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IONOSPHERIC DATA IN JAPAN

FOR MARCH 1958

Vol. 10 No. 3

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Prepared by

THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

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CONTENTS

SITES OF THE RADIO WAVE OBSERVATORIES

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

	Latitude	Longitude	Site
Wakkanai	45°23.6′N.	141°41.1′E.	Wakkanai-shi, Hokkaido
Akita	39°43.5′N.	140°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 tne $F2$, $F1$ 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 normal 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 blow.

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 extraodinary 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 determind 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 thick 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*, at 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

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

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

d. Multiple Reflections from E_s

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

B. SOLAR RADIO EMISSION

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

a. Daily Data

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

Variability Variability is expressed in four grades as follows:

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

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

b. Outstanding occurrences

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

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

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

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

S : simple rise and fall of intensity
C : complex variation of intensity
A : appears to be part of general activity
D : distinct from (i.e. apparently superposed upon) the general activity
M : multiple peaks separated by relatively long period of

quietness

F : multiple peaks separated by relatively short period of quietness

E : sudden commencement or rise of activity

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

Maximum intensity

Instantaneous: The highest value above the base level.

Smoothed: By multiplying the duration, the approximate total power of the phenomenon can 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 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 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 prepared from the field intensities of 6 circuits received at Hiraiso, and are given in the tabulated form.

Circuits and intensities

WS.....WWV 20, 15 and 10 Mc (Washington, D.C.)
SF.....WNA-27 7.6550 Mc; WND-20 10.4925 Mc
WNC-93 13.7525 Mc; WNC-37 17.4200 Mc (San Francisco)
HA.....WWVH 15 and 10 Mc (Hawaii)
TO..... JJY 15 and 10 Mc (Tokyo)
MN.....DZM-28 14.5850 Mc (Manila)
LN.....GIJ-37 14.6702 Mc (London)

Drop-out Intensities (in db) are tabulated for each circuit arranged above. *Start-time, Duration, Type* and *Importance* given in the table are determined from the data of a circuit (underlined) that secured the event with the highest confidence.

Types

S–SWF:	sudden drop-out and gradual recovery
Slow S–SWF:	slow drop-out taking 5 to 15 minutes and gradual recovery
G–SWF:	gradual disturbance; fade irregular in both drop out and recovery

Importances

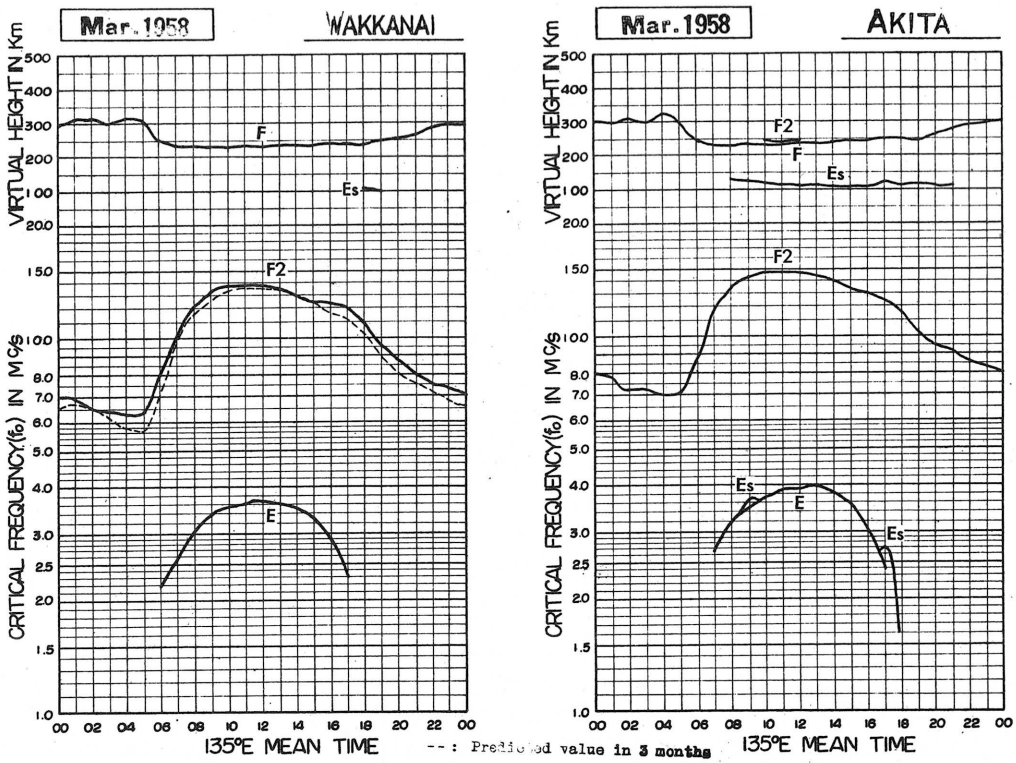
Degrees of SWF are derived from the *Drop-out Intensity* of the underlined circuit with some statistical consideration and classified in 9 grades from 1– (slight) to 3+ (very great) as follows:

1–	2–	3–
1	2	3
1+	2+	3+

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

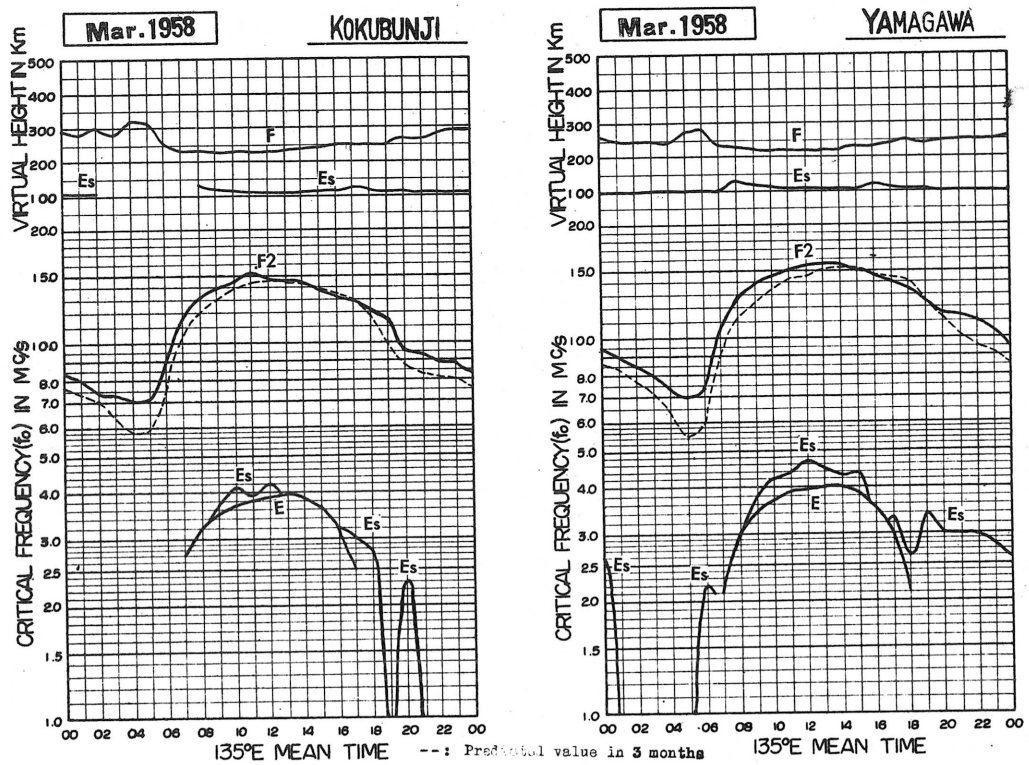
Besides, the time associated phenomena of SID's, that is, solar flare, solar radio noise outburst and crochet (solar flare effect in magnetic record) are given in this table from interchange messages or measurements at Hiraiso.

IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS



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

IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS



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

IONOSPHERIC DATA

Mar. 1958 | 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	5.9	6.3	6.3	6.3	6.0	7.5	9.2	12.0	J 14.0 R	14.7	14.3	14.0 H	I 14.0 B	J 13.5 R	12.8	12.3	12.0	9.9	8.5	8.0	7.5	6.7	6.3
2	6.3	6.3	6.4	6.2	5.8	5.5	6.5	10.1	12.8	U 15.5 R	U 15.3 R	J 14.8 R	J 15.0 R	14.3	J 14.2 R	13.5 H	12.8	12.5	11.5	10.0	9.1	U 7.8 S	6.8	6.5
3	6.7	6.1	6.1	6.0	5.8	5.8	7.4	10.8	12.5	J 14.1 RH	14.7	I 14.4 R	I 14.3 R	J 13.8 RH	J 13.8 R	13.0	12.8	12.0	11.0	U 9.5 S	J 8.3 S	7.4	7.0	7.0
4	7.0	7.0	6.0	6.4	5.3	5.0	6.2	10.0	13.3	13.5	14.0	J 14.8 RH	14.7	J 14.2 RH	J 14.3 RH	14.0 H	13.3	12.1	11.7	9.5	U 8.0 S	U 7.8 S	7.0	6.8
5	6.1	5.8	5.5	5.3	5.5	5.7	7.0	J 10.8 R	12.1	14.0 H	J 15.3 R	J 15.0 RH	J 15.0 RH	J 14.0 R	13.3 H	12.8	12.6	10.8	10.8	9.5	8.8	8.8	7.8	7.4
6	7.8	7.3	6.8	6.8	6.8	6.8	8.3	10.9	12.8	J 14.3 R	J 14.3 RH	15.0 H	J 14.3 RH	14.2 H	13.8 H	14.0	13.4	12.5	11.2	10.2	U 9.8 S	8.9	7.5	7.0
7	7.0	6.9	6.6	6.5	6.8	6.5	8.0	11.1	J 14.3 R	15.3	J 15.5 RH	15.0	14.7	14.5 H	14.0 H	13.8	13.8	12.8	12.0	9.2	8.0	8.0	7.6	7.3
8	7.0	6.8	6.8	6.5	6.5	6.2	8.0	10.3	13.5	14.7 H	I 14.4 H	J 14.5 RH	14.3	14.3 H	J 14.3 RH	J 14.2 R	13.3	12.5	10.8	9.8	8.8	8.7	7.8	7.5
9	7.5	7.2	7.4	7.3	7.0	6.7	8.3	11.6	C	C	C	C	C	C	J 13.8 RH	13.0 H	12.8	12.0	12.5	10.5	8.8	7.8	7.0	7.3
10	7.3	6.2	6.5	6.7	6.8	6.6	8.7	12.0	14.7	15.0 H	I 14.8 R	J 14.3 R	13.8 H	13.3 H	13.2 H	12.8	12.7	12.3	11.3	U 10.0 S	9.3	8.6	7.8	8.0
11	U 7.8 S	7.7	6.5	6.4	6.2	6.2	7.9	11.8	J 13.7 R	U 12.8 RH	J 13.8 R	J 14.0 R	J 13.7 R	13.0	12.5 H	11.8	11.4	11.0	10.2	9.1	8.7	U 8.3 S	7.3	7.0
12	7.1	6.9	6.3	6.0	5.3	5.5	6.8	9.3	10.6	I 12.2 C	13.5	13.3 H	13.0	12.5 H	12.5 H	12.4	11.7	11.5	10.0	9.3	U 8.3 S	S	S	S
13	7.1	7.5	6.8 F	5.8 F	I 6.2 F	6.3 F	6.8	9.7	10.3 H	10.7 H	12.1	12.5 H	12.3	12.0 H	11.5 H	11.6 H	11.3	10.6	9.6	7.7	6.7	6.3	6.3	6.3
14	5.7 H	6.0	6.2	5.2	5.3	5.3	6.8	10.3	11.5 H	12.8 H	13.5 H	12.8 H	12.8 H	12.5	12.0 H	11.1	10.8	10.3	9.5	8.9	8.0	7.4	6.5	5.8
15	5.3	5.4	4.5	4.5	4.8	4.7	5.9	8.7	10.2	11.9	12.1 H	12.3	12.5 H	12.3 H	11.5 H	11.3 H	11.2	11.0	10.8	9.3	7.7	6.9	6.0	6.3
16	5.8	6.0	5.7	5.1	5.0	5.0	6.0	7.5	9.2	10.6 H	11.7 H	12.1 H	12.1 H	12.2	11.8 H	11.8	11.5	11.6	10.2	9.1	9.7	9.5	8.0	7.5
17	7.3	7.1	7.3	7.0	6.7	7.1	9.0	11.0	12.2	13.5 H	13.8	J 13.8 RH	13.8 H	13.5 H	13.2 H	12.8	12.3	12.3	11.6	9.8	9.5	9.1	8.3	8.0
18	7.2	7.5	7.7	7.5	7.0	7.4	9.1	9.9	11.8	12.1	12.8 H	13.3 H	13.3 H	13.5 H	12.8 H	12.8	12.3	11.7	11.0	10.3	8.8	7.4	7.5	7.3
19	7.0	6.5	6.2	6.2	6.2	6.3	6.8	8.5	9.0	10.3 H	12.0 H	C	C	C	C	C	C	C	C	8.6	U 8.0 S	I 7.8 S	7.3	7.3
20	6.8	6.9	6.1	6.0	6.0	6.9	U 8.5 S	10.0	12.8	13.5	13.8 H	J 13.8 RH	13.7 H	13.5 H	13.0 H	12.8	12.3	12.5	11.3	9.3	8.7	7.5	7.1	7.3
21	7.0	6.5	6.5	6.2	5.9	5.9	7.3	9.3	11.1	I 12.2 C	13.2	I 13.3 R	12.8 H	12.4 H	12.6 H	12.5	12.4	11.7	10.8	9.2	8.5	7.6	7.6	7.6
22	7.1	6.0	5.8	5.8	6.0 F	6.6 F	7.3	8.0	9.0	10.7 H	11.8	11.8 H	12.2 H	13.0 H	12.8 H	12.0 H	11.3	10.8	10.3	9.3	9.3	8.3	7.5	7.3
23	6.8	6.8	7.0	6.6	6.3	6.4	7.8	9.4	J 11.3 R	I 13.0 R	13.5 H	13.3 H	13.4 H	13.3 H	12.8	12.3	12.0	11.5	10.8	9.7	9.3	8.3	7.8	8.3
24	7.7	7.5	7.5	7.1	7.3	7.5	9.6	10.6	I 12.2 R	12.7 H	13.3 H	13.9 H	J 13.8 RH	U 13.5 R	12.8 H	12.1 H	12.0	12.0	11.3	9.6	9.0	7.9	7.3	7.8
25	8.7	7.5	7.3	6.7	6.6	6.8	8.5	9.8	I 10.5 R	J 11.6 RH	12.8 H	12.7 H	13.0 H	12.1 H	12.7	12.0 H	11.3	10.7	10.3	9.7	8.6	7.8	7.3	7.1
26	6.8	6.6	6.2	5.8	6.0	6.8	9.0	9.7	10.8 H	12.7 H	J 13.8 RH	13.3 H	13.3 H	13.0 H	C	C	C	C	10.7	9.3	9.0	C	C	C
27	C	6.6	6.6	6.8	7.2	C	C	C	C	C	C	C	J 14.3 RH	14.1 H	13.3 H	12.5 H	12.4	12.1	11.5	9.8	8.6	8.5	U 8.6 S	8.8
28	8.7	8.3	7.8	7.5	7.4	7.6	9.8	12.0	13.7	J 14.3 R	14.0	J 14.0 RH	J 13.8 RH	13.1 H	13.0 H	12.6 H	12.4	12.2	11.5	9.7	9.4	9.2	9.1	9.0
29	8.5	8.3	8.0	7.5	7.1	7.5	10.0	12.7 H	J 13.8 R	J 14.0 RH	J 13.8 RH	14.3 H	14.0 H	13.5 H	13.3 H	12.5 H	12.2	12.3	12.0	10.3	9.5	9.4	9.3	9.0
30	8.7	8.5	8.3	7.8	7.5	7.8	10.8	12.8	13.8	13.8	13.8 H	J 13.7 RH	13.8 H	13.8 H	13.3 H	12.5	12.2	12.0	11.5	10.0	9.2	9.1	9.1	7.5
31	7.5	7.5	7.6	7.2	7.2	8.3	10.3	12.1	12.8 H	I 13.3 C	13.4 H	13.5 H	13.4 H	13.0 H	12.7 H	12.1 H	11.5 H	11.6	11.3	9.5	9.0	U 8.8 S	8.7	U 8.3 S
No.	30	31	31	31	31	30	30	30	29	29	29	28	29	29	29	29	29	29	30	31	31	29	29	29
Median	7.0	6.9	6.5	6.4	6.3	6.4	8.0	10.2	12.2	13.3	13.8	13.8	13.8	13.5	13.0	12.5	12.3	12.0	11.0	9.5	8.8	8.0	7.5	7.3
U.Q.	7.5	7.5	7.3	7.0	7.0	6.9	9.0	11.1	13.4	14.0	14.4	14.4	14.3	14.0	13.6	12.9	12.8	12.3	11.5	9.8	9.3	8.8	7.9	7.9
L.Q.	6.8	6.2	6.2	6.0	5.8	5.8	6.8	9.4	10.7	12.2	13.0	13.3	13.0	12.8	12.6	12.0	11.5	11.2	10.3	9.2	8.3	7.6	7.0	7.0
Q.R.	1.3	1.3	1.1	1.0	1.2	1.1	2.2	1.7	2.7	1.8	1.4	1.1	1.3	1.2	1.0	0.9	1.3	1.1	0.8	0.6	1.0	1.2	0.9	0.9

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

Mar. 1958 | 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														B										
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9										C	C	C	C	C										
10																								
11																								
12										C														
13																								
14																								
15																								
16																								
17																								
18																								
19												C	C	C	C	C	C	C						
20																								
21										C														
22																								
23																								
24																								
25									L															
26															C	C	C	C						
27																								
28																								
29																								
30																								
31										C														
No.																								
Median																								

foF1

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

The Radio Research Laboratories, Japan.

W2

IONOSPHERIC DATA

Mar. 1958 | 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								2.30	2.90	3.25	3.55	3.70	3.65	I 3.65 B	3.60	3.20	2.75	S						
2								2.30	3.00	3.25	3.50	3.60	3.65	3.60	3.50	3.05	2.60	2.00						
3								2.30	2.90	3.30	3.50	3.60	3.55	3.55	3.45	3.10	2.75	2.00						
4								2.30	3.00	3.30	3.50	3.55	3.50	3.45	3.45	3.15	2.75	A						
5								2.45	3.00	3.35	3.50	3.60	3.65	3.50	3.35	3.10	2.75	S						
6								2.40	2.95	3.25	3.50	3.60	3.65	3.55	3.50	3.10	2.80	2.10						
7								2.40	2.90	3.10	3.50	3.60	3.65	3.65	3.50	3.15	2.70	2.00						
8								2.50	3.00	2.95	3.50	3.60	3.55	3.60	3.55	3.30	3.10	S						
9								2.50	3.00	C	C	C	C	C	3.50	3.25	2.90	2.15						
10								2.40	3.20 H	3.45	3.55	I 3.60 A	3.65	3.55	3.50	3.30 H	2.90	2.20						
11								2.55	3.05	3.40	3.55	3.60	3.70	3.60	3.55	3.40	2.90	A						
12								2.40	2.90	I 3.10 C	3.55	3.70	3.65	3.60	3.55	3.25	2.75	2.20						
13								2.55	3.15	3.50	A	A	A	A	3.60	3.50	2.75	2.25						
14								2.45	2.90	3.35	3.25	3.50	3.60	3.60	3.50	3.40	2.75	2.30						
15								2.60	3.00	3.50 H	3.60	3.65	3.60	3.50	3.50	3.30	2.80	2.25						
16								2.50	3.10	3.50	3.55	3.60	3.60	3.55	3.50	3.25	2.90	2.25						
17								2.60	3.05	3.40	3.55	3.60	3.65	3.55	3.50	3.35	2.70	2.25						
18								2.40	3.00	3.35	3.50	3.55	3.65	3.70	3.55	3.35	2.70	2.20						
19							2.00	2.50	3.10	3.50 H	3.50	C	C	C	C	C	C	C						
20							2.30	2.80	3.05	3.50	3.55	3.60	3.50	3.50	3.50	3.25 H	2.90	2.45						
21							2.30	2.75	3.15	I 3.35 C	3.55 H	3.60	I 3.60 A	3.55	3.50	3.40 H	3.00	2.35						
22							2.10	2.70	3.20	3.35	3.45	3.55	I 3.60 B	3.55	3.55	3.40	3.00	2.50						
23							2.10 H	2.70	3.10	I 3.30 S	3.60	3.80	3.85	3.70	3.55	3.50	2.95	2.40						
24							2.15	2.80	3.25	I 3.30 A	3.60	3.75	3.90	3.80	3.60	3.50	3.05	2.40						
25							2.20 H	2.75 H	3.25	3.50	3.55	3.60	I 3.55 A	3.60	3.65	3.55	3.10 H	2.45						
26							2.25 H	2.80	3.20	U 3.50 C	3.50	3.55	3.80	3.90	C	C	C	C						
27							2.20	2.90	3.40	3.50	3.65	3.70	3.90	3.90	3.70	3.60	3.10	2.45 H						
28							2.20	3.05	3.40	3.55	3.60	3.70	3.85	3.60	3.50	3.50	3.05	2.45						
29							2.60 H	3.00	3.40	3.55	3.60	3.70	4.00	U 3.80 R	3.65	3.55	3.20	2.65						
30							2.30	3.00	3.30	3.60	U 3.70 R	4.10	4.00	4.00	3.80	3.60	3.20	2.60						
31							2.55	3.00	3.45	I 3.75 C	I 3.75 S	4.00	I 4.00 R	U 3.80 R	3.65	3.55	3.30	2.60						
No.							13	31	31	30	29	28	28	28	29	29	29	24						
Median							2.20	2.55	3.05	3.40	3.55	3.60	3.65	3.60	3.50	3.35	2.90	2.30						

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

Mar. 1958 | foEs | 135° E Mean Time (G.M.T.+ 9h.) | Wakkanai | Lat. 45° 23.6' N | Long. 141° 41.1' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	G	G	G	G	G	G	B	G	G	G	S	E	E	E	E	E	E
2	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
3	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	2.9M	3.0M	E	E	E	E
4	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	3.5M	3.5M	E	E	E	E	E
5	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	S	E	E	E	E	E	E
6	E	E	E	E	E	E	3.5M	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
7	E	E	E	E	E	E	E	G	G	3.7	G	G	G	G	G	G	G	G	E	E	E	E	E	2.5M
8	E	E	2.1M	E	E	2.4M	E	G	G	G	G	G	G	G	G	G	G	S	E	E	E	E	E	E
9	E	E	E	E	E	E	E	G	G	C	C	C	C	C	G	G	G	G	2.5M	2.5M	4.0M	E	E	E
10	E	E	2.4M	E	2.4M	E	E	G	G	G	G	7.0	G	2.3G	G	G	G	G	E	4.0M	4.3M	5.0M	3.5M	4.2M
11	E	E	E	E	E	E	E	5.6M	G	G	G	G	G	G	G	G	G	3.2M	3.5M	E	E	E	E	E
12	E	E	2.5M	2.4M	3.0M	E	E	2.7	G	C	G	G	G	G	G	G	G	G	E	E	E	E	E	E
13	E	E	2.6M	2.6M	E	E	E	G	G	G	4.4M	5.0M	7.4M	6.8M	G	G	G	G	2.8M	2.9M	E	2.9M	E	E
14	E	E	2.4M	1.3	1.2	E	S	G	5.3M	6.9M	3.9M	G	G	G	G	G	G	G	3.5M	3.5M	3.0M	2.9M	E	E
15	3.0M	3.5M	3.5M	2.5M	4.2M	3.0M	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
16	E	E	E	3.0M	E	E	E	G	G	G	G	G	G	G	G	G	4.3M	3.5M	E	E	E	E	E	E
17	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
18	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
19	E	E	E	E	E	E	G	G	G	4.2	4.2	C	C	C	C	C	C	C	C	E	E	E	E	E
20	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
21	E	E	E	E	E	E	G	G	3.5	C	G	G	5.0M	G	G	G	G	G	E	3.0M	E	3.0M	E	E
22	E	E	2.4M	2.2M	E	E	G	3.1	3.6	3.7	5.1M	G	B	G	G	G	G	3.5M	3.5M	2.4M	E	E	E	E
23	E	E	E	E	E	2.4M	G	G	G	S	G	G	G	G	G	G	G	3.0	3.5M	2.8M	2.5M	E	E	E
24	E	E	E	E	E	E	G	G	G	5.3M	G	G	G	G	G	G	G	G	E	E	E	E	E	E
25	E	4.0M	E	E	E	E	G	G	3.5	G	4.3	4.6	5.7M	G	G	G	G	G	2.0	E	2.7M	3.2M	2.1M	2.8M
26	2.9M	3.5M	3.1M	2.9M	3.4M	E	G	G	3.5	4.1	4.1	6.7M	G	G	C	C	C	C	3.1M	3.0M	E	E	E	E
27	E	E	E	E	E	E	G	G	G	G	G	6.0M	6.2M	G	G	G	G	G	2.4	4.0M	2.2	E	E	E
28	E	E	E	E	E	E	G	G	G	G	4.1	G	G	G	G	G	G	G	2.5M	2.4M	E	E	E	E
29	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	E	E	3.0M	E	E	E
30	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	E	3.0M	E	E	E	E
31	E	E	3.1M	2.4M	2.4M	E	G	G	G	C	S	G	G	G	G	7.0M	3.5	3.1	2.1	2.7M	E	E	E	E
No.	31	31	31	31	31	31	30	31	31	26	29	29	28	28	29	29	29	26	30	31	31	31	31	31
Median	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
U.Q.	E	E	2.4	1.3	E	E	G	G	G	G	G	G	G	G	G	G	G	G	2.8	2.9	E	E	E	E
L.Q.	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
Q.R.																								

foEs

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

The Radio Research Laboratories, Japan.

W 4

IONOSPHERIC DATA

Mar. 1958 | 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														B				S						
2																								
3																			E	E				
4																		2.6	E					
5																		S						
6							E																	
7										G														E
8			E			E												S						
9										C	C	C	C	C					E	E	3.2			
10			E		E							3.8		2.3						3.0	E	2.5	2.4	E
11								G										2.2	E					
12			E	E	E			G		C														
13			E	E							3.8	3.9	6.7	3.8					E	E		E		
14			E	E	E		S		3.8	6.3	3.8								2.5	2.5	E	E		
15	E	2.6	E	E	E	E																		
16				E													2.1	G						
17																								
18																								
19										+0	G	C	C	C	C	C	C	C	C					
20																								
21									G	C			+0							E		2.0		
22			E	E				G	G	G	4.2		B					2.0	E	E				
23						E				S								2.1	2.0	E	E			
24										3.8														
25		E							G		G	4.6	4.0						E		E	E	E	E
26	E	E	E	E	E				G	G	G	6.0			C	C	C	C	E	E				
27												5.5	G						2.2	2.7	2.1			
28											4.0								2.2	E				
29																					E			
30																				E				
31			E	E	E					C	S					G	G	G	E	2.0				
No.	2	3	9	8	6	3	1	3	5	6	7	5	4	2		1	2	6	13	13	7	5	2	3
Median	E	E	E	E	E	E	E	G	G	G	3.8	4.6	4.0	3.0		G	G	2.0	E	E	E	E	E	E

f_bE_s

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

The Radio Research Laboratories, Japan.

W 5

IONOSPHERIC DATA

Mar. 1958 | 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	1.60	E 1.60 S	E 1.10 S	E 1.20 S	E	E 1.55 S	1.70	1.70	1.70	1.80	2.05	E 2.50 S	E 1.90 S	B	E 2.65 S	E 2.05 S	E 1.85 S	E 2.05 S	1.65	1.60	1.75	E 1.80 S	1.65	1.75
2	1.55	E 1.25 S	E	E	E	E 1.40 S	1.80	1.60	1.75	1.80	1.80	1.75	E 2.00 S	E 2.00 S	E 1.90 S	1.90	1.80	E 1.80 S	1.60	1.60	E 1.70 S	1.65	E 1.70 S	1.60
3	1.55	E 1.20 S	E	E	1.10	1.50	1.70	E 1.80 S	1.80	E 1.80 S	2.00	E 1.80 S	2.00	2.20	E 2.00 S	1.75	1.75	1.80	1.60	E 1.75 S	E 1.75 S	E 1.75 S	E 1.75 S	1.65
4	1.55	E 1.20 S	E	E	E	1.60	1.80	E 1.70 S	E 1.85 S	E 2.00 S	E 2.00 S	2.10	2.35	E 2.00 S	E 2.00 S	E 1.90 S	1.75	E 1.75 S	1.60	1.60	E 1.65 S	E 1.65 S	E 1.60 S	E 1.80 S
5	1.55	E 1.30 S	E	E	E	1.55	1.70	E 1.80 S	E 1.80 S	1.75	1.75	2.30	E 2.05 S	2.05	1.75	E 2.00 S	1.70	E 2.00 S	1.60	1.65	1.75	E 1.69 S	E 1.70 S	E 1.75 S
6	1.60	E 1.20 S	E	E	E	1.55	E 1.80 S	1.75	1.70	E 2.00 S	2.35	E 2.05 S	E 2.00 S	E 2.00 S	2.40	E 2.00 S	E 1.80 S	E 1.70 S	E 1.70 S	E 1.70 S	E 1.65 S	E 1.70 S	1.60	E 1.75 S
7	E 1.60 S	E 1.20 S	E	E	E	E 1.50 S	E 1.70 S	E 1.75 S	1.70	1.80	E 2.00 S	E 2.00 S	E 2.00 S	E 2.00 S	E 2.00 S	1.85	1.80	1.70	1.70	1.60	1.60	E 1.60 S	E 1.75 S	E 1.70 S
8	1.55	E 1.20 S	E	E	E	1.55	1.70	1.75	1.75	1.70	E 2.00 S	E 2.00 S	E 2.00 S	2.45	E 2.00 S	E 2.00 S	1.75	1.80	1.80	E 1.70 S	E 1.60 S	E 1.75 S	E 1.65 S	1.80
9	1.55	E 1.25 S	1.25	E	E	1.55	1.70	1.80	E 1.75 S	C	C	C	C	C	E 2.00 S	E 2.00 S	E 2.10 S	1.75	E 1.70 S	E 1.60 S	E 1.60 S	E 1.65 S	E 1.75 S	E 1.80 S
10	1.55	E 1.20 S	E	E	E	1.60	1.70	1.70	1.80	E 2.00 S	E 2.00 S	2.40	2.50	E 1.80 S	2.10	E 2.00 S	E 2.00 S	1.75	1.75	1.65	E 1.65 S	E 1.75 S	E 2.00 S	E 1.80 S
11	1.60	E 1.35 S	1.15	E	E	1.50	E 2.00 S	E 1.65 S	E 1.80 S	E 2.00 S	2.40	2.45	2.50	2.45	2.35	E 2.00 S	E 2.00 S	E 2.00 S	E 1.65 S	E 1.75 S	E 1.80 S	E 2.00 S	E 2.00 S	E 1.75 S
12	1.65	E 1.20 S	E	E	E	E 1.50 S	E 2.00 S	E 2.00 S	E 2.00 S	C	E 2.35 S	2.50	2.40	2.40	2.40	E 2.00 S	E 1.80 S	E 1.80 S	E 1.75 S	E 1.70 S	E 2.00 S	E 1.80 S	E 1.75 S	E 1.80 S
13	1.65	E 1.20 S	E	E	E	1.55	E 2.00 S	E 1.80 S	E 1.80 S	E 2.00 S	E 2.00 S	E 2.35 S	E 2.00 S	E 2.00 S	E 2.00 S	E 2.00 S	E 1.80 S	E 1.80 S	E 1.75 S	E 1.70 S	E 2.00 S	E 1.80 S	E 1.75 S	E 1.80 S
14	1.55	E 1.25 S	1.10	E	E	1.50	E 2.10 S	E 1.70 S	E 2.00 S	E 2.00 S	2.40	E 2.35 S	2.40	2.40	E 2.00 S	E 2.00 S	E 2.00 S	E 1.80 S	E 1.80 S	E 2.00 S	E 1.80 S	E 1.75 S	E 2.00 S	E 2.00 S
15	1.60	E 1.25 S	E	E	E	1.55	E 2.00 S	E 1.75 S	E 2.00 S	E 2.00 S	E 2.05 S	2.05	E 2.00 S	E 2.00 S	E 2.00 S	E 2.00 S	E 1.80 S	E 1.80 S	1.85	1.80	E 1.75 S	E 1.70 S	E 1.65 S	E 2.00 S
16	1.60	E 1.40 S	E 1.25 S	E	1.15	1.55	E 2.00 S	E 1.80 S	E 2.00 S	E 2.00 S	E 2.00 S	E 2.00 S	2.35	2.40	2.40	E 2.00 S	E 1.70 S	E 2.00 S	E 1.80 S	E 1.80 S	E 2.00 S	E 1.75 S	E 1.75 S	E 1.70 S
17	1.55	E 1.25 S	E 1.20 S	E	E	1.60	E 2.10 S	E 1.70 S	E 2.00 S	E 2.00 S	E 2.00 S	E 2.00 S	2.45	2.40	2.40	E 2.00 S	2.00	E 1.80 S	E 1.80 S	1.70	E 2.00 S	E 2.00 S	E 1.80 S	E 2.00 S
18	1.65	E 1.40 S	E	E	E	E 1.60 S	E 2.00 S	E 2.00 S	E 2.00 S	E 2.00 S	E 2.00 S	E 2.00 S	E 2.35 S	E 2.45 S	E 2.00 S	E 2.00 S	E 2.00 S	E 1.75 S	E 2.00 S	E 1.80 S	1.60	1.65	E 2.00 S	E 1.90 S
19	1.55	E 1.20 S	E	E	E	1.50	E 1.75 S	E 2.00 S	E 2.00 S	E 2.00 S	2.35	C	C	C	C	C	C	C	C	1.70	1.70	1.75	1.70	1.75
20	1.60	E 1.25 S	E	E	1.10	1.55	1.65	1.70	1.80	1.80	E 2.00 S	2.40	2.40	2.05	2.50	2.20	2.40	1.75	1.75	1.70	1.75	1.70	1.60	1.70
21	1.60	E 1.30 S	E	E	E	1.55	1.80	1.75	1.90	C	2.40	2.45	2.45	2.40	2.00	2.00	2.00	1.80	1.85	1.65	1.60	1.75	1.75	1.65
22	1.60	E 1.20 S	E	E	E	1.55	1.70	1.75	1.80	1.80	2.40	2.35	4.10	2.20	2.05	1.80	1.80	1.75	1.80	1.70	1.75	1.70	1.75	1.75
23	1.55	E 1.20 S	E	E	E	1.55	1.70	1.70	1.80	F 3.90 S	2.10	2.40	2.40	2.05	E 2.00 S	1.80	1.80	1.65	1.65	E 2.00 S	1.70	1.70	1.70	1.70
24	1.60	E 1.20 S	E	E	E	1.50	1.75	1.75	E 2.00 S	2.05	2.40	2.45	2.65	3.10	2.35	2.35	1.80	1.75	1.70	1.60	1.75	1.75	1.75	1.70
25	1.55	E 1.20 S	E	E	E	1.55	1.75	1.90	E 2.00 S	2.40	2.45	2.45	E 2.40 S	E 2.40 S	E 2.40 S	2.40	1.80	1.75	1.60	1.70	1.60	1.75	E 2.00 S	1.60
26	1.65	E 1.20 S	E	E	E	1.55	1.70	1.75	E 2.00 S	E 3.50 C	E 2.40 S	2.40	2.50	2.40	C	C	C	C	E 2.00 S	1.75	1.75	1.75	1.80	1.75
27	E 1.60 C	E 1.55 C	E 1.60 C	E 1.50 C	E 1.20 C	E 1.60 C	E 1.80 C	E 2.10 C	E 2.00 C	E 2.40 C	E 3.00 C	E 2.60 C	E 2.60	E 2.40 S	E 2.40 S	E 2.60 S	E 2.40 S	E 2.00 S	E 1.70 S	1.75	1.75	1.70	E 1.85 S	E 1.80 S
28	1.55	E 1.25 S	E 1.60 S	E 1.70 S	E 1.20 S	E 1.55 S	E 1.80 S	E 2.00 S	E 2.00 S	2.45	2.40	E 2.50 S	2.55	2.60	E 2.40 S	2.00	E 2.40 S	E 2.00 S	E 2.00 S	E 2.00 S	1.80	E 2.00 S	1.90	E 1.90 S
29	1.65	1.25	1.15	E	1.15	E 1.80 S	E 1.80 S	E 2.00 S	E 2.40 S	E 2.40 S	E 2.40 S	2.60	2.50	E 2.45 S	E 2.45 S	E 2.40 S	E 2.40 S	E 2.00 S	E 2.00 S	1.70	1.65	1.75	1.75	1.75
30	1.60	E 1.25 S	E	E	E 1.20 S	1.60	E 1.80 S	2.00	2.50	2.50	3.10	3.00	2.80	2.70	2.75	E 2.40 S	E 2.00 S	E 2.00 S	1.75	1.75	1.65	1.75	1.75	1.75
31	1.55	E 1.20 S	E	E	E	1.60	1.80	E 2.00 S	E 2.00 S	C	E 4.70 S	2.50	2.85	2.50	2.45	E 2.40 S	E 2.40 S	E 2.00 S	1.70	1.70	1.80	1.75	1.75	1.75
No.	29	31	26	28	28	28	31	31	31	27	30	26	28	26	29	29	29	29	21	24	23	31	31	31
Median	1.55	E 1.25	E	E	E	1.55	E 1.80	E 1.75	E 1.90	E 2.00	E 2.20	2.35	2.40	2.40	E 2.10	E 2.00	E 1.80	E 1.80	1.70	1.70	1.70	E 1.75	E 1.75	E 1.75

f-min

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

The Radio Research Laboratories, Japan.

W 6

IONOSPHERIC DATA

Mar. 1958 | (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	2.40	2.45	2.55	2.55	2.60	2.55	3.00	3.05	3.00	J 3.10 R	3.05	2.95	2.90 H	I 2.90 B	J 2.90 R	2.90	2.80	2.90	2.85	2.85	2.85	2.85	2.65	2.65
2	2.45	2.50	2.70	2.80	2.75	2.70	2.85	3.10	3.20	V 3.10 R	V 2.95 R	J 3.00 R	J 2.95 R	2.90	J 2.90 R	2.90 H	2.95	2.90	2.85	2.90	2.90	V 2.95 S	2.80	2.55
3	2.60	2.65	2.55	2.60	2.55	2.60	2.90	3.15	3.10	J 3.00 RH	3.00	I 3.05 R	I 3.00 R	J 2.95 RH	J 2.90 R	2.95	3.00	2.90	2.90	V 2.80 S	J 2.90 S	2.90	2.50	2.60
4	2.60	2.75	2.40	2.65	2.45	2.40	2.75	2.95	3.05	2.95	2.90	J 2.90 RH	2.80	J 2.85 RH	J 2.80 RH	2.90 H	2.90	2.85	2.80	2.85	V 2.70 S	V 2.70 S	2.55	2.45
5	2.45	2.30	2.30	2.30	2.35	2.35	2.75	J 3.15 R	2.95	3.05 H	J 3.05 R	J 2.95 RH	J 2.95 RH	J 2.95 R	2.90 H	2.90	2.85	2.75	2.70	2.75	2.60	2.65	2.75	2.65
6	2.50	2.70	2.40	2.40	2.45	2.60	2.95	2.95	3.10	J 3.00 R	J 2.95 RH	2.85 H	J 2.95 RH	2.85 H	2.75 H	2.85	2.85	2.80	2.70	2.75	V 2.75 S	2.70	2.55	2.50
7	2.45	2.45	2.30	2.35	2.45	2.35	2.75	3.05	J 3.05 R	3.05	J 2.95 RH	2.95	2.85	2.80 H	2.70	2.80	2.80	2.85	2.80	2.80	2.70	2.65	2.65	2.45
8	2.40	2.40	2.50	2.45	2.40	2.55	2.90	3.00	3.05	3.05 H	I 3.00 R	J 2.90 RH	2.85	2.80 H	J 2.75 RH	J 2.80 R	2.85	2.90	2.75	2.75	2.70	2.65	2.70	2.65
9	2.55	2.60	2.60	2.60	2.60	2.70	2.90	3.00	C	C	C	C	C	C	J 2.75 RH	2.80 H	2.85	2.80	2.85	2.90	2.80	2.80	2.45	2.50
10	2.60	2.35	2.30	2.45	2.55	2.60	2.75	2.95	3.00	3.10 H	I 2.95 R	J 2.85 R	2.80 H	2.80 H	2.75 H	2.80	2.80	2.80	2.80	V 2.80 S	2.75	2.65	2.60	2.60
11	V 2.60 S	2.65	2.45	2.35	2.30	2.30	2.80	2.95	J 3.15 R	U 3.10 RH	J 2.90 R	J 2.90 R	J 2.85 R	2.80	2.70 H	2.75	2.75	2.75	2.80	2.75	2.70	V 2.70 S	2.45	2.35
12	2.35	2.35	2.30	2.35	2.30	2.40	2.80	2.95	2.85	I 2.90 C	2.85	2.80 H	2.80	2.70 H	2.60 H	2.65	2.60	2.80	2.60	2.65	V 2.65 S	S	S	S
13	2.40	2.50	2.50 F	2.15 F	I 2.20 F	2.25 F	2.25	2.55	2.85 H	2.50 H	2.65	2.85 H	2.80	2.75 H	2.60 H	2.65 H	2.70	2.85	2.75	2.70	2.40	2.25	2.25	2.35
14	2.20 H	2.20	2.35	2.20	2.35	2.45	2.60	2.70	2.75 H	2.65 H	2.90 H	2.75 H	2.80 H	2.75	2.75 H	2.75	2.80	2.85	2.80	2.75	2.80	2.85	2.75	2.60
15	2.25	2.35	2.05	2.05	2.20	2.30	2.60	2.80	2.85	2.85	2.85 H	2.80	2.75 H	2.70 H	2.70 H	2.65 H	2.65	2.70	2.75	2.80	2.70	2.45	2.35	2.20
16	2.20	2.20	2.35	2.20	2.25	2.35	2.80	2.95	2.95	2.85 H	2.75 H	2.85 H	2.75 H	2.85	2.75 H	2.70	2.80	2.85	2.80	2.65	2.70	2.85	2.80	2.80
17	2.70	2.60	2.50	2.50	2.40	2.55	3.00	3.20	3.05	3.00 H	2.90	J 2.90 RH	2.85 H	2.80 H	2.80 H	2.75	2.80	2.85	2.75	2.75	2.70	2.55	2.60	2.55
18	2.30	2.40	2.50	2.65	2.30	2.50	2.90	2.90	2.90	2.90	2.90 H	2.90 H	2.85 H	2.95 H	2.80 H	2.80	2.80	2.80	2.75	2.80	2.75	2.70	2.65	2.50
19	2.45	2.40	2.25	2.25	2.25	2.40	2.80	2.95	2.90	2.65 H	2.85 H	C	C	C	C	C	C	C	C	2.75	V 2.65 S	I 2.50 S	2.40	2.35
20	2.30	2.35	2.20	2.30	2.35	2.50	V 3.00 S	3.05	3.00	2.90	2.95 H	J 2.95 RH	2.80 H	2.75 H	2.75 H	2.80	2.90	2.95	2.85	2.70	2.65	2.65	2.55	2.55
21	2.35	2.25	2.30	2.40	2.40	2.45	2.85	3.05	2.80	I 2.90 C	2.95	I 3.00 R	2.80 H	2.80 H	2.80 H	2.80	2.80	2.80	2.85	2.70	2.80	2.65	2.65	2.65
22	2.55	2.30	2.25	2.25	2.35 F	2.40 F	2.80	2.90	2.90	2.80 H	2.85	2.90 H	2.75 H	2.80 H	2.80 H	2.75 H	2.75	2.85	2.80	2.75	2.80	2.80	2.70	2.65
23	2.45	2.30	2.45	2.55	2.55	2.55	2.95	3.00	J 2.95 R	I 3.00 R	3.00 H	2.80 H	2.85 H	2.85 H	2.75	2.70	2.75	2.80	2.70	2.70	2.70	2.65	2.35	2.45
24	2.45	2.40	2.50	2.40	2.35	2.50	2.85	2.85	I 3.00 R	2.90 H	2.85 H	2.85 H	J 2.80 RH	U 2.75 R	2.70 H	2.65 H	2.75	2.75	2.75	2.75	2.70	2.60	2.50	2.50
25	2.60	2.50	2.45	2.25	2.20	2.35	2.90	2.95	I 2.80 R	J 2.95 RH	2.90 H	2.70 H	2.75 H	2.65 H	2.70	2.70 H	2.70	2.75	2.75	2.75	2.75	2.70	2.45	2.40
26	2.30	2.40	2.30	2.25	2.25	2.40	3.05	3.15	2.75 H	2.85 H	J 2.95 RH	2.90 H	2.75 H	2.70 H	C	C	C	C	2.90	2.80	2.75	C	C	C
27	C	2.60	2.30	2.40	2.60	C	C	C	C	C	C	C	J 2.80 RH	2.80 H	2.75 H	2.65 H	2.75	2.80	2.50	2.85	2.75	2.60	V 2.65 S	2.60
28	2.65	2.70	2.70	2.65	2.65	2.60	3.00	2.95	3.00	J 2.95 R	2.85	J 2.80 RH	J 2.70 RH	2.75 H	2.75 H	2.75 H	2.75	2.75	2.85	2.85	2.75	2.70	2.70	2.65
29	2.70	2.70	2.70	2.55	2.50	2.45	3.00	3.00 H	J 2.95 R	J 3.00 RH	J 2.85 RH	2.75 H	2.75 H	2.75 H	2.85 H	2.70 H	2.75	2.90	2.90	2.85	2.85	2.70	2.80	2.70
30	2.65	2.70	2.75	2.75	2.55	2.70	3.00	3.15	3.05	2.95	2.75 H	J 2.80 RH	2.75 H	2.60 H	2.70 H	2.65	2.70	2.75	2.85	2.85	2.65	2.65	2.75	2.50
31	2.35	2.40	2.50	2.40	2.40	2.55	2.80	2.95	2.85 H	I 2.85 L	2.85 H	2.70 H	2.75 H	2.65 H	2.65 H	2.65 H	2.60 H	2.65	2.75	2.75	2.65	V 2.45 S	2.45	V 2.55 S
No.	30	31	31	31	31	30	30	30	29	29	29	28	29	29	29	29	29	29	30	31	31	29	29	29
Median	2.45	2.40	2.45	2.40	2.40	2.50	2.85	2.95	2.95	2.95	2.90	2.90	2.80	2.80	2.75	2.75	2.80	2.80	2.80	2.75	2.70	2.65	2.60	2.55

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

The Radio Research Laboratories, Japan.

W 7

IONOSPHERIC DATA

Mar. 1958 | (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														B										
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9										C	C	C	C	C										
10																								
11																								
12										C														
13																								
14																								
15																								
16																								
17																								
18																								
19												C	C	C	C	C	C	C						
20																								
21										C														
22																								
23																								
24																								
25									L															
26															C	C	C	C						
27																								
28																								
29																								
30																								
31										C														
No.																								
Median																								

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

The Radio Research Laboratories, Japan.

W 8

IONOSPHERIC DATA

Mar. 1958 | 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														B										
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9										C	C	C	C	C										
10																								
11																								
12										C														
13																								
14																								
15																								
16																								
17																								
18																								
19												C	C	C	C	C	C	C						
20																								
21										C														
22																								
23																								
24																								
25									L															
26															C	C	C	C						
27																								
28																								
29																								
30																								
31										C														
No.																								
Median																								

h'F2

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

The Radio Research Laboratories, Japan.

W 9

IONOSPHERIC DATA

Mar. 1958 | 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	295	340	300	290	265	295	240	220	225	240	240	240	230H	I245B	250	240	240	240	220	230	250	255	270	295
2	315	310	275	255	260	260	250	240	235	230	235	235	240	230	240	240H	240	240	220	240	220	235	250	275
3	290	270	290	290	295	300	260	230	225	220H	225	230	230H	240H	245	240	245	240	235	240	250	250	295	295
4	290	235	290	290	295	305	275	240	235	240	240	240H	230	240H	240H	235H	240	235	235	225	250	265	275	315
5	320	305	325	355	245	240	290	245	220	220H	230	230H	225H	230	225H	235	250	240	260	260	260	265	240	250
6	275	250	285	300	310	290	235	210	230	240	235H	240H	235H	240H	230H	240	230	235	235	245	250	240	260	275
7	310	300	310	310	305	310	260	240	240	230	225H	230	235	235H	235H	240	240	240	220	240	250	285	290	315
8	300	310	300	295	305	300	240	225	230	230H	225H	230H	240	240H	240H	235	240	245	210	250	250	270	275	260
9	275	290	275	260	250	255	230	230	235	C	C	C	C	C	235H	230H	245	250	240	225	250	250	290	290
10	275	285	330	310	280	270	260	235	230	225H	220H	240	235H	240H	240H	240	245	245	245	265	255	290	285	290
11	265	260	260	305	345	360	260	240	240	235H	225	235	240	235	245H	240	245	240	240	250	250	255	300	340
12	350	320	320	350	390	345	250	235	225	I230C	235	240H	245	245H	240H	245	250	250	260	250	275	275	275	275
13	330	275	250	260	350	390	335	260	260H	235H	235	235H	E275A	235H	240H	240H	250	235	240	260	250	375	325	320
14	290H	375	275	225	360	325	310	260	240H	260H	220H	260H	240H	230	245H	235	245	245	250	265	250	255	260	300
15	400	395A	430	400	380	350	285	250	245	240	230H	235	240H	225H	245H	240H	250	250	250	240	235	300	360	405
16	395	395	325	340	370	335	265	235	245	235H	230H	235H	220H	240	240H	240	245	245	230	285	285	250	250	255
17	270	280	300	295	320	310	245	225	220	230H	230	225H	220H	235H	235H	240	245	265	235	275	250	260	265	300
18	320	340	310	265	270	305	225	235	240	235	215H	220H	230H	235H	240H	240	245	240	245	245	250	250	300	280
19	315	310	355	350	360	335	260	250	235	235H	230H	C	C	C	C	C	C	C	C	230	280	290	320	345
20	370	340	350	345	325	370	235	240	245	235	230H	235H	235H	235H	230H	240	245	250	235	240	270	280	285	310
21	340	345	340	330	300	305	260	260	240	I230C	225	230H	235H	230H	240H	245	245	235	240	260	260	270	280	270
22	280	355	360	385	370	340	270	250	250	230H	250	235H	245H	245H	240H	230H	240	245	245	270	260	245	265	280
23	315	350	310	280	270	285	245	235	245	235	230H	235H	230H	220H	235	240	235	245	255	245	280	260	320	320
24	280	315	310	280	320	320	265	245	245	240H	235H	240H	235H	250	235H	245H	245	260	240	245	265	280	310	340
25	290	275	310	310	360	345	270	235	230	225H	235H	240H	230H	240H	250	240H	245	260	260	265	250	260	290	335
26	315	335	345	390	375	330	240	245	230H	230H	240H	250H	230H	245H	C	C	C	C	250	260	270	275	280	315
27	290	315	355	370	315	265	240	230	245	245H	240H	260H	240H	245H	245H	250H	250	260	250	260	265	270	290	295
28	295	280	290	280	270	300	240	230	240	240	240	240H	240H	240H	245H	245H	250	260	245	260	270	275	290	290
29	280	295	290	285	310	350	245	240H	245	240H	240H	210H	245H	240H	245H	245H	250	260	260	250	260	260	275	280
30	290	290	280	270	300	335	245	240	245	240	240H	240H	245H	250H	250H	250	250	260	260	255	275	300	300	335
31	375	370	330	310	355	300	245	245	245H	I245C	240H	250H	240H	245H	250H	250H	255H	270	260	260	280	310	335	335
No.	31	31	31	31	31	31	31	31	31	30	30	29	28	29	29	29	29	29	30	31	31	31	31	31
Median	295	310	310	300	310	305	250	240	240	235	230	235	235	240	240	240	245	245	240	250	255	265	285	295

h'F

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

The Radio Research Laboratories, Japan.

