.50	I3.75A	3.70H	3.85	3.85	3.90	3.70	3.70	3.70	3.75	3.40	3.55						
16								A	4.00H	3.70	I3.70A	I3.70A	4.00	3.50	3.60	3.60	A	A						
17							A	A	A	A	3.70	I3.90A	3.90	3.75	3.65	3.80	3.60	3.80						
18								3.65	I3.60A	3.65	3.80	4.00	4.10	3.85	3.70	3.50	3.60							
19								3.75	3.65	I3.85A	3.95	3.75	I3.80A	3.85	3.70	4.00	3.60H	I3.65A						
20								3.70	A	A	A	3.85	4.05	I3.90B	3.85	3.55								
21										3.70	I3.75A	3.80	I3.70A	I3.55A	3.70	I3.70A	3.85							
22									3.80	3.90	3.65	3.60	A	A	A	C	C	C	C					
23						C	C	C	C	C	A	3.85	3.80	A	A	A	A	A						
24								A	I3.65A	3.75	3.95	3.95	3.90	I3.75A	I3.60A	I3.55A	3.60	A						
25								A	A	A	A	A	A	A	A	A	3.50							
26									A	A	A	A	A	A	A	A	3.70	A						
27									3.75H	3.90	3.75	A	A	A	3.70	3.85	3.70							
28								3.75	3.95	3.85	3.95	I4.15A	3.95	3.85	3.75	A	A	A						
29							I3.60A	3.70	I3.40A	I3.05A	4.25	4.20	I3.90A	3.75	I3.60A	3.65	3.45	A						
30								A	A	A	3.85	A	A	A	3.70	3.65	A							
31								I3.60A	3.70	I3.75A	3.80	3.70	3.60	3.70	3.60	I3.70A	3.75							
No.						3	9	16	19	19	21	22	22	23	26	26	21	11						
Median						3.30	3.50	3.70	3.75	3.85	3.85	3.90	3.90	3.75	3.70	3.70	3.65	3.60						

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

The Radio Research Laboratories, Japan.

W 8

IONOSPHERIC DATA

Aug. 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						400	₁445A	₁465A	470	360	460	₁420A	₁425R	430	360	360	375	320	300					
2						570	415	420	W	W	A	A	R	R	R	R	A	A	375L					
3							390	370	315	305	₁435A	490	405	380	370	420	380	330	265					
4							R	400	₁370A	₁370A	370	320	355	420	420	380	295	300	A					
5						350	335	₁315A	₁325A	420	₁380A	₁450R	510	360	360	340	315	285	A					
6							375	350	320	360	440	370	375	335	470	370	320	290						
7							410	310	355	335	350	325	430	375	315	385	350	350						
8							₁415A	325	360	360	360	465	₁550A	₁490A	₁375A	350	370	325	360					
9						400	450	440	385	₁400A	A	A	R	570	470	370	400	330						
10								510	₁480A	A	A	A	A	A	485	410	370	325	A					
11								A	360	₁320A	₁365A	₁470A	₁465A	₁450A	390	375	370	A	A					
12								265	₁285A	310	₁365A	₁385A	420	385	380	370	345	305	290					
13							330	300	280	280	275	350	395	410	440	350	325	295						
14								305	265	275	325	325		375	420	345	315	295						
15							315	295	295	295	395	400	320	380	345	335	365	370						
16								A	405	345	420	330	370	365	320	285	₁320A	315						
17							280	290	370	300	350	350	320	315	325	320	305	295						
18								300	270	310	315	280	315	310	325	330	310							
19								260	280	260	330	350	280	290	270	300	300	270						
20								295	265	335	310	300	345	320	340	310								
21										315	360	320	345	300	310	325	275							
22									310	350	300	400	370	320	C	C	C	C	C					
23						C	C	C	C	C	A	300	335	₁345A	350	285	280	275						
24								280	280	280	305	330	360	380	355	320	290	275						
25									270	₁290A	₁370A	₁375A	₁340A	₁365A	410	315	A							
26									350	₁280A	₁315A	370	₁360A	₁350A	315	345	300	265						
27									265	320	340	315	305	320	305	305	295							
28								300	270	265	270	310	315	285	320	₁290A	290	A						
29							₁300A	255	240	235	235	320	₁300A	315	330	300	A	A						
30								370	₁320A	₁330A	310	310	340	₁335A	320	340	295							
31								285	330	305	275	315	320	335	310	315	295							
No.						4	12	23	29	29	27	28	27	29	29	29	26	19	5					
Median						400	380	305	320	315	350	340	355	360	350	335	315	300	300					

h'F2

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

The Radio Research Laboratories, Japan.

W 9

17

IONOSPHERIC DATA

Aug. 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	305	300	290	I310A	315	A	A	A	I245A	240	235	I225A	220	I240A	I255A	240	A	A	A	245	295	280	290	270
2	325	295	400	350	400	290	250	235	215	240	I230A	I225A	235	210	200	250	I245A	I255A	265	I270A	275	300	265	280
3	285	315	260	275	270	290	I260A	I250A	I235A	220	I220A	205	220	220	230	230	230	235	I235A	I245A	260	295	295	310
4	295	250	245	250	300	250	255	A	A	A	A	210	210	245	I220A	220	A	A	A	A	260	260	I260A	275
5	310	285	360	330	320	260	230	I235A	I220A	220	I205A	220	210	230	225	225	225	250	I250A	260A	330	290	260	260
6	290	280	260	270	260	255	250	245	250	A	A	A	I195A	I225A	220	215	230	240	250	260	280	270A	290A	265
7	275	280	300	260	270	240	A	A	A	225	205	200H	210	220	225	260	240	250	I255A	I255A	300A	300	300	265
8	300	315	280	315	310	I300A	I285A	250	225	A	A	A	A	A	A	235	230	I255A	I275A	270	250	285	290	285
9	300	300	350	325	340	280	A	A	A	A	A	A	A	245	250	210H	235	245	I270A	I290A	305A	I265A	250	270
10	305	305	320	250	310	I320A	255H	220	A	A	A	A	A	A	240	I255A	230	260	A	A	A	270	I265A	305
11	I310A	290	280	305	325	300H	I265A	I250A	240	I215A	I210A	I225A	I215A	I225A	I235A	250	A	A	A	260	I260A	280	260	I280A
12	285	295	300	255	250	235	215	240	A	A	A	A	185	205	225	I235A	240	I240A	I250A	270	250	I265A	260	260
13	260	305	275	245	260	255	240	250	I230A	I220A	I225A	I220A	205	225	220	205	225H	235	250H	240	245	245	260	I265A
14	280	280	275	255	280A	240	245H	240	I235A	I215A	I200A	220	220	200	220	230	240	235	250H	I260A	260A	I250A	265	I290A
15	265	270	290	250	250	250	240	I230A	220H	205	210	200	220	235	225	220	240	240	255H	250	250	260	I265A	270
16	300	300	265	275	310	A	A	A	235H	225	I250A	I235A	205	235	225	250	A	A	A	A	300	I260A	255	290
17	280	310	300	270	260	230	A	A	A	A	220	I230A	I225A	215	230	225	230	260	260H	270	265	I280A	280	270
18	285	310	310	260	260	230	210H	250	I255A	230	220	235	200	200	225	205	230	250H	250	255	280A	250	265	290
19	300	305	305	275	300	260	250H	250	245	I245A	205	230	I230A	I230A	210	205	220	I230A	250	260	285	290	260	270
20	255	300	285	250	285	I265A	245	250	A	A	A	210	200	I205B	220	245	215H	250H	255	250	260	250	280	295
21	310	295	290	250	280	I240A	I230A	235	220H	220	I215A	225	I230A	I235A	235	I235A	230	I250A	I245A	250	260	270	275	300
22	300	300	290	260	255	235	250	235	220	205	210	235	A	A	C	C	C	C	C	C	C	C	C	C
23	C	C	C	C	C	C	C	C	C	C	A	220	220	A	A	A	A	A	260A	A	A	A	A	A
24	A	330	315	315	300	A	A	A	I240A	245	200	220	215	I225A	I225A	I235A	250	A	A	A	A	A	A	A
25	A	A	345	285	300	250	275A	295	A	A	A	A	A	A	A	A	250	I225A	250	A	A	A	A	A
26	315	350A	300	260	265	255	240	A	A	A	A	A	A	A	A	A	220	I235A	240	240	I260A	300	300	300
27	305	310	300	275	275	260	200H	220H	200H	210	225	A	A	A	250	225	255	250H	260	235	250	250	255	290
28	275	280	300	270	265	245	245	240	220	215	210	I210A	200	220	200	A	A	A	A	A	270	I255A	250	I280A
29	I315A	I310A	310	290	290	255	I255A	240	I225A	I215A	190	205	I210A	225	I220A	260	A	A	A	260	I235A	230	I260A	I290A
30	315	325	310	255	300	320	A	A	A	A	230	A	A	A	210	245	I255A	250	260	235	I240A	250	260	280
31	320	I335A	315	295	295	260	240	I240A	235	I230A	220	225	225	225	235	I235A	220	265	255	260	240	270	250	260
No.	28	29	30	30	30	27	23	21	20	19	21	22	23	23	26	26	23	22	22	23	26	27	27	27
Median	300	300	300	270	290	255	245	240	230	220	215	220	215	225	225	235	230	250	250	260	260	270	265	280

h'F

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

The Radio Research Laboratories, Japan.

W 10

IONOSPHERIC DATA

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

h'Es

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

The Radio Research Laboratories, Japan.

W 11

IONOSPHERIC DATA

Aug. 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	f2	f	f2	f3	f	c2	c2	c2	c	c	c	c	c	l	h	h	c	c	c3	c				
2		f2	f·f2	f2	f2	l	c	c	c	c	c	c	h				c2	c3	c2	f2	f3	f2		
3			f			c	c2	c2	c2	c	c	l	l		l	c	c	c	c	c2	f2			
4				f	f	c	c	c	c2	c	c	c	l	l	l	c	c	c	c4	c2	f2	f	f4	
5	f2	f2	f3	f2	f	c	c	c	c2	c	c2	c					h	c	c2	c2	f2			
6	f2	f		f				c	c	c	c	c	c	l		l		c-l	c		f2	f2	f2	f2
7							c	c2	c	c	c	c	c	c	l	h	h	c	c2	c	f		f	
8				f	f	c	c2	c	c	c	c	c2	l	l2	l2	l		c	c3	c	f			
9						c	c	c3	c	c2	c2	c	c	c·l				h	c4	c	f2	f2	f2	f2
10	f2	f2	f2	f	f	c5	c	c	c	c2	c	c	c	c2	l	l2	l2	c	c3	c3	f3	f2	f4	f2
11	f2	f	f	f	f	c	c3	c3	c	c4	c	c	c	l	h	h	c2	c2	c4	f	f2	f2	f	f3
12		f3	f2	f2	f		c	c	c2	c	c	c	c	l	l	l	l	c	c2	c2	f2	f2	f	f2
13							c	c	c	c	l	c	l	l	l			c			f	f-f	f2	f2
14			f	f2	f2	l	l·h	c·l	c	c	c			l				l	c	c·l	f	f2	f	f2
15							h	c	c	c		c	c				h	c	c	f2	f2	f2	f2	f2
16	f			f	f2	c3-l	c5	c3	c	c	c	c				l	c2	c3	c2	f4	f2	f4		
17	f	f		f	f2		c2	c2	c	c	c	c	l2	l	l	l2	l	l		c	f	f2	f	
18							h	c	c		c	c			c		l	l			f2			
19							c	c	c	c	c	c	c2	l	l	l	l	l2	c	f				f2
20	f	f	f			c	c	c	c	c	c		c											
21	f2	f2	f2	f2	f2	l	l	c		c	c2	c	c	c	c	c	l2	l2	l	l2	f	f2		
22	f	f	f	f	f								c	c										
23											c	c	c	c	l2	h-l	l2	l2	c	c2	f3	f5	f4	f4
24	f4	f	f	f·f	f2	c5	c2	c	c	c			c	c	l	l2	l	l2	c·l3	f2·f2	f2·f3	f3·f2	f3	f3
25	f3	f6	f2			c	c2	c	c2	c2	c2	c3	c2	c2	l	c	l2	l	l	f2	f2	f3	f2	f
26	f2	f2	f	f			c	c4	c2	l2	l2	l	l3	l2	l	l2	l	l	c	f	f2	f2	f2	f
27		f2	f2	f	f				l		c	l	c	l2	l		h	c	c		f	f2		f2
28		f2	f	f	f		h	c	c	c	c	c		c	c	h	h	c2	c3	f2	f2	f3	f2	f3
29	f2	f3	f2	f2	f2		c2	c	c2	c2	c		l2	l	c2		c	c2	c	f	f2	f	f4	f3
30	f		f		f	c	c2	c	c2	c		c	c2	c3	l	l2	l3	c·l	c	f	f4			f
31	f2	f3	f2	f	f			c	c2	c	c	l	l	l	l	c		h						f2
No.																								
Median																								

Types of Es

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

The Radio Research Laboratories, Japan.

W 12

IONOSPHERIC DATA

Aug. 1962 | foF2 | 135° E Mean Time (G.M.T. + 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F	F	F	F	F	I3.7E	5.1	C	C	C	C	C	C	C	C	C	C	C	6.5	6.1	5.6	5.7	4.8R S	U5.1R
2	3.6	3.7	3.9	I3.5F	F	A	U4.2R	4.3	I4.4R S	4.6R	R	R	A	R	4.9R	I4.7R S	4.5	4.5	4.6	I4.8A	5.3	5.4F	I5.1F	F
3	F	4.1	3.8	3.7	I3.7F	4.1	4.6	5.9	6.6	I5.5A	I5.3A	5.4	5.8	6.2	5.8	U5.3R	5.2	I5.8A	6.1	5.5	I4.6R S	4.8F	4.6F	4.4S
4	4.4S	3.9	3.6F	3.5	2.9	I4.1R	4.0	I4.5R	I4.9A	6.1	5.9	I5.6A	5.8	5.8	5.9	6.2	6.7	5.8	5.4	5.7	5.1	A	FS	F
5	FS	F	4.1F	3.8F	3.8F	4.3	5.2	5.7	5.6	5.2	A	A	5.3R	6.5	7.4	6.9	5.7	5.6	5.0	5.1	FS	F	I5.6F	FS
6	FS	FS	I4.5F	I4.2F	I4.0F	4.0	4.7	5.4	5.7	5.3	5.2	5.3	5.7	6.3	5.7	5.6	6.4	5.6	5.4	5.5	5.7	I5.4F	5.5S	A
7	FS	F	F	F	3.6F	3.3	4.5	5.5	5.8	6.5	6.4	5.5	5.9	I5.7R	I5.6A	5.4	5.3	5.6	6.2	5.8	5.0	4.9F	F	F
8	F	F	4.2	4.1H	I3.5A	3.9	4.8	I6.0A	7.5	6.2	I5.2R S	I5.2R S	5.4	5.5	6.0	5.9	5.4	5.6	5.3	6.1	I6.3F	I5.9R S	F	F
9	F	F	F	F	F	I4.1R F	4.5	I5.4A	5.5	5.1	I5.3A	5.3R	I5.4R S	I5.2R S	5.1	I5.6A	5.8	I4.6A	I4.9A	5.4	F	F	F	FS
10	F	A	F	F	F	3.9	I4.7A	I4.9A	5.5	A	A	A	I5.1A	I5.1A	5.7	5.3	5.8	5.5	5.4	5.9	RF	F	F	RF
11	RF	F	F	F	FS	3.4	4.4	5.5	I6.0A	6.3	I5.2A	5.4	I5.4R S	5.4	5.4	5.5	6.0	5.8	5.3	I5.6A	5.5	F	F	F
12	F	F	F	F	I4.2F	4.1H	4.5	U5.5R	5.0	I6.0A	I5.5A	5.1	I5.2A	5.5	5.4	5.4	5.5	5.4	5.9	I6.6R S	I6.7F	6.7	F	F
13	F	F	F	F	F	F	5.2F	I6.8R F	7.1	7.4	6.1	5.6	5.5	5.6	5.7	A	A	A	6.9	A	F	F	4.8	RF
14	A	A	A	RF	4.4F	4.5F	5.7	6.4	5.9	6.0	6.3	I6.0A	A	A	5.6	6.6	7.8	7.5	6.7	7.4	6.5	I5.9F	I5.6F	I5.3F
15	I5.1F	5.0F	4.4	4.4E S	I4.5F	I5.2R F	5.2	6.4	6.0	5.5	5.9	6.1	6.2	6.1	6.6	7.4	I7.3A	U8.8R	I8.3A	I7.6A	I7.0A	6.2F	5.3	5.1F
16	4.6F	4.9R S	I4.5R F	4.5	I4.4F	4.3S	4.9	I6.5A	7.6	6.2	7.3	7.5	6.1	6.7	7.8R	7.0R	5.8	I5.7A	6.0	6.5	6.2	F	F	F
17	F	4.4F	4.3F	4.1F	4.1	4.7R	5.0	6.2	7.2	7.0	U8.7R	7.0	I7.6A	7.6	7.1	6.0	6.2	6.3	6.4	7.5	7.1	I6.5F	6.2	I6.2F
18	5.8	5.1	4.9	I4.6R S	4.6	I5.0R S	5.5	U5.4R	6.0	6.1	U8.5R	7.5	6.7	6.3	6.6	6.6	6.8	6.3	6.8	7.4	7.0	I6.9E S	6.3F	A
19	F	F	RF	F	I4.4F	I4.6F	5.1	5.4	6.0	6.5	6.3	6.9	9.5	9.5R	7.8	7.3	6.5	7.0	6.2	6.5	6.2	6.1F	F	F
20	5.2	4.6	4.5F	4.6F	3.5	4.0	5.4	5.1	6.2	6.4	5.8	6.4	6.2	6.6	6.8	6.5	7.1	7.2	7.1	6.2	6.2	5.9	5.0R	5.1
21	I5.0A	4.9	4.9	I4.4A	4.0	I4.2V F	4.4	5.3	5.6	I5.5A	5.6	6.3	7.3	7.3	6.6	6.2	6.5	6.5	5.7	5.8	5.6	5.3S	5.4	5.1
22	4.9S	4.6	4.8R S	4.8	4.3	4.5R S	5.1	5.2R	5.5	6.5	6.4	6.8	6.4	7.7	7.2	8.5	7.8	6.5	6.9	7.5S	6.9	6.4R	5.8	5.6
23	5.4S	5.4	5.1	4.9	I4.8S	5.1	5.8	6.6	6.6	6.6	6.0	6.7	7.4	7.0	7.6	7.6	7.6	I7.6A	7.5	8.4	8.1	I5.4R S	4.1	4.1S
24	4.1S	F	C	C	A	4.4R S	I5.7A	I6.0A	6.2	I5.7A	I5.8A	A	A	A	6.8	8.5	I9.4R S	8.4	6.8	7.2S	6.0	5.2S	I5.0E S	I4.7A
25	I4.4A	A	A	RF	I4.0C	3.9F	I4.7A	I5.6A	6.7	7.1	I5.7A	6.7	I6.6A	6.1	5.8	6.7	I7.0A	6.9	6.8	I6.1A	5.5S	I5.1F	4.6S	F
26	FS	F	F	F	I3.8F	4.0	I4.8A	5.8	A	A	A	A	6.0	5.7	I6.3A	6.3	6.4	6.4	6.7	4.9	4.2	F	F	F
27	F	3.7F	3.6F	3.7F	I3.8F	I4.7R S	5.3R H	I5.6R H	5.5	5.4	5.6	5.7	6.7	6.9	6.4	6.6	6.4	6.1	6.2	7.0	6.5S	5.4S	4.6R S	4.4S
28	4.4S	4.3F	4.3F	I4.0F	3.9	4.2	4.8	5.9	6.4	5.9	5.3R	6.3	6.2	5.9	6.3	6.4	5.9	I5.8A	I6.2A	FS	FS	5.8	I4.0E S	3.5
29	3.8	I3.9A	4.0R	RF	RF	RF	5.6	I8.3R	6.3R	6.3	5.4	5.5	I5.4A	5.7	6.0	I5.9A	I5.6A	6.0	7.2	I8.0R	7.2F	A	RF	A
30	F	3.4	I3.6F	3.8F	I3.6F	3.7	I4.3A	I5.3A	6.3	6.3	6.9	5.8	5.7	6.2	6.7	6.8	6.9	6.2	6.4	6.8	6.5	5.8	I4.4R S	I4.0E S
31	3.9	I4.0F	I4.0F	I4.2F	I4.0F	I4.2F	J5.3R	5.9	5.3	I5.6A	6.2	6.4	6.3	6.1	6.5	6.7	6.6	6.1	7.4	7.3	7.4S	6.5	5.8S	4.5S
No.	14	16	19	18	23	28	31	30	29	28	26	25	27	27	30	29	29	29	31	29	26	22	20	14
Median	4.5	4.4	4.3	4.2	U4.0	4.2	4.9	5.6	6.0	6.1	5.8	6.0	6.0	6.1	6.3	6.4	6.4	6.1	6.2	6.2	6.2	5.8	5.0	4.9
U. Q	5.1	4.9	4.5	4.5	4.4	4.5	5.3	6.0	6.5	6.4	6.3	6.7	6.6	6.7	6.8	6.8	7.0	6.7	6.8	7.4	6.9	6.2	5.6	5.1
L. Q	4.1	3.9	3.9	3.8	3.7	4.0	4.5	5.4	5.5	5.5	5.4	5.4	5.4	5.7	5.7	5.6	5.8	5.6	5.4	5.6	5.5	5.4	4.6	4.4
Q. R	1.0	1.0	0.6	0.7	0.7	0.5	0.8	0.6	1.0	0.9	0.9	1.3	1.2	1.0	1.1	1.2	1.2	1.1	1.4	1.8	1.4	0.8	1.0	0.7

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

Aug. 1962 | foF1 | 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						L	3.6	C	C	C	C	C	C	C	C	C	C	C	L					
2							A	3.7	4.0	4.1	4.2	4.3	4.2	4.4	4.3	4.3	4.1	3.9^{L}	A					
3							3.4	3.9	I4.0^{A}	I4.2^{A}	I4.3^{A}	4.4	4.5	4.6^{L}	4.3	4.2	4.1^{L}	I3.8^{A}	A					
4								A	A	4.4	4.4	A	A	R	I4.3^{A}	I4.1^{A}	I4.0^{A}	3.8^{L}	L					
5						L	L	I4.0^{A}	4.2	4.3^{L}	A	A	4.6	4.5	4.4^{H}	4.2	4.0^{L}	3.7^{L}	L					
6							I3.5^{L}	3.8^{L}	I4.0^{A}	4.4	4.4^{R}	I4.5^{R}	4.4	4.5	I4.4^{L}	4.3	4.0^{H}	3.7						
7						L	A	3.9	A	A	4.4	4.6^{H}	4.5	I4.5^{R}	I4.6^{A}	I4.4^{A}	A	A	L					
8						L	A	A	4.1	I4.3^{R}	4.4	4.5^{H}	4.5	4.6^{R}	4.3^{H}	I4.2^{A}	4.0	A	A					
9						2.7	A	A	A	A	A	A	4.5	4.3	4.4	I4.2^{A}	4.0	A	A					
10							A	A	A	A	A	A	A	A	I4.3^{A}	I4.2^{A}	4.0	3.7^{L}	A					
11							A	A	A	4.3	I4.5^{A}	4.5^{H}	4.5^{R}	4.4	4.3	4.2	4.0	A	A					
12								4.0^{L}	A	A	A	4.5	I4.5^{A}	4.4	4.4	I4.2^{A}	4.1	4.0^{L}	A					
13						L	I4.1^{A}	4.3^{H}	I4.4^{A}	I4.5^{A}	4.6^{H}	4.6^{H}	4.6^{H}	4.4	R^{S}	A	A	A						
14						L	4.0	4.3^{L}	4.4^{L}	A	A	A	A	A	4.6^{L}	I4.4^{A}	4.1	3.8^{L}	L					
15							4.0	4.2^{L}	4.6	4.6	4.6^{H}	4.6^{H}	4.6^{H}	4.6	4.5	4.3	I4.1^{A}	A	A					
16							A	A	A	A	I4.5^{R}	I4.6^{A}	4.8^{L}	4.8^{L}	4.5	A	A	A	A					
17							L	A	L	A	A	I4.7^{A}	I4.7^{A}	4.7	4.5^{L}	4.5^{L}	4.2^{H}	L	L					
18								A	4.2^{L}	4.5	I4.6^{A}	4.6	4.5	4.6	4.5	4.5	4.2^{L}	L						
19							L		L	4.5^{L}	4.6^{L}	4.6	I4.6^{A}	4.6	I4.6^{A}	4.5^{L}	A	L						
20									I4.2^{A}	4.6^{L}	I4.6^{A}	4.7^{R}	I4.8^{R}	4.8	4.7^{R}	I4.5^{L}	3.9	L^{H}						
21								4.0	4.3^{L}	I4.4^{A}	4.5	4.7^{R}	I4.6^{A}	4.6	4.5^{R}	4.3^{L}	4.1^{L}	L						
22								L	L	4.6	4.6^{R}	4.7	4.7	"4.7^{R}	4.5	4.4	A	A	A					
23								L	L	I4.4^{A}	4.7	I4.5^{A}	4.7	4.6^{L}	4.5	4.4	4.2	A						
24							A	A	A	A	A	A	A	A	4.4	I4.3^{A}	4.1	A	A					
25							A	A	A	4.4^{R}	I4.4^{A}	A	A	A	A	A	A	L	A					
26								L	A	A	A	A	A	A	A	A	A	L						
27								L	4.0	I4.4^{L}	4.5	4.4	4.3	4.5	4.2	4.2^{L}	A	A	A					
28								L	4.1	4.5	4.5^{L}	4.5	I4.5^{A}	4.5^{R}	4.5	A	A	A	A					
29							L	4.0	I4.2^{A}	I4.4^{A}	I4.6^{A}	4.5	I4.7^{A}	I4.5^{R}	A	A	A	A						
30									A	4.2	I4.3^{A}	4.3	4.5	A	A	A	3.8^{L}	A						
31							L	L	L	A	I4.4^{A}	I4.4^{A}	4.5	I4.5^{A}	4.5^{L}	I4.2^{A}	4.0^{L}	A						
No.						1	3	11	14	21	22	22	24	23	25	23	20	8						
Median						2.7	3.5	4.0	4.2	4.4	4.5	4.5	4.5	4.5	4.5	4.3	4.0	3.8						

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

Aug. 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	A	C	C	C	C	C	C	C	C	C	C	C	B					
2						A	A	2.60	I 2.80 A	I 3.05 A	I 3.20 A	A	A	R	R	3.15	I 2.90 A	A	A					
3						B	A	A	A	A	A	A	A	R	3.40 H	A	A	A	B					
4						B	A	2.70	3.05	A	A	A	A	A	A	A	A	A	A					
5							A	A	A	A	A	A	R	A	A	R	A	A	A					
6						A	A	A	A	A	A	A	A	/	3.30	3.15	2.85	2.50	B					
7						B	A	A	A	A	A	A	R	3.40 R I	3.30 A I	3.10 A	2.95	2.55	A					
8						B	A	A	A	A	I 3.25 A	A	A	A	A	A	A	A	A					
9						B	A	A	A	3.05	A	A	R	A	A	A	2.85	A	A					
10						B	A	A	A	3.20	3.25	3.30	A	A	A	A	A	A	A					
11						B	A	A	2.95	A	A	R	A	A	3.25	3.20	A	A	A					
12							I 2.30 A	2.80	I 3.00 A	3.15	A	A	A	A	A	A	A	A	A					
13						B	A	A	A	A	A	A	A	R	A	A	A	A	A					
14							2.40	A	A	A	A	A	A	A	A	A	A	A	A					
15							I 2.35 A	A	A	A	A	R	3.50	I 3.50 R	3.45 R	3.20	A	A	S					
16						A	A	A	A	A	A	B	A	A	A	A	A	A	A					
17						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
18							A	A	I 3.00 A	3.10	A	A	A	A	A	3.00	A	A	B					
19							A	A	3.00	I 3.10 A	3.25	A	A	A	A	A	A	A	A					
20							A	A	3.00	I 3.15 A	I 3.30 R	R	B	R	R	R	I 2.90 A	2.50	B					
21						A	A	2.75	I 2.95 A	A	R	R	A	A	A	A	A	A	R					
22							2.15	2.75	A	A	A	A	A	A	R	R	R	A	A					
23						B	A	R	A	A	R	R	A	3.50	I 3.30 R	3.10	2.75	A	B					
24							I 2.10 A	I 2.45 A	I 2.70 A	A	A	A	A	A	A	A	R	A	A					
25							A	A	2.95	A	A	A	R	A	A	A	A	A	A					
26							A	A	A	A	A	A	A	A	A	A	A	A	B					
27							2.20 H	I 2.65 A	2.95	A	R	R	A	A	A	A	A	A	A					
28							2.10	A	A	A	A	R	A	A	R	R	A	A	B					
29							A	A	A	A	A	A	A	A	A	A	A	R						
30							A	A	A	A	A	A	A	A	A	A	A	A	B					
31							A	A	A	3.10 A	A	A	A	A	A	A	A	A	B					
No.							7	7	11	8	5	1	1	3	6	7	6	3						
Median							2.20	2.70	2.95	3.10	H 3.25	3.30	3.50	3.50	3.30	3.15	2.90	2.50						

foE

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

The Radio Research Laboratories, Japan.

