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IONOSPHERIC DATA IN JAPAN

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CONTENTS

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INTRODUCTION

This Series contains data on ionosphere (I), solar radio emission (S) and radio propagation (P) obtained at the following stations under the Radio Research Laboratories, Ministry of Posts and Telecommunications of Japan.

Station	Geographic		Geomagnetic		Technical Method
	Latitude	Longitude	Latitude	Longitude	
Wakkanai	45°23.5'N	141°41.2'E	35.3°N	206.5°	Vertical Sounding (I)
Akita	39°43.5'N	140°08.0'E	29.5°N	205.9°	" (I)
Kokubunji	35°42.4'N	139°29.3'E	25.5°N	205.8°	" (I)
Yamagawa	31°12.1'N	130°37.1'E	20.4°N	198.3°	" (I)
Okinawa	26°16.9'N	127°48.4'E	15.3°N	196.0°	" (I)
Hiraiso	36°22.0'N	140°37.5'E	26.3°N	206.8°	Radio Receiving (S, P)
Inubo	35°42.2'N	140°51.5'E	25.6°N	207.0°	" (P)

A. IONOSPHERE

Ionospheric observations are carried out at five stations in Japan by means of vertical sounding method.

The published data consist of tabulations of hourly values of the ionospheric characteristics and figures of daily *f*-plot.

All symbols and terminology in the tables or figures of ionospheric data are used in accordance with the "URSI Handbook of Ionogram Interpretation and Reduction (Second Edition) 1972".

a. Characteristics of Ionosphere

fxI — Top frequency of spread *F* trace

foF2, *foF1*, *foE*, *foEs* — Ordinary wave critical frequency for the *F2*, *F1*, *E* and *Es* including particle *E* layers respectively

fbEs — Blanketing frequency of the *Es* layer, e.g. the lowest ordinary wave frequency visible through *Es*

fmin — Lowest frequency which shows vertical ionospheric reflections

M(3000)F2, *M(3000)F1* — Maximum usable frequency factor for a path of 3000 km for transmission by *F2* and *F1* layers respectively

h'F2, *h'F*, *h'E*, *h'Es* — Minimum virtual height on the ordinary wave for the *F2*, whole *F*, *E* and *Es* layers respectively

Types of *Es* — See below A. b. (iii)

b. Symbols

(i) Descriptive Letters

The following letters are entered after, or used to replace a numerical value on the monthly tabulation sheets.

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

B — Measurement influenced by, or impossible because of, absorption in the vicinity of *fmin*.

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

D — Measurement influenced by, or impossible because of, the upper limit of the normal frequency range in use.

E — Measurement influenced by, or impossible because of, the lower limit of the normal frequency range in use.

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

G — Measurement influenced or impossible because the ionization density of the layer is too small to enable it to be made accurately.

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

K — Presence of particle *E* layer.

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

M — Interpretation of measurement questionable because the ordinary and extraordinary components are not distinguishable.

N — Conditions are such that the measurement cannot be interpreted.

O — Measurement refers to the ordinary component.

P — Man-made perturebation of parameters-Presence of polar spure traces.

Q — Range spread present.

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

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

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

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 — Lacuna phenomena, severe layer tilt.

Z — Third magneto-electronic component present.

(ii) Qualifying Letters

The following letters are entered in the first column before a numerical value on the monthly tabulation sheets.

A — Less than. Used only when *fbEs* is deduced from *foEs* because total blanketing of higher layer is present.

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.

M — Mode interpretation uncertain.

O — Extraordinary component characteristic deduced from the ordinary component. (Used for x-characteristics only.)

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 magneto-electronic component.

(iii) Description of Types of *Es*

When more than one type of *Es* trace is present on the ionogram, the type for the trace used to determine *foEs* must be written first. The number of multiple traces is indicated after the type letter.

The types are:

f — An *Es* trace which shows no appreciable increase of height with frequency.

l — A flat *Es* trace at or below normal *E* layer minimum virtual height or below the particle *E* layer minimum virtual height.

c — An *Es* trace showing a relatively symmetrical cusp at or below *foE*. (Usually a daytime type.)

h — An *Es* trace showing a discontinuity in height with the normal *E* layer trace at or above *foE*. The cusp is not symmetrical, the low frequency end of the *Es* trace lying clearly above the high frequency end of the normal *E* trace. (Usually a daytime type.)

q — An *Es* trace which is diffuse and non-blanketing over a wide frequency range.

r — An *Es* trace showing an increase in virtual height at the high frequency end similar to group retardation.

a — An *Es* trace having a well-defined flat or gradually rising lower edge with stratified and

diffuse traces present above it.

s A diffuse *Es* trace which rises steadily with frequency and usually emerges from another type *Es* trace.

d A weak diffuse trace at heights below 95 km associated with high absorption and large *fmin*.

n The designation 'n' is used to denote an *Es* trace which cannot be classified into one of the standard types.

k The designation k is used to show the presence of particle *E*. When *foEs*>*foE* (particle *E*) the *Es* type precedes k.

c. Definitions of the CNT, MED, UQ and LQ

Median count (CNT) is the number of values from which a median has been computed. In addition to numerical values, the count may include certain descriptive letters.

Median (MED) of a set of numbers is the middle value when the numbers are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (UQ) is the median value of the upper half of the values when they are ranked according to magnitude; the *lower quartile* (LQ) is the median value of the lower half.

B. SOLAR RADIO EMISSION

Solar radio observations are carried out on 100, 200 and 500 MHz at Hiraiso. Observation equipments are: a 5 meter parabolic reflector with a total-power receiver for 500 MHz and a 10 meter parabolic reflector with two polarimeters for 100 and 200 MHz. Observations are feasible almost from sunrise to sunset.

Time is expressed in hours, minutes and tenths of minutes U. T. and the unit of flux density is 10^{-22} Wm^{-2} Hz^{-1} for both components of polarization.

All symbols and terminology in the table of data are used in accordance with the "Descriptive Text of Solar-Geophysical Data, NOAA" and "Instruction Manual Monthly Report for Solar Radio Emission, WDC-C2".

a. Daily Data

Flux density. The three-hourly and daily mean values are given.

Variability. The three-hourly and daily mean values are given at 200 MHz only.
Variability is expressed in the following four grades.

0 quiet or no burst,
1 a few bursts,
2 many bursts,
3 very many bursts.

The number of bursts exceeding the mean flux level is counted.

Daily data with parenthesis mean that observation time does not exceed one third of the period.

b. Outstanding Occurrences

The phenomena are picked up on the following criteria:
1. distinct from the prevailing kind of activity,
2. correlated with other known solar phenomena,
3. remarkable change-over from one situation to another.

Type is denoted by numerical code and letter symbol in parallel as follows:

SGD Cord	Letter Symbol	Morphological Classification
1	S	Simple 1
2	S/F	Simple 1F
3	S	Simple 2
4	S/F	Simple 2F
5	S	Simple
6	S	Minor
7	C	Minor+
8	S	Spike
20	GRF	Simple 3
21	GRF	Simple 3A
22	GRF	Simple 3F
23	GRF	Simple 3AF
24	R	Rise
25	R	Rise A
26	FAL	Fall
27	RF	Rise and Fall
28	PRE	Precursor
29	PBI	Post Burst Increase
30	PBI	Post Burst Increase A
31	ABS	Post Burst Decrease
32	ABS	Absorption
40	F	Fluctuations
41	F	Group of Bursts
42	SER	Series of Bursts
43	NS	Onset of Noise Storm
44	NS	Noise Storm in progress
45	C	Complex
46	C	Complex F
47	GB	Great Burst
48	C	Major
49	GB	Major+

Flux density is the increase of flux over the level at which daily flux is calculated, or the increase of flux over the underlying burst when the event is superposed on another burst of long duration.

Polarization is expressed by the polarization degree and sence as follows:

R or L	right- or left-handed polarization,
W, M or S	weak, moderate or strong polarization,
0	almost zero or unable to detect polarization deu to small increase of flux.
00	polarization degree of less than 1 percent.

The following symbols may be attached after numerical values in table, if necessary.

D	greater than, or later than,
E	less than, or earlier than,
U	approximate, or uncertain.

C. RADIO PROPAGATION

a. Measurement of H. F. Field Strength

Field strength observation of 15 MHz standard waves transmitted from WWV and WWVH stations which are located respectively at Fort Collins, Colorado and Kauai, Hawaii, is carried out at Hiraiso. In order to avoid interference among the same frequency waves, the upper side-band of WWV or WWVH with the audio tone 600 Hz is picked up by the use of a narrow band pass filter with 80 Hz band width. Particulars of the transmitters and the receiver are summarized in the following table.

Characteristics	Transmitter		Receiver
Station Call	WWV	WWVH	
Location	Fort Collins, Colorado	Kauai, Hawaii	Hiraiso, Ibaraki
latitude	40°41'N	22°00'N	36°22'N
longitude	105°02'W	159°46'W	140°38'E
Distance	9150 km	5910 km	-
Carrier Power	10 kW	10 kW	-
Modulation	50 %	50 %	-
Antenna	λ /2 vertical	λ /2 vertical	4.5 m vertical rod
Bandwidth	-	-	80 Hz for upper side-band
Calibration	-	-	Every an hour

The tabulated *field strength* in dB above one microvolt per meter is the peak average of the incident upper side-band field intensity in 45 seconds after the universal time indicated on the table. Abbreviated symbols are as follows:

CNT	number of observed values,
MED	median,
UD	value of the uppermost decile when they are ranked according to magnitude,
LD	value of the lowest decile when they are ranked according to magnitude,
U	uncertain,
E	less than,
C	influenced by, or impossible because of, any artificial accident,
S	influenced by, or impossible because of, interferences or atmospherics.

b. Radio Propagation Quality Figures

The tabulated six-hourly quality figures are calculated for standard waves WWV transmitted from Fort Collins and standard waves WWVH transmitted from Kauai.

Quality figures expressing radio propagation conditions are ranged over five grades as follows:

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

Whole day quality figure ranged in grades of 1_0, 1+, 2-, 2_0, 2+, 3-, 3_0, 3+, 4-, 4_0, 4+, 5-, 5_0 stands for an average of six-hourly ones of the two circuits. Abbreviated symbols are as follows:

C	artificial accident,
S	propagational accident,
U	inaccurate.

Radio propagation conditions which can be described with a code in the following

N	normal,
U	unstable,
W	disturbed

are forecast 12 hours in advance and broadcast six per an hour from JJY Station.

Data on a *geomagnetic storm* correlated with a radio propagation disturbance are tabulated from observation at Kakioka Magnetic Observatory, Japan Meteorological Agency. *Time* (U.T.) is expressed in unit of hour and minute (or tenth of hour), and *range* in gamma. When they are uncertain quantitatively, /'s are replaced with them. Continuation of a geomagnetic storm is denoted by ---.

c. Sudden Ionospheric Disturbances

(i) SWF

The table of short wave fade-out (SWF) is prepared from the record of field intensities measured at Hiraiso.

Drop-out intensities of the 10 MHz, the 20 MHz, and the 25 MHz waves are respectively distinguished by marks ', '' and ''' from these of the 15 MHz wave for WWV and WWVH. Values of *start*, *duration*, *type*, and *importance* are obtained from data of the circuit whose drop-out intensity in dB is underlined as xx. When these quantities are not given correctly, they are accompanied by the following symbols.

D	greater than,
E	less than,
U	uncertain or doubtful.

Types of fade-out are as follows:

S	sudden drop-out and gradual recovery,
SL	slow drop-out taking 5 to 15 minutes and gradual recovery,
G	gradual and irregular in both drop-out and recovery.

Importance of fade-out is scaled according to its amplitude into nine ascending grades as 1-, 1, 1+, 2-, 2, 2+, 3-, 3, 3+.

Correspondence of solar optical flare, solar radio burst, and geomagnetic crochet to SWF is marked by X in accordance with interchange messages of IUWDS and observations at Hiraiso.

(ii) SPA

Data of sudden phase anomaly (SPA) are prepared from the records of phase measurement of VLF radio waves received at Inubo. The transmitting stations are listed in the following table.

Phase advance is shown in unit of degree at its maximum stage. No transmission or no reception during the period is indicated by —, and indistinguishable record is spaced out, and multi-peak event is marked by *.

Out of more than two circuits on which the same SPA event is observed, the *phase advance* on the circuit on which the SPA is the most remarkable or distinct is underlined. As for the underlined, *phase advance*, *start*, *end* and *maximum* times are obtained.

In table (i) SWF and (II) SPA, *date* indicates the day to which *start-time* of event belongs.

The following letters may be attached to the value, if necessary.

D	greater than,
E	less than,
U	uncertain or doubtful.

Transmitting Stations

Name	Location (Geographic Coordinate)		Call Sign	Frequency (kHz)	Radiation Power (kW)	Arc Distance from Inubo (km)
Rugby	52°22'N	001°11'W	GBR	16.0	(750) 60	9550
Jim Creek	48°12'N	121°55'W	NLK	18.6	(1200) 130	7620
North West Cape	21°49'S	114°10'E	NWC	22.3	1000	6990
Aldra	66°25'N	013°09'E	Ω/N	13.6	10	7820
North Dakota	46°22'N	098°21'W	Ω/ND	13.6	10	9140
Haiku	21°24'N	157°50'W	Ω/H	13.6	10	6100
La Reunion	20°58'S	055°17'E	Ω/LR	13.6	10	10970

IONOSPHERIC DATA

OCT. 1985 | FXI (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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	X 52	X 49	X 46	X 48	X 48	X 47													X 53	X 46	X 44	X 43	X 43	X 42
2	X 42	X 42	X 42	X 40	X 36	X 37													X 57	C	C	X 48	C	X 47
3	X 45	X 42	X 42	X 41	X 40	X 41													C	C	C	S	X 50	X 45
4	X 45	X 44	X 46	X 44	X 37	X 39													X 46	X 50	X 47	X 47	A	A
5	A	X 38	X 40	X 41	X 36	X 36													X 61	X 41	X 43	X 40	X 41	X 32
6	X 35	X 37	X 33	X 35	X 36	X 42													X 52	X 57	X 44	X 45	X 39	43
7	X 42	X 42	X 41	X 36	38	X 39													X 57	X 52	X 38	40	41	40
8	X 41	X 40	X 38	X 37	X 31	A													X 52	X 46	X 46	X 46	X 46	X 44
9	X 42	X 42	X 38	X 38	X 38	X 35													X 50	X 55	X 51	X 52	X 48	X 45
10	X 50	X 47	X 50	X 50	X 44	X 43													X 44	X 47	X 48	X 47	X 44	X 41
11	X 43	X 40	X 42	X 42	X 41	X 39													X 48	X 46	X 46	X 46	X 43	X 43
12	X 42	X 46	X 48	X 46	X 47	X 44													X 57	X 58	X 53	X 50	X 50	X 45
13	X 46	X 43	X 43	X 44	X 42	X 40													X 42	X 40	X 45	X 45	X 45	X 46
14	X 45	X 47	X 47	X 51	X 46	X 44													X 56	X 51	X 51	X 48	X 49	X 48
15	X 48	X 48	X 44	X 43	X 43	X 41													X 64	X 50	X 39	X 43	X 47	X 50
16	X 48	X 50	X 48	X 47	43	45													X 50	X 48	X 46	X 47	X 43	X 47
17	X 41	X 41	X 42	X 43	X 45	X 39													X 40	X 43	X 43	X 41	X 42	X 43
18	X 41	X 42	X 41	X 40	X 37	X 37													X 51	X 51	X 53	X 50	X 49	X 50
19	X 48	X 48	X 46	X 44	X 50	X 40													X 51	X 49	X 48	X 47	X 47	X 42
20	X 44	X 40	X 41	X 41	X 41	X 42													X 47	X 46	X 41	X 40	X 40	X 41
21	X 42	X 41	X 39	X 40	X 38	X 37	X 48											X 68	X 54	A	X 51	A	X 48	X 46
22	X 47	X 46	X 47	X 48	X 49	X 51	X 48											X 64	X 52	X 50	X 55	X 46	X 51	X 54
23	X 52	X 53	56	57	50	X 49	X 58											X 66	X 65	X 63	X 57	X 51	57	60
24	60	59	62	63	64	63	X 55											X 68	X 53	X 55	X 51	58	59	57
25	56	52	X 57	X 59	X 59	X 50	X 43											X 63	X 59	X 52	X 50	X 51	X 51	X 53
26	X 58	X 60	X 62	X 62	X 62	X 61	X 50											X 64	X 47	X 48	X 41	X 43	X 47	X 47
27	X 47	X 46	X 47	X 48	X 49	X 48	X 47											X 52	X 47	X 43	X 46	X 47	X 48	X 46
28	X 47	X 51	X 53	X 54	X 51	X 51	X 47											X 58	X 50	X 50	X 50	X 48	X 50	X 49
29	X 51	X 51	X 53	X 53	X 52	X 59	X 49											X 60	X 47	X 40	X 41	X 43	X 46	X 43
30	X 43	X 40	X 37	X 38	X 40	X 43	X 46											X 51	X 44	X 41	X 37	X 39	X 42	45
31	45	X 46	X 44	X 44	X 44	X 42	X 48											X 50	X 40	X 36	A	A	X 36	X 40
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	31	31	30	11											11	30	28	28	28	29	30
MED	X 45	X 46	X 44	X 44	X 43	X 42	X 48											X 63	X 51	X 48	X 46	X 46	X 47	X 45
UQ	X 48	X 48	X 48	X 49	X 49	X 48	X 50											X 65	X 56	X 52	X 51	X 48	X 49	X 48
LQ	X 42	X 42	X 41	X 40	X 38	X 39	X 47											X 55	X 47	X 44	X 43	X 43	X 43	X 43

OCT. 1985 | FXI (0.1 MHZ)

IONOSPHERIC DATA

OCT. 1985 | FOF2 (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Day \ Hour	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	45	42	39	41	41	40	46	50	55	64	66	68	66	55	55	53	57	56	46	39	37	36	36	35
2	35	35	35	33	29	30	46	50	53	65	60	66	67	59	57	50	50	53	50	C	C	41	I C 40	40
3	38	35	35	34	33	34	48	49	49	49	C	C	C	C	C	C	C	C	C	C	C	S	43	38
4	38	37	39	37	30	32	51	S	A	72	C	70	71	61	67	63	52	47	39	43	40	40	A	A
5	A	31	33	34	29	29	43	50	70	60	60	H 48	59	58	52	56	71	64	54	34	36	33	34	25
6	28	30	26	28	29	35	31	42	38	40	46	50	48	56	53	54	53	47	45	50	37	38	H 32	F
7	35	35	34	29	F	32	32	41	40	51	59	59	50	52	48	47	55	56	50	45	31	F	F	F
8	34	33	H 31	30	24	A	42	53	44	50	59	64	63	56	54	51	53	54	45	39	39	39	39	37
9	35	35	31	31	31	28	39	48	44	50	53	59	57	55	54	48	46	48	43	48	44	45	41	38
10	43	40	43	43	37	36	41	45	55	50	55	54	59	51	55	51	50	45	37	40	41	40	37	34
11	36	33	35	35	34	32	40	56	50	53	59	65	61	58	54	54	51	54	41	39	39	39	36	36
12	35	39	41	39	40	37	45	50	54	61	80	68	63	63	70	55	55	49	50	51	46	43	43	38
13	39	36	36	37	35	33	36	48	48	54	61	72	73	61	61	67	60	57	35	33	38	38	38	39
14	38	40	40	44	39	37	42	47	53	57	67	68	75	67	57	57	64	63	49	44	44	41	42	41
15	41	41	37	36	36	34	41	53	50	62	73	76	69	56	59	60	67	76	57	43	32	36	40	43
16	41	43	41	40	F 33	F 35	45	53	H 57	65	81	89	73	61	57	53	59	61	43	41	39	40	36	40
17	34	34	35	36	38	32	39	60	62	79	77	75	66	60	60	65	62	47	33	36	36	34	35	36
18	34	35	34	33	30	30	38	59	52	66	71	76	85	90	70	70	65	53	44	44	46	43	42	43
19	41	41	39	37	43	33	47	66	58	66	79	80	73	68	65	74	64	50	44	42	41	40	40	35
20	37	33	34	34	34	35	44	65	62	62	76	84	86	78	68	70	68	45	40	39	34	33	33	34
21	35	34	32	33	31	30	41	59	H 60	62	66	79	84	65	59	62	65	61	47	A	44	A	41	39
22	40	39	40	41	42	44	41	56	76	70	71	91	90	73	74	77	60	57	45	43	48	39	44	47
23	45	46	F	F	F	42	51	64	71	74	A	86	81	70	75	76	64	59	58	56	50	44	F	F
24	F 46	F	F 49	F	F	F	48	67	66	74	74	80	68	76	70	66	65	61	46	48	44	F	F 52	F
25	F 48	F 45	50	52	52	43	36	54	59	63	68	88	76	62	64	68	63	56	52	45	43	44	44	46
26	51	53	55	55	55	54	43	61	56	63	74	75	80	74	70	65	59	57	40	41	34	36	40	40
27	40	39	40	41	42	41	40	53	60	68	64	89	71	65	59	62	62	45	40	36	39	40	41	39
28	40	44	46	47	44	44	40	53	74	65	71	81	80	65	59	57	56	51	43	43	43	41	43	42
29	44	44	46	46	45	52	42	58	70	66	66	68	82	64	73	70	67	53	40	33	34	36	39	36
30	36	33	30	31	33	36	39	54	58	66	84	74	73	65	60	59	61	44	37	34	30	32	35	F
31	F 38	39	37	37	37	35	41	56	54	56	62	79	93	61	60	66	60	43	33	29	A	A	29	33
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	29	28	29	31	30	30	31	28	30	30	30	30	30	30	30	30	28	28	26	28	25
MED	38	38	37	37	36	35	41	53	56	63	66	74	72	62	60	61	60	54	44	42	39	40	40	38
UQ	41	41	41	41	42	40	45	59	62	66	74	80	80	67	68	67	64	57	49	44	44	41	42	40
LQ	35	34	34	33	31	32	40	50	50	55	60	66	63	58	55	54	55	47	40	38	36	36	36	36

IONOSPHERIC DATA

OCT. 1985 | FOF1 (0.01 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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	400	400	420	410	L 400	L 390									
2										400	410	410	410	400	390									
3											C	C	C	C	C	C								
4									A	A	C	410	420	410	A									
5										400	400		410	390	L 360	380	300							
6											380	400	410	400	370	L								
7										380	390	400	400	400	L									
8										400	400	410	410	400	L 370									
9										L	A	400	400	390	L	L								
10									360	L	400	400	400		L									
11									350	390	380	400	400	400										
12										L 390	L 400	390	H 400	L 370	L 360									
13										L 390	A	A	410	L 380	L									
14										400	410	L	400	A										
15										400	A	A	410	A	A	L								
16										370	A	410	A	A										
17									L	400	A	A	400	380										
18										390	L		410	400	A									
19										L	410	380	410											
20											410	410	410	410	A									
21										L	L 410	L 410	A											
22											L	L 380		A										
23											A	430	A	L	L									
24										A	400	380	L 410	A										
25										L		L 400	L											
26											L 400	L 410	L 380											
27										L	400	L 370	400	L 370										
28										L	L	400	360	L										
29											L	L 400	410	L	L									
30												A	400	L										
31										L 340	L 390	410	A	L	L									
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									2	14	17	23	24	15	6	1	1							
MED									355	395	400	400	410	400	L 370	380	300							
UQ										400	410	410	410	400	390									
LQ										390	400	400	400	385	L 360									

OCT. 1985 | FOF1 (0.01 MHZ)

IONOSPHERIC DATA

OCT. 1985 | FOE (0.01 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	A	270	280	295	300	300	290	260	240	205	S						
2							A	210	255	285	290	295	290	290	A	260	215	S						
3							140	210	260	260	C	C	C	C	C	C	C	C						
4							S	A	A	290	C	295	A	A	290	265	A	S						
5							S	210	240	250	260	265	265	265	A	225	195	S						
6							150	210	240	250	255	270	A	A	A	A	A	A						
7							S	200	245	260	270	275	275	A	A	A	A	S						
8							160	190	225	250	265	275	280	270	245	A	200	S						
9							S	210	240	255	275	A	A	280	260	225	A	A						
10							A	205	240	A	A	A	A	A	A	A	A	A						
11							S	215	245	265	275	A	290	285	270	A	A	A						
12							S	200	250	265	280	285	H 290	280	255	225	A	S						
13							S	205	240	265	275	A	290	A	A	A	A	A						
14							S	200	245	265	285	290	A	A	270	225	200	S						
15							S	205	A	270	290	295	290	270	245	235	205	130						
16							S	210	240	275	285	295	285	A	A	A	A	A						
17							E	205	245	265	285	A	A	A	A	A	S	S						
18							S	205	250	285	290	290	A	A	A	A	A	A						
19							S	205	245	A	A	A	290	290	270	245	A	A						
20							E	205	245	275	295	300	A	A	A	A	A	S						
21								210	245	265	275	285	A	280	255	A	A							
22								200	245	270	280	A	290	A	A	A	A							
23								190	235	275	290	295	A	295	A	A	A							
24								215	250	A	280	285	285	A	A	A	A							
25								190	245	A	270	A	A	265	A	A	180							
26								A	245	260	280	280	290	A	A	210	A							
27								190	245	265	275	A	280	275	A	A	A							
28								180	240	255	275	280	285	280	250	220	S							
29								170	250	265	275	285	A	275	250	215	175							
30								A	240	255	275	A	A	A	A	A	A							
31								A	A	250	275	280	A	A	A	A	S							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							5	26	28	27	27	20	16	15	12	12	8	1						
MED							140	205	245	265	275	285	290	280	258	225	200	130						
UQ							150	210	248	272	285	295	290	288	270	242	205							
LQ							E	200	240	258	275	280	282	272	250	222	188							