W 10

IONOSPHERIC DATA

Mar. 1958 | h'Es | 135° E Mean Time (G.M.T.+ 9h.) | Wakkanai | Lat. 45° 23.6' N | Long. 141° 41.1' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	G	G	G	G	G	G	B	G	G	G	S	E	E	E	E	E	E
2	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
3	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	100	100	E	E	E	E
4	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	115	110	E	E	E	E	E
5	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	S	E	E	E	E	E	E
6	E	E	E	E	E	E	105	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
7	E	E	E	E	E	E	E	G	G	110	G	G	G	G	G	G	G	G	E	E	E	E	E	105
8	E	E	105	E	E	105	E	G	G	G	G	G	G	G	G	G	G	S	E	E	E	E	E	E
9	E	E	E	E	E	E	E	G	G	C	C	C	C	C	G	G	G	G	115	115	110	E	E	E
10	E	E	105	E	100	E	E	G	G	G	G	105	G	100	G	G	G	G	E	110	110	105	100	120
11	E	E	E	E	E	E	E	100	G	G	G	G	G	G	G	G	G	105	105	E	E	E	E	E
12	E	E	105	105	105	E	E	125	G	C	G	G	G	G	G	G	G	G	E	E	E	E	E	E
13	E	E	100	100	E	E	E	G	G	G	110	105	105	105	G	G	G	G	120	120	E	110	E	E
14	E	E	110	170	140	E	S	G	110	110	110	G	G	G	G	G	G	G	100	100	100	110	E	E
15	105	100	100	100	100	100	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
16	E	E	E	110	E	E	E	G	G	G	G	G	G	G	G	G	100	100	E	E	E	E	E	E
17	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
18	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
19	E	E	E	E	E	E	G	G	G	120	115	C	C	C	C	C	C	C	C	E	E	E	E	E
20	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
21	E	E	E	E	E	E	G	G	130	C	G	G	105	G	G	G	G	G	E	115	E	115	E	E
22	E	E	110	110	E	E	G	150	130	120	115	G	B	G	G	G	G	100	100	100	E	E	E	E
23	E	E	E	E	E	110	G	G	G	S	G	G	G	G	G	G	G	100	100	100	100	E	E	E
24	E	E	E	E	E	E	G	G	G	115	G	G	G	G	G	G	G	G	E	E	E	E	E	E
25	E	120	E	E	E	E	G	G	150	G	125	115	110	G	G	G	G	G	135	E	125	115	100	115
26	110	110	110	110	110	E	G	G	135	125	120	110	G	G	C	C	C	C	100	100	E	E	E	E
27	E	E	E	E	E	E	G	G	G	G	G	110	110	G	G	G	G	G	135	110	110	E	E	E
28	E	E	E	E	E	E	G	G	G	G	120	G	G	G	G	G	G	G	100	100	E	E	E	E
29	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	110	E	E	E
30	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	E	100	E	E	E	E
31	E	E	105	105	110	E	G	G	G	C	S	G	G	G	G	105	150	140	130	115	E	E	E	E
No.	2	3	9	8	6	3	1	3	5	6	7	5	4	2		1	2	6	13	13	7	5	2	3
Median	110	110	105	110	110	105	105	125	130	120	115	110	110	100		105	125	100	105	100	110	110	100	115

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

The Radio Research Laboratories, Japan.

W 11

IONOSPHERIC DATA

Mar. 1958 | 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																								
2																								
3																			f	f				
4																		l	f					
5																								
6							f																	
7										c														f
8			f			f																		
9																			f	f	f			
10			f		f							l		l						f	f	f	f	f
11								l										l	f					
12			f	f	f			c																
13			f	f							l	l	l	l					f	f		f		
14			f	a	f				c	c	c								f	f	f	f		
15	f	f	f	f	f	f																		
16				f													l	c						
17																								
18																								
19										c	c													
20																								
21									h				l							f		f		
22			f	f				h	h	c	c							l	f	f				
23						f												l	f	f	f			
24										l														
25		f							h		h	c	a						f		f	f	f	f
26	f	f	f	f	f2				h	h	c	c							f	f				
27												c	c						f	f	f			
28											c								f	f				
29																					f			
30																				f				
31			f	f	f											l	h	h	f	f				
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.

W 12

IONOSPHERIC DATA

Mar. 1958 | 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	7.0	6.5	6.8	6.8	6.7	6.4	8.0	J10.5S	12.2	13.9	14.8	15.1H	15.0	14.2	13.5H	13.3	12.6	12.0	J10.9S	J9.8S	8.6	7.9	7.3S	7.1S
2	6.9S	6.9	7.2S	7.0	6.1	5.7	6.9	10.9	13.5	15.2	15.3	15.7	15.2	15.0	14.5H	13.9	13.3	12.4	11.8	10.5	10.0S	8.0	7.1	6.9
3	7.2	6.8	6.5	6.5	6.1	6.1	7.8	11.7	13.2	14.0	14.9H	14.8	14.6H	14.0	13.8H	13.3H	13.0	12.1	11.0	9.3S	9.1	8.4	7.4S	7.5S
4	7.7S	8.3	6.4	6.8	5.9	6.0	6.7	10.3S	13.6	14.4	15.4H	J15.9R	15.7H	15.0H	15.0H	14.0	13.8	12.6	11.9	10.3S	8.9	9.2	8.5	8.0
5	7.5S	7.2S	7.1	6.9	6.9	7.0	8.5	12.3	14.4	14.8H	16.8	16.4	16.4	15.1	14.2H	13.5	13.2	12.0	11.2	10.7	9.5	9.3	8.7	8.2
6	8.0	7.9	7.0	7.0	6.9	7.4	8.6	11.8	13.4	14.0	C	C	J15.4R	15.0HI	14.6CI	14.6C	14.3	13.1	11.9	11.0S	J10.3S	9.7S	8.6	8.6
7	8.0	7.8S	7.2	7.3	7.5S	7.5S	9.1	12.1	14.8	15.6	15.3H	J15.2R	15.6H	15.1H	14.7H	14.3H	14.4	13.1	12.2	10.2S	9.2S	9.2S	9.1	8.3
8	8.1	7.8	7.8	7.5S	7.3	7.2	9.1	12.1	13.9	15.5	J15.7R	15.2	15.6	J15.7R	15.1	15.0	14.3	13.4	12.5	10.4S	10.0S	9.3S	9.0	8.6
9	8.4	7.9	7.8	7.5	7.0	7.0	8.8	11.4	13.9	14.3H	14.8H	15.1H	14.8H	14.3H	14.6H	14.0H	13.6	13.3	13.1	11.4	9.7S	8.7	8.0	8.3S
10	8.1S	7.1	6.9	7.2	7.3	7.0	8.7	11.9	14.1	14.9	C	C	15.0H	14.6H	14.1H	13.8H	13.5	I12.9C	12.0	11.0	J10.2S	9.7	9.0	8.9
11	8.8	7.9	7.0	7.0	6.8	6.8	9.3	13.1	14.6	14.3	14.8H	14.8H	14.8	13.7H	13.1H	12.4	12.0	11.7	11.0S	9.7S	9.5S	9.0	8.1S	7.9
12	7.9	7.8	7.2	6.9	6.4	6.7	8.1S	J10.5S	12.7H	14.5	14.9	14.4	14.5	13.4	13.0H	13.0	12.4	12.1	10.7	10.1S	9.1	9.1	8.7	8.9
13	8.1	8.6	7.9	6.6H	6.7VS	6.3	6.7H	11.4	14.2	14.2	J15.3R	J15.1R	14.5H	13.5H	13.0H	12.4H	12.3	12.0	10.5S	8.8	8.0	7.0	7.6S	7.8S
14	7.1S	6.9	7.1	6.5	6.5	6.7	8.5	12.1	14.5	14.7H	16.0H	15.8H	15.0H	14.3H	13.2H	12.3H	11.8	11.6	10.6	9.3	9.1S	8.6S	J7.6S	6.7
15	•6.1	6.4	5.3	5.2	5.7	5.8	6.8	10.4	12.5	13.5	14.1	13.9	14.0	14.0H	12.9H	12.0	11.9	11.9	11.3S	9.5	8.5	7.3	7.4	7.1
16	7.0	6.9	6.7	6.0	5.9	5.9	6.9	9.2	10.7	12.0	13.0H	13.8H	13.8H	13.5H	13.2	12.7	12.2	12.2	11.6	9.7S	I10.0S	10.2	9.3S	8.6
17	8.3	7.9	7.6F	7.7F	7.4S	7.6S	9.6	12.4	12.8	13.6	14.5	15.1	14.8	14.5	14.0H	13.6	13.3	13.1	12.4	J10.7S	J10.4S	9.7	9.2	9.0
18	8.0	8.2	8.4	8.3	7.4	7.7	10.5	11.1	13.4	14.1	14.1	14.9H	14.9H	14.8H	14.6H	14.0H	13.4	12.8	11.4	11.1S	9.4S	8.6	8.5	8.5S
19	7.7S	7.3	6.9	6.6	6.8	6.9	8.7	J10.2S	11.9	J11.8R	12.9H	14.1	14.0	13.9H	13.5	13.5	13.1	12.5	11.1	9.4	8.5	8.9	8.7	8.4
20	8.1	8.2	7.1	7.4	7.4	8.1	9.7	11.2	14.0	14.7	15.6H	14.6H	15.0H	14.8H	14.4H	13.7H	13.2	13.1	12.3	9.4S	9.1	8.6	8.3	8.2
21	7.8	7.4S	7.5	7.2	7.1	6.9	8.5	10.8	13.3	14.9	14.6	14.5	13.9	14.2H	14.0	13.4	13.2	12.8	11.5	9.5	9.3	8.8	8.3	8.6
22	8.3	7.1	7.0F	6.9F	7.1F	7.2	8.4	10.0	11.8	13.1	14.4H	15.1H	14.5H	14.4	14.6H	13.4H	12.7	12.1	11.5	10.0S	9.6S	9.2	8.5	8.2
23	7.6S	7.4	7.6	7.6S	6.9	6.9VF	8.9	11.3	12.3	13.8	14.7H	14.7H	14.7H	14.4H	13.9H	13.3H	12.9	12.4	11.9	10.3	9.3	9.0	8.4	9.0
24	8.9	8.2	8.1	7.6S	7.6	8.0	10.6	12.7	13.5	13.8	14.5	14.9H	14.9	14.6H	14.0H	13.1H	12.9	12.8	12.4	10.6S	9.7	9.0	8.6	8.6
25	9.6	8.5	7.9	7.4	7.3	7.7	9.7	13.3	13.4	13.8	14.3H	14.7H	14.3H	13.8HI	13.7C	13.0H	12.3	11.7	11.5	10.5S	9.1	8.2	8.2	7.9S
26	7.8	7.6S	7.0	6.7	7.0	7.5	10.0	11.6	12.0	13.8H	15.0H	15.1	14.0H	14.0H	14.2H	13.1	12.4	12.1	11.5	10.0S	9.6	9.7S	9.3	8.7
27	9.0	7.9	7.4	7.6	7.9	8.5	10.2	12.6	13.4	14.8	15.3H	14.6H	15.0H	14.6H	14.1H	13.2H	12.8H	12.9	12.1	10.3S	9.5S	9.4S	9.5VF	9.2
28	9.2	9.2	8.6	8.1	7.6	7.5	9.7	12.0	13.5	C	C	C	C	C	C	C	C	12.7	12.4	10.2	9.6	9.8	9.6	9.7
29	9.4	9.0	8.8	8.0	7.7	7.5	10.5	12.5	14.1	14.6	14.7H	14.8H	14.7H	14.3H	14.1H	13.4H	12.8H	13.0	12.5	10.9S	10.1S	10.3S	10.4S	10.1S
30	9.6S	9.4	9.1S	8.2S	7.8S	8.0S	J10.9S	12.8	13.8	14.2H	14.2H	14.6H	14.8H	14.7H	14.3H	13.6H	13.2H	12.7	12.3	10.2S	9.3S	9.8S	9.8S	8.4
31	8.2	8.3	8.2	7.6	7.8	8.8	10.9	13.0	14.4	14.6	14.3H	14.5H	14.5H	14.0H	13.4H	13.0H	12.2H	12.0	11.7	10.0S	9.5	9.3	9.5	9.3
No.	31	31	31	31	31	31	31	31	31	30	28	28	30	30	30	30	30	31	31	31	31	31	31	31
Median	8.0	7.8	7.2	7.2	7.0	7.0	8.8	11.7	13.5	14.2	14.8	14.8	14.8	14.4	14.0	13.4	13.0	12.5	11.7	10.2	9.5	9.1	8.6	8.4
U. Q.	8.4	8.2	7.9	7.6	7.4	7.6	9.7	12.4	14.1	14.8	15.3	15.1	15.0	14.8	14.5	13.6	13.3	12.9	12.3	10.6	9.7	9.7	9.2	8.9
L. Q.	7.6	7.1	7.0	6.8	6.7	6.7	8.1	10.8	12.7	13.8	14.4	14.6	14.5	14.0	13.5	13.0	12.4	12.0	11.2	9.7	9.1	8.6	8.1	7.9
Q. R.	0.8	1.1	0.9	0.8	0.7	0.9	1.6	1.6	1.4	1.0	0.9	0.5	0.5	0.8	1.0	0.6	0.9	0.9	1.1	0.9	0.6	1.1	1.1	1.0

foF2

Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 1

21

IONOSPHERIC DATA

Mar. 1958 | f_oF1 | 135° E Mean Time (G.M.T.+ 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										L				B										
2													L										
3																								
4												L	L											
5													L											
6											C	C			C	C								
7												L												
8																								
9																								
10											C	C						C						
11																								
12											4.5													
13																								
14																								
15											4.4		L											
16																								
17											L		L	L										
18													L											
19														A	4.5									
20																								
21											L	L	5.0											
22																								
23																								
24												A												
25															C									
26																								
27																								
28										C	C	C	C	C	C	C	C							
29																								
30							C	C	C															
31										A	B													
No.											2		1		1									
Median											4.4		5.0		4.5									

f_oF1

Sweep 1.6 Mc to 200 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 2

IONOSPHERIC DATA

Mar. 1958 | 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								B	B	I 3.30 R	3.55	I 3.70 B	3.75	B	B	B	B	B						
2								B	3.05	3.25	3.55	I 3.85 B	3.80	3.90	3.70	I 3.20 A	2.70	B						
3								B	B	I 3.40 B	B	B	B	B	B	I 3.40 B	2.95	A						
4								2.10	2.85	3.20	3.65	I 3.80 R	3.90	3.80	3.70	3.45	2.95	R						
5								B	A	3.55	3.75	3.95	3.75	I 3.80 B	3.70	3.45	I 2.75 S	S						
6								2.50	I 3.15 R	3.60	C	C	B	3.90	I 3.90 C	I 3.35 C	2.80	B						
7								2.45	3.00	I 3.40 R	3.30	3.80	3.90	3.80	3.70	3.30	2.90	2.20						
8								2.55	I 3.10 R	3.25	3.45	I 3.40 R	I 3.75 A	4.00	3.90	3.50	2.95	R						
9								2.55	3.20	3.50	3.80	4.05	4.10	4.00	3.95	3.60	3.10	R						
10							B	2.45	3.15	3.40	C	C	B	I 4.00 B	3.95	3.55	3.05	C						
11								2.50	3.05	3.50	3.70	4.00	I 3.95 A	I 3.90 A	3.90	3.55	3.10	1.95						
12							B	2.55	3.00	3.10	I 3.35 A	I 3.90 R	4.05	3.95	3.80	3.50	2.95	2.15						
13								2.50	3.05	3.55	3.75	I 3.75 R	3.75	I 3.75 R	3.75	3.50	2.95	2.35						
14								2.45	3.25	3.60	3.70	I 3.50 R	I 3.40 R	I 3.50 R	3.65	3.60	3.00	2.10						
15							B	2.70	3.20	3.30	3.40	I 3.90 A	I 3.95 A	I 3.80 A	3.65	3.45	2.95	2.35						
16								2.70	3.10	3.20	3.80	4.00	4.00	3.80	3.85	3.60	3.05	2.20						
17							B	2.60	3.05	3.55	3.75	3.90	3.90	4.00	3.90	3.55	3.10	2.40						
18								2.80 H	3.20	3.55	3.65	I 3.80 A	3.95	3.95	3.70	3.65	3.00	2.55						
19							B	2.70	3.30	3.50	3.70	3.50	R	A	3.80	3.55	3.05	2.40						
20							2.10	2.80	3.10 H	3.50 H	3.60	3.95	4.00	3.95	3.75	3.55	I 3.10 B	2.40						
21							R	2.70	3.25	3.50	3.75	I 3.90 R	3.90	I 4.00 R	I 3.80 R	3.50	3.05	I 2.45 A						
22							B	2.55 H	3.35 H	3.55	3.70	I 3.90 R	I 3.95 B	3.95	I 3.85 A	3.60	3.10	2.30						
23							R	2.80	3.35	I 3.75 B	I 4.00 R	R	A	A	I 3.80 R	I 3.50 R	I 3.15 R	A						
24							R	2.70	3.40	3.55	3.50	3.45	B	B	A	3.55	3.20	2.50						
25							2.05	2.65	3.20	3.65	3.80	3.90	A	A	C	3.60	3.25	2.50						
26							R	I 2.65 A	I 3.35 A	3.60	3.60	R	A	I 4.00 A	I 3.85 A	I 3.60 A	3.45	A						
27							2.15	2.90	3.20	3.80	3.80	A	A	A	A	A	3.25	A	B					
28							B	I 2.80 B	3.50	C	C	C	C	C	C	C	C	A						
29							2.10	I 2.85 R	3.65	3.80	I 4.05 B	B	B	R	4.00	3.70	3.40	2.80	B					
30							C	C	C	B	B	R	4.10	I 4.10 R	4.05	I 4.00 B	3.45	2.75	B					
31							R	3.10	3.65	3.65	B	B	B	B	B	I 3.70 B	3.45	2.75						
No.							4	26	27	29	25	21	19	21	24	28	29	18						
Median							2.10	2.65	3.20	3.50	3.70	3.90	3.90	3.95	3.80	3.55	3.05	2.40						

foE

Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 3

23

IONOSPHERIC DATA

Mar. 1958 | foEs | 135° E Mean Time (G.M.T.+ 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	B	B	G	G	B	G	B	B	B	B	E	E	E	E	E	E	E
2	E	E	E	E	E	E	E	B	G	G	G	B	G	G	G	4.2M	3.0	B	E	E	E	E	E	E
3	E	E	E	E	E	E	E	B	B	B	B	B	B	B	B	B	3.3	3.6M	6.5M	E	E	E	E	E
4	E	E	E	E	E	E	E	2.3	G	3.5	G	G	G	G	G	G	3.2	2.7	2.8M	2.5M	2.7M	4.5M	E	E
5	E	E	E	E	E	E	E	B	4.3M	G	G	G	G	B	G	G	S	S	E	E	E	E	E	E
6	E	S	E	E	E	S	E	G	G	G	C	C	B	G	C	C	G	B	E	E	E	E	E	E
7	E	E	E	E	E	E	E	G	3.2	G	3.6	3.6G	G	G	G	G	G	2.3	E	E	E	E	E	E
8	E	E	E	E	E	E	E	G	G	G	G	B	5.5M	G	G	G	G	G	E	E	E	E	E	E
9	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	4.0	G	G	2.6M	2.2M	E	E	E	3.7M
10	E	E	E	E	E	E	B	G	G	4.2YM	C	C	B	B	G	G	G	C	3.1M	4.5M	3.1M	E	E	E
11	E	4.3M	4.8M	E	E	6.0YM	E	G	4.1M	4.0M	G	G	5.1M	4.3M	4.0M	2.4G	G	2.7	E	2.3M	5.0M	E	E	E
12	E	E	E	E	E	E	B	G	3.2	3.7	4.3M	G	G	G	G	G	G	G	E	E	E	E	E	E
13	E	E	E	E	E	E	E	G	G	3.7	3.9	4.0	4.0	3.9	4.4	3.7	G	2.7	3.6M	2.8M	2.7M	3.0M	E	E
14	E	E	E	E	E	E	E	2.6	3.5	4.1	G	5.0M	6.3M	5.6M	4.1	3.9	4.7M	4.6M	4.5M	5.0M	5.7M	3.2M	E	2.5M
15	2.8M	3.2M	3.2M	E	E	E	B	G	G	3.6	3.6	4.5M	5.3M	6.3M	G	G	G	G	E	E	5.8M	2.6M	3.5M	2.5M
16	E	E	E	E	E	E	E	G	G	3.5	G	3.5G	G	4.2M	3.3G	2.7G	2.5G	2.7M	E	E	E	E	E	E
17	E	E	E	E	E	E	B	G	G	G	G	G	G	G	4.4YM	G	2.5G	G	E	E	E	E	E	E
18	E	E	E	E	E	E	E	G	3.9	4.2	5.2M	5.0M	4.1M	G	G	G	G	G	E	2.5M	5.3M	6.8YM	E	E
19	2.0M	E	E	E	E	E	B	G	3.5	4.5	4.9	4.4	G	6.5M	G	G	G	G	2.5M	2.5M	E	E	E	E
20	E	E	E	E	E	E	G	G	4.5M	3.8	4.5M	G	G	G	G	G	B	G	E	3.0M	E	E	E	E
21	E	E	E	E	E	E	G	2.9	G	G	G	G	G	G	B	G	3.9M	3.2M	3.5M	3.0M	3.5M	7.0M	2.8YM	2.8M
22	2.5M	E	E	3.0M	3.1M	E	G	G	G	5.1M	4.1	G	B	4.1M	4.2M	G	G	G	2.6M	E	E	E	E	E
23	E	E	2.1M	2.9M	E	3.0M	G	G	G	B	4.3M	4.2M	5.3M	4.4M	4.4M	4.1M	3.5M	3.6M	E	E	E	3.0M	2.6M	E
24	E	E	E	E	E	E	G	G	G	5.0M	4.1	6.2M	B	B	4.0M	G	G	2.8	3.2M	9.0M	3.2M	2.5M	E	E
25	E	E	2.5M	E	E	E	G	G	G	4.2	4.2	4.0	5.4M	6.1M	C	G	G	G	E	2.3M	2.6M	4.9M	5.0M	E
26	2.6M	3.6M	2.7M	4.1M	4.5M	E	G	3.5M	4.4M	4.2	4.3	G	4.0	4.4M	4.3YM	4.7M	4.4M	5.0M	4.1M	3.1M	5.0M	3.6M	E	E
27	E	E	E	3.0M	3.0M	2.4M	G	G	G	4.3	4.6M	4.4M	6.7M	6.0M	4.8M	6.8M	G	4.0M	B	3.5M	5.0M	3.2M	7.1M	3.5M
28	4.3M	3.0M	E	E	E	E	B	B	G	C	C	C	C	C	C	C	C	3.2M	E	E	3.1M	E	E	E
29	E	E	E	E	E	E	G	G	G	G	B	B	B	G	G	G	G	2.9	B	E	E	E	E	E
30	E	E	E	E	E	E	C	C	C	4.2M	B	4.5M	G	G	G	B	4.1	3.5	5.3M	2.3M	E	E	E	E
31	E	E	E	E	E	E	G	3.5	4.4	5.1	B	4.8M	4.5	B	B	B	G	G	3.0YM	E	5.8M	E	E	E
No.	31	30	31	31	31	30	24	25	28	28	24	23	24	24	24	25	27	27	29	31	31	31	31	31
Median	E	E	E	E	E	E	E	G	G	3.7	3.6	G	G	G	G	G	G	2.7	E	E	E	E	E	E
U.Q.										42	43	45						32						
L.Q.										G	G	G						G						
Q.R.																								

foEs

Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 4

IONOSPHERIC DATA

Mar. 1958 | 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								B	B			B		B	B	B	B							
2								B				B				3.5	G	B						
3								B	B	B	B	B	B	B	B	B	3.1	2.5	2.3					
4								B		B							3.2	2.7	2.2	1.8	2.0	2.0		
5								B	3.2					B			S	S						
6		S				S					C	C	B		C	C		B						
7									B		B	3.6						2.3						
8												B	4.5											
9																G			1.9	E				3.0
10							B			G	C	C	B	B				C	2.5	3.0	2.6			
11		3.0	2.5			2.0			G	3.2			4.3	4.1	3.7	B		2.7		1.8	3.2			
12							B		B	$^{U}3.7^{B}$	4.1													
13										G	B	B	4.0	B	4.4	3.7		2.7	1.9	1.9	2.0	2.0		
14								B	B	4.0		4.9	4.8	4.9	4.1	G	4.0	3.8	3.8	3.9	2.2	2.2		1.9
15	2.0	2.0	2.0				B			B	G	4.1	4.4	4.3							3.1	2.0	2.0	2.5
16										B		B		3.4	B	2.7	2.2	2.0						
17							B								3.4		2.5							
18									G	4.2	4.0	4.2	3.8							1.7	4.7	2.8		
19	1.8						B		3.5	4.0	4.2	4.1		5.6					2.0	2.0				
20									G	3.8	3.9						B			1.7				
21								2.9							B		2.6	2.7	2.6	2.0	3.0	2.3	2.0	2.1
22	2.0			1.9	1.9					4.0	4.1		B	3.5	4.0				2.0					
23			1.8	2.0		2.0				B	3.7	3.9	4.6	4.3	4.0	3.8	3.3	2.6				2.4	2.0	
24			2.0							4.3	$^{D}4.1^{B}$	5.0	B	B	4.0			2.8	2.7	8.4	2.5	1.8		
25										4.0	4.2	B	5.0	4.3	C					1.9	1.7	2.9	2.9	
26	2.0	2.6	2.0	2.0	1.8			3.0	3.7	4.1	4.1		$^{D}4.0^{B}$	4.0	4.0	4.0	3.4	3.3	2.0	2.0	4.0	2.6		
27				2.0	2.1	2.0				4.3	4.6	4.4	4.8	4.3	4.4	4.5		3.1	B	2.0	3.0	2.4	3.4	2.5
28	3.0	2.4					B	B		C	C	C	C	C	C	C	C	2.7			2.6			
29											B	B	B					2.9	B					
30							C	C	C	B	B	4.5				B	3.9	3.3	3.5	2.2				
31								3.5	4.4	5.1	B	$^{U}4.8^{B}$	4.5	B	B	B			2.4		5.5			
No.	5	4	5	4	3	3		3	4	12	10	10	10	10	9	6	9	15	13	14	14	11	5	5
Median	2.0	2.5	2.0	2.0	1.9	2.0		3.0	3.6	4.0	4.1	4.3	4.5	4.3	4.0	3.8	3.2	2.7	2.3	2.0	2.8	2.2	2.0	2.5

f_bE_s

Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 5

IONOSPHERIC DATA

Mar. 1958 | 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	2.05	2.00	2.00	2.00	2.00	2.00	2.30	2.70	3.00	2.40	2.50	3.95	2.75	7.50	4.50	3.70	3.45	2.85	1.95	2.00	2.00	2.00	2.45	1.95
2	2.00	2.00	2.20	2.00	2.20	2.00	2.00	2.90	2.20	2.20	3.10	3.95	3.00	3.00	2.40	2.05	2.05	2.40	2.00	2.00	2.80^{S}	2.00	2.00	2.10
3	2.00	2.00	2.00	2.10	2.10	1.90	2.90^{S}	2.90	3.50	4.00	3.95	4.00	4.20	4.00	3.80	3.70	2.95	2.00	1.90	1.95	1.95	1.90	1.90	1.90
4	1.95	1.95	1.85	2.00	1.80	1.90	2.00	1.90	2.00	2.45	2.20	2.50	2.55	3.00	2.80	2.00	2.00	2.20	1.95	1.80	2.00	1.90	2.00	1.90
5	1.95	1.85	1.95	1.95	1.90	1.95	2.00	2.70	2.00	2.00	2.65	3.00	3.00	3.90	2.50	2.50	5.00^{S}	2.50	1.90	2.00	1.75	1.90	1.95	1.90
6	1.80	1.80	1.80	2.00	2.00	2.00^{S}	2.00	2.00	2.00	2.20	C	C	3.95	3.20	I 3.20 C I	2.35 C	1.95	2.45	2.00	1.80	2.00	1.95	1.80	2.00
7	1.95	1.95	1.90	1.90	2.00	1.70	1.90	1.90	2.00	1.95	2.20	2.55	3.00	2.50	2.55	2.00	2.00	1.90	1.75	1.90	1.85	1.85	1.90	1.95
8	1.90	1.90	E	1.95	1.90	1.80	1.95	2.10	2.00	2.05	2.25	4.00	2.65	2.00	2.00	2.50	2.45	2.00	1.80	1.80	2.00	1.90	1.90	1.80
9	1.95	E	1.85	E	1.80	1.90	1.75	1.90	2.00	3.00	2.00	3.00	2.95	2.50	2.80	1.95	1.95	1.90	1.70	E	1.80	1.90	1.95	1.70
10	1.95	1.90	1.90	1.75	1.90	1.75	1.95	1.90	2.20	2.40	C	C	4.25	4.10	3.50	2.00	2.00	I 2.55 C	1.90	E	1.95	1.90	1.70	1.85
11	1.95	1.70	E	1.80	2.00	1.90	2.00	1.90	1.90	2.45	3.40	3.60	3.00	2.70	2.70	2.10	2.05	1.95	2.00	1.75	1.90	1.90	1.90	1.90
12	1.85	1.95	1.80	2.00	E	2.00	1.95	2.00	2.00	2.00	3.20	3.10	3.00	3.55	3.00	2.00	2.05	1.95	1.85	1.75	E	E	2.00^{S}	E
13	1.90	1.70	1.90	1.85	1.80	1.90	2.00	2.00	1.90	2.10	3.10	2.95	2.95	3.65	2.95	2.95	1.90	1.90	1.80	1.80	1.90	2.00	1.80	2.00
14	1.85	1.95	1.90	1.70	1.90	2.00	1.95	1.70	1.95	2.10	3.00	3.60	3.50	3.00	3.00	2.60	2.00	2.10	1.90	E	1.90	E	1.90	1.90
15	1.90	1.90	E	1.90	1.95	1.90	2.00	1.95	1.95	2.00	2.95	2.60	2.75	2.20	2.10	2.50	2.05	2.05	2.00	1.85	1.90	E	2.00	2.00
16	1.95	E	1.70	1.95	2.00	1.90	1.90	1.95	2.00	2.10	2.20	2.95	2.70	2.70	2.60	2.10	1.95	1.90	1.90	1.95	1.95	1.90	1.95	2.00
17	1.90	1.90	2.00	1.95	2.00	1.95	2.00	2.10	1.90	2.00	2.55	2.55	2.50	2.50	2.10	2.05	2.00	2.00	2.00	E	2.00	1.80	2.00	2.00
18	E	1.95	1.70	1.90	1.80	1.70	2.00	1.90	2.00	2.10	2.60	2.70	2.95	3.20	2.95	2.10	2.05	2.00	1.80	E	E	E	1.90	2.00
19	1.75	1.90	1.90	1.95	1.80	1.80	2.20	1.90	1.95	2.10	3.00	2.55	3.00	3.00	2.60	2.40	2.80	2.00	1.95	2.00	1.90	1.90	2.00	E
20	1.90	1.95	2.00	1.90	1.95	1.90	2.00	2.00	2.00	2.00	2.45	2.90	2.90	3.45	3.20	3.00	3.30	2.10	1.80	E	1.95	2.00	1.85	1.90
21	2.00	1.85	1.80	1.95	E	1.70	1.90	1.95	2.00	2.00	2.60	3.20	3.00	3.05	2.55	2.10	1.90	1.80	1.75	2.00	1.80	1.75	1.95	1.75
22	1.95	1.75	1.80	1.85	1.80	E	2.05	1.95	2.00	2.00	3.00	3.20	4.50	2.60	2.00	2.50	2.20	2.00	1.75	1.95	1.75	1.95	1.90	1.80
23	2.00	1.90	1.80	1.90	1.90	2.00	1.95	1.90	2.10	4.00	3.10	3.30	3.50	3.20	2.90	2.40	2.30	1.90	1.90	1.95	1.90	1.80	2.00	1.95
24	2.00	2.10	1.80	1.95	2.00	1.80	2.00	2.00	2.45	2.50	3.00	3.00	4.55	4.80	3.20	3.40	2.10	2.00	1.90	1.80	1.75	1.75	1.90	2.00
25	1.80	2.00	1.90	1.90	1.90	2.00	2.00	1.90	2.10	2.45	3.00	3.90	3.50	2.80	I 3.70 C	2.60	2.60	1.95	1.90	1.90	1.70	1.90	1.90	1.80
26	1.95	1.70	1.90	E	1.80	1.90	1.90	1.90	2.05	3.45	2.50	3.55	3.10	3.00	3.00	2.80	2.50	2.00	1.70	1.95	1.90	1.80	1.90	1.90
27	2.00	1.90	E	1.95	1.95	2.00	2.00	1.95	2.45	3.00	3.80	3.60	3.40	3.00	3.00	2.80	2.20	2.00	1.95	1.95	1.80	1.80	1.90	1.95
28	1.95	2.10	2.00	2.00	1.90	1.95	2.40	3.40	2.20	C	C	C	C	C	C	C	C	2.00	2.00	1.80	2.00	2.00	2.00	2.00
29	2.00	2.00	2.00	1.90	1.90	2.00	2.05	2.00	3.00	3.20	4.20	4.45	4.45	3.20	2.50	3.20	2.45	2.10	1.95	1.95	1.95	1.95	1.95	2.00
30	1.95	1.95	E	2.00	2.00	2.50	C	C	C	4.10	4.50	3.80	3.20	3.60	3.80	3.95	2.50	2.00	2.00	1.90	1.95	1.80	1.80	1.95
31	E	1.95	1.90	1.95	2.00	2.00	2.30	2.50	3.45	3.00	5.80	4.00	3.80	4.50	4.40	3.80	2.50	2.00	1.90	2.00	2.00	2.00	2.20	2.00
No.	31	31	31	31	31	31	30	30	30	30	28	28	30	30	30	30	30	31	31	31	31	31	31	31
Median	1.95	1.90	1.90	1.95	1.90	1.90	2.00	1.95	2.00	2.20	3.00	3.20	3.00	3.05	2.90	2.50	2.10	2.00	1.90	1.90	1.90	1.90	1.90	1.95

f-min

Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Mar. 1958

(M3000)F2

135° E Mean Time (G.M.T.+ 9h.)

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.60	2.50	2.60	2.65	2.70	2.70	2.90	J3.10S	3.15	2.95	2.90	2.90H	2.85	2.80	2.75H	2.80	2.85	2.85	J2.95S	J2.95S	2.90	2.85	2.90S	2.70S
2	2.70S	2.65	2.80S	3.00	2.80	2.65	2.90	3.10	3.10	3.05	2.95	2.90	2.85	2.80	2.75H	2.80	2.85	2.85	2.90	2.90	3.10S	2.90	2.70	2.65
3	2.80	2.80	2.65	2.65	2.60	2.60	2.90	3.15	3.15	3.05	2.95H	2.85	2.80H	2.80	2.80H	2.80H	2.90	2.90	2.85	2.85S	2.85	2.85	2.65S	2.60S
4	2.70S	3.00	2.60	2.65	2.50	2.50	2.70	3.00S	3.00	2.95	2.95H	J2.90R	2.80H	2.75H	2.80H	2.70	2.80	2.85	2.80	2.80S	2.80	2.70	2.70	2.60
5	2.65S	2.50S	2.45	2.35	2.45	2.45	2.65	3.10	3.20	2.90H	2.95	2.85	2.75	2.80	2.75H	2.70	2.75	2.85	2.65	2.70	2.65	2.70	2.70	2.70
6	2.60	2.80	2.55	2.60	2.40	2.65	3.00	3.10	3.20	2.85	C	C	J2.80R	2.75H	I2.70C	I2.70C	2.80	2.80	2.85	2.80S	J2.85S	3.00S	2.70	2.65
7	2.55	2.60S	2.50	2.45	2.55S	2.60S	2.75	3.00	3.00	3.00	2.90H	J2.80R	2.75H	2.75H	2.70H	2.65H	2.75	2.80	2.80	2.80S	2.80S	2.70S	2.75	2.65
8	2.60	2.50	2.60	2.65S	2.55	2.65	2.85	3.15	3.00	2.95	J2.90R	2.80	2.75	J2.70R	2.75	2.70	2.70	2.75	2.80	2.70S	2.80S	2.90S	2.75	2.80
9	2.70	2.65	2.70	2.80	2.70	2.70	2.95	3.15	3.05	2.90H	2.80H	2.80H	2.70H	2.65H	2.65H	2.70H	2.70	2.75	2.85	2.85	2.80S	2.70	2.50	2.70S
10	2.75S	2.60	2.45	2.55	2.60	2.80	2.85	3.05	3.00	2.95	C	C	2.80H	2.70H	2.65H	2.65H	2.70	I2.80C	2.90	2.80	J2.80S	2.70	2.65	2.65
11	2.75	2.70	2.50	2.50	2.35	2.35	2.80	3.10	3.00	2.95	2.85H	2.80H	2.70	2.65H	2.65H	2.70	2.75	2.85	2.80S	2.80S	2.85S	2.75	2.60S	2.50
12	2.45	2.55	2.40	2.40	2.25	2.40	2.85S	J3.00S	3.00H	2.90	2.85	2.70	2.70	2.60	2.55H	2.60	2.65	2.70	2.70	2.60S	2.55	2.60	2.50	2.60
13	2.45	2.65	2.75	2.25H	2.25VS	2.25	2.15H	2.85	2.85	2.85	J2.80R	J2.80R	2.70H	2.65H	2.70H	2.65H	2.75	2.85	2.80S	2.65	2.75	2.25	2.40S	2.45S
14	2.40S	2.20	2.40	2.35	2.35	2.35	2.60	2.80	2.90	2.80H	2.80H	2.70H	2.65H	2.70H	2.70H	2.70H	2.80	2.85	2.85	2.80	2.85S	2.80S	J2.90S	2.55
15	2.30	2.40	2.25	2.10	2.30	2.45	2.65	2.90	2.90	2.80	2.80	2.70	2.70	2.75H	2.65H	2.75	2.70	2.80	2.85S	2.70	2.70	2.45	2.35	2.25
16	2.30	2.25	2.35	2.25	2.30	2.50	2.90	3.15	3.00	2.90	2.85H	2.75H	2.75H	2.70H	2.70	2.70	2.75	2.80	2.85	I2.70S	I2.70S	2.85	2.80S	2.75
17	2.75	2.65	2.55F	2.50F	2.45S	2.50S	2.95	3.10	3.00	2.85	2.90	2.80	2.75	2.70	2.70H	2.65	2.70	2.80	2.85	J2.65S	J2.65S	2.65	2.70	2.60
18	2.40	2.30	2.50	2.65	2.35	2.50	2.95	3.00	3.00	3.00	2.75	2.80H	2.70H	2.70H	2.70H	2.70H	2.75	2.80	2.75	2.80S	2.75S	2.60	2.55	2.65S
19	2.55S	2.50	2.35	2.25	2.35	2.45	2.85	J3.00S	2.95	J2.95R	2.80H	2.75	2.75	2.70H	2.65	2.70	2.75	2.85	2.80	2.75	2.60	2.60	2.50	2.40
20	2.40	2.45	2.35	2.30	2.35	2.60	2.95	2.95	2.95	2.85	2.95H	2.75H	2.70H	2.70H	2.70H	2.70H	2.75	2.85	2.90	2.80S	2.65	2.65	2.65	2.65
21	2.45	2.40S	2.40	2.50	2.50	2.55	2.85	2.90	2.95	2.95	2.90	2.85	2.75	2.75H	2.70	2.75	2.80	2.95	2.85	2.75	2.80	2.70	2.55	2.75
22	2.70	2.40	2.35F	2.30F	2.35F	2.45	2.90	3.00	2.90	2.90	2.85H	2.85H	2.70H	2.65	2.75H	2.70H	2.75	2.80	2.85	2.80S	2.75S	2.75	2.70	2.80
23	2.55S	2.45	2.50	2.70S	2.60	2.60VF	3.05	3.10	3.00	2.90	2.90H	2.80H	2.70H	2.70H	2.65H	2.65H	2.70	2.75	2.85	2.80	2.60	2.65	2.40	2.50
24	2.70	2.55	2.60	2.55S	2.45	2.55	2.90	3.10	2.95	2.85	2.85	2.75H	2.70	2.70H	2.60H	2.60H	2.65	2.70	2.80	2.70S	2.70	2.65	2.50	2.40
25	2.65	2.75	2.50	2.35	2.35	2.35	2.80	3.00	2.95	2.85	2.80H	2.75H	2.65H	2.60H	I2.60C	2.65H	2.70	2.75	2.80	2.75S	2.75	2.60	2.60	2.55S
26	2.40	2.40S	2.40	2.25	2.30	2.40	2.90	3.05	2.85	2.80H	2.80H	2.80	2.70H	2.55H	2.65H	2.65	2.60	2.75	2.80	2.60S	2.65	2.70S	2.70	2.55
27	2.70	2.70	2.30	2.35	2.45	2.75	2.85	2.95	2.90	2.80	2.90H	2.70H	2.65H	2.60H	2.60H	2.60H	2.65H	2.70	2.80	2.70S	2.65S	2.65S	2.65VH	2.65
28	2.70	2.80	2.80	2.70	2.65	2.55	2.80	3.00	2.90	C	C	C	C	C	C	C	C	2.70	2.80	2.65	2.60	2.60	2.60	2.70
29	2.70	2.75	2.70	2.75	2.40	2.35	2.95	2.95	2.85	2.85	2.80H	2.70H	2.60H	2.55H	2.55H	2.55H	2.60H	2.70	2.80	2.75S	2.55S	2.60S	2.70S	2.70S
30	2.70S	2.75	2.75S	2.65S	2.50S	2.50S	J2.95S	3.05	2.90	2.80H	2.70H	2.60H	2.50H	2.50H	2.50H	2.50H	2.55H	2.70	2.70	2.55S	2.50S	2.55S	2.65S	2.50
31	2.30	2.30	2.40	2.35	2.25	2.50	2.75	2.85	2.85	2.75	2.60H	2.50H	2.50H	2.50H	2.40H	2.50H	2.50H	2.65	2.65	2.55S	2.40	2.50	2.40	2.50
No.	31	31	31	31	31	31	31	31	31	30	28	28	30	30	30	30	30	31	31	31	31	31	31	31
Median	2.60	2.55	2.50	2.50	2.45	2.50	2.85	3.00	3.00	2.90	2.85	2.80	2.70	2.70	2.70	2.70	2.75	2.80	2.80	2.75	2.75	2.70	2.65	2.65

(M3000)F2

Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 1

27

IONOSPHERIC DATA

Mar. 1958 | (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										L				B										
2													L										
3																								
4												L	L											
5													L											
6											C	C			C	C								
7												L												
8																								
9																								
10											C	C						C						
11																								
12											3.75													
13																								
14																								
15											4.15		L											
16																								
17											L		L	L										
18													L											
19														A	4.00									
20																								
21											L	L	4.10											
22																								
23																								
24												A												
25															C									
26																								
27																								
28										C	C	C	C	C	C	C	C							
29																								
30							C	C	C															
31										A	B													
No.											2		1		1									
Median											3.95		4.10		4.00									

(M3000)F1 Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 8

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Mar. 1958

h'F2

135° E Mean Time (G.M.T.+ 9h.)

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										230				B										
2													245											
3																								
4												250	240H											
5													245											
6											C	C			C	C								
7												235												
8																								
9																		C						
10											C	C												
11																								
12											250													
13																								
14																								
15											245		245L											
16																								
17											245		245	250L										
18													240H											
19														255H	250									
20																								
21											240	240	245											
22																								
23																								
24												245H												
25															C									
26																								
27																								
28										C	C	C	C	C	C	C	C							
29																								
30							C	C	C															
31										250	245H													
No.										2	5	4	7	2	1									
Median										240	245	240	245	250	250									

h'F2

Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 9

IONOSPHERIC DATA

Mar. 1958 | 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	300	300	310	300	290	290	250	225	225	220	220	240H	245	I250B	240H	245	245	240	235	245	245	255	285	295
2	300	310	285	250	250	275	270	240	225	240	240	240	235	240	245H	240	245	245	245	240	245	245	255	280
3	295	255	290	300	300	300	280	245	230	220	240H	240	230H	240	240H	245H	250	240	235	240	250	250	275	300
4	300	250	260	300	260	315	295S	220	230	240	230H	230	230	250H	240H	245	245	230	240	230	250	290	270	300
5	280	280	330	345	345	350	295	230	220	210H	240	235	225	235	245H	245	250S	245	250	250	255	260	250	255
6	290	255	260	295	330	290	240	240	240	225	C	C	230	240H	I240C	I240C	240	235	230	250	250	245	255	295
7	280	290	300	310	310	295	265	220	225	230	220H	220	230H	230H	230H	245H	245	235	240	250	255	280	280	295
8	290	300	290	280	300	280	245	225	225	230	225	245	245	245	245	245	240	245	230	240	255	255	270	255
9	265	260	275	255	250	250	250	230	240	215H	220H	230H	240H	240H	230H	250H	250	250	250	210	240	255	290	300
10	260	280	340	305	280	255	260	230	230	245	C	C	245H	240H	245H	245H	245	I245C	250	255	250	280	260	275
11	255	255	295	300	355	360	255	225	240	230	230H	240H	245	240H	240H	240	245	250	245	245	270	255	290	310
12	340	300	305	340	360	360	250	225	215H	245	250	245	245	245	245H	245	245	255	250	250	250	285	260	295
13	300	300	245	240H	390	400	300H	255	240	240	230	235H	235H	240H	250H	240H	250	250	230	255	260	330	340	310
14	305	400	340	255	320	300	280	240	245	220H	230H	240H	245H	250H	240H	240H	245	255	250	260	260	255	255	280
15	395	350	390	440	370	330	275	245	230	240	220	230	225	245H	245H	245	245	255	250	230	260	295	350	395
16	385	390	315	350	390	300	250	230	240	220	220H	220H	220H	240H	240	240	245	250	245	255	295	245	245	255
17	270	275	300	300	340	330	245	220	220	240	220	240	220	245	245H	245	245	255	245	260	280	245	255	300
18	300	355	305	250	255	305	250	225	240	240	230	225H	220	230H	240H	240H	250	250	255	245	280A	280	300	285
19	305	300	350	390	370	310	250	240	225	240	240H	245	240	I240A	230	245	250	250	240	245	260	295	305	340
20	340	335	325	350	345	290	240	240	240	240	230H	230H	220H	240H	240H	245H	245	250	230	220	275	270	280	295
21	310	340	350	325	295	295	250	240	230	240	240	220	220	245H	240	250	250	250	245	245	270	260	290	280
22	270	335	350	395	380	340	245	240	235	235	240H	230H	245H	240	240H	240H	245	250	250	250	260	250	250	270
23	300	345	320	280	250	275	245	220	220	240	225H	230H	240H	225H	240H	240H	250	245	250	245	265	280	300	330
24	295	305	300	280	320	310	255	240	230	235	245	I220A	250	245H	245H	245H	250	255	250	I260A	285	275	295	335
25	300	255	300	305	350	355	250	245	245	240	230H	220H	250H	240H	I250C	245H	245	255	255	245	250	270	330	305
26	345	345	320	390	350	330	245	230	220	235H	240H	250	240H	245H	245H	250	250	255	245	245	305	290	280	300
27	290	290	340	360	325	255	230	240	240	240	240H	245H	240H	240H	245H	240H	250H	255	250	230	295	295	315	290
28	300	290	270	275	260	280	240	230	230	C	C	C	C	C	C	C	C	250	255	245	300	295	295	295
29	290	290	295	270	340	360	245	235	240	245	230H	220H	230H	245H	245H	250H	250H	260	255	245	260	285	285	275
30	290	290	255	275	310	350	250	230	250	230H	245H	240H	250H	235H	250H	250H	250H	255	260	240	295	305	290	300
31	360	375	340	285	355	320	250	240	250	I250A	I240B	245H	250H	250H	250H	250H	250H	260	260	250	I310A	310	345	330
No.	31	31	31	31	31	31	31	31	31	30	28	28	30	30	30	30	30	31	31	31	31	31	31	31
Median	300	300	305	300	325	305	250	230	230	240	230	235	240	240	240	245	245	250	250	245	260	275	285	295

h'F

Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Mar. 1958 | h'Es | 135° E Mean Time (G.M.T.+ 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	B	B	G	G	B	G	B	B	B	B	E	E	E	E	E	E	E
2	E	E	E	E	E	E	E	B	G	G	G	B	G	G	G	100	100	B	E	E	E	E	E	E
3	E	E	E	E	E	E	E	B	B	B	B	B	B	B	B	B	135	120	110	E	E	E	E	E
4	E	E	E	E	E	E	E	130	G	125	G	G	G	G	G	G	140	120	115	115	110	115	E	E
5	E	E	E	E	E	E	E	B	110	G	G	G	G	B	G	G	S	S	E	E	E	E	E	E
6	E	S	E	E	E	S	E	G	G	G	C	C	B	G	C	C	G	B	E	E	E	E	E	E
7	E	E	E	E	E	E	E	G	130	G	110	110	G	G	G	G	G	140	E	E	E	E	E	E
8	E	E	E	E	E	E	E	G	G	G	G	B	100	G	G	G	G	G	E	E	E	E	E	E
9	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	150	G	G	110	115	E	E	E	105
10	E	E	E	E	E	E	B	G	G	110	C	C	B	B	G	G	G	C	110	110	110	E	E	E
11	E	100	100	E	E	110	E	G	110	110	G	G	105	105	105	105	G	120	E	110	105	E	E	E
12	E	E	E	E	E	E	B	G	125	115	110	G	G	G	G	G	G	G	E	E	E	E	E	E
13	E	E	E	E	E	E	E	G	G	140	130	130	120	120	110	130	G	150	115	115	110	110	E	E
14	E	E	E	E	E	E	E	155	145	130	G	110	110	110	110	120	115	115	110	105	105	110	E	105
15	105	105	105	E	E	E	B	G	G	120	110	105	105	100	G	G	G	G	E	E	110	110	105	105
16	E	E	E	E	E	E	E	G	G	140	G	110	G	110	110	105	105	105	E	E	E	E	E	E
17	E	E	E	E	E	E	B	G	G	G	G	G	G	G	105	G	105	G	E	E	E	E	E	E
18	E	E	E	E	E	E	E	G	130	125	110	110	110	G	G	G	G	G	E	115	105	105	E	E
19	110	E	E	E	E	E	B	G	150	125	120	120	G	110	G	G	G	G	G	100	E	E	E	E
20	E	E	E	E	E	E	G	G	115	125	120	G	G	G	G	G	B	G	E	120	E	E	E	E
21	E	E	E	E	E	E	G	140	G	G	G	G	G	G	B	G	105	105	100	100	110	110	100	110
22	105	E	E	100	105	E	G	G	G	120	125	G	B	105	105	G	G	G	100	E	E	E	E	E
23	E	E	110	105	E	110	G	G	G	B	110	110	110	110	105	105	105	105	E	E	E	115	115	E
24	E	E	E	E	E	E	G	G	G	115	120	110	B	B	110	G	G	135	110	110	110	110	E	E
25	E	E	105	E	E	E	G	G	G	130	125	120	110	110	C	G	G	G	E	105	100	110	110	E
26	110	105	110	110	110	E	G	110	110	130	125	G	110	105	105	100	105	100	125	120	110	110	E	E
27	E	E	E	105	100	100	G	G	G	125	110	110	105	110	105	105	G	115	B	115	110	105	100	100
28	100	110	E	E	E	E	B	B	G	C	C	C	C	C	C	C	C	105	E	E	100	E	E	E
29	E	E	E	E	E	E	G	G	G	G	B	B	B	G	G	G	G	150	B	E	E	E	E	E
30	E	E	E	E	E	E	C	C	C	130	B	110	G	G	G	B	145	140	125	115	E	E	E	E
31	E	E	E	E	E	E	G	155	140	135	B	125	110	B	B	B	G	G	130	E	110	E	E	E
No.	5	4	5	4	3	3		5	10	18	13	13	11	11	10	9	10	15	13	15	14	11	5	5
Median	105	105	105	105	105	110		140	130	125	120	110	110	110	105	105	105	120	110	115	110	110	105	105

h'Es

Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

A 11

IONOSPHERIC DATA

Mar. 1958 | 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																								
2																l2	C							
3																	h	l	f					
4								h		C							h	C	f	f	f	f		
5									l															
6																								
7									h		C	l						h						
8													l2											
9																h			f	f				f4
10										C									f	f2	f			
11		f2	f2			f			C	l			l	l	l	l		C		f	f2			
12									h	C	l													
13										h	h	h	C	C	C	h		h	f	f2	f	f		
14								h	h	h		C	C	C2	C	h	C	C2	f2	f2	f4	f		f
15	f2	f2	f2							C	C	l	l2	l2							f2	f2	f	f
16										h		l		l	l	l	l	l						
17															l		l	l						
18									h	h	C	l	l							f	f5	f2		
19	f								h	C	C	C		l2					f	f				
20									C	C	h									f				
21								h									l	l2	f2	f	f2	f2	f	f
22	f			f2	f2					C	h			l	l				f					
23			f	f		f					l	l	l2	l	l	l	l	l				f2	f	
24										C	C	C			l			h	f2	f6	f2	f		
25			f							h	h	h	l	l						f	f	f2	f2	
26	f	f3	f	f	f2			l	l	C	C		l	l	l	l2	l	l2	f	f	f2	f2		
27				f	f3	f				h	C	l	l2	l	l	l2		l		f	f6	f2	f2	f
28	f2	f2																l			f			
29																		h						
30										h		C					h	h	h2	f				
31								h	h	h		C	C						f		f2			
No.																								
Median																								

