F — 140

IONOSPHERIC DATA IN JAPAN

FOR AUGUST 1960

Vol. 12 No. 8

Issued in November 1960

Prepared by

THE RADIO RESEARCH LABORATORIES

MINISTRY OF POSTS AND TELECOMMUNICATIONS

KOKUBUNJI, TOKYO, JAPAN

F—140

IONOSPHERIC DATA IN JAPAN

FOR AUGUST 1960

Vol. 12 No. 8

THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

CONTENTS

SITES OF THE RADIO WAVE OBSERVATORIES

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

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

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

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

SYMBOLS AND TERMINOLOGY

A. IONOSPHERE

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

Terminology

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

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

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

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

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

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

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

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

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

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

$ypF2$ The semi-thickness of the $F2$ layer deduced from a parabolic fit to the "nose" of the electron density distribution with height and based on the observed $h'f$ trace. (The difference between $hpF2$ and the virtual height at 0.969 f_0F2).

a. Descriptive Symbols

Used following the numerical value on monthly tabulation sheets.

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

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

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

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

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

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

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

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

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

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

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

O Measurement refers to the ordinary component.

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

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

V Forked trace which may influence the measurement.

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

X Measurement refers to the extraordinary component.

Y Intermittent trace.

Z Third magneto-ionic component present.

b. Qualifying Symbols

Used as a preceeding symbol on monthly tabulation sheets.

D	*greater than*.....
E	*less than*.....
I	Missing value has been replaced by an interpolated value.
J	Ordinary component characteristic deduced from the extraordinary component.
T	Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.
U	Uncertain or doubtful numerical value.
Z	Measurement deduced from the third magnetoionic component.

c. Description of Standard Types of E_s

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

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

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

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

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

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

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

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

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

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

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

d. Multiple Reflections from E_s

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

B. SOLAR RADIO EMISSION

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

a. Daily Data

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

Variability Variability is expressed in four grades as follows:

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

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

b. Outstanding occurrences

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

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

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

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

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

activity

M : multiple peaks separated by relatively long period of quietness

F : multiple peaks separated by relatively short period of quietness

E : sudden commencement or rise of activity

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

Maximum intensity

Instantaneous: The highest value above the base level.

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

C. RADIO PROPAGATION CONDITIONS

a. Radio Propagation Quality Figures

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

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

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 weighted averages of the 6-hourly indices of London, WWV and S.F., with half weight given to quality grade 2 (normal). This procedure is taken to avoid the concentration of the whole day indices to grade 2.

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

WS.....WWV 20 Mc, 15 Mc and 10 Mc (Washington)

SF.....WMA-25: 5.0775 Mc, WMA-47: 7.485 Mc, WMF-27A2: 7.712 3 Mc WMH-30A2: 10.3873 Mc, WMH-53A2: 13.7773 Mc and WMJ-30A2: 20.8173 Mc (San Francisco)

HA.....WWVH 15 Mc and 10 Mc (Hawaii)

TO.....JJY 15 Mc and 10 Mc (Tokyo)

LN.....GIJ-27: 7.6975 Mc, GIJ 30: 10.9075 Mc, GBJ 34: 14.798 Mc and GIJ-38: 18.4375 Mc (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 and 20 Mc for WWV, WWVH and JJY are marked; 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

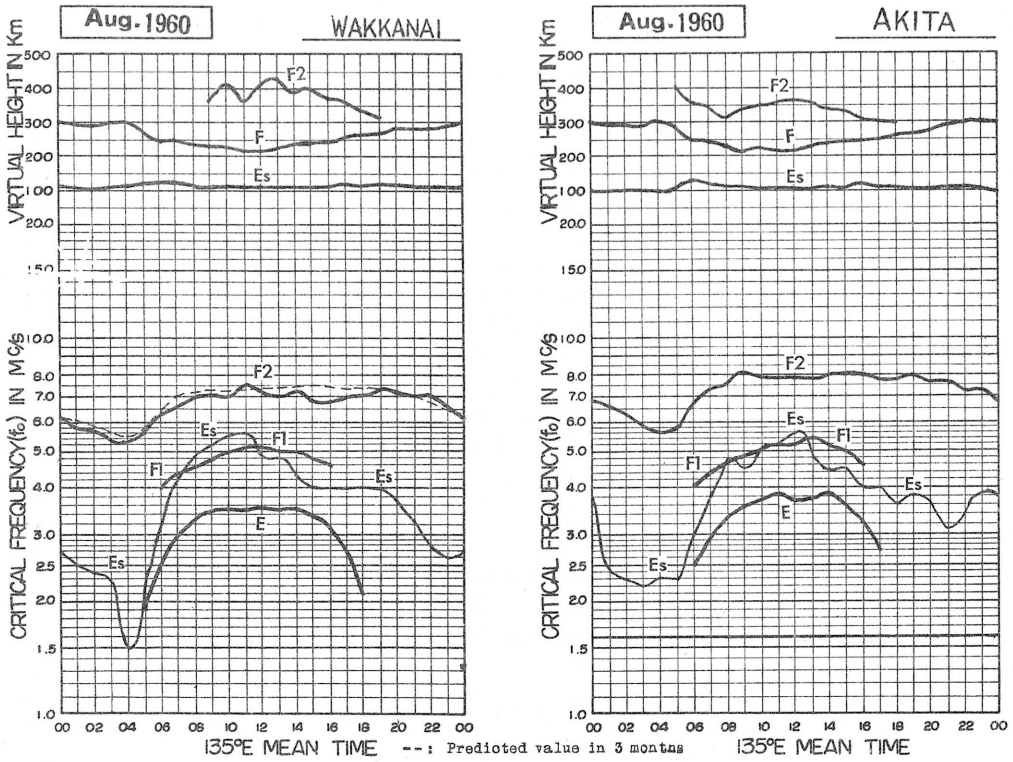
Degrees of SWF are classified into 9 grades according to the amplitude of fade-out;

1−	1	1+
2−	2	2+
3−	3	3+

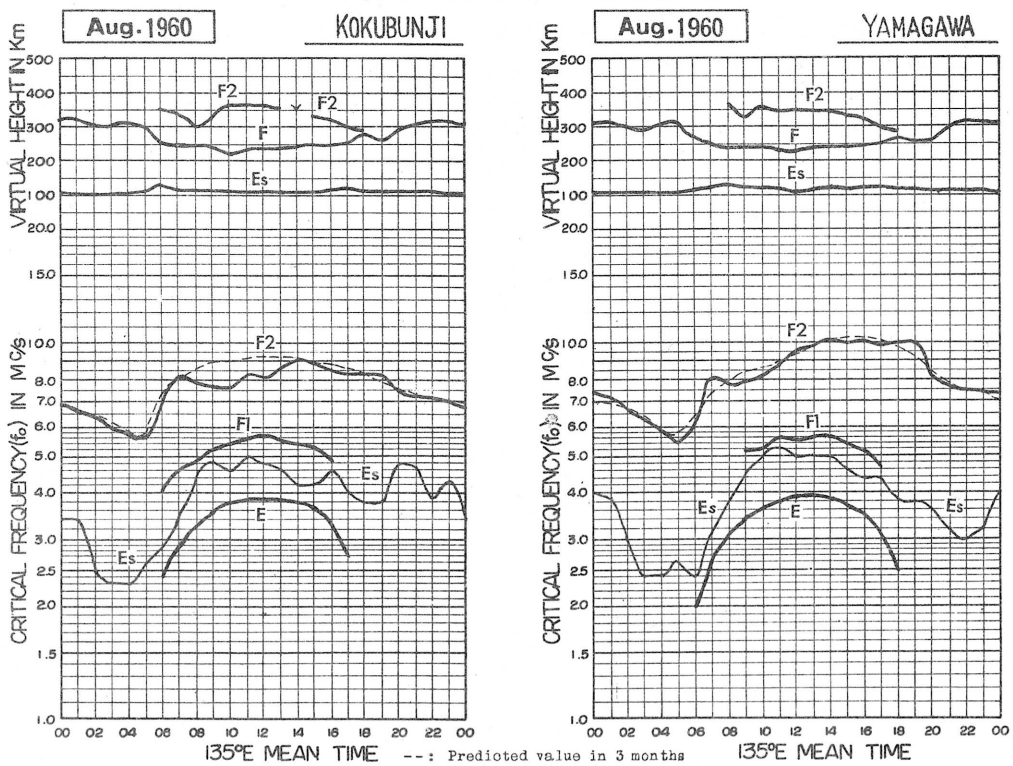
The data of sudden enhancement of atmospheric (SEA) observed on 28 kc are tabulated on each *Start-time, Duration and Importance.*

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



IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS



IONOSPHERIC DATA

Aug. 1960 | 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	6.3	5.8	5.1	5.0	4.3	5.0	5.5	5.9	5.4	I 6.0 A	I 6.0 A	I 5.2 A	5.2	5.5	5.3	5.3	5.6	5.6	5.6	I 5.9 A	6.2	6.4	U 6.3 S	6.3
2	6.0	5.6	5.7	4.9	5.2	5.1	6.5	I 7.1 A	7.6	7.3	I 8.0 A	8.0	7.2	8.0	6.6	6.7	6.8	7.3	U 7.5 S	7.3	I 7.2 S	I 7.1 S	U 7.0 S	7.1
3	6.8	6.8	6.7	6.1	5.3	5.8	6.3	5.9	U 6.8 S	I 5.6 A	I 5.7 A	I 5.8 A	I 6.4 A	6.5	6.3	6.2	6.5	6.7	7.0	7.6	U 7.3 S	U 7.4 S	7.0	I 6.7 S
4	S	S	S	S	4.8	5.1	5.3	5.7	A	A	A	I 6.2 R	6.1	6.2	6.5	6.5	6.5	7.2	7.0	7.3	S	S	S	6.9
5	6.1	5.5	5.3 F	5.3 F	5.3	5.0	6.4	I 5.9 A	6.2	I 6.0 R	I 5.7 A	I 5.8 R	5.9	6.3	6.6	6.3	6.2	6.7	6.8	6.8	I 6.8 A	6.7	6.4	6.3
6	6.2	5.8	5.3	I 5.3 FS	I 5.4 F	6.2	6.1	6.6	8.0	7.1	7.2	I 6.8 A	7.2	I 7.5 A	7.8	7.8	6.8	7.0	7.7	S	S	S	U 7.0 S	S
7	S	FS	FS	F	4.6	5.7	7.2	7.8	I 7.6 A	7.3	7.6	7.8	7.8	7.2	7.5	7.1	7.1	7.0	7.2	U 8.0 S	S	S	S	7.2
8	U 6.3	6.0	5.2	5.3	5.3	6.3	7.3	7.7	U 8.6 R	8.3	6.5	U 7.3 R	7.1	6.7	I 7.0 B	6.7	6.8	6.9	6.8	7.8	I 7.8 S	I 7.8 S	7.1	6.1
9	5.5	5.5 F	5.5 F	5.1 F	I 5.0 F	5.3	6.1	U 6.1 R	I 6.0 R	I 6.0 R	5.8	I 5.6 A	6.3	I 6.0 A	I 5.8 A	I 5.8 A	5.8	6.2	6.0	6.5	6.8	6.3	5.7	5.6
10	5.8	5.7	5.3	5.0	5.3	5.6	6.1	6.2	5.8	5.9	5.8	5.9	6.1	6.6	6.7	6.5	5.9	6.0	6.3	6.8	U 7.3 S	7.0	U 6.2 S	U 5.2 S
11	U 4.8 S	4.9	4.9	I 4.8 F	4.2	4.7	5.5	6.1	5.7	5.4	5.4	5.5	I 5.6 B	5.5	5.7	6.1	6.0	6.2	5.8	5.6	6.0	FS	FS	F
12	F	5.5 F	5.0 F	4.8 F	5.0 F	5.1	5.6	5.6	6.0	6.4	5.8	5.3	I 5.6 R	6.0	6.1	5.9	6.1	6.5	6.3	6.5	6.3	6.5	6.3	5.5
13	U 5.7 S	5.8	U 5.8 S	3.6	3.6	4.7	5.2	6.0	5.5	A	A	A	A	5.8	6.0	6.3	6.1	6.2	6.1	6.3	U 6.1 S	U 6.3 S	6.4	6.3
14	6.0	5.8	6.0	6.0	5.5	5.6	6.6	U 7.6 R	7.5	8.1	7.5	7.8	7.3	7.5	7.3	7.3	7.1	7.1	7.5	8.0	U 8.0 S	U 7.8 S	U 7.2 S	7.3
15	6.6	6.7	6.4	6.2	5.4	U 4.4 S	5.6	6.6	U 6.3 R	6.3	6.9	6.8	I 6.9 A	7.0	7.5	7.3	7.0	6.6	6.5	6.2	U 6.8 S	U 7.2 S	7.0	6.9
16	6.6	U 6.3 S	6.1	5.9	5.8	5.6	5.9	5.8	5.8	I 6.8 A	7.0	I 7.6 A	I 7.4 A	7.3	7.5	7.4	7.4	7.5	7.3	7.6	7.4	U 7.3 S	7.3	6.7
17	6.3	F	F	F	4.5	5.1	6.2	5.8	6.0	R	A	A	A	7.4	7.9	6.8	6.6	6.3	5.8	6.5	6.3	I 6.5 S	5.7	5.3
18	5.2	4.9	4.0 F	I 3.7 F	I 3.6 F	4.7	A	A	A	A	A	A	A	A	A	6.0	6.2	6.3	6.7	6.8	I 7.0 A	6.8	6.9	6.6
19	6.1	5.8	5.7	I 5.3 FS	I 4.8 A	I 5.4 F	6.0	5.7	5.5	I 4.3 A	A	A	R	6.3	6.5	6.6	6.8	6.7	6.7	6.3	6.4	6.1	6.0	5.8
20	5.3	5.3	5.6	5.3	4.7	5.3	7.4	9.3	U 7.9 R	7.1 H	7.0	U 8.2 R	8.3	7.0	7.4	7.4	7.8	8.2	I 8.1 S	U 7.5 S	U 7.5 S	6.5	5.7	5.4
21	F	F	F	I 5.1 F	5.1 F	5.7	8.0	8.3	U 8.7 R	7.5	7.9	8.4	7.9	8.5	8.1	8.0	8.2	8.0	8.0	U 8.3 S	7.5	7.4	7.3	6.8
22	6.2	5.8	5.7	5.5	5.3	5.8	7.0	7.1	8.0	I 8.2 A	8.4	8.2	8.7	9.1	9.0	9.0	8.1	8.2	8.3	8.1	8.1	U 7.8 S	7.5	7.3
23	7.0	7.0	6.8	6.2	6.3	6.6	7.8	7.6	7.5	8.0	7.8	7.7	8.0	8.2 H	8.7	8.6	8.5	8.6	8.5	U 8.2 S	S	S	S	7.6
24	7.3	6.8	6.4	5.8	5.8	6.2	7.9	9.3	9.8	9.3	8.9	9.0	9.4	9.3	9.1	8.9	8.9	9.3	9.4	U 9.0 S	U 8.5 S	7.8	7.1	6.7
25	6.7	6.8	6.3	6.0	5.7	6.1	7.3	7.6	I 8.1 A	8.0	7.9	8.0	8.4	8.8	8.3	8.3	8.6	9.1	9.0	I 9.2 A	I 8.8 S	U 8.0 S	I 7.2 S	6.6
26	6.5	6.3	6.1	6.1	5.8	6.5	8.5	9.3	9.5	8.9	8.2	8.2	8.0	8.3	8.3	8.7	8.6	8.2	I 8.2 S	U 8.0 S	I 7.9 S	I 7.9 S	7.7	U 7.3 S
27	6.9	6.7	6.4	6.2	6.0	6.4	7.8	9.0	U 10.3 R	10.2	9.0	8.8	8.8	9.8	9.0	9.0	8.7	8.7	I 8.5 S	8.1	U 7.8 S	7.4	7.1	6.8
28	6.2	6.2	6.0	5.8	5.7	6.7	7.5	9.3	C	C	C	C	C	C	C	C	C	C	9.3	U 8.3 S	8.0	7.3	7.0	6.5
29	I 6.4 FS	6.3	6.0	6.1	5.9	6.5	7.8	9.5	9.0	9.7	9.3	8.5	8.6	8.6	8.2	7.0	7.9	I 9.0 C	U 10.6 S	U 9.4 S	7.2	6.9	6.8	6.5
30	6.2	6.0	5.8	4.9	4.3	4.0	4.7	4.8	4.8	5.0	5.6	W	5.8	6.3	6.3	I 6.6 A	6.5	6.9	I 6.2 A	I 5.9 A	6.0	U 5.8 S	5.0	U 5.0 S
31	I 5.2 S	I 5.0 A	I 4.6 A	A	S	A	5.1	5.7	5.0	I 4.2 A	I 5.1 A	I 5.2 A	5.3	5.2	5.5	5.5	5.3	5.6	I 5.8 A	I 5.9 A	6.0	5.4	I 5.1 S	4.9
No.	27	27	27	27	30	30	30	30	28	26	25	25	26	29	29	30	30	30	31	30	27	26	27	27
Median	6.2	5.8	5.7	5.3	5.3	5.6	6.4	6.6	7.2	7.1	7.0	7.6	7.2	7.0	7.3	6.8	6.8	7.0	7.0	7.4	7.2	7.0	7.0	6.6
U.Q.	6.6	6.3	6.1	6.0	5.7	6.2	7.4	7.8	8.0	8.1	8.0	8.2	8.0	8.2	8.2	7.8	7.9	8.2	8.2	8.1	7.8	7.4	7.1	6.9
L.Q.	5.8	5.5	5.3	5.0	4.7	5.1	5.6	5.9	5.8	5.9	5.8	5.8	6.1	6.2	6.3	6.3	6.2	6.3	6.3	6.5	6.3	6.5	6.2	5.7
Q.R.	0.8	0.8	0.8	1.0	1.0	1.1	1.8	1.9	2.2	2.2	2.2	2.4	1.9	2.0	1.9	1.5	1.7	1.9	1.9	1.6	1.5	0.9	0.9	1.2

foF2

Sweep 1.0 Mc to 20.7 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

W 1

IONOSPHERIC DATA

Aug. 1960 | foF1 | 135° E Mean Time (G.M.T.+ 9h.) | **Wakkanai** | Lat. 45° 23.6' N, Long. 141° 41.1' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						3.2	I 3.6 A	I 4.1 A	4.5	I 4.6 A	I 4.7 A	I 4.7 A	4.7	4.8 H	4.8 H	I 4.7 L	4.5	A						
2							L	I 4.7 A	I 4.9 A	5.1	I 5.0 A	I 5.1 L	I 5.2 L	4.9	5.3	I 4.9 L	4.7 H	4.1						
3							3.9	4.5	4.5	I 4.8 A	I 5.0 A	I 4.9 A	I 4.9 A	I 5.0 A	I 4.8 L	I 4.6 L	L	L						
4							4.0	4.2	A	A	A	I 5.0 A	I 5.0 L	4.9	I 4.8 L	4.8	I 4.6 L	4.2	L					
5							3.9	I 4.2 A	4.6	I 4.7 A	I 4.8 A	5.1	5.0	5.1	5.0	I 4.9 L	I 4.6 L	4.1						
6								A	A	A	5.0	I 4.9 A	5.0	I 5.0 A	I 4.9 A	5.0	L	A						
7						L	A	A	A	A	5.1	5.1	I 5.2 A	5.3	5.1	I 4.7 L	L	A						
8						L	L	L	A	L	A	5.3	5.1	5.1	B	L	L	L						
9						L	4.1	4.3	A	A	A	A	A	A	A	I 4.7 A	I 4.6 A	L						
10								4.6	4.8	I 4.8 A	4.9	5.0	5.0	5.0	5.0	L	L	L						
11						3.4	3.8	4.3	I 4.6 A	I 4.7 A	4.8	4.9	I 5.0 B	5.0	4.8	4.7	4.7	L						
12						L	4.1	4.4	I 4.6 A	4.8	5.1	5.1	5.1	5.0	5.1	4.8	4.8 H	L						
13						L	3.9	4.2	4.6	A	A	A	A	5.0	5.0	5.0	L	L						
14								L	L	LH	L	5.6	I 5.6 L	I 5.4 L	5.5	5.6	A	A						
15							4.1	4.4	I 5.0 A	I 5.2 A	5.5	A	A	5.4	5.1	L	A							
16							I 4.0 L	A	A	A	L	A	A	A	L	L	L	L						
17							I 4.1 L	4.5	I 5.0 A	5.2	A	A	A	5.5	5.5	5.4	A	L						
18							A	A	A	A	A	A	A	A	A	5.2	L	L						
19							A	I 4.7 A	4.8	I 4.8 A	A	A	R	I 5.4 L	I 5.4 L	L	L							
20								L	4.9	I 5.3 L	5.5	5.5	5.5	5.8	L	L	L							
21							L	L	L	L	L	I 5.8 L	I 5.8 L	5.8	I 5.6 L	LH	L							
22									A	A	L	6.1	5.6	5.7	I 5.5 L	L	L							
23							L	L	L	5.2 H		LH	L		L	L	A							
24								L	L	L	A	LH	L	L	L	L	L	L						
25							L	L	A	A	L	A	A	A	L	L	L							
26								L	L	L		A	L	L	A	A	A							
27									L	L	L	L	L	A	A	L	L							
28								L	C	C	C	C	C	C	C	C	C							
29								L	L	L	L	L	L	L	L	L	L	C						
30							3.4	I 3.7 A	4.0	I 4.3 A	A	A	A	4.8	L	A	A							
31								A	4.3	A	A	A	A	4.8	4.6	L	L							
No.						2	12	14	14	13	11	15	15	21	18	14	7	3						
Median						3.3	4.0	4.4	4.6	U 4.8	5.0	5.1	5.1	5.0	5.0	4.8	4.6	4.1						

foF1

Sweep 1.0 Mc to 20.7 Mc in 1 min ~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

W 2

IONOSPHERIC DATA

Aug. 1960 | 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					A	1.80	2.50	2.80	3.10	3.40	3.50	3.45	I 3.50 A	3.60	3.50	3.10	I 3.00 A	2.75	2.10					
2					11.5	2.20	2.70	3.05	3.20	3.45	3.50	3.35	R	R	A	A	3.10	2.70	2.10					
3						1.80	2.50	2.85	3.10	3.25	3.35	3.40	3.55	3.45	3.45	3.30	A	A	A					
4						1.70	2.55	3.00	3.10	A	A	A	A	A	R	A	A	2.75	2.10					
5						2.10	2.60	2.85	3.30	3.40	3.40	I 3.40 A	A	A	A	3.45	I 3.10 A	I 2.70 A	2.10					
6						2.00	2.60	3.00	3.30	3.45	3.45	3.45	3.55	3.50	3.50	3.40	3.15	2.60	A					
7						1.80	2.60	3.00	I 3.05 A	I 3.30 A	A	A	A	A	3.60	3.35	3.25	3.15	A					
8						1.80	2.60	3.10	3.25	3.40	3.40	A	A	R	B	A	3.35	2.75	A					
9						A	2.60	3.00	3.25	3.50	3.55	3.60	3.50	A	A	A	A	A	2.05					
10						A	2.55	3.00	3.35	3.30	3.50	A	A	A	R	R	3.15	2.75	I 2.20 A					
11						2.00	2.60	3.00	3.30	3.50	3.55	3.60	B	A	A	3.50	A	A	A					
12						2.00	2.60	3.00	3.30	3.35	R	A	R	R	R	3.50	3.25	2.80	2.00					
13						1.95	2.60	3.10	3.40	3.60	3.80	3.75	3.70	3.55	3.40	3.10	I 3.10 A	A	A					
14						S	A	3.00	3.45	3.65	3.70	3.70	3.75	3.75	I 3.70 A	3.65	3.40	2.90	A					
15						A	2.65	3.10	3.45	3.60	3.70	3.80	3.85	3.75	3.75	3.55	3.30	2.65	A					
16						A	2.75	3.15	3.45	3.50	3.65	3.50	I 3.60 A	I 3.55 A	3.55	3.50	I 3.20 A	2.90	1.80					
17						1.65	2.65	3.10	3.45	3.70	3.50	A	A	A	A	3.55	I 2.90 A	I 2.55 A	2.10					
18						1.90	2.65	3.00	3.30	3.55	3.65	A	A	A	A	3.50	3.20	2.65	1.95					
19						2.00	2.55	3.00	3.25	3.45	3.50	3.55	3.70	3.60	3.50	I 3.20 R	I 3.05 A	2.75	A	S				
20						1.80	2.60	3.10	3.35	3.55	3.70	3.70	3.60	I 3.60 R	3.50	3.50	3.35	2.75	S					
21						1.70	2.60	3.05	3.30	3.50	3.60	3.70	3.55	3.50	3.65	3.55	3.15	2.60	1.90					
22						1.90	2.60	3.10	3.45	3.60	3.85	3.65	3.50	A	R	A	3.10	A	A					
23						S	2.55	3.00	3.25	3.45	3.50	A	A	R	3.30	A	A	A	A					
24						S	2.45	3.00	3.30	3.50	3.50	3.50	3.55	I 3.50 A	I 3.45 A	3.40	3.10	2.50	S					
25						A	2.50	I 2.90 A	3.25	3.35	A	A	A	A	A	3.40	3.10	2.55	S					
26						A	2.45	I 2.80 A	I 3.10 A	I 3.40 A	3.50	3.55	A	A	A	A	A	A	A					
27						S	I 2.50 A	I 3.00 A	3.30	3.50	A	A	A	A	A	A	A	A	A					
28						S	A	2.95	C	C	C	C	C	C	C	C	C	C	A					
29						S	2.35	2.75	3.10	3.30	3.30	3.60	3.60	I 3.50 A	3.50	I 3.30 A	2.90	I 2.45 C	S					
30						S	2.30	2.70	3.05	3.35	3.45	3.50	I 3.60 A	3.45	3.40	3.15	2.75	2.40						
31						S	2.15	2.60	2.95	3.05	3.15	3.15	I 3.30 A	3.15	3.25	3.10 H	2.75	2.30						
No.					1	17	29	31	30	29	25	20	16	14	16	21	23	22	11					
Median					11.5	1.90	2.60	3.00	3.30	3.45	3.50	3.50	3.55	3.50	3.50	3.40	3.10	2.70	2.10					

foE

Sweep 1.0 Mc to 20.7 Mc in 1 min ~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

W 3

IONOSPHERIC DATA

Aug. 1960 | 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	J3.5	J3.3	J3.5	J4.3	1.5	3.3	J6.0	J12.8	J8.3	6.3M	6.0	7.2M	5.0M	J6.3	J5.3	J4.8	J4.5	J5.3	J5.1	J5.7	3.8	J6.3	4.8	2.6
2	3.5	J2.8	J2.8	J2.4	G	G	3.2	J8.3	J5.8	4.1	J7.3	5.1	G	G	J3.8	J3.8	3.2	3.3	3.3	J4.0	E	3.0	E	E
3	E	E	E	E	E	G	G	3.4	4.2	J5.7	6.3	J9.8	J10.5	J5.5	J5.5	J4.9	J5.3	3.5	J4.5	J6.0	J3.3	J2.8	J2.3	3.5
4	J8.0	2.5	J6.0	J4.0	J2.8	2.4	J4.3	4.1	J9.3	J12.5	J8.3	6.0M	J7.3	J5.2	G	J3.8	4.0	3.4	3.1	J5.3	5.9M	J3.8	J4.3	J6.5
5	J2.8	2.4	J2.5	J1.8	E	2.5	J5.1	J6.0	J4.7	J5.3	J6.6	J5.1	5.1	J4.7	J4.3	G	J4.0	4.0	3.6	J4.3	J6.8	J5.0	J6.2	J6.3
6	J2.8	J6.0	J5.0	J4.0	J2.8	J2.5	3.2	J5.6	J7.0	J6.5	J6.3	J8.3	J8.3	J7.5	J7.3	J5.3	4.0	6.8	J5.1	J4.3	J3.8	J6.3	J4.0	J4.3
7	J4.5	J5.0	4.2	J3.3	J2.7	2.2	J4.6	J7.3	J10.8	7.3	J4.6	4.0	J6.3	J4.9	G	J5.3	4.0	J6.5	J10.8	J9.5	J8.5	J6.0	J5.0	E
8	J5.0	J2.8	J2.8	E	E	G	3.4	4.3	J6.3	J5.2	J5.5	J6.0	4.2	G	B	4.0	G	G	2.7	3.0	3.5	J6.3	J2.8	E
9	J4.3	J2.3	J2.0	3.0	J2.3	2.4	4.2	4.3	J4.8	5.0	5.1	J10.3	J9.5	J11.0	J8.3	J8.3	J4.8	3.3	J4.3	J6.5	5.0M	3.8M	J3.6	E
10	E	J3.3	J2.0	1.3	1.5	2.8	3.2	3.5	4.0	4.8	J4.8	J5.0	4.0	4.0	G	G	G	G	3.5	3.5M	3.0M	E	E	E
11	E	E	E	E	J6.0	G	3.1	4.0	5.0	4.4	4.2	4.0	B	7.3	J5.5	3.7	4.0	J3.3	3.2	J2.8	J3.3	3.0	J5.0	J2.8
12	E	J2.8	1.9	E	1.4	G	3.1	4.1	4.6	4.2	G	3.8	G	G	G	G	3.5	G	3.2	E	2.1	J2.8	J2.8	E
13	E	E	2.2	1.2	1.4	2.4	3.1	4.0	5.8	J6.3	J6.8	J7.2	J10.8	J5.6	J5.3	4.0	3.3	J5.3	2.6	J2.8	J2.8	J2.8	J2.8	E
14	E	J2.8	J2.0	J2.8	J2.7	3.5	3.0	G	G	4.2	G	G	4.3	G	4.1	G	5.0	J5.0	4.9	J2.8	J3.0	2.3	J2.8	J2.8
15	E	2.5	E	E	E	J2.8	G	J5.3	4.8	5.1	5.2	J7.3	J6.8	4.8	4.7	J5.5	J5.3	J5.0	J2.8	J2.8	J5.0	J4.4	E	E
16	J7.0	J3.3	J2.8	E	2.4	2.2	G	J5.8	9.2	J8.3	J5.5	J8.8	J10.8	J6.3	J5.0	J5.0	J5.3	3.5	J4.0	J4.0	J3.3	J2.3	E	J2.5
17	J2.7	2.5	2.7	E	E	2.0	3.0	4.0	J5.8	5.0	J7.3	J10.0	8.7	J6.0	4.0	J5.0	J5.8	3.1	J4.3	J2.8	5.0M	J3.0	J6.3	J3.8
18	J3.8	J2.3	E	J2.3	1.5	J4.3	J6.5	J6.0	7.3	J14.3	J8.8	J11.3	J11.8	J14.3	J11.3	4.5	4.0	3.4	3.5	3.3	9.2	J3.5	E	J4.5
19	4.5M	J4.3	J3.7	J2.5	4.4M	J3.5	4.9	4.8	5.3	J9.8	7.8	7.3	4.6	4.2	G	G	3.6	5.0	J5.3	5.0M	J6.1	J4.3	E	E
20	J3.5	2.3	E	J2.3	J2.3	3.1	J5.0	4.2	G	4.1	4.2	4.1	G	G	G	G	G	4.0	5.0	4.7	E	2.6	J2.1	E
21	E	E	3.5	E	2.4	2.0	2.9	3.5	4.5	4.8	7.2	4.4	4.4	4.0	G	G	3.7	3.6	2.6	J2.8	2.4	2.0	E	2.6
22	E	J2.1	E	E	E	G	G	4.6	J5.8	J7.5	4.8	4.5	4.1	J4.8	G	4.0	4.2	4.5	3.0	J4.5	J3.7	J3.0	E	2.6
23	E	E	E	2.4	2.4	S	G	3.5	G	4.0	4.7	4.0	4.3	G	G	J3.5	5.1	J5.3	J2.8	J2.8	2.2	J3.3	J3.1	J2.8
24	J2.8	E	2.6	J2.3	E	2.0	G	3.5	4.0	5.8	J5.3	4.3	4.0	4.0	4.3	G	G	3.1	J3.1	J3.8	2.2	3.5M	J3.0	2.5
25	J4.3	J4.1	J3.4	J3.5	J5.8	4.3	3.5	4.2	J7.3	5.8	J5.6	J6.7	J7.0	6.0M	J6.0	G	3.8	4.3	J13.3	J10.3	J8.3	J6.3	J6.0	J2.8
26	E	E	E	2.2	1.9	J2.8	3.0	3.4	J6.1	4.8	5.0	J5.5	J4.8	J4.8	J6.5	J5.9	5.1	J6.2	7.1	J8.3	J4.0	J3.6	J7.3	J4.0
27	J2.8	J4.9	J2.4	J2.4	E	S	4.0	3.5	3.5	4.8	4.4	4.1	4.3	5.7	J5.8	J5.3	3.4	J5.0	J6.3	J4.3	J4.2	J3.2	J2.8	E
28	E	E	E	J2.5	J2.1	J2.8	3.2	C	C	C	C	C	C	C	C	C	C	C	J8.3	J2.8	J6.3	J6.1	J6.5	E
29	E	E	J2.4	E	E	S	G	3.5	G	4.3	4.0	G	G	4.0	G	3.8	3.4	C	3.2	J3.0	J2.8	J2.3	J2.7	J2.6
30	2.5	E	2.4	2.4	E	2.0	3.0	J4.7	J4.8	5.1	J7.3	J5.8	4.4	G	4.4	J7.4	5.2	5.0	J8.0	J7.4	J7.0	J4.0	4.4	J2.8
31	E	J3.5	J6.5	J9.3	J9.3	J5.2	3.9	J5.0	3.5	J5.5	J7.0	J6.3	J6.0	G	G	4.0	3.5	J3.8	J5.8	J8.5	J2.8	3.0M	3.5M	J3.1
No.	31	31	31	31	31	28	31	30	30	30	30	30	29	30	29	30	30	29	31	31	31	31	31	31
Median	2.7	2.5	2.4	2.3	1.5	2.4	3.2	4.2	4.9	5.2	5.5	5.6	4.8	4.8	4.3	4.0	4.0	4.0	4.0	4.0	3.7	3.3	2.8	2.6
U.Q	3.8	3.3	3.4	2.8	2.7	3.0	4.2	5.3	6.3	6.3	7.0	7.3	7.8	6.0	5.5	5.0	5.0	5.0	5.3	5.3	5.9	4.4	4.8	3.1
L.Q	E	E	E	E	E	2.0	2.9	3.5	4.0	4.8	4.7	4.1	4.2	G	G	G	3.4	3.3	3.1	2.8	2.8	2.8	E	E
Q.R						1.0	1.3	1.8	2.3	1.5	2.3	3.2	3.6				1.6	1.7	2.2	2.5	3.1	1.6		

foEs

Sweep 1.0 Mc to 20.7 Mc in 1 ~~sec~~ min in automatic operation.

The Radio Research Laboratories, Japan.

W 4

IONOSPHERIC DATA

Aug. 1960 | 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	2.6	2.6	1.5	3.0	4.6	A	4.0	A	A	A	4.0	G	G	G	3.5	4.2	4.6	A	2.7	5.1	3.5	E
2	2.4	2.2	E	E			G	A	4.7	G	A	5.0			3.6	3.6	2.5	2.5	G	3.0		E		
3								G	G	A	A	A	A	5.6	4.8	4.7	3.2	3.1	3.3	4.0	3.1	E	E	2.9
4	2.5	E	A	E	E	G	3.5	3.6	A	A	A	A	4.5	4.7		3.6	3.2	2.2	G	4.0	A	3.0	E	E
5	2.4	E	E	E		G	G	A	G	A	A	3.7	4.5	4.5	3.7		3.5	3.1	3.5	4.2	A	4.8	4.1	2.5
6	E	3.7	4.0	3.1	2.5	G	G	5.0	7.0	6.5	4.9	A	4.5	A	6.3	4.6	3.8	6.0	5.1	4.0	3.1	4.5	2.5	A
7	4.0	3.0	2.3	2.9	2.1	G	4.5	7.2	A	5.5	4.5	4.0	6.0	4.4		G	G	4.9	5.0	4.5	E	A	2.5	
8	4.0	A	E				G	G	5.5	4.6	5.5	4.7	3.9		B	3.6			2.6	2.4	2.9	4.0	2.5	
9	E	E	E	E	E	2.2	G	3.8	4.5	A	4.9	A	5.0	A	A	A	4.6	2.9	4.2	3.5	4.5	3.1	3.5	
10		2.4	E	E	E	2.2	G	G	3.7	4.7	G	3.8	3.8	3.7					3.5	2.9	E			
11							G	3.8	4.7	E_{44} A	G	G	B	4.7	4.7	3.1	3.3	3.0	2.7	2.5	2.4	E	E	2.5
12		E	E		E		G	G	4.6	G		3.8					3.0		3.1		E	E	E	
13			E	E	E	G	G	3.7	4.5	A	A	A	A	A	G	G	3.2	2.9	2.4	E	E	E	E	
14		E	E	E	E	3.3	2.9			G			G		3.6		2.9	4.9	3.4	E	E	E	E	E
15		E				2.0		2.7	4.7	5.0	5.0	6.0	A	4.7	G	4.7	4.8	4.0	3.0	E	4.6	3.6		
16	2.8	2.5	E		E	2.1		5.1	5.1	5.0	5.0	A	A	5.7	4.7	4.5	4.5	2.5	3.1	E	2.6	E		2.4
17	2.5	E	E			G	G	G	5.5	4.5	A	A	A	4.7	3.7	4.5	5.5	2.8	G	E	4.5	2.7	A	3.1
18	E	E		E	E	4.1	A	A	A	A	A	A	A	A	A	G	G	G	2.6	2.5	A	3.5		3.0
19	3.4	3.4	E	E	A	3.3	4.5	G	4.6	A	A	A	4.5	G			3.5	4.0	4.5	4.7	E	3.5		
20	2.5	E		E	E	2.6	4.0	4.1		G	G	G						G	4.6	4.0		E	E	
21			E		E	G	G	G	4.5	G	4.8	G	G	G			G	G	2.6	2.5	E	E		E
22		E						4.4	5.5	A	4.5	G	G	4.6		3.7	2.5	4.3	2.4	4.5	3.1	2.8		E
23				E	E	S		G		G	G	3.7	4.0			3.5	4.4	4.2	2.6	2.6	E	3.3	3.3	2.8
24	E		E	E		G		G	G	G	5.2	G	G	3.8	4.2			G	G	3.0	E	E	E	E
25	3.7	3.2	2.9	E	3.2	3.8	G	3.1	A	4.6	3.8	5.1	6.9	5.5	3.7		G	G	5.5	A	5.2	4.6	A	E
26				E	E	1.8	2.0	3.2	3.7	3.7	3.3G	5.5	4.7	4.6	6.5	4.6	4.1	5.9	6.2	4.6	E	E	4.7	2.6
27	E	E	E	E		S	3.0	3.1	2.9	3.0G	3.8	4.0	4.0	5.2	5.0	3.7	3.0	4.5	4.4	E	3.6	3.0	2.5	
28				E	E	S	2.6	G	C	C	C	C	C	C	C	C	C	C	A	2.7	4.2	5.2	6.0	
29			E			S		G		G	G			3.6		3.6	G	C	2.9	2.9	2.4	E	E	E
30	E		E	E		G	G	4.0	G	4.9	4.6	A	E_{44} A		G	A	5.5	3.2	A	A		2.6	2.5	2.4
31		A	A	A	E	A	$E_{3.9}$ A	4.0	G	A	A	A	4.7			$E_{4.0}$ C	2.6	2.9	A	A	2.5	2.9	A	3.1
No.	17	21	22	21	20	21	23	30	26	30	28	28	25	22	18	20	26	26	31	30	28	30	23	19
Median	2.4	E	E	E	E	2.0	G	3.4	4.6	4.8	5.0	5.3	4.5	4.7	4.0	3.6	3.2	3.0	3.3	3.0	2.6	2.8	2.5	2.4

f_bE_s

Sweep 1.0 Mc to 20.7 Mc in 1 ~~sec~~ min in automatic operation.