A 3

IONOSPHERIC DATA

Aug. 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	T1.9	T4.5	T1.8	T2.5	T2.0	T2.6	T2.8	C	C	C	C	C	C	C	C	C	C	C	T5.1	T3.6	T3.6	T2.1	E	E
2	E	E	T2.1	T3.3	T3.3	T4.8	T5.1	3.0	T3.4	3.5	T3.8	3.9	T6.9Y	4.2	G	3.5	3.6	3.2	T3.6	T7.6	T3.5	T1.9	T2.0	T2.0
3	E	T1.8	E	E	T1.9	3.1	3.1	3.6	T6.5	T7.0	7.1	4.2	4.1	G	4.0	3.5	4.1	T4.5	T3.5	T3.1	T2.5	T2.4	T1.8	E
4	E	E	E	E	E	G	3.0	3.9	T6.0	4.2	3.9	T6.3	T6.3	4.2	T5.8	T7.0	T5.3	3.0	T3.5	T3.0	T5.3	T5.3	T6.3	T3.1
5	T3.3	T1.8	T2.4	T2.0	E	E	2.9	T5.2	T5.3	4.0	T7.3	T5.8	G	3.5	3.3	G	T3.5	3.2	T3.3	T7.8	T8.1	T3.3	T2.4	T3.2
6	T2.6	E	T2.0	E	T2.4	T2.9	2.8	3.2	T4.8	4.2	T5.3	T3.6	4.0	T4.9	G	2.7G	G	2.8	2.3	T1.8	T3.1	T3.8	T3.0	T5.0
7	T3.1	E	E	T1.9	E	2.3	T3.5	T3.6	T4.2	T5.1	4.0	3.5	3.9	G	T5.4	4.4	T4.8	T5.3	T2.9	T2.4	T3.3	T2.5	T3.1	T2.9
8	T3.6	T3.3	T2.4	T3.9	T3.8	2.5	3.9	T6.0	4.0	4.1	4.0	3.5	3.7	3.7	T3.3	T4.6	T3.3	T4.1	T4.9	T6.9	T4.5	T5.1	T6.1Y	T4.1
9	E	E	E	E	E	2.2	T3.6	T5.9	T5.3	4.5	4.4	T6.3Y	4.2	3.6	4.1	T7.5	T6.9Y	T5.7	T7.8	T8.3	T6.3	T3.3	T7.8	T3.8
10	T5.8	T5.5	T2.8	T4.1	T3.3	T3.4	T6.3	T6.1	T4.9	4.5	T5.0	4.6	T8.0	T5.8	T5.0	4.1	3.5	T2.7	T3.4	T8.3	T5.9	T6.3	T8.0	T5.1
11	T3.3	T3.5	T3.3	T2.3	S	T3.0	T3.3	T4.5	T7.7	T6.1	T7.5	G	4.4	3.6	G	G	T3.5	T5.2	T4.7	T7.2	T6.1	T5.1	T3.3	T3.4
12	T5.3	T2.6	T3.0	T2.0	T2.5	T2.1	2.6	3.7	T5.1	T6.4	T5.3	4.3	T6.3	T4.0	T3.8	T5.5	T3.3	T3.0	T6.0Y	T6.0	T3.8	T6.1	T6.0	T5.9
13	T3.2	T2.9	T3.4	T2.4	T2.4	2.0	T2.8	T5.7	T3.8	T6.8	T6.3	4.0	3.8	3.3G	T3.8	T12.0	T10.9	T7.8	T6.9	T8.3	T7.4	T3.6	T3.2	T3.1
14	T5.3	T6.1	T7.5	T3.8	T1.9	T2.8	G	3.3	T3.7	T3.9	T6.1	T7.0	T8.3	T7.4	T4.9	T6.5	T3.7	T3.3	T3.1	T2.4	T2.1	T3.8	T2.3	T2.9
15	T3.8	T2.4	E	E	E	T1.8	2.8	3.4	4.0	3.6	3.5	3.6	G	G	G	4.1	T11.8	T12.1	T12.9	T10.3	T11.8Y	T7.6	T7.8	T3.5
16	T2.9	T2.5	T2.2	T2.3	T2.3	T2.5	T6.3	T7.4	T7.0	T4.5	4.3	4.5	3.7	T6.3	T4.4	T5.9	T5.8	T6.0	T3.5	T2.5	T8.3Y	T4.9Y	3.3	T7.5
17	T3.1	T3.3	T2.4	T2.5	T2.4	G	3.2	T5.2	4.1	T5.8	T5.8	T6.0	T7.5	T5.3	4.1	4.0	T3.3	T3.1	T3.3	T3.5	T2.4	T5.3	T3.0	T2.4
18	T2.4	E	T3.0	E	E	E	2.7	3.9	3.9	4.2	T7.0	4.1	4.0	4.2	T3.8	G	T3.8	T3.3	T2.2	T2.9	T3.5	T7.4	T6.1	T8.2
19	T3.3	T7.6	T5.7	T6.4	T3.5	T5.6	T3.2	3.2	4.0	T4.3	4.0	4.0	T5.8	4.2	T6.2	T3.5	T6.3	3.0	T3.4	E	E	T2.5	T2.4	T3.3
20	T2.8	T2.9	T2.5	T1.8	T2.3	E	3.1	4.0	T5.0	3.7	T5.7	3.9	4.1	3.5	G	G	T3.4	G	B	T1.8	E	E	E	E
21	T3.9	T3.3	T3.5	T3.8	T3.6	T3.4	T2.5	G	3.9	T5.4	4.1	4.1	T4.8	4.1	3.6	T7.3Y	2.8	T3.3	G	T2.5	E	T2.3	T2.7	T3.3
22	T2.4	T2.5	S	T2.5	E	T2.1	GT	G	3.5	3.7	3.8	4.0	3.6	3.4	4.1	3.9	4.5	T7.0	T5.0	T5.3	T6.0	T2.9	T2.8	E
23	E	E	E	S	T2.4	2.4	2.6	3.2	4.0	T6.5	4.1	T5.1	T7.3Y	3.7	4.0	4.0	3.5	T7.7	T3.4	T2.0	T2.8	E	T2.3	T1.8
24	T4.3	T3.7	C	C	T7.3	T2.8	T7.7	T7.8	T7.5	T6.3	T7.4	T8.3	T7.3	T5.8	4.1	T5.0	4.0	T4.6	T4.7	T6.0	T5.3	T5.0	T3.5	T7.5
25	T4.5	T5.9	T7.3	T7.8	C	T4.0	T5.9	T6.2	T6.2	T4.0	T7.5	T7.4	T6.5	T5.9	T6.0	T8.3	T8.3	T12.1Y	T7.4	T11.5	T6.1	T5.8	T3.0	T3.3
26	T3.9	T2.0	T2.8	T3.0	T2.5	T3.1	T5.0	T3.5	T7.9	T7.8	T6.6	T7.7	T6.0	T5.0	T6.4	T5.4	T5.9	2.5	G	E	E	T2.4	T3.1	T2.4
27	T3.1	T2.4	T1.9	E	E	T2.4	G	3.2	3.4	3.4	3.7	G	3.7	3.8	T4.4	T5.3	T5.0	T4.1	T3.8	T2.7	T2.6	E	T2.0	T2.9
28	E	T3.0	E	T3.3	T3.3	T2.3	2.2	3.0	3.7	4.5	4.0	G	4.5	4.1	4.0	T5.4	T4.5	T5.3	T6.5	T7.5	T11.7Y	T3.8	T3.3	T2.5
29	T6.0	T4.3	T4.1	T2.9	T2.9	T3.2	3.0	T3.8	T5.3	T6.1	T6.2	T3.4	T7.5	3.5	4.5	T6.4	6.0	T5.3	T3.8	T5.3	T8.0	T6.0	T3.3	T6.1
30	T3.5	T3.3	T3.3	T3.2	T3.5	T2.4	T4.5	T6.5	T7.4	T7.3	T5.6	4.0	4.2	T5.6	T6.6	T5.3	3.3	T4.6	2.2	T5.3	T2.9	T3.3	T2.9	T2.2
31	T1.8	E	T3.3	T3.5	T7.2Y	T3.2	T2.6	3.1	3.9	T3.0	4.5	4.5	4.2	T5.0	3.9	T4.7	T3.3	T5.7	T4.3	T4.9	E	T3.0	T2.3	E
No.	31	31	29	29	29	31	31	30	30	30	30	30	30	30	30	30	30	30	30	31	31	31	31	31
Median	3.1	2.6	2.4	2.5	2.4	2.5	3.0	3.8	4.5	4.5	5.2	4.1	4.3	4.1	4.0	4.6	3.9	4.3	3.6	4.9	3.6	3.6	3.0	3.1
U.Q.	3.9	3.5	3.3	3.4	3.3	3.1	3.9	5.7	6.0	6.1	6.3	5.8	6.5	5.0	4.9	5.9	5.8	5.7	5.0	7.5	6.1	5.3	3.5	4.1
L.Q.	1.9	E	E	E	E	2.1	2.6	3.2	3.9	4.0	4.0	3.6	3.9	3.5	3.6	3.5	3.4	3.1	3.3	2.5	2.5	2.4	2.3	2.0
Q.R.	2.0					1.0	1.3	2.5	2.1	2.1	2.3	2.2	2.6	1.5	1.3	2.4	2.4	2.6	1.7	5.0	3.6	2.9	1.2	2.1

foEs

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

The Radio Research Laboratories, Japan.

A 4

IONOSPHERIC DATA

Aug. 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	E	2.0	E	E	E	1.8	2.7	C	C	C	C	C	C	C	C	C	C	C	3.0	2.7	2.3	1.8		
2			E	E	E	A	3.4	2.8	3.4	3.4	3.8	3.8	3.7	3.4		3.4	3.3	3.2	3.6	A	3.1	E	1.8	E
3		E			E	1.9	2.9	3.3	5.1	A	A	3.9	3.8		3.5	3.5	3.6	A	E 3.5 R	1.8	2.1	1.9	E	
4							3.0	3.9	A	4.1	3.9	A	4.9	3.8	4.4	5.2	4.3	3.0	2.9	2.6	4.7	A	2.9	A
5	2.5	E	E	E			2.7	4.5	4.0	3.6	A	A		u 3.5 R	u 3.3 R		3.2	3.1	2.8	3.0	2.0	E	E	1.7
6	E		E		E	2.0	2.6	3.1	4.6	3.7	3.7	E 3.9 R	3.7	4.2		2.7 G		2.1	2.3	E	1.8	1.7	1.8	A
7	2.2			E		1.8	3.5	3.5	4.1	4.5	4.0	3.5	3.8		A	4.2	4.8	5.3	2.5	1.9	2.6	2.0	2.0	2.2
8	3.0	2.5	1.9	2.4	A	2.1	u 3.9 R	A	3.6	3.7	3.9	u 3.5 R	3.6	3.6	3.3	4.4	3.2	3.8	4.4	5.3	4.1	E 5.1 R S	E	1.8
9						2.0	3.6	A	4.6	4.5	A	4.6	4.0	3.6	3.8	A	3.8	A	A	4.0	2.8	E	1.8	1.8
10	E	A	2.5	2.4	2.0	3.3	A	A	4.5	A	A	A	A	A	4.8	u 4.1 R	3.1	2.6	3.4	5.3	4.1	1.8	1.8	4.0
11	E	E	2.0	E	S	2.6	u 3.3 R	4.7	A	3.7	A		4.0	3.5			3.5	u 5.2 R	4.7	A	3.4	2.7	1.8	2.0
12	2.6	2.0	1.8	E	1.8	E	2.5	3.6	4.4	A	A	3.9	A	3.8	3.5	4.9	3.1	3.0	3.5	E	1.8	1.8	1.9	E
13	E	2.6	2.9	E	1.8	1.8	2.7	4.9	3.7	5.5	5.1	3.7	3.7	u 3.3 R G	3.8	A	A	A	5.2	A	3.5	2.8	1.8	2.0
14	A	A	A	2.5	E	1.8		3.0	3.5	3.6	5.2	A	A	A	4.3	5.0	3.0	2.7	2.7	2.0	2.0	2.7	E	E
15	2.0	2.1				E	2.6	3.2	3.5	3.5	3.5	3.6				4.0	A	5.6	A	A	A	5.2	3.1	E
16	2.0	2.0	1.7	2.0	1.7	1.9	4.5	A	6.0	E 4.5 R	u 4.3 R	4.5	3.7	4.6	4.4	5.5	5.5	A	3.3	2.4	2.0	2.4	2.5	2.0
17	E	E	2.0	1.8	1.8		3.1	5.2	4.0	5.8	5.5	5.7	A	4.4	3.7	3.5	3.1	3.1	2.4	u 3.5 R	2.0	2.0	1.9	E
18	2.1		2.0				2.5	3.9	3.9	4.1	7.0	4.0	3.9	4.0	3.7		3.4	2.5	2.0	2.0	3.5	2.5	3.0	A
19	2.2	2.5	1.8	2.4	E	2.8	2.4	3.0	4.0	3.5	3.9	4.0	4.8	u 4.2 R	5.2	3.5	5.1	E 3.0 R	3.4			2.2	E	1.9
20	E	2.5	E	E	E		3.1	3.9	5.0	3.5	5.4	3.8	E 4.1 R	E 3.5 R			3.2		B	1.7				
21	A	E	2.2	A	2.9	2.1	2.4		3.7	A	3.9	4.1	4.8	3.6	3.5	3.5	2.8	3.1		2.2		1.9	E	E
22	E	1.8	S	1.8		2.1			3.2	3.3	3.7	3.7	u 3.6 R	u 3.4 R	3.5	3.8	4.3	4.2	4.5	3.5	3.9	2.1	u 2.8 R	
23				S	E	2.1	2.5	3.1	3.4	5.1	3.7	5.1	3.6	G	3.7	4.0	3.4	A	2.9	E	2.4		E	E
24	2.0	E	C	C	A	E	A	A	5.0	A	A	A	A	A	4.0	4.9	3.5	4.6	u 4.7 R	5.5	3.4	4.0	3.4	A
25	A	A	A	3.0	C	2.1	A	A	u 6.2 R	4.0	A	5.0	A	4.5	4.5	4.8	A	2.6	5.3	A	3.0	3.4	2.1	2.5
26	1.8	E	E	2.4	E	E	A	3.5	A	A	A	A	5.1	4.9	A	4.8	5.7	2.5				E	2.0	E
27	1.8	E	E			1.8		3.0	3.3	3.4	3.7		3.7	u 3.8 R	3.8	4.0	3.4	3.2	u 3.8 R	2.6	1.8		E	1.9
28		E		1.8	2.0	1.7	1.8	2.9	3.6	3.5	3.8		u 4.5 R	3.9	3.9	5.2	u 4.5 R	A	A	2.5	5.5	2.0	1.9	1.9
29	2.0	A	3.0	2.6	E	2.5	2.2	3.8	4.7	5.6	4.5	u 3.4 R	A	E 3.5 R	4.4	A	A	u 5.3 R	3.6	2.4	5.4	A	2.5	A
30	2.6	E	2.5	2.2	E	E	A	A	5.5	3.6	4.4	4.0	u 4.2 R	5.2	5.6	4.6	3.1	u 4.6 R	2.2	1.9	1.8	E	1.9	1.8
31	E		1.8	2.8	1.8	1.9	2.5	3.1	3.5	A	4.5	4.5	4.1	5.0	3.5	4.2	3.2	5.4	E 4.3 R	2.9		2.5	1.9	
No.																								
Median																								

foEs

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

The Radio Research Laboratories, Japan.

A 5

25

IONOSPHERIC DATA

Aug. 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	1.70	1.75	E	E.	E	1.70	1.70	C	C	C	C	C	C	C	C	C	C	C	1.80	1.70	1.75	1.70	E	E
2	E	1.75	1.75	1.65	1.70	1.70	1.75	1.80	1.75	1.90	2.00	2.30	2.05	2.00	2.10	2.10	1.75	1.80	1.70	1.75	1.70	1.65	E	E
3	1.70	E	E	E	E	1.70	1.70	1.80	1.80	2.00	1.90	2.00	2.00	1.90	2.00	1.90	1.80	2.00	1.80	1.70	1.70	1.70	1.70	E
4	E	1.70	1.70	1.75	1.70	1.90	1.80	1.85	1.80	1.95	2.00	2.00	2.70	2.00S	2.00	2.00	1.80S	1.80	1.75	1.70	1.70	1.70	1.70	1.65
5	1.70	E	E	1.65	E	1.70	1.80	2.00	1.80	1.80	1.80	2.05	2.00	2.15	2.00	2.25	1.85	1.95	1.70	1.75	E	1.65	E	E
6	E	E	1.70	E	E	1.70	1.75	1.75	1.80	1.70	1.85	1.95	1.95	2.05	2.00	1.95	1.75	1.75	1.95	1.65	1.70	1.70	1.70	1.65
7	1.65	E	E	E	E	1.70	1.75	1.75	1.80	2.10	2.30	2.00	2.05	2.00	2.00	1.75	1.80	1.80	1.75	1.70	1.70	E	1.70	1.65
8	1.70	1.70	1.70	1.70	1.70	1.70	1.75	1.75	1.75	2.05	1.75	1.85	2.05	2.00	2.00	1.95	1.75	1.70	1.70	1.70	1.70	1.70	E	1.65
9	E	E	E	E	E	1.65	1.75	1.80	1.75	1.80	2.05	2.60	2.00	2.00	1.90	1.80	2.00	2.00	1.75	1.65	1.70	1.70	1.75	1.70
10	E	1.70	E	E	1.70	1.70	1.75	1.70	1.75	1.90	2.00	2.10	2.00	2.05	2.05	2.05	1.75	1.75	1.70	1.70	1.70	1.75	1.70	1.70
11	1.70	1.65	1.70	1.65	E	1.70	1.70	1.80	1.75	1.80	1.80	2.90	2.55	2.10	1.90	1.75	2.00	1.75	1.80	1.70	1.70	1.70	1.70	1.70
12	1.70	E	E	E	E	1.65	1.75	1.80	1.90	1.80	2.10	2.05	2.05	2.05	1.85	1.80	1.75	1.80	1.70	1.70	1.70	1.70	E	1.65
13	1.65	1.70	1.70	E	1.65	1.65	1.70	1.75	1.85	2.00	2.00	1.95	1.90	2.00	2.00	2.00	1.85	1.70	1.80	1.70	1.65	1.70	1.65	1.70
14	1.65	1.70	1.70	1.70	1.70	1.70	1.80	1.70	1.75	2.00	1.95	1.80	2.00	1.80	1.80	1.75	1.70	1.75	1.80	1.70	1.70	1.65	E	E
15	1.70	E	E	E	E	E	1.70	1.80	1.80	2.00	2.40	2.10	2.10	1.85	2.00	1.80	1.85	1.80	2.20S	1.65	1.70	1.70	1.70	1.65
16	1.70	1.70	E	1.70	1.65	1.70	1.70	1.80	1.80	2.10	2.20	3.45	3.00	2.05	2.10	2.00	1.75	1.80	1.75	1.65	1.70	1.70	1.65	1.65
17	E	E	1.65	E	1.65	1.70	1.75	1.80	1.80	1.90	2.00	2.00	2.10	2.10	2.05	2.15	1.80	1.80	1.80	1.80	1.65	1.70	1.70	1.70
18	1.70	E	E	E	E	1.65	1.70	1.95	1.80	2.00	2.00	2.00	2.00	2.00	2.00	1.85	1.90	1.75	1.75	1.70	1.65	1.70	1.70	1.70
19	1.70	1.70	1.70	1.70	1.65	1.70	1.70	1.70	1.80	1.90	2.10	2.00	2.00	2.20	2.00	1.85	1.75	2.00	1.75	1.65	E	1.75	1.70	1.65
20	E	1.65	1.70	1.70	E	E	1.75	1.80	1.80	2.10	2.05	2.15	3.50	2.25	2.15	1.85	1.80	2.00	1.95	1.70	E	1.65	1.75	1.75
21	1.80	1.75	1.75	1.75	1.70	1.75	1.75	1.80	1.80	2.00	1.95	2.05	2.05	2.05	2.00	2.00	1.80	1.80	1.70	1.65	1.70	1.70	E	E
22	E	1.70	E	1.70	E	1.70	1.70	1.75	1.70	1.85	2.00	2.10	2.10	2.05	2.00	2.05	2.05	1.70	1.70	1.70	1.70	E	1.65	E
23	1.70	E	E	F2.00S	E	1.70	1.85	1.85	2.00	1.70	2.00	2.05	1.90	1.90	2.00	1.85	1.80	1.75	1.75	E	1.70	1.70	E	E
24	1.65	E	C	C	1.65	1.70	1.75	1.80	1.90	2.00	2.05	2.00	2.05	1.95	1.90	2.00	1.75	1.75	1.70	1.70	E	1.70	1.70	1.70
25	E	1.65	1.65	1.70	C	E	1.80	1.75	1.75	1.90	2.00	2.00	1.90	2.00	2.00	2.00	1.75	1.75	1.70	1.65	E	1.65	1.65	E
26	E	E	E	1.70	1.70	1.70	1.70	1.95	1.80	2.00	2.00	2.00	2.00	1.95	1.95	1.80	1.80	1.75	1.75	1.70	E	1.70	1.65	E
27	E	E	E	1.70	1.65	1.70	1.75	1.75	1.80	2.00	2.00	1.85	2.05	2.05	1.80	1.70	1.80	1.70	1.70	1.70	E	E	E	1.65
28	E	E	E	1.70	1.70	E	1.70	1.80	1.75	1.80	2.00	2.10	2.00	2.05	2.00	2.00	1.80	1.80	1.65	1.65	1.65	1.75	1.70	1.65
29	1.70	1.70	1.70	1.75	1.70	1.70	1.80	1.80	1.75	1.90	1.80	2.00	2.00	2.00	1.80	1.75	1.85	1.80	1.70	1.70	1.70	1.70	1.70	1.70
30	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.75	1.80	1.80	2.05	1.95	2.05	2.00	2.00	1.75	1.75	1.80	1.75	1.75	1.70	1.70	1.70	1.70
31	E	1.70	1.70	1.70	1.70	1.70	1.70	1.75	1.75	1.80	1.95	2.05	2.00	1.80	2.00	1.80	1.70	1.80	1.70	1.70	E	1.70	1.65	E
No.	31	31	30	29	30	31	31	30	30	30	30	30	30	30	30	30	30	30	31	31	31	31	31	31
Median	1.65	1.65	E	1.70	1.65	1.70	1.75	1.80	1.80	1.90	2.00	2.00	2.00	2.00	2.00	1.90	1.80	1.80	1.75	1.70	1.70	1.70	1.70	1.65

f-min

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

The Radio Research Laboratories, Japan.

A 6

IONOSPHERIC DATA

Aug. 1962 | M(3000)F2 | 135° E Mean Time (G.M.T. + 9h.) | **Akita** | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F	F	F	F	F	I255F S	3.05	C	C	C	C	C	C	C	C	C	C	C	3.10	3.10	2.70	2.80	2.75R S	U3.05R
2	2.85	3.00	2.75	I270F	F	A	U240R	2.90	I2.50R S	2.65R	R	R	A	R	3.05R	I390R S	2.85	2.75	3.20	I300A	2.90	2.80F	I290F	F
3	F	3.00	2.80	3.00	I290F	2.80	2.85	3.00	3.20	I315A	I300A	2.85	2.95	3.10	3.10	U345R	3.10	I320A	3.40	3.30	I295R S	2.85F	2.90F	2.85S
4	3.00S	3.05	3.15F	3.15	2.80	I340R	3.40	I300R	I320A	3.05	3.20	I310A	3.00	2.95	3.10	3.00	3.40	3.40	3.30	3.20	A	A	F S	F
5	F S	F	3.05F	2.95F	2.90F	3.15	3.30	3.30	3.70	3.40	A	A	2.75R	2.85	3.00	3.40	3.30	3.40	3.25	3.20	F S	F	I305F	F S
6	F S	F S	I315F	I305F	I300F	2.95	2.90	3.20	3.10	3.25	3.00	2.95	2.95	3.05	3.20	3.15	3.35	3.25	3.15	3.00	3.05	I295F	3.05S	A
7	F S	F	F	F	2.85F	3.10	3.00	3.15	3.20	3.15	3.45	2.75	3.10	I300R	I290A	3.15	2.90	3.05	3.20	3.20	2.95	2.90F	F	F
8	F	F	2.70	2.90H	I270A	2.85	2.85	I305A	3.40	3.20	I320R S	I290R S	2.80	2.95	3.00	3.00	3.20	3.30	3.00	2.80	I300F	I300R S	F	F
9	F	F	F	F	F	I265R F	2.70	I290A	3.00	3.25	I285A	2.70R	I310R S	I280R S	2.75	I300A	3.40	I310A	I300A	2.85	F	F	F	F S
10	F	A	F	F	F	3.00	I320A	I305A	3.15	A	A	A	I275A	I280A	3.10	2.75	3.15	3.20	3.10	3.05	R F	F	F	R F
11	R F	F	F	F	F S	3.05	3.00	2.20	I325A	3.25	I325A	3.00	I310R S	2.70	2.80	3.00	3.20	3.30	3.30	I315A	3.15	F	F	F
12	F	F	F	F	I320F	3.50H	3.25	U350R	3.20	I330A	I320A	3.00	I285A	3.10	2.85	3.05	3.25	3.00	3.15	I310R F	I305F	3.10	F	F
13	F	F	F	F	F	F	2.75F	I310R F	3.25	3.30	3.30	3.25	2.90	3.10	2.95	A	A	A	3.10	A	F	F	3.05	R F
14	A	A	A	R F	3.10F	3.10F	3.30	3.55	3.10	3.30	3.35	I340A	A	A	2.75	2.85	3.10	3.25	3.15	3.15	3.15	I300F	I290F	I285F
15	I295F	3.05F	3.05	2.95F S	I315F	I330R F	3.25	3.55	3.35	3.25	3.05	3.05	3.15	3.10	3.00	3.00	I300A	U305R	I315A	I300A	I305A	3.05F	2.85	2.80F
16	2.75F	2.85R S	I280R S	2.95	I300F	3.15S	3.00	I320A	3.25	2.75	3.00	3.10	2.85	2.90	3.15R	3.30R	3.15	I310A	3.10	2.95	2.95	F	F	F
17	F	3.00F	2.85F	2.95F	3.00	3.25R	2.90	3.10	3.25	2.75	U325R	2.90	I295A	3.05	3.30	3.00	3.15	3.15	2.90	2.95	3.00	I285F	2.85	I290F
18	2.80	2.85	2.75	I295R S	3.05	I300R S	3.30	U330R	3.30	2.80	U310R	3.25	3.25	3.05	3.10	2.90	3.20	3.10	3.00	3.00	2.90	I310E	2.95F	A
19	F	F	R F	F	I290F	I300F	3.40	3.10	3.40	3.30	3.05	2.90	3.05	3.25R	3.25	3.20	3.20	3.30	3.05	3.10	2.85	2.85F	F	F
20	3.10	2.95	2.90F	3.05F	3.05	3.25	3.20	3.45	3.40	3.45	3.20	3.10	3.15	3.25	3.20	2.90	3.25	3.25	3.25	3.20	3.00	2.95	2.90R	2.80
21	I290A	2.95	2.95	I305A	3.20	I330R V	3.65	3.20	3.20	I315A	3.10	2.95	3.15	3.25	3.25	3.30	3.35	3.45	3.30	3.15	3.10	2.80S	2.80	2.90
22	2.90S	2.90	2.90R S	3.05	3.25	3.20R S	3.40	3.40R	2.95	3.15	3.00	3.25	2.80	3.00	2.90	3.15	3.35	3.10	3.10	3.10S	2.85	2.90R	2.95	2.90
23	2.85S	2.85	3.00	2.90	I300S	3.10	3.60	3.35	3.45	3.35	3.20	3.05	3.05	3.00	3.05	3.10	3.20	I315A	3.00	3.05	3.30	I305R S	2.70	2.75S
24	2.50S	F	C	C	A	3.05R S	I325A	I335A	3.25	I330A	I320A	A	A	A	2.90	3.00	I320R S	3.35	3.10	3.35S	3.30	2.90S	I285E	I285A
25	I275A	A	A	R F	I295C	2.90F	I320A	I325A	3.25	3.45	I300A	3.05	I320A	3.10	2.80	3.20	I330A	3.30	3.35	I315A	3.00S	I290F	3.00S	F
26	F S	F	F	F	I310F	3.35	I330A	3.45	A	A	A	A	3.05	3.00	I320A	3.10	3.25	3.40	3.50	3.00	3.00	F	F	F
27	F	2.80F	2.85F	3.00F	I320F	I335R F	3.35R H	I355R H	3.45	3.30	3.10	3.15	3.15	3.15	3.20	3.40	3.30	3.20	3.10	3.20	3.20S	3.15S	3.10S	2.90S
28	3.00S	3.10F	3.05F	I305F	3.05	3.20	3.30	3.60	3.55	3.55	3.50R	3.20	3.40	2.85	3.35	3.25	3.45	I330A	I325A	F S	F S	3.55	I315E	3.15
29	3.00	I290A	2.75R	R F	R F	R F	3.15	I355R	3.90R	3.60	3.50	3.45	I320A	3.30	3.35	I320A	I305A	2.95	2.95	I330R	3.30F	A	R F	A
30	F	2.75	I285F	3.25F	I295F	3.25	I335A	I320A	3.40	3.15	3.40	3.50	3.00	3.05	3.20	3.30	3.30	3.30	3.15	3.20	3.15	3.40	I295R F	I285R F
31	2.70	I290F	I290F	I290F	I305F	I320F	U340R	3.65	3.30	I330A	3.30	3.30	3.20	3.05	3.10	3.20	3.30	3.10	3.05	2.90	3.15R S	2.85	3.15S	2.85S
No.	14	16	19	18	23	28	31	30	29	28	26	25	27	27	30	29	29	29	31	29	25	22	20	14
Median	2.90	2.90	2.90	3.00	U3.00	3.10	3.25	3.20	3.25	3.25	3.20	3.05	3.05	3.05	3.10	3.15	3.20	3.20	3.15	3.10	3.00	2.90	2.90	2.85

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

The Radio Research Laboratories, Japan.