OCT. 1985 | FOE (0.01 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOES (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E S 12	26	26	25	E S 15	24	21	40	G	G	G	G	G	G	37	32	G	E S 16	31	30	E S 16	30	24	E S 16
2	25	22	24	21	22	24	23	G	G	G	36	40	33	G	40	G	G	25	24	C	C	E S 15	C	E S 15
3	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	G	G	34	34	C	C	C	C	C	C	C	C	C	C	C	J A 41	30	J A 32
4	J A 33	J A 33	30	27	25	24	J A 33	40	J A 63	J A 60	C	40	43	50	J A 54	G	33	25	35	33	24	J A 45	J A 61	J A 75
5	J A 50	28	31	26	30	27	E S 16	G	31	31	34	G	40	G	40	30	28	E S 14	E S 16	E S 16	E S 16	25	26	25
6	28	E S 13	23	31	30	J A 47	25	32	32	31	G	33	43	51	42	33	28	40	27	24	E S 16	E S 16	E S 16	E S 16
7	E S 16	E S 13	21	20	23	E S 11	19	G	36	32	34	36	G	50	33	37	31	31	28	28	23	22	26	E S 12
8	E S 16	36	31	30	31	35	23	43	44	33	35	36	G 23	33	J A 45	32	25	43	38	24	30	43	30	34
9	21	27	30	27	31	27	24	G	35	37	41	35	30	G 25	G 23	28	24	28	22	E S 15	E S 15	20	E S 16	E S 16
10	31	31	E S 12	22	28	30	30	G	29	33	30	30	42	37	32	30	42	31	41	42	43	25	E S 16	E S 12
11	E S 15	E S 14	E S 15	E S 13	E S 15	E S 16	E S 15	G	G	G	30	30	G 27	G	G	30	J A 30	36	J A 50	31	E S 15	E S 15	E S 15	E S 16
12	E S 15	E S 15	E S 15	E S 15	E S 15	26	18	25	29	G	33	G	G	G	G	30	31	21	31	37	27	38	26	E S 16
13	E S 16	E S 16	22	E S 16	E	E S 16	25	G	G	33	49	J A 68	G	35	40	41	39	35	39	J A 50	30	30	32	E S 16
14	E S 16	E S 16	E S 11	E S 12	23	22	E S 16	G	G	38	36	J A 44	39	51	G 21	G 19	G	E S 15	E S 16	31	27	J A 42	27	E S 16
15	27	30	35	31	J A 30	30	J A 33	25	30	38	45	44	38	49	59	G	50	G	22	23	E S 11	33	40	E S 15
16	E S 15	J A 43	J A 45	J A 60	34	25	E S 15	25	33	30	J A 59	34	J A 50	J A 41	40	40	32	41	30	26	26	20	26	27
17	E S 16	E S 15	E S 11	E S 15	E S 11	E S 11	16	G	29	38	J A 48	J A 50	36	35	31	30	21	E S 15	E S 15	E S 14	30	38	41	E S 16
18	J A 50	E S 14	E S 11	E S 14	E S 13	E S 17	E S 16	25	G	32	31	33	37	40	50	28	32	28	E S 15	E S 15	E S 15	22	22	24
19	39	20	E S 15	E S 11	E	E S 15	E S 15	G	G	38	40	36	G	G	G	G	22	28	E S 16	E S 16	E S 15	E S 15	22	E S 16
20	22	E	22	E S 12	27	30	30	G	G	G	J A 43	G	42	J A 60	J A 60	37	26	E S 15	E S 15	E S 16	33	29	21	22
21	27	25	22	22	E	30	E S 15	G	30	G	G	G	J A 64	G	G	33	26	24	32	J A 50	J A 51	J A 60	J A 51	36
22	31	32	33	23	20	E S 16	24	31	32	35	35	44	G	J A 47	J A 65	36	29	E S 16	E S 16	23	30	38	42	32
23	40	33	50	34	26	E S 13	E S 16	G	G	40	J A 82	J A 51	J A 87	G	28	31	40	J A 43	J A 50	J A 43	J A 43	J A 33	28	24
24	30	30	22	E S 12	E S 16	E S 15	E S 15	G	30	J A 48	35	G	G	J A 57	40	J A 43	42	J A 45	28	E S 16	E	E S 13	E S 16	E S 14
25	23	E	21	24	24	24	22	G	G	35	37	36	34	G	43	38	G	30	32	32	36	31	33	30
26	26	E S 14	E S 16	E S 11	E	30	24	32	G	44	37	J A 42	35	43	43	G	27	25	30	E S 13	24	25	23	27
27	26	E S 11	22	E S 16	24	E S 12	21	23	G	G	36	39	G	G	35	33	34	39	31	27	E S 16	E S 16	26	E S 16
28	E S 16	E S 16	22	35	26	23	E S 16	G	G	G	G	G	G	29	G	G	20	22	31	34	24	25	26	22
29	23	E S 16	20	21	20	30	24	27	G	G	G	G	42	G	G	G	G	32	21	26	E S 16	E S 16	24	E S 16
30	22	23	26	27	31	30	28	28	G	G	38	53	J A 43	J A 63	40	J A 61	J A 50	J A 56	J A 48	J A 41	39	31	31	25
31	28	43	26	40	24	26	24	26	38	G	35	36	55	42	34	41	40	33	47	33	43	42	31	26
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	29	30	30	30	30	30	30	30	30	29	29	31	30	31
MED	23	20	22	22	23	24	21	G	29	32	35	36	36	35	38	30	28	28	30	27	24	29	26	E S 16
UQ	29	30	28	27	28	30	24	26	32	38	40	42	42	49	43	37	34	36	35	33	30	38	31	26
LQ	E S 16	E S 14	E S 16	E S 15	E E 15	E S 16	E S 16	G	G	G	31	G	G	G	G 23	G 19	22	21	21	E S 16	E S 16	20	22	E S 16

OCT. 1985 | FOES (0.1 MHZ)

IONOSPHERIC DATA

OCT. 1985 | FBES (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E S 12	E	E	E	E S 15	E	20	30	G	G	G	G	G	G	G	23	G	E S 16	E	E	E S 16	E	E	E S 16
2	E	E	E	E	E	E	20	G	G	G	G	G	G	G	30	G	G	G	E	C	C	E S 15	C	E S 15
3	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	G	G	G	G	C	C	C	C	C	C	C	C	C	C	C	35	25	E
4	E	23	E	E	E	E	26	30	A A 63	58	C	38	35	34	48	G	21	20	29	E	E	30	A A 61	A A 75
5	A A 50	E	23	E	E	E	E S 16	G	G	G	33	G	G	G	32	G	G	E S 14	E S 16	E S 16	E S 16	E	E	E
6	23	E S 13	E	E	E	28	25	26	28	30	G	G	32	38	33	26	21	26	E	E	E S 16	E S 16	E S 16	E S 16
7	E S 16	E S 13	E	E	E	E S 11	G	G	35	G	34	34	G	39	25	25	21	21	E	E	E	E	E	E S 12
8	E S 16	23	23	25	E	A A 35	G	35	32	32	31	31	G 23	G	35	24	G	18	E	E	E	E	E	E
9	E	E	20	E	E	E	16	G	G	36	40	35	30	G 24	G 21	20	19	20	E	E S 15	E S 15	E	E S 16	E S 16
10	E	E	E S 12	E	E	E	17	G	G	29	30	30	33	30	29	25	32	22	24	37	37	E	E S 16	E S 12
11	E S 15	E S 14	E S 15	E S 13	E S 15	E S 16	E S 15	G	G	G	G	30	G 27	G	G	25	28	25	29	E	E S 15	E S 15	E S 15	E S 16
12	E S 15	E S 15	E S 15	E S 15	E S 15	E	G	G	G	G	32	G	G	G	G	21	22	G	E	27	E	29	E	E S 16
13	E S 16	E S 16	E	E S 16	E	E S 16	17	G	G	31	42	67	G	29	32	32	25	27	31	29	E	E	E	E S 16
14	E S 16	E S 16	E S 11	E S 12	E	E	E S 16	G	G	38	G	G	31	39	G 21	G 18	G	E S 15	E S 16	E	E	25	E	E S 16
15	E	E	28	24	E	24	G	G	25	38	45	43	36	40	49	G	35	G	E	E	E S 11	26	31	E S 15
16	E S 15	E	20	E	E	E	E S 15	G	31	G	59	G	47	40	30	28	20	20	E	E	E	E	E	E
17	E S 16	E S 15	E S 11	E S 15	E S 11	E S 11	G	G	G	35	48	40	30	29	27	25	G	E S 15	E S 15	E S 14	23	20	E	E S 16
18	E	E S 14	E S 11	E S 14	E S 13	E S 17	E S 16	G	G	G	G	G	37	31	45	27	20	12	E S 15	E S 15	E S 15	E	E	E
19	E	E	E S 15	E S 11	E	E S 15	E S 15	G	G	33	31	30	G	G	G	G	20	18	E S 16	E S 16	E S 15	E S 15	E	E S 16
20	E	E	E	E S 12	E	E	23	G	G	G	40	G	31	33	40	25	19	E S 15	E S 15	E S 16	25	E	E	E
21	E	E	E	E	E	E	E S 15	G	G	G	G	G	40	G	G	27	23	E	31	A A 50	37	A A 60	22	22
22	20	21	E	E	E	E S 16	E	G	G	G	G	30	G	41	30	27	21	E S 16	E S 16	E	20	23	E	E
23	E	E	29	E	E	E S 13	E S 16	G	G	40	A A 82	40	75	G	27	31	26	43	50	41	37	20	E	E
24	E	E	E	E S 12	E S 16	E S 15	E S 15	G	G	40	32	G	G	46	28	41	35	33	20	E S 16	E	E S 13	E S 16	E S 14
25	E	E	E	E	E	E	E	G	G	28	32	31	32	G	28	26	G	28	32	E	22	23	22	E
26	E	E S 14	E S 16	E S 11	E	E	E	23	G	G	34	33	G	29	32	G	18	E	E	E S 13	E	E	E	E
27	E	E S 11	E	E S 16	E	E S 12	E	G	G	G	G	31	G	G	26	24	19	31	24	20	E S 16	E S 16	E	E S 16
28	E S 16	E S 16	E	E	E	E	E S 16	G	G	G	G	G	G	23	G	G	19	E	E	26	E	E	E	E
29	E	E S 16	E	E	E	E	E	G	G	G	G	G	37	G	G	G	G	E	E	E	E S 16	E S 16	E	E S 16
30	E	E	23	E	E	E	E	20	G	G	G	45	39	32	28	34	19	25	23	29	E	E	20	E
31	E	22	E	E	E	E	E	19	30	G	35	32	48	34	31	32	21	20	27	20	A A 43	A A 42	E	E
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	29	30	30	30	30	30	30	30	30	29	29	31	30	31
MED	E	E E 13	E E 11	E	E	E	E E 15	G	G	G	31	30	30	29	28	25	20	18	16	E E 15	E E 15	E E 15	E	E S 14
UQ	E S 16	E S 16	E S 16	E S 14	E	E S 15	16	G	G	32	35	34	36	34	32	27	22	25	24	20	20	23	16	E S 16
LQ	E	E	E	E	E	E		G	G	G	G	G	G	G	G 21	G	G	E E 12	E	E	E	E	E	E

OCT. 1985 | FBES (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FMIN (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N. Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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	ES 12	E	E	E	ES 15	E	10	10	10	16	16	18	17	11	16	10	10	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
2	ES 16	ES 16	E	ES 16	ES 13	ES 12	E	10	10	11	11	12	17	17	17	10	10	ES 15	ES 15	C	C	ES 15	C	ES 15
3	ES 16	ES 15	ES 15	ES 15	ES 15	ES 15	10	11	17	16	C	C	C	C	C	C	C	C	C	C	C	ES 15	ES 16	ES 16
4	ES 15	ES 14	ES 13	ES 13	ES 14	ES 15	ES 15	15	16	15	C	11	11	11	16	10	10	ES 15	E	ES 15	E	ES 15	ES 17	E
5	ES 12	E	E	E	E	ES 15	ES 16	11	12	11	18	16	18	16	10	10	10	ES 14	ES 16	ES 16	ES 16	ES 11	ES 11	E
6	ES 16	ES 13	E	E	E	ES 11	10	11	10	13	16	11	12	10	10	10	12	E	E	ES 16	ES 16	ES 16	ES 16	ES 16
7	ES 16	ES 13	ES 16	ES 16	E	ES 11	ES 16	16	13	11	18	19	19	17	10	10	10	ES 16	ES 16	ES 16	ES 16	ES 15	ES 12	ES 12
8	ES 16	ES 16	ES 13	ES 11	E	ES 13	12	12	10	16	17	11	10	17	17	16	10	ES 13	E	ES 16	ES 13	ES 11	ES 16	E
9	ES 16	ES 16	ES 11	E	E	ES 16	ES 16	13	10	12	18	19	18	17	17	12	12	E	E	ES 15	ES 15	ES 15	ES 16	ES 16
10	ES 15	E	ES 12	E	ES 15	ES 16	10	16	14	17	18	12	11	11	10	10	10	10	ES 17	ES 14	ES 12	ES 15	ES 16	ES 12
11	ES 15	ES 14	ES 15	ES 13	ES 15	ES 16	ES 15	15	16	17	17	17	19	18	17	10	10	10	ES 15	ES 17	ES 15	ES 15	ES 15	ES 16
12	ES 15	ES 15	ES 15	ES 15	ES 15	E	ES 12	16	10	16	17	16	17	19	10	10	10	ES 16	E	ES 16	ES 16	ES 16	ES 11	ES 16
13	ES 16	ES 16	ES 11	ES 16	E	ES 16	ES 12	16	13	17	17	12	11	16	10	10	13	E	ES 12	ES 11	ES 16	ES 16	ES 12	ES 16
14	ES 16	ES 16	ES 11	ES 12	E	ES 16	ES 16	13	12	12	17	17	20	11	11	11	12	ES 15	ES 16	ES 17	E	ES 15	E	ES 16
15	ES 17	E	E	ES 17	ES 15	ES 15	ES 15	10	10	11	17	16	19	19	17	17	10	10	ES 15	ES 15	ES 11	E	ES 14	ES 15
16	ES 15	E	E	ES 13	E	ES 15	ES 15	11	17	17	19	19	20	19	10	10	10	E	E	ES 15	ES 16	ES 16	ES 16	ES 16
17	ES 16	ES 15	ES 11	ES 15	ES 11	ES 11	E	10	11	17	16	16	18	11	10	11	ES 18	ES 15	ES 15	ES 14	E	ES 15	ES 15	ES 16
18	ES 16	ES 14	ES 11	ES 14	ES 13	ES 17	ES 16	10	12	18	17	19	18	19	17	10	10	E	ES 15	ES 15	ES 15	E	ES 12	ES 15
19	ES 15	ES 12	ES 15	ES 11	E	ES 15	ES 15	10	10	11	18	17	17	10	15	10	10	E	ES 16	ES 16	ES 15	ES 15	ES 16	ES 16
20	E	E	E	ES 12	E	E	E	17	10	11	10	11	11	11	10	10	10	ES 15	ES 15	ES 16	E	E	ES 16	E
21	E	E	E	E	E	ES 15	ES 15	12	11	10	11	12	12	11	10	10	10	E	ES 15	ES 16	ES 15	E	ES 16	ES 16
22	E	ES 14	ES 14	ES 16	E	ES 16	ES 12	10	12	11	17	16	18	17	11	10	10	ES 16	ES 16	ES 12	ES 16	ES 16	ES 16	ES 11
23	ES 16	E	E	ES 14	E	ES 13	ES 16	10	16	10	17	17	18	12	10	10	10	E	ES 17	ES 17	ES 14	ES 15	E	ES 15
24	ES 15	E	E	ES 12	ES 16	ES 15	ES 15	11	11	15	16	17	16	12	13	10	ES 17	E	E	ES 16	E	ES 13	ES 16	ES 14
25	ES 16	E	ES 16	E	ES 16	ES 16	ES 16	16	11	17	17	16	18	11	12	10	ES 15	E	ES 12	E	E	ES 16	ES 16	ES 14
26	ES 16	ES 14	ES 16	ES 11	E	ES 13	ES 12	13	14	10	11	12	16	16	16	10	10	E	ES 16	ES 13	ES 12	ES 16	ES 16	ES 16
27	E	ES 11	ES 16	ES 16	ES 16	ES 12	ES 16	14	15	11	12	13	16	12	12	10	10	ES 11	ES 16	ES 13	ES 16	ES 16	ES 16	ES 16
28	ES 16	ES 16	E	E	ES 12	ES 11	ES 16	13	11	16	11	11	17	12	12	10	ES 16	E	ES 16	E	ES 15	ES 12	ES 16	ES 16
29	ES 16	ES 16	ES 16	ES 16	E	ES 16	ES 16	11	16	16	17	18	18	10	11	10	ES 13	ES 13	ES 16	ES 16	ES 16	ES 16	ES 12	ES 16
30	ES 16	E	ES 13	E	ES 11	ES 14	ES 16	10	11	17	16	17	12	17	16	11	10	ES 12	ES 16	E	ES 12	ES 11	ES 11	ES 12
31	ES 16	ES 15	E	E	ES 15	ES 16	ES 16	13	10	11	12	16	11	16	11	10	ES 16	ES 12	ES 13	E	ES 12	ES 16	ES 16	ES 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	29	30	30	30	30	30	30	30	30	29	29	31	30	31
MED	ES 16	ES 14	ES 11	ES 12	ES 11	ES 15	ES 15	12	11	15	17	16	17	14	12	10	10	E 10	ES 15	ES 15	ES 15	ES 15	ES 16	ES 16
UQ	ES 16	ES 15	ES 15	ES 15	ES 15	ES 16	ES 16	14	14	16	17	17	18	17	16	10	11	ES 15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
LQ	ES 15	E	E	E	E	ES 12	E 12	10	10	11	16	12	12	11	10	10	10	E	ES 12	ES 13	ES 12	ES 12	ES 12	ES 13

OCT. 1985 | FMIN (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | M(3000)F2 (0.01) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	325	310	305	305	340	315	350	340	365	345	365	340	365	350	350	325	345	350	345	310	310	310	310	310
2	315	315	320	325	305	315	380	380	360	355	350	335	345	340	350	360	360	345	330	C	C	300	I C 300	295
3	290	315	315	310	310	310	355	370	345	345	C	C	C	C	C	C	C	C	C	C	C	S	285	290
4	280	290	300	325	300	310	350	S	A	335	C	315	310	325	330	335	355	345	315	290	300	300	A	A
5	A	290	310	300	310	310	350	330	370	335	345	H 335	325	345	345	305	310	320	350	290	305	305	310	285
6	280	305	275	285	280	340	355	315	310	325	305	330	290	330	255	250	360	320	290	350	300	315	H 275	F
7	300	285	295	285	F	350	335	360	325	330	325	340	340	345	360	340	330	340	335	330	320	F	F	F
8	300	280	H 260	300	340	A	340	360	340	335	325	330	335	340	350	350	350	350	335	305	290	305	305	300
9	315	335	290	320	320	320	335	375	345	340	340	340	370	365	350	375	345	335	300	310	320	330	310	315
10	290	290	325	320	325	320	350	355	365	325	365	350	340	345	345	365	360	345	310	285	290	305	310	325
11	320	305	315	315	325	330	350	360	380	360	345	355	360	345	350	355	350	355	315	290	300	295	305	305
12	295	290	295	300	300	310	365	340	355	340	360	330	335	320	345	365	345	330	320	325	315	300	315	315
13	305	305	310	295	310	325	345	360	355	355	345	345	355	350	325	350	350	355	A	A	300	300	310	300
14	300	295	300	320	300	315	355	360	375	350	330	335	345	360	345	340	330	340	330	320	320	280	305	290
15	310	295	325	315	315	310	355	360	360	345	345	340	360	355	340	340	320	330	340	350	285	305	290	290
16	315	300	310	300	F 305	F 335	355	360	H 335	340	335	365	355	350	335	360	340	325	325	290	290	295	295	325
17	295	315	315	320	315	345	315	335	340	340	340	345	365	330	340	345	345	330	305	310	310	315	300	300
18	295	300	325	310	315	325	320	365	365	360	325	315	320	340	335	350	360	350	320	320	315	300	295	300
19	290	295	295	300	325	320	340	380	345	345	340	350	330	350	310	335	360	360	320	310	290	300	310	310
20	310	330	310	300	310	315	340	365	350	330	345	350	350	340	340	350	325	335	320	305	310	310	305	310
21	295	325	290	290	300	335	340	355	H 335	375	360	355	380	355	340	340	355	350	345	A	320	A	315	310
22	300	285	295	290	300	340	360	370	340	370	340	350	365	305	350	350	350	345	315	300	335	305	300	295
23	305	285	F	F	F	310	345	340	365	360	A	345	345	325	345	355	345	325	340	325	340	295	F	F
24	F 305	F	F 295	F	F	F	335	355	355	360	365	360	350	355	355	350	340	350	325	310	335	F	F 290	F
25	F 270	F 285	280	310	325	355	320	355	340	365	320	350	355	340	345	345	350	340	350	330	320	320	295	310
26	295	300	325	325	315	330	325	280	370	345	355	345	325	335	340	355	345	350	350	340	300	305	295	305
27	300	285	295	295	320	340	330	285	355	350	330	355	350	360	360	355	355	355	325	300	300	300	310	305
28	305	315	310	295	320	335	325	345	370	340	350	350	370	360	340	350	355	360	330	325	325	315	300	290
29	320	295	305	310	315	335	350	380	345	375	365	325	390	345	330	345	345	350	350	310	300	300	290	300
30	320	340	305	295	305	320	345	355	360	350	345	345	355	355	355	340	350	335	345	330	315	310	335	F
31	F 310	290	295	295	300	320	350	360	365	375	350	355	365	355	340	360	365	355	350	345	A	A	285	305
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	29	28	29	31	30	30	31	28	30	30	30	30	30	30	30	29	27	28	26	28	25
MED	300	298	305	300	312	320	345	360	355	345	345	345	350	345	345	350	350	345	330	310	310	305	302	305
UQ	310	315	315	315	320	335	352	365	365	360	352	350	365	355	350	355	355	350	345	328	320	310	310	310
LQ	295	290	295	295	302	315	335	340	340	340	332	335	335	340	340	340	345	335	320	302	300	300	295	295

IONOSPHERIC DATA

OCT. 1985 | M(3000)F1 (0.01) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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	355	380	380	370	L 380	L 360									
2										370	390	385	375	375	380									
3											C	C	C	C	C	C								
4									A	A	C	A	350	365	A									
5										330	370		365	335	A	290	340							
6											335	350	345	A	A	L								
7										335	340	350	355	A	L									
8										365	350	345	340	350	A									
9										A	A	360	370	385	L	L								
10									380	L	400	395	370		L									
11									360	385	395	375	385	375										
12										L 345	L 325	375	H 325	L 380	L 360									
13										L 360	A	A	345	L 340	L									
14										A	365	L	375	A										
15										A	A	A	390	A	A	L								
16										370	A	365	A	A										
17									L	A	A	A	400	370										
18										380	L		A	375	A									
19										L	390	395	390											
20											A	390	365	390	A									
21										L	L 365	L 380	A											
22											L	L 390		A										
23											A	A	A	L	L									
24										A	380	395	L 390	A										
25										L		L 375	L											
26											L 370	L 370	L 375											
27										L	400	L 405	380	L 380										
28										L	L	355	440	L										
29											L	L 385	A	L	L									
30												A	A	L										
31										L 380	A	365	A	L	A									
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									2	11	15	21	21	13	3	1	1							
MED									370	365	370	375	370	375	L 360	290	340							
UQ										375	390	390	385	380	370									
LQ										350	358	365	355	365	L 360									

OCT. 1985 | M(3000)F1 (0.01)

IONOSPHERIC DATA

OCT. 1985 | H'F2 (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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									240	250	235	260	245	255	260									
2										245	250	250	255	260	250									
3											C	C	C	C	C	C								
4									A	A	C	260	275	265	260									
5										275	255		300	255	270	325	260							
6											370	300	400	300	275	280								
7										325	295	275	275	295	255									
8										295	295	285	275	265	255									
9										300	290	255	255	260	250	240								
10									245	275	250	270	255		250									
11									240	245	260	245	245	255										
12										255	240	255	240	255	245									
13										260	255	A	240	245	275									
14										255	250	255	250	225										
15										250	250	230	225	225	A 270	240								
16										255	A	230	230	235										
17									240	245	225	245	225	240										
18										235	265		260	235	250									
19										250	250	230	240											
20											250	250	230	245	250									
21										220	245	245	225											
22											245	240		230										
23											A	250	A	225	240									
24										240	230	225	240	245										
25										230		240	245											
26											240	245	240											
27										245	245	240	230	230										
28										235	240	240	235	230										
29											235	240	240	225	255									
30												240	250	240										
31										230	245	250	235	225	240									
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									4	22	25	27	28	25	17	4	1							
MED									240	250	250	245	242	245	255	260	260							
UQ									242	260	255	255	255	255	260	302								
LQ									240	240	240	240	235	230	250	240								

OCT. 1985 | H'F2 (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'F (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Hour / 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	225	230	245	250	215	225	210	225	220	220	205	200	210	200	195	245	H 205	225	205	235	245	255	275	270
2	275	255	245	245	250	245	205	225	230	215	205	205	200	200	220	215	240	225	220	C	C	260	I C 255	250
3	265	255	255	235	255	255	220	215	230	230	C	C	C	C	C	C	C	C	C	C	C	A	275	250
4	300	320	260	240	290	270	225	A	A	A	C	A	240	250	A	250	230	220	A 260	260	285	A 320	A	A
5	A	270	300	265	270	265	210	245	H 240	245	205	H 195	220	235	A	240	245	230	225	260	255	285	255	295
6	A 350	250	300	325	310	A	A 245	A 255	255	250	220	245	230	A	A	255	245	245	280	225	255	235	255	290
7	295	305	300	250	255	225	230	235	A	240	A 250	A 250	H 215	A	230	250	245	245	240	235	220	290	275	280
8	285	345	A 340	A	225	A	230	240	225	225	245	225	225	225	A	225	240	235	220	245	255	255	260	245
9	250	245	305	275	270	250	245	225	225	A	A	225	220	205	205	H 200	230	215	245	235	245	230	235	260
10	265	265	230	230	240	250	210	235	240	205	200	200	245	205	240	245	235	225	260	A	A	255	225	250
11	250	260	255	260	250	250	220	225	205	215	205	205	215	200	235	235	240	220	A 245	265	255	250	250	250
12	270	275	255	275	245	250	205	215	225	230	A 245	215	H 205	200	215	230	230	220	245	250	245	A	245	235
13	240	255	245	290	270	245	205	210	205	220	A	A	205	H 200	A	A 245	235	220	A	A	255	255	280	255
14	255	275	290	235	255	250	215	225	225	A	225	200	200	A	225	240	235	215	205	245	250	295	250	255
15	250	255	A 250	265	250	250	205	225	225	A	A	A	220	A	A	235	250	215	200	205	210	A 300	A 350	265
16	255	285	265	265	250	235	205	220	215	210	A	225	A	A	225	240	240	215	220	260	260	250	275	250
17	245	255	260	255	240	220	225	230	215	A	A	A	200	195	H 200	240	220	205	250	255	250	275	280	255
18	295	275	225	250	250	230	205	205	205	220	205	H 215	A	220	A	230	220	210	240	245	235	275	265	250
19	275	270	255	270	230	245	H 210	205	H 205	235	210	200	210	H 200	215	235	210	215	235	235	260	255	255	275
20	250	240	265	250	255	265	215	220	215	205	A	205	205	225	A	230	220	200	230	235	A	270	270	270
21	290	250	245	265	255	225	220	210	200	215	205	205	A	H 210	205	230	240	205	A	A	A	A	255	275
22	280	305	295	300	255	210	200	210	235	H 220	205	205	H 235	A	240	240	215	215	245	255	240	250	255	260
23	290	275	A 295	275	255	230	235	205	225	225	A	A	A	200	225	225	215	A	A	A	A	265	245	255
24	270	260	255	255	250	200	210	220	215	A	210	200	195	A	240	A 230	235	240	240	235	210	245	270	255
25	280	285	265	240	225	200	245	220	230	205	225	220	220	H 200	240	240	225	235	240	225	260	255	255	250
26	255	245	240	235	230	215	200	205	210	230	A 230	205	200	225	245	235	210	205	220	220	225	270	275	255
27	280	275	285	255	245	220	200	205	210	225	205	205	205	210	235	240	225	235	245	280	255	255	245	235
28	250	255	245	255	245	205	205	205	H 220	205	H 205	205	190	200	230	230	215	205	225	A 255	225	245	230	250
29	255	255	245	240	250	235	195	210	225	H 205	205	205	A	225	240	240	215	210	200	270	285	290	285	285
30	250	230	A 300	300	275	250	210	205	210	230	H 235	A	A	225	230	245	225	220	250	A	250	280	250	250
31	255	295	285	295	270	245	210	200	200	200	A	210	A	A	A	235	210	200	A 250	250	A	A	305	300
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	30	31	29	31	30	29	25	21	24	23	22	21	30	30	29	27	24	24	27	30	30
MED	265	260	260	255	250	245	210	220	220	220	205	205	210	205	230	238	230	220	240	245	250	255	255	255
UQ	280	275	292	275	255	250	222	225	225	230	225	218	220	225	240	240	240	225	245	258	255	278	275	270
LQ	250	255	245	245	245	225	205	205	210	210	205	202	202	200	215	230	215	210	220	235	238	252	250	250