The Radio Research Laboratories, Japan.

W 5

IONOSPHERIC DATA

Aug. 1960 | 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	E1.60 S	E1.60 S	E	E	E	E1.60 S	1.60	1.70	1.80	1.85	E2.50 S	E2.40 S	E2.45 S	E2.50 S	2.00	1.85	1.90	1.70	1.60	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
2	E1.65 S	E	E	E	E	E1.60 S	1.70	1.70	1.90	1.75	E2.40 S	E2.45 S	E2.50 S	2.15	2.10	1.80	1.70	1.70	1.70	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
3	E1.60 S	E1.60 S	E	E1.40 S	E1.60 S	E1.60 S	1.85	2.00	2.00	2.15	E2.50 S	E3.80 S	E2.50 S	E3.00 S	E2.40 S	E2.50 S	2.00	1.90	1.65	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
4	E1.60 S	E1.20 S	E	E	E	E1.60 S	1.70	1.75	1.75	1.90	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E2.50 S	1.70	1.70	1.60	1.65	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
5	E1.60 S	E1.60 S	E	E	E1.30 S	E1.60 S	1.60	1.75	1.80	1.90	E2.50 S	E2.50 S	E2.70 S	E2.50 S	1.90	2.20	1.85	1.80	1.70	E1.60 S	E1.65 S	E1.60 S	E1.60 S	E1.70 S
6	E1.60 S	E1.60 S	E	E	E	E1.60 S	1.70	1.75	1.80	2.00	2.15	E2.60 S	E2.60 S	E2.50 S	E2.50 S	E2.50 S	1.75	1.80	1.75	E1.60 S	E1.60 S	E1.80 S	E1.60 S	E1.60 S
7	E1.60 S	E1.20 S	E	E	E	E1.60 S	1.70	1.70	1.90	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E2.60 S	E2.45 S	E2.50 S	1.85	E2.50 S	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
8	E1.60 S	E1.60 S	E1.20 S	E1.20 S	E	E1.60 S	1.75	1.80	1.80	2.00	E2.50 S	E2.50 S	E2.50 S	E2.60 S	B	E2.50 S	2.00	1.70	E1.70 S	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
9	E1.60 S	E1.20 S	E	E	E	E1.60 S	1.70	1.70	2.00	E2.50 S	2.00	2.00	E2.80 S	E2.60 S	1.90	1.90	1.80	1.70	E1.60 S	E1.60 S	E1.60 S	E1.70 S	E1.60 S	E2.00 S
10	E1.60 S	E1.60 S	E1.30 S	E	E	E1.60 S	1.70	1.70	1.90	1.85	E2.50 S	E2.80 S	E2.50 S	E2.50 S	E2.50 S	E2.40 S	1.85	1.80	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
11	E1.60 S	E1.60 S	E1.60 S	E1.45 S	E1.20 S	E1.60 S	1.70	1.80	1.80	E2.50 S	E2.50 S	E2.60 S	B	2.50	E2.50 S	1.90	1.90	1.90	1.60	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
12	E1.60 S	E1.20 S	E	E	E	E1.60 S	1.65	1.70	1.90	E2.50 S	E2.50 S	E2.50 S	E2.60 S	E3.00 S	E2.60 S	2.20	1.90	1.70	E1.60 S	E1.70 S	E1.60 S	E1.70 S	E1.60 S	E1.60 S
13	E1.60 S	E1.60 S	E	E	E	E1.60 S	1.65	1.80	1.90	E2.50 S	E2.70 S	E2.50 S	2.00	E2.50 S	1.80	2.00	1.90	1.70	E1.70 S	E1.60 S	E1.60 S	E1.70 S	E1.60 S	E1.60 S
14	E1.60 S	E1.20 S	E	E	E	E1.60 S	1.70	1.70	1.70	E2.50 S	E2.50 S	E2.50 S	2.00	E2.50 S	E2.50 S	2.50	1.70	1.70	1.75	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
15	E1.65 S	E1.60 S	E1.20 S	E	E	E1.60 S	1.70	1.70	1.90	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E2.50 S	2.10	E2.50 S	1.90	1.85	1.75	E1.60 S	E1.60 S	E1.60 S	E1.90 S	E1.60 S
16	E1.60 S	E1.20 S	E	E	E	E1.60 S	1.70	1.60	1.90	E2.45 S	E2.50 S	E2.50 S	E2.60 S	E2.60 S	E2.50 S	E2.45 S	1.90	1.70	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
17	E1.60 S	E1.60 S	E	E	E	E1.60 S	1.60	1.85	1.70	2.10	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E2.50 S	1.90	1.75	1.60	1.60	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
18	E1.60 S	E1.20 S	E1.20 S	E	E	E1.60 S	1.75	1.75	E2.45 S	E2.50 S	E3.00 S	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E2.45 S	1.85	1.80	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.80 S	E1.60 S
19	E1.60 S	E	E	E	E	E1.60 S	1.85	1.90	1.90	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E2.45 S	1.70	1.65	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
20	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E	E1.60 S	1.70	1.70	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E3.00 S	E2.50	E2.70 S	E2.50 S	1.95	1.85	E1.75 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
21	E1.60 S	E1.60 S	E1.60 S	E	E	E1.60 S	1.60	1.75	1.85	E2.50 S	E2.50 S	E2.50 S	E2.50 S	E2.50 S	2.10	E2.50 S	1.90	1.65	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
22	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E	E1.60 S	1.60	1.70	2.00	E2.50 S	E3.00 S	E2.80 S	E2.80 S	E2.50 S	2.20	2.15	1.80	1.65	1.60	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.80 S
23	E1.70 S	E1.60 S	E1.20 S	E	E	E1.80 S	1.85	1.70	1.85	E2.50 S	2.10	E2.65 S	2.10	E2.65 S	2.00	1.75	1.70	1.60	E1.65 S	E1.60 S	E1.60 S	E1.60 S	E1.70 S	E1.60 S
24	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E	E1.60 S	1.70	1.85	1.75	2.10	E2.50 S	2.00	E2.60 S	2.10	2.10	2.10	1.80	1.70	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
25	E1.60 S	E1.60 S	E1.60 S	E	E	E1.60 S	1.70	1.65	1.90	E2.45 S	E2.50 S	E2.50 S	E2.50 S	E2.50 S	2.10	1.90	1.70	1.90	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
26	E1.60 S	E1.60 S	E1.60 S	E	E	E1.60 S	1.60	2.00	2.00	E2.60 S	E2.50 S	E2.50 S	E2.50 S	E2.45 S	E2.50 S	E2.45 S	2.10	1.70	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
27	E1.60 S	E1.60 S	E	E1.60 S	E1.60 S	E2.00 S	1.60	1.70	1.90	1.85	E2.50 S	E2.50 S	E2.50 S	E2.50 S	2.10	E2.50 S	1.70	1.70	1.70	E1.80 S	E1.65 S	E1.60 S	E1.60 S	E1.80 S
28	E1.70 S	E1.60 S	E	E	E	E1.80 S	1.70	2.15	C	C	C	C	C	C	C	C	C	C	1.70	E1.60 S	E1.85 S	E1.60 S	E1.60 S	E1.60 S
29	E1.70 S	E1.30 S	E1.60 S	E	E1.60 S	E1.60 S	1.70	1.65	1.90	E2.45 S	E2.50 S	E2.50 S	E2.60 S	E2.50 S	E2.45 S	E2.50 S	1.70	I 1.70 C	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
30	E1.60 S	E1.60 S	E1.40 S	E1.40 S	E1.60 S	E1.60 S	1.60	1.60	1.70	1.90	2.10	1.90	1.80	2.15	1.85	1.65	1.60	1.65	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S
31	E1.60 S	E1.60 S	E1.60 S	E	E	E1.60 S	1.70	1.70	2.00	2.05	2.05	E2.50 S	E2.50 S	E2.45 S	E2.45 S	E2.50 S	1.75	1.70	E1.70 S	E1.60 S	E1.60 S	E1.60 S	E1.60 S	E1.80 S
No.	31	31	16	23	25	31	31	31	28	30	30	30	30	30	30	30	28	28	31	31	31	31	31	31
Median	E1.60	E1.60	E	E	E	E1.60	1.70	1.70	1.90	E2.45	E2.50	E2.50	E2.50	E2.50	E2.45	E2.40	1.85	1.70	E1.70	E1.60	E1.60	E1.60	E1.60	E1.60

f-min

Sweep 1.0 Mc to 20.7 Mc in 1 min ~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 1960. | (M3000)F2 | 135° E Mean Time (G.M.T.+ 9h.) | **Wakkanai** | Lat. 45° 23.6' N | Long. 141° 41.1' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.70	2.70	2.70	2.60	2.45	2.60	2.60	2.90	2.70	I2.40A	I2.30A	I2.35A	2.30	2.65	2.45	2.75	2.75	3.05	2.85	I2.80A	2.65	2.65	U2.65S	2.55
2	2.65	2.75	2.70	2.85	2.90	2.95	3.10	I2.85A	3.10	2.75	I2.80A	2.85	2.70	3.00	2.75	2.75	2.80	2.90	U2.95S	2.80	I2.75S	I2.75S	U2.70S	2.60
3	2.65	2.65	2.85	2.95	2.65	2.90	3.10	2.65	U2.95R	I2.70A	I2.60A	I2.70A	I2.90A	2.90	2.85	2.75	3.05	2.95	2.90	2.80	U2.70S	U2.75S	2.65	I2.60S
4	S	S	S	S	2.75	2.75	2.75	3.00	A	A	A	I3.00R	2.70	2.85	2.70	2.85	2.75	2.80	2.95	2.80	S	S	S	2.90
5	2.80	2.75	2.70F	2.90F	2.80	2.85	2.95	I2.80A	2.80	I2.75R	I2.55R	I2.60R	2.70	2.75	2.95	3.00	2.80	3.00	2.95	2.95	I2.80A	2.70	2.75	2.80
6	2.80	2.75	2.80	I2.80FS	I2.85F	3.00	2.85	2.75	3.15	3.10	3.05	I2.85A	2.75	I2.80A	2.95	2.95	3.05	2.85	3.00	S	S	S	U2.80S	S
7	S	FS	FS	F	2.70	2.95	3.05	3.00	I3.05A	2.90	2.85	2.95	2.90	2.80	2.95	2.80	2.95	2.85	2.90	U2.75S	S	S	S	2.80
8	U2.70S	2.75	2.75	2.65	2.75	2.75	2.95	2.75	U3.05R	3.05	3.05	U2.95R	3.00	2.90	I2.90B	2.95	2.95	2.85	2.80	2.70	I2.80S	I2.85S	2.90	2.85
9	2.75	2.70F	2.75F	2.60	I2.60F	2.70	2.45	U2.80R	I2.75R	I2.60R	2.75	I2.80A	2.85	I2.75A	I2.70A	I2.70A	2.60	2.85	2.85	2.90	2.85	2.80	2.70	2.65
10	2.75	2.70	2.85	2.70	2.65	2.90	2.65	2.80	2.70	3.00	2.60	2.70	2.75	2.75	2.85	2.95	2.90	3.00	2.80	2.70	U2.75S	2.80	U2.80S	U2.75S
11	U2.60S	2.50	2.55	I2.60F	2.50	2.45	2.65	2.80	2.60	2.50	2.40	2.60	I2.45B	2.50	2.60	2.70	2.70	2.80	3.00	2.85	2.65	Fs	Fs	F
12	F	2.65F	2.50F	2.50F	2.80F	2.80	2.70	2.65	2.75	2.95	2.50	2.20	I2.40R	2.65	2.80	2.60	2.80	2.80	2.85	2.80	2.60	2.60	2.55	2.50
13	U2.65S	2.65	U3.00S	2.50	2.65	2.65	2.55	2.70	2.50	A	A	A	A	2.60	2.60	2.85	2.80	2.85	2.85	2.80	U2.60S	U2.60S	2.55	2.55
14	2.55	2.60	2.70	2.65	2.95	3.05	2.80	U2.90R	3.05	2.95	2.85	2.75	2.65	2.75	2.80	2.85	2.80	2.80	2.75	2.90	U2.65S	U2.65S	U2.70S	2.55
15	2.50	2.50	2.50	2.80	2.80	U2.75S	2.55	2.65	U2.55R	2.85	2.75	2.40	I2.80A	2.70	2.70	2.85	2.85	2.90	2.85	2.65	U2.55S	U2.65S	2.70	2.65
16	2.65	U2.50S	2.60	2.65	2.55	2.70	2.65	2.80	2.55	I2.85A	2.70	I2.80A	I2.70A	2.70	2.70	2.75	2.90	2.85	2.90	2.75	2.60	U2.75S	2.60	2.55
17	2.50	F	F	F	2.45	2.65	2.70	2.50	2.85	R	A	A	A	2.60	2.55	2.65	2.80	2.85	2.65	2.60	2.45	I2.55S	2.55	2.55
18	2.50	2.60	2.35F	I2.45F	I2.40F	2.30	A	A	A	A	A	A	A	A	A	2.55	2.60	2.70	2.75	2.65	I2.65A	2.55	2.55	2.65
19	2.50	2.55	2.65	I2.45FS	I2.40A	I2.55F	2.55	2.60	2.25	I2.30A	A	A	R	2.65	3.05	2.75	2.80	2.85	2.95	2.80	2.85	2.60	2.50	2.65
20	2.70	2.65	2.65	2.65	2.35	2.50	2.60	3.00	U2.85R	3.25H	2.55	U2.80R	2.90	2.55	2.70	2.70	2.65	2.85	I2.90S	U2.75S	U2.65S	2.60	2.60	2.70
21	F	F	F	I2.50F	2.65F	2.75	2.90	2.80	U2.95R	3.00	3.05	2.75	2.75	2.70	2.80	2.80	2.85	2.90	2.85	U2.75S	2.60	2.60	2.65	2.65
22	2.60	2.90	2.60	2.60	2.65	2.75	2.90	3.15	2.90	I2.85A	2.90	2.70	2.80	2.75	2.70	2.95	2.95	2.95	2.95	2.80	2.75	U2.80S	2.45	2.65
23	2.60	2.55	2.65	2.65	2.55	2.80	3.00	2.90	2.85	3.00	2.85	2.85	2.80	2.75H	2.85	2.85	2.95	3.00	2.95	U2.80S	S	S	S	2.75
24	2.75	2.70	2.65	2.75	2.60	2.60	2.80	2.85	2.90	2.95	2.95	2.80	2.80	2.75	2.75	2.90	2.85	2.90	2.90	U2.90S	U2.80S	2.70	2.70	2.60
25	2.70	2.65	2.70	2.70	2.60	2.80	3.05	3.10	I3.05A	3.15	2.95	2.75	2.90	3.00	2.90	2.90	2.90	2.90	2.95	I2.80A	I2.90S	U2.85S	I2.75S	2.75
26	2.65	2.65	2.65	2.65	2.75	2.75	3.10	3.05	3.05	3.05	3.00	3.05	2.90	3.00	2.85	3.00	3.00	3.00	I3.00S	U2.80S	I2.70S	I2.80S	2.80	U2.90S
27	2.80	2.70	2.75	2.80	2.90	2.95	3.00	2.95	U3.00R	3.05	2.95	3.00	2.95	2.90	2.85	2.90	2.95	2.95	I3.00S	2.90	2.75	2.70	2.85	2.80
28	2.70	2.70	2.65	2.70	2.65	2.85	3.05	2.80	C	C	C	C	C	C	C	C	C	C	2.90	U2.95S	2.75	2.65	2.85	2.80
29	I2.70FS	2.70	2.65	2.80	2.75	2.80	2.90	2.85	3.00	3.05	2.90	3.10	2.95	2.80	2.95	2.75	2.55	I2.65C	U2.80S	U2.95S	2.75	2.65	2.65	2.60
30	2.60	2.65	2.95	2.50	2.55	2.50	2.30	2.20	2.30	2.35	2.90	W	2.70	2.85	2.75	I2.85A	2.90	2.90	I2.80A	I2.70A	2.65	U2.60S	2.60	U2.55S
31	I2.70S	I2.60S	I2.60A	A	S	A	2.80	3.00	2.50	I2.85A	I2.75A	I2.70A	2.65	2.40	2.75	2.80	2.90	3.05	I2.80A	I2.80A	2.80	2.80	I2.70S	2.55
No.	27	27	27	27	30	30	30	30	28	26	25	26	26	29	29	30	30	30	31	30	27	26	27	29
Median	2.65	2.65	2.65	2.65	2.65	2.75	2.80	2.80	2.85	2.90	2.85	2.80	2.80	2.75	2.80	2.80	2.85	2.90	2.90	2.80	2.70	2.70	2.70	2.65

(M3000)F2 Sweep 1.0 Mc to 20.7 Mc in 1 min/sec automatic operation.

The Radio Research Laboratories, Japan.

W 7

IONOSPHERIC DATA

Aug. 1960 | (M3000)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	I 3.65 A	A	A	A	3.80	3.75 H	3.35 H	I 3.40 L	3.25	A						
2							L	I 3.30 A	I 3.35 A	3.40	I 3.45 A	I 3.60 L	I 3.55 L	3.55	3.35	I 3.20 L	3.30 H	3.40						
3							3.30	3.45	3.40	I 3.55 A	A	A	A	A	A	A	L	L						
4							A	A	A	A	A	A	A	I 3.50 A	I 3.30 L	3.35	I 3.35 L	3.30	L					
5							3.30	I 3.40 A	3.30	I 3.40 A	I 3.50 A	3.35	3.40	3.45	3.30	I 3.45 L	I 3.40 L	3.40						
6								A	A	A	A	A	3.45	A	A	A	LA	A						
7							A	A	A	A	A	3.50	I 3.35 A	3.30	3.30	I 3.40 L	L	A						
8						L	L	L	A	LA	A	A	3.45	3.55	B	L	L	L						
9						L	3.20	A	A	A	A	A	A	A	A	I 3.20 A	I 3.15 A	L						
10								3.20	3.45	I 3.60 A	3.65	3.80	3.40	3.45	3.40	L	L	L						
11						2.80	3.40	I 3.20 A	I 3.35 A	I 3.50 A	3.45	3.85	I 3.55 B	I 3.45 B	I 3.30 A	3.25	3.25	L						
12						L	3.20	3.35	I 3.40 A	3.45	3.55	3.75	3.55	3.60	3.35	3.30	3.10 H	L						
13						L	3.35	A	A	A	A	A	A	3.50	3.30	3.20	L	L						
14								L	L	LH	L	3.70	I 3.50 L	I 3.50 L	3.45	3.30	A	A						
15							3.30	3.25	I 3.50 A	I 3.45 A	A	A	A		3.65	LA	A							
16							L	A	A	A	L	A	A	A	LA	L	LA	L						
17							I 3.15 L	3.30	I 3.30 A	3.65	A	A	A	3.20	3.20	I 3.05 A	A	L						
18							A	A	A	A	A	A	A	A	A	3.10	L	L						
19							A	A	A	A	A	A	R A	I 3.45 L	I 3.45 L	L	L							
20								LA	3.45	I 3.60 L	3.70	3.60	3.40	3.50	L	L	L							
21							L	L	L	L	LA	I 3.50 L	I 3.30 L	3.35	I 3.35 L	LH	L							
22									A	A	L	3.40	3.40	3.35	I 3.30 L	L	L							
23							L	L	L	3.65 H		LH	L		L	L	A							
24								L	L	L	A	LH	L	L	L	L	L	L						
25							L	L	A	A	L	A	A	A	L	L	L							
26								L	L	L		A	LA	LA	A	A	A							
27									L	L	L	L	L	A	A	L	L							
28								L	C	C	C	C	C	C	C	C	C							
29								L	L	L	L	L	L	L	L	L	L	C						
30							3.15	I 3.30 A	3.50	I 3.60 A	A	A	A	3.30	L	A	A							
31								A	3.45	A	A	A	A	C	C	LC	L	L						
No.						1	9	9	12	11	6	10	13	17	15	12	7	3						
Median						2.80	3.30	3.30	U 3.40	U 3.55	3.50	3.60	3.45	3.45	3.35	U 3.30	3.25	3.40						

(M3000)F1 Sweep 1.0 Mc to 20.7 Mc in 1 min sec in automatic operation.

The Radio Research Laboratories, Japan.

W 8

16

IONOSPHERIC DATA

Aug. 1960 | 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						410	450	370	435	I580 A	I640 A	I575 A	600	515	540	I475 L	420	325						
2							290	I320 A	290	380	I340 A	385	I350 L	320	405	385	370	310						
3							300	350	320	I465 A	I480 A	I440 A	I385 A	360	360	I365 L	I335 L	315						
4							405	335	A	A	A	I360 A	I395 L	385	I350 L	350	I340 L	310	L					
5							325	I355 A	410	I430 A	I525 A	I485 R	460	440	360	330	I340 L	315						
6								A	A	A	325	I345 A	340	I345 A	I325 A	310	I310 L	A						
7							300	I305 A	I295 A	345	345	325	I320 A	360	350	I305 L	325	300						
8						L	L	L	295	290	I320 A	350	325	370	B	L	L	L						
9						L	400	380	320	I470 A	415	I450 A	410	I430 A	I450 A	I425 A	425	340						
10								370	420	365	460	460	410	400	360	L	L	L						
11						460	420	365	430	550	570	525	I580 B	555	500	410	400	L						
12						L	435	470	410	365	505	730	I565 R	460	420	465	410	L						
13						L	460	400	560	A	A	A	A	490	460	375	I355 L	L						
14								I320 L	300	345	I350 L	375	I380 L	365	375	365	340	A						
15							485	405	I450 L	I410 L	420	500	I415 A	405	375	355	A							
16							I360 L	410	500	370	440	I380 A	I395 A	415	I360 L	L	L	L						
17							I460 L	495	A	R	A	A	A	450	420	435	A	L						
18							A	A	A	A	A	A	A	A	A	465	L	L						
19							400	475	620	I645 A	A	A	R	I440 L	I400 L	L	L							
20								L	315	I340 LH	470	370	350	470	I380 L	I355 L	L							
21							L	L	I320 L	I345 L	310	375	I385 L	385	I360 L	350	L							
22									320	I325 A	330	435	345	350	340	290	L							
23							L	L	I300 L	310		L	L		330	I315 L	275							
24								L	L	280	A	L	L	L	L	L	L	L						
25							L	L	A	275	L	L	A	310	L	L	L							
26								L	L	L		A	335	L	A	L	280							
27									L	265	265	L	L	L	A	L	L							
28								L	C	C	C	C	C	C	C	C	C							
29								L	L	295 L	310	280	310	I300 L	300	L	L							
30							530	625	550	I520 A	385	W	435	375	L	A	A							
31								360	525	I450 A	I455 A	I490 A	510	575	450	I395 L	L	L						
No.						2	15	18	21	24	21	21	22	25	23	20	14	7						
Median						435	405	370	410	365	415	435	395	400	375	365	340	315						

h'F2 Sweep 1.0 Mc to 20.7 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

W 9

17

IONOSPHERIC DATA

Aug. 1960 | 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	280	310	295A	320A	345	A	A	A	I230A	A	A	A	220	210H	230H	225	260	A	A	A	300	I315A	I335A	320
2	315	300	270	260	275	235	265	I250A	I240A	205	I230A	I230A	220	230	230	225	225H	230	260	I270A	270	270	280	295
3	290	295	265	255	325	270	250	250	245	I225A	A	A	A	A	A	I230A	230	260	I240A	I245A	I280A	270	290	345
4	305	265	I295A	290	290	270	A	A	A	A	A	A	A	I225A	240	240	240	260	260	I285A	I305A	I300A	275	260
5	285	290	315	275	275	260	260	I260A	250	I235A	I225A	220	I220A	220	250	245	240	250	A	A	A	A	I300A	I300A
6	290	I295A	I280A	I290A	300	250	240	A	A	A	A	A	265	A	A	A	A	I260A	I270A	I275A	265A	I270A	275	I285A
7	I300A	I290A	270	315A	285	260	A	A	A	A	A	250	I250A	250	250	245	250	I270A	I285A	I270A	285	I280A	280	270
8	I275A	270	275	315	290	260	240	260	A	A	A	A	225	225	I240B	240	245	250	260	295	295A	I275A	250	235
9	300	310	300	350	340	280	260	I250A	I250A	A	A	A	A	A	A	I245A	I250A	245	I270A	I280A	I275A	I270A	I290A	305
10	290	275	265	300	290	275	245	250	240	I220A	215	215	220	230	225	235	235	255	I275A	300	290	250	245	270
11	310	310	290	305	345	280	260	I270A	I245A	I240A	250	215	I250B	I250A	I250A	245	245	260	260	280	315	310	360	360
12	300	270	285	305	310	295	260	270	I250A	250	230	215	215	215	235	240	245	245	295	270	290	310	280	335
13	310	300	240	320	320	300	255	A	A	A	A	A	A	225	230	250	240	245	270	280	290	315	305	320
14	325	320	290	260	260	I265A	240	235	210	210H	250	215	205	220	235	250	A	A	A	265	280	290	280	290
15	305	325	310	255	240	260	260	265	I245A	I230A	A	A	A	A	250	I260A	I270A	270A	280	290	I320A	I325A	285	295
16	335	345	315	295	335	300	250	A	A	A	A	A	A	A	A	265A	I250A	250	I280A	290	300	295	275	330
17	340	370	375	350	350	285	275	250	I270A	250	A	A	A	300A	250	I230A	I245A	250	295	300	I335A	335	I320A	I345A
18	350	300	345	370	420	A	A	A	A	A	A	A	A	A	A	265	265	270	285	300	I300A	I315A	310	300A
19	I315A	I325A	345	320	I365A	A	A	A	A	A	A	A	A	240	215	235	250	A	A	A	310	I300A	315	310
20	335	340	315	315	310	300	I285A	I270A	225	245	230	210	255	240	220	250	230	300	I275A	I270A	260	250	310	310
21	345	315	285	260	305	280	245	240	I245A	235	I250A	225	240	240	235	230H	235	250	270	275	270	290	280	285
22	295	345	335	305	320	295	260	I250A	I250A	I245A	245	230	235	250	235	235	240	I260A	I270A	I265A	I280A	280	275	290
23	300	295	295	300	300	275	245	235	225	210H	230H	200H	220	225H	240	240	I255A	I260A	260	260	265	I280A	I290A	285
24	285	275	285	285	300	280	240	245	235	230	I220A	210H	210	230	250	245	240	250	260	255A	270	240	265	295
25	I300A	I300A	310	300	I280A	I275A	250	235	I230A	I225A	210	A	A	A	250	245	255	270	A	A	A	I270A	I250A	260
26	285	290	300	285	290	260	250	245	235	235	I235A	I220A	A	A	A	I245A	A	A	A	A	280	270	I285A	270
27	275	285	290	275	250	245	245	235	240	235	210	230	230	I230A	I245A	240	255	I250A	I255A	255	I265A	I270A	275	255
28	275	290	300	315	330	265	225	230	C	C	C	C	C	C	C	C	C	C	A	245	A	A	A	260
29	300	255	290	275	260	270	245	235	240	235	225	225	210	225	240	250	270	I260C	255	215	265	295	305	300
30	300	290	265	285	315	330	270	I300A	295	I240A	A	A	A	245	250	I255A	I265A	A	A	A	300	305	320	350
31	300	I285A	I300A	I295A	265	A	A	A	230	A	A	A	A	C	C	C	260	275	A	A	A	A	A	I330A
No.	31	31	31	31	31	27	25	22	22	19	15	15	17	21	23	28	27	25	22	24	27	28	29	31
Median	300	295	295	300	300	275	250	250	240	235	230	220	220	230	240	245	245	260	270	270	285	285	285	295

h'F

Sweep 1.0 Mc to 20.7 Mc in 1 min ~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

W10

IONOSPHERIC DATA

Aug. 1960 | f'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	110	100	105	125	120	115	115	115	120	115	115	110	115	115	115	110	120	120	115	120	110	110	120
2	110	105	105	105	G	G	130	115	115	120	110	110	G	G	105	105	105	105	125	115	E	115	E	E
3	E	E	E	E	E	G	G	125	120	115	110	110	110	115	120	110	110	110	115	110	110	115	110	110
4	110	110	105	105	105	140	120	115	110	110	110	110	105	105	G	105	105	125	120	115	115	115	110	110
5	110	110	105	105	E	140	105	115	115	110	110	105	110	105	110	G	105	120	125	115	115	110	110	110
6	110	105	105	105	100	110	135	120	115	110	110	110	110	110	110	115	115	115	110	110	110	105	110	110
7	105	105	105	100	100	130	115	115	110	110	110	105	105	110	G	115	130	115	110	110	110	110	110	E
8	110	105	105	E	E	G	120	120	110	110	110	105	105	G	B	110	G	G	115	105	110	105	110	E
9	105	110	105	105	105	105	100	115	115	120	110	110	110	110	110	110	110	110	115	120	120	110	110	E
10	E	105	110	125	125	125	125	125	115	110	115	115	110	110	G	G	G	G	125	115	115	E	E	E
11	E	E	E	E	115	E	140	125	120	120	120	115	B	110	110	105	110	115	120	115	115	110	110	105
12	E	100	105	E	125	G	130	120	115	110	G	110	G	G	G	G	110	G	120	E	115	115	105	E
13	E	E	120	120	120	125	140	130	115	115	115	115	110	110	110	110	110	110	105	105	105	115	110	E
14	E	110	110	100	115	115	115	G	G	125	G	G	115	G	110	G	125	120	115	115	115	110	105	100
15	E	110	E	E	E	110	G	110	125	120	120	115	115	125	120	120	115	115	110	120	115	110	E	E
16	110	105	105	E	110	110	G	120	115	110	110	110	105	110	110	110	110	130	115	115	115	110	E	105
17	105	105	110	E	E	120	150	135	120	120	115	105	105	110	110	110	105	105	105	100	120	120	115	110
18	110	110	E	120	140	120	120	115	115	110	110	105	105	105	105	135	135	125	120	115	110	110	E	105
19	105	105	105	120	120	120	120	120	115	110	110	110	120	115	G	G	110	125	120	115	115	115	E	E
20	105	110	E	115	110	120	120	120	G	125	125	120	G	G	G	G	G	120	120	115	E	115	110	E
21	E	E	105	E	120	140	140	120	120	120	115	120	110	110	G	G	125	120	120	115	115	110	E	110
22	E	105	E	E	E	G	G	120	115	110	115	115	110	110	G	110	125	120	105	120	115	115	E	105
23	E	E	E	110	105	S	G	120	G	115	110	115	105	G	G	105	100	100	100	120	115	110	110	110
24	115	E	110	110	E	130	G	120	125	110	115	115	115	110	110	G	G	130	120	110	110	115	115	115
25	105	105	105	105	105	105	110	105	110	110	110	110	105	105	110	G	140	125	115	110	110	110	110	110
26	E	E	E	105	105	110	110	105	105	105	120	110	110	110	110	110	110	110	110	105	110	115	115	115
27	115	110	110	115	E	S	110	110	105	120	110	110	110	110	105	110	105	105	100	110	115	115	115	E
28	E	E	E	110	105	S	110	130	C	C	C	C	C	C	C	C	C	C	110	115	115	115	115	E
29	E	E	125	E	E	S	G	120	G	115	115	G	G	105	G	115	130	C	120	115	115	115	110	110
30	110	E	110	115	E	145	135	120	115	115	115	110	105	G	145	130	125	125	115	120	120	115	110	110
31	E	125	115	125	115	115	120	115	120	110	110	110	115	G	G	120	110	120	115	115	115	110	110	110
No.	17	21	22	21	20	21	24	30	26	30	28	28	25	22	18	21	26	26	31	30	29	30	23	19
Median	110	105	105	110	110	120	120	120	115	110	110	110	110	110	110	110	110	120	115	115	115	110	110	110

f'Es

Sweep 10 Mc to 20.7 Mc in 1 ~~sec~~ min in automatic operation.

The Radio Research Laboratories, Japan.

