F — 117

IONOSPHERIC DATA IN JAPAN

FOR SEPTEMBER 1958

Vol. 10 No. 9

Issued in November 1958

Prepared by

THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

F—117

IONOSPHERIC DATA IN JAPAN

FOR SEPTEMBER 1958

Vol. 10 No. 9

THE RADIO RESEARCH LABORATORIES

KOKUBUNJI, TOKYO, JAPAN

CONTENTS

SITES OF THE RADIO WAVE OBSERVATORIES

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

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

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

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

SYMBOLS AND TERMINOLOGY

A. IONOSPHERE

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

Terminology

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

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

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

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

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

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

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

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

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

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

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

a. Descriptive Symbols

Used following the numerical value on monthly tabulation sheets.

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

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

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

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

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

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

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

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

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

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

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

O Measurement refers to the ordinary component.

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

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

V Forked trace which may influence the measurement.

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

X Measurement refers to the extraordinary component.

Y Intermittent trace.

Z Third magneto-ionic component present.

b. Qualifying Symbols

Used as a preceeding symbol on monthly tabulation sheets.

D *greater than.....*

E *less than.....*

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

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

U Uncertain or doubtful numerical value.

Z Measurement deduced from the third magnetoionic component.

c. Description of Standard Types of E_s

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

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

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

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

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

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

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

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

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

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

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

d. Multiple Reflections from E_s

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

B. SOLAR RADIO EMISSION

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

a. Daily Data

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

Variability Variability is expressed in four grades as follows:

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

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

b. Outstanding occurrences

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

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

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

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

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

activity

M: multiple peaks separated by relatively long period of quietness

F: multiple peaks separated by relatively short period of quietness

E: sudden commencement or rise of activity

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

Maximum intensity

Instantaneous: The highest value above the base level.

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

C. RADIO PROPAGATION CONDITIONS

a. Radio Propagation Quality Figures

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

1=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 preparated from the field intensity records on following circuits received at Hiraiso. Characteristics of the phenomenon are classified as follows.

Circuits and Drop-out intensity

W S .....WWV 20 Mc, 15 Mc and 10 Mc (Washington)
S F .....WNA-27: 7.6550 Mc, WND-20: 10.4925 Mc, WNC-93: 13.7525 Mc, WMJ-30A2: 20.8173 Mc (San Francisco)
H A.....WWVH 15 Mc and 10 Mc (Hawaii)
T O.....JJY 15 Mc and 10 Mc (Tokyo)
M N.....DZM-28: 14.5850 Mc (Manila)
L N.....GIJ-34: 14.6702 Mc (London)

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

Start-times and Durations

Types

S : sudden drop-out and gradual recoverly
Slow: slow drop-out taking 5 to 15 minutes and gradual recoverly
G : gradual disturbances; fade irregular in both drop-out and recoverly

Importances

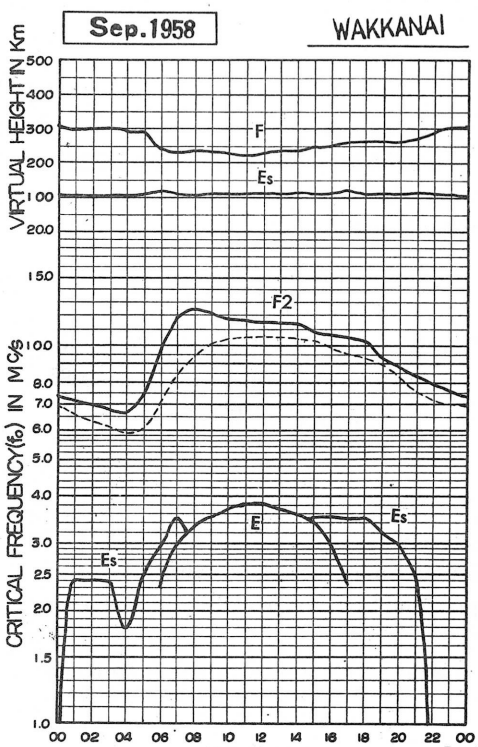
Degrees of SWF are classified into 9 grades according to the amplitude of fade-out;

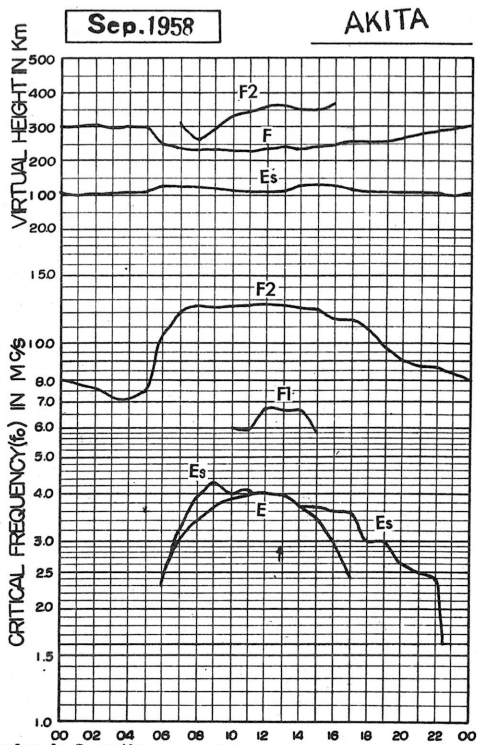
1–	1	1+
2–	2	2+
3–	3	3+

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

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

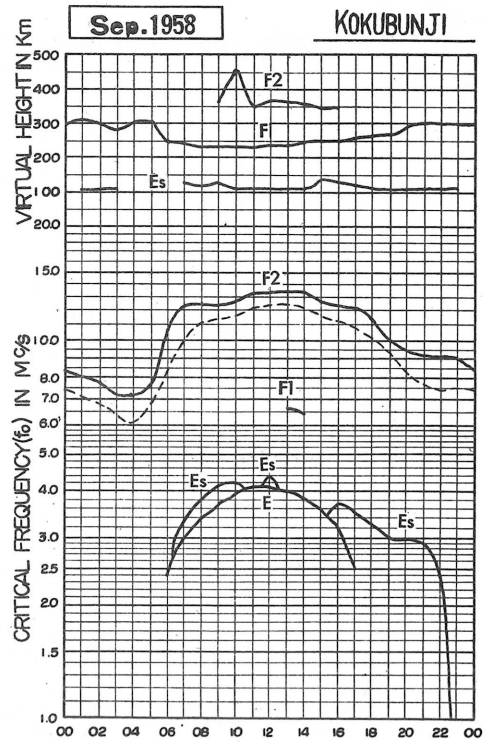
IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS

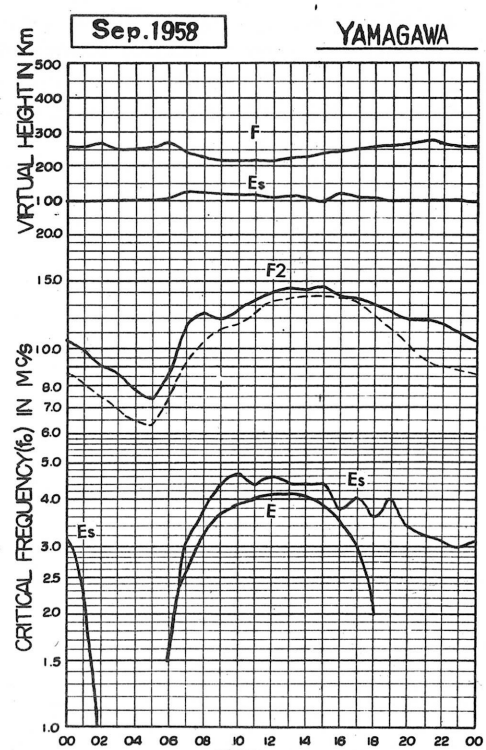




--: Predicted value in 3 months advance by R.R.L.

IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS





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

IONOSPHERIC DATA

Sep. 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	C	C	C	C	C	C	C	C	C	11.6H	11.8	11.8	11.2	10.9	J10.0R	10.0	9.8	9.5	9.3	9.1	I9.0S	9.1	U8.8S	I8.2S
2	U8.0S	7.4	7.3	C	C	C	C	C	C	C	10.8	J10.2RH	J10.3R	10.4	10.0	9.4	9.0	9.0	9.0	9.0	9.0	U8.4S	U7.7S	7.4
3	7.4	7.3	6.8	6.5	6.5	7.5	9.9	11.5	11.7	12.0	11.5	11.0	10.7	10.8	10.8	10.2	9.6	9.3	9.4	9.0	9.2	19.0S	U8.9S	I8.1S
4	6.5	6.6	6.8	6.2	5.9	6.5	6.9	6.6H	6.5	6.2	6.3	6.6	7.0	6.4	7.2	7.1	7.5	7.5	7.3	6.8	6.5	6.5	6.5	I6.4A
5	6.1	5.0	4.6	3.7F	3.3F	3.8F	W	W	W	W	W	W	W	6.0	5.9	6.2	6.3	I6.0C	6.1	I6.0A	I6.4AS	6.7	6.5	6.6
6	6.3	6.3	U6.0S	I5.8C	5.2F	C	C	C	C	9.0	9.0	9.0H	8.9	8.8	8.7	I8.4R	8.2	8.2	8.1	U7.8S	U7.8S	7.4	7.4	7.4
7	U7.3S	7.3	6.8	6.3	5.8	6.5	U8.4S	10.0	12.0	11.7	11.5	10.9	10.9	10.8	U10.5R	U10.5R	9.8	9.5	9.6	9.1	I8.2S	I8.1S	I8.1S	U8.1S
8	8.0	7.0	6.5	6.7	6.7	7.6Z	I8.1S	9.0H	10.8H	J11.1R	J11.0R	11.0	11.0	J10.9R	11.0	J10.5R	10.1H	9.8	9.5	9.0	I8.3S	U8.6S	I8.1S	7.5
9	7.3	7.1	7.0	6.8	6.7	7.7	9.6	I10.4R	I11.5R	11.8H	11.8	11.8	11.6	11.6	11.4	11.4	10.8H	10.7	J10.7S	9.5	9.0	U8.4S	7.7	7.4
10	6.8	6.6	6.8	6.7	5.9	6.2	8.5	10.1	11.6	12.2	I12.8R	12.5	12.0H	11.5H	11.3H	11.0	10.8H	10.5	10.3	9.3	9.0	I8.3S	I7.1S	7.4
11	7.0	7.0	7.1	6.5	6.5	7.0	9.0	11.1H	11.8H	12.3	11.8H	11.5	11.6	11.1	10.8	10.7	10.4	10.3	10.3	9.8	U8.7S	I8.9S	I8.5S	I8.2S
12	I8.0S	7.8	7.4	6.8	6.5	7.3	8.3	9.0H	8.8	9.5	U10.5R	U10.8R	11.2	11.3	10.5	10.5	U10.2SH	10.1	9.8	8.7	8.3	7.7	7.8	7.5
13	7.3	7.3	7.0	6.7	6.5	7.3	9.5	11.0	11.1	11.5	11.5	11.5	11.5	11.3	10.5	10.3	10.1	10.0	9.8	9.3	U8.9S	U8.3S	U8.0S	7.6
14	7.5	7.1	7.0	7.0	6.8	8.0	J10.8S	11.5	C	C	C	C	C	C	C	C	U10.8R	10.7	U10.8S	9.4	8.8	U8.3S	8.3	8.1
15	8.0	7.9	7.6	7.4	C	C	C	C	12.1	11.5	11.8	11.5	11.8	11.3	11.5	J11.0R	J10.8R	10.6	10.3	9.4	8.9	8.3	I8.0S	U7.7S
16	8.0	7.7	7.6	7.3	7.0	7.5	10.6	12.1	12.6	12.3	12.3	I11.6R	11.6	11.9	11.7	10.8	10.8	11.5	11.3	9.3	C	C	C	C
17	C	C	C	C	C	C	C	C	C	11.5	11.9	12.7	12.3	12.0	11.8	11.3H	10.8	10.5	10.0	9.1	U8.8S	8.7	U7.8S	7.8
18	7.5	7.3	7.3	7.0	7.0	7.5	9.8	12.0	12.8	13.0	13.0	U13.2R	U12.8R	12.0	12.0	I11.9A	11.5	11.4	11.0	9.8	I9.0S	8.8	I8.6S	I8.0S
19	U7.5S	7.2	7.0	6.8	6.7	7.5	10.5	U13.3R	13.0	12.6	12.0H	12.3	12.2	12.1	12.0	11.8	11.6	11.3	11.0	9.5	9.0	8.6	I8.0SA	I7.6S
20	7.5	I7.4S	I7.2C	6.8	7.0	7.8	10.8	12.3	12.8	I13.4C	13.0	12.3	12.3	12.3	12.2	12.4	C	C	C	C	C	C	U8.6S	U8.0S
21	7.6	7.3	7.3	7.3	6.8	7.6	10.4	12.0	12.8	13.5	C	C	C	C	C	C	C	C	C	C	9.6	8.8	8.7	U8.2S
22	8.0	7.7	7.4	7.5	7.0	7.8	11.1	U13.0R	I12.8C	13.3	13.0	12.5	12.5	12.3	12.4	12.0	12.0	12.0	11.9	9.8	9.5	8.3	8.0	7.5
23	7.3	7.4	7.3	7.1	7.0	7.4	10.5	12.3	J13.3R	R	R	R	I12.1R	12.0	12.0	12.0	C	C	C	U10.3S	8.4	U8.3S	U8.1S	U8.0S
24	7.3	7.3	7.1	7.0	6.8	7.6	10.2	13.0	U13.5R	I12.8R	I12.6R	U12.5R	12.8	13.0	12.8	12.5	12.3	12.3	11.8	10.3	9.0	U7.8S	7.5	6.5
25	6.6	6.5	6.5	6.5	6.5	7.0	10.2	U13.4R	U13.8R	13.0	12.9	13.0	12.8	12.8	12.7	12.0	12.0	12.3	11.8	10.6	8.8	7.8	U7.5S	U7.9S
26	6.8	6.6	6.7	7.3	U8.3S	U8.3S	11.5	12.5	10.7	J9.8R	9.2	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	9.6	10.3	J10.8R	J10.4R	9.9	9.8H	10.3	10.4	9.7	8.0	6.8	6.0	6.0	5.8
28	I5.7C	5.6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	11.0	10.0	8.4	7.5	6.6	6.3	6.1
29	6.1	6.0	5.9	5.7	5.7	6.2	8.3	11.0	12.6	13.0	12.7	12.8	12.7	12.5	11.9	11.5	11.3	10.8	11.0	U10.0S	I9.0S	7.3	I6.7AS	I6.4A
30	6.3	6.3	6.3	6.5	6.1	6.1	9.0	12.3	13.3	13.8	U13.3R	U12.7R	12.7	12.3	12.3	12.0	12.0	11.6	10.8	9.7	8.5	U7.7S	I6.9S	6.5
31																								
No.	27	27	26	25	24	23	22	22	22	24	25	24	25	26	26	26	25	26	26	27	27	27	28	28
Median	7.3	7.2	7.0	6.8	6.6	7.5	9.8	11.8	12.4	12.1	11.8	11.8	11.6	11.4	11.4	10.9	10.8	10.5	10.2	9.3	8.8	8.3	U7.9	7.6
U.Q	7.6	7.4	7.3	7.0	6.9	7.6	10.6	12.3	12.8	13.0	12.8	12.5	12.4	12.1	12.0	11.9	11.4	11.3	11.0	9.8	9.0	8.6	8.2	8.0
L.Q	6.6	6.6	6.7	6.5	6.0	6.5	8.5	10.4	11.5	11.5	10.9	11.0	11.0	10.8	10.5	10.2	9.8	9.5	9.5	9.0	8.3	7.7	7.2	7.0
Q.R	1.0	0.8	0.6	0.5	0.9	1.1	2.1	1.9	1.3	1.5	1.9	1.5	1.4	1.3	1.5	1.7	1.6	1.8	1.5	0.8	0.7	0.9	1.0	1.0

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

Sep. 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							C	C	C		L	L	L	LH	L	L								
2							C	C	C	C	L		L	A	L	L								
3									L	L		L	L	L	L	L	L							
4							L		LH	5.3	LH	L	L	L	LH	L	L							
5							3.6	4.2	4.6	4.8	4.7	5.1H	5.2	5.2	5.2	L								
6							C	C	C	A	A		L	A	L	L	L							
7											L	L	L	L	L	L	L							
8										L	L	L	L	L	L	L								
9											L	L	L	LH	L	L								
10										L														
11													L	L	L	L								
12									L	L	L	L	L	L		L								
13										L	L	L	L	L	L	L								
14									C	C	C	C	C	C	C	C								
15							C	C			L	L	L	L	L	L								
16											L	LH	L	LH	L	L	L							
17							C	C	C	L	L	L	L	L	L									
18									L			L	L	L	L	A								
19												L	L	L	L	L								
20											L	L	LH	L	L	L								
21											C	C	C	C	C	C	C							
22													L	LH	L									
23												LH	L	L	L	L								
24										L	L	LH	L		L									
25										L	L	LH	L	L	L									
26									L	L	L	C	C	C	C	C	C							
27							C	C	C	C	L	LH	L	L	L									
28							C	C	C	C	C	C	C	C	C	C	C							
29											L	LH	L	L	L	L								
30											L	L	L	L	L	L								
31																								
No.							1	1	1	2	1	1	1	1	1									
Median							3.6	4.2	4.6	5.0	4.7	5.1	5.2	5.2	5.2									

foF1

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

The Radio Research Laboratories, Japan.

W 2

IONOSPHERIC DATA

Sep. 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						C	C	C	C	3.50	A	A	A	R	A	3.55	3.20	2.70						
2						C	C	C	C	C	3.70	A	A	A	3.65	A	A	A						
3						1.70	2.65	3.35	3.55	3.40	$I_{3.70}^{R}$	3.85	4.00	R	R	R	3.05	2.55	S					
4						$V_{1.70}^{A}$	2.45	3.00	3.40	A	R	R	4.00	$I_{3.90}^{R}$	3.75	3.55	3.10	2.40	A					
5						S	$I_{2.25}^{A}$	2.85	3.05	3.50	A	A	R	R	R	A	A	C	A					
6						C	C	C	C	3.55	3.65	3.75	A	A	A	A	A	A	A					
7						A	2.55	3.10	3.50	3.70	3.75	3.75	3.70	R	A	A	A	A	A					
8						S	2.35	3.05	3.45	3.65	3.75	A	A	A	R	3.45	$I_{2.90}^{A}$	2.50	S					
9						S	2.45	3.00	3.50	$I_{3.80}^{R}$	$I_{3.80}^{R}$	3.85	$I_{4.00}^{A}$	$I_{3.85}^{R}$	$I_{3.70}^{R}$	3.50	3.05	2.45						
10							2.40	2.70	A	A	A	4.10	4.00	3.80	3.75	3.45	3.00	2.50						
11							2.40	3.00	3.40	3.70	3.80	4.00	3.95	$I_{3.85}^{R}$	$I_{3.75}^{R}$	3.55	3.05	2.35						
12						A	A	A	A	A	4.00	4.00	4.00	$I_{3.85}^{R}$	$I_{3.65}^{R}$	3.45	3.10	2.45						
13						S	2.30	3.00	3.50	3.55	3.70	$I_{3.90}^{R}$	4.00	3.80	$U_{3.65}^{R}$	3.50	3.05	2.25						
14						A	2.35	2.95	C	C	C	C	C	C	C	C	3.00	2.30						
15						C	C	C	3.50	3.70	3.80	4.00	4.00	3.95	3.70	3.55	3.05	2.30						
16						S	2.40	3.00	3.25	$I_{3.65}^{R}$	4.00	4.00	R	A	R	3.40	3.05	2.30						
17						C	C	C	C	3.60	3.80	3.85	3.85	$I_{3.70}^{R}$	3.55	3.35	2.90	2.35						
18							2.30	$I_{3.00}^{A}$	3.45	3.75	3.85	3.75	3.70	$I_{3.65}^{R}$	3.55	A	C	A						
19							2.30	2.90	3.35^{H}	3.50	3.70	3.80	$I_{3.70}^{A}$	3.70	3.55	3.40	3.00	2.25						
20							2.15	2.95	3.35	$I_{3.50}^{C}$	3.55	3.60	3.65	$I_{3.65}^{A}$	$I_{3.45}^{A}$	A	2.80							
21							A	3.00	3.40	3.55	C	C	C	C	C	C	C	C						
22							2.20	2.90	3.35	3.50	3.60	$I_{3.60}^{A}$	3.55	A	A	A	2.75^{H}	S						
23							2.30^{H}	2.90	3.20	3.55	3.70	$I_{3.60}^{R}$	$I_{3.60}^{A}$	$I_{3.65}^{A}$	$I_{3.50}^{A}$	3.10	C	C						
24							A	A	3.15	3.50	3.70	3.70	3.70	3.55	3.35	A	A	S						
25							2.10^{H}	2.60	2.90	3.50	3.65	3.70	3.60	3.55	3.55	3.20	2.75	S						
26							A	2.35	2.95	3.10	3.35	C	C	C	C	C	C	C						
27							C	C	C	C	C	R	A	R	R	3.40	2.70	S						
28							C	C	C	C	C	C	C	C	C	C	C	A						
29							$I_{2.20}^{S}$	2.80	$I_{3.15}^{A}$	3.40	3.50	3.50	A	A	A	A	2.70	S						
30							A	A	2.85	A	R	R	3.60	3.50	3.50	3.20	2.70	1.95						
31																								
No.						2	18	20	21	22	21	19	18	15	16	16	20	15						
Median						1.70	2.30	3.00	3.35	3.55	3.70	3.80	3.80	3.70	3.60	3.45	3.00	2.35						

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

Sep. 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	C	C	C	C	C	C	C	C	C	4.4	5.9M	4.2	4.9M	G	5.1M	4.6	3.7	4.5M	6.5M	5.0M	5.5M	E	E	4.2M
2	E	E	E	C	C	C	C	C	C	C	5.8M	6.0M	7.7	9.0M	5.2M	4.5M	5.0M	5.0M	4.2M	6.5M	E	2.5M	3.0M	3.1M
3	E	E	3.0M	2.4M	3.1M	G	G	G	G	G	G	G	G	G	G	G	G	3.3	2.7	E	E	E	E	2.6M
4	E	E	3.5M	3.5M	E	2.5M	3.0	G	G	5.0M	G	G	G	G	4.5	6.0M	3.7	5.0M	9.5M	7.0M	3.0M	6.0M	9.0M	7.0M
5	E	2.6M	2.9M	E	E	1.8	3.4	3.3	5.0	G	4.2M	4.5M	G	G	G	5.2M	5.0M	C	7.2M	10.1M	11.0M	5.7M	5.5M	4.4M
6	6.0M	3.1M	4.2M	C	4.0M	C	C	C	C	6.5M	6.0M	4.4	6.8M	6.8M	4.9M	6.5M	3.4	3.5M	3.5M	3.2M	4.8M	6.8M	8.0M	3.5M
7	3.5M	3.1M	4.0M	3.1M	3.1M	3.2M	G	3.4	G	4.2	4.2	4.5	G	G	4.3M	4.3M	4.5M	5.0M	4.7M	4.7M	3.5M	E	E	E
8	E	E	2.4M	E	E	S	3.5	G	G	4.1	4.3	4.8M	4.5M	4.5M	G	G	3.5M	3.0	G	E	3.1M	E	E	E
9	E	E	E	E	E	S	3.5M	3.5	G	G	G	G	4.9M	G	G	3.3G	5.2M	3.5	4.0M	3.0M	E	2.4M	E	E
10	E	3.5M	2.4M	2.4M	2.4M	E	3.4M	3.5	4.5M	4.5M	5.1M	G	G	G	G	3.5	3.5	G	E	E	E	E	E	E
11	2.7M	2.5M	E	E	E	E	G	3.5	3.5	G	G	3.9G	G	G	G	G	4.0	2.9	3.5M	E	E	E	3.4M	3.0M
12	E	2.6M	E	E	E	2.6M	3.5M	4.3M	4.4M	4.8M	G	G	G	G	G	4.0	G	G	E	E	4.2M	E	E	E
13	E	E	E	E	E	S	G	3.5	G	5.5M	G	G	G	G	G	G	4.2	3.5M	3.4M	8.0M	6.5M	6.0M	3.5M	E
14	2.3	2.0	E	E	E	3.0M	G	4.6M	C	C	C	C	C	C	C	C	G	G	E	E	E	E	E	E
15	E	3.0M	3.0M	2.1M	C	C	C	C	G	G	G	G	G	G	G	G	G	2.7	3.0M	E	E	E	E	2.3
16	E	E	2.1	3.1M	2.6M	S	G	3.2	3.5	G	G	G	G	5.2M	G	G	G	3.5	2.6M	2.4M	C	C	C	C
17	C	C	C	C	C	C	C	C	C	5.1M	G	4.7	4.1	G	G	3.5	3.5	3.3	4.0M	3.6M	3.5M	3.0M	3.0M	E
18	E	E	3.0M	3.0M	2.4M	2.7M	3.5M	3.2	G	G	4.5	5.0	4.8	G	11.0M	15.0M	9.5M	6.0M	7.0M	5.8M	3.2M	3.5M	3.1M	3.3M
19	3.6M	4.6M	3.3M	4.2M	3.2M	E	2.9	3.5	3.6	4.3	4.4	G	6.5M	4.4	4.1	G	G	G	2.8M	E	E	5.6M	10.0M	7.5M
20	6.5M	7.5M	D 3.8 C	5.0M	3.0M	3.2M	3.5	3.3	G	C	G	G	G	4.5M	4.2M	3.5	3.5	C	C	C	C	C	E	E
21	E	E	E	2.4M	3.1M	3.5M	3.5M	3.5	G	G	C	C	C	C	C	C	C	C	C	C	3.0M	3.1M	E	2.2M
22	E	E	2.4M	E	E	E	2.4	G	G	G	G	4.7M	3.9	4.5M	4.3M	4.0M	G	4.0M	5.0M	3.5M	E	E	3.0M	E
23	E	E	E	E	E	E	G	G	G	G	G	G	4.8M	4.0	4.4M	3.5	C	C	C	E	E	E	3.5M	E
24	3.0M	2.7M	1.3	3.0M	3.0M	E	3.5M	6.2M	G	G	G	G	4.2	4.3	5.6M	4.0M	3.5M	3.1M	E	3.1M	E	5.0M	3.5M	3.3M
25	3.6M	2.4M	E	2.3M	E	E	G	4.0	3.5	G	G	G	G	G	G	G	G	2.6M	E	E	2.5	E	E	E
26	E	3.2M	7.0M	7.5M	7.2M	7.2M	5.2M	5.0M	3.5	3.5	3.5	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	G	5.0M	G	G	3.8	5.8M	6.5M	3.5M	3.5M	4.5M	4.3M	E	4.0M
28	C	2.8M	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	4.2M	3.5M	6.5M	6.5M	12.5M	4.3M	E
29	E	2.4M	E	2.4M	4.3M	3.1M	2.5M	3.2	4.0M	4.0	4.1	3.6	4.9M	5.0M	5.2M	3.4M	G	3.5M	5.0M	6.5M	8.0M	3.4M	9.0M	9.0M
30	7.0M	3.3M	3.0M	2.3M	1.2	3.6M	4.7M	5.0M	6.0M	4.4M	G	G	G	G	G	G	G	G	E	5.5M	5.2M	5.0M	E	E
31																								
No.	26	27	26	24	24	19	23	23	23	25	26	26	26	26	26	26	26	25	26	27	27	27	28	28
Median	E	2.4M	2.4M	2.4M	1.8M	2.5M	3.0	3.5	G	3.5	G	G	G	G	G	3.5	3.5	3.5M	3.5M	3.2M	3.0M	2.5M	E	E
U.Q	3.0	3.1	3.0	3.0	3.1	3.2	3.5	4.0	3.6	4.4	4.3	4.5	4.9	4.5	4.5	4.3	4.2	4.4	4.7	5.8	4.8	5.0	3.5	3.4
L.Q	E	E	E	E	E	E	G	3.2	G	G	G	G	G	G	G	G	G	2.6	E	E	E	E	E	E
Q.R								0.8										1.8						

foEs

Sweep 1.0 Mc to 21.7 Mc in 1 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

W 4

IONOSPHERIC DATA

Sep. 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	C	C	C	C	C	C	C	C	C	G	4.2	4.1	4.0		4.0	G	3.7	G	6.0	45	4.5			3.2
2				C	C	C	C	C	C	C	4.7	5.0	6.0	7.8	4.5	3.8	3.8	3.0	3.0	5.0		E	2.1	2.2
3			E	E	E													G	2.5					E
4			2.5	2.6		1.7	G			3.8					G	5.0	G	4.4	2.4	E	E	4.0	4.5	E
5		E	E			G	2.6	G	3.8		4.0	4.2				4.7	4.3	C	5.0	A	A	3.0	2.5	2.8
6	E	E	2.8	C	E	C	C	C	C	5.6	5.2	G	6.0	5.0	4.0	4.5	D 3.4 B	2.6	2.4	2.2	4.0	5.5	E	2.5
7	E	E	E	E	E	1.7		G		G	G	G			3.7	3.7	3.8	4.0	3.5	2.6	E			
8			E			S	G			G	G	4.6	4.3	4.0			3.1	2.2			E			
9						S	G	2.5					4.1			2.4	2.0	3.4	2.8	E		E		
10		E	E	E	E		G	G	3.8	3.8	4.0					2.8	G							
11	E	E						G	2.6			3.1					G	G	E				2.5	E
12		E				1.8	2.5	3.4	3.8	3.8						G					E			
13						S		G		4.8							G	G	E	2.1	5.5	2.3	E	
14	E	E				2.0		G	C	C	C	C	C	C	C	C								
15		E	E	E	C	C	C	C										G	E					E
16			E	E	E	S		G	G					2.7				G	E	E	C	C	C	C
17	C	C	C	C	C	C	C	C	C	G		G	G			G	G	G	3.0	2.8	2.5	E	E	
18			E	E	E	E	G	3.1			G	G	4.7		5.6	A	8.5	3.1	2.5	2.5	E	2.1	E	E
19	E	2.1	2.8	E	E		G	G	G	G	G		5.1	G	G				E			4.5	A	4.5
20	5.2	3.0	A	2.9	2.3	E	2.8	G		C				3.9	3.8	3.4	2.4	C	C	C	C	C		
21				E	E	E	2.4	2.2			C	C	C	C	C	C	C	C	C	C	E	E		E
22			E				G					4.0	G	3.8	3.8	3.4		3.0	4.0	E			E	
23													4.0	4.0	3.8	G	C	C	C				2.4	
24	E	E	E	E	E		2.5	3.0					G	G	G	3.3	2.9	G		E		4.0	E	E
25	E	E		E				G	G									G			E			
26		2.4	5.5	5.5	6.0	4.7	4.7	4.0	G	G	G	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C		4.2			G	5.0	5.5	2.5	2.6	E	2.2		2.7
28	C	E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	2.5	2.5	2.6	2.4	E	2.9	
29		E		E	E	E	G	G	3.4	G	G	3.0	4.0	4.2	3.4	3.2		2.5	3.0	2.6	2.2	2.5	A	A
30	2.5	E	2.1	E	E	E	2.6	3.6	3.4	3.7										4.7	4.5	E		
31																								
No.	9	16	16	15	13	11	15	18	10	13	11	11	13	10	12	17	16	20	19	17	16	15	14	14
Median	E	E	E	E	E	E	G	G	3.0	G	G	3.1	4.1	4.0	3.8	3.3	3.0	2.4	2.5	2.6	E	2.2	2.2	E

f_bE_s

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

The Radio Research Laboratories, Japan.

W 5

IONOSPHERIC DATA

Sep. 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	C	C	C	C	C	C	C	C	C	E2.40S	E3.00S	E2.40S	E2.40S	E2.40S	E2.40S	E2.00S	E2.00S	E2.00S	E1.75S	E1.90S	E1.60S	E1.65S	E1.70S	E1.85S
2	E2.00S	E1.35S	E1.10S	C	C	C	C	C	C	C	E2.50S	E2.50S	E2.45S	E2.40S	E2.40S	E2.00S	E2.00S	E1.80S	E1.80S	E1.70S	E1.80S	E1.85S	E1.90S	E2.00S
3	E2.00S	E1.25S	E	E	E	E1.50S	E1.80S	E2.00S	E2.00S	E2.00S	E2.50S	E2.50S	E2.40S	E2.40S	E2.50S	E2.00S	E2.00S	E2.00S	E1.80S	E1.80S	E1.85S	E1.70S	E1.80S	E1.90S
4	E1.70S	E1.25S	E	E	E	E1.40S	E1.80S	E2.00S	E2.00S	E2.00S	E2.40S	E2.50S	E2.40S	E2.40S	E2.00S	E2.00S	E2.00S	E2.00S	E1.75S	E1.65S	E1.90S	E1.90S	E1.80S	E1.60S
5	E1.85S	E	E	E	E	E1.55S	E2.00S	E2.00S	E2.00S	E2.00S	E2.40S	E2.50S	E2.40S	E2.40S	E2.00S	E2.00S	E2.00S	C	E1.70S	E1.60S	E1.70S	E1.70S	E1.75S	E1.60S
6	E1.60S	E	E	C	E	C	C	C	C	E2.10S	E2.00S	E2.40S	E2.40S	E2.40S	E2.40S	E2.00S	E1.80S	E2.00S	E1.65S	E1.70S	E1.70S	E2.00S	E1.60S	E1.65S
7	E1.60S	E1.20S	E	E	E	E1.20S	E2.00S	E2.00S	E2.00S	E2.45S	E2.40S	E2.50S	E2.40S	E2.60S	E2.00S	E2.00S	E2.00S	E1.90S	E1.75S	E1.90S	E1.85S	E2.00S	E1.80S	E1.90S
8	E1.80S	E1.20S	E	E	E	E1.50S	E1.90S	E2.00S	E2.00S	E2.40S	E2.40S	E2.80S	E2.40S	E2.40S	E2.40S	E2.00S	E2.00S	E1.75S	E2.00S	E2.00S	E1.65S	E2.00S	E1.75S	E2.00S
9	E1.80S	E1.20S	E1.20S	E	E	E1.60S	E1.80S	E2.00S	E2.00S	E2.00S	E2.60S	E2.45S	E2.00S	E2.00S	E2.00S	E1.90S	E1.75S	E1.80S	E1.75S	E1.60S	E1.80S	E1.80S	E2.00S	E2.00S
10	E2.00S	E1.50S	E	E	E	E1.50S	E1.70S	E2.00S	E2.00S	E2.00S	E2.50S	E2.40S	E2.10S	E2.40S	E2.50S	E2.00S	E2.00S	E2.00S	E2.00S	E1.60S	E1.75S	E1.75S	E1.80S	E1.60S
11	E1.80S	E1.15S	E	E	E	E1.50S	E1.75S	E2.00S	E2.00S	E2.05S	E2.05S	E2.40S	E2.00S	E2.00S	E2.40S	E2.00S	E2.05S	E1.80S	E1.70S	E1.60S	E1.80S	E1.70S	E1.70S	E1.60S
12	E1.60S	E1.30S	E	E1.15S	E1.15S	E1.50S	E1.75S	E1.90S	E2.00S	E2.00S	E2.40S	E2.00S	E2.10S	E2.50S	E2.40S	E2.00S	E2.00S	E1.80S	E1.75S	E1.60S	E1.70S	E1.60S	E1.60S	E1.70S
13	E1.65S	E1.20S	E	E	E	E1.75S	E1.80S	E2.00S	E2.00S	E2.00S	E2.45S	E2.50S	E2.40S	E2.00S	E2.45S	E2.40S	E2.00S	E1.80S	E1.65S	E1.55S	E1.60S	E1.60S	E1.90S	E1.60S
14	E1.70S	E1.30S	E	E	E	E1.40S	E2.00S	E2.00S	C	C	C	C	C	C	C	C	E2.00S	E1.80S	E1.85S	E1.70S	E1.70S	E1.80S	E1.85S	E2.00S
15	E1.70S	E1.25S	E	E	C	C	C	C	E2.00S	E2.40S	E2.40S	E2.40S	E2.50S	E2.00S	E2.10S	E2.15S	E1.90S	E2.00S	E1.65S	E1.70S	E1.75S	E1.60S	E1.80S	E1.70S
16	E1.60S	E1.25S	E	E	E	E1.50S	E1.95S	E2.00S	E2.00S	E2.10S	E2.50S	E2.10S	E2.50S	E2.40S	E1.95S	E2.10S	E2.00S	E2.00S	E2.00S	E1.90S	C	C	C	C
17	C	C	C	C	C	C	C	C	C	E1.90S	E2.10S	E2.00S	E2.00S	E2.00S	E2.10S	E2.00S	E1.80S	E1.70S	E1.60S	E1.70S	E1.60S	E1.60S	E1.60S	E1.60S
18	E1.60S	E1.50S	E	E1.25S	E	E1.55S	E1.70S	E1.90S	E1.90S	E2.00S	E2.10S	E2.00S	E2.50S	E2.40S	E2.10S	E2.00S	E8.50C	E2.00S	E1.75S	E1.80S	E1.60S	E1.60S	E1.65S	E1.60S
19	E1.60S	E1.50S	E	E	E	E1.50S	E1.80S	E1.90S	E1.90S	E2.00S	E2.00S	E2.00S	E2.50S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E1.60S	E1.60S	E1.60S	E1.75S	E1.60S	E1.60S
20	E1.60S	E	E	E	E	E1.50S	E1.80S	E1.80S	E2.00S	C	E2.00S	E2.00S	E2.70S	E2.40S	E2.00S	E1.80S	E1.75S	C	C	C	C	C	E2.00S	E1.70S
21	E1.60S	E1.40S	E	E	E	1.40	E1.70S	E1.75S	E1.80S	E2.00S	C	C	C	C	C	C	C	C	C	C	E1.70S	E1.75S	E1.85S	E1.60S
22	E1.65S	E1.50S	E	E	E	E1.50S	E1.80S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.10S	E2.00S	E2.00S	E2.00S	E1.80S	E1.60S	E1.60S	E1.70S	E1.80S	E2.00S	E2.00S
23	E1.60S	E1.25S	E	E	E	E1.40S	E1.80S	E2.00S	E2.00S	E2.10S	E2.00S	E2.05S	E2.40S	E2.00S	E2.40S	E2.00S	C	C	C	E1.60S	E1.70S	E1.85S	E1.70S	E1.70S
24	E1.75S	E1.30S	E	E	E	1.50	E1.65S	E2.00S	E2.00S	E2.10S	E2.50S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E1.60S	E1.60S	E1.70S	E2.00S	E1.75S	E2.00S
25	E1.80S	E1.40S	E	E	E	E1.55S	E1.80S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E2.00S	E1.90S	E2.00S	E1.75S	E1.80S	E2.00S	E1.80S	E1.70S
26	E1.60S	E1.20S	E	E	E	E1.40S	E1.75S	E2.00S	E2.05S	E2.00S	E2.40S	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	E5.50C	E2.45S	E2.90S	E2.10S	E2.00S	E2.00S	E2.00S	E1.75S	E1.80S	E1.60S	E1.75S	E1.70S	E1.75S	E1.60S
28	C	E1.20S	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E1.70S	E1.70S	E1.70S	E1.75S	E1.65S	E1.70S	E1.65S
29	E1.70S	E1.50S	E	E	E	E1.50S	E2.00S	E2.00S	E2.00S	E2.00S	E2.40S	E2.40S	E2.00S	E2.50S	E2.10S	E2.40S	E2.00S	E2.00S	E1.60S	E1.60S	E1.75S	E1.60S	E1.80S	E1.60S
30	E1.60S	E1.30S	E	E	E	E1.50S	E1.90S	E2.00S	E2.00S	E2.00S	E2.40S	E2.00S	E2.00S	E2.00S	E2.10S	E2.00S	E2.00S	E1.75S	E1.75S	E1.80S	E2.00S	E1.70S	E1.90S	E2.00S
31																								
No.	26	27	24	22	23	23	23	23	23	25	27	26	26	26	26	26	26	25	26	27	27	27	28	28
Median	E1.70	E1.25	E	E	E	E1.50	E1.80	E2.00	E2.00	E2.00	E2.40	E2.40	E2.40	E2.40	E2.10	E2.00	E2.00	E1.90	E1.75	E1.70	E1.70	E1.75	E1.80	E1.70

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

Sep. 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	C	C	C	C	C	C	C	C	C	260H	260	265	255	255	J260R	265	270	275	270	270	I260S	265	U255S	I255S
2	U250S	235	235	C	C	C	C	C	C	C	255	J260RH	J255R	250	250	265	270	275	275	265	250	U265S	U260S	255
3	245	245	240	235	240	250	275	260	275	280	260	245	250	250	250	250	265	270	270	265	250	I250S	U245S	I255S
4	225	220	235	225	230	240	245	245H	245	230	235	225	235	220	245	230	255	260	255	250	235	230	230	I235A
5	235	210	210	230F	235F	225F	W	W	W	W	W	W	W	225	220	230	240	I255C	255	I240A	I235AS	240	235	235
6	235	240	U240S	I245C	235F	C	C	C	C	290	305	275H	275	270	265	L270R	270	280	270	U260S	U255S	250	245	250
7	U260S	255	265	265	260	265	U290S	270	285	275	265	260	255	260	U255R	U255R	265	275	275	280	I245S	I250S	I260S	U260S
8	250	240	225	230	235	270Z	I285S	285H	265H	J265R	J265R	255	255	J255R	255	J255R	270H	270	275	270	I255S	U260S	I260S	255
9	245	240	240	250	255	265	290	I290R	I285R	265H	260	270	255	260	260	260	260H	260	J260S	275	265	U260S	255	245
10	235	225	230	235	250	255	290	285	285	270	I280R	270	260H	260H	265H	260	265H	265	265	275	265	I260S	I245S	240
11	235	240	250	235	240	255	290	290H	290H	280	270H	260	265	255	250	265	265	265	265	265	U265S	I255S	I250S	I250S
12	I255S	255	250	250	245	265	285	270H	275	260	U260R	U255R	260	260	260	260	U260SH	270	270	265	265	255	255	255
13	245	245	250	255	245	250	285	285	285	280	270	260	260	255	250	255	250	270	270	265	U270S	U255S	U255S	265
14	260	255	250	250	250	265	J295S	295	C	C	C	C	C	C	C	C	U255R	260	U265S	270	270	U255S	250	250
15	250	255	250	245	C	C	C	C	295	280	265	255	260	250	245	I260R	J255R	260	265	260	260	255	I260S	U250S
16	250	255	250	250	255	255	285	300	295	275	270	I260R	250	250	250	250	250	260	265	265	C	C	C	C
17	C	C	C	C	C	C	C	C	C	280	250	260	255	255	255	265H	260	260	270	265	U265S	260	U255S	255
18	245	245	245	245	245	255	275	280	285	290	275	U270R	U270R	265	265	I265A	270	270	275	275	I275S	265	I265S	I260S
19	U260S	250	255	250	240	265	285	U305R	300	285	270H	275	265	255	260	265	275	275	270	285	265	280	I270SA	I260S
20	265	I260S	I260C	255	255	255	295'	305	300	I295C	275	270	270	265	265	270	C	C	C	C	C	C	U265S	U265S
21	260	270	260	255	255	270	305	300	295	295	C	C	C	C	C	C	C	C	C	C	275	260	270	U270S
22	255	260	260	260	265	270	295	U310R	I300C	295	290	280	285	270	275	270	275	285	285	280	290	270	265	265
23	255	260	265	265	275	280	305	310	J310R	R	R	R	I275R	275	270	275	C	C	C	U275S	275	U265S	U260S	U275S
24	265	265	260	255	255	265	315	310	U300R	I290R	I290R	U290R	270	270	270	270	275	290	290	280	275	U270S	270	250
25	245	245	245	255	250	260	290	U305R	U305R	295	280	275	260	255	270	250	260	275	270	265	265	235	U240S	U245S
26	225	235	255	220	U260S	U240S	260	250	235	J250R	245	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	260	260	I270C	J265R	275	280H	280	290	290	275	280	255	250	250
28	I245C	240	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	270	280	275	260	255	255	250
29	250	250	255	255	260	270	290	305	305	295	275	280	265	270	260	265	265	270	280	U280S	I280S	270	I255MS	I255A
30	245	250	255	260	265	265	290	300	300	295	U295R	U275R	265	260	265	265	275	275	280	275	280	U260S	I240S	235
31																								
No.	27	27	26	25	24	23	23	23	23	25	26	25	26	26	26	26	25	26	26	27	27	27	28	28
Median	250	245	250	250	250	265	290	290	290	280	270	260	260	260	260	265	265	270	270	270	265	260	U255	255

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

The Radio Research Laboratories, Japan.

W 7

IONOSPHERIC DATA

Sep. 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							C	C	C		L	L	L	LH	L	L								
2							C	C	C	C	L		L	A	L	L								
3									L	L		L	L	L	L	L	L							
4							L		LH	345	LH	L	L	L	LH	L	L							
5							305	310	320	335	345	235H	325	315	330	L								
6							C	C	C	A	A	.	A	A	L	L	L							
7											L	L	L	L	L	L	L							
8										L	L	L	L	L	L	L								
9											L	L	L	LH	L	L								
10										L														
11													L	L	L	L								
12									L	L	L	L	L	L		L								
13										L	L	L	L	L	L	L								
14									C	C	C	C	C	C	C	C								
15							C	C			L	L	L	L	L	L								
16											L	LH	L	LH	L	L	L							
17							C	C	C	L	L	L	L	L	L									
18									L			L	L	L	L	A								
19												L	L	L	L	L								
20											L	L	LH	L	L	L								
21											C	C	C	C	C	C	C							
22													L	LH	L									
23												LH	L	L	L	L	C							
24										L	L	LH	L		L									
25										L	L	LH	L	L	L	L								
26									L	L	L	C	C	C	C	C	C							
27							C	C	C	C	L	LH	L	L	L									
28							C	C	C	C	C	C	C	C	C	C	C							
29											L	LH	L	L	L	L								
30											L	L	L	L	L	L								
31																								
No.							1	1	1	2	1	1	1	1	1									
Median							305	310	320	340	345	235	325	315	330									

(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

Sep. 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							C	C	C		—	—	—	—	—	—								
2							C	C	C	C	—		390	A	—	—								
3									—	—		—	—	—	—	—	—							
4							—		—	610	570	590	560	670	500	510	—							
5							W	W	W	W	W	W	W	430	660	590								
6							C	C	C	A	A		—	A	—	—	—							
7											—	—	—	—	—	—	—							
8										—	—	—	—	—	—	—								
9											—	—	—	—	—	—								
10										—														
11													—	—	—	—								
12									—	—	—	—	—	—		—								
13										—	—	—	—	—	—	—								
14									C	C	C	C	C	C	C	C								
15							C	C			—	—	—	—	—	—								
16											—	—	—	—	—	—	—							
17							C	C	C	—	—	—	—	—	—									
18									—			—	—	—	—	A								
19												—	—	—	—	—								
20											—	—	—	—	—	—	C							
21											C	C	C	C	C	C	C							
22													—	—	—									
23												—	—	—	—	—	C							
24										—	—	—	—		—									
25										—	—	—	—	—	—									
26									—	400	445	C	C	C	C	C	C							
27							C	C	C	C	—	—	—	—	—									
28							C	C	C	C	C	C	C	C	C	C	C							
29											—	—	—	—	—	—								
30											—	—	—	—	—	—								
31																								
No.							1	1	1	3	3	2	3	2	2	2								
Median										610	570		560	650	580	550								

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

Sep. 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	C	C	C	C	C	C	C	C	C	240H	240	225	230	230H	245	250	260	260	I265A	I275A	I285A	285	270	I300A
2	305	300	320	C	C	C	C	C	C	C	250	215H	I270A	I260A	260	245	255	260	270	I280A	280	270	290	300
3	305	290	305	310	340	295	255	240	240	230	235	220	220	220	240	250	250	265	270	295	300	290	295	275
4	360	370	360A	385A	370	345	300	260H	245H	230	220H	250	260	260	240H	I260A	280	310A	290A	300	310	A	A	A
5	360	440	440	500	480	380H	300	285	265	240	240	260H	280	265	255	I270A	295	C	A	A	A	360A	360A	390A
6	360	365	340A	I315C	395	C	C	C	C	A	I240A	225H	I215A	A	250	255	260	255	275	285	I315A	I315A	310	325
7	310	290	280	285	295	280	235	240	240	240	230	230	230	245	240	240	250	275A	275A	270	260	300	305	305
8	295	310	360	350	320	260	245	240H	240H	235	215	230	225	215	240	255	250H	260	270	260	290	290	270	300
9	310	320	320	300	270	260	245	235	245	225H	230	215	225	220H	230	245	250H	265	270	250	275	280	260	320
10	350	380	320	280	275	310	255	250	240	225	230	230	230H	240H	240H	250	240H	255	260	255	270	260	270	310
11	345	345	300	310	320	295	255	240H	240H	245	230H	225	240	230	245	240	250	260	270	255	250	275	310	300
12	300	290	280	270	270	290	270	255H	240	230	235	240	240	230	255	250	250H	260	260	260	270	270	290	295
13	305	310	290	275	280	310	260	250	240	235	230	225	240	250	240	245	250	260	270	275	I275A	290	270	280
14	290	295	275	300	300	295	245	240	C	C	C	C	C	C	C	C	250	265	275	260	260	270	280	310
15	320	305	295	295	C	C	C	C	230	230	220	225	235	235	245	250	255	265	260	260	260	270	275	290
16	305	290	285	275	310	310	245	240	235	240	225	210H	230	230H	245	255	255	265	260	255	C	C	C	C
17	C	C	C	C	C	C	C	C	C	240	220	240	260	240	250	255H	250	250	270A	295	290	260	290	305
18	310	300	270	295	305	300	245	235	240	235	240	235	245	225	250A	I255A	I260C	260	255	265	260	275	265	275
19	270	295	300	300	310	295	245	245	235	230	230H	225	250A	240	245	245	245	250	250	250	260	A	A	A
20	A	300A	I315A	320A	310	295	250	240	240	I230C	230	230	210H	240	240	240	245	C	C	C	C	C	260	265
21	270	275	275	270	275	290	240	235	225	235	C	C	C	C	C	C	C	C	C	C	260	260	265	265
22	280	280	290	285	270	280	245	240	225	225	230	220	220	230H	240	245	245	255	255A	250	245	235	275	275
23	290	300	275	265	260	270	240	230	230	235	230	210H	220	240	240	245	C	C	C	245	280	260	290	270
24	290	295	275	280	280	285	230	240	235	225	230	215H	245	250	245	245	250	255	245	245	240	I260A	275	280
25	290	320	310	300	285	290	240	240	235	225	225	210H	225	240	240	250	255	265	260	255	250	255	310	320
26	320	380A	A	A	A	A	290A	280A	280	240	225	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	E260C	230H	250	240	245	250H	I250A	I250A	250	250	245	280	295	355A
28	I370C	350	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	255	245	260	260	270	310A	310
29	305	300	290	300	285	290	235	240	235	235	230	220H	245	235	240	245	245	250	260	260	250	260	I290A	I320A
30	355	330	325	290	270	300	250	245	240	230	230	210	230	230	240	245	250	255	240	I270A	I265A	260	320	355
31																								
No.	26	27	25	24	23	22	23	23	23	25	26	26	26	25	26	26	26	25	25	26	26	25	26	26
Median	305	300	300	300	295	295	245	240	240	235	230	225	230	240	240	250	250	260	260	260	260	270	290	300

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

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

h'Es

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

The Radio Research Laboratories, Japan.