OCT. 1985 | H'F (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'E (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	A	105	105	105	110	105	105	105	A	110	S						
2							A	110	105	105	105	105	110	105	A	115	115	S						
3							130	120	110	110	C	C	C	C	C	C	C	C						
4							S	A	A	A	C	105	105	105	110	115	110	S						
5							S	120	105	105	110	105	110	105	A	105	110	S						
6							125	110	110	105	105	105	A	A	A	A	A	A						
7							S	125	115	105	110	110	105	105	A	A	A	S						
8							125	115	A	105	105	125	120	105	110	115	125	S						
9							S	H 120	105	110	115	105	A	145	115	115	A	A						
10							A	115	105	A	A	A	A	A	A	A	A	A						
11							S	120	115	110	110	110	A	120	110	A	A	A						
12							S	125	110	105	105	105	105	105	105	A	A	S						
13							S	125	115	115	110	105	105	A	A	A	A	A						
14							S	125	115	110	105	105	A	A	120	115	125	S						
15							S	120	105	105	105	110	110	110	110	115	115	150						
16							S	110	110	110	110	110	110	105	A	A	A	A						
17							E	115	110	105	105	A	A	A	A	A	S	S						
18							S	120	110	110	110	110	105	A	A	A	A	A						
19							S	115	115	105	105	A	105	105	110	110	A	A						
20							E	130	110	105	105	105	A	A	A	A	A	S						
21								120	110	110	105	105	A	105	105	A	A							
22								125	110	110	105	105	110	A	A	A	A							
23								125	120	105	105	105	105	105	A	A	A							
24								120	110	110	105	105	105	A	A	A	A							
25								135	110	A	105	A	A	105	A	A	145							
26								A	110	105	105	105	105	A	A	105	A							
27								125	115	105	105	105	105	105	A	A	A							
28								130	105	110	105	105	110	115	105	125	S							
29								125	110	110	105	110	A	105	105	125	135							
30								A	115	115	105	110	105	A	A	A	A							
31								A	A	110	110	110	110	A	105	A	S							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							3	26	28	28	28	26	20	18	13	11	9	1						
MED							125	120	110	108	105	105	105	105	110	115	115	150						
UQ							128	125	115	110	110	110	110	105	110	115	125							
LQ							125	115	108	105	105	105	105	105	105	112	110							

OCT. 1985 | H'E (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'ES (KM) | 135° E Mean Time (G.M.T. + 9h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	105	105	105	S	105	100	100	G	G	G	G	G	G	115	105	G	S	115	125	S	105	100	S
2	105	105	105	105	100	105	105	G	G	G	110	110	110	G	100	G	G	130	105	C	C	S	C	S
3	S	S	S	S	S	S	G	G	135	135	C	C	C	C	C	C	C	C	C	C	C	110	110	110
4	105	105	105	105	105	105	100	100	120	115	C	110	105	110	130	G	150	120	115	115	115	115	105	105
5	100	105	105	105	100	100	S	G	120	115	110	G	105	G	105	105	120	S	S	S	S	125	105	125
6	105	S	145	125	130	110	140	140	130	125	G	125	100	125	100	100	100	135	100	125	S	S	S	S
7	S	S	105	100	110	S	155	G	140	135	130	125	G	105	105	100	100	100	115	110	110	105	110	S
8	S	100	100	100	100	125	145	135	130	125	125	120	100	120	110	130	145	130	135	105	105	105	100	125
9	105	105	105	105	100	100	105	G	125	120	115	105	105	105	105	105	100	100	100	S	S	100	S	S
10	115	110	S	105	110	105	110	G	115	105	105	105	100	100	100	100	115	100	100	100	100	100	S	S
11	S	S	S	S	S	S	S	G	G	G	110	110	110	G	G	105	105	100	105	105	S	S	S	S
12	S	S	S	S	S	100	150	155	150	G	125	G	G	G	G	105	105	105	125	120	100	115	115	S
13	S	S	130	S	E	S	150	G	G	130	115	105	G	105	105	105	105	105	105	105	105	105	105	S
14	S	S	S	S	100	100	S	G	G	115	110	110	105	100	100	100	G	S	S	110	125	105	115	S
15	105	105	105	105	105	105	105	140	115	120	115	110	110	110	110	G	145	G	105	100	S	110	110	S
16	S	110	110	110	110	110	S	130	120	135	115	120	110	105	105	105	105	100	100	100	100	100	110	110
17	S	S	S	S	S	S	125	G	130	110	110	105	105	100	100	100	145	S	S	S	110	110	110	S
18	105	S	S	S	S	S	S	150	G	125	115	110	105	100	105	105	105	110	S	S	S	125	110	105
19	105	100	S	S	E	S	S	G	G	105	105	105	G	G	G	G	100	100	S	S	S	S	100	S
20	105	E	105	S	105	100	100	G	G	G	115	G	105	100	100	100	100	S	S	S	110	105	110	105
21	100	100	100	100	E	105	S	G	130	G	G	G	105	G	G	105	130	125	110	105	105	105	105	105
22	105	105	100	105	105	S	140	130	125	125	120	110	G	105	105	100	100	S	S	110	105	105	105	105
23	105	100	105	105	110	S	S	G	G	125	110	110	105	G	110	105	105	105	105	105	100	100	105	105
24	110	105	100	S	S	S	S	G	150	130	120	G	G	110	100	100	100	100	95	S	E	S	S	S
25	105	E	100	100	100	100	105	G	G	115	125	105	105	G	105	100	G	105	105	105	100	105	105	105
26	110	S	S	S	E	100	105	105	G	115	120	110	125	105	105	G	105	130	125	S	110	110	105	105
27	105	S	105	S	140	S	105	190	G	G	120	105	G	G	105	100	100	100	100	105	S	S	105	S
28	S	S	105	105	100	105	S	G	G	G	G	G	G	105	G	G	140	110	105	105	105	105	110	105
29	110	S	120	105	105	100	105	130	G	G	G	G	105	G	G	G	G	105	110	110	S	S	110	S
30	105	100	140	130	105	105	105	105	G	G	125	105	105	105	105	105	135	100	100	105	100	100	100	105
31	110	105	105	105	110	105	120	105	120	G	130	120	110	105	105	105	105	105	105	105	105	105	105	105
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	20	16	22	19	20	20	20	14	16	20	24	22	21	19	24	23	25	23	23	21	18	24	25	15
MED	105	105	105	105	105	105	105	130	128	122	115	110	105	105	105	105	105	105	105	105	105	105	105	105
UQ	108	105	105	105	110	105	140	140	132	128	122	110	110	108	105	105	130	115	112	110	110	110	110	108
LQ	105	100	105	105	100	100	105	105	120	115	110	105	105	102	100	100	100	100	100	105	100	105	105	105

OCT. 1985 | H'ES (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | TYPES OF ES | 135° E Mean Time (G.M.T. + 9 h)

Station WAKKANAI Lat. 45° 23.5' N, Long. 141° 41.2' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Hour / 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 1	L 1	L 3							C 2	L 3			F 2	F 1		F 2	F 1	
2	F 2	F 2	F 2	F 4	F 2	F 1	LC 11				C 2	C 2	C 2		L 2			C 4	F 1					
3									C 2	C 2												F 5	F 2	F 2
4	F 2	F 2	F 1	F 3	F 2	F 1	L 1	L 3	CL 32	CL 32		C 2	C 2	C 2	C 2		HL 11	C 2	F 2	F 2	F 2	F 4	F 6	F 6
5	F 2	F 2	F 2	F 3	F 2	F 2			C 2	C 2	C 2		C 2		L 3	C 2	C 1					F 2	F 3	F 3
6	F 4		F 2	FF 42	F 2	F 4	C 5	C 4	C 2	C 3		C 2	L 5	CL 24	L 4	L 4	L 2	CL 33	F 2	FF 11				
7			F 2	F 2	F 1		H 2		C 4	C 2	C 2	C 3		C 4	L 3	L 4	L 4	L 2	FF 22	F 2	F 1	F 2	F 2	
8		F 4	F 7	F 5	F 3	FF 32	C 4	C 3	CL 33	C 2	C 3	CL 22	L 2	C 3	C 4	C 1	C 3	C 4	FF 21	F 2	F 2	F 3	F 2	FF 23
9	F 2	F 1	F 5	F 2	F 2	F 2	L 1		C 1	C 3	C 3	C 2	L 1	L 2	L 1	L 1	L 1	L 2	F 1			F 1		
10	F 2	F 2		F 1	F 2	F 2	L 1		C 2	L 2	L 1	L 2	L 3	L 4	L 2	L 2	CL 11	L 2	F 3	F 4	F 3	F 1		
11											C 2	C 2	L 1			L 2	L 3	L 2	F 2	F 1				
12						F 1	H 1	H 1	H 1		C 2					L 4	L 1	L 2	FF 12	FF 42	FF 11	F 5	F 3	
13			F 1				C 1			C 2	C 4	C 4		L 3	L 3	L 4	L 3	L 4	F 4	F 3	F 2	F 2	F 5	
14					F 2	F 2				C 2	C 2	C 1	L 2	L 3	L 2	L 1				F 2	F 1	F 3	F 2	
15	F 2	F 2	F 5	F 2	F 2	F 3	L 1	C 2	C 2	C 2	C 2	C 3	C 2	C 3	C 3		H 2		F 1	F 1		F 2	F 3	
16		F 3	F 4	F 2	F 2	F 1		C 1	C 2	C 1	C 3	C 2	C 2	C 3	L 2	L 2	L 2	L 2	F 2	F 2	F 2	F 1	F 2	F 2
17							C 1		C 2	C 2	C 4	L 2	L 2	L 2	L 3	L 2	H 1				F 3	F 3	F 3	
18	F 2							C 2		C 2	C 2	C 1	C 2	L 3	L 4	L 2	L 2	L 1				F 2	F 2	F 2
19	F 2	F 2								C 3	C 2	L 2					L 1	L 2					F 2	
20	F 2		F 2		F 2	F 2	L 1				C 2		L 2	L 4	L 5	L 2	L 1				F 3	F 2	F 2	F 2
21	F 2	F 2	F 2	F 2		F 1			C 1				L 3			L 4	CL 32	F 1	F 6	F 6	F 4	F 6	F 5	F 4
22	F 3	F 4	F 2	F 2	F 1		F 1	C 3	C 2	C 1	C 2	C 2		L 3	L 2	L 4	L 3			F 2	F 3	F 3	F 3	F 2
23	F 2	F 2	F 6	F 5	F 2					C 3	C 2	C 2	C 4		L 2	L 3	L 3	F 4	F 5	F 5	F 5	F 3	F 2	F 1
24	F 1	F 2	F 2						H 1	C 3	C 2			CL 33	L 4	L 4	L 5	F 4	F 4					
25	F 2		F 2	F 2	F 2	F 1	F 2			L 2	C 2	L 2	L 2		L 3	L 5		F 4	F 4	F 3	F 5	F 5	F 6	F 2
26	F 2					F 3	F 1	L 4		C 1	CL 31	C 3	C 1	L 3	L 3		L 1	F 1	F 3		F 2	F 2	F 2	F 2
27	F 2		F 2		F 1		F 1	H 2			C 1	C 3			L 3	L 4	L 3	F 5	F 4	F 2			F 2	
28			F 2	F 3	F 2	F 2								L 2			C 3	F 1	F 1	F 5	F 2	F 2	F 1	F 1
29	F 2		F 1	F 2	F 2	F 2	F 1	C 1					L 3					F 3	F 1	F 2			F 2	
30	F 2	F 4	F 4	F 3	F 2	F 2	F 3	L 2			C 2	C 3	C 4	L 2	L 5	L 4	CL 12	F 4	F 3	F 4	F 4	F 3	F 3	F 2
31	F 2	F 4	F 2	F 2	F 2	F 2	F 1	L 1	CL 32		C 2	C 2	C 6	L 3	C 4	L 4	L 2	F 3	F 4	F 3	F 7	F 6	F 5	F 3
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
UQ																								
LQ																								

The Radio Research Laboratories, Japan

OCT. 1985 | TYPES OF ES

IONOSPHERIC DATA

OCT. 1985 | FXI (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 2 sec in automatic operation

Hour / 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	43	43	51	49	X 41	X 40													X 63	X 40	X 40	X 40	X 40	X 40
2	X 40	X 39	X 38	X 35	X 35	X 36													X 61	X 47	X 47	X 45	X 47	X 45
3	X 44	X 43	X 42	X 41	X 40	X 40													X 58	X 50	X 47	X 50	49	48
4	X 42	X 42	X 43	X 42	37	40													X 51	X 47	X 47	X 48	X 45	X 43
5	X 43	X 41	X 39	A	A	X 37													X 72	X 44	X 43	X 43	X 43	X 31
6	X 33	X 37	X 34	X 36	X 35	X 37													X 53	X 59	A	X 42	X 38	X 38
7	X 37	X 37	X 37	X 40	A	X 29													X 70	X 44	44	40	49	47
8	42	43	45	41	A	28													X 59	X 46	X 46	X 45	X 46	X 50
9	X 41	X 39	X 35	X 35	X 36	X 35													X 60	X 57	X 53	X 46	X 45	X 44
10	X 44	X 42	X 45	X 42	X 42	38	52												X 48	X 46	X 47	X 48	X 45	X 44
11	43	X 41	X 39	X 39	X 39	X 38													X 48	A	X 42	X 42	X 43	X 42
12	X 42	X 44	X 43	X 42	X 44	X 38													X 56	X 55	X 44	X 46	X 45	X 44
13	X 39	X 39	X 40	X 37	X 38	X 36													X 47	X 36	43	X 43	X 43	X 42
14	X 42	X 41	X 40	X 45	X 37	X 38													X 59	X 48	X 50	X 46	X 44	X 42
15	X 42	X 42	X 39	X 41	X 39	39													X 71	X 47	X 38	X 38	X 42	X 47
16	49	51	50	48	44	40													X 62	48	47	52	50	49
17	48	X 38	X 39	40	45	39													X 46	X 42	X 44	X 41	X 40	A
18	X 41	X 39	46	X 37	X 38	39													X 50	X 50	X 50	X 48	X 48	X 49
19	X 46	X 46	X 44	X 42	X 44	X 39													X 45	X 49	X 47	X 48	X 48	X 46
20	X 45	X 39	X 40	X 40	X 41	X 39													X 45	X 46	X 43	X 42	X 39	X 39
21	X 39	X 39	X 40	X 37	X 36	X 34													X 55	A	X 45	X 46	X 42	X 40
22	X 41	X 40	X 42	X 40	45	X 41													X 52	X 51	X 49	X 46	X 43	X 44
23	52	53	53	53	X 42	X 43													X 58	X 60	X 52	X 47	55	61
24	64	52	58	62	70	61	61												X 58	X 47	X 44	X 38	X 42	49
25	62	64	65	65	53	50	53												X 54	X 44	X 42	X 42	X 42	48
26	56	64	65	61	63	58	58												X 48	X 41	X 35	X 37	X 38	51
27	43	X 40	43	X 40	X 42	X 44													X 38	X 39	X 41	X 42	X 42	X 43
28	45	X 42	X 43	X 44	43	50	45												X 45	X 48	X 44	X 41	44	45
29	43	44	50	51	53	X 48													A	X 36	X 39	X 39	X 40	X 39
30	X 43	X 37	A	X 32	X 32	X 35													A	X 38	X 38	X 37	X 38	X 38
31	X 39	42	45	45	42	X 39													A	A	X 36	X 36	X 36	X 36
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	30	28	31	5												28	28	30	31	31	30
MED	X 43	X 42	X 43	X 41	X 42	X 39	53												X 54	X 47	X 44	X 43	X 43	X 44
UQ	45	44	46	45	44	40	58												X 60	X 50	X 47	X 46	X 46	48
LQ	X 41	X 39	X 39	X 39	X 38	X 37	52												X 48	X 43	X 42	X 40	X 41	X 40

OCT. 1985 | FXI (0.1 MHZ)

IONOSPHERIC DATA

OCT. 1985 | FOF2 (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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 34	F 34	F	F	35	34	45	60	57	59	65	64	64	64	56	56	64	62	57	34	34	34	34	34
2	34	33	32	29	29	30	47	52	57	63	65	60	64	65	57	51	47	61	55	41	41	39	41	39
3	38	37	36	35	34	34	44	R 63	54	63	70	78	76	68	59	54	54	59	52	44	41	44	F 39	F
4	36	36	37	36	F 30	F 31	58	58	65	73	74	72	78	76	66	70	58	47	45	41	41	42	39	37
5	37	35	33	A	A 31	49	53	65	54	68	53	55	61	56	57	72	77	66	38	37	37	37	25
6	27	31	28	30	29	31	35	50	52	57	59	56	51	66	61	54	58	53	47	53	A	36	32	32
7	31	31	31	34	A 23	35	44	50	52	68	71	59	58	55	I C 52	55	65	64	38	F	F 30	F	F
8	F 33	F	F 35	F 32	A	F 21	42	52	54	54	61	70	76	70	60	56	61	56	53	40	40	39	40	44
9	35	33	29	29	30	29	43	49	46	53	57	70	65	59	55	52	50	53	54	51	47	40	39	38
10	38	36	39	36	36	F 30	F 43	48	58	57	51	59	62	59	56	61	62	53	42	40	41	42	39	38
11	F 35	35	33	33	33	32	42	50	64	55	59	59	66	60	58	61	58	56	42	A	36	36	37	36
12	36	38	37	36	38	32	47	51	60	68	74	74	69	65	63	63	52	54	50	49	38	40	39	38
13	33	33	34	31	32	30	42	50	56	54	58	73	78	66	60	72	65	57	41	30	F 33	37	37	36
14	36	35	34	39	31	32	40	52	60	V 58	67	83	76	68	59	63	62	64	53	42	44	40	38	36
15	36	36	33	35	33	F 31	39	54	56	62	67	82	71	59	60	71	61	70	65	41	32	32	36	41
16	F 41	F	F 40	F 36	F 36	F 33	46	53	63	64	74	91	84	61	55	54	59	71	56	F 37	F 36	F	F 40	F 39
17	F 39	32	33	F 32	F 34	F	40	58	74	79	79	74	66	65	60	66	59	56	40	36	38	35	34	A
18	35	33	F	31	32	F	40	58	55	61	72	70	82	102	88	70	62	53	44	44	44	42	42	43
19	40	40	38	36	38	33	48	62	70	63	78	H 78	76	67	75	73	71	52	39	43	41	42	42	40
20	39	33	34	34	35	33	47	69	78	70	64	74	78	74	85	69	63	56	39	40	37	36	33	33
21	33	33	34	31	30	28	39	66	72	65	66	76	76	A	61	58	64	66	49	A	39	40	36	34
22	35	34	36	34	F	35	48	62	69	73	72	82	73	83	66	85	66	56	46	45	43	40	37	38
23	F	F	F	F 36	36	37	55	72	68	H 68	74	77	75	84	74	76	67	59	52	54	46	41	F	F
24	F	F	F	F	F	F	F 54	72	78	92	79	73	72	71	74	78	68	65	52	41	38	32	36	F
25	F	F	F	F	F	F	F 43	57	65	73	68	75	88	69	72	69	73	60	48	38	R 36	36	36	F
26	F	F	F	F	F	F	F	66	71	59	70	83	84	75	71	73	66	57	42	35	29	31	32	F 35
27	F 35	34	F 32	34	36	38	38	54	66	74	67	66	84	66	70	62	62	53	32	33	35	36	36	37
28	F 36	36	37	38	F 36	F	F 38	56	68	73	70	73	77	65	61	65	62	54	39	42	38	35	F 36	F
29	F 36	F 36	F 42	F	F	41	45	55	62	67	70	75	72	66	64	83	65	53	A	30	33	33	34	33
30	37	31	A	26	29	30	41	56	63	H 59	64	82	78	70	58	70	60	52	A	32	32	31	32	32
31	33	F 32	F	F	F	33	44	54	60	60	60	71	88	69	56	67	73	47	A	A	30	30	30	30
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	25	23	24	22	25	30	31	31	31	31	31	31	30	31	31	31	31	28	28	29	30	29	24
MED	36	34	34	34	34	32	43	55	63	63	68	73	76	66	60	65	62	56	48	40	38	36	37	36
UQ	37	36	37	36	36	33	47	61	68	69	72	78	78	70	68	70	66	62	54	44	41	40	39	38
LQ	34	33	33	31	30	30	40	52	56	58	64	70	66	64	58	56	58	53	42	36	35	34	34	34

OCT. 1985 | FOF2 (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOF1 (0.01 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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	400	420	420	L 420	420	L	L	L							
2									L	L	420	L	400	420	L	L								
3									L	L	420	430	L	L	L	L								
4									360	400	A	A	420	420	L	L								
5								A	L	390	420	410	A	L	L	L	L							
6								L	L	390	410	L	L	410	380	L	L							
7									L	L	410	420	420	L	A	C	L							
8									A	A	L	L	A	410	L	L								
9									L	390	L 420	420	420	400	L	L								
10									L 360	390	L	420	L	L	L	L								
11									L 380	L 400	410	L	410	390	L	L								
12									L	L	L	420	L	420	L									
13										L	410	L	420	L	L	L								
14										390	400	L 430	L 410	L	L	L								
15										L 390	A	A	L	L	L	L								
16										L 420	420	L	430	A	340	340								
17										L 420	L	430	L	L	L									
18										L	L	L 420	L	L	L	L								
19									L	L	A	430	L 420	L	L 400	L								
20										L	L 410	420	L	L	L	L								
21											L	L	L	A	L									
22										A	L 420	A	L	420	A									
23											L	L	A	L	L									
24										L	L	L	400	L		L								
25										L	L	L	L	L	L									
26										L	L	L	L	L	L									
27										L	L	L	L	L	L									
28										L	L	L 410	L	L	L 390									
29										L	L	L	L	L	L									
30											A	L	L	L	A									
31										L	L	A	A	L	L	A								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									3	11	13	13	11	9	4	1								
MED									L 360	390	420	420	420	420	385	340								
UQ									370	400	420	430	420	420	L 395									
LQ									360	390	410	420	410	410	360									

OCT. 1985 | FOF1 (0.01 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOE (0.01 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							S	A	275	A	A	A	A	A	A	A	A	S						
2							S	230	255	295	305	310	315	300	280	270	240	S						
3							S	220	A	290	300	A	A	A	280	260	230	S						
4							S	220	255	A	A	A	310	300	280	260	230	S						
5							S	205	A	A	A	A	A	A	A	A	A	S						
6							S	A	230	265	A	285	295	285	265	245	215	S						
7							S	205	235	265	A	280	A	A	A	C	A	S						
8							S	205	245	260	270	280	285	285	A	A	A	S						
9							S	205	245	255	A	A	A	A	A	245	A	S						
10							S	A	245	270	280	290	300	295	280	260	A	S						
11							S	215	250	285	295	300	305	295	280	255	230	S						
12							S	200	250	265	280	A	305	A	275	245	210	S						
13							S	215	255	280	290	A	A	A	285	260	A	S						
14							S	215	260	265	290	305	310	300	275	250	205	S						
15							S	210	255	280	A	A	A	A	A	245	180	S						
16							S	220	255	270	290	A	A	A	A	245	190	S						
17							S	210	A	A	A	305	305	295	A	250	190	S						
18							S	210	255	280	A	A	310	A	A	A	S	S						
19							S	210	250	A	A	A	A	A	A	250	225	S						
20							S	215	245	280	A	A	A	A	280	250	200	S						
21							S	210	255	280	295	305	A	A	A	A	A	S						
22							S	210	A	285	295	A	A	A	A	A	S	S						
23							S	205	250	A	305	A	A	A	A	A	A	S						
24							S	A	A	295	305	A	A	305	A	250	A	S						
25							S	205	240	290	A	A	A	295	290	A	S	S						
26							S	A	255	280	290	A	A	A	A	A	A	S						
27							S	200	250	275	A	A	A	A	280	250	A	S						
28							S	205	250	290	A	A	305	A	A	A	190	S						
29							S	A	A	A	A	310	A	A	A	250	190	S						
30							S	190	250	290	300	A	A	A	A	250	S	S						
31							S	205	A	275	A	A	A	A	A	A	A	S						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								25	24	24	15	10	11	10	12	19	14							
MED								210	250	280	295	302	305	295	280	250	208							
UQ								215	255	288	300	305	310	300	280	258	230							
LQ								205	245	268	290	285	302	295	278	248	190							

OCT. 1985 | FOE (0.01 MHZ)