W 11

IONOSPHERIC DATA

Aug. 1960 | Types of Es | 135° E Mean Time (G.M.T. + 9h.) | **Wakkanai** | Lat. 45° 23.6' N, Long. 141° 41.1' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	f	f	f2	f2	e	c	c3	c3	c2	c3	c2	c3	e	c	c	c	e	c3	c3	f3	f3	f4	f4	f
2	f2	f3	f2	f			c	c4	c2	c	c2	c2			e	e2	e	e	c	f2		f		
3								c	c	c2	c2	c2	c2	c2	c	c3	e	e	e2	f2	f3	f2	f2	f2
4	f2	f	f3	f2	f2	c	c2	c2	c2	e2	e2	e2	e2	e2		e2	e3	c.e	c	f4	f4	f5	f3	f2
5	f	f	f3	f		c	e.c	c3	c	c2	c2	e	e	e	e2		e	c.e	c3	f2	f3 f	f3	f2	f2
6	f2	f3	f4	f4	f	e	R	c2	c3	c3	c2	c2	c2	c2	c2	c	c	c3	e2	f2	f2	f3	f2	f2
7	f7	f2	f3	f3	f3	c	c3	c3	e2	e2	e	e	e2	e		c	c	c	e2	f2	f2	f3	f2	
8	f2	f5	f5				c	c	c3	c2	c2	e2	e			e			e	f2	f2	f2	f2	
9	f2	f	f	f3	f	e	e.c	c	c	c3	c	c2	c	e2	e2	e2	e2	e	c	f5	f2	f3	f3	
10		f4	f	f	f	e	c	c	c	c	c	e	e	e					e	f2	f2			
11					f		R	c	c	c	c	c		e2	e2	e	e	e	c.e	f2	f2	f	f2	f
12		f3	f		f		c	c	c	c		e					e		c		f	f	f	
13			f	f	f	c	R	c	c	c3	c2	c2	c2	c	c2	c2	e	e	e	f2	f2	f	f	
14		f	f2	f	f2	c2	e			c			c		e		c.e	c2	e3	f	f	f	f2	f2
15		f				e		e.c	c.e	c2	c	c3	c2	c	c	c2	c2	c3	e	f	f3	f2		
16	f2	f3	f2		f	e		c2	c2	c3	c2	c2	e2	e2	c2	c	e2	c.e	c2	f	f2	f		f2
17	f2	f	f			c	R	R	c2	c	c2	e2	e2	e2	e	c	e3	e	e.c	f	f2	f2	f2	f3
18	f	f		f	f	c3	c3	c3	c3	c	c2	e2	e2	e2	e3	R	R	c	c	f2	f3	f4		f2
19	f5	f6	f4	f2	f6	c4	c3	c2.e	c3	c2	c2	c2	c	c			e2	c3	c3.e	c3.e2	f2	f2		
20	f2	f		f	f	c	c2	c		c	c	c						c	c2	f4		f	f2	
21			f		f	c	c	c	c	c	c2	c	c	c			c	c	c	f2	f	f		f
22		f2						c	c2	c	c	c	c	e2		e	c.e	c2.e	e	f4	f4	f3		f
23				f	f			c		c	c	e	e			e2	e3	e4	e	f	f	f2	f3	f2
24	f		f	f		c		c	c	c2	c	c	c	e	e			c	c	f2	f2	f2	f	f
25	f3	f3	f3	f3	f4	e3	e.c	e2	c4	c2	e	e2	e2	e2	e	R	c	c4	f4	f2	f2	f2	f2	f2
26				f	f	e	e	e2	e2	e	c.e	c	e	e	e2	e3	e2	e2	e2	f2	f2	f	f2	f3
27	f2	f2	f2	f			e2	e	e	c.e	e	e	e	e	e2	e3	e	e4	e3	f	f2	f3	f2	
28				f3	f2		e	c											e3	f2	f3	f3	f6	
29			f					c		c	c			e		e	R		c	f2	f	f2	f2	f
30	f		f			c	c	c2	c2	c2	c2	c2	e		R	R2	c	c	f3	f3	f2	f2	f2	f
31		f3	f3	f2 f3	f2	c3	c3	c2	c	c2	c2	c3	e			c	e.c	c3	f5	f6	f2	f3	f4	f2
No.																								
Median																								

Types of Es | Sweep 1.0 Mc to 20.7 Mc in 1 min/~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 1960 | 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	I 6.8F	6.6F	6.0F	5.9	5.6	5.4	6.1	6.4	5.5	9	5.3	5.4	5.4	I 5.6A	5.6	5.8	6.0	6.0	6.2	6.4	6.3	6.5	6.5	6.3
2	I 6.1F	5.8F	5.6	6.1	I 5.2F	5.4	6.5	7.3	C	C	C	C	C	C	C	C	C	8.4	8.4	I 7.7A	7.6	7.6	7.7	I 7.4RS
3	7.3	7.1	6.9	7.2	5.6	5.9	6.3	6.5	7.4	5.7	6.5	7.0	7.2	7.4	7.0	7.3	7.7	7.7	7.3	7.4	7.5	7.4	7.6	7.5
4	6.8	I 6.9F	6.9	6.1F	5.7F	5.5	6.0	6.1	6.7	6.6	7.1	6.7	6.6	U 6.3R	7.4	7.8	8.0	8.1	7.7	7.4	7.2	7.3	7.8F	8.2F
5	6.9	6.3	6.0	5.8	5.7F	I 5.8F	6.4	6.0	6.5	6.5	6.4	I 6.2A	6.6	7.6	8.0	7.8	7.7	7.5	7.1	7.1	7.3	6.8F	F	F
6	F	F	F	I 5.4F	I 5.3F	5.7	6.9	8.3	8.4	8.4	I 7.5A	A	A	A	A	8.8	8.5	7.9	8.2	8.8	8.5	8.0	7.2	7.3
7	6.9	6.9	6.8	5.7	5.3	5.5	7.3	8.3	7.7	I 8.2A	I 8.4A	U 8.0R	7.7	7.8	8.3	U 8.7R	7.9	7.6	8.0	8.6	7.6	7.5	7.4	F
8	F	F	F	F	F	6.0	7.3	8.8	9.6	8.2	7.9	7.8	8.1	7.8	U 7.6B	7.5	7.5	7.5	7.5	8.4	8.3	8.0	6.7F	F
9	F	F	I 6.6F	I 5.9F	5.9	6.2	6.5	7.8	6.8H	6.3F	6.8	6.0	A	A	6.5	6.5	6.4	6.6	6.9	7.6	6.6	5.9	5.8	5.7
10	5.9	5.8	5.5	5.4	5.6	5.7	6.8	6.8	7.4	6.4	6.5	6.5	6.7	7.7	7.5	7.0	6.6	6.4	7.0	I 7.7A	7.5	6.7	6.2	5.8
11	5.4	5.0	5.1F	5.3F	4.9	4.6	5.5	6.0	5.9	I 5.6A	6.0	6.0	I 5.9B	6.2	6.1	6.3	6.9	6.7	6.5	5.6	5.9	5.9	6.0	5.9
12	5.7	I 5.7F	5.4F	I 5.2F	5.4	5.4	6.0	6.3	6.5	C	C	C	5.9	6.3	6.7	6.5	I 7.0C	I 7.0C	6.8	7.0	6.5	6.6	6.5	6.0
13	6.1	6.1	6.1	5.1	4.5	4.9	5.8	6.3	5.9	6.1	6.5	6.1	6.5	J 6.8A	6.8	I 6.8A	6.9	7.1	7.0	6.6	6.6	6.8S	6.9	6.9
14	6.6	6.5	6.6	6.6	5.4	5.5	6.9	8.1	8.3	8.3	8.5	8.0	7.6	7.8	8.1	8.0	8.0	7.8	7.8	8.3	8.3	7.8	I 7.1F	7.5S
15	7.3S	7.0	6.9	7.0	5.7	5.3	5.9	7.0V	7.6	7.9	7.9	7.3	7.4	7.7	8.0	7.9	7.5	7.1	6.8	6.9	7.4S	7.6S	7.5	7.1S
16	6.9	6.6	6.5	6.7	6.0	5.9	6.1	6.8	U 7.6R	8.1	7.9	8.4	8.1	8.2	I 8.0A	I 8.1A	8.0	I 8.0A	I 7.8A	I 8.0A	8.0	8.0	7.6	7.3
17	U 7.2R	6.0	6.0	5.5	5.6	5.7	6.8	6.5	7.2	6.5	6.4	6.7	7.9	8.5	8.6	7.7	7.4	6.6	6.6	7.0	6.6	6.5	6.9	6.1
18	6.1	6.1	5.1	4.4	3.7	4.5	6.1	5.5	I 5.6A	5.9	G	6.4	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	7.3	7.8	9.6	9.1	8.0	8.3	8.1	8.8	8.6	8.3	7.4	6.7	6.0	6.2
21	6.0	6.0	6.0	5.1	5.4	6.0	9.0	9.9H	9.9	9.0	8.5H	9.0	10.3	9.7	9.8	9.0	9.1	8.6	8.5	8.0	7.8	7.6	7.6	7.4
22	7.0	6.6	6.5	6.3	5.8	6.0	7.8	8.8	9.0	9.1	9.0	9.6	10.2	10.8	10.5	10.0	9.0	8.6	8.8	8.7	8.0	8.0	7.6	I 7.5F
23	I 7.4F	7.5	7.0F	7.0	6.7	7.0	8.6	9.0	8.0	8.5	8.8	8.5	8.6	9.2	9.4	9.3	9.2	9.0	8.6	8.9	8.4	8.4	8.0	7.9
24	7.5	7.2	7.2	6.9	6.5	6.5	8.7	10.5	9.8	9.9	9.3	9.5	10.1	11.0	11.0	10.9	10.1	9.9	10.0	9.6	8.1	8.4	7.5	7.3
25	6.8	6.8	6.5	6.4	6.1	6.5	8.0	8.0	8.3	8.6H	8.8	8.8	9.4	9.7	10.1	9.3	8.9	J 9.4A	10.5	10.4	9.0	8.0	7.7	7.6
26	7.3	6.7F	I 6.2F	6.0F	5.8F	6.2F	9.0	10.5	8.8	8.2	8.7	9.0	8.5	8.4	9.1	9.1	9.0	9.4	8.4	8.4	8.0	7.8	7.8	7.5
27	I 7.4F	7.5	7.0F	6.6	6.3F	6.5	7.6	11.2	10.6	9.2	9.1	9.5	10.3	10.4	10.0	10.1	9.9	10.0	9.6	8.2	8.0	7.8	7.4	7.4F
28	6.9	6.6	6.4F	5.9F	5.9	6.1	7.4	8.1	10.2	9.1	8.5	9.3	10.2	10.7	10.9	10.1	9.2	9.3	9.9	9.1	8.5	7.8	7.3R	S
29	F	F	F	5.6F	5.6	6.1F	8.4	9.2	10.3	9.4	9.5	9.1	9.5	9.6	9.3	8.3	8.0	9.8	U 11.8R	I 10.6R	6.0	6.5	6.4	I 6.2R
30	6.0	5.9	6.0	5.1	4.5	4.1	4.6	5.0	5.2	5.3	6.0	6.2H	6.2	7.8	7.4	7.9	7.2	7.0	8.1	6.5	6.0	5.6	5.5	I 5.4A
31	6.0	5.7	5.5	4.9	4.9	I 5.0A	5.3F	6.0	6.1	I 5.6A	A	A	5.7	5.8	6.0	5.9	6.0	6.2	6.1	I 6.1A	A	A	5.4	I 5.2A
No.	25	25	26	28	28	29	29	29	28	27	27	27	26	26	27	28	28	29	29	29	28	28	28	25
Median	6.8	6.6	6.3	5.9	5.6	5.7	6.8	7.3	7.6	8.1	7.9	7.8	7.8	7.8	8.0	8.0	8.0	7.8	7.8	8.0	7.6	7.6	7.2	7.3
U Q	7.2	6.9	6.8	6.4	5.8	6.1	7.7	8.8	9.0	8.6	8.7	9.0	9.5	9.6	9.4	9.0	9.0	8.9	8.6	8.6	8.0	7.9	7.6	7.5
L Q	6.0	6.0	6.0	5.4	5.3	5.4	6.0	6.3	6.5	6.1	6.5	6.2	6.6	7.4	7.0	7.2	7.1	7.0	7.0	7.0	6.6	6.6	6.4	6.0
Q.R	1.2	0.9	0.8	1.0	0.5	0.7	1.7	2.5	2.5	2.5	2.2	2.8	2.9	2.2	2.4	1.8	1.9	1.9	1.6	1.6	1.4	1.3	1.2	1.5

foF2

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

The Radio Research Laboratories, Japan.

A 1

21

IONOSPHERIC DATA

Aug. 1960 | 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						3.0	3.8	4.3	4.5	4.7	4.7	4.9	5.0	I5.0A	I5.0A	4.8	4.5	L	A					
2							4.4	4.6L	C	C	C	C	C	C	C	C	C	L	L					
3								4.5	4.8L	5.1	5.1	5.1	5.1	4.8	5.0H	5.0H	4.6L	L	L					
4							4.1	4.4	4.7	4.8	4.9	5.2	5.1L	5.4H	5.2	4.8	4.7L	A						
5							3.8L	4.5	A	A	A	A	A	5.0	5.0	5.0	I4.5L	A	L					
6								A	A	A	A	A	A	A	A	A	4.7L	L	L					
7							L	A	A	A	A	I5.2L	A	A	L	A	A	L	L					
8							L	A	A	A	A	5.2	5.1	5.5L	I5.1B	5.0L	4.7L	L	A					
9						2.9	I4.1L	A	A	L H	5.0	5.2	A	A	4.8	4.8	I4.6A	4.0L	L					
10								4.4	4.8	A	A	5.2	I5.2A	5.3	A	L	L	L	A					
11						L	I3.8A	4.3	4.5	I4.8A	5.0	5.1	I5.1B	5.1	5.1	4.9	4.8L	I4.2L						
12							4.0	4.4	4.6	C	C	5.5H	5.2	5.2	5.3	5.1	C	C	L					
13						L	3.9	4.3	A	A	A	A	A	A	5.1	I5.0A	L	L						
14								L	I4.6L	5.1	6.0	I5.4L	5.5	5.5H	I5.5L	5.3L	L	L	A					
15							4.5	4.8L	5.1	5.4L	I5.5L	5.8	5.7H	5.6	L	L	L							
16							L	I4.8L	I5.3L	4.9	A	L	6.1	A	A	A	A	A	A					
17						3.1	I4.1L	5.1	4.5	I5.6A	5.6	5.6	5.4	5.5	5.6	I5.4L	L H							
18							4.9	4.5	I4.7A	5.1	5.2	I5.5L	C	C	C	C	C	C	C					
19							C	C	C	C	C	C	C	C	C	C	C	C	C					
20							C	C	C	C	6.1L	I6.0H	I5.3B	5.8L	I5.2L	5.6	4.3	L						
21									4.9	L	A	L	I5.8L	I6.5L	L	L	5.0L							
22								L	A	L	L	L	6.0	5.7	L	L	L	L						
23								L	A	L H	5.0	L	L	L H	L	L	L							
24									L	L	L	L	A	L	A	L	L	L						
25								A	A	L	4.7L	I4.9L	5.5L	5.5H	L	L	L	A						
26								L	L	L	L	L	A	L	A	A	A	A						
27								L	L	L	L	L	5.5L	L	A	L	L	L						
28								L	L	L	L	L	L	L	A	L	L							
29								L	4.7L	I4.7L	5.0	L	L	4.8L	L	L	L	L						
30						2.3L	3.4	I3.8A	I4.1A	4.4	4.5	4.8	I4.8A	4.8	I5.0L	I4.4L	L	A						
31							3.8	I4.2A	I4.4AH	I4.6A	A	A	4.7	I5.0A	4.9	I4.6L	L	A						
No.						4	13	15	15	12	14	16	18	18	14	14	10	2						
Median						3.0	4.0	4.4	4.7	4.8	5.0	5.2	5.2	5.4	5.1	5.0	4.6	U4.1						

foF1 | Sweep 1.60 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 1960 | foE | 135° E Mean Time (G.M.T.+ 9h.)

Akita — Lat. 39° 43.5' N, Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							2.45	I 2.90A	3.25	3.45	I 3.60A	I 3.75A	I 3.75A	I 3.75B	3.60	3.40	3.20	2.80	A					
2						B	I 2.50R	3.00	C	C	C	C	C	C	C	C	C	A	A					
3						B	2.45	2.90	3.20	3.50	I 3.65A	A	A	A	A	A	3.20	2.70	A					
4						R	2.50	3.00	R	A	A	A	A	A	A	A	A	2.75	2.00					
5						1.75	I 2.40A	3.00	3.35	3.50	3.70	A	A	3.70	A	A	A	A	A					
6						1.70	2.50	3.00	3.30	I 3.50B	3.65	I 3.70R	I 3.60R	3.75	3.65	3.50	A	A	A					
7						A	I 2.45A	3.00	A	A	A	A	A	A	A	A	3.25	2.95	A					
8						A	2.45	3.00	A	A	A	A	A	A	B	3.60	A	A	A					
9						A	2.50	3.05	3.45	A	A	A	R	A	A	A	A	2.70	A					
10						R	2.50	2.90	3.25	3.55	3.65	A	A	A	A	A	A	A	A					
11						R	2.50	2.95	I 3.40A	I 3.60A	3.75	3.90	B	A	R	I 3.65A	3.40	2.90	2.05					
12						1.75	I 2.50R	2.95	A	C	C	A	A	R	3.90	3.55	I 3.30C	I 2.70C	A					
13						R	2.50	3.05S	I 3.40A	3.80	3.90	4.00	4.00	A	A	A	A	A	A					
14						A	2.55	A	R	3.65	A	A	R	R	I 3.90R	I 3.70B	3.25	2.85	A					
15							A	R	3.50	3.80	3.90	I 3.90R	I 3.95R	3.95	3.90	3.75	3.30	A	A					
16							2.55	3.05	3.50	I 3.75A	A	A	A	R	A	A	3.55	2.95	A					
17						A	2.55	I 3.10A	I 3.50A	I 3.80R	I 3.90A	4.00	A	A	A	A	3.45	2.80	A					
18							2.55	3.05	3.50	3.65	3.85	4.00	C	C	C	C	C	C	C					
19							C	C	C	C	C	C	C	C	C	C	C	C	C					
20							C	C	C	C	R	R	B	B	4.00	3.80	3.50	2.80	1.95					
21						B	2.50	2.95	I 3.35A	3.60	3.80	3.95	3.95	4.05	4.00	I 3.65B	3.30	2.75	1.95					
22							2.50	3.00	3.40	I 3.60R	3.95	R	A	4.05	R	A	A	A	A					
23							2.25	2.85	3.15	A	A	A	A	A	A	3.50	3.10	I 2.60A	A					
24							2.45	2.95	3.30M	3.50	R	A	3.60	A	A	A	3.05	2.45	A					
25							2.30	I 2.85A	3.05	A	R	A	A	A	A	A	3.15	A	B					
26							I 2.35A	A	A	A	A	A	A	A	A	A	A	A	A					
27							A	I 2.90A	A	A	A	A	A	A	A	3.25	3.05	2.65	A					
28							2.30	2.85	3.20	3.50	I 3.55A	3.60	I 3.50R	A	A	A	3.05	2.55	A					
29							2.05	2.70	3.05	3.35	3.50	A	R	A	A	I 3.30R	I 3.05A	2.50	A					
30							1.95	I 2.80A	3.05	3.40	3.55	A	A	A	3.55	3.20	2.95	2.45						
31							2.05	2.55	3.00	3.20	I 3.40R	I 3.40A	I 3.45A	3.45	A	A	3.05	2.50						
No.						3	27	26	21	19	16	10	8	7	8	13	19	19	4					
Median						1.75	2.50	2.95	3.30	3.55	3.70	3.90	U 3.90	3.75	3.90	3.55	3.20	2.70	2.00					

foE

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

The Radio Research Laboratories, Japan.

A 3

23

IONOSPHERIC DATA

Aug. 1960 | 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	4.1	5.9	2.7	2.9	E	2.2	3.4	4.9	10.8	4.0	5.6	5.9	6.6	6.3	5.3	8.3	3.7	6.9	4.5	2.8	1.9	2.9	3.8	4.2
2	6.3	6.0	1.9	E	E	2.3	3.0	3.9	C	C	C	C	C	C	C	C	C	4.0	3.3	1.30	5.0	6.1	2.8	3.4
3	E	E	E	E	2.2	B	G	G	G	4.7	5.0	4.1	5.0	4.5	3.9	3.7	3.7	5.6	4.2	3.2	3.8	5.1	3.4	2.0
4	6.5	4.5	3.9	3.5	2.2	G	2.9	3.5	3.9	3.8	4.0	4.4	8.6	5.8	4.5	4.5	4.3	5.6	4.9	2.0	2.2	2.8	3.9	6.1
5	2.2	5.0	4.0	2.3	2.3	2.5	3.9	5.2	6.4	7.5	6.9	11.7	7.0	G	3.8	3.9	4.3	6.8	3.2	11.9	8.7	8.3	12.6	6.2
6	12.0	9.8	6.0	3.4	2.4	G	3.0	4.6	5.8	7.3	9.1	8.1	11.8	9.0	10.5	10.1	8.5	6.3	5.1	2.3	2.9	3.1	2.8	3.8
7	2.8	3.0	2.2	3.6	3.8	3.3	3.1	5.3	5.3	11.5	13.9	4.8	6.3	6.4	7.5	13.7	12.2	G	8.2	6.3	7.8	2.9	3.3	5.2
8	5.1	4.5	3.8	3.0	2.5	2.5	3.5	4.9	6.9	8.1	7.2	5.2	4.5	5.9	B	G	3.8	4.8	3.6	2.8	2.9	2.4	1.8	3.9
9	3.8	3.8	4.1	5.0	2.3	2.7	3.3	4.7	5.5	8.5	4.6	7.7	7.2	10.2	5.5	3.9	8.8	4.2	2.6	4.2	3.2	6.0	3.5	3.5
10	1.8	2.6	1.8	2.2	1.8	G	3.0	3.6	4.2	6.1	5.3	6.4	5.4	5.8	7.4	7.9	4.4	3.4	5.0	8.4	4.9	3.3	3.7	E
11	2.3	1.9	1.9	2.4	2.3	G	4.4	4.2	5.3	6.6	4.0	4.4	B	6.6	G	5.8	6.2	3.5	4.0	3.8	6.2	2.9	2.3	3.7
12	8.2	4.9	2.4	2.2	E	2.2	3.3	3.8	4.5	C	C	4.3	4.1	G	G	G	C	C	2.8	3.8	2.9	2.3	3.7	2.7
13	2.3	E	2.3	2.1	2.2	2.2	3.0	4.1	6.0	7.0	6.4	5.8	5.6	8.2	5.0	11.3	3.7	3.8	5.1	3.9	4.9	2.3	2.8	3.8
14	2.3	E	E	E	E	2.8	G	3.1	G	4.2	4.3	4.1	G	G	G	B	3.7	4.0	4.6	5.1	5.0	2.8	2.8	3.0
15	2.1	2.3	E	E	E	E	2.7	G	G	4.0	G	4.5	4.5	4.2	4.4	4.2	4.0	3.3	2.7	2.8	3.9	3.8	3.0	2.8
16	6.0	2.4	3.1	3.5	3.9	2.8	2.9	3.5	4.1	5.9	6.2	9.0	6.0	7.4	12.7	10.9	5.8	12.1	17.4	10.0	8.3	8.4	2.8	2.8
17	2.3	2.8	2.0	E	E	2.3	3.3	3.6	4.5	6.2	4.4	6.6	5.1	6.7	6.1	4.5	G	G	2.8	4.9	2.6	2.8	3.8	3.7
18	3.8	5.2	6.1	3.1	3.2	2.2	4.9	4.5	6.3	4.5	G	G	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	4.5	G	B	4.3	G	4.0	4.2	6.2	2.3	4.9	8.3	6.0	4.9	4.8
21	2.3	E	E	2.2	E	G	G	3.7	4.4	4.3	7.8	5.5	4.5	G	G	4.4	4.0	3.9	2.6	2.9	3.9	E	2.0	2.2
22	1.9	2.2	1.8	1.8	E	E	G	4.2	5.4	4.2	5.9	11.8	4.6	G	4.4	4.8	3.5	3.7	2.6	2.3	2.5	8.6	12.6	8.3
23	4.9	2.3	3.3	2.1	2.8	E	2.5	3.6	4.1	4.0	6.6	4.9	5.5	3.8	4.5	3.7	3.7	4.1	2.6	E	2.8	5.1	4.1	3.8
24	6.0	4.8	2.9	2.2	2.8	2.3	2.7	3.5	4.1	4.1	4.1	5.1	8.3	13.6	6.8	4.8	4.5	2.6	3.9	2.4	2.3	4.0	2.1	4.1
25	3.3	1.9	1.9	2.9	2.3	E	2.8	5.2	5.5	3.9	G	6.3	7.3	4.5	3.9	4.1	G	9.4	2.7	2.4	2.3	6.3	6.1	5.2
26	5.1	E	2.3	2.1	2.0	2.0	2.5	3.4	4.5	3.9	5.1	4.9	6.4	4.6	6.6	5.4	6.1	6.2	4.0	10.6	6.0	3.8	2.3	3.2
27	8.3	3.7	2.3	3.9	2.8	2.3	3.9	3.5	6.0	4.5	4.9	4.3	4.2	5.1	7.9	G	3.5	3.2	3.3	5.0	2.3	3.1	5.0	4.0
28	2.1	E	2.3	1.9	2.5	2.2	G	3.4	4.0	3.9	4.4	5.5	5.0	4.5	6.3	5.3	3.6	3.6	2.6	2.4	3.7	2.2	2.4	8.3
29	8.2	2.0	2.9	3.1	2.3	E	6.0	3.1	3.5	4.1	5.9	4.5	G	3.6	4.1	G	4.0	3.8	2.4	2.2	E	2.2	4.2	4.0
30	2.8	2.4	1.8	E	2.3	1.9	2.8	4.0	5.2	5.0	7.4	5.6	5.7	3.8	G	3.6	4.1	5.5	4.3	3.6	3.5	2.1	4.9	12.5
31	4.9	2.3	1.8	E	E	10.4	3.2	4.8	5.2	8.1	5.1	9.9	5.9	5.3	6.0	7.5	3.7	4.3	5.0	8.3	12.4	6.0	6.0	6.0
No.	29	29	29	29	29	28	29	29	28	27	28	29	26	28	27	27	27	28	29	29	29	29	29	29
Median	3.8	2.4	2.3	2.2	2.3	2.2	3.0	3.8	4.8	4.5	5.1	5.2	5.6	4.8	4.5	4.5	4.0	4.0	3.6	3.8	3.7	3.1	3.5	3.9
U. Q	6.0	4.6	3.2	3.1	2.5	2.4	3.4	4.6	5.5	7.0	6.5	6.5	6.6	6.5	6.6	7.5	4.5	5.9	4.8	5.7	5.5	6.0	4.6	5.1
L. Q	2.3	1.9	1.8	1.8	E	E	2.6	3.5	4.1	4.0	4.4	4.4	4.5	3.8	3.8	3.7	3.7	3.6	2.6	2.4	2.6	2.6	2.8	3.1
Q R	3.7	2.7	1.4	1.3			0.8	1.1	1.4	3.0	2.1	2.1	2.1	2.7	2.8	3.8	0.8	2.3	2.2	3.3	2.9	3.4	1.8	2.0

foEs

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 1960 | f_bE_s | 135° E Mean Time (G.M.T. + 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.5	4.0	E	E		1.9	2.7	3.2	3.5	3.7	4.1	4.0	4.5	A	U5.3B	4.0	G	4.0	4.0	1.7	E	2.3	2.3	E
2	3.0	4.1	E			1.7	2.8	G	C	C	C	C	C	C	C	C	C	3.8	2.6	A	E	2.6	E	3.4
3					E	B				4.0	4.3	4.1	4.8	4.4	3.9	3.7	3.6	3.3	4.5	2.0	3.5	1.8	E	2.0
4	4.0	3.0	2.4	E	1.8		2.8	3.4	3.9	3.7	3.9	4.1	4.7	4.0	U4.5B	3.7	4.3	5.1	4.9	E	E	E	2.0	3.5
5	1.8	3.5	E	E	E	G	2.9	4.0	5.1	5.7	6.3	A	5.5		U3.8B	3.6	4.1	4.8	3.1	3.8	3.0	4.8	2.1	E
6	2.6	5.0	1.7	2.0	E		2.6	4.6	5.5	7.0	A	A	A	A	A	8.7	3.7	3.1	2.3	E	1.8	1.9	2.0	2.2
7	E	2.6	E	1.8	E	2.3	3.0	4.7	4.5	A	A	U4.8B	5.2	5.2	4.9	6.6	5.1		2.5	5.3	5.3	2.4	3.0	4.4
8	4.0	3.0	2.5	2.2	E	1.8	3.1	4.5	5.1	7.0	7.0	4.9	4.1	4.1	B		3.6	4.0	3.4	2.5	2.9	2.4	1.8	3.5
9	3.4	2.2	E	2.4	E	2.0	2.9	4.7	4.5	4.0	U4.6B	4.3	A	A	3.9	3.7	5.1	3.1	2.4	2.3	3.0	5.0	E	E
10	E	2.0	E	E	E		2.8	3.2	3.7	6.1	5.1	4.9	5.4	4.5	5.5	4.0	3.5	3.1	4.8	A	4.0	E	3.0	
11	E	E	E	E	E		4.1	3.5	4.3	A	4.0	4.4	B	4.3		4.0	4.1	G	3.1	3.9	4.2	E	2.0	3.4
12	4.3	2.9	E	E		2.0	2.6	3.1	4.2	C	C	4.1	U4.1B				C	C	2.5	2.9	2.5	E	3.6	E
13	1.7		1.8	E	E	1.8	2.7	4.0	5.3	5.5	6.2	5.5	5.5	A	4.9	A	E3.7B	3.3	4.1	2.9	2.5	2.1	1.8	3.0
14	2.0					1.9		3.1		4.2	U4.3B	E4.1B				B	3.6	3.8	4.5	5.0	2.9	2.0	E	2.4
15	E	E					2.7			4.0		4.5	4.5	E4.2B	4.3	4.2	3.5	3.3	2.5	2.5	3.9	3.0	E3.0B	1.9
16	2.7	2.0	2.9	2.9	3.0	1.7	2.8	3.3	2.9	4.0	E6.2B	5.5	5.6	7.0	A	A	5.6	A	A	A	5.3	5.0	1.8	2.6
17	1.8	E	E			1.8	2.9	3.2	4.0	5.3	4.3	5.4	4.5	4.6	5.2	4.5			2.4	2.3	2.5	2.9	3.0	E
18	E	2.0	3.5	1.8	2.0	1.8	4.2	4.3	A	4.3			C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	4.5		B	U4.3B		3.9	3.6	3.4	2.2	4.4	2.5	3.0	1.9	2.9
21	E			E				3.1	4.1	4.3	5.5	5.5	4.3			3.8	3.7	3.5	2.5	2.0	3.2		1.7	E
22	E	E	E	E				4.0	5.3	4.1	5.0	5.0	4.5		4.0	4.1	3.5	3.4	2.3	2.0	2.5	5.1	5.5	2.4
23	1.8	E	1.9	E	E		2.5	3.5	4.1	3.9	4.0	4.1	5.0	U3.8B	4.1	3.7	3.6	4.0	2.3		2.6	4.0	3.1	3.0
24	1.8	2.0	2.5	E	E	E	2.5	3.1	4.0	4.1	3.9	4.2	6.4	5.5	5.5	3.8	4.5	2.6	E3.9B	1.7	1.8	3.0	E	3.3
25	E	E	E	2.6	1.8		2.5	4.0	5.1	3.8		4.1	4.0	4.0	3.9	3.6		6.3	2.5	1.8	E	3.4	3.0	2.5
26	E		E	E	E	E	2.5	3.4	4.0	3.8	4.6	4.6	U6.4B	4.6	6.5	4.8	6.0	5.5	2.5	6.8	4.0	3.3	E	2.9
27	E	E	1.8	E	E	1.8	2.6	3.3	3.8	4.2	4.0	4.1	4.0	5.0	5.2		G	3.7	2.9	4.4	2.2	2.6	3.5	1.7
28	E		E	E	1.7	E		3.0	3.6	3.9	4.1	5.3	4.9	4.5	5.9	4.6	3.5	3.5	1.9	E	3.6	2.0	2.3	4.2
29	E	E	E	E	E		2.5	3.1	3.5	4.0	4.5	4.4		E3.6B	3.7		3.5	3.7	2.3	E		1.7	2.0	2.0
30	E	2.0	E		E	E	2.8	4.0	4.5	4.1	3.9	4.2	4.8	U3.8B		3.4	4.0	5.0	3.9	3.5	3.0	E	2.4	A
31	4.5	E	E			A	3.0	4.2	5.0	A	A	A	4.3	4.8	4.5	3.6	3.2	4.1	4.9	2.6	1.7	A	3.5	A
No.	28	23	25	22	20	18	24	27	25	27	24	27	24	23	21	23	24	26	28	28	28	28	28	28
Median	1.8	2.0	E	E	E	1.8	2.8	3.4	4.2	4.1	4.5	4.5	4.8	4.5	4.9	4.0	3.6	3.7	2.6	2.6	2.8	2.5	2.0	2.6

f_bE_s

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

The Radio Research Laboratories, Japan.

A 5

IONOSPHERIC DATA

Aug. 1960 | f-min | 135° E Mean Time (G.M.T.+ 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	1.65	1.80	1.75	1.90	1.90	2.00	3.85	2.55	1.70	1.70	1.70	1.65	E	E	E	E	E
2	E	E	E	E	E	1.65	1.65	1.70	C	C	C	C	C	C	C	C	C	1.65	E	E	E	E	E	E
3	E	E	E	E	E	1.70	1.70	1.70	1.65	2.05	2.50	2.55	2.20	2.30	1.80	2.30	1.80	1.70	E	E	E	E	E	E
4	E	E	E	E	E	E	1.70	1.70	1.75	1.75	2.50	2.30	2.00	2.60	1.75	2.00	1.75	1.60	E	E	E	E	E	E
5	E	E	E	E	E	E	1.70	1.65	1.70	1.75	2.90	2.70	2.70	2.70	2.30	1.70	1.75	1.70	E	E	E	E	E	E
6	E	E	E	E	E	E	1.65	1.70	1.75	3.55	2.50	3.00	2.50	2.40	1.90	2.80	1.75	1.70	E	E	E	E	E	E
7	E	E	E	E	E	E	1.70	1.70	1.75	2.05	3.00	3.05	3.00	2.50	2.00	2.55	1.75	1.95	1.65	E	E	E	E	E
8	E	E	E	E	E	E	1.65	1.65	1.90	2.00	2.55	2.75	2.70	2.60	6.70	2.05	1.80	1.65	1.70	E	E	E	E	E
9	E	E	E	E	E	E	1.65	1.70	1.75	1.80	2.60	2.95	3.30	3.50	2.55	1.75	1.75	1.70	1.65	E	E	E	E	E
10	E	E	E	E	E	E	1.65	1.70	1.70	1.75	2.55	2.70	2.50	2.05	2.00	1.70	1.75	1.70	1.65	E	E	E	E	E
11	E	E	E	E	E	E	E	1.70	1.90	2.05	2.05	2.50	B	3.05	2.05	1.75	1.75	1.70	1.75	E	E	E	E	E
12	E	E	E	E	E	E	1.65	1.75	1.75	C	C	2.30	2.95	2.75	2.60	2.50	1.90C	1.70C	E	E	E	E	E	E
13	E	E	E	E	E	E	1.65	1.70	1.70	3.05	3.00	3.30	3.00	3.00	2.15	2.05	2.30	1.70	1.65	E	E	E	E	E
14	E	E	E	E	E	1.65	1.70	1.75	2.05	2.45	2.95	3.55	3.05	3.00	2.05	4.00	2.00	1.80	1.75	E	E	E	E	E
15	E	E	E	E	E	E	1.65	1.75	1.95	3.00	2.40	3.00	3.10	2.95	2.95	2.05	2.55	1.80	1.70	E	E	E	E	E
16	E	E	E	E	E	E	1.65	1.75	2.05	2.00	2.20	2.50	2.60	2.55	2.05	2.00	1.75	1.80	1.70	E	E	E	E	E
17	E	E	E	E	E	E	E	1.70	1.75	2.05	2.05	2.65	2.75	2.80	2.40	2.40	2.00	1.70	1.65	E	E	E	E	E
18	E	E	E	E	E	E	1.65	1.80	2.15	2.20	3.05	2.45	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	2.70	2.70	5.30	4.05	2.80	2.50	1.80	1.70	E	1.70	E	E	E	E
21	E	E	E	E	E	1.70	1.70	1.70	1.95	2.55	2.95	2.65	2.00	3.30	2.40	1.95	1.80	1.65	1.65	E	E	E	E	E
22	E	E	E	E	E	E	1.65	1.70	1.75	2.70	3.55	3.10	3.50	3.50	3.05	2.55	1.70	1.70	1.65	E	E	E	E	E
23	E	E	E	E	E	E	1.70	1.70	1.75	1.80	1.80	2.55	2.55	1.95	2.50	1.70	1.70	1.70	E	E	E	E	E	E
24	E	E	E	E	E	E	1.70	1.70	1.70	1.80	2.05	1.95	2.05	2.50	2.00	1.80	1.80	1.65	1.65	E	E	E	E	E
25	E	E	E	E	E	E	1.70	1.70	1.70	1.80	2.00	2.05	2.00	2.00	2.00	1.80	1.75	1.70	1.65	E	E	E	E	E
26	E	E	E	E	E	E	1.70	1.70	1.80	1.70	2.50	2.00	2.10	2.50	1.95	1.80	1.80	1.70	1.65	E	E	E	E	E
27	E	E	E	E	E	E	1.70	1.70	1.95	2.00	2.55	2.70	2.90	2.70	1.90	1.70	1.80	1.70	1.70	E	E	E	E	E
28	E	E	E	E	E	E	1.65	1.75	1.75	1.90	1.80	1.95	2.00	1.95	2.05	1.70	1.75	1.70	1.65	E	E	E	E	E
29	E	E	E	E	E	E	E	1.65	1.95	1.85	2.30	2.90	3.00	2.50	2.00	2.90	1.75	1.65	E	E	E	E	E	E
30	E	E	E	E	E	E	E	1.70	1.95	1.75	2.00	2.00	1.80	2.00	1.85	1.65	E	E	E	E	E	E	E	E
31	E	E	E	E	E	E	E	1.65	1.75	1.70	2.00	2.00	2.00	2.05	2.00	1.70	1.70	1.70	E	E	E	E	E	E
No.	29	29	29	29	29	29	29	29	28	27	28	29	28	28	28	28	28	29	29	29	29	29	29	29
Median	E	E	E	E	E	E	1.65	1.70	1.75	2.00	2.50	2.55	2.65	2.60	2.05	2.00	1.75	1.70	1.65	E	E	E	E	E