W 11

IONOSPHERIC DATA

Sep. 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										C	l	l	l		l	h	h	C	f4	f2	f6			f4
2											C	l2	l	l2	C	l	l2	l3	f2	f2		f	f	f
3			f	f	f2													h	C					f
4			f2	f5		l h	h			l					h	h	h	C2	l3	f	f	f3	f2	f6
5		f	f2			h	l	C	C		l	l				l	l3		l3 l2	f5	f3	f3	f2 f2	f f3
6	f f2	f4	f2 f2		f2 f					C	C	h	l3	l2	l2	l2	l	l	l	f	f3	f2	f2	f2
7	f2	f	f2	f2	f2	l		h		h	h	h			l	l2	l2	l3	l3	f4	f			
8			f				l			h	h	l	l	l2			l	l			f			
9							l	l					l			l	h l	h	f2	f		f		
10		f	f	f	f		C	C	l	l	l					l	h							
11	f	f						h	l			l					h	C	f				f3	f2
12		f				l	l	l2	l2	l						h					f2			
13								h		C							h	C	f2	f2	f3	f2	f	
14	f	f				l		C																
15		f	f	f														h	f					f
16			f	f	f			C	C					l				l	f	f				
17										h		h	h			h	h	C	f3	f4	f2	f2	f	
18			f	f2	f	f	l	r			h	h	C		C	l2	l2	l4	f2	f3	f2	f2	f2	f
19	f2	f2	f4	f2	f2		C	h	h	h	h		l	C	h				f			f4	f+	f+
20	f6	f6	f6	f5	f4	f	h	h						l	l	l	l							
21				f	f3	f2	l	l													f	f		f
22			f				h					l	C	l	l	l		C	f2	f2			f	
23													l	l	l	C							f2	
24	f	f	f	f	f		l2	l					h	C	C	-l2	l2	C		f2		f2	f	f
25	f	f		f				C	C									C			f			
26		f3	f5	f6	f4	f5	l4	C4	C	C	C													
27													l			h	C4	C4	f2	f3	f	f2		f4
28		f2																l2	f2	f4	f	f2	f3	
29		f		f	f2	f	C	h	l	C	C	l	l	l	l	l		C2	f2	f2	f3	f3	f2	f3
30	f2	f2	f2	f	f	f4	l3	l2	C l	l										f2	f2	f2		
31																								
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

Sep. 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	7.7	7.7	7.6	7.1	7.1	7.9	10.1	11.1	11.9	12.2	12.6	12.8	12.3	11.9	11.3	10.9	10.5	10.1	9.6	9.5^{S}	9.5^{S}	U 9.7^{S}	9.0	8.5
2	8.3	8.0	7.6	7.8	7.6	7.9	10.4	12.1	12.5	12.4	12.0	11.5	11.8	11.8	11.3	10.6	10.3	9.8^{S}	10.2^{S}	9.5^{S}	9.1^{S}	8.7^{S}	8.7^{S}	8.4^{S}
3	8.2^{S}	7.9	7.1	6.9	7.0	7.7	10.7^{S}	12.3	12.5	12.4	12.3	12.3	12.3	12.2	12.2	C	C	C	C	9.8^{S}	C	C	S	S
4	C	8.2^{S}	I 8.4^{F}	8.0	7.5^{F}	8.3^{F}	9.0	8.2	8.6	8.1	7.8	7.7	7.9	I 7.5^{C}	7.8	8.1	8.4	8.3	7.9	7.0	6.7	6.8	6.9	6.7
5	6.6	5.6	5.2	4.7	4.2	4.6	5.1	5.8	6.0	G	G	6.3	G	6.6	I 6.6^{A}	6.7	7.1	6.2	6.6	5.8	6.2	6.7	6.5	6.4
6	6.3	6.2	6.1	I 6.0^{F}	5.4^{F}	5.6	7.5	9.3	J 11.5^{R}	U 10.2^{R}	10.4	9.9	8.8	9.2	8.7	9.0	8.7	8.9	8.6	8.0^{S}	7.6	7.6	7.9	8.0^{S}
7	8.0	8.0	7.6	6.6	6.1	6.2	8.5	11.1	12.5	11.8	11.3	11.7	11.7	12.0	11.5	11.2	11.0	10.3^{S}	10.3^{S}	9.3^{S}	8.5^{S}	8.5^{S}	9.1^{S}	8.8^{S}
8	8.5	7.4^{S}	7.1	7.0	7.1	7.9	9.4	11.2	11.9	12.0	12.1	12.1	12.1	12.4	12.2	11.9	11.2	11.0	10.4^{S}	I 9.7^{S}	8.7^{S}	9.0^{S}	9.0^{S}	8.5
9	8.2	7.9	7.8	7.6	7.2	7.6	J 10.0^{S}	11.6	12.2	11.4^{H}	11.9	12.7	12.1	12.3	12.2	12.3	11.8	11.3	11.1	U 10.0^{S}	8.8	8.6	8.5	7.9
10	7.8	7.1	7.4	7.7	6.9	6.8	9.7	11.3	12.6	13.0	13.7	13.2	13.0	12.6	12.5	12.2	11.5	11.5	10.9	J 9.6^{S}	8.7^{S}	8.5^{S}	8.1	8.1^{S}
11	7.7^{S}	7.6	7.9	7.1	7.1	7.6	10.4	11.7	12.6	12.9	13.1	12.8	12.5	12.3	11.8	11.5	11.2	11.2	10.8	I 10.0^{S}	8.9^{S}	8.8^{S}	U 8.9^{S}	8.9^{S}
12	8.7	8.5	7.8	7.4	7.1	7.8	J 10.4^{R}	11.5	12.0	12.4	13.2	13.2	12.8	12.9	12.4	11.8	11.4	10.7	10.4^{S}	9.2^{S}	9.1^{S}	8.9^{S}	8.9^{S}	8.5
13	8.1	7.8	7.6	7.2	6.8	7.4	10.6	12.7	13.1	12.0	12.5	12.8	12.6	12.4	12.1	11.6	11.1	11.0	10.9^{S}	I 9.9^{S}	9.4^{S}	9.0^{S}	9.0^{S}	8.6^{S}
14	8.4	7.8	7.6	7.4	7.3	8.0	11.3	12.1	12.2	12.4	12.3	12.7	12.7	12.4	12.1	11.7	11.6	11.4	11.4	9.4^{S}	9.0^{S}	9.0^{S}	U 9.2^{S}	9.2^{S}
15	9.0	9.0	8.4	7.9	7.5	8.2	11.6	12.8	12.2	12.2	12.5	12.8	12.9	12.9^{V}	12.9	12.5	12.0	11.5	10.9	I 10.1^{S}	I 9.3^{S}	U 9.0^{S}	U 8.9^{S}	8.4^{S}
16	8.1	8.2	7.8	7.4	7.2	7.5	11.0	12.9	12.9	12.8	12.6	12.3	12.6	12.7	12.8	11.8	11.8	12.3	12.0	10.0^{S}	9.0	8.3	8.5	8.3
17	8.0	7.1	7.9	6.9	6.9	7.5	9.6	11.6	11.0	12.1	12.7	13.3	13.1	12.9	12.3^{H}	12.2	11.5^{H}	11.1	10.5^{S}	9.1^{S}	I 9.1^{S}	9.6^{S}	I 8.8^{S}	8.5
18	7.9	7.8	7.7^{F}	7.3^{F}	7.4	8.0	11.1^{S}	13.2	14.0	13.8^{H}	14.0^{H}	14.1^{H}	13.9	13.3	13.3	13.0	12.8	12.3	11.6	10.2^{S}	9.0^{S}	9.1	U 9.5^{S}	8.4
19	8.1	7.8	7.6	7.3	7.2	7.9	10.9	13.8	14.0	12.8	12.5	12.8	13.1	12.9	12.7	12.8	12.7	12.5	11.5	U 10.0^{S}	U 9.3^{S}	9.4^{S}	8.5	8.2
20	8.1	8.0	7.7	7.2	7.0	7.5	11.1	13.1	13.8	13.4	13.2	12.7	12.7	13.1	13.1	13.1	13.1	12.8	11.7	10.5	10.7	I 10.2^{S}	9.4^{S}	8.7^{S}
21	8.4	7.7	7.5	7.3	7.0	7.6	10.8	11.9	12.8	13.4	13.7	13.3	13.1	13.0	13.4	13.2	12.9	12.4	11.5	I 10.6^{S}	I 10.4^{C}	9.6^{S}	I 9.4^{S}	8.9
22	8.1	8.2	8.2	7.8	7.5	7.9	11.2	13.3	13.2	12.8	12.9	13.0	13.0	12.9	12.8	12.6	12.7	12.8	12.6	U 10.7^{S}	I 10.2^{S}	U 9.7^{S}	9.1^{S}	8.5
23	8.0	8.1	8.0	7.7	7.1	7.5	11.0	12.5	12.5	12.7	12.4	12.3	12.8	12.8	12.8	13.0	12.9	12.6	12.3	9.8^{S}	9.0^{S}	8.9^{S}	8.7^{S}	8.6
24	8.1	8.0	7.4	7.2	7.1	7.5	10.6	12.9	12.7	12.5	12.8	13.4	13.5	13.7	13.4	13.4	13.1	13.0	12.6	I 10.6^{S}	I 9.5^{S}	8.7^{S}	7.7^{S}	7.3^{S}
25	7.1	7.0	7.0	6.9	6.7	7.2	10.8	13.1	13.2	12.4	12.9	13.2	13.5	13.7	13.9	13.1	13.4	13.3	13.1	I 11.5^{S}	U 9.5^{S}	8.7^{S}	8.4	8.3^{S}
26	7.4^{S}	7.6	7.8	7.1	8.9	8.9	12.5	U 14.1^{R}	11.9	10.1	8.1	8.3	7.7	7.3	7.3	7.6	7.8	7.8	8.3	8.6	7.5	7.3	6.7	6.6
27	6.3	6.3	6.1	5.8	5.8	5.7^{S}	7.6	10.3	11.7^{F}	12.8	12.3	13.2	13.5	12.8	12.2	11.8	11.3	11.8	10.6^{S}	8.3^{S}	7.5^{S}	6.7	6.6^{S}	6.3^{S}
28	6.4	6.1	6.3	5.6	5.6	5.4^{S}	8.5	J 10.1^{R}	11.9	12.5	12.6	13.2	13.0	12.7	12.5	12.2	11.9	11.5	10.8^{S}	8.4	8.0^{S}	7.8^{S}	7.2	7.1^{S}
29	6.8	6.7	6.6	6.1	6.0	6.4	9.2^{S}	11.4	13.0	12.9	13.0	13.5	13.6	13.1	12.7	12.4	12.1	11.8^{S}	11.2^{S}	10.4^{S}	8.9^{S}	7.2^{S}	6.9	6.8
30	6.7	6.8	6.8	6.8	6.4	6.5^{S}	9.1	12.7	13.4	13.1	13.5	13.0	13.0	13.1	12.9	12.7	12.6	12.4	11.7	9.6^{S}	U 9.3^{S}	8.2^{S}	7.3^{S}	7.2^{S}
31																								
No.	29	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	29	29	29	30	29	29	29	29
Median	8.0	7.8	7.6	7.2	7.1	7.6	10.4	12.0	12.5	12.4	12.6	12.8	12.8	12.7	12.4	12.2	11.6	11.5	10.9	9.8	9.0	8.7	8.7	8.4
U.Q	8.2	8.0	7.8	7.4	7.2	7.9	11.0	12.9	13.0	12.8	13.0	13.2	13.1	12.9	12.8	12.8	12.7	12.4	11.6	10.1	9.4	9.0	9.0	8.6
L.Q	7.2	7.1	7.1	6.9	6.7	6.8	9.2	11.2	11.9	12.0	12.1	12.3	12.1	12.2	11.8	11.4	11.0	10.5	10.4	9.2	8.6	8.0	7.5	7.2
Q.R	1.0	0.9	0.7	0.5	0.5	1.1	1.8	1.7	1.1	0.8	0.9	0.9	1.0	0.7	1.0	1.4	1.7	1.9	1.2	0.9	0.8	1.0	1.5	1.4

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

Sep. 1958 | foF1 | 135° E Mean Time (G.M.T.+ 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							L	L	L	L	L	L	L	6.6	L	L	L							
2									A	L	L	I 7.5 L	6.6	I 6.9 L	6.7 L	6.5 L	L	L						
3								L	L	L	L	L	6.9	7.0 L	L	C	C	C						
4							L	I 4.9 L	I 6.2 L	I 6.5 L	6.0	I 5.8 A	6.0 L	I 6.0 C	I 6.0 L	I 5.8 LH	L	L						
5							L	4.6 L	5.0	5.2	5.2	5.6	5.6	5.3 H	I 5.4 A	I 5.4 A	L	L						
6								A	A	L	A	L H	L	6.2 L	I 6.0 LH	L	L							
7								L	L	L	L H	L H	6.8 L	I 6.7 LH	I 6.6 LH	L	L							
8								L	L	L	L	L	I 7.0 L	I 6.1 LH	6.7 L	L	L							
9								L	L	L	L	L H	L	L H	7.0	L	L							
10									L	L	L	L	L	L	L	L	L	L						
11									L	L	L	L H	I 7.8 L	I 7.0 L	7.2 L	L H	L	L						
12							L	L	L	L	L	L	L	L	L	L	L	L						
13							L	L	L	L	L	L H	L	I 7.2 L	7.0 L	6.5 L	L	L						
14								L	L	L	L	L	L	L	L	L	L							
15										L	L	L	7.0 L	7.0 L	I 7.0 L	L	L	L						
16								L	L	L	L	L	L	L	L	L	L	L						
17										6.5 L	I 6.8 L	7.2 L	I 6.9 L	I 6.8 LH	I 6.8 L	L	L	L						
18							L	L	L				L	L	L	L								
19											L	L	L	L	L	L								
20										L	L	L	L	L	L	L	L							
21									L	L	L	L	L	L H	L	L	L	A						
22							L	L	L	L	L	L H	L	L	L	L	L	L						
23							L		L	L H	L H	L H	L H	L	L	L H	L	L						
24							L		L	L	6.9 LH	L	L	L	L	L	L	L						
25							L		L	L	L H	L	L H	L H	L	L	L	A						
26							A	L	L	5.4	5.6	5.9	6.0 H	5.7	5.7	I 5.6 L	L	L						
27							L	L	L	L	L	L H	L	L	L	L	A	L						
28							L	L	L	L	L	A	L	A	A	L	L	L						
29							L	L	L	L	L	L	L	L	L	L	L	L						
30							L	L	L	L H	L	L H	L	L	L	L	L	L						
31																								
No.								2	2	4	5	5	10	13	12	5								
Median								4.8	5.6	6.0	6.0	5.9	6.8	U 6.7	U 6.7	U 5.8								

foF1

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

IONOSPHERIC DATA

Sep. 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							235	305	345	360	I380B	A	A	I400B	400	355	345	270						
2							245	315	345	380	A	A	A	A	R	A	R	280	B					
3							250	330	365	B	C	C	C	C	C	C	C	C						
4							A	I300R	R	A	A	B	B	C	395	370	310	240						
5							210	295	330	350	A	A	R	R	A	A	300	220						
6							230	320	355	375	I390R	B	A	A	A	350	R	B						
7							250	305	350	390	400	R	A	R	R	A	A	A						
8							245	310	345	385	A	B	I395B	I380B	370	R	A	A						
9							240	305	350	I380R	I400B	I400B	405	I405R	390	350	300	250						
10							250	305	I310A	A	A	R	R	R	A	350	320	250						
11							240N	305H	355	380	I390R	400	B	B	R	370	325	245						
12							A	305	355	380	I400R	I410B	420	I415B	I400R	355	320	235H						
13							210	310	340	B	R	R	I420R	I415R	395	375	330	245						
14							220	305	355	I375A	400	405	I405R	405	390	355	315	250						
15							245	305	355	390	I400R	R	B	R	R	380	330	245						
16							R	300	340	395	395	I395A	400	I395R	375	345	305	225						
17							230	300	345	375	R	R	405	R	R	350	305H	240						
18							210	295	330	I365R	390	I395R	I390R	A	A	A	295	230						
19							200	290	340	365	375	375	I390R	I380R	I360R	I350R	300	B						
20							225	300	335	I350R	365	I380R	I400R	R	A	350	300	A						
21							235	295	345	370	380	375	R	B	A	370	A	A						
22							A	290	340	355	355	I370R	395	I385R	390	350	300	B						
23							B	280H	320	350	390	I390R	395	R	R	A	I300A	200						
24							230	I285A	350	I360A	I380R	I390R	R	R	365	340	315	210						
25							I215R	I280R	320	365	390	I400R	I400R	390	355	335	295	B						
26							B	I265R	I310R	I360R	R	R	R	R	I360R	330	280	R						
27							R	280	340	A	R	R	R	R	375	340	280	B						
28							B	I260R	305	I340R	R	A	A	A	A	340	290	B						
29							'A	A	A	355	360	R	R	R	340	I325R	295	B						
30							B	265	305	370	I380R	R	R	R	360	330	280	B						
31																								
No.							20	29	28	25	19	13	13	10	16	23	24	16						
Median							230	300	340	370	390	U395	U400	U400	375	350	300	240						

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

Sep. 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	4.0M	2.4M	3.1M	3.0M	4.3M	E	G	3.2	4.1	4.3	4.7	5.5M	5.5M	4.7	4.6	G	3.6	3.0	4.3M	7.0M	E	E	2.6M	E
2	E	E	E	E	E	E	2.9	4.0	7.4M	6.4M	4.7M	5.1M	5.0M	5.5M	G	4.6M	G	G	2.6	4.8M	6.6M	E	E	E
3	E	3.5M	2.7M	2.2M	2.2M	2.2M	3.0	3.7	4.0	4.2	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	3.2M	C	C	3.6M	3.7	4.4M	5.2M	4.4	11.2M	4.6	C	7.0M	5.0	4.3	4.5M	5.2M	2.5M	2.2M	4.1M	2.5M	E
5	2.5M	2.5M	E	E	E	E	2.5	3.5	6.0M	5.0M	5.2M	4.5M	G	G	8.1M	6.3M	4.6M	4.3M	E	3.1M	5.5M	2.5M	2.6M	3.6M
6	4.5M	5.9M	3.1M	2.5M	E	E	5.3M	7.4M	6.3M	5.1	7.2M	4.4	5.7M	4.7M	4.0M	G	G	3.6M	4.0M	5.0M	4.0M	4.4M	6.6M	2.9M
7	E	4.0M	3.6M	4.4M	3.6M	2.8M	G	G	4.0	4.5M	4.4	4.3M	5.1M	G	G	4.3M	4.2M	4.6M	4.2M	3.1M	2.8M	2.6M	2.7M	E
8	E	2.2M	E	E	E	E	G	G	3.7	4.5	4.9M	4.4	4.5	B	G	G	3.8M	4.5M	3.4M	2.4M	E	E	E	E
9	E	E	E	E	E	E	G	G	3.7	3.9	B	B	G	4.2	4.0	3.7	G	2.9	2.7M	E	E	4.6M	E	E
10	E	E	E	E	E	E	G	3.5	3.7	5.7M	4.5M	G	4.6	4.6	4.2	4.1	3.4	G	2.5M	2.9M	E	E	2.4M	E
11	E	E	E	2.0	E	E	G	G	G	4.3	G	4.2	B	B	G	3.8	4.2	4.5M	4.3M	3.2M	2.5M	2.9M	E	2.5M
12	2.3M	E	E	E	E	E	3.1M	G	4.1	G	G	B	G	B	G	G	3.6	2.7	3.0M	E	E	E	E	E
13	E	E	E	E	E	E	2.5	3.4	3.6	4.0M	G	G	G	G	G	4.0	3.9	4.4M	E	E	5.9M	E	2.5M	E
14	2.3M	E	E	E	E	E	2.7	3.5	4.4M	4.4	G	G	G	G	G	G	3.8	G	1.9M	E	E	E	2.4M	E
15	E	E	E	E	E	E	G	G	4.2M	4.7	G	G	B	G	4.4	4.1	3.7	3.2	E	E	3.6M	E	E	E
16	E	E	E	E	E	E	G	3.2	3.6	G	G	4.7M	G	G	G	G	3.6	G	E	E	E	E	E	E
17	E	E	E	E	E	E	G	G	5.5M	4.1	G	G	G	G	G	G	3.5	3.0	4.9M	3.6M	2.6M	3.0M	2.4M	3.8M
18	2.3M	2.4M	E	E	E	E	2.6	3.2	4.3M	4.4	4.1	G	G	4.0M	4.4M	6.1M	G	G	E	E	2.9M	2.7M	2.1M	3.0M
19	2.4M	E	E	3.0M	E	E	2.8	3.6	3.7	4.7	4.2	4.1	4.5	5.4M	4.2	G	4.1	8.2M	3.0M	3.0M	3.5M	E	E	E
20	E	E	E	E	E	E	G	3.8	6.6M	6.8M	4.9	4.5	G	G	4.6M	3.7M	3.4M	5.9M	3.1M	3.1M	E	5.6M	5.6M	3.0M
21	4.4M	2.4M	E	E	E	E	G	3.1	6.0M	4.5	4.6	4.5	4.3	4.5	4.5M	4.1	7.1M	7.1M	5.7M	4.2M	C	7.0M	4.5M	6.0M
22	2.2M	E	E	4.3M	4.3M	4.2M	3.1M	3.1	4.0	4.2	4.0	G	G	G	4.1	G	5.3M	4.5M	3.9M	3.1M	5.9M	E	E	E
23	E	E	E	E	E	E	2.4	3.1	3.5	3.8	G	G	G	G	G	4.2M	3.7M	2.3	E	5.0M	2.4M	3.0M	2.4M	E
24	E	E	E	E	E	E	G	3.6M	G	4.5M	G	G	G	G	G	G	3.5	4.8M	5.8M	E	E	2.5M	E	E
25	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	3.6	G	7.2M	8.0M	5.3M	2.5M	E	E	E
26	E	E	4.2M	4.9M	2.6M	4.7M	6.4M	5.8M	4.3	G	G	G	G	G	G	G	G	G	2.6M	E	E	E	E	E
27	E	E	E	3.5M	E	E	G	4.4M	4.5M	4.2M	G	G	G	6.0M	5.9M	7.2M	5.9M	3.7M	E	3.1M	3.2M	4.3M	4.2M	4.5M
28	2.5M	E	E	E	2.5M	2.4M	B	3.2	3.8	4.1M	4.3M	7.9M	6.3M	12.7M	9.9M	4.3M	3.6	3.6M	4.5M	10.0M	6.0M	4.8M	2.6M	3.6M
29	3.0M	2.5M	2.5M	E	3.4M	3.6M	6.7M	4.1M	3.9M	4.0	6.1M	4.1	G	G	3.7	G	G	3.7M	E	E	3.1M	2.6M	4.0M	4.1M
30	2.6M	2.4M	2.4M	4.2M	3.0M	2.6M	B	3.0	3.6	4.0M	G	G	G	G	G	G	3.5	2.4	3.1M	E	4.0M	2.1M	2.0M	E
31																								
No.	29	29	29	30	29	29	28	30	30	30	28	27	27	25	29	29	29	29	29	29	28	29	29	29
Median	E	E	E	E	E	E	G	3.2	4.0	4.3	4.0	4.1	G	G	3.7	3.7	3.6	3.6M	3.0M	3.0M	2.6M	2.5M	2.4M	E
U.Q	2.4	2.4	2.4	3.0	2.4	E	3.0	3.7	4.4	4.7	4.6	4.5	4.6	4.6	4.4	4.2	4.2	4.5	4.3	3.9	3.8	3.6	2.6	3.0
L.Q	E	E	E	E	E	E	G	G	3.7	4.0	G	G	G	G	G	G	G	2.4	E	E	E	E	E	E
Q.R									0.7	0.7								2.1						

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

Sep. 1953 | foEs | 135° E Mean Time (G.M.T.+ 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.5	E	2.2	2.0	2.7			$^{U}3.2^{B}$	4.0	$^{U}4.3^{B}$	$^{U}4.7^{B}$	4.9	4.9	$^{U}4.7^{B}$	4.4		3.6	2.7	3.5	6.3			E	
2							2.7	G	5.7	5.6	4.7	4.7	4.7	5.3		4.0			2.5	3.0	4.5			
3		2.5	2.0	E	E	E	G	3.7	4.0	$^{U}4.2^{B}$	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	3.0	3.4	$^{U}4.4^{B}$	5.0	$^{D}4.4^{B}$	5.8	4.5	C	5.2	5.0	4.2	3.4	4.5	E	1.9	3.0	1.9	
5	$^{D}2.5^{S}$	E					2.5	3.2	4.5	4.5	4.5	$^{U}4.5^{B}$			A	5.3	4.0	2.9		2.0	3.5	2.4	2.5	3.2
6	3.8	3.9	2.9	E			4.3	6.1	5.5	5.1	6.4	4.4	5.1	4.4	4.0			2.7	3.5	5.0	3.3	4.2	4.0	2.0
7		2.8	2.5	3.5	2.5	2.0			G	4.4	4.4	$^{U}4.3^{B}$	4.5			3.7	3.5	3.0	2.9	2.0	2.5	2.4	2.0	
8		E							3.7	4.4	4.3	$^{D}4.4^{B}$	4.5	B			3.5	3.7	2.5	2.2				
9									3.7	3.9	B	B		4.2	4.0	3.7		2.0	2.0			$^{U}4.6^{S}$		
10								G	3.7	4.6	4.4		4.6	4.4	4.2	4.0	3.4		1.9	2.0			E	
11				E						4.2		$^{U}4.2^{B}$	B	B		3.8	3.9	3.7	2.9	2.9	$^{D}2.5^{S}$	2.5		$^{U}2.5^{B}$
12	E						2.5		3.3			B		B			3.6	2.7	2.1					
13							2.5	3.4	$^{U}3.6^{B}$	$^{U}4.0^{B}$						4.0	3.9	3.6			2.5		E	
14	1.9						2.6	3.3	4.0	4.2							G		1.9				E	
15									3.0	4.7			B		$^{U}4.4^{B}$	4.1	3.7	3.2			2.9			
16								$^{U}3.2^{B}$	3.6			4.6					G							
17									3.8	3.9							3.4	2.8	2.0	2.9	2.4	2.0	2.0	3.0
18	E	E					2.6	3.1	3.9	4.1	4.1			4.0	4.2	3.6					2.5	2.0	E	1.7
19	E			1.8			2.5	3.4	3.7	4.6	4.1	4.0	4.5	4.4	4.2		3.5	7.2	2.7	2.0	2.8			
20								3.5	5.5	4.0	4.4	4.5			4.0	3.1	2.6	4.9	2.4	2.5		4.9	4.6	2.0
21	2.5	E						3.1	3.1	4.5	4.6	4.5	$^{U}4.3^{B}$	4.4	4.0	3.3	5.9	6.4	2.9	3.5	C	2.4	2.5	1.9
22	$^{U}2.2^{B}$			3.0	2.5	2.9	2.5	3.1	3.9	4.0	4.0				4.0		4.0	3.8	2.9	2.3	3.0			
23							2.4	3.1	3.5	3.8						3.6	3.0	G		2.8	2.0	2.0	E	
24								3.1		4.2							3.2	4.0	4.1			1.9		
25																3.6		6.5	7.5	4.9	2.0			
26			3.0	3.0	2.1	3.8	5.9	5.2	4.3										E					
27				2.5				3.0	3.5	4.0				4.5	5.0	6.0	5.3	2.9		2.4	2.5	2.8	3.5	3.5
28	E				E	E	B	3.2	3.8	$^{U}4.1^{B}$	4.3	7.2	5.5	4.3	8.0	4.0	G	3.0	E	4.2	3.5	2.9	2.5	2.5
29	2.0	E	E		2.7	2.5	4.0	3.2	3.6	4.0	4.9	4.1			3.7			2.2			1.9	1.8	2.9	2.0
30	2.3	E	1.8	2.8	2.0	2.0	B	2.9	3.5	3.3							3.1	$^{U}2.4^{B}$	2.0		2.8	1.9	1.9	
31																								
No.	12	10	7	10	8	7	14	22	27	26	15	13	10	10	15	16	22	23	21	18	18	16	17	10
Median	2.1	E	2.2	2.2	2.3	2.0	2.6	3.2	3.7	4.2	4.4	4.5	4.6	4.4	4.2	3.9	3.5	3.0	2.5	2.6	2.5	2.4	2.0	2.2

foEs

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Sep. 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	1.70	1.90	E	1.90	1.70	1.90	1.95	2.00	2.05	2.40	4.00	3.00	2.40	4.20	3.05	2.05	2.50	2.00	1.75	1.85	2.00	1.95	2.00	2.00
2	1.90	E	1.80	1.80	2.00	1.95	2.00	2.00	2.40	3.00	3.30	3.45	4.00	3.50	3.10	2.50	2.10	1.95	1.90	E	E	1.95	1.90	1.90
3	1.95	1.90	1.95	1.80	1.80	1.70	1.90	2.00	2.05	3.95	E 5.30 C	E 5.00 C	E 4.90 C	E 5.00 C	E 4.90 C	C	C	C	C	E 3.50 C	C	C	E 3.50 C	E 5.50 C
4	C	E 3.00 C	E 2.40 C	E 2.30 C	E 2.50 C	E 3.80 C	E 2.50 C	E 2.90 C	E 3.10 C	E 3.50 C	E 3.60 C	E 3.65 C	4.00	I 3.35 C	2.80	2.00	1.80	1.80	E	E	E	E	1.70	E
5	E	E	E	E	E	1.75	1.90	1.90	1.95	3.05	3.20	3.40	3.20	3.00	2.40	2.05	1.95	1.80	1.85	1.70	E	1.75	2.00	E
6	1.90	1.80	1.70	1.90	E	1.80	1.95	1.75	2.10	2.50	2.80	3.95	2.05	2.90	2.10	2.00	2.00	2.00	E 2.50 S	E	E	E	E	E
7	E	E	E	E	1.70	E	1.95	2.00	1.90	3.40	2.95	3.50	3.00	3.30	2.95	2.00	1.90	1.90	1.70	1.70	1.95	1.70	1.90	1.90
8	1.90	1.70	1.70	1.70	1.90	1.90	2.00	2.05	2.00	2.80	2.95	4.30	3.90	4.70	2.95	3.40	1.95	1.90	1.90	1.80	1.80	1.80	E	E
9	1.80	1.80	1.70	1.70	1.80	1.80	1.95	1.90	2.20	2.00	4.80	4.50	3.60	2.05	2.05	1.75	E	E	E	2.00	1.75	E	1.70	E
10	1.80	E	E	E	1.80	E	1.70	1.80	2.05	3.00	2.95	3.00	3.10	2.95	2.85	2.05	2.90	1.80	1.70	1.70	1.80	1.70	1.70	2.00
11	1.70	1.75	1.70	E	E	1.75	1.90	1.75	2.00	2.05	2.95	2.95	5.00	4.35	3.00	2.30	1.95	1.80	E	2.00	1.75	E	1.95	1.90
12	1.95	1.70	1.95	1.75	1.70	1.65	1.90	1.80	2.30	2.75	2.85	4.80	4.00	5.00	3.10	2.20	1.90	1.90	1.75	1.80	1.80	1.70	1.70	1.90
13	E	2.00	1.95	2.00	1.70	1.70	1.90	1.95	2.05	3.50	3.70	3.05	4.00	3.30	2.90	2.30	2.75	1.90	2.00	1.90	E	E	1.90	1.80
14	1.70	E	1.90	1.90	1.80	1.70	1.95	2.00	2.90	2.70	2.60	2.60	3.50	3.50	2.80	2.50	2.95	1.75	E	1.80	E	E	E	E
15	E	E	E	E	E	E	1.80	1.90	2.05	2.95	3.80	2.90	4.80	3.70	3.00	2.70	1.95	1.85	1.80	1.95	E	1.95	E	1.90
16	1.95	1.90	1.70	1.90	1.90	1.80	1.90	1.90	1.95	2.55	2.70	3.00	2.90	2.70	2.50	2.45	1.85	1.75	1.75	E	E	E	E	E
17	E	E	1.70	E	E	E	1.70	1.70	2.20	2.80	3.40	2.90	3.50	2.80	2.50	1.95	1.95	1.90	1.75	E	1.70	1.70	1.90	1.90
18	1.80	E	1.75	E	1.70	1.95	1.80	1.80	1.75	2.00	2.40	3.05	2.70	2.85	3.00	2.00	1.95	1.80	E	1.70	E	E	E	E
19	E	E	E	E	E	E	1.90	1.70	2.00	2.90	2.70	2.90	2.75	2.55	2.00	2.70 S	2.00	1.90	E	E	E	E	1.80	E
20	1.70	E	E	E	E	E	E	1.80	2.00	2.00	2.95	2.90	3.70	3.00	3.00	2.00	1.90	1.80	E	2.25	2.00	E	1.80	1.90
21	1.90	1.80	1.85	E	1.70	1.90	1.90	1.95	1.80	1.90	2.05	3.30	2.90	3.50	2.75	1.90	2.00	1.85	1.90	1.80	I 1.95 C	E	2.00	1.70
22	1.70	1.80	1.95	1.90	E	1.75	1.70	1.80	2.00	2.40	2.70	2.60	2.95	2.90	2.90	1.95	2.20	1.90	E	1.90	E	2.00	1.90	1.90
23	1.80	1.90	E	1.80	1.70	1.80	2.00	1.90	1.90	2.10	2.80	2.45	2.90	2.80	2.20	2.00	2.00	1.80	1.75	E	1.70	1.90	E	1.75
24	1.85	1.85	E	E	1.70	1.70	1.80	1.90	1.95	2.55	2.95	2.45	2.50	2.60	2.00	2.10	1.90	1.90	1.70	1.90	1.80	E	1.70	1.75
25	1.80	1.80	1.90	1.80	1.90	2.00	1.70	1.80	2.00	2.45	2.80	3.15	2.00	2.50	2.00	1.80	1.70	2.00	2.00	1.80	1.70	1.75	1.70	E
26	1.80	E	1.80	1.80	1.75	1.70	1.75	1.80	2.30	2.10	3.30	2.10	2.45	2.95	2.20	2.00	2.00	1.90	1.80	1.95	1.75	E	1.75	1.80
27	1.70	E	1.95	1.70	1.80	1.90	1.90	2.00	1.95	2.45	3.00	3.00	2.75	3.00	2.00	2.00	1.95	2.00	1.70	1.70	1.65	1.80	1.90	1.70
28	E	1.80	1.95	1.70	1.70	1.80	2.45	2.00	2.05	2.10	3.00	3.50	3.35	3.30	3.30	2.00	2.00	1.95	1.90	1.80	E	2.00	2.00	1.70
29	1.90	E	1.80	1.70	1.80	1.70	1.90	2.00	2.50	2.50	2.20	2.20	3.50	2.00	2.10	2.40	2.00	1.80	2.00	1.90	E	E	1.80	1.80
30	E	1.70	E	E	1.80	1.80	2.20	1.95	2.45	2.45	2.90	2.45	2.90	3.00	2.45	1.95	2.00	1.90	1.70	1.80	1.80	1.70	1.75	2.00
31																								
No.	29	29	29	29	29	29	29	29	29	29	28	28	29	29	29	29	29	29	28	29	29	29	29	29
Median	1.80	1.70	1.70	1.70	1.70	1.75	1.90	1.90	2.05	2.50	2.95	3.00	3.10	3.00	2.80	2.00	1.95	1.90	1.75	1.80	1.70	1.70	1.75	1.75

f-min

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

The Radio Research Laboratories, Japan.

A 6

IONOSPHERIC DATA

Sep. 1958 | (M3000)F2 | 135° E Mean Time (G.M.T.+ 9h.) | Akita | Lat. 39° 43.5' N | Long. 140° 08.2' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.45	2.45	2.65	2.40	2.40	2.65	2.85	2.95	2.70	2.70	2.60	2.65	2.55	2.55	2.55	2.60	2.65	2.65	2.75	2.65S	2.60S	U2.70S	2.65	2.55
2	2.60	2.45	2.40	2.45	2.50	2.45	2.70	2.85	2.80	2.75	2.70	2.55	2.55	2.55	2.60	2.65	2.70	2.75S	2.80S	2.80S	2.65S	2.60S	2.60S	2.50S
3	2.60S	2.65	2.55	2.40	2.40	2.50	2.90S	2.95	2.90	2.75	2.55	2.55	2.55	2.55	2.55	C	C	C	C	2.55S	C	C	S	S
4	C	2.20S	I2.40F	2.40	2.30F	2.40F	2.40	2.60	2.40	2.30	2.35	2.40	2.40	I2.30C	2.45	2.45	2.60	2.65	2.70	2.60	2.35	2.40	2.35	2.40
5	2.40	2.15	2.10	2.10	1.90	2.15	1.95	2.40	2.20	G	G	2.00	G	2.20	I2.25A	2.35	2.65	2.50	2.70	2.30	2.30	2.45	2.35	2.35
6	2.35	2.35	2.40	I2.40F	2.40F	2.40	2.75	2.80	J3.10R	U3.05R	2.95	2.80	2.65	2.75	2.60	2.70	2.65	2.75	2.80	2.75S	2.50	2.50	2.50	2.50S
7	2.65	2.75	2.80	2.60	2.65	2.60	3.00	2.90	2.95	2.85	2.65	2.60	2.60	2.60	2.55	2.60	2.65	2.75S	2.80S	2.70S	2.60S	2.55S	2.60S	2.65S
8	2.65	2.60S	2.30	2.35	2.40	2.70	2.90	2.90	2.80	2.75	2.65	2.60	2.50	2.60	2.55	2.60	2.60	2.70	2.80S	I2.70S	2.55S	2.55S	2.65S	2.65
9	2.55	2.45	2.55	2.65	2.65	2.75	J3.00S	2.90	2.95	2.70H	2.60	2.70	2.50	2.55	2.60	2.60	2.70	2.65	2.70	U2.80S	2.60	2.50	2.60	2.45
10	2.45	2.25	2.40	2.65	2.75	2.55	2.90	2.90	2.85	2.80	2.65	2.60	2.60	2.55	2.65	2.60	2.60	2.80	2.80	J2.80S	2.60S	2.55S	2.60	2.50S
11	2.40S	2.40	2.70	2.50	2.40	2.60	2.95	3.00	2.95	2.85	2.75	2.65	2.60	2.60	2.60	2.60	2.70	2.70	2.75	I2.75S	2.60S	2.40S	U2.60S	2.65S
12	2.65	2.70	2.60	2.55	2.55	2.75	J2.95R	2.95	2.85	2.70	2.65	2.65	2.60	2.60	2.65	2.65	2.65	2.70	2.80S	2.65S	2.50S	2.60S	2.60S	2.60
13	2.60	2.55	2.60	2.50	2.50	2.50	2.90	3.00	3.00	2.75	2.65	2.60	2.55	2.50	2.55	2.55	2.65	2.65	2.75S	I2.65S	2.60S	2.55S	2.60S	2.60S
14	2.70	2.55	2.55	2.55	2.60	2.75	3.15	2.95	2.95	2.75	2.65	2.60	2.55	2.50	2.50	2.50	2.60	2.65	2.80	2.75S	2.60S	2.45S	U2.60S	2.65S
15	2.55	2.65	2.65	2.65	2.50	2.65	3.05	3.10	2.90	2.70	2.65	2.60	2.50	2.50V	2.55	2.50	2.60	2.65	2.75	I2.70S	I2.60S	U2.60S	U2.65S	2.65S
16	2.60	2.70	2.75	2.65	2.55	2.55	3.00	3.00	2.85	2.80	2.65	2.55	2.50	2.45	2.50	2.45	2.50	2.55	2.70	2.60S	2.45	2.35	2.40	2.40
17	2.35	2.10	2.30	2.15	2.10	2.35	2.95	2.90	2.70	2.55	2.60	2.55	2.55	2.50	2.50H	2.60	2.60H	2.70	2.75S	2.60S	I2.55S	2.70S	I2.70S	2.65
18	2.50	2.55	2.60F	2.45F	2.45	2.60	2.90S	3.00	2.90	2.75H	2.75H	2.65H	2.60	2.60	2.60	2.65	2.65	2.80	2.85	2.85S	2.75S	2.65	U2.75S	2.65
19	2.80	2.70	2.65	2.60	2.55	2.65	2.90	3.05	3.00	2.95	2.75	2.65	2.65	2.60	2.60	2.65	2.75	2.85	2.85	U2.80S	U2.75S	2.75S	2.60	2.65
20	2.70	2.75	2.75	2.65	2.65	2.70	3.10	3.05	2.95	2.90	2.85	2.70	2.60	2.60	2.55	2.60	2.60	2.70	2.85	2.75	2.70	I2.80S	2.80S	2.90S
21	2.80	2.70	2.70	2.70	2.65	2.80	3.10	3.05	3.00	2.85	2.85	2.65	2.65	2.60	2.60	2.60	2.65	2.65	2.70	I2.70S	I2.80C	2.80S	I2.80S	2.90
22	2.65	2.70	2.70	2.80	2.70	2.80	3.05	3.15	3.10	2.90	2.80	2.70	2.65	2.65	2.65	2.70	2.75	2.80	2.95	U2.95S	I2.80S	U2.80S	2.75S	2.70
23	2.70	2.70	2.80	2.90	2.80	2.80	3.10	3.25	3.10	2.90	2.80	2.70	2.70	2.65	2.65	2.70	2.70	2.80	2.95	2.85S	2.65S	2.65S	2.70S	2.75
24	2.75	2.80	2.70	2.70	2.65	2.75	3.00	3.20	3.10	2.90	2.75	2.65	2.65	2.60	2.65	2.70	2.70	2.85	3.00	I2.90S	I2.80S	2.65S	2.60S	2.75S
25	2.50	2.55	2.60	2.60	2.60	2.65	3.05	3.05	3.10	2.75	2.80	2.65	2.60	2.55	2.65	2.60	2.65	2.65	2.75	I2.75S	U2.55S	2.50S	2.30	2.35S
26	2.30S	2.40	2.40	2.10	2.50	2.60	2.65	U2.60R	2.45	2.35	2.25	2.30	2.35	2.30	2.35	2.45	2.55	2.60	2.75	2.45	2.55	2.60	2.50	2.40
27	2.40	2.40	2.35	2.25	2.30	2.35S	2.90	2.90	2.65F	2.80	2.75	2.65	2.75	2.75	2.65	2.80	2.85	2.90	2.85S	2.90S	2.70S	2.70	2.55S	2.45S
28	2.35	2.40	2.45	2.50	2.50	2.50S	3.10	J3.05R	2.95	2.85	2.80	2.75	2.70	2.65	2.70	2.75	2.80	2.85	2.85S	2.75	2.75S	2.70S	2.60	2.60S
29	2.55	2.55	2.60	2.60	2.60	2.65	3.10S	3.00	3.00	2.95	2.75	2.70	2.65	2.60	2.65	2.65	2.75	2.80S	2.75S	2.90S	2.90S	2.70S	2.55	2.55
30	2.50	2.50	2.60	2.70	2.80	2.65S	2.90	3.15	3.00	2.90	2.75	2.70	2.60	2.65	2.60	2.65	2.70	2.85	2.90	2.75S	U2.80S	2.75S	2.55S	2.40S
31																								
No.	29	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	29	29	29	30	29	29	29	29
Median	2.55	2.55	2.60	2.55	2.50	2.60	2.95	3.00	2.95	2.80	2.70	2.65	2.60	2.60	2.60	2.60	2.65	2.70	2.80	2.75	2.60	2.60	2.60	2.60

(M3000)F2 Sweep 1.6 Mc to 20.0 Mc in 20 min/sec in automatic operation.

The Radio Research Laboratories, Japan.

A 7

27

IONOSPHERIC DATA

Akita

Lat. 39° 43.5' N
Long. 140° 08.2' E

Sep. 1958 | (M3000)F1 | 135° E Mean Time (G.M.T.+ 9h.)

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							L	L	L	L	L	L	L	3.50	L	L	L							
2									A	L	L	I 3.30 L	3.50	I 3.40 L	3.30 L	3.25 L	L	L						
3								L	L	L	L	L	3.45	3.10 L	L	C	C	C						
4							L	I 3.30 L	I 3.20 L	I 3.30 L	3.35	I 3.40 A	3.15 L	C	L	L H	L	L						
5							L	3.15 L	I 3.35 A	3.50	3.85	3.45	3.60	3.50 H	I 3.40 A	I 3.40 A	L	L						
6								A	A	L	A	L H	L	3.40 L	I 3.50 LH	L	L							
7								L	L	L	L H	L H	3.35 L	I 3.30 LH	I 3.30 LH	L	L							
8								L	L	L	L	L	I 3.20 L	I 3.50 LH	3.30 L	L	L							
9								L	L	L	L	L H	L	L H	3.15	L	L							
10									L	L	L	L	L	L	L	L	L	L						
11									L	L	L	L H	I 3.30 L	I 3.45 L	3.35 L	L H	L	L						
12							L	L	L	L	L	L	L	L	L	L	L	L						
13							L	L	L	L	L	L H	L	I 3.35 L	3.35 L	3.45 L	L	L						
14								L	L	L	L	L	L	L	L	L	L							
15										L	L	L	3.45 L	3.30 L	I 3.25 L	L	L	L						
16								L	L	L	L	L	L	L	L	L	L	L						
17										3.55 L	I 3.45 L	3.35 L	I 3.45 L	I 3.40 LH	I 3.50 L	L	L	L						
18							L	L	L				L	L	L	L								
19											L	L	L	L	L	L								
20										L	L	L	L	L	L	L	L							
21									L	L	L	L	L	L H	L	L	L	A						
22							L	L	L	L	L	L H	L	L	L	L	L	L						
23							L		L	L H	L H	L H	L H	L	L	L H	L	L						
24							L		L	L	3.55 LH	L	L	L	L	L	L	L						
25							L		L	L	L H	L	L H	L H	L	L	L	A						
26							A	L	L	3.25	3.55	3.10	3.15 H	3.30	3.25	I 3.10 L	L	L						
27							L	L	L	L	L	L H	L	L	L	L	A	L						
28							L	L	L	L	L	A	L	A	A	L	L	L						
29							L	L	L	L	L	L	L	L	L	L	L	L						
30							L	L	L	L H	L	L H	L	L	L	L	L	L						
31																								
No.								2	2	4	5	5	10	12	11	4								
Median								U 3.20	U 330	3.40	3.55	3.35	3.40	U 340	3.30	U 330								

(M3000)F1 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

Sep. 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							L	L	L	L	L	345	365	395	350	350	L							
2									260	L	L	I 375 L	380	355 A	370 L	360 L	L	L						
3								L	L	L	L	360 L	395	390 L	L	C	C	C						
4							L	310 L	I 440 L	510	500	500	490	I 540 C	495	I 415 L	370 L	L						
5							L	505	600	G	G	750	G	630	I 625 A	545	400 L	L						
6								300	260	I 270 L	295	345 L	I 410 L	395	I 340 L	350 L	I 350 L							
7								255	255 L	I 280 L	340 L	345 L	370 L	340 L	355 L	340 L	L							
8								L	L	L	L	340 L	360 L	350 L	370	I 330 L	L							
9								L	250 L	I 245 LH	I 290 L	345	I 370 L	I 350 L	365	345 L	L							
10									250	I 275 L	300 L	I 330 L	350 L	I 350 L	340 L	L	L	L						
11									L	L	L	L	360 L	350 L	360 L	L	L	L						
12							L	L	L	L	L	I 305 L	320 L	340 L	L	L	L	L						
13							L	L	L	L	350 L	I 325 L	I 360 L	I 370 L	370	350 L	L	L						
14								L	L	L	L	I 350 L	355 L	370 L	360 L	360 L	L							
15										L	I 330 L	I 360 L	340 L	360 L	350 L	I 350 L	L	L						
16								L	L	L	I 290 L	I 380 L	I 390 L	400	350 L	I 380 L	L	L						
17										310 L	I 355 L	355 L	I 345 L	370 L	I 370 LH	L	L H	L						
18							L	L	L				I 260 L	I 300 L	L	L								
19											L	L	L	L	I 305 L	I 300 L								
20										L	L	L	L	330 L	L	L	L							
21									L	L	L	L	L	L	340 L	L	L	A						
22							L	L	L	L	L	L	L	I 310 L	I 320 L	L	L	L						
23							L		L	L	L	L	325 L	I 325 L	I 320 L	L	L	L						
24							L		L	L	305	I 310 L	L	L	310 L	L	L	L						
25							L		L	L	L	L	L	L	310 L	L	L	A						
26							A	L	I 355 L	435	550	505	540	550	510	440 L	L	L						
27							L	L	L	L	L	L	L	L	L	L	A	L						
28							L	L	L	L	L	A	L	A	A	L	L	L						
29							L	L	L	L	L	310 L	L	L	L	L	L	L						
30							L	L	L	L	L	L	L	L	L	L	L	L						
31																								
No.								4	8	8	12	19	20	22	22	14	3							
Median								305	260	U 295	335	345	360	360	350	350	370							

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

Sep. 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	345	340	340	305	350	295	250	240	235	220	250	245	250	250	245	245	245	255	260	I 275 A	295	295	255	295
2	300	305	345	320	305	300	250	245	I 245 A	I 245 A	235	I 240 A	230	I 240 A	235	245	250	250	290	290	I 295 A	285	290	300
3	305	300	300	330	350	305	250	245	230	245	I 230 C	I 225 C	245	C	C	C	C	C	C	C	I 300 C	I 305 C	I 300 C	I 275 C
4	I 320 C	405	340	305	370	I 340 C	295	280	265	250	255	I 255 A	250	C	A	A H	285	260 A	I 295 A	290	305	I 345 A	345	340
5	380 S	410	440	410	500	375	305	255	I 250 A	255	240	255	270	245	A	A	255	255	300	340	I 380 A	350	350	A
6	A	400 A	350	295	300	345	300 A	I 275 A	250	245	I 250 A	210 H	255	245	240 H	245	245	255	260	300 A	310	I 330 A	350 A	310
7	300	295	280	I 290 A	295	295	245	245	245	230	220 H	210 H	225	210 H	240 H	240	250	255	270	255	290	300	305	290
8	295	275	360	360	330	280	240	240	240	245	220	240 B	245	250 H	240	255	250	260	270	255	270	290	290	290
9	300	320	330	290	260	250	245	235	240	235	230	225 H	245	245 H	240	250	250	250	260	255	255	I 290 A	290	305
10	340	370	340	295	255	295	250	245	245	240	240	240	240	240	240	250	250	255	255	255	255	260	295	305
11	340	360	300	295	340	305	245	240	240	240	240	220 H	I 240 B	240	240	240 H	250	270	250	260	I 255 S	300	300	300
12	300	280	290	295	295	280	250	240	240	225	230	240	240	I 245 B	250	250	250	255	255	260	275	290	290	290
13	295	305	300	290	290	325	250	245	240	225	220	220 H	245	230	250	245	260	270	270	260	290	270	280	280
14	280	285	300	300	305	300	250	240	240	230	225	225	240	245	245	250	250	260	275	255	255	270	300	295
15	300	295	275	295	295	315	250	245	245	240	245	240	240	245	250	245	250	260	260	255	290	295	295	280
16	295	300	290	280	300	330	245	240	230	230	225	240	245	225	250	250	250	270	250	245	295	310	345	300
17	340	400	345	355	415	350	245	230	235	220	235	240	220 H	205 H	245	250	250	255	265	280 A	310	280	270	300 A
18	300	290	295	290	320	310	250	245	240	245 N	245 H	245 H	225	230	245	245	255	255	250	250	255	260	265	255
19	270	270	275	295	300	295	245	245	245	245	215	215	245	245	245	250	250	I 270 A	245	255	260	255	250	295
20	295	260	290	260	290	305	250	245	245	230	235	230	240	225	240	245	250	260	245	250	290	I 275 A	I 260 A	260
21	290	270	290	275	275	300	240	225	230	230	245	240	230	225 H	245	245	A	A	255	I 260 A	I 285 C	260	290	260
22	290	295	295	290 A	290	290 A	250	240	230	220	220	210 H	230	225	245	250	I 255 A	260	250	245	255	255	250	270
23	290	300	290	260	250	275	250	240	225	220 H	200 H	220 H	210 H	245	240	220 H	255	255	250	240	250	275	280	260
24	275	280	270	280	280	295	240	235	235	240	220 H	225	220	245	230	240	250	255	250	235	245	245	270	270
25	320	330	310	300	295	300	250	240	225	230	210 H	230	225 H	225 H	240	250	260	A	A	A	250	250	340	305
26	245	340	I 310 A	I 310 A	315	290 A	A	A	A	270	250	235	240 H	250	250	250	250	265	270	300	250	270	290	340
27	310	340	350	390 A	360	360	255	250	245	225	210	210 H	250	245	250	I 255 A	I 250 A	250	240	240	250	290 A	A	A
28	345	350	340	295	300	300	250	230	225	250	205 H	I 225 A	250 A	A	A	250	250	250	240	I 255 A	I 275 A	280	290 A	300
29	300	290	300	285	310 A	300 A	I 250 A	240	240	240	240	210 H	220	245	240	245	250	255	250	250	240	245	300 A	305
30	340	340	305	305	280	290	245	240	240	225 H	230	220 H	220	225	240	245	255	260	250	245	260	250	300	350
31																								
No.	29	30	30	30	30	30	29	29	29	30	30	30	30	27	26	27	28	27	28	28	30	30	29	28
Median	300	300	300	295	300	300	250	240	240	240	230	230	240	245	240	245	250	255	255	255	270	280	290	295

h'F | Sweep 1.6 Mc to 20.0 Mc in 20 min sec in automatic operation.