IONOSPHERIC DATA

OCT. 1985 | FOES (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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	JA 18	ES 15	ES 15	JA 18	JA 24	ES 16	JA 20	JA 29	G 22	JA 33	JA 44	35	34	32	JA 38	JA 32	JA 25	ES 17	ES 15	ES 15	ES 15	ES 16	ES 15	ES 15
2	ES 15	ES 16	ES 15	ES 15	ES 15	ES 15	20	26	30	JA 36	33	G	G	G	G	G	G	ES 16	JA 18	ES 16	ES 16	ES 16	ES 15	JA 24
3	JA 24	JA 32	JA 35	JA 29	JA 22	JA 20	ES 15	G	32	32	39	36	JA 38	36	G	G	G	ES 17	ES 15	JA 23	JA 26	JA 24	JA 22	JA 45
4	ES 16	JA 24	JA 24	JA 28	JA 25	JA 33	JA 50	G	32	JA 43	JA 63	JA 82	33	G	G	G	G	ES 17	ES 16	JA 32	ES 16	JA 25	JA 23	JA 50
5	JA 37	JA 39	JA 39	JA 44	JA 42	JA 36	21	JA 45	JA 45	35	36	JA 65	JA 46	JA 54	JA 46	JA 54	JA 42	JA 43	JA 29	JA 25	JA 18	JA 27	JA 21	JA 24
6	JA 19	ES 16	ES 15	JA 24	JA 18	ES 15	20	32	32	36	JA 41	37	33	JA 54	G	G	26	20	JA 23	JA 35	JA 41	JA 44	JA 29	JA 25
7	JA 28	JA 19	ES 16	JA 25	JA 25	JA 24	21	G	32	37	41	JA 45	JA 72	JA 84	JA 87	C	JA 31	JA 38	JA 25	JA 50	JA 35	JA 29	JA 58	JA 34
8	JA 24	JA 24	JA 24	JA 29	JA 43	JA 28	JA 24	JA 40	JA 50	JA 44	JA 46	JA 46	JA 68	31	JA 46	JA 48	JA 37	JA 32	JA 24	JA 22	JA 20	ES 15	ES 16	JA 20
9	ES 15	ES 15	ES 15	JA 20	JA 23	ES 16	ES 16	24	G	G	32	JA 36	JA 40	JA 37	JA 36	G	JA 32	JA 28	ES 16	ES 15	JA 31	JA 28	JA 24	JA 26
10	JA 34	JA 26	ES 15	ES 15	ES 15	ES 15	JA 77	JA 28	G	G	G	30	G 30	G	G	JA 28	JA 28	JA 24	JA 20	ES 15	JA 23	JA 19	ES 15	JA 22
11	ES 15	ES 15	ES 15	JA 20	ES 16	ES 16	ES 16	25	G	G	G	G	G	G	G	G	G	ES 16	ES 15	JA 44	JA 36	JA 24	JA 19	ES 15
12	ES 15	ES 15	ES 15	ES 15	ES 15	ES 15	ES 16	G	G	33	37	JA 50	G	36	G	G	G	JA 23	JA 24	JA 20	JA 20	ES 15	ES 15	ES 15
13	ES 16	ES 16	ES 15	ES 15	ES 15	ES 15	ES 16	27	31	34	JA 70	JA 34	32	JA 37	G	29	JA 29	JA 25	JA 25	JA 20	JA 31	JA 29	JA 23	JA 18
14	ES 15	ES 15	ES 15	JA 24	ES 15	ES 15	JA 20	25	JA 43	JA 46	G	G	33	G	G	G	JA 23	ES 16	ES 16	ES 15	ES 15	JA 18	ES 16	ES 16
15	ES 15	ES 15	ES 15	ES 15	JA 44	JA 43	JA 21	29	32	JA 46	JA 50	JA 45	38	JA 48	30	G	G	20	JA 34	JA 44	JA 24	JA 20	ES 15	ES 15
16	JA 54	JA 50	JA 34	JA 37	JA 24	JA 25	JA 20	G	JA 38	35	37	37	JA 46	JA 82	JA 42	JA 36	25	JA 24	JA 38	JA 44	JA 52	JA 37	JA 19	JA 35
17	JA 19	JA 18	ES 15	JA 18	ES 15	JA 21	ES 16	29	JA 29	32	32	G	35	30	JA 36	27	G	ES 16	ES 16	ES 15	ES 15	ES 15	JA 26	JA 50
18	JA 20	JA 50	JA 32	JA 37	JA 28	JA 20	ES 16	JA 29	JA 38	34	36	33	G	JA 46	JA 36	30	JA 44	JA 65	JA 27	JA 22	JA 22	JA 19	JA 20	ES 16
19	JA 24	ES 15	ES 16	JA 18	JA 21	ES 16	JA 20	JA 28	31	JA 39	JA 47	JA 54	JA 48	36	JA 36	G	G	20	JA 20	JA 19	ES 15	JA 20	JA 18	JA 24
20	JA 19	JA 20	ES 16	ES 16	JA 20	ES 15	ES 16	26	32	JA 36	JA 37	36	JA 44	JA 36	G	G	G	ES 16	ES 15	ES 15	JA 20	JA 19	JA 32	ES 16
21	ES 15	JA 18	JA 19	ES 15	ES 15	ES 15	JA 52	32	30	32	JA 49	JA 42	JA 44	JA 72	JA 33	JA 30	JA 33	JA 36	JA 48	JA 52	JA 64	JA 26	JA 32	JA 24
22	JA 24	JA 18	JA 19	JA 19	JA 18	JA 18	JA 23	JA 29	35	JA 51	JA 44	JA 76	JA 46	JA 85	JA 61	JA 32	JA 25	JA 45	JA 28	JA 36	JA 29	JA 24	JA 31	JA 25
23	JA 20	JA 19	JA 18	JA 20	JA 20	ES 15	ES 16	G	29	JA 30	39	35	JA 52	JA 44	32	JA 35	JA 65	JA 29	JA 20	JA 24	ES 15	ES 15	JA 25	JA 52
24	JA 28	JA 20	JA 19	JA 24	JA 25	JA 18	ES 15	JA 24	31	G	G	JA 45	JA 35	35	JA 32	JA 42	JA 47	JA 29	ES 15	JA 29	JA 29	ES 16	ES 15	ES 15
25	ES 15	JA 24	ES 15	ES 15	JA 20	JA 18	JA 20	G	G	JA 52	JA 36	33	JA 32	30	G	JA 33	JA 33	JA 18	JA 21	JA 22	JA 18	ES 15	ES 16	ES 16
26	JA 20	JA 24	JA 27	ES 15	JA 24	JA 44	JA 20	JA 30	JA 37	33	G	JA 36	JA 40	JA 50	JA 34	JA 30	JA 25	ES 15	JA 25	JA 26	JA 20	JA 20	JA 24	JA 40
27	JA 32	ES 16	ES 16	ES 15	JA 24	JA 18	ES 16	JA 22	G	G	JA 32	JA 48	JA 35	JA 43	JA 31	28	JA 36	JA 23	JA 26	ES 15	JA 36	ES 16	JA 19	JA 26
28	JA 20	JA 35	JA 24	JA 23	JA 23	JA 20	JA 27	G	G	G	34	JA 36	G	JA 52	34	JA 28	31	JA 29	JA 33	JA 25	JA 21	ES 17	ES 16	ES 16
29	ES 16	ES 16	ES 16	ES 16	JA 19	ES 15	JA 21	JA 26	JA 32	JA 40	JA 41	G	JA 45	JA 44	JA 34	G	24	JA 35	JA 50	ES 16	JA 22	ES 16	ES 16	JA 19
30	JA 20	JA 44	JA 50	JA 40	JA 30	JA 36	JA 21	21	32	32	JA 61	JA 123	JA 50	33	JA 54	JA 50	22	24	JA 91	JA 20	JA 19	JA 20	ES 16	ES 16
31	ES 16	JA 54	JA 30	JA 23	JA 31	JA 25	ES 16	G	31	32	32	JA 53	JA 54	JA 85	JA 50	JA 54	58	JA 38	JA 100	JA 52	JA 20	ES 16	ES 16	ES 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31
MED	JA 19	JA 19	ES 16	JA 20	JA 22	JA 18	20	26	31	34	37	JA 36	JA 38	JA 37	JA 33	28	JA 25	JA 24	JA 24	JA 22	JA 21	JA 19	JA 19	JA 22
UQ	JA 24	JA 25	JA 24	JA 24	JA 25	JA 24	JA 21	JA 29	32	JA 38	JA 44	JA 47	JA 46	JA 51	JA 37	JA 33	JA 33	JA 30	JA 28	JA 34	JA 30	JA 24	JA 24	JA 26
LQ	ES 16	ES 16	ES 15	ES 15	17	ES 15	ES 16	G	26	32	32	34	32	32	G	G	G	ES 17	ES 16	ES 16	JA 18	ES 16	ES 16	ES 16

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IONOSPHERIC DATA

OCT. 1985 | FBES (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E S 15	E S 15	E	22	E S 16	G	26	G 22	30	35	35	34	32	30	29	25	E S 17	E S 15	E S 15	E S 15	E S 16	E S 15	E S 15
2	E S 15	E S 16	E S 15	E S 15	E S 15	E S 15	19	26	30	23	24	G	G	G	G	G	G	E S 16	E	E S 16	E S 16	E S 16	E S 15	E
3	18	E	18	E	E	E	E S 15	G	30	31	35	34	34	34	G	G	G	E S 17	E S 15	E	25	E	E	24
4	E S 16	E	19	19	E	E	47	G	30	33	61	67	25	G	G	G	G	E S 17	E S 16	30	E S 16	23	E	22
5	30	20	18	A A 44	A A 42	21	19	45	20	33	35	35	43	37	30	34	32	40	20	22	E	25	20	20
6	E	E S 16	E S 15	E	E	E S 15	19	30	30	29	38	37	33	22	G	G	25	19	E	33	A A 41	25	28	23
7	28	E	E S 16	E	A A 25	19	21	G	30	34	37	34	31	38	39	C	22	18	E	28	23	E	E	E
8	E	E	20	20	A A 43	E	G	35	46	41	39	42	67	31	32	30	24	29	24	18	E	E S 15	E S 16	E
9	E S 15	E S 15	E S 15	E	E	E S 16	E S 16	24	G	G	32	33	38	31	30	G	25	G	E S 16	E S 15	E	18	E	E
10	20	E	E S 15	E S 15	E S 15	E S 15	32	24	G	G	G	25	G 23	G	G	21	27	20	E	E S 15	20	E	E S 15	E
11	E S 15	E S 15	E S 15	E	E S 16	E S 16	E S 16	25	G	G	G	G	G	G	G	G	G	E S 16	E S 15	A A 44	23	E	E	E S 15
12	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	G	G	32	35	33	G	30	G	G	G	G	E	E	E	E S 15	E S 15	E S 15
13	E S 16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 16	25	29	32	37	32	32	34	G	29	25	G	E	E	E	18	20	E
14	E S 15	E S 15	E S 15	E	E S 15	E S 15	G	25	30	31	G	G	26	G	G	G	G	E S 16	E S 16	E S 15	E S 15	E	E S 16	E S 16
15	E S 15	E S 15	E S 15	E S 15	23	21	G	28	30	20	43	43	34	33	30	G	G	19	30	E	20	E	E S 15	E S 15
16	E	19	E	E	E	E	G	G	34	32	35	32	38	50	28	29	24	G	28	18	28	28	E	E
17	E	E	E S 15	E	E S 15	E	E S 16	25	29	30	32	G	27	24	27	20	G	E S 16	E S 16	E S 15	E S 15	E S 15	E	A A 50
18	E	E	23	E	19	E	E S 16	26	32	32	34	33	G	30	30	26	20	G	E	E	20	E	E	E S 16
19	E	E S 15	E S 16	E	E	E S 16	G	G	27	35	43	35	36	34	32	G	G	G	E	E	E S 15	E	E	20
20	E	E	E S 16	E S 16	E	E S 15	E S 16	25	31	33	33	34	35	33	G	G	G	E S 16	E S 15	E S 15	E	E	E	E S 16
21	E S 15	E	18	E S 15	E S 15	E S 15	G	30	30	32	34	35	35	A A 72	28	25	26	28	22	A A 52	20	E	21	E
22	E	E	E	E	E	E	20	28	31	45	35	57	38	40	50	28	24	43	E	22	20	E	E	E
23	E	E	E	E	E	E S 15	E S 16	G	28	30	34	35	47	38	32	29	45	G	E	E	E S 15	E S 15	E	30
24	25	E	E	E	E	E	E S 15	23	28	G	G	35	34	27	30	22	27	20	E S 15	25	28	E S 16	E S 15	E S 15
25	E S 15	E	E S 15	E S 15	E	E	G	G	G	20	30	32	31	28	G	24	25	G	19	E	E	E S 15	E S 16	E S 16
26	E	E	E	E S 15	E	25	19	25	23	32	G	33	32	33	30	28	20	E S 15	25	E	E	E	21	25
27	E	E S 16	E S 16	E S 15	E	E	E S 16	G	G	G	32	34	32	31	23	20	20	G	E	E S 15	E	E S 16	E	20
28	E	19	E	E	E	E	G	G	G	G	32	31	G	35	33	28	31	18	29	20	E	E S 17	E S 16	E S 16
29	E S 16	E S 16	E S 16	E S 16	E	E S 15	G	22	27	32	36	G	35	38	34	G	22	G	A A 50	E S 16	20	E S 16	E S 16	E
30	E	22	A A 50	E	E	25	G	21	32	30	40	42	38	32	50	40	20	24	A A 91	E	E	E	E S 16	E S 16
31	E S 16	17	18	E	E	E	E S 16	G	17	30	32	50	49	32	35	50	45	36	A A 100	A A 52	20	E S 16	E S 16	E S 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31
MED	E E 15	E E 15	E S 15	E	E	E E 15	16	24	29	31	34	34	34	32	30	22	22	E G 16	E E 15	E E 15	E E 15	E E 15	E E 15	16
UQ	E S 16	E S 16	17	E S 15	E E 15	E S 16	18	26	30	32	36	35	37	34	32	29	25	20	23	22	20	E S 16	E S 16	20
LQ	E	E	E S 15	E	E	E	G	G	18	22	32	32	26	28	G	G	G	G	E	E	E	E	E	E

OCT. 1985 | FBES (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FMIN (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 17	18	17	16	17	17	17	16	16	16	16	E S 17	E S 15	E S 15	E S 15	E S 16	E S 15	E S 15
2	E S 15	E S 16	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	17	17	16	16	17	17	17	16	E S 16	E S 15	E S 16	E S 16	E S 16	E S 15	E S 15
3	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	16	16	17	17	17	17	17	17	16	16	E S 17	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
4	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	16	17	17	16	17	16	16	16	E S 17	E S 16	E S 15	E S 16	E S 15	E S 15	E S 15
5	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	17	16	17	17	17	16	16	16	E S 16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15
6	E S 15	E S 16	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	17	17	17	17	17	16	16	16	E S 16	E S 15	E S 15	E S 15	E S 16	E S 15	E S 15
7	E S 16	E S 15	E S 16	E S 16	E S 15	E S 15	E S 16	E S 17	16	17	17	17	17	17	17	C 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
8	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	17	17	17	17	17	17	16	16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 16	E S 15
9	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	16	16	16	18	16	17	17	17	16	16	E S 16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15
10	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	16	16	16	16	16	16	16	16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
11	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	E S 16	E S 16	16	16	15	16	17	16	16	16	16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
12	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	16	17	16	16	17	17	16	17	E S 16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
13	E S 16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	16	17	17	17	16	16	17	16	E S 16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 16	E S 15
14	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	17	17	17	16	16	16	17	17	E S 16	E S 16	E S 16	E S 15	E S 15	E S 15	E S 16	E S 16
15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	17	17	17	17	17	17	16	16	E S 15	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	16	16	16	16	16	16	17	16	16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
17	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	16	16	16	16	16	16	16	16	16	E S 16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15
18	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	16	16	16	17	17	16	16	16	E S 16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16
19	E S 15	E S 15	E S 16	E S 15	E S 15	E S 16	E S 16	E S 16	16	16	16	17	16	16	17	16	16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
20	E S 15	E S 15	E S 16	E S 16	E S 16	E S 15	E S 16	E S 16	16	17	16	16	16	16	16	16	14	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16
21	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	17	16	17	17	16	16	15	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
22	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	17	17	16	17	17	16	E S 16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
23	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	16	16	16	17	16	16	16	16	16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
24	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	16	17	16	16	16	16	16	E S 16	E S 15	E S 15	E S 15	E S 16	E S 15	E S 15
25	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	17	16	17	16	15	16	E S 16	E S 16	E S 16	E S 16	E S 15	E S 15	E S 16	E S 16
26	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	15	17	17	16	16	18	16	17	17	16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
27	E S 15	E S 16	E S 16	E S 15	E S 15	E S 15	E S 16	16	16	16	17	17	16	16	16	16	15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 15	E S 15
28	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	16	17	18	17	17	16	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 17	E S 16	E S 16
29	E S 16	E S 16	E S 16	E S 16	E S 15	E S 15	E S 16	E S 17	16	16	17	18	18	18	18	17	E S 17	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
30	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	16	17	17	17	18	17	18	18	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
31	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	16	16	16	16	16	17	18	16	17	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31
MED	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	16	16	17	17	17	17	16	16	16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15
UQ	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	16	16	17	17	17	17	17	17	16	16	E S 16	E S 16	E S 15	E S 15	E S 16	E S 16	E S 16
LQ	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	16	16	16	16	16	16	16	16	E S 16	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15

OCT. 1985 | FMIN (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | M(3000)F2 (0.01) | 135° E Mean Time (G.M.T. + 9h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Day \ Hour	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 330	F 300	F	F	340	325	350	365	360	360	360	355	345	345	350	345	340	355	360	350	325	295	315	295
2	300	330	330	315	310	315	370	355	365	360	355	325	350	270	265	350	330	350	345	315	315	310	310	310
3	320	325	325	320	325	315	365	R 375	365	345	340	335	340	350	360	335	340	360	345	315	290	320	F 295	F
4	295	290	325	335	F 300	F 320	355	360	340	345	335	335	325	345	335	355	375	355	335	310	300	320	325	315
5	325	315	310	A	A	320	360	360	345	350	360	345	330	345	340	315	315	330	350	365	300	330	340	295
6	290	310	290	300	310	350	345	315	330	335	340	320	325	330	340	350	350	340	320	325	A	315	310	290
7	A	290	295	355	A	345	365	345	340	335	330	345	340	345	345	I C 340	330	340	345	345	F	F 300	F	F
8	F 310	F	F 320	F 325	A	F 315	345	365	365	350	330	325	335	360	355	370	355	360	350	305	300	320	320	345
9	345	325	295	310	325	325	355	360	380	350	335	340	355	365	360	360	350	350	335	335	360	310	335	315
10	315	315	320	345	345	F 325	F 355	360	365	365	345	340	350	355	325	345	370	370	350	330	315	325	320	315
11	F 335	335	330	325	340	335	355	350	360	365	360	350	335	335	360	355	375	355	335	A	315	300	320	310
12	310	315	315	310	325	310	365	380	350	365	350	365	350	360	345	355	375	360	350	330	340	315	325	345
13	305	325	315	295	325	300	375	380	375	390	350	350	345	350	345	345	355	370	360	300	F 320	325	330	310
14	310	310	295	355	315	330	365	385	375	V 330	345	350	350	350	370	345	355	370	360	300	310	340	325	320
15	310	340	345	315	330	F 320	360	370	375	360	360	355	365	340	335	350	345	340	345	335	350	285	300	315
16	F 290	F	F 320	F 325	F 335	F 305	350	365	345	350	345	350	355	360	340	350	340	350	355	F 345	F 295	F	F 320	F 305
17	F 335	310	310	F 315	F 355	F	340	340	350	340	340	360	345	350	335	345	355	355	340	310	315	305	295	A
18	315	305	F	305	350	F	345	375	385	350	345	310	305	330	350	360	365	355	335	320	315	310	290	305
19	310	300	315	305	320	305	355	370	370	360	350	H 335	355	360	350	350	365	355	315	310	300	310	315	325
20	325	335	310	315	315	305	355	360	375	375	350	335	350	340	350	375	360	360	335	330	330	330	325	305
21	295	305	325	310	315	320	345	385	355	370	355	350	355	A	345	350	355	360	365	A	315	325	335	295
22	285	295	300	290	F	315	360	380	360	370	345	340	350	350	320	355	350	345	330	315	320	325	320	310
23	F	F	F	F 305	310	325	355	360	380	H 340	355	355	345	355	350	350	360	355	325	335	330	335	F	F
24	F	F	F	F	F	F	F 335	360	365	370	365	355	345	340	340	360	350	350	360	330	355	345	300	F
25	F	F	F	F	F	F	F 345	370	370	365	365	335	340	345	345	350	360	365	340	325	R 305	310	310	F
26	F	F	F	F	F	F	F	345	380	375	345	335	350	360	335	345	345	355	350	355	320	290	310	F 310
27	F 300	315	F 305	310	340	370	360	365	355	360	390	320	365	340	355	365	370	375	330	315	300	315	330	325
28	F 350	325	315	315	F 330	F	F 340	380	370	370	360	365	365	340	345	355	350	365	360	340	320	315	F 325	F
29	F 305	F 305	F 305	F	F	340	360	370	370	350	355	360	355	335	330	350	370	360	A	300	300	305	295	320
30	310	310	A	305	295	315	365	340	380	H 340	365	340	350	370	335	340	365	280	A	310	345	305	310	310
31	320	F 310	F	F	F	335	385	370	385	385	365	360	350	360	355	345	370	340	A	A	315	335	300	300
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	25	23	24	22	25	30	31	31	31	31	31	31	30	31	31	31	31	28	28	29	30	29	24
MED	310	310	315	315	325	320	355	365	365	360	350	345	350	348	345	350	355	355	345	325	315	315	320	310
UQ	325	325	322	325	340	330	365	372	375	368	360	355	352	360	350	355	365	360	352	335	325	325	325	318
LQ	300	305	305	305	315	315	345	360	355	348	345	335	340	340	335	345	348	350	335	310	300	305	310	305

OCT. 1985 | M(3000)F2 (0.01)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | M(3000)F1 (0.01) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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	390	400	400	L 390	375	L	L	L							
2									L	L	395	L	395	370	L	L								
3									L	L	375	385	L	L	L	L								
4									395	375	A	A	365	375	L	L								
5								A	L	380	365	405	A	L	L	L	L							
6								L	L	380	A	L	L	335	380	L	L							
7									L	L	A	360	380	L	A	C	L							
8									A	A	L	L	A	375	L	L								
9									L	380	L 365	365	A	385	L	L								
10									L 400	400	L	380	L	L	L	L								
11									L 390	L 385	405	L	390	405	L	L								
12									L	L	L	380	L	375	L									
13										L	385	L	385	L	L	L								
14										410	400	L 375	L 390	L	L	L								
15										L 385	A	A	L	L	L	L								
16										L 370	365	L	370	A	410	385								
17										L 375	L	390	L	L	L									
18										L	L	L 395	L	L	L	L								
19									L	L	A	390	L 385	L	L 375	L								
20										L	L 405	400	L	L	L	L								
21											L	L	L	A	L									
22										A	L 395	A	L	A	A									
23											L	L	A	L	L									
24										L	L	L	405	L		L								
25										L	L	L	L	L	L									
26										L	L	L	L	L	L									
27										L	L	L	L	L	L									
28										L	L	L 415	L	L	L 390									
29										L	L	L	L	L	L									
30											A	L	L	L	A									
31										L	L	A	A	L	L	A								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									3	11	11	13	10	8	4	1								
MED									L 395	380	395	390	388	375	385	385								
UQ									398	388	400	400	390	380	400									
LQ									392	378	370	380	380	372	378									

OCT. 1985 | M(3000)F1 (0.01)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'F2 (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								230	235	240	250	250	255	260	250	245	255							
2									250	240	245	260	255	260	250	250								
3									240	260	260	260	245	245	245	245								
4									245	250	A	A	260	255	270	245								
5								240	250	270	250	260	290	250	270	295	275							
6								300	290	285	270	300	305	295	260	255	250							
7									270	270	290	255	270	280	270	I C 270	270							
8									A 240	255	280	290	A	245	250	240								
9									240	260	290	255	250	240	245	235								
10									245	240	250	270	260	250	270	255								
11									240	250	250	260	255	270	245	250								
12									250	240	260	240	270	245	255									
13										230	250	255	250	245	250	250								
14										210	250	245	240	250	245	250								
15										240	250	240	230	250	260	245								
16										260	245	240	240	240	230	245								
17										245	240	240	255	250	260									
18										235	260	260	280	255	240	230								
19									215	245	240	235	240	245	250	250								
20										220	240	250	230	250	240	225								
21											240	250	235	A	230									
22										225	245	250	240	250	A									
23											240	240	230	245	240									
24										230	215	230	230	225		240								
25										230	230	250	250	230	250									
26										225	255	240	240	240	250									
27										245	220	250	240	240	250									
28										230	240	235	235	250	250									
29										230	245	250	245	275	260									
30											245	260	245	230	A									
31										220	250	250	255	245	240	250								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								3	13	28	30	30	30	30	28	20	4							
MED								240	245	240	250	250	248	250	250	248	262							
UQ								270	250	252	255	260	255	255	260	250	272							
LQ								235	240	230	240	240	240	245	245	242	252							

OCT. 1985 | H'F2 (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'F (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 2 sec in automatic operation

Hour / 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	220	255	245	240	220	245	215	220	220	210	200	210	200	200	H 200	215	245	230	210	205	235	265	270	280
2	270	245	230	250	250	255	220	210	220	220	210	200	205	230	220	225	225	230	210	220	240	240	255	260
3	260	260	245	255	250	270	210	220	220	215	235	220	195	H 200	225	205	240	225	205	230	A	240	290	A
4	295	300	255	240	255	270	A	220	220	230	A	A	235	240	220	225	220	220	220	A	270	265	230	A
5	A	270	280	A	A	A 260	220	A	235	220	225	210	A	A	230	A	A	A	210	210	270	A	245	E A 280
6	320	270	265	295	280	230	205	A	A	220	A	A	220	A	235	H 205	240	240	235	A	A	A	A	A
7	A	305	285	225	A	E A 270	230	235	220	A	A	220	205	A	A	C	235	240	210	A	A	E S 300	E S 300	270
8	270	280	250	250	A	E S 280	240	230	A	A	A	A	A	215	225	A	235	215	225	235	255	255	260	230
9	220	255	280	270	270	245	220	225	210	200	205	210	A	220	205	210	240	220	220	220	205	245	240	255
10	285	280	240	225	210	250	235	225	225	225	200	200	200	210	200	245	230	205	210	225	255	240	240	270
11	250	230	250	250	230	230	215	220	215	205	205	200	200	195	200	220	230	220	210	A	A	290	255	260
12	270	255	270	275	225	250	215	210	230	230	230	205	200	210	220	245	225	220	220	230	220	260	240	230
13	240	250	270	295	260	265	220	220	225	205	A	200	205	220	225	240	230	215	205	270	270	275	255	255
14	280	275	280	225	250	255	200	210	230	200	200	210	205	210	205	240	230	210	205	245	250	225	250	245
15	255	235	220	240	A	A	210	220	220	225	A	A	220	225	200	195	235	220	230	210	205	275	255	255
16	295	270	270	255	230	255	220	220	240	225	230	200	A	A	200	225	240	230	235	250	A	A	235	270
17	220	245	265	270	220	245	235	220	230	210	205	200	205	200	225	235	225	205	225	260	250	250	285	A
18	260	270	A	265	240	260	205	210	210	220	230	H 200	200	200	225	220	215	205	210	245	255	260	275	255
19	245	280	240	265	255	235	210	220	210	225	A	200	205	225	200	220	230	205	235	250	250	260	255	230
20	250	215	270	255	255	265	225	235	220	210	200	200	205	220	220	220	220	205	220	240	235	250	230	280
21	290	275	260	255	255	245	210	210	225	225	210	200	220	A	210	220	220	230	215	A	250	245	A 250	260
22	285	270	280	280	245	235	210	205	230	A	215	A	A	A	A	240	220	A	230	250	250	235	255	260
23	250	260	270	285	255	255	225	205	205	210	205	205	A	A	230	230	225	205	220	220	205	230	240	A
24	A	255	270	280	255	200	220	210	210	220	210	200	205	200	240	220	225	220	205	A	A	220	290	260
25	275	280	240	220	210	210	225	210	220	220	210	195	245	220	215	235	230	200	225	210	230	245	250	280
26	260	245	240	235	220	220	235	220	215	220	205	205	205	200	H 200	240	225	205	220	215	230	285	A	A
27	280	260	275	270	235	210	210	210	225	230	215	200	H 200	220	220	225	210	200	210	240	275	255	245	250
28	235	250	270	270	245	210	200	210	220	215	210	200	200	A	210	235	225	210	A	225	220	235	250	270
29	275	275	260	250	245	215	200	210	H 215	200	A	H 200	225	A	A	250	215	200	A	275	300	290	300	275
30	250	A	A	300	280	A	215	225	225	215	A	A	A	A	A	250	230	215	A	260	230	255	255	240
31	250	270	270	275	300	245	200	200	210	200	210	A	A	220	A	A	215	A	A	A	250	245	250	290
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	30	29	30	27	29	30	29	29	28	22	24	23	21	26	27	30	28	27	24	25	28	29	25
MED	260	265	265	255	250	245	215	220	220	220	210	200	205	215	220	225	228	215	220	232	250	251	252	260
UQ	280	275	270	275	255	258	225	220	225	225	215	208	212	220	225	240	235	222	225	250	255	264	258	270
LQ	250	250	245	240	230	230	210	210	215	210	205	200	200	200	200	220	220	205	210	220	230	240	245	255

OCT. 1985 | H'F (KM)

IONOSPHERIC DATA

OCT. 1985 | H'E (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							S	110	A	A	A	105	100	100	105	110	115	S						
2							S	110	105	110	110	100	100	100	100	110	115	S						
3							S	110	105	105	105	105	A	A	105	105	115	S						
4							S	110	105	A	105	100	A	100	100	110	110	S						
5							S	110	A	100	105	105	105	105	A	A	A	S						
6							S	110	110	105	105	105	105	110	105	110	110	S						
7							S	S	105	105	105	105	105	A	105	C	A	S						
8							S	110	110	110	105	105	110	105	105	110	A	S						
9							S	110	110	110	105	105	A	A	A	105	A	S						
10							S	A	105	105	100	A	A	100	100	A	A	S						
11							S	S	105	105	105	100	100	105	110	110	115	S						
12							S	S	110	110	105	105	110	110	110	110	S	S						
13							S	S	110	110	110	110	110	110	105	110	S	S						
14							S	S	110	105	100	100	A	100	105	110	S	S						
15							S	110	105	110	105	105	105	105	110	110	S	S						
16							S	S	110	110	105	105	105	105	105	A	110	S						
17							S	S	105	105	105	105	A	A	A	A	115	S						
18							S	S	110	110	105	105	100	A	A	A	S	S						
19							S	S	105	110	A	105	A	105	105	100	115	S						
20							S	S	105	105	105	105	100	105	105	110	115	S						
21							S	S	110	105	105	105	105	105	A	A	A	S						
22							S	S	110	110	105	105	105	A	A	110	S	S						
23							S	S	110	105	105	105	105	A	105	A	A	S						
24							S	S	110	110	105	A	A	A	A	A	A	S						
25							S	S	110	110	105	105	A	A	110	A	S	S						
26							S	A	A	105	105	105	105	A	110	110	110	S						
27							S	110	110	110	105	A	A	A	A	110	A	S						
28							S	110	110	110	110	110	110	110	110	110	S	S						
29							S	S	A	A	A	100	A	A	A	120	S	S						
30							S	120	110	110	110	105	105	110	A	110	S	S						
31							S	125	110	105	105	105	105	A	110	115	A	S						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								13	27	28	28	28	20	18	21	21	11							
MED								110	110	110	105	105	105	105	105	110	115							
UQ								110	110	110	105	105	105	110	110	110	115							
LQ								110	105	105	105	105	102	100	105	110	110							