A 7

IONOSPHERIC DATA

Aug. 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						L	3.55	C	C	C	C	C	C	C	C	C	C	C	L					
2							A	3.80	3.80	3.55	4.00	4.00	3.80	3.85	3.90	4.00	3.50	3.45^{L}	A					
3							3.60	3.65	A	A	A	4.00	3.80	3.50^{L}	3.75	3.60	3.55^{L}	A	A					
4								A	A	3.60	3.95	A	A	R	I 3.90^{A}	I 3.80^{A}	I 3.75^{A}	3.65^{L}	L					
5						L	L	A	A	4.15^{L}	A	A	3.50	3.80	3.50^{H}	3.75	3.70^{L}	3.80^{L}	L					
6							I 3.70^{L}	3.80^{L}	I 3.70^{A}	3.70	3.85^{R}	I 3.80^{R}	4.00	I 3.90^{A}	I 3.60^{L}	3.60	3.65^{H}	3.60						
7						L	A	3.50	A	A	3.85	3.90$^{S}_{H}$	3.85	I 3.85^{R}	A	A	A	A	L					
8						L	A	A	3.60	I 3.90^{R}	4.25	3.95^{H}	4.15	3.50^{R}	3.75^{H}	I 3.45^{A}	3.60	A	A					
9						3.10	A	A	A	A	A	A	3.50	4.00	3.65	I 3.70^{A}	I 3.60^{A}	A	A					
10							A	A	A	A	A	A	A	A	I 4.25^{A}	I 3.60^{A}	3.60	3.55^{L}	A					
11							A	A	A	3.90	I 3.80^{A}	3.95^{H}	3.88^{R}	3.95	3.60	3.60	A	A	A					
12								3.75^{L}	A	A	A	4.20	I 4.00^{A}	3.95	3.80	I 3.65^{A}	3.50	3.45^{L}	A					
13							L	I 3.60^{A}	3.70^{H}	I 3.80^{A}	I 3.95^{A}	3.80^{H}	3.90^{H}	4.10	R^{S}	A	A	A						
14							L	3.65	3.70^{L}	3.90^{L}	A	A	A	A	A	A	3.55	3.50^{L}	L					
15								3.65	3.95^{L}	3.80	3.85	4.00^{H}	3.90^{H}	3.80	3.80	A	A	A	A					
16							A	A	A	A	I 3.95^{R}	I 3.95^{A}	3.55^{L}	A	A	A	A	A	A					
17							L	A	L	A	A	I 3.65^{A}	A	A	3.55^{L}	3.55^{L}	3.65^{H}	L	L					
18								A	3.75^{L}	3.90	I 3.65^{A}	3.70	4.10	3.80	3.70	3.50	3.50^{L}	L						
19							L		L	3.75^{L}	3.75^{L}	3.85	A	A	A	3.55^{L}	A	L						
20									I 3.60^{A}	3.60^{L}	I 3.95^{A}	3.80^{R}	I 3.80^{R}	3.65	3.60^{R}	I 3.55^{L}	3.80	L^{H}						
21								3.70	3.60^{L}	I 3.75^{A}	3.80	3.65^{R}	I 3.70^{A}	3.70	3.55^{R}	3.60^{L}	3.70^{L}	L						
22								L	L	3.70	3.75^{R}	3.70	3.80	L 3.60^{R}	3.80	3.40	A	A	A					
23								L	L	I 3.70^{A}	3.75	I 3.80^{A}	3.65	3.70^{L}	3.60	3.60	3.50	A						
24							A	A	A	A	A	A	A	A	3.55	I 3.45^{A}	3.50	A	A					
25							A	A	A	A	A	A	A	A	A	A	A	L	A					
26								L	A	A	A	A	A	A	A	A	A	L						
27								L	4.10	I 3.80^{L}	3.80	4.05	4.00	3.40	3.90	A	A	A	A					
28								L	3.90	3.80	3.90^{L}	4.00	I 3.90^{A}	3.65^{R}	4.50	A	A	A	A					
29							L	I 3.70^{A}	A	A	I 3.90^{A}	4.10	I 3.90^{A}	I 3.70^{R}	A	A	A	A						
30									A	3.80	I 3.95^{A}	3.90	A	A	A	A	3.50^{L}	A						
31							L	L	L	A	A	A	A	A	3.55^{L}	I 3.60^{A}	3.65^{L}	A						
No.						1	3	10	11	18	19	21	20	19	21	19	18	7						
Median						3.10	3.60	3.70	3.70	3.80	3.85	3.90	3.80	3.80	3.70	3.60	3.60	3.55						

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

Aug. 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						455^{L}	330	C	C	C	C	C	C	C	C	C	C	C	280					
2							475	400	I510$^{B}_{S}$	480^{R}	R	R	A	R	360	I450^{R}	410	420	300^{A}					
3							400	350	295^{A}	I330^{A}	I380^{A}	405	375	345	345	345	345	I310^{A}	255					
4								R	I320^{A}	325	310	I335^{A}	355	380	340	I335^{A}	295	290	280					
5						300	295	295	250	295	A	A	455	360	310	290	295	275	280					
6							380^{L}	305	305^{A}	320	370	370^{R}	390	345	335	345	295	305						
7						250^{L}	355	320	300	315	270	I370$^{B}_{S}$	345	375	I280^{A}	330	I340^{A}	I310^{A}	250					
8						360	I375^{A}	I320^{A}	285	320$^{R}_{H}$	I320$^{B}_{S}$	I395$^{B}_{S}$	420	385	350	345	320	295	A					
9						405	405	I370^{A}	345	305	I395^{A}	425	I365$^{B}_{S}$	I500$^{B}_{S}$	430	I350^{A}	290	A	A					
10							I305^{A}	I350^{A}	315	A	A	A	I445^{A}	I440^{A}	345	405	320	295	295					
11							I385^{A}	325	I295^{A}	295	I335^{A}	360	I450$^{B}_{S}$	400	395	350	300	I285^{A}	A					
12								255	330	I330^{A}	I345^{A}	330^{R}	I420^{A}	350	385	I350^{A}	305	315	295					
13							310^{L}	295	270	290	295	335	400	350	370	A	A	A						
14							290	260	300	295	290	I300^{A}	A	A	405	355	300	275	270					
15								250	295	315	345	345	335	345	345	325	I305^{A}	295	A					
16							I280^{A}	I290^{A}	290^{A}	415	335	305	355	355	295	295	I300^{A}	I295^{A}	260					
17							300^{L}	310	295	I330^{A}	285	355	I330^{A}	320	295	305	305	305	290^{L}					
18								255	300	400	310	295	300	345	340	345	300	295						
19							265		285	290	330	350	305	285	295	295	295	280						
20									295	280	I310^{A}	315	320	305	300	330	290	275						
21								310	325	I340^{A}	345	360	320	300	295	300	285	260						
22								285	320^{L}	310	350	320	400	320	340	295	270	290	290					
23								290	285	290	330	350	320	340	330	295	295	I275^{A}						
24							I260^{A}	I260^{A}	I270^{A}	I275^{A}	I300^{A}	A	A	A	360	310	275	245	A					
25							A	A	I310^{A}	285	I320^{A}	340	I315^{A}	345	390	305	I290^{A}	275	I260^{A}					
26								270	A	A	A	A	320	370	I310^{A}	305	I290^{A}	265						
27								250^{H}	285	290^{L}	345	340	335	295	300	295	260	255	280					
28								255	260	275	280	320	300	365	300	305	280	A	A					
29							300	240	230	270	275	300	I350^{A}	320	325	A	A	A						
30									295	310	295	280	370	340	310	295	295	275						
31							250	255	270^{L}	I300^{A}	305	305	320	335	340	305	285	I280^{A}						
No.						5	18	25	29	28	26	25	27	27	30	28	28	26	14					
Median						360	305	290	295	310	320	340	350	345	340	320	295	290	280					

h'F2 | Sweep 4.60 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 9

29

IONOSPHERIC DATA

Aug. 1962 | h'F | 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	295	I300A	280F	290F	290	265	245	C	C	C	C	C	C	C	C	C	C	C	A	250	295	280	260	255
2	265	265	290	305	370	I340A	I330A	235	220	245	230	210	240	215	225	210	230	I235A	I250A	I270A	295A	275	260	260
3	280	290	275	275	280	250	250A	235	A	A	A	200	225	230	230	230	A	A	A	240	280A	295	295	290
4	255	255	235	250	255	240	245	A	A	A	215	A	A	230	I225A	I235A	I240A	240	I235A	250	I240A	I275A	I300A	I275A
5	I270A	260	265	290	295	250	245	A	A	195	A	A	250	220	240H	240	225	245	I250A	I250A	300A	345	245	280A
6	305	260	245	255	270	290A	245	235	I235A	235	215	I220A	215	I200A	230	225	215	205	245	255	250	285	240	I280A
7	I295A	245	275	290	240	220	A	A	A	A	I210A	195H	245	200	A	A	A	A	A	245	260A	285A	305	290A
8	I300A	325A	300A	300A	I320A	A	A	A	A	235	200	205H	195	240	205H	I245A	240	I250A	I280A	I290A	290A	I295A	280	290
9	280	255	305	305	295	A	A	A	A	A	A	A	A	205	240	I230A	I245A	A	A	A	290A	240A	245	275A
10	310	A	A	A	270A	A	A	A	A	A	A	A	A	A	I215A	I225A	240	240	A	A	I280A	280	250	I275A
11	295	290	280	290	290S	A	A	A	A	220	I215A	195H	210	200	245	245	A	A	A	A	250A	I280A	305	310A
12	I300A	290A	290A	250	240	225	245	I210A	A	A	A	195	I200A	205	215	I235A	235	245	I250A	225	255	245	260	255
13	255	280A	245A	280	250	245	245	I240A	I230H A	I215A	I210A	195H	195	195	A	A	A	A	A	I260A	270A	250	245	255
14	A	A	I260A	275A	245	255	245	210	205	200	A	A	A	A	A	A	245	245	I265A	245	230	290A	265	270
15	290	270	245	245	245	245	240	235	210	205	200	195H	195H	220	205	A	A	A	A	A	A	A	A	280
16	290	290	245	290	270	255	A	A	A	A	I205A	I215A	235	A	A	A	A	A	A	260	240	295A	I280A	280
17	255	270	290	290	255	230	I225A	A	A	A	A	A	A	A	220A	245	235H	280	260	270A	250	290A	280	270
18	270	260	295	285	250	250	245	I240A	I235A	225	I220A	225	200	210	200	240	245A	245	250	250	295A	255	250A	I275A
19	300A	295A	280	I300A	260	I280A	245	245	I240A	230	225	210	A	A	A	225	I225A	I240R	255	245	255	290	255	250
20	250	255	290	255	250	250	255	245	I245A	230	I225A	205	215A	205	225	205	230	225H	245	235	245	255	255	295
21	I280A	295	270	I270A	295	235	225	215	240	I250A	240	230A	I220A	200	245	220	235	255A	245	255	245	290	280	290
22	290	295	280	255	230	245	235	240	225	230	220	210	225	240	220	270	A	A	A	260	290A	260	290	290
23	285	290	270	290	280	245	245	245	245	I220A	220	I215A	205	205	230	I225A	255	I260A	265	245	230	205	295	305
24	I315A	330	C	C	A	255	A	A	A	A	A	A	A	A	A	I245A	260	A	A	270	240	I295A	I300A	I335A
25	I345A	A	A	A	I290C	295	A	A	A	A	A	A	A	A	A	A	I235A	245	I240A	I245A	290A	290A	255	I290A
26	295	280	275	270	260	245	I250A	I240A	A	A	A	A	A	A	A	A	A	230	245	220	240	290	290	295
27	305	290	290	255	230	240	230	210	205	220	215	205	195	I230A	230	A	A	A	A	260	240	240	230	260A
28	285	270	250	255A	270	250	235	230	225	215	210	200	I215A	245	260	A	A	A	A	255	260	225	240	225
29	295	I350A	400	325	240	295	240	A	A	A	I210A	190	I210A	I220A	A	A	A	A	295	240	A	A	A	A
30	A	300	I315A	250	255	265	A	A	A	230	I220A	I220A	A	A	A	A	I240A	I255A	255	260	245	225	I245A	295
31	300	295	305	I290A	280	245	245	245	240	I235A	A	A	A	A	225	I235A	235	I265A	I270A	290A	235	285	230	290
No.	29	28	28	28	30	27	22	17	14	18	19	20	19	20	20	19	19	18	18	27	29	29	29	30
Median	290	290	280	280	265	250	245	235	230	230	215	205	215	210	225	235	235	245	250	250	255	280	260	280

h'F

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

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

h'Es

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

The Radio Research Laboratories, Japan.

A 11

IONOSPHERIC DATA

Aug. 1962

Types of 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	f	fz	f	f	fz	hz	hz												C3	f3	fz	fz		
2			f	fz	fz	C3	C3	h	h	h	C	h	h	h		h	hz	h3	h3	f5	f6	f	fz	f
3		f			h	h	hz	hz	hz	hz	Cz	Cz	C		h	h	hz	C3	C4	f3	fz	fz	f	
4							hz	hz	hz	hz	h	h	C	h	h	Cz	C3	C	Cz	f3	fz	f3	f3	f3
5	fz	fz	fz	fz			hz	C3	Cz	h	Cz	Cz		C	l		l	lz	hz	fz	fz	fz	fz	fz
6	fz		fz		f	l	h	hz	h3	hz	h	C	C	lz		l		l	h	f	fz	fz	f	f3
7	fz			f		h	hz	h4	C3	Cz	Cz	C	h		hz	h3	hz	C4	C3	fz	fz	fz	fz	fz
8	f4	f4	fz	f3	f4	hz	h6	h3	hz	h	h	C	h	C	C	Cz	hz	h4	h4	f3	fz	fz	fz	fz
9						hz	h3	h4	hz	hz	h	h	h	h	h	lz	hz	C3	l5	f3	fz	f	f3	fz
10	fz	f5	f3	f4	fz	h3	h3	h3	h3	hz	h	h	C3	Cz	Cz	Cz	C	lz	l4	f3	fz	fz	fz	f3
11	fz	fz	fz	fz		h3	hz	hz	hz	C	Cz		lz	C			hz	h3	C3	fz	f3	f3	fz	fz
12	f3	f3	fz	f	fz	f	hz	hz	C3	Cz	Cz	C	lz	lz	l	lz	lz	l	l3	f	fz	fz	f	f3
13	f	fz	f3	fz	fz	h	h5	C3	C3	C3	Cz	C	C	l	Cz	l5	l5	l4	lz	f3	f3	f3	fz	fz
14	f3	f4	f4	fz	f	fz		hz	lz	lz	C	Cz	lz	lz	lz	lz	l	lz	lz	f	f	f3	f	f
15	fz	fz				f	hz	hz	Cz	h	h	h				h	h3	C3	C3	f6	f6	f3	f3	fz
16	fz	fz	fz	fz	fz	C	h3	C3	C3	Cz	C	C	C	Cz	Cz	Cz	C4	C3	C3	fz	fz	fz	fz	fz
17	fz	fz	fz	fz	fz		h3	C3	Cz	Cz	C	Cz	l3	lz	lz	lz	lz	l3	lz	f3	f3	f3	f3	fz
18	fz		fz				hz	hz	hz	hz	C3	h	C	Cz	C		lz	l	h	f3	f3	fz	fz	f4
19	fz	fz	fz	fz	f3	f3	lz	h	hz	h	h	C	Cz	Cz	l	l	lz	l	l3			fz	fz	fz
20	fz	fz	fz	f	f		h3	h3	hz	h	h	h	hz	h			lz			f				
21	f5	f3	f3	f4	f3	l4	lz		hz	h3	h	h	h	h	C	Cz	lz	lz		fz		fz	fz	f
22	fz	fz		fz		fz			hz	h	C	C	C	Cz	h	hz	h3	hz	h l4	f3	f5	fz	f4	
23					fz	Cz	h	h	h	hz	h	h	h	h	h	hz	h	hz	h3	f	fz		fz	fz
24	f3	f			f4	f	C4	Cz	C3	C3	Cz	C	C4	Cz	Cz	hz	hz	hz	h3	f3	f4	f3	f3	f3
25	f4	f6	f4	f4		fz	h4	hz	Cz	hz	Cz	C	Cz	hz	hz	Cz	l3	lz	l3	f3	f3	f3	fz	fz
26	f3	f	fz	fz	fz	f3	C3	h3	C4	C3	C3	C4	Cz	Cz	Cz	C3	lz	lz				fz	fz	fz
27	fz	fz	fz			fz		h3	h	h	h		h	h	Cz	h Cz	l3 h	h l3	h3 l4	f3	f		f	fz
28		fz		fz	fz	fz	l	hz	hz	h	h		h	h	h	hz	hz	Cz	C6	f3	f3	f4	fz	f
29	fz	f3	f4	fz	f	f	C	lz	Cz	Cz	Cz	h	h	h l	h l	h3	h4	C5	f6	f5	f3	f4	fz	f3
30	f3	f3	f3	f3	f	f	h4	h3	C3	h	Cz	hz	Cz	lz	l3	C3	hz	h6	hz	fz	f	f	fz	fz
31	fz		fz	f3	fz	f	l4	hz	hz l	C3	C3	Cz	Cz	Cz	h	Cz	C3	C3	h4	fz		f4	f	
No.																								
Median																								

Types of Es

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

The Radio Research Laboratories, Japan.

A 12

IONOSPHERIC DATA

Aug. 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	u 4.1 S	3.7	3.4 S	J 3.6 S	3.4	I 3.4 S	4.9	A	A	I 6.8 S	6.6	6.0 S	S	S	I 5.9 S	I 5.8 S	6.5	I 6.6 S	6.5	5.7	5.8	5.7	5.4 S	I 5.3 S
2	I 4.4 S	3.4	3.6 S	3.6 S	J 3.5 S	S	S	S	S	S	S	S	S	S	S	S	S	S	5.1 S	I 4.6 S	A	S	S	I 4.0 S
3	I 3.9 S	3.8 S	3.9 S	3.6 S	3.3	3.6 S	S	S	6.7 S	5.5 S	5.8 S	I 6.1 S	6.4	I 6.8 S	6.7	6.0 S	I 5.9 A	I 5.8 A	I 5.6 A	S	S	S	S	S
4	S	4.2 S	3.3	3.1	3.1	3.5 S	S	A	A	7.2 S	6.4	5.7	C	C	7.4	7.8	7.3	6.3 S	5.8	6.1	5.3	I 4.1 S	3.9 S	4.0
5	I 3.9 S	3.7	3.6	3.5	3.4	3.9	4.6	7.1 S	6.7	A	A	A	5.6	6.6	8.9	8.9 S	5.5	5.4	4.7	I 5.0 A	5.3	I 5.0 S	5.4	4.4
6	I 3.6 A	4.4	4.1	3.8	4.4 Z	3.8	4.8	6.0	I 5.4 A	I 5.5 A	5.5	5.7	5.6	6.7	6.5	7.0	6.4	5.9	5.2	5.6	5.4	5.3	I 5.3 F	5.0 S
7	4.7 S	4.6 S	4.1 Z	3.6	I 3.5 S	3.2	I 4.3 A	6.3	5.8	7.2	7.0	6.3	5.8	5.8	5.8	I 5.8 A	6.0	5.8	7.2	6.7	5.5	4.6 S	4.2	4.6 Z
8	4.1 S	4.6	I 4.4 F	4.2 F	3.5	2.9	5.2	5.7	J 8.1 S	6.8 S	5.3 S	I 5.4 S	5.4	J 5.2 A	5.7	6.6	6.3	5.6	5.0	6.0 S	6.1 S	5.5	5.6	I 5.4 A
9	I 5.1 A	I 4.7 S	4.6 F	4.1	4.1	3.6	5.0	5.5	5.8 S	A	A	u 5.8 S	6.0	I 5.7 S J	5.5 R	6.1	5.9	4.9	I 4.8 A	5.8	6.3	5.7	I 5.4 A J	6.2 S
10	J 4.3 S	u 4.1 S	3.7	3.3	3.1	3.6	4.9	I 5.5 S	I 5.3 A	A	A	A	5.6	I 6.0 A	6.3	6.3	6.2	6.2	6.2	u 7.2 S	6.0	5.4	J 5.5 S	4.5 F
11	A	F	F	F	3.5	3.5	I 4.6 A	5.8	6.4	5.8	I 5.5 A	5.9	5.5	u 5.4 S	u 5.8 S	6.2	6.5	6.4	A	A	J 4.9 S	I 4.4 A	I 4.0 S	I 4.4 A
12	I 4.0 A	u 3.7 S	I 3.5 A	3.4	3.3	3.5	4.8	I 5.0 S	I 5.0 S	I 5.4 A	I 5.8 A	I 5.6 A	I 5.4 A	I 5.6 A	5.8	6.2	5.8	5.4	5.7	6.6	6.3	6.0	J 5.5 R	I 5.3 A
13	I 5.6 F	I 5.6 A	5.1	3.4	3.4	u 3.6 S	4.1 S	6.7	7.0	6.5	I 5.8 A	I 6.0 A	5.8	5.7	u 6.0 S	6.8	7.3	7.1	7.3	J 7.9 R	5.8	5.0	I 4.1 S	3.5
14	3.8 S	4.1	I 4.0 A	3.8	I 4.2 A	I 4.3 A	5.4	5.7	5.0	6.2	6.4	I 6.0 R	S	A	A	J 6.8 R	8.1	8.4 R	7.1	7.2	J 6.4 R	5.6	5.3	5.1
15	5.0	5.0	4.7	4.2	3.7	4.0	6.0	7.1	5.5	5.5	6.6	6.0	6.2	6.4	I 7.7 A	I 8.6 A	7.5	J 8.0 R	J 8.3 S	7.8	I 6.4 A	5.7	5.2	5.1
16	4.9	5.1	u 4.8 S	4.5	3.9	I 4.3 S	4.4	I 6.6 A	6.9	6.7	7.6	8.1 S	7.1 S	7.1 S	8.8 S	J 8.3 S	6.0 S	5.4	6.0	7.2 S	5.6	A	AS	A
17	A	I 4.3 A	I 4.2 A	4.1	3.6	I 4.2 S	4.7	6.1	6.3 S	6.2	J 7.9 S	7.0	7.5 S	7.9	8.2	6.8	6.4	6.1	6.5	7.1	6.8	6.3	I 5.7 F J	6.2 F
18	6.0	5.3	4.8	4.6	5.0	4.6	5.6	5.8	5.7	6.0	7.9	8.0 S	7.0	J 6.5 R	7.3	7.5	7.8	6.7	6.7	7.1	6.6	6.4	6.0	J 5.5 S
19	I 5.3 S	I 5.2 A J	5.3 R	4.1	3.9	3.5	5.1	J 5.3 S	6.6	I 6.2 A	I 6.4 A	7.2	9.4 R	9.5	I 9.2 A	I 8.4 R	6.9	7.1	7.0	7.0	J 6.5 S	6.0	u 6.4 S	5.6
20	5.2	u 5.1 S	4.6	4.6	4.1	3.7 S	5.4	5.9	6.2 R	7.2	J 6.2 R	J 6.5 R	6.7	6.6	7.1 S	7.7 S	J 8.4 R	J 8.7 R	J 8.0 R	6.2 S	5.6	4.7 S	5.2	5.1
21	4.9	4.9	4.4	I 4.2 S	u 4.2 R	4.2	4.6	I 5.1 S	J 6.3 R	S	S	C	J 8.0 S	8.3	7.8 S	7.0 S	6.4	I 6.2 C	I 6.1 A	5.7	5.4	5.2 S	J 5.4 S	5.0
22	4.5 S	4.5 S	4.2	I 4.1 E	3.6 S	3.7	5.3 S	5.4	5.6	6.1	6.4 S	6.7	6.7 J	8.2 R	7.9	9.0 R	I 8.6 A	I 6.9 A	I 6.7 A	7.4 S	J 6.5 S	6.2	5.9	5.5
23	J 5.4 R	5.2	5.0	4.8 S	4.4	4.6	J 6.4 R	J 5.2 R	J 6.6 R	6.0	u 6.0 S	6.9	J 8.0 R	7.5	7.4	J 7.9 S	7.8	7.3	8.0	J 9.0 R	A	A	3.6	4.0
24	J 3.5 S	3.5 S	3.8	3.4	4.3	3.7	5.4	5.5	I 5.5 A	6.1 S	I 5.5 S	5.9	I 6.0 A	I 6.4 A	J 6.5 S	8.9	I 9.6 S	8.0	7.4 S	I 6.5 A	A	S	4.6	4.3 S
25	I 4.2 A	I 4.0 A	3.9 F	3.8	3.9	3.6	I 5.0 A	I 6.1 A	I 6.5 A	6.6	I 6.6 A	6.9	7.3	I 7.0 A	6.4 S	J 7.2 S	I 7.8 A	7.1	7.0	5.8	4.8	5.0	4.2	4.0
26	I 3.9 A	J 3.8 R	3.9	3.9	3.1	4.0	4.6	6.3	I 5.6 R	I 5.4 A	I 5.7 A	6.0 R	J 6.8 R	6.4	6.8	7.4	6.5	7.0	u 6.3 R	5.6	u 4.1 S	I 3.7 A	3.4	3.6
27	3.6 S	I 3.6 A	3.5	3.5	3.4	3.8	J 5.0 R	5.9	5.1	5.6	I 5.7 A	I 5.8 S	6.3	7.1	7.4	7.3	6.6	5.8	I 6.4 A	I 6.6 S	6.2	J 4.4 S	I 4.2 S	J 4.0 S
28	3.9	4.2	4.0	3.9	4.0	4.0 S	5.6	5.3 S	6.6 S	5.9	I 5.6 S	6.2	I 6.0 S	6.0	7.0	7.3 S	7.9 S	6.0	I 6.2 A	I 6.4 R	7.1 S	A	A	3.4 S
29	3.4 S	I 3.4 A	3.6 S	3.4	J 3.4 S	3.7 S	5.4	I 8.4 A S	I 6.8 S	5.7	I 5.8 A	I 5.8 A	I 5.9 A	I 5.6 S	I 5.8 S	A	A	6.6	I 7.7 A	J 8.9 R	7.0	R	A	A
30	A	3.5	3.3	4.0	3.5	4.0 S	4.1	5.8	I 6.6 A	6.4 A	6.4	6.4	6.5	J 6.4 R	u 8.0 S	8.1	7.0	I 7.3 R	6.5	7.2 S	7.4	5.3	4.0	I 3.5 S
31	I 3.5 A	3.6	C	C	C	C	C	C	C	C	C	C	J 6.0 S	6.4 S	6.3	6.5	6.9	6.0	6.7 S L	7.2 S	I 6.7 S	5.9	5.8	I 5.1 S
No.	27	30	29	29	30	29	27	26	27	25	25	26	27	27	29	29	29	30	30	29	27	24	26	28
Median	4.2	4.2	4.0	3.8	3.6	3.7	5.0	5.8	6.3	6.1	6.2	6.0	6.2	6.4	6.8	7.2	6.6	6.4	6.5	6.6	6.1	5.4	5.3	4.8
U.Q.	5.0	4.9	4.6	4.2	4.1	4.0	5.4	6.3	6.6	6.6	6.6	6.7	7.0	7.1	7.8	8.0	7.8	7.1	7.1	7.2	6.5	5.8	5.5	5.3
L.Q.	3.9	3.7	3.6	3.5	3.4	3.6	4.6	5.5	5.5	5.6	5.7	5.8	5.8	5.8	6.0	6.4	6.2	5.8	5.8	5.8	5.4	4.8	4.2	4.0
Q.R.	1.1	1.2	1.0	0.7	0.7	0.4	0.8	0.8	1.1	1.0	0.9	0.9	1.2	1.3	1.8	1.6	1.6	1.3	1.3	1.4	1.1	1.0	1.3	1.3