IONOSPHERIC DATA

Sep. 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	110	110	105	100	105	E	G	150	125	125	110	110	110	130	130	G	145	135	105	105	E	E	100	E
2	E	E	E	E	E	E	140	125	110	110	110	110	110	110	G	110	G	G	130	115	110	E	E	E
3	E	105	105	110	110	110	140	135	130	125	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	130	C	C	115	130	120	110	110	115	150	C	135	*125	125	110	105	105	105	100	100	E
5	105	100	E	E	E	E	135	145	110	105	105	105	G	G	100	100	110	120	E	110	105	105	100	100
6	100	100	100	100	E	E	145	130	125	130	115	115	105	100	100	G	G	110	105	105	105	105	105	100
7	E	100	100	100	100	100	G	G	140	120	125	110	110	G	G	105	105	105	105	105	105	100	100	E
8	E	100	E	E	E	E	G	G	140	120	110	130	120	B	G	G	110	105	105	105	E	E	E	E
9	E	E	E	E	E	E	G	G	125	145	B	B	G	145	125	145	G	145	100	E	E	100	E	E
10	E	E	E	E	E	E	G	130	105	110	110	G	140	140	140	135	140	G	100	125	E	E	110	E
11	E	E	E	110	E	E	G	G	G	125	G	130	B	B	G	160	140	130	120	110	105	105	E	100
12	100	E	E	E	E	E	110	G	110	G	G	B	G	B	G	G	140	125	110	E	E	E	E	E
13	E	E	E	E	E	E	130	125	125	110	G	G	G	G	G	150	130	125	E	E	110	E	105	E
14	100	E	E	E	E	E	130	120	115	110	G	G	G	G	G	G	140	G	110	E	E	E	105	E
15	E	E	E	E	E	E	G	G	105	115	G	G	B	G	180	150	150	130	E	E	105	E	E	E
16	E	E	E	E	E	E	G	130	125	G	G	105	G	G	G	G	145	G	E	E	E	E	E	E
17	E	E	E	E	E	E	G	G	125	140	G	G	G	G	G	G	150	140	120	120	115	110	105	100
18	105	105	E	E	E	E	150	150	130	130	140	G	G	105	105	105	G	G	E	E	105	105	100	100
19	100	E	E	105	E	E	145	145	145	120	125	125	120	110	130	G	145	110	110	105	105	E	E	E
20	E	E	E	E	E	E	G	130	110	110	115	110	G	G	110	110	105	110	105	105	E	105	105	105
21	105	100	E	E	E	E	G	145	100	125	120	115	110	110	110	110	120	115	110	110	C	105	105	110
22	105	E	E	105	105	105	105	145	130	120	125	G	G	G	135	G	125	120	110	110	110	E	E	E
23	E	E	E	E	E	E	155	125	125	130	G	G	G	G	G	110	115	140	E	110	110	105	105	E
24	E	E	E	E	E	E	G	115	G	115	G	G	G	G	G	G	155	130	120	E	E	105	E	E
25	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	165	G	120	115	110	110	E	E	E
26	E	E	125	125	125	125	120	130	140	G	G	G	G	G	G	G	G	G	120	E	E	E	E	E
27	E	E	E	105	E	E	G	130	130	110	G	G	G	120	140	130	120	120	E	110	105	100	100	100
28	105	E	E	E	105	110	B	125	125	110	110	105	105	105	110	130	130	120	120	110	110	105	110	105
29	105	105	105	E	105	105	105	110	110	130	120	120	G	G	130	G	G	125	E	E	110	105	110	105
30	105	110	105	105	105	105	B	125	125	110	G	G	G	G	G	G	140	130	120	E	105	110	105	E
31																								
No.	12	10	7	11	8	7	14	22	27	26	15	14	10	10	15	16	22	23	21	18	18	16	17	10
Median	105	100	105	105	105	105	130	130	125	120	115	110	110	110	130	130	135	120	110	110	105	105	105	100

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

Sep. 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	f2	f	f3	f2	f			h	h	C	C	l	l	h	h		h	hl	f4	f2			f	
2							h	C	C2	C2	l	l	l	l		l2			h	f4	f3			
3		f2	f	f2	f	f	h	h	h	h														
4				f			l	h	C	l	l	C2	h		h	C2	C2	C2	f2	f	f	f2	f	
5	f	f					h	h	C2	C	l	l			l2	l	C	C		f2	f2	f	f	f2
6	f	f	f2	f			h3	h2	C2	h	C3	C	l	l	l			C	f	f2	f2	f2	f2	f
7		f2	f2	f5	f2	f			h	C	h	C	l			l	l2	l2	f2	f	f	f	f	
8		f							h	C	l	h	h				l	l2	f2	f				
9									h	h				h	C	h		hl	f			f3		
10								h	l	l2	l		h	h	hl	h	h		f	f			f	
11				f						h		h				h	h	h2	f2	f	f	f		f
12	f						l		l								h	h	f					
13							h	h	h	C						h	h	C2			f2		f	
14	f						h	C	C	l							h		f				f	
15									l h	C					h	h	h	h2			f2			
16								h	h			l					h							
17									C	h							h	h	f2	f2	f2	f2	f	f
18	f	f					h	h	h	h	h			l	l	l					f2	f2	f	f
19	f			f			h	h	h	C2	C	C	C	C	h		h	C2	f2	f2	f2			
20								C2	C3	C	C	C			l	l	l	l4	f	f		f3	f3	f2
21	f	f						h	l h	h2	h2	C	C	C	l	h l	h2 l	h2 l	f2	f2		f	f2	f
22	f			f2	f2	f2	l h	h	h	C	h				h		h	C3	f2	f	f2			
23							h	h	h	h						l	l	h		f2	f	f	f	
24								l		l							h	h2	f3			f		
25																h		C2	f3	f2	f			
26			f2	f2	f2	f2	C2	h2	h										f					
27				f2				h	h	l h				C	h2	h3	C2	C2		f2	f2	f2	f2	f2
28	f				f	f		h	h	C	C	l2	l2	l3	l3	h	h	C	f	f4	f3	f2	f2	f
29	f	f	f		f2	f2	l3	l2	l h	h	h	h			h			C			f2	f	f2	f2
30	f3	f	f	f2	f2	f		h	h	l							h	h	f		f	f	f	
31																								
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.

A 12

IONOSPHERIC DATA

Sep. 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	J 8.0 R	J 8.0 R	I 7.8 R	7.0	7.0	7.7	10.2	11.5	11.7	12.2	12.8	13.2	12.8	12.4	12.2	11.6 H	10.8	10.6	U 10.1 S	I 10.2 RS	U 10.1 S	I 9.9 R	9.3	U 8.9 R
2	I 8.4 S	8.4 R	J 7.8 R	J 8.0 R	U 7.6 R	J 8.2 R	U 11.1 R	12.4	12.6	12.3 H	12.3 H	12.3 H	12.3	12.6	12.0	11.3	11.1	10.8	J 11.0 S	U 10.1 S	9.0	I 9.1 AS	I 9.1 RS	9.0
3	I 8.6 R	8.5	7.7	7.0	7.1	7.6 S	11.1	12.3	12.0	12.2	12.4 H	12.7	13.0	13.1	13.1	12.3	11.6	U 11.3 S	U 10.4 S	U 10.1 S	I 10.2 S	I 10.2 S	I 9.9 RS	I 9.6 S
4	8.1	8.4 F	8.8	8.6 F	U 7.5 F	I 8.4 RS	9.1	9.0	9.7	9.9	9.2	9.0	9.3	9.0	8.7	9.1 S	U 8.6 S	9.1	8.8	7.6	7.2 R	U 7.2 R	7.4 S	7.4
5	7.0	5.8	5.2 S	U 5.1 S	4.6	5.0	5.6 H	6.6	6.7	G	G	A	A	A	7.5	7.2	7.9	7.0	7.3	I 6.2 RS	I 6.3 A	I 6.6 A	6.3	6.5
6	6.5	6.1	6.1	6.1	5.4	6.0 S	8.4	10.8	13.2	11.6	10.8	10.4	10.2 R	9.9 R	10.0 R	9.8 R	J 9.9 S	9.8 S	U 9.8 S	I 8.5 S	U 7.7 S	I 8.0 RS	J 8.4 R	I 8.5 R
7	I 8.9 R	I 9.1 R	I 8.2 R	6.8	6.2 S	6.1 S	J 8.6 R	11.2 R	12.3	11.2	11.3	12.0	12.2	12.7	12.3	12.0	11.7	11.4	J 11.2 S	R	R	I 9.4 R	9.5 S	9.4 R
8	9.0 R	8.0 R	7.2	6.9	7.2	I 7.8 R	U 9.8 R	11.7	11.4	12.1	12.4	12.4	13.0	13.1	12.9	13.0	12.2	11.7 R	U 11.3 R	R	R	R	R	9.3 R
9	U 8.8 R	J 8.4 R	J 8.5 R	8.0 R	7.4 R	I 7.7 R	I 10.1 R	11.6	11.9	11.3	11.9	12.7	12.7	12.8	12.5	12.8	12.6	12.1	11.6 R	I 10.5 R	9.1 R	I 8.9 R	I 9.1 R	J 8.7 R
10	I 8.4 R	7.4 R	I 8.0 R	J 7.9 R	7.2 S	6.9	9.7 R	11.6 R	12.5	13.1	13.7	13.6	13.5	13.6	13.3	12.8	12.8	12.1	11.4 R	R	I 8.8 R	8.9 R	R	J 8.7 R
11	R	R	R	7.2 R	7.2 R	I 8.1 R	J 11.3 R	12.5 R	12.6	12.8	13.6	13.3	13.2	12.8	12.4	11.8	11.4	11.5	J 11.2 RS	R	I 9.1 R	I 9.2 R	U 9.5 RS	I 9.8 R
12	U 9.4 R	9.3 R	I 8.2 R	7.6 R	7.4 R	J 7.9 R	J 10.7 R	11.9 S	12.6	13.3	14.2 S	14.3 R	13.7 H	13.7	13.4	12.7	12.0	10.8	J 11.0 S	I 10.0 RS	I 9.8 RS	S	R S	R
13	I 9.3 R	I 8.6 R	I 8.0 R	7.3	7.0 R	U 7.2 R	J 11.2 R	12.8	13.2	12.3	13.0	13.3	13.2	12.9	12.8	12.3	11.9	11.6	U 11.3 S	U 10.3 S	I 10.0 RS	I 9.8 RS	U 9.9 S	J 10.0 R
14	9.6 S	8.9	J 8.4 S	J 7.9 RS	7.6 R	8.3	11.4	12.9	12.8	12.4	12.7 H	13.3	13.7	13.5	13.3	12.9	12.4	12.4	U 12.4 S	U 10.4 S	U 9.7 S	R S	R S	D 12.5 R
15	J 11.7 RD	D 11.6 R	J 10.6 R	8.4	8.0 R	8.6 S	12.3	12.4	12.3	12.8	13.3 H	13.7 H	13.4	13.4	13.3	13.0	12.6	11.9	11.5	U 9.9 S	9.7 S	U 9.5 S	9.6 S	9.5 S
16	8.6 R	8.6	8.4	7.7 R	7.5	J 7.4 R	11.4 R	12.9	13.1	13.1	12.5	12.9 H	13.0	13.0	13.0	12.4	12.2	12.7	12.0 S	U 9.5 S	U 8.8 S	I 8.6 RS	8.8 S	8.7 S
17	I 8.2 RS	7.1	I 7.6 RS	6.8	U 7.0 S	U 7.4 S	J 9.7 S	11.4	11.4	12.4 H	13.8	13.4 H	13.3	12.9	12.8	12.8	12.2	11.5 S	I 10.7 RS	9.2	U 9.4 R	R S	U 9.7 S	I 8.6 R
18	7.8 R	7.8	I 7.5 RS	7.0	7.2 R	7.8	10.9 R	13.9	13.9	13.7	13.9 R	14.2 H	14.3	14.1	13.8	I 13.6 S	13.5	13.0	U 12.4 S	I 10.6 S	9.6	I 9.6 S	J 9.7 S	9.0
19	8.6	U 7.9 S	7.4	7.2	6.9	7.5	10.7	13.3	13.8	12.8	13.1	13.1	13.8	13.4	13.4	13.4	13.7	13.3	11.8 S	R S	U 9.6 S	J 9.8 S	U 9.7 S	U 9.2 S
20	U 8.3 S	8.5	8.1	7.6	7.0	I 7.8 R	J 11.1 S	13.4	14.0	13.4	12.7	13.0	13.0	13.4	U 14.2 R	13.9	13.7	13.4	13.0	R	R	R	R	R
21	I 9.0 R	I 8.1 R	I 7.8 R	I 7.5 R	R	R	I 10.3 R	12.9 R	12.6	12.9	13.6	I 13.5 C	I 13.4 C	I 13.5 C	C	C	C	13.1 R	I 12.0 R	I 11.5 R	11.4 R	I 11.2 R	I 10.4 R	9.4 R
22	I 8.9 RS	I 8.7 R	I 8.8 RS	8.2 R	8.1 R	7.7 R	11.0 R	13.5	13.0 R	12.3	12.6	13.3	13.3	13.3	13.3	13.2	13.2	13.6	13.1	I 10.5 S	U 10.2 S	J 10.8 R	U 11.2 R	J 10.3 RS
23	C	C	C	C	C	7.7	11.1 S	13.0	12.2	11.8	12.1	12.9	12.8	13.4	13.3	13.4	13.4	13.3	12.6 R	9.7 R	9.5 S	9.2	9.4 R	9.5
24	9.1	C	C	C	C	C	C	13.1 R	12.1	12.5	13.0 R	13.9 R	13.9 R	14.0 R	13.8 R	13.5	13.7	13.8 R	13.1 R	R	R	R	U 8.1 R	8.3 R
25	7.2	7.2	7.1	6.9	6.6	7.1	10.8 R	12.9	12.5	11.9	13.0	13.5	14.3 R	L 14.6 R	U 15.0 R	14.2 R	U 14.3 R	I 14.1 R	13.1	12.7	R	R	8.9 R	I 9.2 R
26	I 8.5 R	7.8	7.7 R	7.1	8.6 R	I 9.2 R	I 12.2 R	D 14.5 R	J 13.4 R	10.0 R	8.5	I 8.0 R	7.3	6.6	7.0	7.4	7.6 RS	I 7.6 R	I 7.7 R	7.1 R	I 7.2 R	7.0 R	6.9	I 6.5 R
27	J 6.5 S	U 6.3 R	I 6.0 S	I 6.0 R	6.1	5.8 R	U 8.7 R	I 11.5 R	12.7	13.8 R	13.9	13.9	14.3 R	14.2	13.7	12.6	12.7	12.6	11.2 R	9.0 R	I 8.2 R	I 7.9 R	7.6 R	7.1 R
28	6.8	6.7	6.8	6.1	T 6.0 RS	6.1 R	8.9	13.0 R	11.9 R	11.7	12.9	13.8	14.2 R	13.8	13.5	13.3	12.6	12.2	J 11.2 S	8.8	8.5	I 8.1 RS	U 8.1 R	R
29	7.4 R	7.1	7.0	6.7	T 6.2 S	6.4	9.3	11.9	13.2	12.9	12.9	13.9 H	14.0	13.8 H	13.8 H	13.2	12.9	12.4	11.6	I 10.8 S	9.1	I 7.9 RS	7.3 S	7.4
30	U 7.2 R	7.0	7.1	7.1	6.7	6.4	9.8	12.7	12.6	13.0	13.4 H	13.4 H	13.7	14.0	13.9	13.4	13.2	13.2	12.3 S	RS	10.0 S	I 9.2 RS	U 8.1 R	I 8.2 RS
31																								
No.	28	27	27	28	27	28	29	30	30	30	30	29	29	29	29	29	29	30	30	22	25	23	25	27
Median	8.4	8.0	7.8	7.2	7.1	7.6	10.7	12.4	12.6	12.4	12.8	13.3	13.3	13.4	13.3	12.8	12.4	12.1	11.4	U 10.0	U 9.4	U 9.2	9.1	9.0
U. Q.	9.0	8.6	8.2	7.8	7.5	7.8	11.1	13.0	13.1	12.9	13.4	13.6	13.8	13.8	13.6	13.4	13.2	13.1	12.3	10.5	9.9	9.8	9.7	9.5
L. Q.	7.6	7.1	7.1	6.8	6.6	6.6	9.5	11.6	12.0	11.8	12.3	12.7	12.8	12.8	12.4	11.9	11.5	11.3	11.0	9.0	8.6	8.0	8.1	8.3
Q. R	1.4	1.5	1.1	1.0	0.9	1.2	1.6	1.4	1.1	1.1	1.1	0.9	1.0	1.0	1.2	1.5	1.7	1.8	1.3	1.5	1.3	1.8	1.6	1.2

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

Sep. 1958 | foF1 | 135° E Mean Time (G.M.T.+ 9h.) | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1											L	L	L	I 6.9 L	I 6.4 L	L H		L						
2												L	7.1 L	L	7.0 L	L								
3										L		L	L	6.6 L	6.2 L	L	L							
4							L	L	6.2 L	6.8 L	6.8 L	S	6.5 S	6.4 L	A	A	L	A						
5								5.0	5.2	5.6	5.7 S	A	A	A	A	5.5	A							
6											L	L		L	L	L								
7												L	L	L	L	L								
8												L	L	L	L	L								
9												L	L	L	L	L	L							
10														L	L	L								
11										L			L	L	L	L								
12														L										
13												L	L	L	L	L								
14										C			L	L	L	L	L							
15													L H	L	6.8 L	L	L							
16													S	7.1 L	L	L	L							
17											L		L	L	L									
18														L	L									
19													L	L	L									
20														L	L									
21												C		C	C	C	C							
22													L	L	L									
23														L										
24													L	L										
25													L	L										
26									L	5.3 S	I 5.4 L S	5.3	5.6	5.7 S	I 5.6 R	5.5	L							
27															L									
28																L								
29													L											
30													L	L										
31																								
No.								1	2	3	3	1	3	5	5	2								
Median								5.0	5.7	5.6	5.7	5.3	6.5	6.6	6.4	5.5								

foF1

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

The Radio Research Laboratories, Japan.

K 2

IONOSPHERIC DATA

Sep. 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						B	2.30^{S}	3.00	R	R	A	4.20	4.15	^{I}4.10^{A}	4.05	3.90	^{I}3.60^{A}	B	B					
2						B	2.30	3.00	A	3.70	R	B	^{I}4.00^{R}	3.95	^{I}4.00^{R}	R	3.45	^{I}2.80^{B}						
3						B	2.50	3.30	3.70	3.80	^{I}4.05^{R}	S	B	^{I}4.05^{R}	4.05	^{I}3.80^{R}	S	B	S					
4							2.40	3.05	3.40	3.85^{S}	^{I}4.00^{B}	^{I}4.10^{R}	4.05	4.15	4.05	3.85	3.25	A						
5						B	B	3.00	3.30	A	A	A	A	A	^{I}3.90^{A}	3.80	^{I}3.30^{A}	2.50						
6						B	B	^{I}3.20^{S}	3.50	^{I}3.80^{R}	^{I}3.90^{S}	A	A	A	^{I}3.95^{R}	3.50^{R}	^{I}3.25^{B}	B	B					
7							R	R	3.50	3.85	3.90	3.95	A	A	A	A	3.25$^{R}_{S}$	^{I}2.70$^{R}_{S}$						
8						B	B	3.15$^{R}_{S}$	3.45^{R}	3.75	R.S	^{I}4.15^{B}	^{U}3.80^{R}	^{I}3.80^{A}	3.80^{A}	3.70^{R}	3.30$^{R}_{S}$	2.90^{S}						
9						B	B	3.00^{S}	3.35^{A}	3.70	^{I}3.80^{B}	^{I}4.00^{B}	4.15^{R}	4.15^{R}	^{I}4.00$^{R}_{S}$	3.70^{R}	3.30^{S}	^{I}2.60^{R}						
10							2.50	^{I}3.20^{A}	3.60^{R}	R	A	A	A	A	R	3.70	3.00^{S}	A						
11							B	3.00	3.55	3.70	3.90^{R}	^{I}4.10$^{R}_{S}$	4.25^{R}	^{I}4.10$^{R}_{S}$	^{I}3.95^{R}	3.75	3.30	R						
12							2.35^{A}	^{I}3.30$^{R}_{S}$	3.60^{A}	3.90	4.20	4.20	A	A	4.10	3.85^{R}	^{I}3.30^{S}	S						
13						B	B	^{I}2.80^{B}	3.40	^{I}3.50^{A}	^{I}3.85^{A}	4.20^{R}	4.20	4.30	4.10	3.90	3.25	2.50						
14							A	3.05	A	C	4.10	^{I}4.20^{R}	4.25	4.20^{R}	4.10	3.75	3.30	^{I}2.20^{A}						
15							2.30	3.10	3.55	3.90	^{I}4.10^{A}	^{I}4.15^{A}	^{I}4.20^{R}	4.20	4.10^{S}	3.70	^{I}3.25^{S}	2.50						
16							2.40	3.00	3.55	^{I}3.80^{R}	4.05	^{I}4.10^{R}	^{I}4.10^{A}	^{I}3.90^{R}	3.80	3.65	^{I}3.15^{S}	2.50						
17							2.45	3.10	3.30	3.65	S	A	3.95	^{I}3.90^{R}	3.80^{S}	3.60	3.20	2.40						
18							2.35	2.95	3.35	3.80	3.90	4.10	3.95^{R}	^{I}3.90^{A}	^{U}3.90^{S}	^{I}3.50^{S}	3.20	B						
19							R	2.95	3.30	3.65	3.85	^{I}3.90^{A}	3.95	3.80^{R}	^{I}3.80^{B}	3.60	^{I}3.15^{A}	A						
20							2.35	2.95	3.40	3.70	3.75^{R}	3.70	^{I}3.80^{S}	^{I}3.85^{A}	S	A	A	R						
21							B	2.90	3.40	3.65	3.70^{R}	^{I}3.70^{C}	3.65^{R}	C	C	C	C	3.00						
22							B	2.90	^{I}3.30^{A}	^{I}3.55^{A}	^{I}3.65^{A}	^{I}3.80^{R}	^{I}4.10^{R}	3.85	3.80	3.50	^{U}3.20^{S}	2.15						
23							2.40	^{I}2.75^{A}	3.20	3.70	^{I}4.00^{R}	^{I}4.05^{R}	^{I}4.10^{R}	^{I}4.00^{R}	^{I}3.70^{R}	^{I}3.35^{R}	^{I}2.90^{S}	R						
24								2.50^{R}	^{I}3.30^{A}	^{I}3.75^{R}	^{I}3.95^{B}	4.10^{R}	^{I}4.05^{R}	4.00^{R}	3.70	3.60^{S}	3.10	R						
25							B	^{I}2.85^{R}	3.20	^{I}3.75^{R}	^{I}3.95^{R}	^{I}4.00^{R}	4.05	^{I}4.00^{R}	^{I}3.70^{R}	3.40	^{I}3.05$^{R}_{S}$	R						
26							R	R	B	3.55^{R}	^{I}3.75^{R}	R	B	R	3.70^{R}	3.40	^{I}2.85^{B}	B						
27							B	^{I}2.80^{B}	3.30	A	A	B	B	3.80^{R}	^{I}3.75$^{R}_{S}$	^{I}3.50$^{R}_{S}$	^{I}2.90^{B}	B						
28							B	2.85	3.20	3.50	A	R	B	4.00	^{I}3.60^{R}	3.50	R	A						
29							A	^{I}2.80^{A}	3.30	3.50^{S}	3.60	^{I}3.60^{R}	^{I}3.70^{B}	3.90^{R}	3.70	3.50	3.00	A						
30							B	3.00	3.30	3.70	3.80^{R}	3.90	3.85^{R}	3.90	3.70	3.40	2.90	B						
31																								
No.							12	28	26	25	22	21	21	23	26	26	26	12						
Median							2.40	3.00	3.40	3.70	^{U}3.90	^{U}4.10	4.05	4.00	3.85	3.60	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

Sep. 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	3.5M	3.9M	3.3M	2.0M	E	B	2.5	3.5	3.5	3.4G	4.3M	4.6	5.0	5.3M	5.0	G	5.4M	5.7M	4.8M	4.6M	7.1M	4.3M	2.5M	3.2M
2	2.2S	E	E	E	E	B	2.7	4.8	6.6M	4.2	4.3S	B	G	G	G	G	G	B	2.3M	5.9M	4.4M	9.5S	2.7M	2.5M
3	E	2.4M	2.7M	3.3M	2.6M	2.5	2.8	4.9M	4.9M	4.1	G	G	B	G	4.3	G	4.0S	B	S	2.5M	E	E	E	E
4	E	E	E	E	E	E	G	G	4.4	4.3	4.8	G	G	4.7	7.3M	8.0M	4.4	5.7M	6.0M	3.0M	1.9M	2.2M	2.7M	2.5M
5	E	2.5M	E	E	E	B	B	3.7	4.0	4.0	4.8M	7.8M	9.9M	7.2M	6.3M	4.4	6.8M	2.7	3.9M	5.9M	8.2M	8.7M	3.1M	9.0M
6	5.0M	3.5M	2.6M	2.4M	E	B	B	4.1	7.0M	6.7M	5.5M	5.2M	7.5M	4.9M	3.7G	G	B	B	B	5.0M	7.6M	4.3M	3.4M	6.2M
7	3.9M	2.6M	E	2.3M	2.4M	2.2M	G	2.6G	4.2	4.6	4.7	5.0	5.4M	5.0M	5.2M	4.7M	3.7	3.9M	4.0S	3.9M	3.8M	3.2M	3.3M	2.7M
8	E	E	E	E	E	B	B	G	G	4.3	4.7M	B	4.9M	4.3M	4.2	G	G	3.4	3.6M	2.4M	3.1M	3.2M	E	E
9	E	E	E	E	E	B	B	G	3.5	3.9	B	4.2	4.4	3.3G	G	G	G	3.0	3.3M	E	2.3M	E	E	4.2M
10	E	E	E	E	E	E	G	3.1G	G	G	5.0M	6.0M	5.0M	4.9M	2.8G	3.6G	3.4	3.5M	E	2.5M	E	2.3M	E	E
11	2.5M	2.5M	E	2.5M	E	2.7M	B	G	3.8	3.9	G	G	4.4	G	G	3.9	4.0M	4.0M	E	4.2M	3.0M	2.5M	E	E
12	E	2.3M	E	E	E	E	2.5	G	4.3M	G	G	G	4.8M	4.5M	3.2G	2.9G	G	S	E	2.6M	E	S	E	E
13	E	E	E	E	E	B	B	B	3.7	4.3M	3.9	4.0G	G	G	G	4.3	5.0	5.6M	5.6M	E	3.4M	2.7M	E	E
14	E	E	E	E	E	E	2.7	3.9	4.3	C	G	G	G	G	G	G	G	3.8M	E	E	E	2.5M	3.0M	E
15	E	E	E	E	E	E	G	G	4.4M	4.6	4.7M	4.8M	G	3.7G	G	G	G	3.5	3.6M	3.5M	2.5M	2.5S	E	E
16	E	E	E	E	E	E	G	3.5	3.9	G	4.2	G	5.3M	3.7G	3.3G	G	G	G	E	E	E	E	E	E
17	E	E	E	E	E	E	G	G	G	4.8M	G	4.0	3.4G	3.7G	G	4.1	6.0M	3.6M	6.8M	3.5M	2.2M	3.8M	3.5M	3.2M
18	E	E	E	E	E	E	G	3.2	3.7	4.1	G	4.8	G	4.5M	G	G	G	B	E	3.2M	5.9M	E	3.1M	E
19	2.9M	E	E	E	E	E	G	3.4	3.8	4.1	4.4	4.7M	5.0	G	B	4.6	5.0M	4.5M	8.6M	6.8M	3.1M	2.9M	2.2M	E
20	E	E	E	E	E	E	G	3.3	3.9	5.5M	7.6M	5.6M	5.3M	4.9M	G	5.0M	8.7M	G	4.0M	E	E	E	E	E
21	E	2.3M	E	3.0M	2.3M	E	B	3.4	3.9	4.8	5.0M	C	4.8M	C	C	C	C	3.4	E	E	E	3.1M	3.6M	E
22	E	E	E	E	E	E	2.6	3.3	3.9	5.1M	5.3M	G	2.9G	3.1G	2.8G	G	4.1S	4.7M	4.0M	3.9M	3.2M	5.0M	2.0M	E
23	C	C	C	C	C	E	G	3.8M	3.7	3.9	G	G	G	G	G	G	G	2.6	E	E	2.4M	3.8M	4.0M	3.4M
24	3.3M	C	C	C	C	C	C	3.0	3.8M	G	B	5.6M	G	G	G	G	4.9M	5.7M	6.0M	3.3M	E	2.8M	2.7M	E
25	E	E	E	E	E	E	B	G	3.4	G	G	G	5.5M	3.0G	2.7G	3.8	4.3M	2.8M	2.3M	3.1M	7.1M	E	E	E
26	E	E	3.2M	2.4M	3.3M	4.2M	3.8M	5.3M	B	4.5M	G	G	B	G	G	3.8	4.5M	3.6M	3.3M	3.7M	5.0M	2.7M	E	E
27	E	2.3M	5.9M	3.9M	E	E	B	5.0M	4.0	4.2M	4.9	B	B	G	G	G	B	2.5	4.0M	4.6M	3.8M	4.5M	4.0M	E
28	E	E	2.2M	2.1M	2.3M	E	B	3.0	3.3	3.8	3.8	G	B	G	2.7G	4.3	2.3G	3.0M	E	3.0M	5.4M	5.0M	E	E
29	E	E	E	E	E	3.0M	3.2M	4.2M	3.8M	4.0	4.1	G	B	G	G	3.7	3.3	3.3M	E	E	E	4.2M	3.1M	E
30	E	3.3M	2.5M	E	E	E	B	G	3.2G	4.1	G	G	G	2.8G	G	3.7	G	2.7	3.0M	E	3.0M	3.8M	3.5M	3.2M
31																								
No.	29	28	28	28	28	22	18	29	29	29	28	26	25	29	28	29	27	25	28	30	30	29	30	30
Median	E	E	E	E	E	E	G	3.3	3.8	4.1	4.2	G	4.4	G	G	G	3.7	3.5M	3.3M	3.0M	3.0M	2.9M	2.4M	E
U.Q.	E	2.4	E	2.2	E	E	2.7	3.8	4.2	4.6	4.8	4.8	5.2	4.6	G	4.2	4.9	4.2	4.0	3.9	4.4	4.2	3.1	2.7
L.Q.	E	E	E	E	E	E	G	G	3.5	3.8	G	G	G	G	G	G	G	2.8	E	E	E	2.2	E	E
Q.R.									0.7	0.8								1.4				2.0		

foEs

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

IONOSPHERIC DATA

Sep. 1958 | fbEs | 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	1.9	2.2	2.8	1.5		B	D2.5B	3.5	D3.5B	3.1	D4.3B	4.6	5.0	4.8	4.8		4.8	4.9	3.5	3.7	3.0	2.6	E	2.0
2	S					B	2.7	3.7	4.8	4.1	4.3	B						B	2.2	4.0	2.6	5.3	2.0	E
3		1.9	1.9	2.1	2.0	D2.5B	2.6	4.1	4.4	D4.1B			B		4.3		3.5	B	S	E				
4									4.2	4.3	4.5			4.7	7.3	7.3	4.3	4.9	4.0	2.2	1.9	E	2.1	2.3
5		E				B	B	3.4	3.7	4.0	4.5	A	A	A	5.9	4.4	5.7	2.7	3.4	2.0	A	A	2.0	3.9
6	4.6	2.9	2.1	E		B	B	4.1	U6.0A	5.9	D5.5S	4.5	6.2	4.8	D3.7B		B	B	B	3.4	4.2	3.6	2.6	3.8
7	2.8	E		E	1.7	E		D2.6B	4.1	4.5	4.5	D5.0S	5.1	4.9	4.6	4.5	U2.8A	3.5	3.0	2.6	2.8	2.5	2.8	2.2
8						B	B			4.1	4.7	B	4.5	D4.3B	4.2			2.8	3.6	2.0	2.4	2.2		
9						B	B		D3.5B	D3.9B	B	D4.2B	4.3	3.3				2.8	2.9		2.2			3.5
10								D3.1S			4.6	4.8	D5.0S	4.5	B	U3.3A	D3.4S	3.2		E		E		
11	E	E		1.8		2.1	B		3.8	D3.9B			4.4			3.9	4.0	3.4		E	2.0	E		
12		2.3					D2.5B		G				4.7	4.5	3.2	2.9		S		2.2		S		
13						B	B	B	3.7	4.0	D3.9B	4.0				4.3	4.9	4.7	3.4		2.1	2.4		
14							2.7	3.5	4.0	C								3.1				2.5	2.1	
15									3.9	4.4	4.6	4.6		3.7				3.4	2.8	2.6	2.1	2.0		
16								3.3	3.8		4.2		5.3S	D3.7B	3.3									
17										4.0		D4.0B	3.4	D3.7B		4.1	5.2	3.1	6.0	2.4	E	3.4	2.5	2.0
18								3.1	3.7	4.0		4.5		U4.4S				B		2.6	2.6		2.2	
19	2.2							3.4	3.7	4.1	4.4	4.5	4.9		B	4.5	4.7	3.7	4.3	3.5	2.5	2.3	E	
20								3.2	3.8	D5.5B	6.9	5.2	4.9	D4.9S		4.0	8.6		3.7					
21		E		1.9	E		B	3.4	3.9	4.6	4.9	C	4.8	C	C	C	C	G				E	2.7	
22							2.6	G	3.8	4.1	4.5		B	3.1	2.8		3.6	4.0	2.8	3.9	2.2	2.6	2.0	
23	C	C	C	C	C			3.3	3.7	3.9								2.6			2.3	2.5	2.7	3.0
24	2.2	C	C	C	C	C	C	D3.0B	3.5		B	4.2					3.9	5.3	4.8	2.5		2.1	E	
25							B		D3.4B				5.1	D3.0B	2.7	3.8	3.7	2.7	E	E	6.1			
26			1.4	1.7	2.0	3.8	3.0	3.5	B	4.1			B			3.8	4.1	3.5	2.5	E	4.3	E		
27		2.3	A	3.6			B	4.3	3.9	4.1	4.8	B	B				B	2.4	2.9	3.8	2.2	3.0	2.7	
28			1.3	1.3	1.4		B	D3.0B	D3.3B	3.8	D3.8B		B		B	3.8	2.3	2.5		E	2.3	2.9		
29						E	2.4	3.5	3.1	D4.0B	4.0		B			G	3.3	2.7				2.3	2.0	
30		2.4	E				B		3.0	4.0				2.8		3.6		2.7	2.0		E	2.3	2.3	E
31																								
No.	6	10	7	9	5	5	6	16	22	21	15	11	15	13	10	15	16	23	18	21	21	23	17	10
Median	2.2	2.0	1.9	1.7	1.7	2.1	2.6	3.4	3.8	4.1	4.5	4.6	4.9	4.5	4.2	3.9	4.0	3.1	3.2	2.4	2.3	2.4	2.1	2.2

fbEs

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

The Radio Research Laboratories, Japan.

K 5

IONOSPHERIC DATA

Sep. 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	1.60	1.20	1.50	1.20	1.50	1.65	1.50	2.30	2.30	2.50	2.50	2.60	2.90	3.20	2.40	2.70	2.20	2.90	1.90	1.80	1.60	1.60	1.65	1.80
2	1.50	1.90	1.30	1.40	1.80	2.00	2.00	2.00	2.20	2.70	2.70	4.60	3.10	3.30	2.70	3.00	2.90	2.80	1.95	1.60	1.60	1.30	1.60	1.80
3	1.95	1.70	1.25	1.60	1.30	1.90	2.10	2.20	2.30	2.40	3.30	3.40	4.90	2.70	2.50	2.40	1.70	2.90	1.95	1.90	1.90	1.80	1.95	1.90
4	1.95	1.90	1.30	1.30	1.30	1.80	2.05	1.90	2.40	2.75	4.00	2.80	2.90	2.80	2.80	2.80	2.20	2.10	1.70	1.50	1.50	1.50	1.80	1.40
5	1.90	1.60	1.20	1.30	1.50	2.00	2.50	2.30	2.20	2.70	2.80	3.10	2.80	2.75	2.90	2.70	2.20	1.90	1.90	1.60	1.90	1.95	1.70	1.90
6	1.90	1.30	1.20	1.40	1.90	1.90	2.90	E 2.90 S	2.20	2.70	2.90	3.00	2.80	2.60	2.90	2.40	3.40	2.90	2.00	2.00	2.00	1.40	1.20	1.70
7	2.00	2.00	1.90	1.60	1.30	1.70	2.00	2.00	2.30	2.40	2.50	3.00	2.80	3.35	3.10	2.70	2.10	2.00	2.00	1.50	1.70	1.50	2.00	1.50
8	2.00	1.30	1.40	1.40	1.25	1.70	2.70	2.20	2.30	2.80	2.70	5.10	3.00	2.30	2.70	2.30	2.00	1.80	2.00	1.30	1.50	1.30	2.00	2.00
9	2.00	1.90	2.00	1.30	1.20	1.80	2.60	2.10	2.00	2.30	4.50	3.95	2.30	2.20	2.30	2.00	2.10	2.00	1.70	2.00	1.90	2.00	1.60	2.00
10	2.10	2.00	1.80	1.30	1.30	1.80	2.00	2.00	2.30	2.60	3.15	2.80	3.10	3.00	2.50	2.40	2.10	2.00	2.70	2.00	2.00	1.90	2.00	2.00
11	2.00	1.90	1.40	1.40	1.30	1.20	2.60	2.00	2.30	2.40	3.10	3.00	3.10	2.80	2.70	2.20	2.70	2.00	2.60	1.70	1.60	1.60	1.50	2.00
12	2.00	2.00	1.40	1.30	2.00	2.00	2.10	2.40	2.20	2.40	2.80	3.40	3.15	2.90	2.40	2.15	2.70	2.15	2.20	1.90	1.70	2.10	2.00	1.80
13	2.00	1.40	1.90	1.30	2.00	1.80	2.70	3.35	2.20	2.60	3.45	3.00	3.10	3.45	2.75	2.50	2.20	1.70	1.50	1.70	1.80	1.80	1.50	1.70
14	1.70	1.80	1.30	1.40	1.60	1.70	2.00	2.20	2.80	I 2.80 C	2.75	3.00	3.20	3.30	2.80	2.70	2.20	1.90	1.90	1.60	1.50	1.90	1.90	1.90
15	1.80	1.50	1.30	1.30	1.30	1.60	1.95	2.00	2.15	2.50	2.80	2.50	2.80	3.15	3.00	2.30	2.00	1.80	1.40	1.40	1.80	1.60	1.50	1.95
16	1.40	1.90	1.30	1.30	1.30	1.80	1.90	1.90	2.40	2.70	3.00	2.90	2.90	2.65	2.55	2.60	1.90	1.80	1.95	1.70	1.40	1.80	1.90	1.70
17	1.90	1.50	1.90	1.60	1.40	1.70	1.70	2.15	2.30	2.20	2.60	2.50	2.80	2.50	2.30	2.45	2.10	2.00	1.90	1.50	1.50	1.70	1.80	1.80
18	1.90	1.80	1.20	1.75	1.30	1.85	1.80	2.00	2.30	2.40	2.40	2.70	2.50	2.95	2.90	2.60	2.60	2.60	1.85	1.95	1.80	1.60	1.80	1.80
19	1.70	1.90	1.40	1.40	1.30	1.40	2.20	1.90	2.30	2.60	2.50	2.80	2.85	2.70	4.40	2.30	2.30	2.10	2.20	1.80	1.60	1.65	1.30	1.80
20	1.90	1.70	1.20	1.20	1.30	1.60	1.95	2.20	2.15	2.40	2.40	2.60	3.60	2.90	1.60	2.50	2.50	2.10	2.00	1.90	2.50	3.50	2.10	1.90
21	2.00	1.90	1.90	1.30	1.80	2.10	3.30	2.10	2.35	2.30	2.20	I 2.30 C	2.30	I 3.35 C	C	C	C	2.20	2.30	1.80	1.80	1.80	1.80	2.10
22	2.00	1.40	1.30	1.25	1.30	1.90	2.10	1.90	2.20	2.30	2.40	2.40	2.30	2.35	2.30	2.30	2.10	2.00	2.00	1.80	1.40	1.40	1.40	2.00
23	C	C	C	C	C	1.20	2.00	2.30	2.30	2.20	2.80	3.10	2.70	2.50	2.30	2.00	1.80	2.40	2.00	2.00	2.00	1.60	1.70	1.90
24	1.60	C	C	C	C	C	C	1.80	2.20	2.30	4.40	2.70	2.50	2.20	2.40	2.10	2.30	2.00	2.00	1.40	1.80	1.50	2.00	1.90
25	2.00	2.00	2.10	1.80	1.30	1.80	2.60	2.00	2.20	2.30	3.10	2.50	2.50	2.40	2.30	2.20	2.10	1.40	2.00	1.50	1.80	1.80	2.20	2.10
26	2.20	1.80	1.10	1.20	1.10	1.80	1.30	2.10	4.00	2.30	3.20	2.70	4.20	2.70	2.40	2.30	3.10	2.10	1.90	1.80	2.00	2.00	2.00	2.00
27	2.00	1.90	2.00	1.50	1.70	2.10	2.70	3.00	2.25	2.50	2.90	5.30	4.40	2.60	2.40	2.15	3.20	2.00	1.30	1.50	1.80	1.90	1.80	2.10
28	2.00	1.80	1.10	1.10	1.20	1.80	2.20	2.20	2.15	2.40	2.65	3.40	4.30	3.45	2.50	2.20	1.90	1.90	1.50	1.80	1.90	1.90	1.90	1.90
29	1.80	1.60	1.30	1.40	1.40	1.50	1.90	2.20	2.20	2.60	2.35	2.90	4.90	2.95	2.85	2.30	2.00	1.90	1.95	1.95	1.60	1.80	1.70	1.80
30	1.90	1.60	1.60	1.40	1.30	1.80	2.30	2.25	2.30	2.40	2.70	2.20	2.30	2.20	2.20	2.00	2.15	1.80	1.50	1.90	1.30	1.50	1.50	1.40
31																								
No.	29	28	28	28	28	29	29	29	30	30	30	30	30	30	29	29	29	30	30	30	30	30	30	30
Median	1.95	1.80	1.35	1.35	1.30	1.80	2.10	2.10	2.30	2.40	2.80	2.90	2.90	2.80	2.50	2.30	2.20	2.00	1.95	1.80	1.80	1.75	1.80	1.90

f-min

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

The Radio Research Laboratories, Japan.

K 6

IONOSPHERIC DATA

Kokubunji Tokyo

Lat. 35° 42.4' N
Long. 139° 29.3' E

Sep. 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	J 2.50 R	J 2.40 R	I 2.50 R	2.55	2.40	2.50	2.95	3.05	2.80	2.65	2.60	2.55	2.50	2.50	2.55	2.60 H	2.55	2.70	U 2.65 S	I 2.60 R S	U 2.50 S	I 2.60 R	2.70	U 2.60 R
2	I 2.50 S	2.50 R	J 2.45 R	J 2.40 R	U 2.45 R	J 2.50 R	U 2.95 R	3.00	2.85	2.70 H	2.65 H	2.50 H	2.50	2.55	2.50	2.55	2.70	2.70 S	J 2.75 S	U 2.75 S	2.55	I 2.50 R S	I 2.50 R S	2.55
3	I 2.60 R	2.70	2.50	2.45	2.40	2.55 S	2.95	2.85	2.75	2.70	2.55 H	2.50	2.55	2.50	2.50	2.50	U 2.55 S	2.65	2.75	2.50	2.35	I 2.50 R S	I 2.60 R S	I 2.65 R S
4	2.35	2.15 F	2.40	2.45 F	U 2.25 F	I 2.40 R S	2.60	2.45	2.45	2.55	2.40	2.40	2.40	2.50	2.35	2.55 S	2.65	2.55	2.65	I 2.40 R S	I 2.30 A	I 2.40 A	2.40	2.30
5	2.35	2.15	2.25 S	U 2.15 S	1.95	2.05	2.10 H	2.25	2.15	G	G	A	A	A	2.40	2.35	2.55	2.55	2.65	I 2.40 R S	U 2.35 S	I 2.40 S	J 2.50 R	I 2.50 R
6	2.40	2.30	2.35	2.45	2.30	2.40 S	2.90	2.85	3.05	3.00	2.80	2.75	2.70 R	2.60 R	2.55 R	2.60 R	J 2.60 S	2.70 S	U 2.75 S	I 2.65 S	U 2.35 S	I 2.40 S	J 2.50 R	I 2.50 R
7	I 2.55 R	I 2.75 R	I 2.80 R	2.70	2.65 S	2.60 S	J 2.90 R	2.95 R	3.00	2.70	2.55	2.60	2.50	2.55	2.55	2.55	2.60	2.65	J 2.60 S	R	R	I 2.50 R	2.55 S	2.65 R S
8	2.65 R	2.70 R	2.30	2.25	2.40	I 2.50 R	U 2.90 R	3.00	2.80	2.65	2.55	2.50	2.55	2.50	2.50	2.55	2.60	2.70 R	U 2.75 R	R	R	R	R	2.60 R
9	U 2.60 R	J 2.50 R	2.45 R	2.65 R	2.60 R	I 2.70 R	I 2.95 R	3.00	3.00	2.75	2.60	2.60	2.50	2.55	2.50	2.60	2.60	2.65	2.70 R	I 2.65 R	2.55 R	I 2.40 R	I 2.55 R	J 2.45 R
10	I 2.45 R	2.30 R	I 2.40 R	J 2.65 R	2.80 S	2.55	2.90 R	2.95 R	2.85	2.70	2.65	2.60	2.50	2.55	2.55	2.60	2.65	2.75	2.80 R	R	I 2.50 R	2.45 R	R	R
11	R	R	R	2.55 R	2.40 R	I 2.55 R	J 3.00 R	2.95 R	2.95	2.65	2.70	2.65	2.55	2.60	2.60	2.55	2.65	2.70	J 2.70 R S	R	I 2.45 R	I 2.45 R	U 2.55 R S	I 2.60 R
12	U 2.65 R	2.70 R	I 2.65 R	2.50 R	2.55 R	J 2.75 R	J 3.10 R	3.05 S	2.85	2.80	2.70 S	2.60 R	2.55 H	2.55	2.55	2.60	2.65	2.70	J 2.65 S	I 2.60 R S	I 2.55 R S	I 2.55 R S	U 2.65 R S	J 2.70 R
13	I 2.60 R	I 2.50 R	I 2.60 R	2.55	2.55 R	U 2.50 R	J 2.95 R	3.05	2.90	2.70	2.60	2.60	2.55	2.50	2.50	2.50	2.60	2.70	U 2.75 S	U 2.55 S	I 2.60 R S	I 2.55 R S	U 2.65 R S	R
14	2.70 S	2.65	J 2.55 S	J 2.55 R S	2.65 R	2.65	3.15	3.10	2.95	2.80	2.55 H	2.50	2.50	2.50	2.50	2.50	2.60	2.65	U 2.75 S	U 2.60 S	U 2.55 S	R S	R S	R
15	J 2.55 R	R	J 2.75 R	2.60	2.50 R	2.55 S	3.10	3.05	2.85	2.70	2.55 H	2.50 H	2.50	2.45	2.50	2.55	2.60	2.70	2.70	U 2.75 S	U 2.55 S	U 2.60 S	2.65 S	2.65 S
16	2.55 R	2.60	2.65	2.60 R	2.50 R	J 2.55 R	J 3.05 R	3.00	3.00	2.85	2.60	2.55 H	2.55	2.45	2.40	2.40	2.45	2.60	2.65 S	U 2.75 S	U 2.50 S	I 2.40 S	2.40 S	2.55 S
17	I 2.40 R S	2.10	I 2.35 R S	2.35	U 2.20 S	U 2.30 S	J 3.20 S	2.85	2.80	2.55 H	2.60	2.50 H	2.50	2.50	2.50	2.50	2.60	2.70 S	I 2.70 R S	2.55	U 2.50 R	R S	U 2.70 S	I 2.65 R
18	2.50 R	2.60	I 2.50 R S	2.45	2.40 R	2.55	2.95 R	3.15	2.95	2.75	2.70 R	2.70 H	2.60	2.60	2.55	I 2.60 S	2.75	2.75	U 2.75 S	I 2.80 S	U 2.70 S	I 2.75 S	J 2.75 S	2.75
19	2.65	U 2.80 S	2.70	2.55	2.60	2.65	3.10	3.10	3.05	2.90	2.70	2.60	2.60	2.55	2.55	2.60	2.70	2.80	2.80 S	R S	U 2.70 S	J 2.65 S	U 2.70 S	U 2.60 S
20	U 2.65 S	2.70	2.75	2.70	2.60	I 2.60 R	J 2.95 S	3.05	3.00	2.90	2.65	2.70	2.55	2.50	U 2.55 R	2.65	2.65	2.70	2.75	R	R	R	R	R
21	I 2.70 R	2.60 R	I 2.65 R	I 2.60 R	R	R	I 2.95 R	3.20 R	3.00	2.90	2.75	I 2.70 C	I 2.60 C	I 2.55 C	C	C	C	2.75	I 2.70 R	I 2.65 R	2.60 R	I 2.75 R	I 2.70 R	2.70 R
22	I 2.60 S	I 2.65 R	I 2.70 R S	2.75 R	2.70 R	2.75 R	2.95 R	3.15	3.05 R	2.95	2.60	2.70	2.65	2.55	2.60	2.70	2.75	2.80	2.90	I 2.85 R	U 2.65 S	J 2.70 R S	U 2.60 R S	J 2.65 R S
23	C	C	C	C	C	2.85	3.10 S	3.20	3.05	2.90	2.70	2.70	2.60	2.60	2.55	2.65	2.70	2.80	2.85 R	2.75 R	2.55 R S	2.60	2.60 R	2.80
24	2.85	C	C	C	C	C	C	3.15 R	3.00	2.70	2.60 R	2.70 R	2.60 R	2.60 R	2.60 R	2.60	2.70	2.75 R	2.85 R	R	R	R	U 2.55 R	2.65 R
25	2.55	2.50	2.55	2.55	2.60	2.65	3.00 R	3.10	2.95	2.70	2.65	2.65	2.60 R	I 2.60 R	U 2.55 R	2.55 R	U 2.60 R	I 2.65 R	2.60	2.75	R	R	2.35 R	I 2.40 R
26	I 2.40 R	2.25	2.30 R	2.35	2.40 R	I 2.55 R	I 2.55 R	R	J 2.45 R	2.25 R	2.05	I 2.00 R	2.20	2.10	2.25	2.45	2.45 R S	I 2.60 R	I 2.60 R	2.40 R	I 2.45 R	2.45 R	2.50	I 2.45 R
27	J 2.30 S	U 2.35 R	I 2.35 S	I 2.30 R	2.20	2.25 R	U 2.75 R	I 3.00 R	2.90	2.75 R	2.75	2.70	2.85 R	2.65	2.70	2.70	2.75	2.90	2.95 R	2.80 R	I 2.65 R	I 2.55 R	I 2.60 R	R
28	2.40	2.40	2.50	2.60	J 2.50 R S	2.40 R	3.00	3.25 R	3.10 R	2.80	2.70	2.65 H	2.65 R	2.60 H	2.60 H	2.60	2.70	2.80	J 2.80 S	2.75	2.70	I 2.65 R S	U 2.60 R	2.60
29	2.55 R	2.60	2.55	2.70	J 2.60 S	2.65	3.00	3.05	3.10	2.85	2.70	2.65 H	2.65	2.55	2.60	2.60	2.65	2.85	2.75 S	R S	2.70 S	I 2.75 R S	U 2.60 R	I 2.40 R S
30	U 2.55 R	2.50	2.60	2.70	2.85	2.65	3.05	3.15	3.00	2.90	2.70 H	2.60 H	2.60	2.55	2.60	2.60	2.65	2.85	2.75 S	R S	2.70 S	I 2.75 R S	U 2.60 R	I 2.40 R S
31																								
No.	28	26	27	28	27	28	29	29	30	30	30	29	29	29	29	29	29	30	30	22	25	23	25	25
Median	2.55	2.50	2.50	2.55	2.50	2.55	2.95	3.05	2.95	2.70	2.60	2.60	2.55	2.55	2.55	2.60	2.60	2.70	2.75	U 2.65	U 2.55	U 2.55	2.60	2.60

(M3000)F2

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

The Radio Research Laboratories, Japan.