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. 1960 | (M3000)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	I2.90F	2.75F	2.70F	2.65	2.60	2.50	2.65	2.80	2.85	G	2.45	2.30	2.50	I2.70A	2.75	2.75	3.00	3.00	3.00	2.95	2.65	2.65	2.65	2.65
2	I2.70F	2.70F	2.70	2.95	I2.95F	3.15	2.95	2.85	C	C	C	C	C	C	C	C	C	3.00	3.00	I3.05A	2.80	2.65	2.75	I2.60S
3	2.60	2.80	2.80	3.10	2.70	2.90	3.05	3.05	3.20	3.35	2.90	2.90	2.95	3.00	2.95	3.00	3.10	3.15	3.05	2.90	2.85	2.70	2.70	2.75
4	2.70	I2.80F	3.00	2.85F	2.75F	2.90	2.85	3.00	3.10	2.90	3.10	2.85	3.00	U2.60R	2.85	2.95	3.05	3.10	3.15	3.00	2.80	2.55	2.65F	2.90F
5	2.80	2.75	2.85	2.75	2.95F	I2.90F	3.10	2.70	2.90	3.05	I2.95A	I2.80A	2.80	2.95	3.05	2.95	3.10	3.15	3.00	2.90	2.85	2.80F	F	F
6	F	F	F	I2.80F	I2.75F	2.90	3.05	3.00	3.25	3.20	I3.20A	A	A	A	A	I3.00A	3.05	3.05	2.90	2.95	2.95	2.85	2.90	2.75
7	2.75	2.85	3.10	2.95	2.85	2.85	3.00	3.10	3.10	I3.00A	I3.05A	U2.90R	2.90	2.95	3.00	U3.10R	3.05	3.05	2.90	3.05	2.90	2.90	2.85	F
8	F	F	F	F	F	2.90	3.00	3.15	3.20	3.10	3.20	3.00	3.10	2.95	U3.00B	3.05	3.05	3.00	2.95	2.90	2.90	3.00	2.65F	F
9	F	F	I2.60F	I2.55F	2.55	2.55	2.50	2.80	2.70H	2.50F	2.90	2.50	A	A	2.80	2.95	2.90	2.85	2.90	3.15	3.20	2.55	2.55	2.65
10	2.70	2.90	2.60	2.60	2.70	2.70	3.05	3.00	3.00	2.80	2.95	2.65	2.70	2.85	3.00	3.15	3.05	2.85	2.85	I2.85A	2.90	2.85	2.70	2.65
11	2.65	2.65	2.70F	2.65F	2.55	2.50	2.75	2.50	2.80	I2.45A	2.55	2.80	I2.55B	2.60	2.75	2.70	2.95	3.00	3.15	2.85	2.55	2.55	2.50	2.65
12	2.55	I2.75F	2.70F	I2.60F	2.65	2.70	2.65	2.65	2.75	C	C	G	2.65	2.55	2.80	2.65	I2.90C	I2.95C	2.80	2.85	2.60	2.60	2.60	2.50
13	2.55	2.65	2.80	2.60	2.60	2.50	2.70	2.75	2.55	2.60	2.90	3.05	2.60	I2.90A	3.00	I2.90A	3.00	3.10	3.00	2.85	2.60	2.55S	2.60	2.60
14	2.50	2.60	2.60	2.90	2.65	2.80	3.05	3.10	3.25	3.10	2.90	3.05	2.80	2.80	2.90	2.80	2.95	2.85	2.95	2.80	2.85	2.70	I2.70F	2.65S
15	2.60S	2.60	2.60	3.05	2.80	2.45	2.30	2.60V	2.80	2.90	2.95	2.75	2.75	2.75	2.80	2.95	2.90	2.90	2.90	2.70	2.60S	2.70S	2.70	2.65S
16	2.60	2.60	2.60	2.65	2.50	2.90	2.95	2.65	U2.85R	3.20	2.80	2.95	2.80	2.90	I2.80A	I2.90A	2.90	I2.90A	I2.95A	I2.80A	2.70	2.60	2.60	2.50
17	U2.50R	2.35	2.35	2.30	2.35	2.50	2.70	2.45	3.15	3.25	2.15	2.35	2.50	2.60	2.65	2.85	2.85	2.75	2.60	2.70	2.55	2.45	2.70	2.40
18	2.40	2.50	2.45	2.30	2.20	2.60	2.60	2.40	I2.40A	2.45	G	2.35	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	2.35	2.60	3.00	3.05	2.75	2.80	2.85	2.85	2.90	2.95	2.85	2.70	2.50	2.60
21	2.50	2.60	2.70	2.60	2.60	2.70	3.15	3.15H	3.05	2.95	2.80H	2.70	2.85	2.75	2.90	2.85	2.95	3.10	2.90	2.80	2.70	2.60	2.80	2.70
22	2.60	2.55	2.60	2.60	2.65	2.65	3.05	3.20	3.10	3.20	2.80	2.80	2.75	2.75	2.80	2.90	3.00	2.90	2.90	3.00	2.80	2.75	2.90	I2.65F
23	I2.70F	2.75	2.70F	2.70	2.70	2.80	3.15	3.30	3.00	2.90	3.05	2.85	2.80	2.85	2.85	3.00	3.05	3.00	2.95	2.90	2.85	2.90	2.85	2.80
24	2.90	2.75	2.75	2.70	2.65	2.65	3.10	3.05	3.15	3.05	2.90	2.75	2.80	2.85	2.85	2.90	3.05	3.00	3.05	3.10	2.80	2.95	2.80	2.75
25	2.75	2.80	2.80	2.70	2.75	2.90	3.20	3.25	3.35	3.00H	3.30	3.05	3.05	2.95	3.05	3.10	2.90	J3.00A	3.00	3.05	3.10	3.00	2.90	2.80
26	2.85	2.75F	I2.80F	2.90F	2.80F	2.85F	3.25	3.35	3.35	3.25	3.20	3.10	2.95	3.00	3.10	3.10	2.90	3.20	3.10	2.90	2.90	2.90	2.90	2.85
27	I2.80F	2.90	3.00F	2.90	2.75F	2.95	3.05	3.30	3.20	3.05	2.90	3.05	2.85	2.80	2.90	2.85	3.00	3.05	3.20	3.00	2.90	2.85	2.85	2.85F
28	2.70	2.75	2.80F	2.70F	2.60	2.80	3.30	3.10	3.20	3.30	2.75	2.90	2.90	2.85	2.90	3.05	3.05	3.05	3.05	2.95	2.95	2.95	2.90R	S
29	F	F	F	2.75F	2.85	2.90F	3.20	3.25	3.30	3.20	2.85	3.00	2.90	3.05	2.95	3.00	2.60	2.70	U2.95R	I3.25R	2.55	2.50	2.55	I2.65R
30	2.50	2.60	2.70	2.60	2.55	2.45	2.40	2.40	2.55	2.45	2.60	2.95H	2.60	2.95	3.00	3.10	3.00	2.90	3.05	2.80	2.65	2.55	2.60	I2.50A
31	2.70	2.85	2.75	2.55	2.90	I2.65A	2.55F	2.70	2.85	I2.70A	A	A	2.70	2.80	2.85	3.00	3.00	3.10	3.10	I3.00A	A	A	2.70	I2.70A
No.	25	25	26	28	28	29	29	29	28	27	27	27	26	26	27	28	28	29	29	29	28	28	28	25
Median	2.70	2.75	2.70	2.70	2.70	2.80	3.00	3.00	3.10	3.00	2.90	2.85	2.80	2.85	2.90	2.95	3.00	3.00	2.95	2.90	2.80	2.70	2.70	2.65

(M3000)F2 Sweep 1.60 Mc to 20.0 Mc in 20 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

A 7

27

IONOSPHERIC DATA

Aug. 1960 | (M3000)F1 | 135° E Mean Time (G.M.T.+ 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						3.10	3.50	3.60	4.05	4.10	3.85	3.90	3.85	I 3.70 A	I 3.60 A	3.55	3.50	L	A					
2							3.45	3.70 L	C	C	C	C	C	C	C	C	C	L	L					
3								3.55	3.65 L	3.55	3.70	3.85	I 3.50 A	4.00	3.60 H	3.55 H	3.50 L	L	L					
4							4.25	3.45	3.70	4.10	3.95	3.90	3.50 L	3.70 H	I 3.60 A	3.60	I 3.60 A	A						
5							3.70 L	3.40	A	A	A	A	A	3.85	3.60	3.40	I 3.80 L	A	L					
6								A	A	A	A	A	A	A	A	A	3.55 L	L	L					
7							L	A	A	A	A	L	A	A	L	A	A	L	L					
8							L	A	A	A	A	A	3.75	3.30 L	I 3.60 B	3.40 L	3.40 L	L	A					
9						3.25	I 3.25 L	A	A	L H	I 3.65 A	3.50	A	A	4.05	3.75	I 3.55 A	3.50 L	L					
10								3.40	3.60	A	A	A	A	3.60	A	L	L	L	A					
11						L	I 3.30 A	3.40	I 3.70 A	I 3.80 A	3.65	3.85	I 3.75 B	3.65	3.45	3.40	3.35 L	I 3.50 L						
12							3.70	3.45	3.50	C	C	3.60 H	3.70	3.70	3.45	3.35	C	C	L					
13						L	3.35	A	A	A	A	A	A	A	I 3.70 A	I 3.70 A	L	L						
14								L	I 3.90 L	4.05	3.45	I 4.10 L	3.85	3.75 H	I 3.55 L	3.45 L	L	L	A					
15							3.25	3.35 L	3.55	3.55 L	I 3.50 L	3.50	3.55 H	3.45	L	L	L							
16							L	I 3.40 L	I 3.50 L	3.90	A	L	3.50	A	A	A	A	A	A					
17						2.85	I 3.20 L	3.40	4.00	I 3.50 A	3.60	I 3.65 A	3.70	3.55	I 3.40 A	I 3.40 L	L H							
18							3.00	I 3.40 A	I 3.60 A	3.60	3.50	I 3.50 L	C	C	C	C	C	C	C					
19							C	C	C	C	C	C	C	C	C	C	C	C	C					
20							C	C	C	C	3.40 L	I 3.50 H	I 3.80 B	3.45 L	I 3.65 L	3.40	3.95	L						
21									3.80	L	A	L	I 3.55 L	I 3.20 L	L	L	3.45 L							
22								L	A	L	L	L	3.45	3.65	L	L	L	L						
23								L	A	L H	3.95	L	L	L H	L	L	L							
24									L	L	L	L	A	L	A	L	L	L						
25								A	A	L	4.05 L	I 3.65 L	3.80 L	3.50 H	L	L	L	A						
26								L	L	L	L	L	A	L	A	A	A	A						
27								L	L	L	L	L	3.60 L	L	A	L	L	L						
28								L	L	L	L	L	L	L	A	L	L							
29								L	3.65 L	I 3.80 L	3.65	L	L	3.80 L	L	L	L	L						
30						2.80 L	3.00	A	A	A	3.70	3.60	I 3.70 A	3.70	I 3.40 L	I 3.60 L	L	A						
31							3.10	I 3.35 A	I 3.50 A	A	A	A	3.80	I 3.30 A	3.15	I 3.55 L	L	A						
No.						4	13	13	14	10	14	13	17	18	14	14	10	2						
Median						3.00	3.25	3.40	3.65	3.80	3.65	3.65	3.70	3.65	U 3.60	3.50	3.50	U 3.50						

(M3000)F1 Sweep 1.60 Mc to 20.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

A 8

28

IONOSPHERIC DATA

Aug. 1960 | 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						395	355	350	400	G	550	600	545	I 455 A	I 490 A	440	345	340	300					
2							345	345	C	C	C	C	C	C	C	C	C	300	L					
3								305	295	305	365	370	360	345	350	345	310	285	275					
4							350	345	345	370	345	385	345	490	390	345	305	295						
5							285	400	350	345 A	I 405 A	I 410 A	I 375 A	355	330	335	300	295	300					
6								295	355	I 310 A	I 290 A	A	A	A	A	I 310 A	300	295	260					
7							I 290 L	270	290	I 340 A	I 320 A	345	295 A	355	340	305	300	295	295					
8							300 L	295	255	I 305 A	I 305 A	345	330	350	I 340 B	330	320	300 L	295					
9						355	380 L	345	355	I 410 L	390	510	A	A	395	350	350	345	295					
10								330	370	I 445 A	350	445	445	370	345	310	I 340 L	I 345 L	340 A					
11						I 405 L	355	450	395	I 520 A	495	445	I 510 B	465	445	425	350	320 L						
12							385	405	400	C	C	G	485	495	400	445	I 350 C	I 310 C	300 L					
13						L	390	405	I 490 A	I 485 A	I 405 A	370	465	I 395 A	350	I 365 A	310 L	295						
14								295	295	305	355	290 L	375	400	355	380	310	I 300 L	295					
15							550	400	355	350	345	430	400	405	365	350	L							
16							I 310 L	I 360 L	320 L	300	I 360 A	350	405	I 370 A	A	A	305	A	A					
17						405	305	450 L	305	345	660	550	460	415	405	360 L	350							
18							455	500	I 550 A	530	G	L	C	C	C	C	C	C	C					
19							C	C	C	C	C	C	C	C	C	C	C	C	C					
20							C	C	C	C	505	450	345	345	I 340 L	380	305	300 L						
21									280	265	280 H	335 L	340	355	340	335 L	305							
22								265	280	300	350	340 L	355	350	335	305 L	295	L						
23								250	245	345	295	280 L	I 345 L	350	325 L	300 L	300							
24									245	255	255 L	295 L	315	340	315	295	285	I 270 L						
25								250	260	250 H	290	300 L	330	345	300	285	I 285 L	300 A						
26								245	250	250	I 280 L	I 295 L	I 310 A	305	305	295	300 A	255						
27								260	250	250	305 L	300	345	305	295	295	280 L	285						
28								250 L	255	255	255	330	340	335	295	295	275							
29								250 L	260	245	290	295	340	295	300	300	360 L	310 L						
30						410	490	500	450	525	445	360 H	455	345	295	300	I 300 L	A						
31							405	395	I 350 A	I 435 A	A	A	450	405	395	I 350 L	335	295						
No.						5	16	27	28	27	27	26	26	26	26	27	27	21	10					
Median						405	355	345	310	340	350	355	360	355	340	335	305	300	295					

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 1960 | 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	305	300A	260	305	345	290	250	230	205	200	245	210	230	I225A	I235A	245	245	I245A	I250A	260	295	305	310A	300
2	I295A	I295A	270	260	250	255	210	210	C	C	C	C	C	C	C	C	C	A	245	I250A	255	300A	290	I315A
3	295	290	290	255	285	275	245	205	210	225	220	200	I245A	215	205H	240H	240	240	245	255	I270A	285	295	290
4	I280A	I305A	280	300	295	290	245	245	240	200	200	205	I200A	200H	I230A	240	I245A	I245A	270A	255	245	320	310A	280A
5	255	I290A	290	300	250	255	245	A	A	A	A	A	A	200	245	240	265	I250A	I245A	I255A	290A	I280A	305A	255
6	255A	I280A	255	270A	295	250	245	I250A	A	A	A	A	A	A	A	A	240	245	245	255	245	255	255	295
7	290	290	245	245	295	250	245	A	A	A	A	A	A	A	A	A	A	245	260	290A	I275A	275	290	I300A
8	I300A	290	290A	330A	295	255	245	A	A	A	A	A	210	230	I240B	240	240	I260A	I285A	290	260	245	255	325A
9	340A	305	300	340A	305	300	250	A	A	220H	I225A	245	A	A	205	235	I245A	245	260	250	250	I285A	310	300
10	295	265	290	305	300	275	245	245	240	A	A	A	A	245	I240A	230	245	245	I265A	I290A	290A	245	305	290
11	300	300	305	300	345	290	I255A	245	I235A	I205A	215	205	I220B	230	240	250	250	245	275	I270A	I320A	340	340A	I315A
12	I320A	295	295	310	305	295	260	245	250A	C	C	205H	205	215	230	240	I250C	I250C	260	285	300A	295	I300A	310
13	335	295	245	255	310	305	255	A	A	A	A	A	A	A	A	A	I230B	250	290A	275A	305A	310A	310A	340A
14	340	305	300	255	230	280	255	245	205	205	245	200	215	210H	205	245	245	I250A	I280A	I290A	280A	260	290	310
15	305	310	300	255	245	285	250	245	250	205	235	220	205H	I245B	240	240	245	250	255	295	I320A	300A	305A	295
16	305	320A	340A	300	340A	280	250	225	240	205	A	A	A	A	A	A	A	A	A	I285A	I290A	I295A	295	335A
17	305	355	380	395	305	340	280	245	240	I225A	235	I240A	245	245	I250A	255	245H	250	280	295	295	I330A	300	305
18	345	335	I335A	395	I430A	310	I270A	I250A	I245A	245	235	225	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	210	I210B	I205B	250	245	240	235	260A	280	280A	255	I275A	295A	330A
21	325	300	290	275	310	295	255	245	240	230	I230A	I230A	205	230	235	245	250	255	265	260	290A	280	290	275
22	295	340	305	295	300	295	255	245A	I240A	240	245	I245A	245	230	235	245	245	255	265	245	280	340A	I310A	330A
23	310	295	295	295	295	295	245	245	I215A	200H	215	210	I200A	210H	230	245	240	260	250	260	270	295	295	295
24	280	295	295	290	310	300	245	245	245	230	225	205	A	A	I240A	245	I245A	250	260	245	250	280	255	305
25	295	295	295	295	320	285	245	I235A	I230A	205	215	200	200	200H	230	240	245	I260A	260	245	240	I250A	280A	295
26	270	280	295	295	295	270	245	245	230	205	I240A	240A	A	A	A	A	A	A	255	I280A	I280A	275	270	280
27	305	290	280	260	255	255	245	250	240	220	205	200	200	I215A	I230A	240	245	250	250	260	255	270	290A	290
28	260	295	295	290	345	255	245	225	240	210	205	I210A	I240A	I260A	I245A	I250A	250	260	255	240	255	250	270A	I300A
29	330	295	295	290	275	295	245	240	210	225	I220A	245	220	210	240	245	250	I280A	250	200	245	305	315	300
30	300	305	295	290	335	385	I325A	A	A	A	245	240	I230A	245	255	245	250A	I285A	265	260A	330A	295	340A	A
31	A	285	255	290	260	A	A	I280A	I250A	A	A	A	240A	A	A	245	245	I260A	I260A	255	270	I300A	I320A	I330A
No.	28	29	29	29	29	28	28	23	21	19	20	21	19	20	22	23	25	26	28	29	29	29	29	28
Median	300	295	295	290	300	290	245	245	240	210	225	210	215	230	240	245	245	250	260	260	275	285	295	300

h'F

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

IONOSPHERIC DATA

Aug. 1960 | h'Es | 135° E Mean Time (G.M.T.+ 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	100	100	100	100	E	140	130	105	110	120	115	135	115	110	110	105	135	110	110	110	105	105	105	105
2	105	100	100	E	E	145	115	145	C	C	C	C	C	C	C	C	C	100	100	105	110	110	105	105
3	E	E	E	E	100	B	G	G	G	120	100	105	105	105	105	105	140	105	105	105	105	105	105	105
4	100	100	100	100	100	G	135	130	115	105	105	105	100	100	100	100	100	110	110	100	100	105	105	100
5	100	100	100	100	100	145	130	110	105	105	105	105	100	G	105	105	100	110	105	100	105	105	105	105
6	100	100	100	100	100	G	145	120	110	105	105	105	105	105	105	105	105	105	105	105	100	100	100	100
7	100	100	100	110	110	105	110	105	105	105	105	105	100	105	105	105	110	G	110	105	105	100	100	105
8	100	100	100	100	100	100	110	105	105	105	100	105	105	100	B	G	100	115	105	105	105	100	100	100
9	100	100	100	100	100	105	145	110	110	105	105	105	105	105	105	105	105	130	110	110	110	110	105	105
10	105	100	100	100	100	G	125	115	110	105	105	105	105	105	105	100	100	105	115	105	100	105	105	E
11	100	100	100	100	105	G	135	125	115	105	120	105	B	105	G	100	120	130	120	105	105	105	105	100
12	100	105	100	100	E	145	100	110	110	C	C	105	105	G	G	G	C	C	100	100	100	105	100	100
13	100	E	100	100	100	130	145	130	115	115	110	110	105	105	105	105	105	100	100	100	100	100	100	100
14	100	E	E	E	E	105	G	105	G	105	105	105	G	G	G	B	145	115	105	105	105	100	100	100
15	100	100	E	E	E	E	105	G	G	145	G	145	145	145	140	125	110	105	105	105	105	100	105	100
16	100	100	100	100	100	105	145	145	135	105	105	105	105	105	100	105	125	110	105	105	105	105	100	100
17	100	100	100	E	E	105	140	105	145	115	130	110	105	100	100	100	G	G	105	100	110	105	105	105
18	105	100	100	105	105	100	120	120	115	135	G	G	C	C	C	C	C	C	C	C	C	C	C	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	C	C	C	C	C	C	C	C	C	C	125	G	B	155	G	145	145	120	140	110	110	110	110	105
21	105	E	E	100	E	G	G	125	120	120	110	110	110	G	G	105	130	120	115	105	110	E	105	105
22	105	105	105	100	E	E	G	130	110	115	105	105	105	G	105	110	105	105	120	115	105	105	105	105
23	105	100	100	100	115	E	125	110	105	115	105	105	105	105	100	140	130	105	100	E	110	105	105	105
24	105	105	105	105	105	105	145	140	120	110	115	115	105	105	105	120	110	120	110	105	105	105	110	105
25	105	100	100	105	105	E	135	110	105	105	G	110	105	105	105	105	G	110	110	105	105	105	105	105
26	105	E	100	100	100	105	105	120	105	105	110	105	105	105	105	105	105	105	105	105	105	105	105	105
27	105	105	105	100	105	105	105	105	110	105	105	105	105	105	100	G	135	145	120	110	110	105	105	105
28	105	E	100	105	100	105	G	125	120	125	115	110	105	105	105	110	125	130	110	105	105	105	105	105
29	105	100	100	100	100	E	100	125	135	115	110	105	G	100	105	G	135	130	120	100	E	105	105	100
30	100	100	105	E	105	145	140	125	115	110	105	110	105	105	G	145	145	120	110	105	105	105	105	105
31	105	105	130	E	E	110	115	110	110	110	110	105	105	105	105	105	140	115	110	105	110	110	105	105
No.	28	23	25	22	20	18	24	27	25	27	25	27	24	23	21	23	25	26	29	28	28	28	29	28
Median	100	100	100	100	100	105	130	120	110	110	105	105	105	105	105	105	120	110	110	105	105	105	105	105

h'Es

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 1960

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	fz	f3	fz	fz		h	hz	ehz	cz	c	c	h	c	cz	cz	cz	h	cz	cz	fz	f	f3	fz	f
2	f3	f3	f			h.	cz	h										04	l	f3	f	fz	f	f3
3					f					h	dz	l	l	lz	l	dzh	h	cz	l3	fz	f3	fz	f	f
4	f3	f3	fz	fz	f		h	h	cz	l	l	l	lz	l	l3	lz	l3	c3	c3	f	f	f	f3	f3
5	fz	f3	fz	f	f	h	h	c3	cz	cz	cz	lz	lz		l	l	lz	c2l	lz	fz	fz	f3	fz	fz
6	fz	f3	fz	fz	fz		hl	c3	cz	c4	c4	c3	cz	c3	cz	cz	l	lz	lz	fz	fz	fz	f	fz
7	fz	f3	fz	f	fz	lz	cz	c3	lz	lz	lz	lz	lz	lz	lz	l3	cz		lz	fz	f3	fz	fz	f3
8	f3	fz	fz	f3	fz	lh	cz	cz	lz	l3	l4	lz	l	l			lz	cz	lz	f3	f3	fz	fz	fz
9	f3	f3	fz	f3	fz	lz	h	cz	c3	l	l	l	cz	lz	lz	l	lz	h	l	fz	f3	f3	fz	fz
10	fz	fz	fz	f	fz		hz	hl	c	c3	cz	lz	lz	lz	lz	lz	l	lzh	c3l	f4	fz	fz	f3	
11	fz	f	f	fz	fz		h3	hz	cz	lz	h	c		l		lz	hzl	h	hzl	f3	f3	fz	fz	fz
12	f4	f4	fz	f		h	lh	c	cz			l	l						l	fz	f3	fz	fz	f
13	f		fz	f	f	h	h	hz	cz	cz	cz	c	cz	lz	lz	l3	l	lz	lz	f	fz	f	fz	fz
14	f					l		l		c	l	l					h	cz	cz	fz	fz	f	f	f
15	f	f					l			h		h	h	h	h	h	c	lz	lz	fz	f3	fz	fz	fz
16	fz	fz	fz	fz	f3	f	hz	h	h	l	c2l	lz	c2l	cz	lz	lz	hz	c3	l4	f3	fz	fz	fz	fz
17	fz	f	f			l	hzl	l	hl	cz	hl	cz	lh	lz	lz	l3			l3	fz	f3	fz	fz	fz
18	fz	f3	fz	f3	f4	l	hz	hz	cz	h														
19																								
20											h			h		h	h	hz	h	f3	fz	fz	fz	f3
21	f			f				h	h	hz	cz	c	c			l	h	hz	cz	fz	f		fz	fz
22	fz	fz	fz	f				hz	cz	c	c	c	l		c	l	c	lz	hl	f	fz	fz	fz	fz
23	fz	fz	fz	f	fz		hz	cz	cz	c	l	l	lz	l	lz	h	hzl	c2l	l		fz	f3	f3	f3
24	fz	fz	f3	f	fz	f	h	h	hz	c	c	l	cz	lz	lz	c	cz	hz	l3	fz	fz	f3	f	f3
25	fz	fz	fz	fz	fz		hz	cz	cz	l		l	l	l	lz	l		c3lz	cz	f3	fz	fz	fz	fz
26	fz		f	f	f	f	lz	hlz	lzc	lz	c2l	l	l3	lz	lz	c3	l3	l3	l4	f3	fz	fz	fz	fz
27	fz	fz	fz	fz	fz	fz	lh	lh	c	lz	l	l	l	l	lz		h	h	l3	fz	fz	fz	fz	fz
28	f		f	fz	f3	c		h	hz	h	c	cz	cz	cz	cz	lz	hz	hz	lz	fz	f3	fz	fz	fz
29	fz	f	fz	fz	f		lh	h2lz	h	c	cz	l		lz	l		hl	hzl	hzl	f		f	fz	f
30	f	f	f		fz	hl	hz	hz	c3	cz	cz	c	l	lh		h	hz	cz	f3	f3	fz	fz	f3	f3
31	fz	f	f			fz	cz	cz	c3	c3	cz	c3	cz	c3	lz	lz	h	c3	f3	f4	fz	f3	f4	fz
No.																								
Median																								

Types of Es

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

The Radio Research Laboratories, Japan.

A 12

IONOSPHERIC DATA

Aug. 1960 | 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	6.4	6.6	I 6.0 s	5.9	u 5.8 s	5.3	6.3	6.4	5.6	G	I 5.4 A	I 5.7 A	5.8	6.1	6.3	6.2	6.3	6.6	6.5	6.3	6.1	6.5	6.5	6.3
2	6.1 F	6.1	6.2	6.7	4.9	5.2	6.4	7.3 s	7.6 R	7.4	7.3	9.0	9.5	9.3	9.0	8.9	9.0	9.0	9.2	7.7	7.4	7.4 s	7.2 F	7.7
3	7.4	C	C	C	I 5.8 C	5.6	6.6 V	7.2	7.2	6.3	6.4	6.8	7.4 R	I 7.4 C	I 7.4 C	7.6	J 8.5 s	I 8.0 C	7.4 s	7.3 s	I 7.2 C	I 7.1 C	I 7.3 C	I 7.4 C
4	I 7.0 C	I 6.8 C	I 6.6 C	I 6.1 C	6.0 F	I 5.7 C	C	C	C	C	C	C	6.9 V	7.1	C	C	C	9.4	8.2	u 7.2 s	I 7.3 s	I 7.5 s	J 7.4 s	I 7.9 s
5	7.2 s	J 6.7 C	6.2	u 6.1 C	C	C	C	C	C	A	I 6.8 A	7.1	7.7	8.7	9.4	9.6	9.2	8.0 s	7.7	7.3	7.4	I 7.5 s	u 7.4 s	6.9
6	6.9 s	J 6.6 s	5.9	5.5	5.3	5.8	7.1	8.9	8.0	8.2	7.8 R	7.6 s	8.0	9.2	10.5	I 10.1 A	9.8	9.2	8.8	9.3 s	J 8.6 s	8.1	u 7.4 R	7.3 s
7	7.2	7.1	7.1	6.3	5.3 s	5.4	6.3	8.9 s	7.8	9.1	8.7	8.6	8.2	8.6	J 9.3 R	9.9	9.2	8.4	8.9	J 9.1 s	8.1	7.6	u 7.6 s	6.9
8	J 6.7 s	6.5	6.2	6.0	6.1	6.1	7.4	9.0	8.8	J 7.6 s	I 8.2 A	8.2	A	A	I 7.9 C	7.8	7.9 R	8.5	I 8.8 A	8.8	8.4	I 7.0 s	6.4	6.3
9	6.4 F	6.4	J 6.7 R	6.2	6.3	5.8 F	7.2	7.9 V	7.0	I 6.6 A	7.5	8.0	7.2	8.0	7.4	7.3	7.3	7.0	7.8	8.7 s	5.8	5.4	5.2	5.5
10	5.5	5.2	4.9	4.8	5.0	5.3	6.5	7.3 s	7.8	6.9	6.7	7.1	7.9	8.7	8.0	7.2	7.0 H	7.2	7.7	7.8	7.3	6.5	6.3	6.1
11	5.9	5.4	5.2	5.1	5.0	5.0	5.2 H	5.7	I 5.8 A	6.3 R	6.1	6.4	I 6.2 B	6.4	6.8	6.7	7.1	I 7.2 A	6.6	5.8	5.7	6.3 s	6.2	6.0
12	6.0	6.2	5.5 R	5.1	5.4	5.5	5.9	6.4	6.9	7.3	6.5	I 6.0 A	J 6.5 s	6.6	7.3	7.1	7.7	7.6	7.0	7.1	6.5	6.7	6.9	6.6
13	6.3	6.5 R	u 6.9 R	5.6	5.0	4.7	6.0	6.3	6.1	6.5	I 7.4 A	7.2	7.2 s	8.1	7.1	7.4	7.6	7.6	7.3	6.9	6.8	J 6.9 R	7.1	u 6.9 R
14	I 6.7 R	6.6	6.7	6.4 R	5.3	5.3	7.2	8.6	J 8.4 R	u 8.2 R	8.7	8.7	J 7.8 R	8.0	8.6	8.7	8.7	8.6	I 8.2 A	9.1	8.2	J 7.3 s	7.7 s	I 7.6 R
15	7.4	7.2	I 7.3 R	u 7.0 R	5.9	5.3	5.7	7.3	8.2	9.3	8.8	7.7	7.8	8.4	8.5	8.1	7.8	7.5	7.4	u 7.5 s	u 7.2 s	u 7.5 s	u 7.3 s	I 7.2 s
16	7.3 s	6.9	6.7	6.5	6.0	6.6	u 7.4 s	8.6	8.5	7.8	8.8	8.7	8.8	8.8	9.0	9.1	8.5	J 8.3 s	8.3	J 8.8 s	I 8.4 A	I 8.2 s	I 8.3 A	u 7.8 s
17	I 7.3 s	6.3	6.1	5.5	u 6.0 s	5.5	6.8	7.8	7.6	7.3	J 6.2 R	7.0	8.6	9.4	u 9.3 R	8.4 H	7.6	7.3 s	7.6	7.3 s	6.4	u 6.0 s	6.5	J 6.2 s
18	6.3	I 6.6 A	6.3	5.0	4.5	4.8	7.1	6.6	5.3	7.1	7.6	u 7.8 R	7.8	7.4	8.1	8.3	8.0	7.6	8.1	J 7.8 s	7.9	7.1	6.9	7.3
19	6.9	6.8	6.6	5.9	5.6	5.2	6.4	6.8	6.3	6.7 R	7.2	8.6	8.8	8.1	8.2	8.0 R	7.9	8.1	8.6	7.8	6.5	6.5	7.0	6.9
20	6.6	6.6	6.5	6.0	5.9	5.6	6.3	9.2	9.0	8.4	7.4	8.4	9.8	9.9	9.7	9.1	9.2	9.5	9.4	9.3	7.2	6.7	I 6.4 A	6.6
21	I 6.4 s	6.3 s	6.0	5.8	5.5 s	6.0	9.0	10.8	9.1	9.1	8.8	9.9	11.3	10.8	10.7	10.0 s	9.6	9.5	9.0	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	9.0	u 10.0 s	11.4	11.1	11.9	11.7	11.0	10.3 R	9.7	9.7 s	9.2	7.7	8.0 s	7.8	7.5
23	u 7.5 s	7.7	7.5	7.3	6.6	6.9	9.3	9.0	8.1	8.4	8.9	9.6	9.8 s	10.1 s	10.5 s	10.3	9.4	9.5	I 9.3 A	9.4	8.9	8.6	u 7.7 s	8.0
24	7.7 R	7.4	u 7.2 s	7.4	7.0	6.9	9.2	10.5	10.5	9.6	9.9	10.4	11.5	12.3	12.9	12.7	12.0	J 11.5 s	11.8	J 11.3 s	u 8.9 s	I 9.0 s	8.6 s	J 8.5 s
25	J 8.2 s	7.4	7.0	6.3 Z	6.0 F	u 7.0 s	9.1	8.9	8.8	8.6	9.6	9.7	10.0	10.8	10.9	10.6	9.8	u 10.4 R	11.3	J 10.9 s	9.3	8.2	8.0	7.9 R
26	7.5 R	7.8 s	7.5 s	6.4	6.1	6.7	J 10.1 s	10.8 s	8.5	8.1	9.3	9.5	9.4	9.0	10.0	9.3	9.9	9.6	9.0	8.9	8.5	I 8.0 s	u 7.8 s	J 7.6 s
27	u 7.9 s	7.5 s	J 7.8 s	J 6.7 s	6.2 s	6.6	8.2	11.2	11.5	9.0	8.4	10.0	11.4	10.9 R	11.3	11.6	11.5	11.4	11.0 R	9.4	8.6	8.0 s	7.3	7.7
28	7.1	6.9	6.4	6.3	6.1	6.3	8.8	9.2	9.4	J 8.0 R	8.1	9.1	10.5	11.2	11.8	10.8	9.9	9.8 s	10.3	9.7	8.7	8.1	8.2	I 7.6 s
29	6.6	6.7	I 6.4 F	6.0 F	6.2 s	6.3	8.4	10.1	10.3	8.8	9.4 H	10.1 s	J 10.5 R	10.3	J 10.3 s	9.6	8.4	u 10.4 s	u 12.6 s	J 10.1 s	5.5	6.0	6.1	6.4
30	6.1	6.1	6.2	5.4	5.2	J 4.4 F	4.5	5.0	u 5.2 s	5.5	6.3 R	5.8	u 6.6 R	8.5	8.8	8.6	8.1	7.6	8.4	6.7	5.8	I 5.7 A	5.7	5.5
31	6.0	6.1	5.6	5.4	4.9	4.0	4.5 H	6.2	6.5 R	5.6	5.6	6.5	6.4	6.9	6.7	6.7	6.5	6.9	7.2	7.0	5.2	I 5.1 A	5.4	5.4
No.	30	29	29	29	29	29	28	28	28	29	30	30	30	30	30	30	30	31	31	30	30	30	30	30
Median	6.8	6.6	6.4	6.0	5.8	5.6	7.0	8.2	7.9	7.8	7.7	8.3	8.1	8.7	9.0	8.8	8.5	8.4	8.4	8.2	7.4	7.2	7.2	7.0
U.Q.	7.3	7.0	7.0	6.4	6.1	6.3	8.3	9.1	8.8	8.7	8.8	9.5	9.8	10.1	10.5	10.0	9.6	9.5	9.3	9.3	8.4	8.0	7.7	7.6
L.Q.	6.3	6.3	6.0	5.5	5.2	5.2	6.3	6.7	6.7	6.6	6.7	7.1	7.2	8.0	7.9	7.6	7.7	7.6	7.6	7.3	6.5	6.5	6.4	6.3
Q.R.	1.0	0.7	1.0	0.9	0.9	1.1	2.0	2.4	2.1	2.1	2.1	2.4	2.6	2.1	2.6	2.4	1.9	1.9	1.7	2.0	1.9	1.5	1.3	1.3

foF2

Sweep 1.0 Mc to 20.0 Mc in 2.0 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

K 1

IONOSPHERIC DATA

Aug. 1960 | 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						A	3.6	"4.5^{S}	"4.7^{S}	4.8	A	A	L	"5.0^{S}	L	A	A	A	A					
2								4.8^{L}	A	A	5.1^{S}	A	5.4	A	"5.5^{L}	A	A	L						
3								L	4.4^{L}	4.2^{L}	C	5.6	5.0	C	C	"4.9^{S}	A	C	L					
4							C	C	C	C	C	C	L	A	C	C	C	L	A					
5							C	C	C	A	A	A	A	A	A	A	A	A	A					
6							L	L	L	A	5.4	S	S	A	A	A	A	A	A					
7									L	A	5.2^{L}	5.2	A	A	5.1^{L}	4.8^{L}	L	L						
8								A	L	A	A	A	A	A	C	"5.1^{S}	"4.8^{L}	A	A					
9						L	4.1^{L}	A	A	A	5.3	5.2^{L}	A	A	"5.2^{L}	L	4.7^{L}	L	L					
10								4.7	4.8^{L}	A	5.4	5.3	5.5	5.2	5.1^{L}	A	L	L						
11								A	A	"5.4^{S}	A	AS	B	5.1^{S}	5.1^{S}	A	A	A					•	
12							4.0	4.5	AS	5.0^{S}	5.4^{H}	A	5.4	5.7	5.5^{S}	5.3	5.0^{L}	L						
13						2.9^{L}	A	4.6	4.8^{S}	AS	A	A	A	5.5	6.2^{H}	L	L	L						
14									"5.0^{L}	LH	5.4	"5.9^{L}	L	5.6	5.8	5.6^{L}	4.9	L	A					
15								"5.5^{L}	5.3^{L}	5.4^{L}	5.5^{L}	5.3^{L}	5.9	"5.8^{L}	5.7	5.3^{L}	L							
16									L	L	5.9^{L}	L	A	L	5.7^{L}	5.4^{L}	A	A	A					
17						"3.1^{L}	L	"5.0^{L}	5.2	L	5.7	5.7	5.7	A	"5.9^{R}	4.7^{L}	4.9^{L}							
18							"4.0^{L}	L		5.8	5.6	"6.0^{L}	6.1^{L}	"6.2^{L}	5.4	5.5^{L}	L	A						
19								4.6	5.2	5.5	5.6	5.6^{L}	5.9	6.1^{L}	5.7	5.7^{L}	L	L						
20										5.7^{L}	L	5.7	6.1^{L}	5.4^{L}	"5.5^{L}	"6.3^{L}	"5.3^{L}	L						
21										A	6.5^{L}	A	A	"6.0^{S}	L	5.3^{L}	L	A						
22										L	S	5.9	6.6	"6.1^{S}	5.7^{L}	5.6	5.5^{L}	L						
23									AS	S	5.6^{L}	A	A	5.5^{L}	L	A	AS							
24								L	L		A	L	5.8^{L}	"5.7^{L}	"5.3^{L}	A	L							
25								L	A	A	A	AS	5.7^{L}	5.4^{L}	"5.3^{S}	5.1^{S}	A	A	A					
26									S	L	A	L	L	"5.9^{L}	L	S	A							
27									L	L	"5.8^{L}	5.4^{L}	"4.9^{L}	L	"5.2^{L}	5.1^{L}	L	L						
28									L	L	L	5.8^{L}	L	L	A	A	A	A	A					
29											5.1	"5.6^{L}	"5.2^{L}	"5.5^{L}	"5.1^{L}	L	A	A	A					
30							A	A	A	"4.6^{S}	A	5.0	5.4^{L}	5.1^{S}	"5.0^{S}	LS	A	A						
31							3.7	A	A	4.7	4.8^{S}	4.9	A	5.3	A	L	L	L						
No.						2	5	8	8	10	17	16	15	19	20	15	7							
Median						"3.0	4.0	4.6	4.9	5.2	5.4	5.6	5.7	5.5	5.4	5.3	4.9							

foF1

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

The Radio Research Laboratories, Japan.