Types of Es

Sweep 1.6 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Mar. 1958 | 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	7.1	6.7	6.5	6.7	6.7	6.1	$^{S}7.4$	10.6	12.6	12.9	14.0	$^{J}15.1^{S}$	15.4	$^{R}14.5$	$^{H}13.6$	13.3	13.0	12.3	11.7	10.7	9.3	$^{J}8.1^{S}$	$^{U}7.8^{S}$	7.4
2	7.2	6.9	7.3	6.8	5.6	5.3	6.6	$^{J}11.0^{R}$	14.0	14.4	$^{R}14.8$	$^{R}15.3$	$^{RS}15.3$	$^{I}15.1^{S}$	$^{R}14.9$	14.1	13.1	$^{S}12.3$	$^{S}11.9$	$^{J}11.0^{S}$	$^{I}10.2^{S}$	$^{U}7.7^{S}$	$^{S}7.3$	$^{S}7.3$
3	$^{S}7.6$	$^{RS}7.2$	6.7	6.3	5.9	5.9	$^{U}7.5^{RS}$	$^{R}10.9$	12.9	13.9	$^{RH}14.1$	$^{R}14.8$	$^{S}14.9$	$^{S}14.3$	13.5	13.2	12.7	12.1	10.8	$^{J}10.1^{S}$	$^{S}9.0$	$^{J}8.5^{S}$	$^{S}7.3$	$^{I}7.6^{S}$
4	$^{I}7.9^{S}$	8.5	6.8	6.7	6.3	6.1	6.9	11.2	12.8	14.3	15.4	15.8	$^{R}16.1$	$^{I}15.3^{S}$	$^{S}15.2$	13.7	13.2	$^{RS}12.2$	$^{S}11.5$	$^{I}10.4^{S}$	9.0	9.2	8.9	$^{I}8.7^{S}$
5	$^{I}8.4^{RS}$	$^{S}7.6$	7.3	7.2	7.2	$^{U}7.0^{S}$	$^{S}8.6$	$^{R}12.4$	$^{R}14.2$	$^{I}16.0^{S}$	$^{R}16.4$	$^{R}16.8$	$^{R}16.3$	$^{I}15.4^{RS}$	$^{R}14.6$	$^{RS}13.4$	13.3	$^{I}12.5^{RS}$	11.8	11.4 ^{R}	9.4 ^{S}	9.3	$^{S}8.5$	$^{I}8.1^{RS}$
6	$^{U}7.8^{R}$	$^{S}8.1$	6.9	6.6	6.6	6.8	9.1	$^{R}11.3$	12.8	13.6	$^{R}14.9$	$^{RS}15.8$	$^{R}15.6$	$^{R}15.2$	$^{R}14.8$	14.7	$^{R}14.5$	13.3	12.4	10.9 ^{R}	$^{RS}10.8$	$^{I}10.4^{RS}$	9.4 ^{S}	9.2
7	8.6	$^{RS}8.4$	$^{RS}7.4$	$^{S}7.6$	$^{U}7.7^{S}$	8.1	9.0	12.4	13.9	15.2	14.7	$^{R}15.1$	$^{S}15.6$	$^{I}15.4^{RS}$	$^{R}14.9$	$^{RS}14.5$	$^{S}14.4$	13.4	$^{S}12.1$	$^{S}10.4$	$^{S}9.5$	$^{U}9.6^{S}$	$^{I}9.6^{RS}$	8.8 ^{R}
8	$^{J}8.5^{S}$	$^{J}8.1^{R}$	$^{U}7.9^{RS}$	$^{I}7.6^{RS}$	7.4 ^{S}	7.4 ^{S}	9.1	12.2	13.9	$^{RS}15.5$	$^{R}15.3$	$^{R}15.3$	$^{U}16.2^{R}$	$^{R}16.0$	$^{S}15.2$	$^{RS}14.8$	14.4	$^{S}13.4$	$^{S}12.9$	$^{I}11.1^{S}$	$^{S}10.5$	$^{S}9.6$	9.1	9.2 ^{S}
9	8.5 ^{R}	7.7	$^{RS}7.8$	$^{I}7.4^{RS}$	6.8	6.5	$^{J}8.1^{S}$	$^{R}11.9$	$^{R}12.6$	13.7	14.3	14.5	$^{H}14.7$	14.6	14.7	14.5	13.7	13.6	13.6	$^{U}12.0^{S}$	S	$^{I}9.2^{S}$	8.7	9.0
10	8.6	7.6	7.2	7.4	7.1	6.9	$^{J}8.2^{S}$	11.8	13.8	14.7	14.6 ^{R}	15.2	15.7	$^{H}14.8$	$^{H}14.7$	14.1	14.0	13.1	$^{U}12.2^{S}$	11.7	$^{U}11.0^{S}$	$^{J}10.5^{S}$	10.1	9.6
11	9.2	8.1 ^{R}	7.1	6.8	6.7	6.8	9.2	13.1	12.9	14.0	$^{J}14.9^{R}$	14.9	$^{SH}15.3$	14.5	13.4 ^{H}	12.9 ^{H}	12.4	12.1	11.5	$^{J}10.4^{R}$	9.7	9.4	8.8	8.7
12	8.3	8.5	7.6	7.2	6.8	7.1	$^{J}8.4^{S}$	11.1	13.3	14.9	15.3	14.8 ^{R}	14.6	$^{H}13.6$	13.1	13.2	12.6	12.0	$^{J}10.9^{R}$	10.0 ^{S}	$^{I}9.2^{C}$	8.7	8.4	$^{U}8.6^{S}$
13	$^{J}8.5^{R}$	8.7	7.7	6.0 ^{H}	5.9	5.9	6.2	11.5	15.0	15.0 ^{R}	15.8	15.8 ^{H}	$^{U}15.1^{S}$	$^{H}14.4$	13.3	12.9	12.7	12.3	11.1	9.4	9.1	7.5	8.3	8.5
14	$^{U}8.1^{S}$	7.3	7.6	7.3	7.1	7.3	9.3	12.6	$^{J}15.0^{R}$	15.8	$^{U}16.7^{RH}$	16.7	$^{I}16.3^{SH}$	$^{J}15.1^{S}$	14.2	13.2	12.3	11.9	11.4	9.4	9.5	9.1	8.5	7.5
15	6.7	6.8	6.0	5.4	6.0	6.3	7.4	11.1 ^{S}	13.4	13.9	14.7 ^{S}	14.6	14.6	14.4	13.9	12.7	12.2	11.9	11.4	9.6	8.5	7.9 ^{R}	8.0	7.3
16	7.7	7.2	7.2	6.6	6.6	6.6	7.6	$^{I}9.7^{S}$	$^{J}11.4^{S}$	12.6 ^{R}	13.8 ^{R}	14.3 ^{R}	14.4	14.2	13.9	13.3	12.8 ^{R}	12.4 ^{S}	12.1 ^{S}	S	S	S	$^{J}9.4^{S}$	$^{J}8.7^{R}$
17	$^{J}8.3^{S}$	$^{RS}7.9$	$^{S}7.8$	7.2 ^{S}	7.0	7.4 ^{S}	$^{I}9.8^{S}$	12.5 ^{S}	13.1	13.3	14.6 ^{R}	15.3 ^{S}	15.2 ^{S}	$^{SH}14.6$	14.3	$^{S}13.9$	13.4	12.9	$^{S}12.7$	$^{I}11.1^{S}$	$^{I}10.9^{S}$	$^{J}10.9^{S}$	$^{U}9.7^{S}$	9.1 ^{S}
18	S	S	S	$^{I}7.9^{S}$	7.2 ^{S}	7.4 ^{S}	$^{I}10.0^{S}$	12.1	13.1	14.1	14.8 ^{RS}	$^{J}15.4^{S}$	15.1 ^{S}	15.2 ^{S}	15.0 ^{S}	$^{I}14.8^{C}$	14.4 ^{R}	13.2	$^{S}12.2$	$^{I}11.8^{RS}$	9.8 ^{S}	$^{J}8.8^{S}$	8.8	9.0 ^{R}
19	$^{I}8.3^{S}$	7.5	7.2 ^{R}	$^{J}6.7^{R}$	6.9	7.1	9.1	11.2 ^{R}	13.2	12.1	13.3	15.1 ^{R}	14.8 ^{R}	14.3	14.9 ^{R}	13.8	13.3	$^{J}13.0^{RS}$	11.6	9.7 ^{S}	8.6	9.0	9.0	8.6
20	8.5 ^{R}	8.4 ^{R}	7.4	7.4	7.7 ^{R}	8.3 ^{R}	9.9 ^{R}	11.6	14.2 ^{R}	15.0 ^{R}	15.8 ^{R}	14.6 ^{RS}	14.9 ^{S}	C	C	14.3	13.6	13.1	S	S	S	9.1	8.8	8.6
21	8.1	7.9 ^{R}	$^{U}7.5^{R}$	7.4 ^{R}	7.3	7.1	8.9	11.1 ^{R}	13.7	$^{I}15.4^{C}$	15.4 ^{R}	$^{J}14.7^{R}$	14.2	14.7 ^{R}	14.9 ^{R}	14.0	13.5	13.3	11.8	$^{I}9.9^{S}$	10.0 ^{S}	9.3	8.6	8.8
22	8.6 ^{R}	6.9	$^{I}7.0^{R}$	6.8 ^{R}	6.9	7.2	9.1	11.5	13.5	13.9	15.1	16.2	15.1 ^{H}	14.7 ^{H}	14.7	13.9	13.2	12.8 ^{S}	12.2	$^{J}10.6^{R}$	9.8	9.8	9.3	8.8
23	8.3 ^{R}	7.7	$^{J}7.8^{R}$	7.8 ^{R}	7.0	6.7	9.4	11.7	12.6	13.1	14.4	14.5	R	$^{U}14.5^{R}$	14.3 ^{H}	13.6	13.4	13.2	12.7	$^{J}10.5^{R}$	9.0	9.3	8.7	9.1
24	9.3	8.4	8.2	7.8	7.6 ^{R}	8.0	10.6	13.0	13.2	13.8	$^{I}14.7^{R}$	$^{I}14.8^{R}$	$^{J}14.9^{R}$	14.8	$^{U}14.3^{RH}$	13.8	13.3	13.2	12.6	$^{J}11.2^{R}$	9.9	9.3	9.1	$^{I}8.6^{R}$
25	9.5	9.0	8.0 ^{R}	7.3	7.5	7.4	9.6	13.2	14.0	14.3	14.4	14.8	14.9	14.7	14.3 ^{H}	13.8	13.0	12.5	12.4	$^{U}10.1^{S}$	9.1	8.6	8.7	$^{I}8.7^{R}$
26	8.3	8.0	7.5	7.0	7.5	7.6 ^{R}	9.9	12.3	13.0	14.2	15.1 ^{R}	15.5 ^{H}	14.2 ^{H}	13.8 ^{H}	14.6 ^{H}	14.0	13.0	12.5	12.1	$^{J}10.6^{S}$	9.8	10.7	$^{J}10.7^{R}$	9.4
27	9.7	8.2 ^{R}	7.4	7.5	$^{J}8.0^{R}$	8.2	10.4	13.0	13.8	14.9	14.9	15.4	14.7	14.6	14.3 ^{H}	13.8	13.2	13.2	12.5	11.1	9.6	$^{I}9.7^{S}$	9.8	$^{U}10.0^{S}$
28	9.8	9.8	9.1	8.4	7.4	7.0	9.3	11.8	13.0	13.7 ^{H}	14.3	14.3	13.7 ^{H}	14.2 ^{H}	13.9	13.5 ^{H}	13.3	13.3	12.2	9.9	9.5	10.1	9.9	10.0
29	$^{U}10.2^{R}$	9.4	9.0	7.8	7.2	7.2	10.1	12.6	13.4	14.1 ^{R}	14.6 ^{R}	14.8 ^{R}	14.7 ^{R}	14.4 ^{RH}	14.2 ^{R}	13.9 ^{RH}	13.2	13.0	13.0 ^{R}	11.2 ^{R}	$^{I}10.8^{R}$	$^{J}11.1^{R}$	11.3 ^{R}	10.9 ^{R}
30	$^{I}10.4^{R}$	$^{I}10.0^{R}$	9.5	8.2 ^{R}	7.5 ^{R}	7.5 ^{R}	10.5 ^{R}	13.2	13.2	13.5	14.2	14.6 ^{R}	$^{U}14.9^{R}$	14.7 ^{RH}	14.4 ^{H}	14.4 ^{R}	13.9	13.2	12.6 ^{R}	$^{J}10.7^{R}$	9.5 ^{R}	$^{I}9.8^{R}$	$^{I}10.0^{R}$	8.8
31	8.4	8.5	8.1 ^{R}	7.5 ^{R}	$^{U}7.7^{R}$	8.7	10.7	12.9	14.4 ^{R}	14.2 ^{R}	14.3 ^{R}	14.3 ^{H}	14.4 ^{RH}	14.3 ^{H}	13.6 ^{H}	13.2 ^{H}	12.5	11.9	11.6	9.9	9.5 ^{R}	9.9 ^{R}	9.6 ^{R}	$^{I}9.8^{RS}$
No.	30	30	30	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	30	29	28	30	31	31
Median	8.4	8.0	7.4	7.3	7.1	7.1	9.1	11.8	13.3	14.1	14.7	15.1	14.9	14.6	14.3	13.8	13.2	12.9	12.1	10.6	9.5	9.3	8.9	8.8
U.Q.	8.6	8.5	7.8	7.6	7.5	7.4	9.9	12.6	13.9	14.9	15.3	15.4	15.4	15.1	14.7	14.1	13.6	13.2	12.5	11.1	10.0	9.8	9.6	9.2
L.Q.	8.1	7.5	7.2	6.7	6.7	6.6	8.1	11.2	12.9	13.7	14.3	14.6	14.7	14.4	13.9	13.3	12.8	12.3	11.6	10.0	9.2	8.8	8.5	8.6
Q.R.	0.5	1.0	0.6	0.9	0.8	0.8	1.8	1.4	1.0	1.2	1.0	0.8	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.1	0.8	1.0	1.1	0.6

foF2

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

The Radio Research Laboratories, Japan.

K.1

IONOSPHERIC DATA

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Mar. 1958

foF1

135° E Mean Time (G.M.T.+ 9h.)

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1												L		B										
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10										C			L											
11																								
12																								
13																								
14															A									
15																								
16																								
17																								
18																								
19																								
20														C	C									
21										C				L										
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
No.																								
Median																								

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

Mar. 1958 | 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								I 2.40 B	3.05	3.35	3.70	3.75	3.80	B	R	A	A	A						
2								2.45	3.15 H	3.55	3.75 R	3.90	3.90 R	3.90	3.80	3.65	3.15	A						
3								2.65 R	3.15	3.50 R	3.65	3.80 R	I 3.85 R	3.90	I 3.80 B	3.50	3.05	B						
4								I 2.50 B	3.00 R	R	R	R	3.90 R	3.90	3.75 R	3.55 R	3.00	B						
5								2.50	3.15	3.60 R	I 3.75 A	I 3.95 A	I 3.90 A	I 3.90 RS	3.80	3.50	3.00	2.20						
6								2.60	3.20	3.55	I 3.80 R	3.90	3.90 R	3.90	I 3.85 R	3.55	3.05	B						
7								2.40	3.00 A	I 3.20 A	I 3.65 R	3.80	R	R	3.85 R	3.50	3.05	2.25						
8								2.60	3.20 R	I 3.50 R	3.55	I 3.80 R	3.90	4.00	3.95	3.65	3.10	B						
9							B	2.70 R	3.25	3.45	3.40	3.85	I 4.00 A	I 4.05 A	4.00	3.80	I 3.20 A	I 2.40 A						
10							B	2.65 H	I 3.25 R	C	R	R	I 4.00 A	4.00	I 3.90 A	3.55	3.25	2.25						
11							A	A	2.90	A	B	3.85	3.95 R	4.00	4.00	U 3.65 A	3.20	2.35						
12							B	2.45	3.10	3.40	3.65	A	A	I 3.95 A	3.85	3.60	3.10	2.40						
13							B	2.50	3.10	I 3.40 R	3.85 R	I 3.90 A	U 4.00 A	I 4.00 A	3.85	3.50	3.15	2.25						
14							B	2.60 R	3.10 R	3.50 R	3.75	3.60	I 3.65 B	I 3.65 R	I 3.80 A	3.70	3.15	2.30						
15							B	2.75	3.20	3.40	3.50 R	R	A	A	A	3.60	3.30	U 2.75 A						
16							B	2.60	3.20 R	I 3.55 B	I 3.75 A	I 3.80 A	I 3.85 A	3.95	3.90	I 3.70 A	3.20	B						
17							B	2.75 R	3.20 H	3.50	I 3.65 R	3.85 R	3.95	4.00	3.90	3.75	3.25	B						
18							B	2.80	3.20	3.55	I 3.60 A	A	A	A	A	C	A	A						
19							B	2.80 R	3.20	3.60	3.65 R	R	R	A	A	3.65	I 3.20 A	R						
20							B	2.85	3.20 R	3.45 R	I 3.60 A	3.80 R	R	C	C	I 3.75 B	B	B						
21							B	I 2.90 B	I 3.15 B	I 3.45 C	I 3.75 R	B	B	R	3.90	3.65	3.30 R	2.50						
22							B	I 2.80 R	3.30	3.60	I 3.70 A	I 3.70 A	I 3.80 A	3.85	3.90	3.65	I 3.20 A	A						
23							B	2.90 H	3.40	I 3.60 B	A	A	B	A	A	I 3.30 A	3.25	2.55						
24							B	2.75	3.35	I 3.65 A	B	A	B	B	A	3.70	3.30	2.65						
25							B	2.80	3.35	3.80	I 3.85 A	A	A	A	U 3.75 R	I 3.45 R	3.35	2.50						
26							B	2.90 R	I 3.40 A	I 3.70 R	A	A	A	R	4.00	3.70	I 3.30 B	2.55	B					
27							B	R	3.40	I 3.70 R	B	A	A	A	A	A	A	B						
28							B	B	3.35	R	A	A	R	A	R	I 3.80 B	3.10	2.55						
29							2.65 H	2.95	3.45	3.70 R	B	B	B	B	B	B	3.40	B	B					
30							2.55	3.15 R	3.60	B	B	A	A	A	A	3.90 R	3.40	2.80	B					
31							B	3.20	3.50	3.80 R	B	B	4.05 R	B	B	B	A	2.85 B						
No.							2	28	31	26	20	15	16	15	19	26	26	17						
Median							2.50	2.70	3.20	3.55	3.70	3.80	3.90	3.95	3.85	3.65	3.20	2.50						

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

Mar. 1958 | 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	E	E	E	E	E	E	E	B	G	3.1 q	4.1 M	G	G	B	3.6 q	4.6	4.3 M	3.8 M	5.5 M	2.8 M	E	E	2.3 M	3.2 M
2	2.2 M	E	E	E	E	2.3 M	E	G	G	3.4 q	3.4 q	3.0 q	G	G	G	G	2.4 q	3.6 M	3.8 MS	E	5.2 M	3.2 MS	E	E
3	E	2.5 M	3.2 M	E	E	E	E	G	G	G	G	G	G	3.0 q	B	4.9	J 5.1	5.0	4.3 M	E	3.0 M	2.0 M	E	E
4	E	E	E	E	E	E	E	B	G	G	G	3.4 q	3.6 q	G	G	G	3.1	2.6	2.5 M	E	2.2 M	2.4 M	2.7 M	4.3 M
5	E	E	E	E	E	E	E	G	2.9 q	G	4.4 M	6.8 M	4.8 M	3.0 q	G	G	G	2.5	E	E	E	E	E	E
6	E	E	E	E	E	E	E	G	2.7 q	G	G	G	G	G	G	G	G	2.5	E	E	E	E	E	E
7	E	E	E	E	E	E	E	G	G	4.2 M	G	G	G	3.8 q	3.2 q	2.6 q	G	2.5	2.8 M	E	E	E	2.5 M	3.4 M
8	E	E	E	E	E	E	E	G	G	3.0 q	3.8	3.2 q	3.0 q	G	4.1 M	3.2 q	G	2.8 M	E	E	E	E	E	E
9	E	E	E	E	E	4.3 M	B	G	G	G	3.7	G	4.2 M	4.3 M	4.3	G	3.6	2.5	2.8 M	2.5 M	2.4 M	3.6 M	E	E
10	5.1 M	3.5 M	2.5 M	E	E	E	B	G	3.1 q	C	3.6 q	3.7 q	4.1 M	G	4.5 M	G	3.5	2.5	2.7 M	4.5 M	2.6 M	E	E	E
11	E	E	E	E	E	2.9 M	3.2 M	3.5 M	3.4	3.8 MY	B	G	G	G	G	3.8	G	3.0	2.3	E	E	E	E	E
12	4.3 M	3.0 M	E	E	E	E	B	2.6	3.5	3.9	4.7	5.0 M	5.0 M	4.5 M	3.7	G	G	G	E	E	C	E	E	E
13	E	E	E	E	E	E	B	G	G	G	4.1	4.4	4.2	4.3	5.0	6.1 M	3.8	5.0 M	3.4 M	2.9 M	4.8 M	5.6 M	3.3 M	3.0 M
14	3.5 M	2.4 M	2.4 M	E	E	2.2 M	B	G	3.4	3.7	4.2	4.1	4.4	5.0 M	3.9	3.9	3.8	4.2 M	2.5	3.2 M	9.2 M	5.3 M	4.2 M	2.3 M
15	E	2.9 M	2.5 M	E	E	E	B	3.0	G	3.9	3.9	3.7 q	5.1 M	5.9 M	7.2 M	4.2	2.6 q	4.9 M	4.4	8.6 M	5.8 M	6.7 M	5.8 M	4.1 M
16	2.5 M	2.7 M	E	E	E	E	B	G	G	B	3.9	3.9	4.6 M	3.5 q	3.4 q	4.4 M	G	B	E	E	E	E	E	2.6 M
17	E	E	E	E	E	E	B	G	G	G	G	G	G	G	G	3.0 q	3.0 q	B	E	2.5 M	E	3.0 MS	E	E
18	E	E	E	E	E	E	B	G	3.7	4.0	4.4	4.2	4.7 M	5.0 M	4.4 M	C	4.4 M	4.4 M	3.3 M	3.6 M	4.5 M	2.7 M	2.5 M	3.2 M
19	7.3 MS	4.3 M	4.3 M	4.2 M	E	E	B	G	3.7	4.2	4.5	4.2	G	4.3	5.4 M	G	3.2	G	3.2	E	4.9 M	3.9 M	E	E
20	E	E	E	E	E	E	B	G	3.4	3.8	4.8 M	G	G	C	C	B	B	B	3.3 M	7.9 MS	6.1 MS	4.7 M	E	E
21	E	E	E	E	E	E	B	B	B	C	3.1 q	B	B	G	G	G	G	2.8	3.4 M	3.1 M	3.3 M	3.8 M	3.0 M	2.2 M
22	3.9 M	4.3	3.1 M	2.5 M	E	E	B	G	3.6	4.3	4.5 M	3.9	5.8 M	4.2 M	3.4 q	G	5.0 M	3.5 M	2.9 M	E	E	E	E	E
23	E	E	E	E	E	E	B	G	3.3 q	B	4.1 M	4.0	B	4.2 M	4.6	3.9	3.7 M	G	E	E	2.1 M	E	5.0 M	E
24	E	E	E	E	E	E	B	G	G	4.1	4.1	4.1	B	B	4.0	G	2.5 q	2.8	E	E	3.0 M	6.6 M	E	3.9 M
25	E	E	E	E	E	E	B	G	G	4.2	4.2	4.1	4.4	3.9	3.4 q	G	2.8 q	G	E	E	E	E	E	5.8 M
26	5.5 M	3.7 M	4.0 M	4.0 M	3.9 M	E	B	2.8 q	4.1 M	G	5.2 M	5.5 S	9.4 M	G	5.0	3.8	B	5.8 M	5.6 M	2.4 M	12.6 M	E	E	E
27	E	E	E	E	E	E	B	G	G	4.2	4.7	4.9 M	5.4 M	5.0 M	4.1 M	6.0 M	4.3 M	B	E	2.9 M	3.6 M	3.2 M	2.4 M	2.4 M
28	E	E	E	E	E	E	B	B	G	G	5.0	4.3 M	3.9 q	5.6 M	3.3 q	B	3.6	3.0	E	E	E	E	E	E
29	E	E	E	E	E	E	G	5.0 M	G	G	B	B	B	B	B	B	3.7	3.1	B	E	E	E	E	E
30	E	E	E	E	E	E	G	G	3.8	B	4.5 M	4.5 M	6.2 M	4.5	4.0	2.8 q	4.0	3.7	4.6 M	3.2 M	E	E	E	E
31	E	E	E	E	E	E	B	G	3.9	4.2	B	B	4.9 M	B	B	B	4.2 M	5.3 M	3.7 M	E	3.9 M	3.7 M	E	E
No.	31	31	31	31	31	31	11	27	30	26	28	28	27	26	27	26	29	27	30	31	30	31	31	31
Median	E	E	E	E	E	E	E	G	G	3.7	4.1	3.9	4.2	G	G	G	3.2	3.0	2.8 M	E	2.3 M	E	E	E
U.Q.	2.2	2.5	E	E	E	E	E	G	3.4	4.1	4.5	4.2	4.9	4.5	4.4	3.9	3.9	4.2	3.4	2.9	4.5	3.7	2.5	3.0
L.Q.	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	2.5	E	E	E	E	E	E
Q.R.																		1.7						

foEs

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Mar. 1958 | 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								B		3.0	3.4			B	B	3.8	3.2	2.6	4.3	2.0			E	1.9
2	E					E				3.1	3.3	P 3.0 B					2.4	2.7	2.8		3.0	E		
3		E	E											P 3.0 B	B	2.9	5.1	4.7	E		2.3	E		
4								B				P 3.4 B	3.5				3.1	2.6	E		E	E	2.1	3.1
5									2.8		4.1	4.8	4.2	P 3.0 B				2.5						
6									2.7									P 2.5 B						
7										3.6				3.7	3.2	2.5		2.5	2.1				1.9	2.4
8										3.0	P 3.8 S	3.2	3.0		3.4	3.0		G						
9						E	B				D 3.7 B		4.2	4.1	G		3.4	P 2.5 B	2.0	E	E	2.5		
10	2.6	2.1	E				B		P 3.1 B	C	D 3.6 B	P 3.7 B	B		4.5		3.5	2.5	E	3.6	1.9			
11						2.1	2.3	3.0	3.4	3.7	B					3.8		2.9	2.1					
12	2.6	2.1					B	P 2.6 B	3.4	3.9	4.5	4.7	4.4	4.1	3.6						C			
13							B				4.1	4.2	P 4.2 B	4.3	5.0	5.5	3.8	U 4.4 A	2.1	2.2	4.1	3.0	E	2.3
14	2.9	E	E			E	B		3.4	3.7	4.2	4.1	4.4	4.6	D 3.9 B	3.9	3.7	3.5	2.5	2.4	2.9	2.4	3.0	2.0
15		E	E				B	2.9		3.7	D 3.9 B	D 3.7 B	4.3	4.5	D 7.2 B	4.1	P 2.6 B	3.9	3.9	4.6	2.0	2.9	2.2	2.7
16	E	2.1					B			B	3.9	P 3.9 B	4.0	3.5	3.4	3.9		B			2.0	2.4		E
17							B										2.8	B		E		2.1		
18							B		2.8	4.0	3.8	4.0	4.5	4.5	4.0	C	3.8	3.5	2.2	2.6	2.8	E	E	2.3
19	2.2	2.4	2.6	2.6			B		3.7	4.2	4.5	P 4.2 B		4.1	4.2		P 3.2 B		2.3		U 4.2 A	U 3.4 A		
20							B		3.4	3.8	4.1			C	C	B	B	B	2.8	U 7.9 A	U 4.8 A	3.2		
21							B	B	B	C	G	B	B					2.8	2.3	2.0	2.4	2.0	E	E
22	3.2	2.5	E	2.4			B		3.6	4.3	4.2	P 3.9 B	5.4	3.7	3.1		3.6	2.8	E					
23							B		3.1	B	4.0	P 4.0 B	B	4.2	D 4.6 B	3.8	2.9				2.0		2.3	
24							B			P 4.1 B	B	P 4.1 B	B	B	D 4.0 B		2.5	2.8			3.0	6.6		2.7
25							B			4.2	D 4.2 B	P 4.1 B	4.3	P 3.9 B	P 3.4 B		P 2.8 B							U 4.5 A
26	4.3	3.0	2.8	2.7	2.0		B	P 2.8 B	3.5		4.5	4.8	5.4		5.0	3.8	B	5.2	5.0	E	3.4			
27							B			4.2	4.7	4.5	4.5	4.7	4.1	5.5	3.6	B		2.1	2.4	2.9	2.2	2.3
28							B	B			5.0	4.3	P 3.9 B	5.6	B	B	3.5	2.9						
29								G			B	B	B	B	B	B	3.7	3.1	B					
30								B	3.8	B	4.4	P 4.5 B	5.0	4.5	P 4.0 B	2.8	2.5	G	2.9	2.0				
31							B		3.9	4.2	B	B	4.6	B	B	B	3.7	4.1	2.9		2.6	2.8		
No.	8	9	7	3	1	4	1	3	13	16	18	10	15	14	16	14	18	21	19	13	17	15	10	12
Median	2.6	2.1	E	2.6	2.0	E	2.3	2.9	3.4	3.8	4.2	4.4	4.4	4.2	D 4.0	3.8	3.5	2.8	2.3	2.1	2.6	2.5	2.0	2.3

foEs

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

The Radio Research Laboratories, Japan.

K 5

IONOSPHERIC DATA

Mar. 1958 | 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	1.70	1.60	1.80	1.70	1.70	1.60	1.80	2.60	2.20	2.20	2.40	2.70	2.85	8.00	3.20	2.60	2.05	2.00	2.00	1.55	1.70	1.60	1.60	1.65
2	1.70	1.65	1.60	1.50	1.90	1.60	1.95	2.10	2.05	2.40	2.80	2.80	3.10	2.80	2.85	2.60	2.00	2.00	1.80	1.70	1.90	2.10^{s}	2.00	1.90
3	1.90	1.65	1.70	1.80	1.70	1.70	1.80	2.10	2.10	2.50	2.60	3.20	3.15	2.85	4.20	2.65	2.65	2.00	1.75	1.80	1.70	1.70	1.65	1.80
4	1.90	1.70	1.95	1.95	1.70	1.70	1.70	2.70	2.10	2.80	2.85	2.80	2.50	3.00	2.80	2.65	2.40	2.20	2.00	1.90	1.90	1.90	1.90	1.70
5	1.80	1.90	2.00	1.90	2.00	2.00	2.00	2.20	2.05	2.50	2.65	2.70	2.65	2.60	2.60	2.30	2.10	1.90	1.70	1.70	1.80	1.50	1.70	1.70
6	1.80	1.50	1.80	1.65	1.65	1.80	1.90	2.10	2.10	2.25	2.90	2.60	3.00	3.00	3.10	2.70	2.80	2.25	1.70	1.70	1.75	1.70	1.70	1.75
7	1.70	1.70	1.80	1.95	2.00	1.80	1.80	1.90	2.00	2.70	3.10	2.90	3.15	2.90	2.70	2.20	2.25	2.05	1.80	1.90	2.00	1.80	1.65	1.65
8	1.60	1.70	1.70	1.60	1.80	1.70	1.80	2.20	2.30	2.60	3.00	2.70	2.60	3.00	2.20	2.40	2.30	2.50	2.00	1.80	1.80	1.80	1.80	1.75
9	1.80	1.70	1.70	1.80	1.75	1.70	1.80	2.20	2.25	2.85	2.60	2.95	3.20	2.75	2.80	2.60	2.30	2.05	1.80	1.80	1.75	1.65	1.80	1.90
10	1.60	1.60	1.80	1.80	1.70	1.70	1.90	2.05	2.70	I 3.00^{c}	3.20	3.10	3.30	2.80	2.70	2.60	2.50	2.10	1.90	1.90	1.70	1.80	1.70	2.00
11	1.70	1.60	1.70	1.75	1.90	1.80	1.60	2.00	2.10	2.70	4.00	2.75	2.90	3.00	3.00	2.80	2.20	2.00	2.00	1.90	1.80	1.60	1.70	1.70
12	1.80	1.80	1.70	1.70	2.15	1.75	2.10	2.20	2.25	2.85	3.10	3.40	3.20	2.90	2.40	2.50	2.15	2.00	1.95	1.95	I 1.70^{c}	1.80	1.90	1.85
13	1.70	1.90	1.60	1.70	1.75	1.70	2.00	2.10	2.35	2.85	3.20	2.70	3.70	2.95	3.00	2.40	2.35	2.00	2.00	2.00	1.70	1.50	1.95	2.00
14	1.70	2.00	1.70	1.90	2.20	1.90	2.20	2.05	2.80	3.05	3.00	2.65	3.80	3.05	3.10	2.80	2.40	2.10	2.00	1.75	1.70	1.70	1.70	1.65
15	1.80	1.80	1.80	1.75	1.80	1.90	2.10	2.10	2.10	2.55	2.75	3.10	3.15	2.90	2.75	3.10	2.20	2.05	1.95	2.40	1.95	1.85	1.95	1.70
16	1.60	1.95	1.80	1.85	1.90	1.70	2.00	2.10	2.20	4.10	2.55	2.80	2.85	2.65	2.70	2.30	2.30	2.60	2.00	2.00	1.80	1.80	1.90	1.70
17	1.80	1.80	1.90	2.05	2.00	1.90	2.10	2.20	2.30	2.60	2.70	3.30	2.75	2.80	2.70	2.25	2.20	2.70	1.90	2.05	2.00	1.70	2.00	1.70
18	1.80	2.05	1.70	2.00	2.00	2.00	2.00	2.40	2.35	2.40	2.70	2.90	3.20	2.80	2.70	I 2.75^{c}	2.40	2.00	1.90	1.80	2.00	1.90	1.70	1.75
19	1.80	1.70	1.90	1.80	2.00	1.90	2.20	2.30	2.50	2.80	3.00	3.30	3.50	3.15	2.40	2.80	2.85	2.10	2.00	2.10	2.00	1.70	1.70	1.90
20	2.10	2.00	2.10	2.00	2.10	2.30	2.20	2.20	2.40	2.70	2.50	3.00	2.90	I 4.00^{c}	I 3.45^{c}	3.70	4.10	3.00	2.00	2.00	2.00	2.00	2.00	2.20
21	2.00	2.00	2.10	1.50	1.70	1.60	2.50	2.90	3.65	I 2.65^{c}	2.80	4.70	4.20	3.30	3.20	2.90	2.60	2.20	2.00	1.70	1.90	1.60	1.90	1.60
22	2.00	2.00	1.80	1.90	1.70	2.00	2.30	2.00	2.20	2.50	2.95	3.50	3.60	2.80	2.60	2.40	2.20	2.00	2.20	2.50	2.00	2.00	2.00	2.10
23	2.10	2.10	2.05	2.00	2.00	2.50	2.30	2.20	2.65	3.70	2.60	3.50	5.50	3.00	2.80	2.50	2.25	2.30	2.00	1.95	1.85	1.90	2.00	2.00
24	1.95	2.00	2.00	2.00	2.15	1.80	2.30	2.20	2.50	2.95	3.80	3.45	6.00	6.30	3.30	3.20	2.30	2.10	1.90	1.70	1.80	2.25	2.05	2.00
25	1.95	1.85	2.05	2.10	2.00	2.00	2.50	2.15	2.35	2.75	2.80	3.60	3.10	3.30	3.00	3.00	2.70	2.25	2.10	1.85	1.70	2.00	1.70	2.00
26	1.80	1.55	2.10	1.95	1.90	2.10	2.40	2.10	2.25	2.90	2.95	3.40	3.20	3.80	3.85	3.20	3.40	2.40	2.60	1.90	1.75	1.80	1.95	1.95
27	2.10	2.00	2.05	2.10	2.45	2.10	2.35	2.40	2.90	3.60	3.95	3.20	3.10	3.20	3.30	3.20	2.80	2.70	2.20	2.00	1.60	1.70	1.90	1.80
28	2.60	2.60	1.95	2.00	2.05	2.10	2.60	3.25	3.00	3.30	3.45	3.45	3.20	3.15	2.70	3.80	2.70	2.30	2.20	1.80	1.80	1.75	1.80	1.75
29	1.90	1.80	1.80	1.80	1.85	1.75	2.05	2.15	2.55	2.80	5.10	4.60	4.80	5.00	4.60	4.10	2.90	2.75	2.10	2.20	2.10	2.00	2.00	2.00
30	2.00	2.00	2.00	2.00	2.00	2.00	2.10	2.60	3.00	4.60	3.80	3.60	3.30	2.90	3.25	2.40	2.20	2.30	1.75	1.80	2.00	1.90	1.90	2.00
31	2.00	2.00	1.80	2.00	2.00	1.90	2.70	2.30	2.55	2.80	6.00	5.10	3.80	5.50	5.20	3.90	2.60	2.80	2.00	2.00	2.00	2.00	2.20	2.10
No.	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
Median	1.80	1.80	1.80	1.90	1.90	1.80	2.10	2.20	2.30	2.80	2.95	3.10	3.20	3.00	2.85	2.65	2.35	2.10	2.00	1.90	1.80	1.80	1.90	1.80

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

Mar. 1958 | (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	2.70	2.70	2.55	2.75	2.75	2.75	2.85^{S}	3.15	3.15	2.95	2.85	^{J}2.90^{S}	2.85	2.85^{R}	2.70^{H}	2.75	2.85	2.85	3.00	3.00	3.05	^{J}2.70^{S}	^{U}2.75^{S}	2.75
2	2.80	2.70	2.90	3.20	2.85	2.65	2.75	^{J}3.20^{R}	3.15	3.05^{R}	2.95^{R}	2.90^{R}	2.85^{RS}	^{I}2.85^{S}	2.75^{R}	2.75	2.80	2.85^{S}	2.95^{S}	^{J}2.80^{S}	^{I}2.95^{S}	^{U}3.10^{S}	2.75^{S}	2.60^{S}
3	2.75^{S}	2.90^{RS}	2.80	2.75	2.70	2.60	^{U}2.85^{RS}	3.20^{R}	3.10	3.00	2.90^{RH}	2.85^{R}	2.80^{S}	2.80	2.75	2.75	2.85	2.90	2.85	^{J}2.75^{S}	2.90^{S}	^{J}2.90^{S}	2.80^{S}	^{I}2.60^{S}
4	^{I}2.70^{S}	2.90	2.85	2.60	2.65	2.50	2.60	3.15	2.85	2.95	2.85	2.85	2.80^{R}	^{I}2.70^{S}	2.70^{S}	2.70	2.75	2.80^{RS}	2.65^{S}	^{I}2.80^{S}	2.70	2.65	2.80^{S}	^{I}2.70^{S}
5	^{I}2.70^{RS}	2.70^{S}	2.45	2.45^{S}	2.45	^{U}2.55^{S}	2.75^{S}	3.10^{R}	3.05^{R}	^{I}3.05^{S}	2.85^{R}	2.90^{R}	2.75^{R}	^{I}2.80^{RS}	2.75^{R}	2.65^{RS}	2.70	^{I}2.80^{RS}	2.75	2.80^{R}	2.65^{S}	2.60	2.75^{S}	^{I}2.70^{RS}
6	^{U}2.55^{R}	2.75^{S}	2.70	2.60	2.40	2.65	3.00	3.15^{R}	3.15	2.95	2.75^{R}	2.80^{RS}	2.70^{R}	2.65^{R}	2.65^{R}	2.60	2.70^{R}	2.80	2.80	2.75^{R}	2.75^{RS}	^{I}2.70^{RS}	2.70^{S}	2.65
7	2.75	2.70^{RS}	2.65^{RS}	2.50^{S}	^{U}2.55^{S}	2.70	2.80	3.00	3.00	2.90	2.80	2.75^{R}	2.75^{S}	^{I}2.70^{RS}	2.60^{R}	2.60^{RS}	2.70^{S}	2.75	2.75^{S}	2.70^{S}	2.80^{S}	^{U}2.70^{S}	^{I}2.80^{RS}	2.70^{R}
8	^{J}2.70^{S}	^{J}2.60^{R}	^{U}2.65^{RS}	^{I}2.70^{RS}	2.55^{S}	2.70^{S}	2.95	3.05	3.10	2.95^{RS}	2.75^{R}	2.80^{R}	^{U}2.65^{R}	2.70^{R}	2.65^{S}	2.65^{R}	2.65	2.75^{S}	2.85^{S}	^{I}2.75^{S}	2.70^{S}	2.80^{S}	2.65	2.70^{S}
9	2.80^{R}	2.80	2.70^{RS}	^{I}2.90^{RS}	2.80	2.75	^{J}2.90^{S}	3.20^{R}	3.15	3.00	2.80	2.75	2.65^{H}	2.65	2.65	2.70	2.70	2.75	2.80	^{U}2.80^{S}	S	^{I}2.75^{S}	2.75	2.70
10	2.90	2.70	2.50	2.55	2.60	2.75	^{J}2.80^{S}	3.15	3.00	2.90	2.80^{R}	2.75	2.80	2.70^{H}	2.70^{H}	2.60	2.70	2.75	^{U}2.85^{S}	2.80	^{U}2.90^{S}	^{J}2.60^{S}	2.75	2.75
11	2.80	2.80^{R}	2.70	2.50	2.40	2.30	2.90	3.20	2.90	2.85	^{J}2.80^{R}	2.75	2.75^{SH}	2.70	2.65^{H}	2.70^{H}	2.75	2.80	2.85	^{J}2.80^{R}	2.80	2.75	2.70	2.55
12	2.50	2.70	2.65	2.45	2.30	2.35	^{J}2.70^{S}	3.05	2.95	2.95	2.80	2.70^{R}	2.65	2.60^{H}	2.55	2.60	2.60	2.65	^{J}2.65^{R}	2.70^{S}	^{I}2.65^{C}	2.55	2.55	^{U}2.45^{S}
13	^{J}2.50^{R}	2.65	3.10	2.50^{H}	2.20	2.25	2.25	2.85	3.15	2.95^{R}	2.95	2.80^{H}	^{U}2.80^{S}	2.65^{H}	2.60	2.65	2.65	2.75	2.80	2.75	2.75	2.25	2.40	2.45
14	^{U}2.50^{S}	2.20	2.40	2.40	2.30	2.45	2.55	2.85	^{J}2.80^{R}	2.90	^{U}2.80^{RH}	2.75	^{I}2.70^{SH}	^{J}2.70^{S}	2.70	2.70	2.70	2.85	2.90	2.85	2.75	2.85	2.90	2.75
15	2.25	2.45	2.20	2.10	2.25	2.40	2.70	3.00^{S}	3.00	2.90	2.80^{S}	2.75	2.70	2.65	2.65	2.60	2.75	2.80	2.75	2.80	2.80	2.40^{R}	2.50	2.30
16	2.30	2.30	2.40	2.25	2.25	2.45	3.05	^{I}3.15^{S}	^{J}3.00^{S}	2.95^{R}	2.85^{R}	2.80^{R}	2.75	2.70	2.65	2.70	2.75^{R}	2.65^{S}	2.80^{S}	S	S	S	2.75^{S}	^{J}2.80^{R}
17	^{J}2.75^{S}	2.75^{RS}	2.60^{S}	2.65^{S}	2.45	2.45^{S}	^{I}2.90^{S}	3.05^{S}	3.15	2.85	2.80^{R}	2.90^{S}	2.75^{S}	2.60^{SH}	2.60	2.65^{S}	2.65	2.70	2.85^{S}	^{I}2.70^{S}	^{I}2.60^{S}	^{J}2.70^{S}	^{U}2.80^{S}	2.65^{S}
18	S	S	S	^{I}2.60^{S}	2.35^{S}	2.50^{S}	^{I}2.85^{S}	3.05	2.90	2.85	2.75^{RS}	^{J}2.65^{S}	2.80^{S}	2.70^{S}	2.65^{S}	^{I}2.70^{C}	2.65^{R}	2.75	2.60^{S}	^{I}2.80^{RS}	2.65^{S}	^{J}2.60^{S}	2.50	2.70^{R}
19	^{I}2.70^{S}	2.60	2.35^{R}	^{J}2.30^{R}	2.30	2.45	2.90	3.05^{R}	3.05	2.90	2.70	2.80^{R}	2.70^{R}	2.65	2.60^{R}	2.60	2.70	^{J}2.75^{RS}	2.85	2.80^{S}	2.60	2.55	2.55	2.45
20	2.45^{R}	2.50^{R}	2.35	2.30	2.35^{R}	2.55^{R}	2.95^{R}	2.95	2.95^{R}	3.00^{R}	2.85^{R}	2.75^{RS}	2.70^{S}	C	C	2.75	2.75	2.75	S	S	S	2.65	2.65	2.70
21	2.60	2.40^{R}	^{U}2.45^{R}	2.45^{R}	2.50	2.50	2.85	3.00^{R}	3.05	^{I}3.00^{C}	2.90^{R}	^{J}2.85^{R}	2.70	2.65^{R}	2.70^{R}	2.70	2.75	2.85	2.90	^{I}2.70^{S}	2.70^{S}	2.80	2.65	2.75
22	2.75^{R}	2.35	^{I}2.35^{R}	2.30^{R}	2.25	2.40	2.85	3.00	3.05	2.95	2.85	2.80	2.70^{H}	2.65^{H}	2.65	2.75	2.75	2.80^{S}	2.90	^{J}2.75^{R}	2.75	2.85	2.80	2.75
23	2.60^{R}	2.50	^{J}2.55^{R}	2.70^{R}	2.65	2.60	3.00	3.15	3.00	2.85	2.85	2.85	R	^{U}2.85^{R}	2.65^{H}	2.65	2.70	2.80	2.85	^{J}2.75^{R}	2.50	2.60	2.55	2.50
24	2.70	2.60	2.55	2.65	2.45^{R}	2.55	2.90	3.10	3.00	2.90	^{I}2.80^{R}	^{I}2.80^{R}	^{J}2.75^{R}	2.65	^{U}2.65^{RH}	2.60	2.55	2.75	2.80	^{J}2.75^{R}	2.75	2.70	2.60	^{I}2.45^{R}
25	2.65	2.80	2.65^{R}	2.40	2.30	2.40	2.80	2.80	2.95	2.95	2.80	2.70	2.65	2.65	2.60^{H}	2.60	2.60	2.70	2.80	^{U}2.85^{S}	2.65	2.65	2.65	^{I}2.55^{R}
26	2.40	2.50	2.45	2.30	2.35	2.40^{R}	2.75	2.95	2.90	2.80	2.80^{R}	2.70^{H}	2.60^{H}	2.55^{H}	2.55^{H}	2.65	2.60	2.70	2.65	^{J}2.65^{S}	2.65	2.60	^{J}2.65^{R}	2.65
27	2.80	2.75^{R}	2.40	2.35	^{J}2.50^{R}	2.70	2.90	3.00	3.00	2.80	2.70	2.75	2.60	2.55	2.60^{H}	2.60	2.60	2.70	2.80	2.80	2.60	^{I}2.70^{S}	2.75	^{U}2.85^{S}
28	2.75	2.80	2.85	2.80	2.70	2.50	2.90	2.95	2.90	2.80^{H}	2.70	2.65	2.55^{H}	2.55^{H}	2.55	2.50^{H}	2.55	2.70	2.80	2.75	2.55	2.65	2.70	2.70
29	^{U}2.75^{R}	2.85	2.80	2.80	2.40	2.40	2.80	3.00	2.95	2.75^{R}	2.65^{R}	2.65^{R}	2.60^{R}	2.55^{RH}	2.50^{R}	2.55^{RH}	2.60	2.60	2.70^{R}	2.70^{R}	^{I}2.65^{R}	^{J}2.60^{R}	2.65^{R}	2.65^{R}
30	^{I}2.70^{R}	^{I}2.80^{R}	2.85	2.95^{R}	2.45^{R}	2.40^{R}	2.85^{R}	3.10	2.95	2.75	2.65	2.55^{R}	^{U}2.55^{R}	2.50^{RH}	2.50^{H}	2.50^{R}	2.60	2.60	2.60^{R}	^{J}2.50^{R}	2.40^{R}	^{I}2.45^{R}	^{I}2.65^{R}	2.65
31	2.35	2.30	2.40^{R}	2.40^{R}	^{U}2.20^{R}	2.40	2.70	2.80	2.75^{R}	2.75^{R}	2.65^{R}	2.50^{H}	2.50^{RH}	2.45^{H}	2.45^{H}	2.45^{H}	2.50	2.55	2.65	2.55	2.35^{R}	2.40^{R}	2.40^{R}	^{I}2.45^{RS}
No.	30	30	30	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	30	29	28	30	31	31
Median	2.70	2.70	2.60	2.50	2.45	2.50	2.85	3.05	3.00	2.90	2.80	2.75	2.70	2.65	2.65	2.65	2.70	2.75	2.80	2.75	2.70	2.65	2.70	2.65

(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

Mar. 1958 | (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												L		B										
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10										C														
11													L											
12																								
13																								
14																								
15															A									
16																								
17																								
18																								
19																								
20														C	C									
21										C														
22														L										
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
No.																								
Median																								

(M3000)F1 Sweep 1.0 Mc to 20.0 Mc in 20 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

K 8

IONOSPHERIC DATA

Mar. 1958 | h'F2 | 135° E Mean Time (G.M.T. + 9h.) | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1												260		300										
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10										300														
11													255H											
12																								
13																								
14																								
15															325									
16																								
17																								
18																								
19																								
20														C	C									
21										C														
22														250H										
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
No.										1		1	1	2	1									
Median										300		260	255	275	325									

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

Mar. 1958 | 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	290	270	310	280	275	250	275	230	230	230	230	220	250	I 245 B	245 H	240	250	250	260 A	245	230	250	270	290
2	290	295	260	230	230	275	280	240	235	230	210	210	235	240	240	250	250	240	250	250	250	215	255	270
3	270	255	265	270	270	300	275	235	235	220	205 H	240	240	230	240	250	255	250	230	250	255	250	250	300
4	300	255	250	300	255	315	290	230	220	225	240	240	245	235	235	245	240	240	245	240	255	280	260	300
5	275	270	300	320	350	350	295	240	220	240	225	240	225	230	230	240	250	250	255	255	255	265	250	255
6	285	265	250	265	315	300	255	230	235	230	225	240	235	230	240	240	245	250	240	245	255	240	260	300
7	255	260	265	305	310	285	255	225	230	230	215	210	220	240	230	235	250	245	240	245	275	280	270	290
8	275	270	285	265	300	275	250	230	230	225	210	215	240	240	230	240	245	250	240	235	270	255	250	275
9	255	275	260	255	250	250	250	240	230	230	225	225	235 H	250	235	245	245	250	255	220	240	260	280	295
10	260	280	325	300	250	250	275	235	230	I 230 C	230	225	250	230 H	230 H	250	250	250	250	270 A	255	270	270	275
11	230	230	260	295	355	380	270	230	230	230	230	230	230	235	235 H	240 H	250	250	250	250	260	250	280	305
12	350 A	300	275	310	360	370	260	230	230	230	240	250	230	235 H	240	235	250	260	250	260	I 260 C	275	255	300
13	305	305	230	210 H	395	405	300	250	245	235	230	225 H	225	230 H	250 A	270 A	250	260 A	245	250	300 A	340	340	325
14	320 A	395	345	255	325	320	270	230	235	230	230 H	240	225 H	240	230	230	240	250	250	250	280	255	280	275
15	360	345	330	440	385	320	275	245	235	230	220	210	230	240	I 245 A	250	245	255	260	270 A	260	320 A	330	390
16	360	375	320	345	380	300	245	230	230	220	210	215	215	240	230	245	250	250	250	250	290	255	255	255
17	265	265	300	280	320	350	260	240	240	225	210	240	225	220 H	240	225	250	255	250	250	300	255	255	280
18	300	350	310	250	300	310	255	240	225	230	230	230	230	220	235	250	250	250	250	250	240	260	300	280
19	300	280	350	400	355	320	250	225	220	230	225	250	240	225	250	250	250	250	250	250	310 A	315 A	315	340
20	350	315	305	350	350	300	240	240	250	240	235	240	215	I 250 C	250	245	250	255	250	I 275 A	305	300	295	300
21	300	340	350	305	300	260	255	235	240	I 250 C	230	240	230	240	230	245	250	250	240	240	275	270	290	270
22	290	305	355	380	370	340	250	225	240	240	235	230	245 H	230	240	235	250	255	250	255	260	270	255	275
23	295	330	320	270	245	290	250	235	235	230	225	250	E 250 B	230	240 H	235	250	250	255	230	255	300	310	330
24	295	280	300	280	320	320	250	235	235	230	245	240	E 255 B	E 280 B	240 H	250	245	250	250	245	280 A	E 350 A	305	330 A
25	300	260	275	310	370	365	250	235	240	230	230	225	230	230	230 H	245	245	255	260	235	245	255	320	345 A
26	370 A	330 A	320	390	350	320	260	240	235	230	230	235 H	255 AH	250 H	260 AH	250	250	270 A	270 A	250	300 A	295	275	295
27	280	255	320	380	330	255	240	240	235	240	235	220	230	230	230 H	E 270 A	250	255	250	240	290	300	295	275
28	290	280	270	255	230	295	255	225	230	230 H	250 A	245	240 H	E 270 AH	245	245 H	250	260	250	245	295	300	280	290
29	280	275	270	250	345	355	245	235	235	245	245	230	230	250 H	235	250 H	250	255	260	250	280	295	290	270
30	280	275	250	255	300	350	250	245	240	240	240	250	250	230 H	250 H	250	250	255	250 A	220	305	310	285	290
31	355	370	315	280	350	330	240	250	250	240	250	245 H	250 H	250 H	250 H	250 H	250	270 A	275	255	330	340	340	330
No.	31	31	31	31	31	31	31	31	31	31	31	31	29	29	31	30	31	31	31	31	31	30	31	31
Median	290	280	300	280	320	315	255	235	235	230	230	235	230	235	240	245	250	250	250	250	270	270	280	290

h'F

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Mar. 1958

h'Es

135° E Mean Time (G.M.T. + 9h.)