K 7

IONOSPHERIC DATA

Sep. 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	L	L	I 3.30 L	I 3.35 L	L H		L						
2												L	3.40 L	L	3.15 L	L								
3										L		L	L	3.35 L	3.35 L	L	L							
4							L	L	3.20 L	3.40 L	3.15 L	S	S	3.20 L	A	A	L	A						
5								2.90	3.30	3.40	3.35 S	A	A	A	A	3.25	A							
6											L	L		L	L	L								
7												L	L	L	L	L								
8												L	L	L	L	L								
9												L	L	L	L	L	L							
10														L	L	L								
11										L			L	L	L	L								
12														L										
13												L	L	L	L	L								
14										C			L	L	L	L	L							
15													L H	L	3.25 L	L	L							
16													S	3.10 L	L	L	L							
17											L		L	L	L									
18														L	L									
19													L	L	L									
20														L	L									
21												C		C	C	C	C							
22													L	L	L									
23														L										
24													L	L										
25													L	L										
26									L	3.15 S I	3.25 L S	3.45	3.30	3.15 S	I 3.30 R	3.15	L							
27															L									
28																L								
29													L											
30													L	L										
31																								
No.								1	2	3	3	1	2	5	5	2								
Median								2.90	3.25	3.40	3.25	3.45	3.35	3.20	3.30	3.20								

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

IONOSPHERIC DATA

Sep. 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											L	315	380	395	380	L		310						
2												280H	395	375	400	360								
3										270		390	380	380	370	350	350							
4							310	350	360	380	460	460	460	450	E500A	440	L	320						
5								550	635	G	G	A	A	A	490	505	395							
6											340	350		390	400	365								
7												310	390	380	350	355								
8												365	390	390	345	350								
9												350	350	380	350	320	305							
10														350	355	350								
11										350			360	380	365	345								
12														350										
13												350	390	370	360	350								
14										E280C			355	380	385	360	350							
15									•				380	400	400	350	320							
16													400	400	400	380	355							
17											350		355	360	355									
18														350	350									
19													330	345L	350									
20														350L	350									
21												C		I355C	C	C	C							
22													315	330	340									
23														350										
24													355	300										
25													350	340										
26									365	450	550	570	550	670	600	465	405							
27															305									
28																350								
29													330											
30													350	350										
31																								
No.							1	2	3	6	5	10	20	26	21	16	7	2						
Median							370	450	365	365	460	350	370	370	360	350	350	315						

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

Sep. 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	310	345	345	≥95	305	305	≥45	≥35	≥35	≥10	≥30	≥10	≥50	≥45	≥45	≥40^{H}	E≥90^{A}	E≥75^{A}	≥70^{A}	305	310	≥95	≥75	≥95
2	325^{S}	325	310	325	305	340	≥50	≥45	≥50	≥30^{H}	≥00^{H}	≥05	≥30	≥10	≥45	≥45	≥55	≥55	≥80	≥60	≥95	I315^{A}	≥95	305
3	300	≥95	≥80	345	355	330	≥55	≥40	≥45	≥30	≥25^{H}	≥55	≥45	≥30	≥40	≥50	≥50	≥55	≥60	300	≥95	325	300	≥95
4	305	400	345	≥75	310	345	≥30	≥55	≥55	≥50	≥45	I≥30^{S}	U≥50^{S}	≥50	A	A	≥75^{A}	A	300^{A}	≥90	330	345	350	350
5	350	410	405	425	500	400	325^{H}	295	≥50	≥45	≥45	A	A	A	A	≥50	A	≥55	310	340	I395^{A}	I360^{A}	345	400^{A}
6	445^{A}	405	350	300	≥50	345	≥50	≥50	≥50	≥55	≥60	≥20	E315^{A}	E300$^{A}_{S}$	≥50	≥40	≥55	≥55	≥70	300	355^{A}	355	340	340^{A}
7	310	≥60	≥50	≥50	≥65	≥90	≥50	≥50	≥50	≥35	≥25	≥55^{S}	≥50	≥40	≥50	≥50	≥55	≥55	≥65	≥70	≥85	315	310	300
8	≥90	≥55	355	370	320	≥95	≥50	≥50	≥30	≥35	≥20	≥55	≥10	≥50	≥30	≥50	≥50	≥60	≥70	≥65	≥70	305	300	300
9	300	320	315	≥80	≥40	≥65	≥50	≥50	≥45	≥10	≥25	≥30	≥25	≥40	≥50	≥45	≥50	≥55	≥65	≥55	≥60	305	305	335
10	325	375	350	≥60	≥40	≥75	≥50	≥40	≥35	≥25	≥30	≥10	≥55	≥45	≥60	≥45	≥55	≥55	≥60	≥55	≥60	300	305	300
11	320	350	300	≥80	≥40	320	≥50	≥45	≥30	≥40	≥50	≥40	≥20	≥40	≥50	≥50	≥50	≥55	≥75	≥65	≥55	310	305	300
12	300	≥85	≥65	≥80	300	≥75	≥50	≥45	≥35	≥30	≥35	≥30	≥30^{H}	≥45	≥45	≥50	≥50	≥55	≥60	≥70	≥95	300	≥95	≥85
13	300	300	≥95	≥55	305	320	≥60	≥40	≥20	≥30	≥30	≥30	≥40	≥45	≥50	≥50	≥60	≥80^{A}	≥55	≥70	300	300	≥80	≥80
14	≥75	≥80	≥95	≥95	305	300	≥55	≥50	≥30	I≥30^{C}	≥30^{H}	≥30	≥35	≥30	≥45	≥50	≥50	≥60	≥90	≥55	≥55	310	305	≥80
15	300	≥80	≥55	≥50	≥80	320	≥50	≥35	≥30	≥30	≥30^{H}	≥30^{H}	≥20^{H}	≥40	≥50	≥50	≥50	≥70	≥80	≥75	≥80	≥90	≥85	≥80
16	≥95	300	≥80	≥60	≥95	330	≥50	≥45	≥45	≥30	≥20	≥30^{H}	≥50	≥30	≥45	≥50	≥50	≥75	≥55	≥90	300	340	350	300
17	330	400	355	320	430	360	≥45	≥30	≥30	≥30^{H}	≥30	≥50^{H}	≥30	≥40	≥50	≥50	≥60^{A}	≥55	I≥60^{A}	≥80	320	305	≥75	≥90
18	305	300	≥80	≥80	330	320	≥50	≥45	≥30	≥30	≥30	≥45^{H}	≥50	≥40^{S}	≥50	≥50	≥50	≥55	≥55	≥70	≥75	≥60	≥60	≥70
19	≥75	≥55	≥70	≥90	≥95	300	≥50	≥45	≥40	≥25	≥25	≥30	≥45	≥55	≥50	≥60	≥50	≥55	≥50	≥75	≥80	≥75	≥70	≥75
20	≥80	≥80	≥60	≥55	≥70	305	≥55	≥45	≥35	≥50	≥60	≥40	≥55	≥50	≥50	≥55	E340^{A}	≥65	≥55	≥50	≥90	≥90	≥55	≥50
21	≥55	≥75	300	≥75	≥80	≥90	≥55	≥45	≥40	≥30	≥50	I≥50^{C}	≥50	I≥50^{C}	C	C	C	≥55	≥50	≥55	≥90	≥60	≥60	≥55
22	≥75	≥70	≥80	≥55	≥55	≥60	≥50	≥50	≥35	≥20	≥30	≥20	≥25	≥40	≥45	≥50	≥60	≥70^{A}	≥50	≥50	≥60	≥75	≥55	≥60
23	C	C	C	C	C	≥60	≥50	≥45	≥30	≥10	≥40	≥20	≥50	≥40	≥40	≥40	≥50	≥65	≥50	≥30	≥90	≥90	≥90	≥90
24	≥75	C	C	C	C	C	C	≥40	≥15	≥30	≥40	≥50	≥40	≥40	≥50	≥50	≥60	≥70	≥55	≥40	≥30	≥50	≥80	≥90
25	300	325	320	300	≥80	300	≥50	≥40	≥30	≥30	≥20	≥10	≥50	≥30	≥50	≥50	≥55	≥70	300	≥55	E330^{A}	≥40	320	315
26	≥55	325	305	≥90	340	≥65	≥50	≥50	≥55	≥80	≥60	≥50	≥40	≥55	≥50	≥50	≥70	300	≥90	300	350^{A}	300	305	335
27	310	350	I420^{A}	425	370	400	≥60	≥50	≥30	≥30	≥50	≥50	≥40	≥35	≥30	≥45	≥55	≥50	≥40	≥50	≥55	≥90	300	300
28	340	350	310	≥70	300	310	≥50	≥50	≥30	≥20	≥10	≥25	≥25	≥40	≥45	≥45	≥50	≥50	≥45	≥45	≥90	≥95	≥60	≥90
29	300	≥70	300	≥60	≥60	≥80	≥45	≥45	≥40	≥30	≥20	≥10^{H}	≥50	≥40^{H}	≥45^{H}	≥45	≥50	≥55	≥50	≥50	≥95	≥55	≥95	300
30	305	345	350	≥90	≥55	≥75	≥45	≥40	≥40	≥30	≥10^{H}	≥10^{H}	≥10	≥30	≥45	≥45	≥55	≥70	≥50	≥50	≥55	≥55	300	330
31																								
No.	29	28	28	28	28	29	29	30	30	30	30	29	28	28	27	28	26	28	30	30	29	30	30	30
Median	300	310	300	280	300	305	250	245	235	230	230	230	240	240	250	250	250	255	260	265	290	300	300	300

h'F

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

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

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	110	105	105	105	E	B	150	130	115	105	105	130	125	130	125	G	130	115	105	105	105	105	100	105
2	110	E	E	E	E	B	130	115	110	115	115	B	G	G	G	G	G	B	130	110	105	105	110	105
3	E	105	105	105	105	120	150	125	125	125	G	G	B	G	125	G	110	B	S	125	E	E	E	E
4	E	E	E	E	E	E	G	G	130	145	145	G	G	140	130	125	125	115	110	110	125	110	105	105
5	E	110	E	E	E	B	B	130	130	125	110	105	105	105	105	110	105	130	110	105	105	105	105	105
6	105	105	105	105	E	B	B	140	125	115	110	105	105	105	105	G	B	B	B	105	105	105	105	105
7	105	105	E	105	105	110	G	105	125	120	115	110	110	105	105	105	145	130	105	105	105	105	100	100
8	E	E	E	E	E	B	B	G	G	140	125	B	110	110	120	G	G	115	110	100	100	105	E	E
9	E	E	E	E	E	B	B	G	140	140	B	130	140	105	G	G	G	140	120	E	100	E	E	100
10	E	E	E	E	E	E	G	140	G	G	110	105	105	105	105	105	105	105	E	100	E	100	E	E
11	105	105	E	105	E	105	B	G	140	125	G	G	155	G	G	160	140	130	E	105	105	105	E	E
12	E	100	E	E	E	E	140	G	120	G	G	G	105	105	100	100	G	S	E	105	E	S	E	E
13	E	E	E	E	E	B	B	B	120	110	110	110	G	G	G	150	130	120	110	E	105	105	E	E
14	E	E	E	E	E	E	130	120	120	C	G	G	G	G	G	G	G	120	E	E	E	105	105	E
15	E	E	E	E	E	E	G	G	105	110	110	105	G	110	G	G	G	130	115	105	105	110	E	E
16	E	E	E	E	E	E	G	130	130	G	130	G	105	105	105	G	G	G	E	E	E	E	E	E
17	E	E	E	E	E	E	G	G	G	130	G	105	105	105	G	155	140	120	110	105	105	105	105	105
18	E	E	E	E	E	E	G	E 155 B	145	145	G	115	G	110	G	G	G	B	E	110	105	E	105	E
19	100	E	E	E	E	E	G	140	130	130	125	115	125	G	B	140	120	115	105	105	105	105	105	E
20	E	E	E	E	E	E	G	130	120	120	110	110	115	110	G	110	110	G	110	E	E	E	E	E
21	E	100	E	105	105	E	B	140	140	120	115	C	120	C	C	C	C	120	E	E	E	100	100	E
22	E	E	E	E	E	E	150	120	105	110	105	G	105	100	105	G	140	125	110	105	100	105	105	E
23	C	C	C	C	C	E	G	120	120	130	G	G	G	G	G	G	G	135	E	E	105	105	105	100
24	100	C	C	C	C	C	C	125	115	G	B	155	G	G	G	G	150	125	110	105	E	105	105	E
25	E	E	E	E	E	E	B	G	120	G	G	G	130	105	105	165	145	125	125	105	105	E	E	E
26	E	E	120	120	120	125	125	125	B	150	G	G	B	G	G	150	130	120	110	110	105	110	E	E
27	E	110	105	105	E	E	B	115	120	105	105	B	B	G	G	G	B	120	105	105	105	105	105	E
28	E	E	105	105	105	E	B	150	140	120	110	G	B	G	105	135	105	115	E	110	105	105	E	E
29	E	E	E	E	E	110	105	105	105	125	120	G	B	G	G	155	145	120	E	E	E	105	105	E
30	E	105	105	E	E	E	B	G	110	130	G	G	G	105	G	160	G	120	100	E	105	105	105	105
31																								
No.	7	10	7	9	5	5	8	19	26	24	18	13	16	17	13	15	17	23	18	21	21	23	17	10
Median	105	105	105	105	105	110	135	125	120	125	110	110	110	105	105	140	130	120	110	105	105	105	105	105

h'Es

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Sep. 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	f_2	f_2	f_2	f			h	h	c	l	l	$c.l$	h	h	h		$h2$	l_2	l'	f_2	f_2	f'	f	f_2
2	f						c	c	l_2	c	l								f	f_3	f_3	f_3	f	f
3		f	f_2	f	f	l	h	h	c	h					h		c			f				
4									h	h	h			h	h	c_2	c	l_3	f_2	f_2	f	f	f_2	f_3
5		f						h	h	h	l	l_2	l_3	l_2	l	c	l_3	h	f_3	f_2	f_3	f'	f_2	f_2
6	f'	f_3	f_2	f				h	h_2	c	c	l	l	l	l					f	f_2	f_3	f_2	f_3
7	f_2	f		f	f	f		l	c	c	c	c	l	l	l	l_2	$h.l$	h	f	f	f	f	f	f
8										h	c		l	l	c			c	f_2	f	f	f		
9									h	h		h	h	l				h	f_2		f			f
10								h			l	l	l	l	l	l	c	l		f		f		
11	f	f		f		f_2			h	h			h			h	h	h		f	f	f		
12		f					h		c				l_2	l	l	l				f				
13									c	l	l	l				h	h_2	c_3	f_3		f_2	f		
14							l	c_2	l									l				f	f	
15									$l.c$	c	l	l		l				h	f_2	f_3	f	f		
16								h	h		h		l	l	l									
17										h		l	l	l		h	h	c	f_2	f_2	f_2	f_2	f_3	f_2
18								h	h	h		c		l						f_2	f_2		f	
19	f							h	h	h	h	l	h			h	l	l_3	f	f_2	f_2	f_2	f	
20								h	h	c	c	c	c	l		l	l		f					
21		f		f_3	f			h	h	c	c		c					c				f	f	
22							h	c	$l.c$	l	l		l	l	l		h	c	f_2	f_2	f	f_2	f	
23								l	c	h								c			f	f_2	f	f
24	f							c	l			h					h	c	f_2	f_2		f	f	
25									c				h	l	l	h	h	c	f	f	f_3			
26			f_2	f	f_3	f_2	c	c		h						h	h	l	f	f	f_2	f		
27		f	f_6	f				l	c	l	l							l	f_3	f_2	f_2	f_2	f	
28			f	f	f			h	h	h	l				l	$h.l$	l	l		f	f_2	f_2		
29						f	l	l_2	l	h	h					h	h	h				f_2	f	
30		f_3	f						l	$h.l$				l		h		l_2	f		f	f_2	f_2	f
31																								
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

Sep. 1958 | hpF2 | 135° E Mean Time (G.M.T.+ 9h.) | Kokubunji Tokyo | Lat. 35° 42.4' N | Long. 139° 29.3' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J430R	J455R	I420R	410	460	430	340	325	350	400	405	420	445	445	425	405H	440	395	U385S	I385RS	U405S	I400R	395	U445R
2	I435S	445R	J440R	J445R	U430R	J440R	U335R	320	350	395H	400H	440H	450	435	450	410	400	390	J370S	U355S	395	I420AS	I410RS	410
3	I410R	400	415	455	450	425S	320	340	365	390	425H	440	440	440	440	425	405	U395S	U360S	U395S	I430S	I435RS	I405RS	I395RS
4	450	550F	460	440F	U500F	I460RS	400	425	410	405	490	475	480	460	A	440S	U425S	395	380	410	480RU	460R	475S	465
5	460	560	525SU	550S	685	560	600H	G	G	G	G	A	A	A	A	500	400	400	400	I450RS	I500A	I470A	450	480
6	455	495	485	455	500	450S	325	340	320	340	400	390	400R	405R	425R	410R	J400S	385S	U370S	I405S	U460S	I450RS	J450R	I450R
7	I405R	I380R	I345R	360	390S	390S	J335R	340R	320	380	415	400	430	425	405	410	400	390	J390S	R	R	I435R	415S	400R
8	345R	375R	490	500	455	I420R	U340R	320	350	380	410	435	425	435	440	420	405	380RU	375R	R	R	R	R	405R
9	U405R	J440R	450R	390R	395R	I375R	I320R	320	315	350	400	405	420	425	435	420	400	390	360R	I390R	405R	I450R	I430R	J450R
10	I440R	500R	I460R	J400R	340S	400	325R	320R	350	380	405	410	430	430	420	425	400	370	365R	R	I440R	430R	R	R
11	R	R	R	400R	460R	I410R	J315R	310R	320	400	390	400	425	425	420	410	405	390	J365RS	R	I435RS	I445RU	U425RS	I410R
12	U400R	375R	I395R	420R	405R	J365R	U310R	305S	360	375	400S	405R	405H	425	420	405	400	395	J395S	I395RS	I410RS	S	RS	R
13	I400R	I410R	I400R	400	410R	U425R	J330R	310	340	375	400	410	440	450	440	420	405	390	U380S	U400S	I405RS	I405RS	U400S	J395R
14	390S	400	J405S	J405RS	405R	400	405	305	330	350	430H	440	435	445	445	440	415	400	U360S	U395S	U410RS	RS	RS	R
15	J415R	R	J385R	395	405R	405S	305	310	345	410	420H	440H	450	455	450	420	400	395	375	U395S	405S	U400S	405S	395S
16	405R	405	400	395R	405	J420R	310R	320	325	370	405	420H	445	450	460	450	445	410	395S	U385S	U450RS	I465RS	460S	410S
17	I450RS	580	I480RS	475	U560S	U495S	J295S	350	360	425H	405	445H	435	445	435	425	395	390S	I390RS	405	U440R	RS	U400S	I390R
18	430R	405	I420RS	430	455R	410	345R	305	335	370	395R	400H	410	405	405	I410S	395	360	U355S	I370S	395	I380S	J380S	380
19	385	U350S	390	405	400	400	320	310	315	350	390	405	410	415	425	405	395	365	350S	RS	U370S	J385S	U400S	U395S
20	U400S	380	360	375	400	I400R	J320S	305	325	340	400	400	415	440	U420R	410	400	390	390	R	R	R	R	R
21	I380R	395R	I400R	I395R	R	R	I310R	300R	315	340	380	I390C	I410C	I420C	C	C	C	370R	I370R	I375R	405R	I370R	I365R	390R
22	I400RS	I400R	I375RS	360R	385R	360R	315R	305	305R	340	395	400	400	410	405	395	385	370	345	I350S	U395S	J400R	U395R	J385RS
23	C	C	C	C	C	350	305S	295	310	340	380	390	410	400	405	400	390	360	350R	390R	400RS	405	400R	355
24	355	C	C	C	C	C	C	290R	315	360	400R	400R	420R	415R	410R	405	390	390R	340R	R	R	R	U400R	395R
25	415	430	420	405	400	400	315R	300	305	370	400	400	425R	I420R	U415R	425R	U400R	I395R	400	350	R	R	490R	I470R
26	I450R	500	495R	470	460R	I400R	I400R	R	J450R	515R	600	I600R	515	G	G	470	440RS	I410R	I400R	450R	I450R	450	425	I450R
27	J460RS	U420R	I485S	I490R	515	500R	U345R	I310R	345	395R	365	400	400R	405	400	390	355	335	310R	345R	I385R	I395R	405R	400R
28	455	465	440	370	J410RS	435R	320	300R	280R	325	380	395	400R	405	400	390	380	355	J350S	350	390	I390RS	U400R	R
29	405R	395	400	380	J400S	400	310	305	305	350	390	405H	405	415H	405H	400	390	360	360	I355S	350	I375RS	405S	400
30	U400R	405	400	380	345	390	300	300	320	330	395H	400H	405	425	410	405	395	360	375S	RS	390S	I390RS	U400R	I450RS
31																								
No.	28	26	27	28	27	28	29	28	29	29	29	29	29	28	26	29	29	30	30	22	25	23	25	25
Median	410	410	420	405	410	410	320	310	325	370	400	405	425	425	420	410	400	390	370	U390	U405	U405	405	400

hpF2

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

Sep. 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	J120R	J140R	I150R	135	140	130	150	125	145	150	135	135	125	115	130	145H	110	150	U120S	I130RS	U135S	I110R	100	U100R
2	I90S	125R	J115R	J125R	U155R	J110R	U80R	130	100	110H	135H	115H	130	110	110	145	105	110	J120S	U120S	150	I120AS	I100RS	105
3	I105R	110	165	140	135	115S	95	105	135	115	125H	115	115	130	120	170	145	U110S	U135S	U120S	I105S	I110RS	I105RS	I105RS
4	150	145F	135	160F	U140F	I135RS	145	170	190	180	115	120	125	100	A	110S	U100S	100	120	150	135R	U140R	130S	140
5	150	140	125SU	140S	175	200	110H	G	G	G	G	A	A	A	A	100	100	150	120	I170RS	I140A	I140A	145	130
6	140	150	115	140	105	145S	125	150	110	90	100	100	110R	125R	150R	130R	J155S	115S	U150S	I155S	U180S	I130RS	J115R	I120R
7	I130R	I125R	I170R	150	115S	120S	J105R	125R	120	150	145	150	150	125	145	160	150	150	J150S	R	R	I115R	135S	150R
8	155R	130R	160	155	145	I160RU	165R	130	155	140	130	120	125	120	130	125	145	140R	U140R	R	R	R	R	115R
9	U120R	J135R	150R	135R	155R	I130R	I120R	130	145	150	155	130	130	125	130	130	145	200	150R	I150R	145R	I130R	I105R	J150R
10	I125R	120R	I160RJ	130R	160S	150	125R	155R	130	130	125	120	120	120	140	130	125	125	160R	R	I120R	145R	R	R
11	R	R	R	170R	130RI	140RJ	125R	140R	180	105	130	130	125	115	120	140	135	110	J135RS	R	I155RS	I130RU	115RS	I125R
12	U120R	115R	I130R	160R	145R	J125R	J120R	135S	120	120	100S	140R	150H	120	115	135	110	130	J115S	I110RS	I120RS	S	RS	R
13	I125RS	I120R	I155R	165	130RU	135RJ	105R	110	105	165	115	140	115	105	120	130	145	130	U115S	U155S	I105RS	I100RS	U100S	J100R
14	105S	110	J110S	J115RS	100R	100	100	95	95	160	125H	110	125	120	140	150	130	105	U135S	U115S	U130S	RS	RS	R
15	J125R	R	J105R	150	135R	125S	90	90	115	85	120H	130H	100	120	115	130	135	150	125	U100S	120S	U105S	105S	105S
16	100R	100	110	105R	150	J120R	105R	85	110	105	145	135H	105	135	135	135	145	130	110S	U100S	U110S	I125RS	135S	110S
17	I130RS	120	I120RS	130	U100S	U135S	J105S	130	130	125H	125	115H	130	115	125	125	145	110S	I110RS	105	U100R	RS	U95S	I130R
18	120R	100	I115RS	130	135R	130	105R	85	95	110	105R	105H	120	115	135	I110S	105	135	U100S	I105S	100	I110S	J110S	95
19	110	U140S	110	135	105	105	90	90	95	110	115	105	125	140	125	125	110	130	110S	RS	U125S	J110S	U100S	U100S
20	U110S	95	90	100	110	I120R	J100S	105	100	120	140	125	135	120	U145R	135	140	110	130	R	R	R	R	R
21	I160R	130R	I110R	I195R	R	R	I150R	105R	135	115	120	I110C	I130C	I120C	C	C	C	135R	I140R	I150R	145R	I160R	I165R	160R
22	I150RS	I145R	I125RS	130R	125R	120R	140R	95	135R	100	115	100	110	135	130	105	100	115	100	I110S	U100S	J105R	U100R	J115RS
23	C	C	C	C	C	100	100S	65	95	120	125	110	130	120	125	100	115	115	130R	120R	165S	120	150R	125
24	100	C	C	C	C	C	C	125R	125	140	115R	110R	120R	125R	115R	125	130	110R	115R	R	R	R	U135R	145R
25	125	140	120	145	130	110	140R	100	135	140	120	130	115RI	110RU	125R	115R	U120R	I120R	135	185	R	R	140R	I140R
26	I145R	170	145R	165	130RI	140RI	160R	R	J105R	175R	175	I260R	205	G	G	110	185RS	I160RI	180R	150R	I135R	150R	130	I155R
27	J180RS	U220RI	115SI	135R	145	150RU	165RI	190R	105	90R	135	100	100R	105	110	125	135	115	105R	155RI	145R	I160R	145R	170R
28	165	145	125	130	J140RS	165R	135	65R	160R	115	110	105	100R	125	110	105	115	135	J95S	150	110	I110RS	U105R	R
29	105R	110	110	120	J100S	95	95	100	85	100	105	90H	110	115H	120H	105	105	110	95	I100S	95	I120RS	105S	100
30	U105R	125	100	115	105	100	115	95	110	100	105H	105H	110	95	120	95	110	90	80S	RS	100SI	105RS	U105RI	110RS
31																								
No.	28	26	27	28	27	28	29	28	29	29	29	29	29	28	26	29	29	30	30	22	25	23	25	25
Median	125	130	120	135	135	130	115	110	120	120	125	115	125	120	125	125	130	120	120	U125	U125	U120	110	120

ypF2

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

The Radio Research Laboratories, Japan.

K 14

IONOSPHERIC DATA

Sep. 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	I9.2S	I9.0S	8.7	7.6	7.2S	7.3S	8.9	11.4	11.5	11.5	12.5H	13.5H	I13.6SH	13.6H	13.4SH	12.7H	12.3H	12.0H	12.0	12.1	11.3S	I11.4S	U11.0S	U10.5SH
2	J9.9S	J10.1S	I9.8S	8.5	8.8	8.6	U9.7S	12.8	11.5	11.4H	11.9H	12.5H	13.1H	13.1H	13.0H	12.7H	13.0H	12.8SH	12.4	11.6	I10.8S	11.4S	11.2S	10.5
3	U9.4S	I9.0S	U8.5S	7.5S	7.2S	7.1	8.9	11.6	11.0	11.6	12.3H	13.3SH	I14.0SH	14.2H	I14.0SH	14.0SH	13.6H	12.8SH	12.1	12.1S	U10.9S	J9.9S	U9.5S	9.2S
4	8.5	I7.5S	J8.2S	8.8	6.8	7.4	8.5	U9.6S	10.6SH	12.1	11.1H	11.2H	12.3H	12.3H	11.0H	11.2H	10.5SH	11.0H	10.9	9.2S	J8.3S	J8.2S	8.5V	I8.7S
5	8.5	7.3S	5.8	I5.4W	I5.2W	5.2	5.3	6.8H	W	7.5	G	7.0W	8.0	7.2W	8.9	9.4	10.3S	U10.4SH	J10.4S	U10.0S	I8.8S	J8.3S	J8.3S	I8.2S
6	7.4	6.6	6.6	6.4	6.2S	5.5	6.5	I10.0S	11.8	10.7H	10.9H	12.0H	12.2	12.1	12.6	U13.0S	U13.4S	I13.4S	U13.0S	U12.4S	S	S	S	R
7	S	S	I11.1S	8.5	6.9	5.9	7.1	11.0	12.0	10.6	11.1H	11.7H	12.5H	13.1H	13.1H	13.1H	13.5H	13.5SH	13.1S	I12.2SH	S	S	J11.8S	10.9S
8	I10.3S	U9.4S	J7.9S	7.2	U7.7S	U7.6S	8.8	10.9	11.5	11.7H	12.4	12.9H	13.0H	13.5H	13.5H	13.4H	13.1H	12.8H	12.7S	13.0	S	S	S	S
9	S	S	S	U10.6S	9.3	J8.2S	9.1	10.8	10.9	10.9H	11.8H	13.0H	13.2H	13.4H	13.5H	I13.6SH	I13.7SH	13.5	12.9R	12.0	11.5S	I11.9S	U12.4S	I12.0S
10	U11.5S	I9.9S	9.3S	9.3	8.8S	6.2S	7.6S	11.4S	11.8	12.2	13.1H	14.0H	15.0H	U15.1SH	U15.0SH	14.5H	14.5SH	13.9S	13.1	12.1	I10.7S	U11.4S	U11.5S	U11.5S
11	J10.8S	U9.5S	8.8	J8.5S	7.7S	U7.8S	9.2	11.8	U12.7R	12.6H	13.0	I13.8S	14.0H	14.1H	13.6H	12.9H	12.9H	13.0S	12.5	11.6S	I12.0S	I12.4S	U12.5S	I12.1S
12	I11.6S	11.0	J9.7S	8.6	J8.2S	7.4	8.6	11.3	11.5	12.7	13.7	14.1H	J14.0SH	14.5H	14.0SH	14.0H	13.1H	12.8H	12.6S	12.7S	S	S	S	U12.4S
13	J11.9S	J10.8S	9.0	J8.0S	7.5	7.4S	9.3	12.6	12.5H	12.0H	12.9H	14.0SH	14.5SH	15.3H	15.3H	14.5H	I14.2SH	13.8SH	13.0	12.6S	U13.6S	S	S	S
14	I13.5S	U12.3S	I10.4C	U9.7S	8.9	8.1S	9.5S	11.9	12.6	12.0	12.6H	14.0H	15.2SH	D14.5SH	D14.5SH	D14.5SH	D14.5SH	D14.6SH	15.6S	S	S	S	S	S
15	D13.8S	I14.0S	D13.8S	12.2S	J11.0S	I10.8S	11.8S	12.3	12.1H	12.2H	I13.2C	13.8H	14.5H	14.5H	14.7SH	I14.5SH	13.7H	I13.4S	12.9	12.4	I12.4S	I12.4S	I12.5S	I12.3S
16	I12.1S	J11.5S	I11.0S	J9.8S	8.9	U7.7S	9.2	12.5	12.5	12.1	12.4H	13.5H	13.9H	I14.0SH	I14.4SH	I14.4SH	S H	S	U13.5S	I12.0S	I10.0S	9.3	U9.5S	9.4S
17	8.7	U7.7S	U7.8S	J7.7S	6.7	7.2	8.8	U9.9S	J11.2R	12.6H	14.5H	14.5H	14.4SH	14.4H	14.5H	I14.5SH	13.6H	13.1SH	12.7	12.0	J12.0S	I13.4S	13.0	J10.9S
18	9.3	9.1	9.0	J8.6S	7.6S	J7.9S	I9.6S	13.5	13.4	12.9H	13.1	14.0H	14.6H	14.6H	14.4SH	15.0SH	15.0H	14.3	13.6	13.0	U13.3S	12.7S	I13.0S	I12.6S
19	I11.4S	I10.2S	8.8	J8.2S	7.5	7.4	8.7	12.6S	13.6	12.0	12.8H	13.5H	J13.9SH	14.0H	14.0H	14.5H	14.5H	J13.8S	13.5	12.5S	U12.4S	I12.8S	I12.5S	I11.6S
20	J10.6S	J10.3S	10.0S	U9.8S	J7.9S	7.5S	9.1	13.0	13.6	12.9	12.5	13.1H	13.7H	I14.6SH	15.0SH	I15.1SH	I15.1SH	I15.0SH	S	S	S	S	S	S
21	S	U11.9S	I11.2S	J10.3S	8.8	6.7	8.3	11.7	12.5	13.0	13.1	13.6	13.8H	14.0H	I14.2SH	14.5H	14.2SH	U14.2S	14.0	13.9	I13.6S	13.6	J12.6R	12.1
22	I12.2S	J10.9S	10.3S	10.0	8.5	7.5	8.6	12.4	13.1	12.4	12.6H	I14.0SH	J14.4SH	14.5H	14.4SH	I14.4SH	J14.4SH	S	S	S	S	S	S	S
23	S	S	I10.8S	9.5S	8.6	J7.8S	8.5	11.9	12.5	11.9	12.3H	13.1H	I13.9SH	I14.0SH	I14.2SH	U14.0SH	13.9SH	I14.0S	13.5	U12.5S	S	S	S	S
24	U12.9S	11.1S	J11.0S	9.3S	8.3S	7.3S	8.6	11.1	12.1	11.6	12.8H	13.6H	14.4H	I14.5SH	I14.5SH	I14.5SH	14.8H	S	S	U13.0S	U12.1S	I12.3S	J11.4S	I10.2S
25	9.4S	8.5S	U8.4S	7.9S	7.1S	6.9	8.1	12.0S	12.5	12.0	12.7H	13.9SH	14.6H	15.2SH	S H	S H	S H	S	S	S	S	11.7S	J10.4S	J10.4S
26	11.0	J8.4SH	8.2S	J8.4S	8.0S	9.0S	U9.6S	S	I15.0C	I15.0S	S H	S H	13.3	10.8V	9.6S	8.9	8.8	9.0	9.3	8.8	C	C	C	C
27	C	C	C	C	C	C	C	C	13.8	13.6	14.0	14.5H	15.0H	14.8H	14.6SH	15.0SH	I14.8SH	I14.5S	13.6	12.6	12.1	U13.0S	I12.3S	11.8
28	S	S	S	S	S	J7.8S	8.4	12.4S	12.2	11.7H	I13.4SH	J14.6SH	15.1H	U15.3SH	S H	S H	U14.5SH	14.0	13.0	12.4	11.9	12.0	J11.6S	J10.6S
29	9.3S	9.0S	8.6	8.7	7.2S	6.6	7.4	10.7	12.4	12.5	12.9	U13.9S	14.5H	U14.9SH	I15.1SH	15.0SH	I14.6SH	13.9	13.6	12.5	11.9	U11.9S	J10.9S	U9.7S
30	J10.2S	J10.7S	I10.2S	J9.8S	8.5	7.5S	7.9	11.5	12.5	12.5	13.3	13.6SH	J14.4SH	14.9H	15.0SH	U14.4SH	I14.5SH	J14.0S	U14.0S	U14.0S	S	S	U12.5S	S
31																								
No.	24	25	27	28	28	29	29	28	29	30	29	29	30	30	28	28	28	26	26	26	19	19	21	21
Median	10.4	9.9	9.0	8.6	7.8	7.4	8.7	11.6	12.4	12.0	12.7	13.6	14.0	14.3	14.2	14.4	13.8	13.5	13.0	12.4	U11.9	U11.9	U11.6	U10.9
U.Q	11.8	11.0	10.4	9.8	8.7	7.8	9.2	12.4	12.6	12.6	13.1	14.0	14.5	14.6	14.6	14.5	14.5	14.0	13.5	12.6	12.4	12.7	12.5	12.0
L.Q	9.3	8.8	8.4	8.0	7.2	7.0	8.2	11.0	11.5	11.6	12.3	13.0	13.3	13.5	13.4	13.0	13.1	12.8	12.5	12.0	10.8	11.4	10.6	10.0
Q.R	2.5	2.2	2.0	1.8	1.5	0.8	1.0	1.4	1.1	1.0	0.8	1.0	1.2	1.1	1.2	1.5	1.4	1.2	1.0	0.6	1.6	1.3	1.9	2.0

foF2

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

The Radio Research Laboratories, Japan.

Y 1

47

IONOSPHERIC DATA

Sep. 1958 | foF1 | 135° E Mean Time (G.M.T.+ 9h.) | Yamagawa | Lat. 31° 12.5' N | Long. 130° 37.7' E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3																								
4																								
5									5.5	L	5.6	5.6	5.8	5.6	5.8	5.9	5.9							
6													6.8	7.0	6.5	6.5	6.2	L						
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15											C													
16																								
17																								
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26													6.8	6.7	6.0	5.9	5.5							
27							C	C																
28																								
29																								
30																								
31																								
No.									1		1	1	3	3	3	3	3							
Median									5.5		5.6	5.6	6.8	6.7	6.0	5.9	5.9							

The Radio Research Laboratories, Japan.

foF1

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

Y 2

IONOSPHERIC DATA

Sep. 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							A	2.80	I3.20A	3.50	I3.90S	I4.00S	I4.20R	4.30	4.15	4.00	3.80	3.10	A					
2							A	2.80	3.35	3.60	3.90	R	3.90	I4.05A	I4.10A	I4.00A	3.75	3.25R	2.40					
3							A	2.70	3.30	3.70	4.00	I4.10A	I4.25A	4.30	4.20	I4.00A	3.60	3.15	2.40					
4							S	2.70	3.35	3.60	4.00	4.20	4.25	4.20	4.20	4.00	3.70	3.10	1.90	S				
5							1.40S	2.70	3.25	3.70	4.00	4.20	4.20	4.30	4.10	3.80	3.70	3.05	I2.00A					
6							I1.60S	2.70	3.25	3.65	3.80	4.00	4.10	4.20	4.00	3.80	I3.55A	3.25	A					
7							S	2.80	3.40	3.85	4.00	4.10	4.10	3.80	A	A	A	A	A					
8							S	2.85	3.40	3.70	A	A	A	4.20	A	A	R	3.00	A					
9							S	2.50	3.35	3.70	I3.80A	I3.75A	4.20	4.20	4.15	3.90	3.50	3.00	R					
10							S	2.45H	3.35	3.65	3.90	A	A	A	4.10	3.90	3.60H	I2.90A	2.05					
11							A	2.70	3.45	3.70	3.85	4.20	4.25R	4.25	4.20	3.85	3.60	3.10	1.95					
12							S	2.55	3.30	3.80	4.00	4.25	4.30	I4.30A	4.30	4.10	U3.70S	3.00	A					
13							S	2.65	3.30	3.65	3.90	4.05	4.20	4.40	4.30	4.10	3.70	3.00	A					
14							I1.50S	2.60	3.55	3.70	3.90	3.90	4.35	4.20	4.35	4.10	3.70	2.95	S					
15							S	2.80	3.35	3.75	I3.90C	4.00	4.30	4.30	4.25	4.05	3.70	3.05	1.90					
16							1.55	2.60	3.50	3.80	3.95	I4.05A	4.30	4.30	4.20	3.90	3.50	2.95	A					
17							S	2.65	3.20	3.70H	3.90	4.00	I4.10R	4.10	4.00	I3.80C	3.45	2.95	2.00					
18							S	2.65H	3.25H	3.65	U3.80C	3.90	3.80C	I3.85A	I3.95A	3.90	3.70	3.00	S					
19							S	2.60	3.25	3.60H	I3.80C	3.95	I4.10S	4.00	3.90	3.70	3.45	2.80	S					
20							S	2.45	3.15	3.60	I3.70C	3.90H	4.10	4.20	I4.00A	3.90	A	A	A					
21							A	2.60	3.20	I3.70C	3.90	I3.90A	4.00	3.90	4.00	3.85	3.60	2.60	S					
22							S	2.55	3.20	3.60	I3.80A	I3.90A	I4.00R	4.05	3.90	3.80	3.45	2.90	A					
23							S	I2.50A	3.20	I3.60A	3.80	3.80H	4.00	I3.90R	3.85	3.65	3.35	2.80	A					
24							S	2.70	3.10	3.65	I3.80C	4.00S	4.00S	4.10	4.10	3.80	3.25	2.75	S					
25							S	2.45	3.20	3.70H	I3.90A	4.00	4.10	4.10	3.90	J3.70C	3.25	2.75	S					
26							S	2.45	I3.10C	J3.45S	C	4.10	I4.00S	4.00	I3.90S	3.70H	3.25	2.60	R					
27							C	C	3.05	3.45	I3.65C	3.95	I3.90A	3.95	I3.80C	3.65	3.20	A	S					
28							S	2.50	3.05H	3.50	C	R	I3.95R	3.90H	3.85	3.70C	3.40	2.70	S					
29							S	2.45H	I3.20A	3.60	I3.80S	3.90	I4.00A	4.00	4.00H	J3.75C	3.30	2.70	A					
30							S	2.35	3.00	3.60	3.90	3.95	I4.00R	4.05H	3.90	I3.75C	3.30	2.60	S					
31																								
No.							4	29	30	30	27	26	28	29	28	28	27	27	8					
Median							U1.50	2.60	3.25	3.65	3.90	4.00	4.10	4.10	4.05	3.85	3.55	2.95	2.00					

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

Sep. 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	5.7M	3.2M	4.3M	4.2M	3.5M	3.7M	3.3M	3.2M	4.5M	6.8M	6.8M	4.8	G	4.5	5.3	4.7	4.9	9.5M	7.9M	6.2M	6.9M	6.7M	3.6M	5.2M
2	3.1M	3.3M	3.2M	3.0M	3.0M	2.7M	3.6M	3.2	5.1	4.5	4.7	G	G	4.4	5.4M	4.5M	5.2M	5.2M	3.4	5.0M	4.5M	3.4M	3.7M	4.5M
3	3.6M	3.0M	1.4	1.4	E	E	2.8M	3.6	3.8	5.6M	4.7	6.9M	5.9M	4.9	5.9M	5.1M	G	G	3.5M	2.7M	2.6M	S	2.0M	2.5M
4	2.9M	2.5M	2.7M	2.4M	1.4	E	G	3.1	3.8	3.8	4.9	4.7	5.8M	5.6	4.8	4.3	G	3.7	2.4	3.0M	2.7M	2.8M	3.2M	7.0M
5	4.5M	5.9M	3.2M	2.3M	2.7M	E	G	3.1	5.0M	4.5	4.7	4.8	6.2M	5.1	6.5M	6.2M	4.1	5.8M	2.8	3.8M	4.5M	5.2M	3.2M	2.8M
6	4.5M	2.2M	2.5M	E	E	E	2.3	3.7	4.3	8.2M	8.8M	9.5M	5.2M	G	G	4.3M	5.3M	3.0G	4.5M	3.1M	3.7M	3.9M	7.0M	6.2M
7	3.5M	2.9M	3.0M	3.1M	2.8M	E	G	G	G	4.6	5.1	5.8	5.3	5.2	6.1M	4.6	5.7M	5.7M	4.5M	4.4M	8.8M	2.1M	3.6M	3.6M
8	S	E	E	E	E	1.4	2.8M	3.2	4.6	4.0	4.1	4.6	4.4	5.6	4.2	4.4M	4.6	5.3M	5.2M	7.2M	3.3M	3.3M	3.2M	2.1M
9	S	S	E	E	E	2.5M	G	G	3.6M	G	4.3M	4.5	G	G	G	5.9M	G	3.2	3.4	3.6M	3.1M	S	S	S
10	S	E	E	E	E	E	G	G	G	G	6.2M	4.3	4.7	4.2	G	4.3M	G	6.2M	3.1M	2.7M	2.3M	S	2.4M	S
11	S	E	E	E	E	3.0M	2.8M	3.8	3.7	4.0	4.4	4.5	4.6	4.6	G	G	G	G	3.6	3.8M	3.2M	2.7M	3.7M	3.1M
12	S	2.7M	2.4M	E	E	1.3	G	3.0	3.7	G	G	G	G	6.0M	5.5M	G	G	3.8M	4.5M	4.4M	2.7M	S	S	3.0M
13	3.6M	2.3M	2.8M	2.3M	E	E	G	3.0	3.7	4.2	4.5	4.6	4.6	4.6	4.5	5.2	6.6M	7.0M	6.2M	3.2M	3.2M	3.2M	3.3M	2.4M
14	2.4M	E	C	E	E	E	1.9	3.3	4.5	4.5	6.0M	4.3	G	4.6	4.5	G	G	4.0	4.4M	2.9M	4.3M	2.3M	3.3M	3.0M
15	3.1M	E	2.9M	3.4M	E	E	3.0M	G	3.8	4.1	C	4.6	G	G	4.4	G	G	5.8M	7.0	5.2M	5.9M	3.2M	2.9M	2.3M
16	E	E	E	E	E	1.4	1.8	3.3	4.3	4.7	4.8	4.9M	G	4.9	G	4.8M	3.9M	3.2	3.6M	4.3M	3.1M	2.7M	3.1M	2.0M
17	S	E	1.1	1.4	E	E	G	G	5.6M	4.3	8.8M	5.1	4.7	G	G	5.9M	6.9M	6.0M	4.3M	3.6M	6.5M	3.1M	2.7M	2.7M
18	2.8M	S	E	E	1.4	E	G	3.2	3.6	4.4	4.9	4.4	5.0	6.5M	5.6M	G	5.1	G	2.1	2.4M	3.2M	4.3M	3.1M	3.0M
19	3.1M	3.1M	E	E	E	E	G	3.2	3.5	4.4	4.4	4.3	G	G	G	G	3.6	3.6	5.3M	8.8M	5.8M	5.3M	2.4M	2.7M
20	E	2.3M	E	E	E	E	G	3.0	3.6	4.2	5.3	4.3	4.8	6.7M	122M	8.8M	9.0M	9.2M	9.0M	9.1M	7.1M	5.5M	2.9M	3.2M
21	3.2M	E	E	E	E	E	2.3M	3.1	3.6	4.9	4.7	5.5M	4.4	4.4	5.7M	4.0	3.8	5.8M	6.3M	6.2M	3.5M	S	2.3M	2.6M
22	S	E	E	E	E	E	G	3.0	4.8	3.9	6.0M	5.6M	5.7M	G	5.8M	5.6M	G	3.7M	3.6M	3.3M	3.2M	3.2M	3.0M	3.2M
23	3.1M	E	E	E	E	E	G	2.7	G	5.8M	G	G	5.6M	G	G	G	3.7M	5.5M	3.7M	5.9M	4.3M	3.2M	S	3.0M
24	S	E	E	E	E	E	G	2.9	3.5	G	4.7	G	5.9M	G	G	G	4.2	5.6M	7.0M	5.8M	3.2M	3.0M	3.6M	2.8M
25	2.4M	E	E	E	E	E	G	5.4M	4.4	4.8	5.4M	G	G	G	G	G	3.9	3.7	3.5M	3.4M	4.4M	4.8M	2.4M	2.2M
26	2.4M	E	E	1.4	3.2M	2.4M	1.9	3.2	C	G	4.4	G	G	5.2	4.3	4.6	5.0	4.8	4.5M	7.0M	C	C	C	C
27	C	C	C	C	C	C	C	C	4.7	5.0	6.8M	G	7.4M	G	5.8M	4.4M	3.6M	3.6M	3.2M	5.7M	5.0M	2.3M	3.2M	3.2M
28	3.0M	5.2M	3.3M	2.7M	3.1M	2.4M	G	G	G	G	4.0	G	5.9M	G	G	3.7M	3.9M	3.7	3.4	3.5M	S	2.1M	3.1M	S
29	S	2.5M	3.0M	3.1M	1.9M	E	G	2.7	4.6M	5.9M	4.5	4.3	5.9M	4.3	5.9M	G	3.5	3.6M	3.3M	3.4M	3.1M	2.8M	2.1M	2.5M
30	3.2M	3.1M	3.3M	2.8M	2.4M	E	G	G	3.4	G	5.8M	G	G	5.7M	G	5.8M	3.7	4.0	2.5	4.2M	2.1M	2.3M	S	S
31																								
No.	20	27	28	29	29	29	29	29	29	30	29	30	30	30	30	30	30	30	30	30	28	24	25	25
Median	3.1M	2.2M	E	E	E	E	G	3.1	3.8	4.4	4.7	4.4	4.6	4.4	4.4	4.4	3.8	4.0M	3.6M	4.0M	3.4M	3.2M	3.1M	3.0M
U.Q	3.6	3.0	3.0	2.6	2.2	1.4	2.3	3.2	4.6	4.8	5.9	4.8	5.8	5.2	5.7	5.1	5.0	5.8	5.2	5.8	4.8	4.1	3.4	3.2
L.Q	2.6	E	E	E	E	E	G	G	3.6	3.8	4.4	G	G	G	G	G	G	3.6	3.4	3.3	3.1	2.7	2.6	2.5
Q.R	1.0								1.0	1.0	1.5							2.2	1.8	2.5	1.7	1.4	0.8	0.7

The Radio Research Laboratories, Japan.