K 2

IONOSPHERIC DATA

Aug. 1960 | 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						B	2.30	2.85	3.35	3.55	3.70	3.80	3.95	3.90	3.65	3.40	3.15	2.80	A					
2						A	2.50	2.90	3.15	3.40	A	A	A	A	^{u}3.60^{s}	A	A	S	A					
3						B	2.40	^{I}2.90^{A}	A	C	C	^{I}3.60^{C}	3.70^{s}	^{I}3.70^{C}	^{I}3.60^{C}	^{u}3.35^{s}	3.15	^{I}2.70^{C}	A					
4						C	C	C	C	C	C	C	A	A	C	C	C	A	S					
5						C	C	C	C	R	A	A	A	A	A	A	3.25	A	A					
6						B	2.40	2.90	3.30	3.30	^{I}3.60^{s}	^{u}3.85^{s}	^{I}3.80^{s}	3.70	3.50	^{I}3.30^{B}	A	A	B					
7						B	^{I}2.20^{A}	2.90	3.15	A	A	A	A	A	3.80	3.70	3.30	3.00	B					
8						B	2.30^{R}	2.80	A	A	A	A	A	A	C	A	3.50^{R}	2.80	A					
9						1.90	2.50	3.00	3.35	^{I}3.55^{A}	^{I}3.75^{A}	A	A	A	A	3.50	3.20	2.70	B					
10						B	2.45	2.95	3.20	3.50	3.60	A	A	A	R	A	A	2.90	A					
11						S	2.45	3.00	3.30	3.55	3.75	^{u}3.75^{s}	^{I}3.70^{B}	^{I}3.80^{A}	^{I}3.95^{A}	3.75	3.30^{s}	2.85	A					
12						B	2.45	^{u}2.75^{A}	3.20	3.55	A	A	A	A	3.90	3.70	3.30	A	A					
13						B	2.60	3.05	3.50	3.80	^{u}4.00^{A}	4.10	^{I}4.00^{B}	^{I}3.80^{A}	^{I}3.70^{A}	A	A	A	B					
14						B	2.70	3.10^{s}	A	A	A	R	A	^{I}4.00^{R}	3.95	^{I}3.75^{s}	3.40	2.90	B					
15						B	2.40^{A}	3.05	3.40	3.80	4.00	^{u}4.00^{s}	^{I}4.00^{R}	^{u}4.00^{s}	3.95	3.60	3.35	2.75	A					
16						S	2.40	^{I}3.10^{A}	3.55	A	A	A	^{I}3.90^{A}	^{I}3.80^{A}	3.90^{s}	3.95	3.40	^{u}2.90^{A}	A					
17						A	2.55	3.20	3.60	^{I}3.90^{R}	3.90	^{I}4.10^{B}	3.90	4.10	^{I}4.00^{A}	3.70	^{I}3.30^{A}	A	A					
18						A	2.50	3.10	3.40	3.75	^{I}3.95^{R}	^{I}4.10^{R}	^{I}4.15^{s}	^{u}4.00^{s}	^{I}3.80^{s}	3.70	3.30	2.70	2.00					
19						A	2.60	2.95	3.40	3.65	3.90	3.85	^{I}3.90^{A}	^{I}3.90^{A}	3.90	3.65^{s}	3.30^{A}	^{I}2.70^{A}	B					
20						A	A	^{I}3.05^{A}	3.40	3.75	A	A	R	R	^{I}3.90^{s}	3.75	3.45	2.90	A					
21						S	2.45^{s}	3.10^{s}	3.50	3.35	3.75^{s}	^{I}3.80^{s}	^{I}3.75^{A}	S	A	3.70	3.45^{s}	2.65	2.00					
22						C	C	C	C	B	^{I}4.00^{s}	^{I}4.10^{s}	^{I}4.20^{s}	^{I}4.00^{s}	^{I}3.85^{A}	^{I}3.70^{A}	^{I}3.60^{A}	^{I}2.40^{A}	^{u}2.05^{B}					
23						B	2.45	2.70	2.95	3.20	^{I}3.40^{s}	3.40^{s}	A	A	A	A	A	2.70	A					
24						A	^{I}2.35^{A}	3.00^{s}	3.15	3.70	^{I}3.90^{A}	^{I}3.90^{A}	^{u}3.85^{R}	^{I}3.80^{A}	A	A	A	A	B					
25						S	^{I}2.30^{A}	^{I}2.80^{A}	^{I}2.90^{A}	3.15	A	A	A	A	A	A	A	A	A					
26						B	2.25	2.75^{A}	3.40	3.50	3.65	A	A	R	A	A	^{u}2.80^{A}	A	B					
27						A	A	A	A	A	A	A	^{u}3.90^{s}	R	R	3.35	3.00	2.55	B					
28						S	^{I}2.20^{A}	2.95	^{I}3.25^{s}	3.60	3.65	A	A	A	^{I}3.30^{A}	^{I}3.15^{A}	3.20	2.55	B					
29						S	2.20	2.80	3.10	3.35	^{I}3.65^{R}	A	A	A	A	^{I}3.40^{B}	3.10	2.50	S					
30						S	^{I}2.20^{A}	2.70	3.10	3.10	3.60	3.80	^{u}3.95^{s}	^{u}3.70^{s}	3.55	3.40	2.95	2.50	B					
31						S	B	2.50	3.00	3.30	3.20	3.55	A	A	A	A	A	2.40	B					
No.						1	25	27	24	22	19	15	15	14	18	20	22	21	3					
Median						1.90	2.40	2.95	3.30	3.55	3.75	^{u}3.85	^{u}3.90	^{u}3.85	^{u}3.80	3.70	3.30	2.70	2.00					

foE

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

The Radio Research Laboratories, Japan.

K 3

IONOSPHERIC DATA

Aug. 1960 | 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	5.4	5.6	4.8	3.7^{M}	S	3.3	3.0	5.3	5.0	4.5	8.1	13.2	5.3	4.9	7.2	6.5	4.9	5.3	5.9	7.2	7.6^{M}	4.3	2.1	7.2
2	5.3	4.4	E	7.1	7.2	2.6	2.9	3.2	7.1^{M}	5.2	4.4	7.0	4.0	5.6	3.3^{q}	8.5^{M}	6.0^{M}	2.8^{s}	2.4	7.2	S	5.3	5.2	7.4
3	6.1	C	C	C	C	B	G	3.3	3.5	C	C	C	G	C	C	G	9.5	C	2.9	2.5	C	C	C	C
4	C	C	C	C	E	C	C	C	C	C	C	C	8.5	6.9	C	C	C	4.0	5.2^{M}	4.9^{M}	4.5	4.9	7.4	5.4^{M}
5	5.2	C	7.5	C	C	C	C	C	C	9.2	6.3	6.8	9.9	9.6	10.4	8.9	7.4	7.9	5.0	7.9	7.4.9	7.3.9	7.3.9	7.4.3
6	4.9	4.9	4.2	7.1	7.2.6	B	2.6	3.4	4.4	6.9^{M}	4.5	G	4.5^{s}	6.4	8.9	10.7	8.9	10.5	6.2	7.3.5	5.3	4.7	3.1	2.4^{M}
7	S	2.2^{M}	E	E	2.3	B	4.6	3.4	4.8	10.4	5.5	9.9	8.8^{M}	6.6	4.2	4.8	4.3	G	B	S	S	S	S	7.3.3
8	3.0^{M}	3.9	3.8	3.4	3.1	B	G	5.5^{M}	3.8	6.0	9.0	13.7	17.3	12.2	C	4.2	G	4.8	8.3^{M}	5.5	5.5	5.8^{M}	3.4	1.6^{s}
9	3.5	5.2	3.8	2.6	1.9^{M}	G	3.4	5.4	6.1	9.1^{M}	5.0	4.8	6.6	6.3	4.2	G	3.6	3.3	2.2	3.2	3.9	5.0	4.3	5.2
10	3.1	2.0	1.9	3.7	3.2	2.4^{M}	5.3	3.9	4.8	6.7	4.8	4.8	5.8	4.0	3.4^{q}	5.6^{M}	3.3	3.3	2.4	5.8^{M}	8.3	5.3	3.9	3.3
11	2.3	2.3	3.3	2.1^{M}	2.2	1.9	3.6	6.0	4.7	4.9	6.0	7.4	B	4.4	4.3	6.9	6.7	7.5	4.4	3.3	4.8	5.4	4.1	3.3
12	3.1	3.0	5.3^{M}	4.0	2.5	3.2	3.7	4.5	5.3	5.0	4.6	5.2	4.5	4.3	G	4.2	3.7	3.2	3.5	5.3	3.2	4.5	3.9	3.0
13	2.7	1.9	B	E	B	2.3	G	3.4	4.4	5.4	10.7	6.8	7.0	4.2	4.6	6.9	5.0	4.8	3.6	4.3	2.2	2.2	2.9	4.8
14	2.5	2.7	2.0	B	E	B	G	G	3.6	4.7	4.6	G	4.8	3.4^{q}	G	G	3.7	3.5	7.4	4.3	4.9	5.4	5.3	B
15	E	B	E	1.8	E	B	2.8	3.0	G	4.1	4.4	G	G	5.2	4.3	3.9	3.8	3.1	2.2	2.4^{M}	2.2.9	3.4^{s}	2.2.4	3.4^{s}
16	3.2	2.8	3.2	2.0^{M}	1.2	S	2.2^{q}	3.6^{M}	3.8	4.7^{s}	4.4	5.8	7.6	5.7	G	G	9.2	8.5	5.7^{M}	6.3	8.4	8.8	9.5^{s}	9.4
17	2.1	2.5^{M}	2.4	E	E	2.5	G	3.4	4.4	G	4.5	B	G	6.7^{M}	5.0	4.2	3.5	7.4.0	2.2.9	2.2^{M}	2.3	3.6	5.3	6.3
18	2.2.5	3.0	5.5^{M}	3.7.1	3.8.1	2.2.4	3.4	3.4	4.0	5.1	G	G	G	G	4.2	4.1	4.3	5.4^{M}	2.2.8	3.3.4	3.6.3	2.8	3.1	7.4.8
19	3.3.9	3.3.4	2.2.2	2.3	3.3	4.0	3.3.4	4.0	4.3	5.2.1	4.6	5.0	4.5	4.6	G	G	3.1^{q}	3.0	B	E	2.1^{M}	3.2	5.4	3.8.2
20	3.8.2	4.0	2.2.4	2.2.6	3.3.9^{s}	3.5.0	3.4.8	3.3.4	4.9	4.1	4.2^{s}	3.9	G	G	G	G	G	3.3	3.2.1	2.2.2	3.3.7	3.8.2	2.11.1	3.3.8
21	3.2	3.3.5	3.3.8	2.2.4	2.1.9	S	G	G	4.8	5.2.1	5.5.4	2.7.7	2.7.2	4.7	5.5	G	4.4	3.6.2	5.7	C	C	C	C	C
22	C	C	C	C	C	G	C	C	C	4.7	4.8	G	4.8	5.8	3.5.1	4.0	4.2	3.5	G	3.4	2.4	2.5	3.8.0	3.8.0
23	3.5.3	3.6	3.5.6	3.3.4	2.2.5	B	G	4.4	3.5.8	4.8	3.9	3.7.4	3.8.5	3.5.8	4.4	3.7.9	6.0	4.4	2.10.4	2.7.0	2.7.2	2.8	3.3.3	3.5.5
24	3.4.7	3.3.3	3.8.4	2.2.6	2.3.2	3.0	3.3	4.1	4.5	3.6.2	3.6.0	3.5.6	4.5	4.6	3.5.3^{s}	3.6.4	3.4.9	3.0	2.0	S	2.2.7	2.3^{M}	2.5	2.4
25	3.3.8	3.3.1	3.1.5	E	E	S	2.4	3.3	3.5.7	3.7.4	8.8	4.3	4.0	4.6	3.4.4	3.4.0	2.9.3	6.4	3.4.0	6.7	6.7	5.3	3.4.0	2.9
26	5.9	3.5.4	E	E	3.0	B	2.5	3.0	3.9	4.4	6.6	4.2	5.0	4.6	4.0	4.5^{s}	6.6	3.4	3.4.2	3.4.1	6.0^{M}	2.2	S	S
27	3.2	2.2	3.6.7	3.7.9	4.5	3.3.1	3.4.9^{v}	5.6	4.0	3.7	3.9	3.9	G	3.7^{q}	3.3^{q}	G	G	2.9	B	2.3^{M}	S	3.3.0	3.4.2	3.5.6
28	2.0	1.9	E	S	1.8^{M}	S	3.0	3.4	S	4.0	4.2	3.5.0	4.3	3.5.2	3.6.0	6.4	9.0^{M}	3.5.4	3.7.8	5.2^{M}	3.8.2	3.5.6	3.3.9	3.3.6
29	3.6.0	3.4.9	3.4.6	3.2.5	3.1.6	S	2.4	3.8	3.9	4.4	4.0	4.9	4.2	4.2	4.0	B	3.5.9	4.0	4.4	3.4.6	2.2	S	2.6	3.5.1
30	3.2	3.4.9	2.5^{M}	3.2.2	2.3	S	3.2	4.1	4.5	3.9	5.6	4.5	3.4.8	G	G	3.7	6.6	3.3.7	3.3	6.8	5.6	3.7.9	3.7.5	3.5.2
31	5.4	3.3	2.2	2.1	S	2.2	B	5.8	6.2	4.2	3.9	3.8	3.6.7	3.9	9.3	5.0	3.6	2.9	2.5	3.2.7	4.9	3.8.3	3.5.0	3.8.6
No.	28	26	27	25	25	14	27	28	27	29	29	28	30	30	28	29	30	29	28	28	26	27	27	27
Median	3.4	3.4	2.5	2.3	2.3	2.6	2.9	3.5	4.5	4.9	4.6	5.0	4.8	4.6	4.2	4.2	4.6	4.0	3.8	3.8	4.8	4.7	3.9	4.3
U.Q.	5.3	4.9	4.6	3.0	3.2	3.2	3.4	4.4	5.0	6.1	6.0	6.9	7.0	6.4	5.2	6.4	6.6	5.4	5.7	5.4	6.0	5.4	5.3	5.5
L.Q.	2.8	2.5	1.9	1.9	1.4	2.3	G	3.4	3.9	4.3	4.3	3.9	4.0	4.2	3.3	G	3.6	3.2	2.6	2.4	2.7	3.0	3.1	3.2
Q.R.	2.5	2.4	2.7	1.1	1.8	0.9		1.0	1.1	1.8	1.7	3.0	3.0	2.2	1.9		3.0	2.2	3.1	3.0	3.3	2.4	2.2	2.3

foEs

Sweep 1.0 Mc to 20.0 Mc in 2.0 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

K 4

IONOSPHERIC DATA

Aug. 1960 | f_bE_s | 135° E Mean Time (G.M.T. + 9h.) | **Kokubunji Tokyo** | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.0	3.5	3.0	E	S	3.3	2.8	3.9	4.3	3.8	A	A	4.5	4.8	4.4	5.5	4.9	5.1	4.9	2.1	2.4	3.5	2.0	2.1
2	3.3	2.2		2.0	2.1	2.5	2.8	3.1	6.3	5.2	$^{u}4.2^{S}$	7.0	$^{u}4.0^{S}$	5.6	S	6.8	5.6	$^{u}2.2^{q}$	2.3	2.0	S	2.9	3.0	2.7
3	3.7	C	C	C	C	B		3.0	3.4	C	C	C		C	C		5.0	C	1.9	$^{E}2.1^{C}$	C	C	C	C
4	C	C	C	C		C	C	C	C	C	C	C	5.0	6.0	C	C	C	3.3	4.4	4.4	4.5	3.8	3.4	5.3
5	3.2	C	2.2	C	C	C	C	C	C	A	A	5.5	6.2	8.0	7.3	5.4	$^{E}7.4^{S}$	5.3	4.8	4.8	2.6	3.3	2.4	3.0
6	2.5	3.4	2.3	1.7	1.9	B	2.6	3.3	4.4	6.7	4.5		S	5.6	7.3	A	5.2	4.8	5.0	2.4	2.2	3.0	2.0	E
7	S	E			2.1	B	4.0	3.2	4.1	5.9	4.5	4.8^{S}	6.6	6.6	4.1	4.4	4.1		B	S	S	S	S	2.2
8	2.5	3.1	2.9	3.0	2.6	B		5.4	3.5	5.9	A	5.4	A	A	C	3.9		4.2	A	5.3	E	A	1.8	1.6
9	2.2	3.0	2.8	1.7	E		2.7	5.4	6.1	A	4.1	4.7	6.1	6.0	4.2		3.3	3.3	2.2	3.2	2.9	3.3	3.1	2.3
10	2.1	2.0	1.8	3.2	2.6	G	3.9	3.8	4.0	6.1	4.5	4.4	5.2	4.0	$^{E}3.4^{q}$	5.5	3.3	3.1	2.4	5.7	4.0	2.0	2.2	2.9
11	2.0	2.3	2.5	1.9	1.8	1.9	3.2	5.1	A	4.5	5.9	5.9	B	4.1	$^{E}4.3^{S}$	5.9	5.1	A	4.4	2.7	4.4	4.2	2.9	2.6
12	2.8	2.8	5.0	3.5	1.9	2.6	2.9	3.3	5.3	4.5	4.2	A	4.5	4.3		4.0	3.6	3.1	3.3	5.0	2.5	1.9	2.4	2.3
13	2.2	1.9	B		B	2.2		3.3	3.9	5.4	A	6.5	6.8	$^{u}4.1^{S}$	4.6	4.6	4.1	3.4	3.6	2.7	1.7	2.0	2.7	4.5
14	2.1	2.4	2.0	B		B			$^{E}3.6^{R}$	4.5	4.6		4.5	$^{E}3.4^{R}$			3.7	3.4	A	3.6	2.3	4.2	3.5	B
15		B		1.8		B	2.2^q	2.3^q		4.1	4.3			5.1	4.3	3.9	3.7	3.0	2.2	2.0	2.9	2.1	1.9	$^{u}3.2^{S}$
16	2.9	2.0	3.2	E	1.2	S	1.9^q	3.5	3.8	4.5	4.4	4.5	6.4	5.3			5.4	5.5	4.8	5.1	A	4.8	A	2.2
17	1.5	2.3	1.6			2.0		3.4	4.0		4.5	B		6.4	5.0	4.2	3.5	3.4	2.8	E	1.8	$^{u}3.6^{S}$	3.4	3.8
18	2.1	A	2.8	4.7	2.8	2.3	3.3	3.3	4.0	4.8					4.2	4.1	4.2	5.0	2.7	3.2	4.4	2.2	2.3	2.2
19	2.3	2.3	1.8	1.5	1.9	2.2	3.1	3.4	4.1	4.9	4.6	4.9	4.5	4.5			$^{u}3.0^{A}$	2.8	B		S	E	2.2	6.0
20	5.5	3.0	1.9	1.9	2.1	3.6	3.8	3.4	4.6	4.1	$^{u}4.2^{S}$	$^{E}3.9^{A}$						3.2	2.5	2.2	2.4	3.5	A	2.3
21	2.8	2.5	2.9	1.5	1.7	S			4.4	5.0	5.3	7.5	6.2	$^{E}4.7^{A}_{S}$	4.6		4.0	5.7	5.3	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	$^{E}4.7^{S}$	$^{E}4.8^{S}$		$^{E}4.8^{S}$	5.0	4.9	3.9	4.2	2.9		2.5	2.4	1.9	3.7	4.5
23	3.6	2.1	3.7	2.6	1.9	B		4.1	5.3	4.4	3.3	6.1	7.5	5.2	4.1	6.7	5.2	$^{E}4.4^{S}$	A	7.0	4.4	2.1	2.2	2.6
24	3.0	2.2	3.1	2.2	1.9	1.9	2.6	3.4	4.1	5.3	6.0	5.0	4.5	4.3	4.3	5.4	4.2	2.9	2.0	S	2.1	E	2.0	1.9
25	2.7	2.5	1.3			S	2.3	$^{u}3.2^{S}$	5.2	5.5	7.5	4.2	$^{E}4.0^{S}$	4.1	$^{E}4.4^{S}$	3.7	6.2	5.1	3.4	5.9	5.4	2.2	2.7	2.2
26	4.2	4.4			1.9	B	2.5	3.0	3.8	4.2	6.4	4.2	4.6	4.6	4.0	4.3	5.8	3.4	4.1	3.8	3.2	2.2	S	S
27	2.0	1.9	3.6	3.6	2.8	2.6	2.9	4.2	3.6	3.7	3.9	$^{u}3.9^{S}$		$^{u}3.4^{A}$	$^{E}3.3^{q}$			2.8	B	E	S	2.4	2.5	3.7
28	1.8	1.8		S	E	S	2.7	3.1	S	4.0	4.2	4.5	4.3	4.8	5.1	6.2	7.1	5.3	7.8	3.9	7.5	8.3	3.0	3.6
29	4.5	2.6	2.6	1.9	1.6	S	2.4	3.6	3.4	4.2	4.0	4.9	$^{u}4.2^{R}$	4.2	3.7	B	5.7	3.9	3.9	4.5	1.8	S	1.9	E
30	2.0	2.4	E	1.6	E	S	3.2	4.0	4.5	3.8	5.3	4.2	4.6			3.6	6.1	3.5	2.7	5.1	5.2	A	4.9	2.1
31	4.4	2.0	1.8	1.9	S	2.0	B	5.0	5.2	4.0	3.8	3.8	5.3	$^{u}3.9^{S}$	5.4	4.2	3.4	2.7	2.5	2.2	3.9	A	4.1	4.5
No.	27	26	22	20	20	13	20	26	26	27	27	23	23	27	20	21	26	28	27	27	25	27	27	27
Median	2.7	2.4	2.6	1.9	1.9	2.2	2.8	3.4	4.1	4.5	4.5	4.9	$^{E}4.8$	4.8	4.3	4.4	4.2	3.4	3.8	3.2	2.9	3.0	2.7	2.6

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

The Radio Research Laboratories, Japan.

K 5

37

IONOSPHERIC DATA

Aug. 1960 | f-min | 135° E Mean Time (G.M.T.+ 9h.)

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

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E1.70S	E1.70S	E1.70S	1.60	E1.95S	1.95	1.95	1.80	Z.20	Z.60	3.10	Z.80	3.10	3.00	Z.60	Z.15	Z.10	E Z.20S	1.90	1.30	E1.70S	E1.70S	E1.90S	1.45
2	1.20	E1.80S	1.45	1.20	1.70	1.70	1.95	1.80	Z.10	Z.30	Z.20	Z.30	Z.50	Z.80	Z.20	Z.20	1.90	1.90	E1.80S	1.40	E1.60S	E1.50S	E1.60S	E1.60S
3	E1.40S	C	C	C	I1.20C	1.95	1.80	1.80	Z.10	I Z.05C	I Z.20C	I Z.10C	Z.25	I Z.35C	I Z.30C	Z.10	Z.00	I1.80C	1.60	E Z.20C	C	I1.45C	I1.70C	I1.75C
4	I1.65C	I1.70C	I1.80C	I1.80C	1.60	I1.60C	C	C	C	C	C	C	Z.30	Z.15	C	C	C	Z.25	E Z.50S	E1.80S	E1.95S	E Z.55S	E Z.00S	E1.95S
5	E Z.20S	E Z.30C	E1.70C	E Z.30C	C	C	C	C	C	Z.75	3.70	Z.60	Z.70	Z.40	Z.20	Z.20	Z.20	1.90	1.70	1.40	E1.60S	1.50	1.30	E1.95S
6	E1.40S	1.90	1.45	1.20	1.50	Z.10	1.70	Z.00	Z.20	Z.10	Z.40	E3.10S	3.10	Z.25	Z.60	3.50	Z.30	1.90	1.90	1.40	E1.50S	E1.90S	1.45	E1.90S
7	E1.90S	1.80	1.60	1.70	1.90	1.95	1.80	Z.20	Z.15	Z.40	3.50	3.40	3.10	Z.85	Z.45	Z.80	Z.50	Z.40	Z.45	E1.70S	E1.80S	E1.70S	E1.90S	1.35
8	E1.70S	1.60	1.70	1.60	1.60	Z.30	1.95	1.90	Z.30	Z.10	Z.30	Z.50	Z.40	Z.20	I Z.50C	Z.10	Z.80	Z.20	1.70	E Z.00S	1.20	E1.90S	E1.70S	1.40
9	E1.50S	1.50	1.55	1.30	1.20	1.60	1.90	1.90	Z.20	Z.20	Z.90	Z.40	3.70	3.30	Z.20	Z.10	Z.20	1.70	1.90	1.50	E1.70S	1.40	1.30	E1.80S
10	1.20	1.50	1.20	1.15	1.30	Z.00	1.80	1.80	Z.00	Z.30	Z.55	3.10	3.10	3.35	Z.95	Z.35	1.85	1.70	1.95	1.95	1.50	1.70	1.45	1.70
11	1.45	1.40	1.35	1.80	1.20	E1.70S	1.50	1.80	Z.30	Z.10	Z.45	Z.75	B	Z.90	Z.30	Z.10	1.95	1.80	1.80	1.70	1.40	1.55	1.60	1.55
12	1.65	1.45	1.60	1.50	1.40	Z.00	1.70	1.95	Z.05	Z.20	Z.40	Z.95	3.10	Z.80	3.20	Z.10	Z.10	1.60	E1.90S	1.50	1.45	1.40	1.45	1.50
13	E1.80S	1.60	Z.00	1.70	Z.00	Z.00	Z.00	Z.30	Z.20	Z.55	Z.80	3.50	4.10	Z.80	Z.45	Z.20	Z.85	1.90	1.95	1.40	E1.60S	1.70	1.70	1.50
14	1.30	E1.60S	1.60	1.95	1.60	1.80	1.80	Z.30	Z.35	Z.30	3.60	3.60	Z.70	3.10	3.10	3.10	Z.20	Z.10	1.80	E1.90S	1.45	1.85	E1.90S	Z.20
15	1.40	1.95	1.70	1.55	1.50	1.90	1.70	1.80	Z.30	Z.30	Z.90	Z.95	Z.80	Z.70	Z.50	Z.10	Z.20	Z.10	1.50	E1.60S	E1.80S	E1.50S	E1.50S	E1.80S
16	1.45	E1.30S	1.40	1.20	1.00	E1.90S	1.70	1.80	Z.30	Z.20	Z.40	Z.60	Z.80	Z.40	Z.20	Z.20	Z.30	1.90	E1.80S	1.60	E1.70S	E1.40S	E1.80S	E1.40S
17	E1.40S	E1.45S	1.10	1.10	1.20	1.20	1.80	Z.10	Z.10	Z.50	Z.30	4.50	Z.40	Z.70	Z.90	Z.50	Z.00	1.95	1.40	E1.40S	E1.70S	E1.70S	E1.70S	E1.70S
18	E1.60S	1.40	1.05	1.50	1.15	1.40	Z.00	1.95	Z.20	Z.50	3.00	3.70	3.00	Z.60	Z.60	Z.30	Z.15	1.80	1.85	1.40	E1.70S	1.35	1.20	1.30
19	1.25	E1.50S	E	1.05	1.10	1.50	1.80	Z.10	Z.20	Z.50	Z.90	Z.60	3.15	Z.90	Z.50	Z.20	Z.20	1.70	Z.20	1.30	E1.80S	E1.40S	1.45	E1.45S
20	1.45	1.35	1.20	1.00	E	E1.60S	E1.50S	Z.15	Z.10	Z.60	Z.70	Z.80	3.10	3.60	Z.50	Z.20	Z.30	1.90	1.75	E1.45S	1.30	1.30	1.40	1.30
21	1.45	E1.70S	1.10	1.20	1.40	E1.95S	1.90	Z.20	Z.25	Z.30	Z.80	E4.00S	Z.40	E3.65S	Z.85	Z.55	Z.15	1.90	1.80	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	E3.80B	3.60	3.10	4.00	Z.90	Z.40	Z.40	Z.20	1.85	1.90	1.65	1.90	1.55	1.70	1.70
23	1.85	1.55	1.05	1.15	1.25	1.95	Z.10	Z.05	Z.10	Z.40	Z.35	Z.75	3.10	Z.50	Z.30	Z.20	Z.15	1.95	1.70	1.90	1.90	1.60	1.65	1.60
24	1.55	1.60	1.20	1.10	1.55	1.50	1.80	1.70	Z.20	Z.60	Z.55	Z.85	Z.95	Z.20	Z.20	Z.15	Z.20	1.95	1.70	E1.80S	E1.60S	E1.40S	1.45	E1.45S
25	1.20	1.45	1.10	1.00	1.10	E1.90S	1.70	E1.70S	Z.40	Z.15	Z.20	Z.40	Z.75	Z.65	Z.75	Z.25	Z.10	1.75	1.65	1.95	1.70	1.30	1.55	1.15
26	1.90	1.65	1.40	1.75	1.05	1.80	1.75	1.70	Z.00	Z.20	Z.40	Z.50	3.65	Z.40	Z.80	Z.30	Z.20	Z.20	1.95	E1.90S	1.70S	E1.80S	E1.95S	E1.90S
27	E1.70S	E1.60S	E1.20S	E1.60S	E1.50S	E1.40S	E1.80S	E Z.20S	Z.20	Z.30	Z.10	Z.70	Z.75	Z.85	Z.35	Z.30	Z.20	1.95	1.90	E1.70S	E1.90S	1.40	E1.50S	E1.85S
28	E1.50S	1.20	1.10	E1.50S	E1.30S	E1.40S	E1.60S	1.80	Z.20	Z.40	Z.70	Z.40	Z.50	Z.60	Z.20	Z.20	Z.50	1.85	1.80	E1.90S	E1.60S	E1.60S	E1.45S	E1.70S
29	1.30	E1.25S	E1.50S	1.25	1.15	E1.45S	1.50	Z.10	Z.10	Z.20	3.25	3.20	Z.80	Z.80	Z.30	3.65	Z.15	1.95	E1.80S	E1.80S	E1.30S	E1.70S	E1.30S	1.20
30	E1.80S	E1.60S	E1.50S	1.10	E1.45S	E1.60S	Z.00	1.90	Z.20	Z.15	Z.75	Z.50	Z.40	Z.25	Z.25	Z.15	Z.25	1.80	1.85	1.60	1.60	E1.80S	E1.80S	1.50
31	E1.50S	1.50	E1.65S	1.10	E1.95S	E1.85S	Z.55	Z.05	Z.35	Z.30	Z.10	Z.90	Z.85	Z.60	Z.20	Z.10	1.95	1.95	1.70	1.50	E1.50S	E1.40S	E1.50S	E1.60S
No.	19	22	23	26	24	25	28	27	28	29	30	28	30	30	30	30	30	30	29	19	29	30	30	19
Median	1.40	1.50	1.40	1.20	E1.30	1.70	1.80	1.90	Z.20	Z.30	Z.65	Z.80	Z.80	Z.70	Z.45	Z.20	Z.20	1.90	1.80	1.50	E1.60	E1.55	E1.60	1.45

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. 1960 | (M3000)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	z.65	z.75	Iz.60S	z.60	Uz.60S	z.45	z.75	z.65	z.70	G	Iz.40A	A	G	G	z.85	Iz.80A	z.90	z.90	z.95	3.00	z.50	z.60	z.50	z.55
2	z.50F	z.50	z.75	3.05	z.85	z.90	3.10	z.90S	z.80R	z.95	z.65	z.70	z.85	z.80	z.75	z.70	z.80	z.90	3.15	z.90	z.70	z.55S	z.50F	z.60
3	z.55	C	C	C	Iz.70C	z.75	3.00V	3.05	3.20	3.15	z.65	z.65	z.85R	Iz.70C	Iz.70C	z.80	Jz.90S	Iz.90C	z.95S	z.75S	Iz.65C	Iz.60C	z.75	Iz.85C
4	Iz.65S	Iz.55C	Iz.55C	Iz.65C	z.55F	Iz.75C	C	C	C	C	C	C	z.75V	z.65	C	C	C	3.00	z.95	Uz.95S	S	S	Jz.45S	Iz.55S
5	z.65S	Iz.70C	z.65	Uz.70C	C	C	C	C	C	A	Iz.80A	z.80	z.60	A	z.75	z.80	3.05	z.85S	z.90	z.75	z.60	Iz.60S	Uz.65S	z.60
6	z.75S	Jz.75S	z.90	z.70	z.75	z.80	z.85	3.00	3.00	z.80	z.95R	z.65S	z.65	z.60	z.75	Iz.85A	z.85	z.95	z.85	z.90S	Jz.90S	z.70	Uz.70R	z.70S
7	z.65	z.70	z.95	z.85	z.75S	z.65	3.20	3.05S	z.85	z.95	z.85	z.90	z.65	z.65	Jz.60R	z.90	z.85	z.95	z.90	J3.00S	z.85	z.65	Uz.75S	z.60
8	Jz.55S	z.60	z.60	z.50	z.60	z.60	z.70	3.00	z.85	Jz.80S	Iz.90A	z.90	A	A	Iz.80C	z.80	z.80R	z.85	Iz.90A	z.85	z.90	Iz.80S	z.65	z.70
9	z.55F	z.55	Jz.65R	z.55	z.55	z.50F	z.50	z.90V	z.85	Iz.60A	z.70	z.90	z.65	z.90	z.70	z.80	z.75	z.75	z.80	3.00S	z.90	z.45	z.50	z.50
10	z.60	z.70	z.65	z.50	z.60	z.65	z.95	z.75S	3.20	z.90	z.55	z.80	z.80	3.00	z.90	z.75	z.75H	z.80	z.75	z.70	z.75	z.50	z.55	z.65
11	z.70	z.60	z.50	z.55	z.40	z.60	z.55H	z.55	Iz.50A	z.45R	Iz.60A	z.65	Iz.60B	z.60	z.65	z.55	z.80	Iz.95A	3.05	z.80	z.40	z.35S	z.35	z.50
12	z.60	z.70	z.70R	z.40	z.50	z.55	z.40	z.50	z.65	z.90	z.80	A	G	G	z.70	z.70	z.75	z.90	z.70	z.55	z.50	z.50	z.50	z.45
13	z.40	z.60R	Uz.75R	z.70	z.40	z.55	z.55	z.35	z.75	z.50	Iz.70A	z.75	z.65S	z.95	z.55	z.80	z.90	z.90	z.95	z.75	z.50	Jz.45R	z.55	Uz.60R
14	Iz.40R	z.45	z.55	z.85R	z.60	z.70	z.90	z.90	Jz.00R	Uz.85R	z.75	z.75	Jz.70R	z.60	z.60	z.70	z.75	z.90	Iz.75A	z.75	z.80	Jz.60S	z.50S	Iz.50R
15	z.50	z.50	Iz.60R	Uz.85R	z.55	z.35	z.75	z.50	z.65	z.90	z.95	z.75	z.60	z.70	z.70	z.70	z.80	z.80	z.70	Uz.65S	Uz.50S	Uz.50S	Uz.60S	Iz.60S
16	z.50S	z.50	z.55	z.60	z.50	z.70	Uz.95S	z.90	z.95	z.85	z.65	z.60	z.70	z.70	z.65	z.75	z.80	Jz.65S	z.70	Jz.65S	Iz.60A	S	A	Uz.45S
17	Iz.45S	z.25	z.25	z.15	Uz.45S	z.20	z.80	z.85	z.90	z.75	Jz.50R	z.20	z.40	z.55	Uz.60R	z.70H	z.65	z.60S	z.65	z.65S	z.35	Uz.35S	z.40	Jz.40S
18	z.35	Iz.40A	z.60	Iz.30A	z.10	z.30	z.70	3.25	3.40	z.50	z.50	Uz.60R	z.70	z.60	z.85	z.75	3.00	z.75	z.85	Jz.60S	z.55	z.55	z.45	z.45
19	z.45	z.45	z.60	z.55	z.45	z.35	z.55	z.50	z.55	z.10R	z.40	z.80	z.85	z.70	z.70	z.75R	z.75	z.85	z.90	z.85	z.45	z.45	z.40	z.45
20	z.35	z.40	z.50	z.50	z.40	z.45	z.90	z.75	z.90	z.85	z.70	z.70	z.60	z.80	z.70	z.60	z.60	z.65	z.75	z.90	z.65	z.40	Iz.50A	z.45
21	Iz.50S	z.50S	z.55	z.50	z.40S	z.55	z.90	3.15	z.95	z.90	z.60	z.55	z.65	z.60	z.65	z.70S	z.70	z.85	z.80	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	z.90	Uz.60S	z.75	z.50	z.65	z.70	z.65	z.65R	z.70	z.80S	z.85	z.60	z.50S	z.55	z.40
23	Uz.55S	z.60	z.60	z.60	z.55	z.70	3.05	3.15	3.05	z.85	z.70	z.70	z.65S	z.75S	z.70S	z.75	z.70	z.85	Iz.85A	z.80	z.70	z.70	Uz.60S	z.70
24	z.60R	z.55	Uz.50S	z.55	z.50	z.45	3.05	z.90	3.05	z.80	z.75	z.60	z.70	z.60	z.70	z.75	z.85	Jz.90S	z.95	J3.00S	Uz.60S	Iz.70S	z.65S	Jz.70S
25	Jz.55S	z.70	z.60	z.60Z	z.45F	Uz.75S	3.30	3.05	3.15	z.80	z.80	z.85	z.70	z.80	z.85	z.80	z.80	Uz.70R	z.95	J3.00S	3.00	z.85	z.75	z.75R
26	z.55R	z.60S	z.80S	z.65	z.60	z.70	Jz.95S	3.35S	3.40	z.95	z.95	z.95	z.85	z.70	z.85	z.80	z.95	z.90	z.90	z.80	z.70	Iz.70S	Uz.65S	Jz.60S
27	Uz.55S	z.65S	Jz.85S	Jz.75S	z.65S	z.75	z.90	3.10	3.30	3.10	z.65	z.70	z.70	z.65R	z.70	z.75	z.85	z.90	3.10R	z.90	z.80	z.70S	z.75	z.60
28	z.70	z.65	z.60	z.60	z.45	z.55	3.05	3.35	3.20	J3.05R	z.75	z.65	z.65	z.75	z.90	z.90	z.80	z.85S	z.85	3.00	z.90	z.75	z.70	Iz.75S
29	z.45	z.60	Iz.50F	z.45F	z.70S	z.85	z.95	3.05	3.00	3.05	z.80H	z.85S	Jz.85R	z.90	Jz.80S	z.80	z.50	Uz.60S	U3.00S	J3.40S	z.55	z.45	z.45	z.50
30	z.50	z.60	z.60	z.60	z.45	Jz.25F	z.30	z.25	Uz.30S	z.15	z.75R	z.90	Uz.65R	z.85	z.90	z.95	z.95	z.90	z.95	z.60	z.50	Iz.40A	z.45	z.35
31	z.50	z.65	z.65	z.80	z.75	z.60	z.35H	z.75	z.95R	z.60	z.50	z.75	z.65	z.75	z.75	z.85	z.95	3.00	3.00	z.95	z.70	Iz.40A	z.55	z.55
No.	30	29	29	29	29	29	28	28	28	29	30	28	30	29	30	30	30	31	31	30	29	28	29	30
Median	z.55	z.60	z.60	z.60	z.55	z.60	z.90	z.90	z.95	z.85	z.70	z.75	z.65	z.70	z.70	z.75	z.80	z.85	z.90	z.85	z.65	z.55	z.55	z.60