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	E	B	G	110	110	G	G	B	105	100	100	105	120	120	E	E	110	110
2	105	E	E	E	E	100	E	G	G	105	105	110	G	G	G	G	105	100	100	E	105	105	E	E
3	E	110	110	E	E	E	E	G	G	G	G	G	G	105	B	125	120	110	115	E	110	105	E	E
4	E	E	E	E	E	E	E	B	G	G	G	105	105	G	G	G	140	125	115	E	115	110	105	105
5	E	E	E	E	E	E	E	G	115	G	110	105	105	105	G	G	G	125	E	E	E	E	E	E
6	E	E	E	E	E	E	E	G	115	G	G	G	G	G	G	G	G	130	E	E	E	E	E	E
7	E	E	E	E	E	E	E	G	G	110	G	G	G	105	105	105	G	130	115	E	E	E	105	105
8	E	E	E	E	E	E	E	G	G	105	130	105	105	G	100	100	G	100	E	E	E	E	E	E
9	E	E	E	E	E	100	B	G	G	G	120	G	120	120	135	G	120	115	110	110	110	105	E	E
10	100	100	105	E	E	E	B	G	120	C	120	115	120	G	115	G	150	130	120	110	110	E	E	E
11	E	E	E	E	E	110	105	105	115	110	B	G	G	G	G	125	G	120	115	E	E	E	E	E
12	105	105	E	E	E	E	B	145	125	120	115	110	110	105	100	G	G	G	E	E	C	E	E	E
13	E	E	E	E	E	E	B	G	G	G	130	120	130	125	120	120	E 175 B	130	120	120	110	110	105	110
14	105	110	110	E	E	115	B	G	130	130	125	120	120	110	140	145	125	125	120	120	110	110	105	105
15	E	105	105	E	E	E	B	E 170 B	G	120	120	110	105	105	100	125	105	120	115	110	110	105	110	105
16	110	105	E	E	E	E	B	G	G	B	105	105	105	105	105	105	G	B	E	E	E	E	E	105
17	E	E	E	E	E	E	B	G	G	G	G	G	G	G	G	105	105	B	E	100	E	100	E	E
18	E	E	E	E	E	E	B	G	130	130	110	110	110	105	105	C	105	105	105	105	105	105	105	105
19	105	105	100	100	E	E	B	G	135	125	115	110	G	110	105	G	120	G	100	E	105	105	E	E
20	E	E	E	E	E	E	B	G	150	140	110	G	G	C	C	B	B	B	100	105	105'	100	E	E
21	E	E	E	E	E	E	B	B	B	C	105	B	B	G	G	G	G	150	105	110	110	110	105	105
22	100	105	105	105	E	E	B	G	145	120	110	110	105	110	100	G	100	100	100	E	E	E	E	E
23	E	E	E	E	E	E	B	G	120	B	110	105	B	110	105	115	105	G	E	E	120	E	110	E
24	E	E	E	E	E	E	B	G	G	125	120	120	B	B	110	G	115	130	E	E	110	110	E	110
25	E	E	E	E	E	E	B	G	G	130	125	125	110	110	110	G	110	G	E	E	E	E	E	115
26	110	110	110	110	110	E	B	120	110	G	115	110	105	G	125	150	B	120	120	120	115	E	E	E
27	E	E	E	E	E	E	B	G	G	130	120	110	105	105	120	110	110	B	E	120	110	105	100	100
28	E	E	E	E	E	E	B	B	G	G	110	110	105	100	105	B	130	130	E	E	E	E	E	E
29	E	E	E	E	E	E	G	120	G	G	B	B	B	B	B	B	150	140	B	E	E	E	E	E
30	E	E	E	E	E	E	G	G	130	B	105	105	105	100	105	105	150	130	115	110	E	E	E	E
31	E	E	E	E	E	E	B	G	140	150	B	B	125	B	B	B	100	120	120	E	110	110	E	E
No.	8	9	7	3	1	4	1	4	14	16	23	20	18	17	20	14	20	23	19	13	17	15	10	12
Median	105	105	105	105	110	105	105	120	130	120	115	110	105	105	105	110	110	125	115	110	110	105	105	105

h'Es

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

The Radio Research Laboratories, Japan.

K 11

IONOSPHERIC DATA

Mar. 1958

Types of Es

135° E Mean Time (G.M.T.+ 9h.)

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1										l	l				l	l	l2	l	f4	f			f	f2
2	f					f				l	l	l					l	l2	f3		f3	f		
3		f	f											l		c l	c	l3	f		f2	f		
4												l	l				h	l	f		f	f	f	f3
5									l		l	l	l	l				c						
6									l									h						
7										l				l	l	l		c	f				f	f2
8										l	h	l	l		l	l		l						
9						f					c		l	l	h		l	l	f	f	f	f2		
10	f4	f2	f						l		l	l	l		l		h	h	f	f4	f			
11						f	l2	l	c	l						c		c	f					
12	f2	f						h	c	c	c	l	l	l	l									
13											h	l	c	l	c	c2	h	c2	f2	f	f5	f3	f	f2
14	f2	f	f			f			h	h	h	c	l	c	h l	h	c	c2	f3	f3	f3	f2	f3	f
15		f	f					h		c	c	l	l	l2	l2	c	l	c2 l	f2 f	f2	f	f2	f	f2
16	f	f									l	l	l	l	l	l2								f
17																l	l			f		f2		
18									c l	h	l	l	l	l2	l		l	l3	f2	f2	f2	f2	f2	f2
19	f2	f3	f3	f2					h	h	c	c		l	l2		l		f		f4	f3		
20									h	h	l								f	f	f3	f		
21											l							h	f	f	f2	f2	f	f2
22	f3	f2	f	f2					h	c	l	l	l	l	l		l2	l2	f					
23									l		l	l		l	l2	c l	l				f		f2	
24										l	l	l			l		l	h			f2	f3		f
25										h	l	l	l	l	l		l							f3
26	f3	f5	f2	f3	f2			l	l		l	l	l		c	h		c2	l4	f	f2			
27										c	l	l	l	l	l	l	l2			f	f2	f	f2	f
28											l	l	l	l	l		h l	c						
29								l									h	h						
30									h		l	l	l	l	l	l	h l	c	l3	f				
31									h	h			c				l	c	f f		f2	f2		
No.																								
Median																								

Types of Es

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

The Radio Research Laboratories, Japan.

K 12

IONOSPHERIC DATA

Mar. 1958 | h_pF2 | 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	390	380	425	375	375	360	350^{S}	295	295	315	350	$J\,350^{S}$	355	370^{R}	380^{H}	380	355	350	325	330	310	$J\,355^{S}$	$U\,370^{S}$	380
2	380	390	350	300	350	395	360	$J\,295^{R}$	300	310^{R}	335^{R}	355^{R}	360^{S}_{S}	$I\,360^{S}$	365^{R}	375	350	350	340^{S}	$J\,335^{S}$	$I\,310^{S}$	$U\,305^{S}$	375^{S}	390^{S}
3	360^{S}	340^{R}_{S}	360	355	375	400	$U\,350^{R}_{S}$	295^{R}	305	320	345^{H}	355^{R}	360^{S}	365	380	355	350	325	340	$J\,355^{S}$	340^{S}	$I\,365^{S}$	355^{S}	$I\,420^{S}$
4	$I\,395^{S}$	345	345	400	395	430	400	290	345	350	355	360	380^{R}	$I\,400^{S}$	385^{S}	390	370	355^{R}_{S}	395^{S}	$I\,350^{S}$	375	400	375^{S}	$I\,380^{S}$
5	$I\,385^{R}_{S}$	390^{S}	445	450^{S}	450	$U\,440^{S}$	375^{S}	305^{R}	310^{R}	$I\,315^{S}$	360^{R}	350^{R}	375^{R}	$I\,370^{S}_{S}$	385^{R}	400^{R}_{S}	380	$I\,350^{R}_{S}$	360	360^{R}	390	395	380^{S}	$I\,390^{R}_{S}$
6	$U\,405^{R}$	360^{S}	375	400	455	400	305	290^{R}	290	340	355^{R}	360^{R}_{S}	390^{R}	400^{R}	400^{R}	395	370^{R}	355	350	370^{R}	355^{R}_{S}	$I\,360^{R}_{S}$	375^{S}	400
7	365	390^{R}_{S}	400^{S}	415^{S}	$U\,420^{S}$	375	350	300	305	335	355	370^{R}	385^{S}	$I\,395^{R}_{S}$	405^{R}	400^{R}_{S}	370^{S}	355	355^{S}	375^{S}	370^{S}	$U\,395^{S}$	$I\,355^{R}_{S}$	375^{R}
8	$J\,400^{S}$	$J\,405^{R}$	$U\,400^{R}_{S}$	$I\,380^{R}_{S}$	425^{S}	390^{S}	320	310	305	325^{R}_{S}	365^{R}	370^{R}	$U\,400^{R}$	395	400^{S}	400^{R}	390	370	350	$I\,360^{S}$	375	355	375	355
9	350^{R}	350	380^{R}_{S}	$I\,325^{R}_{S}$	360	365	$J\,340^{S}$	295^{R}	290	325	350	380	400^{H}	400	400	390	390	370	350	$U\,350^{S}$	S	$I\,370^{S}$	390	380
10	350	380	430	400	390	355	$J\,355^{S}$	305	330	340	355^{R}	380	400	405^{H}	395^{H}	410	380	360	$U\,355^{S}$	350	$U\,350^{S}$	$J\,400^{S}$	360	370
11	350	350^{R}	390	410	470	500	345	295	310	350	$J\,350^{R}$	375	390^{H}	390	400^{H}	390^{H}	375	350	350	$J\,350^{R}$	355	360	390	410
12	445	395	400	450	505	490	$J\,350^{S}$	310	340	350	350	370^{R}	390	410^{H}	410	400	400	390	$J\,390^{R}$	375^{S}	$I\,390^{C}$	440	410	$U\,430^{S}$
13	$J\,405^{R}$	400	305	460^{H}	530	540	480	350	310	340^{R}	340	385^{H}	$U\,375^{S}$	405^{H}	400	395	395	355	350	370	375	505	460	445
14	$U\,430^{S}$	550	460	450	490	445	410	340	$J\,350^{R}$	350	$U\,360^{R}_{H}$	375	$I\,400^{S}_{H}$	$J\,390^{S}$	390	390	380	330	345	350	370	350	350	360
15	505	450	505	590	510	455	390	305^{S}	320	345	355^{S}	380	395	400	395	400	395	355	350	355	390	455^{R}	445	505
16	495	500	450	500	505	425	315	$I\,295^{S}$	$J\,305^{S}$	335^{R}	355^{R}	355^{R}	390	395	400	380	375^{R}	360^{S}	345^{S}	S	S	S	345^{S}	$J\,360^{R}$
17	$J\,365^{S}$	365^{R}_{S}	400^{S}	385^{S}	440	450^{S}	$I\,330^{S}$	280^{S}	295	350	360^{R}	360^{S}	380^{S}	400^{S}_{H}	400	400^{S}	390	365	350^{S}	$I\,380^{S}$	$I\,400^{S}$	$J\,370^{S}$	$U\,365^{S}$	400^{S}
18	S	S	S	$I\,390^{S}$	480^{S}	430^{S}	$I\,345^{S}$	300	315	355	365^{R}_{S}	$J\,390^{S}$	370^{S}	400^{S}	390^{S}	$I\,395^{C}$	395^{R}	360	370^{S}	$I\,350^{R}_{S}$	365^{S}	$J\,400^{S}$	405	400^{R}
19	$I\,390^{S}$	400	470^{R}	$J\,505^{R}$	490	450	320	305^{R}	310	340	380	365^{R}	385^{R}	400	400^{R}	400	380	$J\,365^{R}_{S}$	350	350^{S}	400	400	410	450
20	450^{R}	450^{R}	465	495	475^{R}	400^{R}	325^{R}	315	340^{R}	330^{R}	355^{R}	355^{R}_{S}	400^{S}	C	C	380	370	350	S	S	S	390	400	390
21	400	450^{R}	$U\,455^{R}$	445^{S}	425	425	335	315^{R}	310	$I\,335^{C}$	335^{R}	$J\,350^{R}$	400	400^{R}	385^{R}	395	370	340	350	$I\,370^{S}$	375^{S}	365	400	375
22	360^{R}	460	$I\,490^{R}$	500^{R}	505	450	335	315	310	350	350	370	390^{H}	400^{H}	395	385	385	350^{S}	335	$J\,355^{R}$	350	355	355	375
23	400^{R}	430	$J\,425^{R}$	375^{R}	385	400	310	300	300	340	360	360	R	$U\,380^{R}$	400^{H}	400	395	365	350	$J\,355^{R}$	405	400	410	425
24	380	390	410	395	445^{R}	410	330	300	315	350	$I\,350^{R}$	$I\,350^{R}$	$J\,395^{R}$	400	$U\,405^{H}$	400	400	380	350	$J\,355^{R}$	375	395	400	$I\,450^{R}$
25	395	350	395^{R}	450	495	470	355	325	335	340	360	395	400	395	415^{H}	400	395	375	350	$U\,345^{S}$	400	400	410	$I\,410^{R}$
26	455	440	445	505	490	455^{R}	360	325	340	350	355^{R}	390^{H}	405^{H}	410^{H}	410^{H}	400	395	380	370	$J\,380^{S}$	400	395	$J\,395^{R}$	400
27	360	370^{R}	455	495	$J\,430^{R}$	390	330	310	330	350	390	375	405	405	410^{H}	400	405	380	350	355	400	$I\,395^{S}$	395	$U\,355^{S}$
28	375	360	350	355	380	410	330	330	345	360^{H}	390	390	400^{H}	425^{H}	410	410^{H}	405	375	355	375	420	400	390	390
29	$U\,360^{R}$	360	355	350	455	475	350	305	330	360^{R}	390^{R}	400^{R}	400^{R}_{H}	400^{R}_{H}	430^{R}	365^{R}_{H}	400	400	365	390	$I\,425^{R}$	$J\,400^{R}$	400^{R}	380^{R}
30	$I\,375^{R}$	$I\,350^{R}$	350	350^{R}	440^{R}	455^{R}	345^{R}	305	325	365	390	415^{R}	$U\,425^{R}$	445^{R}_{H}	450^{H}	440^{R}	390	400	385^{R}	$J\,400^{R}$	450^{R}	$I\,430^{R}$	$I\,390^{R}$	390
31	500	500	460^{R}	460^{R}	$U\,520^{R}$	450	360	350	360^{R}	370^{R}	400^{R}	440^{H}	440^{R}_{H}	450^{H}	450^{H}	410^{H}	430	400	390	415	490^{R}	455^{R}	450^{R}	$I\,440^{S}$
No.	30	30	30	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	30	29	28	30	31	31
Median	390	390	405	410	450	430	345	305	310	340	355	370	390	400	400	400	390	360	350	355	375	395	390	390

h_pF2

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

The Radio Research Laboratories, Japan.

K 13

45

IONOSPHERIC DATA

Mar. 1958 | 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	110	115	125	110	125	100	100^{S}	80	100	100	100	J 90^{S}	95	85^{R}	95^{H}	110	110	125	85	70	95	J 115^{S}	U 120^{S}	100
2	110	105	95	85	140	145	140	J 70^{R}	60	90^{R}	65^{R}	85^{R}	105^{RS}	I 95^{S}	110^{R}	100	115	110^{S}	85^{S}	J 115^{S}	I 160^{S}	U 95^{S}	115^{S}	135^{S}
3	140	110^{RS}	125	135	115	150	U 140^{RS}	75^{R}	90	85	95$^{R}_{H}$	95^{R}	90^{S}	105	100^{S}	125	110	125	105	J 140^{S}	100^{S}	J 125^{S}	120^{S}	I 95^{S}
4	I 85^{S}	90	130	135	145	120	140	95	105	80	85	90	120^{R}	I 100^{S}	120^{S}	100	130	120^{RS}	125^{S}	I 105^{S}	125	100^{S}	I 105^{S}	I 115^{S}
5	I 100^{RS}	95^{S}	115	130^{S}	125	U 85^{S}	175^{S}	95^{R}	90^{R}	I 85^{S}	80^{R}	95^{R}	125^{R}	I 125^{RS}	120^{R}	110^{RS}	155	I 135^{RS}	130	140^{R}	110^{S}	155	125^{S}	I 90^{RS}
6	U 165^{R}	145^{S}	125	150	145	130	100	90^{R}	110	65	95^{R}	130^{RS}	115^{R}	110^{R}	130^{R}	110	135^{R}	100	130	150^{R}	150^{RS}	I 150^{RS}	115^{S}	100
7	140	140^{S}	110^{RS}	125^{S}	U 85^{S}	150	125	130	100	105	115	120^{R}	115^{S}	I 110^{RS}	145^{R}	145^{RS}	145^{S}	145	135^{S}	175^{S}	110^{S}	U 105^{S}	I 115^{RS}	115^{R}
8	J 100^{S}	J 115^{R}	U 130^{RS}	I 150^{RS}	125^{S}	110^{S}	130	105	95	125^{RS}	135^{R}	105^{R}	U 150^{R}	125^{R}	110^{S}	105^{R}	150	115^{S}	100^{S}	I 105^{S}	130^{S}	130^{S}	135	135^{S}
9	125^{R}	105	165^{RS}	I 120^{RS}	140	145	J 90^{S}	75^{R}	105	80	90	80	105^{H}	100	95	105	100	120	105	U 100^{S}	S	I 105^{S}	115	120
10	100	110	130	150	150	105	J 125^{S}	95	80	90	105^{R}	75	100	65^{H}	75^{H}	100	100	110	U 90^{S}	100	U 90^{S}	J 100^{S}	110	110
11	145	125^{R}	125	140	110	140	105	80	145	105	J 105^{R}	110	100^{S}	130	105^{H}	110^{H}	120	130	110	J 105^{R}	105	140	105	115
12	105	110	110	130	145	130	J 80^{S}	100	90	95	115	135^{R}	140	120^{H}	120	125	115	110	J 115^{R}	100^{S}	I 125^{C}	115	140	U 120^{S}
13	J 110^{R}	105	95	190^{H}	125	140	170	100	80	80^{R}	65	95^{H}	U 120^{S}	105^{H}	120	110	115	145	105	110	105	135	130	115
14	U 120^{S}	145	110	150	150	125	140	110	J 110^{R}	90	U 95$^{R}_{H}$	105	I 100$^{S}_{H}$	J 85^{S}	115	110	120	125	105	95	125	125	140	120
15	165	145	215	125	145	140	115	120^{S}	85	105	100^{S}	110	100	100	100	115	105	120	135	120	120	150^{R}	105	125
16	130	145	145	150	165	175	90	I 95^{S}	J 105^{S}	115^{R}	95^{R}	100^{R}	95	95	100	115	115^{R}	140^{S}	115^{S}	S	S	S	95^{S}	J 90^{R}
17	J 135^{S}	135^{RS}	120^{S}	105^{S}	135	130^{S}	I 115^{S}	100^{S}	95	95	95^{R}	80^{S}	100^{S}	100$^{S}_{H}$	125	100^{S}	110	135	105^{S}	I 95^{S}	I 100^{S}	J 140^{S}	U 120^{S}	90^{S}
18	S	S	S	I 130^{S}	140^{S}	115^{S}	I 120^{S}	100	120	90	150^{RS}	J 110^{S}	80^{S}	100^{S}	115^{S}	I 135^{C}	125^{R}	120	140^{S}	I 150^{RS}	175^{S}	J 150^{S}	170	100^{R}
19	I 130^{S}	130	140^{R}	J 145^{R}	130	130	135	145^{R}	90	115	120	95^{R}	95^{R}	100	140^{R}	125	70	J 160^{RS}	135	130^{S}	130	125	140	105
20	105^{R}	80^{R}	145	105	125^{R}	100^{R}	110^{R}	125	70^{R}	75^{R}	90^{R}	120^{RS}	100^{S}	C	C	95	100	130	S	S	S	115	105	90
21	115	110^{R}	U 105^{R}	110^{R}	130	115	135	100^{R}	90	I 70^{C}	115^{R}	J 100^{R}	100	100^{R}	115^{R}	100	125	110	120	I 150^{S}	135^{S}	110	115	110
22	125^{R}	160	I 110^{R}	140^{R}	155	140	155	130	110	80	105	85	110^{H}	100^{H}	105	95	100	105^{S}	120	J 100^{R}	140	95	100	120
23	120^{R}	120	J 110^{R}	125^{R}	115	125	95	80	100	105	95	85	R	U 70^{R}	95^{H}	100	100	125	105	J 125^{R}	180	120	115	125
24	120	120	110	110	100^{R}	105	110	80	90	75	I 90^{R}	I 90^{R}	J 55^{R}	95	U 90^{RH}	115	135	115	120	J 135^{R}	120	105	115	I 100^{R}
25	105	120	115^{R}	130	105	95	125	115	90	110	130	95	95	110	125^{H}	105	115	125	120	U 105^{S}	140	95	110	I 110^{R}
26	140	115	115	130	135	125^{R}	115	100	105	95	115^{R}	105^{H}	125^{H}	150^{H}	110^{H}	110	120	125	135	J 125^{S}	105	105	J 100^{R}	100
27	100	100^{R}	140	110	J 115^{R}	105	125	95	75	105	70	125	120	120	110^{H}	110	135	120	110	135	100	I 70^{S}	70	U 95^{S}
28	75	105	100	120	120	130	80	80	100	90^{H}	105	105	105^{H}	120^{H}	110	130^{H}	110	120	145	125	130	95	100	85
29	U 95^{R}	95	100	105	135	125	105	95	110	105^{R}	130^{R}	135^{R}	135^{RH}	155^{RH}	130^{H}	105^{RH}	145	140	160	125^{R}	I 150^{R}	J 130^{R}	150^{R}	170^{R}
30	I 110^{R}	I 100^{R}	130	150^{R}	130^{R}	125^{R}	110^{R}	95	105	105	130	125^{R}	U 125^{R}	115^{RH}	130^{H}	160^{R}	200	150	160^{R}	J 170^{R}	150^{R}	I 140^{R}	I 180^{R}	140
31	125	150	140^{R}	140^{R}	U 180^{R}	150	190	130	155^{R}	110^{R}	115^{R}	115^{H}	110^{RH}	140^{H}	130^{H}	150^{H}	165	175	160	135	115^{R}	145^{R}	135^{R}	I 165^{RS}
No.	30	30	30	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	30	29	28	30	31	31
Median	120	115	120	130	130	125	120	95	100	95	100	100	105	100	110	110	115	125	120	125	125	120	115	110

ypF2

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Mar. 1958 | 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	9.3	9.4^{S}	7.5^{S}	^{J}7.9^{S}	7.1	6.3	5.9	9.5	11.2	12.4	13.8^{H}	14.6^{H}	15.6^{H}	15.0	15.4^{H}	14.5^{H}	14.0^{H}	13.9^{S}	13.5	13.5	13.2	12.2	11.1	^{J}10.9^{S}
2	^{J}10.0^{S}	9.0	8.6	^{J}8.1^{S}	5.7	5.0	4.9	^{J}8.4^{S}	12.9	13.1	14.3	15.1^{H}	^{I}16.0^{CH}	16.4^{H}	^{I}15.8^{SH}	15.3^{H}	15.0^{H}	15.0^{H}	14.4	13.8	13.6	12.6	^{J}10.6^{S}	^{J}10.1^{S}
3	10.0^{S}	^{J}8.3^{S}	7.1	6.7	6.2	5.7	5.4	^{J}8.3^{S}	11.4	14.8	15.1	15.0	15.3^{H}	15.5^{H}	15.0^{H}	14.0^{H}	13.5^{H}	12.6	12.0	11.1	10.5	^{J}10.3^{S}	9.2^{S}	8.9
4	^{U}9.4^{S}	9.2	^{J}8.3^{S}	7.2^{S}	7.5	5.8	5.6^{H}	8.9	11.2	13.9^{H}	15.6^{SH}	15.7^{H}	15.7^{H}	15.5^{H}	15.3^{H}	14.7^{H}	13.8	13.0	12.4	11.9	10.9	11.0	10.6	9.3
5	9.4	8.8	8.1	^{J}7.8^{S}	7.6^{H}	7.5	7.5	^{I}9.6^{S}	13.0	15.1	15.6^{SH}	15.6^{H}	15.2^{H}	15.8^{SH}	14.8^{H}	13.9^{H}	13.8^{H}	13.3^{H}	12.8	12.5	10.4	9.2^{S}	8.8	^{J}8.1^{S}
6	^{J}7.4^{S}	7.7^{S}	^{J}8.0^{S}	6.0	5.9^{H}	5.9	6.0	9.2^{S}	11.9	13.0	14.3	15.1^{H}	15.4^{H}	15.0^{H}	15.1^{H}	15.0^{H}	14.5^{H}	13.6	12.9	12.4	11.5^{S}	11.5	11.2	10.5
7	10.5^{S}	^{J}9.8^{S}	9.2^{S}	^{J}8.2^{S}	^{J}8.0^{S}	^{U}7.8^{S}	7.2	10.1	12.0	13.8	14.5^{H}	14.5^{H}	16.0^{H}	^{U}16.4^{SH}	^{U}16.0^{SH}	15.6^{H}	14.5^{H}	13.7	13.0	12.5	11.1	11.4	11.0^{S}	^{J}10.4^{S}
8	9.5^{S}	9.0	^{J}7.9^{S}	7.6^{S}	6.7	7.0	6.8	^{U}9.4^{S}	12.6	13.9	13.9	14.6^{H}	^{J}15.8^{SH}	^{I}16.3^{SH}	15.7^{H}	15.4^{H}	14.6^{H}	14.5^{H}	13.9	13.0	11.2	10.9^{S}	^{J}10.1^{S}	9.4^{S}
9	9.2	^{J}8.4^{S}	^{J}8.0^{S}	^{J}8.0^{S}	7.7	6.4	5.7	8.7	11.5	13.2	13.8	13.9^{H}	14.9^{H}	15.5^{H}	15.6^{H}	15.5^{H}	14.5^{H}	14.5^{H}	15.0	14.0	12.4	12.0^{S}	11.0	^{J}10.1^{S}
10	9.4^{S}	9.0	^{J}8.0^{S}	^{J}7.9^{S}	7.7^{S}	6.4	6.2	9.3^{S}	13.3	14.0	14.3	15.0^{H}	^{I}16.1^{SH}	^{I}16.1^{SH}	^{I}15.9^{SH}	^{U}15.8^{SH}	15.5^{H}	15.0^{H}	^{J}14.4^{S}	14.4	^{I}14.4^{S}	^{I}14.4^{S}	^{I}13.7^{S}	^{U}12.5^{S}
11	^{J}10.5^{S}	8.9	7.1	6.8	6.5	6.1^{S}	7.0	10.3	11.6^{H}	14.5	15.6	15.2^{H}	15.5^{H}	15.8^{H}	14.5^{H}	14.0^{H}	13.5^{H}	13.4^{SH}	12.9	11.7	11.6	12.1	^{U}12.3^{S}	11.6
12	^{J}10.5^{S}	^{J}10.4^{S}	9.1^{S}	^{J}8.2^{S}	6.9	7.0	7.1	^{U}9.4^{S}	13.5	15.8	15.3^{H}	15.4^{H}	^{J}15.4^{SH}	14.7^{H}	14.1^{H}	14.0^{H}	13.5^{H}	12.5^{H}	12.8^{S}	12.4	10.6	9.0	8.9^{S}	^{I}8.6^{S}
13	9.0^{S}	8.5	8.7	5.9	5.3^{H}	5.5	5.1	8.5	13.2	15.0	^{I}15.8^{S}	16.4^{H}	^{I}16.2^{SH}	15.6^{H}	15.3^{H}	14.5^{H}	14.5^{H}	13.7^{H}	^{I}13.5^{S}	13.0	12.0	9.9^{SH}	9.2	9.2
14	9.0	7.7	^{J}8.4^{S}	8.6	7.9^{SH}	^{J}8.1^{S}	^{J}8.6^{S}	10.6	^{I}13.8^{S}	^{J}15.9^{SH}	^{I}16.2^{S}	S^{H}	S^{H}	S^{H}	15.5^{H}	15.1^{H}	14.6^{H}	14.0^{H}	^{J}13.6^{S}	^{J}13.4^{S}	12.3^{S}	^{I}12.6^{S}	12.5	^{U}11.7^{S}
15	^{J}8.7^{S}	^{J}8.5^{S}	^{J}8.5^{S}	6.7^{H}	7.1	7.7^{S}	7.6^{S}	10.4	13.5	14.2	14.9^{H}	15.3^{H}	15.5^{H}	15.7^{H}	15.5^{H}	14.7^{H}	13.5^{H}	13.0	12.5	12.0	^{J}10.3^{S}	^{J}10.4^{S}	^{J}10.4^{S}	9.0
16	9.0	8.5	8.4	7.9^{S}	7.6	8.0	^{J}7.7^{S}	^{J}10.2^{S}	11.5	13.0	14.0	14.3^{H}	14.6^{H}	14.6^{H}	14.8^{H}	14.5^{H}	13.4	13.3^{H}	^{U}13.6^{S}	12.6	10.9	11.1	10.8	10.0
17	9.3	8.9	^{J}8.4^{S}	^{J}8.5^{S}	7.2	6.9	^{J}7.7^{S}	11.4	12.6	13.4	14.0^{H}	15.1^{H}	15.3^{H}	15.0^{H}	15.2^{SH}	15.5^{SH}	15.0^{H}	14.6^{H}	14.6	^{I}13.1^{S}	11.8	12.4	9.6^{S}	9.2^{S}
18	9.0^{S}	^{J}8.6^{S}	8.7	^{J}8.6^{S}	7.0^{H}	6.9	7.4^{S}	10.5	13.0	13.5	14.1^{H}	^{I}15.6^{SH}	16.5^{H}	S^{H}	S^{H}	^{I}15.9^{SH}	15.5^{H}	15.0^{H}	14.9	14.5	^{I}13.3^{S}	11.8^{S}	^{J}11.4^{S}	11.4^{S}
19	^{U}9.5^{S}	9.0	8.5^{S}	7.0	7.1	7.0	7.4	^{J}10.4^{S}	12.8	12.5	13.9^{H}	15.6^{H}	16.0^{H}	^{I}16.0^{SH}	15.5^{H}	15.4^{SH}	14.0^{SH}	^{J}13.7^{SH}	13.4^{S}	12.2	11.0	11.1	11.1	10.6
20	10.6	10.3^{S}	9.2^{S}	^{J}8.1^{S}	^{J}8.3^{S}	8.6	^{J}8.6^{S}	^{J}10.4^{S}	13.1	15.0	14.4^{H}	15.0^{H}	15.5^{H}	^{I}16.1^{SH}	^{I}16.4^{SH}	^{J}15.8^{SH}	14.6^{H}	14.0	13.9	13.1	11.5	10.9	10.9	^{J}10.2^{S}
21	9.1^{S}	8.6	8.0^{S}	^{J}7.8^{S}	7.1^{H}	6.8	^{J}7.3^{S}	^{J}10.1^{S}	12.2	14.6	14.9	14.2^{H}	14.3^{H}	15.0^{H}	15.2^{H}	15.0^{H}	14.0^{H}	^{I}13.6^{S}	13.0	12.4	^{J}11.5^{S}	10.6	^{J}9.9^{S}	^{J}10.0^{S}
22	^{U}9.5^{S}	8.8	^{J}7.8^{S}	7.1	7.0	7.0	7.7^{S}	10.9	^{U}13.3^{R}	14.0	15.0	15.4^{H}	15.0^{H}	15.0^{H}	15.5^{SH}	15.3^{H}	14.5^{H}	14.0	13.5	13.3	^{I}13.2^{S}	^{I}13.4^{S}	12.9^{S}	^{J}11.5^{S}
23	10.3	9.3	9.2	9.6^{S}	8.3^{S}	7.0	7.2	10.5	12.5	12.7	13.5	15.0^{H}	16.3^{H}	16.5^{SH}	^{I}16.1^{SH}	15.4^{H}	15.0^{H}	14.4	13.8	12.5	10.7^{S}	11.2	11.3	^{I}11.0^{S}
24	11.4^{S}	11.0	^{J}9.9^{S}	9.3	8.5	8.0^{S}	8.7	11.5	12.5	13.9	14.9^{H}	15.2^{H}	15.6^{H}	^{I}16.4^{RH}	^{I}16.1^{RH}	15.6^{SH}	15.0^{H}	14.6^{H}	14.3	14.0	11.9	10.7	10.6	10.4
25	^{I}10.4^{S}	10.5	9.0	7.7^{S}	^{U}7.5^{S}	7.2^{S}	8.1	11.6	13.5	14.5	14.5^{H}	15.0^{H}	15.9^{H}	15.6^{H}	15.5^{H}	15.3^{H}	14.6^{H}	14.3^{H}	14.1	^{I}12.7^{S}	11.1	11.4	^{I}11.1^{S}	^{I}11.4^{S}
26	^{I}11.0^{S}	^{J}10.1^{S}	9.0	^{I}8.6^{S}	8.8	8.5^{H}	9.0	11.5	^{I}13.0^{S}	^{I}14.2^{S}	15.0^{H}	14.5	14.5^{H}	^{I}14.8^{SH}	15.6^{H}	15.0^{H}	14.5^{H}	S^{H}	S	S	S	S	S	S
27	S	S	9.1^{S}	9.0	8.9	8.6	8.9	11.7	^{J}13.9^{S}	14.3^{H}	14.6^{H}	14.9	15.0	15.3^{H}	15.2^{H}	15.2^{H}	14.5^{H}	14.4^{H}	14.4	^{J}13.9^{S}	12.1	^{I}12.2^{S}	^{I}13.0^{S}	12.9
28	12.3^{S}	11.3^{S}	10.7	^{J}10.3^{S}	^{J}7.8^{S}	6.0	6.7	10.3	12.2	13.0	14.0	14.5^{H}	14.0^{H}	14.5^{H}	15.0^{H}	14.9^{H}	14.5^{H}	^{J}14.0^{SH}	13.5	12.6	11.2	11.5	11.9	11.5^{S}
29	11.5^{S}	11.1	^{J}9.9^{S}	9.1	7.2	7.2	8.1	11.5	13.5	13.6	14.0^{H}	14.2	14.5^{H}	14.6^{H}	15.0^{H}	15.0^{H}	14.5^{H}	14.0^{R}	^{J}13.9^{S}	13.4	12.3	^{U}12.8^{S}	^{U}13.2^{S}	12.5^{S}
30	^{U}11.7^{S}	11.1	11.1	9.0	7.4	7.0	8.0^{S}	11.6	13.5	12.9	13.6	14.7^{H}	15.1^{H}	15.5^{H}	16.0^{H}	^{I}15.8^{SH}	15.4^{H}	14.9^{H}	C	C	C	C	C	C
31	9.0	9.1^{S}	9.0	8.4	7.4^{SH}	7.8^{S}	8.8	11.5	14.3	14.0	14.8^{H}	14.5^{H}	C	C	C	14.0^{H}	13.1^{H}	12.4^{H}	12.1	11.4	10.9	11.1^{S}	^{J}11.5^{S}	11.2^{S}
No.	30	30	31	31	31	31	31	31	31	31	31	30	29	28	29	31	31	30	29	29	29	29	29	29
Median	9.5	9.0	8.5	8.0	7.4	7.0	7.4	10.3	12.9	13.9	14.5	15.0	15.5	15.5	15.5	15.1	14.5	14.0	13.5	12.7	11.5	11.4	11.0	10.4
U.Q.	10.5	10.1	9.1	8.6	7.8	7.8	8.1	11.4	13.5	14.5	15.0	15.3	16.0	16.0	15.8	15.5	14.6	14.5	14.2	13.4	12.3	12.2	11.7	11.4
L.Q.	9.1	8.6	8.0	7.2	7.0	6.3	6.2	9.4	12.0	13.1	14.0	14.5	15.0	15.0	15.0	14.5	13.8	13.4	12.9	12.4	10.9	10.8	10.2	9.4
Q.R.	1.4	1.5	1.1	1.4	0.8	1.5	1.9	2.0	1.5	1.4	1.0	0.8	1.0	1.0	0.8	1.0	0.8	1.1	1.3	1.0	1.4	1.4	1.5	2.0

The Radio Research Laboratories, Japan.

foF2

Sweep 1.0 Mc to 20.0 Mc in 1 ~~sec~~ min in automatic operation.

Y 1

IONOSPHERIC DATA

Mar. 1958 | f_oF1 | 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																								
5																								
6																								
7																								
8																								
9														4.5	4.4									
10																								
11																								
12																								
13																								
14																								
15												L												
16																								
17																								
18																								
19																								
20																								
21															L	4.6	3.9							
22																								
23																4.4								
24																								
25																								
26																								
27																								
28																								
29																								
30													L	L					C					
31													C	C	C									
No.														1	1	2	1							
Median														4.5	4.4	4.5	3.9							

f_oF1

Sweep 1.0 Mc to 20.0 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 2

IONOSPHERIC DATA

Mar. 1958 | foE | 135° E Mean Time (G.M.T.+ 9h.) | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								1.90	2.60	3.25^{H}	3.55^{H}	^{I}3.80^{C}	3.90	^{I}3.90^{B}	^{I}3.95^{B}	3.90	3.50	3.00	A					
2								S	2.85	3.40	3.65^{H}	^{I}3.85^{R}	3.95	4.00	4.00	^{I}3.80^{A}	3.50	2.60	S					
3								1.90	2.85	3.40	3.60	3.75	3.95	3.90^{H}	4.00^{H}	3.85	3.50	2.80	S					
4								S	2.80	3.40^{H}	3.55^{H}	3.90	3.90	3.90	3.90	^{J}3.80^{C}	3.45	2.80	S					
5								S	2.80	3.40^{H}	^{I}3.75^{A}	^{I}3.85^{A}	^{I}3.95^{A}	3.90	3.90	3.85	3.40	2.75	S					
6								S	2.90^{H}	3.20	3.60	^{I}3.90^{R}	4.00	3.90	3.90	3.70	3.40	2.90	1.80					
7								S	2.70	3.10	3.45	^{I}3.75^{C}	3.90	4.00	3.90	R	3.50	2.80	2.05					
8								2.05	2.95	3.45	^{I}3.70^{A}	3.90	4.00	3.90	3.95	3.85	3.55	2.85	1.85					
9								2.15	3.00	3.50^{H}	^{I}3.80^{C}	3.85	3.95	^{I}4.00^{A}	^{I}3.95^{A}	3.90	3.50	^{I}2.55^{A}	S					
10								2.10	3.00	3.45	3.70	3.90	3.95^{R}	4.00	4.00	^{J}3.80^{C}	3.50^{S}	2.90	2.20					
11								S	2.60	3.15	3.65^{S}	3.90	4.00	4.10	4.10	4.00	3.60	3.10	S					
12								2.05	2.95^{H}	3.50	3.80	3.95	3.85	R	A	3.90	3.50	2.90	2.10					
13								2.10	3.00	3.45	^{J}3.75^{C}	4.00	4.00	3.95	3.90	3.80	3.55	2.90	1.95					
14								2.10	3.05	3.50	3.75^{C}	^{I}3.90^{R}	4.05^{R}	4.00	4.05	3.90	3.50	3.00	S					
15								2.15	3.05	3.55	3.70	A	A	A	A	3.85	3.65	3.05	S					
16								2.00	2.90	3.40	3.60	A	A	A	^{I}3.95^{A}	^{I}3.80^{A}	3.45	2.90	1.95					
17								2.35^{H}	3.00	^{I}3.45^{C}	3.60	3.85	3.80	4.00	4.00	3.70	3.30	^{I}2.90^{C}	1.90					
18								2.10	3.00	3.45	3.70	3.90	3.85	^{I}4.00^{A}	^{I}4.00^{A}	A	A	A	S					
19								1.85	2.90	3.30	3.60	3.90	A	A	A	A	3.60	^{I}2.60^{A}	S					
20								2.05	2.80	3.30	3.50	^{I}3.80^{A}	4.00	3.95	4.00	^{I}3.85^{A}	3.65	3.10	2.05					
21								2.30	3.05	3.50	^{J}3.85^{R}	3.90	3.90	4.00^{R}	4.00	3.85	3.55	3.05	2.15					
22								1.90	2.90	3.55	C	C	R	4.00^{R}	4.00	3.90^{H}	3.60	3.00	2.30^{H}					
23								2.05	3.00	3.60	3.85	^{I}4.00^{A}	4.00	4.05	4.00	3.95	3.60	3.05	2.10					
24								2.30	3.10	3.60	4.00	^{I}3.95^{A}	4.00	^{I}4.05^{B}	^{I}4.00^{R}	^{I}3.80^{A}	3.60^{H}	3.10^{H}	^{I}2.20^{S}					
25								2.15	A	A	A	A	A	A	4.00	4.00	3.50	3.05	2.10					
26								2.20	3.05	A	A	A	A	4.30	4.10	3.95	3.70	3.10	2.05					
27								2.30	3.05	3.60	3.90	4.00	3.95	3.95	4.15	4.00	3.70	3.10	2.20					
28								2.30	3.05	^{J}3.80^{C}	3.95	3.85	A	A	A	A	C	^{I}3.20^{A}	A					
29								2.40	3.05	3.55	A	R	4.20	4.20	4.05	3.95	^{J}3.75^{C}	3.25^{H}	2.20					
30								2.45	3.30	3.90	4.15	4.00	4.00	^{I}4.15^{A}	^{I}4.20^{A}	^{I}3.90^{A}	3.50	3.10	C					
31							S	2.60^{H}	3.25	3.75^{C}	^{I}4.05^{B}	4.10^{R}	C	C	C	4.00	^{J}3.80^{C}	3.35	2.35					
No.								25	30	29	27	25	23	24	26	27	29	30	18					
Median								2.10	3.00	3.45	3.70	3.90	3.95	4.00	4.00	3.85	3.50	3.00	2.10					

foE

Sweep 1.0 Mc to 20.0 Mc in 1 ~~sec~~ min in automatic operation.

The Radio Research Laboratories, Japan.

Y 3

IONOSPHERIC DATA

Mar. 1958 | foEs | 135° E Mean Time (G.M.T.+ 9h.) | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	2.0M	E	E	E	E	S	G	2.8	G	G	3.9M	G	B	B	5.9M	G	G	2.9M	2.8M	2.3M	S	S	S
2	3.0M	E	E	E	E	E	S	G	G	G	G	G	3.6G	G	G	4.0	4.0	3.5	2.2	2.7M	3.5M	3.0M	2.9M	S
3	S	S	E	E	E	E	S	G	G	3.8M	G	G	5.6M	4.3	4.6	4.4	3.7	3.6	2.5	3.6M	3.1M	3.1M	3.0M	S
4	S	E	E	E	E	E	S	G	G	G	G	G	4.4	4.1	G	G	3.7	3.1	3.0M	2.7M	S	S	2.3M	S
5	S	4.9M	3.1M	3.0M	3.6M	2.8M	S	G	G	G	4.3M	4.5M	5.0M	4.7M	4.4	G	G	3.1M	G	S	S	S	S	S
6	S	E	E	E	E	E	S	G	3.1M	3.8	3.9	4.8	4.6	4.8	4.2	G	G	G	G	S	S	S	S	S
7	S	E	E	E	E	E	S	G	G	4.4M	G	4.5	G	G	4.3M	4.4	5.7M	G	G	3.1M	S	S	S	S
8	S	E	E	2.2M	2.3M	E	E	G	5.7M	G	5.7M	5.6M	G	5.7M	3.9G	G	5.6M	3.1M	2.9M	3.0M	S	2.3M	S	E
9	2.4M	2.1M	E	E	2.1M	E	E	3.0M	G	G	G	4.3	5.6M	5.0M	5.7M	4.4	3.9	3.3	2.2	2.8M	S	S	E	1.8M
10	E	2.1M	2.2M	1.9M	2.1M	3.0M	2.7M	3.0M	G	5.7M	4.3	4.4	G	G	G	G	G	G	G	S	S	S	S	S
11	E	E	E	E	E	E	S	3.0M	G	3.4	G	G	G	G	G	G	G	4.3	4.6M	3.9M	2.1M	S	S	S
12	E	E	2.9M	E	E	E	S	G	3.4	4.0	4.7	5.3	6.6M	5.3	5.8	G	3.1G	2.9G	3.0M	2.4M	E	2.0M	S	E
13	E	E	E	E	E	E	S	G	G	3.6	4.2	4.9	4.7	4.6	4.3	5.1	G	4.6	3.2	4.2M	5.0M	4.4M	2.8M	2.9M
14	3.8M	4.4M	3.0M	4.3M	2.2M	3.6M	2.7M	2.7M	3.2	5.7M	4.4	4.5	4.8	4.6	4.4	4.3	G	G	2.2	1.4	3.0M	2.8M	7.0M	4.5M
15	2.8M	3.2M	3.4M	3.3M	2.9M	2.1M	2.3M	3.0M	2.8G	4.2	5.1	4.2	4.5	4.2	5.7M	4.3	4.0	8.6M	2.8	2.8M	2.3M	S	S	2.2M
16	2.9M	3.7M	6.5M	3.0M	2.7M	2.3M	2.2M	2.8M	3.1	3.9	4.0	4.1	4.3	4.5	5.1M	4.7	G	3.0M	2.1M	C	2.3M	S	5.5M	3.7M
17	2.2M	E	E	E	E	E	E	G	G	5.0M	G	G	5.2M	G	G	4.2	3.7	3.2	G	4.4M	3.0M	2.9M	S	S
18	S	2.1M	3.0M	E	E	3.1M	E	G	5.8M	3.9	4.6	4.6	5.7M	6.2M	6.5M	5.9M	5.8M	4.3M	4.3M	C	3.1M	2.1M	S	E
19	C	E	E	E	E	E	S	2.9M	G	3.7	4.4	5.2M	4.8	5.2	5.8M	5.8M	3.9	9.4M	3.2	4.3M	3.6M	3.0M	4.3M	2.8M
20	2.3M	2.8M	2.2M	2.6M	2.8M	2.1M	S	2.7M	G	3.7	4.5	5.3M	G	G	G	5.1M	3.9	3.4	5.5M	4.3M	5.7M	3.1M	3.1M	S
21	E	E	E	E	E	E	E	3.0M	G	G	G	G	4.5	4.3	G	5.9M	G	G	2.6	3.7M	3.1M	3.2M	3.0M	3.0M
22	4.8M	2.9M	1.1	2.7M	2.2M	E	2.1M	G	3.2	4.9M	4.1	4.3	5.6M	4.4	4.2	G	G	5.6M	2.2G	2.4	2.6M	2.3M	S	S
23	2.9M	2.8M	2.8M	2.2M	E	E	2.9M	3.0M	3.4	4.0	4.2	5.8M	5.9M	G	G	G	G	G	G	2.2M	3.3M	2.7M	2.6M	3.7M
24	2.7M	E	2.9M	2.3M	E	E	S	G	3.4	4.0	G	5.8M	G	B	G	5.8M	3.8M	G	2.6M	2.8M	2.1M	2.7M	3.1M	5.7M
25	2.8M	E	E	E	E	E	S	G	5.8M	4.7M	3.9	4.0	4.9M	4.3	4.0	G	G	G	2.4	S	S	S	S	S
26	S	E	3.0M	2.9M	3.8M	3.1M	3.3M	G	G	4.2M	4.1	4.1	5.6M	6.5	5.8	4.8	4.2	5.0	4.9	5.9M	4.2M	3.9M	3.0M	2.7M
27	S	E	1.4	E	E	S	S	G	3.5	G	5.0	7.0	7.8	5.5	4.5	5.0	G	3.6M	2.7	4.3M	2.9M	3.0M	3.0M	3.0M
28	3.0M	S	E	E	E	2.9M	S	3.0M	G	G	4.5	4.4	5.6M	4.5	4.6	6.2	G	6.2M	5.7M	3.6M	3.1M	2.9M	2.7M	S
29	E	2.6M	6.5M	3.4M	1.2	2.2M	S	3.1	G	G	4.5M	4.4	4.7	4.6	G	5.7M	G	4.1	4.0	4.3M	S	S	S	E
30	E	E	E	E	E	E	S	G	G	4.4	4.4	4.5	4.5	4.5	4.3	4.7M	4.0M	3.6M	C	C	C	C	C	C
31	2.8M	E	E	E	E	E	2.9M	G	5.7M	4.1	4.4	5.6M	C	C	C	G	4.4	3.7	5.6M	4.5M	2.8M	9.2M	7.2M	3.1M
No.	20	29	31	31	31	30	13	31	31	31	31	31	30	28	29	31	31	31	30	24	21	18	16	16
Median	2.6M	E	E	E	E	E	2.2M	G	G	3.8	4.2	4.4	4.7	4.5	4.3	4.4	G	3.3	2.6	3.4M	3.0M	3.0M	3.0M	2.8M
U.Q.	2.9	2.7	2.9	2.6	2.2	2.2	2.8	3.0	3.4	4.2	4.5	5.2	5.6	4.9	4.8	5.1	4.0	4.3	3.2	4.3	3.4	3.1	3.7	3.4
L.Q.	E	E	E	E	E	E	E	G	G	G	G	4.0	3.6	G	G	G	G	G	2.2	2.8	2.3	2.7	2.8	E
Q.R.												1.2	2.0						1.0	1.5	1.1	0.4	0.9	

foEs

Sweep 1.0 Mc to 20.0 Mc in 1 ~~sec~~ min in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Mar. 1958 | fbEs | 135° E Mean Time (G.M.T.+ 9h.) | Yamagawa | Lat. 31° 12.5' N, Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	E					S		G			3.4		B	B	G			2.4	E	E	S	S	S
2	E						S						3.4			G	3.9	3.4	G	E	2.7	E	E	S
3	S	S					S			3.1			G	4.3	4.6	4.1	G	3.5	2.4	2.9	1.9	2.3	1.8	S
4	S						S						4.1	G			3.7	3.0	G	1.9	S	S	E	S
5	S	2.7	1.3	1.7	1.9	1.3	S				4.1	G	G	3.5	4.1			1.7		S	S	S	S	S
6	S						S		G	3.1	G	4.5	4.4	4.5	4.2					S	S	S	S	S
7	S						S			1.9		G			3.6	G	G			E	S	S	S	S
8	S			1.3	1.4				G		G	G		G	3.9		G	2.3	1.7	1.6	S	1.7	E	
9	1.7	E			E			G				G	4.2	G	G	G	G	3.1	G	1.8	E	S		E
10		1.2	1.3	E	1.1	E	E	G		G	4.2	4.2								S	E	S	S	S
11							S	G		G								4.1	3.8	3.1	E	S	S	S
12			1.3				S		3.4	4.0	4.4	5.1	5.1	G	4.2		2.5	1.7	1.5	1.7		E	S	
13							E			G	G	4.5	4.3	4.4	4.3	5.0		4.4	3.1	3.4	E	2.5	1.7	E
14	1.8	2.0	1.3	2.5	E	2.5	1.7	1.8	G	G	4.2	4.4	4.7	4.4	4.3	4.1			G	D1.4 S	1.6	1.7	3.5	3.4
15	1.6	2.5	2.1	1.9	1.7	1.3	1.5	1.9	2.5	3.8	G	4.0	4.5	4.2	4.3	4.2	G	7.9	2.7	1.6	1.7	S	S	E
16	E	2.9	3.3	1.1	1.2	1.2	E	G	G	3.6	G	G	4.2	G	4.3	G		2.1	G	C	E	S	4.1	2.5
17	E									C			G			G	3.6	3.1		2.5	1.9	1.7	S	S
18	S	E	1.3			E			G	3.8	4.2	4.4	4.1	4.6 A	4.3	4.1	4.0	G	2.1	C	2.2	E	S	
19	C						S	G		3.6	G	4.6	4.6	4.9	4.8	4.2	3.9	5.0	G	3.1	2.7	2.3	3.3	1.8
20	1.6	1.8	1.1	E	1.1	E	S	G		G	G	4.1				G	G	3.4	G	2.2	2.5	S	E	S
21								G					G	G		G			2.6	2.7	2.3	2.3	2.0	2.1
22	3.9	1.6	1.1	1.3	1.2		1.6		G	3.4	G	G	G	G	G			2.9	1.7	2.3	1.8	E	S	S
23	1.7	1.2	1.7	E			E	G	G	3.9	4.1	G	G							E	2.5	E	E	2.5
24	E		1.2	1.3			S		3.4	G		4.4		B		G	3.0		1.8	1.7	E	E	E	2.5
25	1.6						S		G	G	G	G	G	G	3.9				G	S	S	S	S	S
26	S		1.7	2.5	2.5	2.1	2.0			G	G	G	4.3	6.4	5.5	4.7	G	4.1	4.9	4.7	1.6	2.8	1.8	1.7
27	S		E			S	S		3.4		4.8	6.4	7.3	4.4	G	4.7		2.3	2.6	3.4	1.9	2.2	1.8	1.7
28	2.2	S				E	S	G			4.4	4.4	4.6	4.5	4.5	4.6		3.3	2.6	2.5	2.5	2.4	E	S
29		1.6	2.6	1.7	1.2	E	S	2.2			4.2	4.4	4.6	4.6		G		4.0	3.9	2.6	S	E	S	
30							S			4.2	4.4	4.5	4.4	G	D4.3 B	G	3.3	2.5	C	C	C	C	C	C
31	1.7						E		G	4.1	G	G	C	C	C		G	G	4.5	3.8	1.6	5.4	5.4	1.9
No.	13	12	14	12	11	10	9	12	14	20	21	25	23	21	19	20	16	22	24	23	22	18	16	12
Median	1.6	1.6	1.3	1.3	1.2	E	E	G	G	3.1	G	4.1	4.2	4.2	4.3	G	G	3.1	2.0	2.3	1.8	1.7	1.8	1.8

fbEs

Sweep 1.0 Mc to 20.0 Mc in 1 min sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 5