foEs

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

IONOSPHERIC DATA

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

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.4	1.8	2.6	2.7	2.4	3.5	2.6	2.5	3.9	5.6	6.0	4.7		G	4.8	G	4.6	7.0	5.5	4.3	3.5	4.6	2.4	3.5
2	2.3	2.3	2.2	2.2	2.2	1.7	1.7	G	4.5	G	4.7			G	4.4	G	3.4	3.0	3.2	2.6	3.4	1.8	2.3	2.5
3	2.5	1.8	S	1.4			G	3.2	3.8	G	4.6	5.2	G	3.9	3.6	4.2			1.9	1.7	E	S	E	1.7
4	2.0	1.7	1.2	1.7	E			G	3.6	G	4.7	G	4.7	5.5	4.7	G		3.4	G	2.0	1.9	1.8	E	3.5
5	2.7	3.8	1.6	E	E			3.0	3.7	4.4	4.3	4.7	5.3	4.8	5.1	4.7	4.1	G	G	3.1	3.8	4.6	1.7	E
6	3.9	E	1.7				G	3.5	4.1	8.0	8.0	5.4	4.7			3.6	4.4	2.9	3.5	2.2	2.3	2.8	$^{U}4.6^{A}$	2.9
7	2.2	2.0	1.7	1.5	1.4					4.4	4.7	5.6	5.0	5.1	5.3	4.5	4.5	4.2	4.5	2.5	2.3	1.8	E	1.7
8	S					1.4	G	3.1	4.1	$^{D}4.0^{B}$	G	4.5	G	5.2	G	G	4.4	2.8	3.9	6.0	2.7	2.0	2.0	S
9	S	S				E			2.3		G	G				G		G	3.1	2.5	2.0	S	S	S
10	S										G	G	4.5	G		3.6		G	1.7	S	E	S	E	S
11	S					E	G	G	G	G	G	G	4.6	G					3.5	2.7	S	S	2.5	1.7
12	S	1.7	E			1.2		G	G					5.1	3.6			2.8	3.2	3.0	1.8	S	S	S
13	2.6	E	1.7	1.7				G	$^{D}3.7^{B}$	G	4.4	4.6	G	G	G	5.1	6.0	6.1	5.5	E	1.7	1.7	2.0	E
14	E		C				1.7	G	4.2	G	4.5	G		G	4.5			3.8	4.2	1.9	1.7	E	2.0	E
15	S		1.3	1.1			G		3.6	4.1	C	4.4			G			4.6	$^{D}7.0^{S}$	4.4	4.4	2.0	1.9	E
16						$^{D}1.4^{S}$	G	3.0	3.7	$^{U}4.5^{A}$	4.3	G		G		3.3	3.2	G	2.4	2.5	2.1	2.0	S	1.6
17	S		1.1	1.3					4.5	4.1	4.3	4.5	G			4.6	4.9	4.6	G	1.8	1.8	S	S	1.7
18	1.8	S			1.4			G	3.6	4.3	4.4	G	4.4	5.2	G		3.9		2.0	1.8	3.0	2.5	S	2.1
19	1.8	1.3						G	3.5	4.1	4.3	G					G	$^{D}3.6^{C}$	3.8	4.5	2.6	2.9	E	E
20		E						G	G	4.1	5.2	G	G	5.4	4.7	4.7	4.4	4.6	4.4	8.0	4.1	4.4	1.9	2.0
21	E						G	G	3.6	4.0	G	4.5	G	G	3.4	G	G	4.4	5.4	4.5	2.2	S	E	E
22	S							G	4.1	G	4.5	4.7	G		4.4	2.6		2.7	G	1.9	2.2	2.2	S	1.9
23	2.1							G		G			G				2.9	2.6	2.4	3.9	2.5	1.9	S	E
24	S							G	G		G		G				4.1	4.8	4.0	3.8	S	1.7	2.6	2.0
25	S							3.8	3.8	G	4.2						3.9	3.6	2.8	2.6	3.8	2.3	E	E
26	S			1.3	1.7	1.2	G	3.1	C		G			4.9	4.2	4.5	4.2	4.2	3.8	6.4	C	C	C	C
27	C	C	C	C	C	C	C	C	4.6	4.1	4.7		G		G	3.3	2.9	G	G	2.7	2.9	E	1.9	1.7
28	S	4.0	1.7	1.8	2.2	1.7					4.0		G			3.2	3.2	3.5	2.2	2.0	S	S	S	S
29	S	1.7	E	E	E			G	3.6	2.8	4.4	G	4.5	G	G		G	2.3	G	2.4	S	E	E	E
30	1.7	1.7	1.3	1.6	1.7				G		3.4			G		G	G	3.8	1.9	2.2	E	E	S	S
31																								
No.	14	14	13	13	10	9	11	22	25	23	27	21	19	19	18	20	21	27	30	29	25	21	20	23
Median	2.2	1.7	1.6	1.5	1.6	1.4	G	G	3.7	$^{D}4.0$	4.3	4.4	G	G	3.9	3.3	3.9	3.5	3.2	2.6	2.3	2.0	1.9	1.7

f_bE_s

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Sep. 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	E	E	E	E	1.25	1.30	1.60	1.50	1.55	1.85	1.80	1.90	2.20	1.90	1.60	1.50	E1.50S	E1.60S	E1.50S	E1.60S	E1.55S	E1.50S	E1.70S
2	E1.60S	E	E	E	E	E	1.10	1.20	1.70	1.90	2.30	2.45	2.20	2.20	2.20	1.80	1.65	1.20	E1.70S	E1.60S	E1.50S	E1.50S	E1.50S	E1.60S
3	E1.60S	1.20	E	1.10	1.25	1.20	1.10	1.60	1.60	1.90	2.20	2.20	2.20	2.20	2.20	1.90	1.50	1.20	1.25	E1.50S	E1.60S	E1.60S	E1.60S	1.25
4	E1.60S	E	E	E	E	1.10	1.10	1.50	1.50	1.65	1.70	1.85	2.20	2.20	2.00	1.90	1.55	1.50	E1.55S	E1.55S	E1.50S	E1.50S	E1.60S	E1.65S
5	E1.60S	1.00	E	E	E	E	1.10	1.50	1.60	1.80	2.00	3.20	2.80	2.60	2.50	2.20	1.60	1.50	E1.60S	E1.50S	E1.50S	E1.70S	E1.60S	E1.70S
6	E1.70S	1.20	E	E	1.10	1.15	1.10	1.60	1.70	1.90	1.90	2.20	2.30	2.20	2.00	2.05	1.50	1.60	E1.55S	1.15	1.25	E1.50S	E1.50S	E1.50S
7	1.25	E	E	E	1.10	E	1.60	1.60	1.90	1.90	2.20	2.40	2.30	2.45	2.20	1.85	1.70	1.60	E1.60S	1.10	1.20	E1.60S	E1.65S	E1.50S
8	E1.65S	E	E	E	E	E	1.15	1.60	1.85	2.20	2.60	2.85	2.45	2.20	2.20	1.90	1.50	1.25	1.20	E1.60S	E1.70S	E1.60S	E1.60S	E1.70S
9	E1.60S	E1.70S	E	E	E	E1.70S	E1.65S	1.30	1.30	1.65	2.70	2.00	2.20	1.90	1.85	1.60	E1.50S	1.10	E	E1.60S	E1.60S	E1.80S	E1.90S	E1.70S
10	E1.60S	E1.65S	E	E	E	1.25	1.10	1.70	1.60	1.90	2.20	2.45	2.30	2.20	2.05	1.90	1.50	1.10	1.10	E1.60S	E1.60S	E1.70S	E1.70S	E1.60S
11	E1.50S	1.20	E	E	E	E1.65S	1.10	1.25	1.50	1.70	1.90	2.05	2.80	2.20	1.70	1.85	1.60	1.20	E1.50S	1.10	E1.60S	E1.60S	E1.50S	E1.55S
12	E1.60S	E	E	E	E	1.10	1.60	1.60	1.80	1.90	2.20	2.40	2.45	2.50	2.20	2.20	1.90	E1.50S	E	E1.60S	E1.65S	E1.50S	E1.60S	E1.50S
13	E1.60S	E1.60S	E	E	1.10	1.20	1.30	1.50	1.70	1.65	1.90	2.45	3.10	2.90	2.30	2.20	1.90	E1.50S	1.30	E1.70S	1.20	1.20	E1.60S	E1.70S
14	E1.65S	1.20	C	E	E	1.10	E1.50S	1.75	2.20	1.90	2.20	2.60	2.45	2.45	2.25	1.90	1.65	E1.60S	E2.00S	1.10	E1.60S	E1.70S	E1.60S	E1.60S
15	E1.70S	1.20	E	E	1.20	1.20	1.15	1.70	1.50	2.00	I2.35C	2.50	2.80	2.45	2.20	2.20	1.75	1.50	E1.60S	1.15	E1.50S	E1.55S	1.25	E1.65S
16	E1.60S	1.20	E	E	E	1.00	E1.50S	1.55	1.65	1.60	2.20	2.45	2.35	2.45	2.00	1.85	1.60	1.50	1.25	1.25	E1.50S	E1.60S	E1.60S	E1.50S
17	E1.50S	1.30	E	E	E	1.35	1.70	1.60	1.85	2.05	1.90	2.20	2.20	2.00	1.75	1.50	1.60	1.30	1.25	E1.60S	E1.60S	E1.70S	E1.70S	E1.60S
18	E1.60S	E1.65S	1.10	E	E	1.10	1.60	1.60	1.75	1.60	2.00	2.20	2.20	2.60	2.80	1.90	1.50	E1.60S	E1.60S	E1.70S	E1.70S	E1.65S	E1.75S	E1.60S
19	E1.70S	1.10	1.10	E	E	1.25	1.65	1.60	1.50	1.50	1.60	1.80	1.80	2.20	1.85	2.20	1.60	1.60	E1.55S	1.25	E1.60S	E1.60S	E1.60S	E1.70S
20	E1.60S	1.30	E	E	E	1.25	1.60	1.55	1.60	1.50	2.20	2.00	2.20	2.20	2.20	1.85	1.60	E1.55S	1.25	E1.70S	E1.70S	E1.60S	E1.60S	E1.60S
21	E1.70S	1.25	E	E	E	1.15	E	1.50	1.50	1.70	1.90	2.20	1.90	1.90	1.60	1.60	1.20	1.10	E1.60S	E1.70S	E1.60S	E1.60S	E1.60S	E1.60S
22	E1.70S	E1.70S	E	E	E	E	1.70	1.70	1.50	1.60	1.90	2.00	2.20	2.20	1.70	1.60	1.50	1.60	1.30	E1.60S	E1.60S	E1.70S	E1.70S	E1.70S
23	E1.70S	1.70	1.10	E	E	1.25	1.70	1.60	1.65	1.90	1.80	2.20	2.20	2.20	1.90	1.60	1.25	1.25	1.30	E1.60S	E1.70S	E1.60S	E1.70S	E1.60S
24	E1.60S	1.25	E	E	1.00	1.25	E1.60S	1.60	1.70	1.90	2.45	2.20	2.45	2.05	1.90	1.60	E1.60S	E1.50S	E1.50S	E1.60S	E1.60S	E1.60S	E1.65S	E1.70S
25	E1.70S	1.30	E	1.25	E	1.20	E1.65S	1.50	1.60	1.75	2.20	2.20	2.45	2.20	1.90	1.60	E1.60S	E1.50S	E1.60S	E1.60S	E1.60S	E1.60S	E1.70S	E1.70S
26	E1.70S	1.25	1.20	E	E	1.10	1.10	1.65	I1.90C	1.90	2.20	2.20	2.35	2.20	2.20	1.80	1.50	1.10	E	E1.65S	C	C	C	C
27	C	C	C	C	C	C	C	C	1.70	1.60	1.90	2.45	2.25	2.20	1.75	1.80	1.60	E1.50S	E1.65S	E1.60S	E1.70S	E1.60S	E1.70S	E1.60S
28	E1.70S	1.15	1.00	E	E	E	E1.60S	1.75	1.75	1.90	2.20	2.40	2.50	2.45	2.20	1.85	1.60	1.20	1.10	E1.70S	E1.70S	E1.70S	E1.60S	E1.70S
29	E1.70S	1.25	1.20	1.20	E	1.25	1.45	1.60	1.85	1.90	1.90	2.20	2.35	2.20	2.20	1.70	1.25	1.20	1.10	E1.50S	E1.60S	E1.60S	E1.50S	E1.70S
30	E1.60S	1.10	E	1.20	E	1.20	1.50	1.70	1.70	1.90	2.00	2.20	2.30	1.90	2.20	1.60	1.30	E1.60S	1.20	E1.60S	E1.60S	E1.70S	E1.70S	E1.70S
31																								
No.	29	24	28	29	29	27	23	29	30	30	30	30	30	30	30	30	30	26	30	30	29	29	29	29
Median	E1.60	1.20	E	E	E	1.15	1.30	1.60	1.70	1.90	2.10	2.20	2.30	2.20	2.10	1.85	E1.60	E1.50	E1.40	E1.60	E1.60	E1.60	E1.60	E1.65

f-min

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Sep. 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	I2.70S	I2.70S	2.75	2.60	2.65S	2.75S	2.95	3.15	2.95	2.80	2.65H	2.60H	I2.60SH	2.65H	2.60SH	2.60H	2.60H	2.65H	2.75	2.80	2.75S	I2.70S	U2.80S	U2.60SH
2	J2.65S	J2.60S	I2.60S	2.60	2.50	2.70	U2.90S	3.30	3.05	2.85H	2.70H	2.60H	2.60H	2.65H	2.60H	2.60H	2.65H	2.75SH	2.80	2.90	I2.65S	2.65S	2.65S	2.85
3	U2.75S	I2.70S	U2.80S	2.55S	2.65S	2.60	2.85	3.35	3.00	2.85	2.60H	2.60SH	I2.60SH	2.65H	I2.65SH	2.60SH	2.65H	2.75SH	2.75	2.75S	U2.55S	J2.55S	U2.65S	2.70S
4	2.60	I2.20S	J2.40S	2.85	2.40	2.45	2.55	U3.15S	2.75SH	2.90	2.70H	2.50H	2.50H	2.55H	2.45H	2.60H	2.60SH	2.65H	2.75	2.80S	J2.45S	J2.45S	2.45V	I2.45S
5	2.60	2.30S	2.30	I2.15W	I2.20W	2.30	2.45	2.25H	W	2.60	G	2.20W	2.45	2.20W	2.45	2.55	2.55S	U2.65SH	J2.55S	U2.65S	I2.40S	J2.50S	J2.55S	I2.50S
6	2.50	2.35	2.45	2.55	2.65S	2.55	2.70	I3.05S	2.95	2.90H	2.65H	2.75H	2.75	2.60	2.65	U2.60S	U2.70S	I2.75S	U2.75S	U2.80S	S	S	S	R
7	S	S	I3.10S	2.90	2.75	2.60	2.85	3.20	3.15	2.95	2.80H	2.65H	2.65H	2.60H	2.65H	2.60H	2.60H	2.75SH	2.75S	I2.60SH	S	S	J2.70S	2.75S
8	I2.80S	U2.90S	J2.45S	2.35	U2.55S	U2.55S	2.85	3.05	2.95	2.80H	2.65	2.60H	2.60H	2.65H	2.65H	2.60H	2.65H	2.65H	2.75S	2.75	S	S	S	S
9	S	S	S	U2.85S	2.95	J2.60S	3.10	3.25	3.00	2.95H	2.65H	2.65H	2.65H	2.60H	2.60H	I2.70SH	I2.75SH	2.75	2.80R	2.75	2.55S	I2.40S	U2.65S	I2.60S
10	U2.70S	I2.50S	2.60S	2.90	2.85S	2.75S	2.75S	3.10S	3.05	2.80	2.70H	2.80H	2.55H	U2.60SH	U2.60SH	2.65H	2.75SH	2.80S	2.80	2.85	I2.50S	U2.45S	U2.70S	U2.70S
11	J2.75S	U2.55S	2.70	J2.70S	2.55S	U2.65S	2.95	3.15	U3.15R	2.85H	2.75	I2.70S	2.70H	2.65H	2.60H	2.60H	2.60H	2.70S	2.80	2.70S	I2.50S	I2.45S	U2.70S	I2.80S
12	I2.80S	2.90	J2.90S	2.80	J2.75S	2.95	2.90	3.20	2.95	2.75	2.85	2.80H	J2.70SH	2.60H	2.65SH	2.70H	2.65H	2.65H	2.75S	2.65S	S	S	S	U2.80S
13	J2.75S	J2.70S	2.80	J2.85S	2.60	2.70S	3.00	3.35	3.25H	2.80H	2.65H	2.65SH	2.60SH	2.55H	2.55H	2.55H	I2.60SH	2.75SH	2.70	2.70S	U2.60S	S	S	S
14	I2.90S	U2.85S	I2.85C	U2.80S	2.95	3.00S	2.95S	3.10	3.15	3.00	2.55H	2.55H	2.55SH	S H	S H	S H	S H	S H	2.70S	S	S	S	S	S
15	S	I3.00S	S	2.85S	J2.75S	I2.80S	2.75S	3.20	2.90H	2.70H	I2.60C	2.65H	2.55H	2.50H	2.50SH	I2.60SH	2.65H	I2.65S	2.75	2.65	I2.80S	I2.85S	I2.90S	I2.70S
16	I2.70S	J2.70S	I2.80S	J2.85S	2.95	U2.85S	2.95	3.20	3.05	3.00	2.65H	2.60H	2.65H	I2.55SH	I2.50SH	I2.50SH	S H	S	U2.70S	I2.60S	I2.50S	2.40	U2.50S	2.75S
17	2.60	U2.25S	U2.40S	J2.65S	2.20	2.30	2.75	U3.15S	J2.85R	2.75H	2.70H	2.65H	2.65SH	2.50H	2.60H	I2.60SH	2.65H	2.65SH	2.75	2.75	J2.60S	I2.65S	2.90	J2.75S
18	2.60	2.75	2.65	J2.65S	2.55S	J2.65S	I2.90S	3.20	3.15	2.95H	2.75	2.75H	2.70H	2.75H	2.65SH	2.65SH	2.75H	2.80	2.80	2.85	U2.70S	2.75S	I2.80S	I2.75S
19	I2.80S	I2.80S	2.75	J2.85S	2.75	2.80	2.90	3.15S	3.25	2.90	2.80H	2.70H	J2.65SH	2.65H	2.65H	2.70H	2.75H	J2.90S	2.80	2.80S	U2.70S	I2.80S	I2.85S	I2.80S
20	J2.85S	J2.90S	2.95S	U2.95S	J2.90S	2.75S	3.05	3.20	3.20	3.05	2.80	2.70H	2.70H	I2.65SH	2.65SH	I2.65SH	I2.70SH	I2.80SH	S	S	S	S	S	S
21	S	U3.30S	I2.75S	J2.90S	3.20	2.90	2.90	3.15	3.15	3.00	2.80	2.70	2.75H	2.70H	I2.60SH	2.70H	2.80SH	U2.70S	2.80	2.85	I2.80S	2.80	J2.80S	2.80
22	I2.85S	J2.95S	2.95S	2.90	3.00	3.05	2.90	3.25	3.30	3.10	2.75H	I2.75SH	J2.75SH	2.70H	2.70SH	I2.70SH	J2.75SH	S	S	S	S	S	S	S
23	S	S	I2.95S	3.00S	3.15	J2.95S	2.95	3.35	3.25	3.00	2.80H	2.70H	I2.75SH	I2.75SH	I2.70SH	U2.70SH	2.75SH	I2.90S	2.90	U2.80S	S	S	S	S
24	U2.95S	3.00S	J2.70S	2.80S	2.95S	2.95S	2.95	3.35	3.20	2.95	2.75H	2.80H	2.75H	I2.70SH	I2.70SH	I2.75SH	2.80H	S	S	U3.00S	U2.65S	I2.65S	J2.70S	I2.80S
25	2.75S	2.70S	J2.70S	2.80S	2.85S	2.90	2.90	3.35S	3.30	2.90	2.70H	2.75SH	2.70H	2.65SH	S H	S H	S H	S	S	S	S	2.65S	J2.50S	J2.50S
26	2.80	J2.40SH	2.45S	J2.60S	2.40S	2.80S	U2.80S	S	I2.90C	I2.70S	S H	S H	2.55	2.40V	2.35S	2.50	2.55	2.75	2.80	2.75	C	C	C	C
27	C	C	C	C	C	C	C	C	3.10	2.95	2.80	2.80H	2.75H	2.70H	2.70SH	2.65SH	I2.80SH	I2.70S	2.95	2.90	2.80	U2.70S	I2.80S	2.75
28	S	S	S	S	S	J2.75S	2.75	3.25S	3.20	2.80H	I2.70SH	I2.85SH	2.75H	U2.70SH	S H	S H	U2.85SH	2.95	2.95	2.75	2.80	2.75	J2.80S	J2.75S
29	2.80S	2.75S	2.70	2.80	2.80S	2.90	2.90	3.25	3.15	3.05	2.80	U2.80S	2.70H	U2.65SH	I2.70SH	2.70SH	I2.75SH	2.85	2.85	2.90	2.75	U2.70S	U2.55S	U2.80S
30	J2.75S	J2.55S	I2.70S	J2.85S	2.95	3.00S	2.85	3.20	3.25	2.95	2.95	2.80SH	J2.75SH	2.60H	2.60SH	U2.70SH	I2.75SH	J2.85S	U2.95S	U2.85S	S	S	U2.90S	S
31																								
No.	23	25	26	28	28	29	29	28	30	30	29	29	30	29	27	27	27	25	26	26	19	19	21	21
Median	2.75	2.70	2.70	2.80	2.75	2.75	2.90	3.20	3.10	2.90	2.70	2.70	2.65	2.65	2.60	2.60	2.70	2.75	2.80	2.80	U2.65	U2.65	U2.70	U2.75

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Yamagawa

Lat. 31° 12.5' N
Long. 130° 37.7' E

Sep. 1958

(M3000)F1

135° E Mean Time (G.M.T.+ 9h.)

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3																								
4																								
5									3.15	L	3.55	3.60	3.40	3.75	3.50	3.20	3.30							
6													3.50	3.40	3.45	3.25	3.25	L						
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15											C													
16																								
17																								
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26													3.15	3.05	3.20	3.15	3.20							
27							C	C																
28																								
29																								
30																								
31																								
No.									1		1	1	3	3	3	3	3							
Median									3.15		3.55	3.60	3.40	3.40	3.45	3.20	3.25							

(M3000)F1

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

The Radio Research Laboratories, Japan.

Y 8

IONOSPHERIC DATA

Sep. 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									680	400	G	605	465	605	450	420	360							
6													355	380	380	370	350	300						
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15											C													
16																								
17																								
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26													385	440	445	405	365							
27							C	C																
28																								
29																								
30																								
31																								
No.									1	1	1	1	3	3	3	3	3	1						
Median									680	400	G	605	385	440	445	405	360	300						

h'F2

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

The Radio Research Laboratories, Japan.

Y 9

IONOSPHERIC DATA

Sep. 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	290	300	300	280	305	300	255	235	230	230	250H	205H	200H	215H	235H	225H	240H	AH	275	280	295	300	255	290H
2	300	305	275	300	300	280	255	235	220	215H	215H	200H	205H	205H	210H	225H	240H	245H	255	255	275	275	285	290
3	290	275	255	300	320	300	275	240	225	230	210H	240H	195H	230H	220H	225H	240H	245H	250	265	250	305	290	285
4	290	410	345	250	250	300	285	250	235H	220	235H	240H	210H	250H	225H	240H	240H	250H	255	250	290	305	320	350
5	325	400	390	450	440	350	305	275H	250	250	240	240	305	225	270	275	245	225H	255	280	320	350	290	305
6	350	350	340	300	250	295	290	250	240	I260AH	I290AH	250H	220	205	225	210	245	250	255	245	250	295	300A	280
7	270	250	240	220	235	250	270	240	240	230	235H	250H	225H	240H	270H	235H	250H	255H	270	255H	280	275	290	290
8	280	255	305	350	300	260	260	240	240	225H	220	225H	225H	240H	220H	230H	245H	245H	275	300	250	250	280	270
9	255	250	275	250	235	250	250	230	220	205H	220H	200H	200H	230H	225H	240H	245H	245	255	250	250	295	300	275
10	255	300	305	250	210	225	280	245	235	225	210H	215H	215H	225H	230H	230H	235H	245	250	250	240	290	295	275
11	260	295	265	250	290	290	270	230	235	215H	220	220	205H	220H	220H	230H	235H	250	270	250	250	285	300	275
12	255	250	240	250	270	230	250	235	220	210	210	215H	225H	240H	225H	230H	240H	250H	255	270	290	280	280	250
13	275	270	270	245	270	275	280	240	225H	205H	205H	225H	230H	230H	230H	250H	E300AH	AH	280	260	290	270	270	250
14	250	250	I250C	250	250	250	260	240	240	225	210H	210H	205H	225H	245H	240H	240H	250H	280	260	275	285	280	250
15	250	250	245	225	245	255	255	230	220H	200H	I200C	200H	200H	230H	225H	240H	245H	270	300	290	295	270	250	250
16	250	255	250	240	250	270	280	240	230	230	210H	215H	210H	205H	220H	230H	245H	250	260	250	275	345	330	275
17	290	340	350	270	375	360	255	230	225	230H	240H	220H	220H	200H	230H	250H	250H	250H	255	250	295	290	245	240
18	255	280	255	245	280	290	290	240	225	220H	215	205H	205H	250H	240H	240H	250H	250	250	250	270	270	250	250
19	250	240	240	250	250	270	275	240	225	210	200H	205H	220H	225H	220H	230H	245H	250	250	275	285	285	250	245
20	250	250	245	240	230	260	290	240	240	220	240	205H	215H	250H	245H	250H	250H	275H	270	285	280	275	245	240
21	245	245	250	250	245	230	285	235	235	225	220	220	205H	200H	215H	240H	245H	250	260	275	275	250	245	250
22	250	250	250	240	240	240	280	250	230	220	210H	230H	205H	225H	230H	240H	240H	250	250	245	255	250	250	250
23	245	240	240	240	240	245	270	230	230	220	200H	205H	200H	205H	240H	240H	245H	250	250	255	250	290	250	245
24	250	245	240	235	245	250	250	230	230	225	200H	200H	225H	225H	240H	240H	250H	250	250	250	230	250	270	270
25	260	280	290	250	245	250	255	240	230	215	200H	200H	215H	215H	205H	240H	250H	255	275	255	245	275	300	300
26	255	220H	300	245	300	250	285	245	I230C	225	240H	230H	240	270	245	255	255	300	275	E325A	C	C	C	C
27	C	C	C	C	C	C	C	C	250	230	235	215H	205H	230H	225H	245H	245H	250	235	235	250	250	250	250
28	275	325	285	240	250	250	290	220	220	210H	205H	200H	220H	225H	225H	240H	245H	250	245	240	245	250	250	250
29	255	250	270	250	230	240	270	230	225	225	205	205	205H	225H	240H	240H	240H	250	245	250	245	245	230	255
30	275	275	265	250	235	245	270	240	225	220	205	200H	195H	240H	230H	240H	245H	250	250	250	250	240	240	250
31																								
No.	29	29	29	29	29	29	29	29	30	30	30	30	30	30	30	30	29	28	30	29	29	29	29	29
Median	255	255	265	250	250	255	270	240	230	220	210	215	210	225	230	240	245	250	255	255	270	275	270	255

h'F

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

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Sep. 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	100	100	100	100	100	100	100	100	100	105	105	120	G	145	120	130	125	105	100	100	100	100	100	100
2	100	100	100	100	100	100	100	130	105	110	105	G	G	100	105	100	100	100	120	105	100	100	100	100
3	100	100	100	100	E	E	105	120	115	100	120	100	100	100	100	100	G	G	100	105	100	S	100	100
4	100	100	100	100	105	E	G	140	140	140	135	140	110	120	125	145	G	120	105	100	100	100	100	100
5	100	100	100	100	100	E	G	130	125	120	120	120	110	115	105	105	125	100	105	105	105	100	105	105
6	100	100	100	E	E	E	110	125	125	105	110	105	100	G	G	105	100	100	100	100	100	100	100	100
7	100	100	100	100	100	E	G	G	G	125	120	110	110	105	105	100	100	100	100	100	110	100	100	100
8	S	E	E	E	E	105	105	135	120	120	105	105	105	100	105	100	140	100	100	100	100	100	100	100
9	S	S	E	E	E	100	G	G	100	G	120	105	G	G	G	100	G	155	125	100	100	S	S	S
10	S	E	E	E	E	E	G	G	G	G	100	100	100	100	G	100	G	100	100	100	100	S	100	S
11	S	E	E	E	E	100	100	115	140	130	125	150	140	145	G	G	G	G	110	100	100	100	100	100
12	S	100	100	E	E	110	G	120	105	G	G	G	G	100	100	G	G	100	100	100	100	S	S	100
13	100	100	100	100	E	E	G	125	130	120	120	125	125	140	150	135	120	110	100	100	100	100	100	100
14	100	E	C	E	E	E	120	120	120	120	110	120	G	120	145	G	G	125	110	105	100	105	100	100
15	100	E	100	100	E	E	115	G	125	125	C	110	G	G	125	G	G	135	110	105	100	100	100	100
16	E	E	E	E	E	125	140	125	120	115	110	105	G	105	G	100	100	145	100	100	100	100	100	100
17	S	E	130	125	E	E	G	G	125	130	120	120	140	G	G	100	125	125	110	100	100	100	100	100
18	100	S	E	E	125	E	G	140	135	120	110	120	120	100	100	G	155	G	105	105	100	100	100	100
19	100	100	E	E	E	E	G	130	140	120	120	125	G	G	G	G	140	130	100	100	100	100	100	100
20	E	100	E	E	E	E	G	125	125	120	110	120	125	110	105	110	105	100	100	100	100	100	100	100
21	100	E	E	E	E	E	100	145	135	120	120	100	110	125	100	140	145	105	105	100	100	S	100	100
22	S	E	E	E	E	E	G	150	120	125	105	100	110	G	100	100	G	100	105	100	100	100	100	95
23	100	E	E	E	E	E	G	110	G	100	G	G	100	G	G	G	100	100	100	100	100	100	S	100
24	S	E	E	E	E	E	G	150	125	G	125	G	100	G	G	G	145	125	110	100	100	100	100	100
25	100	E	E	E	E	E	G	120	125	105	100	G	G	G	G	G	150	120	110	105	100	100	125	100
26	100	E	E	105	100	105	125	125	C	G	150	G	G	145	150	140	130	125	115	105	C	C	C	C
27	C	C	C	C	C	C	C	C	120	110	105	G	100	G	100	100	100	100	100	100	100	100	95	100
28	100	100	100	100	100	100	G	G	G	G	120	G	100	G	G	100	100	120	115	100	S	100	100	S
29	S	100	100	110	100	E	G	145	100	100	120	125	100	125	135	G	160	100	100	100	100	100	100	100
30	100	100	100	100	100	E	G	G	120	G	100	G	G	130	G	125	150	130	115	100	100	100	S	S
31																								
No.	18	14	14	13	10	9	11	22	25	23	27	21	19	19	18	20	21	27	30	30	28	24	25	25
Median	100	100	100	100	100	100	105	125	125	120	120	120	110	115	105	100	125	105	105	100	100	100	100	100

h'Es

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

The Radio Research Laboratories, Japan.

Y 11

IONOSPHERIC DATA

Sep. 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	f2	f2	f4	f2	f6	f6	l2	l2c2	l3c	c4	c3l	h		h	h2	h	h3	c4	l3	f5	f4	f5	f4	f5
2	f4	f5	f4	f5	f4	f2	l	h2	c3	c	c2l			l	l	l2	l3	l2h	h5	f3	f3	f2	f4	f3
3	f3	f	f	f			l	h2	h2	lc	c	l4	l2	l2	l2	l3			lh3	l3	f		f	f2
4	f3	f2	f3	f4	f2			h	h4	h	h2	hl	lh	h2	h	h		h3	c4	c4	f3	f2	f2	f6
5	f5	f7	f4	f3	f2			h2	h2	c2	c	c	c2	c	c2	c2	h	l8	l3	f6	f7	f4	f2	f
6	f3	f	f3				c	h3	h	c4	c4	c2	lh			l2	l2	l3	l4	f6	f4	f4	f6	f4
7	f4	f3	f4	f3	f2					h2	h	c3	c2	c2	l3	l2	l2	l4	l5h5	f6	f5	f2	f	f2
8						f	lh	c2	c2	h	l	l	l	c2	l	l2	hl2	l3h2	l6	f7	f5	f2	f	f
9						f			l3		l	l				c		hl3	c4l4	f4	f			
10											lh	l	l	l		l3		l4	l	f	f		f	
11						f	l	h	h2	h2	c	h	h	h					h3	f7	f2	f	f3	f2
12		f2	f			f		c2	c					l2	l2			l3h2	l3	f5	f			f
13	f3	f	f2	f2				c2	c2	c	c	c	c	c	h	h2	h5	h6	l7	f	f2	f2	f2	f
14	f2						c	c3	c	c	c2	c		c	h			h2	c2	f3	f4	f	f3	f2
15	f		f2	f			l		c2	h2		c			c			h2	h6	f7	f4	f3	f2	f2
16						f	c	c3	c2	c2	c	l		c		l2	l3	h2	l5	f3	f2	f3	f2	f
17			f3	f5					h3	h	h	h	h			lh2	h3	h5l	c2	f5	f2	f2	f	f2
18	f2				f2			h3	h2	h3	h	h	h	l2	l		h		c	f2	f4	f4	f2	f2
19	f2	f						h2	h2	h	h	h					h2	h2c3	c5	f6	f3	f7	f	f2
20		f2						c2	c2	h	c3	c	c	h3	l2	c2	l2	l3	l3	f5	f5	f7	f2	f2
21	f						l	h2	h3	c	c	l2	c	c	lh	h	h	c4l	c7	f6	f3		f	f
22								h2l	c2	h	c2	l3	c		lh	l		l3h2	l3	f6	f3	f2	f	f
23	f							l2		l			l				l	l2h2	lh2	f4f	f3	f2		f
24								h	h		c		l				h2	h3	c6l2	f6	f	f	f2	f
25	f							c2	h2	c	l						h	h3	c4	f7	f7	f2	f	f
26	f			f2	f4	f	c	h3			h			h	h	h	h2	h3	c6l	f5				
27									c3	c2	c2		l		l	l2	l2	l3	l2	f3	f4	f	f2	f
28	f	f7	f4	f4	f7	f5					c		l			l2	l3h	h3	c2l	f3		f2	f2	
29		f	f2	f	f			h2	l4	lh	h	h	l	h	h		h	l3h3	l5	f4	f	f2	f	f
30	f	f	f	f	f2				c2		l2			h		c	h2	h3	c3l	f3	f	f		
31																								
No.																								
Median																								

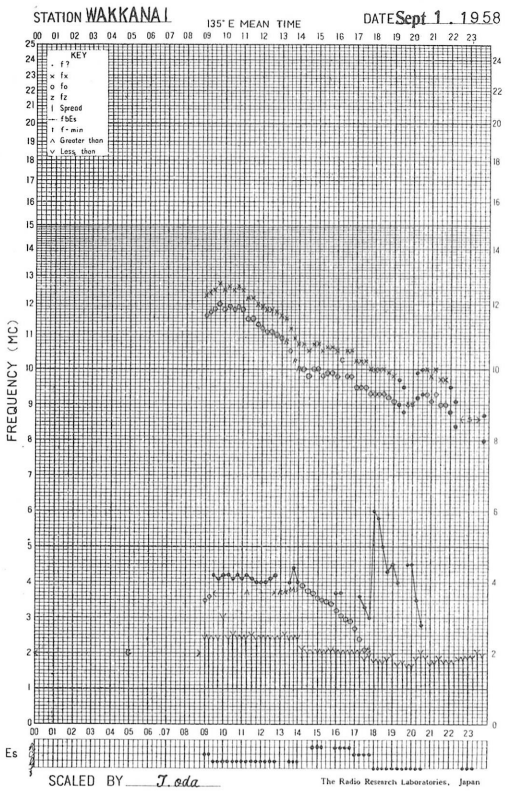
Types of Es | Sweep 1.0 Mc to 20.0 Mc in 1 min ~~sec~~ in automatic operation.

The Radio Research Laboratories, Japan.

Y 12

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 1, 1958

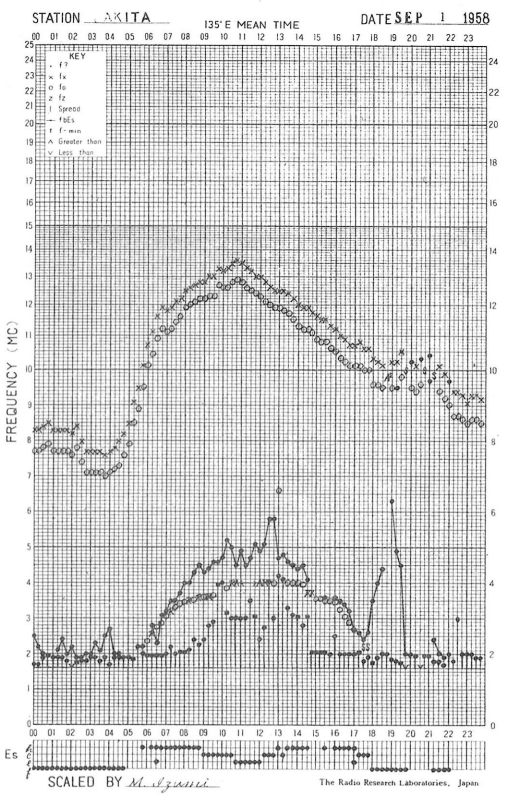


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 1 1958

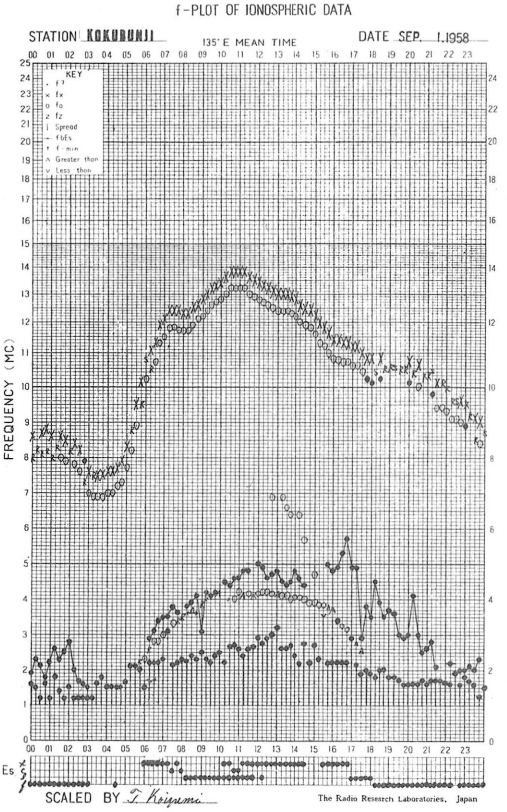


SCALED BY M. Izumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 1, 1958

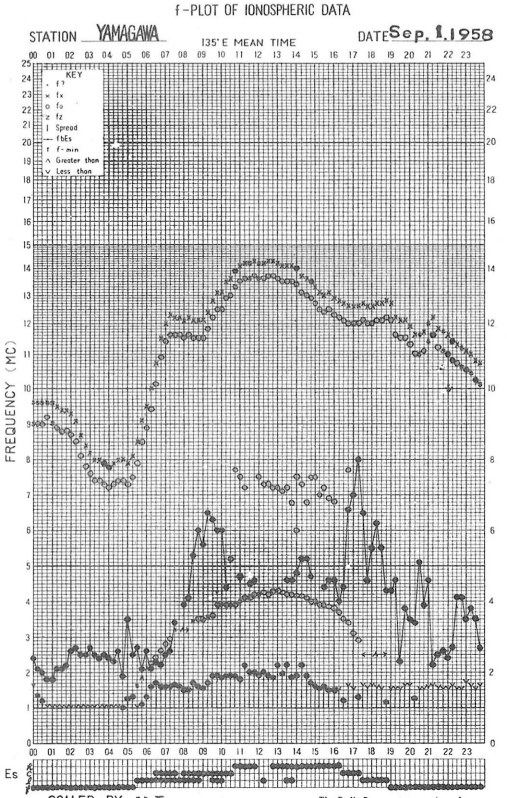


SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 1, 1958

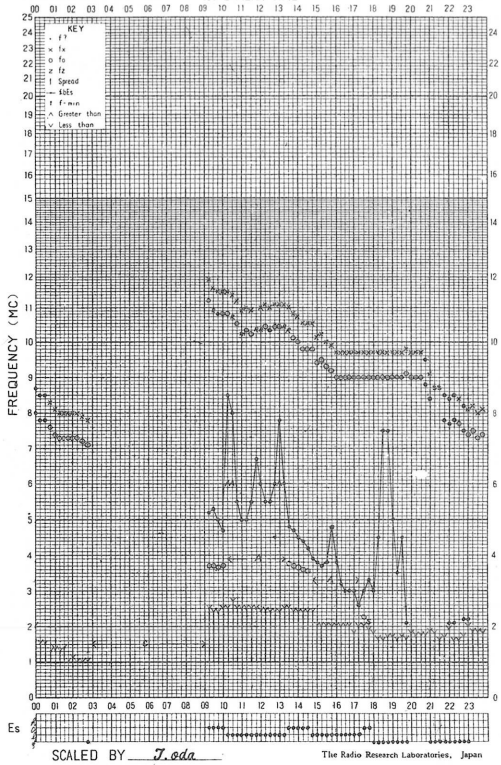


SCALED BY

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

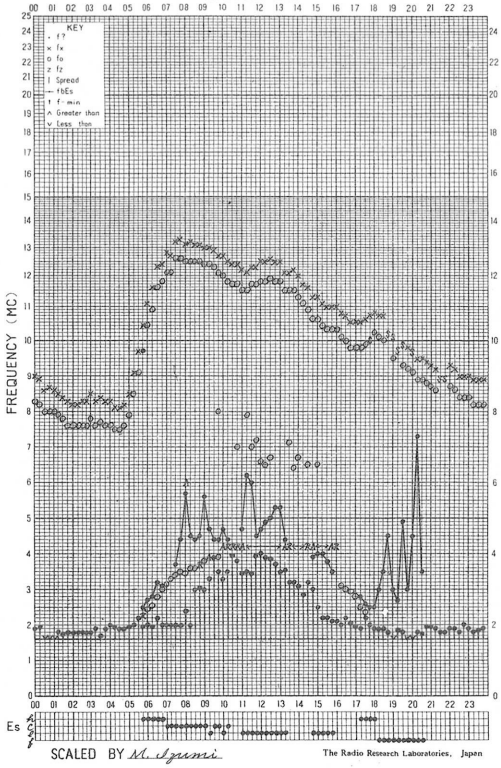
STATION WAKKANAI 135° E MEAN TIME DATE Sept 2, 1958



SCALED BY J. Oda The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

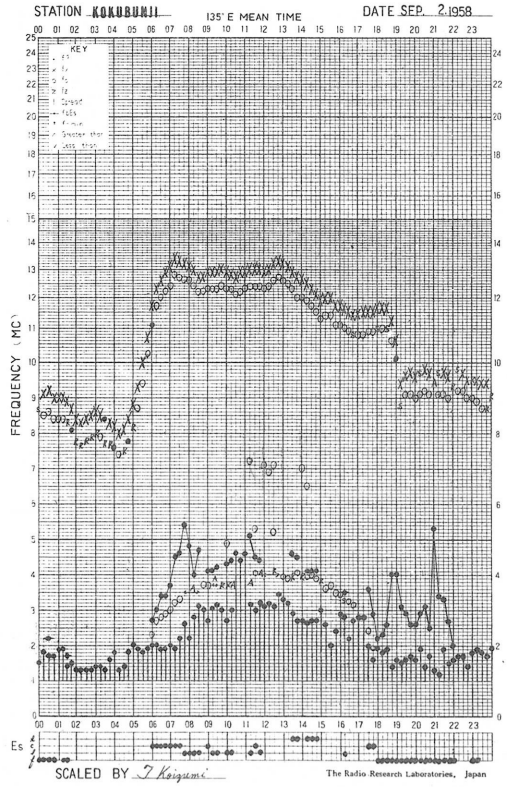
STATION AKITA 135° E MEAN TIME DATE SEP 2 1958



SCALED BY M. Izumi The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

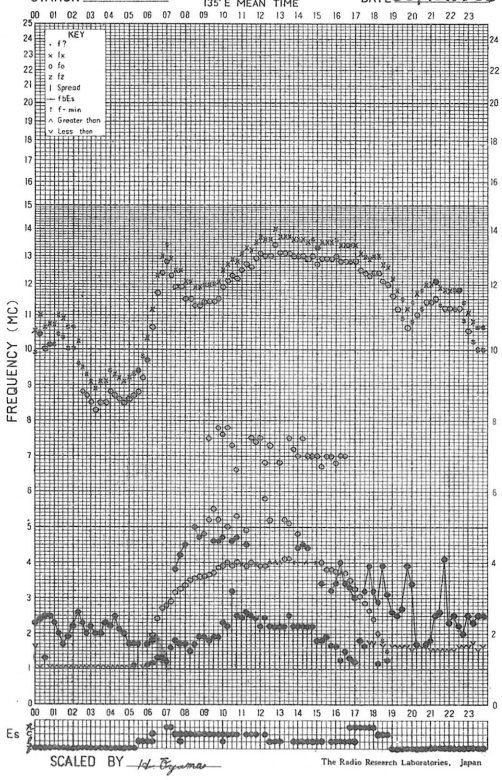
STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 2, 1958



SCALED BY T. Koizumi The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

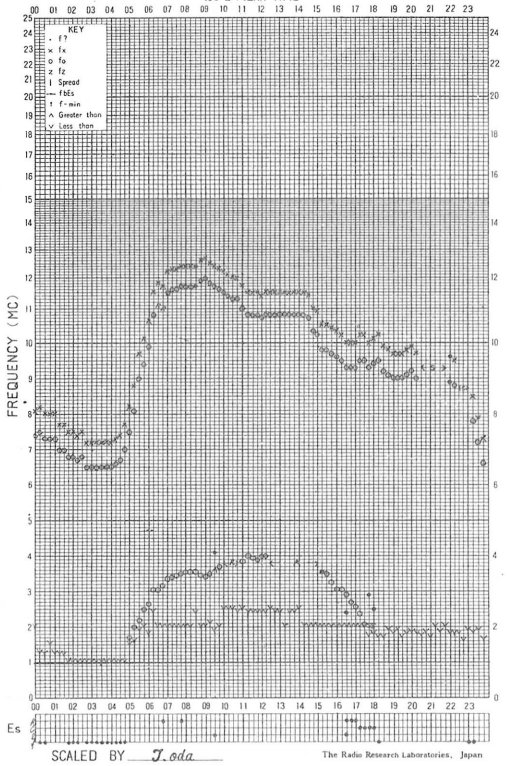
STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 2, 1958



SCALED BY H. Toyama The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Sept 3, 1958

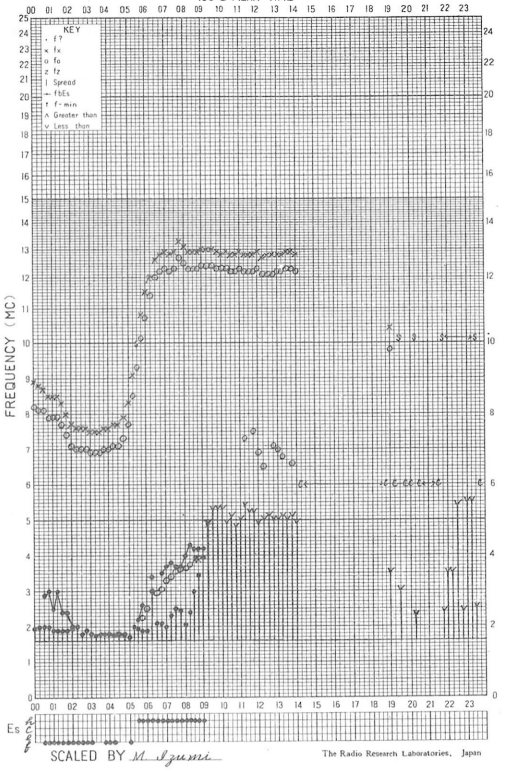


SCALED BY T. Oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135°E MEAN TIME DATE SEP 3 1958

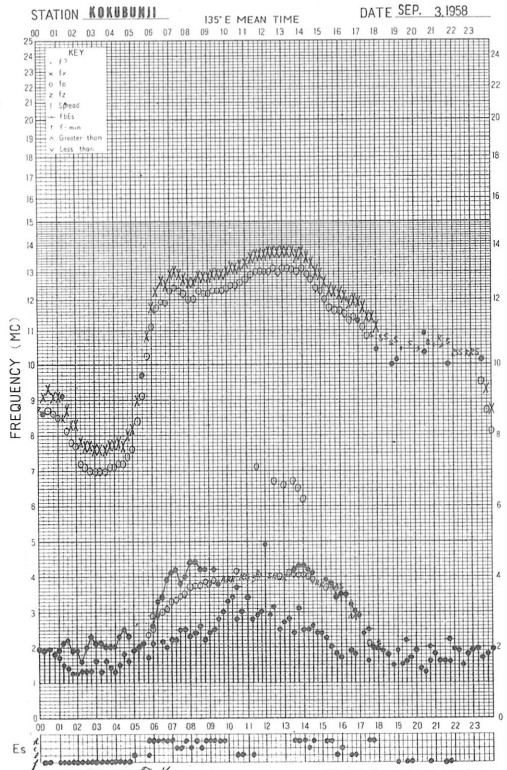


SCALED BY M. Izumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135°E MEAN TIME DATE SEP. 3,1958

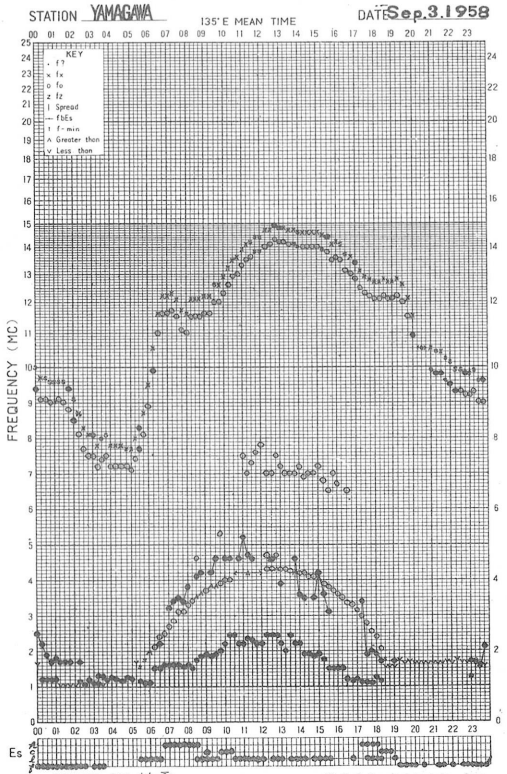


SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135°E MEAN TIME DATE Sep.3.1958