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

Aug. 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	A	A	A	A	S	S	S	S	S	S	S						
2						S	S	S	S	S	S	S	S	S	S	S	S	S						
3							S	S	S	S	S	S	S	S	S	S	A	A	A					
4							S	A	A	S	S	S	C	C	S	S	S	L	L					
5							S			A	A	A	A	S	S	S	L	L						
6							L	L	A	A	A	A	S	S	S	L	S	S	L					
7							A	S	S	S	S	S	A	S	S	A	S	S	S					
8							S	A	S	S	S	S	S	A	S	S	S							
9						S	A	S	S	A	A	A	S	u 4.5 s	L	A	A	L	A					
10								A	A	A	A	A	A	A	u 4.7 L	A	A	A	A					
11							A	A	A	A	A	A	A	S	S	4.4 L	A	A	A					
12									S	A	A	A	A	A	A	A	4.1 L	S	L					
13								A	A	A	A	A	A	S	S	L	4.4 L	L	A					
14										L	L	A	S	A	A	A	L	A						
15										A	A	L	L	4.7	A	C	A	A	A					
16								A	A	S	S	S	S	S	S	S	S							
17									A	A	A	A	L	4.6	4.6	L	A	L						
18								L	A	A	A	A	A	A	S	A	u 4.1 L	A						
19									u 4.2 L	A	A	L	A	A	A	A	A							
20									A	A	A	A	S	L	L	A	S	S						
21							L			S	S	C	S	S	S	S	A	C	A					
22										A	A	A	L	A	4.5	4.2	A	A	A					
23									L	A	L	A	4.5	u 4.5 L	4.6 L	4.3 L	A							
24								A	A	S	S	S	A	A	S	S	S							
25							A	A	A	A	A	A	A	A	A	AS	A	A						
26								L		A	A	A	A	A	A	A	A	L						
27									A	S	A	A	S	S	S	A	S	A	A					
28										S	S	A	S	S	S	L	A	A	A					
29								AS		A	A	A	A	S	S	A	A	A	A					
30								A	A	A	A	A	A	A	A	A	L	A						
31						C	C	C	C	C	C	C	S	S	S	S	S							
No.									1				1	4	4	3	3							
Median									u 4.2				4.5	u 4.6	4.6	4.3	4.1							

foF1

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 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	A	A	S	S	A	S	S	S	S	S	S	S	S					
2						S	S	S	S	S	S	S	S	S	S	S	S	S	S					
3						S	S	S	S	S	S	S	S	S	S	S	S	S	S					
4						S	S	S	S	S	S	S	C	C	A	A	A	A	S					
5						S	S	A	A	A	A	A	A	A	A	A	A	A	A					
6						S	A	A	A	z.90	A	A	S	A	S	S	S	S	S					
7						S	A	A	A	A	S	A	A	S	S	S	S	A	A					
8						S	S	S	A	S	A	A	S	A	A	S	S	B	B					
9						S	B	A	S	A	S	A	S	A	A	3.05	A	A	A					
10						S	S	A	^{u}z.80^{S}	^{u}3.20^{A}	A	S	A	A	A	A	A	A	S					
11						S	A	A	^{I}z.75^{A}	A	A	A	A	S	S	A	A	S	S					
12						S	S	S	z.75	A	S	A	A	A	A	A	S	S	S					
13						S	S	A	A	S	A	A	S	S	S	3.35	A	S	A					
14						S	A	S	A	A	A	A	S	A	A	A	A	A	A					
15						S	S	S	S	S	A	S	A	A	A	C	A	A	A					
16						S	S	A	A	A	S	S	S	S	S	S	S	B	S					
17						S	S	S	A	A	A	A	A	A	A	A	S	S	S					
18						S	S	S	A	S	A	S	S	A	A	A	B	A	B					
19						S	S	S	S	A	A	S	A	A	A	A	S	S	S					
20						S	S	^{u}z.90^{S}	^{I}3.05^{A}	A	S	S	S	S	S	S	S	S	S					
21						S	S	A	S	A	S	C	A	A	A	A	A	C	B					
22						S	B	S	A	A	S	S	S	A	A	A	z.85	A	A					
23						^{u}1.60^{S}	S	A	A	A	A	S	S	A	B	3.00	A	S	S					
24						S	A	A	A	S	A	S	A	A	B	S	S	A	B					
25						S	S	A	A	A	A	A	A	A	A	A	A	A	B					
26						S	S	S	A	A	A	A	A	A	A	A	A	A	S					
27						S	S	S	B	S	A	S	S	A	S	S	A	A	S					
28						S	S	S	A	A	S	A	S	S	S	S	S	B	B					
29						S	B	A	S	A	A	A	S	S	S	S	S	A	S					
30						S	S	A	A	A	A	S	A	S	A	A	^{I}z.80^{R}	B	B					
31						C	C	C	C	C	C	C	S	S	S	3.25^{R}	A	S	A					
No.						1		1	4	2						4	2							
Median						^{u}1.60		^{u}z.90	^{u}z.80	^{u}3.05						3.15	^{u}z.80							

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

The Radio Research Laboratories, Japan.

K 3

IONOSPHERIC DATA

Aug. 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	3.0^{M}	3.5^{M}	E	S	3.9^{M}	4.8^{M}	11.8^{M}	5.3	4.8	S	S	5.9	S	S	S	S	2.9	5.3	4.0	S	S	S
2	S	S	S	5.3	S	3.4	3.3	4.3	3.8	S	S	S	S	4.3	S	S	S	S	S	S	5.5	S	S	3.8
3	S	2.7	3.0	S	2.9	3.3	S	4.7	4.3	4.8	5.3	S	S	S	S	S	6.3	8.3	5.8	S	S	S	S	S
4	S	S	S	S	S	S	S	6.8	6.4^{M}	5.8	4.3	S	C	C	4.8	4.1	4.7	2.9	S	S	S	S	4.5	S
5	S	3.0	2.3	2.2	2.8	S	S	4.5	8.4	9.0	5.9	6.2	5.7	5.0	3.9	5.2	5.6	4.9	4.5	6.9	5.8	3.0	2.8	2.8
6	4.6	S	S	2.1	2.5	S	3.0	3.9	6.2	7.3	6.8	5.4	S	4.6	S	S	S	S	S	3.4	E	5.0	S	5.3
7	3.7	4.5	2.5	E	3.1	S	6.5^{M}	4.7	4.9	5.1	S	3.5	8.3	5.8	S	7.4	4.6	3.7	5.4	4.6	S	3.2	S	5.4
8	S	S	5.6	2.1	E	S	S	5.8	6.7^{M}	5.2	3.9	4.0	S	6.2^{M}	3.7	2.9	S	3.0	3.0	5.6	S	4.6	5.6	8.4
9	7.8	S	S	S	S	S	5.6	5.3	4.7	8.3^{M}	9.4^{M}	6.0^{M}	S	4.9^{M}	5.4	4.4^{S}	8.3	5.8^{M}	8.7^{M}	9.3	6.9	8.9	8.0	7.2
10	5.7^{M}	6.0^{M}	2.3	E	3.0^{M}	3.4^{S}	S	5.7^{M}	5.4	5.8^{M}	6.1^{M}	5.5	6.1^{M}	8.5^{M}	9.5^{M}	5.7	5.4^{M}	6.0^{M}	5.5^{M}	6.3^{M}	S	S	4.3	7.7^{M}
11	6.7	4.1^{M}	2.7^{M}	E	E	3.4	4.1^{M}	5.5^{M}	6.9	5.4	5.8^{M}	4.8	6.2^{M}	S	4.3^{S}	3.6	5.8^{M}	5.0	11.7^{M}	9.2^{M}	7.4	5.8^{M}	3.2	5.8^{M}
12	5.8^{M}	2.9^{M}	4.4^{M}	2.5^{M}	E	S	S	S	4.6	6.0^{M}	5.9	6.1^{M}	7.4^{M}	6.9^{M}	5.9^{M}	4.4^{S}	S	S	3.4	8.5^{M}	7.4	4.9	7.0	5.8^{M}
13	2.7^{M}	5.8^{M}	3.1^{M}	3.1	2.5	S	S	5.4^{M}	4.7	5.8^{M}	6.6^{M}	6.0^{M}	4.4^{S}	4.4^{S}	S	4.3	4.0	2.9	5.8^{M}	4.9^{M}	4.0	3.4^{M}	S	S
14	S	4.0^{M}	6.0^{C}	5.8^{M}	5.6^{M}	6.0^{M}	4.0	4.0	3.1	4.0^{S}	4.0	6.0^{M}	4.3	5.3^{M}	6.2^{M}	6.5^{M}	5.8^{M}	4.4^{M}	3.5	S	S	S	4.0^{M}	3.3
15	S	3.0^{M}	S	2.4^{M}	S	S	3.1	3.8	4.4^{S}	5.3^{M}	4.9	4.4	5.4	5.9	8.8	C	5.7	8.5^{M}	8.0	6.0^{M}	8.8^{M}	4.8	5.7^{M}	5.3^{M}
16	3.8^{M}	S	S	S	S	S	S	7.3^{M}	7.8^{M}	3.3	S	S	S	S	S	S	S	4.8	S	S	S	5.4	5.8	5.6
17	5.9	5.1	6.5	3.1	E	S	S	4.9	6.4	5.9^{M}	4.5	4.4	4.3	4.4	4.5	4.4	4.8	S	S	3.7^{S}	5.6^{M}	5.8	5.2^{M}	6.0
18	5.8	3.2	3.6^{M}	E	S	S	S	3.3^{S}	4.9	5.4^{M}	5.7^{M}	5.6^{S}	5.2^{M}	5.4	S	4.8^{M}	7.5^{M}	5.9	4.0	S	S	4.4	4.8	S
19	6.1	11.7^{M}	3.4^{M}	3.3	3.5^{M}	S	S	4.8	4.4	6.2^{M}	8.5^{M}	4.8	6.5	5.6	10.9^{M}	6.4^{M}	4.2	4.2	S	S	S	S	S	S
20	S	S	2.1	E	E	S	S	3.3^{M}	5.4	5.4^{S}	4.9	5.6	S	S	4.4	4.4	S	S	S	S	S	S	S	S
21	S	S	S	E	E	S	S	3.4^{S}	S	5.3	5.9	C	3.7	4.8	4.4	4.0	5.2	C	7.7	5.2	E	S	S	3.8
22	3.8	5.1	S	2.9	S	S	B	S	4.2	4.4	4.4	4.4	S	5.9	5.8	4.0	8.7^{M}	12.1^{M}	11.9	5.0^{S}	5.4	5.6^{M}	4.8	3.4^{S}
23	S	S	S	S	S	1.9	S	4.0^{M}	5.3	6.0^{M}	4.4^{S}	4.8	4.4	4.4^{S}	B	4.9	9.2	S	2.8^{M}	4.4	10.0	6.5^{M}	3.6	3.9
24	3.8	7.3	4.4^{M}	3.4	5.0^{M}	4.4	5.0^{M}	6.0^{M}	5.8^{M}	S	4.0	S	6.5	6.7	4.3	S	S	3.7	6.0	4.0^{M}	8.3	3.6^{M}	5.5	3.7
25	6.5	5.1	S	3.4	5.4	3.7	5.9	9.5	7.8	8.9	6.5	8.0^{M}	9.4	12.7^{M}	5.8	4.4	14.5^{M}	9.8	5.4	5.2	3.9^{M}	4.6	S	5.7
26	6.9^{M}	4.6^{M}	S	S	S	S	S	5.1	5.0	6.5^{M}	6.4^{M}	5.5	6.1^{M}	5.5	5.6	5.7	5.0	4.4	S	S	4.0	4.5	5.4^{M}	3.4
27	3.3	4.5	S	E	E	S	S	S	4.4	S	7.8	5.5	4.4	4.1	S	6.1	6.8	7.3	6.9	4.2	5.8	S	S	S
28	3.0	S	2.7	3.2	4.3	3.6	S	3.5	4.8	4.8	S	5.9	S	S	S	S	5.3	6.3	8.7	5.8	5.3	6.1	9.7	2.8
29	S	4.7	2.8	5.4	3.9	5.7	3.8	6.5	S	4.7	6.0^{M}	11.8^{M}	5.5^{M}	5.0^{S}	S	7.5^{M}	7.8^{M}	5.9^{M}	12.0^{M}	8.0	8.0	4.5^{M}	8.3	7.4
30	4.9	3.7	S	3.3	S	S	S	6.2^{M}	7.5^{M}	7.4^{M}	4.5	6.0	6.3^{M}	4.6^{S}	6.4	9.2	3.9	4.2	4.8	6.4	3.7^{M}	3.4	4.6	5.1
31	5.6	7.0	C	C	C	C	C	C	C	C	C	C	S	3.8	4.0	3.7	4.5	4.7	3.7	5.1	6.8	3.3	S	3.8
No.	19	20	17	24	20	10	11	27	28	27	26	23	19	25	19	23	23	23	23	22	21	21	19	23
Median	5.6	4.6	3.0	2.7	2.6	3.5	4.0	4.8	5.2	5.4	5.8	5.5	5.7	5.3	5.4	4.4	5.6	4.9	5.5	5.2	5.6	4.6	5.2	5.3
U.Q.	6.1	5.4	4.4	3.4	3.7	4.4	5.6	5.8	6.6	6.2	6.4	6.0	6.5	5.9	6.2	6.1	7.5	6.3	8.0	6.4	7.4	5.7	5.8	5.8
L.Q.	3.8	3.4	2.6	E	E	3.4	3.3	4.0	4.5	5.1	4.5	4.8	4.4	4.5	4.3	4.1	4.7	4.2	3.7	4.6	4.0	3.5	4.3	3.7
Q.R.	2.3	2.0	1.8			1.0	2.3	1.8	2.1	1.1	1.9	1.2	2.1	1.4	1.9	2.0	2.8	2.1	4.3	1.8	3.4	2.2	1.5	2.1

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

Aug. 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	E	1.9		S	3.6	A	A	4.1	4.6	S	S	S	S	S	S	S	E z.9 S	4.2	3.6	S	S	S
2	S	S	S	2.2	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	A	S	S	S
3	S	E	E	S	E	3.0	S	4.2	4.3	E 4.8 S	5.3	S	S	S	S	S	A	A	A	S	S	S	S	S
4	S	S	S	S	S	S	S	A	A	5.5	E 4.3 S	S	C	C	4.5	4.0	4.1	E 2.9 S	S	S	S	S	3.4	S
5	S	2.2	2.2	1.8	1.7	S	S	4.0	4.4	A	A	A	4.6	4.4	E 3.9 S	4.0	3.4	3.3	3.3	A	2.8	S	2.6	2.5
6	AS	S	S	1.9	1.8	S	G	3.0	A	A	4.7	4.5	S	4.4	S	S	S	S	S	2.6		E	S	3.5
7	2.5	3.2	1.9		S	S	A	3.8	4.4	4.3	S	E 3.5 S	4.2	4.4	S	A	4.5	3.6	5.0	3.6	S	E	S	2.7
8	S	S	2.7	E		S	S	5.1	5.7	4.2	E 3.9 S	S	S	A	E 3.7 S E	2.9 S	S	E 3.0 S	E 3.0 S	3.3	S	4.0	3.9	A
9	A	S	S	S	S	S	3.4	2.5	4.0	A	A	4.6	S	4.0	4.5	4.3	4.9	3.1	A	3.5	3.2	3.5	A	5.5
10	2.6	2.5	E		1.9	2.5	S	4.5	A	A	A	A	5.0	A	4.4	4.3	5.1	5.1	3.3	4.9	S	S	2.2	2.6
11	A	2.9	E			2.9	A	4.6	5.7	4.4	A	4.6	5.0	S	E 4.3 S	3.5	4.5	4.1	A	A	4.5	A	E 3.2 S	A
12	A	2.6	A	1.8		S	S	S	S	A	A	A	A	A	4.8	4.3	S	S	2.5	2.9	3.6	2.1	3.1	A
13	E	A	2.2	1.9	1.9	S	S	4.5	4.3	5.1	A	A	E 4.4 S E	4.4 S	S	4.3	3.7	2.8	4.1	2.7	E	E	S	S
14	S	2.5	A	2.8	A	A	3.4	3.9	3.1	U 3.8 S	4.0	5.1	S	A	A	5.5	4.5	4.1	3.5	S	S	S	3.1	2.7
15	S	E	S	E	S	S	3.1	3.8	4.2	4.6	4.6	4.2	4.1	4.4	A	C	5.0	5.5	6.2	4.5	A	3.3	4.2	2.9
16	2.5	S	S	S	S	S	S	A	5.0	E 3.3 S	S	S	S	S	S	S	S	4.2	S	S	S	A	AS	A
17	A	A	A	2.6		S	S	4.2	5.5	4.9	4.5	4.2	4.1	4.2	4.0	4.2	4.6	S	S	2.8	4.1	2.3	3.1	2.5
18	3.1	E	2.5		S	S	S	3.2	4.5	5.2	5.0	5.1	4.8	4.5	S	4.5	3.2	3.5	3.1	S	S	3.5	2.5	S
19	3.5	4.0	2.5	2.5	2.2	S	S	3.4	4.0	A	A	4.5	5.6	5.2	A	5.2	3.7	3.6	S	S	S	S	S	S
20	S	S	E			S	S	3.2	5.0	5.0	4.5	5.0	S	S	4.4	4.4	S	S	S	S	S	S	S	S
21	S	S	S			S	S	3.4	S	S	S	C	E 3.7 S	4.5	4.2	E 4.0 S	4.1	C	A	2.8		S	S	2.8
22	E	2.7	S	2.6	S	S	B	S	4.1	4.4	4.4	4.4	S	4.6	4.0	3.5	A	A	A	4.5	3.2	3.7	3.0	E
23	S	S	S	S	S	E 1.9 S	S	3.2	4.4	5.5	4.2	4.6	4.4	4.4	B	3.8	6.0	S	2.0	3.0	A	A	2.1	2.3
24	2.1	2.5	3.0	2.5	3.8	3.0	3.4	5.1	A	S	S	S	A	A	E 4.3 S	S	S	E 3.7 S	5.2	A	A	S	3.1	3.5
25	A	A	S	2.6	3.2	2.8	A	A	A	5.3	A	6.3	5.4	A	5.5	E 4.4 S	A	4.5	3.5	3.8	2.5	2.7	S	2.6
26	A	2.6	S	S	S	S	S	3.5	3.5	A	A	5.5	5.0	4.5	5.0	5.0	3.5	3.1	S	S	3.5	A	2.5	2.7
27	U 2.7 S	A	S			S	S	S	4.4	S	A	S	E 4.4 S E	4.1 S	S	4.6	3.1	E 7.3 A	A	4.1	4.5	S	S	S
28	2.5	S	2.5	2.2	3.0	2.8	S	3.2	4.5	4.6	S	5.0	S	S	S	S	4.5	4.9	A	3.8	2.8	A	A	2.6
29	S	A	2.7	2.5	2.4	3.2	3.3	AS	S	4.5	A	A	A	S	S	A	A	5.2	A	5.0	4.9	2.5	A	A
30	A	2.8	S	2.6	S	S	S	4.8	A	A	4.5	5.3	6.0	4.5	5.1	4.5	3.5	3.9	3.8	2.0	2.2	2.1	E	2.7
31	A	2.2	C	C	C	C	C	C	C	C	C	C	S	E 3.8 S E	4.0 S	E 3.7 S	4.4	4.1	3.6	5.0	5.0	E 3.3 S	S	S
No.																								
Median																								

foEs

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

The Radio Research Laboratories, Japan.

K 5

IONOSPHERIC DATA

Aug. 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	E2.80S	E1.80S	E1.70S	1.70	1.50	E1.80S	E2.00S	E2.50S	E3.70S	E3.65S	3.15	E4.60S	S	E5.05S	S	S	E4.35S	E4.35S	E2.60S	E2.20S	E2.30S	E3.50S	E2.10S	S
2	S	E2.25S	E2.40S	1.65	E1.85S	E2.20S	E3.10S	E3.60S	E3.15S	S	S	S	S	E4.05S	S	S	S	E4.65S	E4.30S	E2.80S	E2.35S	S	E2.90S	E2.55S
3	E2.10S	E2.50S	E2.10S	E2.20S	E2.00S	E2.60S	S	E3.20S	E4.25S	E3.70S	E4.05S	S	E5.05S	E5.10S	E5.05S	E5.05S	E3.55S	E4.15S	E3.70S	S	S	S	S	S
4	S	E2.50S	E2.55S	E1.90S	E1.85S	E2.65S	S	E3.00S	E3.70S	E3.70S	E3.80S	E5.00S	C	C	3.20	3.00	2.50	2.20	E2.55S	E2.05S	E2.60S	E2.75S	1.90	E2.05S
5	E2.90S	E2.00S	1.70	1.55	1.55	E2.50S	E3.80S	2.20	2.60	2.90	3.00	2.90	2.90	2.55	2.55	2.60	2.80	2.60	2.05	E2.10S	E2.10S	1.80	E2.50S	E1.90S
6	1.75	E1.95S	E2.10S	1.55	1.70	E2.50S	2.20	2.50	2.55	2.45	3.20	3.05	E4.50S	2.90	E4.50S	E3.45S	E4.00S	E4.40S	E2.55S	1.95	1.90	E2.20S	E2.00S	E2.40S
7	E2.20S	E2.10S	1.80	1.40	1.70	E2.25S	2.05	2.55	2.90	2.95	E4.70S	3.00	3.00	E3.75S	E4.30S	E3.10S	E3.40S	2.55	2.60	2.05	E2.25S	E2.10S	E2.00S	E2.30S
8	E2.05S	E1.90S	E1.95S	E1.80S	1.80	E2.10S	E3.45S	E2.80S	2.85	E3.10S	3.10	3.00	E4.55S	3.00	2.50	2.50	E4.05S	2.70	2.60	E2.30S	E3.00S	1.85	1.85	1.95
9	1.70	E2.55S	E1.90S	E1.70S	E1.75S	E2.70S	2.45	2.20	E2.90S	E3.10S	E3.10S	3.10	E4.50S	E2.80S	2.90	E2.60S	2.10	2.20	2.30	E2.00S	E2.00S	E1.95S	E1.95S	E2.00S
10	E1.90S	E1.80S	E1.60S	1.70	E1.50S	E1.90S	E2.40S	E2.20S	2.20	E2.50S	3.10	E3.40S	E3.30S	E3.10S	E3.00S	E2.80S	2.10	E2.10S	E2.40S	E2.00S	E1.80S	E1.80S	E1.95S	E1.90S
11	E1.90S	E1.80S	E1.80S	1.50	1.50	E2.00S	E2.10S	E2.10S	E2.10S	E3.10S	E3.00S	E2.90S	E3.10S	E4.60S	E3.20S	2.40	E2.70S	E2.60S	E2.40S	E2.20S	E2.00S	E2.50S	E2.30S	E1.90S
12	E2.00S	E1.70S	E1.50S	E1.70S	1.60	E1.60S	E2.90S	E2.90S	2.20	E2.60S	E3.50S	E3.10S	3.30	E3.10S	E3.00S	E2.70S	E3.60S	E3.45S	E2.00S	E2.10S	E2.00S	E1.95S	E2.20S	E1.90S
13	E1.95S	E1.80S	E1.80S	E1.80S	E1.80S	E1.80S	E2.80S	E2.10S	E2.70S	E3.20S	E3.30S	E3.30S	E3.50S	E4.00S	E5.00S	E2.90S	E2.50S	E2.60S	E1.80S	E2.20S	E2.30S	E2.10S	E2.00S	E1.90S
14	E2.00S	E1.80S	E1.80S	E1.60S	E1.80S	E1.80S	E1.90S	E2.50S	E2.60S	E2.20S	E2.50S	E3.10S	E3.30S	E3.10S	E2.80S	E3.00S	E3.00S	E2.00S	E2.50S	E1.95S	E1.80S	E2.20S	E2.10S	E2.00S
15	E2.50S	1.70	E1.90S	1.70	E1.80S	E2.00S	E2.70S	E2.30S	E2.50S	E3.20S	E3.40S	E3.20S	E3.00S	2.80	3.20	C	2.80	E2.20S	E2.60S	E2.20S	E2.80S	E2.10S	E2.20S	E2.25S
16	E2.00S	E1.95S	E2.40S	E1.80S	E1.95S	E2.30S	E2.50S	E2.60S	E2.60S	E2.55S	E4.50S	E5.00S	E4.50S	E5.55S	E4.45S	E4.90S	E3.80S	3.40	E2.90S	E4.40S	E2.95S	E2.75S	E3.60S	E2.95S
17	E2.55S	E3.00S	1.80	1.80	1.90	S	E3.80S	E3.70S	E2.90S	E2.95S	E2.90S	E3.10S	E2.80S	2.80	E3.10S	E2.50S	E3.50S	E2.80S	E2.80S	E1.90S	E2.00S	E1.90S	E2.20S	E1.80S
18	E1.80S	1.50	E1.80S	1.50	E1.80S	E2.00S	E2.20S	E2.60S	E2.70S	E3.20S	E3.40S	E3.40S	E3.40S	3.00	E4.80S	2.40	2.50	E2.00S	2.00	E1.80S	E2.00S	E2.00S	E2.00S	E1.90S
19	E1.95S	E1.90S	E1.90S	E1.70S	1.50	E2.10S	E2.80S	E2.50S	E3.20S	E3.20S	3.00	3.00	3.10	3.10	E2.80S	2.30	E2.50S	E2.40S	E2.00S	E2.00S	E2.10S	E2.00S	E1.80S	E1.90S
20	E1.80S	E1.80S	E1.80S	1.50	1.40	E1.90S	E2.20S	E2.50S	2.60	E3.30S	E3.50S	E3.50S	E4.50S	E4.30S	E3.30S	E2.90S	E4.70S	E3.50S	E2.80S	E2.90S	E2.80S	E2.50S	E2.20S	E2.00S
21	E2.00S	E1.70S	E1.60S	1.50	1.60	E1.50S	E2.30S	2.20	E3.80S	E3.20S	E3.90S	C	E3.10S	3.20	2.95	2.95	2.80	C	2.90	2.60	2.20	E2.60S	E2.90S	E2.20S
22	E2.80S	E2.25S	E2.60S	1.85	E1.80S	E2.45S	2.80	E4.30S	3.00	2.50	E2.90S	E3.40S	E4.40S	2.80	2.10	2.20	2.25	2.20	2.00	E2.00S	1.50	E2.00S	E2.40S	E2.00S
23	E2.00S	E1.60S	E1.95S	E1.80S	E1.70S	1.40	E2.50S	2.20	E2.20S	E3.10S	E3.10S	E3.30S	E3.50S	E3.10S	3.50	2.60	2.20	E3.50S	E1.50S	E2.00S	E1.70S	E1.95S	1.20	E1.60S
24	E1.90S	E1.80S	E1.80S	E1.80S	E2.00S	E2.00S	E2.00S	E1.80S	E2.20S	E4.50S	E3.20S	E5.30	3.20	3.10	3.50	E4.50S	E4.25S	2.45	2.25	E2.40S	E2.20S	1.90	E2.50S	E2.75S
25	E2.55S	E2.55S	E2.00S	E2.15S	E1.80S	E2.00S	E2.70S	2.40	3.10	2.50	2.60	3.30	3.20	3.10	3.20	2.50	2.50	2.40	2.40	E2.10S	E1.90S	E2.00S	E1.90S	E1.90S
26	E1.80S	E1.80S	E1.50S	E1.80S	E1.85S	E1.95S	E2.30S	E2.50S	2.60	E3.30S	2.70	3.20	3.30	2.70	3.10	2.80	2.30	2.00	E2.80S	E2.10S	E2.00S	E2.20S	E2.00S	E2.00S
27	E2.00S	E2.10S	E1.90S	1.90	1.40	E1.95S	E2.60S	E3.00S	2.85	E4.30S	3.50	E3.40S	E3.55S	3.40	E4.55S	E3.50S	2.30	1.90	E2.45S	E2.60S	E2.35S	E4.10S	E2.50S	E2.55S
28	1.70	E1.95S	E1.80S	1.60	1.75	E2.10S	E3.50S	E2.80S	2.80	2.55	S	3.15	E4.40S	E4.55S	E4.70S	E3.40S	E2.90S	2.70	2.40	E2.35S	E1.90S	E2.10S	E2.30S	E2.25S
29	E2.90S	E1.90S	E2.10S	E1.90S	E2.10S	E2.10S	2.30	2.25	E4.40S	3.00	3.50	2.50	E3.50S	E3.50S	S	E3.50S	E3.45S	2.20	E2.60S	E2.10S	E1.80S	E2.00S	E1.80S	E2.00S
30	E1.80S	E2.00S	E1.80S	E1.95S	E2.00S	E2.50S	E2.40S	E1.95S	E2.50S	3.40	E3.10S	E3.50S	3.10	E3.70S	3.00	2.50	2.40	2.45	1.95	E1.50S	E1.90S	E1.85S	E1.90S	E1.95S
31	E1.80S	E1.80S	C	C	C	C	C	C	C	C	C	C	E5.20S	E3.55S	E3.55S	2.90	2.20	E3.40S	1.90	E2.30S	1.80	E2.20S	E2.60S	E2.30S
No.	29	31	30	30	30	29	28	30	30	29	28	27	28	30	28	28	30	30	31	30	30	29	30	29
Median	E2.00	E1.90	E1.80	E1.70	E1.80	E2.00	E2.50	E2.50	E2.75	E3.10	E3.20	E3.20	E3.35	E3.10	E3.20	E2.85	E2.80	E2.60	E2.45	E2.10	E2.00	E2.10	E2.10	E2.00

f-min

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

The Radio Research Laboratories, Japan.