(M3000)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. 1960 | (M3000)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						A	3.35	"3.55^{S}	A	3.75	A	A	L	"3.70^{S}	L	A	A	A	A					
2								3.40^{L}	A	A	3.35^{S}	A	3.35	A	"3.10^{L}	A	A	L						
3								L	3.85^{L}	3.90^{L}	C	3.20	3.60	C	C	S	A	C	L					
4							C	C	C	C	C	C	L	A	C	C	C	L	A					
5							C	C	C	A	A	A	A	A	A	A	A	A	A					
6							L	L	L	A	2.90	S	S	A	A	A	A	A	A					
7									L	A	3.65^{L}	A	A	A	3.25^{L}	A	L	L						
8								A	L	A	A	A	A	A	C	"3.25^{S}	"3.40^{L}	A	A					
9						L	3.15^{L}	A	A	A	3.60	A	A	A	"3.25^{L}	L	3.20^{L}	L	L					
10								3.40	3.50^{L}	A	3.45	3.40	A	3.50	3.45^{L}	A	L	L						
11								A	A	"3.50^{S}	A	AS	B	3.35^{S}	S	A	A	A						
12							3.20	3.15	AS	A	3.50^{H}	A	3.50	3.15	3.25^{S}	3.25	3.30^{L}	L						
13						2.80^{L}	A	3.30	3.50^{S}	AS	A	A	A	3.45	3.20^{H}	L	L	L						
14									"3.60^{L}	LH	3.50	"3.20^{L}	L	3.40	3.30	3.25^{L}	3.45	L	A					
15								"3.00^{L}	3.25^{L}	3.40^{L}	3.45^{L}	3.60^{L}	3.30	A	3.25	3.40^{L}	L							
16									L	L	3.55^{L}	L	A	L	3.30^{L}	3.35^{L}	A	A	A					
17						"2.70^{L}	L	"3.20^{L}	3.45	L	3.35	3.50	3.35	A	A	3.65^{L}	3.40^{L}							
18							L	L		3.30	3.40	"3.30^{L}	3.25^{L}	"3.20^{L}	3.50	3.30^{L}	L	A						
19								3.30	3.15	3.10	3.55	3.35^{L}	3.35	3.15^{L}	3.35	3.20^{L}	L	L						
20										3.50^{L}	L	3.35	3.10^{L}	3.35^{L}	"3.45^{L}	"3.15^{L}	L	L						
21										A	3.20^{L}	A	A	S	L	3.20^{L}	L	A						
22										L	S	3.40	3.05	"3.10^{S}	3.35^{L}	3.20	3.25^{L}	L						
23									AS	S	3.40^{L}	A	A	AS	L	A	AS							
24								L	L		A	L	3.30^{L}	"3.35^{L}	"3.25^{L}	A	L							
25								L	A	A	A	AS	S	3.35^{L}	"3.40^{S}	3.50^{S}	A	A	A					
26									S	L	A	L	L	"3.20^{L}	L	S	A							
27									L	L	"3.45^{L}	3.55^{L}	"3.90^{L}	L	"3.45^{L}	3.40^{L}	L	L						
28									L	L	L	3.30^{L}	L	L	A	A	A	A	A					
29											3.70	"3.40^{L}	"3.50^{L}	"3.35^{L}	"3.55^{L}	L	A	A	A					
30							A	A	A	"3.50^{S}	A	3.45	3.15^{L}	3.40^{S}	"3.30^{S}	LS	A	A						
31							3.25	A	A	3.65	3.40^{S}	3.45	A	3.00	A	L	L	L						
No.						2	4	8	7	9	17	14	13	16	18	13	6							
Median						"2.75	3.20	3.30	3.50	3.50	3.45	3.40	3.35	3.35	3.30	3.25	3.35							

(M3000)F1 Sweep 10 Mc to 20 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 8

IONOSPHERIC DATA

Aug. 1960 | 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						400	350	375	400	G	A	A	L	450	375	425	355	350	E320A					
2								340	E355A	310	350	355A	345	345	355	E360A	320	290						
3								260	280	295	E435C	430	355	C	C	360	330	C	290					
4							C	C	C	C	C	C	355	410	C	C	C	295	275					
5							C	C	C	A	A	370	400A	E410A	E350A	305	E305S	305A	295					
6							300	300	270	E350A	340	350	400	360	320	A	300	295	300A					
7									300	305	305	305	E395A	370A	360	305	305	300						
8								290	325	350A	A	320	A	A	C	355	330	310	A					
9						360L	370	300	355	A	395	325	E400A	350	350	310	355	305	305					
10								375	290	E350A	430	365	360	325	320	370	270H	320						
11								E450A	A	530	E600A	445	B	450	410	450	370	A						
12							410	450	400	350	370	A	470	460	405	400	355	300						
13						405	355	500	390	460	A	405	E460A	350	450	350	330	300						
14									300	350	350	360	320	400	400	360	330	310	A					
15								400	355	330	320	345	435	390	400	320	315							
16									280	260	390	300	390	340	385	350	320A	310	300A					
17						460	305	325	355	310	480	595	475	400	400	300H	355							
18							350	300		480	450	405	400	410	350	350	300	E350A						
19								425	420	590	490	355	350	400	390	375	L	300						
20										330	L	415	395	345	345	375	355	305						
21										295	405	395	350	355	345	330	365	300						
22										300	380	365	395	350	345	325	310	300						
23									260	290	LH	350	375	345	330	320	300							
24								250	275		300	320L	350	345	320	305	295							
25								255	260	320	320	300	350	315	325	300	310	300	275					
26									250	250H	320	300	310	365	325	310	300A							
27									250	255	355	345	300	310	310	320	290	285						
28									280	250	260	390	350	325	320	300	320A	300A	E325A					
29											255H	325	300	305	305	300	E400A	330A	255					
30							525	525	540	640	395	370	575	355	325	315	325	300						
31							LH	395	350	450	490	400	370	375	370	350	300	290						
No.						4	8	17	22	24	22	28	25	28	28	28	28	23	8					
Median						400	350	340	300	325	360	360	360	355	E350	330	320	300	290					

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

The Radio Research Laboratories, Japan.

K 9

IONOSPHERIC DATA

Aug. 1960 | 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	350A	300A	350A	310	325	I360A	z60	z55	E345A	z15	I200A	A	Ez90A	z50A	z90A	Iz65A	Iz50A	Iz65A	Iz90A	z60	320	350A	330	320
2	E350A	310	305	z55	z55	z95	z45	z20	A	A	z55S	Iz35A	z45	Iz50A	z50	Iz50A	Iz50A	z60	z60	z50	z95	350	350	305
3	E350A	C	C	C	Iz70C	z70	z30	z20	z05	z65	Iz20C	Ez55S	z20	Iz30C	Iz15C	z40	A	C	z60	z75	Iz90C	I305C	I310C	I310C
4	I305C	I325C	I330C	I305C	305	Iz80C	C	C	C	C	C	C	E330A	Iz50A	C	C	C	z45	A	E300A	320A	E350A	E350A	E330A
5	300A	300	300	310	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	E305A	300A	305A	300A	305
6	300A	300A	z60	300	300	z75	z55	z50	z60	Iz20A	z40	Iz30S	S	A	A	A	A	A	A	z60	z45	z95	z90	300
7	300	z95	z55	z60	z60	z90	z70A	z45	z45	Iz25A	z10	A	A	A	z30	Ez95A	z60	z50	z60	z55	z50	z70	z60	z80
8	z95	345	350	350	305	z90	z55	Iz40A	z30	Iz70A	Iz70A	A	A	A	C	z50	z60	A	A	E300A	z50	Iz65A	300	300
9	310	350A	330A	345	345	315	z55	Iz50A	A	A	z25	Iz20A	Iz45A	Iz50A	z50	z45	z45	z60	z80	z55	z50	355A	370A	355
10	310	z60	z90	E395A	360A	z95	z70A	z50	z50	Iz40A	z45	z55	Iz55A	z45	z25	Iz80A	z30	z50	z85	E320A	300A	z70	305	325
11	300	320	350A	320	310	320	300H	A	A	z45	A	AS	B	E300S	E355S	A	A	A	Ez85A	z90	E430A	E425A	370	350
12	375	310	E405A	E410A	345	320	z50	z50	AS	E300S	z05	Iz30A	z30	z30	z55	z45	z50	z55	305	E350A	305	305	345	345
13	375	320	z90	z75	355	E345A	z55	z50	z50	AS	A	A	A	z45	z60	E300A	z60	z55	z75	z90	300	325	345	E395A
14	350	350	320	z60	z60	300	z55	z55	z30	z50H	z10	Ez90B	z55	z50	z55	z50	z50	z80	Iz90A	300	z60	350A	350A	345
15	320	330	305	z60	z50	300	z55	z45	z25	z35	z20	z30	z50	E310A	z40	z45	z55	z55	z75	z90	345	320	300	320A
16	330A	325	345	z95	300	z85	z50	z50	z45	z50	z00	z50A	Iz50A	E305S	z40	z45	Iz50A	Iz50A	Iz70A	E325A	A	E380A	A	355
17	320	400A	400A	400	305	350	z75	z50	z25	z50	z45	z25	z45	Iz75A	E345A	z40	z45	z60	z90A	300	300	E400A	360A	E405A
18	355	I370A	320A	E555A	510A	360H	300A	z55	z50	z55	z45	z40	z35	z30	z25	z45	z55	Iz60A	z95A	300A	E350A	300A	350A	330
19	340	340A	z90	300	350	330A	z80	z50	z60	E300A	z30	z60	z20	z20	z25	z50	z50	z50	z80	z50	z75	345	350	E450A
20	E425A	355	305	305	355A	E350A	E300A	z50	z50	z05	z10	z40	z40	z45	z50	z50	z40	z60	z90	z60	300	E350A	I355A	345A
21	340A	350A	310A	z95	330	300	z60	z50	z50	Ez60S	Ez75S	Iz40A	I300A	E305S	z55	z60	z75	Iz80A	z95	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	Ez75A	z65	z55	E300S	Ez75A	Ez75A	z40	z60	z55	z75	z55	z75	300	320	385
23	350	320	345	315	305	300	z50	z50	Iz30S	z30	z40	Iz30A	Iz40AS	Iz80S	z50	Iz30A	Iz40S	300	Iz90A	E375A	305	z75	300	305
24	300	300	330	300	325	310	z50	z40	z45	z70	Iz60A	z60A	z20	z50	z50	Iz50A	z70A	z50	z70	z50	z50	z95	z90	300
25	305	300A	z95	z95	315	z95	z50	z60	Iz45A	A	A	z10	z20	z10	Ez75A	z30	A	A	A	z80	z80	z50	z95	z80
26	E355A	340	z95	z95	305	300	z50	z35	z35	z20	Iz10A	z05	z40	z50S	z35	z50A	Iz50A	z60	z55A	z80A	300A	z70	z60	300
27	300	z95	Ez90A	300A	300A	z90A	z50A	z70A	z50	z25	z10	z05	z05	z45	z45	z40	z50	z50	z55	z40	z50	z60	z90A	310A
28	z75	300	300	300	345A	300	z50	z40	z30	z20	z10	z40	z05	E300A	A	A	A	A	A	z50A	E350A	E325A	300A	z60A
29	E420A	320A	305	300A	z95	z75	z45	z50	z45	z45	z05	Ez90A	z50A	z40	z40	z50	A	A	A	z20	z55	325	340A	340
30	340A	320A	300	310	350	360	I310A	Iz90A	Iz90A	z50	Iz35A	z40	E300A	z30	z45	z55	Iz70A	Iz85A	z85	E355A	E450A	I310A	E460A	400
31	E400A	305	z80	z95	z75	315	z70	A	A	z55	z50	z50	Iz50A	z90A	Iz40A	E300A	z40	z55	z60	z55	E350A	A	E400A	E410A
No.	24	29	28	26	29	27	27	26	22	21	25	21	21	21	22	23	23	23	23	22	24	23	26	25
Median	315	320	305	300	305	300	z55	z50	z45	z45	z25	z40	z40	z45	z45	z50	z50	z55	z80	z60	z90	305	315	320

h'F

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

The Radio Research Laboratories, Japan.

K 19

IONOSPHERIC DATA

Aug. 1960 | R'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	105	105	105	110	S	130	140	115	125	130	115	120	130	130	120	125	130	120	115	110	120	110	120	110
2	105	110	E	105	105	130	145	150	120	110	110	105	105	110	105	105	105	105	130	105	S	110	110	105
3	105	C	C	C	C	B	G	110	110	C	C	C	G	C	C	G	120	C	125	110	C	C	C	C
4	C	C	C	C	E	C	C	C	C	C	C	C	105	105	C	C	C	105	120	110	115	115	115	115
5	110	C	105	C	C	C	C	C	C	115	115	110	110	105	105	105	110	105	110	105	105	105	105	105
6	105	105	105	105	110	B	150	145	120	115	120	G	115	110	110	110	110	105	110	105	105	105	105	105
7	S	105	E	E	110	B	115	115	110	110	110	105	105	110	130	125	115	G	B	S	S	S	S	105
8	105	105	105	105	105	B	G	110	110	105	105	105	105	100	C	105	G	115	110	105	110	105	105	105
9	110	105	105	105	105	G	130	120	115	105	110	115	110	105	110	G	140	125	125	110	110	110	110	110
10	105	105	105	105	105	105	125	115	110	110	110	110	105	110	105	105	105	145	145	110	110	110	105	105
11	100	105	105	110	105	110	130	130	120	120	115	110	B	105	105	130	125	120	115	105	105	105	110	105
12	105	100	105	105	105	130	145	130	115	110	110	110	105	105	G	145	145	100	100	100	100	110	105	105
13	105	105	B	E	B	105	G	150	130	125	115	110	115	125	115	110	105	105	100	100	105	105	105	105
14	100	105	100	B	E	B	G	G	110	110	105	G	105	110	G	G	150	140	115	110	110	105	105	B
15	E	B	E	105	E	B	110	110	G	160	150	G	G	135	150	145	130	125	125	115	110	105	105	105
16	105	105	105	105	110	S	110	110	130	115	110	105	110	110	G	G	125	120	115	110	110	105	105	105
17	105	100	105	E	E	115	G	150	145	G	150	B	G	120	105	145	115	110	105	105	105	115	110	105
18	110	105	105	105	105	110	145	145	140	125	G	G	G	G	160	150	135	125	130	115	110	110	110	110
19	105	105	110	120	125	145	125	125	115	110	115	110	115	105	G	G	105	105	B	E	110	105	110	110
20	105	105	105	105	105	105	105	105	110	120	110	110	G	G	G	G	G	145	115	115	110	110	110	110
21	105	105	100	105	105	S	G	G	125	120	115	110	110	110	105	G	140	115	110	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	120	125	G	120	110	110	110	115	120	G	110	120	115	110	105
23	105	100	100	100	105	B	G	110	110	110	110	105	105	105	105	100	125	110	110	110	110	110	110	110
24	110	110	105	105	105	110	110	145	120	115	110	115	120	115	110	110	110	115	125	S	115	110	110	110
25	105	110	105	E	E	S	130	110	110	110	110	105	110	110	110	110	105	110	110	110	110	110	110	105
26	105	105	E	E	105	B	110	110	110	110	110	115	110	115	115	110	110	125	115	110	110	110	S	S
27	110	105	105	105	105	105	105	105	105	110	110	110	G	110	110	G	G	130	B	115	S	105	110	110
28	110	110	E	S	100	S	105	130	S	125	125	110	110	115	110	110	125	120	110	105	105	105	110	105
29	105	105	100	105	100	S	135	115	115	115	130	110	105	105	110	B	125	125	115	110	110	S	110	110
30	110	105	105	105	105	S	130	125	115	120	115	125	130	G	G	145	120	120	115	110	110	110	110	105
31	105	105	110	105	S	110	B	115	110	110	115	130	110	105	105	105	105	130	125	110	110	110	115	105
No.	27	26	22	20	20	13	20	26	26	28	28	23	24	27	22	21	27	29	27	27	26	27	27	27
Median	105	105	105	105	105	110	130	115	115	115	110	110	110	110	110	110	120	120	115	110	110	110	110	105

R'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

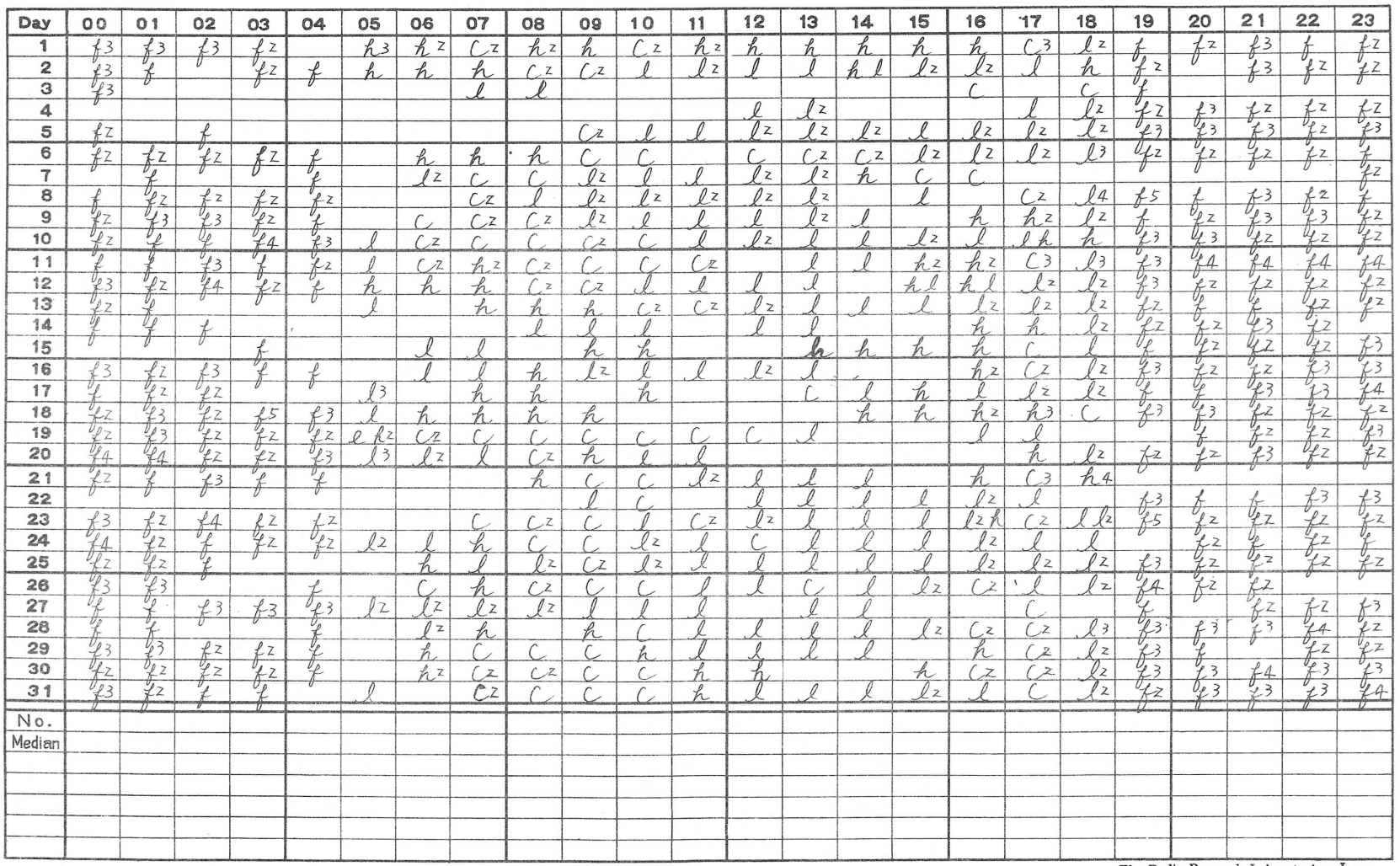
Aug. 1960

Types of Es

135° E Mean Time (G.M.T.+ 9h.)

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E



Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	f3	f3	f3	fz		h3	hz	Cz	hz	h	Cz	hz	h	h	h	h	h	C3	lz	f	fz	f3	f	fz
2	f3	f		fz	f	h	h	h	Cz	Cz	l	lz	l	l	hl	lz	lz	l	h	fz		f3	fz	fz
3	f3							l	l								C		C	f				
4													l	lz				l	lz	fz	f3	fz	fz	fz
5	fz		f							Cz	l	l	lz	lz	lz	l	lz	lz	lz	f3	f3	f3	fz	f3
6	fz	fz	fz	fz	f		h	h	h	C	C		C	Cz	Cz	lz	lz	lz	l3	fz	fz	fz	fz	f
7		f			f		lz	C	C	lz	l	l	lz	lz	h	C	C							fz
8	f	fz	fz	fz	fz			Cz	l	lz	lz	lz	lz	lz		l		Cz	l4	f5	f	f3	fz	f
9	fz	f3	f3	fz	f		C	Cz	Cz	lz	l	l	l	lz	l		h	hz	lz	f	fz	f3	f3	fz
10	fz	f	f	f4	f3	l	Cz	C	C	Cz	C	l	lz	l	l	lz	l	lh	h	f3	f3	fz	fz	fz
11	f	f	f3	f	fz	l	Cz	hz	Cz	C	C	Cz		l	l	hz	hz	C3	l3	f3	f4	f4	f4	f4
12	f3	fz	f4	fz	f	h	h	h	Cz	Cz	l	l	l	l		hl	hl	lz	lz	f3	fz	fz	fz	fz
13	fz	f				l		h	h	h	Cz	Cz	lz	l	l	l	lz	lz	lz	fz	f	f	fz	fz
14	f	f	f						l	l	l		l	l			h	h	lz	fz	fz	f3	fz	
15				f			l	l		h	h			h	h	h	h	C	l	f	fz	fz	fz	f3
16	f3	fz	f3	f	f		l	l	h	lz	l	l	lz	l			hz	Cz	lz	f3	fz	fz	f3	f3
17	f	fz	fz			l3		h	h		h			C	l	h	l	lz	lz	f	f	f3	f3	f4
18	fz	f3	fz	f5	f3	l	h	h	h	h					h	h	hz	h3	C	f3	f3	fz	fz	fz
19	fz	f3	fz	fz	fz	e R2	Cz	C	C	C	C	C	C	l			l	l			f	fz	fz	f3
20	f4	f4	fz	fz	f3	l3	lz	l	Cz	h	l	l						h	lz	fz	fz	f3	fz	fz
21	fz	f	f3	f	f				h	C	C	lz	l	l	l		h	C3	h4					
22										l	C		l	l	l	l	lz	l		f3	f	f	f3	f3
23	f3	fz	f4	fz	fz			C	Cz	C	l	Cz	lz	l	l	l	lz h	Cz	l l2	f5	fz	fz	fz	fz
24	f4	fz	f	fz	fz	l2	l	h	C	C	lz	l	C	l	l	l	lz	l	l		fz	f	f	f
25	fz	fz	f				h	l	lz	Cz	lz	l	l	l	l	l	lz	lz	lz	f3	fz	fz	fz	fz
26	f3	f3			f		C	h	Cz	C	C	l	l	C	l	lz	Cz	l	lz	f4	fz	fz		
27	f	f	f3	f3	f3	lz	lz	lz	lz	l	l	l		l	l			C		f		fz	fz	f3
28	f	f			f		l z	h		h	C	l	l	l	l	lz	Cz	Cz	l3	f3	f3	f3	f4	fz
29	f3	f3	fz	fz	f		h	C	C	C	h	l	l	l	l		h	Cz	lz	f3	f		fz	fz
30	fz	fz	fz	fz	f		hz	Cz	Cz	C	C	h	h			h	Cz	Cz	lz	f3	f3	f4	f3	f3
31	f3	fz	f	f		l		Cz	C	C	C	h	l	l	l	lz	l	C	lz	fz	f3	f3	f3	f4
No.																								
Median																								

Types of Es

Sweep 10 Mc to 200 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 12

IONOSPHERIC DATA

Aug. 1960 | 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	400	345	I400^{S}	400	u400^{S}	440	360	400	G	G	A	A	G	G	375	A	355	350	350	310	405	400	415	400
2	400^{F}	400	395	305	350	340	290	350^{S}	360^{R}	350	385	385	355	360	385	395	355	345	300	330	400	400^{S}	440^{F}	400
3	430	C	C	C	I370^{C}	350	325^{V}	300	300	295	C	425	355^{R}	I380^{C}	I370^{C}	370	J345^{S}	I330^{C}	310^{S}	350^{S}	I390^{C}	I410^{C}	I380^{C}	I370^{C}
4	I395^{C}	I415^{C}	I410^{C}	I385^{C}	400^{F}	I370^{C}	C	C	C	C	C	C	370^{V}	A	C	C	C	310	320	u315^{S}	S	S	J425^{S}	I410^{S}
5	390^{S}	I365^{C}	395	u380^{C}	C	C	C	C	C	A	I385^{A}	370	400	A	355	350	S	340^{S}	315	350	395	I395^{S}	u395^{S}	385
6	360^{S}	J355^{S}	320	380	380	350	350	325	305	350	340^{R}	380^{S}	400	400	355	I345^{A}	330	330	340	325^{S}	J320^{S}	380	u385^{R}	400^{S}
7	385	360	330	330	335^{S}	385	335	305^{S}	325	330	345	330	400	400	J400^{R}	345	350	330	330	J320^{S}	325	380	u350^{S}	380
8	J380^{S}	400	385	400	400	400	330	305	350	J355^{S}	I350^{A}	350	A	A	C	370	350^{R}	350	I350^{A}	345	325	I340^{S}	400	395
9	405^{F}	405	J400^{R}	405	415	430^{F}	400	330^{V}	A	A	400	335	A	355	355	345	355	355	350	315^{S}	310	410	415	430
10	390	355	380	415	440	350	305	380^{S}	300	A	G	370	385	350	350	390	355^{H}	355	355	A	365	405	400	395
11	390	405	410	400	450	400	405^{H}	A	A	G	A	A	B	G	410	A	345	A	310	375	450	465^{S}	460	415
12	405	375	A	460	430	410	445	450	400	355	G	A	G	G	410	400	390	345	380	400	405	405	425	425
13	450	400^{R}	u360^{R}	355	450	425	400	500	390	460	A	A	A	355	G	360	355	335	320	355	400	J430^{R}	425	u405^{R}
14	I440^{R}	445	410	330^{R}	400	355	335	310	J320^{R}	u320^{H}	375	380	J355^{R}	405	405	400	355	350	I355^{A}	355	350	J400^{S}	430^{S}	I430^{R}
15	425	425	I400^{R}	u340^{R}	395	455	335	430	395	350	350	360	435	400	400	380	355	355	380	u400^{S}	u430^{S}	u420^{S}	u400^{S}	I405^{S}
16	420^{S}	420	405	400	425	365	u305^{S}	345	325	325	400	400	400	385	400	380	355	J355^{S}	355	J395^{S}	I400^{A}	S	A	u450^{S}
17	I445^{S}	485	500	550	u415^{S}	520	360	350	355	350	G	G	490	430	u405^{R}	395^{H}	400	400^{S}	400	375^{S}	430	u455^{S}	450	J450^{S}
18	475	I450^{A}	400	A	580	485	385	300	260	G	450	u405^{R}	400	G	355	360	325	380	350	J390^{S}	400	400	445	430
19	440	425	400	400	445	465	400	425	G	G	495	380	355	400	395	400^{R}	355	350	345	330	430	445	450	A
20	A	435	405	405	445	450	410	335	330	355	380	420	400	390	395	400	400	375	355	335	365	445	I445^{A}	440
21	I405^{S}	415^{S}	395	425	450^{S}	400	335	300	320	325	410	405	375	400	395	380^{S}	375	340	335	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	345	u400^{S}	395	415	395	390	365	390^{R}	375	350^{S}	345	410	420^{S}	400	450
23	u400^{S}	390	400	400	410	375	300	290	310	340	375	380	395^{S}	360^{S}	360^{S}	345	350	340	I340^{A}	S	350	355	u400^{S}	380
24	405^{R}	400	u450^{S}	415	430	440	300	300	300	350	350	400	400	400	375	350	350	J345^{S}	325	J320^{S}	u395^{S}	I385^{S}	380^{S}	J380^{S}
25	J395^{S}	375	390	390^{Z}	445^{F}	u370^{S}	285	300	295	360	350	350	375	345	350	350	355	u390^{R}	325	J300^{S}	310	370	370	365^{R}
26	410^{R}	400^{S}	380^{S}	375	400	380	J315^{S}	260^{S}	250	325	350	320	355	390	350	355	330	325	330	350	355	I370^{S}	u385^{S}	J400^{S}
27	u400^{S}	380^{S}	J345^{S}	J350^{S}	400^{S}	350	320	310	285	300	400	395	355	390^{R}	380	355	350	345	310^{R}	320	350	360^{S}	390	390
28	380	395	390	400	425	400	300	255	300	J300^{R}	350	400	400	375	355	345	350	350^{S}	340	305	A	360	385	I355^{S}
29	450	400	I415^{F}	405^{F}	380^{S}	335	315	300	305	305	355^{H}	350^{S}	J340^{R}	345	J350^{S}	355	445	u400^{S}	u310^{S}	J260^{S}	400	430	425	440
30	430	400	400	400	450	J495^{F}	G	A	A	R	400^{R}	G	G	365	345	340	330	325	325	395	A	I450^{A}	A	490
31	410	395	395	365	370	400	490^{H}	395	355^{R}	G	G	400	385	375	380	355	310	310	310	315	355	A	A	A
No.	29	29	28	28	29	29	27	26	23	21	22	24	24	24	28	28	29	30	31	28	27	27	27	28
Median	405	400	400	400	415	400	335	320	320	345	380	380	390	390	380	360	355	350	340	340	395	400	400	400

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

The Radio Research Laboratories, Japan.

K 13

IONOSPHERIC DATA

Aug. 1960 | 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	95	150	I100S	100	u95S	110	90	95	G	G	A	A	G	G	75	A	75	100	95	90	140	105	130	95
2	150F	105	100	95	145	65	110	100S	100R	85	135	115	95	95	100	100	130	100	60	115	95	145S	110F	110
3	105	C	C	C	I100C	110	75V	145	95	55	C	65	95R	I 90C	I 80C	80	J115S	I130C	140S	150S	I125C	I105C	I100C	I100C
4	I100C	I 90C	I 90C	I115C	140F	I130C	C	C	C	C	C	C	80V	A	C	C	C	85	80	u 80S	S	S	J130S	I120S
5	105S	I120C	100	u 75C	C	C	C	C	C	A	I 90A	85	95	A	95	95	S	110S	95	145	105	I105S	u100S	120
6	90S	J 90S	80	70	65	100	90	75	95	135	110R	130S	95	100	90	I 70A	75	75	110	80S	J115S	115	u110R	85S
7	100	125	70	110	150S	100	120	95S	95	70	85	100	105	100	J 85R	100	85	75	115	J 80S	120	105	u105S	105
8	J115S	85	110	95	95	100	125	90	65	J 95S	I 80A	95	A	A	C	65	110R	85	I100A	75	100	I110S	95	85
9	95F	95	J 90R	90	85	90F	105	70V	A	A	95	115	A	70	140	150	95	100	95	105S	135	140	90	90
10	65	95	115	135	105	145	95	75S	55	A	G	65	100	45	60	105	100H	140	100	A	135	120	105	105
11	110	100	90	100	80	100	190	A	A	G	A	A	B	G	90	A	115	A	130	100	110	125S	130	100
12	100	85	A	85	100	140	135	75	90	90	G	A	G	G	85	95	95	100	110	195	145	140	130	130
13	140	100R	u 90R	95	145	70	105	95	105	85	A	A	A	50	G	90	90	110	125	140	155	J175R	85	u 95R
14	I130R	105	110	100R	100	95	70	135	J 85R	u135R	95	65	J140R	145	95	90	95	95	I120A	95	105	J100S	100S	I105R
15	105	115	I100R	u105R	105	145	150	120	105	100	55	100	70	95	95	120	90	140	120	u 95S	u115S	u 85S	u 95S	I120S
16	125S	130	100	100	120	135	u 90S	100	75	70	95	105	55	70	95	105	95	J100S	100	J105S	I120A	S	A	u105S
17	I110S	115	105	105	u100S	125	130	105	50	140	G	G	110	110	u 90R	95H	90	105S	100	110S	165	u140S	145	J100S
18	120	I120A	100	A	120	110	115	50	75	G	100	u150R	75	G	90	95	105	75	95	J115S	145	110	110	135
19	110	135	110	105	100	90	100	115	G	G	105	75	55	95	60	95R	140	100	100	115	160	100	145	A
20	A	160	140	100	105	100	135	120	115	75	175	100	100	105	100	105	120	120	130	70	140	110	I110A	150
21	I135S	90S	105	120	95S	100	90	55	85	135	140	125	125	105	105	115S	100	110	115	C	C	C	C	C
22	C	C	C	C	C	C	C	C	C	105	u130S	100	135	105	105	130	160R	150	140S	100	135	130S	110	120
23	u150S	110	105	100	115	105	150	110	120	155	125	100	85S	100S	140S	110	120	115	I130A	S	130	150	u100S	120
24	120R	120	u 90S	125	115	110	110	100	100	95	130	95	85	105	80	100	115	J100S	125	J125S	u100S	I 90S	115S	J 70S
25	J150S	110	105	100R	105F	u115S	70	50	80	110	100	125	100	115	100	105	145	u110R	95	J100S	90	100	110	110R
26	100R	110S	120S	100	100	120	J130S	85S	100	120	95	80	95	75	95	130	70	120	115	100	90	I130S	u115S	J 95S
27	u145S	120S	J140S	J110S	95S	120	130	75	60	90	100	100	140	110R	115	100	100	100	85R	125	105	140S	110	105
28	110	100	90	100	125	105	95	90	60	J 95R	145	95	90	75	55	100	100	95S	105	100	A	110	105	I130S
29	145	95	I115F	140F	105S	110	130	95	90	90	95H	95S	J105R	65	J100S	95	110	u100S	u 90S	J 75S	150	120	120	115
30	115	95	100	85	100	J100F	G	A	A	K	100R	G	G	75	115	105	100	115	110	110	A	I125A	A	105
31	135	125	105	130	160	110	105H	95	100R	G	G	50	75	120	115	85	95	90	95	130	140	A	A	A
No.	29	29	28	28	29	29	27	26	23	21	22	24	24	24	28	28	29	30	31	28	27	27	27	28
Median	110	110	100	100	105	110	110	95	90	95	100	100	95	100	95	100	100	100	105	100	125	115	110	105

ypF2

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

The Radio Research Laboratories, Japan.