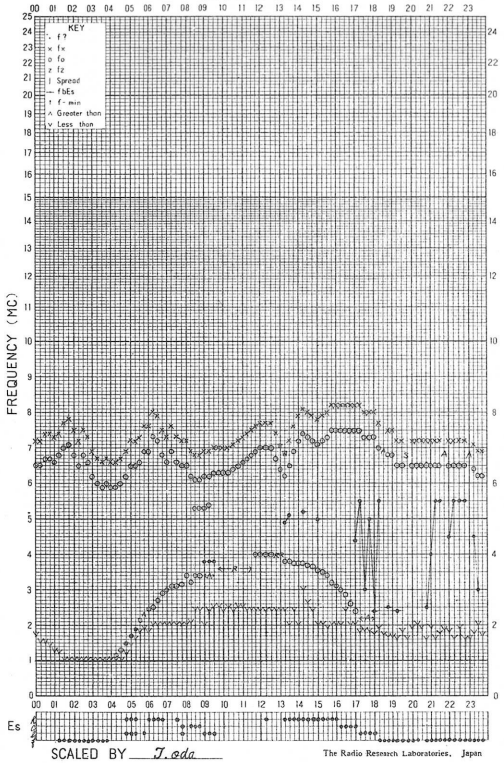


SCALED BY H. Egawa

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 4, 1958

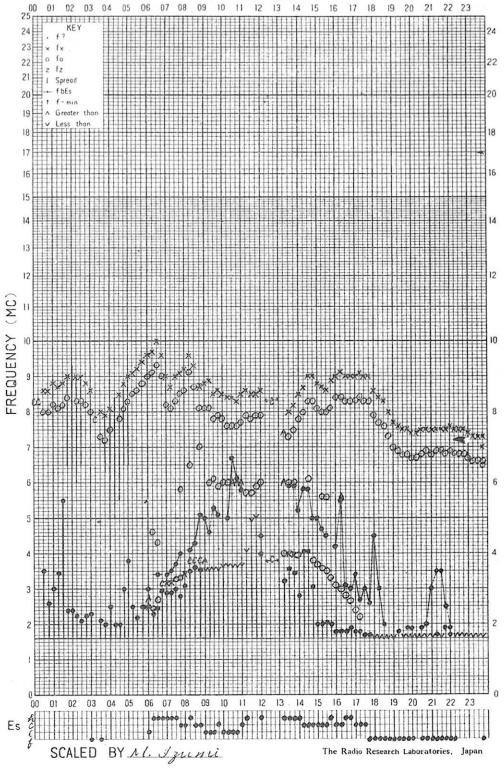


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 4 1958

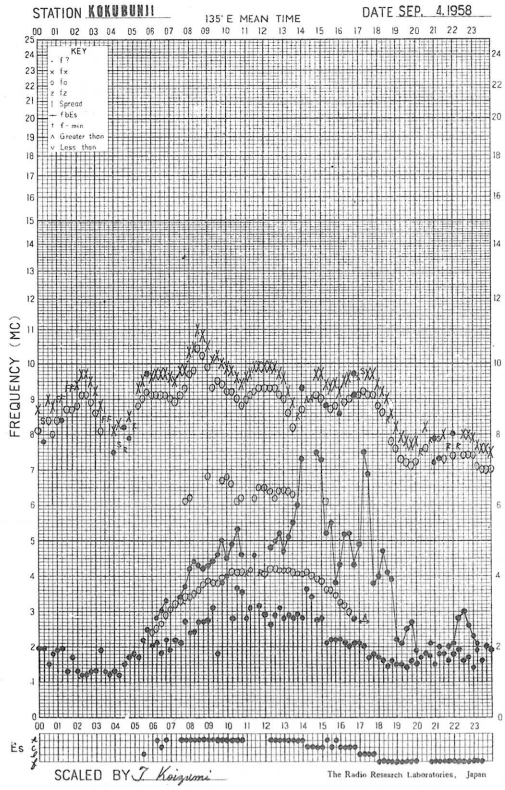


SCALED BY M. Izumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

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

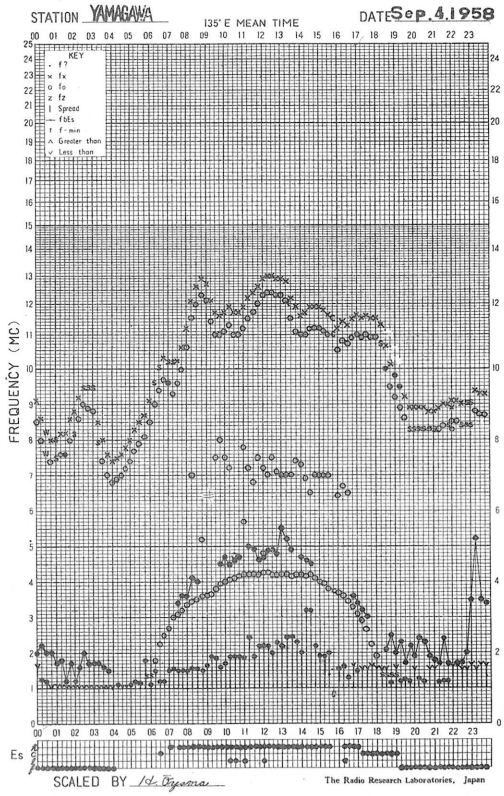


SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

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

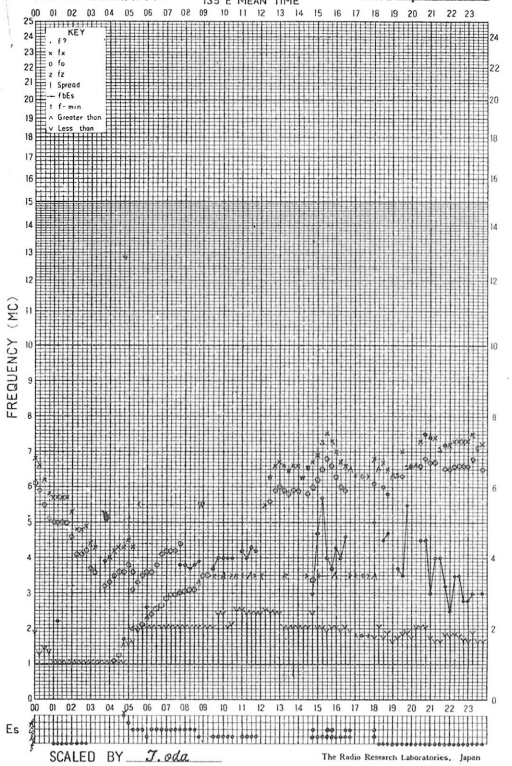


SCALED BY H. Ozeki

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

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

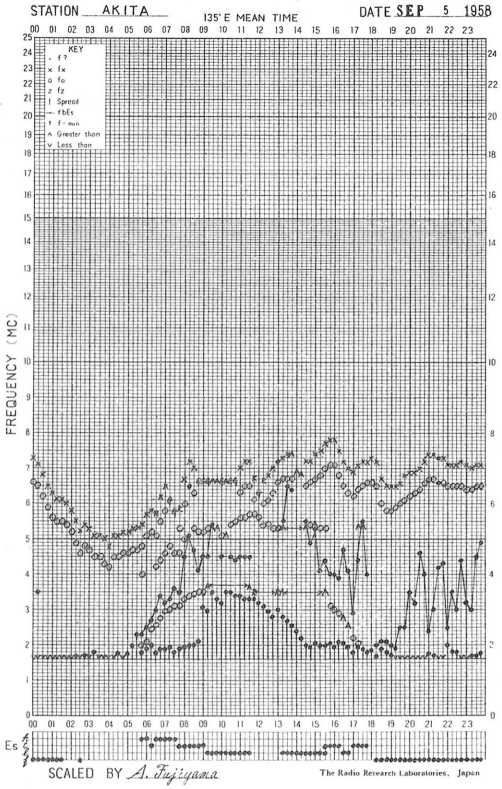


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 5 1958

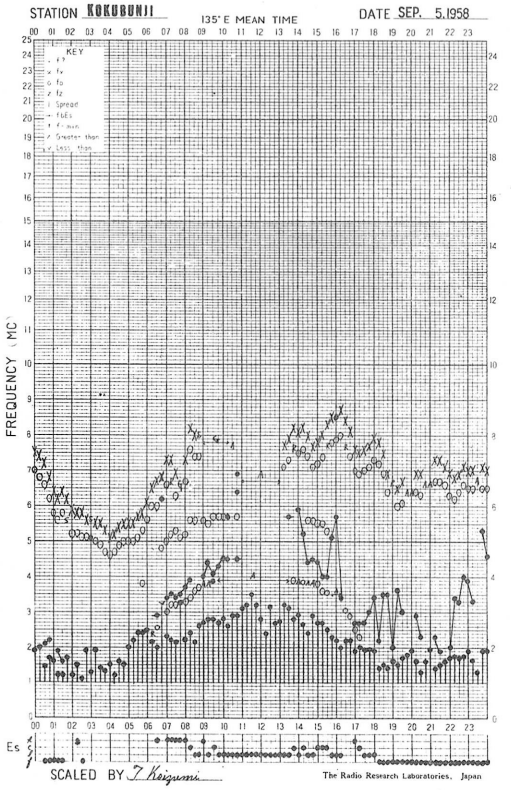


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 5.1958

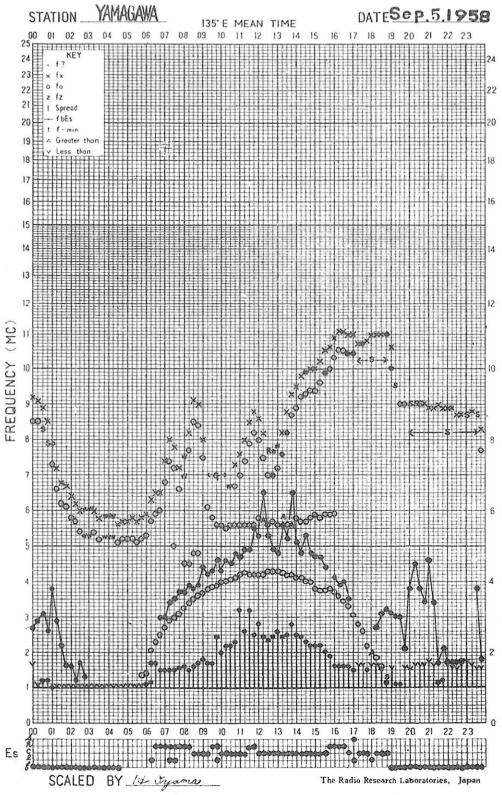


SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 5. 1958

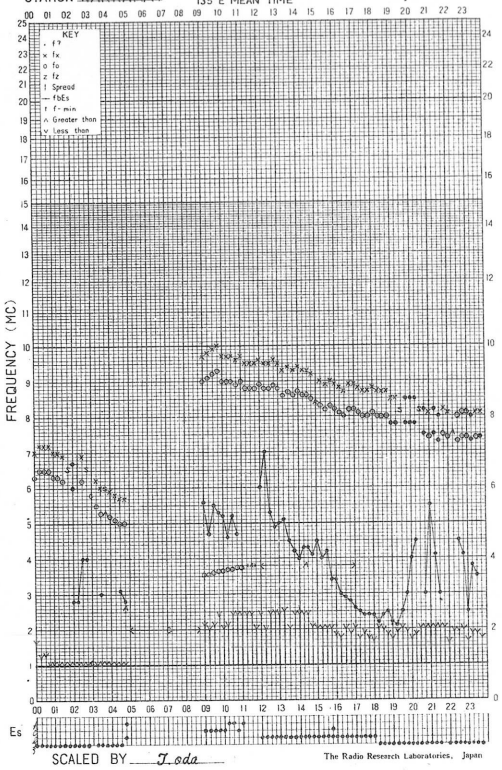


SCALED BY I. Iyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Sept 6, 1958

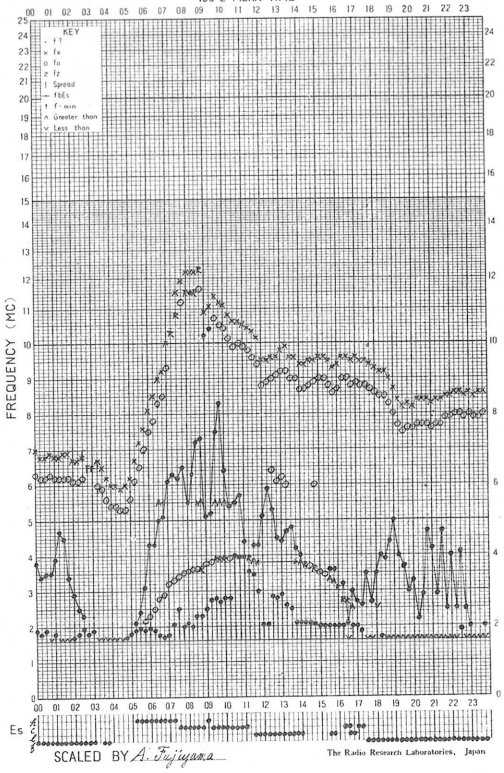


SCALED BY T. Oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135°E MEAN TIME DATE SEP 6 1958

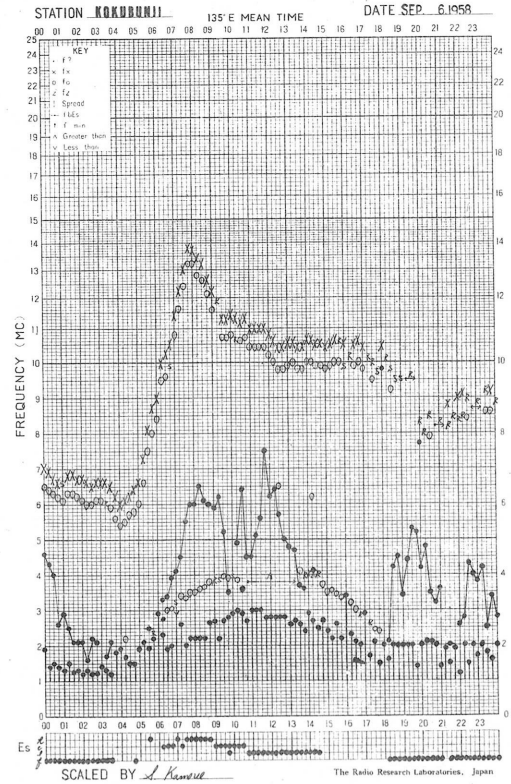


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135°E MEAN TIME DATE SEP. 6 1958

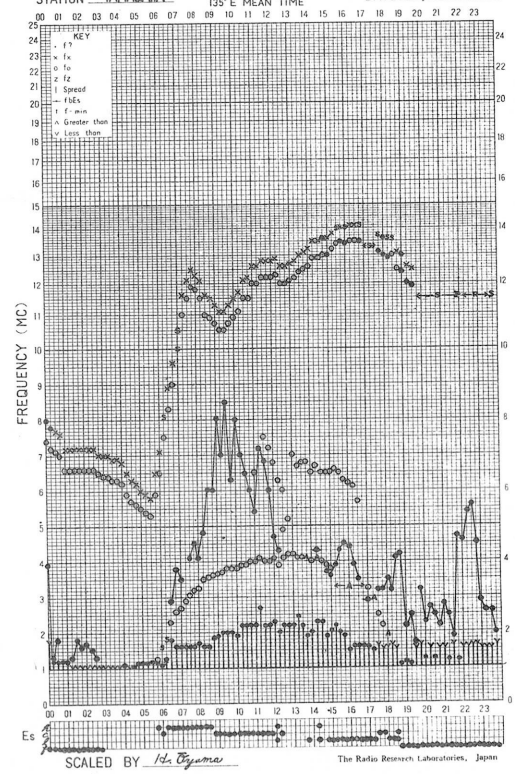


SCALED BY S. Kimura

The Radio Research Laboratories, Japan

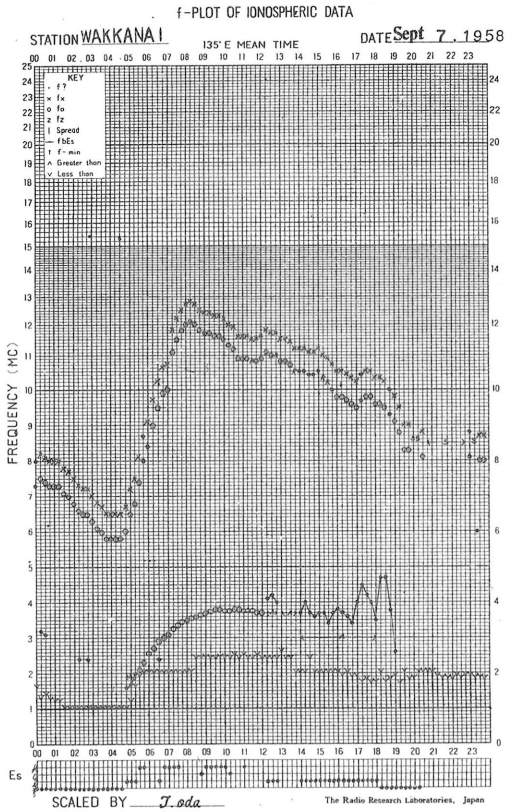
f-PLOT OF IONOSPHERIC DATA

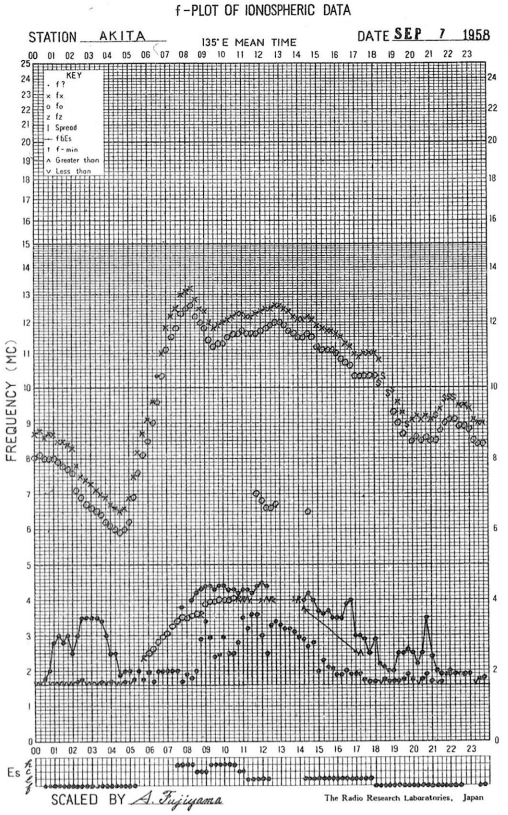
STATION YAMAGAWA 135°E MEAN TIME DATE Sep. 6. 1958

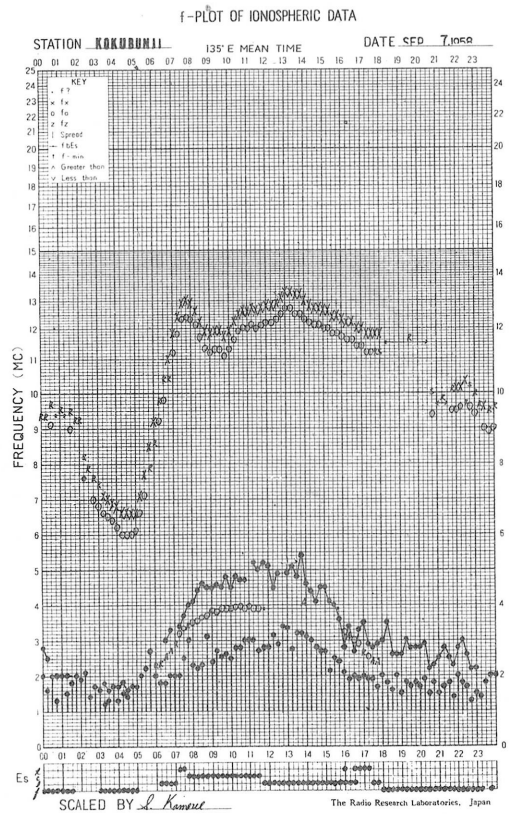


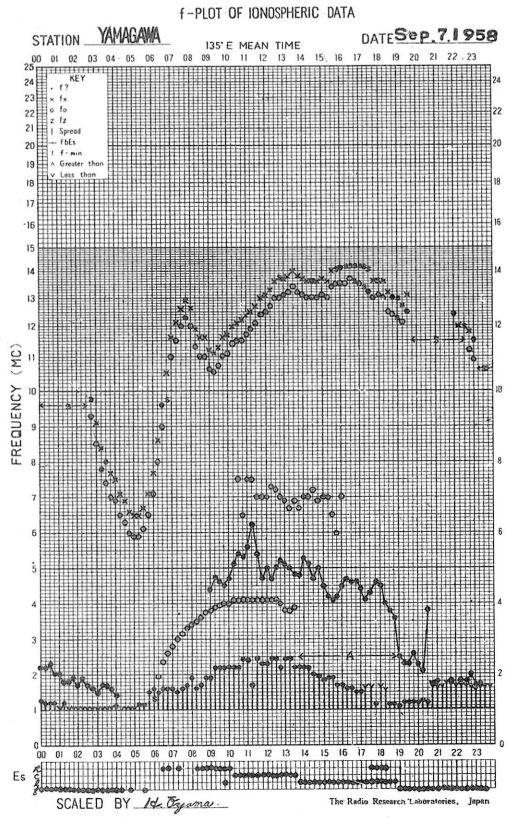
SCALED BY Ichi Tajima

The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION WAKKANAI
135° E MEAN TIME
DATE Sept 7, 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY T. oda
The Radio Research Laboratories, Japan

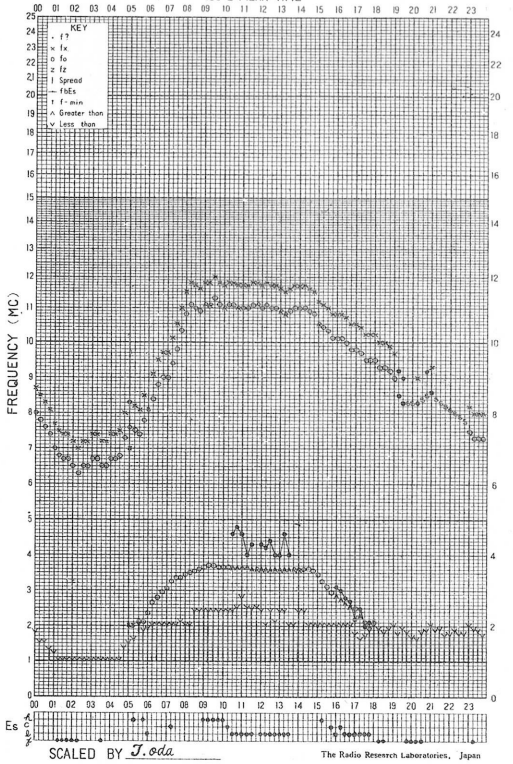

f-PLOT OF IONOSPHERIC DATA
STATION AKITA
135° E MEAN TIME
DATE SEP 7 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY A. Fujiyama
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION KOKUBUNJI
135° E MEAN TIME
DATE SEP 7,1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY S. Kimura
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION YAMAGAWA
135° E MEAN TIME
DATE Sep. 7, 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY K. Toyama
The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

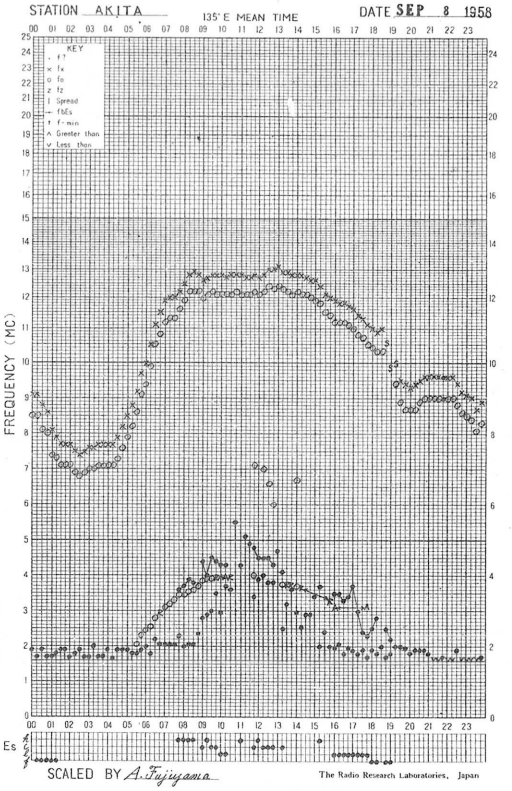
STATION WAKKANAI 135°E MEAN TIME DATE Sept 8 1958



SCALED BY T. Oda The Radio Reserch Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

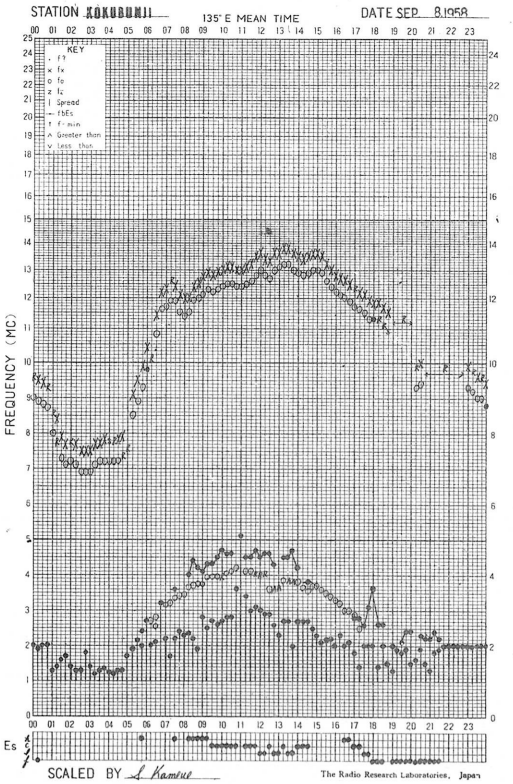
STATION AKITA 135°E MEAN TIME DATE SEP 8 1958



SCALED BY A. Fujiyama The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

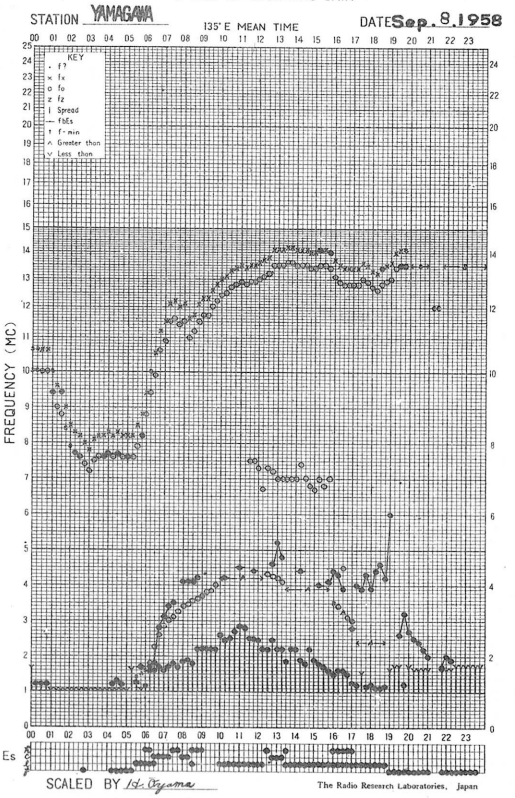
STATION KOKUBUNJI 135°E MEAN TIME DATE SEP. 8 1958



SCALED BY I. Kamiue The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

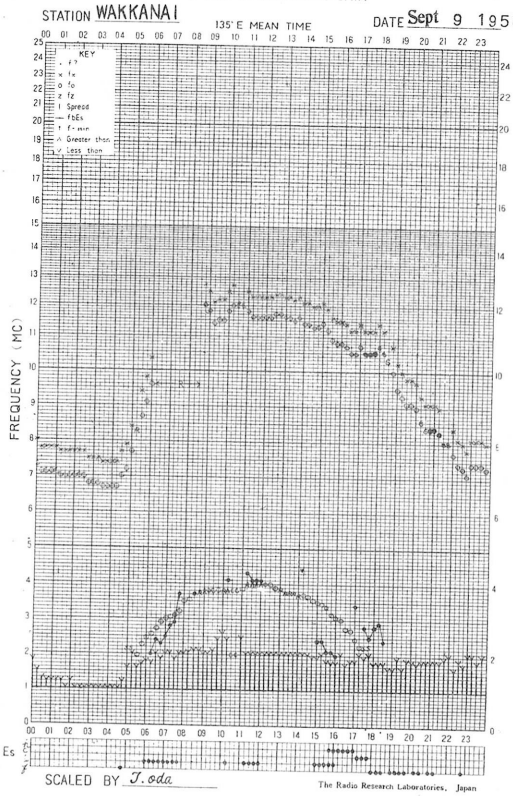
STATION YAMAGAWA 135°E MEAN TIME DATE Sep. 8 1958



SCALED BY H. Oyama The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 9 1958

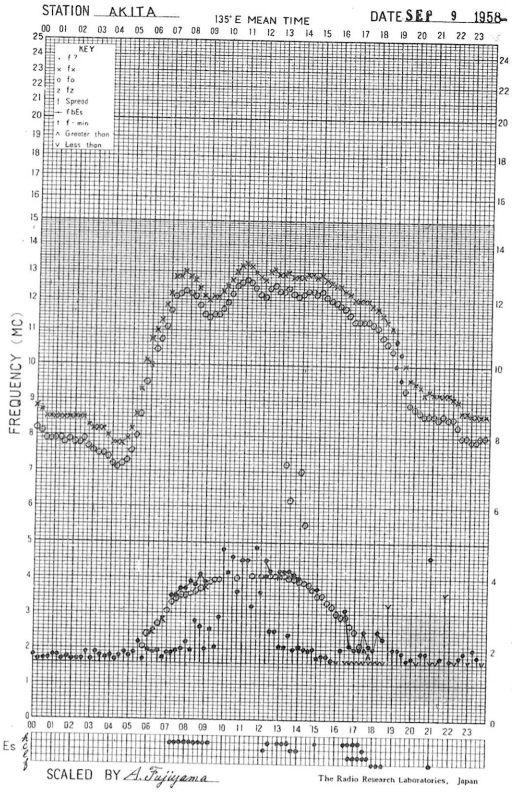


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 9 1958

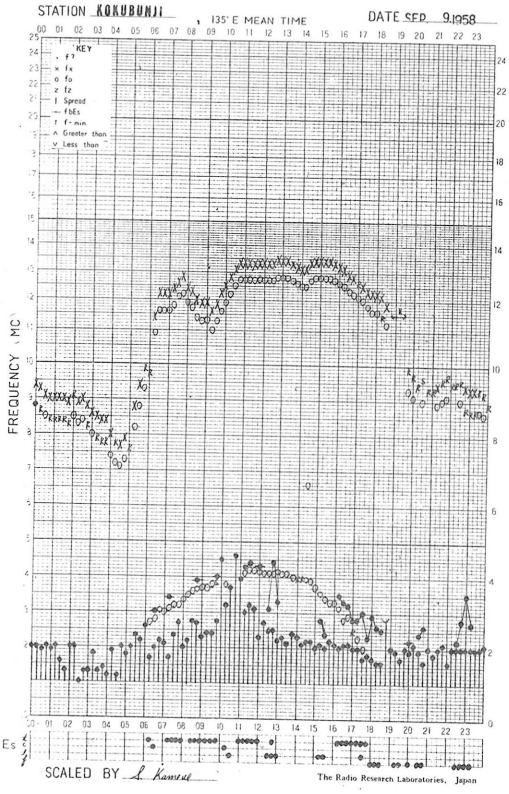


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 9.1958

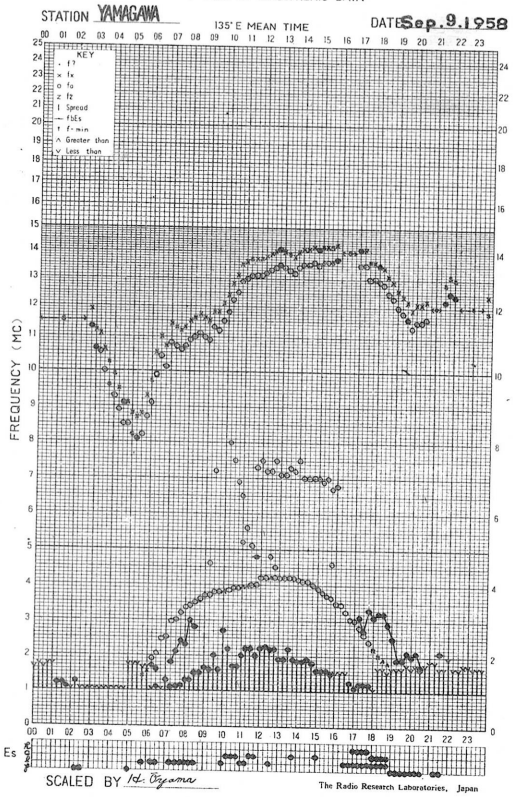


SCALED BY S. Kamisue

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 9. 1958

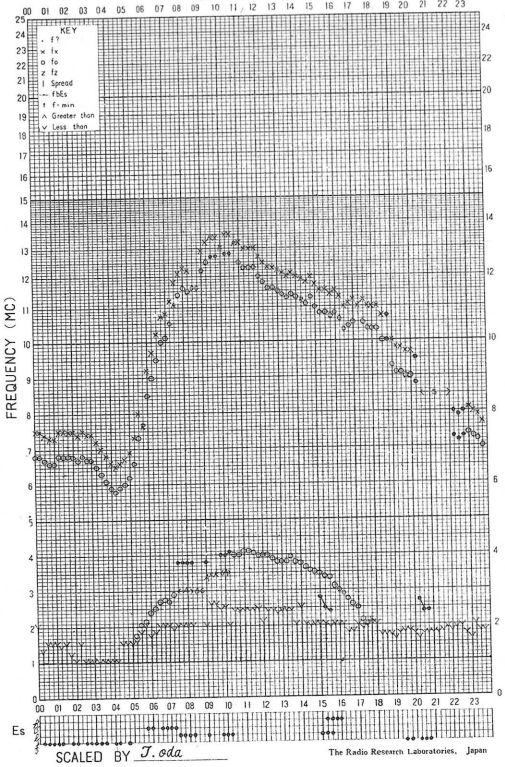


SCALED BY H. Tagama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 10 1958

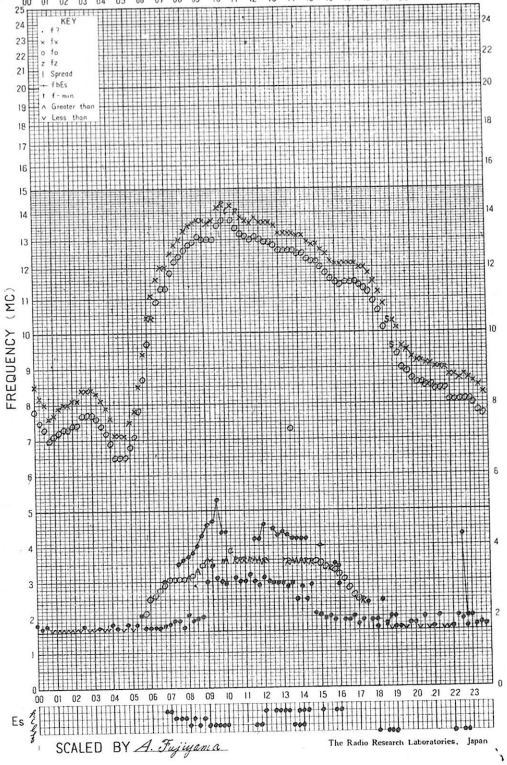


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 10 1958

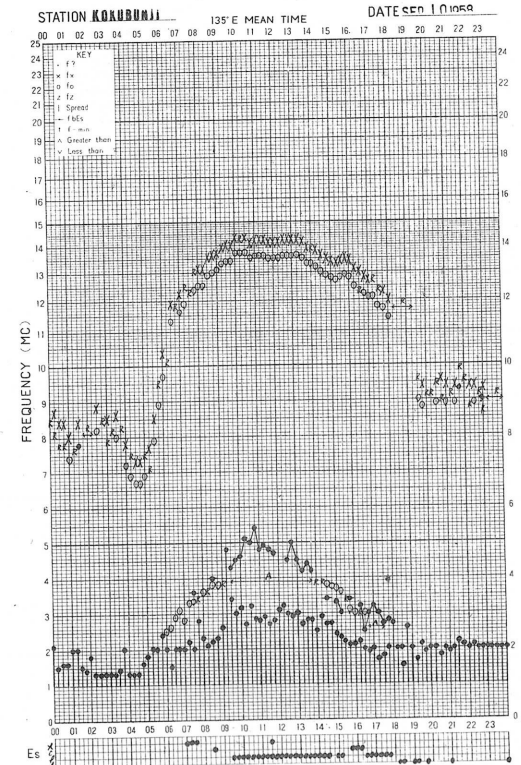


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP 10 1958

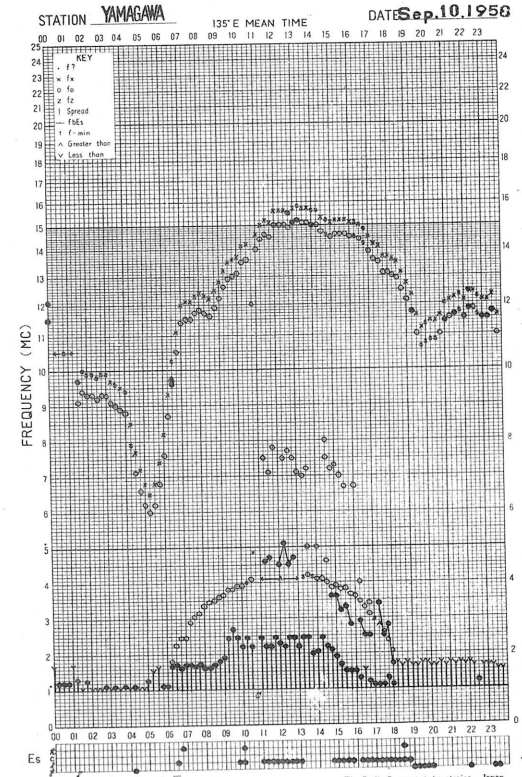


SCALED BY S. Kamisue

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 10, 1958

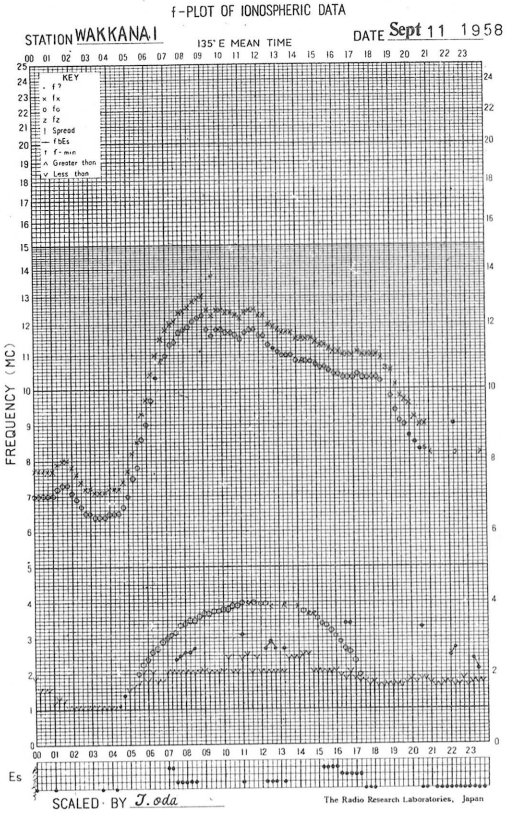


SCALED BY H. Oyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 11 1958

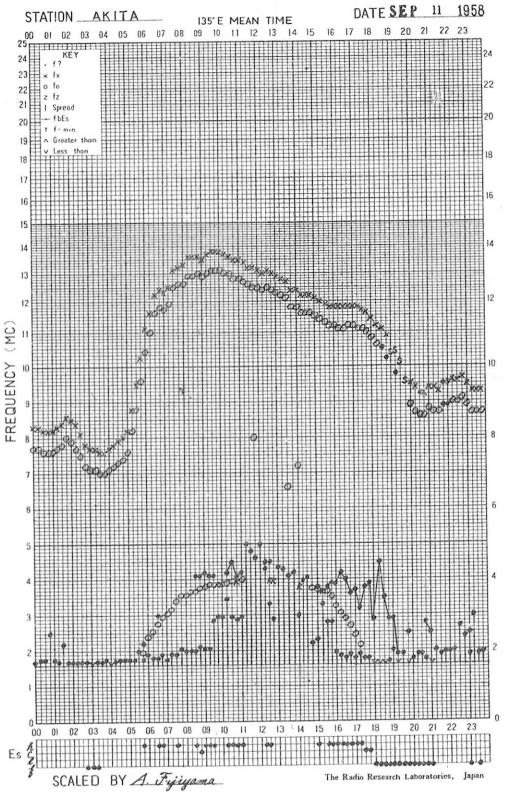


SCALED BY T. Oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 11 1958

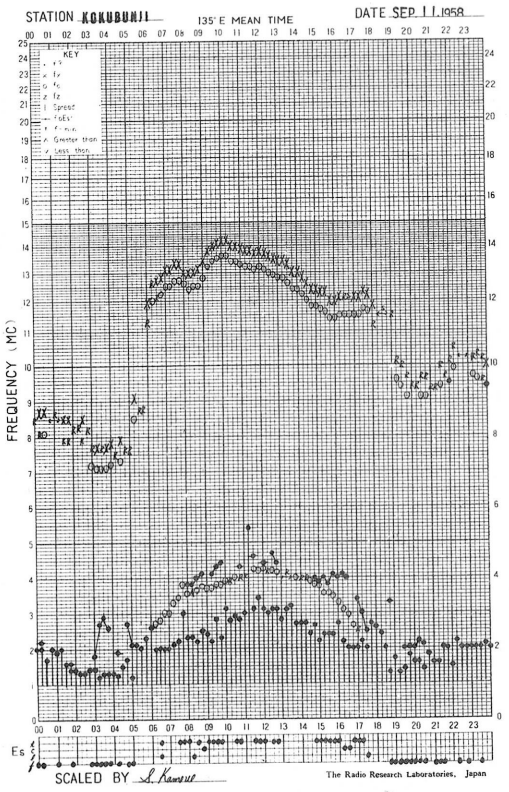


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP 11 1958

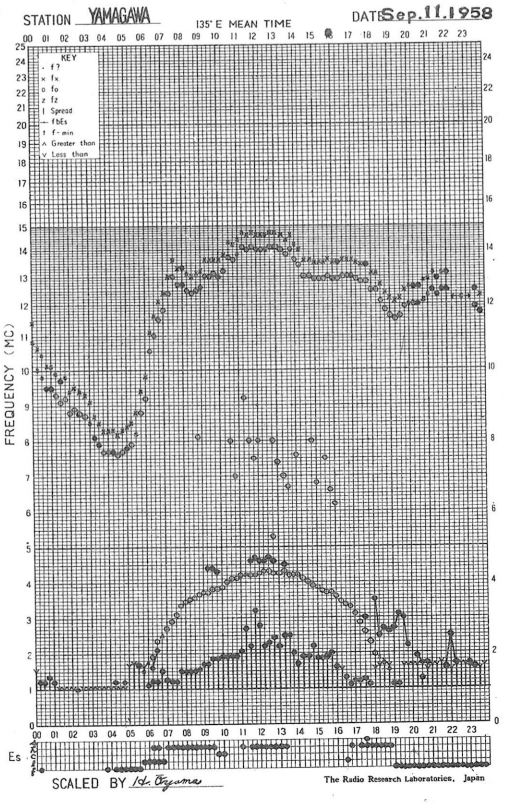


SCALED BY S. Kawasaki

The Radio Research Laboratories, Japan

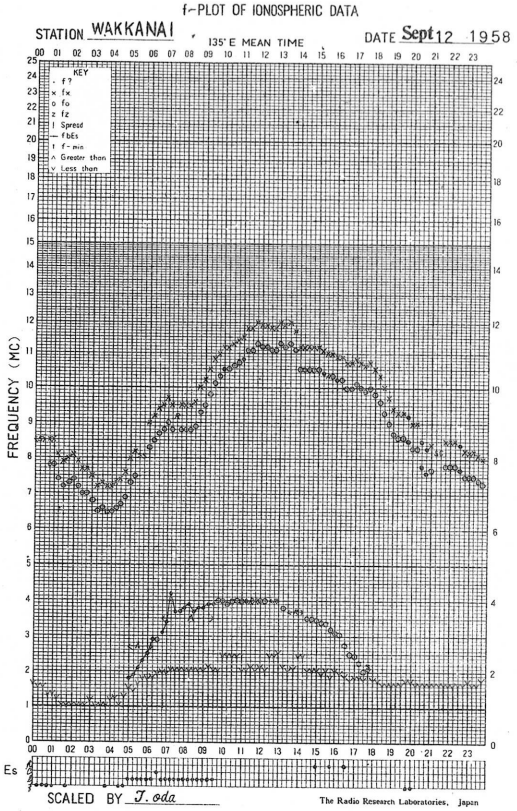
f-PLOT OF IONOSPHERIC DATA

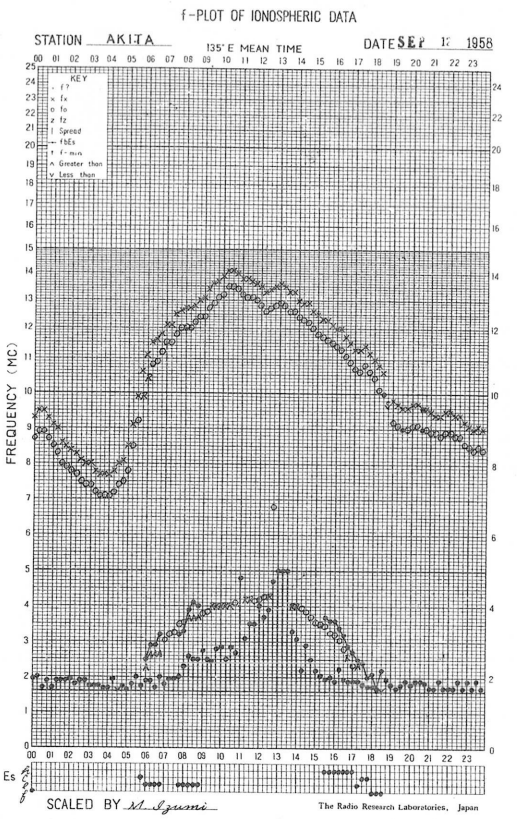
STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 11. 1958

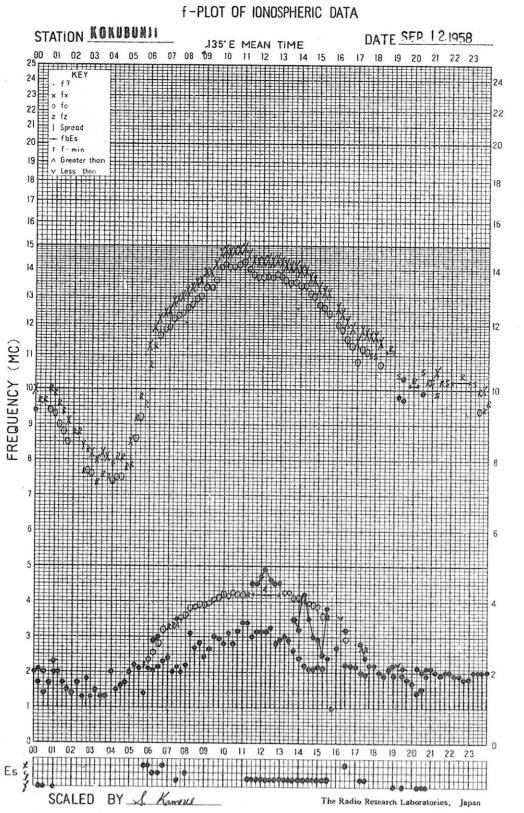


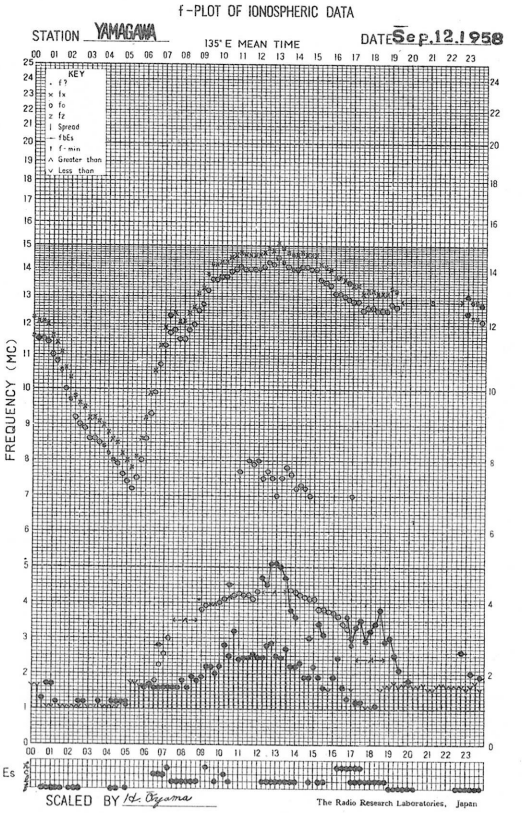
SCALED BY M. Fujiwara

The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION WAKKANAI
135° E MEAN TIME
DATE Sept 12 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY T. Oda
The Radio Research Laboratories, Japan

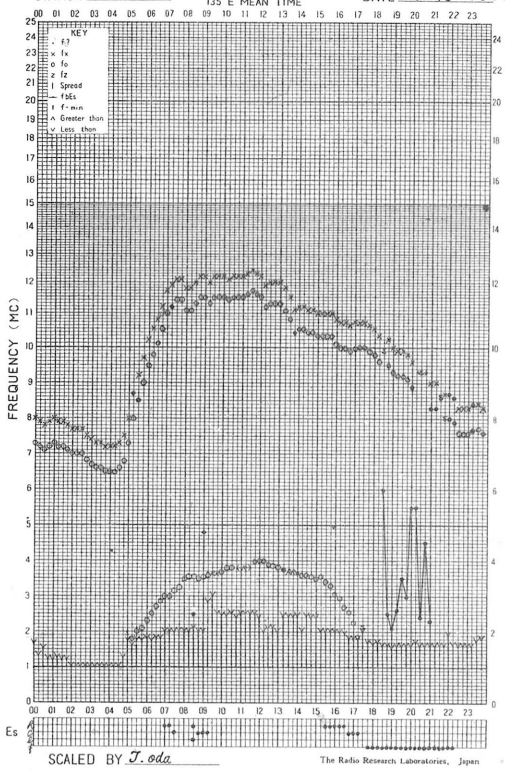

f-PLOT OF IONOSPHERIC DATA
STATION AKITA
135° E MEAN TIME
DATE SEP 12 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY M. Izumi
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION KOKUBUNJI
135° E MEAN TIME
DATE SEP 12 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY S. Kawai
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION YAMAGAWA
135° E MEAN TIME
DATE Sep. 12. 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY H. Ozaima
The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Sept 13 1958

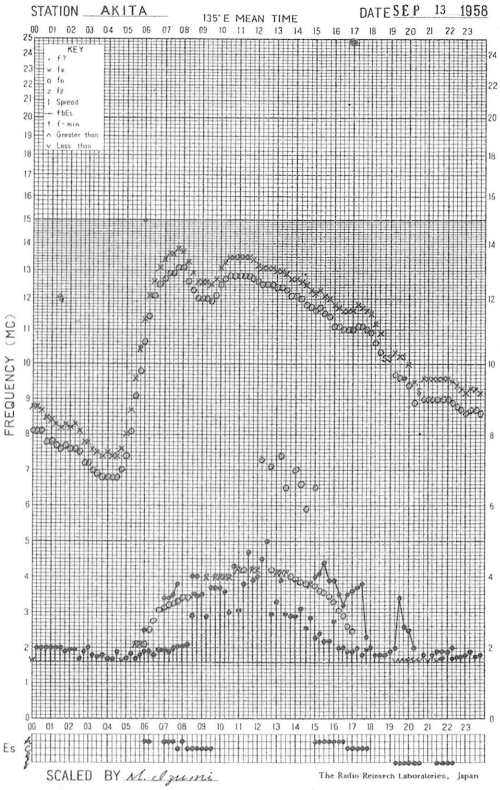


SCALED BY T. Oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135°E MEAN TIME DATE SEP 13 1958

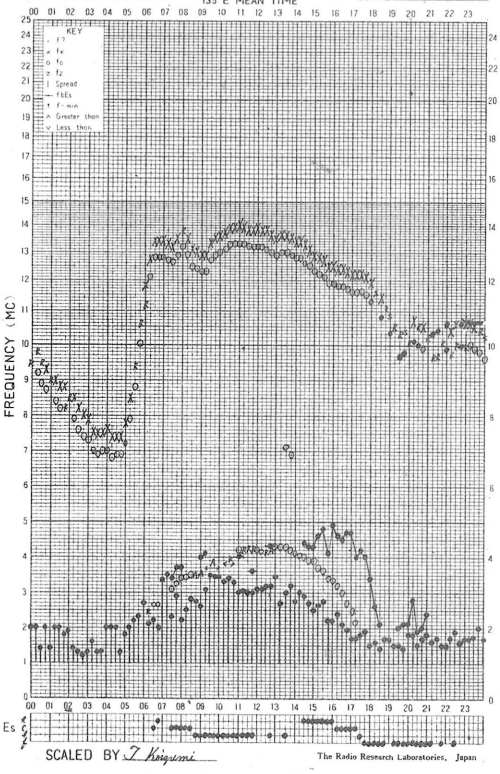


SCALED BY N. Azumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135°E MEAN TIME DATE SEP. 13.1958

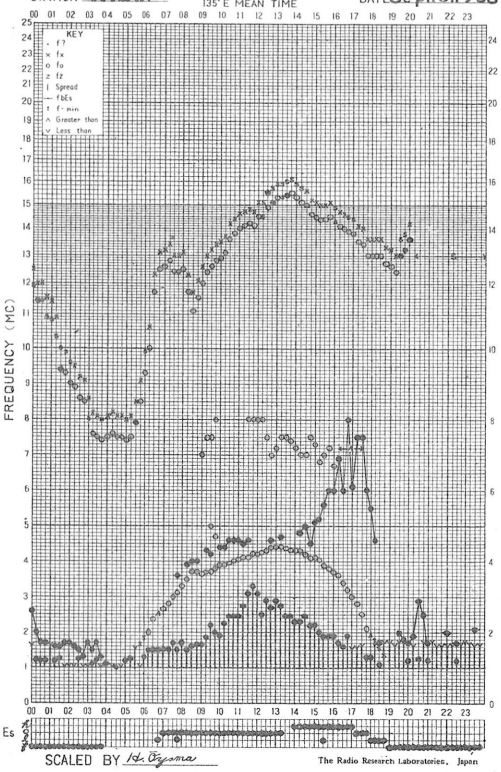


SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135°E MEAN TIME DATE Sep.13.1958