IONOSPHERIC DATA

Mar. 1958 | 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	E1.60S	1.25	1.20	1.10	E	1.25	E1.70S	1.60	1.60	1.50	1.60	1.65	1.70	8.40	4.60	2.50	1.60	1.65	E1.65S	E1.70S	E1.70S	E1.60S	E1.70S	E1.70S
2	E1.70S	1.20	E	E	E	1.25	E1.70S	1.75	1.70	1.70	2.00	2.45	2.20	2.45	2.45	2.00	1.95	E1.70S	1.55	E1.70S	E1.70S	E1.70S	E1.70S	E1.70S
3	E1.70S	E1.60S	E	E	E	1.25	E1.70S	E1.60S	1.70	1.70	1.70	1.90	2.20	2.45	2.45	1.95	1.75	1.55	1.55	E1.60S	E1.70S	E1.70S	E1.70S	E1.70S
4	E1.60S	1.25	1.15	1.15	1.15	1.30	E1.65S	E1.50S	1.50	1.60	1.60	1.85	1.90	2.45	1.90	1.70	1.50	1.25	E1.65S	E1.70S	E1.70S	E1.60S	E1.60S	E1.70S
5	E1.65S	1.20	E	1.10	1.20	1.20	E1.70S	E1.70S	1.70	1.90	1.90	2.00	2.20	2.20	2.20	1.65	1.50	1.30	1.80	E1.60S	E1.70S	E1.70S	E1.70S	E1.70S
6	E1.70S	1.25	E	E	E	1.20	E1.70S	1.60	1.50	1.75	2.20	1.90	2.20	2.45	1.90	1.50	1.65	1.80	E1.70S	E1.70S	E1.70S	E1.60S	E1.70S	E1.60S
7	E1.60S	1.25	E	E	E	1.00	E1.70S	E1.70S	1.70	1.50	2.10	1.90	1.90	2.45	1.90	1.85	1.50	1.60	1.60	E1.60S	E1.70S	E1.60S	E1.70S	E1.70S
8	E1.60S	1.00	1.15	E	E	1.00	1.15	1.30	1.60	1.55	1.60	2.05	2.00	2.00	2.05	1.80	1.50	1.15	1.00	1.25	E1.60S	1.25	1.30	1.20
9	1.25	1.00	E	E	E	1.00	1.15	1.55	1.50	1.70	1.70	1.85	2.45	2.20	2.20	1.90	1.70	1.55	E1.50S	1.05	1.25	E1.60S	1.20	E1.70S
10	1.25	E	E	E	E	E	1.30	1.60	1.60	1.90	1.85	2.45	2.60	2.45	2.50	1.90	2.20	1.50	E1.50S	E1.50S	1.20	E1.50S	E1.60S	E1.60S
11	1.25	1.15	E	E	E	1.10	E1.50S	1.50	1.50	1.70	1.60	2.45	2.45	2.45	2.20	1.90	1.70	1.70	1.20	1.15	E1.60S	E1.60S	E1.50S	E1.60S
12	1.20	E	E	1.20	E	1.05	E1.60S	E1.50S	1.70	1.70	2.50	2.55	2.50	2.45	2.45	2.05	1.60	1.30	1.15	1.15	1.35	1.25	E1.60S	1.20
13	1.20	1.20	E	E	1.05	1.10	1.25	1.70	1.25	1.50	2.20	2.45	2.20	2.20	2.30	1.80	1.30	1.15	E1.50S	1.05	E1.60S	E1.50S	E1.50S	E1.60S
14	1.20	E	E	E	E	E	1.00	1.15	1.60	1.70	1.55	1.70	2.20	1.90	2.00	1.60	1.90	1.15	E1.55S	1.10	1.30	1.20	E1.50S	E1.60S
15	1.30	E	E	E	E	1.10	1.00	1.55	1.50	1.70	1.70	1.70	1.65	2.20	1.90	1.85	1.65	1.60	1.60	1.15	1.00	E1.60S	E1.60S	E1.60S
16	1.30	E	1.00	E	E	1.00	E1.60S	1.50	1.60	1.60	1.70	1.85	1.70	2.20	2.45	1.85	1.50	1.30	E1.50S	E5.10C	E1.50S	E1.60S	1.20	E1.60S
17	E1.50S	1.20	E	E	E	1.00	1.30	1.60	1.50	E4.40C	2.20	2.25	2.20	2.20	2.20	1.85	1.60	E2.90C	1.50	1.15	E1.60S	E1.60S	E1.60S	E1.60S
18	E1.55S	1.20	E	E	E	1.00	1.15	1.60	1.50	1.50	1.75	1.90	2.20	1.90	1.85	1.80	1.30	1.60	1.65	E3.80C	1.10	1.30	E1.60S	1.20
19	E3.80C	1.20	E	E	E	1.05	E1.50S	1.60	1.10	1.60	1.70	2.05	1.85	2.20	1.95	1.90	2.45	1.55	1.10	E1.60S	E1.60S	E1.50S	E1.60S	E1.55S
20	1.30	1.20	E	E	E	1.25	E1.60S	1.60	1.25	1.60	1.60	1.70	1.85	2.45	2.45	1.95	2.50	1.85	1.50	1.10	1.20	E1.65S	E1.65S	E1.60S
21	1.25	1.20	E	E	1.10	1.15	1.30	1.30	1.25	1.60	1.80	2.20	2.45	2.45	2.45	1.85	1.60	1.60	1.15	1.05	1.20	1.30	E1.50S	E1.70S
22	1.20	1.20	E	E	E	1.05	1.00	1.50	1.50	E1.80C	2.35	2.20	3.15	2.35	2.30	1.90	1.65	1.20	1.05	1.15	E1.55S	E1.60S	E1.60S	E1.65S
23	1.20	E	E	E	E	1.00	E1.70S	1.70	1.70	2.45	1.85	2.20	2.20	2.20	2.20	2.00	1.60	E1.55S	E1.50S	E1.60S	1.30	E1.60S	E1.70S	1.20
24	1.30	1.00	E	E	1.10	1.00	E1.50S	1.70	1.60	1.90	2.20	2.45	3.15	4.70	2.50	2.45	1.70	1.65	1.15	1.10	E1.50S	E1.60S	E1.80S	E1.50S
25	1.20	1.20	E	E	1.20	1.15	E1.60S	1.50	1.50	1.50	1.90	1.90	2.45	2.50	2.20	2.45	1.85	1.60	E1.55S	E1.50S	E1.60S	E1.60S	E1.55S	E1.60S
26	E1.50S	E	E	E	E	1.00	1.25	1.60	1.15	1.65	1.70	2.20	2.45	2.50	2.20	2.00	1.85	1.60	1.20	1.25	1.10	E1.50S	E1.60S	E1.60S
27	E1.60S	1.25	E	E	1.20	E1.50S	1.15	1.55	1.60	1.90	2.45	2.50	2.50	2.45	2.50	2.20	1.70	1.50	1.10	1.30	E1.70S	E1.60S	1.20	1.20
28	E1.60S	E1.60S	E	E	E	1.00	E1.50S	1.70	1.90	1.85	2.45	2.20	2.45	2.45	2.80	1.90	1.65	1.30	1.15	1.15	1.30	1.20	E1.60S	E1.60S
29	1.30	E	E	E	E	1.25	1.60	1.50	1.55	1.85	2.00	2.45	2.50	2.20	2.45	1.85	1.70	1.60	1.20	1.10	E1.65S	1.25	E1.70S	1.20
30	1.20	E	E	E	E	E	E1.50S	1.70	1.50	2.45	2.75	2.65	2.45	2.45	2.70	2.20	1.85	1.20	C	C	C	C	C	C
31	1.20	1.20	E	E	E	1.25	1.65	1.60	1.55	1.70	4.20	2.45	C	C	C	1.90	2.45	1.50	1.15	1.15	1.20	E1.60S	E1.60S	1.20
No.	17	29	31	31	31	30	31	29	31	29	31	31	30	30	30	31	31	29	25	17	30	30	30	30
Median	1.25	1.20	E	E	E	1.05	E1.50	1.60	1.55	1.70	1.85	2.20	2.20	2.45	2.25	1.90	1.65	1.55	E1.50	1.15	E1.60	E1.60	E1.60	E1.60

The Radio Research Laboratories, Japan.

f-min | Sweep 1.0 Mc to 20.0 Mc in 1 min ~~sec~~ in automatic operation.

Y 6

IONOSPHERIC DATA

Mar. 1958 | (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	2.80	3.15^{S}	2.70^{S}	J2.90^{S}	3.00	3.05	2.70	3.25	3.30	3.15	3.05^{H}	2.95^{H}	3.00^{H}	2.80	2.80^{H}	2.80^{H}	2.85^{H}	2.95^{S}	2.95	3.00	3.05	2.80	2.80	J2.75^{S}
2	J3.05^{S}	2.90	2.95	J3.25^{S}	3.20	2.80	2.80	J3.15^{S}	3.35	3.20	3.10	2.95^{H}	I2.90^{CH}	2.90^{H}	I2.85^{SH}	2.85^{H}	2.80^{H}	2.85^{H}	2.95	2.90	3.00	2.95	J2.80^{S}	J2.80^{S}
3	3.00^{S}	J3.00^{S}	2.95	2.95	2.75	3.05	2.65	J3.20^{S}	3.20	3.10	3.05	3.00	2.95^{H}	2.85^{H}	2.80^{H}	2.85^{H}	2.90^{H}	2.95	2.95	2.90	2.90	J2.85^{S}	2.80^{S}	2.60
4	U2.85^{S}	2.95	J3.05^{S}	2.80^{S}	3.05	2.70	2.50^{H}	3.10	3.05	3.00^{H}	3.15^{SH}	3.00^{H}	2.90^{H}	2.85^{H}	2.80^{H}	2.75^{H}	2.85	2.75	2.85	2.80	2.75	2.80	3.00	2.85
5	2.80	2.80	2.70	J2.70^{S}	2.50^{H}	2.60	2.65	I2.85^{S}	3.10	3.10	3.15^{SH}	2.95^{H}	2.80^{H}	2.90^{SH}	2.75^{H}	2.80^{H}	2.75^{H}	2.80^{H}	2.80	2.80	2.80	2.70^{S}	2.65	J2.80^{S}
6	J2.70^{S}	2.85^{S}	J3.05^{S}	2.85	2.55^{H}	2.70	2.85	3.15^{S}	3.20	3.10	3.00	2.85^{H}	2.90^{H}	2.75^{H}	2.75^{H}	2.75^{H}	2.80^{H}	2.80	2.80	2.85	2.80^{S}	2.80	2.85	2.85
7	2.75^{S}	J2.75^{S}	2.75^{S}	J2.70^{S}	J2.80^{S}	U2.85^{S}	2.75	3.15	3.20	3.00	2.95^{H}	2.75^{H}	2.85^{H}	2.75^{SH}	U2.75^{SH}	2.75^{H}	2.75^{H}	2.80	2.80	2.85	2.70	2.75	2.85^{S}	J2.80^{S}
8	2.95^{S}	2.90	J2.80^{S}	2.90^{S}	2.70	2.80	2.75	U3.10^{S}	3.20	3.10	2.95	2.70^{H}	J2.85^{SH}	I2.80^{SH}	2.80^{H}	2.75^{H}	2.70^{H}	2.75^{H}	2.85	2.80	2.80	2.85^{S}	J2.85^{S}	2.80^{S}
9	2.95	J2.70^{S}	J3.00^{S}	J3.05^{S}	3.10	2.95	3.00	3.15	3.30	3.05	3.00	2.85^{H}	2.75^{H}	2.70^{H}	2.80^{H}	2.75^{H}	2.70^{H}	2.70^{H}	2.80	2.95	2.75	2.60^{S}	2.75	J2.80^{S}
10	2.90^{S}	2.90	J2.65^{S}	J2.80^{S}	2.85^{S}	2.80	2.70	3.00^{S}	3.15	3.00	3.00	2.75^{H}	I2.90^{SH}	I2.85^{SH}	I2.85^{SH}	U2.75^{SH}	2.70^{H}	2.70^{H}	J2.75^{S}	2.85	I2.95^{S}	I2.95^{S}	I2.90^{S}	U2.90^{S}
11	J2.95^{S}	2.90	2.70	2.65	2.50	2.40^{S}	2.60	3.20	3.00^{H}	3.00	3.05	2.90^{H}	2.80^{H}	2.80^{H}	2.70^{H}	2.70^{H}	2.75^{H}	2.80^{SH}	2.80	2.85	2.80	2.85	U2.85^{S}	2.70
12	J2.70^{S}	J2.80^{S}	2.85^{S}	J2.65^{S}	2.45	2.35	2.60	U3.00^{S}	3.05	3.10	3.00^{H}	2.80^{H}	J2.80^{SH}	2.65^{H}	2.55^{H}	2.70^{H}	2.70^{H}	2.65^{H}	2.75^{S}	2.70	2.80	2.60	2.70^{S}	I2.60^{S}
13	2.70^{S}	2.75	3.15	3.30	2.20^{H}	2.25	2.25	2.80	3.20	3.05	I3.00^{S}	2.85^{H}	I2.90^{SH}	2.75^{H}	2.70^{H}	2.70^{H}	2.60^{H}	2.75^{H}	I2.75^{S}	2.80	2.85	2.70^{SH}	2.70	2.65
14	2.70	2.25	J2.40^{S}	2.55	2.45^{SH}	J2.60^{S}	J2.60^{S}	2.85	I2.90^{S}	J3.00^{SH}	I3.05^{S}	S^{H}	S^{H}	S^{H}	2.75^{H}	2.70^{H}	2.75^{H}	2.80^{H}	J2.95^{S}	J3.00^{S}	2.80^{S}	I2.70^{S}	3.00	U3.00^{S}
15	J2.55^{S}	J2.50^{S}	J2.70^{S}	2.25^{H}	2.35	2.55^{S}	2.65^{S}	3.00	2.95	3.05	2.90^{H}	2.85^{H}	2.75^{H}	2.85^{H}	2.75^{H}	2.70^{H}	2.75^{H}	2.80	2.80	2.85	J2.65^{S}	J2.70^{S}	J2.60^{S}	2.60
16	2.65	2.40	2.50	2.50^{S}	2.35	2.65	J2.75^{S}	J3.15^{S}	3.15	3.10	3.00	2.85^{H}	2.80^{H}	2.80^{H}	2.75^{H}	2.70^{H}	2.75	2.70^{H}	U2.95^{S}	2.95	2.80	2.85	2.95	2.90
17	2.95	2.95	J2.80^{S}	J2.80^{S}	2.80	2.45	J2.75^{S}	3.20	3.20	3.10	2.95^{H}	2.90^{H}	2.85^{H}	2.65^{H}	2.75^{SH}	2.70^{SH}	2.70^{H}	2.70^{H}	2.75	I2.85^{S}	2.65	2.85	3.00^{S}	2.75^{S}
18	2.60^{S}	J2.45^{S}	2.55	J2.70^{S}	2.60^{H}	2.60	2.60^{S}	3.10	3.05	2.95	2.80^{H}	I2.90^{SH}	2.80^{H}	S^{H}	S^{H}	I2.75^{SH}	2.70^{H}	2.75^{H}	2.90	2.90	I2.80^{S}	2.55^{S}	J2.65^{S}	2.90^{S}
19	U2.85^{S}	2.75	2.60^{S}	2.50	2.55	2.45	2.45	J3.25^{S}	3.15	2.95	2.75^{H}	2.90^{H}	2.85^{H}	I2.75^{SH}	2.70^{H}	2.70^{SH}	2.70^{SH}	J2.80^{SH}	2.85^{S}	2.85	2.70	2.65	2.70	2.65
20	2.75	2.70^{S}	2.70^{S}	J2.45^{S}	J2.45^{S}	2.60	J2.70^{S}	J3.00^{S}	3.05	3.35	2.90^{H}	2.85^{H}	2.80^{H}	I2.80^{SH}	I2.80^{SH}	J2.85^{SH}	2.80^{H}	2.85	2.95	2.90	2.70	2.60	2.80	J2.80^{S}
21	2.85^{S}	2.60	2.45^{S}	J2.60^{S}	2.60^{H}	2.55	J2.90^{S}	J3.10^{S}	3.05	3.15	3.10	2.90^{H}	2.80^{H}	2.75^{H}	2.80^{H}	2.80^{H}	2.85^{H}	I2.90^{S}	2.90	2.85	J2.80^{S}	2.65	J2.80^{S}	J2.80^{S}
22	U3.05^{S}	2.70	J2.45^{S}	2.55	2.50	2.55	2.70^{S}	3.05	U3.15^{R}	3.15	2.95	2.90^{H}	2.80^{H}	2.70^{H}	2.70^{SH}	2.75^{H}	2.75^{H}	2.75	2.80	2.85	I2.85^{S}	I2.85^{S}	2.90^{S}	J2.85^{S}
23	2.90	2.80	2.75	3.05^{S}	2.95^{S}	2.80	2.95	3.25	3.30	3.15	2.95	2.85^{H}	2.90^{H}	2.85^{SH}	I2.80^{SH}	2.65^{H}	2.75^{H}	2.85	2.85	2.90	2.65^{S}	2.60	2.75	I2.75^{S}
24	2.90^{S}	2.90	J2.75^{S}	2.90	2.75	2.70^{S}	2.85	3.20	3.05	2.95	2.95^{H}	2.85^{H}	2.80^{H}	I2.75^{RH}	I2.75^{RH}	2.70^{SH}	2.65^{H}	2.75^{H}	2.85	2.95	2.80	2.65	2.70	2.70
25	I2.70^{S}	3.00	2.90	2.60^{S}	U2.45^{S}	2.50^{S}	2.60	3.00	3.10	3.05	2.90^{H}	2.85^{H}	2.75^{H}	2.80^{H}	2.65^{H}	2.70^{H}	2.75^{H}	2.75^{H}	2.85	I2.90^{S}	2.70	2.75	I2.70^{S}	I2.80^{S}
26	I2.85^{S}	J2.90^{S}	2.80	I2.45^{S}	2.50	2.50^{H}	2.65	2.85	I3.10^{S}	I3.00^{S}	3.00^{H}	2.90	2.75^{H}	I2.65^{SH}	2.60^{H}	2.75^{H}	2.70^{H}	S^{H}	S	S	S	S	S	S
27	S	S	2.65^{S}	2.45	2.60	2.70	2.85	3.10	J2.75^{S}	3.00^{H}	2.85^{H}	2.75	2.70	2.70^{H}	2.70^{H}	2.70^{H}	2.70^{H}	2.65^{H}	2.85	J2.90^{S}	2.65	I2.70^{S}	I2.85^{S}	3.00
28	2.90^{S}	2.85^{S}	2.90	J3.05^{S}	J3.00^{S}	2.70	2.65	3.10	3.10	3.00	2.90	2.80^{H}	2.75^{H}	2.65^{H}	2.65^{H}	2.65^{H}	2.70^{H}	J2.70^{SH}	2.80	2.80	2.55	2.70	2.80	2.80^{S}
29	2.95^{S}	3.00	J3.05^{S}	3.00	2.50	2.50	2.60	3.10	3.20	3.10	2.85^{H}	2.75	2.65^{H}	2.60^{H}	2.60^{H}	2.60^{H}	2.65^{H}	2.70^{H}	J2.80^{S}	2.75	2.60	U2.55^{S}	U2.70^{S}	2.80^{S}
30	U2.90^{S}	3.05^{S}	3.05	3.15	2.65	2.60	2.70^{S}	3.10	3.20	3.05	2.80	2.65^{H}	2.65^{H}	2.60^{H}	2.60^{H}	I2.60^{S}	2.60^{H}	2.60^{H}	C	C	C	C	C	C
31	2.55	2.50^{S}	2.55	2.55	2.35^{SH}	2.45^{S}	2.65	2.90	2.95	2.90	2.75^{H}	2.65^{H}	C	C	C	2.60^{H}	2.55^{H}	2.60^{H}	2.60	2.55	2.40	2.50^{S}	J2.60^{S}	2.70^{S}
No.	30	30	31	31	31	31	31	31	31	31	31	30	29	28	29	31	31	30	29	29	29	29	29	29
Median	2.85	2.90	2.75	2.70	2.60	2.60	2.70	3.10	3.15	3.05	2.95	2.85	2.80	2.75	2.75	2.70	2.75	2.75	2.85	2.85	2.80	2.70	2.80	2.80

(M3000)F2 Sweep 1.0 Mc to 20.0 Mc in 1 ~~sec~~ min in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Mar. 1958 | (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																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9														4.45	4.45									
10																								
11																								
12																								
13																								
14																								
15												L												
16																								
17																								
18																								
19																								
20																								
21															L	4.20	4.20							
22																								
23																4.15								
24																								
25																								
26																								
27																								
28																								
29																								
30													L	L					C					
31													C	C	C									
No.														1	1	2	1							
Median														4.45	4.45	4.20	4.20							

(M3000)F1 Sweep 1 Mc to 20.0 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Mar. 1958 | 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																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9														230H	240H									
10																								
11																								
12																								
13																								
14																								
15												220H												
16																								
17																								
18																								
19																								
20																								
21															245H	235H	240H							
22																								
23																230H								
24																								
25																								
26																								
27																								
28																								
29																								
30													240H	240H					C					
31													C	C	C									
No.												1	1	2	2	2	1							
Median												220	240	235	240	230	240							

h'F2 | Sweep 1 Mc to 20.0 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

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IONOSPHERIC DATA

Mar. 1958 | 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	270	240	245	240	235	220	290	245	220	225	210H	215H	210H	300	240H	220H	220H	245	245	240	230	220	240	250
2	250	245	225	200	200	250	285	250	235	220	220	210H	215H	215H	220H	225H	235H	240H	240	225	240	200	245	250
3	240	200	245	245	240	235	245	245	225	220	220	210	225H	230H	225H	220H	225H	240	240	245	250	250	225	290
4	260	235	230	245	240	245	295H	235	210	230H	220H	220H	215H	205H	220H	225H	240	235	240	245	250	265	230	250
5	260	265	245	270	295H	300	295	245	225	220	215H	220H	200H	200H	220H	225H	225H	240H	250	240	245	250	240	250
6	280	255	230	230	265H	250	255	240	220	225	225	225H	220H	230H	220H	230H	230H	240	245	245	240	245	250	250
7	250	230	240	240	240	240	250	225	210	210	210H	200H	200H	210H	210H	230H	225H	240	250	240	250	255	245	255
8	250	240	250	245	250	250	235	230	230	225	210	210H	220H	230H	225H	225H	240H	240H	245	220	250	250	240	250
9	250	240	250	230	225	210	205	240	230	225	220	220H	220H	200	200	230H	235H	245H	250	235	220	240	250	250
10	245	250	280	265	205	200	280	245	230	225	225	225H	210H	210H	220H	240H	230H	240H	250	250	245	245	245	240
11	205	230	225	275	305	355	310	215	210H	230	230	220H	210H	210H	205H	220H	230H	245H	250	250	250	250	240	255
12	270	265	245	250	260	355	325	240	230	240	230H	230H	245H	220H	225H	225H	240H	240H	250	250	235	240	250	270
13	290	295	235	200	270H	395	375	255	230	225	225	220H	225H	235H	220H	240H	240H	245H	250	250	250	255H	275	290
14	270	320	340	285	215H	300	275	240	235	225H	225	220H	225H	220H	225H	220H	215H	240H	245	235	240	255	255	245
15	250	330	265	370H	360	300	260	245	220	225	205H	200	220H	205H	235H	230H	230H	305	250	240	250	265	290	300
16	300	330	310	265	325	290	245	220	220	220	205	205H	200H	215H	240H	220H	235	240H	250	250	250	250	265	250
17	245	230	240	250	245	305	300	240	220	225	210H	205H	205H	210H	220H	230H	225H	240H	250	240	290	250	230	265
18	300	300	300	240	200H	290	305	240	220	220	210H	210H	225H	225H	235H	230H	240H	240H	255	250	225	235	270	250
19	270	250	260	290	300	305	330	230	225	225	220H	220H	230H	245H	240H	240H	240H	275H	245	250	260	255	300	300
20	290	275	255	280	300	255	230	240	240	230	220H	205H	200H	230H	230H	225H	240H	245	250	240	245	270	260	250
21	255	265	295	270	230H	240	270	235	230	230	220	220H	220H	220H	220	215	205	240	245	245	250	250	250	255
22	260	250	310	300	310	280	280	225	230	240	220	210H	240H	210H	220H	220H	240H	245	250	250	250	245	245	240
23	250	275	285	240	200	230	255	230	230	220	215	205H	205H	230H	215H	225	230H	245	250	240	245	255	275	295
24	270	245	250	250	245	255	255	230	225	215	210H	230H	230H	230H	225H	230H	240H	245H	250	245	240	250	290	285
25	275	245	235	260	310	340	310	230	235	230	220H	205H	210H	220H	215H	230H	235H	245H	250	230	225	255	275	275
26	275	265	260	300	300	290H	270	250	230	225	225H	225	220H	E 270AH	250H	240H	250H	245H	260	255	265	285	250	250
27	245	230	250	310	290	245	250	240	230	230H	240H	250	300	230H	235H	240H	240H	245H	250	250	245	290	255	250
28	250	250	250	230	200	230	300	240	230	230	225	205H	220H	235H	215H	240H	245H	250H	250	245	265	275	260	265
29	250	245	245	240	240	305	300	230	225	225	220H	220	225H	220H	230H	230H	240H	250H	255	260	250	290	290	250
30	250	250	240	210	210	275	300	240	235	240	230	225H	215	200	220H	225H	245H	250H	C	C	C	C	C	C
31	330	340	275	250	225H	330	295	245	240	240	235H	215H	C	C	C	240H	245H	250H	290	290	295	350	345	300
No.	31	31	31	31	31	31	31	31	31	31	31	31	30	29	30	31	31	31	30	30	30	30	30	30
Median	260	250	250	250	245	275	285	240	230	225	220	220	220	220	220	230	235	245	250	245	250	250	250	250

h'F

Sweep 1.0 Mc to 20.0 Mc in 1 min ~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Mar. 1958 | h'Es | 135° E Mean Time (G.M.T.+ 9h.) | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	100	E	E	E	E	S	G	135	G	G	100	G	B	B	100	G	G	100	100	100	S	S	S
2	100	E	E	E	E	E	S	G	G	G	G	G	105	G	G	100	120	110	105	105	100	100	100	S
3	S	S	E	E	E	E	S	G	G	100	G	G	100	170	140	130	150	120	110	105	100	100	100	S
4	S	E	E	E	E	E	S	G	G	G	G	G	125	145	G	G	120	120	100	100	S	S	100	S
5	S	100	100	100	100	100	S	G	G	G	100	100	100	100	125	G	G	100	G	S	S	S	S	S
6	S	E	E	E	E	E	S	G	100	100	130	125	125	120	140	G	G	G	G	S	S	S	S	S
7	S	E	E	E	E	E	S	G	G	100	G	110	G	G	100	125	110	G	G	100	S	S	S	S
8	S	E	E	100	100	E	E	G	100	G	100	100	G	100	100	G	100	100	95	100	S	105	S	E
9	100	100	E	E	100	E	E	105	G	G	G	130	110	100	105	120	120	110	105	105	S	S	E	105
10	E	105	100	100	105	100	100	100	G	100	115	125	G	G	G	G	G	G	G	S	S	S	S	S
11	E	E	E	E	E	E	S	100	G	140	G	G	G	G	G	G	G	115	105	100	100	S	S	S
12	E	E	100	E	E	E	S	G	120	115	110	105	100	135	100	G	100	100	100	110	E	110	S	E
13	E	E	E	E	E	E	S	G	G	145	125	105	110	110	120	110	G	130	115	105	100	100	100	100
14	100	100	100	100	110	100	100	100	150	105	130	135	125	120	135	130	G	G	120	110	105	100	100	100
15	100	100	100	100	100	105	100	105	100	120	100	100	100	100	100	145	130	110	110	105	100	S	S	100
16	100	100	100	100	100	100	100	100	140	130	120	100	100	100	100	100	G	100	100	C	105	S	100	100
17	100	E	E	E	E	E	E	G	G	110	G	G	100	G	G	115	120	110	G	105	100	100	S	S
18	S	100	100	E	E	100	E	G	110	140	115	115	110	100	105	100	100	100	105	C	105	100	S	E
19	C	E	E	E	E	E	S	100	G	145	120	105	100	100	100	100	120	100	105	105	100	100	100	100
20	100	100	100	100	100	100	S	100	G	145	125	100	G	G	G	100	125	140	110	105	100	100	100	S
21	E	E	E	E	E	E	E	100	G	G	G	G	125	140	G	130	G	G	145	105	100	100	100	100
22	100	100	100	100	100	E	100	G	150	100	135	140	105	140	145	G	G	100	100	120	115	105	S	S
23	100	100	100	100	E	E	100	100	150	140	125	100	110	G	G	G	G	G	G	120	100	100	100	100
24	100	E	100	100	E	E	S	G	140	125	G	100	G	B	G	100	100	G	100	100	100	100	110	100
25	105	E	E	E	E	E	S	G	100	100	100	100	105	105	105	G	G	G	150	S	S	S	S	S
26	S	E	100	100	100	100	100	G	G	100	100	100	100	115	120	120	165	140	130	105	105	100	100	100
27	S	E	95	E	E	S	S	G	150	G	105	105	105	100	140	125	G	100	140	105	100	100	100	100
28	100	S	E	E	E	100	S	100	G	G	115	105	100	105	100	100	G	100	100	100	100	100	100	S
29	E	100	100	100	105	100	S	100	G	G	100	150	140	140	G	100	G	140	120	105	S	S	S	E
30	E	E	E	E	E	E	S	G	G	120	110	115	110	100	105	100	100	100	C	C	C	C	C	C
31	100	E	E	E	E	E	120	G	100	130	140	100	C	C	C	G	145	150	120	105	105	105	100	100
No.	13	12	14	12	11	10	8	12	14	21	21	25	23	21	19	20	16	22	24	24	20	18	15	12
Median	100	100	100	100	100	100	100	100	130	120	115	105	105	105	105	105	120	110	105	105	100	100	100	100

h'Es

Sweep 1.0 Mc to 20.0 Mc in 1 min sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 11

IONOSPHERIC DATA

Mar. 1958 | Types of Es | 135° E Mean Time (G.M.T.+ 9h.) | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1		f							h2			l2				l			l2	f2	f2			
2	f												l			l	c	c3	c3	f	f3	f	f	
3										l2			l	h	h	h	h	h3	c2	f6	f3	f3	f2	
4													h	h			h	h2	l	f			f	
5		f5	f2	f2	f2	f					l	l	l	l2	hl2			l						
6									l	l2	hl	h	h	h	h									
7										lc		c			l2	h	cl2			f				
8				f2	f3				l		l	l		l	l		l	l3	l	f2		f		
9	f2	f			f			l				h	ch	l	l	c	c2	l2	c3	f4				f
10		f	f3	f	f2	f	f	l		lh	h	h												
11								l		h								c2	c5	f6	f			
12			f						h	c2	c2	c2	c3	hl	l2		l2	l	l	f		f		
13										h	h	c	c2	c	c	c2		h3	c6	f4	f3	f4	f2	f
14	f2	f3	f4	f5	f	f4	f2	l	h	lh	h	h	h	h	h	h			c2	f	f	f2	f6	f6
15	f	f5	f4	f5	f2	f	f	l	l2	h2	lc	l	l	l2	l3	h	h	c5	c3	f3	f			f
16	f	f8	f7	f2	f2	f3	f2	l	h2	h2	h	l	l	l	l2	l3		l2	l		f		f7	f4
17	f									c			lh			c	c2	c3		f5f	f3	f3		
18		f	f			f			ch	h	h	c	c	l2	l2	l2	l3	l3	l4		f3	f		
19								l		h	hl	c2	l2	l3	l3	l2	h	l6	c2	f8f2	f5	f6	f4	f2
20	f2	f2	f2	f2	f	f		l		h	h	l				l	h	h2	c3	f4	f4	f2	f	
21								l					h	h		h			h3	f4	f5	f4	f3	f2
22	f5	f2	f	f2	f		f		h	l2h	h	h	l	h	h			l6	l3h	f3f2	ff	f2		
23	f4	f	f	f			f	l	h	hl	h	l	c							f	f4	f	f2	f4
24	f		f	f					h	h		l2				l	l2		l	f	f	f	f	f2
25	f2								l2	l2	lh	l	l	l	l				h					
26			f3	f4	f4	f4	f5			l2	l	l	l	c3	c2	h3	hl2	h2	h6	f8	f3	f5	f2	f
27			f						h2		c2	c3	c3	c	hl	c2		l2	h2l	f8	f3f	f4	f2	f
28	f2					f		l			h	c	l2	l	lh	l2h		l4	l3	f4	f4	f3	f	
29		f2	f3	f3	f	f		l3			l	h	h	hl		l		h2	h4l	f6f				
30										h	c	c	c	l	l	l2	l3	l2h						
31	f3						f		lch	h	h	lh					h	h3	c3	f7	f	f6	f6	f5
No.																								
Median																								

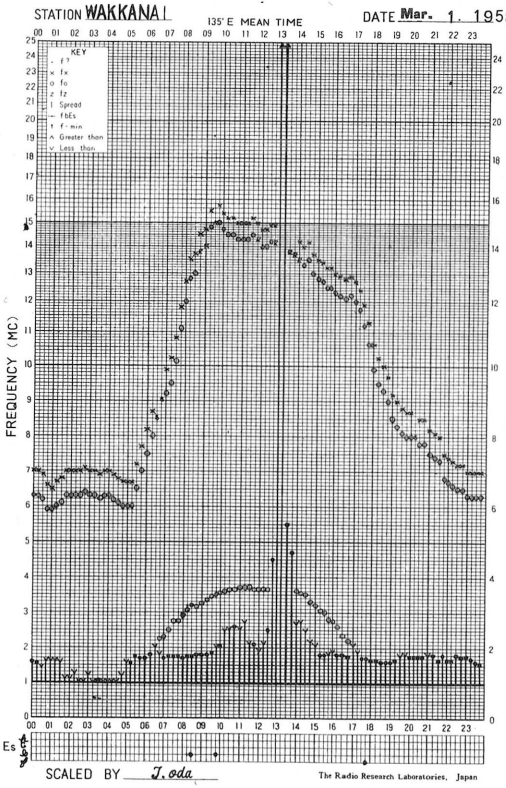
Types of Es | Sweep 1.0 Mc to 20.0 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

Y 12

f-PLOT OF IONOSPHERIC DATA

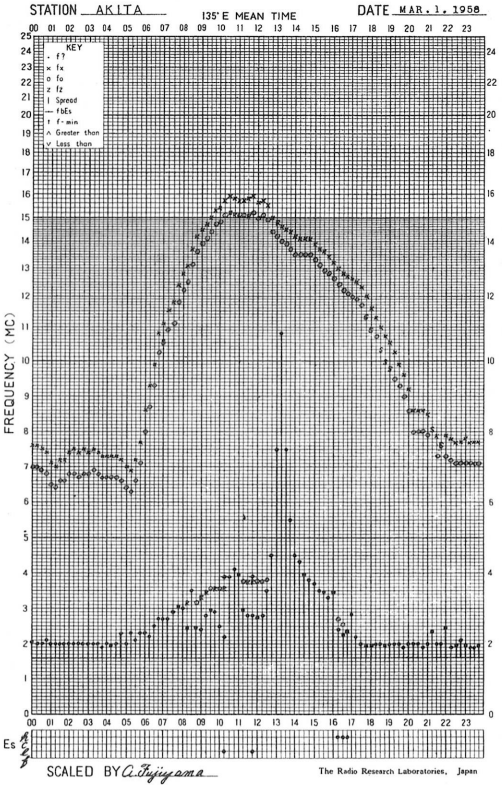
STATION WAKKANAI 135°E MEAN TIME DATE Mar. 1, 1958



SCALED BY J. Oda The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

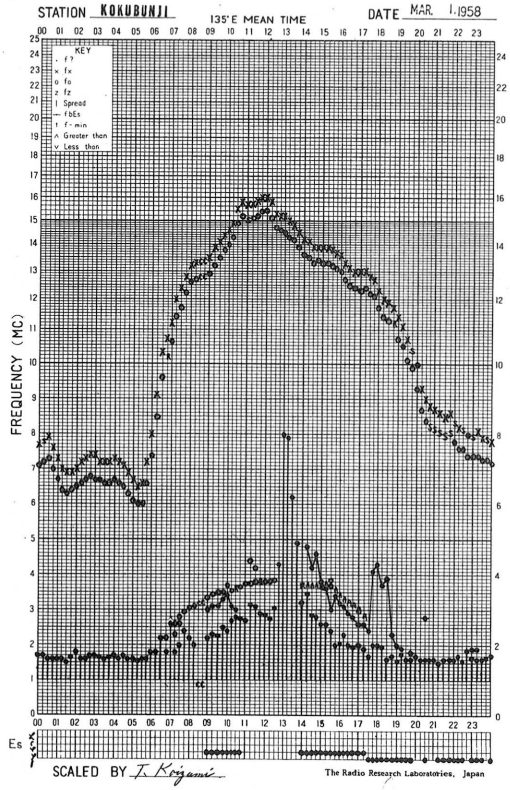
STATION AKITA 135°E MEAN TIME DATE MAR. 1, 1958



SCALED BY A. Fujiyama The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

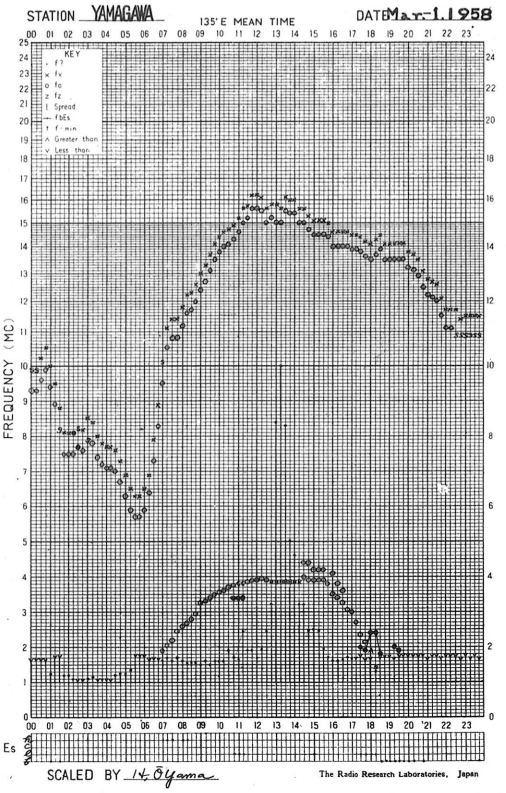
STATION KOKUBUNJI 135°E MEAN TIME DATE MAR. 1.1958



SCALED BY T. Koyama The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

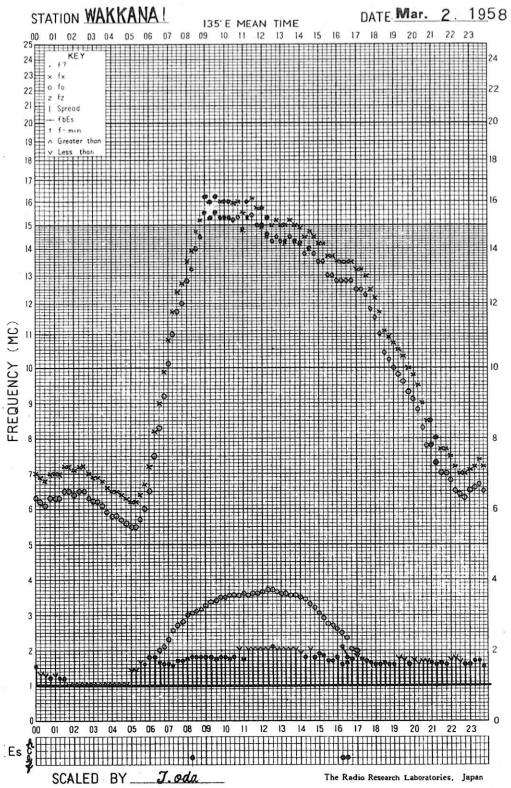
STATION YAMAGAWA 135°E MEAN TIME DATE Mar. 1. 1958



SCALED BY H. Oyama The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Mar. 2, 1958



SCALED BY T. Oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

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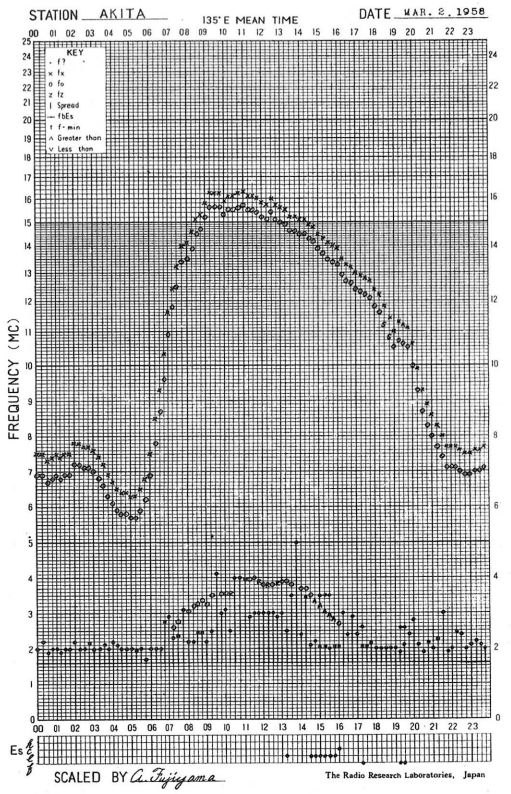
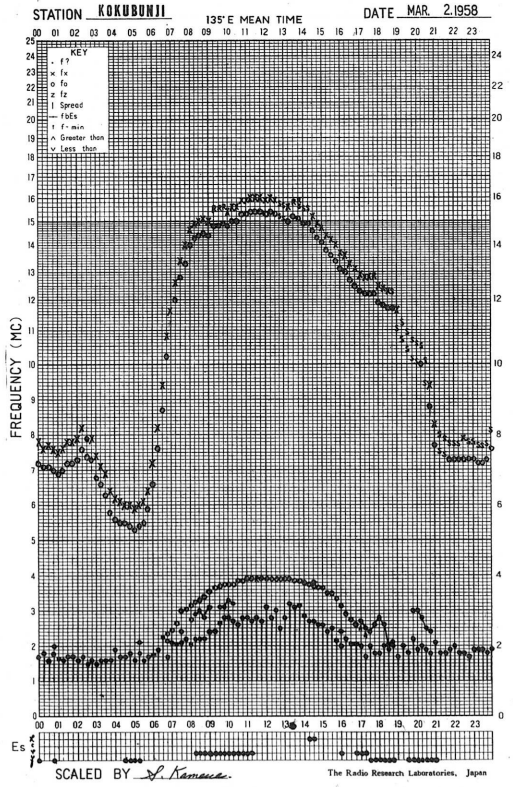


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135°E MEAN TIME DATE MAR. 2.1958

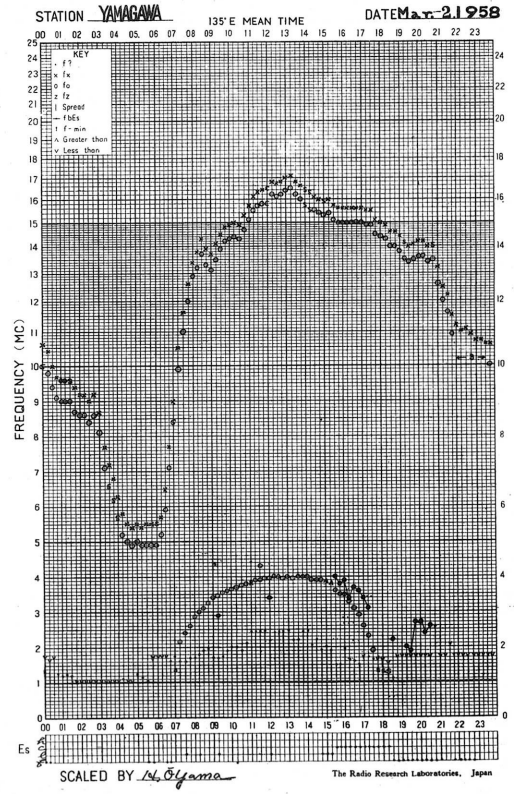


SCALED BY Y. Kamaeda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135°E MEAN TIME DATE Mar. 2.1958

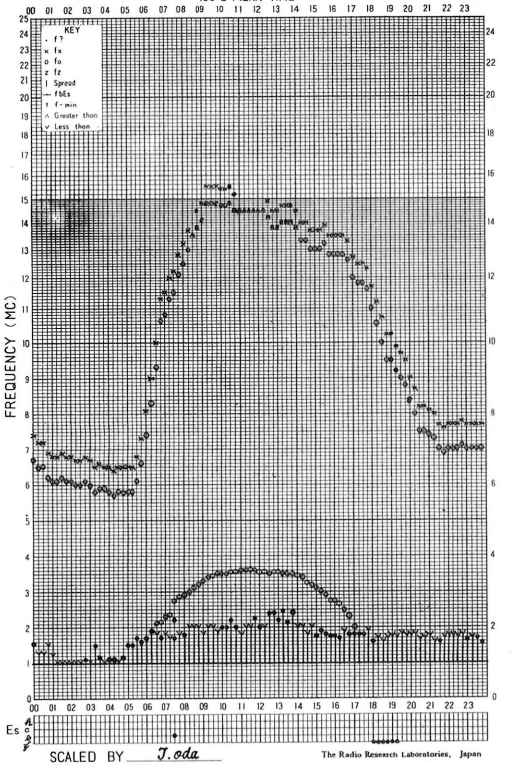


SCALED BY M. Ōyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Mar. 3. 1958

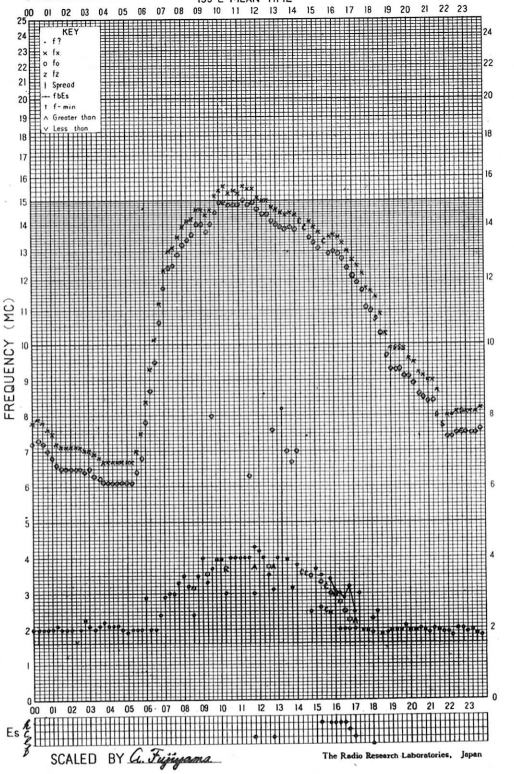


SCALED BY J. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135°E MEAN TIME DATE MAR. 3. 1958

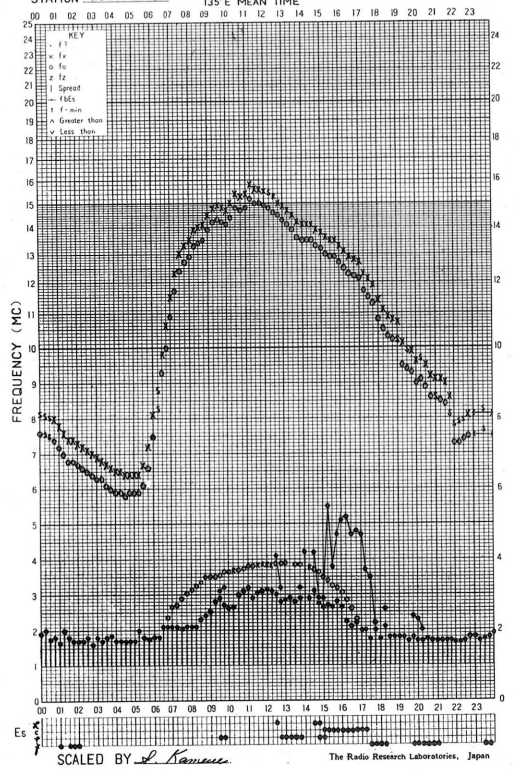


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135°E MEAN TIME DATE MAR. 3.1958

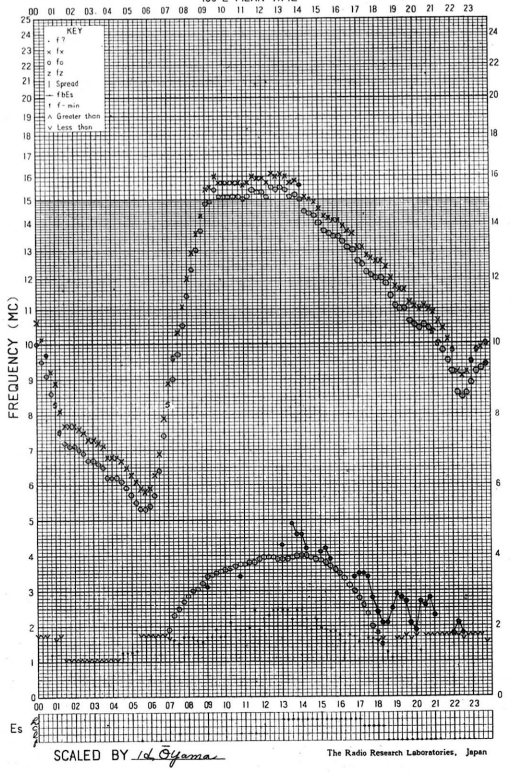


SCALED BY S. Kameura

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135°E MEAN TIME DATE Mar. 3.1958