OCT. 1985 | H'E (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'ES (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Day \ Hour	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	S	S	105	100	S	100	110	100	100	100	120	115	120	120	120	120	S	S	S	S	S	S	S
2	S	S	S	S	S	S	140	145	135	100	100	G	G	G	G	G	G	S	100	S	S	S	S	105
3	100	100	100	100	100	105	S	G	145	140	120	110	105	100	G	G	G	S	S	115	110	110	105	100
4	S	105	100	100	105	120	125	G	135	100	110	105	100	G	G	G	G	S	S	125	S	110	110	105
5	105	105	100	100	100	100	135	110	100	115	110	110	105	105	105	100	100	100	95	95	100	115	110	105
6	105	S	S	100	105	S	145	130	125	125	120	115	125	105	G	G	145	135	120	115	110	105	105	105
7	100	100	S	100	100	105	135	G	130	130	120	110	135	105	110	C	105	105	105	105	105	105	105	105
8	105	100	100	100	105	105	105	135	125	120	120	115	110	120	110	110	105	105	100	100	100	S	S	100
9	S	S	S	100	100	S	S	145	G	G	115	105	100	100	105	G	100	105	S	S	100	100	100	100
10	100	100	S	S	S	S	110	105	G	G	G	100	100	G	G	95	95	95	95	S	100	100	S	105
11	S	S	S	100	S	S	S	150	G	G	G	G	G	G	G	G	G	S	S	100	100	100	100	S
12	S	S	S	S	S	S	S	G	G	120	120	115	G	120	G	G	G	100	100	100	95	S	S	S
13	S	S	S	S	S	S	S	135	130	125	120	120	110	110	G	145	130	120	110	105	100	100	100	100
14	S	S	S	100	S	S	100	150	130	125	G	G	100	G	G	G	100	S	S	S	S	105	S	S
15	S	S	S	S	105	105	105	145	140	105	115	110	110	110	120	G	G	130	120	120	105	100	S	S
16	110	110	110	110	125	110	110	G	120	120	120	115	110	110	120	120	140	100	120	100	125	100	100	125
17	100	100	S	105	S	105	S	130	110	120	110	G	100	100	95	95	G	S	S	S	S	S	105	105
18	105	105	100	100	100	100	S	140	120	120	115	110	G	110	110	110	100	105	100	100	105	110	110	S
19	105	S	S	100	105	S	100	100	135	110	105	105	100	120	120	G	G	130	120	115	S	110	110	105
20	105	105	S	S	105	S	S	145	125	115	110	110	105	110	G	G	G	S	S	S	110	105	105	S
21	S	105	100	S	S	S	105	140	135	130	130	125	110	110	105	105	130	115	110	105	105	105	105	100
22	105	100	100	100	100	100	130	125	120	110	110	105	105	105	105	110	115	120	110	110	105	105	100	100
23	100	100	100	100	100	S	S	G	130	105	120	125	110	110	120	120	105	105	100	105	S	S	100	100
24	100	100	100	100	100	100	S	120	120	G	G	100	100	100	100	100	95	95	S	105	105	S	S	S
25	S	110	S	S	100	100	105	G	G	105	115	110	105	105	G	105	105	120	120	115	110	S	S	S
26	105	105	105	S	105	105	105	100	105	120	G	115	115	105	110	110	110	S	115	110	105	105	105	100
27	100	S	S	S	105	100	S	120	G	G	110	105	105	100	100	100	100	100	100	S	125	S	100	100
28	100	100	100	95	95	100	130	G	G	G	120	120	G	110	115	115	150	105	105	105	105	S	S	S
29	S	S	S	S	100	S	115	130	105	105	100	G	100	100	105	G	150	130	100	S	100	S	S	100
30	100	100	100	100	100	100	100	160	150	150	110	110	110	110	105	125	145	130	110	115	110	105	S	S
31	S	105	100	100	100	105	S	G	120	120	120	105	100	100	110	110	110	105	105	105	105	S	S	S
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	19	19	14	20	23	17	19	22	24	25	26	26	26	26	20	18	22	22	22	22	24	19	18	19
MED	100	100	100	100	100	105	110	132	125	120	115	110	105	108	110	110	108	105	105	105	105	105	105	100
UQ	105	105	100	100	105	105	130	145	135	125	120	115	110	110	118	120	130	120	115	115	110	108	105	105
LQ	100	100	100	100	100	100	105	120	120	105	110	105	100	100	105	100	100	100	100	100	100	100	100	100

OCT. 1985 | H'ES (KM)

IONOSPHERIC DATA

OCT. 1985 | TYPES OF ES | 135° E Mean Time (G.M.T. + 9 h)

Station AKITA Lat. 39° 43.5' N, Long. 140° 08.0' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Hour / 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 7		L 1	C 1	L 2	L 3	L 2	C 2	C 1	C 2	C 2	C 1	C 1							
2							H 1	H 1	H 2	L 1	L 2								F 1					F 2
3	F 2	F 2	F 2	F 2	F 1	F 2			H 1	H 1	C 1	C 1	L 1	L 2						F 1	F 3	F 2	F 3	F 3
4		F 2	F 2	F 2	F 2	F 1	C 6		H 2	L 4	C 3	C 5	L 2							FF 33		F 4	F 2	F 2
5	F 4	F 4	F 3	F 4	F 7	F 2	H 2	C 3	LC 12	C 2	C 2	C 1	C 3	C 2	L 2	L 3	L 4	L 3	F 3	F 2	F 1	F 4	F 3	F 3
6	F 3			F 2	F 2		H 2	C 2	C 3	C 2	C 2	C 2	C 1	LH 11			H 2	H 2	F 1	F 4	FF 23	F 4	F 5	F 4
7	F 4	F 2		F 2	F 6	F 2	H 2		C 2	C 2	C 2	C 2	HC 12	L 2	C 3		L 4	L 2	F 1	F 3	F 4	F 2	F 3	F 2
8	F 2	F 2	F 3	F 3	F 7	F 2	L 1	H 6	C 2	C 2	C 2	C 2	C 3	C 1	C 2	C 3	L 5	L 4	F 2	F 3	F 1			F 2
9				F 1	F 1			H 1			C 1	C 2	L 2	L 1	L 2		L 2	L 1			F 1	F 2	F 2	F 1
10	F 2	F 2					C 3	L 2				L 2	L 2			L 2	L 2	L 3	F 2		F 1	F 1		F 3
11				F 1				H 2												F 4	F 3	F 2	F 1	
12										C 2	C 1	C 1		C 1				L 1	F 2	F 2	F 2			
13								H 2	C 2	C 2	C 2	C 2	C 2	C 2		H 2	C 2	C 1	F 1	F 2	F 2	F 3	F 4	F 2
14				F 1			L 1	H 1	C 2	C 1			L 2				L 1					F 1		
15					F 3	F 3	L 1	H 2	H 2	LH 12	C 2	C 2	C 1	C 1	C 2			C 2	F 6	F 1	F 4	F 2		
16	F 3	F 2	F 3	F 2	F 1	F 2	C 1		C 2	C 2	C 1	C 1	C 2	C 3	C 1	CL 22	H 1	L 1	F 3	F 3	FF 23	F 4	F 2	FF 12
17	F 1	F 2		F 2		F 2		C 2	C 1	C 1	C 1		L 2	L 1	L 3	L 2							F 2	F 5
18	F 1	F 3	F 4	F 4	F 4	F 2		H 2	C 3	C 2	C 1	C 2		CL 12	CL 21	CL 12	L 2	L 1	F 2	F 1	F 2	F 1	F 2	
19	F 3			F 2	F 2		L 1	L 1	H 2	C 2	L 3	C 2	L 2	C 2	C 1			C 1	F 1	F 2		F 3	F 3	F 3
20	F 3	F 2			F 1			H 2	C 2	C 2	C 1	C 1	C 3	C 1							F 2	F 2	F 3	
21		F 2	F 3				LH 11	H 3	H 2	C 1	C 1	C 1	C 2	C 4	L 2	L 2	CL 13	C 6	F 4	F 4	F 3	F 2	F 3	F 3
22	F 2	F 2	F 2	F 2	F 1	F 1	C 2	C 2	C 2	C 2	C 2	C 4	C 2	L 2	L 3	C 2	C 2	C 2	F 1	F 4	F 5	F 4	F 2	F 2
23	F 2	F 2	F 1	F 2	F 2				C 2	C 1	C 2	C 1	C 2	CL 22	C 2	CL 22	L 4	L 1	F 1	F 2			F 2	F 4
24	F 4	F 1	F 1	F 1	F 1	F 1		C 2	C 1			L 2	L 2	L 2	L 2	L 2	L 5	L 2		F 3	F 4			
25		F 2			F 2	F 2	L 1			L 1	C 1	C 1	L 1	L 2		LC 32	L 3	C 1	F 3	F 1	F 1			
26	F 2	F 2	F 2		F 1	F 4	L 3	L 3	L 2	C 1		C 1	C 1	L 2	C 1	C 2	C 2		F 2	F 1	F 2	F 2	F 4	F 4
27	F 2				F 1	F 2		C 1			C 1	L 2	L 2	L 2	L 1	L 1	L 2	L 1	F 1		FF 22		F 2	F 3
28	F 2	F 2	F 2	F 2	F 2	F 1	C 1				C 1	C 1		C 2	C 2	C 2	H 1	L 1	F 2	F 5	F 2			
29					F 1		C 1	C 1	L 2	L 1	L 2		L 2	L 3	L 2		H 2	H 1	F 2		F 3			F 2
30	F 2	F 2	F 2	F 2	F 2	F 4	L 1	H 1	H 2	H 1	C 3	C 2	C 2	C 3	L 2	C 1	H 1	H 1	F 3	F 1	F 1	F 2		
31		FF 21	F 3	F 2	F 2	F 2			C 1	C 1	C 1	C 2	L 2	L 1	C 2	C 2	L 4	L 2	F 4	F 4	F 3			
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
UQ																								
LQ																								

OCT. 1985 | TYPES OF ES

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FXI (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S 40	S 40	S 40	S 40	X 38	X 35													X 70	X 48	X 38	X 37	X 39	X 38
2	X 39	X 39	X 36	X 33	X 34	X 35													S 69	X 49	X 46	X 45	X 46	X 45
3	X 44	X 43	X 40	X 40	X 40	X 38													X 64	X 49	X 46	X 46	A	S 45
4	S 42	X 41	X 44	S 43	X 34	X 36													X 56	X 48	S 48	X 48	S 46	S 42
5	X 43	X 43	X 37	X 36	X 38	X 34													X 85	A	X 41	X 45	X 40	X 33
6	S	X 36	X 39	X 36	X 36	X 38													X 64	X 59	X 39	X 37	S 39	X 38
7	A	S 38	X 39	S 44	25	X 29													S 80	X 37	X 33	A	X 37	S 38
8	S 38	40	40	S 37	X 33	A													X 58	X 55	X 49	X 50	X 52	X 50
9	X 38	S 36	X 35	X 36	X 35	X 35													X 63	X 52	S 45	X 41	S 42	X 42
10	X 41	S 41	S 40	X 40	S 35	S 31													X 53	X 43	X 44	X 44	X 43	S 42
11	X 39	X 41	X 37	X 37	X 37	X 33													X 52	X 42	S 39	X 41	X 41	X 41
12	S 41	X 41	X 43	X 42	X 45	X 33													X 61	X 48	X 42	X 43	X 43	X 41
13	X 37	X 38	X 38	X 36	X 38	S 35													S 49	X 39	X 39	X 42	S 41	X 41
14	X 40	X 39	X 39	S 40	X 38	X 35													X 58	X 49	X 50	X 50	X 45	X 43
15	X 41	X 41	X 36	X 37	X 33	X 32													X 72	S 44	S 42	X 35	S 39	X 42
16	X 44	S 44	X 44	S 42	X 40	X 37												X 78	S 74	S 42	X 42	S 42	S 43	S 40
17	S 46	S 37	X 37	X 37	X 36	X 30												X 66	X 54	X 40	S 44	X 41	X 40	S 42
18	S 43	U S 39	S 40	X 37	X 37	X 34												X 62	X 52	X 50	X 48	S 45	S 46	X 45
19	X 44	X 42	X 43	X 41	X 41	X 41												X 61	X 48	X 48	X 49	X 48	X 49	X 52
20	S 42	X 39	S 39	X 39	X 39	X 38												X 67	X 53	X 45	X 44	S 45	X 42	X 36
21	X 37	X 37	X 36	X 35	X 34	X 31	X 46											S 77	S 65	S 42	S 41	X 41	S 40	S 38
22	S 38	X 39	S 38	S 38	X 39	X 34	X 49											X 65	X 58	S 52	X 48	X 45	X 41	X 42
23	X 43	X 42	X 42	X 40	X 41	X 41	X 67											X 72	X 59	X 57	X 54	X 46	X 43	X 45
24	X 42	X 42	X 40	X 42	X 40	S 42	X 54											X 71	X 60	X 49	X 41	X 39	S 35	38
25	S 38	S 41	S 41	S 39	40	40	X 53											X 69	X 53	X 45	X 39	X 38	X 38	X 39
26	S 39	S 41	X 43	S 46	S 46	40	X 50											X 72	X 56	X 36	X 37	X 35	X 38	X 39
27	S 39	X 39	X 39	X 39	X 42	X 40	X 45											X 57	X 42	X 40	X 39	X 41	S 42	X 42
28	X 42	X 39	X 39	X 40	X 41	X 42	X 48											X 62	X 48	X 43	X 39	X 38	X 41	S 41
29	S 40	S 41	X 41	46	S 47	X 39	X 49											X 57	X 43	X 40	S 42	S 43	X 42	S 46
30	X 43	X 37	X 32	X 32	S 33	S 35	S 51											X 61	X 47	X 35	X 38	X 40	X 37	X 39
31	X 39	X 39	X 39	X 40	X 40	X 42	X 49											X 49	X 40	X 37	S 36	S 37	X 35	S 35
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	31	31	31	31	30	11											16	31	30	31	30	30	31
MED	X 41	X 40	X 39	X 39	X 38	X 35	X 49											X 66	X 58	X 45	X 42	X 42	X 41	X 41
UQ	X 43	X 41	X 40	X 40	X 40	X 40	X 52											X 72	X 64	X 49	X 46	X 45	X 43	X 42
LQ	X 39	X 39	X 38	X 37	X 35	X 34	X 48											X 61	X 52	X 40	X 39	X 39	X 39	X 38

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOF2 (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S 34	S 34	S 34	S 34	32	29	50	57	65	60	63	61	60	69	63	61	60	67	S 64	S 42	32	31	33	32
2	33	33	30	27	28	29	45	56	S 70	70	65	59	66	72	60	53	52	58	S 63	43	40	39	40	39
3	38	37	34	34	34	32	49	56	64	60	70	81	87	68	60	H 59	60	63	58	43	40	40	A	S 39
4	S 36	S 35	S 38	S 37	28	30	56	69	S 69	S 72	60	85	79	80	73	71	63	52	50	S 42	S 42	42	S 40	S 36
5	37	37	31	30	32	28	51	S 63	61	60	71	R 76	55	62	A	60	71	S 80	S 79	A	35	39	34	27
6	I S 28	S 30	33	30	30	32	S 43	46	68	S 73	60	60	59	72	72	60	S 62	64	58	53	33	31	33	32
7	A	S 32	33	S 38	F	23	S 38	45	60	53	64	S 76	74	62	59	56	60	S 76	S 74	31	27	A	S 31	S 32
8	S 32	F	F	S 31	27	A	40	52	59	60	62	74	85	S 75	65	S 63	A	A	52	49	S 43	44	46	S 44
9	32	S 30	29	30	29	29	44	55	56	61	59	J S 76	81	62	55	53	57	55	57	46	S 39	35	S 36	S 36
10	35	S 35	S 34	34	S 29	S 25	44	55	J S 56	S 64	R 58	64	R 70	66	55	64	S 70	64	47	37	38	38	37	S 36
11	33	35	31	31	31	27	S 42	54	J S 75	68	57	63	64	S 62	64	63	68	56	46	36	33	35	35	35
12	S 35	35	37	36	39	27	46	57	59	70	J S 77	S 77	70	68	61	66	63	58	55	42	36	37	37	35
13	31	32	32	30	32	S 29	S 43	55	S 62	65	65	73	80	R 73	63	65	S 73	S 72	S 43	33	33	36	35	35
14	34	33	33	S 34	32	29	S 44	57	J S 56	66	65	88	86	68	68	66	65	S 61	S 52	43	44	44	S 39	37
15	35	35	30	31	27	26	S 41	54	64	69	S 72	84	77	64	70	68	65	62	66	S 38	S 36	29	33	36
16	38	38	S 38	S 36	34	31	49	59	67	S 74	S 76	88	97	67	60	56	62	72	S 68	36	36	S 36	S 37	S 34
17	S 40	S 31	31	31	30	24	41	65	S 76	87	82	71	72	67	65	S 74	S 63	60	48	34	S 38	35	34	36
18	S 37	U S 33	S 34	31	31	28	43	56	56	58	64	82	84	105	106	75	61	56	46	44	S 42	S 39	S 40	39
19	38	36	37	35	35	35	48	59	S 74	S 75	75	82	74	68	73	S 77	72	55	S 42	S 42	43	42	S 43	S 46
20	S 36	33	S 33	33	33	32	47	S 63	S 92	85	65	S 72	83	80	80	S 74	61	61	47	39	38	S 39	36	30
21	31	31	30	29	28	25	S 40	57	64	S 83	70	70	74	72	69	66	62	S 71	S 59	S 36	S 35	S 35	S 34	S 32
22	S 32	33	S 32	S 32	33	28	S 43	69	71	79	83	S 78	73	S 78	82	71	81	59	52	46	42	39	35	36
23	37	36	36	34	35	35	S 61	71	S 77	68	79	74	74	S 76	80	S 76	73	66	53	51	48	40	37	39
24	36	36	34	36	34	S 36	48	J S 77	S 86	S 88	81	73	74	73	73	S 75	S 78	65	54	43	35	33	S 29	F
25	S 32	S 35	S 35	S 33	F	F	47	65	S 73	S 80	75	67	85	91	71	79	73	63	47	39	33	32	32	33
26	S 33	35	37	S 40	S 40	F	S 44	S 69	S 82	61	68	87	90	75	66	S 75	S 83	66	50	30	31	29	32	33
27	S 33	33	33	33	36	34	39	56	63	71	S 76	63	71	73	70	S 75	60	51	36	34	33	35	S 36	36
28	36	33	33	S 34	35	36	42	S 61	60	66	70	73	66	70	66	66	66	56	S 42	37	33	32	35	S 35
29	S 34	S 35	35	F 36	S 41	33	43	57	66	64	S 72	S 78	73	65	68	80	S 83	51	37	34	S 36	S 37	36	S 40
30	37	31	26	26	S 27	S 29	S 45	57	69	S 70	60	75	84	S 69	68	67	68	55	41	29	32	34	31	33
31	33	33	33	34	S 34	36	S 43	55	65	S 63	57	S 73	62	S 80	S 77	69	S 70	43	34	31	S 30	S 31	29	S 29
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	31	29	28	31	31	31	31	31	31	31	31	30	31	30	30	31	30	31	30	30	30
MED	34	34	33	33	32	29	44	57	65	63	68	74	74	70	68	66	65	61	52	39	36	36	35	36
UQ	37	35	35	34	34	32	48	63	S 72	74	75	80	84	75	73	74	72	66	58	43	40	39	37	37
LQ	S 33	33	31	31	29	28	S 42	55	60	62	62	70	70	67	63	62	61	56	46	34	33	33	33	33

OCT. 1985 | FOF2 (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOF1 (0.01 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20sec in automatic operation

Hour / 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 420	L 430	450		U L 440	L 430	L	L							
2									L 400	430	L 440	L 450	L 440	L 450	U L 420									
3									L	L 420	L 440	440	450	L 440	L 450	L 360	L							
4								L	U L 490	L 400	U L 420	420	L 440	L 420	L	L	L							
5									A	A	A	L 430	A	L 420	A	L	L							
6									L 400	L 400	A	L 420	L 440	L 420	L 390	A	A							
7									L	L 400	A	A	A	A	L 390		L							
8									L	L	A	L 450	U L 470	A	L 400	A	A	A						
9									L	U L 410	A	L 470	A	L 430	L	L 330	L 250							
10								L	A	A	A	A	A	L 400	L	L	L							
11									L	L 410	L 430	L 430	L 450	L 420	L 400	L 390								
12										L	L 400	L 440	U L 440	L	L	L								
13									L	410	L 440	L 440	L 420	U L 420	L	L	L							
14									370	U L 380	L 400	400	L 460	L	L	L								
15										L	U L 430	L 420	L 420	A	A									
16									L	U L 440	A	L	L 440	A	L	A	A							
17									L	L	L 430	L 450	L 430	L 410	L 370	L								
18										L	L	L 440	L	U L 450	L 420	A	A							
19									L	L	A	A	A	L	L	L								
20									L	L	L	L 440	L 440	L 450	L	L	L							
21										L 430	L	L 440	U L 410	U L 450	L		A							
22										L	A	A	L	A	A	L								
23									L	L	L 420	L	L	U L 470	L	L								
24									L	L	L	430	L	A		L								
25										L	L	L	L 460	U L 450	A									
26									L	L	L	L 450	A	L 410	L 350	L								
27										L	L	L 470	U L 420	390	L	L								
28										L	L 440	L 450	L 420	L 440	L	L								
29										L	L	L 440	L 430	L 420	L 430	L								
30									L	L	L	A	A	L	A	L								
31									A	560	A	A	L 440	A	L	L	A							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									4	13	12	22	19	20	11	3	1							
MED									L 400	L 410	L 430	L 440	L 440	L 425	L 400	L 360	L 250							
UQ									L 445	L 430	L 440	L 450	L 445	L 450	L 425	L 375								
LQ									385	L 400	L 420	L 430	L 425	L 420	L 390	L 345								

OCT. 1985 | FOF1 (0.01 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOE (0.01 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							S	240	275	300	310	320	A	R 320	295	275	A	180						
2							160	H 245	A	300	R 320	R 330	I R 325	A	H 290	270	240	S						
3							S	H 240	270	295	315	R 325	I R 330	R 320	290	270	240	S						S
4	S	S					S	235	270	290	R 305	R 315	R 320	I R 305	290	260	230	S						
5		S	S				S	H 240	265	290	A	A	A	A	A	270	H 240	S						
6	S						S	210	255	275	290	295	300	300	275	255	H 220	S						
7							S	220	255	275	A	A	A	A	A	A	A	S						
8							S	A 250	270	290	300	310	A	A	A	A	S							
9							S	A 270	A	A	A	A	A	A	A	A	S							
10							A	A	A	A	A	A	A	300	A	A	A	S						
11			S	S	S		S	210	265	H 285	295	310	R 320	300	290	260	215	S						
12		S	S	S			S	H 210	260	280	295	A	R 310	285	275	255	210	S						
13	S						S	H 240	H 265	H 285	300	310	315	R 300	280	260	225	S						
14							S	A	265	290	305	320	R 325	315	290	265	A	S						
15							S	H 220	265	290	300	310	A	A	A	A	200	S						
16			S				S	240	265	285	295	300	A	300	290	260	A							
17							S	230	265	A	300	A	310	305	290	270	A						S	
18							S	230	265	H 290	300	A	A	A	A	A	A							
19		S					S	220	265	290	A	A	A	A	290	A	H 230							
20							S	A	260	290	300	A	A	A	290	265	A							
21								230	265	295	305	310	310	300	H 285	H 265	205							
22								A	A	295	310	A	A	A	A	A	A							
23								205	H 260	290	300	310	310	300	A	A	A				S			
24								A	A	A	320	I R 320	A	A	R	A	205						S	
25								220	270	A	A	A	A	A	A	A	A							
26								220	280	A	A	A	A	A	A	A	A							
27								220	270	H 295	300	A	320	A	A	A	A							
28								H 230	A	A	295	315	310	310	290	A	A							
29								A	A	A	A	A	A	300	290	H 260	220							
30								200	255	A	A	305	300	A	280	260	230							
31								H 210	255	280	A	A	A	A	A	A	A							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	23	25	22	21	16	15	15	17	16	14	1						
MED							160	220	265	290	300	310	310	300	290	262	222	180						
UQ								238	270	295	305	320	R 320	308	290	270	230							
LQ								215	260	285	295	308	310	300	285	260	210							

OCT. 1985 | FOE (0.01 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOES (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20sec in automatic operation

Hour / 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	JA 19	22	18	JA 21	20	21	24	28	33	32	34	38	36	G 21	G 17	G	26	JA 29	21	JA 19	ES 15	17	JA 17	22
2	JA 17	18	ES 15	ES 15	ES 15	ES 15	22	G	30	32	G 27	G 31	JG 31	JA 32	G 23	G 17	29	24	16	18	23	23	24	18
3	21	21	JA 24	24	23	21	ES 16	28	33	34	33	G	G 30	G 30	G 24	G 20	27	19	JA 22	25	JA 24	JA 23	JA 49	JA 46
4	JA 45	ES 15	ES 16	ES 15	ES 15	ES 15	19	25	29	36	34	G 27	G 23	G 30	G 21	G	G	21	JA 25	23	JA 18	23	22	JA 25
5	JA 25	20	18	17	20	20	20	26	JA 46	JA 50	JA 45	43	JA 45	48	JA 83	34	32	JA 74	JA 111	JA 84	JA 19	JA 19	JA 22	20
6	JA 33	JA 22	20	30	21	ES 15	20	26	JA 39	35	45	41	42	34	31	36	JA 50	JA 32	JA 25	17	24	JA 30	JA 33	JA 33
7	JA 60	JA 54	26	JA 30	20	20	25	28	36	36	JA 47	JA 114	92	JA 52	JA 51	JA 45	JA 48	JA 30	27	JA 21	JA 32	JA 52	JA 26	JA 33
8	JA 29	JA 27	JA 22	JA 33	JA 27	JA 31	22	33	32	33	JA 49	36	36	72	96	JA 66	JA 76	JA 105	22	JA 58	JA 43	JA 54	JA 39	JA 34
9	JA 36	JA 34	JA 23	JA 24	JA 24	21	18	27	31	31	JA 47	JA 46	JA 61	JA 53	JA 80	JA 32	23	18	20	JA 32	JA 34	JA 35	JA 19	23
10	JA 21	JA 31	JA 22	24	21	22	JA 27	25	57	JA 80	JA 60	JA 43	JA 47	JA 47	JA 38	JA 33	JA 33	JA 29	JA 21	JA 28	JA 28	ES 16	JA 29	JA 40
11	22	21	ES 15	ES 15	17	19	JA 22	25	30	30	33	G	G 19	G 20	G 21	G	25	19	ES 15	18	JA 34	JA 34	JA 21	22
12	18	ES 15	ES 15	26	19	20	19	27	29	30	32	32	G 30	31	G	G	27	17	JA 33	JA 20	19	19	ES 16	ES 15
13	19	19	19	19	20	19	22	28	30	31	32	G	G	G	32	30	28	23	JA 34	JA 20	JA 25	23	JA 20	JA 26
14	19	19	19	19	ES 16	20	20	27	29	31	33	G 23	G 20	G 18	G 20	G 22	JA 28	JA 29	JA 20	20	ES 16	ES 15	23	19
15	ES 16	EB 13	ES 15	19	ES 15	JA 32	19	29	30	35	35	36	35	JA 42	JA 45	28	26	21	JA 21	JA 26	JA 43	33	JA 25	JA 18
16	ES 14	17	ES 15	JA 31	JA 31	JA 19	JA 31	27	34	39	JA 65	JA 82	JA 48	JA 44	35	39	JA 33	ES 14	JA 19	59	19	20	20	ES 15
17	JA 33	JA 24	ES 15	JA 28	JA 21	JA 33	JA 30	30	31	31	G 29	JA 32	G 23	G 18	G 19	G 17	22	ES 15	ES 16	19	ES 16	ES 15	17	22
18	ES 15	22	JA 49	JA 18	JA 23	20	ES 14	29	32	35	36	36	34	33	JA 46	JA 45	JA 44	JA 29	JA 23	JA 19	ES 16	JA 24	JA 27	JA 21
19	22	19	JA 18	JA 18	JA 18	24	20	G 17	34	40	JA 53	JA 79	JA 47	JA 35	JA 33	27	28	JA 25	JA 25	JA 22	JA 25	24	JA 29	JA 23
20	JA 30	JA 31	JA 31	22	21	22	ES 15	26	30	43	37	39	35	33	G 22	G 24	JA 24	19	21	ES 15	ES 15	ES 15	JA 21	JA 26
21	19	20	22	22	25	JA 18	18	30	32	35	33	35	36	33	G	37	JA 52	JA 36	JA 82	JA 54	JA 35	JA 31	JA 27	JA 20
22	JA 57	36	JA 18	JA 21	20	20	20	34	JA 43	40	JA 46	JA 50	JA 54	JA 61	50	JA 40	26	JA 33	JA 35	JA 50	JA 32	JA 36	27	JA 21
23	24	JA 19	21	20	19	20	20	26	35	35	35	33	G 21	32	JA 48	30	JA 31	JA 53	JA 43	ES 15	ES 16	20	22	JA 26
24	25	JA 27	JA 21	20	23	20	JA 23	29	34	40	G 30	G 31	JA 55	JA 54	G 28	27	22	ES 15	JA 27	JA 24	20	JA 40	17	JA 27
25	ES 16	21	JA 30	19	ES 15	24	19	26	G	30	JA 41	JA 34	JA 45	37	JA 51	JA 63	JA 25	18	JA 30	JA 36	JA 25	22	18	19
26	18	JA 26	JA 22	JA 30	JA 19	JA 20	JA 27	G 21	JA 33	34	40	JA 72	JA 57	JA 51	JA 44	JA 31	23	JA 23	JA 19	19	JA 21	JA 27	JA 22	JA 26
27	JA 32	JA 22	JA 20	JA 19	19	19	19	G	G	31	35	JA 33	35	JA 34	JA 44	JA 32	JA 29	36	20	20	24	23	ES 16	24
28	JA 25	JA 23	24	ES 16	20	JA 20	22	23	28	31	33	34	33	40	39	36	JA 53	18	JA 20	JA 52	JA 35	JA 24	JA 22	20
29	18	24	20	22	ES 15	19	JA 25	JA 25	JA 31	JA 41	32	34	36	36	G	34	25	JA 36	26	22	JA 18	25	JA 20	JA 29
30	JA 24	JA 34	JA 25	JA 28	JA 31	JA 25	20	G	31	33	39	JA 44	43	JA 78	JA 45	G	31	JA 30	JA 28	JA 40	JA 32	ES 16	20	JA 21
31	ES 15	18	23	22	19	22	20	G	JA 41	JA 50	JA 49	58	JA 64	JA 46	35	33	JA 38	JA 23	JA 24	JA 81	JA 65	JA 54	JA 20	ES 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	22	22	20	21	20	20	20	26	32	35	35	36	36	35	35	31	28	JA 24	JA 23	JA 22	JA 24	23	JA 22	JA 22
UQ	JA 30	JA 26	JA 23	25	22	22	22	28	34	40	JA 46	44	JA 47	JA 48	JA 46	JA 36	JA 33	JA 31	JA 28	JA 38	JA 32	JA 32	JA 26	JA 26
LQ	18	19	18	19	18	19	19	25	30	31	33	32	G 30	32	G 22	G 21	25	19	20	19	18	20	JA 20	20