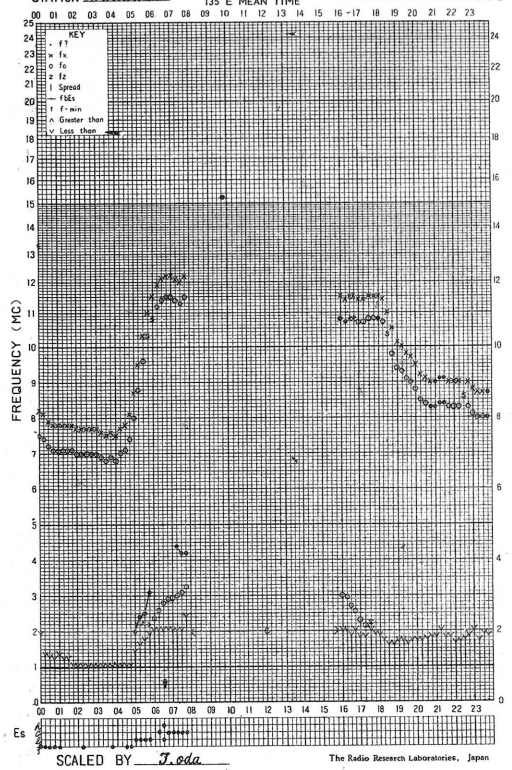


SCALED BY H. Ozawa

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

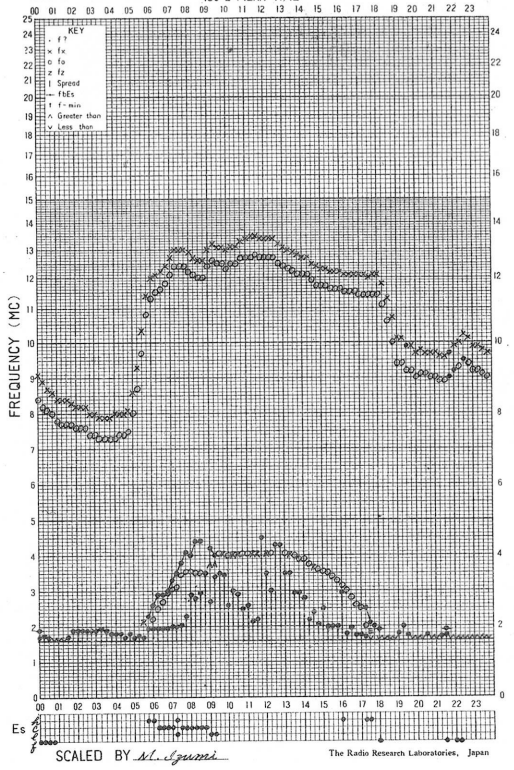
STATION WAKKANAI 135° E MEAN TIME DATE Sept 14 1958



SCALED BY T. Oda The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

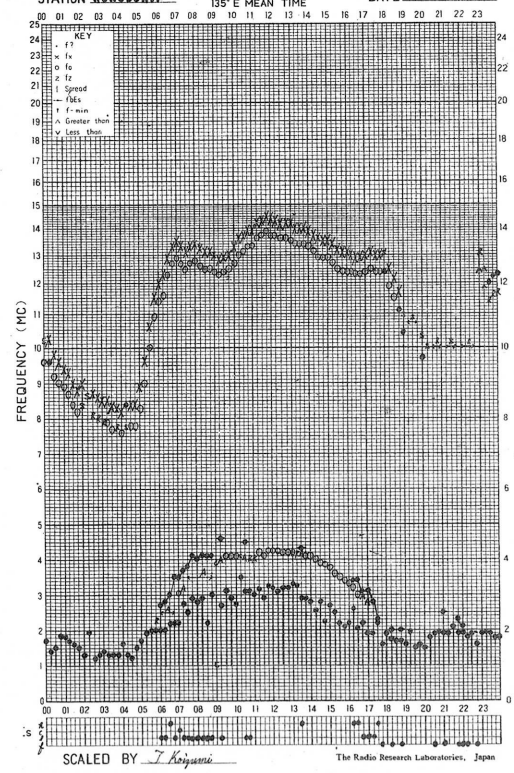
STATION AKITA 135° E MEAN TIME DATE SEP 14 1958



SCALED BY M. Izumi The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

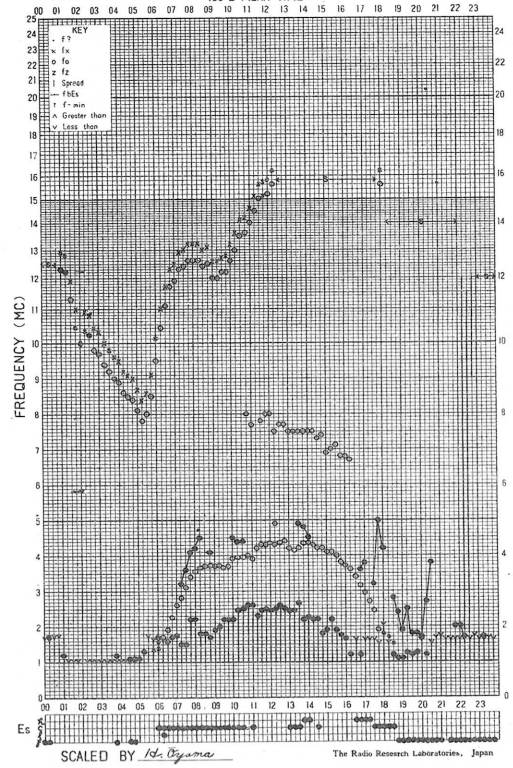
STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 14 1958



SCALED BY T. Koizumi The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

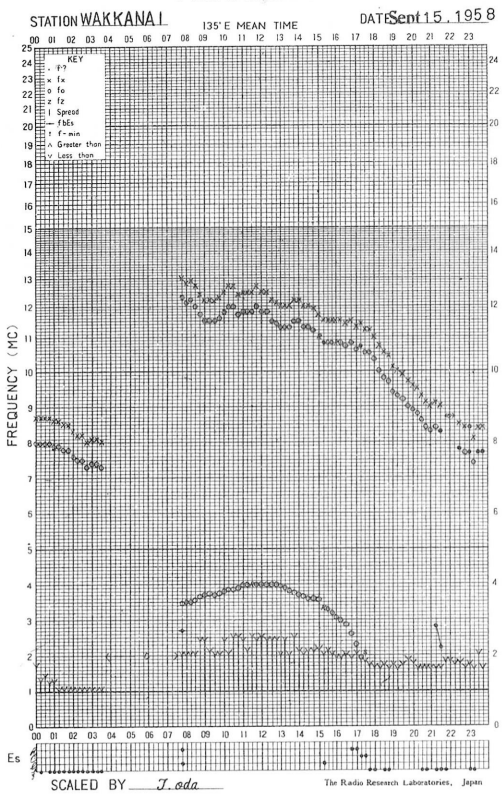
STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 14 1958



SCALED BY Id. Ozawa The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 15, 1958

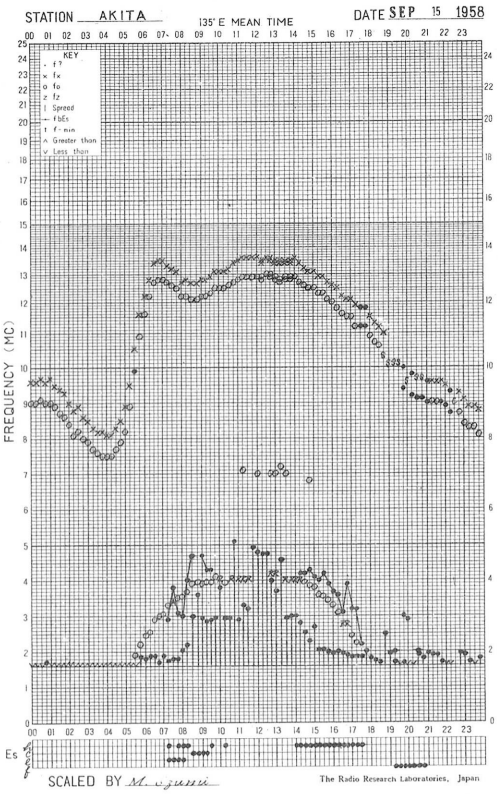


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 15 1958

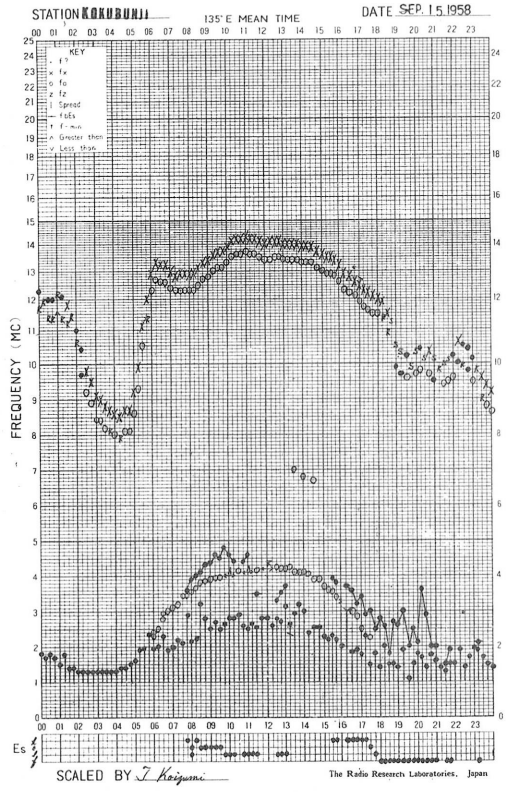


SCALED BY M. Iyemi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 15 1958

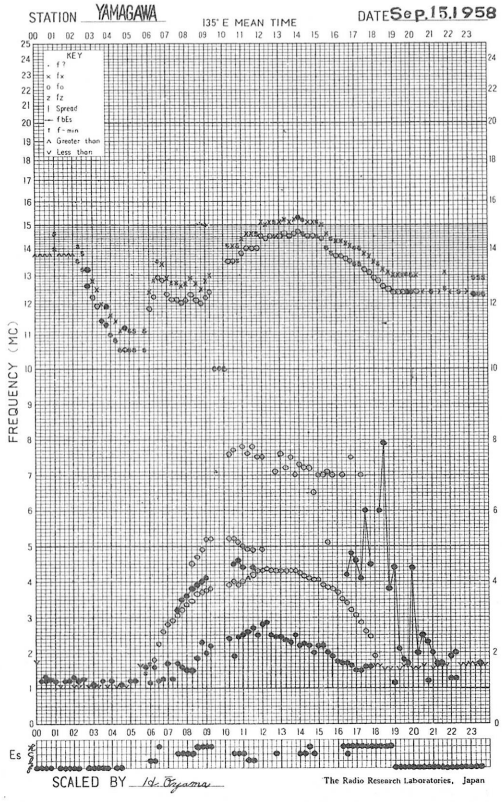


SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 15, 1958

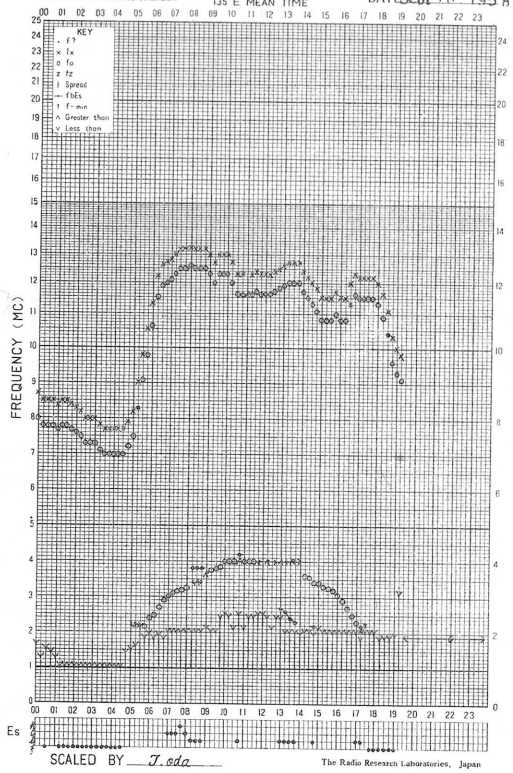


SCALED BY H. Fujisawa

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 16 1958

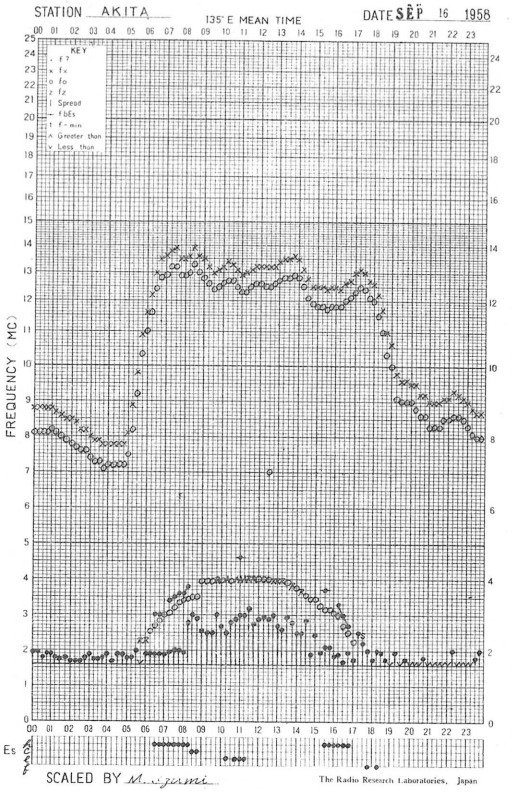


SCALED BY T. Oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 16 1958

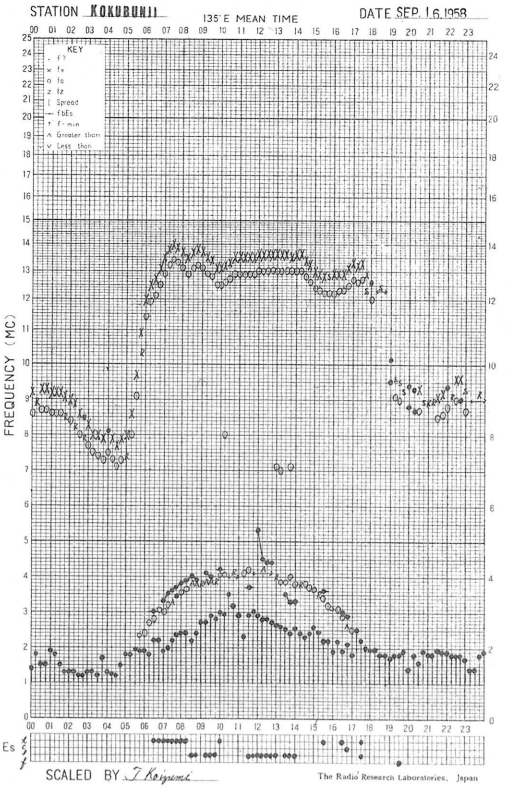


SCALED BY M. Ijima

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 16. 1958

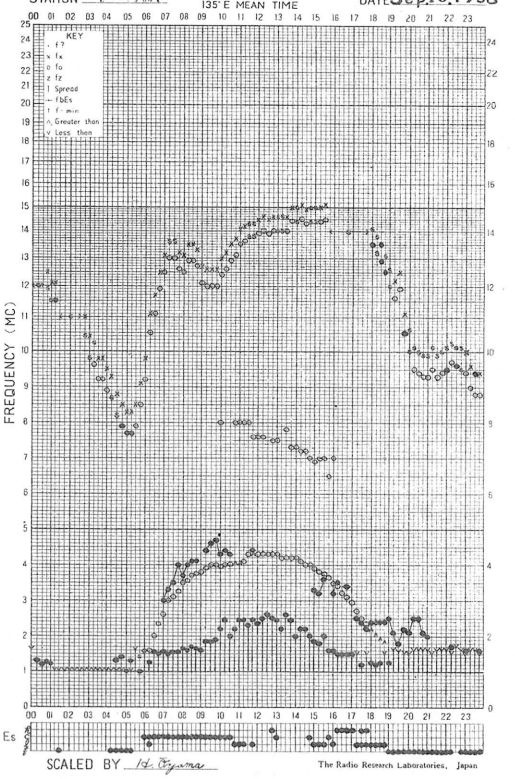


SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 16. 1958

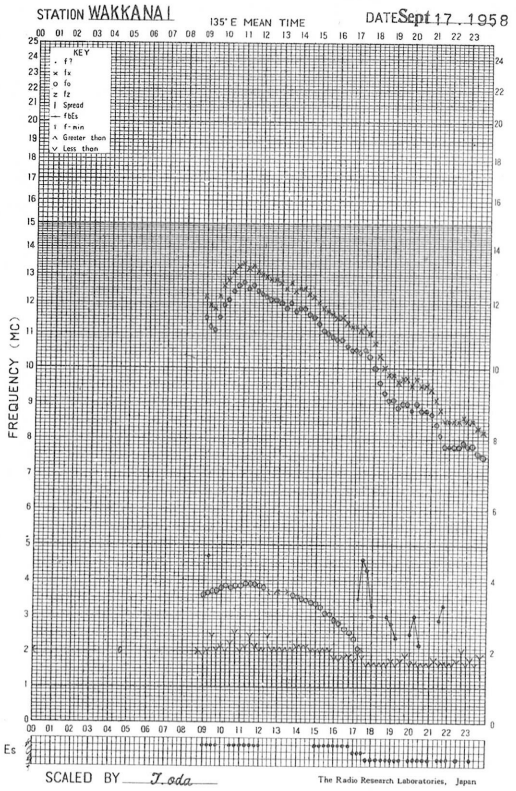


SCALED BY H. Ozima

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

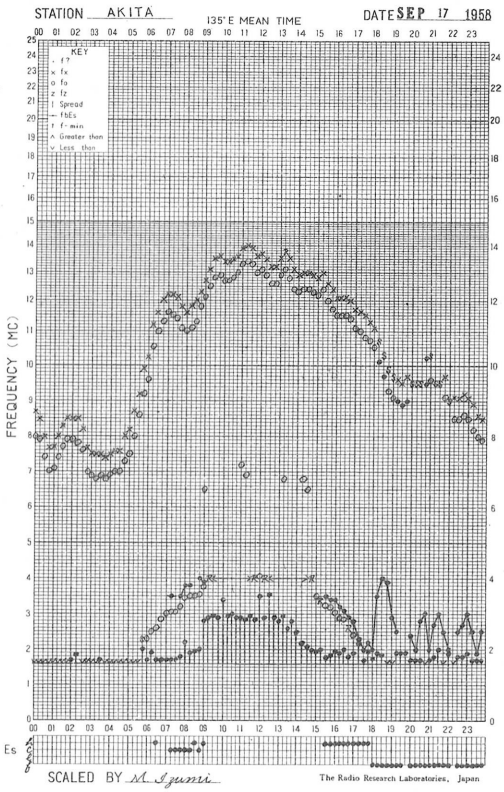
STATION WAKKANAI 135° E MEAN TIME DATE Sept 17, 1958



SCALED BY T. Oda The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

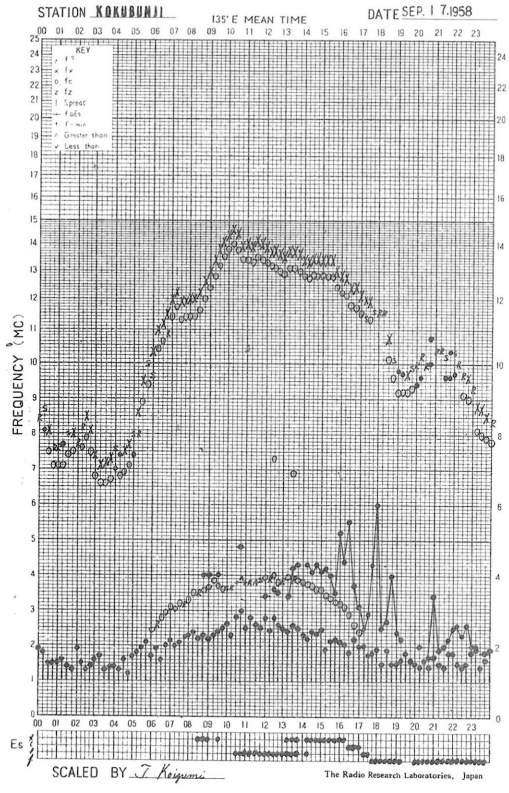
STATION AKITA 135° E MEAN TIME DATE SEP 17 1958



SCALED BY M. Izumi The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

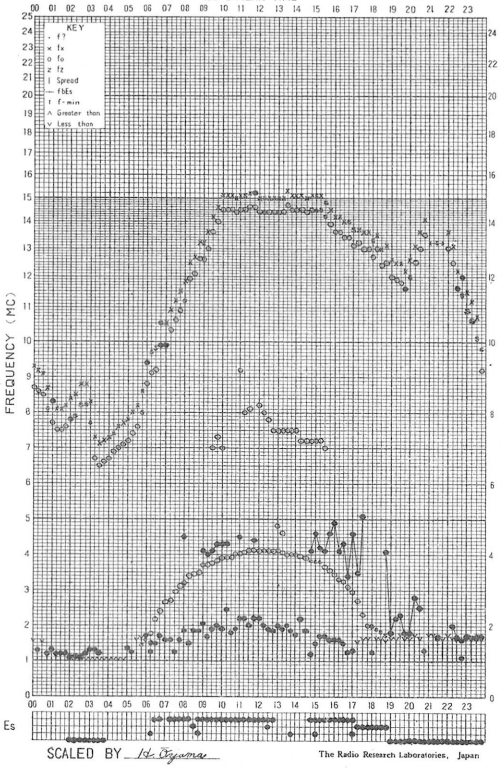
STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 17, 1958



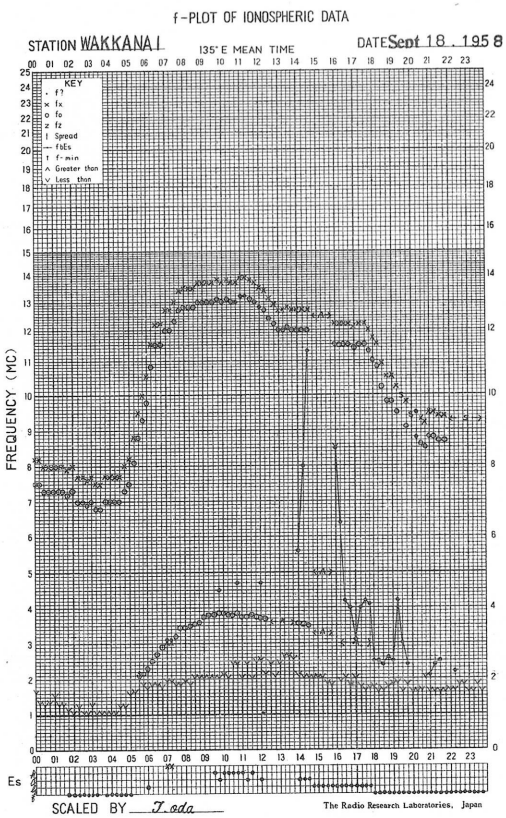
SCALED BY T. Keiyumi The Radio Research Laboratories, Japan

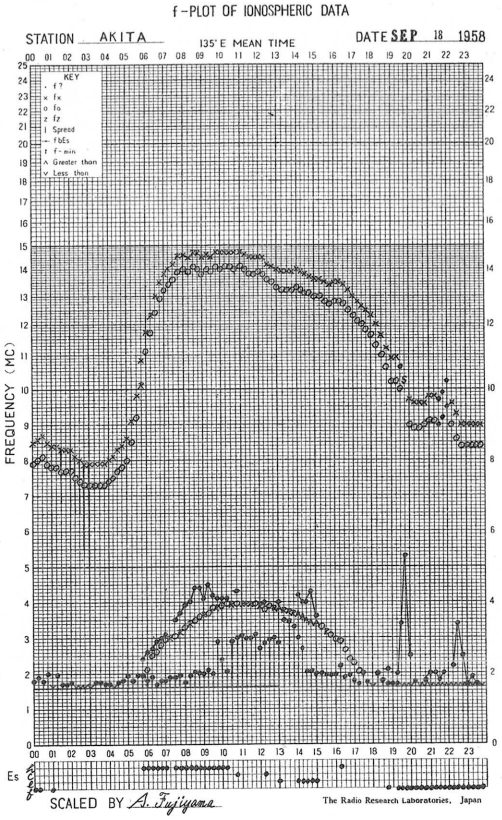
f-PLOT OF IONOSPHERIC DATA

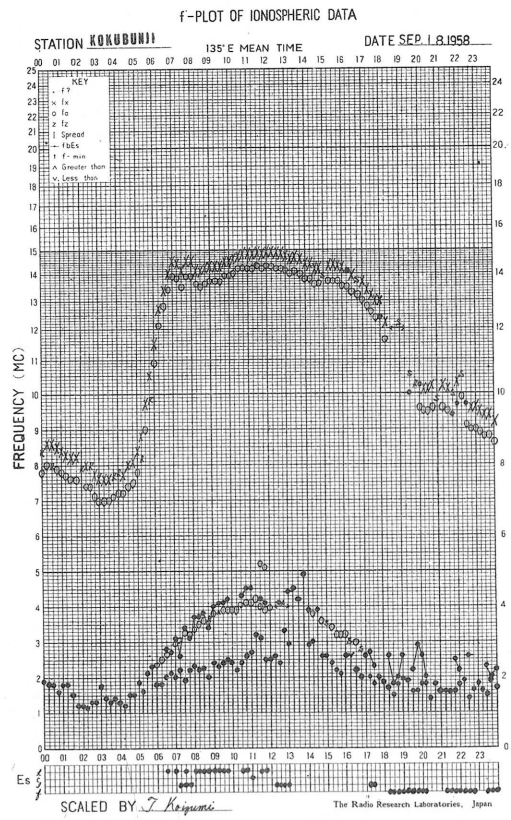
STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 17, 1958

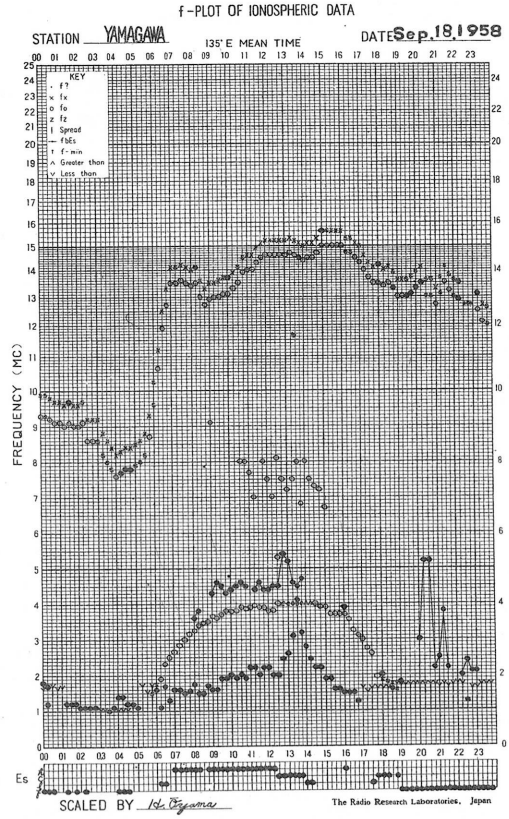


SCALED BY H. Ozeki The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION WAKKANAI
135° E MEAN TIME
DATE Sept 18 . 1958
KEY
. f?
× fx
o fo
z fz
I Spread
— fbEs
t f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY T. oda
The Radio Research Laboratories, Japan

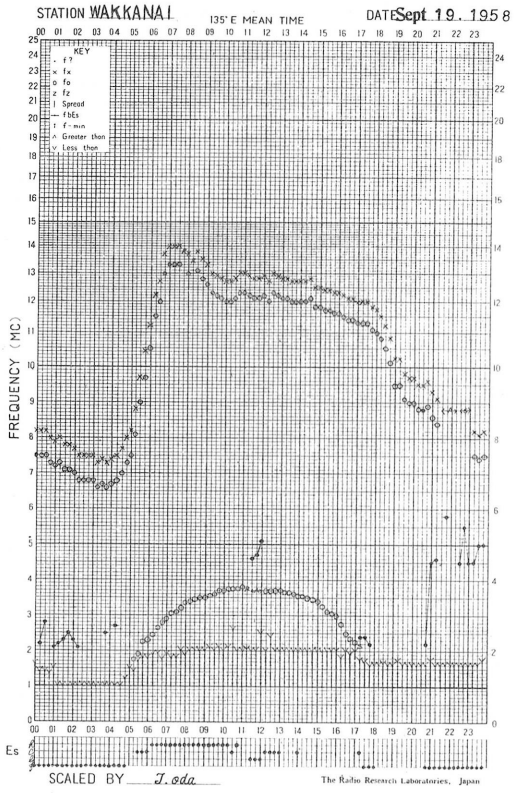

f-PLOT OF IONOSPHERIC DATA
STATION AKITA
135° E MEAN TIME
DATE SEP 18 1958
KEY
. f?
× fx
o fo
z fz
I Spread
— fbEs
t f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY A. Fujiyama
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION KOKUBUNJI
135° E MEAN TIME
DATE SEP. 18.1958
KEY
. f?
× fx
o fo
z fz
I Spread
— fbEs
t f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY T. Koizumi
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION YAMAGAWA
135° E MEAN TIME
DATE Sep. 18 1958
KEY
. f?
× fx
o fo
z fz
I Spread
— fbEs
t f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY Ide Fujama
The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

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

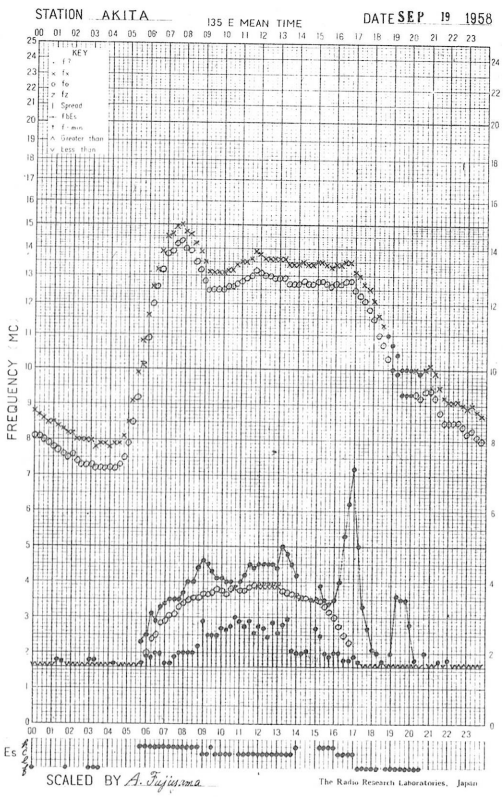


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135 E MEAN TIME DATE SEP 19 1958

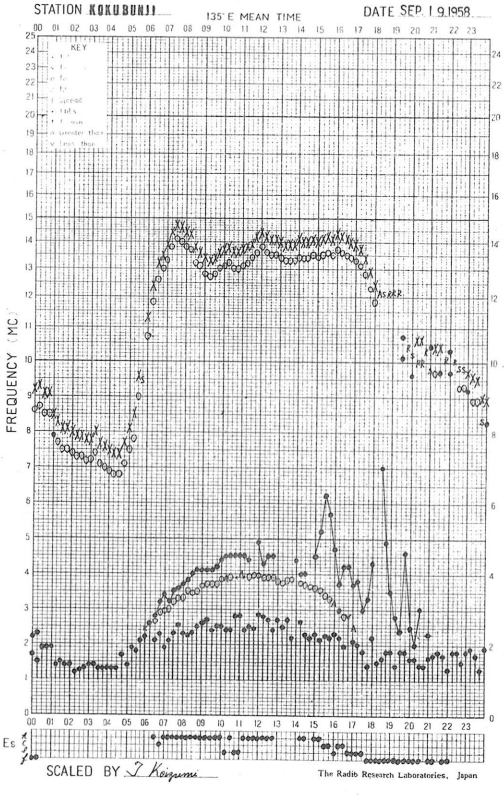


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP 19 1958

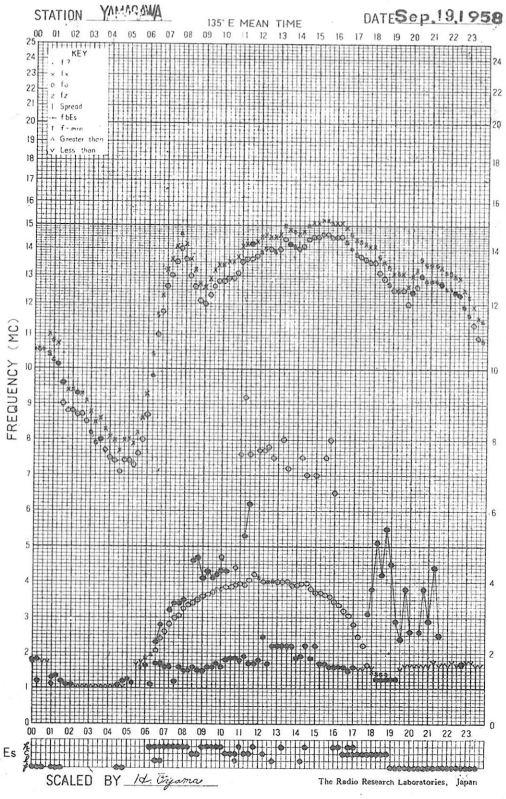


SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 19, 1958

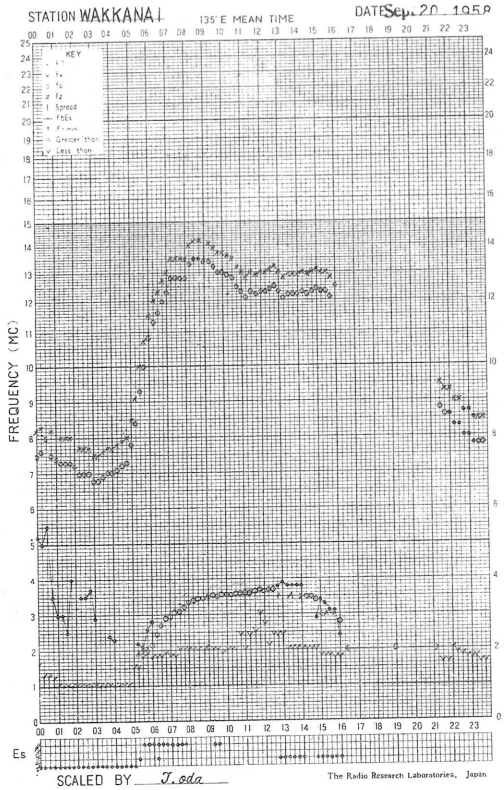


SCALED BY H. Eizama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sep. 20 1958

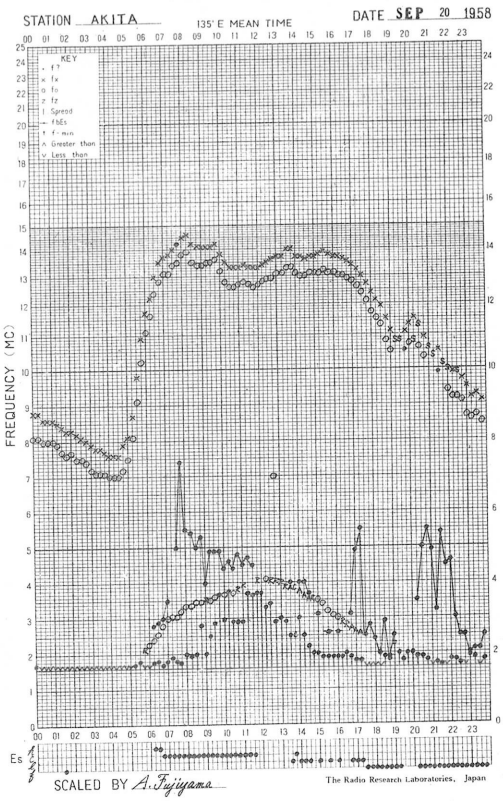


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 20 1958

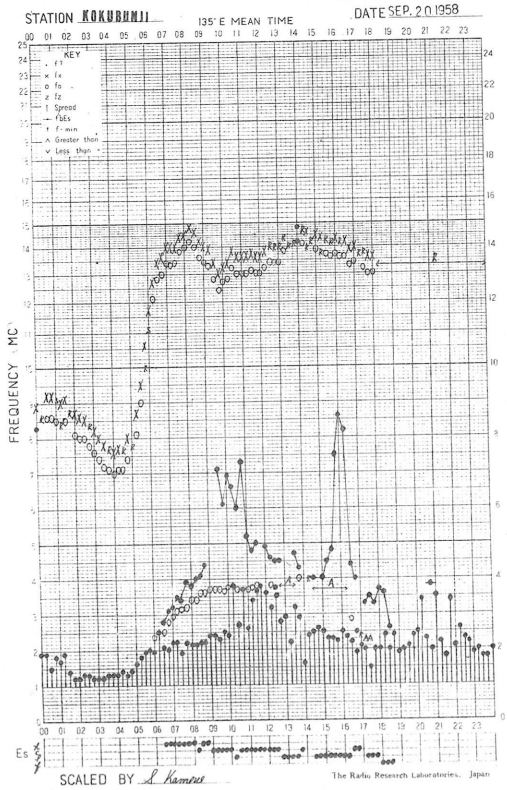


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 20 1958

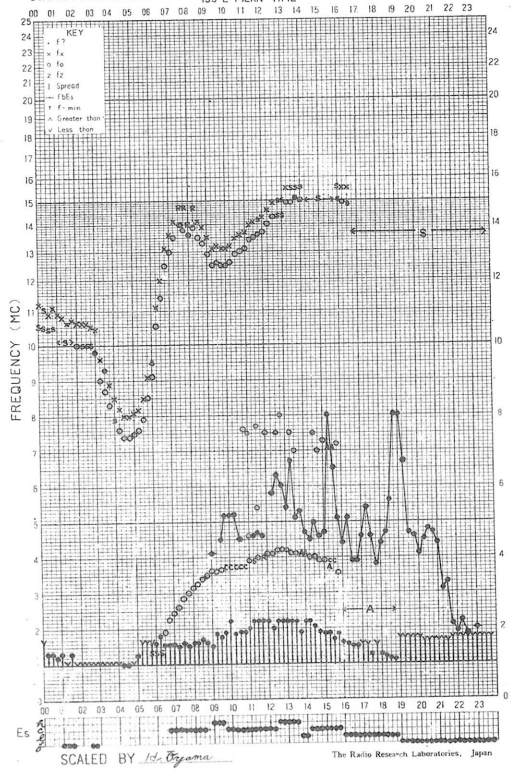


SCALED BY S. Kamitsu

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 20. 1958

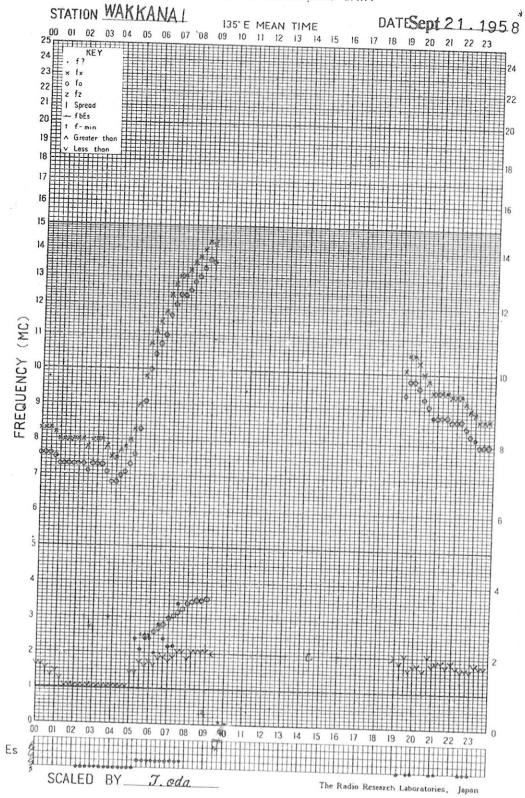


SCALED BY H. Ogawa

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 21. 1958

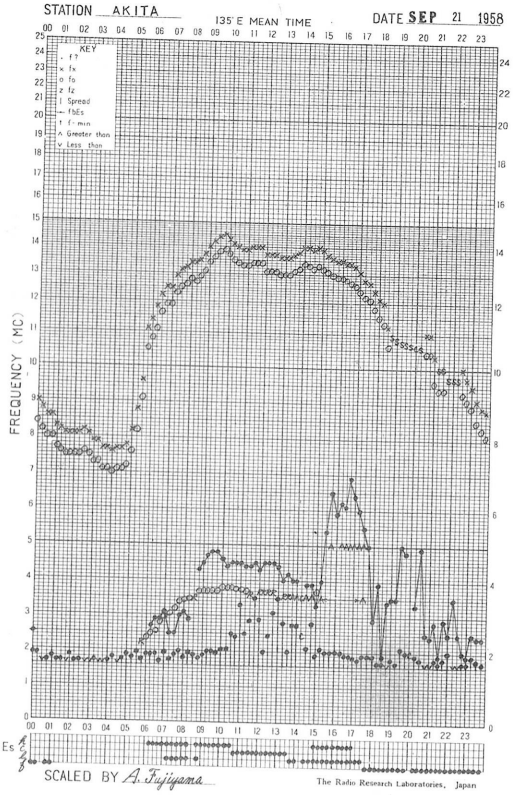


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 21 1958

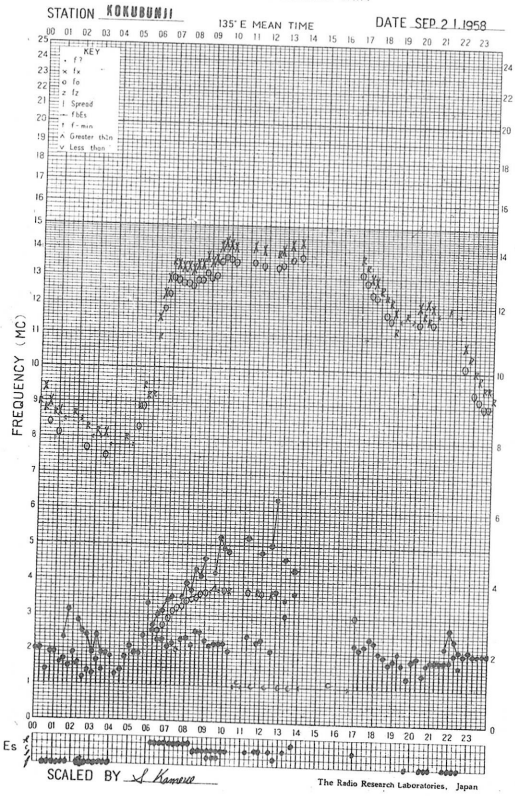


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP 21 1958

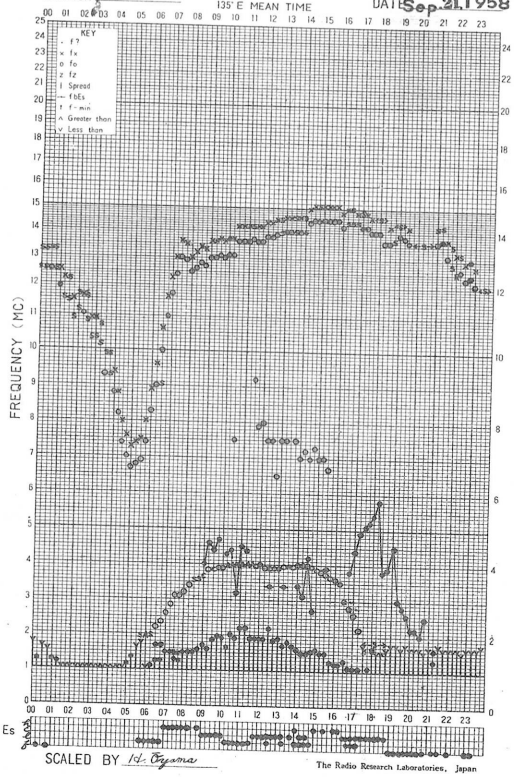


SCALED BY S. Kimura

The Radio Research Laboratories, Japan

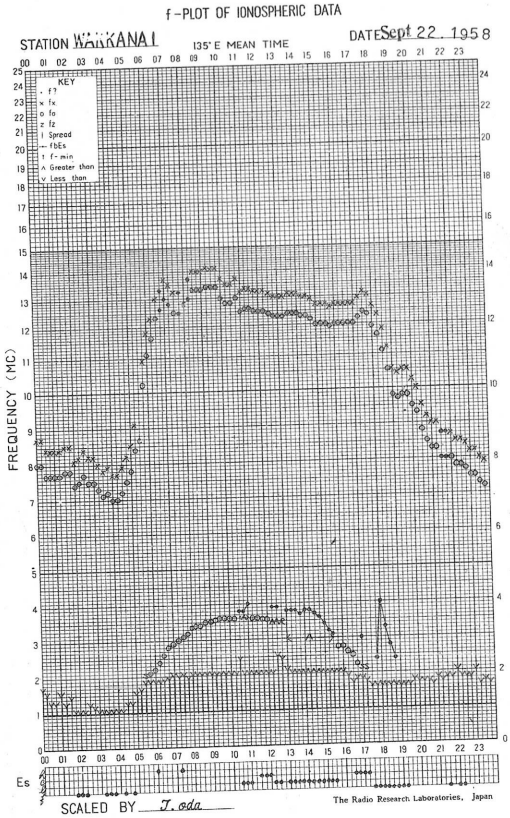
f-PLOT OF IONOSPHERIC DATA

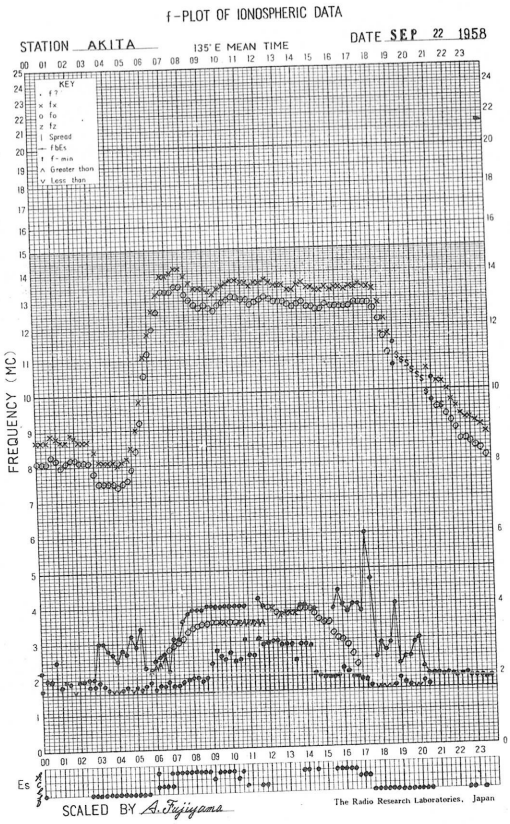
STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 21 1958

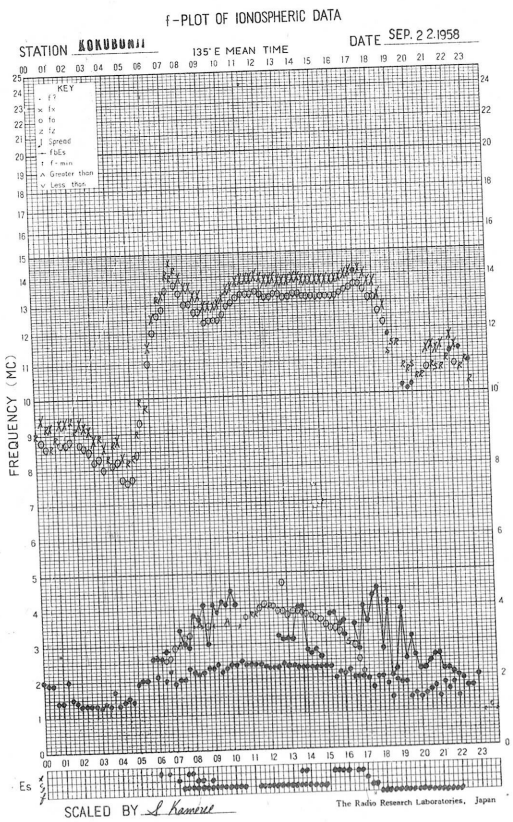


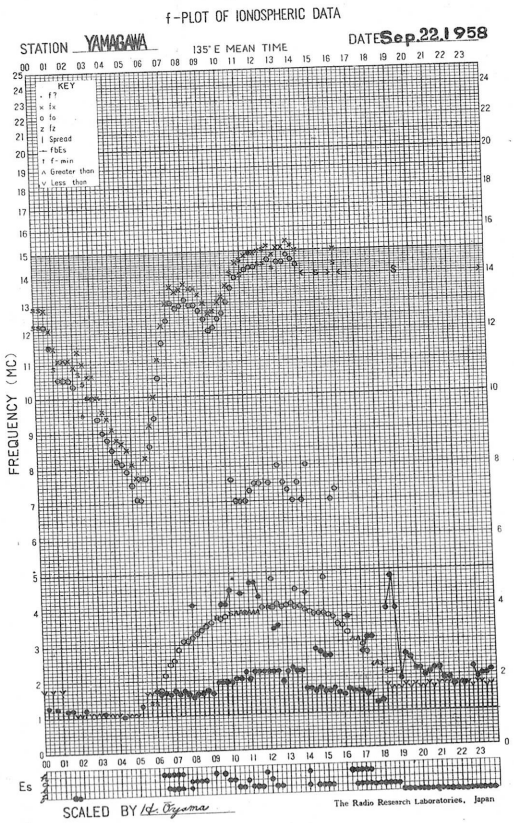
SCALED BY M. Ozawa

The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION WAKKANAI
135° E MEAN TIME
DATE Sept 22. 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY T. oda
The Radio Research Laboratories, Japan

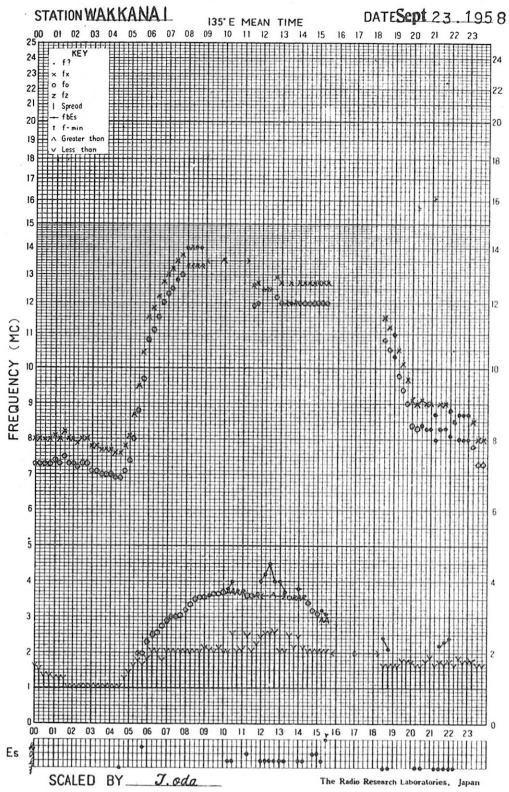

f-PLOT OF IONOSPHERIC DATA
STATION AKITA
135° E MEAN TIME
DATE SEP 22 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY S. Fujiyama
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION KOKUBUNJI
135° E MEAN TIME
DATE SEP. 22.1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY I. Kameue
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION YAMAGAWA
135° E MEAN TIME
DATE Sep. 22. 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY H. Ozaima
The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