K 6

IONOSPHERIC DATA

Aug. 1962 | M(3000)F2 | 135° E Mean Time (G.M.T. + 9h.) | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	2.90	2.80^{s}	$_{J}$2.75^{s}	2.90	$_{I}$2.90^{s}	2.95	A	A	$_{I}$3.00^{s}	3.30	2.70^{s}	S	S	$_{I}$2.90^{s}	$_{I}$2.80^{s}	3.00	$_{I}$3.30^{s}	3.30	3.05	2.80	2.70	2.95^{s}	$_{I}$3.15^{s}
2	$_{I}$3.25^{s}	2.80	3.05^{s}	2.60^{s}	$_{J}$2.75^{s}	S	S	S	S	S	S	S	S	S	S	S	S	S	3.15^{s}	$_{I}$3.20^{s}	A	S	S	$_{I}$3.10^{s}
3	$_{I}$2.95^{s}	2.90^{s}	2.85^{s}	2.80^{s}	2.80	2.90^{s}	S	S	3.30^{s}	2.90^{s}	2.95^{s}	$_{I}$2.90^{s}	2.90	$_{I}$3.05^{s}	3.10	3.15^{s}	$_{I}$3.10^{A}	$_{I}$3.05^{A}	$_{I}$2.80^{A}	S	S	S	S	S
4	S	3.10^{s}	2.90	3.15	3.20	3.30^{s}	S	A	A	3.40^{s}	3.00	3.10	C	C	3.10	3.15	3.30	3.25^{s}	3.30	3.25	3.20	$_{I}$3.10^{s}	2.85^{s}	2.80
5	$_{I}$2.90^{s}	2.90	2.95	3.40	2.95	3.15	3.05	3.15^{s}	2.75	A	A	A	2.85	2.85	3.15	3.35^{s}	3.40	3.25	3.45	$_{I}$3.00^{A}	2.70	$_{I}$2.65^{s}	3.00	3.00
6	$_{I}$2.75^{s}	3.05	2.95	2.85	2.70^{s}	2.90	3.00	3.35	$_{I}$3.15^{A}	$_{I}$3.10^{A}	3.15	3.20	3.00	3.10	3.00	3.25	3.50	3.30	3.25	3.20	3.00	2.90	$_{I}$2.75^{s}	2.90^{s}
7	2.85	2.75^{s}	2.90^{s}	2.80	$_{I}$2.90^{s}	2.80	$_{I}$2.90^{A}	3.05	3.30	2.70	3.05	3.10	3.10	3.00	2.95	$_{I}$2.95^{A}	3.15	3.10	3.25	3.30	3.20	3.10^{s}	2.85	2.65^{s}
8	2.70^{s}	2.85	$_{I}$2.80^{s}	2.85^{s}	2.85	2.75	3.25	3.20	$_{J}$3.65^{s}	2.95^{s}	3.30^{s}	$_{I}$3.10^{s}	2.85	$_{I}$2.90^{A}	2.90	3.20	3.20	3.45	3.00	2.90^{s}	2.80^{s}	3.05	2.70	$_{I}$2.80^{A}
9	$_{I}$2.80^{A}	$_{I}$2.90^{s}	2.65^{s}	2.60	2.75	2.60	2.95	2.95	2.95^{s}	A	A	$_{U}$2.80^{s}	3.20	$_{I}$3.00^{s}	$_{J}$2.70^{R}	3.10	3.40	3.05	$_{I}$3.00^{A}	2.95	3.15	3.30	$_{I}$3.10^{A}	$_{J}$2.90^{s}
10	$_{J}$2.75^{s}	$_{U}$2.90^{s}	2.70	2.75	2.90	3.05	3.25	$_{I}$3.40^{s}	$_{I}$3.20^{A}	A	A	A	2.85	$_{I}$2.95^{A}	3.05	3.00	3.10	3.10	3.10	$_{U}$3.35^{s}	3.15	2.80	$_{J}$2.80^{s}	2.80^{s}
11	A	F	F	F	2.85	2.90	$_{I}$3.05^{A}	2.95	3.15	3.25	$_{I}$3.05^{A}	3.05	3.05	$_{U}$2.60^{s}	$_{U}$2.90^{s}	3.05	3.35	3.45	A	A	$_{J}$3.10^{s}	$_{I}$3.00^{A}	$_{I}$2.90^{s}	$_{I}$2.80^{s}
12	$_{I}$3.00^{A}	$_{U}$2.80^{s}	$_{I}$2.90^{A}	3.05	3.05	3.45	3.55	$_{I}$3.50^{s}	$_{I}$3.30^{s}	A	$_{I}$2.90^{A}	$_{I}$2.95^{A}	$_{I}$3.00^{A}	$_{I}$3.05^{A}	3.05	3.10	3.30	3.15	3.20	3.15	3.10	3.00	$_{J}$2.95^{R}	A
13	SF	A	3.35	2.95	3.20	$_{U}$2.80^{s}	3.20^{s}	3.25	3.45	3.25	$_{I}$3.15^{A}	$_{I}$3.10^{A}	2.90	2.95	$_{U}$3.00^{s}	2.95	3.25	3.20	3.15	$_{J}$3.30^{R}	3.20	3.20	$_{I}$3.15^{s}	3.10
14	2.80^{s}	3.00	$_{I}$3.00^{A}	2.90	$_{I}$3.20^{A}	$_{I}$3.25^{A}	3.30	3.50	3.20	3.25	3.35	$_{I}$3.15^{R}	S	A	A	$_{J}$2.80^{R}	3.05	3.45^{R}	3.25	3.20	$_{J}$3.30^{R}	3.05	2.85	2.95
15	3.00	3.10	3.20	3.10	3.15	3.15	3.50	3.55	3.45	3.05	3.30	3.10	2.90	3.00	A	C	3.10	$_{J}$3.10^{R}	$_{J}$3.25^{s}	3.35	$_{I}$3.40^{A}	3.05	2.85	2.80
16	2.90	2.90	$_{U}$3.15^{s}	3.15	3.05	$_{I}$3.25^{s}	3.40	$_{I}$3.35^{A}	3.20	2.80	3.15	3.00^{s}	3.05^{s}	2.85^{s}	3.20^{s}	$_{J}$3.35^{s}	3.40^{s}	3.15	3.15	3.35^{s}	3.25	A	AS	A
17	A	$_{I}$3.20^{A}	$_{I}$3.00^{A}	2.95	2.85	$_{I}$3.20^{s}	3.20	3.15	3.20^{s}	2.90	$_{J}$3.05^{s}	2.85	3.05^{s}	3.05	3.20	3.15	3.15	3.15	2.95	3.00	2.95	3.05	$_{I}$2.90^{s}	$_{J}$2.90^{R}
18	3.00	2.85	2.90	2.85	3.00	3.05	3.05	3.20	2.95	2.60^{s}	3.05	3.25^{s}	3.15	$_{J}$2.95^{R}	2.90	3.10	3.20	3.15	3.00	3.25	3.05	3.00	3.00	$_{J}$2.80^{s}
19	S	A	$_{J}$3.10^{R}	2.95	2.85	2.90	3.30	$_{J}$3.45^{s}	3.45	$_{I}$3.15^{A}	$_{I}$3.00^{A}	2.95	2.95^{R}	3.25	$_{I}$3.25^{A}	3.20^{R}	3.15	3.10	3.15	3.15	$_{J}$3.05^{s}	2.85^{s}	$_{U}$3.15^{s}	3.00
20	3.05	$_{U}$2.95^{s}	3.00	3.25	3.45	3.20^{s}	3.50	3.35	3.25^{R}	3.45	$_{J}$3.25^{R}	$_{J}$3.25^{R}	3.20	3.15	3.25^{s}	3.10^{s}	$_{J}$3.20^{R}	$_{J}$3.35^{R}	$_{J}$3.40^{R}	3.40^{s}	2.90	3.00^{s}	3.00	2.90
21	3.00	3.05	3.20	$_{I}$3.10^{s}	$_{U}$3.35^{R}	3.35	3.50	$_{I}$3.50^{s}	$_{J}$3.05^{R}	S	S	C	$_{J}$3.15^{s}	3.30	3.25^{s}	3.35^{s}	3.40	$_{I}$3.25^{s}	$_{J}$3.20^{A}	3.15	3.00	2.70^{s}	$_{J}$2.85^{s}	2.80
22	2.80^{s}	3.00^{s}	2.90	$_{I}$3.10$^{E}_{s}$	3.30^{s}	3.20	3.40^{s}	3.45	3.20	3.05^{s}	$_{I}$3.10^{s}	3.15	2.80	$_{J}$2.95^{R}	2.90	3.10^{R}	$_{I}$3.30^{A}	$_{I}$3.15^{A}	$_{I}$3.20^{A}	3.10^{s}	$_{J}$3.10^{s}	2.80	2.90	2.90
23	$_{J}$2.80^{R}	2.85	3.00	2.95^{s}	3.00	3.05	$_{J}$3.45^{R}	$_{J}$3.25^{R}	$_{J}$3.35^{R}	3.00	$_{U}$3.10^{s}	3.10	$_{J}$3.00^{R}	2.80	2.95	$_{J}$3.05^{s}	3.10	3.05	3.10	$_{J}$3.35^{R}	A	A	2.65	2.70
24	$_{J}$2.70^{s}	2.85^{s}	2.90	2.75	2.90	3.20	3.20	3.60	A	3.45^{s}	$_{I}$3.40^{s}	$_{I}$3.20^{s}	$_{I}$2.95^{A}	$_{I}$2.90^{A}	$_{J}$3.05^{s}	3.00	$_{I}$3.25^{s}	3.50	3.25^{s}	$_{I}$3.10^{A}	A	S	2.85	3.30^{s}
25	$_{I}$2.80^{A}	$_{I}$2.60^{A}	2.65^{A}	2.95	2.95	2.70	$_{I}$3.10^{A}	$_{I}$3.25^{A}	$_{I}$3.35^{A}	3.05	$_{I}$3.00^{A}	2.90	3.00	$_{I}$2.95^{A}	2.95^{s}	$_{J}$3.15^{s}	$_{I}$3.25^{A}	3.25	3.55	3.20	2.90	2.85	3.00	2.95
26	$_{I}$2.90^{A}	$_{J}$2.85^{R}	2.90	3.05	3.05	3.25	3.25	3.45	$_{I}$3.30^{R}	$_{I}$3.00^{A}	$_{I}$2.90^{A}	3.10^{R}	$_{J}$2.95^{R}	3.15	3.10	3.25	3.20	3.40	$_{U}$3.45^{R}	3.35	$_{U}$2.90^{s}	$_{I}$2.85^{A}	2.80	2.65
27	2.80^{s}	$_{I}$2.80^{A}	2.85	3.10	3.20	3.25	$_{J}$3.40^{R}	3.40	3.70	3.15	$_{I}$3.10^{A}	$_{I}$3.10^{s}	3.10	3.25	3.25	3.30	3.20	3.40	$_{I}$3.20^{A}	$_{I}$3.20^{s}	3.55	$_{I}$3.00^{s}	$_{I}$2.90^{s}	$_{J}$2.85^{s}
28	2.85	3.00	3.00	2.90	3.05	3.05^{s}	3.40	3.40^{s}	3.60^{s}	3.30	$_{I}$3.15^{s}	3.20	$_{I}$3.10^{s}	3.00	3.00	3.30^{s}	2.90^{s}	3.25	$_{I}$3.10^{A}	$_{I}$3.05^{F}	3.40^{s}	A	A	2.90^{s}
29	2.95^{s}	$_{I}$3.00^{A}	2.95^{s}	2.90	$_{J}$2.90^{s}	3.05^{s}	3.30	AS	S	3.55	$_{I}$3.15^{A}	$_{I}$3.00^{A}	$_{I}$3.15^{A}	S	S	A	A	3.00	$_{I}$3.20^{A}	$_{J}$3.35^{R}	3.55	R	A	A
30	A	2.85	2.75	3.00	3.40	3.25^{s}	3.30	3.25	$_{I}$3.40^{A}	$_{I}$3.25^{A}	3.10	3.10	3.10	$_{J}$3.00^{R}	$_{U}$3.05^{s}	3.10	3.15	$_{I}$3.20^{R}	3.20	3.05^{s}	3.40	3.40	2.75	S
31	A	3.05	C	C	C	C	C	C	C	C	C	C	$_{J}$3.25^{s}	3.10^{s}	3.05	3.10	3.20	3.20	3.05^{s}	$_{I}$3.00^{s}	$_{I}$3.05^{s}	3.15	2.95	$_{I}$2.90^{s}
No.	23	28	29	29	30	29	27	25	25	24	25	26	27	26	27	28	29	30	30	29	27	24	26	26
Median	2.85	2.90	2.90	2.95	3.00	3.05	3.25	3.35	3.30	3.10	3.10	3.10	3.00	3.00	3.05	3.10	3.20	3.20	3.20	3.20	3.10	3.00	2.90	2.90

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

The Radio Research Laboratories, Japan.

K 7

IONOSPHERIC DATA

Aug. 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	A	A	A	A	S	S	S	S	S	S	S						
2						S	S	S	S	S	S	S	S	S	S	S	S	S						
3							S	S	S	S	S	S	S	S	S	S	A	A	A					
4							S	A	A	S	S	S	C	C	S	S	S	L	L					
5							S			A	A	A	A	S	S	S	L	L						
6							L	L	A	A	A	A	S	S	S	L	S	S	L					
7							A	S	S	S	S	S	A	S	S	A	S	S	S					
8							S	A	S	S	S	S	S	A	S	S	S							
9						S	A	S	S	A	A	A	S	3.55 L	L	A	A	L	A					
10								A	A	A	A	A	A	A	L	A	A	A	A					
11							A	A	A	A	A	A	A	S	S	3.65 L	A	A	A					
12									S	A	A	A	A	A	A	A	3.70 L	S	L					
13								A	A	A	A	A	A	S	S	L	3.70 L	L	A					
14										L	L	A	S	A	A	A	L	A						
15										A	A	L	L	A	A	C	A	A	A					
16								A	A	S	S	S	S	S	S	S	S							
17									A	A	A	A	L	3.45	3.45	L	A	L						
18								L	A	A	A	A	A	A	S	A	U 3.65 L	A						
19									U 3.80 L	A	A	L	A	A	A	A	A							
20									A	A	A	A	S	L	L	A	S	S						
21							L			S	S	C	S	S	S	S	A	C	A					
22										A	A	A	L	A	3.65	L	A	A	A					
23									L	A	L	A	A	L	3.50 L	3.75 L	A							
24								A	A	S	S	S	A	A	S	S	S							
25							A	A	A	A	A	A	A	A	A	AS	A	A						
26								L		A	A	A	A	A	A	A	A	L						
27									A	S	A	A	S	S	S	A	S	A	A					
28										S	S	A	S	S	S	L	A	A	A					
29								AS		A	A	A	A	S	S	A	A	A	A					
30								A	A	A	A	A	A	A	A	A	L	A						
31						C	C	C	C	C	C	C	S	S	S	S	S							
No.									1					2	3	2	3							
Median									U 3.80					U 3.50	3.50	3.70	3.70							

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 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							315	A	A	280	275	E375S	S	310	S	S	315	275						
2						S	S	S	S	S	S	S	S	S	S	S	S	360						
3							S	320	250	E405A	350	S	350	310	300	310	A	A	A					
4							S	A	A	260	305	E330S	C	C	310	295	260	275	270					
5							340			A	A	A	390	360	300	245	270	295						
6							330	245	A	A	315	310	355	315	320	300	270	295	260					
7							A	285	260	265	305	305	305	350	355	A	305	305	270					
8							275	310	255	280	295	S	400	A	385	295	285							
9						405	330	315	305	A	A	400A	305	S	340	315	260	300	A					
10								250A	A	A	A	A	E400A	A	315	310	310	E300A	E260A					
11							A	E300A	E300A	300	A	350	E355S	E410SE	355S	310	260	250A	A					
12									S	A	A	A	A	A	345	300	295	260	255					
13								260	245	280A	A	A	E340A	E355S	E350S	310	280	275	255					
14										280	280	310	S	A	A	E355A	300	250A						
15										E350A	300A	310	355	330	A	C	300A	280A	E250A					
16								A	290A	350	295	300	320	355	285	270	265							
17									300	350	305	300	310	310	285	290	310	260						
18								250	310	E410A	300	260	290	340A	330	300	275	260						
19									260	A	A	340	300A	260	A	260	285							
20									260	250	295	290	300	300	295	290	280	245						
21							240			S	S	C	310	280	280	290	260	C	A					
22										310	295	300	370	300	310	295	A	A	A					
23									285	A	300	315	300	310	325	300	300A							
24								E290A	A	255	S	350	A	A	330	310	260							
25							A	A	A	305	A	E360A	320	A	305	300	A	E255A						
26								250		A	A	E350A	310	295	310	285	250A	255						
27									E245A	280	A	S	325	300	300	285	270	300	A					
28										280	S	300	330	330	330	290	250	285	A					
29								AS		245	A	A	A	S	S	A	A	E310A	A					
30								E290A	A	A	300A	310	E350A	330	315	260	300	250A						
31						C	C	C	C	C	C	C	305	345	300	300	280							
No.						1	6	9	12	16	15	16	20	19	23	25	26	20	7					
Median						405	320	260	260	280	300	310	315	310	310	295	280	275	E260					

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

The Radio Research Laboratories, Japan.

K 9

41

IONOSPHERIC DATA

Aug. 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	E345S	Z90	305	310	300	Z80	S	A	A	A	A	S	S	S	S	S	S	S	Z55	Z75	315	330	Z55	IZ60S
2	IZ30S	310	300	330	Z80	S	S	S	S	S	S	S	S	S	S	S	S	S	Z80	Z55	A	S	Z90	IZ85S
3	Z80	305	Z80	330	315	340	IZ50S	S	S	S	S	S	S	S	S	S	A	A	A	S	S	S	S	S
4	S	Z55	Z50	Z55	Z50	Z45	S	A	A	S	S	S	C	C	S	S	S	Z45	Z50	Z30	Z35	Z50	E360S	Z95
5	335	330	300	Z70	300	Z55	IZ20S	Z30	ZZ5	A	A	A	A	S	S	S	Z05	Z10	Z50	IZ70A	305	I375S	Z75	Z50
6	I335A	Z55	Z55	Z70	Z95	Z95	Z35	Z15	A	A	A	A	S	S	IZ05S	Z05	IZZ0S	IZ40S	Z45	Z30	Z35	Z60	300	300
7	305	350	Z85	Z60	IZ70S	Z70	A	S	S	S	IZ40S	IZ10S	IZ30A	S	S	A	S	IZ90S	IZ55S	Z45	Z30	Z50	305	310
8	330	Z70	310	Z75	300	355	S	A	S	S	S	S	S	A	S	S	IZZ0S	Z60	Z95	300	300	E315A	345	IZ90A
9	I310A	305	300	305	Z95	S	A	S	S	A	A	A	S	Z50S	E350A	A	A	EZ50A	A	E300A	Z50A	Z50A	A	E350A
10	305	305	Z95	Z55	300	300A	Z45	A	A	A	A	A	A	A	E310A	A	A	A	A	Z50A	Z15	300	305	E350A
11	I305A	Z60A	Z55	Z55	300	E305A	A	A	A	A	A	A	A	S	S	Z10	IZ30A	A	A	A	E300A	A	E300S	I310A
12	IZ70A	E310A	I310A	Z50	Z45	Z10	Z45	Z10	S	A	A	A	A	A	A	IZ50A	Z45	IZ45S	Z45	Z50A	Z60A	Z50A	E300A	I300A
13	Z55	IZ45A	Z05	EZ90A	Z55	305	Z45	A	A	A	A	A	A	S	S	E295S	ZZ5	Z05	IZ50A	Z10	Z10	Z15	Z55	Z55
14	300	300A	I305A	310A	IZ60A	IZ50A	Z60A	Z45	Z10	ZZ5	Z45	A	S	A	A	A	EZ80A	A	Z45	Z15	Z10	Z45	E300A	Z80A
15	Z90	Z55	Z45	Z45	Z40	Z50	Z45	Z35	EZ50A	A	A	EZ90A	E310A	E300A	A	C	A	A	A	EZ50A	IZ30A	300A	E340A	E300A
16	E300A	Z60	Z45	Z50	Z55	Z50	Z15	A	A	S	S	S	S	S	S	S	S	Z80	Z70	Z50	ZZ0	A	AS	A
17	A	IZ95A	I305A	Z65	Z50	IZ45S	Z75	Z85	A	A	A	IZ05A	EZ90A	EZ90A	EZ90A	EZ90A	IZ40A	Z10	Z55	Z45	Z90A	Z50A	310	Z50A
18	Z60	Z55	300A	Z80	Z55	Z55	Z10	Z15	A	A	A	A	A	A	S	A	Z15	IZ50A	Z50A	Z10	Z45	Z60A	Z45	Z55
19	E355A	E310A	Z50A	Z90A	300A	Z55	Z50	Z10	Z50A	A	A	E310A	A	A	A	A	IZ50A	Z60A	Z45	Z45	Z50	Z55	Z50	Z50
20	Z55	Z50	Z70	ZZ5	Z00	Z55	Z10	Z40	IZ50A	A	A	A	S	EZ90S	E300S	IZ10A	IZZ0SI	Z30S	Z10	Z45	EZ50S	Z55	Z55	Z90
21	Z60	Z55A	ZZ0	Z45	Z15	Z10	Z15	EZ55S	EZ55S	S	S	C	S	S	S	S	A	C	A	Z50	Z50	305	305	310
22	330	305	305	Z70	Z10	Z60	Z30	Z60	Z80	A	A	iA	E355S	A	Z45	Z50A	A	A	A	EZ90A	Z60A	310A	E300A	Z90
23	Z95	Z55	Z55	Z55	Z60	Z60	Z10	Z50A	EZ60A	A	EZ80A	A	A	300	Z15	ZZ5	IZ40A	Z55	Z60	Z50A	A	A	350A	355
24	355A	E340A	E340A	E350A	E350A	E300A	Z50A	A	A	S	S	S	A	A	S	S	S	Z50	Z55	IZ40A	A	S	305	315
25	I330A	I365A	300	Z95	305	365	A	A	A	A	A	A	A	A	A	AS	A	A	Z40A	Z50A	E300A	Z80A	Z55	E300A
26	A	E310A	Z60	Z50	Z55	Z55	Z55	Z50A	Z55	A	A	A	A	A	A	A	A	EZ55A	Z45	Z10	E355A	A	E350A	310A
27	E350S	I310A	300	Z60	Z45	Z45	Z10	Z30	IZ40A	S	A	S	S	S	S	A	S	A	A	Z75	ZZ5	305	Z80	305
28	300	Z65	Z60	Z75	Z95	Z95	Z55	Z45	Z45	S	S	A	S	S	S	Z55	A	A	A	Z65	Z55	A	A	325
29	330	I330A	300	325	330	340	300	IZ20S	Z15	A	A	A	A	S	S	A	A	A	A	E340A	Z50A	EZ50A	A	A
30	A	E345A	310	Z90	Z45	Z55	Z45	A	A	A	A	A	A	A	A	A	EZ55A	A	EZ60A	Z50A	Z25	Z05	320	E340A
31	A	E300A	C	C	C	C	C	C	C	C	C	C	S	S	S	S	S	Z70	Z65	300	320	305	Z50	IZ00S
No.	Z3	Z5	Z9	Z8	Z9	Z6	ZZ	15	9	1	Z	4	4	5	7	7	11	16	Z0	Z7	Z4	ZZ	19	Z5
Median	300	Z90	Z95	Z70	Z60	Z55	Z45	Z35	Z45	ZZ5	UZ40	EZ50	E300	IZ90	EZ90	ZZ5	UZ25	EZ50	Z50	Z50	Z50	Z60	Z90	E300

h'F Sweep 10 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 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	105	105	E	S	105	105	100	105	105	S	S	100	S	S	S	S	105	105	105	S	S	S
2	S	S	S	105	S	105	105	105	105	S	S	S	S	105	S	S	S	S	S	S	105	S	S	105
3	S	105	100	S	100	105	S	105	105	105	100	S	S	S	S	S	105	105	100	S	S	S	S	S
4	S	S	S	S	S	S	S	105	105	105	105	S	C	C	105	105	105	105	S	S	S	S	100	S
5	S	100	105	90	100	S	S	105	100	100	100	100	100	100	100	100	100	105	105	100	105	110	100	100
6	100	S	S	100	100	S	130	105	105	100	100	105	S	100	S	S	S	S	S	100	E	105	S	100
7	105	105	100	E	95	S	110	105	105	100	S	100	100	105	S	115	110	105	100	100	S	100	S	100
8	S	S	100	100	E	S	S	105	100	100	105	100	S	100	100	105	S	125	100	105	S	100	105	105
9	105	S	S	S	S	S	100	105	105	100	100	100	S	100	100	100	100	100	100	100	110	100	100	100
10	100	100	115	E	100	100	S	105	100	100	100	105	100	100	100	110	100	100	100	100	S	S	100	100
11	100	100	105	E	E	105	105	100	100	100	100	100	100	S	100	100	100	105	100	100	100	100	100	100
12	100	100	100	100	E	S	S	S	105	100	100	100	100	100	100	100	S	S	100	100	100	105	100	100
13	100	100	100	100	100	S	S	100	100	100	100	100	100	110	S	115	100	110	100	100	100	100	S	S
14	S	100	100	100	100	100	100	100	105	100	100	100	100	100	100	100	100	100	100	S	S	S	100	100
15	S	100	S	100	S	S	130	105	100	100	100	100	100	115	105	C	105	105	100	100	100	100	100	100
16	100	S	S	S	S	S	S	100	100	110	S	S	S	S	S	S	S	100	S	S	S	100	100	100
17	100	100	100	100	E	S	S	100	100	100	100	100	100	100	110	100	100	S	S	100	100	100	100	100
18	100	100	100	E	S	S	S	110	105	105	100	100	100	100	S	100	100	100	100	S	S	100	100	S
19	100	100	100	100	100	S	S	105	105	100	100	100	100	100	100	100	100	100	S	S	S	S	S	S
20	S	S	100	E	E	S	S	115	105	105	105	100	S	S	100	100	S	S	S	S	S	S	S	S
21	S	S	S	E	E	S	S	105	S	105	105	C	115	105	105	105	125	C	120	105	E	S	S	105
22	105	105	S	100	S	S	B	S	105	110	105	105	S	120	125	105	125	115	110	100	100	100	105	105
23	S	S	S	S	S	145	S	115	110	110	105	105	110	115	B	115	110	S	100	105	110	110	110	110
24	105	105	100	100	100	100	100	105	105	S	105	S	105	105	125	S	S	110	110	105	110	105	110	105
25	105	105	S	105	125	130	110	110	110	105	105	100	105	105	100	105	100	100	105	110	100	100	S	105
26	105	100	S	S	S	S	S	110	110	110	105	105	105	105	105	105	100	100	S	S	100	100	105	105
27	100	100	S	E	E	S	S	S	115	S	105	110	110	105	S	125	120	105	110	110	105	S	S	S
28	110	S	105	100	100	100	S	125	110	110	S	105	S	S	S	S	125	105	110	105	110	105	110	105
29	S	100	100	105	100	105	110	105	S	105	100	105	100	105	S	125	125	115	110	100	105	100	105	105
30	100	100	S	100	S	S	S	110	110	110	110	105	105	110	105	130	135	125	115	110	105	105	110	110
31	105	100	C	C	C	C	C	C	C	C	C	C	S	105	110	125	110	100	105	110	105	100	S	100
No.	19	20	17	17	12	10	11	27	28	27	26	23	19	25	19	23	23	23	23	22	19	21	19	23
Median	100	100	100	100	100	105	105	105	105	105	100	100	100	105	100	105	105	105	100	100	105	100	100	100

h'Es

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

The Radio Research Laboratories, Japan.