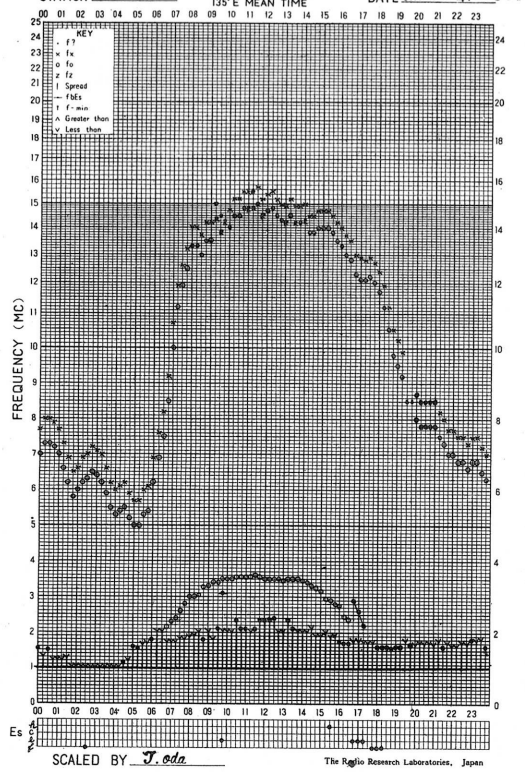


SCALED BY M. Ogama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Mar. 4, 1958

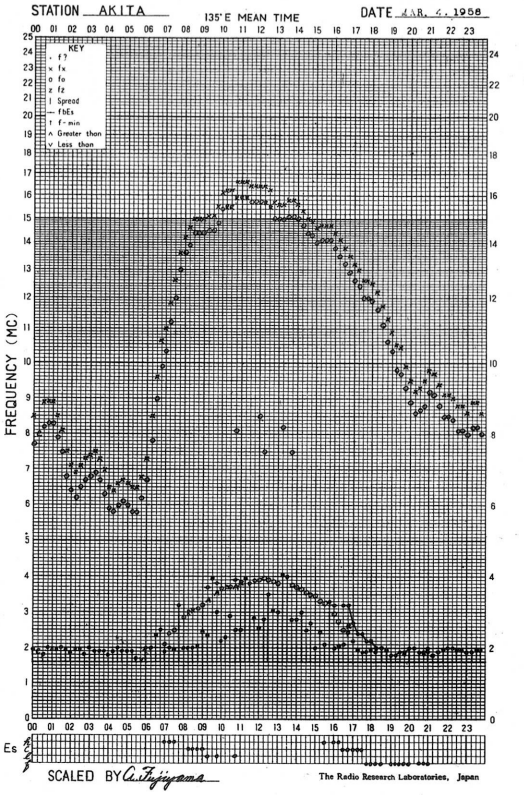


SCALED BY T. Oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135°E MEAN TIME DATE MAR. 4, 1958

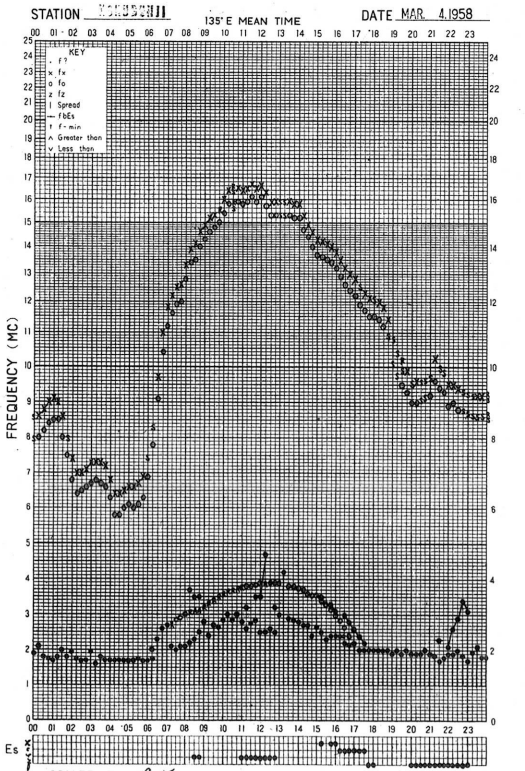


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135°E MEAN TIME DATE MAR. 4, 1958

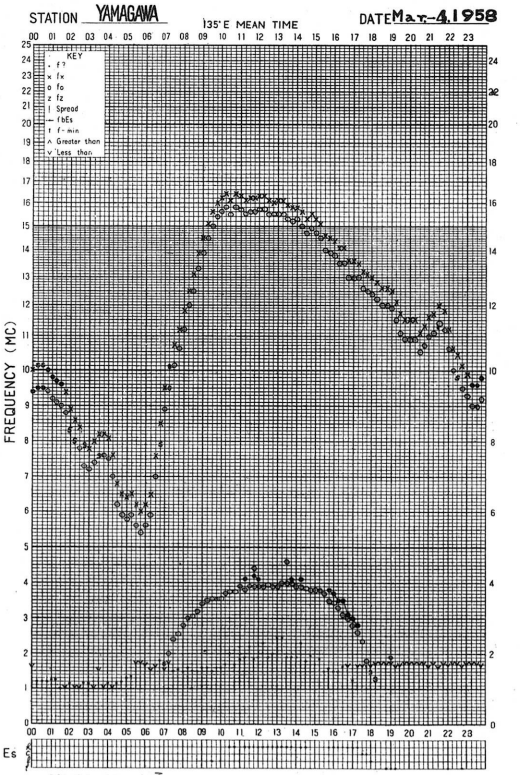


SCALED BY S. Kameda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135°E MEAN TIME DATE Mar. 4, 1958

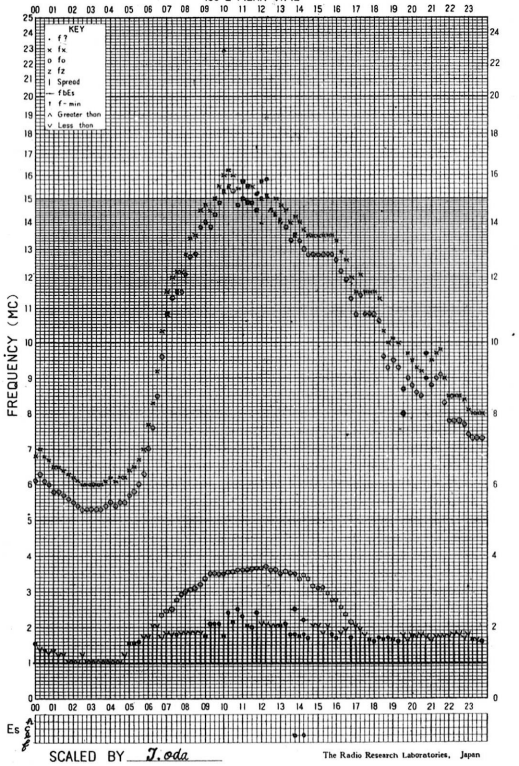


SCALED BY H. Ohyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Mar. 5. 1958

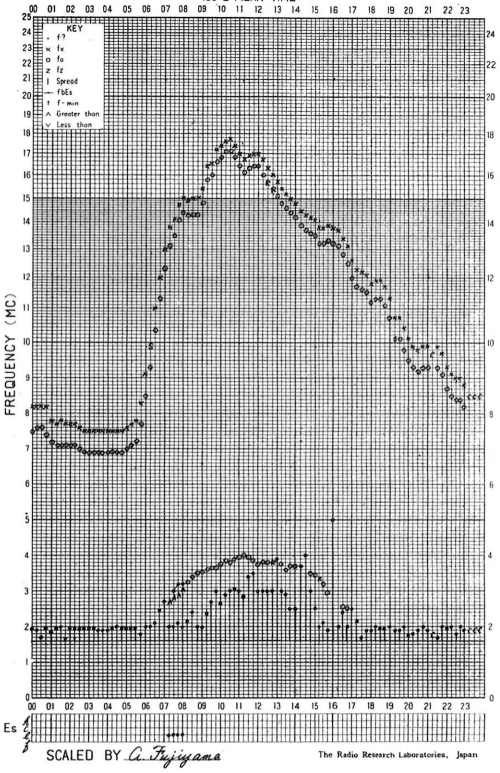


SCALED BY J. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135°E MEAN TIME DATE MAR. 5, 1958

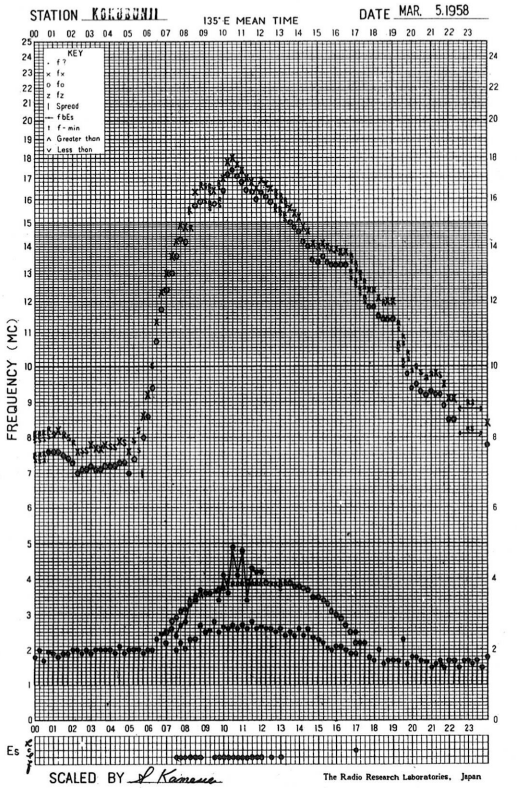


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135°E MEAN TIME DATE MAR. 5.1958

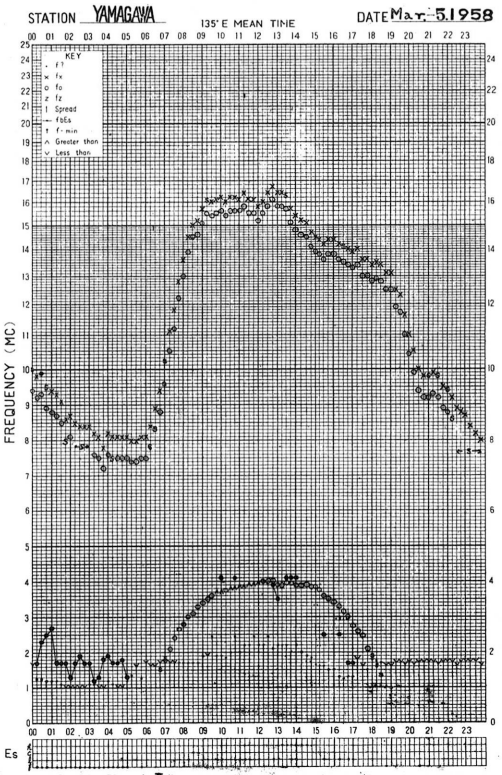


SCALED BY S. Kamaue

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135°E MEAN TIME DATE Mar. 5.1958

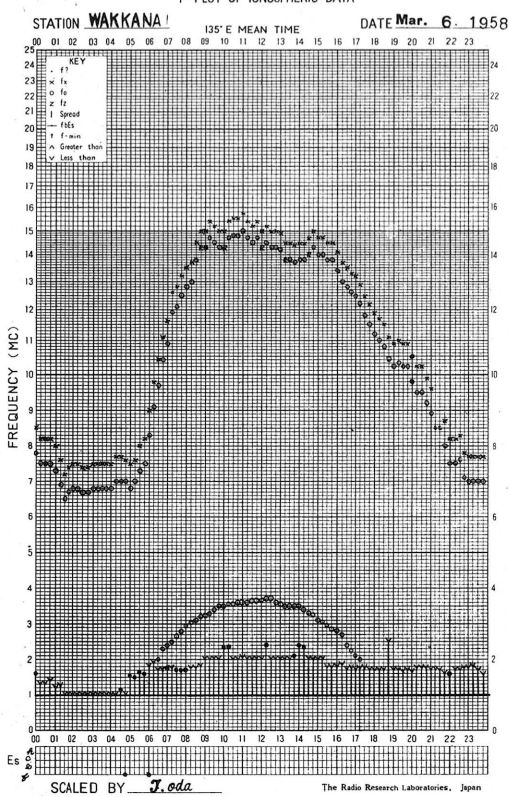


SCALED BY H. Ohyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Mar. 6. 1958

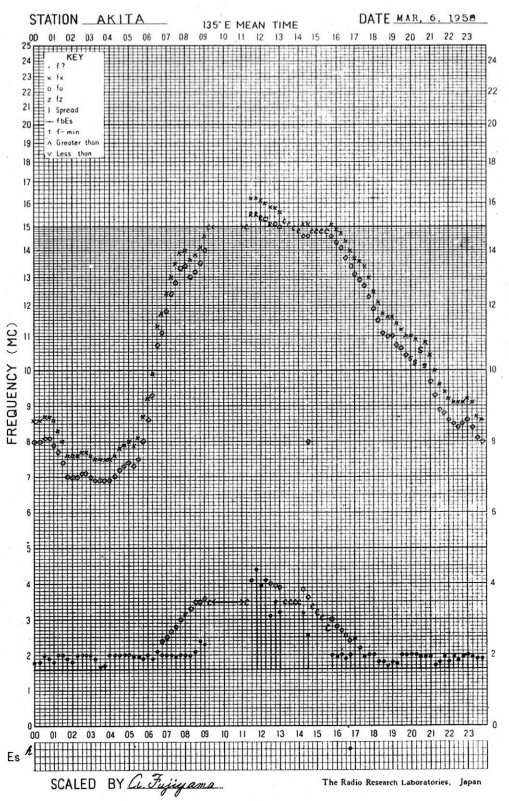


SCALED BY T. Oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE MAR. 6, 1958

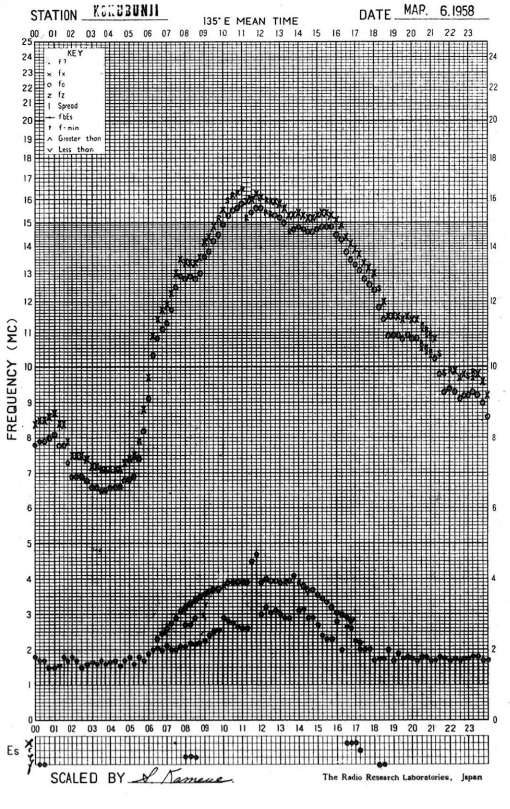


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE MAR. 6.1958

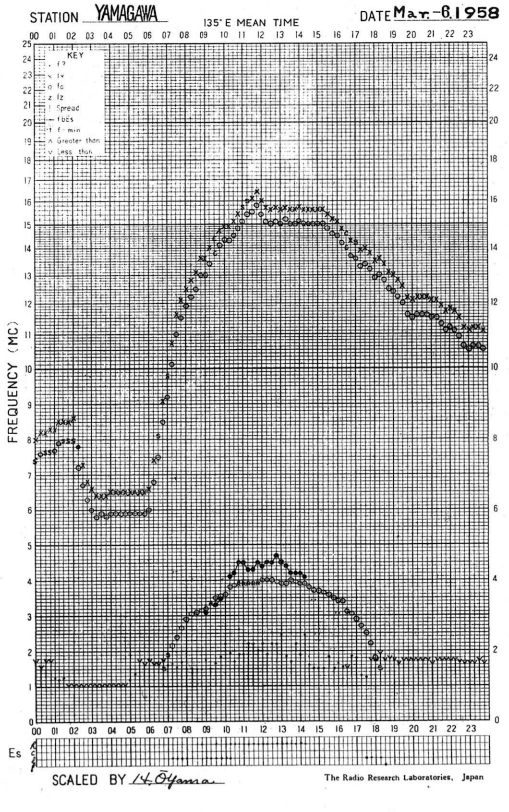


SCALED BY S. Kameue

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Mar. 6. 1958

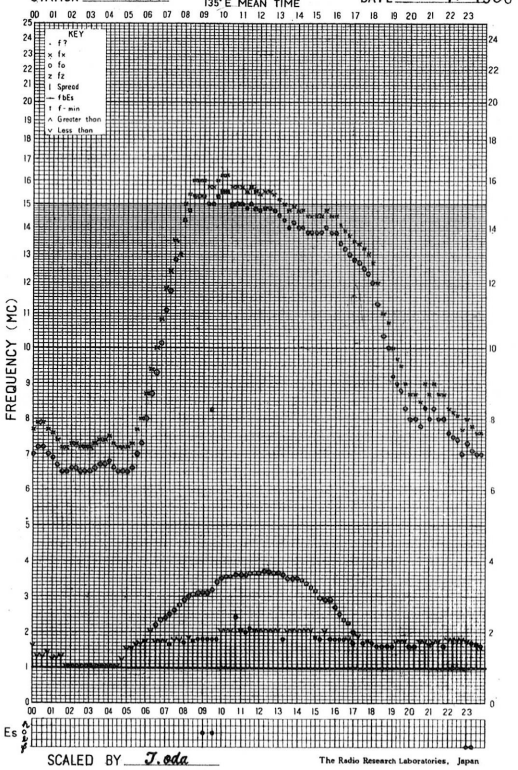


SCALED BY H. Ohyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Mar. 7. 1958

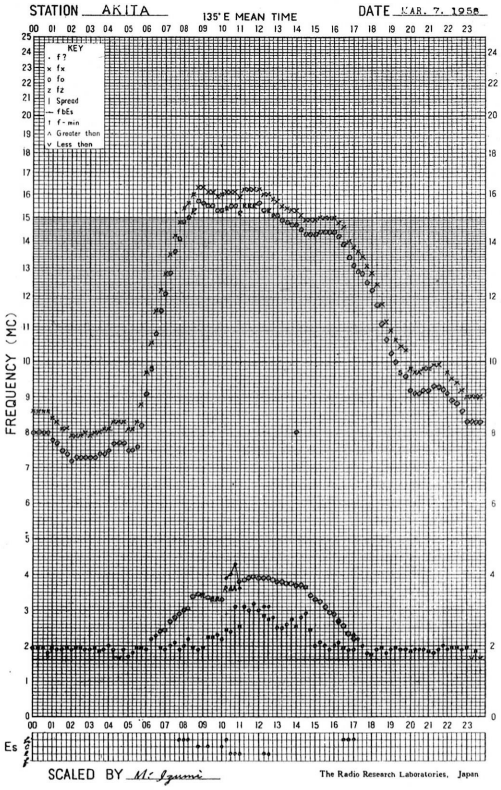


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135°E MEAN TIME DATE MAR. 7. 1958

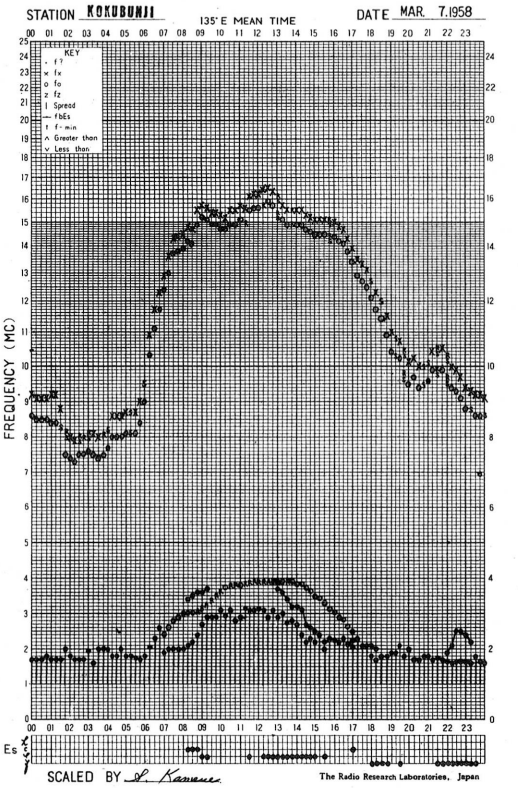


SCALED BY M. Izumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135°E MEAN TIME DATE MAR. 7.1958

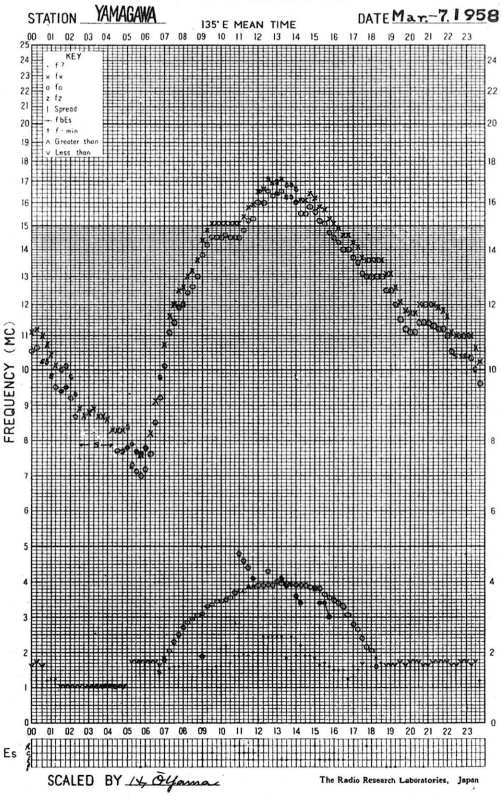


SCALED BY S. Kameue

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135°E MEAN TIME DATE Mar. 7. 1958

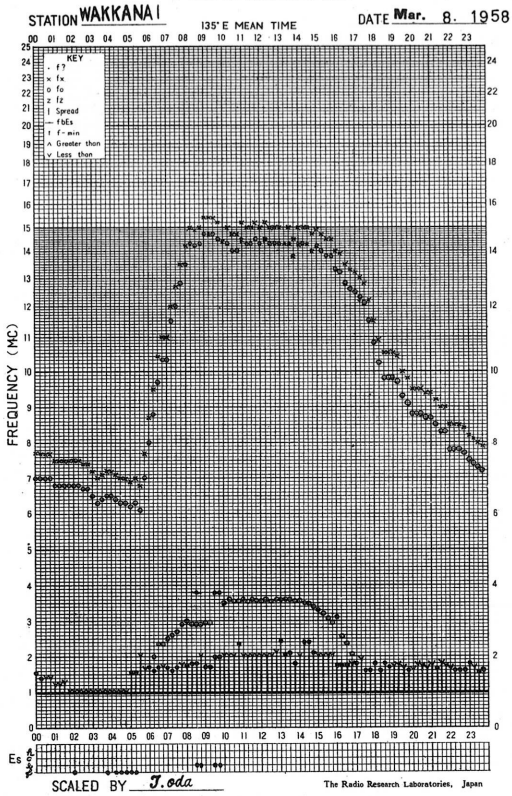


SCALED BY H. Ofuruna

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Mar. 8. 1958



SCALED BY T. Oda

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f-PLOT OF IONOSPHERIC DATA

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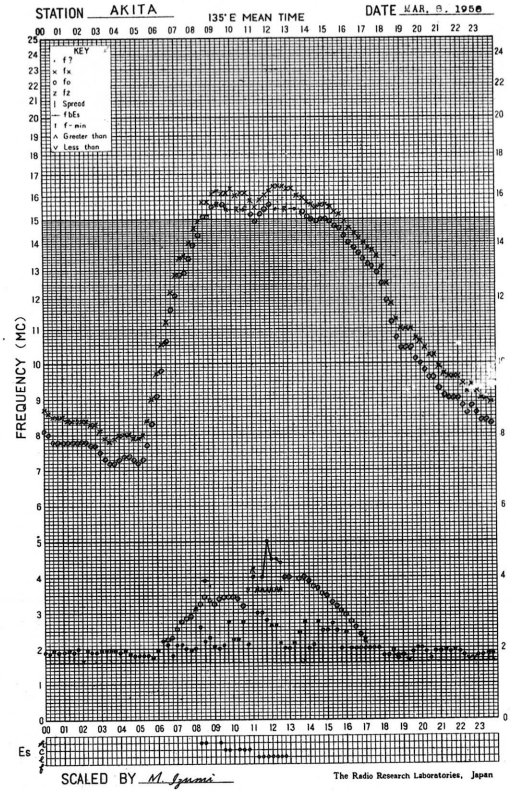

SCALED BY M. Izumi

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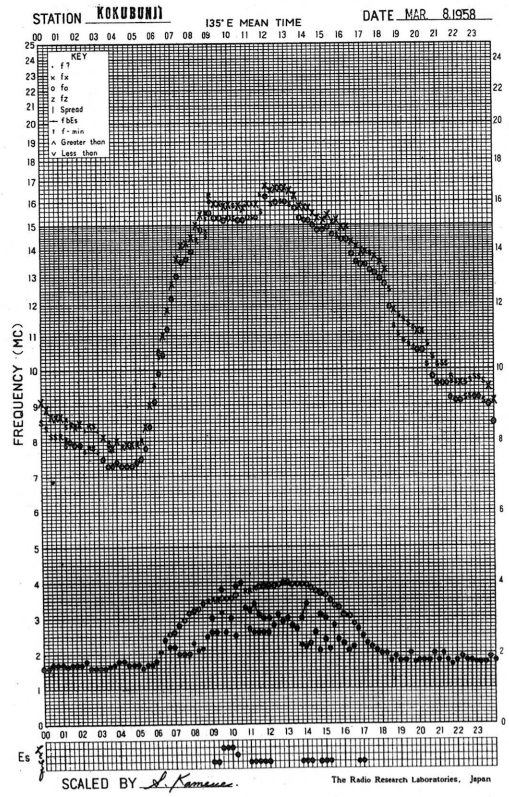

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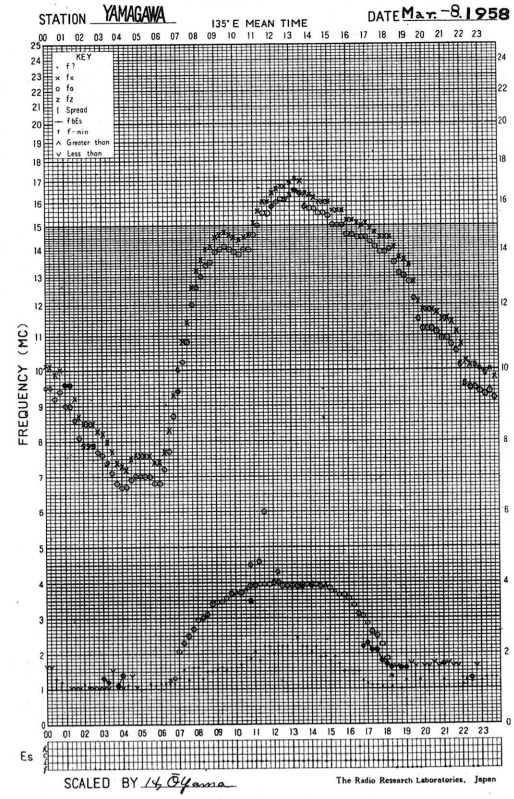

SCALED BY H. Ofuruna

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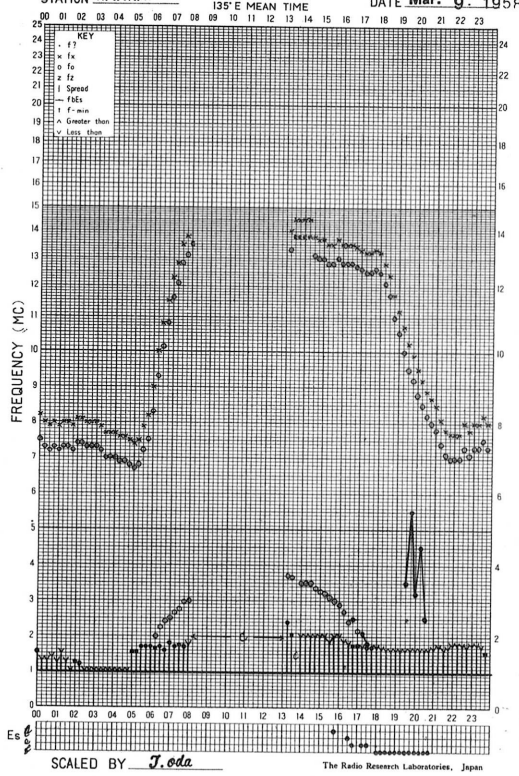

SCALED BY J. Oda

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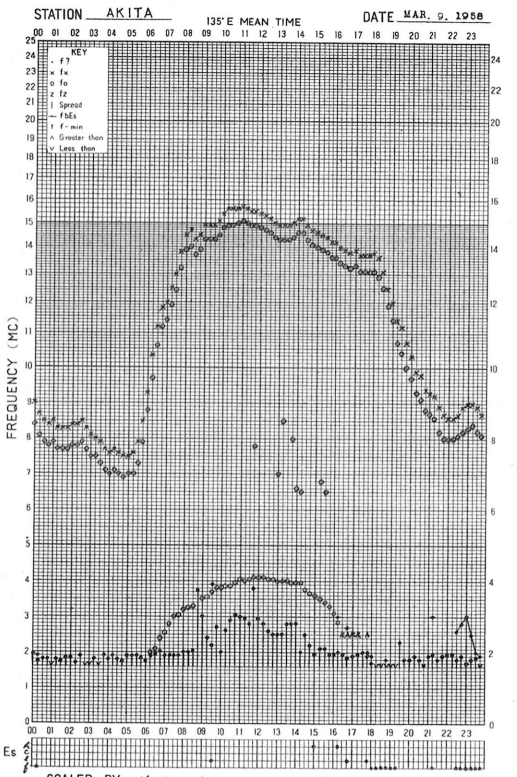

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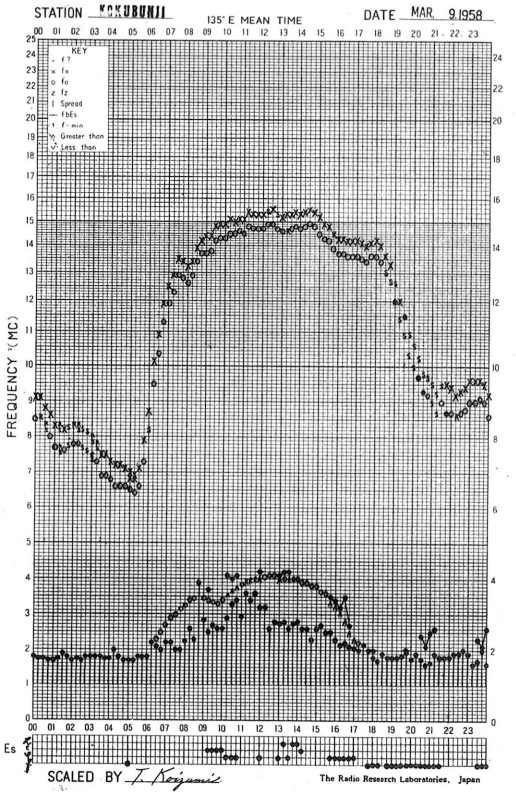

SCALED BY T. Konjumi

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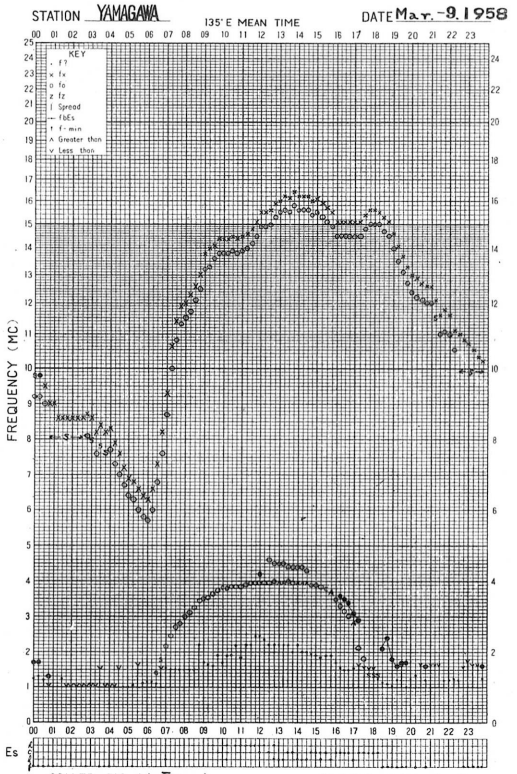

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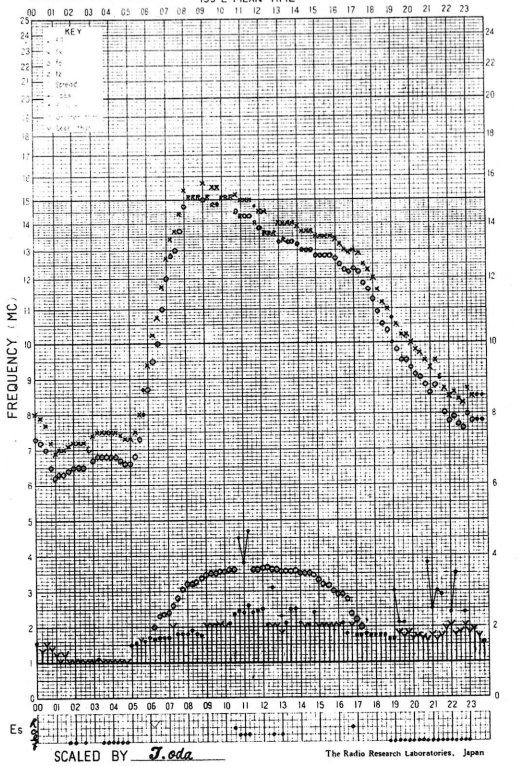

SCALED BY T. Oda

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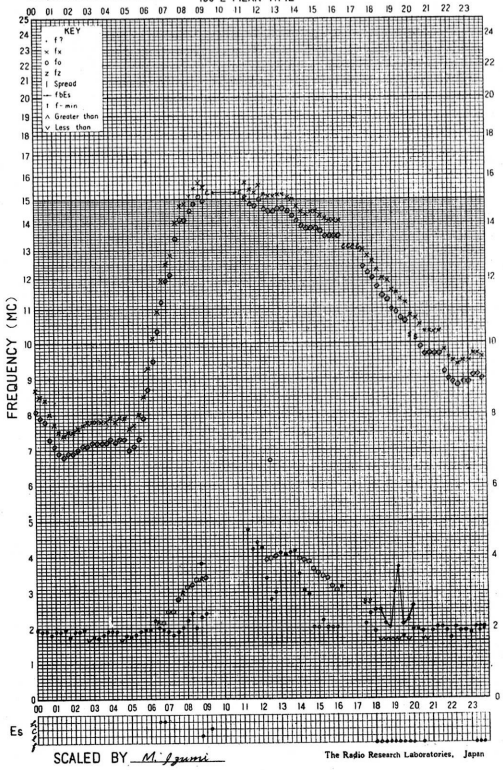

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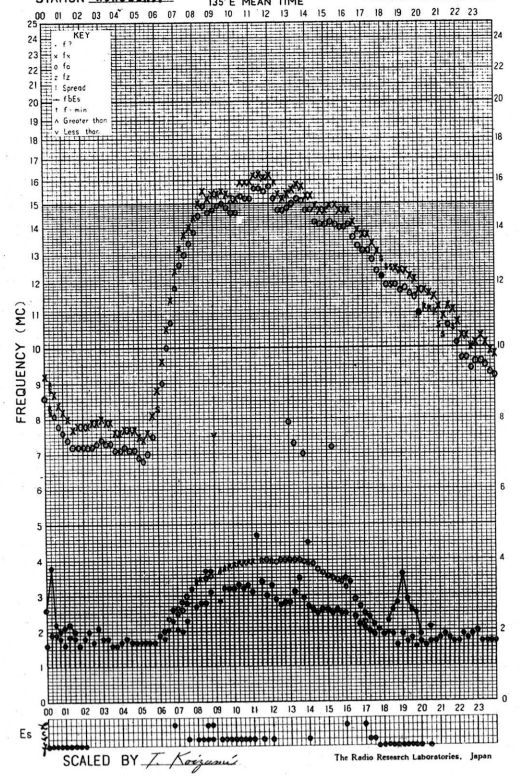

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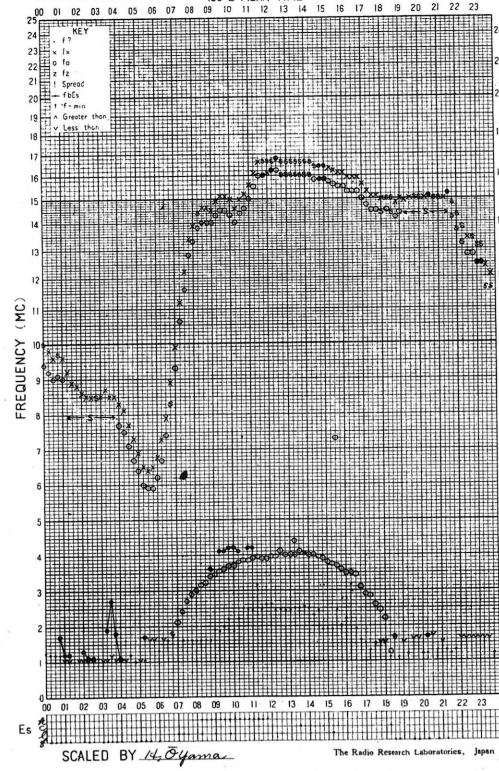

SCALED BY H. Ohyama

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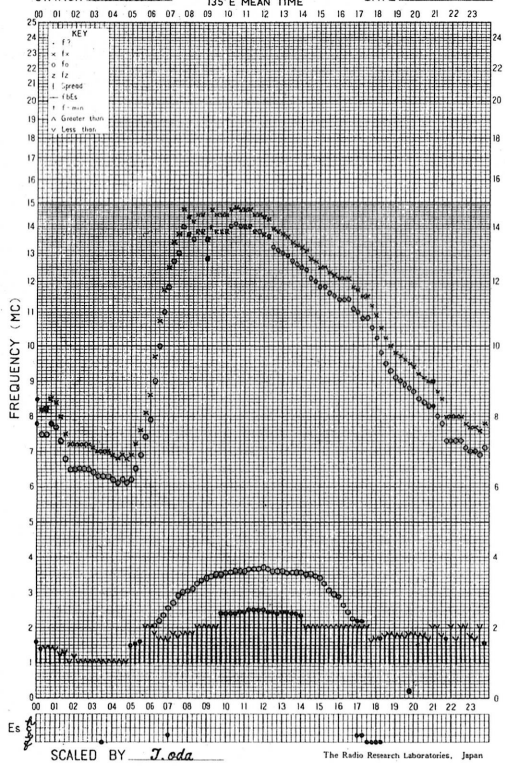
STATION WAKKANAI 135° E MEAN TIME DATE Mar. 11. 1958



SCALED BY T. oda The Radio Research Laboratories, Japan

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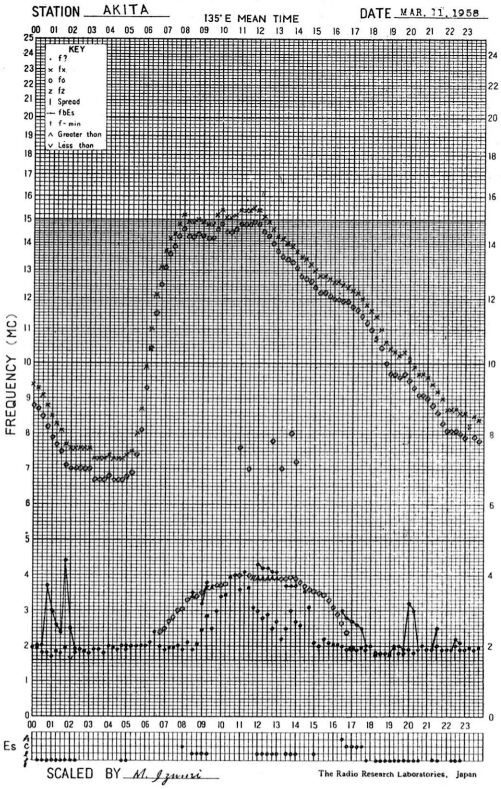

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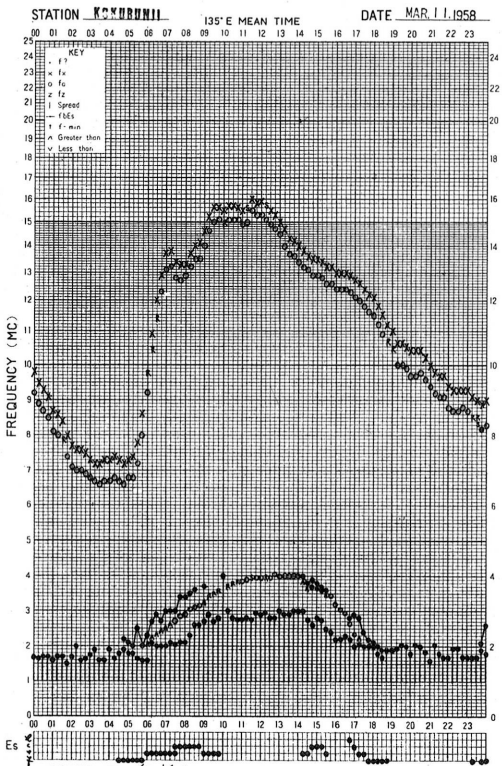

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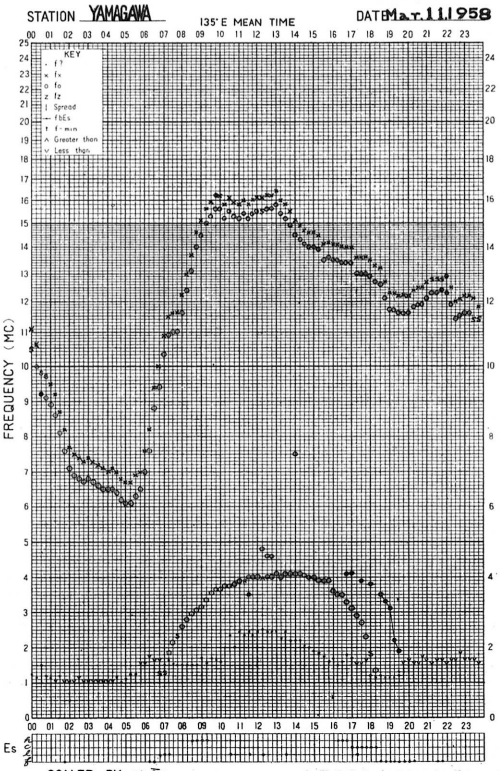

SCALED BY H. Oyama The Radio Research Laboratories, Japan

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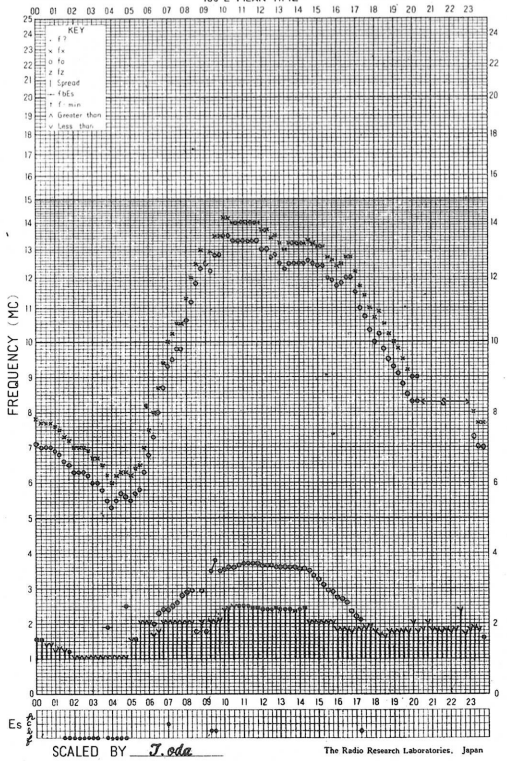

SCALED BY T. Oda

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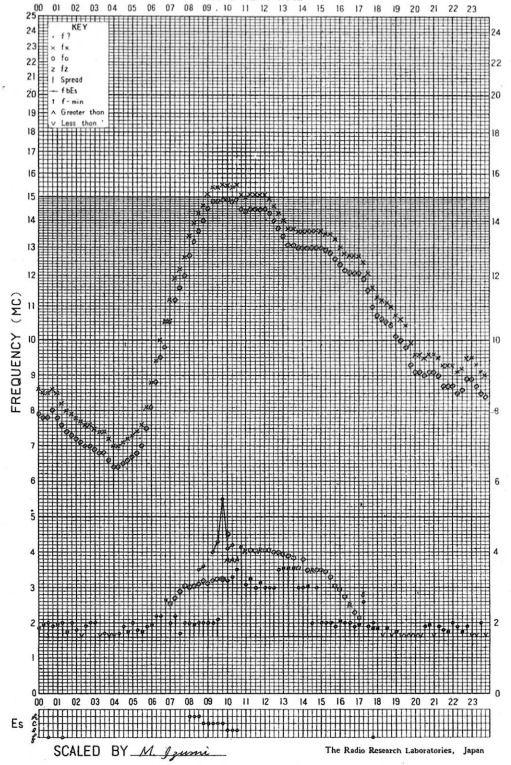

SCALED BY M. Izumi

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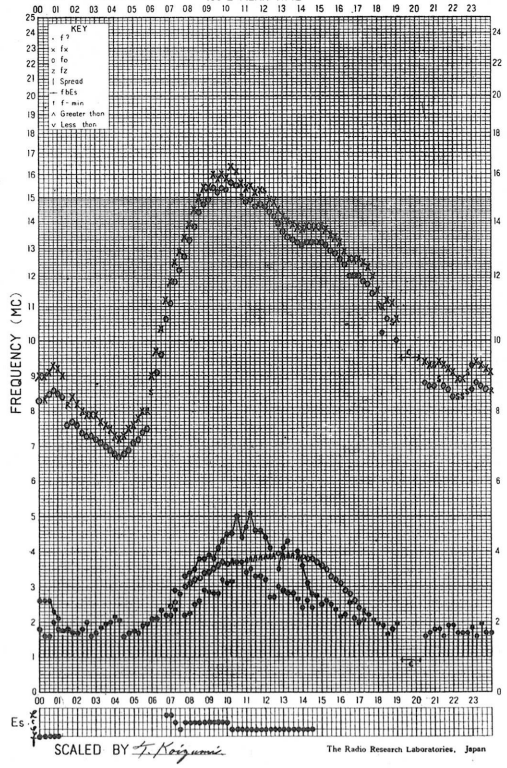

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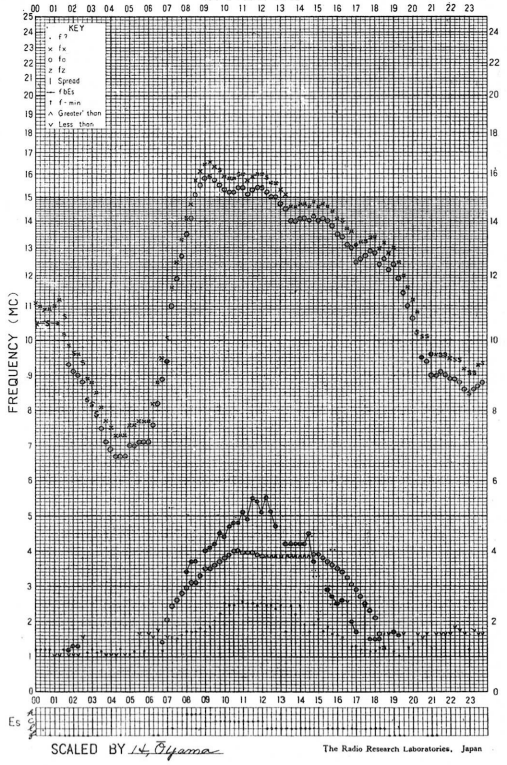

SCALED BY H. Miyama

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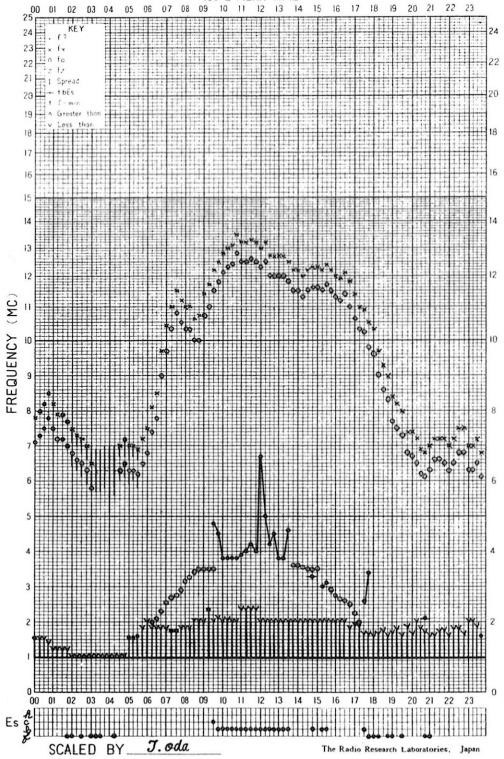

SCALED BY T. Oda The Radio Research Laboratories, Japan

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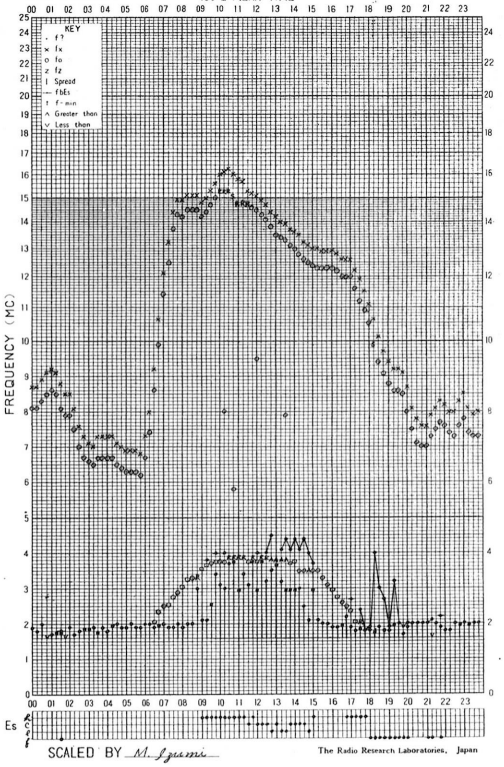

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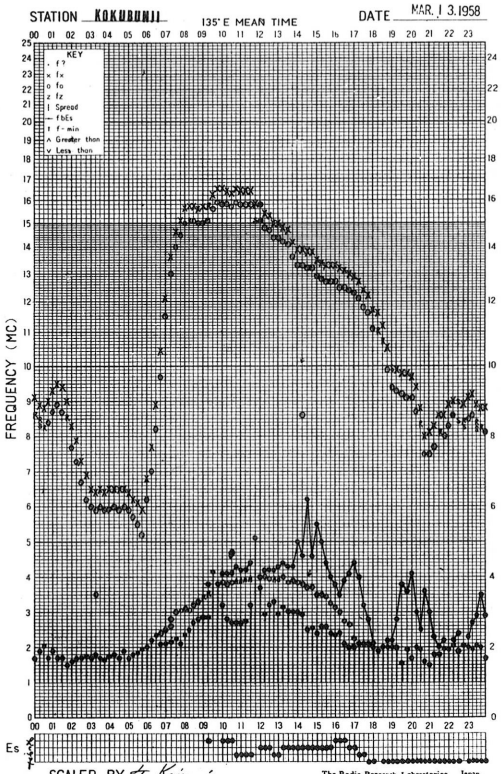