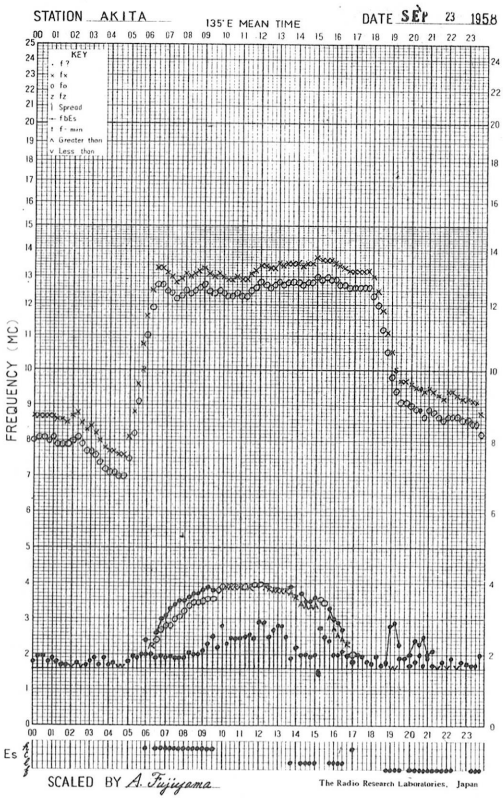
STATION WAKKANAI 135°E MEAN TIME DATE Sept 23. 1958



SCALED BY T. Oda The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

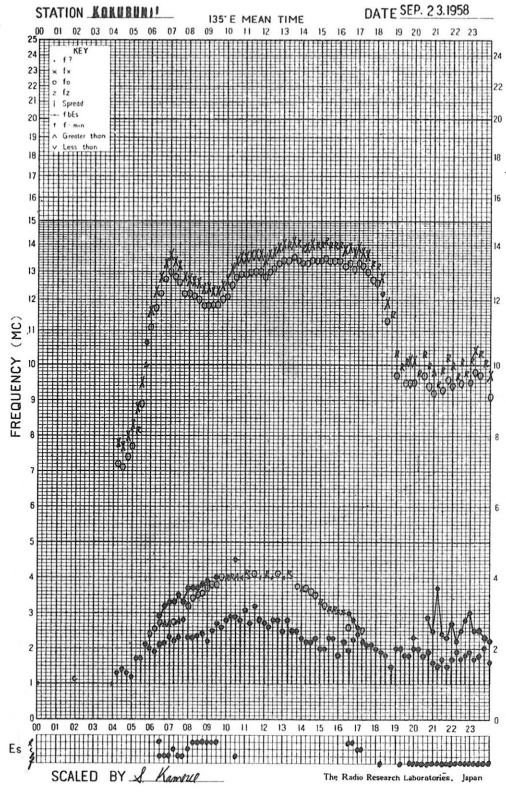
STATION AKITA 135°E MEAN TIME DATE SEP 23 1958



SCALED BY A. Fujiyama The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

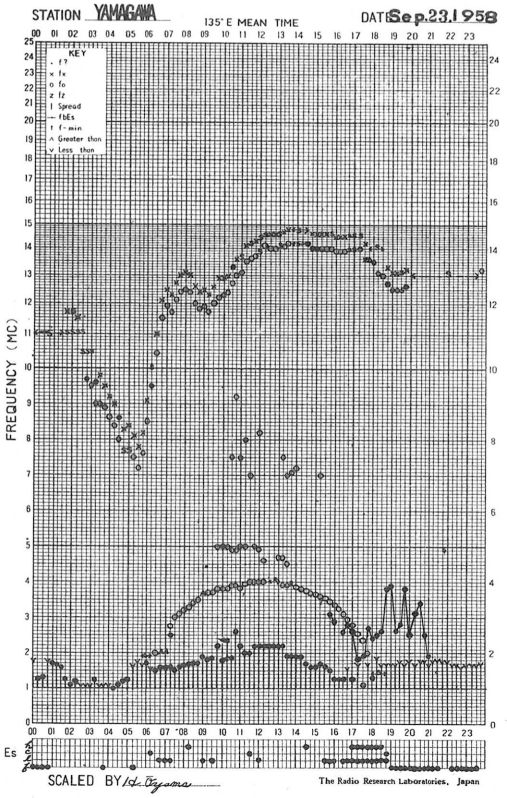
STATION KOKUBUNJI 135°E MEAN TIME DATE SEP. 23.1958



SCALED BY S. Kamoui The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

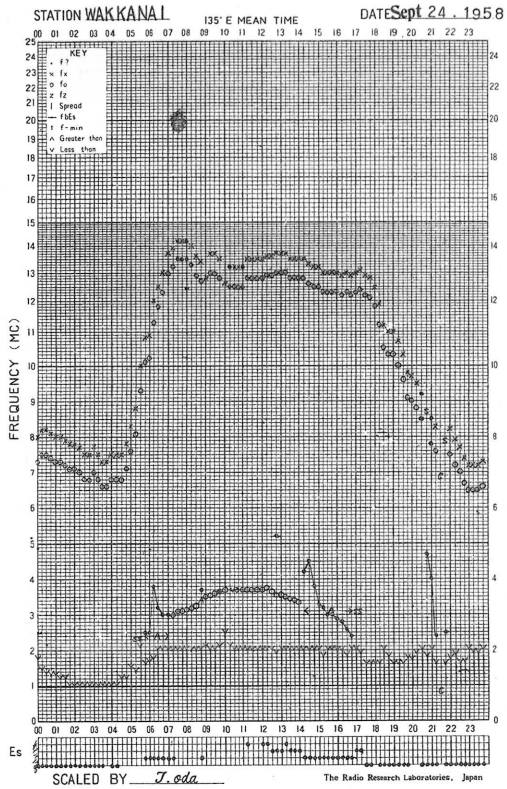
STATION YAMAGAWA 135°E MEAN TIME DATE Sep.23.1958



SCALED BY H. Tajima The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 24, 1958

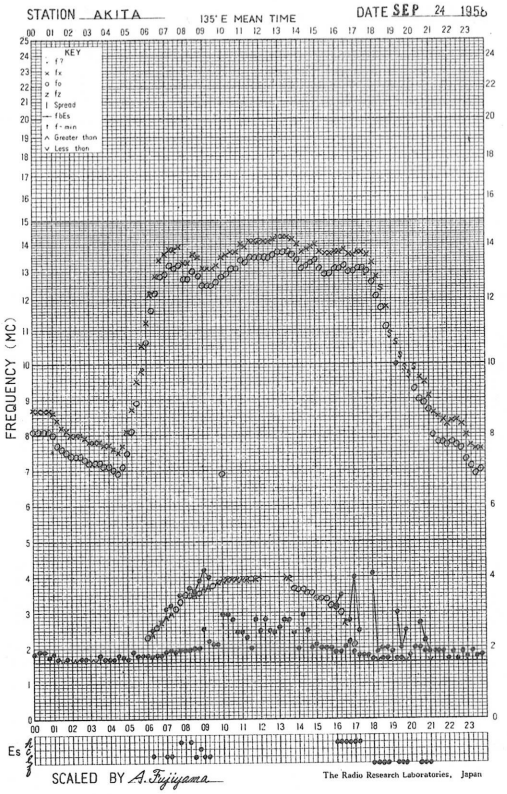


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 24 1958

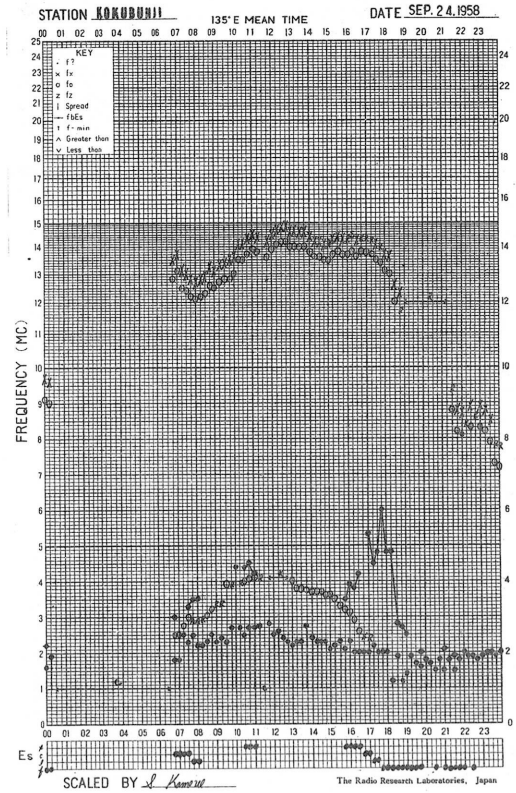


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 24, 1958

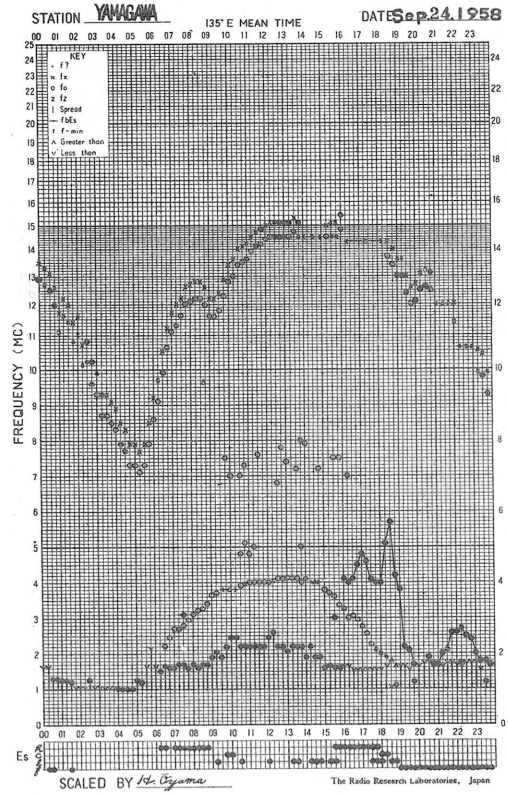


SCALED BY S. Kamesu

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 24, 1958

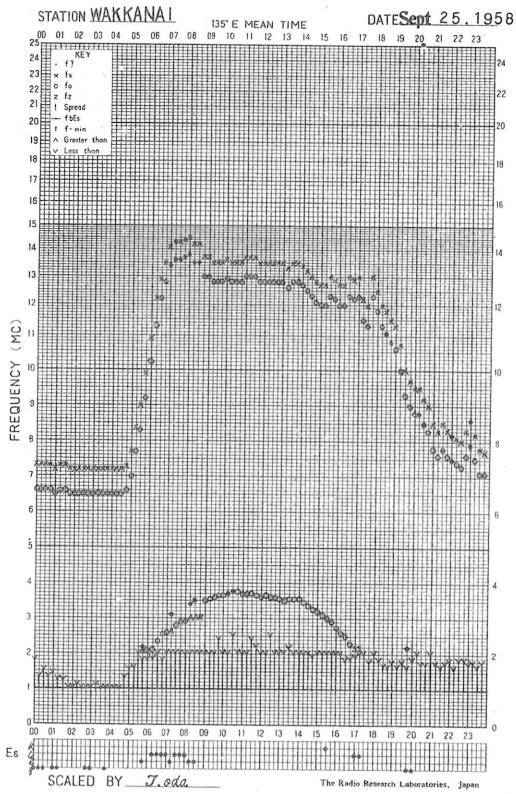


SCALED BY H. Ogama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 25, 1958

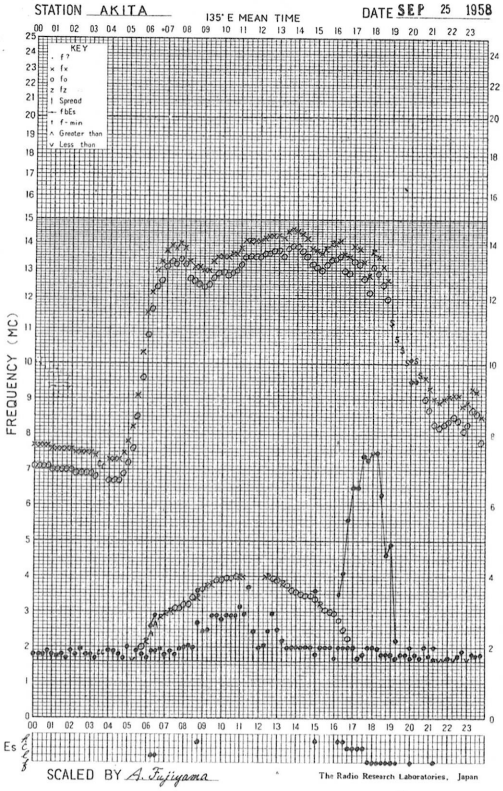


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 25 1958

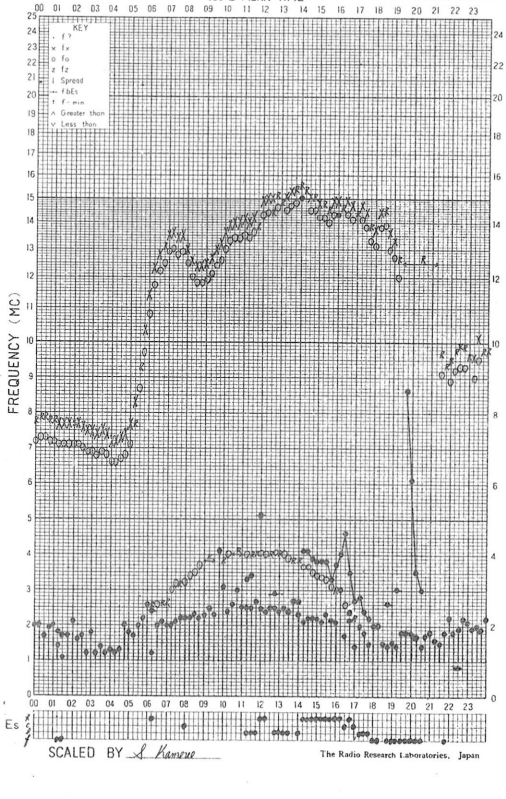


SCALED BY A. Fujiyama

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 25. 1958

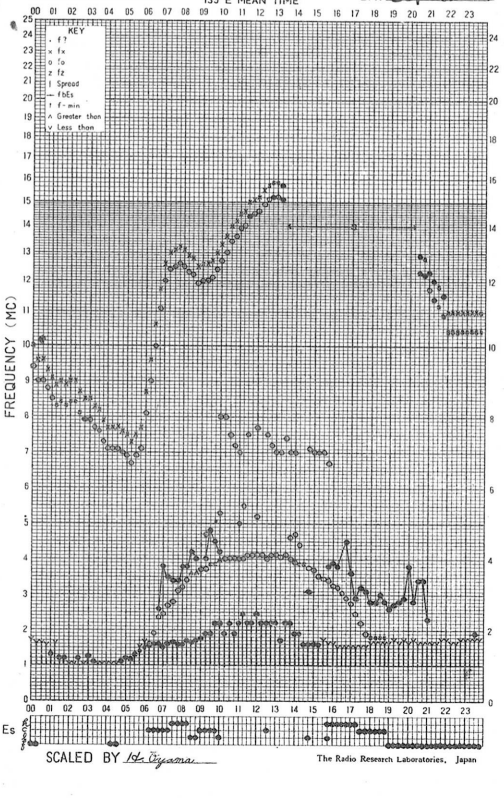


SCALED BY S. Kimura

The Radio Research Laboratories, Japan

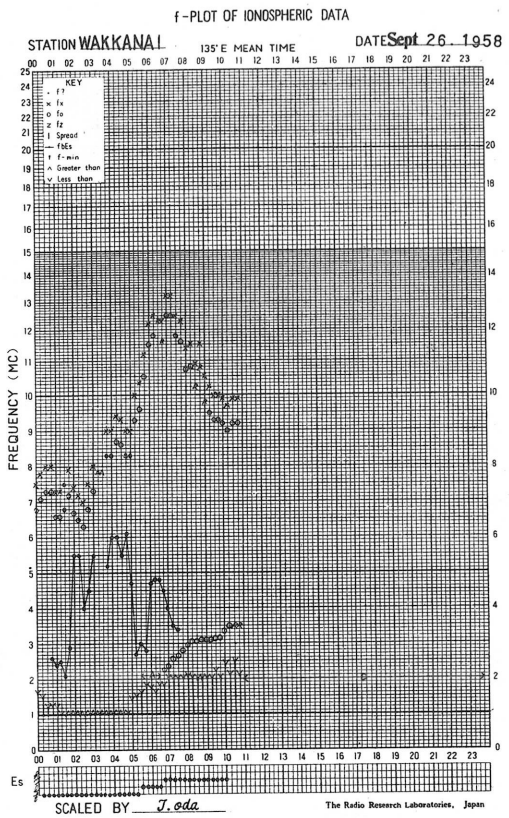
f-PLOT OF IONOSPHERIC DATA

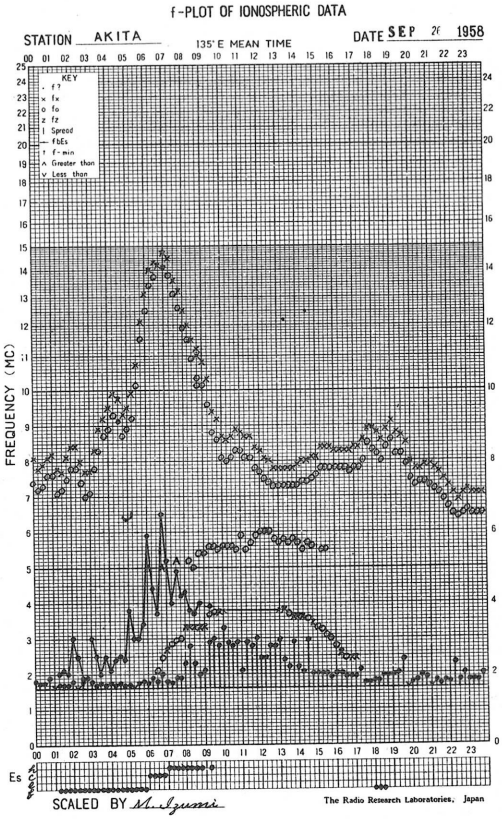
STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 25. 1958

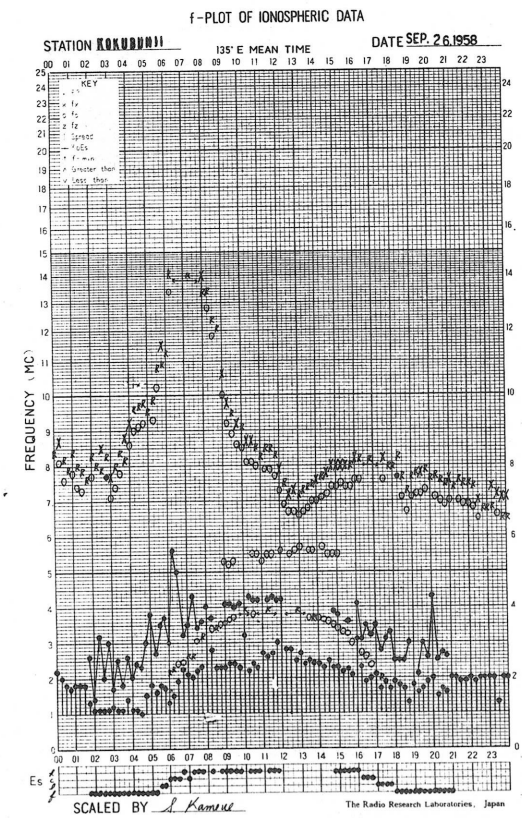


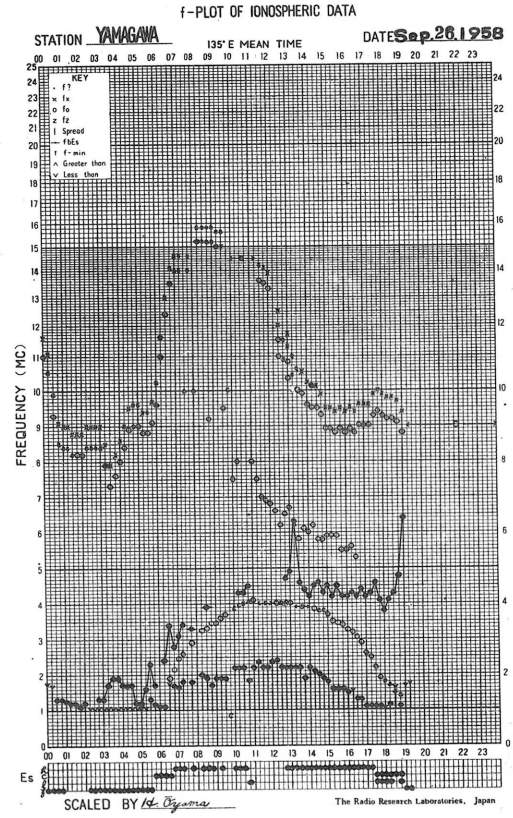
SCALED BY H. Eyama

The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION WAKKANAI
135°E MEAN TIME
DATE Sept 26. 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY J. oda
The Radio Research Laboratories, Japan

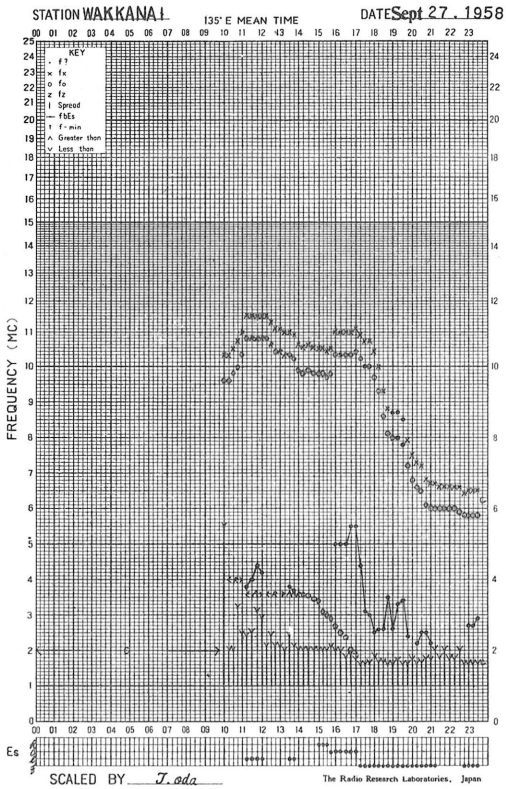

f-PLOT OF IONOSPHERIC DATA
STATION AKITA
135°E MEAN TIME
DATE SEP 26 1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY M. Izumi
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION KOKUBUNJI
135°E MEAN TIME
DATE SEP. 26.1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY S. Kamei
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION YAMAGAWA
135°E MEAN TIME
DATE Sep.26.1958
KEY
. f?
× fx
o fo
z fz
| Spread
— fbEs
↑ f-min
^ Greater than
v Less than
FREQUENCY (MC)
Es
SCALED BY K. Ozawa
The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 27, 1958

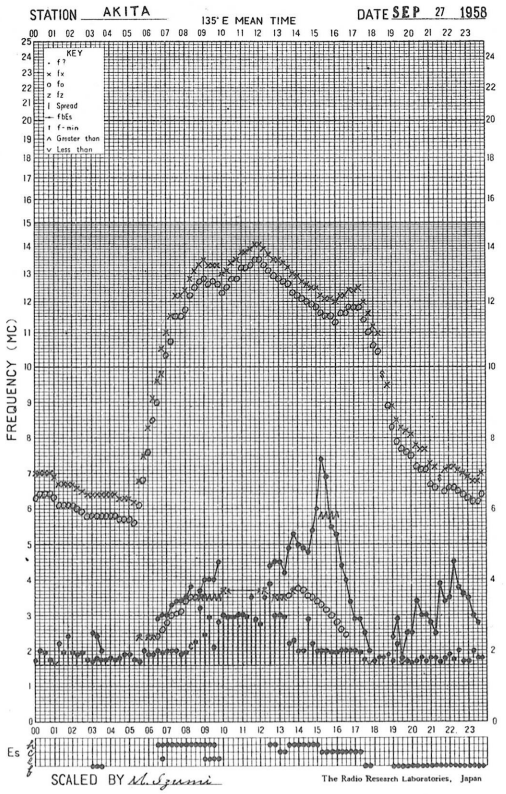


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 27 1958

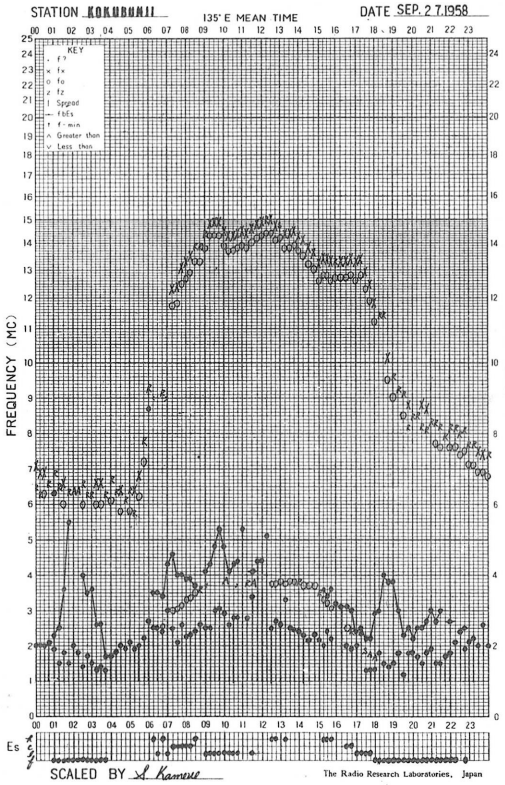


SCALED BY N. Izumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 27.1958

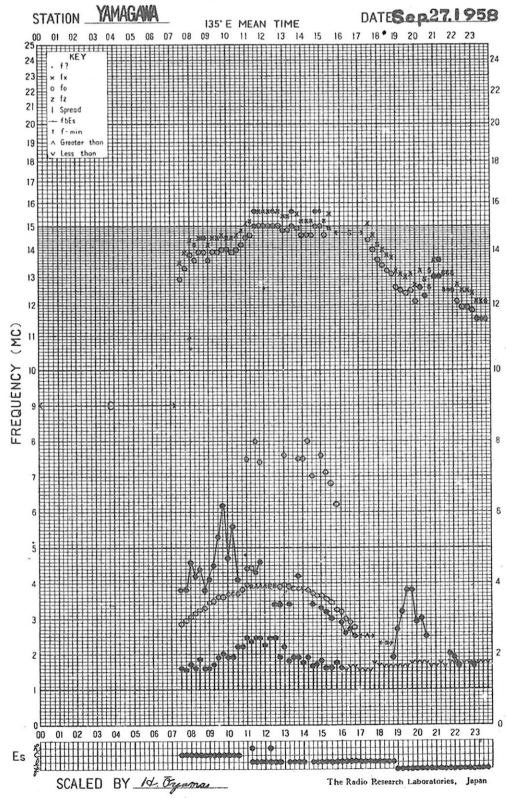


SCALED BY S. Kameue

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 27. 1958

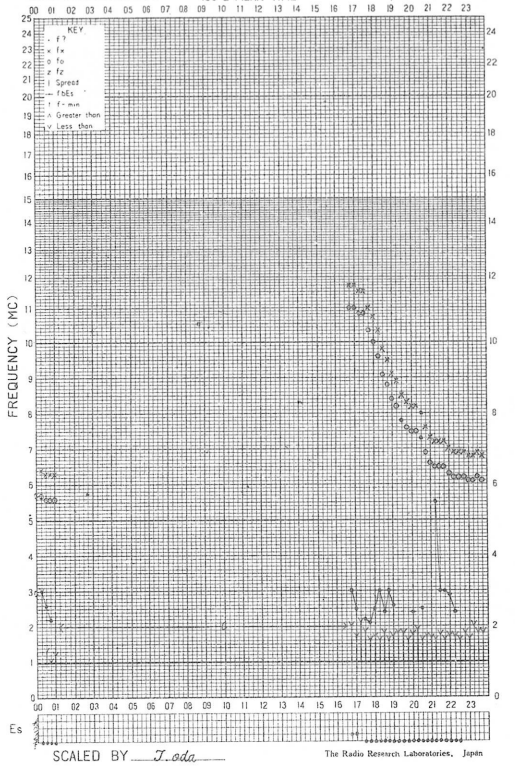


SCALED BY H. Ogawa

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135° E MEAN TIME DATE Sept 28, 1958

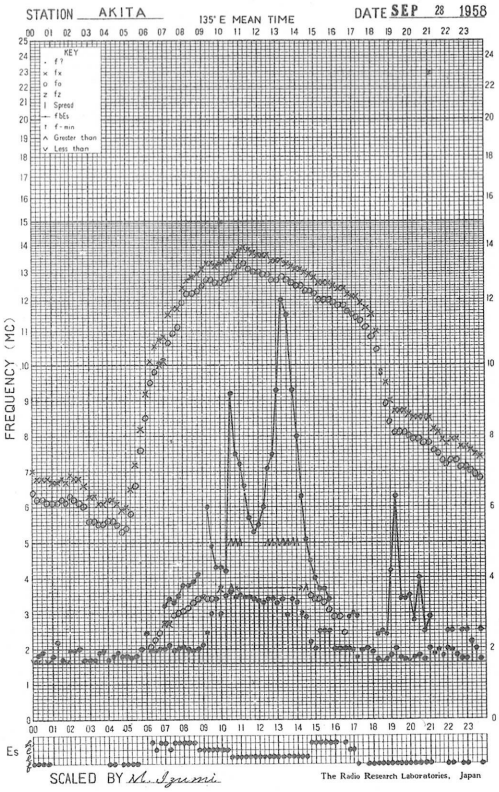


SCALED BY T. oda

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135° E MEAN TIME DATE SEP 28 1958

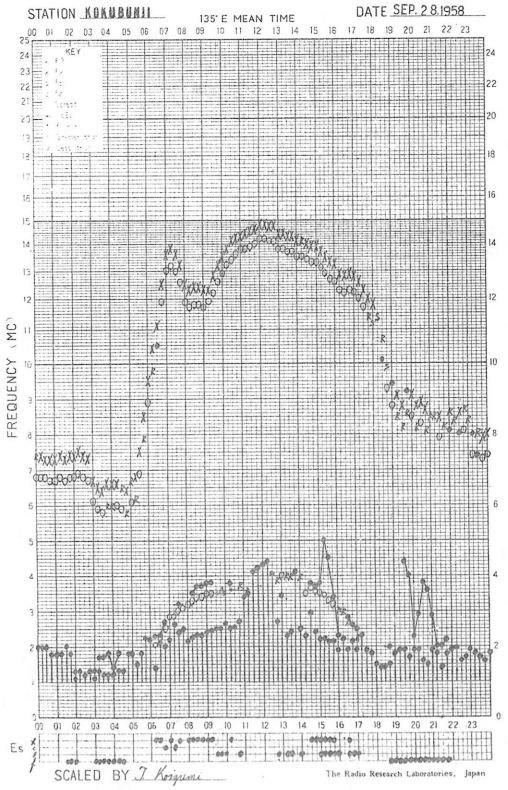


SCALED BY N. Iguchi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION KOKUBUNJI 135° E MEAN TIME DATE SEP. 28 1958

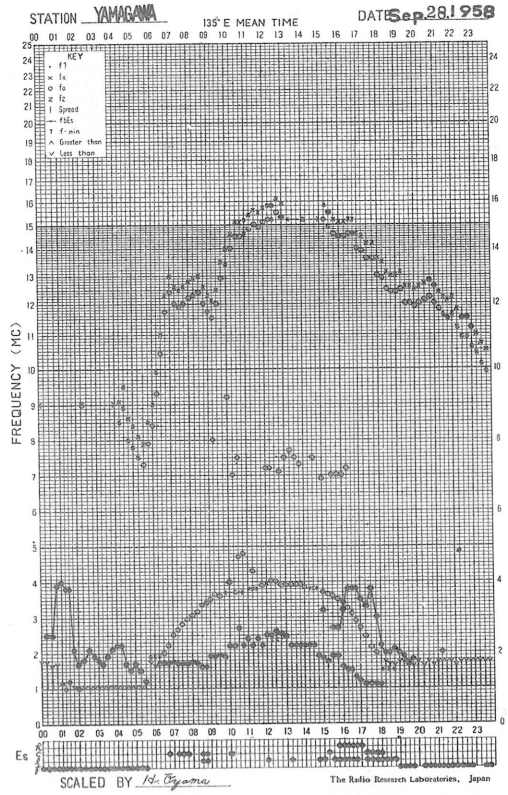


SCALED BY T. Koizumi

The Radio Research Laboratories, Japan

f-PLOT OF IONOSPHERIC DATA

STATION YAMAGAWA 135° E MEAN TIME DATE Sep. 28 1958

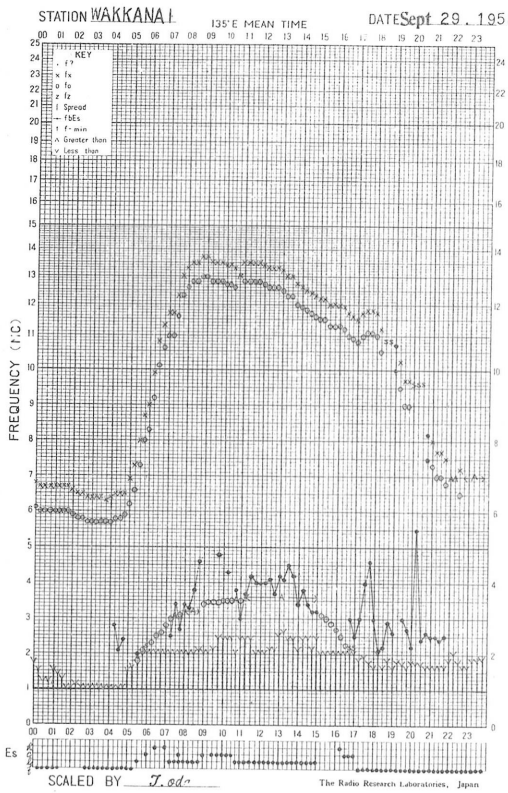


SCALED BY H. Toyama

The Radio Research Laboratories, Japan

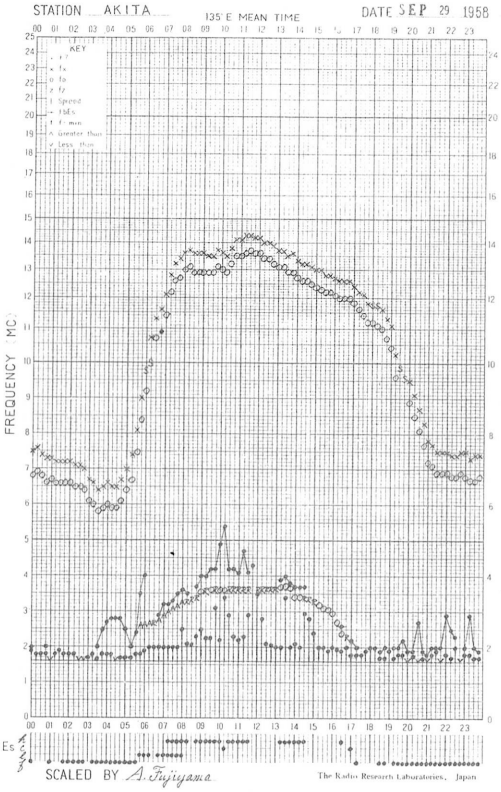
f-PLOT OF IONOSPHERIC DATA

STATION WAKKANAI 135°E MEAN TIME DATE Sept 29. 1958



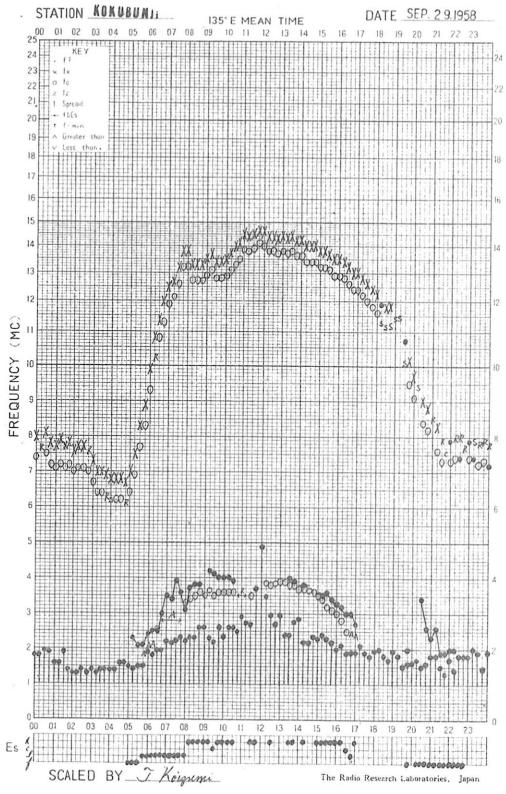
f-PLOT OF IONOSPHERIC DATA

STATION AKITA 135°E MEAN TIME DATE SEP 29 1958



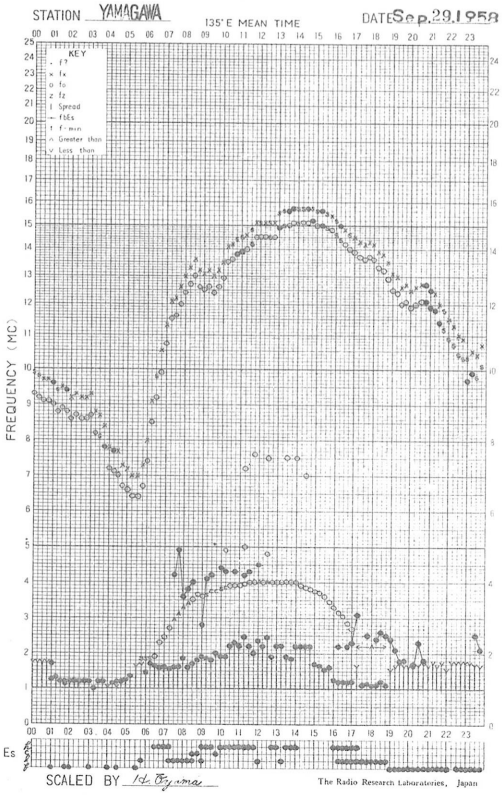
f-PLOT OF IONOSPHERIC DATA

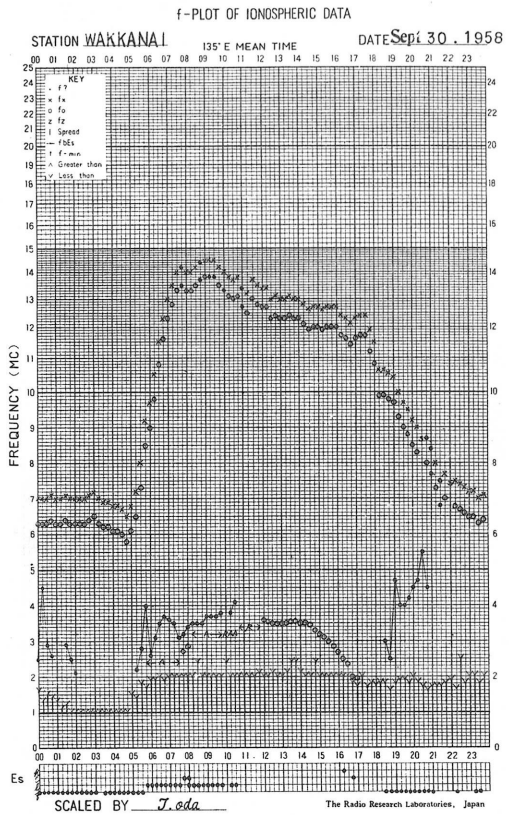
STATION KOKUBUNJI 135°E MEAN TIME DATE SEP 29 1958

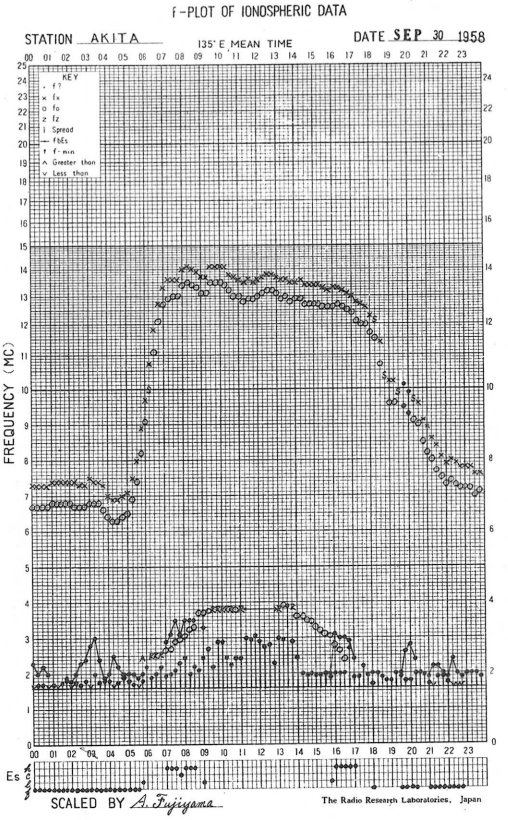


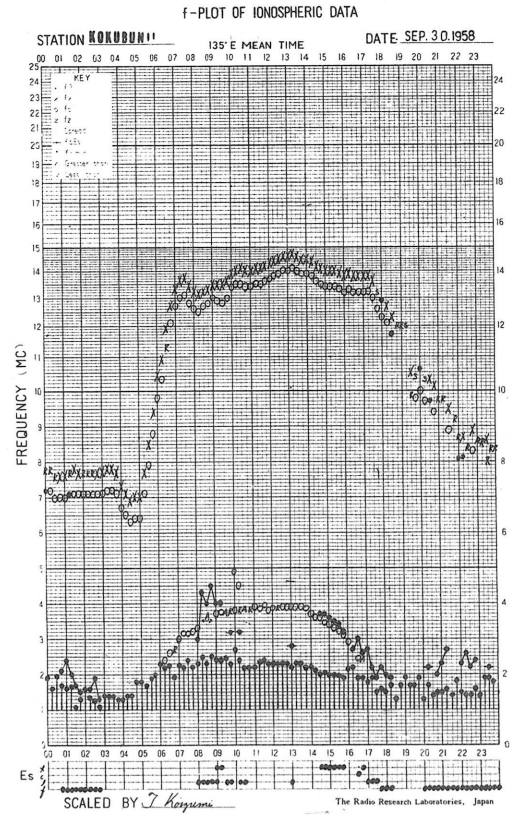
f-PLOT OF IONOSPHERIC DATA

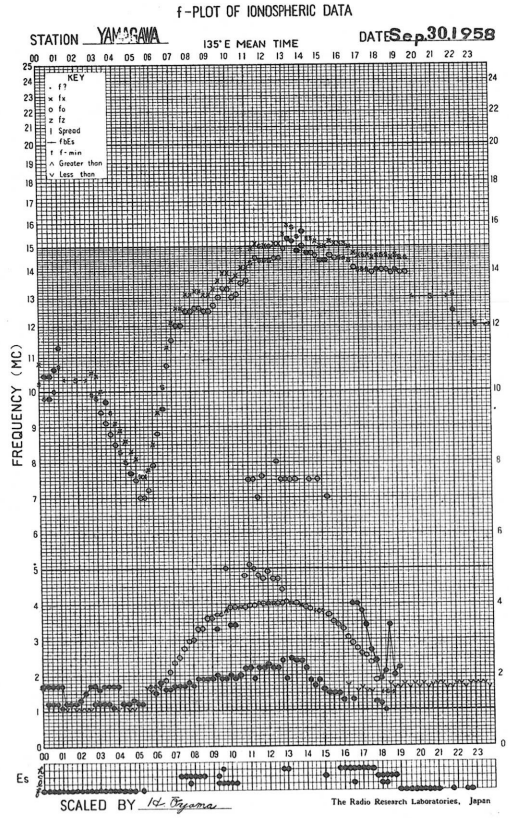
STATION YAMAGAWA 135°E MEAN TIME DATE Sep. 29. 1958




f-PLOT OF IONOSPHERIC DATA
STATION WAKKANAI
135° E MEAN TIME
DATE Sept 30, 1958
KEY
f?
fx
fo
fz
Spread
fbEs
f-min
Greater than
Less than
FREQUENCY (MC)
Es
SCALED BY T. oda
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION AKITA
135° E MEAN TIME
DATE SEP 30 1958
KEY
f?
fx
fo
fz
Spread
fbEs
f-min
Greater than
Less than
FREQUENCY (MC)
Es
SCALED BY A. Fujiyama
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION KOKUBUNJI
135° E MEAN TIME
DATE SEP. 30 1958
KEY
FREQUENCY (MC)
Es
SCALED BY I. Koizumi
The Radio Research Laboratories, Japan


f-PLOT OF IONOSPHERIC DATA
STATION YAMAGAWA
135° E MEAN TIME
DATE Sep. 30 1958
KEY
f?
fx
fo
fz
Spread
fbEs
f-min
Greater than
Less than
FREQUENCY (MC)
Es
SCALED BY K. Fujama
The Radio Research Laboratories, Japan

SOLAR RADIO EMISSION 200 Mc/s

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

HIRAISO

Time in U.T.

Sept. 1958	Steady Flux					Variability				
	00-03	03-06	06-09	21-24	Day	00-03	03-06	06-09	21-24	Day
1	90	75	32	26	65	2	2	1	1	2
2	45	52	37	40	41	2	2	2	2	2
3	58	42	-	47	48	2	2	2	2	2
4	36	33	28	-	37	1	1	1	-	1
5	21	17	16	-	18	1	1	1	1	1
6	20	21	21	-	20	1	1	1	1	1
7	18	19	(14)	(14)	18	1	1	1	0	1
8	13	15	15	-	14	1	1	1	1	1
9	16	22	(20)	-	19	1	1	1	1	1
10	26	30	25	-	27	1	1	-	1	1
11	20	21	20	(19)	18	1	1	1	1	1
12	21	23	(18)	(21)	21	1	1	-	1	1
13	26	25	22	-	25	1	1	1	-	1
14	22	22	(19)	(21)	21	1	1	1	1	1
15	21	26	26	-	24	1	1	1	1	1
16	20	17	19	-	19	1	1	-	1	1
17	(19)	17	26	-	19	1	1	1	-	1
18	-	24	23	(11)	23	-	1	1	1	1
19	10	18	(18)	(22)	14	1	1	1	1	1
20	18	19	40	-	25	1	1	1	0	1
21	18	18	(18)	-	18	1	1	1	1	1
22	14	13	(19)	(28)	15	1	1	1	1	1
23	32	35	29	(33)	33	1	1	1	1	1
24	42	27	-	-	35	2	2	1	1	2
25	(24)	(21)	(26)	-	(23)	1	1	1	1	1
26	(24)	-	-	-	(25)	1	-	-	-	1
27	-	25	(24)	-	(25)	-	1	1	-	1
28	29	33	-	-	(31)	1	1	1	-	1
29	29	29	-	-	(29)	1	1	-	-	1
30	-	32	-	-	(27)	-	1	1	1	1

Outstanding Occurrences

Sept. 1958	Start-time	Dura-tion	Type	Max. Inst.	Int. Smd.	Max. Time	Remarks
1	0001.5	0.4	CD/4	480	280	-	
	0002.4	0.7	CD/4	920	530	-	
	0004.3	0.7	CD/4	850	320	-	
	0009.6	0.8	CD/4	1070	340	-	
	0044.5	5.4	F/3	>3000	-	0047 ?	off scale
	0352.5	8	F/3	1680	580	0355.9	
	2154.3	0.5	CD/4	440	230	-	
2	2108.0	1.3	CD/8	>3000	>3000	-	off scale
4	0558.3	0.2	SD/4	1030	390	-	
9	0457.2	0.8	CD/4	650	70	-	
	2232.2	1.0	CD/8	2080	1050	-	
10	0146.9	0.5	CD/4	590	320	-	
	0625.7	0.3	CD/4	780	430	-	
11	0153.8	0.8	F/3	720	400	-	
	0409.5	1.8	F/3	740	130	0411.0	
14	0635.8	?	?	1100?	610?	-	
	2326.0	1.2	CD/4	680	340	-	
16	2213.8	0.3	CD/4	520	300	-	
28	0127.7	0.5	CD/4	400	230	-	
29	0213.1	1.4	F/3	930	460	-	
30	0724.6	0.5	CD/4	300	70	-	

RADIO PROPAGATION QUALITY FIGURES

HIRAISO

Time in U.T.

Sept. 1958	Whole Day Index	W W V 00 06 12 18 / 06 12 18 24	S. F. 00 06 12 18 / 06 12 18 24	W W V H 00 06 12 18 / 06 12 18 24	Warning 00 06 12 18 / 06 12 18 24	Principal magnetic storms Start	End	ΔH
[1]	1+	1 (1) 1 1	1 2 2 2	(1) 2 2 1	N N N N			
2	1o	1 1 1 1	1 1 1 2	1 2 1 2	N N N N			
3	2o	1 1 3 3	1 2 3 3	2 2 3 3	N N U U	0841	---	
4	4-	3 3 4 4	3 3 4 5	1 2 4 3	U U U U	---	---	300γ
5	3+	4 3 4 2	4 (3 3) 3	2 2 3 2	W U U U	---	---	
6	2-	1 2 1 2	3 1 1 2	2 2 1 1	N N N N	---	1300	
7	1+	1 1 1 1	2 1 2 2	1 2 3 1	N N N N			
8	2-	2 2 2 1	3 2 2 1	1 2 2 1	N N N N			
9	1+	(1 2) 2 2	1 (2 2) 1	2 2 2 1	N N N N			
10	2+	3 3 2 2	1 (3 3 1)	2 2 2 2	N N N N			
11	2-	3 (2) 1 2	2 (2 2) 1	2 3 2 2	N N N N			
12	2-	3 2 2 2	1 1 2 2	3 2 2 2	N N N N			
13	1+	2 1 1 3	1 1 1 1	3 2 2 2	N N N N			
14	1+	2 1 2 2	1 1 1 2	2 2 1 2	N N N N			
15	1+	2 1 1 2	2 1 1 2	3 2 2 2	N N N N			
16	3-	2 2 3 (3)	2 2 3 2	3 2 2 (3)	N N N N			
17	3o	(4) 4 2 1	(3) 3 (3) 2	2 2 2 3	N N N N			
18	1o	2 2 1 1	1 (1) 1 1	2 2 2 1	N N N N			
19	1o	1 1 1 1	1 1 1 1	2 2 1 2	N N N N			
20	1o	1 1 1 1	1 1 1 1	2 2 2 2	N N N N			
21	1o	1 1 1 2	1 1 1 2	2 2 2 1	N N N N			
22	2-	1 1 2 3	1 1 3 1	2 2 2 1	N N N N			
[23]	2o	2 2 3 3	1 1 (3) 1	2 2 2 1	N N N N			
[24]	2-	2 1 2 2	1 1 3 2	1 2 1 (2)	N N N N			
25	3o	2 4 5 3	1 3 (3 3)	2 2 2 2	N U U U	0408	---	205γ
26	(3+)	(4) C C C	3 C C C	(1) C C C	U N N N	---	1900	
27	(4o)	(4 5 5 2)	(4 4 3 2)	(2) 3 C C	N N N N			
28	3+	4 5 4 4	1 (3 3) 2	3 3 4 3	N N N N			
29	2+	2 2 2 2	1 (3 3) 2	2 2 3 2	N N N N			
[30]	2+	1 2 2 (2)	2 3 3 (2)	2 2 3 3	N N N N			

ж = day of Special World Interval

[ ] = Regular World Day

( ) = inaccurate

--- = continuing magnetic storm

SUDDEN IONOSPHERIC DISTURBANCES

(S.I.D.)

HIRAISO

Time in U.T.

Sept. 1958	S W F										S E A			Correspondence		
	Drop-out Intensities (db) WS	SF	HA	TO	MN	LN	Start-time	Dura-tion	Type	Imp	Start-time	Dura-tion	Imp.	Flare	Solar noise	Mag.
2	16'	17		14'/10	35		01.23	40	Slow	2+						
2	30"	36		15		25	21.05	30	S	3				x	x	
4	-	-	>25'/14	>15'	>32		05.06	40	Slow	2+				x		
13											00.20	57	2		x	
15	14"	18					17.02	40	S	2-				x		

IONOSPHERIC DATA IN JAPAN FOR SEPTEMBER 1958
電 波 観 測 報 告　第10巻 第9号

1958年11月15日 印　刷
1958年11月20日 発　行　（不許複製非売品）

編集兼発行人　岡　登　博　美
東京都北多摩郡小金井町573

発行所　郵政省電波研究所
東京都北多摩郡小金井町573
電話 国分寺 138, 139, 151

印刷所　今井印刷所
東京都新宿区筑土八幡町8番地
電話 九段 (33) 2304