K 11

IONOSPHERIC DATA

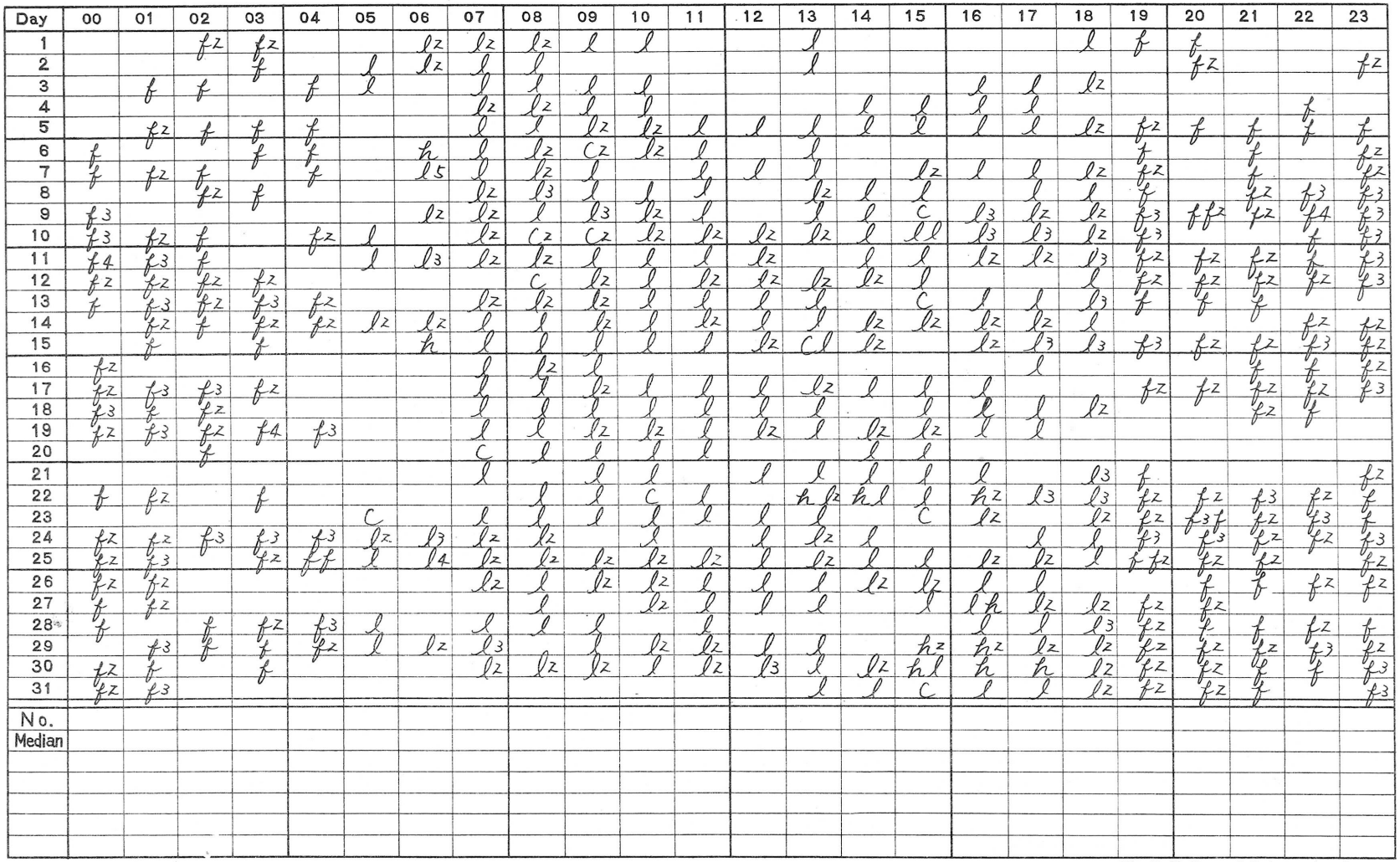
Aug. 1962

Types of Es

135° E Mean Time (G.M.T. + 9h.)

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E



Types of Es

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 1962 | hpF2 | 135° E Mean Time (G.M.T. + 9h.) | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	350	355^{S}	]355^{S}	350	]350^{S}	340	A	A	]300^{S}	z95	380^{S}	S	S	S	]360^{S}	330	]280^{S}	z70	305	355	380	330^{S}	]300^{S}
2	]z65^{S}	340	325^{S}	370^{S}	]345^{S}	S	S	S	S	S	S	S	S	S	S	S	S	S	S	]z95^{S}	A	S	S	S
3	S	330^{S}	345^{S}	370^{S}	345	345^{S}	S	S	z75^{S}	AS	S	S	350	]325^{S}	305	310^{S}	]300^{A}	]325^{A}	]370^{A}	S	S	S	S	S
4	S	300^{S}	310	280	z90	z65^{S}	S	A	A	z75^{S}	315	330	C	C	330	300	z75	z80^{S}	z80	z75	z90	]z90^{S}	AS	345
5	]340^{S}	380	335	305	335	z90	345	z55^{S}	z35	A	A	A	395	365	300	z55^{S}	z75	z95	z55	]305^{A}	375	]400^{S}	325	305
6	]370^{S}	310	310	345	375^{R}	325	330	z60	A	A	A	320	355	315	320	300	z70	z95	z90	z95	325	340	]350^{F}	345^{S}
7	340^{S}	380^{S}	345^{R}	345	]330^{S}	z95	]350^{A}	310	z65	z75	320	305	310	350	365	]355^{A}	305	320	z80	z80	z90	300^{S}	375	390^{R}
8	380^{S}	345	]370^{F}	340^{F}	345	395	z85	A	]z55^{S}	305^{S}	z95^{S}	S	S	A	390	300	z85	z80	305	335^{S}	355^{S}	315	A	A
9	A	]330^{F}	385^{F}	380	365	415	345	325	325^{S}	A	A	A	305	S	G	330	z70	305	]320^{A}	330	300	z60	A	A
10	]370^{S}	]350^{S}	355	355	350	310	300	]z70^{S}	]300^{A}	A	A	A	A	A	315	315	310	305	305	"z70^{S}	300	350	]355^{S}	375^{F}
11	A	F	F	F	355	310	]305^{A}	355	300	300	]340^{A}	350	A	S	S	330	300	z55	A	A	]300^{S}	]320^{A}	]340^{S}	]360^{A}
12	]330^{A}	"330^{S}	]345^{A}	305	300	z50	z50	]z55^{S}	]300^{S}	A	A	A	A	A	345	300	300	305	300	300	305	305	]315^{R}	A
13	SF	A	z50	300	305	"345^{S}	z95^{S}	z95	z50	z95	A	A	355	S	S	340	300	300	300	]z55^{R}	z95	z90	]300^{S}	310
14	350^{S}	310	]310^{A}	330	]300^{A}	]z95^{A}	z95	z50	z90	z80	z80	R	S	A	A	]360^{R}	310	z80^{R}	z90	z95	]z55^{R}	300	350	310
15	320	300	z95	300	300	300	z50	z50	z65	350	300	310	355	330	A	C	310	]300^{R}	]z55^{S}	z95	]z65^{A}	320	350	350
16	350	335	"300^{S}	300	305	]z90^{S}	z50	]z80^{A}	300	355	305	325^{S}	330^{S}	355^{S}	305^{S}	]z80^{S}	z65^{S}	305	305	z75^{S}	z80	A	AS	A
17	A	A	A	310	335	]z85^{S}	z95	z95	A	350	]315^{S}	350	315^{S}	320	300	300	310	300	330	310	330	300	]325^{F}	]340^{F}
18	305	340	345	350	305	300	300	z70	345	A	310	z95^{S}	300	]350^{R}	345	305	300	300	305	z85	300	305	305	]355^{S}
19	S	A	]300^{R}	310	350	305	z95	]z50^{S}	z60	]z90^{A}	]335^{A}	340	340^{R}	z95	]z95^{A}	]z95^{R}	300	305	z80	305	]300^{S}	350	"300^{S}	305
20	310	"305^{S}	330	300	z45	z95^{S}	z50	z55	z85^{R}	z50	]300^{R}	]300^{R}	300	305	305^{S}	300^{S}	]300^{R}	]z55^{R}	]z60^{R}	z50^{S}	330	305^{S}	305	345
21	325	310	z95	]300^{S}	"z60^{R}	z55	z50	]z55^{S}	]300^{R}	S	S	C	]320^{S}	z95	z95^{S}	z95^{S}	z75	C	A	300	320	375^{S}	]375^{S}	375
22	365^{S}	340^{S}	350	]310^{S}	z70^{S}	300	z55^{S}	z65	z95	315	]330^{S}	305	385	]330^{R}	350	325^{R}	]z90^{A}	]315^{A}	]310^{A}	310^{S}	]305^{S}	360	350	355
23	]355^{R}	350	310	330^{S}	325	300	]z60^{R}	]z85^{R}	]z95^{R}	A	"300^{S}	320	]310^{R}	315	345	]310^{S}	310	305	305	]z90^{R}	A	A	400	385
24	]400^{S}	355^{S}	340	385	A	305	z95	A	A	z55^{S}	S	S	A	A	]345	345	]z85^{S}	z70	z90^{S}	]z90^{A}	A	S	345	320^{S}
25	]380^{A}	]400^{A}	385^{F}	330	310	375	A	A	A	305	A	A	335	]340^{A}	A	]315^{S}	]300^{A}	z95	z50	300	350	340	310	345
26	]350^{A}	]355^{R}	340	305	305	z90	z95	z55	]z80^{R}	A	A	A	]345^{R}	300	310	300	300	z80	"z60^{R}	z55	A	A	355	345
27	395^{S}	]345^{A}	345	310	z95	z60	]z50^{R}	z55	A	305	A	]330^{S}	335	300	300	z95	z95	300	]300^{A}	]z90^{S}	z35	]315^{S}	]340^{S}	]330^{S}
28	335	330	320	305	300	305^{S}	z75	z60^{S}	z50^{S}	z95^{S}	]330^{S}	305	S	335	345	300^{S}	z60^{S}	z95	]305^{A}	]315^{F}	z55^{S}	A	A	350
29	330^{S}	]340^{A}	325^{S}	345	]345^{S}	A	300	AS	S	z50	]315^{A}	]310^{A}	]330^{A}	S	S	A	A	320	]z90^{A}	]z70^{R}	z50	R	A	A
30	A	355	355	305	z55	z90^{S}	z65	300	A	A	305	310	A	]335^{R}	"315^{S}	300	305	]300^{R}	300	305^{S}	z55	z50	395	S
31	A	330	C	C	C	C	C	C	C	C	C	C	]305^{S}	345^{S}	310	305	z95	z95	310^{S}	]310^{S}	]315^{S}	310	330	]320^{S}
No.	21	27	28	29	29	28	26	22	20	18	17	17	20	19	22	28	29	29	28	29	26	23	23	23
Median	350	340	340	310	310	300	295	260	z90	300	310	320	330	330	315	300	300	300	300	z95	300	315	340	345

hpF2 | Sweep 1.0 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

K 13

IONOSPHERIC DATA

Aug. 1962 | ypF2 | 135° E Mean Time (G.M.T. + 9h.) | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	95	90	90	60	80	60	A	A	80	50	70	S	S	S	65	45	85	75	85	55	50	70	90
2	80	65	75	50	65	S	S	S	S	S	S	S	S	S	S	S	S	S	S	55	A	S	S	S
3	S	70	60	40	60	55	S	S	75	AS	S	S	50	75	75	70	70	60	50	S	S	S	S	S
4	S	85	85	65	60	80	S	A	A	65	70	60	C	C	60	75	75	70	65	75	60	75	AS	55
5	60	55	65	65	60	60	55	85	60	A	A	A	50	65	55	85	60	60	95	60	55	90	75	90
6	55	70	65	55	80	70	45	95	A	A	A	40	40	55	70	50	55	50	60	55	70	65	75	55
7	60	65	60	65	80	55	70	60	85	75	75	70	40	45	65	60	80	65	70	70	70	60	55	60
8	70	90	70	70	75	85	75	A	50	90	50	S	S	A	35	95	65	65	50	90	85	85	A	A
9	A	70	70	70	90	55	55	80	70	A	A	A	50	S	G	65	40	95	80	85	55	80	A	A
10	75	95	90	95	95	90	45	55	75	A	A	A	A	A	75	90	85	55	90	40	95	95	60	70
11	A	F	F	F	90	90	75	40	50	55	50	45	A	S	S	65	45	75	A	A	95	85	90	85
12	85	85	60	90	95	50	45	65	45	A	A	A	A	A	50	55	45	95	55	55	90	90	85	A
13	SF	A	55	95	50	100	60	55	55	60	A	A	60	S	S	60	50	55	50	90	55	65	70	85
14	95	85	90	70	60	55	55	50	60	50	40	R	S	A	A	85	85	30	60	55	80	60	95	85
15	75	60	55	75	60	55	45	45	35	45	45	85	60	65	A	C	85	95	60	40	65	75	95	95
16	50	65	50	95	90	60	60	45	50	90	70	75	65	65	95	80	45	65	75	75	70	A	AS	A
17	A	A	A	70	65	80	55	55	A	60	80	105	80	70	50	55	45	55	65	90	75	80	90	60
18	90	100	60	100	95	85	95	80	60	A	85	55	95	60	100	90	50	55	100	65	60	90	95	90
19	S	A	55	90	65	100	55	50	40	80	80	60	75	55	60	55	90	90	65	50	55	55	55	95
20	85	90	65	50	60	55	50	50	65	55	45	45	50	50	40	95	50	65	80	55	95	95	90	60
21	70	85	60	55	50	80	50	50	85	S	S	C	85	95	85	90	85	C	A	80	80	70	70	70
22	80	65	70	85	90	95	95	65	85	80	45	60	65	75	95	70	60	80	60	75	90	85	65	90
23	95	95	90	85	75	95	55	65	50	A	95	75	85	80	60	85	75	100	90	55	A	A	95	70
24	50	85	65	60	A	80	70	A	A	70	S	S	A	A	55	60	80	80	65	80	A	S	75	65
25	70	85	85	70	95	80	A	A	A	95	A	A	65	60	A	80	60	55	50	60	60	100	95	55
26	50	50	60	90	45	60	55	55	50	A	A	A	55	50	85	50	55	65	60	90	A	A	90	55
27	50	80	60	80	65	90	60	50	A	90	A	50	60	100	95	55	60	55	65	70	70	80	55	70
28	65	70	80	90	75	75	75	90	95	55	55	45	S	70	55	75	90	55	70	80	95	A	A	75
29	65	60	75	55	55	A	60	AS	S	70	65	50	30	S	S	A	A	75	75	75	50	R	A	A
30	A	90	95	100	50	55	80	50	A	A	90	50	A	65	80	55	50	50	55	90	90	60	95	S
31	A	70	C	C	C	C	C	C	C	C	C	C	45	55	85	55	80	60	85	75	70	75	70	80
No.	21	27	28	29	29	28	26	22	20	18	17	17	20	19	22	28	29	29	28	29	26	23	23	23
Median	70	80	65	70	65	80	60	55	60	70	65	60	60	65	70	70	60	65	65	75	70	80	75	70

ypF2 | Sweep 1.0 Mc to 20.0 Mc in 2.0 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 14

IONOSPHERIC DATA

Aug. 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	I3.8S	V3.7S	I3.2S	I3.0S	3.1	2.8S	V3.8S	I4.6A	5.8	V7.1S	I6.8S	I6.7A	7.8	I6.5S	V6.4S	V7.8S	9.4S	8.4S	5.7M	4.6	I5.1S	A	A	V5.4S
2	I4.9S	3.4	3.0	2.6	2.8	2.7	2.7	V3.8S	4.6	S	A	4.7	5.2	4.9	4.8	4.7	I4.9C	5.4	4.9M	A	A	S	S	S
3	S	S	S	3.1S	I2.9S	I3.0S	V3.8S	5.6	5.5	5.5	I5.0A	I5.5A	6.2	7.4S	V8.4S	V8.6S	I6.9S	5.8	5.4S	I5.2S	I5.0A	S	A	A
4	A	S	S	V4.1S	A	S	3.4S	I4.6S	I6.0A	6.9	5.9	I6.1A	6.6	V7.7S	8.7	V9.8S	8.9	8.5S	I6.7A	5.6	5.1	S	S	S
5	I4.2S	I3.8S	V3.7S	3.6	3.5	3.2	4.4	S	6.0	4.9	C	A	A	V7.7S	V9.5S	6.9	6.1	I5.7A	5.3	A	I6.0S	I5.5S	S	S
6	S	S	S	S	S	I3.4S	4.1	V6.6S	V5.4S	I5.9A	6.1	5.8	6.1	6.9	8.9	9.1S	V7.9S	6.3	6.0	5.2M	5.0	V4.9S	S	S
7	A	A	A	V3.6S	3.8	V3.8S	4.3	I5.6A	6.1S	6.8	I5.8A	6.2S	5.7	6.1	7.1S	7.1S	I6.7S	V6.7S	I7.0S	V7.3S	I5.6S	A	S	S
8	S	S	I3.6S	V3.6S	I3.4A	3.1	4.2S	I5.6S	I5.8S	I5.3A	I5.0A	I5.2A	5.6S	5.9	I6.4A	I7.3A	7.3S	5.6	I5.6A	A	S	V6.3S	I5.1S	S
9	A	S	S	A	S	S	3.6	S	S	A	6.0	6.0	6.8	I6.3C	V6.8S	I6.9S	7.0S	6.0	5.5	S	S	S	S	S
10	S	S	S	S	I3.6S	S	4.4S	I5.8S	A	A	A	5.4	6.5	I7.6S	8.6	8.5	I8.3A	I8.8A	A	A	A	S	S	S
11	A	A	S	S	S	S	3.9	I5.8S	5.6	A	A	A	A	I5.8A	6.3S	I7.4S	I7.8C	I7.4S	I6.2A	5.6	I5.1A	A	S	A
12	S	S	S	A	S	S	3.8	5.1	4.9	A	A	A	A	V6.2S	6.6	8.0	I7.5S	6.0	6.2	I5.9S	6.0	I5.2S	I4.9S	V5.0S
13	I4.8A	S	S	I3.6S	V2.4S	F	3.6	5.7	6.7	5.7	5.0	6.1	5.8	6.4S	6.8	V8.1S	V8.0S	I7.8S	I8.5S	I8.2S	I6.3S	I5.0S	I4.4S	4.3S
14	I4.1S	V3.7S	I3.5A	I3.2S	I3.3A	3.3	3.9S	5.6	6.5	V6.1S	6.1S	5.6	I5.4R	5.8	I6.0S	6.8	V8.7S	8.6S	S	S	6.1S	4.8	I4.9S	I5.0S
15	5.2	I4.8S	I4.5S	I4.0S	V3.6S	I3.8S	V5.2S	5.5	5.4	5.9	6.6	5.8	6.2	6.3	7.1	9.1	I9.6S	8.8S	S	S	S	A	A	A
16	S	V5.2S	4.7	V4.1S	I3.7S	I3.7S	4.2	6.1S	6.3	I6.5S	6.6	7.3	7.0	V7.4S	8.3	8.8	7.6S	6.2	S	S	5.7	4.0S	S	S
17	S	4.1	V4.0S	I3.5S	3.3S	I3.1S	4.2	5.8	6.4	5.9	6.4S	6.9	I7.6S	9.0	I8.8S	I7.9C	I7.3A	V6.6S	S	S	S	S	S	6.3S
18	S	S	S	S	I4.8S	I4.4S	4.8	5.5	5.5	V7.2S	7.6	8.2	8.8	9.1	V9.4S	10.7	11.0S	9.1S	S	S	6.4	S	S	I5.4S
19	I5.1S	S	S	4.5S	I3.9S	I3.8S	4.3	5.0	5.8	5.8	6.6	V7.8C	8.9	9.0	10.2	10.4	V10.4S	9.4S	S	S	S	S	I5.9S	5.7S
20	V5.5S	V5.2S	I4.8S	I4.8S	4.3	2.9	4.3	6.2	6.4S	6.9	6.1	7.2	7.2S	7.9	I9.4S	I10.0S	V11.2S	V10.4S	I9.0S	7.0	I5.8S	V5.1S	I5.2S	5.2S
21	4.9	4.8	I4.6S	4.8	4.0	I3.1S	4.1	5.2	I6.1S	5.7	5.9	6.7	V7.6S	9.3	V10.2S	V10.4S	9.1	V7.5S	V6.6S	I6.4A	I5.6S	V5.1S	5.1	S
22	S	S	S	S	I4.5S	I4.2S	I4.2S	5.3	5.7	5.9	6.6	6.1	6.8	8.8	8.3	V9.4S	10.8S	9.2	I7.9S	I7.8S	6.8S	I5.8S	V5.4S	I5.1S
23	V5.2S	V5.3S	5.4	V4.8S	4.5S	I4.4S	5.8S	V6.4S	6.0S	6.6	6.2S	6.3	7.2	I7.5S	8.0	9.0	8.9	9.0	S	S	S	V3.5S	I3.8S	V3.9S
24	S	S	3.8	I4.1S	V3.8S	I3.8S	4.4	6.3S	5.9	I5.4A	5.2	A	A	8.4S	V8.6S	I9.0S	9.7S	I9.5S	10.6	S	S	S	A	A
25	S	S	A	I4.0S	I3.6S	3.3S	A	A	A	5.7	6.0	I6.4C	I7.6A	8.5	S	A	V9.6S	8.3	I7.4S	6.0S	4.9S	I4.8S	S	S
26	4.5S	I4.3S	4.3	3.7S	V3.5S	V3.5S	4.5S	I5.8S	5.4	4.9	5.6	6.5	7.2S	V7.6S	V8.2S	8.8S	9.0S	V8.7S	I7.8S	I5.6S	S	S	S	S
27	V3.8S	I3.6S	I3.6S	V3.6S	V3.7S	2.6	3.9	5.8	5.5	I5.2S	6.0	6.8	6.6	6.9	V8.1S	V7.7S	V8.0S	V7.8S	S	S	S	V4.8S	S	S
28	I3.9S	V3.7M	3.6	3.5	3.3	3.1	4.5	6.0S	6.0	5.9	5.6	6.1	5.9	6.7	V7.8S	8.3	8.7	I8.1A	V7.7S	I7.9S	V6.5S	3.5S	4.3	A
29	A	A	A	3.4	I3.3S	I3.7S	V4.6S	I8.0S	I6.8S	5.1	5.6	I5.8A	6.1	6.0	5.5	6.1M	V7.6S	I7.8S	V8.8S	I9.2S	S	S	S	S
30	A	S	S	I3.7S	I3.7S	V2.6S	3.6S	S	S	I6.6S	6.6	6.8	I7.0A	I7.5A	8.5	8.9	7.2S	A	S	9.2S	I5.8S	A	S	A
31	I3.0A	I3.6S	I3.6S	3.4	3.4	V3.5S	V4.0S	I5.7S	5.7	5.9	5.1	6.7	V8.1S	8.3	I7.8S	I7.6S	V7.7S	7.3S	6.8S	S	S	S	V5.4S	S
No.	14	14	16	24	26	25	30	27	27	26	26	27	27	31	30	30	31	30	21	16	18	14	11	10
Median	U4.6	4.0	U3.8	3.6	3.6	3.3	4.2	5.7	5.8	5.9	6.0	6.2	6.8	7.4	8.2	8.3	8.0	7.8	6.7	U6.2	U5.8	5.0	U5.1	5.2
U.Q	5.1	4.8	4.6	4.1	3.8	3.8	4.4	6.0	6.1	6.6	6.6	6.8	7.6	8.3	8.7	9.1	9.4	8.8	7.8	7.8	6.1	5.2	5.4	5.4
L.Q	3.9	3.7	3.6	3.4	3.3	3.0	3.8	5.3	5.5	5.5	5.6	5.8	6.1	6.3	6.8	7.4	7.3	6.3	5.6	5.6	5.1	4.8	4.4	5.0
Q.R	1.2	1.1	1.0	0.7	0.5	0.8	0.6	0.7	0.6	1.1	1.0	1.0	1.5	2.0	1.9	1.7	2.1	2.5	2.2	2.2	1.0	0.4	1.0	0.4

foF2

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 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								A	$I_{4.0}^{A}$	A	A	A	A	A	4.5^{H}	4.2	$I_{4.1}^{A}$	3.9						
2								3.5	3.8	C^{H}	A	C	A	4.3	$I_{4.3}^{C}$	4.2^{C}	$I_{4.1}^{C}$	3.9						
3							L	3.6	A	A	A	A	A	A	C	$I_{4.3}^{A}$	4.2	A	A					
4								L	A	A	C	A	A	A	4.4	C	A	A	A					
5							L	3.6^{L}	$I_{4.0}^{A}$	4.5	A	A	A	A	A	A	A	A	A					
6							L	3.6	$I_{4.0}^{A}$	A	A	4.6	$I_{4.5}^{C}$	$I_{4.4}^{C}$	$I_{4.4}^{A}$	4.4	4.2	$I_{4.0}^{A}$	A					
7								A	4.2	$I_{4.2}^{A}$	A	A	A	4.5	$I_{4.5}^{C}$	4.4	4.2	4.0	A					
8								L	$I_{3.8}^{A}$	A	A	A	C	C	A	A	4.3	A	A					
9								4.3	4.1	A	A	A	A	C	C	A	4.2	$I_{4.0}^{A}$	A					
10								A	A	A	A	C	4.6	C	A	A	A	A	A					
11								L	A	A	A	A	A	A	A	A	C	A	A					
12									4.1	A	A	A	A	C	$I_{4.5}^{C}$	4.4	4.2	A	A					
13								4.0	4.1^{L}	$I_{4.3}^{A}$	$I_{4.7}^{C}$	$I_{4.6}^{C}$	4.6	$I_{4.6}^{A}$	$I_{4.4}^{C}$	4.4	A	4.0	3.5^{L}					
14								L	4.2^{H}	4.3	4.4	$I_{5.0}^{L}$	$I_{4.8}^{R}$	$I_{4.6}^{A}$	4.6	4.4^{H}	4.3	4.0	L					
15									L	4.4	4.6	4.6	A	4.7	A	4.5	4.3	4.2	A					
16								L	L	4.5^{H}	L	$I_{4.8}^{CH}$	4.8	$I_{4.8}^{C}$	4.6	4.5	4.4	$I_{4.1}^{L}$	L					
17								$I_{3.7}^{A}$	$I_{4.3}^{L}$	4.4	A	4.5	4.9	4.7	4.6	$I_{4.6}^{C}$	$I_{4.4}^{A}$	4.4	A					
18									4.3^{L}	$I_{4.5}^{A}$	4.5	4.8	A	A	A	4.6	$I_{4.4}^{A}$	3.9	L					
19									L	4.7	$I_{4.6}^{A}$	4.6	4.7	A	A	A	A	4.3^{LH}	L^{H}					
20									A	4.5	A	A	$I_{4.8}^{A}$	4.9	4.7	4.8	4.3	4.1^{LH}						
21									L	$I_{4.3}^{L}$	4.8	4.7	A	A	A	4.5	$I_{4.4}^{A}$	A	3.5					
22									L	L	4.6	$I_{4.8}^{L}$	$I_{4.7}^{C}$	4.6	4.7	4.5	4.3^{H}	4.0	A					
23									L	L	4.8	4.7	4.6	4.5	4.7	4.6	$I_{4.4}^{A}$	4.1^{LH}	A					
24								L	$I_{3.9}^{L}$	A	A	A	A	A	A	A	4.3^{H}	A	A					
25									A	L	4.5	A	A	A	A	A	4.2	$I_{4.0}^{L}$	L					
26								L	3.8	4.2	A	A	A	A	C	$I_{4.3}^{A}$	4.2	3.8						
27									L	L	$I_{4.5}^{A}$	$I_{4.6}^{C}$	4.6	$I_{4.5}^{A}$	$I_{4.3}^{A}$	$I_{4.2}^{A}$	$I_{4.2}^{A}$	A	A					
28									L	4.4	$I_{4.3}^{A}$	4.3	4.4	$I_{4.6}^{C}$	$I_{4.4}^{C}$	4.3	$I_{4.3}^{C}$	A	A					
29								L	3.9^{L}		A	$I_{4.5}^{A}$	$I_{4.5}^{A}$	4.5	4.5	4.4	4.1	3.8	A					
30									A	4.4	A	A	A	A	A	A	4.3	A	A					
31									3.9	A		4.6	4.6	4.6	4.5	$I_{4.6}^{C}$	4.2	3.8^{H}	A					
No.								7	16	14	11	15	14	15	17	21	25	19	2					
Median								3.6	4.0	4.4	4.6	4.6	4.6	4.6	4.5	4.4	4.3	4.0	3.5					

foF1

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

The Radio Research Laboratories, Japan.