OCT. 1985 | FOES (0.1 MHZ)

IONOSPHERIC DATA

OCT. 1985 | FBES (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	E	E	E	E	E	20	27	30	31	G	37	34	G 21	G 16	G	25	G	E	E	E S 15	E	E	E
2	E	E	E S 15	E S 15	E S 15	E S 15	21	G	30	G	G 27	G 27	G 31	32	G 23	G 17	27	23	E	E	E	E	E	E
3	E	E	17	E	E	E	E S 16	G	32	34	33	G	G 30	G 28	G 24	G 20	26	19	19	E	21	E	A A 49	G
4	G	E S 15	E S 16	E S 15	E S 15	E S 15	19	G	29	35	34	G 27	G 23	G 30	G 21	G	G	G	19	E	16	E	E	25
5	18	G	G	E	E	20	20	25	44	48	43	40	44	38	A A 83	33	29	47	E	A A 84	E	E	21	E
6	G	22	E	E	E	E S 15	20	25	38	34	43	40	40	34	30	36	46	32	23	16	E	20	27	23
7	A A 60	19	E	25	E	E	20	27	33	34	45	52	58	42	33	28	22	16	E	16	E	A A 52	E	E
8	18	E	15	E	21	A A 31	19	33	31	33	46	35	34	61	37	59	A A 76	A A 105	E	25	27	E	21	24
9	27	21	18	21	E	E	18	26	28	31	47	40	40	36	31	27	23	17	E	21	21	E	E	E
10	E	21	19	E	E	E	21	23	46	40	51	43	44	27	29	29	25	25	19	E	E	E S 16	E	E
11	E	E	E S 15	E S 15	G	E	19	24	30	30	33	G	G 18	G 20	G 19	G	25	G	E S 15	E	23	19	E	E
12	E	E S 15	E S 15	G	E	E	18	25	29	30	31	32	G 30	30	G	G	27	16	E	E	E	E	E S 16	E S 15
13	G	E	E	E	E	E	21	26	29	31	32	G	G	G	32	29	26	G	32	E	E	E	E	E
14	E	E	E	E	E S 16	E	17	26	29	31	33	G 23	G 20	G 18	G 20	G 21	25	23	E	E	E S 16	E S 15	E	E
15	E S 16	E B 13	E S 15	E	E S 15	E	17	28	29	33	34	35	33	39	44	28	25	20	18	22	20	20	25	E
16	E S 14	E	E S 15	15	E	E	G	22	33	39	51	43	40	40	32	37	24	E S 14	18	31	E	E	E	E S 15
17	E	E	E S 15	17	15	16	27	29	30	31	G 26	32	G 23	G 18	G 18	G 17	22	E S 15	E S 16	E	E S 16	E S 15	G	E
18	E S 15	16	23	E	E	E	E S 14	25	30	35	34	36	34	33	40	42	40	20	19	E	E S 16	E	20	E
19	E	G	16	15	E	E	G	G 17	31	37	49	44	45	33	28	27	25	20	22	20	20	E	E	18
20	E	23	28	E	E	E	E S 15	25	30	39	35	36	34	32	G 19	G 19	21	E	E	E S 15	E S 15	E S 15	21	E
21	E	E	15	16	E	E	E	28	31	34	33	34	35	33	G	34	51	32	22	E	26	E	20	E
22	21	25	E	E	E	E	17	31	40	39	45	45	41	55	43	36	23	33	20	40	16	24	E	E
23	E	16	E	E	E	E	E	26	35	34	35	33	G 21	32	35	27	28	41	19	E S 15	E S 16	E	E	21
24	E	18	E	E	E	E	E	26	33	40	G 29	G 31	34	45	G 28	27	22	E S 15	23	20	E	23	G	21
25	E S 16	E	E	E	E S 15	E	E	25	G	30	35	32	33	34	41	28	20	15	20	19	E	E	E	E
26	E	E	E	21	16	E	23	G 19	24	33	37	37	46	37	31	28	23	18	17	E	18	23	E	24
27	21	16	17	E	E	E	E	G	G	G	35	33	35	32	29	27	21	21	E	E	E	E	E S 16	E
28	E	19	E	E S 16	E	E	E	18	28	30	33	33	33	38	33	35	24	16	18	24	20	E	E	E
29	E	E	E	E	E S 15	E	E	21	25	31	31	33	34	32	G	31	23	36	18	E	E	E	E	25
30	17	25	20	16	19	19	E	G	30	32	36	44	41	37	41	G	29	20	17	23	E	E S 16	E	E
31	E S 15	E	E	E	E	18	E	G	40	45	48	45	39	42	34	32	38	17	21	E	22	E	E	E S 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	E		E E 15	E	E	E	17	25	30	33	35	35	34	33	30	28	25	19	18	E	16	E	E	E
UQ	16	18	16	15	E E 15	E E 15	20	26	33	36	44	40	40	38	34	32	28	24	20	20	20	16	18	17
LQ	E	E	E	E	E	E	E	18	29	31	33	32	G 30	30	G 20	G 20	23	15	E	E	E	E	E	E

OCT. 1985 | FBES (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FMIN (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E S 16	E S 14	E S 15	E S 15	E S 15	E S 16	E S 16	14	15	15	16	19	15	15	14	15	16	E S 16	E S 15	E S 16	E S 15	E S 16	E S 16	E S 16
2	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	13	14	15	14	16	17	15	16	15	15	15	E S 15	E S 14	E S 16	E S 16	E S 16	E S 15	E S 15
3	E S 16	E S 15	13	E S 15	E S 15	E S 15	E S 16	15	15	15	15	17	16	16	15	16	15	E S 15	E S 14	E S 16	E S 16	E S 16	E S 16	E S 15
4	E S 15	E S 15	E S 16	E S 15	E S 15	E S 15	E S 15	15	15	14	15	16	16	15	15	15	14	E S 15	E S 15	E S 16	E S 14	E S 15	E S 16	13
5	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	14	15	15	15	20	16	15	15	14	14	E S 15	E S 15	E S 15	E S 16	E S 16	E S 16	E S 15
6	E S 15	13	E S 16	E S 15	E S 15	E S 15	E S 14	13	13	14	15	16	15	15	14	14	13	E S 16	E S 14	E S 14	E S 16	E S 16	E S 16	E S 16
7	E S 14	13	E S 15	13	E S 15	E S 16	E S 15	14	13	14	15	16	15	15	14	14	13	E S 14	E S 16	E S 15	E S 16	E S 16	E S 15	E S 16
8	E S 16	E S 15	13	E S 15	E S 14	E S 14	E S 15	15	14	15	16	16	16	15	16	15	15	E S 16	E S 16	E S 16	E S 16	E S 16	E S 15	E S 16
9	E S 15	E S 15	13	E S 15	E S 15	E S 16	E S 15	14	14	15	16	16	16	15	15	15	15	E S 14	E S 15	E S 16	E S 16	E S 16	E S 16	E S 16
10	E S 16	E S 15	E S 15	E S 16	E S 16	E S 16	13	16	15	14	14	14	15	15	14	15	13	E S 15	E S 14	E S 16	E S 15	E S 16	E S 15	E S 16
11	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	14	14	15	16	17	15	14	16	14	14	E S 16	E S 15	E S 15	E S 16	E S 16	E S 16	E S 16
12	E S 16	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	14	15	15	15	18	16	15	14	15	13	E S 14	E S 15	E S 15	E S 16	E S 16	E S 16	E S 15
13	E S 16	E S 15	13	E S 15	E S 16	E S 16	E S 16	14	14	14	16	19	19	15	15	15	13	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	E S 16
14	E S 16	E S 16	E S 16	13	E S 16	E S 16	E S 16	14	14	15	17	17	15	14	14	13	14	E S 14	E S 15	E S 15	E S 16	E S 15	E S 16	E S 16
15	E S 16	13	E S 15	E S 15	E S 15	E S 15	E S 16	14	16	15	14	14	15	14	15	14	14	E S 14	E S 15	E S 15	E S 15	E S 14	E S 14	E S 15
16	E S 14	E S 14	E S 15	E S 14	E S 15	E S 15	E S 15	13	14	15	14	15	15	16	15	14	14	E S 14	E S 15	E S 16	E S 16	E S 16	E S 16	E S 15
17	E S 16	E S 15	E S 15	E S 15	E S 14	E S 14	E S 14	13	15	16	14	15	14	14	14	14	15	E S 15	E S 16	E S 16	E S 16	E S 15	E S 16	E S 15
18	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 14	14	14	15	16	19	16	16	16	14	13	E S 14	E S 14	E S 16	E S 16	E S 14	E S 16	E S 15
19	E S 15	E S 15	E S 14	13	E S 14	E S 15	E S 16	14	15	15	14	14	17	15	14	14	13	13	E S 16	E S 15	E S 15	E S 15	E S 15	E S 16
20	E S 15	E S 15	13	E S 15	13	E S 15	E S 15	14	14	16	15	15	16	14	14	13	14	E S 15	E S 16	E S 15	E S 15	E S 15	E S 16	E S 16
21	E S 15	E S 15	13	13	E S 15	E S 16	E S 16	14	14	15	15	15	16	15	16	16	14	E S 14	E S 16	E S 16	E S 15	E S 16	E S 16	E S 16
22	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	14	14	14	16	15	16	17	18	14	15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16
23	E S 16	13	E S 15	E S 15	E S 15	E S 16	E S 16	13	15	14	14	16	15	15	15	14	14	E S 15	E S 15	E S 15	E S 16	E S 16	E S 16	E S 15
24	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 15	14	14	14	16	16	15	15	15	15	14	E S 15	E S 15	E S 15	E S 16	E S 15	E S 16	E S 16
25	E S 16	E S 15	E S 15	E S 16	E S 15	E S 15	E S 14	15	14	16	15	14	16	17	15	15	14	E S 14	13	E S 15	E S 15	E S 15	E S 16	E S 16
26	E S 16	E S 15	E S 15	13	13	E S 14	E S 15	14	15	15	15	15	15	15	16	15	15	13	E S 14	E S 15	E S 15	E S 15	E S 15	E S 16
27	E S 15	13	E S 15	E S 15	E S 16	E S 15	E S 15	15	15	15	16	14	15	15	14	13	15	E S 15	E S 16	E S 16	E S 16	E S 15	E S 16	E S 16
28	E S 15	E S 15	E S 15	E S 16	E S 15	E S 14	E S 16	14	13	15	16	16	15	20	16	14	15	E S 14	E S 15	E S 16	E S 15	E S 15	E S 14	E S 15
29	E S 16	E S 16	E S 15	E S 16	E S 15	E S 15	E S 16	14	14	14	15	14	16	16	14	14	14	E S 15	E S 14	E S 16	E S 15	E S 16	E S 16	E S 14
30	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	15	15	16	15	15	16	15	14	13	13	E S 15	E S 14	E S 16	E S 16	E S 16	E S 16	E S 15
31	E S 15	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	15	14	15	16	18	15	15	15	19	14	E S 15	E S 16	E S 15	E S 16	E S 15	E S 15	E S 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	14	14	15	15	16	15	15	15	14	14	E S 15	E S 15	E S 15	E S 16	E S 16	E S 16	E S 16
UQ	E S 16	E S 15	E S 15	E S 15	E S 15	E S 16	E S 16	14	15	15	16	17	16	16	15	15	15	E S 15	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
LQ	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	E S 15	14	14	14	15	15	15	15	14	14	14	E S 14	E S 14	E S 15	E S 15	E S 15	E S 15	E S 15

OCT. 1985 | FMIN (0.1 MHZ)

IONOSPHERIC DATA

OCT. 1985 | M(3000)F2 (0.01)

135° E Mean Time (G.M.T. + 9h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S 300	S 305	S 290	S 310	310	300	335	340	340	340	340	335	300	315	320	330	320	340	S 335	S 330	310	295	305	305
2	300	310	310	320	315	315	345	340	S 335	320	330	320	335	320	330	330	330	325	S 320	315	310	300	305	310
3	300	310	305	300	310	300	340	340	350	320	330	330	340	330	320	H 305	330	330	340	320	300	300	A	S 295
4	S 310	S 290	S 300	S 330	305	300	340	335	S 320	S 335	310	320	310	320	325	325	330	330	330	S 305	S 305	305	S 300	S 300
5	300	305	300	300	310	315	330	S 340	330	330	325	R 340	330	330	A	315	300	S 310	S 340	A	300	320	330	315
6	I S 290	S 300	310	295	300	320	S 340	320	320	S 320	325	330	310	320	335	335	S 330	330	335	310	310	290	300	290
7	A	S 280	310	S 325	F	310	S 350	345	330	325	300	S 315	320	320	335	330	320	S 320	S 320	340	290	A	S 280	S 310
8	S 305	F	F	S 300	320	A	320	330	330	340	320	320	315	S 335	330	S 330	A	A	300	305	S 290	295	310	S 320
9	340	S 300	300	300	305	315	330	340	335	335	325	J S 320	330	325	345	320	335	340	340	335	S 320	310	S 315	S 310
10	305	S 300	S 300	320	S 335	S 300	330	340	J S 335	S 335	R 330	325	R 325	325	325	325	S 340	330	335	320	310	300	310	S 305
11	305	310	305	320	330	310	S 340	335	J S 330	335	330	330	340	S 335	335	330	340	345	320	330	290	290	300	300
12	S 300	305	305	310	330	290	335	340	340	330	J S 320	S 325	315	325	305	330	330	330	335	300	310	305	305	320
13	300	305	300	295	310	S 300	S 340	345	S 330	340	335	330	320	R 330	330	335	S 325	S 330	S 335	335	300	290	305	295
14	290	290	305	S 305	330	310	S 345	350	J S 320	340	320	335	330	335	330	335	330	S 325	S 320	320	295	310	S 305	310
15	310	315	310	305	310	315	S 330	335	340	335	S 330	340	335	320	335	320	330	320	340	S 320	S 320	310	295	300
16	310	310	S 310	S 305	320	310	335	345	340	S 335	S 320	310	330	330	320	320	320	330	S 335	335	295	S 295	S 305	S 290
17	S 315	S 310	290	305	340	310	330	340	S 325	340	340	340	330	330	340	S 330	S 330	330	340	300	S 295	305	290	300
18	S 310	U S 320	S 320	S 310	330	290	335	345	350	330	305	320	310	310	330	330	340	330	320	310	S 310	S 305	S 290	290
19	295	290	320	300	305	305	330	340	S 330	S 320	330	335	330	305	315	S 320	325	330	S 310	S 290	300	300	S 305	S 310
20	S 310	300	S 300	305	310	300	340	S 330	S 350	335	350	S 330	330	325	330	S 325	330	335	325	310	315	S 320	345	280
21	290	305	305	320	320	305	S 330	325	330	S 335	340	330	340	340	330	340	325	S 320	S 340	S 330	S 310	S 320	S 300	S 285
22	S 280	300	S 275	S 290	340	315	S 330	335	320	330	335	S 330	320	S 315	335	320	330	325	325	320	310	320	300	310
23	300	300	290	295	305	310	S 335	340	S 345	335	325	330	310	S 315	330	S 320	330	325	320	315	310	330	310	295
24	300	310	285	295	300	S 320	310	J S 335	S 330	S 330	S 350	330	330	325	320	S 325	S 325	330	340	340	305	335	S 280	F
25	S 300	S 300	S 300	S 310	F	F	335	340	S 335	S 330	340	335	320	330	320	325	335	325	340	330	310	315	305	305
26	S 300	305	305	S 320	S 315	F	S 320	S 335	S 340	330	330	335	330	330	320	S 320	S 320	325	335	305	305	295	300	295
27	S 290	305	295	305	320	330	325	345	320	335	S 320	320	320	320	320	S 330	315	340	320	305	290	290	S 310	315
28	330	310	295	S 295	305	330	340	S 345	330	330	340	330	335	330	330	340	350	340	S 345	325	300	305	300	S 300
29	S 305	S 285	295	F 300	S 330	325	320	340	345	320	S 335	S 320	320	330	315	330	S 330	340	320	275	S 280	S 295	285	S 300
30	300	330	315	310	S 300	S 290	S 320	335	340	S 350	320	310	330	S 320	330	330	340	340	350	305	305	320	305	310
31	310	300	305	305	S 300	330	S 330	340	345	S 330	350	S 325	310	S 325	S 325	335	S 340	340	350	325	S 295	S 285	310	S 290
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	31	29	28	31	31	31	31	31	31	31	31	30	31	30	30	31	30	31	30	30	30
MED	300	305	302	305	310	310	335	340	335	335	330	330	330	325	330	330	330	330	335	320	305	305	305	300
UQ	310	310	310	310	330	315	340	340	340	335	338	332	330	330	330	330	335	340	340	330	310	315	310	310
LQ	300	300	295	300	305	300	330	335	330	330	320	320	318	320	320	320	325	325	320	305	295	295	300	295

IONOSPHERIC DATA

OCT. 1985 | M(3000)F1 (0.01) | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20sec in automatic operation

Hour / 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 360	L 350	360		U L 350	L 345	L	L							
2									L 340	355	L 350	L 360	L 355	L 340	U L 350									
3									L	L 360	L 350	385	365	L 350	L 340	L 365	L							
4								L	U L 340	L 355	U L 360	360	L 350	L 340	L	L	L							
5									A	A	A	A	A	A	A	L	L							
6									A	L 350	A	A	L 340	L 340	L 350	A	A							
7									L	L 350	A	A	A	A	L 345		L							
8									L	L	A	L 345	U L 330	A	A	A	A	A						
9									L	U L 350	A	L 355	A	L 350	L	L 380	L 360							
10								L	A	A	A	A	A	L 360	L	L	L							
11									L	L 350	L 350	L 360	L 355	L 340	L 350	L 350								
12										L	L 350	L 340	U L 350	L	L	L								
13									L	350	L 340	L 355	L 355	U L 345	L	L	L							
14									355	U L 370	L 380	360	L 350	L	L	L								
15										L	U L 355	L 355	L 355	A	A									
16									L	A	A	L	L 350	A	L	A	A							
17									L	L	L 355	L 355	L 350	L 355	L 360	L								
18										L	L	L 350	L	U L 340	A	A	A							
19									L	L	A	A	A	L	L	L								
20									L	L	L	L 365	L 360	L 340	L	L	L							
21										L 340	L	L 360	U L 360	U L 355	L		A							
22										L	A	A	L	A	A	L								
23									L	L	L 360	L	L	U L 340	L	L								
24									L	L	L	360	L	A		L								
25										L	L	L	L 350	U L 345	A									
26									L	L	L	L 355	A	L 365	L 385	L								
27										L	L	L 370	U L 365	380	L	L								
28										L	L 350	L 365	L 370	L 345	L	L								
29										L	L	L 360	L 350	L 345	L 345	L								
30									L	L	L	A	A	L	A	L								
31									A	340	A	A	L 350	A	L	L	A							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									3	12	12	20	19	19	9	3	1							
MED									L 340	L 350	L 350	L 360	L 350	L 345	L 350	L 365	L 360							
UQ									348	L 358	L 358	L 360	L 358	L 352	L 350	L 372								
LQ									L 340	L 350	L 350	L 355	L 350	L 340	L 345	L 358								

OCT. 1985 | M(3000)F1 (0.01)

IONOSPHERIC DATA

OCT. 1985 | H'F2 (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20sec in automatic operation

Hour / 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	240	250	265		275	280	275	250							
2									245	245	250	280	275	265	255									
3									235	280	255	275	250	265	290	260	250							
4								225	300	240	260	275	285	280	265	265	235							
5									260	275	285	245	275	285	A	295	295							
6									280	265	275	295	325	290	250	250	260							
7									260	265	325	265	270	260	255		265							
8									250	245	285	275	275	255	250	E A 295	A	A						
9									255	255	275	265	240	250	250	235	245							
10								230	245	250	E A 265	290	250	255	260	270	230							
11									240	235	265	270	265	260	255	260								
12										240	260	255	250	255	235	245								
13									245	245	255	255	255	255	255	270	235							
14									230	225	260	270	240	260	265	245								
15										245	245	240	235	260	250									
16									245	245	245	270	235	250	250	245	240							
17									255	235	240	250	260	245	255	250								
18										235	L 275	260	260	265	250	A 230	A 240							
19									245	245	240	240	255	240	255	230								
20									240	235	240	240	255	270	260	245	225							
21										240	230	245	240	255	265		E A 265							
22										250	250	245	255	280	240	255								
23									215	215	235	240	245	275	245	240								
24									225	225	230	230	235	260		240								
25										230	245	230	275	255	265									
26									230	230	270	250	250	255	240	245								
27										250	255	265	250	260	265	235								
28										235	240	240	235	275	265	250								
29										270	245	255	240	255	290	245								
30									230	225	280	275	255	255	250	245								
31									235	290	250	255	275	275	245	235	A 225							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								2	22	31	31	31	30	31	29	26	14							
MED								228	245	245	252	255	255	260	255	245	241							
UQ									255	250	268	270	270	272	265	260	255							
LQ									235	235	245	245	240	255	250	240	235							

OCT. 1985 | H'F2 (KM)

IONOSPHERIC DATA

OCT. 1985 | H'F (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20sec in automatic operation

Hour / 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	255	275	260	240	210	270	230	230	220	210	195	215	H 190	170	235	255	230	235	210	195	265	275	280	290
2	280	250	240	270	270	255	215	220	220	215	205	205	H 185	H 175	235	230	H 235	235	210	220	250	255	260	260
3	255	240	260	270	265	280	215	220	230	220	H 215	H 200	H 180	215	210	H 210	240	235	210	235	265	260	A	300
4	290	290	260	220	265	290	245	225	220	220	195	H 185	H 195	H 205	245	240	230	225	225	260	280	255	255	E A 305
5	275	245	260	265	270	270	230	H 240	A	A	A	A	A	A	A	250	E A 260	260	200	A	270	235	235	235
6	370	E A 335	255	295	285	240	220	250	A	245	A	A	A	240	245	A	A	240	225	260	190	315	A	E A 330
7	A	E A 330	280	240	E S 380	270	210	225	240	H 220	A	A	A	A	235	H 245	240	H 235	215	190	315	A	325	320
8	280	275	245	260	270	A	235	225	E A 250	225	A	H 210	H 220	A	A	A	A	A	235	255	295	260	255	235
9	E A 255	E A 340	285	E A 315	265	240	215	H 225	225	225	A	E A 250	A	225	215	215	H 205	215	215	220	225	250	250	260
10	265	305	280	230	235	255	230	H 195	A	A	A	A	A	210	215	250	240	215	215	225	255	245	255	260
11	280	255	255	240	230	250	210	H 230	E A 240	220	215	195	195	H 180	225	235	H 235	215	220	195	E A 325	295	285	275
12	270	270	270	260	225	245	225	225	H 240	230	220	210	H 200	210	H 190	245	235	225	220	225	240	275	260	230
13	255	265	275	295	270	280	215	220	225	220	210	H 210	205	H 190	230	225	240	215	230	220	305	275	265	275
14	290	300	280	240	230	260	210	215	210	H 200	200	220	200	210	235	235	H 240	215	230	225	265	240	250	245
15	255	225	245	250	225	255	215	225	H 235	230	225	220	205	A	A	H 175	230	230	215	205	245	E A 295	E A 350	270
16	265	260	250	275	250	270	225	H 220	A 240	A	A	A	A	A	225	A	A	230	210	E A 260	290	275	255	270
17	235	260	270	250	210	285	235	240	225	225	210	210	H 185	225	200	H 215	230	225	205	255	275	255	300	290
18	240	255	E A 255	255	235	305	200	210	H 215	225	210	225	230	210	A	A	A	220	220	245	230	265	280	280
19	255	280	250	265	275	255	200	H 210	225	E A 240	A	A	A	210	H 205	H 240	240	215	E A 250	280	270	260	260	230
20	255	E A 300	E A 365	260	245	260	225	220	240	E A 245	220	H 200	200	H 180	H 210	220	220	215	215	235	250	240	230	310
21	300	285	270	255	245	E S 285	215	210	220	220	220	210	H 195	H 210	H 190	240	A	225	200	210	E A 280	260	260	290
22	E A 325	E A 325	315	300	220	250	215	230	A 250	E A 235	A	A	E A 245	A	A	E A 240	235	240	215	A	240	E A 275	255	260
23	255	270	295	295	250	260	225	H 215	220	220	205	210	200	205	E A 245	230	235	230	225	230	230	220	250	305
24	290	270	280	265	270	230	225	225	220	A	210	210	205	A	240	240	230	215	225	230	250	250	310	E A 345
25	280	270	250	215	225	255	220	215	H 225	H 220	230	H 200	H 185	225	A	H 245	H 230	215	220	240	240	260	260	290
26	265	265	260	240	220	240	230	230	230	210	E A 240	E A 240	A	A 230	200	240	H 230	210	205	225	265	E A 330	275	E A 315
27	E A 305	265	275	270	245	205	H 220	H 205	H 225	225	H 220	220	H 200	190	220	240	215	210	205	255	275	290	255	245
28	240	240	280	270	250	220	210	210	H 220	H 215	205	210	190	E A 245	E A 245	A	H 225	205	205	E A 260	E A 265	245	280	270
29	275	280	255	250	225	205	215	H 220	H 225	H 190	H 180	H 215	210	220	235	A	220	E A 240	A 240	255	290	270	315	E A 290
30	245	E A 270	E A 270	E A 255	320	E A 280	225	210	235	230	215	A	A	E A 250	A	250	230	225	210	A	265	235	275	275
31	255	260	275	270	260	220	195	200	A	245	A	A	210	A	E A 240	E A 240	A	195	205	235	E A 325	290	265	285
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	31	31	30	31	31	27	27	21	22	22	23	24	25	25	30	31	28	31	30	29	31
MED	262	265	265	260	248	255	220	220	225	220	210	210	200	210	223	240	230	224	215	230	260	259	260	272
UQ	280	280	279	270	269	270	225	225	235	228	220	218	205	222	236	245	238	232	224	252	276	275	280	292
LQ	255	259	254	242	228	240	215	212	220	220	205	205	H 190	198	210	225	230	215	210	220	245	250	255	260