K 14

IONOSPHERIC DATA

Aug. 1960 | 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	6.0	6.4	5.7F	F	5.8	5.5	6.1	5.5	G	5.2	5.5	6.3	6.1	6.5A	6.6A	6.9	7.0	7.5	7.2	6.5	5.9	6.7	6.8	6.8
2	6.4	6.7	6.6	6.2	4.6	3.8	5.1	6.8	7.8H	7.2H	7.0	8.3	8.6	9.7	9.9	10.0	10.4	10.4	9.4	8.1	7.1	7.2	S	S
3	S	S	7.4	7.0	5.9	5.4	6.7	7.8	7.0	6.7	6.8	7.8	7.9	7.6	8.5	9.0	9.1	9.0	8.4	8.2	7.9	8.1	7.9	8.1
4	8.1	8.0	7.6	6.8	6.0	5.2	5.9	7.7H	6.9	7.0C	7.1	7.4	7.4	7.4R	8.3	9.6	10.0	9.8	9.1	8.3	7.0	7.3	6.8	6.9
5	7.1	6.5	6.1	5.8	5.3	5.3	6.8	7.6R	7.3	7.4	7.4A	7.6R	8.9	9.7	10.1	10.4	10.0	9.0	7.8	7.7	7.9	7.6	7.2	7.2
6	7.4	7.2	6.4	5.6	4.8E	5.0	6.2	7.9	7.7H	7.3	7.1	7.2	8.5	9.5	10.5	10.7	10.6	9.5	9.5	10.0	8.9	7.8	7.3	7.3
7	7.2	7.0	7.0	6.9	5.7	5.1	6.0	6.9	7.2V	8.3H	8.9	7.8	8.9	9.8	10.6	11.8	11.8	11.5	11.8	10.8	9.1	8.4	7.8	7.1
8	6.9	7.2	6.9	6.4	6.4	6.7	7.9	8.3	7.5	7.7	7.7	8.8	10.5	10.5	10.8	9.9	9.8	10.2	11.3	9.9	8.3	6.9	6.6	6.6
9	6.8	6.8	6.2	5.6	5.8	5.5	5.9	8.7A	6.7	6.5	8.2	9.6	8.8	8.5	9.8	9.5	9.1	8.9	9.4	9.8	6.2	5.2	5.1	5.0
10	F	F	5.4	F	F	F	5.5	8.7D	7.1	6.8H	7.1A	7.6	8.6A	8.8	8.2	8.0	8.3	8.7	9.4	8.6	7.0	6.3	5.9	5.7
11	5.9	5.6	5.4F	5.3F	5.4	5.2	6.1	6.0H	6.2	6.5	7.2	A	A	A	9.4	8.8	9.1	8.4	8.0	7.7	5.9	6.4	6.5	6.1
12	6.3	6.3	5.8	5.2	5.0	5.2	6.1	7.1H	7.9	8.7	7.4A	7.7A	8.0R	7.7R	8.2	8.5	8.4	8.6	8.0	A	A	7.2	7.3	
13	6.6	6.8	7.4	6.0	5.1	5.1	6.0	6.0	6.8	7.2	7.4R	7.6R	8.6	8.2A	8.4	7.9	8.3	8.4	8.5	8.0	7.6	7.4	7.8	8.2
14	7.8	7.7	7.6	6.8	6.2	5.8	6.6	8.2	8.6	8.3H	8.5	8.9	9.4	9.8	10.3	10.2	9.8	9.3	9.9	10.0	9.1	8.0	8.2	8.7
15	8.8	8.4F	8.3	7.7	6.5	6.0	5.9	7.9	9.3H	10.5	9.0H	8.1	8.5	9.3	9.6	9.5	8.5	8.2	8.7	9.0	8.0	8.2	8.4	8.3
16	8.2	8.2	7.7	7.5	6.6	6.4	6.8	8.8	8.6	7.9H	9.0	9.2	10.0	10.4	10.8	11.1	10.8	10.0	10.4H	10.2H	10.3	9.1	8.8	9.1
17	8.1	7.3	6.6	6.3	6.7	F	6.3	8.6	6.8H	7.6H	7.2H	7.9	10.0	10.9	10.2	10.0	9.0	9.5	9.5	8.3	7.0	6.3	6.2	6.5
18	6.3	6.5	6.6	5.7	5.2T	F	7.0	6.4	6.2C	8.4	9.5	10.1	10.0	8.9	9.1	8.9T	9.2	8.0	8.5	8.7	8.2	7.6	7.7	8.1
19	8.0	7.5	7.1	6.6	6.1	5.9	6.2	8.1	8.6H	8.6	8.8	10.5	9.9	9.1	9.1	9.5	10.0	10.4	10.4	9.3	8.7	8.3	8.0	7.9
20	7.8	7.3	6.5	6.2	6.1	5.5	6.0	8.2	9.4	7.8	7.2	9.2	10.0	10.6	11.0	10.7	10.4	10.6	11.2	11.0	8.4	7.0	7.1	7.4
21	7.5	6.9	6.6	6.3	5.6	5.7	7.0	8.7	9.5	8.1	9.4H	11.1	12.5	12.7	12.1	12.2	12.7	12.6	12.3	11.2	8.9	8.4	8.1	8.1
22	7.8	7.5	6.5	6.3	5.9	5.9	7.0	9.2	8.7	8.1	10.2H	11.6	12.5	12.9	13.0	12.7	13.3	13.3	12.7	11.8	10.3	10.1	9.8	9.5
23	9.0	8.3	7.9	7.4	7.1	7.1	7.2	7.9	8.7	8.5	8.4H	10.0	11.0	10.5	10.8	10.7	11.0	11.2	11.7	11.5	9.7	8.9	8.0	8.2
24	7.8	7.3	6.8	6.7	6.5	6.4	7.6	11.2	10.4	9.0	9.4H	10.4	11.8	12.7	13.2	13.2	13.3	S	S	12.4	10.3	9.8	10.5	10.0
25	8.7	F	7.7	7.0	6.5	6.8	8.9	8.8	8.7	8.6	9.0	10.1	11.2	11.9	12.6	12.7	12.4	12.7	13.0	12.7	12.0	11.1	9.6	9.1
26	8.9	8.7	8.5	8.3	8.2	8.2	9.6	9.9	8.8	8.8H	9.1	10.0	10.5	10.6	10.7	10.8	11.1	11.2H	11.3	10.2	9.6	9.0	8.3	8.2
27	8.1	7.2	6.6	6.5	5.9	F	7.5	10.3	10.3	8.8H	8.1	10.3	10.9	10.5	11.5	11.7	11.4	12.0	12.3	12.1	10.0	7.9	7.2	7.4
28	7.2	7.0	6.9	6.4	6.0F	6.4	8.9	8.9	7.6H	8.0	8.5H	9.2	11.0	11.9	12.5	12.2	10.9	10.9	11.5	12.0	9.4	8.6	8.5	8.2
29	6.6	F	F	6.2	6.5F	6.5	7.7	10.0	9.4	8.8	8.7	9.9	10.8	10.5	11.2	11.7	10.3	11.2	13.5	11.7	6.9	6.5	6.6	7.1
30	6.8	6.7	6.6	5.9	5.5	5.3	4.6	4.8	5.1	5.5	5.6A	6.1	6.8	8.8	9.3	9.5	10.1	9.9	10.6	11.0	7.8	6.3	6.0	5.6
31	6.1	6.3	6.0	5.7	4.6A	3.1	4.4	6.7	6.1H	G	6.7	7.4	8.0	8.1	7.9	8.4	8.7	8.3	10.0	8.7	5.8	5.6	5.5	5.6
No.	29	27	30	29	30	27	31	31	31	31	31	30	30	30	31	31	31	30	30	30	30	31	30	30
Median	7.4	7.2	6.6	6.3	5.9	5.5	6.3	8.1	7.7	7.9	8.1	8.8	9.6	9.8	10.2	10.0	10.1	9.8	10.0	10.0	8.2	7.6	7.5	7.4
U.Q	8.1	7.5	7.4	6.8	6.5	6.4	7.2	8.8	8.8	8.6	9.0	10.0	10.8	10.6	11.0	11.7	11.0	11.2	11.5	11.2	9.4	8.4	8.2	8.2
L.Q	6.6	6.7	6.4	5.8	5.4	5.2	6.0	6.9	6.8	7.0	7.1	7.6	8.5	8.8	9.1	9.0	9.1	8.7	8.7	8.3	7.0	6.7	6.6	6.8
Q.R	1.5	0.8	1.0	1.0	1.1	1.2	1.2	1.9	2.0	1.6	1.9	2.4	2.3	1.8	1.9	2.7	1.9	2.5	2.8	2.9	2.4	1.7	1.6	1.4

foF2

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

The Radio Research Laboratories, Japan.

Y 1

47

IONOSPHERIC DATA

Aug. 1960 | 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	4.0^{L}	4.9	4.7	A	4.9	^{I}5.2^{A}	^{I}5.2^{A}	^{I}5.2^{A}	^{I}5.1^{A}	A	4.7	A					
2											L	5.2	^{I}5.2^{A}	^{I}5.4^{A}	5.4	5.2	5.1^{H}	^{I}4.7^{A}	L					
3												5.3^{L}	5.3	5.6	5.2	5.2	5.0^{L}	A	L					
4									L	C	5.1	L^{H}	5.4	5.5	5.2	4.9	4.8^{H}	4.6^{L}	A					
5										5.0^{L}	^{I}5.3^{A}	^{I}5.6^{A}	5.1	^{I}5.3^{A}	A	A	A	4.6^{L}	A					
6										5.7	5.2^{L}	5.4	5.5	5.2	5.2	^{I}5.2^{A}	5.0	4.6^{L}	L					
7											5.4	L	5.3^{R}	5.5	5.3	5.3	5.1	^{I}4.7^{L}	L					
8										L	5.2^{L}	5.2	5.4	5.5	^{I}5.4^{B}	5.1^{L}	5.0	4.7	L					
9											5.0	5.2	5.5	5.7	5.2	5.3	5.2^{L}	L	L					
10											A	5.6	^{I}5.3^{A}	5.5^{L}	5.6^{L}	6.0^{L}	5.5	4.8	L					
11									4.7	5.2	5.1	A	B	A	5.3	5.5	5.2	A	A					
12									4.8	A	A	A	A	5.7^{L}	5.8	5.5	^{I}5.2^{A}	L	A					
13									5.0	5.8	5.2^{L}	5.6	5.6	^{I}5.6^{A}	^{I}5.5^{A}	A	A	L						
14											L	6.7^{LH}	L	6.1	5.8^{L}	5.6	^{I}5.4^{LH}	L						
15										5.0		6.1	6.3	5.6	6.0^{L}	5.9	L							
16											6.3^{L}	L^{H}	6.4^{L}	6.1	5.6	5.9^{L}	L	A						
17												5.7	5.7	5.8	6.0	6.3^{Z}	A	A	A					
18									C	L	6.1^{L}	^{I}6.3^{L}	L	6.0^{L}	6.1^{LH}		L							
19											6.1	5.7	^{I}5.9^{A}	6.2	6.2	5.7	5.8^{L}	L						
20											L^{H}	6.1^{L}	6.2	^{I}6.2^{L}	L	^{I}6.1^{L}	6.1^{L}	L						
21												6.2	L	A	A	A	L	A						
22												6.1	L	A	6.0	L	L	5.2^{L}						
23												L	5.9^{L}	5.8^{L}	^{I}6.1^{L}	L	L	L						
24													5.8^{L}	L	5.9^{L}	5.5	L	L						
25												L	^{I}5.8^{L}	L	5.8	5.5^{L}	^{I}5.3^{L}	L	A					
26												L	^{I}5.8^{L}	L	L	L	L							
27												5.6^{L}	5.5^{L}	L	5.8	L	L	L						
28												L	5.4	L	^{I}5.7^{L}	5.3^{L}	L							
29												L	L	^{I}5.3^{L}	^{I}5.6^{L}	L	A	L						
30							3.1^{L}	3.8	A	A	A	5.2	5.2	5.2	^{I}5.3^{A}	5.0^{L}	L	A						
31										5.2	5.0	5.3	4.9	^{I}5.2^{A}	^{I}5.3^{A}	5.0	L							
No.							1	2	4	7	12	20	24	23	27	22	14	9						
Median							3.1	3.9	4.8	5.2	5.2	5.6	5.5	5.6	5.6	5.4	5.2	4.7						

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. 1960 | f_0E | 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	2.00	2.80^{H}	3.15	3.40	3.60	R	R	$_{z}$3.95^{R}	$_{z}$3.90^{R}	3.70	3.40	3.15	2.50	S				
2						S	2.00	2.70^{H}	$_{z}$3.10^{R}	3.40	3.60	3.65	A	A	A	A	3.50	A	A	S				
3						A	A	A	3.10	3.40	A	A	$_{z}$3.90^{A}	4.00^{R}	3.80^{R}	3.65	3.40	3.10	2.45	S				
4						B	2.10^{H}	2.50	A	C	A	R	R	R	3.85	3.70	3.45	3.15	2.50	A				
5						S	1.80	2.60	3.15	3.40	3.70	3.70	3.70	3.70	3.85^{R}	3.70	3.50	3.05	2.50	S				
6						A	1.90	2.70^{H}	3.15	3.30	3.70	$_{z}$3.75^{R}	$_{z}$3.85^{R}	$_{z}$3.90^{R}	3.80^{R}	$_{z}$3.65^{B}	3.50	3.10	2.25	A				
7						A	2.00	2.70	3.10	3.55	3.70	3.75	3.75	3.80	A	A	A	3.40	2.50^{R}	A				
8						S	A	2.65	3.15	3.45	3.60	$_{z}$3.70^{R}	$_{z}$3.80^{A}	$_{z}$3.95^{A}	$_{z}$3.90^{B}	3.90	3.70	3.15	2.50	S				
9						S	1.70	2.50^{H}	3.15	3.50	3.70	3.85	$_{z}$3.85^{B}	3.90	3.90^{R}	3.65	3.50	3.05	2.50	S				
10						S	A	A	3.20	3.45	3.60	A	A	A	A	A	3.50	$_{z}$3.10^{A}	2.60^{H}	S				
11						A	2.10^{H}	2.70	3.20	3.40	3.70	R	B	B	R	$_{z}$3.80^{R}	3.60	3.15	$_{z}$2.30^{A}	S				
12						S	A	A	A	3.40	3.50	A	A	B	A	A	A	A	2.40	S				
13						S	A	2.70	3.30	3.70	3.90^{R}	R	R	R	3.85^{R}	3.70	3.35	2.90	2.00	S				
14						S	S	2.80	3.35	3.60	3.85	A	A	R	A	A	3.65	3.25	2.60	1.70				
15						S	S	2.80	3.30	3.70^{R}	A	R	A	4.10^{R}	4.10^{R}	$_{z}$3.90^{R}	3.65	3.30	2.55	S				
16						A	A	2.80	$_{z}$3.30^{R}	A	A	R	R	R	R	$_{z}$3.95^{R}	3.70	3.30	2.60	B				
17						S	1.80	2.70	3.30	3.70^{R}	A	A	A	4.30	4.20	A	A	A	A	A				
18						A	A	2.70	$_{z}$3.25^{C}	3.65	4.00	B	R	R	R	R	R	3.15	2.60	S				
19						A	S	2.70	3.25	3.65	3.80	4.00	R	A	A	A	3.60	3.10	$_{z}$2.45^{A}	A				
20						S	A	A	A	A	A	A	R	R	R	R	3.70	$_{z}$3.30^{A}	2.70	S				
21						S	A	2.80^{H}	3.30	3.60	3.95	4.00	3.90	A	A	A	A	A	A	S				
22						S	A	2.70	3.30^{R}	3.85	$_{z}$3.90^{C}	4.20^{R}	R	B	R	4.05	3.60	3.00	A	A				
23						S	S	2.60	3.20	3.40	3.50	$_{z}$3.70^{R}	$_{z}$3.85^{R}	4.10^{R}	$_{z}$4.00^{R}	3.75	3.60	3.15	2.40	S				
24						S	A	$_{z}$2.65^{A}	$_{z}$3.20^{A}	3.60	A	A	4.10	4.10	3.90	A	A	A	A	A				
25						S	A	2.60	3.15	A	A	A	R	R	R	3.70	3.45	3.10	2.30	S				
26						S	A	2.70^{H}	3.10^{H}	3.45	$_{z}$3.60^{R}	$_{z}$3.75^{A}	3.80^{R}	$_{z}$3.75^{R}	$_{z}$3.70^{R}	3.70	A	A	A	S				
27						S	A	A	A	A	A	A	A	R	3.80	3.60^{H}	3.30	2.95	2.25	B				
28						S	S	2.60	3.10	3.40	$_{z}$3.55^{A}	$_{z}$3.65^{A}	R	A	R	3.60	$_{z}$3.45^{R}	3.00^{R}	2.20	S				
29						S	B	2.50	3.05	3.35	3.60	A	A	A	A	B	3.30	2.90	2.20	A				
30						S	A	2.50	$_{z}$3.00^{A}	3.40	3.60	$_{z}$3.65^{R}	3.80	3.80^{R}	3.70^{R}	3.45	3.25	2.85	A	A				
31						S	A	2.40	2.90	3.30	3.50	A	A	A	A	3.50	3.30	2.80	2.10	A				
No.							9	26	27	26	22	13	11	13	15	19	24	25	24	1				
Median							2.00	2.70	3.15	3.45	3.65	3.75	3.85	3.95	3.85	3.70	3.50	3.10	2.50	1.70				

f_0E

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. 1960 | 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	6.1M	3.3	4.1	5.0	2.5	3.2	3.6	5.2	4.2	4.9	4.5	6.1	9.3	7.9	5.7	5.2	3.7	6.0	6.2M	5.4	3.9M	2.4	2.9
2	3.7M	2.4	2.9	3.1	2.8	S	2.4	3.0	3.7	5.4	5.0	4.4	11.4	7.0M	5.3	4.5	4.6	5.1	3.1	2.8	3.3	3.8M	4.9	6.4M
3	5.9M	3.6	3.2	1.3	2.3	2.0	2.4	2.8	G	3.6	3.8	3.9	4.0	4.8	5.3	4.7	3.9	5.6	6.0M	4.5	5.0	2.3	S	2.5
4	S	S	3.1	2.2	2.2	B	G	2.7	3.3	C	6.5	G	G	G	4.5	5.2	4.2	4.8	5.1	3.8	5.4	2.2	S	2.4
5	4.0	4.0	3.2	5.1	4.1	S	3.2	5.5	5.2	6.1	10.4	8.5	4.2	7.1	6.1	6.0	5.3	6.3	6.2	4.9	2.8	S	3.2	3.1
6	2.7	2.8	5.2	3.7	3.8	2.9	G	G	3.4	4.2	4.4	4.7	4.4	4.4	5.0	5.6	4.4	4.0	3.7	3.8	2.4	2.2	2.9	3.0
7	3.2	3.2	2.9	2.3	2.1	2.0	G	3.9	6.1	4.4	5.1	6.9	9.0	8.2	6.1	6.8	3.8	G	G	13.4	4.2	2.5	2.2	3.2
8	3.1	2.3	2.7	1.5	2.4	1.5	2.2	3.1	3.4	4.0	5.0	5.4	5.2	4.6	B	G	G	4.4	3.2	3.0	3.5	2.9	2.2	2.4
9	3.4	2.2	1.9	1.3	1.8	2.3	4.9	4.8	3.9	4.1	4.8	5.2	B	G	4.3	G	G	3.6	4.0	3.8	3.7	5.3	S	2.2
10	4.6	3.5	4.6	2.9	2.8	2.2	3.1	3.3	3.1G	4.3	9.1	13.3	9.3M	6.9	4.7	4.2	G	3.4	3.0	3.1	5.8	5.3	6.3	7.0
11	3.9	5.1	4.0	2.7	2.4	2.5	G	3.0	4.3	5.2	5.4	8.3	13.7	13.9	G	G	G	5.7	4.7	3.1	3.2	9.2M	2.4	2.3
12	3.6	7.2M	E	E	E	2.2	3.0	4.7	4.1	8.2	12.6	11.7	6.5	B	5.0	4.0	5.4	4.7	8.4	8.4	13.3	6.0	3.1	3.3
13	S	5.5	2.2	2.2	2.2	2.7	2.1	G	3.9	4.8	4.6	5.4	5.5	9.3	6.2	11.4	7.7	4.6	3.4	3.8	6.0	6.1	4.6	3.5
14	2.9	3.0	2.2	2.7	3.1	S	2.5	G	G	G	G	4.5	4.3	G	4.4	4.5	G	3.9	4.8	4.6	2.0	2.6	3.1	3.2
15	4.2	2.5	S	E	E	S	2.2	3.3	3.2G	4.4	3.9	G	4.9	G	4.5	4.6	4.7	4.3	3.8	2.9	2.3	2.6	2.4	4.6
16	3.7	3.8	3.0	2.4	1.4	3.0	3.0	G	G	3.7	4.1	G	G	G	G	G	5.2	6.3	3.8	5.5	6.0M	6.0M	2.8	8.5
17	5.4	5.8	5.3	3.1	2.2	S	2.2	3.1	3.6	5.1	6.1	6.0	5.5	5.6	G	5.0	6.7	8.5	6.3	5.2	3.0	2.1	S	S
18	6.0M	6.0	E	2.3	7.1	6.1	4.8	4.2	C	5.1	G	4.7	4.9	6.0	5.3	4.8	5.3	5.3	3.7	3.1	6.0	5.2	5.3	8.5
19	5.5	4.3	3.4	3.2	3.2	2.3	3.3	3.6	4.0	4.4	4.6	4.8	8.0	4.4	4.2	3.8	3.1G	3.0G	3.3	2.6	S	2.5	S	S
20	S	S	2.2	E	1.5	3.3	4.7	4.0	5.5	6.0	5.4	4.0	G	G	G	G	G	3.8	3.6	2.8	4.1M	3.7	8.5	5.8
21	5.2	4.0	3.6	2.2	3.1	2.6	2.5	G	3.8	4.7	5.1	6.1	8.1	6.3	6.5	11.3	4.7	9.0	4.5	3.8	2.4	2.3	3.0	2.8
22	2.2	2.4	2.2	E	2.3	2.2	2.2	2.6G	5.0	6.4	6.4	5.8	6.3	9.1	6.1	5.3	6.1	5.4	6.3	3.0	3.7	7.0	5.6	5.7
23	S	2.9	S	E	2.2	2.2	G	3.0	3.7	4.6	3.7	G	G	4.4	4.8	4.1	3.8	3.4	2.7	2.1	2.4	2.2	3.0	S
24	2.4	2.1	2.1	1.3	2.4	4.0	2.9	5.0	6.5	6.0	7.8	6.7	5.0	4.9	7.0	8.7	7.0	6.9	6.8	4.7	5.1	5.1	2.6	2.2
25	6.1	6.4	3.6	3.1	3.9	4.0	2.2	3.2	5.2	4.8	7.0M	9.6	G	G	G	G	3.6	4.0	4.4	3.8	2.3	3.1	2.5	5.0
26	5.6	3.1	S	3.9	2.3	2.6	2.3	3.1	3.5	4.0	4.7	4.6	5.4	5.3	5.5	G	4.4	6.1	5.8	3.8	3.6	3.2	2.8	2.8
27	S	S	4.3	5.3	2.9	5.1	4.2	3.1	10.8	4.4	5.4	4.2	4.6	G	3.3G	G	G	3.1	2.6	B	3.6	3.6	3.7	2.2
28	5.4	5.2	3.0	2.4	2.1	S	S	G	3.8	4.7	4.6	4.8	4.9	3.9	4.8	5.1	4.4	3.2	3.7	4.9	3.4	3.2	9.2M	5.3
29	5.0	5.0	3.0	2.3	E	S	B	3.5	4.3	6.0	5.1	5.3	5.1	5.9	5.5	B	6.0	4.4	3.2	2.3	2.0	2.5	1.8	3.2
30	2.3	5.7M	6.1	5.4	6.4	3.0	2.0	3.1	4.6	4.8	6.3	5.6	4.6	5.2	6.2	6.0	4.8	4.3	6.2	2.2	3.2	2.2	6.1	4.6
31	8.9M	5.1	3.6	4.6	5.3	3.2	3.5	3.0	3.6	4.1	5.2	13.3	5.6	10.2	13.1	5.5	G	3.1	3.0	5.3	2.6	1.8	S	6.0
No.	26	28	28	31	31	23	29	31	30	30	31	31	30	30	30	30	31	31	31	30	30	30	25	28
Median	4.0	3.9	3.0	2.4	2.4	2.6	2.4	3.1	3.8	4.6	5.1	5.2	5.0	5.0	5.0	4.6	4.4	4.4	3.8	3.8	3.6	3.2	3.0	3.2
U.Q	5.4	5.4	3.6	3.2	3.2	3.2	3.2	3.6	5.0	5.2	6.3	6.7	6.3	7.0	6.1	5.6	5.3	5.6	6.0	4.9	5.1	5.2	5.1	5.5
L.Q	3.2	2.8	2.2	1.3	2.1	2.2	2.2	2.7	3.4	4.2	4.6	4.4	4.3	G	4.3	G	G	3.6	3.3	3.0	2.6	2.3	2.4	2.6
Q.R.	2.2	2.6	1.4	1.9	1.1	1.0	1.0	0.9	1.6	1.0	1.7	2.3	2.0		1.8			2.0	2.7	1.9	2.5	2.9	2.7	2.9

foEs

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 1960 | 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	2.3	4.3	2.2	3.2	2.8	1.7	3.2	3.3	4.3	4.2	4.9	4.4	5.8	A	A	5.5	5.0	3.4	A	4.2	2.2	2.4	1.8	2.5
2	S	1.9	2.3	2.4	2.2	S	G	G	3.6	4.9	4.7	4.2	8.0	6.6	4.6	4.5	4.5	4.9	2.9	2.8	2.4	3.7	4.6	3.6
3	4.4	1.9	1.3	1.3	1.6	1.6	G	G		G	G	G	$E_{4.0}^{B}$	4.5	5.0	4.2	3.9	5.2	3.4	2.3	1.8	E	S	E
4	S	S	2.0	1.7	1.7	B		G	$E_{3.3}^{S}$	C	4.2				4.4	3.5	4.2	3.8	4.4	3.6	3.4	2.2	S	1.7
5	1.8	3.2	2.3	2.1	2.1	S	3.0	5.2	5.1	4.3	A	6.3	4.2	6.1	5.2	5.6	5.2	4.3	4.7	2.8	1.8	S	2.2	1.8
6	2.3	2.2	1.9	1.7	2.4	2.2			G	4.0	G	4.6	4.4	4.3	4.9	5.4	4.3	3.7	3.3	2.1	S	E	2.2	2.6
7	1.8	2.4	2.1	1.8	1.5	1.9		3.6	3.9	G	G	5.0	4.7	5.3	4.7	4.7	G			A	3.1	1.9	1.8	3.0
8	2.4	S	1.8	1.5	1.7	$E_{1.5}^{S}$	G	2.3	G	3.7	4.5	4.2	4.6	4.5	B			4.2	3.1	$E_{3.0}^{B}$	3.4	2.9	2.1	2.1
9	2.6	E	1.8	$E_{1.3}^{B}$	1.6	1.7	4.2	4.4	3.5	4.0	4.5	4.8	B		4.2			3.5	3.7	3.0	2.2	4.1	S	1.8
10	4.2	1.8	2.9	2.2	2.5	G	$E_{3.1}^{B}$	G	2.4^{G}	4.0	A	4.8	A	4.8	4.3	$E_{4.2}^{B}$		G	G	1.8	4.7	3.4	4.4	A
11	3.1	2.1	2.6	2.2	2.0	1.6		G	G	4.5	4.7	A	B	A				5.2	4.5	2.5	$E_{3.2}^{S}$	2.1	2.0	2.0
12	2.1	4.2				1.8	G	3.2	4.0	7.4	A	A	5.6	B	5.0	$E_{4.0}^{B}$	5.3	3.9	5.4	A	A	5.1	2.0	2.0
13	S	4.5	1.8	2.1	1.7	2.1	G		G	4.6	4.5	5.0	5.0	A	5.8	6.5	7.5	4.5	3.4	$E_{3.8}^{B}$	4.8	4.8	3.7	2.9
14	2.1	2.6	2.0	2.3	2.3	S	G					$E_{4.5}^{B}$	$E_{4.3}^{B}$		4.4	$E_{4.5}^{B}$		3.9	$E_{4.8}^{B}$	4.3	2.0	2.1	1.8	S
15	2.2	1.9	S			S	G	3.3	3.2^{G}	3.6	$E_{3.9}^{B}$		4.7		4.5	4.6	4.3	4.2	3.8	$E_{2.9}^{B}$	2.1	2.4	E	2.1
16	2.5	2.6	2.0	1.8	1.3	1.8	2.6			G	G						4.9	6.3	3.7	5.2	3.2	E	2.5	5.2
17	4.4	4.6	4.2	1.9	1.7	S	G	G	G	4.8	4.7	5.3	4.6	5.4		4.5	5.8	8.2	$E_{6.3}^{S}$	4.1	2.5	1.8	S	S
18	2.1	5.4		1.9	A	4.3	4.5	4.1	C	4.4		4.7	4.9	5.0	G	G	4.5	4.5	3.6	3.0	4.3	4.4	3.5	1.8
19	2.0	3.9	2.7	3.1	2.2	1.7	3.3	3.5	3.9	4.0	4.2	4.6	8.0	$E_{4.4}^{B}$	4.2	G	3.0^{G}	2.9^{G}	2.8	2.0	S	E	S	S
20	S	S	E		1.4	2.8	$E_{4.7}^{B}$	3.8	4.3	5.7	4.5	$E_{4.0}^{B}$						3.5	G	2.3	1.9	3.3	2.0	1.9
21	4.1	2.0	3.5	1.7	2.0	S	G		3.8	4.6	4.7	4.6	5.7	$E_{6.3}^{B}$	6.3	8.6	4.5	5.0	3.5	3.1	2.0	2.0	1.8	1.8
22	1.8	1.8	1.8		1.9	G	G	2.5^{G}	4.5	6.4	6.4	5.6	5.7	7.4	4.9	4.9	4.6	3.9	G	2.1	3.2	A	3.0	1.7
23	S	1.8	S		1.7	G		G	G	4.1	$E_{3.7}^{B}$			4.4	4.6	4.1	G	3.4	G	2.1	S	2.0	2.0	S
24	1.9	2.0	1.9	1.2	1.7	3.3	G	3.1	6.4	5.7	5.4	5.7	4.8	4.7	5.3	4.6	4.6	3.7	4.7	3.1	2.9	4.8	2.2	2.0
25	4.6	2.8	2.1	2.5	3.8	3.4	G	3.1	4.4	4.8	5.2	4.8					G	3.8	3.9	3.6	2.0	$E_{3.1}^{S}$	2.1	1.9
26	2.9	2.4	S	2.2	2.0	2.3	G	G	G	3.9	4.6	4.5	4.6	5.2	5.5		4.1	3.5	3.6	$E_{3.8}^{B}$	2.4	2.6	1.8	1.7
27	S	S	3.0	4.0	1.6	4.0	$E_{4.2}^{B}$	$E_{3.1}^{B}$	8.1	4.0	4.3	G	4.2		3.2^{G}			G	G	B	1.9	3.5	1.9	E
28	4.4	4.1	1.9	E	1.6	S	S		3.2	4.2	4.2	4.5	4.7	G	4.5	4.6	4.0	G	2.7	4.3	2.6	3.1	A	4.6
29	4.2	4.0	2.7	E		S	B	3.4	4.3	5.5	5.0	5.0	5.0	4.7	4.9	B	5.2	4.4	3.2	2.2	2.0	2.3	$E_{1.8}^{S}$	2.1
30	1.9	1.9	2.2	3.2	3.4	2.1	G	G	4.3	4.7	A	5.1	4.5	4.6	6.1	4.0	4.7	4.3	$E_{6.2}^{S}$	1.9	2.2	2.0	A	3.6
31	4.1	4.3	2.5	2.4	A	2.3	2.7	2.2	3.3	3.9	4.9	4.8	4.1	5.6	6.4	4.6		3.1	2.9	4.9	2.4	E	S	2.3
No.	25	27	26	26	28	22	21	24	27	29	29	27	24	21	25	22	23	30	27	28	27	29	25	27
Median	2.4	2.4	2.1	2.0	2.0	1.8	G	2.7	3.6	4.2	4.6	4.8	4.7	5.0	4.9	4.6	4.5	3.9	3.4	$E_{3.0}$	2.4	2.4	2.1	2.0

foEs

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

The Radio Research Laboratories, Japan.