Y 2

IONOSPHERIC DATA

Aug. 1962 | foE | 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	2.25	2.75	3.00	3.15	3.10	3.20	I 3.20 C	3.20	3.00	A	A	A					
2							S	A	A	A	3.20	3.25	3.35	A	A	I 3.10 A	I 2.90 A	2.55	2.15 H					
3							S	2.30	2.80	3.00	3.05	I 3.00 C	A	A	A	A	A	A	A					
4							A	2.40	2.65	2.90	3.15	I 3.30 C	3.40 C	I 3.50 C	3.40	3.20	A	A	A					
5							A	2.30	2.70	I 3.00 A	I 3.20 C	3.20	3.10	A	A	A	A	A	A					
6						S	S	2.30	2.80	3.05	3.20	3.20	A	A	A	A	A	2.70	A					
7							S	2.30	A	A	A	A	C	C	3.40 C	I 3.30 C	3.10	2.80	2.25					
8							1.90	2.30	2.80	3.00	3.10 H	3.30	A	A	C	3.30	3.10	2.70	2.00					
9							S	2.30 H	2.70	2.95	3.20	3.20	I 3.25 A	I 3.35 A	I 3.40 A	3.25	3.10	2.55	1.90					
10							A	2.20	2.70	3.10	3.25 C	3.40	3.40	3.50	I 3.40 C	3.25	3.10	A	A					
11							S	2.30	2.70	3.00	3.05	A	A	A	A	A	C	2.70	S					
12							A	2.30	2.65	2.95	3.10	3.30	C	C	I 3.50 C	I 3.40 A	3.20	2.80	2.20					
13							S	A	A	A	A	A	A	A	A	A	3.10	2.70	2.20					
14							S	I 2.20 A	2.60	I 2.90 A	A	A	B	A	A	A	I 3.05 A	2.70	A					
15							S	2.40	I 2.70 A	3.10	3.20	3.20	A	A	C	C	3.10	2.85	2.20					
16							S	2.30	2.70	2.90	C	C	C	I 3.30 C	I 3.30 C	3.20 C	3.10	2.70	A					
17							S	2.30	I 2.65 A	2.85	A	C	C	I 3.40 C	I 3.40 A	C	A	2.80	2.20					
18							A	2.30	2.80	I 3.10 A	3.30	3.50	3.40 C	I 3.50 C	3.40	3.25	2.95	2.50	A					
19							S	2.30	2.75	3.10	3.35	3.45	3.50	3.50	3.50	3.20	2.90	A	A					
20							S	2.40	2.80	3.20	3.40	3.40	3.50	I 3.45 C	3.30	I 3.20 C	3.10	I 2.60 A	2.00					
21							A	2.30	2.80	3.15	3.30	I 3.40 C	3.40	I 3.35 C	I 3.15 C	3.00	A	A	A					
22							S	2.40 H	2.80	3.10	3.30 C	I 3.40 C	3.30	3.20	I 3.30 A	I 3.25 A	3.05	2.70	2.05					
23							S	2.20	2.60	3.10	A	A	A	C	3.40	3.20	2.90	2.45	S					
24							S	2.00	2.45	2.80 H	3.00	3.05	3.20	A	A	A	A	I 2.55 A	1.80					
25							S	2.15	2.55	2.90	I 3.10 A	3.35	3.40	C	A	A	A	A	1.90					
26							S	2.15	2.75	3.00	3.30	I 3.40 C	3.40	3.35	I 3.30 C	3.20	I 2.95 A	A	A					
27							S	2.40	2.80	3.05	3.15	A	A	C	C	I 3.20 C	A	A	A					
28							A	A	2.60	2.95	I 3.10 C	I 3.15 C	3.35	3.30	3.30	I 3.20 C	3.05	2.55	1.75					
29							S	2.10	2.50	2.70	2.90	3.10	C	C	C	C	3.00	2.55	1.90					
30							S	2.00	2.65 H	3.00	3.10	3.10	A	A	A	A	3.05	I 2.55 A	A					
31							S	2.20	2.60	A	A	A	A	C	C	3.10	2.80	A	A					
No.							1	28	28	27	24	22	15	13	16	19	20	20	14					
Median							1.90	2.30	2.70	3.00	3.20	3.30	3.40	U 3.35	U 3.40	3.20	3.05	2.70	2.00					

foE

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

The Radio Research Laboratories, Japan.

Y 3

IONOSPHERIC DATA

Aug. 1962 | foEs | 135° E Mean Time (G.M.T. + 9h.) | Yamagawa | Lat. 31° 12.5' N, Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.2	2.0	2.4	2.1	2.1	3.2	3.2	5.2	4.4	4.4	6.3	7.0	6.7	4.8	3.6	3.9	4.9	3.0	2.6	2.2	3.6	5.1	5.8	3.0
2	2.4	S	S	1.4	1.5	3.8	2.9	2.9	3.8	3.1	8.6	5.4	9.1[M]	3.7	8.3	3.4	3.1	2.3[G]	G	6.0[M]	4.9	2.6	3.0[M]	2.6
3	3.8	5.9	2.2	S	E	S	5.1	4.0	4.3	5.5	9.1	5.9	6.3	4.5	3.5	5.4	4.7	3.7	3.8	5.0	5.3	3.8	5.3	5.0
4	5.0	2.2	S	E	3.7	2.8	2.1	3.8	8.5	8.8	5.7	9.0	11.0	8.4	5.0	5.6	8.8	5.1	8.5	2.4	2.4	2.0	S	S
5	S	2.2	S	3.6	2.6	2.2	2.1	3.1	5.4	5.4	4.3	13.3	10.9	9.0[M]	12.3[M]	5.5	6.0	4.3	5.3	5.2	3.1	3.7	2.6	3.1[M]
6	S	S	4.4	2.3	2.3	3.0	3.2	4.3	8.6	10.6	5.1	5.6	5.0	4.8	4.5	5.3	4.8	4.1	4.3	3.3	3.2	2.4	S	2.9
7	5.9	5.2	5.0	2.6	2.3	2.3	2.4	6.8	3.5	4.5	6.4	6.1	4.8	3.9	3.9	4.3	4.0	3.9	4.1	4.3	3.2	5.0[M]	S	2.5
8	2.4	S	2.4	2.6	3.6	2.2	3.8	5.9	5.3	10.6[M]	12.4	6.4	4.0	3.5	7.2	12.7	3.2	5.1	9.0[M]	11.2[M]	S	S	2.5	3.2
9	9.0[M]	5.3	3.4	5.0	2.2	2.8	2.5	3.3	3.6	5.8	5.2	6.9[M]	6.1	3.4	5.0	5.5	6.0	6.5[M]	5.0	4.9	3.9	4.7	2.5	2.4
10	2.5	4.2	3.1	2.5	2.6	3.2	3.2	4.6	5.0	8.4	12.4	4.2	4.4	4.4	8.4	8.3	10.7	14.8	13.8	10.4	12.7	3.8	3.8	3.2
11	5.1	5.3	3.6	2.8	S	S	2.5	3.9	5.4	5.4	9.0	12.0	9.6	8.7	5.4	6.1	C	10.0	8.2	7.0	5.4	5.1	2.6	5.2
12	4.2	3.4	2.8	4.4	S	3.3	2.6	3.0	4.9	11.6	9.0	5.3	5.8[M]	G	3.9	3.8	4.5	4.7	4.0	3.7	5.7	5.0	3.2	S
13	5.3	2.4	2.6	2.3	2.4	S	3.0	4.0	4.0	5.3	3.5	4.2	4.7	5.4	4.1	4.0	4.2	3.8	3.2	3.2	5.3	3.2	2.6	3.1
14	2.2	3.4	5.2	5.2	3.7	2.3	2.8	2.5	2.9	3.4	3.8	4.5	4.5	4.9	4.4	3.7	4.8	4.1	3.8	2.4	2.5	S	S	3.0
15	3.2	2.3	3.1	2.3	2.0	1.5	2.3	2.9	3.4	4.8	5.1	5.4	5.6	4.5	4.8	5.7	4.0	4.9	3.7	3.7	3.3	5.3	5.7	5.2
16	3.8	3.1	2.5	2.6	2.4	S	S	G	3.3	3.2	1.9[G]	G	C	C	G	G	G	G	2.3	3.9	4.3	3.1	2.7	3.0
17	3.8	3.3	2.3	2.5	1.5	S	3.2	3.9	4.0	3.8	4.8	C	3.0[G]	3.1[G]	3.7	C	10.6	5.2	4.3	3.3	3.9	3.1	2.7	S
18	2.6	2.3	2.5	2.3	1.3	2.1	2.3	2.6	3.5	5.8	4.0	4.7	6.0	8.6	8.5	7.2	5.3	4.0	2.8	4.0	3.0	3.2	2.4	2.8
19	2.2	2.3	1.8	2.2	2.0	S	S	2.6	3.6	5.3	5.2	4.4	4.4	7.8	9.6	9.5	6.8	5.3	1.9[G]	2.4	2.4	3.3	2.6	2.3
20	3.0	2.1	2.0	2.2	2.1	S	S	2.7	5.3	3.9	5.0	7.8	6.4	5.1	3.8	3.7	3.0[G]	3.3	2.1	2.3	S	2.2	S	2.3
21	2.2	2.3	2.4	3.0[M]	2.2	3.2	2.0	2.9	3.7	3.9	4.0	4.6	6.9	5.3	7.1	5.5	5.4	5.4	4.4	7.1[M]	3.0	2.4	2.4	3.9
22	2.4	2.8	2.3	2.0	2.6	2.2	1.9	3.8	3.3	3.2	3.6	3.6	3.5	3.5	3.8	3.3	G	3.4	6.2	4.7	2.7	S	5.2	S
23	S	S	S	S	E	E	2.1	2.7	4.4	3.4	3.8	4.3	4.1	4.3	8.7	5.3	5.9	2.9	6.3	5.9[M]	5.0	S	S	S
24	2.3	3.2	5.9	5.1	5.1	4.4	3.8	3.9	3.6	5.7	5.4	11.7	11.1	5.2	8.9	5.3	3.5	8.3	5.4	3.2	5.3	4.3[M]	5.9[M]	5.9[M]
25	3.5[M]	2.5	5.1	3.8	6.1	2.3	6.1	9.0[M]	10.8	6.0[M]	5.2	4.8	10.7	11.5[M]	10.7	16.9	5.4	3.9	G	S	S	S	S	S
26	S	S	S	E	S	S	S	2.4	3.0	3.9	5.4	6.6	6.2	4.6	3.9	4.5	3.3	2.8	3.2	5.3	2.4	1.6[S]	2.0	S
27	2.3	2.3	S	2.5	2.5	2.2	3.8	2.6	3.0	3.7	5.9	4.2	3.9	4.8	6.0	5.8	4.8	6.5	4.2	4.2	5.3	3.8	4.1	S
28	2.2	3.6	2.4	3.2	S	2.1	2.8	5.4	3.6	3.9	5.4	4.2	3.7	G	G	G	4.6	8.1	4.4	5.1	4.4	3.0	5.2	5.3
29	5.1	8.4	5.3	3.8	2.6	3.1	2.2	3.3	3.1	3.6	5.3	8.3	8.4	4.2	3.7	G	4.2	3.8	5.0	5.3	5.2	5.2	5.1	5.1
30	5.1	3.3	3.7	2.3	1.8	2.2	2.4	3.7	5.1	3.8	5.5	6.1	7.6	10.9	4.9	4.3	3.7	8.2	5.4	5.0	6.2	4.2	3.2	3.8
31	6.1	3.1	2.4	3.2	1.9	1.6[S]	S	2.6	3.3	8.3	4.3	3.8	3.8	3.2[G]	2.9[G]	3.6	3.2	2.9	4.5	3.2	5.2	4.2	5.1	2.8
No.	27	26	25	29	27	23	26	31	31	31	31	30	30	30	31	30	30	31	31	30	28	26	24	23
Median	3.2	3.1	2.6	2.5	2.3	2.3	2.7	3.3	3.8	4.8	5.2	5.4	5.9	4.7	4.8	5.3	4.6	4.1	4.3	4.2	4.1	3.8	3.1	3.1
UQ	5.1	3.6	4.0	3.4	2.6	3.2	3.2	4.0	5.1	5.8	6.3	6.9	7.6	5.4	8.3	5.7	5.4	6.3	5.4	5.3	5.3	4.7	5.2	5.0
LQ	2.4	2.3	2.4	2.2	1.9	2.2	2.3	2.7	3.4	3.8	4.3	4.3	4.4	3.7	3.8	3.7	3.5	3.4	3.2	3.2	3.0	3.0	2.6	2.8
QR	2.7	1.3	1.6	1.2	0.7	1.0	0.9	1.3	1.7	2.0	2.0	2.6	3.2	1.7	4.5	2.0	1.9	2.9	2.2	2.1	2.3	1.7	2.6	2.2

foEs

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

The Radio Research Laboratories, Japan.

Y 4

IONOSPHERIC DATA

Aug. 1962 | foEs | 135° E Mean Time (G.M.T. + 9h.) | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.0	1.5	2.0	1.9	1.7	2.2	2.5	A	4.3	4.3	A	A	6.5	A	G	3.7	4.5	3.0	2.6	1.9	A	A	A	1.9
2	2.4	S	S	1.4	1.4	2.2	2.3	2.4	2.9	3.1	A	3.9	4.6	3.7	3.6	3.4	E 3.1 C	2.2 G		A	A	A	2.0	2.0
3	2.4	2.0	E	S		S	2.6	3.4	4.2	5.1	A	A	5.3	E 4.5 C	E 3.5 C	5.4	3.8	E 3.7 C	3.7	A	A	A	A	A
4	A	E	S		A	A	G	3.1	A	4.4	4.6	A	5.1	6.6	4.0	4.1	4.4	4.1	A	2.0	E	2.0	S	S
5	S	2.0	S	2.5	2.3	2.0	2.0	2.8	5.4	4.0	4.3	A	A	5.8	7.1	4.9	5.1	A	4.8	A	2.9	2.3	A	E
6	S	S	2.0	2.0	2.3	2.4	2.3	3.1	4.1	A	4.5	4.4	4.0	3.9	E 4.5 C	4.1	3.6	E 4.1 C	3.6	E 3.3 S	2.3	2.0	S	2.2
7	A	2.0	A	2.1	1.9	2.1	2.3	A	3.5	A	A	5.7	E 4.8 C	E 3.9 C	E 3.9 C	4.2	3.7	3.3	3.9	A	2.4	A	S	2.1
8	E	S	2.0	2.4	A	2.0	2.6	3.3	4.3	A	A	A	E 4.0 C	E 3.5 C	A	A	G	4.4	A	A	S	S	A	A
9	A	2.3	2.0	A	1.9	2.2	G	3.2	3.5	A	5.1	5.7	4.6	E 3.4 C	4.1	4.6	4.0	5.3	4.6	4.6	A	A	E	2.0
10	A	A	2.7	2.3	2.2	A	3.2	4.5	A	A	A	4.2	4.4	4.3	4.8	6.2	A	A	A	A	A	A	A	2.3
11	A	A	1.9	2.3	S	S	2.3	3.1	5.2	A	A	A	A	A	5.0	5.1	C	4.0	A	5.2	A	A	A	A
12	A	2.0	E	A	S	2.2	2.5	2.6	4.0	A	A	A	A		E 3.9 C	3.7	4.1	4.6	3.7	3.7	2.8	A	2.2	S
13	A	1.8	1.9	2.0	E	S	2.7	3.9	3.6	5.2	E 3.5 C	4.0	4.1	5.1	E 4.1 C	4.0	4.2	G	2.7	2.5	4.4	A	2.4	2.6
14	2.2	2.1	A	2.4	A	E	2.0	2.5	G	3.4	3.8	4.3	A	4.7	4.1	3.6	3.5	3.5	3.7	2.3	2.1	S	S	2.4
15	2.0	E	2.1	1.9	1.9	E 1.5 S	2.0	2.8	3.3	4.1	3.9	4.1	4.6	4.0	4.6	3.6	3.4	3.6	3.5	3.2	A	A	A	A
16	A	2.3	2.4	2.0	1.9	S	S		3.2	E 3.2 C	2.9 G		C	C					G	3.9	A	2.1	2.0	1.9
17	A	2.8	1.7	1.9	1.4	S	A	3.5	3.9	3.8	4.7	C	E 3.0 C	E 3.1 C	3.7	C	A	4.1	4.0	E 3.3 S	3.8	2.6	2.3	S
18	1.8	E 2.3 S	1.9	2.0	1.1	1.9	1.9	G	3.3	5.8	3.9	4.5	5.6	A	8.2	4.2	4.7	3.1	G	3.4	1.9	2.8	2.1	A
19	1.9	E	1.8	1.9	1.9	S	S	2.6	3.4	4.4	4.8	4.3	4.2	7.5	8.6	8.6	6.4	3.2	G	2.0	2.0	A	2.0	1.9
20	2.6	2.0	2.0	1.9	2.0	S	S	G	5.0	3.9	4.7	5.2	6.4	4.5	3.7	3.7	2.9 G	2.9	G	1.9	S	2.0	S	2.3
21	E	1.8	2.0	2.5	2.0	2.2	2.0	2.7	3.6	3.9	3.8	4.2	5.1	5.1	E 7.1 C	4.1	4.8	3.6	2.3	A	A	2.4	1.8	A
22	E	1.9	2.0	1.8	2.3	E	G	3.8	3.2	G	E 3.6 C	E 3.6 C	E 3.5 C	E 3.5 C	3.8	E 3.3 C		3.3	A	4.3	E	S	3.8	S
23	S	S	S	S			2.0	G	3.0	3.3	3.5	4.1	4.1	4.3	3.7	4.1	5.1	2.6	6.3	5.2	A	S	S	S
24	E	2.0	2.0	2.5	2.5	2.6	2.6	3.2	3.6	A	4.8	A	A	5.0	7.9	4.4	3.5	6.3	5.3	2.6	4.4	A	A	A
25	A	2.4	A	2.4	2.0	1.7	A	A	A	4.2	3.9	4.8	A	5.1	5.5	A	4.0	3.0		S	S	S	S	S
26	S	S	S		S	S	S	G	2.9	3.8	5.4	5.9	6.2	4.6	3.7	4.5	3.1	2.8	2.2	3.7	2.2	S	2.0	S
27	E	2.0	S	1.1	1.9	1.9	2.0	G	E 3.0 C	3.6	5.7	E 4.2 C	E 3.9 C	4.6	E 6.0 S	4.8	4.4	6.4	3.8	2.5	A	2.8	A	S
28	2.2	1.9	2.0	2.2	S	1.8	2.5	4.1	3.6	3.7	4.7	4.1	3.7				3.5	A	3.1	A	4.3	2.5	2.3	A
29	A	A	A	3.1	2.4	2.5	2.0	G	G	3.6	4.5	A	4.7	4.2	3.7		3.5	3.4	5.0	5.1	2.5	A	A	A
30	A	A	A	2.3	A	E	2.4	3.2	4.9	3.4	5.3	5.3	A	A	4.8	E 4.3 C	3.5	A	4.2	3.5	4.5	A	A	A
31	A	1.9	2.0	2.3	1.5	S	S	2.6	3.2	5.6	4.1	3.8	E 3.8 C	E 3.2 C	2.8 G	3.6	3.2	2.7	4.5	E 3.2 S	3.8	A	4.5	2.0
No.																								
Median																								

foEs

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

The Radio Research Laboratories, Japan.

Y 5

IONOSPHERIC DATA

Aug. 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	E1.80	E1.40	1.20	E	E	E1.60	E1.70	E1.60	1.80	2.00	2.30	2.50	2.30	2.25	2.40	2.20	1.90	1.95	E1.60	1.10	E1.70	E1.70	E1.75	E1.80
2	E1.70	E1.70	E1.70	E	E	E1.40	E1.80	1.40	1.65	1.85	2.20	2.20	3.00	2.60	2.20	2.20	1.95	1.90	E1.60	E1.70	E1.80	E1.90	E1.80	E1.50
3	E1.80	E1.80	E1.70	E1.90	1.15	E1.50	E1.50	E1.70	1.70	1.85	2.00	E3.10C	2.05	2.40	2.30	2.20	1.70	E1.60	E1.70	E1.80	E1.60	E1.60	E1.60	E1.70
4	E1.80	E1.70	E1.90	1.40	E	E1.60	E1.50	1.60	1.70	1.95	2.00	2.00	2.00	2.30	2.20	2.20	2.00	1.80	E1.70	E1.60	E1.70	E1.80	E2.00	E1.70
5	E2.20	E1.90	E2.00	E	E	E1.80	E1.70	E1.70	1.70	1.90	2.60	2.20	2.25	2.30	2.40	2.30	2.00	1.80	E1.60	E1.90	E1.90	E1.60	E1.80	E1.70
6	E2.10	E1.90	1.20	E	E	E1.70	E1.80	E1.50	2.00	1.60	2.25	2.20	2.30	2.40	2.25	2.25	1.90	1.60	E1.50	E1.70	E1.70	E1.60	E2.00	E1.80
7	E1.60	E1.45	1.20	E	E	1.30	E1.60	E1.60	1.75	1.60	2.10	1.80	2.05	2.20	2.25	1.60	2.00	2.00	E1.80	E1.80	E1.70	E1.90	E2.00	E1.90
8	E1.80	E2.00	E1.80	1.20	E	1.30	E1.80	E1.50	1.80	1.90	2.00	2.30	2.20	2.40	2.45	2.00	2.00	2.00	E1.60	E1.70	E1.80	E1.90	E1.70	E1.80
9	E1.80	E1.90	1.30	E1.40	1.20	E1.70	E2.00	E1.70	E1.50	1.90	2.30	2.20	2.20	2.50	2.30	2.00	2.00	E1.50	E1.60	E1.80	E1.70	E1.70	E2.00	E1.90
10	E1.70	E1.60	E1.50	1.10	1.20	E1.70	E1.60	1.10	1.70	2.00	2.00	2.20	2.20	2.40	2.35	2.00	1.95	2.00	E1.80	E1.80	E1.90	E1.80	E1.80	E1.70
11	E1.80	E1.70	E1.60	1.20	E1.90	E2.00	E1.90	E1.95	1.95	2.00	2.30	2.20	2.30	2.20	2.30	2.00	I1.80C	2.20	E1.90	E1.80	E1.85	E1.70	E1.60	E1.70
12	E1.70	E1.90	E1.60	E	E1.80	E1.80	E1.60	E1.70	1.95	1.85	2.20	2.20	2.80	2.40	2.30	2.30	2.20	1.30	E1.80	E1.50	E1.80	E1.90	E1.80	E1.90
13	E1.60	E1.70	E1.80	1.10	E1.80	E1.70	E1.80	E1.70	1.90	2.15	2.05	2.40	2.50	2.45	2.40	2.30	1.85	2.00	E1.75	E1.75	E1.70	E1.60	E2.00	E1.70
14	E1.80	E1.90	E1.60	E1.50	E	E1.80	E1.80	1.30	1.70	1.80	2.00	2.20	3.50	2.40	2.05	2.20	1.80	1.30	E1.60	E1.70	E1.80	E1.90	E2.40	E1.50
15	E1.70	E1.80	1.30	E	E	1.30	E1.70	E1.60	1.80	2.00	2.20	2.20	2.40	2.05	2.00	1.80	1.85	1.80	1.80	E1.80	E1.70	E1.70	E1.70	E1.90
16	E1.80	E1.90	E1.60	E	E	E2.00	E2.00	E1.60	1.90	1.90	2.00	2.20	2.25	2.50	2.25	2.20	2.20	2.00	1.70	E1.70	E1.90	E1.60	E1.70	E1.70
17	E1.80	E1.70	E	E	E	E1.90	E1.80	E1.80	1.90	2.00	2.20	2.40	2.25	2.20	1.95	I1.90C	E1.50	E1.60	E1.80	E1.70	E1.75	E1.90	E1.70	E1.90
18	E1.70	E2.00	E1.80	E	E	E1.40	1.30	1.35	1.90	2.00	2.20	2.30	2.20	2.70	2.20	2.20	1.90	1.85	E1.60	E1.95	E1.80	E1.70	E1.90	E1.70
19	E1.70	E1.90	1.30	E	E	E1.80	E1.80	E1.70	1.70	1.80	2.00	2.25	2.00	2.40	2.00	2.20	1.80	1.80	E1.70	E1.80	E1.70	E1.80	E1.80	E1.70
20	E1.80	E1.60	E1.80	E	1.20	E1.90	E1.90	E1.80	1.80	1.90	1.90	2.40	2.50	2.40	2.30	2.00	1.80	1.70	E1.70	E1.60	E1.80	E1.75	E1.80	E1.80
21	E1.80	E1.70	E1.60	1.20	1.35	1.30	E1.50	1.80	1.90	1.90	2.00	2.25	2.35	2.30	2.00	2.30	1.90	1.80	1.70	E1.60	E1.70	E1.40	E1.70	E1.60
22	E1.80	E1.70	E1.70	E1.70	1.00	E1.60	E1.70	E1.70	1.80	1.75	1.80	1.90	2.00	2.30	2.25	1.90	1.90	E1.60	E1.80	E1.70	E1.50	E2.00	E1.70	E1.80
23	E1.80	E1.90	E1.90	E1.80	E	1.30	E1.80	E1.70	E1.70	1.80	1.95	2.00	2.20	2.20	2.00	1.85	1.85	E1.80	E1.70	E1.60	E1.80	E1.70	E1.60	E1.80
24	E1.70	E1.70	E1.70	E	E	E1.70	E1.70	E1.60	1.60	1.90	1.80	1.90	1.90	2.40	1.80	1.70	2.00	1.70	E1.70	E1.50	E1.70	E1.70	E1.80	E1.70
25	E1.70	E1.70	E1.70	E	E	E1.60	E1.50	E1.65	1.70	1.80	2.20	2.25	2.40	2.50	1.90	2.10	1.85	1.80	E1.70	E1.80	E1.60	E1.60	E1.80	E1.90
26	E1.70	E1.90	E1.90	1.30	E1.90	E1.70	E1.90	E1.70	1.90	2.05	2.40	2.40	2.25	2.30	2.55	2.20	1.80	1.75	E1.60	E1.70	E1.60	E1.90	E1.80	E2.00
27	E1.70	E1.60	E1.70	E	E	E1.70	E1.70	1.70	1.60	1.80	2.00	2.30	2.00	2.00	1.80	1.90	2.00	1.75	E1.60	E1.70	E1.90	E1.60	E1.80	E1.90
28	E1.80	E1.60	E1.70	E1.70	E1.70	E1.70	E1.70	E1.70	1.70	1.80	1.90	2.25	2.20	2.20	2.20	2.00	1.80	1.70	E1.50	E1.70	E1.60	E1.70	E1.70	E1.50
29	E1.70	E1.60	E1.70	1.20	E	E1.60	E1.80	1.30	1.80	1.80	2.00	2.00	2.20	2.00	1.95	1.90	1.70	1.60	E1.80	E1.60	E1.70	E1.60	E1.60	E1.70
30	E1.80	E1.80	E1.70	E	E	E1.50	E1.70	E1.50	2.00	1.85	1.90	2.00	2.15	2.20	1.70	1.80	2.00	1.85	1.80	E1.70	E1.70	E1.80	E1.70	E1.80
31	E1.70	E1.70	1.30	E	E	E1.70	E2.00	E1.80	1.70	1.80	2.00	2.30	2.30	2.35	2.20	2.00	1.90	1.75	E1.70	E1.70	E1.80	E1.80	E1.90	E1.90
No.	31	31	31	25	26	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31
Median	E1.80	E1.70	E1.70	E	E	E1.70	E1.70	E1.70	1.80	1.90	2.00	2.20	2.25	2.35	2.20	2.00	1.90	1.80	E1.70	E1.70	E1.70	E1.70	E1.80	E1.80