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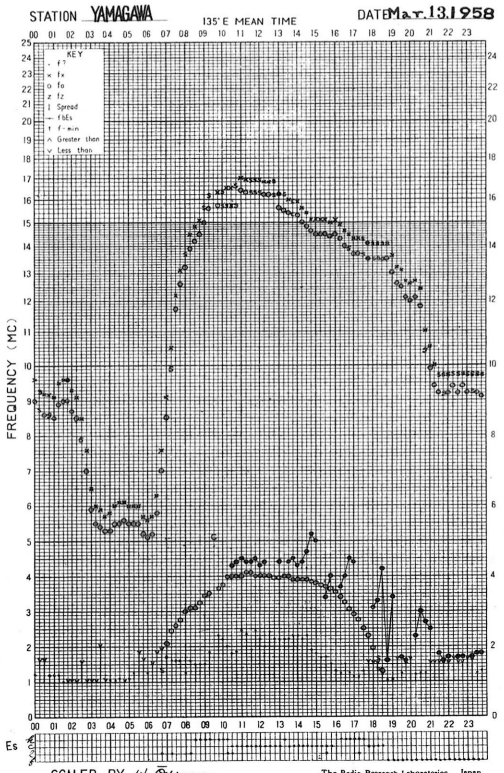

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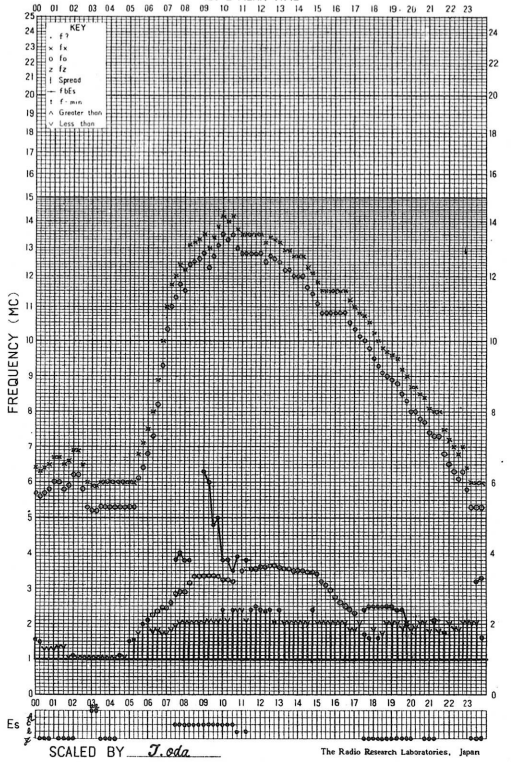

SCALED BY T. Oda

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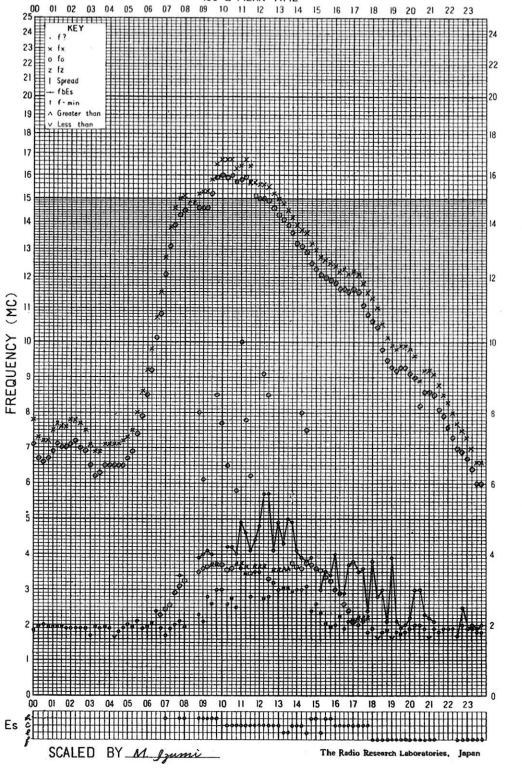

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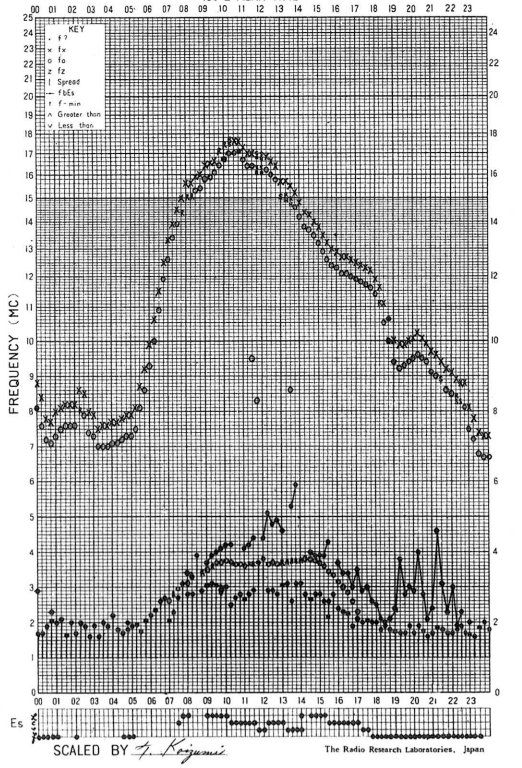

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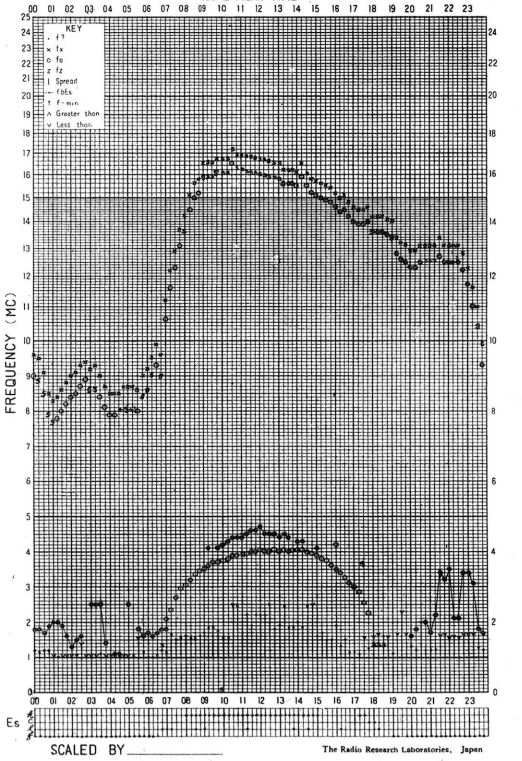

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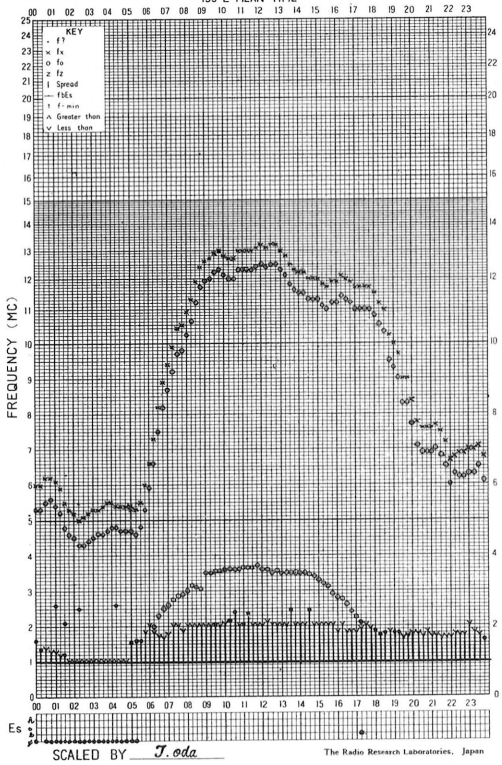

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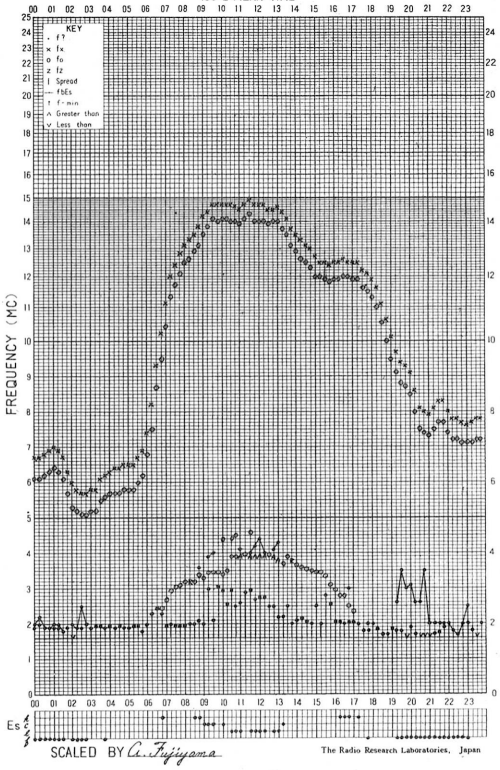

SCALED BY C. Fujiyama

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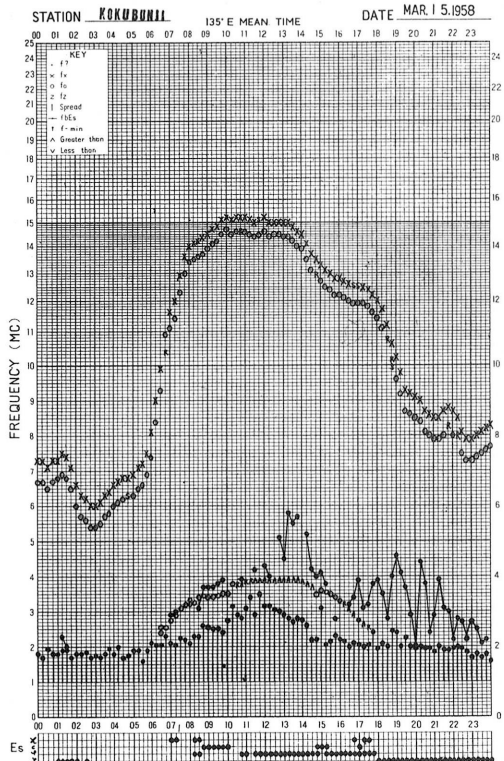

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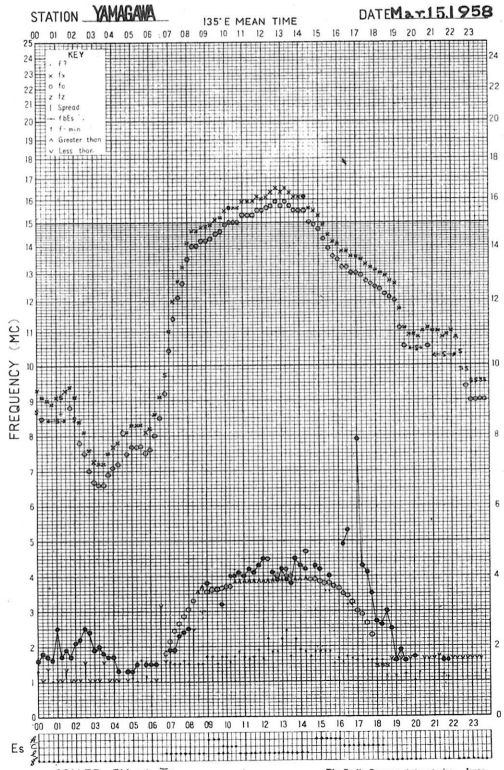

SCALED BY H. Ogawa

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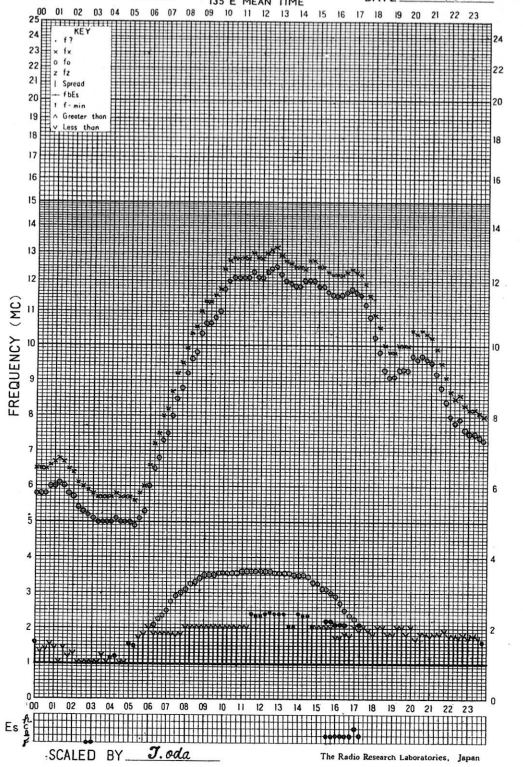

SCALED BY J. oda

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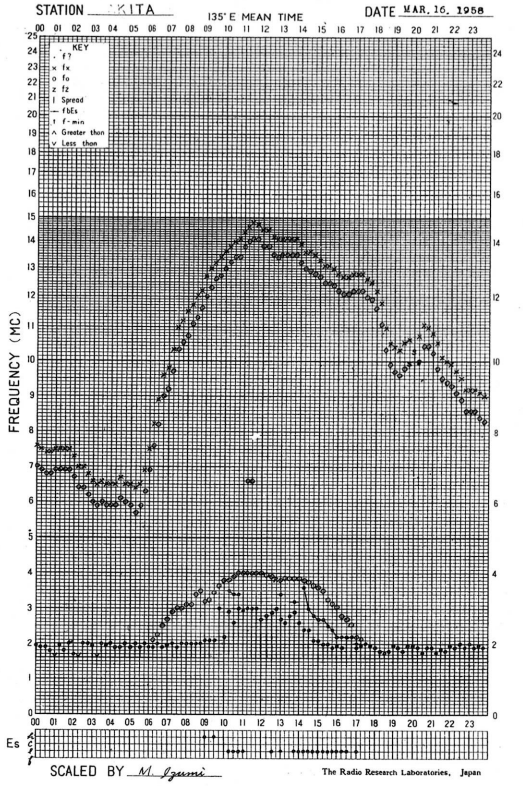

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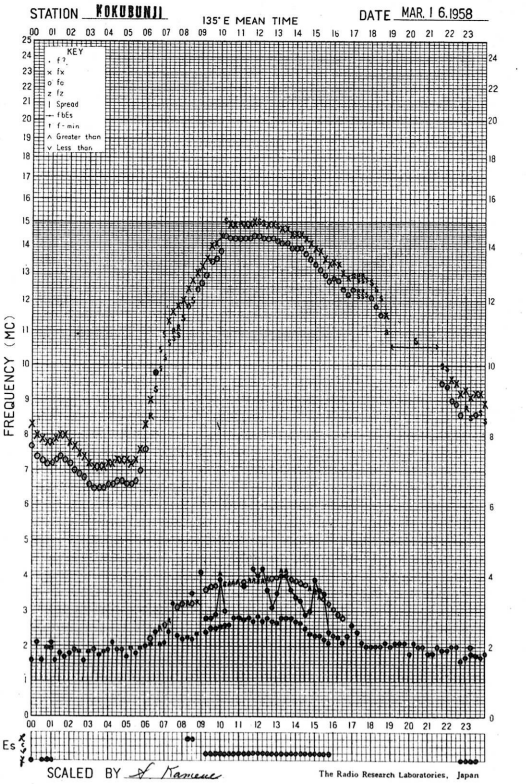

SCALED BY K. Hamano

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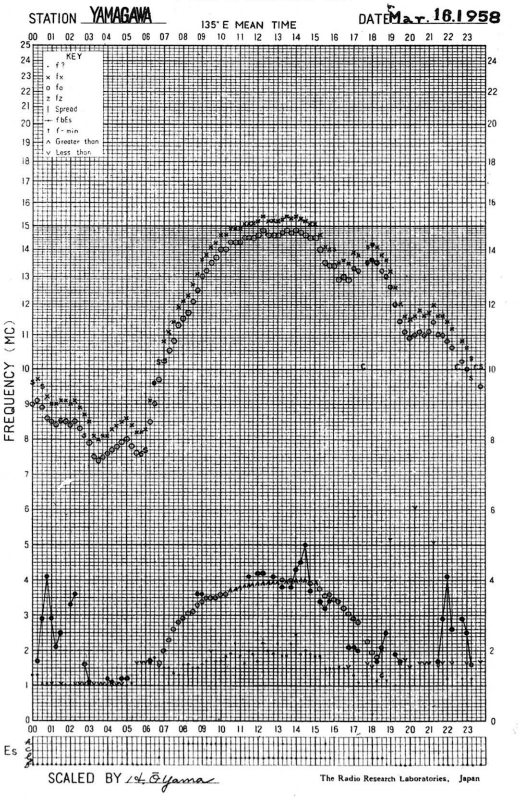

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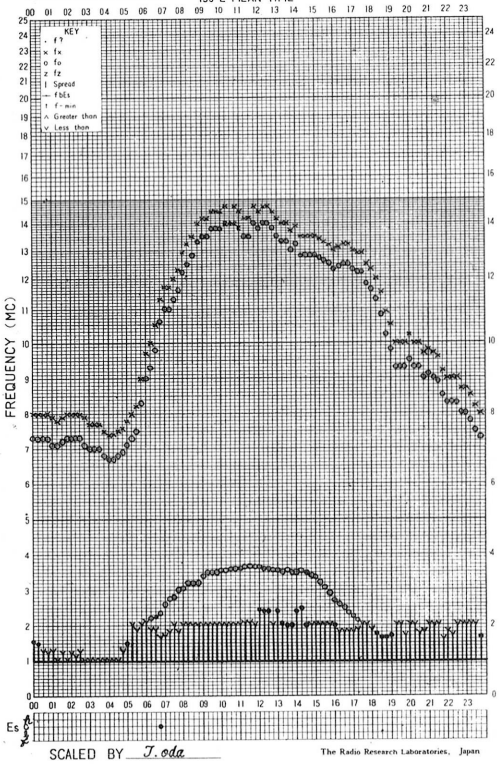

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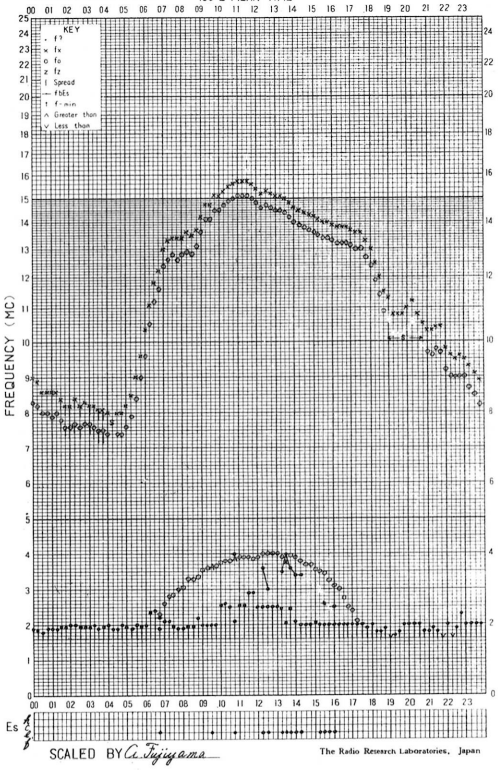

SCALED BY A. Fujiyama

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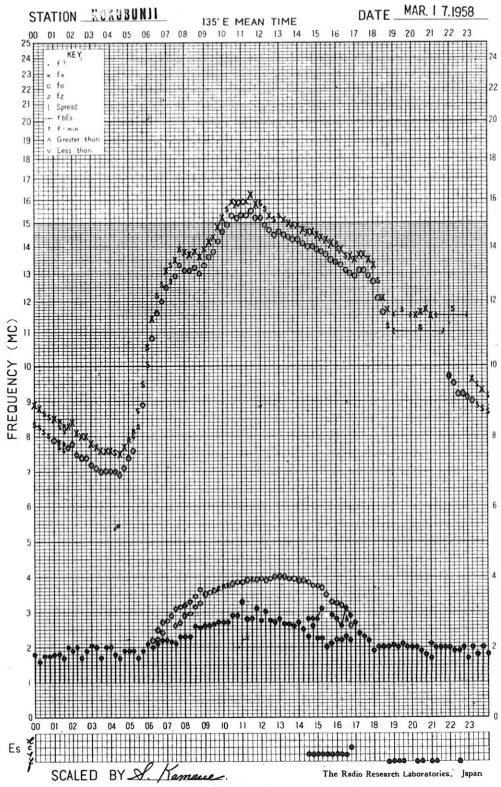

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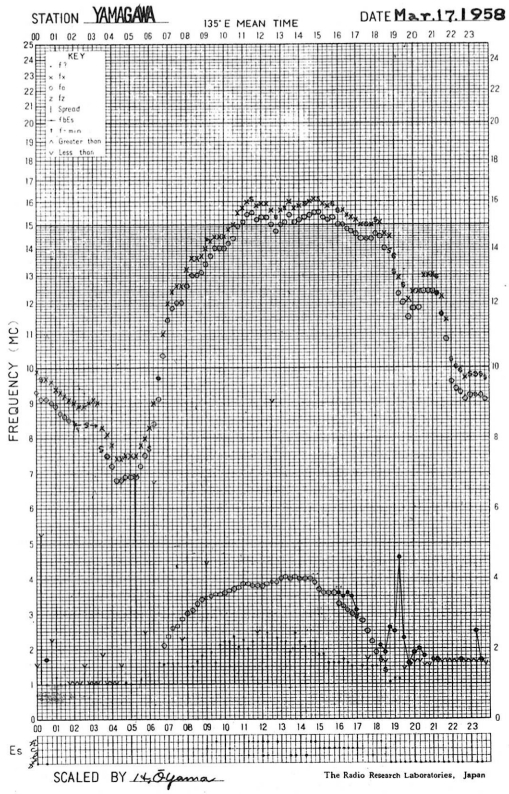

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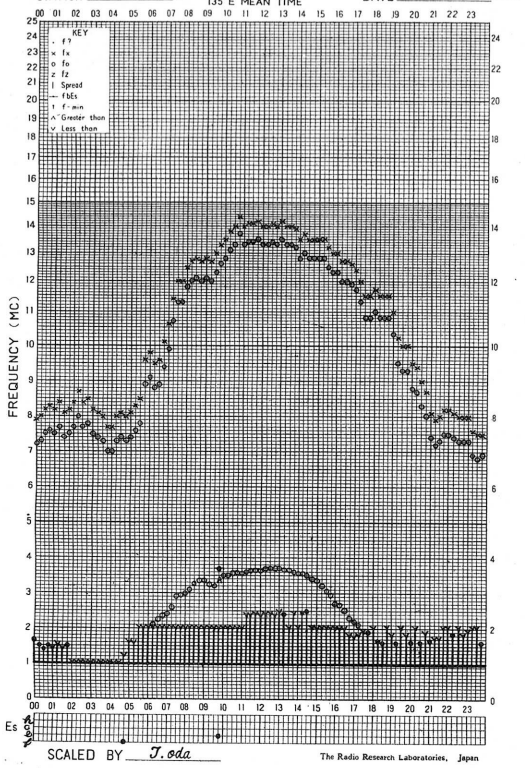

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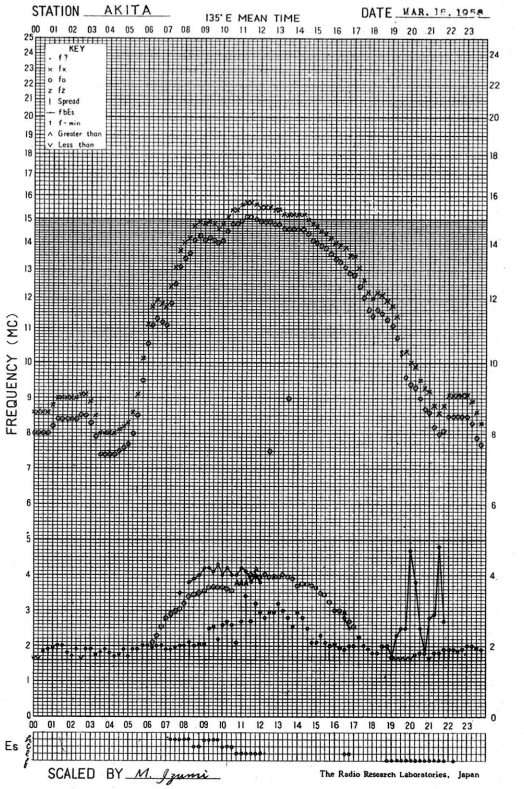

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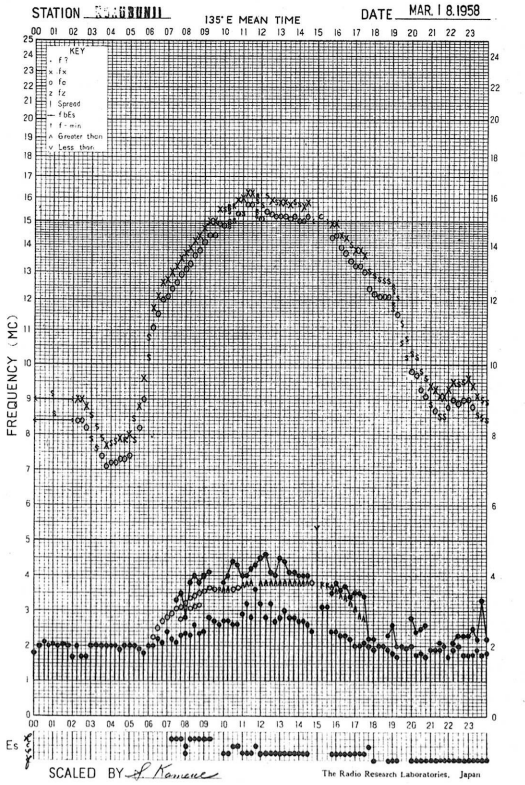

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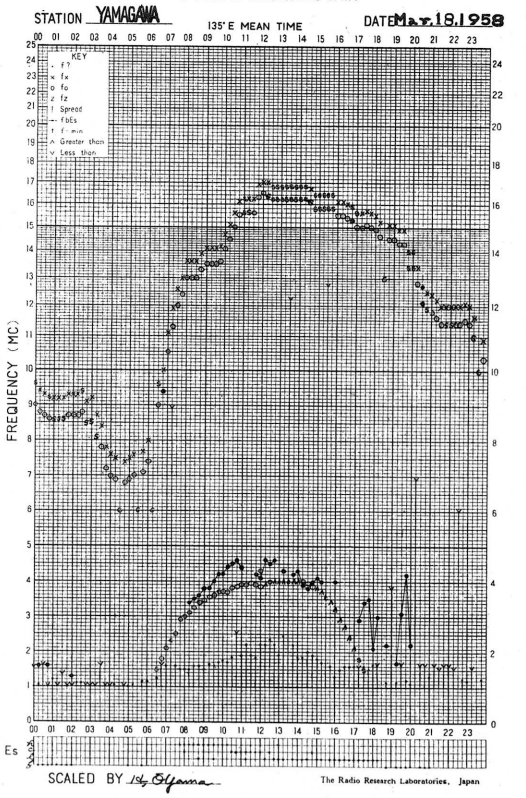

SCALED BY H. Ofuma

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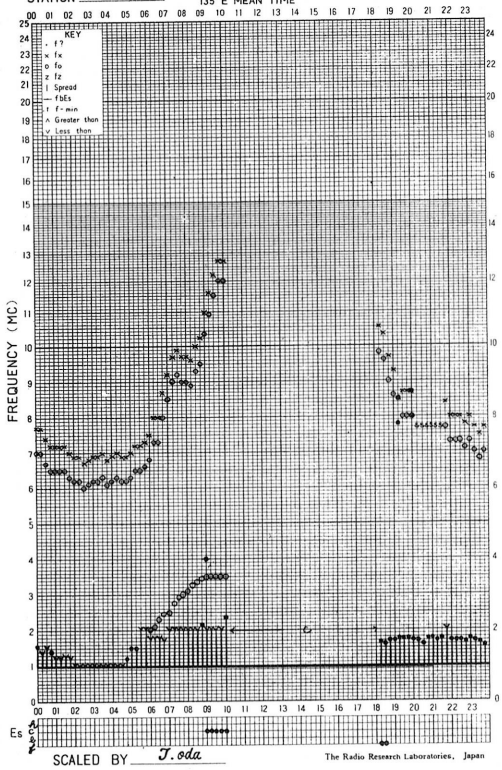
f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Mar. 19. 1958

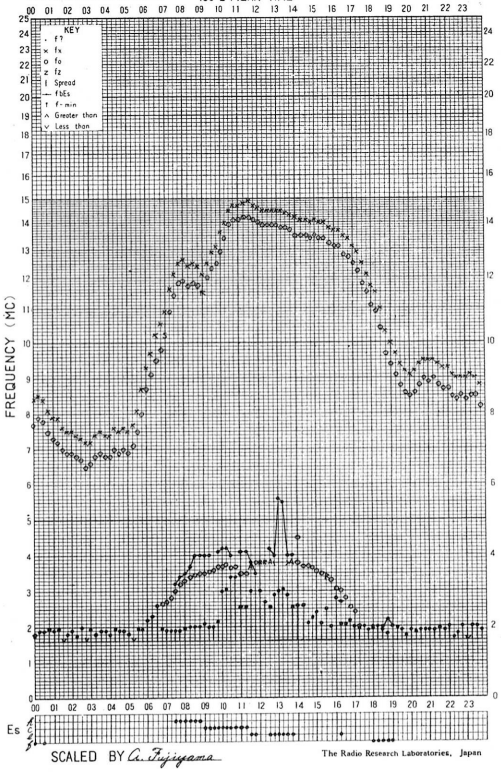


SCALED BY T. Oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE MAR. 19. 1958



SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

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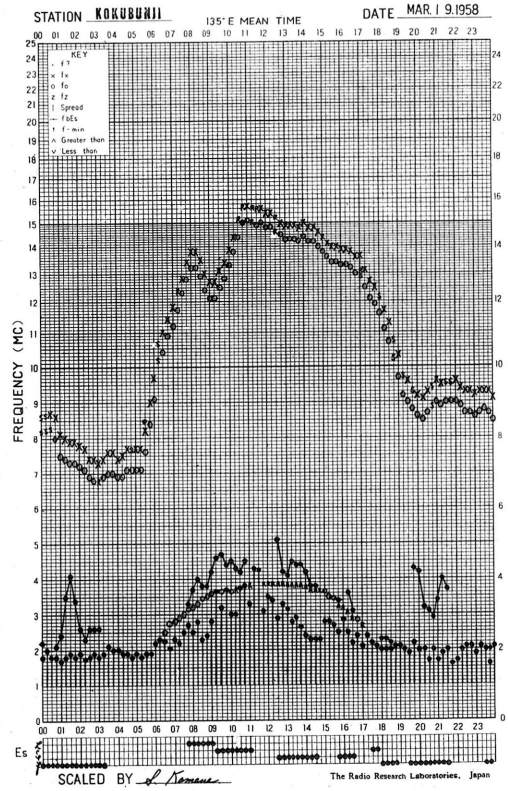

SCALED BY S. Komaru

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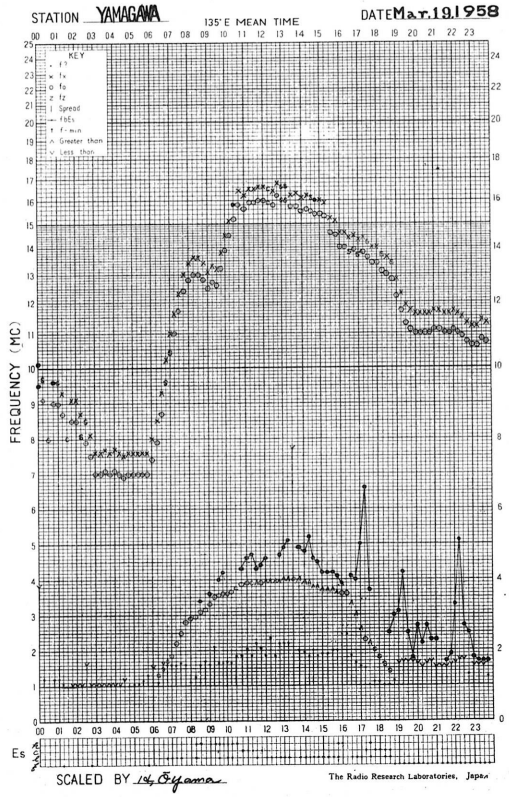

SCALED BY H. Ogama

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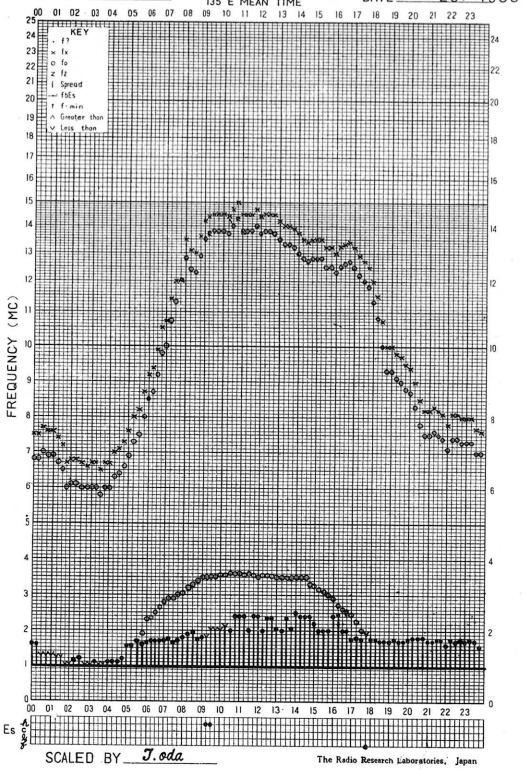

SCALED BY J. Oda

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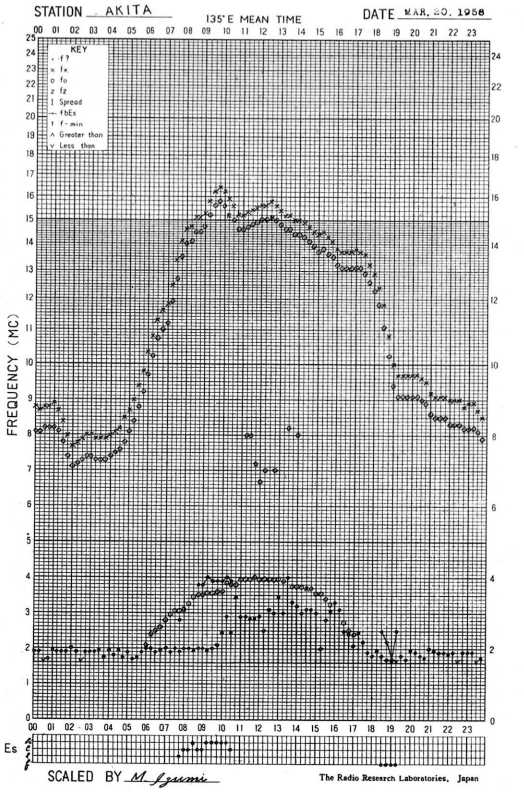

SCALED BY M. Izumi

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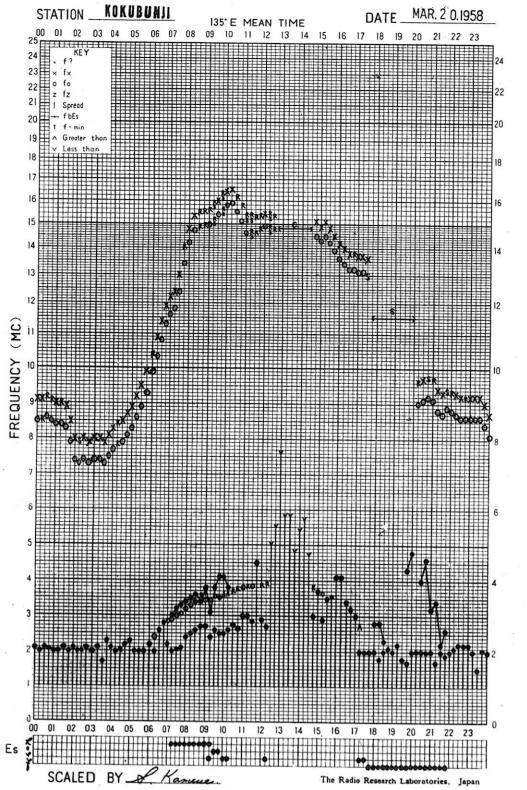

SCALED BY S. Kamura

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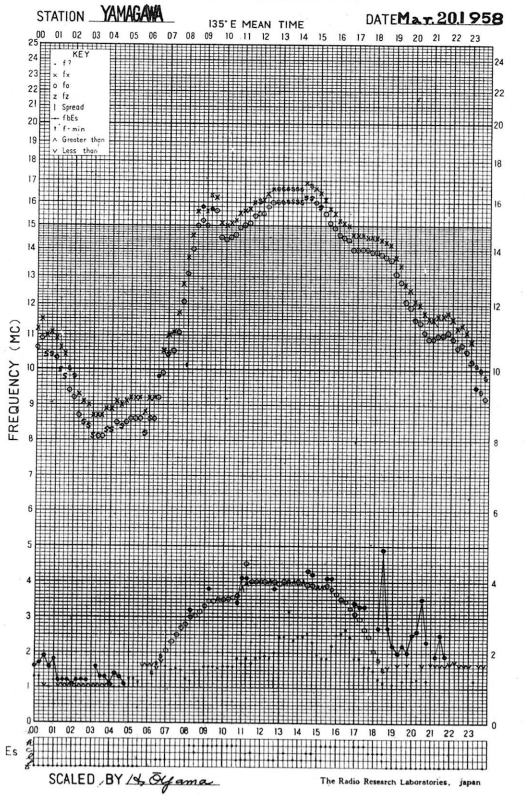

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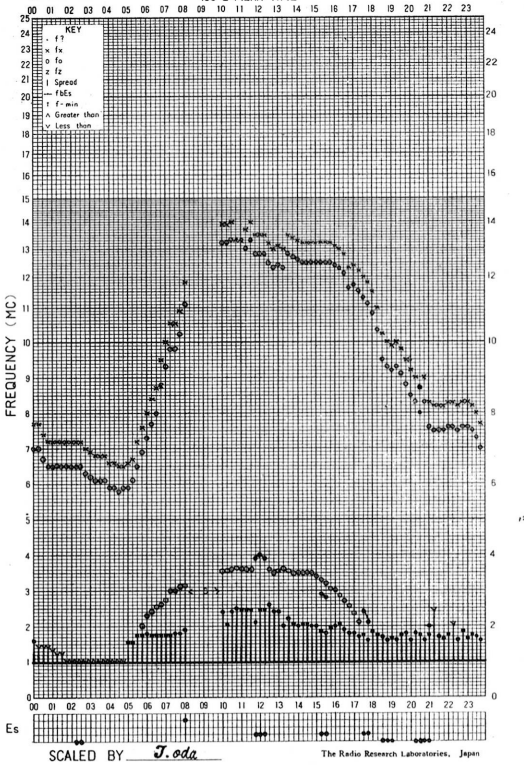

SCALED BY J. oda The Radio Research Laboratories, Japan

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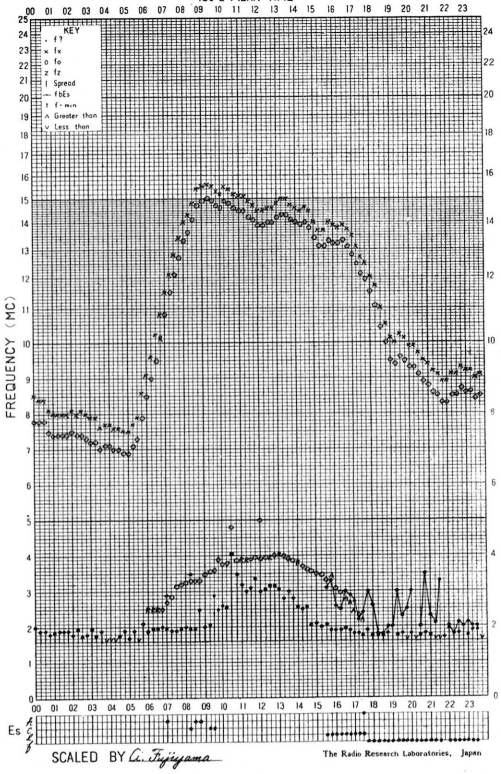

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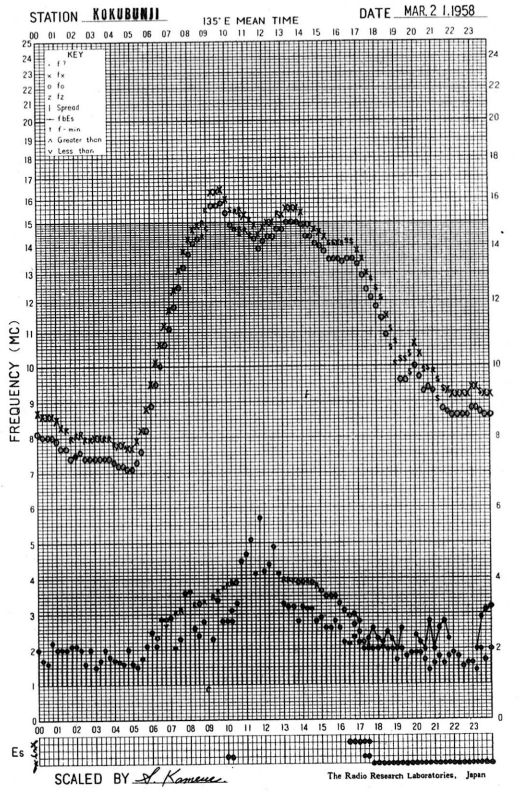

SCALED BY S. Kameue The Radio Research Laboratories, Japan

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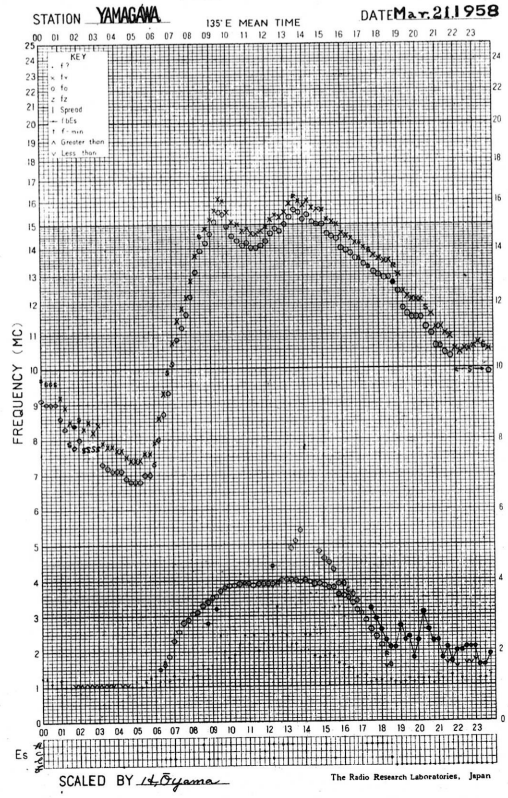

SCALED BY H. Oyama The Radio Research Laboratories, Japan

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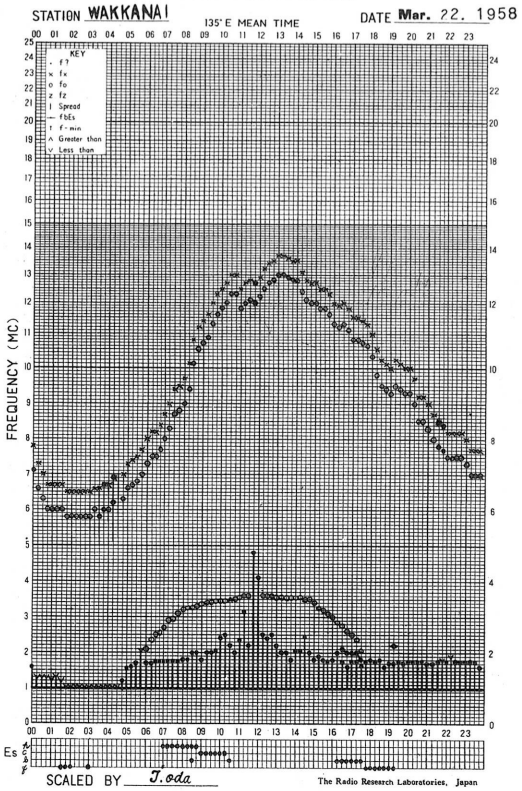

SCALED BY T. Oda

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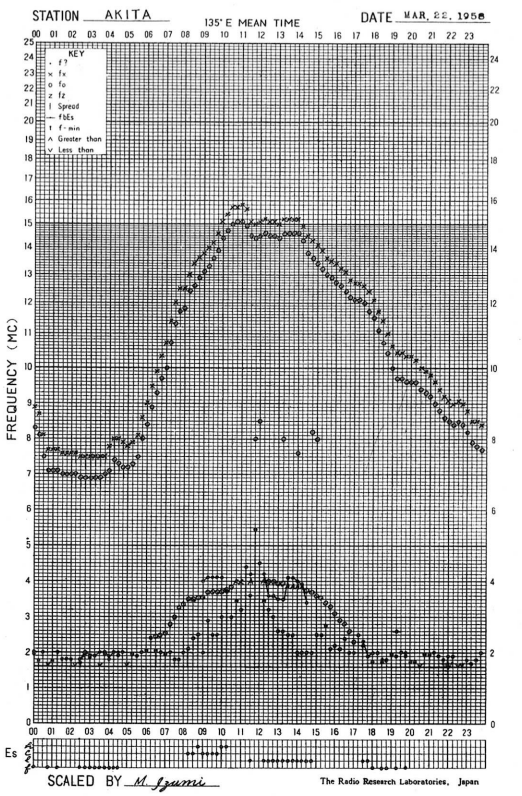

SCALED BY M. Izumi

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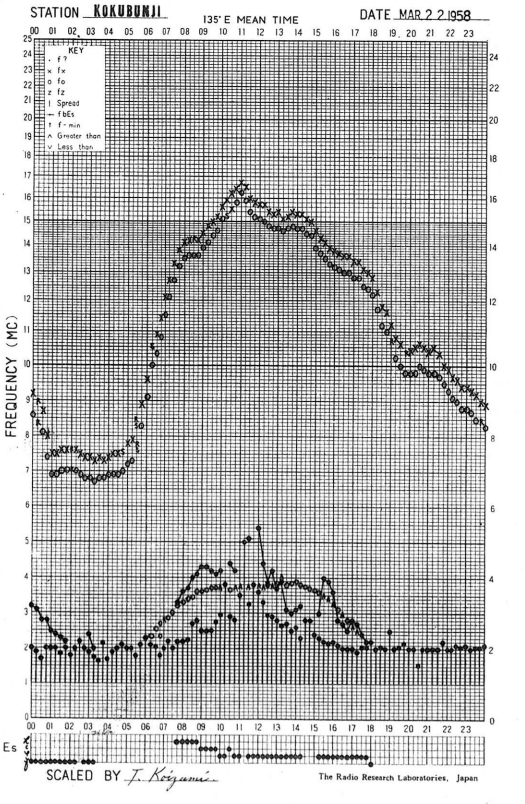

SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

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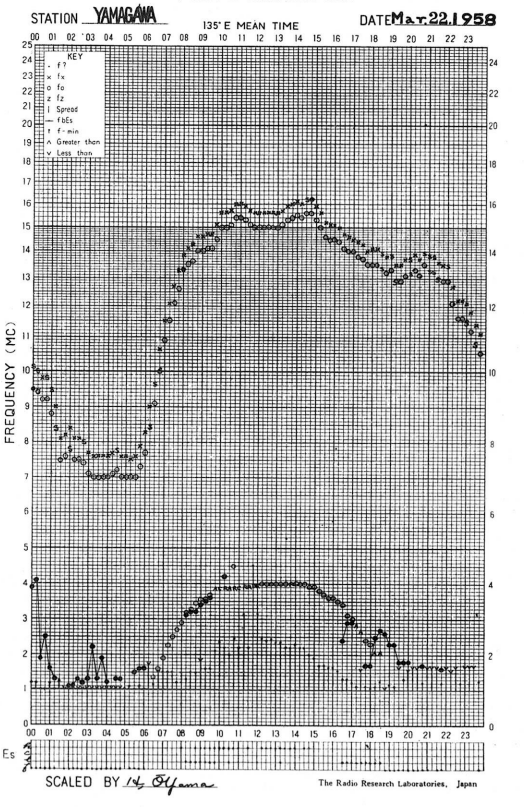

SCALED BY H. Ohyama

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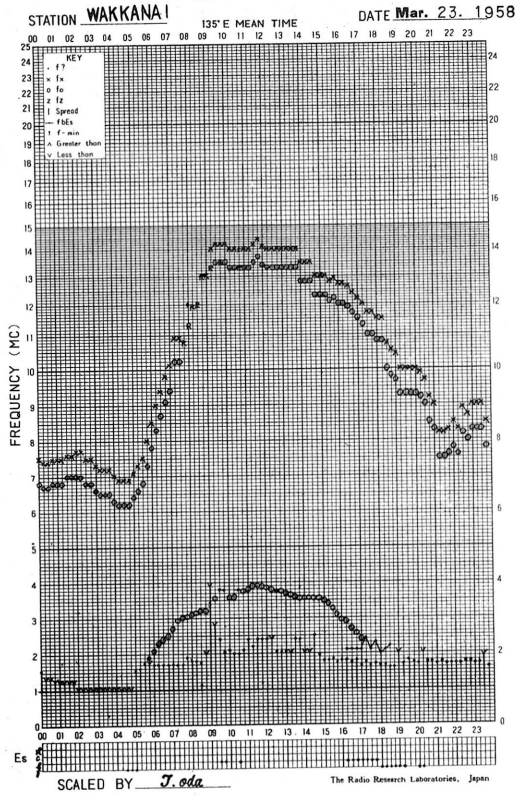

SCALED BY T. Oda

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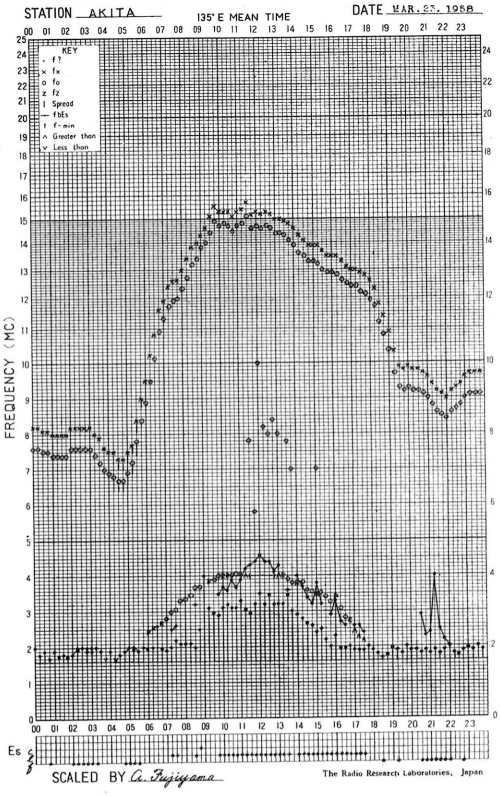

SCALED BY A. Fujiyama

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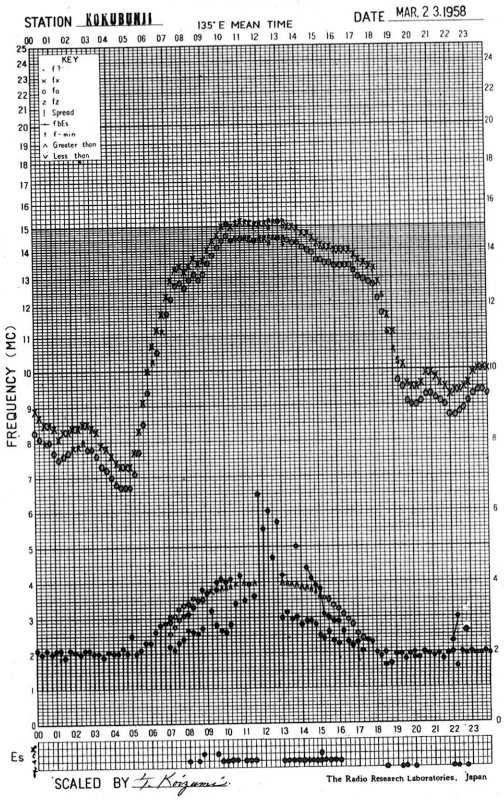