Y 5

IONOSPHERIC DATA

Aug. 1960 | 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	E1.70	E1.70	1.35	1.10	E	1.20	1.80	1.70	1.80	1.90	1.95	2.20	2.40	2.60	2.25	2.25	1.90	1.80	E1.60	E1.50	1.30	E1.70	E1.65	E1.70
2	E1.70	E1.80	E	E	E	E1.70	1.70	1.70	1.60	1.80	1.90	2.00	2.50	2.00	2.25	2.25	1.90	1.70	E1.60	E1.70	E1.70	E1.70	E1.90	E1.70
3	E1.70	E1.70	1.00	E	E	1.25	1.65	1.60	1.65	1.80	2.25	2.30	2.50	2.30	2.20	1.90	1.80	1.60	E1.80	E1.70	E1.70	E1.75	E1.70	E1.60
4	E1.70	E1.80	1.10	E	E	1.30	1.70	1.80	1.85	C	2.00	2.00	2.30	2.20	2.20	2.20	1.85	1.65	1.20	1.50	E1.70	E1.60	E1.70	E1.50
5	E1.60	E1.70	E1.60	E	E	E1.50	1.60	1.70	1.90	2.20	3.30	2.40	2.40	2.20	2.20	2.35	1.85	1.60	E1.60	E1.60	E1.60	E1.60	E1.70	E1.60
6	1.30	E1.60	E1.70	1.10	1.10	E	1.60	1.70	1.85	1.85	2.20	2.60	2.50	2.60	2.20	4.10	1.90	1.85	1.40	1.65	E1.70	E1.50	E1.70	E1.70
7	E1.60	E1.60	1.10	1.00	1.00	1.10	1.70	1.80	1.80	2.20	2.50	2.65	2.20	2.50	2.30	2.60	1.80	2.70	1.60	1.70	E1.70	E1.70	E1.60	E1.70
8	E1.60	E1.80	1.10	1.10	1.10	1.20	1.40	1.60	1.80	1.80	1.90	2.35	2.20	3.35	7.90	2.35	2.20	1.65	E1.60	E1.60	E1.70	E1.60	E1.60	E1.60
9	E1.70	E1.90	1.00	E	E	E1.50	1.60	1.65	1.70	1.70	2.20	2.20	4.60	3.35	2.20	2.05	1.80	1.60	E1.70	E1.60	E1.70	E1.70	E1.90	E1.50
10	E1.70	E1.60	1.30	E	1.20	E1.60	E1.65	1.60	1.60	2.00	2.20	2.30	2.30	2.30	2.00	2.00	2.20	E1.80	E1.70	E1.70	E1.60	E1.60	E1.70	E1.70
11	E1.70	E1.60	E	1.45	1.05	1.25	1.70	1.70	1.60	1.70	2.20	2.20	7.60	3.90	2.40	2.20	1.90	1.65	E1.60	E1.60	E1.70	E1.60	E1.70	E1.70
12	E1.70	E1.70	1.35	1.70	1.70	1.40	1.60	1.60	1.80	1.85	2.40	2.60	3.40	4.55	2.30	2.50	1.80	1.85	E1.60	E1.60	E1.70	E1.65	E1.70	E1.60
13	E1.80	E1.60	1.40	1.30	1.20	E1.60	1.20	1.60	1.60	1.90	2.10	2.40	2.30	2.45	2.30	2.20	1.90	1.85	E1.60	E1.60	E1.70	E1.70	E1.70	E1.50
14	E1.70	E1.85	E1.60	1.10	E	E1.80	1.70	1.70	1.70	1.90	2.20	3.40	3.50	2.20	2.20	3.25	1.80	1.80	1.70	E1.55	E1.65	E1.70	E1.65	E1.60
15	1.30	E1.80	E1.60	1.70	1.25	1.40	1.80	1.60	1.70	1.85	2.20	2.20	2.20	2.40	2.20	2.20	1.80	1.70	1.60	E1.70	E1.60	E1.70	E1.70	E1.65
16	E1.50	E1.60	1.30	E	1.00	1.30	1.60	1.70	2.30	1.85	2.40	3.00	2.55	2.45	2.20	2.20	2.05	1.90	1.70	1.60	E1.70	E1.70	E1.70	E1.60
17	E1.60	E1.65	E1.60	E	E	E1.65	1.60	1.60	1.65	1.85	1.90	3.40	2.55	3.40	2.25	2.00	1.95	1.65	E1.60	1.50	E1.60	E1.60	E1.60	E1.70
18	E1.70	E1.70	1.50	1.10	1.10	1.10	1.50	1.80	Σ1.70d	1.90	2.30	4.25	3.50	2.20	2.40	2.30	2.10	1.80	E1.70	E1.70	E1.60	E1.70	E1.70	E1.60
19	E1.60	E1.70	1.35	1.30	E	1.20	E1.70	1.90	1.95	1.80	2.25	2.20	3.35	2.40	2.20	2.20	1.80	1.80	E1.60	1.50	E1.50	E1.60	E1.70	E1.70
20	E1.70	E1.70	E1.60	1.70	E	E1.60	1.50	1.90	1.80	2.20	2.50	2.50	2.55	3.05	2.55	2.35	2.20	1.90	1.70	E1.60	E1.70	E1.80	E1.70	E1.60
21	E1.70	E1.70	E1.65	1.40	E	E1.70	1.70	1.80	1.80	2.30	2.65	2.40	2.40	3.90	3.40	2.20	1.80	1.65	1.30	E1.70	E1.55	E1.70	E1.70	E1.70
22	E1.65	E1.70	1.10	1.60	1.35	E1.70	E1.60	1.70	1.80	3.20	E4.60	3.55	3.35	4.20	2.60	2.30	2.20	1.80	E1.70	E1.65	E1.65	1.40	E1.60	E1.60
23	E1.65	E1.70	E1.70	1.50	E	E1.70	1.90	2.10	1.90	2.05	2.10	2.25	2.30	2.30	2.20	1.90	2.00	2.10	1.80	E1.60	E1.65	E1.70	E1.70	E1.70
24	E1.60	E1.80	1.10	E	E	1.50	1.60	1.70	1.90	2.10	2.30	2.25	2.45	2.20	2.20	1.90	1.90	1.60	E1.60	1.25	E1.60	E1.70	E1.70	E1.60
25	E1.60	E1.70	1.40	1.70	E	E1.60	1.30	1.80	1.80	1.80	2.10	2.30	2.40	2.20	2.25	1.90	2.05	1.90	1.60	E1.60	E1.70	E1.70	E1.60	E1.65
26	E1.60	E1.70	E1.70	E	E	E1.60	E1.70	1.80	1.70	1.80	2.20	2.10	2.50	2.25	2.20	2.20	1.90	1.85	1.70	E1.70	E1.70	E1.60	E1.60	E1.60
27	E1.60	E1.70	1.10	E	1.30	E1.70	1.70	1.75	1.80	1.90	2.00	2.20	2.20	2.40	2.20	2.20	1.80	1.70	1.60	1.60	E1.60	E1.60	E1.65	E1.60
28	E1.60	E1.50	1.50	E	1.10	E1.70	1.70	1.65	1.70	2.10	2.20	2.00	2.20	2.00	2.00	2.20	1.80	1.70	E1.60	E1.60	1.20	E1.60	E1.80	E1.50
29	E1.70	E1.70	E1.70	E1.70	1.50	E1.60	1.70	1.70	1.80	1.90	1.90	3.40	2.30	2.60	2.20	4.45	1.90	1.90	E1.65	1.30	E1.60	E1.50	E1.60	E1.60
30	E1.70	E1.70	1.30	1.70	1.50	E1.50	1.65	1.65	1.80	1.80	2.05	2.20	2.40	2.20	1.90	1.80	1.70	1.80	1.30	1.15	E1.60	E1.60	E1.60	E1.60
31	E1.50	E1.50	1.20	1.00	E	1.30	1.50	1.50	1.60	1.90	1.90	2.20	2.40	1.90	2.10	1.90	2.20	1.60	E1.60	1.20	E1.50	E1.70	E1.70	E1.60
No.	31	31	21	30	31	31	29	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31
Median	E1.65	E1.70	1.20	1.10	E	E1.50	E1.65	1.70	1.80	1.90	2.20	2.30	2.40	2.40	2.20	2.20	1.90	1.80	E1.60	E1.60	E1.65	E1.70	E1.70	E1.60

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. 1960 | (M3000)F2 | 135° E Mean Time (G.M.T. + 9h.) | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.65S	2.85S	2.65F	F	2.60	2.80	3.00	3.35	G	2.40	2.40	2.75	2.50	I2.70A	I2.80A	2.75	2.80	3.05S	I3.20S	3.10	2.55	I2.60S	I2.60S	I2.70S
2	I2.70S	2.60	2.85	3.05	2.85	2.70	3.05	3.20	3.25H	2.90H	2.65	2.80	2.50	2.75S	J2.65S	2.70S	2.90	3.00S	J3.05S	3.00	I2.65S	I2.60S	S	S
3	S	S	2.75Z	U3.00S	2.85	2.65	3.15	3.50	3.25	2.90	2.85	2.95	2.80	2.75	2.85	2.90	2.90	3.00	3.00	2.85	J2.65S	J2.65S	J2.80S	J2.70S
4	I2.70S	I2.75S	I3.00S	2.95	3.00	2.70	2.90	J3.15RH	3.10	I2.95C	2.85	2.85S	2.75	U2.55R	2.70	2.85S	2.95S	J3.05S	3.00	3.00	2.75S	U2.55S	2.50S	I2.65S
5	I2.85S	I2.75S	2.80	2.90	2.90	2.90	3.10	J3.05R	2.95	2.90S	I2.80A	J2.40R	2.75	J2.75S	2.75S	2.95	3.00	3.10	3.10	J2.90S	2.80	J2.70S	U2.80S	U2.65S
6	J2.80S	J3.00S	2.95	2.90	2.80F	2.80	3.00	3.20	3.15H	3.00S	3.15	2.65	2.60	2.70	2.80	2.90	3.00	J3.00S	2.85S	J2.85S	3.05	I2.85S	I2.70S	2.65
7	I2.75S	2.75	2.90	3.10	2.85	2.90	3.25	3.35	2.95V	3.00H	3.05	2.75	2.65	2.65	2.70	2.85	2.90	2.80	U3.00S	I3.10A	3.05S	J2.80S	2.85	2.85S
8	U2.60S	2.80S	I2.90S	2.80	2.70S	I2.85S	J2.95S	3.30	J3.35S	U2.90S	3.00	2.65	2.80	2.75	2.85	J2.75S	2.85S	2.90	3.10S	J3.15S	2.95	2.80	2.60	2.60
9	2.60	2.70	2.75	2.70	2.60	2.60	2.95	3.15H	3.20	2.90	2.80	3.00S	2.95	2.70	2.85S	2.85S	2.85	2.70	U2.95S	J3.25S	3.15S	U2.50S	2.55	J2.50S
10	F	F	3.15	F	F	F	2.95	3.35Z	U3.30S	2.95H	I2.85A	2.90	I2.90A	2.90	2.90	2.75	2.90	2.90	U3.00S	3.05S	I2.75S	2.75	2.60	I2.60A
11	2.70	2.60	2.60F	2.75F	2.65	2.70	2.95	3.25H	2.80	2.80	2.85	A	A	A	2.50S	2.55	2.75	2.95	2.90	J3.10S	2.40	2.50S	2.55	2.55S
12	I2.55S	2.65S	2.75	2.60	2.60	2.75	2.90	3.00H	2.85	2.90S	I2.80A	I2.50A	J2.65R	J2.60R	2.65	2.90	2.85	2.95	2.95	A	A	U2.55S	2.45S	J2.60S
13	2.50S	2.55	2.85S	2.75	2.65S	2.65	3.05	2.85	2.80	2.85	2.95R	J2.80R	2.90	I2.95A	3.00	2.75	2.85	2.95	2.95	J2.95S	I2.60S	I2.45S	I2.45S	J2.60S
14	2.50	I2.55S	J2.70S	I2.75S	2.75	2.75	3.05	3.10	3.10	3.05H	2.85	2.80	2.60S	2.60	2.60	2.75	2.75S	2.75S	J2.85S	J3.00S	2.85	J2.55S	2.40	2.60
15	2.75	2.55F	J2.70S	I2.80S	2.70	2.40	2.40	J2.70S	3.00H	J2.90S	3.25H	2.90	2.70	2.85	2.70S	2.80	2.85	2.75H	2.75	2.80	J2.65S	J2.55S	J2.55S	J2.55S
16	2.65	2.70F	J2.70S	2.85S	2.65	2.55	2.80	3.20	3.15	2.80H	2.75	2.75	2.75	2.75	2.80	2.75	2.70	2.75	J2.70SH	2.80S	I2.80S	2.65S	2.50	I2.50S
17	J2.50S	I2.40S	I2.30S	2.25S	2.50S	F	2.60S	3.15	2.95H	2.65H	2.95H	2.40	2.45	2.55	2.60	J2.65S	2.60	2.80	I2.80S	2.80	U2.65S	J2.45S	2.40S	2.45
18	2.55	2.50	2.75	2.40	I2.25A	F	3.15	3.35	C	2.75	2.80	2.75	J2.85S	2.65	2.80	2.65H	2.85	2.75S	2.80	2.80	2.70S	J2.55S	J2.35S	2.50S
19	I2.70S	I2.60S	2.70S	2.65	2.55	2.60	2.65	2.75	2.85H	2.40	2.40	2.70	2.85	2.75	2.65	U2.75S	J2.65S	J2.70S	3.00S	2.85	2.55	I2.35S	J2.45S	I2.60S
20	J2.50S	J2.50S	2.55	2.55	2.55	2.55	2.60S	2.95	3.15S	2.70	2.35	2.70	2.75	2.65	2.70	2.75	2.65	2.65	2.70S	2.85S	2.80	2.45S	2.55S	I2.55S
21	J2.65S	2.55	J2.50S	2.85	2.55	2.65	3.00	3.25	3.20S	3.00	2.70H	2.65	2.75	2.70	2.70	2.65	2.70	2.85	U2.80S	U2.80S	2.70	I2.60S	J2.55S	J2.70S
22	J2.65S	J2.55S	2.50	2.50	2.55	2.40S	2.70S	3.20S	3.20	2.75	2.60H	2.65	2.75	2.70	2.75	2.65	2.70	2.70	2.85	I2.90S	I2.80S	I2.65S	I2.60S	2.65
23	2.70	U2.70S	J2.70S	J2.85S	I2.70S	I3.05S	J3.45S	3.20	3.15	3.00	2.60H	2.75	2.85	2.70	2.70	2.80	2.75	2.70S	2.95S	I3.00S	J2.95S	2.70S	J2.65S	J2.75S
24	J2.80S	U2.75S	2.65	2.55	2.60	2.55	I2.85S	3.20S	3.25	3.00	2.65H	2.55H	2.70	2.70	2.80	2.80	2.80	S	S	J2.90S	2.90	I2.60S	I2.75S	I2.65S
25	2.65	F	2.65	I2.75S	2.65	I2.80S	3.35	3.40	3.10	3.25	3.00	2.70	2.75	2.80	2.80	2.85	2.75S	2.85	3.00	U3.05S	I3.05S	I2.95S	I2.80S	2.75
26	2.95	2.75	2.80	2.70	J2.75S	2.95	J3.15S	J3.45S	3.30	3.15H	2.95	2.90S	2.75	2.75	2.75	2.70	2.85	2.85H	2.90S	J3.00S	J2.90S	2.85	J2.80S	J2.70S
27	J2.85S	I2.90S	2.80	2.90	2.75	F	J3.05S	3.25	3.35	3.30H	2.75	2.75	2.85	2.60	2.70	2.80	2.75	2.90	J3.00S	J3.05S	J3.10S	J2.80S	J2.70S	I2.75S
28	I2.70S	2.70S	2.75	2.75	2.65F	2.70	3.25	I3.50S	3.30SH	3.25	2.80H	2.65	2.70	2.75	2.80	2.90	2.80	2.80	U2.80	3.05S	U2.90S	2.95	A	J3.00S
29	2.65	F	F	2.75	2.65F	2.85	J3.05S	J3.20S	3.30S	3.25	2.85	2.85	2.80	2.80	2.70	2.80	2.60	2.60S	3.05	U3.15S	2.75	2.50S	I2.50S	I2.55S
30	2.70	2.65	2.75	2.70	2.50	2.45	2.50	2.40	2.40	2.60	I2.75A	J2.40S	2.55	2.95	2.95S	U2.90S	2.90S	J2.95S	2.80	U3.00S	J3.00S	2.55S	I2.55S	2.50
31	2.55	2.75	2.95	3.15	I3.25A	2.50	2.75	3.30	3.35SH	C	2.55	J2.85S	3.05	3.00	2.75	3.00	3.00	3.05	I3.20S	3.25	2.85	2.60	2.70	2.55
No.	29	27	30	29	30	27	31	31	30	31	31	30	30	30	31	31	31	30	30	30	30	31	29	30
Median	2.65	2.70	2.75	2.75	2.65	2.70	3.00	3.20	3.15	2.90	2.80	2.75	2.75	2.70	2.75	2.80	2.85	2.85	2.95	3.00	2.80	2.60	2.55	2.60

(M3000)F2

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Aug. 1960 | (M3000)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	3.55^{L}	3.25	3.75	A	3.70	I3.60^{A}	A	A	I3.45^{A}	A	3.40	A					
2											L	4.00	I3.95^{A}	A	3.40	3.45	A^{H}	A	L					
3												3.60^{L}	3.60	3.35	A	3.40	3.40^{L}	A	L					
4									L	C	3.70	L^{H}	3.75	3.45	3.55	A	3.40^{H}	3.50^{L}	A					
5										3.60^{L}	A	A	3.95	A	A	A	A	A	A					
6										3.50	3.55^{L}	3.65	3.60	3.65	A	A	3.40	3.50^{L}	L					
7											3.55	A	3.80^{R}	A	3.60	A	3.40	I3.45^{L}	L					
8										L	3.55^{L}	3.70	3.50	3.50	I3.45^{B}	3.40^{L}	3.40	3.35	L					
9											3.80	A	3.35	3.40	3.85	3.50	3.35^{L}	L	L					
10											A	3.40	I3.75^{A}	3.50^{L}	3.45^{L}	3.25^{L}	3.25	3.35	L					
11									3.40	3.20	3.70	A	B	A	3.60	3.35	3.35	A	A					
12									3.75	A	A	A	A	3.40^{L}	3.20	3.35	A	L	A					
13									3.40	3.15	3.65^{L}	3.55	3.55	A	A	A	A	L						
14											L	3.20^{LH}	L	3.40	3.45^{L}	3.45	I3.30^{LH}	L						
15										3.80		3.55	3.40	3.75	3.25^{L}	3.30	L							
16											3.35^{L}	L^{H}	3.35^{L}	3.45	3.75	3.20^{L}	A	A						
17												3.55	3.65	A	3.15	3.25^{Z}	A	A	A					
18									C	L	3.30^{L}	I3.30^{L}	L	3.50^{L}	3.30^{LH}		L							
19											3.30	3.55	I3.45^{A}	3.40	3.25	3.45	3.20^{L}	L						
20											L^{H}	3.40^{L}	3.30	I3.30^{L}	L	I3.30^{L}	3.30^{L}	L						
21												3.40	A	A	A	A	L	A						
22												3.40	L	A	3.35	L	L	3.40^{L}						
23												L	3.45^{L}	3.40^{L}	I3.35^{L}	L	L	L						
24													3.60^{L}	L	A	3.35	A	L						
25												L	I3.50^{L}	L	3.55	3.35^{L}	I3.40^{L}	L	A					
26												L	I3.50^{L}	L	L	L	L							
27												3.60^{L}	3.65^{L}	L	3.30	L	L	L						
28												L	3.45	L	I3.25^{L}	3.40^{L}	L							
29												L	L	I3.55^{L}	I3.35^{L}	L	A	L						
30							3.05^{L}	3.15	A	A	A	A	3.45	A	A	3.40^{L}	L	A						
31										3.45	A	3.30	3.90	I3.55^{A}	I3.45^{A}	3.45	L							
No.							1	2	4	7	10	17	24	16	21	19	12	7						
Median							3.05	3.35	3.40	3.50	3.55	3.55	3.60	3.45	3.40	3.40	3.40	3.40						

(M3000)F1 Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

IONOSPHERIC DATA

Aug. 1960 | 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							305	290	G	575	555	405	510	z425A	z405A	390	380	330	A					
2											425	355	z375A	345	355	345	305	290	280					
3												350	355	360	360	335	320	300	290					
4									300	z318	350	345	395	420	380	345	300	290	290					
5										320	z385A	450	370	350	340	310	320	290	280					
6										325	300	410	390	355	350	320	300	300	300					
7											310	300	375	380	360	335	300	300	280					
8										295	315	345	340	330	340	330	330	315	280					
9											360	320	330	390	345	330	340	325	300					
10											A	365	z345B	340	335	395	350	310	290					
11									355	400	380	A	B	A	355	390	345	300	280					
12									340	z320A	z355A	z415A	380	405	400	350	350	305	300					
13									380	340	290	350	340	A	335	395	z360A	300						
14											330	385	360	390	345	355	350	290						
15										290		355	405	345	390	350	300L							
16											350	350	355	360	355	350	305	325						
17												490	445	390	390	370	400	390	340					
18									C	390	360	z340L	295	370	350		335							
19											360	375	350	380	400	360	350	315						
20											510	395	365	360	355	330	355	340						
21												370	340	340	345	355	340	290						
22												350	340	350	335	340	320	310						
23												330	330	340	340	320	325	310						
24													355	350	340	320	300	300						
25												330	335	335	330	310	300	300	270					
26												300	z340L	305	340	300	300							
27												340	305	z340L	350	300	300	295						
28												350	350	325	325	300	285							
29												300	340	290	335	310	330	345						
30							415	475	535	455	L430A	480	450	335	340	305	300	280						
31										G	405	370	335	325	360	310	290							
No.							2	2	6	12	18	29	30	29	31	30	31	26	13					
Median							360	380	370	330	360	350	350	350	350	335	320	300	290					

h'F2

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

The Radio Research Laboratories, Japan.

Y 9

55

IONOSPHERIC DATA

Aug. 1960 | h'F | 135° E Mean Time (G.M.T.+ 9h.) | Yamagawa | Lat. 31° 12.5' N, Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	340	330	320	360	350	305	I290A	250	I250A	240	I245A	220	I255A	A	A	I270A	I240A	245	I275A	285	300	340	310	305
2	300	325	290	250	270	310	255	240	240H	285H	260	205	I225A	I270A	255	270	I260AH	I250A	250	250	290	350	350	350
3	350	300	275	240	255	310	250	230	225	205	215	210	205	245	I245A	245	245	I265A	275	260	255	290	285	300
4	300	290	250	265	250	240	260	250H	240	I215C	220	200H	200	235	245	I245A	250H	255	I260A	255	285	305	310	300
5	280	325	295	285	280	290	270	290	275	240	I230A	I245A	205	I265A	A	A	A	I255A	I270A	270	260	260	290	310
6	295	270	270	270	300	300	250	240	210H	230	245	230	205	220	I250A	I250A	250	250	255	270	230	250	280	325
7	300	300	275	250	235	250	235	240	250	230H	255	I250A	230	I255A	250	I240A	240	245	255	I280A	250	250	255	290
8	300	295	260	290	305	285	255	230	230	220	250	200	250	250	I265B	245	245	E280A	265	250	255	240	280	310
9	340	295	300	300	310	300	300	I260AH	240	230	245	I270A	270	250	205	220	250	250	I255A	250	240	E330A	340	350
10	I330A	280	270	330	370	320	300	250	225	210H	I265A	260	I230A	260	230	240	230	250	265	250	E330A	310	E355A	I355A
11	340	335	360	325	305	325	255	245H	240	300	260	A	B	A	250	250	245	I270A	I275A	255	I320S	350	335	340
12	305	350	250	295	340	300	290	250H	245	A	A	A	I250A	240	E300A	245	I270A	275	A	A	I335A	380	320	320
13	345	380	260	260	310	345	290	250	240	270	250	255	250	A	A	A	A	A	260	285	350	380	365	330
14	345	350	300	255	290	300	270	250	240	220H	210	245H	230	245	220	260	240H	250	E295A	280	255	250	330	315
15	310	305	290	270	240	315	290	245	215H	230	210H	220	230	205	245	245	250	260H	290	285	295	330	300	305
16	320	310	310	280	275	300	260	250	235	225H	205	200H	220	240	220	250	E295A	A	275H	290	280	250	315	355
17	370	385	460	400	330	400	290	275	235H	255H	215H	E280A	205	I250A	245	255	A	A	A	300	280	290	350	330
18	345	I345A	300	375	I370A	I365A	275	250	I240C	245	240	250	250	240	220H	230H	255	270	280	290	310	325	380	340
19	300	345	310	300	320	305	290	260	250H	225	220	225	I255A	225	220	225	240	250	255	250	250	300	320	300
20	305	310	310	300	305	350	I340A	280	250	305	210H	215	220	225	240	250	240	250	275	280	225	340	340	310
21	345	320	350	280	300	320	280	240	230	240	240H	230	A	A	A	A	275	I275A	265	255	260	280	290	295
22	305	310	330	310	305	340	280	245	240	E340A	I300AH	A	A	A	250	275	270	240	270	250	250	I310A	290	290
23	290	300	290	275	290	250	230	230	225	235	210H	200	205	220	245	230	230	245	270	255	250	245	295	280
24	275	295	290	300	335	380	260	250	255	260	270H	275H	225	250	E300A	255	E280A	255	270	245	260	340	290	285
25	330	335	300	285	350	330	240	240	240	250	280	240	200	210	230	245	240	260	I260A	250	245	240	250	290
26	295	300	280	300	270	270	245	230	225	230H	250	230	230	290	I245A	230	260	250H	270	250	270	270	260	285
27	280	290	300	315	270	335	280	250	265	220H	220	200	200	205	230	245	240	240	260	250	240	260	290	280
28	355	350	300	280	340	305	245	230	205H	240	205H	220	260	275	275	270	260	245	250	255	240	260	I340A	295
29	E350A	380	335	305	295	260	280	250	240	250	260	E280A	260	260	I245A	B	A	E320A	265	230	220	320	340	325
30	295	290	300	330	400	370	325	280	A	A	A	I250A	270	A	A	250	I245A	I260A	E310S	250	230	300	A	400
31	400	330	290	255	A	E400A	305	255	255H	250	I255A	E300A	200	I265A	I240A	260	250	250	260	250	240	290	280	350
No.	30	31	31	31	30	30	31	31	30	28	29	25	28	25	24	27	25	26	27	30	30	31	29	31
Median	310	310	300	290	305	310	275	250	240	240	245	230	230	245	245	245	245	250	265	255	255	300	310	310

h'F | Sweep 1.0 Mc to 20.0 Mc in 30 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 10

56

IONOSPHERIC DATA

Aug. 1960 | 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	110	110	105	105	105	110	140	140	135	135	130	140	125	130	130	130	130	140	120	115	115	120	120	110
2	115	110	105	105	110	S	145	140	140	120	120	125	105	105	105	105	125	120	100	100	100	110	110	110
3	110	105	105	110	105	105	105	105	G	160	105	105	110	130	130	130	140	120	120	120	115	120	S	110
4	S	S	100	100	100	B	G	150	110	C	125	G	G	G	140	105	130	125	120	100	100	100	S	110
5	110	110	105	105	105	S	130	125	120	120	110	110	120	110	130	125	125	120	120	115	110	S	110	110
6	110	105	105	105	105	105	G	G	135	120	130	130	130	130	130	130	125	125	110	110	115	105	100	100
7	105	105	105	105	110	110	G	130	125	130	125	115	115	120	110	110	115	G	G	105	100	105	105	105
8	105	105	105	100	105	105	105	105	140	130	115	120	105	115	B	G	G	130	120	110	110	105	110	105
9	105	105	105	105	105	110	115	120	140	130	125	125	B	G	145	G	G	140	120	120	105	110	S	105
10	110	105	105	100	100	105	100	100	100	125	110	105	105	105	105	105	G	115	140	125	115	110	105	110
11	105	105	110	105	100	105	G	155	140	125	120	110	115	110	G	G	G	125	120	120	105	105	105	100
12	100	105	E	E	E	105	105	105	120	120	110	105	110	B	105	110	105	105	120	115	110	110	105	105
13	S	105	105	100	100	100	100	G	140	130	140	130	130	120	115	110	110	110	110	110	105	100	100	100
14	100	100	100	100	100	S	150	G	G	G	G	120	125	G	105	115	G	150	130	125	120	100	110	105
15	105	100	S	E	E	S	145	140	105	105	105	G	145	G	160	140	130	130	125	120	120	110	110	110
16	105	105	105	105	110	110	110	G	G	110	110	G	G	G	G	G	140	130	125	115	110	110	105	100
17	105	105	100	100	100	S	190	165	160	135	135	130	110	125	G	110	105	105	105	100	100	105	S	S
18	100	110	E	105	110	110	120	120	C	125	G	150	145	140	140	150	130	130	140	130	120	115	110	110
19	110	110	110	110	110	120	130	125	130	130	125	115	110	110	110	110	105	105	105	100	S	100	S	S
20	S	S	110	E	110	105	105	110	110	105	110	110	G	G	G	G	G	145	140	120	110	105	120	105
21	110	105	100	100	105	110	110	G	140	125	120	120	110	105	105	105	105	100	100	100	100	110	105	110
22	105	105	105	E	100	110	110	110	125	120	125	125	115	125	125	130	120	120	110	110	120	120	130	120
23	S	100	S	E	100	100	G	125	140	120	130	G	G	150	135	140	140	130	140	130	120	120	115	S
24	110	100	105	105	105	105	110	110	125	125	120	120	125	125	120	110	110	110	110	110	105	105	105	105
25	105	105	105	105	100	100	105	135	125	115	110	105	G	G	G	G	155	130	125	110	110	110	110	110
26	105	105	S	105	100	100	105	145	140	130	125	130	120	125	125	G	110	120	120	120	115	110	110	115
27	S	S	105	110	110	105	105	110	105	110	110	110	110	G	110	G	G	155	140	B	110	110	105	110
28	110	105	105	105	105	S	S	G	120	130	125	125	160	105	140	130	130	150	130	120	120	110	110	110
29	105	105	100	100	E	S	B	130	130	120	120	115	110	110	110	B	130	130	130	125	100	115	100	110
30	100	110	110	105	105	105	110	110	125	120	120	120	135	140	130	130	130	125	115	100	120	100	115	110
31	110	105	105	105	105	105	110	110	130	130	120	110	110	110	110	120	G	155	135	120	115	120	S	120
No.	26	28	26	26	28	23	24	25	27	29	29	27	25	22	25	22	23	30	30	30	30	30	25	28
Median	105	105	105	105	105	105	110	125	130	125	120	120	115	120	125	120	125	125	120	115	110	110	110	110

h'Es

Sweep 1.0 Mc to 200 Mc in 30 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 11

IONOSPHERIC DATA

Aug. 1960 | 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	f3	f4	f4	f5	f4	l2	h3	h	h2	h	h	h	h	h	h2	h2	h2	h	C4	C2	f2	f3	f	f8
2	f2	f2	f6	f5	f4		h2	h2	h	h2	h	h	l3	l2	l	l2	h,l	h2l4	l5	l2	f4	f3	f2	f2
3	f3	f2	f	f	f2	l2	l2	l		h	l	l	l	h	h2	h	h	h3	C3	C3	f	f2		f2
4			f	f2	f2			h	l		h,l				h	l h	h,l	h2l2	C2l2	l4	f5	f3		f2
5	f2	f3	f2	f2	f3		h3	h2	h4	h	h4	C3	h	h2	h2	h2	h2	h2	C3	C4	f2		f2	f2
6	f4	f3	f3	f3	f4	l4			h,l	h	h	h	h	h	h2	h	h	h2	C4	l3	f	f	f2	f5
7	f2	f2	f2	f2	f	l2		h2l	h2	h	h	h2	h3	h2	l2	l	l			l4	f4	f	f2	f4
8	f3	f	f2	f	f	l	l2	l	h	h	h2	h	l	l				h3	h4	C5	f4	f6	f4	f4
9	f3	f2	f2	f	f	l2	C3	h2	h	h	h	h3			h			h2	h3	C2	f3	ff2		f
10	f5	f2	f3	f3	f6	l	l2	l2	l2	h2	h3	l2	l3	l2	l	l2		l	h	l	f7	f5	f4	f3
11	f6	f5	f6	f7	f2	l3		h	h	h2	h2	h2	h2	h4				h3	h3l4	C5	f7	f3	f2	f2
12	f3	f5				l2	l2	l2	h,l2	h3	h4	l4	l2		l2	l	l3	l3	h,6l	C5	f4	f4	f2	f2
13		f3	f	f	f2	l2	l2		h	h2	h	h2	h	h3	h2	C3	C3	C2	C3	C4	f5	f3	f4	f4
14	f2	f2	f2	f3	f2		h2					l	l		l2	l		h2	h2	C2	f4	f2	f3	f2
15	f2	f					h	h	l	l h	l		h,l		h	h	h	h	C2	C2	f2	f4	f2	f2
16	f3	f3	f2	f2	f	l2	l3			l	l						h	h3	h3	C3	f5	f2	f4	f3
17	f6	f6	f8	f3	f2		h2	h	h	h	h2l	h2l	l	h2		l	l3	l4	l6	l4	f3	f2		
18	f3	f5f5		f3	f4	l6	l2	h3		h		h	h	h	h	h	h	h,l	h2	h2	C5	f4	f,7	f3	f2f3
19	f2	f5	f7	f6	f4	l2	h3	h	h2	h	h	h	C2	l	l	l	l	l2	l3h2	l2		f3		
20			f2		f	l6	l2	l3	l3	l3	l	l						h,l	h,l	h2	f3	f4	f2	f2
21	f3	f2	f2	f	f4	l2	l2		h	h	h	h	C2	l2	l3	l3	l2	l4	l6	l6	f2	f4	f2	f2
22	f2	f2	f		f	l	l2	l	h	h2	h	h2	h2	h3	h	h2	h2	h2	l3	l3	f7	f2f2	f5f	f2
23		f2			f2	l		C	h	h	h			h	h	h	h	h	h	h2	f	f4	f2	
24	f2	f	f2	f	f2	l8	l	l3	h,l2	h,l	h2l	h2l2	h	h	h2	l	l2	l2	l4	l3	f4	f4	f4	f2
25	f3	f7	f4	f3	f4	l2	l	h2	h2	h,l	l3	l2					h	h2	h3	C4	f2	f4	f2	f3
26	f3	f3		f4	f	l3	l	h	h	h,l	h	h,l	h	h2	h2		l	l2	l4	l7	f4	f4	f2	f
27			f6	f3	f2	l3	l5	l3	l3	l2	l2	l2	l		l			h	h2		f2	f4	f2	f
28	f4	f3	f2	f	f				h2	h	h,l	h,l	h2	l	h	h2	h	h	h3	l5	f3	f3	f3	f4
29	f5	f5	f4	f				h2	h3	h2	h2	l	l2	l3	l3		h3l	h3	h3	Cl2	f2	f4	f	f2
30	f	f2	f3	f4	f3	l4	l2	l2h	h3l2	h3	h3	h2	h	h	h	h2	h	h2	C2l2	l2	f2	f2f2	f9	f5
31	f3	f6	f3	f3	f5	l5	l4	l	h	h2	h2	l2	l	l2	l3	h2		h	h2	l7	f3	f2		f4
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

SOLAR RADIO EMISSION 200 Mc/s

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

HIRAISO

Time in U.T.

Aug. 1960	Steady Flux					Variability				
	00-03	03-06	06-09	21-24	Day	00-03	03-06	06-09	21-24	Day
1	9	10	9	-	9	1	1	1	-	1
2	8	9	9	(8)	9	0	0	-	(-)	0
3	8	8	(8)	-	8	0	0	(0)	-	0
4	9	8	8	-	8	0	1	-	-	0
5	7	10	9	-	8	1	0	0	-	0
6	8	9	9	(8)	8	1	1	1	(-)	1
7	10	9	10	-	10	1	1	1	-	1
8	9	7	8	(14)	8	1	1	1	(-)	1
9	(16)	9	9	-	10	(-)	1	1	-	1
10	11	9	-	-	10	0	1	-	-	1
11	9	20	24	-	17	1	1	1	-	1
12	11	13	16	(12)	13	0	1	1	(-)	1
13	12	16	21	33	16	1	1	1	2	1
14	24	63	30	30	38	1	2	2	1	2
15	27	45	37	(24)	35	1	2	2	(-)	2
16	26	32	33	58	30	2	1	2	2	2
17	86	96	82	(11)	83	2	2	2	(1)	2
18	13	12	22	-	14	1	1	2	-	1
19	12	9	9	(9)	10	0	1	1	(-)	1
20	9	9	7	(11)	9	0	0	0	(0)	0
21	11	9	7	-	10	0	0	0	-	0
22	9	9	9	-	9	0	0	1	-	0
23	8	7	9	(9)	8	0	0	0	(0)	0
24	9	8	7	-	9	0	0	0	-	0
25	10	9	8	-	9	0	0	0	-	0
26	9	7	9	-	8	0	0	0	-	0
27	7	7	7	-	7	1	0	0	-	0
28	8	8	9	-	8	0	0	0	-	0
29	8	8	8	-	8	0	0	0	-	0
30	9	8	8	-	8	0	0	0	-	0
31	13	20	16	-	17	1	1	1	-	1

Outstanding Occurrences

Aug. 1960	Start-time	Dura-tion	Type	Max. Inst.	Int. Smd.	Max. Time	Remarks
7	0724.9	3.5	F/3	>1600	-	0726.3	off scale
7	2156.5	1.0	CD/4	1800	90	2156.9	
11	0249.5	4.5	CD/4	1600	100	0251.2	
13	0115.7	2.5	F/3	>1600	-	0117.6	off scale
14	0517.0	15	CD/8	>2000	400	-	off scale
15	0523.5	5.5	CD/4	>2200	140	0524.6	off scale
18	0153.7	2	CD/4	2200	140	0154.2	

RADIO PROPAGATION QUALITY FIGURES

HIRAISO

Time in U.T.

Aug. 1960	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	3o	2 1 (3)	5 4 3 2	3 3 (3) 3	3 3 3 2	U U U U			
2	3o	2 2 (3)	2 C 3 2	3 2 2 2	(2 2) 2 3	U N N N			
3	2+	1 1 (3)	2 2 3 2	3 3 2 1	1 1 1 (2)	N N N N			
4	2+	2 3 3	1 2 1 2	2 3 3 1	1 1 1 (2)	N N N N			
5	1+	1 1 1	2 1 1 1	1 2 2 2	1 1 (2 2)	N N N N			
6	1+	1 2 1	1 1 1 1	2 2 2 1	2 1 1 2	N N N N			
7	2o	3 2 2	2 2 1 1	2 2 2 1	2 1 3 1	N N N N			
8	2+	1 2 3	1 1 2 3	1 (3) 3 3	2 1 1 1	N N N N			
[9]	3+	3 3 4	4 4 3 3	4 3 3 3	2 1 3 1	N N N N			
[10]	3o	1 3 4	3 3 4 3	2 (2) 3 3	1 1 3 2	N N N N			
[11]	3o	3 3 -	3 3 3 3	3 3 3 3	2 2 2 3	N N N N			
12	3o	3 3 (3)	3 3 4 3	2 1 2 3	2 1 1 2	N N N N			
13	3o	2 3 2	4 2 3 1	(3) 3 3 3	2 2 1 1	U U U U			
14	3o	1 3 -	2 2 3 4	4 2 (3) 3	3 2 1 1	U N N N			
15	3-	2 2 2	1 3 3 3	3 3 2 1	2 2 2 2	N N N N			
16*	3-	1 2 3	(3 2) 3 4	1 (1) 2 4	2 1 2 2	N N N U	1409	---	
17*	4-	3 3 3	4 4 4 4	3 3 4 4	2 3 3 3	U U U U	---	---	
18*	3+	2 2 2	4 4 4 3	4 2 3 3	3 2 2 3	U U U U	---	1800	175γ
19	3-	1 2 2	3 3 2 3	2 2 2 2	2 2 2 2	N N N N	1616	---	
20	3o	2 3 3	4 2 1 (2)	2 2 2 3	2 1 1 2	N N N N	---	---	
21	3o	2 3 (4)	2 2 2 2	3 1 3 3	3 1 1 2	N N N N	---	---	
22	2-	1 1 1	2 1 1 1	2 3 3 2	2 (2 2) 2	N N N N	---	0600	122γ
23	2-	1 1 (3)	1 1 1 1	3 3 (2) 1	3 (2 2) 3	N N N N			
24	1+	1 1 2	1 1 1 1	1 2 2 1	(3 3) 2 2	N N N N			
25	1o	1 1 1	1 1 1 1	2 1 2 1	2 1 1 1	N N N N			
26	1+	1 1 1	1 1 1 1	2 2 2 2	(1) 1 1 1	N N N N			
27	2o	1 2 2	1 3 1 1	2 3 3 3	1 2 2 2	N N N N			
28	2+	2 2 1	1 1 2 1	4 3 (3) 2	2 (2) 2 1	N N N N			
29	3o	2 2 -	1 3 3 4	3 3 3 (4)	2 3 3 3	U U U U	0022	---	
30	4-	3 3 (4)	4 4 4 4	4 4 4 4	2 3 3 3	U U U U	---	2100	206γ
31	3+	3 3 4	4 4 4 3	3 3 2 3	2 3 3 3	U U N N			

* = day of Special World Interval
( ) = inaccurate
[ ] = Regular World Day
--- = continuing magnetic storm

SUDDEN IONOSPHERIC DISTURBANCES

(S.I.D.)

HIRAISO

Time in U.T.

Aug. 1960	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										
7	-	20		14½		04.45	30	Slow	1+						
7	-	-	7	-	30	07.27	50	S	3					x	
11	-	-	-	-	-	02.02	120	G	2					x	
14	-	40	-	22	20	05.17	35	S	3-				x		
30		20				00.18	14	S	1+						

IONOSPHERIC DATA IN JAPAN FOR AUGUST 1960
電 波 観 測 報 告　第12巻 第8号

1960年11月10日 印　刷
1960年11月15日 発　行　（不許複製非売品）

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 国分寺 1211—1214

印 刷 所　山内欧文社印刷株式会社
東京都豊島区日ノ出町2の228
電 話 (971) 9341