f-min

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 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	I3.05 U	L3.00 U	I3.30 U	I3.00 U	2.90	2.85 U	L3.40 U	I3.05 A	2.80	L2.85 U	I2.95 U	I2.90 A	3.20	I2.80 U	L2.65 U	L2.80 U	3.00 U	3.55	3.25 H	3.00	I2.75 U	A	A	L3.00 U
2	I3.20 U	3.00	2.80	2.90	2.85	2.80	3.35	L2.45 U	2.75	S	A	2.45	2.85	2.85	2.65	2.80	I2.80 C	3.20	3.35 H	A	A	S	S	S
3	S	S	S	3.25 U	I2.75 U	I2.75 U	L2.90 U	3.25	3.35	3.30	A	A	2.90	2.90 U	L2.75 U	L3.10 U	I3.25 U	3.30	3.50 A	I3.30 U	I3.00 A	S	A	A
4	A	S	S	L3.60 U	A	S	3.00 U	I3.00 U	I3.10 A	3.20	3.05	I2.90 A	2.75	L2.70 U	2.85	L3.05 U	3.05	3.20 U	L3.40 A	3.35	3.15	S	S	S
5	I2.85 U	I2.90 U	L2.95 U	3.05	3.00	3.15	3.20	S	3.70	3.05	C	A	A	L2.85 U	L3.15 U	3.15	3.35	I3.30 A	3.20	A	I3.10 U	L2.80 U	S	S
6	S	S	S	S	S	I3.10 U	3.00 U	L3.50 U	L3.50 U	I3.00 A	3.10	3.30	2.95	2.85	2.95	3.20 U	L3.30 U	3.25	3.35	3.45 H	2.90	L2.90 U	S	S
7	A	A	A	L3.05 U	2.90	L3.10 U	3.15	I3.25 A	3.00 U	3.45	I3.15 A	3.05	3.10	2.85	2.95	3.10 U	I3.05 U	L3.15 U	L3.10 U	L3.20 U	I3.20	A	S	S
8	S	S	I2.85 U	L2.95 U	I3.00 A	2.90	3.35	I3.30 U	I3.30 U	I3.45 A	I3.25 A	I2.85 A	3.00 U	2.95	I3.00 A	I3.20 A	3.15 U	3.10	I3.10 A	A	S	L3.15 U	I3.10 U	S
9	A	S	S	A	S	S	3.10	S	S	A	3.05	2.50	3.00	I2.75 U	L2.95 U	I3.00 U	3.15 U	3.10	2.95	S	S	S	S	S
10	S	S	S	S	L3.35 U	S	3.40 U	I3.50 U	A	A	A	2.60	2.80	I2.80 U	2.95	2.95	I2.85 A	I3.00 A	A	A	A	S	S	S
11	A	A	S	S	S	S	3.20	I3.45 U	3.30	A	A	A	A	I2.90 A	2.85	I2.95 U	I3.20 C	I3.35 U	I3.25 A	3.45	I3.05 A	A	S	A
12	S	S	S	A	S	S	3.40	3.65	3.35	A	A	A	A	L2.95 U	2.90	3.00	I3.15 U	3.20	3.15	I3.40 U	3.15	I3.10 U	I3.05 U	L3.00 U
13	I2.90 A	S	S	I3.20 U	L2.90 U	F	3.20	3.30	3.45	3.50	2.80	2.95	2.85	2.85 U	2.80	L2.95 U	L2.90 U	I2.90 U	I3.10 U	I3.30 U	I3.35 U	I3.30 U	I3.10 U	2.95 U
14	I3.00 U	L3.20 U	I3.25 A	I3.30 U	I3.05 A	3.15	3.20 U	3.40	3.40 U	L3.30 U	3.45	2.95	I2.80 R	3.00	I2.80 U	2.80	L3.00 U	3.30	S	S	3.20	2.80 U	I2.80 U	I2.90 U
15	2.80	I3.00 U	I3.20 U	I3.40 U	L3.15 U	I3.20 U	L3.65 U	3.60	3.35	3.20	3.15	3.25	2.80	2.85 U	2.85 U	2.90	I3.10 U	2.75 U	S	S	S	A	A	A
16	S	L3.10 U	3.25 U	L3.25 U	I3.20 U	I3.10 U	3.30	3.45	3.20 U	I3.00 U	2.85	2.90	3.05 U	L2.60 U	2.90	3.20 U	3.15 U	3.00	S	S	3.60	2.75 U	S	S
17	S	2.80	L3.25 U	I3.20 U	2.90 U	I3.25 U	3.30	3.25	3.15 U	3.20	2.90 U	3.00	I2.80 U	2.95 U	I3.15 U	I3.10 C	I3.20 A	L3.05 U	S	S	S	S	S	2.85
18	S	S	S	S	I2.95 U	I2.95 U	3.05	3.40	3.10 U	L3.20 U	2.95	2.95	3.00 U	S	L2.80 U	3.00 U	3.10 U	3.10 U	S	S	3.15	S	S	I2.80 U
19	I2.75 U	S	S	3.05 U	I3.10 U	I3.00 U	3.35	3.25	3.45 U	3.00	3.05	L3.05 U	3.00 U	2.85 U	2.95 U	3.00 U	L3.00 U	3.10 U	S	S	S	S	L3.00 U	3.00 U
20	L2.90 U	L2.95 U	I2.75 U	I2.90 U	3.35	2.95	3.25	3.35 U	3.40 U	3.40	3.25	3.10	3.05 U	2.80 U	I3.10 U	I3.00 U	L3.05 U	L3.35 U	I3.10 U	3.30	I3.10 U	L2.85 U	L3.00 U	2.90 U
21	2.90	2.90	I3.00 U	3.20	3.60	I3.15 U	3.40	3.45	I3.50 U	3.65	3.00	3.05	L3.15 U	3.00	L3.10 U	L3.15 U	3.30	L3.20 U	L3.50 U	I3.20 A	I3.00 U	L2.80 U	2.95	S
22	S	S	S	S	I3.25 U	I3.30 U	I3.40 U	3.50	3.50 U	3.20	3.20	3.05	2.70	3.05	2.80	L2.95 U	3.15 U	3.15	I3.05 U	I3.05 U	3.10 U	I3.05 U	L2.95 U	I2.80 U
23	L2.80 U	L2.85 U	3.00 U	L3.25 U	2.90 U	I2.90 U	3.45 U	L3.60 U	3.35 U	3.50	3.05 U	3.15	3.05	I3.00 U	2.90	2.90	2.95	3.00	S	S	S	L2.85 U	I2.80 U	L2.85 U
24	S	S	2.90	I3.00 U	L3.15 U	I3.00 U	3.25	3.65	3.70	I3.40 A	3.25	A	A	3.10 U	L3.00 U	I2.95	3.00 U	I2.90 U	2.85	S	S	S	A	A
25	S	S	A	I2.85 U	I2.80 U	2.85 U	A	A	A	3.15	3.00	I3.10 C	I2.85 A	2.80	S	A	L3.20 U	3.30	I3.25 U	3.25 U	2.95 U	I2.90 U	S	S
26	2.80 U	I2.90 U	3.00	3.10 U	L2.90 U	L3.10 U	3.20 U	I3.55 U	3.75 U	3.50	2.95	2.95	2.90 U	L3.05 U	L2.95 U	3.00 U	3.15 U	L3.20 U	I3.45 U	I3.30 A	S	S	S	S
27	L2.90 U	I3.05 U	I2.95 U	L3.05 U	L3.55 U	3.45 U	3.40 U	3.65 U	3.80 U	I3.25 U	3.05 U	3.40 U	3.05 U	2.95 U	L3.10 U	L3.00 U	L3.00 U	L3.20 U	S	S	S	L3.40 U	S	S
28	I3.05 U	L2.95 U	3.05 U	3.10 U	3.05 U	3.10 U	3.35 U	3.45 U	3.85 U	3.60 U	3.25 U	3.15 U	2.80 U	2.85 U	L3.10 U	3.05 U	3.10 U	I3.25 A	L3.25 U	I3.40 U	L3.60 U	3.15 U	2.80 U	A
29	A	A	A	3.10 U	I3.10 U	I3.10 U	L3.25 U	I3.65 U	I3.75 U	3.60 U	3.10 U	I3.30 A	3.15 U	3.35 U	2.90 U	2.75 A	L3.00 U	I3.20 U	L3.20 U	I3.30 U	S	S	S	S
30	A	S	S	I3.05 U	I3.30 U	I3.10 U	3.00 U	S	S	I3.30 U	3.05 U	3.10 U	I2.95 A	I2.90 A	2.95 U	3.15 U	3.10 U	A	S	3.25 U	I3.50 U	A	S	A
31	I3.20 A	I2.95 U	I2.90 U	2.70	3.25 U	I3.25 U	L3.30 U	I3.50 U	3.70 U	3.55 U	3.35 U	2.90 U	L2.95 U	3.00 U	I3.00 U	I3.00 U	L3.00 U	3.20 U	L3.00 U	S	S	S	L2.80 U	S
No.	14	14	16	24	26	25	30	27	27	26	25	26	27	30	30	30	31	30	21	16	18	14	11	10
Median	L2.90	2.95	L3.00	3.10	3.05	3.10	3.30	3.45	3.40	3.30	3.05	3.00	2.95	2.90	2.95	3.00	3.10	3.20	3.20	L3.30	L3.10	2.90	L2.95	2.90

M(3000)F2

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

The Radio Research Laboratories, Japan.

Y 7

IONOSPHERIC DATA

Aug. 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								A	A	A	A	A	A	A	3.75H	3.85	I 3.70A	3.60						
2								3.45	3.65	C H	A	C	A	3.95	I 3.85C	I 3.70C	I 3.50C	3.65						
3							L	A	A	A	A	A	A	A	C	I 3.65A	3.65	A	A					
4								L	A	A	A	A	A	A	3.75	C	A	A	A					
5							L	3.70L	I 3.85A	3.75	A	A	A	A	A	A	A	A	A					
6							L	3.70	I 3.85A	A	A	A	I 3.90C	I 4.05C	I 4.00A	A	3.65	I 3.50A	A					
7								A	3.55	A	A	A	A	C	C	A	3.60	3.35	A					
8								L	A	A	A	A	C	C	A	A	3.60	A	A					
9								3.00	3.50	A	A	A	A	C	C	A	A	A	A					
10								A	A	A	A	C	A	C	A	A	A	A	A					
11								L	A	A	A	A	A	A	A	A	C	A	A					
12									A	A	A	A	A	C	I 3.75C	3.65	A	A	A					
13								A	3.65L	I 3.90A	I 3.80C	C	3.70	I 3.80A	I 3.80C	A	A	3.60	3.45L					
14								L	3.75H	3.95	4.00	I 3.70L	R	I 3.70A	3.70	3.55H	3.50	3.60	L					
15									L	3.65	3.70	3.50	A	3.60	A	3.85	3.50	3.30	A					
16								L	L	3.55H	L	I 3.65H	3.55	I 3.60C	3.70	3.55	3.50	I 3.50L	L					
17								I 3.65A	I 3.55L	3.70	A	C	3.45	3.65	3.70	I 3.50C	I 3.55A	A	A					
18									3.50L	A	3.75	A	A	A	A	A	A	3.60	L					
19									L	A	A	A	3.70	A	A	A	A	3.55LH	L H					
20									A	3.75	A	A	A	A	3.65	3.55	3.70	3.65LH						
21									L	I 3.85L	3.55	3.80	A	A	A	A	A	A	3.70					
22									L	L	3.50	I 3.60L	I 3.80C	3.75	3.60	3.50	3.50H	3.65	A					
23									L	L	3.55	3.80	3.50	A	3.60	A	I 3.50A	3.40LH	A					
24								L	L	A	A	A	A	A	A	A	3.50H	A	A					
25									A	L	3.75	A	A	A	A	A	A	I 3.55L	L					
26								L	3.90	3.90	A	A	A	A	C	I 3.70A	3.50	3.55						
27									L	L	A	I 3.70C	3.70	A	A	A	A	A	A					
28									L	3.70	A	4.15	3.95	I 3.65C	I 3.70C	3.65	I 3.65C	A	A					
29								L	3.90L		A	A	A	A	3.60	3.40	3.40	3.60	A					
30									A	3.60	A	A	A	A	A	A	3.50	A	A					
31									3.95	A		3.80	C	3.55	3.55	I 3.50C	3.65	3.50H	A					
No.								5	12	11	8	9	9	10	15	14	19	17	2					
Median								3.65	3.70	3.75	3.70	3.70	3.70	U 3.70	3.70	3.60	3.50	3.55	3.60					

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 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								A	390	330	I 350 A	I 350 A	310	I 405 A	425	350	300	250						
2								I 555 S	440	C	A	560	410	420	500	450	I 410 C	310						
3							375	290	290	325	A	A	385	350	325	300	295	290	250					
4								375	I 320 A	300	355	I 380 A	390	400	330	305	300	280	I 270 A					
5							295	245	255	370	400	A	A	355	300	300	295	A	E 325 A					
6							330	250	270	I 340 A	340	300	370	360	320	280	265	295	275					
7								A	310	270	I 350 A	355	350	390	345	305	305	320	295					
8								280	255	I 265 A	I 340 A	I 320 A	380	380	I 370 A	I 315 A	295	330	A					
9								450	300	I 315 A	340	E 525 A	330	350	365	330	300	E 335 A	350					
10								250	I 285 A	A	A	490	380	355	325	330	A	A	A					
11								260	310	A	A	A	A	I 395 A	380	350	I 300 C	265	I 260 A					
12									300	A	A	A	A	360	355	320	280	300	300					
13								290	260	300	405	360	390	360	380	310	310	330	290					
14								280	255	260	295	380	I 445 R	385	400	375	300	270	250					
15									275 L	305	330	310	360	380	365	340	290	330	270					
16								255	290	310	360	355	310	345	335	290	290	325	320					
17								285	305	305	350	335	380	325	295	I 300 C	I 295 A	310	300					
18									340	300	335	330	325	I 320 A	E 395 A	320	290	280	290					
19									280	370	340	325	315	360	350	350	290	290	270					
20									260	260	305	325	350	350	300	310	290	255						
21									250	255	350	340	335	320	300	290	275	280	255					
22									275	300	330	320	380	305	345	320	290	260	I 300 A					
23									255	275	340	330	335	345	340	330	300	300	300					
24								240	245	I 280 A	375	A	A	300	E 360 A	305	295	300	255					
25									I 270 A	290	340	350	I 355 A	350	325	I 310 A	280	255	250					
26								245	240	290	400 A	370	350	330	310	300	280	275						
27									240	345	E 375 A	300	330	340	310	310	295	300	255					
28									240	260	310	320	380	355	320	310	300	I 290 A	260					
29								230	230		340	I 320 A	340	305	400	350 M	315	300	275					
30									250	280	320	340	I 350 A	I 350 A	325	295	305	I 290 A	285					
31									240	295		370	320	320	305	310	300	280	300					
No.							3	16	31	26	24	25	27	31	29	31	30	28	24					
Median							330	270	270	300	340	340	350	350	335	310	295	290	275					

h'F2 | Sweep 10 Mc to 20.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 9

55

IONOSPHERIC DATA

Aug. 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	290	295	250	280	300	E350A	250	I250A	I260A	A	A	A	A	A	205H	225	I240A	240	225H	245	I300A	I400A	I360A	290
2	250	245	305	300	305	350	300	250	240	225H	I235A	205	I260A	230	215	240	225	240	240H	A	A	A	360	300
3	300	295	260	250	305	305	E290A	A	A	A	A	A	A	A	A	A	E260A	A	A	A	I300A	A	A	A
4	A	255	250	235	A	A	275	250	I250A	A	A	A	A	A	245	250	A	A	A	235	240	255	300	300
5	300	305	300	310	300	290	250	225	I235A	250	A	A	A	A	A	A	A	A	A	A	260	300	I330A	290
6	300	280	275	290	345	295	250	240	I245A	A	A	A	220	210	A	I245A	250	A	I270A	250H	260	300	315	345
7	I290A	290	I265A	290	300	245	275	I250A	250	A	A	A	A	I245C	I230C	E290A	270	275	I265A	250A	240	I285A	350	350
8	295	305	340	340	I300A	305	245	250	A	A	A	A	A	C	A	A	240	A	A	A	255	260	I280A	A
9	A	280	320	I310A	305	345	255	270	260	A	A	A	A	205	255	A	A	A	I260A	295	I250A	I265A	320	295
10	I350A	I315A	335	295	290	A	245	A	A	A	A	240	A	E275A	A	A	A	A	A	A	A	A	A	340
11	I300A	I270A	250	300	300	340	260	250	A	A	A	A	A	A	A	A	C	A	A	E305A	I265A	I310A	I340A	I340A
12	I295A	275	250	I280A	290	275	250	240	A	A	A	A	A	250	240	245	I245A	I230A	I255A	260	250	I270A	305	290
13	I290A	255	250	220	355	325	280	I250A	250	I225A	200	195	250	I235A	A	A	A	230	255	245	250	I260A	305	310
14	300	275	I270A	240	I255A	260	245	245	225H	205	210	E275A	A	A	250	240H	250	250	I250A	250	240	250	305	305
15	310	305	255	250	270	255	230	240	225	E280A	240	250	I205A	245	I250A	220	250	E300A	A	250	225A	A	A	A
16	A	275	260	255	260	300	250	225	200	205H	240	195H	240	270	225	225	230	240	250	240	205A	325	325	300
17	I325A	345	265	255	280	255	250A	I245A	275	245	I225A	I200C	240	240	240	I250C	I250A	I255A	I270A	290	265	290	300	285
18	270	300	290	300	255	275	260	240	240	I240A	240	A	A	A	A	A	A	245	255	250	255	260	255	I280A
19	315	300	290	260	255	280	245	250	250	I240A	A	A	250	A	A	A	A	250H	220H	255	250	I260A	255	270
20	300	290	300	275	230	260	240	240	I250A	240	A	A	A	A	240	240	225	220H	245	240	235	285	290	300
21	295	290	260	255	225	350	230	240	250	240	210	245	A	A	A	E260A	I245A	I230A	235	I245A	I250A	300	300	I320A
22	290	250	340	250	250	265	230	250	220	205	225	250	235	210	220	220	250H	240	I260A	280	225	240	305	310
23	300	300	280	245	270	270	240	240	235	220	205	240	250	A	225	I230A	A	220H	I245A	240	I215A	295	330	340
24	305	350	350	320	260	290	270	A	I240A	A	A	A	A	A	A	A	240H	A	A	225	300	A	A	A
25	A	320	I340A	300	340	330	A	A	A	260	240	A	A	A	A	A	A	240	240	230	245	290	275	290
26	300	295	280	255	300	290	250	225	215	230	A	A	A	A	225	I240A	225	240	240	250H	250	300	300	350
27	305	300	290	260	240	260	250	240	230	205	I215A	I210A	250	A	A	A	A	A	A	245	I255A	250	I265A	320
28	305	280H	280	290	290	290	250	240	I240A	240	I200A	220	200	200	205	245	250	A	A	A	240	250	310	A
29	A	A	A	E330A	290	340	250	230	225	205	I235A	I220A	I215A	I250A	230	245	250	250	I270A	260	200	A	A	A
30	A	A	A	300	205A	300	275	250	I240A	240	A	A	A	A	A	I240A	250	A	A	250	225	A	A	A
31	I295A	320	350	370	280	260	255	230	210	I265A	250	210	I260C	255	260	230	240	205H	I270A	270	295	I260A	E350A	305
No.	25	29	29	30	30	28	29	27	25	19	15	13	13	13	17	17	19	18	20	24	29	24	24	24
Median	300	295	280	280	290	290	250	240	240	240	225	220	240	240	230	240	245	240	U250	250	250	280	305	300

h'F

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 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	120	125	110	110	105	115	110	120	125	120	110	110	110	120	125	110	105	145	140	110	120	120	110	110
2	105	S	S	110	110	115	115	115	115	110	120	120	120	125	120	120	110	110	G	105	100	100	120	125
3	120	105	105	S	E	S	130	125	125	120	115	110	105	110	105	140	140	105	130	125	125	125	125	115
4	110	105	S	E	105	105	110	130	120	120	120	120	125	125	130	120	110	110	110	115	110	105	S	S
5	S	105	S	105	105	105	105	125	120	120	120	110	110	110	110	110	120	110	110	110	110	105	105	120
6	S	S	105	100	100	140	135	125	115	120	125	120	115	110	110	110	110	135	105	105	105	105	S	105
7	110	110	105	105	105	105	140	130	130	130	110	110	125	130	150	150	140	150	135	135	110	130	S	145
8	115	S	110	105	100	105	145	135	140	130	125	125	115	110	130	120	145	130	110	110	S	S	110	120
9	110	110	105	105	105	105	125	130	135	125	130	120	110	120	115	125	125	115	110	105	105	105	105	110
10	120	110	105	105	105	100	130	130	130	130	130	130	130	130	120	120	110	105	105	105	100	100	100	105
11	115	105	105	105	S	S	140	130	125	115	110	105	105	105	110	135	C	130	120	120	110	105	105	125
12	110	110	105	105	S	105	105	130	120	120	115	125	125	G	140	120	135	135	130	120	110	110	110	S
13	120	120	110	105	110	S	140	140	125	110	110	115	115	105	155	150	140	140	130	130	105	100	105	130
14	120	120	110	110	105	105	105	105	140	105	120	110	110	105	105	155	105	135	135	130	125	S	S	120
15	110	110	110	105	105	140	135	140	130	125	120	120	110	145	140	140	135	130	125	110	110	110	110	105
16	105	105	105	105	105	S	S	G	135	125	105	G	C	C	G	G	G	G	115	105	105	110	105	110
17	105	105	110	110	110	S	130	125	120	110	110	C	105	105	105	C	125	130	125	120	115	120	120	S
18	110	115	110	110	105	105	105	140	140	125	135	125	120	120	120	120	120	120	115	110	115	110	125	110
19	110	110	105	105	105	S	S	150	130	130	130	125	130	120	115	110	110	110	115	110	110	105	105	120
20	110	105	100	100	100	S	S	140	125	130	125	125	125	130	130	120	105	105	155	105	S	105	S	110
21	120	120	110	110	110	105	115	155	135	130	140	125	115	120	115	115	140	140	110	105	105	105	105	110
22	110	105	105	105	105	105	155	140	145	155	140	140	140	125	115	110	G	155	135	125	110	S	105	S
23	S	S	S	S	E	E	140	140	120	130	150	150	150	140	130	130	125	120	110	110	110	S	S	S
24	130	120	110	125	125	120	110	120	125	115	140	105	105	110	105	105	145	125	115	110	105	105	115	115
25	115	110	135	110	125	150	130	120	120	120	110	135	120	115	110	110	120	110	G	S	S	S	S	S
26	S	S	S	E	S	S	S	130	135	125	125	120	120	125	140	125	120	110	105	105	105	S	110	S
27	110	110	S	105	105	100	105	155	130	130	115	115	170	140	135	140	135	140	140	130	135	140	100	S
28	100	110	110	110	S	110	110	110	130	130	125	130	135	G	G	G	140	125	125	115	110	115	115	110
29	110	110	110	105	105	105	105	130	120	120	120	120	125	180	175	G	145	135	130	125	120	120	110	110
30	105	105	105	105	105	140	130	130	125	130	120	110	110	105	100	140	140	130	125	125	120	125	110	110
31	110	105	105	105	105	S	S	140	135	105	105	105	105	105	105	140	130	120	115	110	110	110	110	115
No.	27	26	25	27	25	21	26	30	31	31	31	29	30	28	29	27	28	30	29	30	28	25	24	23
Median	110	110	105	105	105	105	130	130	125	125	120	120	120	120	120	120	125	130	120	110	110	110	110	110

h'Es

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

The Radio Research Laboratories, Japan.

Y11

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IONOSPHERIC DATA

Aug. 1962 | Types of Es | 135° E Mean Time (G.M.T. + 9h.) | Yamagawa | Lat. 31° 12.5' N, Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	f_2	f	f	f	f_2	f_2	l_3	c_3	c_2	c	c_2	c_2	c_2	c	h	c	l_2	$h\,l$	$h\,l$	f_2	f_6	f_2	f_3	f_2
2	f_6			f	f	f	l_2	l	l	l	c_2	c	h_2	l	l	l	l_2	l		f_2	f_2	f_2	f_2	f_2
3	f_2	f_2	f_2				c_2	c_3	h	c_2	c_2	c_2	l_2	l_2	l_2	$h\,l_2$	$h\,l_3$	l_2	$h_2\,l$	$f\,f_2$	f_3	f_2	f_4	f_2
4	f_6	f_2			f_3	f_5	l	c_2	c_2	h_2	h_2	h_2	h	h_2	h	c_2	l_2	l_3	l_3	f	f	f		
5		f_2		f_3	f_4	f_3	l	c_2	c_3	l	c	c_2	c_2	l_2	l	l_2	$l_2\,h_2$	l_2	l_2	f_4	f_2	f_2	f_3	f_2
6			f_2	f	f	$c\,l$	c	c_3	c_2	c_2	h	c	l	l	l	l_2	l_2	$h_3\,l_2$	l_3	f_3	f_3	f_2		f
7	f_3	f_2	f_2	f_2	f_2	f_2	$c_2\,l$	$c_3\,l$	$c\,l_3$	$c_2\,l_3$	$c_3\,l_2$	$c_3\,l$	$c\,l_2$	$h\,c$	h	$h\,l$	h	h_2	h_3	f_2	f_2	f_3		$f\,f$
8	f		f	f_4	f_2	f_2	h_3	h	h_2	h	h_2	h_2	l	l	$h_2\,l$	h_2	h	h_2	c_2	f_2			f_2	f_2
9	f_2	f_3	f_2	f_3	f_2	f_2	l	h_2	h_2	h_2	h_2	h_2	l	l	l	h	c_2	c_2	c_2	f_2	f_2	f_4	f_2	f
10	f	f_3	f_3	f_2	f_2	f_3	$h_2\,l_2$	$h_2\,l$	h_2	h	h	h	h	h	c	c_2	l_3	l_3	l_2	f_3	f_3	f_3	f_2	f_2
11	f_3	f_3	f_2	f_2			c	c_4	c_3	h_2	c	l	l_2	l_2	l_2	$h\,l_2$		h	c_2	f_2	f_3	f_2	f_3	$f\,f$
12	f_2	f	f_2	f_3		f_2	l	$c\,l_2$	c_2	h_2	c_3	h	c_2		h	l	h_2	$h\,l$	c_2	$f_4\,f_2$	f_3	f_2	f_2	
13	f_2	f	f_2	f	f		h_3	$h_2\,l_3$	$h_2\,l_2$	l	l_2	l	l	l_2	$h\,l$	$h\,l$	h	h_2	c_3	$f_2\,f$	f_2	f_2	f_2	$f\,f$
14	f	f	f_3	f_4	f_4	f_2	l	$l\,h$	$c\,l_2$	l_2	$c\,l$	l_2	l	l	l_2	$h\,l_2$	$l_2\,h$	$h_2\,l$	$h\,l_2$	f	f			f_2
15	f_2	f	f_2	f_2	f	f	h	h_3	$h\,l$	h_2	h	h_2	l	$h\,l$	$h\,l$	h	h	h_2	c_2	f_3	f	f_2	f_2	f_3
16	f_4	f_3	f_2	f_3	f_2				h	$c\,l$	l								l	f_2	f_3	f_2	f_2	f
17	f_3	f_4	f_3	f_2	f_2		c_2	$c_2\,l$	$c_3\,l$	c	l_2		l	l	l		$h_2\,l_2\,l$	$h\,l$	$c_4\,l$	f_2	f_3	f_3	f_2	
18	f	f	f	f_2	f	f	l_2	h_3	h	$h_3\,l$	h	h	h_2	h_2	c_3	c_2	c_2	c_2	l_2	f_4	f	f_5	f	f_2
19	f_2	f_2	f_2	f_3	f			h_2	h_2	h_2	h	h	h	h_3	c_3	c_3	c_3	l_2	l	f	f_2	f_4	f_3	$f_2\,f_2$
20	$f_2\,f_4$	f_2	f_2	f_3	f_2			h_2	h_3	h	h_2	h_2	h	h_2	h	$h\,l$	l_2	$l_2\,h$	h	f_2		f_2		f_2
21	f_2	f	f_2	f_2	f_2	f_3	l_2	h	h	h	h	h	c_2	h_2	c_2	c	$h\,l_2$	$h\,l_2$	l_2	f_4	f_3	f_4	f_2	f_2
22	f_2	f_2	f_2	f_2	f_4	f	c	$h_3\,l$	h_2	$h\,l$	h	h	h	h	l	l		h	h_2	f_3	f		f_3	
23							h	h_2	h	h	$h\,l$	$h\,l$	$h\,l$	h	h	h	h_3	h	c_2	f_2	f_2			
24	f	f_2	f_2	$f_2\,f_3$	$f\,f_2$	f_2	c_3	c_3	h_2	c_2	$h_2\,c$	c_3	c_3	l_2	l_2	$l_2\,l$	$h\,l_2$	$h_2\,l_2$	c_2	f_4	f_2	f_2	f_3	f_3
25	f_4	f_2	$f\,f_4$	f_5	$f_2\,f$	f	c_4	c_2	c_2	h	l	h	c_2	c_3	l_2	l_3	l_2	l_2						
26								c	h	h	c_2	c_3	c_2	c	h	c_2	l	l_2	l_2	l_3	f_3	f	f_2	
27	f	f_2		f_2	f_2	f_2	l_2	h	$h\,l_2$	h	h_3	l	$h\,l$	$h\,l$	h_2	h_2	$h_2\,l_2$	$h_2\,l_2$	$h\,l_3$	$f\,f_2$	$f_2\,f$	$f\,f_2$	f	
28	f_2	f_2	f_2	f_3		f_2	l	l_2	$h_2\,l_2$	$h\,l$	h_2	$h\,l$	h				h	c_2	c_4	f_3	f_4	f_2	f_2	f_3
29	f_3	f_4	f_3	f_3	f_4	f_5	l_2	$c_2\,l$	$c_2\,l_2$	h	h_2	h_2	h_2	h	h		h	h_2	c_3	f_4	f_3	f_3	f_5	f_3
30	f_2	f_4	f_2	f	f_2	f_2	c_2	c_4	c_3	h	h_2	c_2	l_3	l_2	l_2	$h\,l_2$	$h_2\,l$	$h\,l_2$	$h_2\,l_2$	$f_4\,f_2$	f_2	f_5	f_2	f_3
31	f_2	f_2	f_3	f_2	f	f		c_2	$c\,l_2$	l_2	l	l_2	l	l	l	$h\,l$	h	l	l_3	f_3	f_2	f_2	f_2	f_2
No.																								
Median																								

Types of Es

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

The Radio Research Laboratories, Japan.

Y 12

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SOLAR RADIO EMISSION 200 Mc/s

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

HIRAISO

Time in U.T.

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

Note No observations during the following periods:

5th 2000 - 2240
9th 2000 - 10th 0110
16th 0000 - 24th 0130
29th 2000 - 30th 0100

Outstanding Occurrences

Aug. 1962	Start-time	Dura-tion	Type	Max. Inst.	Int. Smd.	Max. Time	Remarks
14	0240.0	0.8	CD/4	890	330	0240.8	
	0247.1	6	CD/4	>1000	120	0249.7	off scale
15	2307.3	0.8	CD/4	390	160	2308.1	
	2309.4	2	F/3	800	-	2310.8	

RADIO PROPAGATION QUALITY FIGURES

HIRAISO

Time in U.T.

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

* = day of Special World Interval

( ) = inaccurate

[ ] = Regular World Day

C = artificial accident

\- = impossible to evaluate

--- = continuing magnetic storm

SUDDEN IONOSPHERIC DISTURBANCES

(S.I.D.)

HIRAISO

Time in U.T.

Aug. 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										
14	-	22	13	12'	-		02:45	15	S	2-	02:47	-	2		x	x

IONOSPHERIC DATA IN JAPAN FOR AUGUST 1962
第 14 巻 第 8 号

昭和37年10月25日 印 刷
昭和37年10月30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)

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東京都豊島区日ノ出町2の228
電話 (971) 9341