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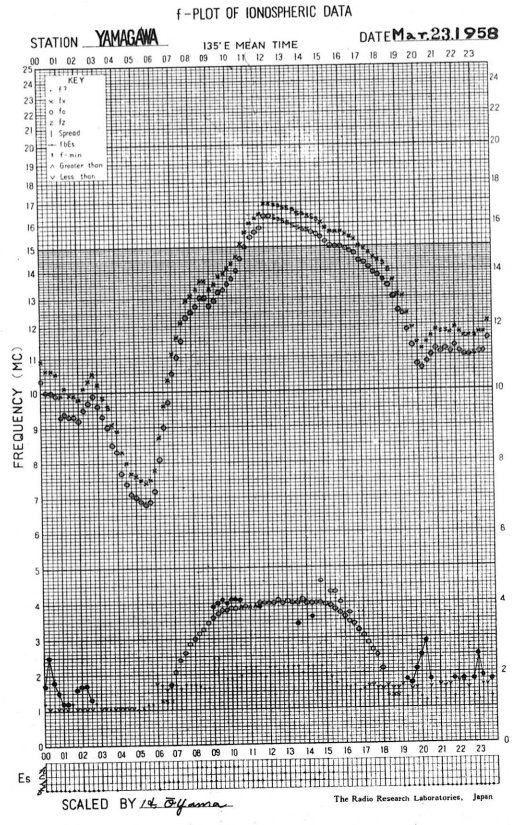

SCALED BY H. Ohyama

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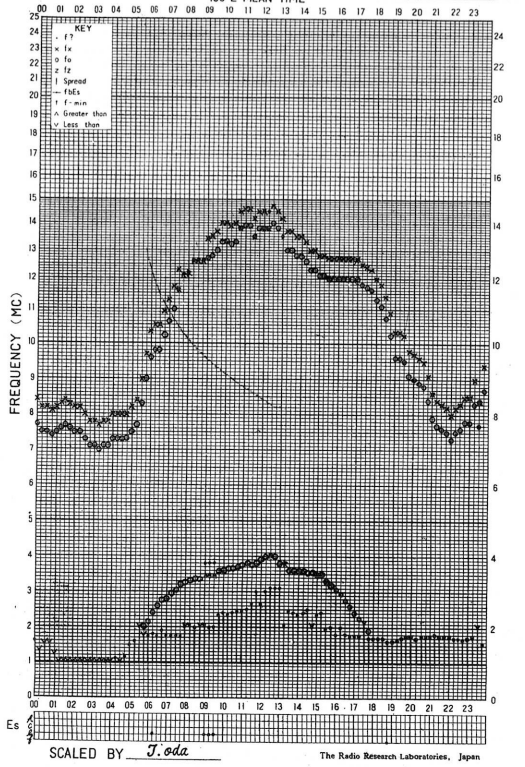

SCALED BY J. Oda

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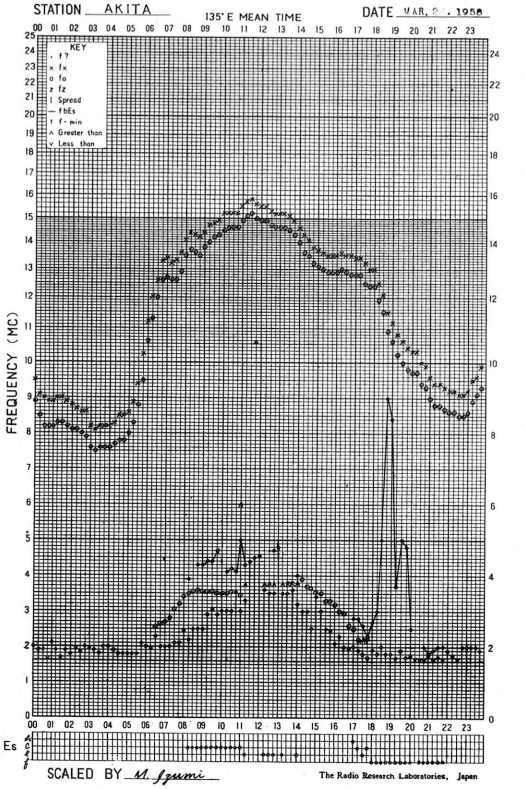

SCALED BY M. Izumi

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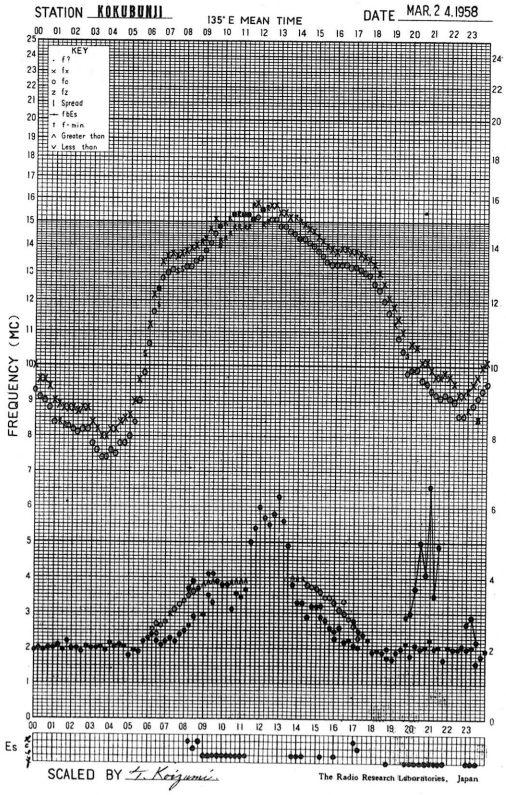

SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

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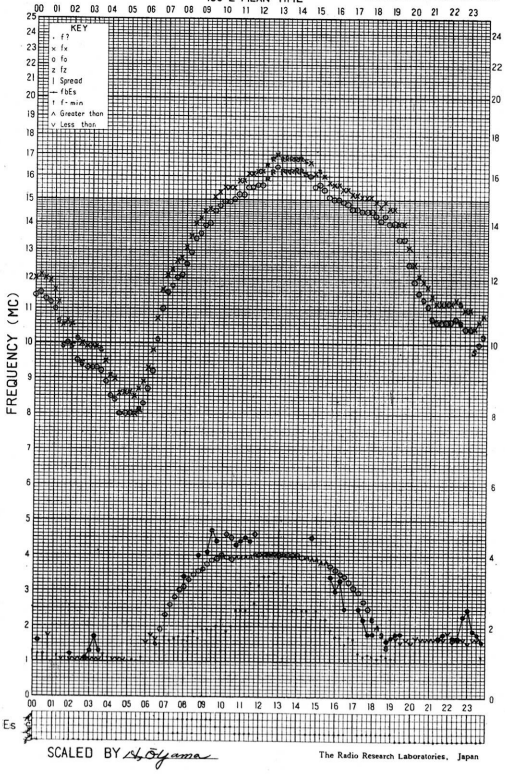

SCALED BY H. Ogiyama

The Radio Research Laboratories, Japan

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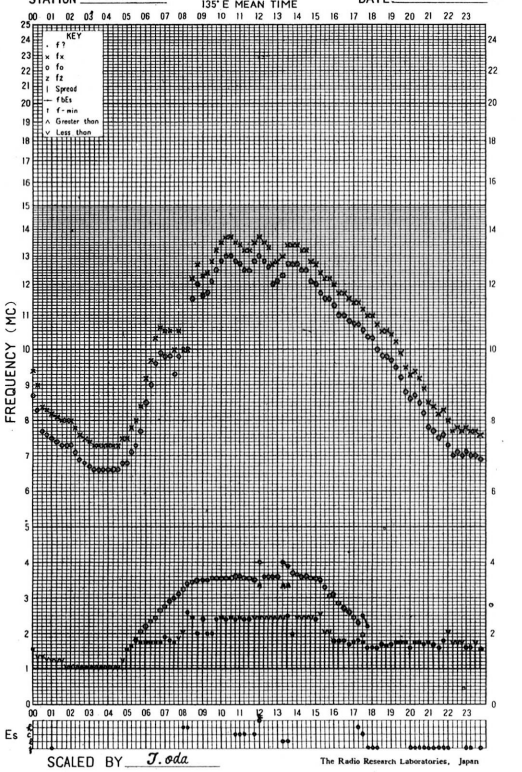

SCALED BY T. Oda

The Radio Research Laboratories, Japan

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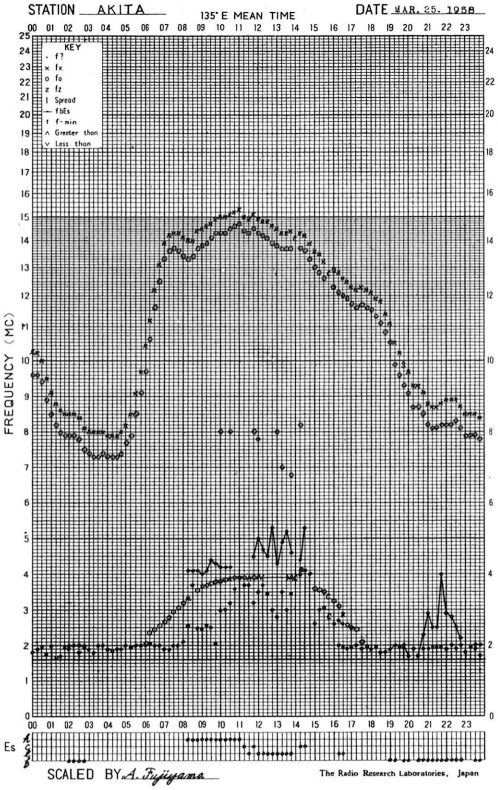

SCALED BY A. Fujiyama

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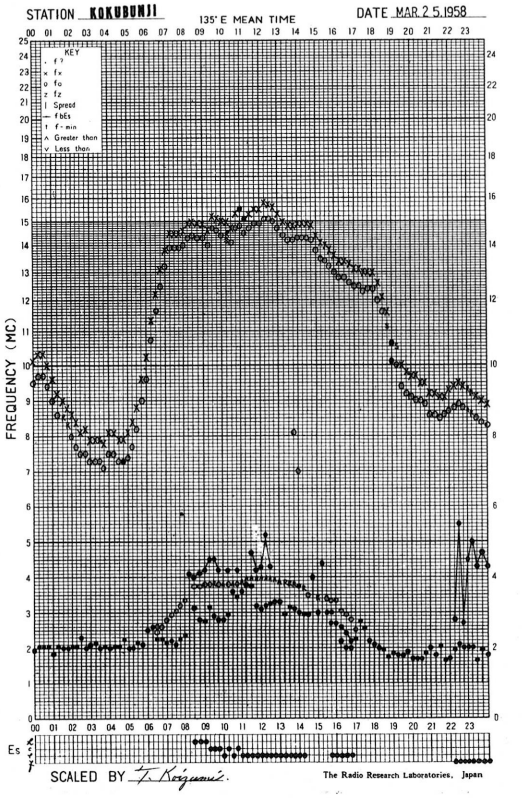

SCALED BY T. Koizumi.

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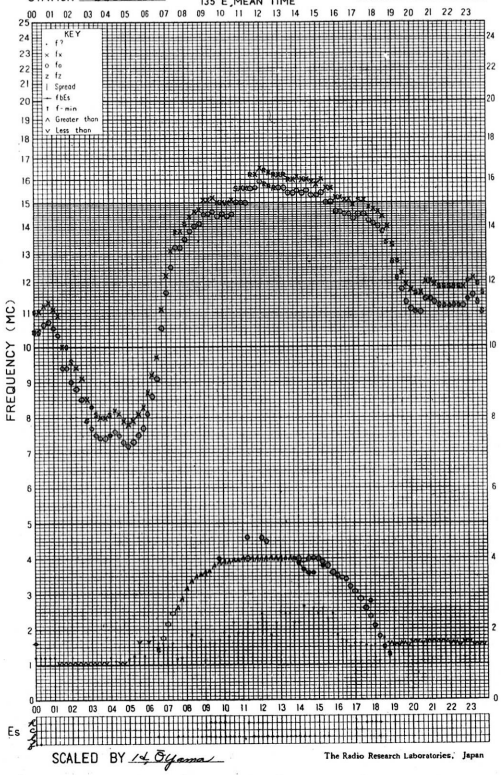

SCALED BY 14 Ofyama

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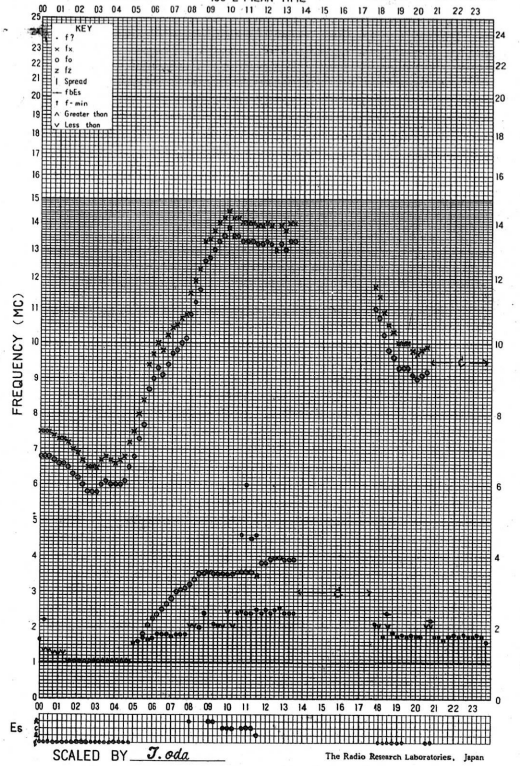

SCALED BY T. Oda

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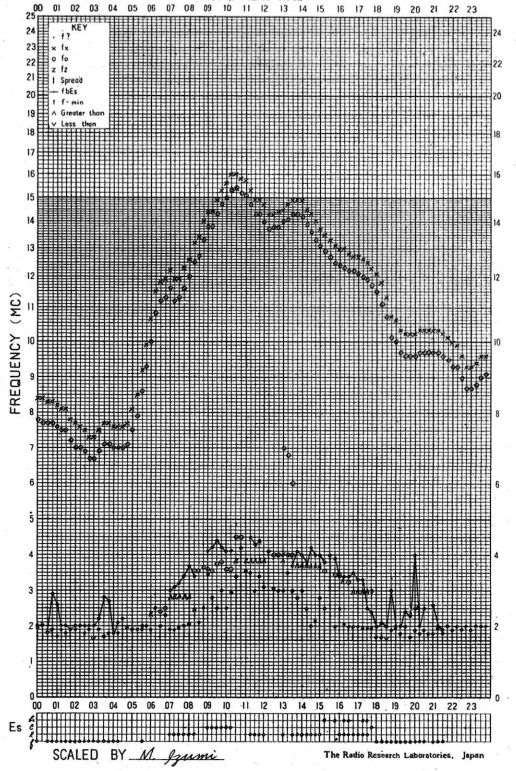

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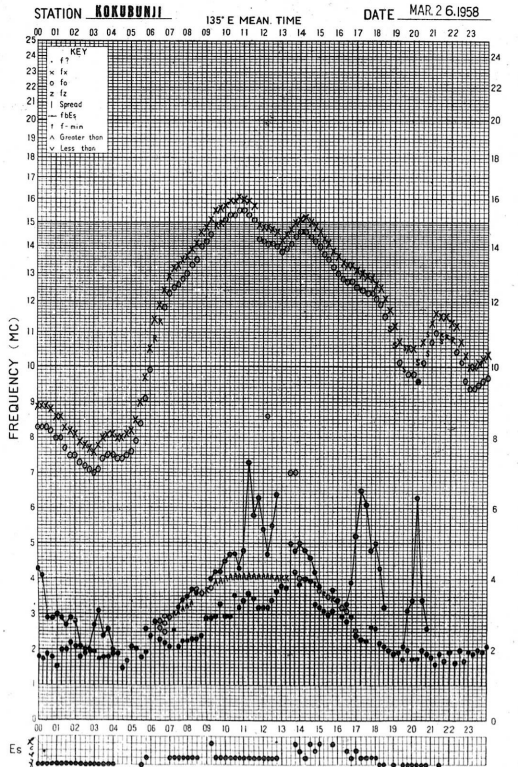

SCALED BY T. Kimura

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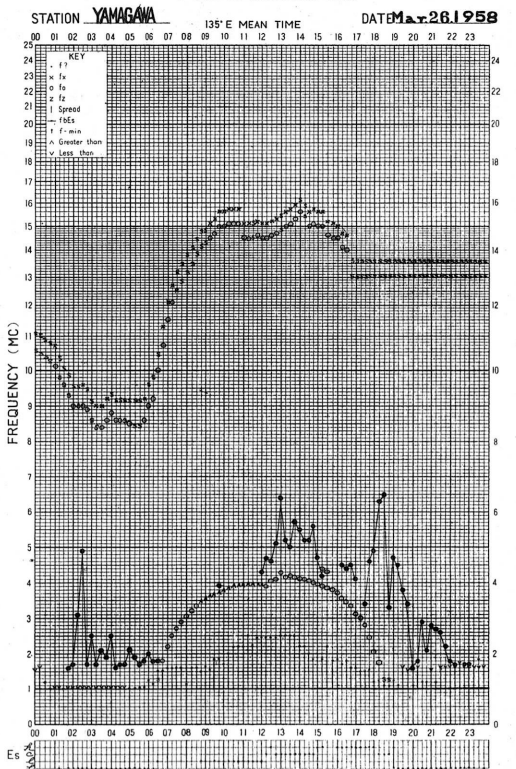

SCALED BY H. Oyama

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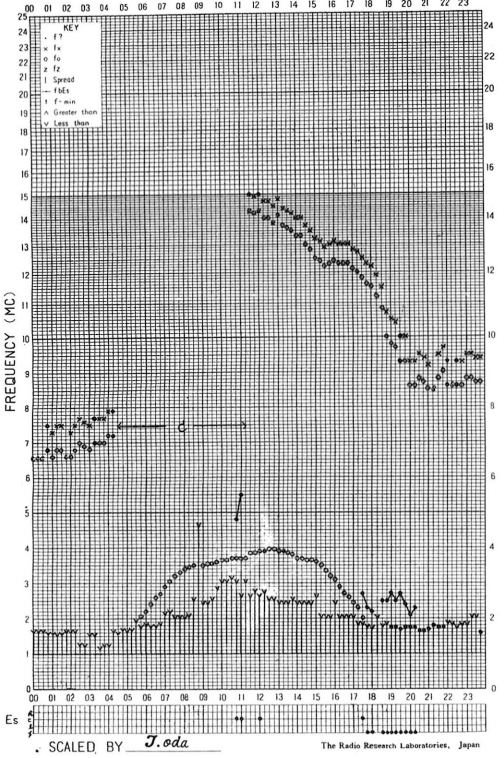

SCALED BY J. Oda

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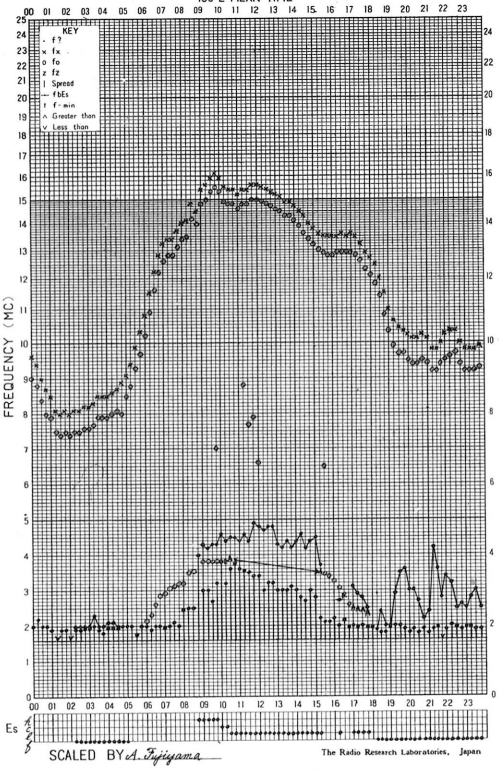

SCALED BY A. Fujiyama

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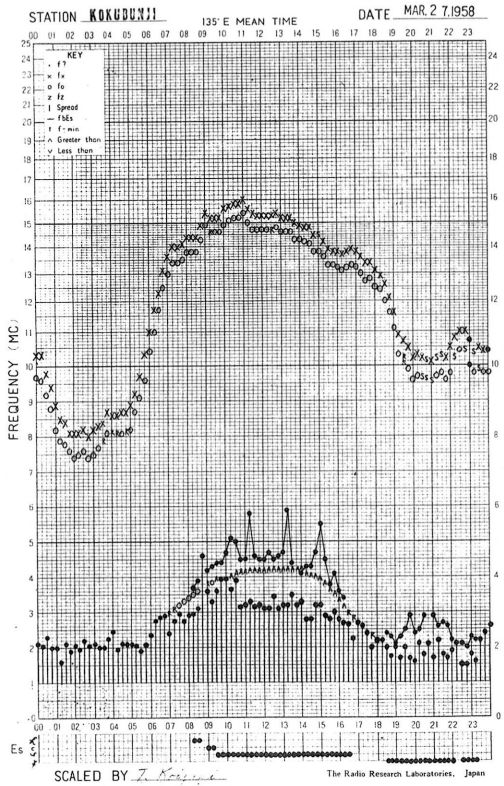

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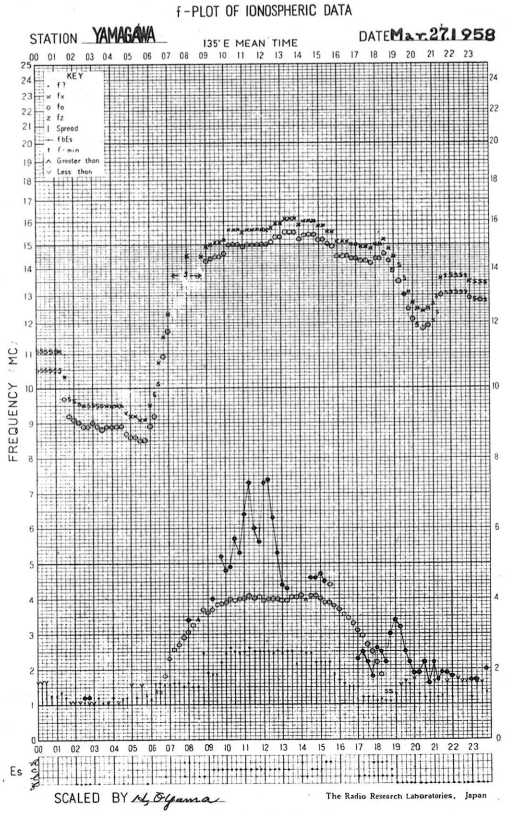

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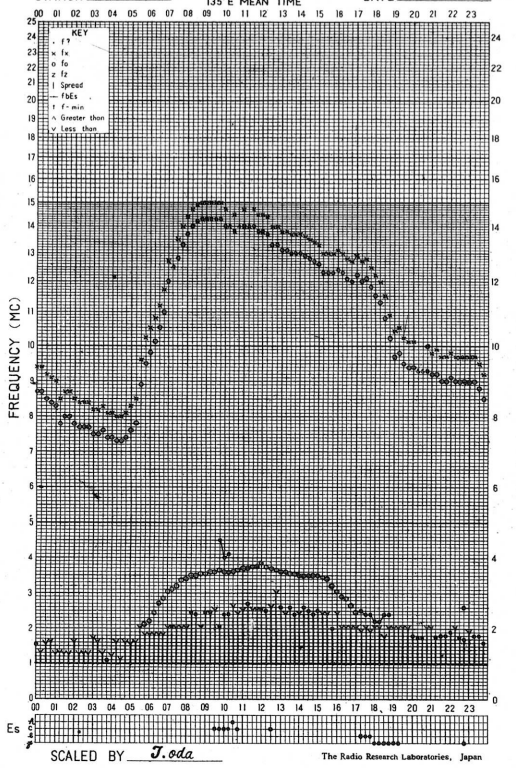

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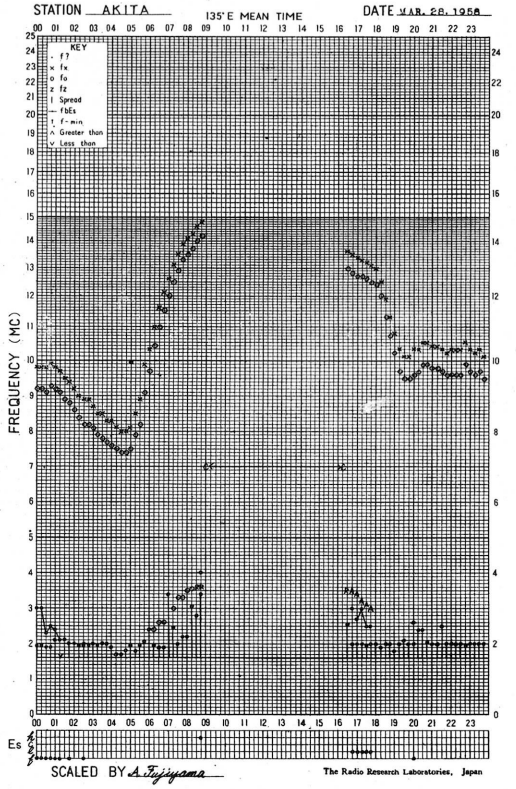

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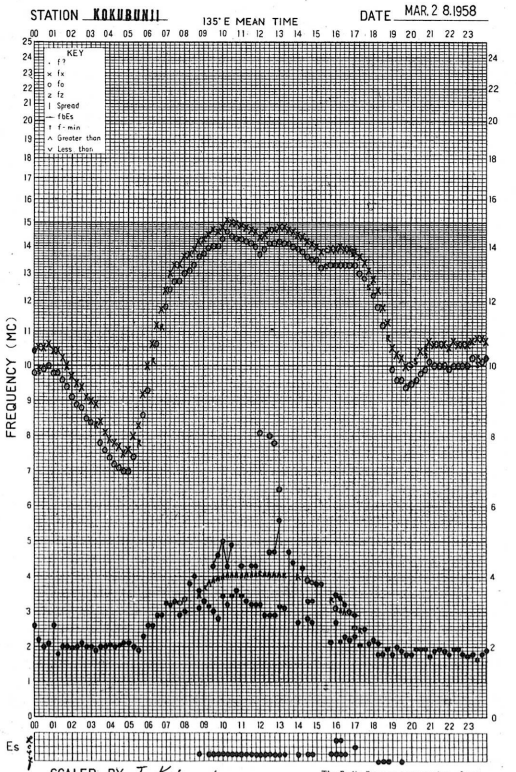

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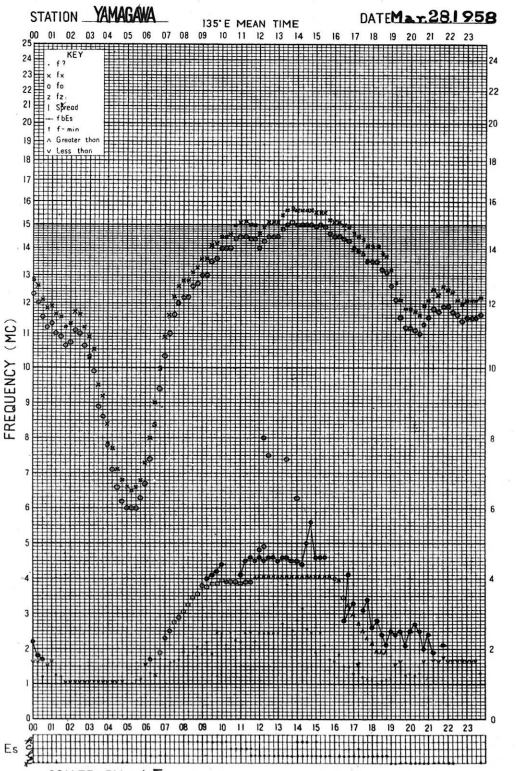

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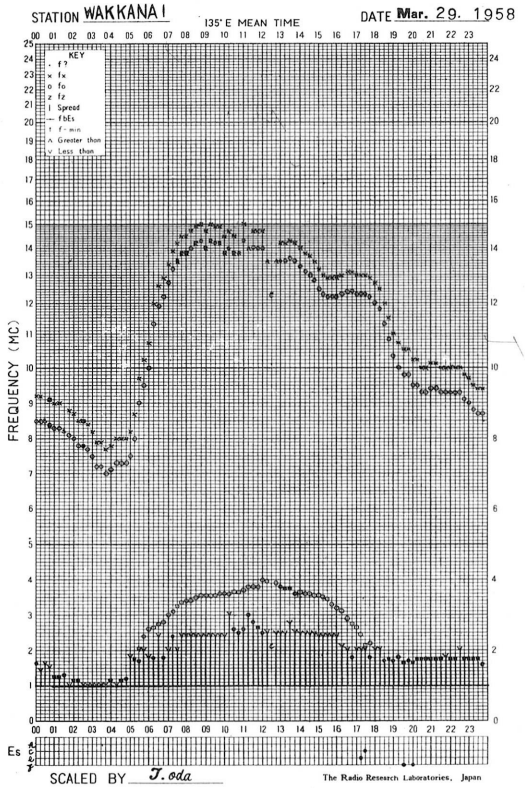

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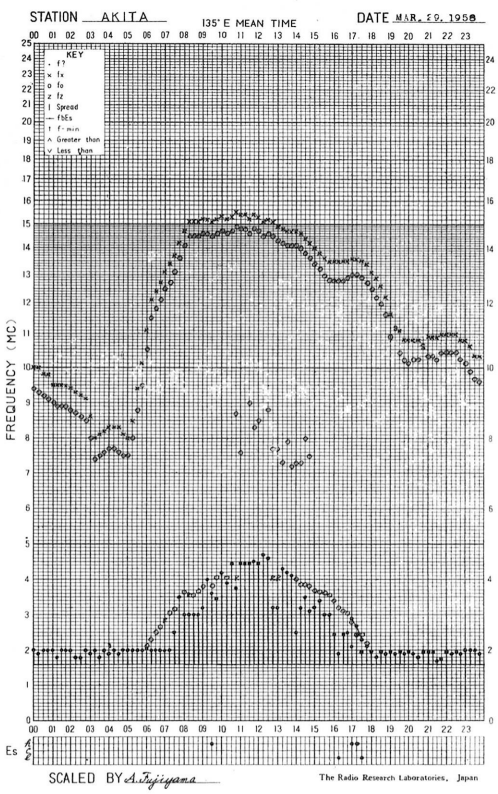

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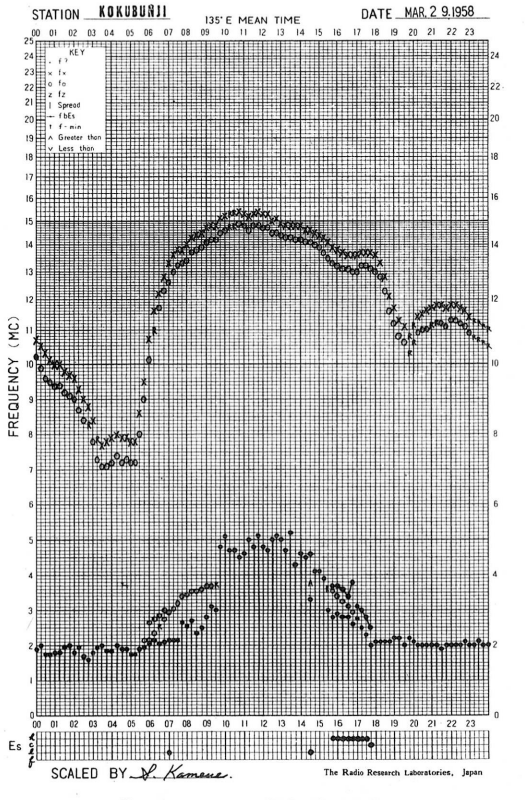

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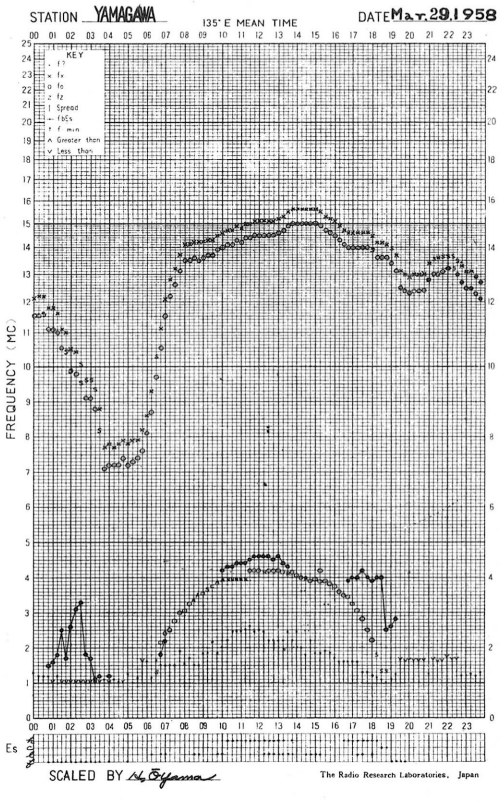

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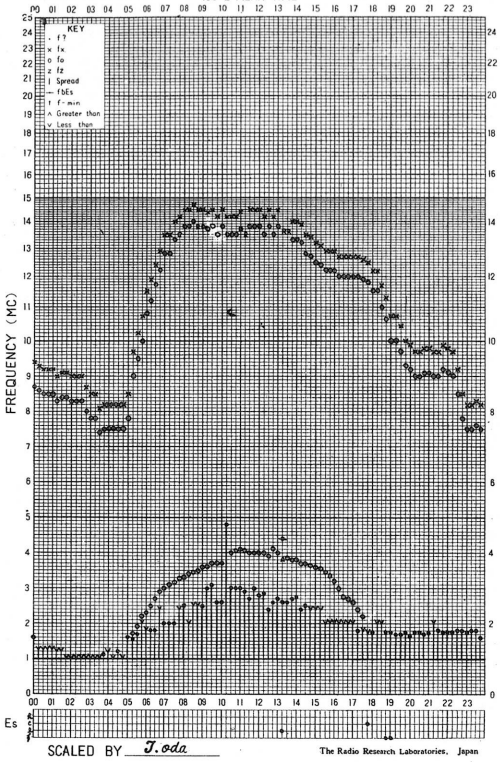
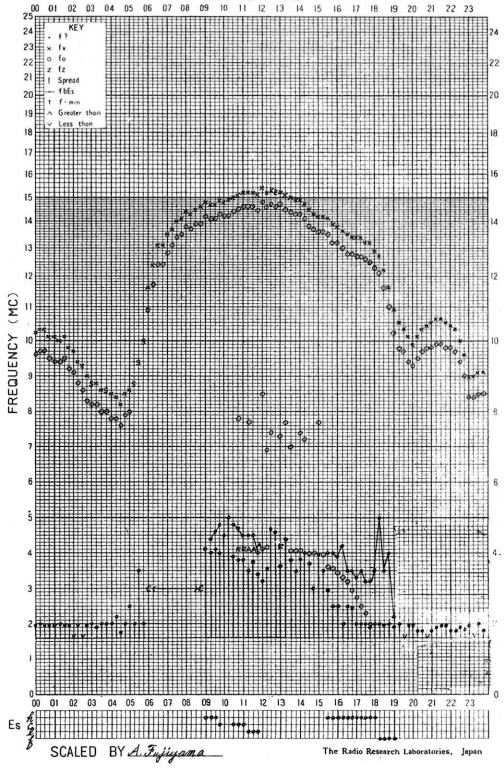


SCALED BY T. Oda The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

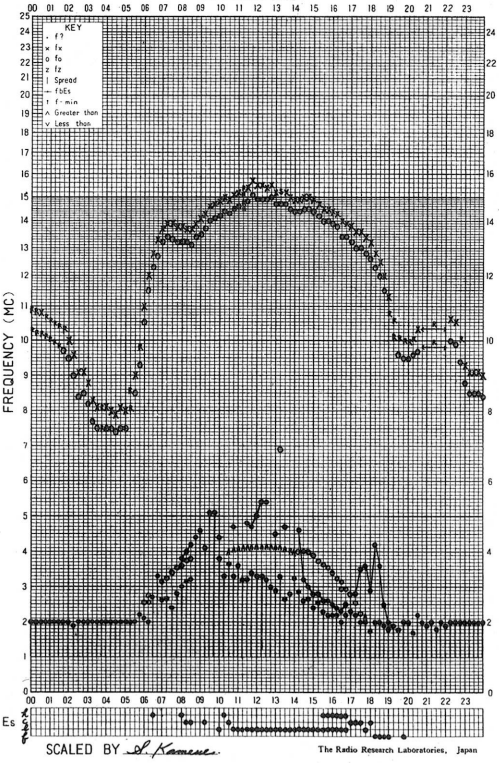
STATION AKITA 135°E MEAN TIME DATE MAR. 30. 1958



SCALED BY A. Fujiyama The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA.

STATION KOKUBUNJI 135°E MEAN TIME DATE MAR. 30 1958



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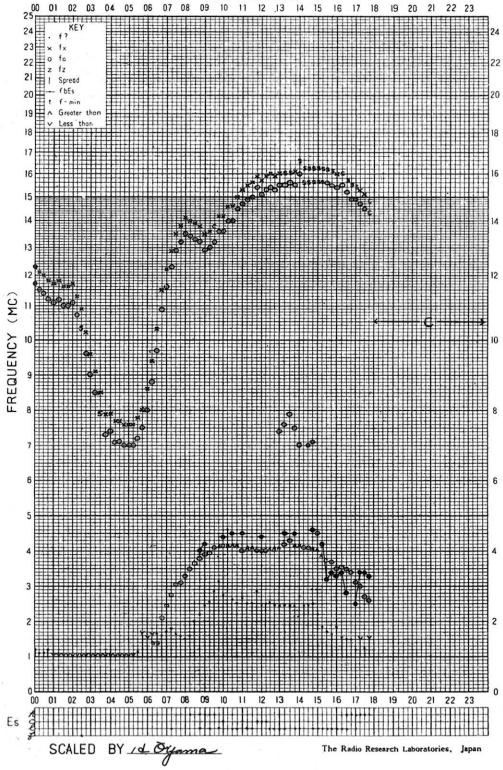
f-PLOT OF IONOSPHERIC DATA

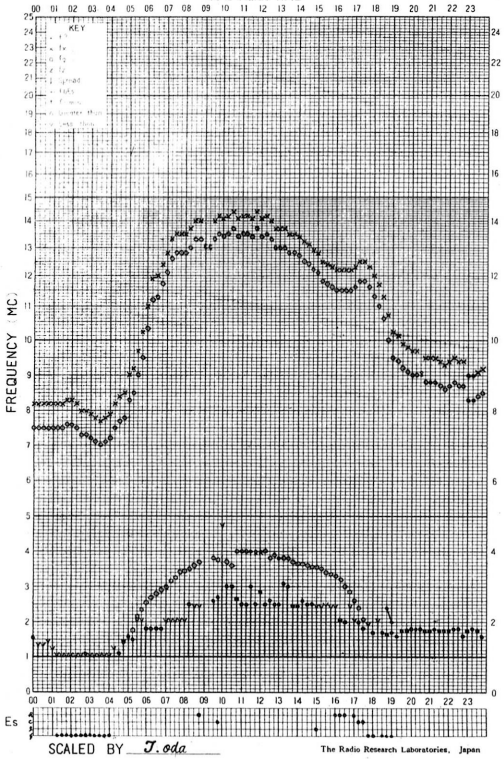
STATION YAMAGAWA 135°E MEAN TIME DATE Mar. 30. 1958



SCALED BY H. Ojima The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Mar. 31. 1958

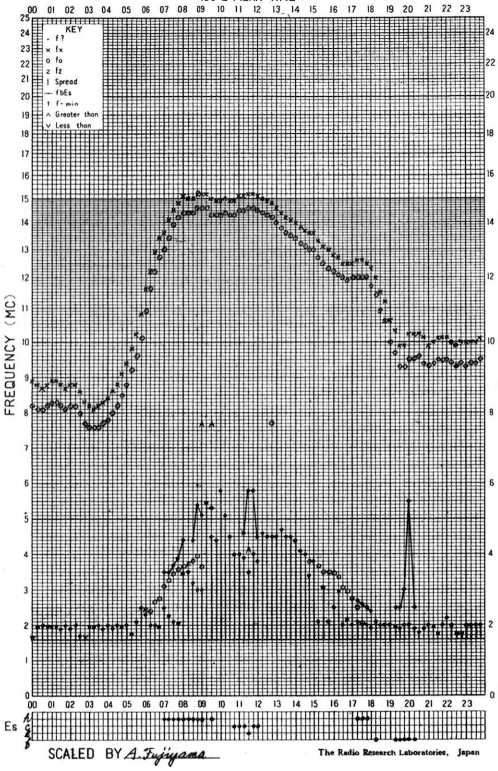


SCALED BY J. Oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135°E MEAN TIME DATE MAR. 31. 1958

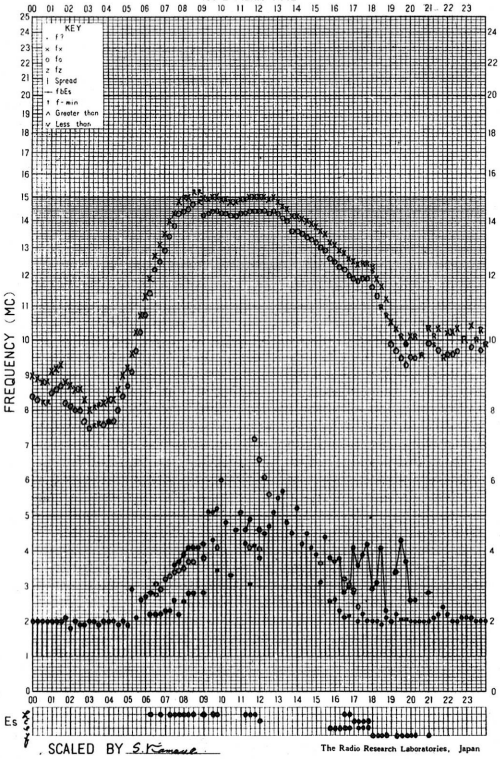


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135°E MEAN TIME DATE MAR. 31. 1958

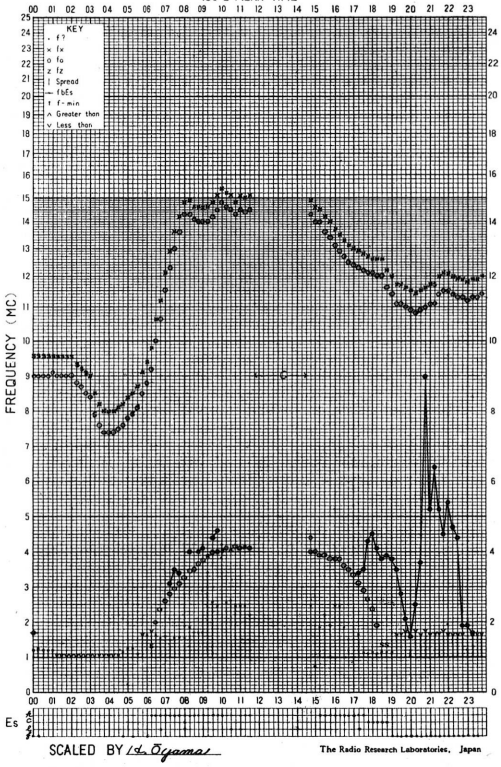


SCALED BY S. Kimura

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135°E MEAN TIME DATE Mar. 31. 1958



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SOLAR RADIO EMISSION 200 Mc/s

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

HIRAISO

Time in U.T.

Mar. 1958	Steady Flux					Variability				
	00-03	03-06	06-09	21-24	Day	00-03	03-06	06-09	21-24	Day
1	58	48	29	22	53	2	1	1	1	1
2	20	16	15	19	18	0	0	0	0	0
3	20	18	16	18	18	1	0	0	1	0
4	14	19	17	27	17	1	0	0	1	1
5	35	27	16	25	27	1	1	1	0	1
6	16	13	17	-	17	1	1	1	-	1
7	16	18	19	26	17	1	1	1	1	1
8	38	37	58	234	38	1	1	2	2	1
9	207	120	50	102	162	2	2	1	1	2
10	90	98	97	63	96	1	1	1	1	1
11	58	55	55	51	57	1	1	2	2	1
12	65	107	125	28	84	1	1	2	1	1
13	24	30	21	26	23	1	1	1	2	1
14	31	30	20	21	27	2	1	1	1	2
15	18	19	18	18	19	1	1	1	1	1
16	18	16	16	15	17	1	1	1	1	1
17	12	19	14	12	15	1	1	1	0	1
18	11	12	14	14	12	0	1	1	0	1
19	16	18	11	13	15	1	1	1	1	1
20	37	70	58	46	50	2	2	2	1	2
21	83	83	72	-	76	2	2	2	-	2
22	23	20	14	14	20	2	2	1	1	2
23	21	24	24	16	21	2	2	2	0	2
24	17	19	28	22	21	1	1	1	0	1
25	33	63	63	70	44	1	1	1	1	1
26	49	45	60	68	51	1	1	1	1	1
27	61	60	78	80	71	0	0	0	1	0
28	81	82	166	69	96	1	1	2	1	1
29	39	34	31	83	45	1	1	1	2	1
30	170	161	256	31	168	3	3	3	1	3
31	48	94	48	37	63	1	2	1	1	1

Outstanding Occurrences

Mar. 1958	Start-time	Dura-tion	Type	Max. Inst.	Int. Smd.	Max. Time	Remarks
Feb.							
28	2221	1m	CA/4	220	55	-	
1	0154-30s	1m	CA/4	650	95	-	
	0227	30s	CA/4	630	150	-	
3	2334	1m	F/3	250	-	-	
4	0149-30s	30s	SD/8	1100	240	-	
7	0255-20s	30s	CD/4	260	-	-	
	0321-30s	50s	CD/4	170	-	-	
	0439-30s	40s	CD/8	1300	360	-	
	0441-20s	1m	CD/4	160	-	-	
	0442-30s	1m	CD/8	620	-	-	
	0444-20s	50s	CD/4	360	-	-	
	0706-?	1m?	CD/8	1350	180	-	
8	0735-30s	2m	CD/8	>4000	600	0736	1st peak
				800		0737	2nd peak
9	0712	instant	SD/8	1800	-	-	
	2235	20s	CD/4	920	-	-	
13	0345-30s	1m	CD/4	110	40	-	1st part
	0346-30s	3m	CD/8	700	90	0348 x	2nd part
17	0122	1m	CD/8	1060	220	-	
20	0010	1m	CD/8	1000	-	-	calibration inserted.
21	0654-30s	40s	CA/8	420	210	-	
	0726-30s	50s	CA/8	540	250	-	
22	0013-30s	30s	CA/4	600	110	-	
	0211-30s	2m	CA/8	1020	100	0212	1st peak
				200	110	0213	2nd peak
	0213-30s	5m	CA/8	1400	540	0214	1st peak
				>3000		0216	2nd peak
				2200		0217	3rd peak
	0236	2m	CA/8	>3000	820	0231-30s	
23	0830-30s	1m	SD/8	900	440	-	
24	0301	1m?	CD/8	740	280	-	
	0459-30s	1m20s	CD/8	1100	240	-	
	0641	3m	CD/8	ca3800	1300	-	
	0717	2m	ECD/8	1680	280	-	
	0757-20s	1m	ECD/8	ca4000	1400	-	
25	0432	1m30s	CD/8	1540	140	-	
	0510	30s	CD/4	340	80	-	
	0821-20s	30s	CD/4	360	100	-	
26	0032-30s	2m30s	CD/8	>3000	900	0033	
	0035	1m	CD/8	1420	300	-	
28	0424	2m	CD/8	600	100	-	
29	0801	2m	CD/8	1960	520	0801	
	0818	1m	CD/8	400	140	-	
	0840	30s	SD/4	560	200	-	
30	2347-30s	1m	CD/8	ca1000	-	-	slightly off beam.
31	0618	1m	SD/8	2000	740	-	
	0623	2m30s	CD/8	1260	80	0623	

RADIO PROPAGATION QUALITY FIGURES

HIRAISO — Time in U.T.

Mar. 1958	Whole Day Index	W W V 00-06	W W V 06-12	W W V 12-18	W W V 18-24	S. F. 00-06	S. F. 06-12	S. F. 12-18	S. F. 18-24	W W V H 00-06	W W V H 06-12	W W V H 12-18	W W V H 18-24	Warning 00-06	Warning 06-12	Warning 12-18	Warning 18-24	Principal magnetic storms Start	End	ΔH
1	2o	1	2	2	1	3	(2	3)	C	3	3	3	2	N	N	N	N			
2	1+	1	1	1	2	(2	2)	2	1	2	2	3	2	N	N	N	N			
3	2-	1	2	3	2	(1)	2	2	2	3	3	3	2	N	N	N	N			
4	2-	2	2	3	2	(2	1)	1	1	2	3	3	2	N	N	N	N			
5✱	2o	2	2	2	1	3	4	1	1	2	3	2	2	N	U	U	U			
6	2-	2	2	2	2	1	2	2	1	2	2	3	2	N	N	N	N			
7	1+	1	3	1	(2)	1	1	1	(1)	2	3	2	(2)	N	N	N	N			
8	1+	2	1	1	1	2	(1)	1	(2)	2	2	1	2	N	N	N	N			
9	2-	2	2	1	2	2	2	1	2	2	3	2	2	N	N	N	N			
10	1+	1	1	1	2	2	1	1	2	2	2	1	2	N	N	N	N			
11	1o	1	2	2	1	1	1	1	1	2	1	1	(2)	N	N	N	N			
12	1+	1	2	3	1	1	1	1	2	2	1	1	2	N	N	N	N			
13	3-	1	3	3	2	3	2	3	3	2	2	1	2	N	N	N	N			
14	3+	2	3	4	4	(4)	2	4	3	2	2	3	3	N	N	U	U			
15✱	3+	4	4	4	4	2	2	2	2	2	3	3	3	U	U	U	U			
16	3-	4	2	3	3	2	(2	2)	1	2	3	3	2	U	U	N	N			
17	2-	2	1	2	3	1	1	2	(1)	2	2	2	2	N	N	N	N			
18	2o	3	2	3	3	1	1	1	(1)	2	2	2	2	N	N	N	N			
19	1o	2	1	2	1	1	1	1	1	2	2	3	2	N	N	N	N			
[20]	3o	4	4	4	4	2	(1)	2	2	2	3	2	2	N	N	N	N			
[21]	2-	4	2	2	1	2	1	(1)	2	2	2	2	2	N	N	N	N			
22	2+	3	3	3	2	2	(1	2)	2	2	2	3	2	N	N	N	N			
23✱	2-	2	1	1	1	2	(2)	2	3	2	2	2	2	N	N	N	N			
24✱	2-	3	1	1	1	2	(1)	2	C	2	2	1	2	N	N	N	N			
25✱	2+	2	2	2	3	3	(1)	2	2	2	2	1	1	U	U	U	U			
26	3-	3	4	2	2	2	(2)	2	C	2	3	3	2	U	N	N	N			
27	3-	3	4	1	2	C	C	C	C	2	3	3	2	N	N	N	N			
[28]	1+	1	1	2	2	(1	2)	C	C	2	3	3	2	N	N	N	N			
29	1o	1	1	1	2	1	C	C	C	2	3	2	2	N	N	N	N			
30✱	2-	1	1	2	2	(2)	2	2	(2)	2	2	2	2	N	N	N	N			
31✱	2-	3	2	1	1	2	(1	2)	2	2	2	2	(2)	N	N	N	N			

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

SUDDEN IONOSPHERIC DISTURBANCES

(S.I.D.)

HIRAISO

Time in U.T.

Mar. 1958	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	MN	LN										
1	23"	>36	>18		>29		03.40	90	Slow	3					x	
3		34					10.10	40	Slow	2+				x	x	
4	4"	13	-	5'			00.28	25	Slow	1						x
	2"	8	-	12'	-		23.25	40	G	1-						
5	15"	16		10			03.00	30	Slow	2-						
9	15"	22					20.07	20	S	2-				x		
10	14"			5'	33		02.10	20	S	2+						
13		19		-			04.10	45	G	1+	04.32	31	1		x	
		(35)		-			05.05	-	G	2+	05.20	55	1			
21	-	27		-			01.42	50	G	2						
	-	20					02.40	20	G	1+					x	
22		16		12'			02.14	10	S	1+					x	
		36		>10'		-	02.37	25	S	3-					x	
	-	22	-	-			23.41	48	Slow	2					x	
24		15		-			03.00	55	G	1					x	
	8"	>25	-	-			23.06	40	Slow	2	23.09	40	2	x	x	
26	18"	21	-	-	-		03.00	30	G	2					x	
	-	22		-			23.30	20	G	2-	23.31	34	2	x	x	
30	-			24'			01.08	10	S	1+	01.07	46	1		x	
31	>20"	37		16'			00.10	20	S	3-				x	x	
		42	-	28'	-		00.51	24	S	3				x	x	

NOTE (1) Suffixes of Drop-out Intensities for WS, HA and TO

' : 10 Mc, no suffix : 15 Mc, " : 20 Mc.

(2) - : unreadable, ( ) : uncertain

IONOSPHERIC DATA IN JAPAN FOR MARCH 1958
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