OCT. 1985 | H'F (KM)

IONOSPHERIC DATA

OCT. 1985 | H'E (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							S	110	A 110	105	105	105	A 110	A 110	A 110	105	A	S						
2							130	110	A	E A 125	A 115	A 115	A	A	A 110	A 110	115	S						
3							S	115	105	E A 135	E A 125	105	A	E A 120	E A 120	A 110	110	S						S
4	S	S					S	110	105	A 110	E A 120	E A 120	A 115	A	A 115	110	115	S						
5		S	S				S	115	110	105	105	105	A	A	A	A 115	A 110	S						
6	S						S	110	110	105	105	105	105	105	A 110	105	110	S						
7							S	120	110	E A 120	A	105	105	105	105	105	A	S						
8							S	120	110	105	105	105	105	105	110	110	A	S						
9							S	A	A 115	105	105	105	A	A	A	A	A	S						
10							A	A	A	A	A	A	A	E A 125	A	A	A	S						
11			S	S	S		S	E A 125	105	105	A 110	105	A 115	A 115	A 110	110	110	S						
12		S	S	S			S	120	105	105	A 110	105	A	105	105	110	110	S						
13	S						S	110	110	105	105	110	110	110	110	110	110	S						
14							S	115	110	A 120	A 115	A 115	A 115	A 110	A 115	A 120	A	S						
15							S	115	A 120	A 110	A 110	A 110	105	105	105	105	A 120	S						
16			S				S	A	105	105	105	105	A 120	E A 125	A 115	110	110							
17							S	A 125	A 120	A	E A 125	A	A 120	A 110	A 115	E A 115	A						S	
18							S	115	105	105	105	105	A 110	A 110	A 110	A 115	A 120							
19		S					S	A 120	A 120	E A 125	A 120	A	A	A	A	A	E A 125							
20							S	A	A 110	A 115	A 115	A 110	A 115	A 115	A 115	A 120	A							
21								115	A 115	105	A 110	A 115	A 120	105	110	110	115							
22								115	110	105	105	105	105	A	A	110	A							
23								110	110	A 110	A 110	A 110	A 110	A 110	A 120	110	A				S			
24								115	105	105	E A 130	A	A	A	A	A	A 125						S	
25								115	105	110	A	A	A	A	110	A	A							
26								E A 135	E A 130	105	A 120	A 115	A 110	A 110	A	A	A							
27								115	105	105	E A 135	A	A 125	A	A	A	A							
28								E A 130	115	A	E A 125	A 115	A 110	115	115	115	120							
29								A	A	A	A	A	A	A 115	105	110	A							
30								120	110	A	A	105	110	110	A 110	110	120							
31								120	115	110	110	110	105	110	115	115	115							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	26	28	26	26	24	21	22	23	24	17							
MED							130	115	110	105	A 108	105	A 110	A 110	A 110	110	115							
UQ								120	114	A 110	A 115	A 111	A 115	A 112	A 115	A 115	120							
LQ								115	105	105	105	105	105	105	110	110	110							

OCT. 1985 | H'E (KM)

IONOSPHERIC DATA

OCT. 1985 | H'ES (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	105	105	105	100	100	105	145	150	125	125	125	120	120	100	100	G	160	110	105	105	S	110	100	100
2	100	100	S	S	S	S	135	G	145	145	105	100	100	100	100	100	135	120	115	115	110	105	105	105
3	105	100	100	100	100	105	S	155	140	125	130	G	105	100	100	110	150	130	110	110	105	110	110	105
4	105	S	S	S	S	S	135	145	160	120	125	100	100	100	100	G	G	105	120	130	125	115	105	115
5	115	120	115	110	110	100	145	140	115	115	115	110	105	105	105	135	130	120	115	115	95	100	110	110
6	110	105	105	100	105	S	140	145	135	130	115	125	145	150	E G 175	135	125	125	115	115	115	110	110	105
7	105	105	105	100	105	100	130	125	125	120	115	110	110	110	110	110	105	105	105	105	105	110	110	115
8	105	105	105	105	100	105	140	130	120	125	115	120	120	110	110	110	110	110	110	105	100	105	100	100
9	100	100	100	100	100	100	145	130	150	110	110	105	105	105	100	105	125	100	105	105	105	105	105	100
10	100	100	100	100	95	95	105	105	100	100	100	100	100	100	95	95	95	95	95	110	105	S	110	105
11	105	100	S	S	100	100	105	145	130	135	130	G	100	95	95	G	145	130	S	105	100	100	100	100
12	100	S	S	110	110	110	170	145	150	145	125	115	105	130	G	G	130	130	115	110	95	95	S	S
13	100	100	100	100	100	100	140	130	125	125	125	G	G	G	120	120	130	120	105	105	105	105	100	100
14	100	100	100	100	S	100	100	165	150	150	140	100	100	100	100	95	95	95	95	95	S	S	100	105
15	S	B	S	100	S	105	150	150	150	130	125	115	115	115	110	110	150	130	125	115	100	105	100	100
16	S	100	S	115	110	115	110	155	125	125	115	115	115	120	130	115	110	S	105	105	105	100	100	S
17	125	120	S	105	105	105	105	130	125	135	100	100	95	95	100	95	95	S	S	95	S	S	105	100
18	S	100	100	100	100	105	S	125	120	120	120	110	110	110	115	115	110	95	95	95	S	110	115	110
19	110	105	105	105	105	110	100	105	130	125	115	110	115	105	105	105	130	115	115	115	115	110	110	105
20	100	100	105	100	100	105	S	150	150	120	120	115	115	115	100	100	100	95	95	S	S	S	105	105
21	100	100	100	100	110	100	105	140	130	130	135	125	120	120	G	130	120	115	105	105	105	105	105	110
22	105	100	100	100	100	100	130	120	115	115	115	110	105	105	105	110	105	105	105	105	105	100	100	100
23	100	100	100	100	100	100	100	155	120	120	120	125	105	120	120	115	105	100	105	S	S	105	100	100
24	100	95	95	95	100	95	100	115	110	110	105	105	100	100	110	165	140	S	105	105	105	105	110	110
25	S	115	100	95	S	100	100	165	G	115	105	105	105	110	110	105	105	110	105	110	110	105	105	105
26	100	110	105	105	110	105	105	105	105	125	115	115	115	110	110	110	110	110	110	115	110	105	105	100
27	100	100	100	95	100	100	100	G	G	160	125	105	165	105	100	100	100	105	115	95	105	110	S	110
28	105	100	100	S	100	100	95	110	125	135	120	130	130	120	120	115	115	115	105	105	105	105	100	100
29	100	125	110	115	S	115	110	110	110	105	105	145	120	125	G	140	155	110	110	110	110	110	105	100
30	100	100	100	100	100	100	105	G	165	155	130	120	115	115	145	G	145	135	115	115	115	S	105	110
31	S	105	110	105	105	110	110	G	115	115	110	110	115	115	115	115	110	110	110	110	110	105	105	S
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	28	24	27	25	28	28	27	29	31	31	28	30	30	28	26	30	28	29	29	25	26	29	28
MED	100	100	100	100	100	100	110	140	125	125	115	110	110	110	106	110	118	110	105	105	105	105	105	105
UQ	105	105	105	105	105	105	140	150	145	132	125	120	115	115	114	115	135	120	115	115	110	110	110	110
LQ	100	100	100	100	100	100	102	122	120	118	112	105	105	100	100	105	105	105	105	105	105	105	100	100

OCT. 1985 | H'ES (KM)

IONOSPHERIC DATA

OCT. 1985 | TYPES OF ES | 135° E Mean Time (G.M.T. + 9 h)

Station KOKUBUNJI TOKYO Lat. 35° 42.4' N, Long. 139° 29.3' E Sweep 1 MHz to 20 MHz in 20sec in automatic operation

Day \ Hour	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 5	F 3	F 1	F 3	F 4	F 2	HL 32	H 2	CL 22	C 2	C 1	C 1	CL 11	L 2	L 1		HCL 12	LHL 12	F 1	F 1		F 1	F 1	F 2
2	F 2	F 2					H 4		HL 13	HL 22	L 2	L 2	L 2	L 3	L 2	L 1	H 2	C 4	FF 11	F 1	F 2	F 3	F 3	F 2
3	F 1	F 3	F 6	F 3	F 1	F 2		H 2	H 2	HL 11	CL 12		L 1	L 2	L 2	L 1	H 2	H 3	F 5	FF 21	FF 42	FF 21	F 4	LK 21
4	LK 21	K 1				F 1	H 2	H 2	H 1	CL 22	CL 22	L 2	L 2	L 3	L 1			LH 24	FF 32	FF 21	FF 61	F 1	F 2	F 7
5	F 5	LK 11	LK 11	F 1	F 2	F 3	HL 31	H 2	C 3	C 3	C 2	C 2	LL 21	L 4	L 4	HL 22	HL 22	C 6	F 1	FF 41	F 2	F 1	FF 41	F 3
6	LK 31	F 7	F 3	F 2	F 3	F 1	H 3	H 2	H 3	H 2	C 2	C 2	HH 11	H 1	HL 11	H 3	H 3	C 6	F 5	F 5	F 2	F 4	F 7	F 4
7	F 7	F 4	F 4	F 7	F 3	F 1	H 3	H 3	C 2	CL 32	CL 22	C 2	C 3	C 2	C 2	C 2	LH 31	L 3	F 1	F 1	F 2	F 5	F 2	FF 22
8	F 4	F 2	F 4	F 3	F 7	F 7	H 3	HC 42	C 2	C 2	C 2	C 2	C 1	C 2	C 2	C 4	L 4	LL 41	F 1	F 4	F 4	F 3	F 3	F 5
9	FF 43	F 3	FF 42	F 4	F 2	F 2	H 2	HL 22	HL 11	C 2	C 2	C 3	L 2	L 3	L 2	L 2	CL 12	L 2	F 2	F 3	F 3	F 3	F 1	F 2
10	F 1	F 3	F 3	F 1	F 1	F 2	L 4	L 5	L 4	L 2	L 4	L 3	L 2	L 1	L 2	L 4	L 4	L 3	F 4	FF 21	F 4		FF 22	FF 33
11	F 1	F 2	K 1	K 1	LK 11	F 1	L 4	HL 22	HH 22	H 1	HL 11		L 1	L 2	L 1		H 2	C 2		F 1	F 4	F 3	F 2	F 2
12	F 2	K 1	K 1	LK 11	F 1	F 2	HL 31	H 2	H 1	H 1	HL 11	C 1	L 1	C 1			H 3	C 1	FF 11	FF 21	F 2	F 1		
13	LK 11	F 1	F 2	F 2	F 2	F 2	C 4	H 3	H 2	H 1	C 1				C 2	C 2	H 3	C 1	F 6	F 2	F 3	F 1	F 2	F 2
14	F 2	F 2	F 2	F 1		F 1	L 1	HC 22	H 2	HL 12	HL 12	L 1	L 1	L 1	L 1	L 3	L 4	L 5	F 2	F 3			F 1	F 1
15				F 1		F 1	HC 41	H 2	HL 22	HL 21	CL 21	CL 21	C 2	C 3	C 3	C 2	HL 21	C 3	FF 31	FF 72	F 4	F 6	F 5	F 2
16		F 1	K 1	F 3	F 3	F 2	LH 13	HL 24	H 2	H 3	C 2	C 2	CL 21	CL 21	HL 21	C 5	C 4		F 2	F 3	F 1	F 1	F 1	
17	F 1	F 1		F 4	F 1	F 2	L 4	HL 33	HL 22	HLL 12	L 2	L 2	L 2	L 1	L 1	L 1	L 2	F 1		F 1			LK 11	F 2
18		F 3	FF 44	F 2	F 2	F 3		H 3	C 2	C 2	C 1	C 2	CL 21	CL 21	CL 31	CL 41	CL 62	F 3	F 4	F 1		F 4	F 5	F 4
19	F 3	LK 21	F 3	F 4	F 2	FF 22	L 1	L 1	HL 32	HL 32	CL 31	LL 33	CL 32	L 3	L 3	L 4	CL 22	F 8	F 4	F 6	F 6	F 3	F 3	F 2
20	F 6	F 5	FF 66	F 3	F 2	F 1		HL 22	H 3	CL 32	CL 22	CL 21	CL 22	CL 11	L 1	L 2	L 2	F 1	F 1				F 4	FF 22
21	F 2	F 2	F 3	F 3	FF 22	F 2	F 1	H 3	HL 32	H 2	HL 11	CL 21	CL 11	C 1		H 3	C 5	F 7	F 2	F 3	F 6	F 3	F 6	F 2
22	F 3	F 5	F 3	F 2	F 2	F 2	FF 31	C 4	C 4	C 3	C 2	C 3	C 2	L 3	L 3	C 3	L 2	F 4	F 3	F 4	F 2	F 4	F 3	F 2
23	F 3	F 3	F 2	F 2	F 2	F 2	F 1	H 2	C 3	CL 31	CL 11	CL 11	L 1	CL 11	CL 31	C 2	L 4	F 4	F 3		K 1	F 1	F 2	F 4
24	F 2	F 4	F 2	F 1	F 1	F 1	F 1	C 3	C 3	C 2	L 1	L 2	L 3	L 2	L 1	HL 12	HL 22		F 5	F 5	F 3	F 5	LK 11	F 3
25		F 1	F 3	F 1		F 2	F 1	H 3		C 2	L 2	LL 11	L 2	L 2	C 3	L 2	LH 22	F 1	F 4	F 3	F 2	F 2	F 2	F 2
26	F 2	FF 22	F 2	F 3	F 4	F 2	F 3	L 4	L 2	C 2	CL 22	CL 21	CL 21	CL 21	L 1	L 2	L 3	F 4	F 5	F 1	F 6	F 7	F 5	F 4
27	F 3	F 2	F 3	F 2	F 1	F 3	F 3			H 1	CL 22	L 2	HL 12	L 2	L 2	L 3	L 2	F 5	F 1	F 1	FF 11	F 1		F 1
28	F 3	F 5	F 2		F 2	F 3	F 2	L 2	C 3	HL 21	CL 12	CL 11	CL 11	C 2	C 2	C 3	C 3	F 2	F 2	F 4	F 2	F 2	F 2	F 2
29	F 1	F 2	F 1	F 2		F 1	F 1	L 3	L 3	L 2	L 2	HL 12	CL 12	CL 22		H 2	HL 32	F 5	F 3	F 2	F 2	F 3	F 4	F 7
30	F 3	F 5	F 5	F 3	F 3	F 3	F 2		H 2	HL 22	HL 21	C 2	C 2	C 2	HL 41		H 3	F 4	F 3	F 4	F 3		F 2	F 4
31		F 1	F 2	F 1	F 1	FF 12	F 1		C 4	C 2	C 3	C 2	C 2	C 3	C 2	C 3	C 3	F 4	F 3	F 2	F 2	F 3	F 2	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
UQ																								
LQ																								

The Radio Research Laboratories, Japan

OCT. 1985 | TYPES OF ES

IONOSPHERIC DATA

OCT. 1985 | FXI (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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	O S 37	S	X 36	S	35	X 29	X 39													X 50	X 34	X 34	X 35	X 37
2	S 37	X 39	S 39	X 37	X 39	X 32	S 38													X 57	X 47	X 43	X 43	O S 44
3	S 44	S 41	X 39	X 39	X 39	X 37	X 40													X 68	X 44	X 42	X 42	X 43
4	X 44	X 41	S 41	X 43	X 35	X 33	X 40													X 60	X 58	X 52	X 47	X 45
5	X 45	X 45	X 38	X 38	X 39	X 39	X 40													C	C	C	C	C
6	C	C	C	C	C	C	C													C	C	C	C	C
7	C	C	C	C	C	C	C													S 43	A	S 34	U S 32	S 33
8	U S 36	X 36	X 35	X 31	X 29	X 26	X 31													X 61	X 44	U S 43	U S 45	S 48
9	U S 41	C	C	C	C	C	C													X 48	X 45	X 45	X 41	S 40
10	S 39	U S 37	X 36	S 39	S 35	X 29	S 33												X 69	U S 53	X 38	X 41	X 42	X 38
11	X 37	X 38	S 38	X 39	U S 39	X 26	S 32												X 59	X 48	X 38	X 41	S 42	X 43
12	X 43	U S 43	X 45	X 46	X 40	X 29	S 35												X 67	X 50	X 48	X 47	U S 46	X 41
13	X 40	X 40	X 41	X 39	X 35	S 35	X 40												X 68	X 41	A	X 36	U S 37	X 38
14	S 39	X 38	X 38	X 39	X 46	X 31	X 35												X 57	X 60	X 49	X 48	X 46	X 49
15	X 45	X 45	X 40	X 39	X 43	X 33	X 34												X 86	X 62	X 31	A	X 32	X 35
16	X 36	S 36	X 37	X 38	X 34	X 31	X 35												X 76	X 49	S 38	S 39	S 42	X 41
17	X 43	X 40	X 39	X 40	X 40	X 28	X 33												X 73	X 44	X 39	X 42	X 41	S 42
18	F	X 37	X 37	X 33	X 34	X 33	X 39												X 69	X 60	X 38	X 39	X 39	S 38
19	X 39	X 38	X 39	X 40	X 40	X 40	X 35												X 65	X 59	X 55	X 50	X 48	U S 53
20	X 47	X 39	X 34	X 36	X 34	X 33	X 37												X 64	X 46	X 40	X 41	X 42	X 34
21	X 36	X 38	X 39	S 35	X 34	X 31	U S 34												X 88	U S 62	X 36	X 36	X 38	X 32
22	X 32	X 33	X 32	X 33	X 36	X 36	X 36												X 80	X 57	X 51	S	X 45	S 37
23	X 38	S 38	X 38	X 39	S 41	X 41	X 39												H 80	X 60	X 51	X 50	S 38	X 37
24	X 37	X 39	X 39	X 38	X 37	X 38	X 38												X 72	X 54	X 45	S	U S 38	X 37
25	42	X 44	X 41	S 37	47	X 30	X 28												X 70	X 47	S 41	X 41	X 38	40
26	X 37	X 40	X 39	X 40	X 40	X 31	X 32												X 65	S 41	X 37	S 36	S	S
27	S 41	41	X 39	S 39	45	S 35	X 29												X 54	X 42	S 39	X 42	X 39	X 41
28	X 41	S 38	S 37	S 37	S 42	X 41	X 37												X 66	X 46	X 34	X 36	X 36	U S 37
29	O S 39	X 38	X 38	X 39	X 45	X 40	X 30												H 49	X 40	X 43	A	X 42	S 45
30	U S 45	X 44	S 37	X 34	S 37	X 36	S 38												X 61	S 39	U S 40	S 49	U S 40	S 41
31	S 38	S 39	X 39	U S 37	X 39	U S 42	X 30												U S 49	S 37	X 41	S 39	A	47
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	27	28	27	28	28	28												22	29	27	25	27	28
MED	X 39	X 39	X 38	X 39	X 39	X 33	X 35												X 68	X 50	X 41	X 41	X 41	X 40
UQ	X 43	X 41	X 39	X 39	X 40	X 38	X 38												X 73	X 60	X 46	X 45	X 42	44
LQ	X 37	X 38	X 37	X 37	X 35	X 30	X 32												X 61	X 44	X 38	X 39	X 38	X 37

OCT. 1985 | FXI (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOF2 (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S 31	S	30	S	F 26	23	33	52	58	62	62	61	61	72	75	63	58	67	77	43	28	28	30	31
2	S 31	33	33	31	33	26	32	51	62	72	69	62	H 60	70	66	62	60	S 58	64	S 51	41	37	37	38
3	S 38	35	S 33	S 33	33	31	34	C	C	70	65	70	74	81	H 73	76	70	69	69	S 62	38	S 36	J S 36	37
4	38	35	35	37	29	27	34	64	64	68	62	79	85	93	89	70	R 72	64	59	54	J S 52	46	S 41	39
5	39	39	32	32	33	S 33	34	57	61	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	69	76	97	71	62	65	69	90	87	37	A	S 28	26	S 27
8	U S 30	30	U S 29	25	23	20	25	49	54	70	70	64	76	87	84	69	59	56	61	55	38	37	39	S 42
9	U S 35	C	C	C	C	C	C	C	C	C	75	76	95	73	59	64	68	67	54	42	39	39	35	34
10	S 33	U S 31	S 30	S 33	S 29	23	27	52	52	64	68	76	67	77	66	62	75	67	63	U S 47	32	35	36	32
11	31	32	S 32	33	U S 33	20	26	53	63	72	59	U H 63	64	63	79	65	64	54	53	42	32	35	36	37
12	37	U S 37	39	40	34	23	29	58	64	72	91	87	73	77	66	72	71	65	61	44	42	41	U S 40	35
13	34	34	35	33	29	29	34	45	56	63	67	79	87	77	67	67	77	U R 73	62	S 35	A	30	U S 31	32
14	U S 33	32	32	33	40	25	29	44	53	60	71	77	93	73	68	78	72	61	51	54	43	42	40	43
15	39	39	34	33	37	27	28	51	63	66	78	83	91	82	78	67	60	67	80	56	25	A	26	29
16	30	J S 30	31	32	28	25	29	52	66	67	76	83	89	H 81	73	61	74	79	70	43	S 32	U S 33	S 36	35
17	36	34	33	34	34	22	27	59	75	87	88	86	77	76	90	73	72	70	67	38	33	36	35	U S 36
18	F	31	31	27	28	27	33	53	55	56	67	93	103	103	110	90	70	64	63	54	32	33	33	32
19	33	32	33	34	34	34	29	54	66	91	82	72	81	78	84	73	74	71	59	53	49	U S 44	S 42	U S 47
20	41	33	28	30	28	27	31	56	70	84	80	70	82	72	72	80	74	74	58	40	34	35	36	28
21	30	32	33	29	28	25	28	54	61	80	80	79	79	70	79	84	64	70	82	56	31	30	32	26
22	26	27	26	27	30	30	30	55	69	78	97	79	83	R 81	91	U H 101	85	85	74	S 51	45	I S 39	39	S 31
23	32	32	S 32	33	35	35	33	59	72	81	81	79	80	81	85	R 102	89	79	U S 74	54	45	44	J S 32	31
24	31	32	S 33	32	31	S 32	S 32	60	87	70	71	86	81	88	J R 99	94	104	86	66	48	S 39	S	32	S 31
25	F	U S 38	35	S 31	F	23	22	55	63	71	74	86	95	97	106	105	86	68	64	41	35	35	U S 32	F
26	31	33	33	34	S 34	25	26	54	61	65	75	S 97	U H 95	J H 85	87	92	86	77	59	35	31	30	S	S
27	35	F 32	33	J S 33	F 35	29	23	49	56	59	70	72	81	79	85	92	74	66	48	36	33	35	S 33	35
28	S 35	S 32	S 31	S 31	36	35	31	S 53	60	H 58	U R 72	78	72	72	80	U R 89	77	79	60	40	28	30	30	S 31
29	33	32	32	33	39	34	24	47	61	58	69	U H 80	78	H 76	86	94	S 96	63	H 43	34	37	A	36	39
30	U S 39	S 38	S 31	28	S 31	S 30	S 32	54	63	63	69	75	72	68	83	72	71	75	55	J S 33	U S 34	U S 43	J S 34	S 35
31	S 32	U S 33	32	S 31	33	U S 36	24	48	65	62	57	61	65	81	78	87	74	60	U S 43	31	35	S 33	A	F
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	27	28	27	27	28	28	27	27	27	29	29	29	29	29	29	29	29	29	29	27	26	27	26
MED	33	32	32	33	33	27	29	53	63	68	71	78	81	77	79	73	72	68	62	43	35	35	35	34
UQ	36	34	33	33	34	32	32	56	66	72	78	83	89	81	86	90	77	75	69	54	40	39	36	37
LQ	31	32	31	31	29	24	26	51	59	62	68	72	73	72	72	67	69	64	58	38	32	33	32	31

OCT. 1985 | FOF2 (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOF1 (0.01 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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 410	L	440	U L 440	440	440	L	U L 410	L						
2									L	L	420	440	L 420	450	L	420	L	L						
3								C	C	L	430	440	H 450	460	L	420	L	L						
4									L	L	U L 440	430	450	440	L	L	L							
5										C	C	C	C	C	C	C	C	C	C					
6								C	C	C	C	C	C	C	C	C	C	C	C					
7								C	C	C	A	A	A	L	L	U L 410	L	L						
8										L	L	430	A	A	L	A	A							
9								C	C	C	410	A	A	A	L	420	L							
10									L	360	U L 420	430	430	U L 430	U L 430	L	U L 380	L						
11									L	L	U L 420	L 420	L 460	390		L	L	L						
12									L	L	U L 430	U L 430	U L 450	L 410	U L 520	L	L							
13										L	U L 430	420	410	U L 430	U L 490	L	L							
14									L	L	L	L	L 440	L	A	A	A							
15									L	L	L	L	U L 440	U L 440	U L 430	L	A	A						
16										L	A	L 420	410	L	U L 450	U L 430	A							
17									L	L	L	L	L 440	L 450	L	L	L							
18											L	L 440	A	L	L	L	L							
19										L	L	L	L 430	L	L	L	L							
20										L	L	L 450	L 440	L 440	L	L	L							
21										420	450	450	450	L	L	L	L							
22										A	L	450	L	430	L	L	L							
23									L	L	L	450	480	A	L	L	L							
24									L	L	L	420	450	L 440	L	L	L							
25									L	L	L	470	L 410	430	L	L	L							
26										L	450	L	450	440	L	430	360							
27										L	L	H 430	450	L	L	L	L							
28									L	L 370	L	L	L	A	U L 420	L	L							
29									300	L	L	450	L 440	U L 450	L	U L 410	L							
30									L	L	U L 440	U L 440	430	A	L	A								
31									L	L	U L 410	430	450	U L 430	A	A	L							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									1	4	12	21	23	17	7	7	3							
MED									300	390	U L 430	440	440	L 440	U L 440	420	U L 380							
UQ										415	440	450	450	L 440	U L 470	425	U L 395							
LQ										365	U L 420	430	L 430	L 430	U L 430	415	370							

OCT. 1985 | FOF1 (0.01 MHZ)

IONOSPHERIC DATA

OCT. 1985 | FOE (0.01 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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								205	A 250	A 285	305	310	320	320	R 310	300	255	A 205	S					
2								H 195	H 250	285	R 310	305	310	U R 310	300	285	270	H 205	S					
3								C	C	R 285	A	A	A	345	305	295	250	210	S					
4								190	245	290	300	310	320	315	305	285	240	H 190	S					
5								A	245	C	C	C	C	C	C	C	C	C	C					
6								C	C	C	C	C	C	C	C	C	C	C	C					
7								C	C	C	295	300	305	310	295	280	A	A	S					
8								195	245	A	300	310	310	305	300	A	A	A	S					
9								C	C	C	295	A	A	A	A	A	240	A	S					
10								170	240	280	A	A	A	315	305	285	245	A						
11								200	H 250	295	A	A	A	A	A	A	A	280						
12								200	245	280	300	A	A	A	A	270	235	190						
13								175	H 240	H 275	295	305	300	A	A	A	A	A						
14								195	250	A	A	320	330	325	A	285	A	A						
15								195	A	290	310	315	325	A	300	A	A	S						
16								S	A	A	U A 305	R	A 315	H 315	305	A	A	S						
17								170	A	A	310	U R 325	330	315	305	290	250	190						
18								180	245	A	300	310	310	A	R 295	A	A	A						
19								195	250	280	300	310	310	A	A	285	250	170						
20								205	255	280	305	315	320	315	295	R 275	230	190						
21								200	265	H 290	300	305	310	310	300	280	A	A						
22								A	250	265	A	310	310	315	300	280	A	A						
23								200	245	295	305	315	A	A	A	A	A	A						
24								195	A	290	A	A	330	R 325	R 305	A	A	A						
25								165	H 250	H 295	305	310	R	A	A	A	260	A						
26								200	A	290	A	A	315	315	305	285	A	A						
27								195	245	H 295	305	A	A	A	310	A	A	180						
28								S	U H 235	H 290	300	310	315	310	305	280	250	A						
29								S	A	A	300	A	A	310	300	A	H 240	A						
30								180	230	A	290	A	A	U R 310	295	H 270	240	170						
31								185	240	A	A	295	305	310	290	265	A	S						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								22	20	18	21	18	19	19	21	17	14	10						
MED								195	245	290	300	310	315	315	300	285	248	190						
UQ								200	250	290	305	315	320	315	305	285	250	205						
LQ								180	242	280	300	305	310	310	300	280	240	180						

OCT. 1985 | FOE (0.01 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOES (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Hour / 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	JA 18	JA 30	JA 30	JA 18	ES 16	ES 16	ES 16	24	JA 34	JA 41	35	37	G	G	G	G	30	23	ES 16	JA 18	23	JA 21	ES 16	ES 16
2	JA 21	JA 17	JA 18	JA 19	ES 16	ES 16	ES 16	24	29	G	G 30	G 29	G 29	JA 36	37	32	31	26	20	20	ES 16	ES 16	ES 16	27
3	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	C	C	35	34	33	35	G	G 26	G 21	G 21	G 17	JA 24	ES 16	JA 28	JA 18	ES 16	ES 16
4	ES 16	JA 18	ES 16	ES 16	ES 16	ES 16	ES 16	24	28	32	35	33	G	G 26	G	31	G	22	ES 16	JA 18	ES 16	JA 17	JA 17	JA 19
5	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	24	39	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	JA 56	JA 49	JA 50	JA 61	JA 57	JA 44	30	JA 30	JA 29	JA 27	JA 33	JA 51	JA 36	JA 21
8	JA 37	JA 41	JA 50	JA 24	18	ES 16	17	24	JA 36	33	39	39	JA 47	JA 54	JA 41	JA 66	JA 47	JA 36	JA 29	JA 20	18	ES 16	18	ES 16
9	17	C	C	C	C	C	C	C	C	C	34	JA 61	JA 55	JA 55	JA 87	JA 44	28	JA 23	JA 29	21	JA 24	JA 20	JA 32	JA 20
10	JA 25	JA 24	JA 18	18	ES 16	ES 16	ES 16	G	26	JA 28	JA 40	JA 40	JA 39	G 22	32	JA 34	30	25	20	JA 25	ES 16	ES 16	ES 16	ES 16
11	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	23	26	31	33	34	32	34	31	29	26	25	20	20	ES 16	ES 16	JA 30	JA 17
12	20	17	ES 16	ES 16	ES 16	ES 16	ES 16	26	32	32	33	37	JA 32	JA 32	JA 33	34	32	JA 32	23	JA 21	JA 20	22	ES 16	ES 16
13	ES 16	ES 16	ES 16	ES 16	17	ES 16	ES 16	26	JA 39	JA 62	JA 55	JA 53	JA 42	JA 35	JA 53	JA 34	42	31	JA 54	JA 36	JA 40	JA 20	22	20
14	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	25	G	JA 33	33	G	G	G 23	JA 55	JA 47	JA 42	JA 33	JA 44	JA 50	JA 17	JA 33	ES 16	ES 16
15	JA 22	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	25	JA 33	35	38	38	G 32	JA 39	33	35	JA 40	JA 43	23	JA 34	ES 16	JA 38	ES 16	ES 16
16	ES 16	JA 35	ES 16	ES 16	ES 16	ES 16	ES 16	24	JA 36	JA 40	JA 48	JA 71	40	35	JA 50	JA 43	JA 73	JA 31	JA 51	JA 41	JA 40	JA 30	JA 29	JA 20
17	JA 20	20	ES 16	ES 16	ES 16	19	20	23	JA 38	38	G	G 26	G 22	G 25	JA 35	G	G	JA 29	JA 25	JA 18	JA 17	JA 17	ES 16	ES 16
18	JA 35	JA 18	JA 17	JA 25	JA 18	JA 17	ES 16	21	29	JA 36	40	40	43	JA 37	35	30	27	JA 34	JA 17	ES 16	ES 16	ES 16	ES 16	ES 16
19	JA 36	JA 24	JA 21	JA 21	JA 20	ES 16	ES 16	G	27	33	38	33	38	40	JA 42	G 25	30	29	JA 26	JA 64	JA 35	JA 78	JA 29	JA 32
20	JA 32	JA 29	ES 16	JA 30	ES 16	ES 16	JA 25	JA 35	31	31	36	35	36	36	33	31	27	G	ES 16	ES 16	ES 16	ES 16	JA 24	ES 16
21	ES 16	JA 38	JA 30	JA 18	JA 23	JA 21	ES 16	24	42	40	42	40	42	36	37	34	27	22	ES 16	ES 16	ES 16	ES 16	ES 16	JA 17
22	JA 18	JA 18	JA 24	ES 16	ES 16	JA 18	ES 16	26	JA 42	JA 52	JA 54	39	37	35	37	31	JA 33	20	JA 29	JA 33	JA 30	JA 32	JA 52	JA 24
23	JA 18	JA 21	ES 16	ES 16	ES 16	ES 16	ES 16	20	27	36	38	45	44	JA 84	JA 35	JA 39	JA 33	JA 29	JA 33	JA 39	JA 24	JA 24	JA 21	JA 17
24	JA 17	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	23	32	JA 42	JA 41	33	G	G	G	30	JA 39	27	25	JA 26	JA 30	JA 29	25	ES 16
25	ES 16	ES 16	JA 20	ES 16	ES 16	ES 16	ES 16	G	27	33	35	37	41	37	34	JA 36	G 26	25	JA 50	JA 26	JA 36	JA 33	JA 17	ES 16
26	ES 16	ES 16	ES 16	ES 16	25	ES 16	ES 16	26	28	32	JA 44	JA 33	G 31	37	42	JA 54	JA 40	JA 66	JA 37	JA 35	JA 29	JA 24	JA 24	JA 23
27	JA 26	JA 21	JA 13	ES 16	ES 16	JA 17	ES 16	23	G	G	37	35	34	36	35	34	30	26	JA 33	26	26	23	21	20
28	JA 29	23	ES 16	ES 16	ES 16	17	18	G	28	36	40	JA 45	41	JA 55	JA 37	33	26	21	17	21	JA 19	JA 19	JA 18	JA 24
29	32	23	JA 20	20	ES 16	ES 16	ES 16	G	25	31	JA 34	36	JA 61	35	32	33	29	30	JA 29	18	22	43	21	21
30	23	JA 18	JA 26	23	19	JA 17	ES 16	25	29	40	34	38	35	51	JA 49	41	G	19	ES 16	ES 16	ES 16	23	JA 29	23
31	JA 33	ES 16	ES 16	JA 18	JS 12	JS 12	ES 16	G	26	36	37	42	36	36	JA 49	JA 43	60	JA 30	JA 37	JA 20	JA 31	JS 16	JA 42	JA 26
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	28	28	28	28	28	28	27	27	27	29	29	29	29	29	29	29	29	29	29	29	29	29	29
MED	JA 18	18	ES 16	ES 16	ES 16	ES 16	ES 16	24	29	35	37	37	36	36	35	34	30	27	JA 25	JA 21	JA 22	JA 21	21	17
UQ	JA 26	JA 24	JA 20	JA 18	16	16	ES 16	25	35	39	40	40	42	JA 39	JA 42	JA 41	JA 39	JA 31	JA 33	JA 33	JA 30	JA 30	JA 29	JA 21
LQ	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	20	27	32	34	33	G 32	32	33	31	27	23	20	18	ES 16	JS 16	ES 16	ES 16

OCT. 1985 | FOES (0.1 MHZ)

IONOSPHERIC DATA

OCT. 1985 | FBES (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	20	E	E	E S 16	E S 16	E S 16	24	31	33	35	35	G	G	G	G	27	22	E S 16	E	E	E	E S 16	E S 16
2	E	E	E	17	E S 16	E S 16	E S 16	24	29	G	G 30	G 29	G 29	25	36	32	30	26	19	20	E S 16	E S 16	E S 16	21
3	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	C	C	34	33	33	34	G	G 24	G 21	G 21	G 16	21	E S 16	E	E	E S 16	E S 16
4	E S 16	18	E S 16	E S 16	E S 16	E S 16	E S 16	24	27	32	34	33	G	G 26	G	31	G	22	E S 16	17	E S 16	E	E	E
5	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	24	39	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	53	46	46	52	45	29	29	24	G	E	A A 33	E	E	E
8	E	E	E	E	E	E S 16	E	G	34	32	36	38	45	52	39	63	43	33	18	E	E	E S 16	E	E S 16
9	E	C	C	C	C	C	C	C	C	C	34	56	48	50	40	34	28	21	G	E	E	E	20	18
10	E	E	E	E	E S 16	E S 16	E S 16	G	G	26	37	36	35	G 22	G	31	29	19	20	E	E S 16	E S 16	E S 16	E S 16
11	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	G	G	G	32	33	32	31	31	28	26	25	E	E	E S 16	E S 16	25	E
12	E	E	E S 16	E S 16	E S 16	E S 16	E S 16	22	32	G	G	32	32	31	30	G	31	G	E	20	E	E	E S 16	E S 16
13	E S 16	E S 16	E S 16	E S 16	E	E S 16	E S 16	24	35	32	34	40	33	32	33	33	32	29	32	21	A A 40	E	E	E
14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	22	G	30	32	G	G	G 23	52	44	35	28	40	40	E	25	E S 16	E S 16
15	E	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	22	29	33	36	36	G 32	34	32	33	38	42	E	25	E S 16	A A 38	E S 16	E S 16
16	E S 16	E	E S 16	E S 16	E S 16	E S 16	E S 16	22	30	35	46	34	G	34	40	37	40	31	51	33	E	E	E	18
17	19	17	E S 16	E S 16	E S 16	E	E	22	24	33	G	G 24	G 22	G 24	29	G	G	G	E	E	E	E	E S 16	E S 16
18	E	E	E	E	E	E	E S 16	20	28	32	39	35	41	34	34	29	26	30	E	E S 16	E S 16	E S 16	E S 16	E S 16
19	30	22	E	20	E	E S 16	E S 16	G	27	33	37	33	36	39	33	G 24	28	28	23	44	30	E	E	E
20	25	28	E S 16	25	E S 16	E S 16	25	34	31	31	35	35	35	36	32	30	26	G	E S 16	E S 16	E S 16	E S 16	E	E S 16
21	E S 16	26	21	E	19	E	E S 16	21	G	39	39	37	38	35	35	33	26	20	E S 16	E S 16	E S 16	E S 16	E S 16	E
22	18	E	19	E S 16	E S 16	E	E S 16	20	32	42	35	36	35	34	34	31	29	19	28	30	17	S	29	E
23	E	E	E S 16	E S 16	E S 16	E S 16	E S 16	20	G	36	36	41	44	53	32	30	27	20	E	29	19	21	E	E
24	E	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	G	30	40	34	33	G	G	G	30	35	24	25	19	29	29	E	E S 16
25	E S 16	E S 16	E	E S 16	E S 16	E S 16	E S 16	G	27	32	34	36	36	34	34	30	G 24	22	E	19	17	E	E	E S 16
26	E S 16	E S 16	E S 16	E S 16	25	E S 16	E S 16	25	27	32	35	U Y 33	G 30	35	38	36	31	50	33	28	E	19	18	E
27	19	E	E	E S 16	E S 16	E	E S 16	G	G	G	34	35	34	33	33	32	29	26	31	24	25	18	19	19
28	21	E	E S 16	E S 16	E S 16	E	E	G	28	34	40	44	40	49	34	G	G	20	E	19	17	E	17	22
29	28	E	E	E	E S 16	E S 16	E S 16	G	25	30	32	35	33	33	G	33	28	29	26	E	E	A A 43	E	E
30	E	17	18	E	E	E	E S 16	G	27	34	34	35	35	50	41	41	G	G	E S 16	E S 16	E S 16	E	17	E
31	20	E S 16	E S 16	E	E	E	E S 16	G	26	35	35	39	34	35	45	35	30	28	36	19	E	E	A A 42	E
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	28	28	28	28	28	28	27	27	27	29	29	29	29	29	29	29	29	29	29	29	28	29	29
MED	16	16	E S 16	E S 16	E S 16	E S 16	E S 16	20	27	32	35	35	34	34	33	31	28	24	16	19	16	E E 16	16	16
UQ	18	16	E S 16	E S 16	E S 16	E S 16	E S 16	23	30	34	36	37	36	36	38	33	31	28	26	24	17	17	17	E S 16
LQ	E	E	E	E	E S 16	E	E S 16	G	24	30	34	33	G 30	26	30	29	26	20	E	E	E	E	E	E

OCT. 1985 | FBES (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FMIN (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 2 4sec in automatic operation

Day \ Hour	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	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	15	15	15	17	16	17	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
2	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	15	16	21	17	16	18	15	15	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
3	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	C	C	16	16	16	19	16	16	16	15	ES 15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
4	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	16	20	16	17	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
5	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	16	16	17	16	16	15	16	ES 15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
8	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	16	16	17	16	16	16	ES 15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
9	ES 16	C	C	C	C	C	C	C	C	C	16	15	16	16	16	15	16	ES 16	ES 15	ES 16	ES 16	ES 16	ES 16	ES 16
10	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	15	17	17	16	16	15	15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
11	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 15	14	16	15	18	16	16	16	16	ES 15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
12	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 15	16	16	18	18	17	15	14	14	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
13	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	19	17	15	16	16	16	ES 16	ES 15	ES 16	ES 16	ES 16	ES 16	ES 16
14	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	15	16	16	17	17	16	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	16	16	21	18	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	15	15	16	17	16	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
17	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	18	17	18	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
18	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	16	16	18	16	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
19	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	16	16	16	17	17	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
20	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	15	16	16	17	16	16	18	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
21	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	15	16	16	16	18	16	15	16	16	15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
22	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	15	14	16	15	21	18	20	16	15	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
23	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	16	16	18	16	16	16	15	15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
24	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	16	16	19	17	17	19	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
25	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	15	15	17	17	17	18	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
26	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	15	15	15	16	17	17	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
27	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	15	15	17	16	16	17	15	15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
28	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	15	14	15	18	16	17	16	14	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
29	ES 16	ES 16	ES 15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	12	15	15	15	18	15	17	12	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
30	ES 16	ES 16	ES 15	ES 16	ES 16	ES 16	ES 16	14	16	15	15	15	16	16	16	15	15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
31	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	14	14	16	15	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	28	28	28	28	28	28	27	27	27	29	29	29	29	29	29	29	29	29	29	29	29	29	29
MED	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	16	16	17	16	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
UQ	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	16	16	16	17	18	17	16	16	16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
LQ	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	14	15	16	15	16	16	16	16	15	ES 15	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16

OCT. 1985 | FMIN (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | M(3000)F2 (0.01) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S 305	S	310	S	F 385	320	345	375	380	360	380	340	305	315	340	350	330	340	365	370	355	295	290	290
2	S 330	335	325	330	335	320	345	370	360	320	375	360	H 320	330	335	335	350	S 350	345	S 335	330	300	300	315
3	S 320	340	S 310	S 305	330	325	340	C	C	365	365	340	330	320	H 315	330	340	345	345	S 360	340	S 300	J S 295	300
4	295	310	305	340	315	305	325	375	355	365	300	315	315	320	325	330	R 335	350	340	335	J S 315	330	S 310	300
5	310	315	310	315	315	S 335	330	375	340	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	335	320	350	350	305	330	335	350	375	380	A	S 305	305	S 295
8	U S 300	300	U S 295	340	305	325	320	365	340	355	365	330	315	335	345	360	370	350	345	345	315	310	320	S 345
9	U S 355	C	C	C	C	C	C	C	C	C	360	340	350	375	320	335	350	375	360	320	320	320	315	325
10	S 320	U S 320	S 315	S 350	S 360	345	335	385	375	350	340	355	335	345	350	340	320	365	355	U S 370	295	315	335	310
11	305	330	S 345	350	U S 365	325	325	360	355	380	365	U H 350	345	325	355	355	365	360	340	355	280	300	290	295
12	295	U S 295	320	350	365	305	310	345	350	335	345	355	330	335	305	340	365	360	360	320	310	330	U S 325	315
13	325	325	330	350	295	310	365	365	375	365	350	350	345	325	335	320	355	U R 355	360	S 355	A	285	U S 290	310
14	U S 320	310	310	320	375	340	360	385	375	360	345	320	345	340	325	345	360	360	345	335	350	310	310	315
15	320	335	340	320	365	350	320	360	380	365	370	355	360	335	345	345	350	335	360	375	360	A	305	295
16	300	J S 305	320	345	340	320	325	365	355	345	350	335	335	H 325	340	335	335	335	355	370	S 280	U S 305	S 335	300
17	320	295	320	325	365	320	315	345	360	365	365	365	345	300	350	340	360	350	375	370	305	320	315	U S 290
18	F	340	340	315	355	295	335	385	390	355	315	325	335	320	340	360	355	350	355	350	295	335	320	310
19	320	330	320	310	310	350	380	350	370	380	365	345	345	325	350	350	350	365	345	320	335	U S 305	S 335	U S 295
20	340	320	305	335	320	315	340	365	350	370	370	355	360	335	335	335	350	365	355	350	325	315	345	305
21	295	310	320	335	330	295	330	360	360	360	350	355	355	330	330	355	345	340	365	390	300	290	330	325
22	305	305	295	295	310	355	345	370	350	335	385	335	340	R 320	325	U H 300	335	350	350	S 330	310	I S 320	335	S 320
23	310	310	S 310	300	325	335	360	370	350	360	360	355	345	330	315	R 335	335	340	U S 335	340	315	340	J S 330	300
24	315	310	S 280	310	320	S 340	S 335	370	395	370	350	340	335	315	J R 305	315	335	360	350	335	S 305	S	275	S 270
25	F	U S 315	350	S 345	F	370	320	365	375	355	335	325	315	310	315	330	355	355	360	365	315	315	U S 310	F
26	315	310	315	345	S 355	320	340	365	360	340	325	S 345	U H 335	J H 295	320	325	350	355	355	345	320	295	S	S
27	315	F 330	320	J S 320	F 340	380	310	365	375	355	350	320	335	315	315	355	360	380	355	345	305	315	S 305	295
28	S 340	S 330	S 305	S 320	320	355	370	S 375	360	H 355	U R 340	360	340	320	320	U R 325	370	360	360	350	305	300	300	S 305
29	305	310	310	320	360	380	310	360	360	360	340	U H 345	360	H 300	310	325	S 365	350	H 370	310	285	A	290	295
30	U S 305	S 340	S 340	305	S 320	S 315	S 330	340	355	350	345	355	325	325	335	345	315	375	365	J S 270	U S 295	U S 315	J S 295	S 330
31	S 310	U S 270	310	S 305	335	U S 360	335	355	370	385	375	325	325	340	335	345	370	365	U S 335	340	300	S 320	A	F
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	27	28	27	27	28	28	27	27	27	29	29	29	29	29	29	29	29	29	29	27	26	27	26
MED	315	315	315	320	335	325	335	365	360	360	350	345	335	325	330	335	350	355	355	345	310	312	310	302
UQ	320	330	322	342	360	350	345	372	375	365	365	355	345	335	340	345	360	360	360	365	322	320	328	315
LQ	305	310	310	312	320	318	322	360	355	352	340	330	330	320	315	330	335	350	345	335	300	300	298	295

OCT. 1985 | M(3000)F2 (0.01)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | M(3000)F1 (0.01) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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 390	L	390	U L 395	395	365	L	U L 365	L						
2									L	L	385	390	L 405	380	L	365	L	L						
3								C	C	L	375	395	H 395	365	L	355	L	L						
4									L	L	U L 380	H 380	H 370	360	L	L	L							
5										C	C	C	C	C	C	C	C	C	C					
6								C	C	C	C	C	C	C	C	C	C	C	C					
7								C	C	C	A	A	A	L	L	U L 355	L	L						
8										L	L	370	A	A	L	A	A							
9								C	C	C	390	A	A	A	L	355	L							
10									L	400	U L 380	A	385	U L 370	U L 370	L	U L 355	L						
11									L	L	U L 370	L 390	L 380	435	L	L	L	L						
12									L	L	U L 370	U L 370	U L 355	L 390	U L 345	L	L							
13										L	U L 385	A	415	U L 370	U L 365	L	L							
14									L	L	L	L	L 375	L	A	A	A							
15									L	L	L	L	U L 395	U L 375	U L 360	L	A	A						
16										L	A	L 405	415	L	U L 365	U L 360	A							
17									L	L	L	L	L 365	L 365	L	L	L							
18											L	L 375	A	L	L	L	L							
19										L	L	L	L 395	L	L	L	L							
20										L	L	L 375	L 385	L 385	L	L	L							
21										A	A	375	385	L	L	L	L							
22										A	L	380	L	395	L	L	L							
23									L	L	L	A	A	A	L	L	L							
24									L	A	L	405	385	L 395	L	L	A							
25									L	L	L	365	L 405	H 400	L	L	L							
26										L	355	L	385	390	L	A	A							
27										L	L	H 395	375	L	L	L	L							
28									L	L 420	L	L	L	A	U L 370	L	L							
29									415	L	L	375	L 375	U L 355	L	U L 340	L							
30									L	L	U L 365	U L 365	395	A	L	A								
31									L	L	U L 400	395	355	U L 360	A	A	A							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									1	3	11	18	22	17	7	6	2							
MED									415	L 400	U L 380	380	385	L 380	U L 365	355	U L 360							
UQ										410	U L 385	395	L 395	395	U L 368	360								
LQ										395	U L 370	375	375	U L 365	U L 362	U L 355								

OCT. 1985 | M(3000)F1 (0.01)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'F2 (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									230	240	235	275	L 285	300	260	265	285	250						
2									240	240	235	250	270	290	275	285	255	240						
3								C	C	250	240	270	270	280	285	275	250	245						
4									230	235	300	265	285	280	260	260	250							
5										C	C	C	C	C	C	C	C	C	C					
6								C	C	C	C	C	C	C	C	C	C	C	C					
7								C	C	C	280	285	255	255	L 300	280	270	245						
8										255	245	280	285	270	245	E A 260	245							
9								C	C	C	250	275	245	235	L 280	280	245							
10									275	235	260	245	255	260	255	270	255	220						
11									240	230	250	245	280	255	245	250	235	225						
12									240	265	245	240	265	255	L	250	245							
13										240	260	255	245	260	270	265	250							
14									230	245	255	260	250	245	E A 275	265	245							
15										255	245	255	230	280	270	270	240	E A 250						
16										235	250	255	250	255	260	270	260							
17									235	240	250	245	250	300	250	265	250							
18											290	280	250	270	255	240	240							
19										240	240	240	265	260	250	260	250							
20										245	245	250	245	270	275	245	245							
21										240	250	245	235	255	285	240	235							
22										A 250	220	265	250	260	270	245	245							
23									225	240	240	235	250	270	270	260	235							
24									215	235	235	245	250	270	245	280	240							
25									220	245	255	270	255	250	280	245	230							
26										230	290	250	235	250	265	265	230							
27										230	260	290	260	255	270	240	240							
28									215	230	260	250	245	285	280	250	230							
29									230	235	265	255	250	285	285	260	235							
30									235	L 250	260	245	265	300	260	250								
31									225	225	240	285	300	260	265	245	230							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									15	26	29	29	29	29	28	29	28	7						
MED									230	240	250	255	250	260	269	260	245	242						
UQ									238	245	260	270	265	280	278	270	250	246						
LQ									225	235	240	245	250	255	258	248	235	232						

OCT. 1985 | H'F2 (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'F (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	280	EA 300	S 270	S 240	195	ES 250	230	220	230	220	220	190	H 185	185	245	230	230	240	220	200	205	S 300	S 295	285
2	270	250	255	A 260	220	ES 250	230	225	225	225	200	200	200	195	245	220	240	240	230	205	220	S 250	S 275	A 280
3	250	230	S 280	S 270	250	S 250	220	C	C	230	205	200	190	200	190	240	240	240	225	210	200	285	S 290	285
4	280	290	S 285	230	ES 240	ES 280	250	235	220	215	H 200	H 195	H 190	200	H 190	235	H 220	H 220	225	230	240	230	S 250	S 270
5	270	245	ES 255	S 265	S 260	S 230	S 220	220	A 250	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	H 200	EA 245	245	205	200	A	ES 320	ES 320	ES 310
8	ES 300	265	ES 275	235	ES 265	ES 275	S 255	225	225	235	A 245	A 230	A	A	A	A	A	245	230	225	220	ES 285	250	230
9	200	C	C	C	C	C	C	C	C	C	210	A	A	A	A	235	195	220	205	220	230	250	EA 275	EA 270
10	ES 280	ES 275	ES 275	230	205	ES 230	ES 245	210	200	200	A 240	A	200	200	200	A 220	230	A	205	205	S 230	ES 265	235	250
11	ES 285	ES 265	240	225	200	ES 285	ES 245	225	220	220	210	200	195	180	H 180	H 170	235	A 225	205	200	ES 250	ES 275	EA 335	ES 280
12	ES 275	ES 270	255	220	210	ES 250	ES 250	225	A 225	225	230	205	205	200	H 195	245	A 245	230	210	A 240	250	245	245	245
13	ES 260	ES 270	250	225	ES 250	ES 275	200	205	230	220	205	A	195	190	220	A 250	A	230	220	220	A	ES 320	ES 300	ES 280
14	ES 290	ES 280	ES 275	S 250	205	230	220	200	205	220	220	205	205	225	A	A	A	225	EA 270	EA 270	220	EA 300	ES 280	ES 260
15	S 260	240	245	ES 260	225	230	S 250	225	230	230	230	H 200	H 190	H 190	205	A 245	A	A	220	205	ES 205	A	ES 290	ES 310
16	ES 290	ES 290	ES 280	S 250	230	ES 260	S 245	220	235	220	A	225	200	195	A 250	A 250	A	245	A 245	215	ES 295	ES 320	260	EA 275
17	ES 290	EA 275	260	255	205	ES 255	ES 270	235	230	240	230	220	H 195	H 200	H 195	220	225	230	215	215	ES 275	ES 270	ES 270	ES 310
18	S 250	225	S 250	ES 270	S 240	ES 305	230	205	215	225	EA 250	230	A	205	220	230	230	230	225	210	225	ES 250	ES 270	ES 275
19	A	A	ES 275	A	ES 290	230	200	225	240	A	225	220	220	EA 240	230	230	235	235	225	A	EA 255	ES 265	ES 255	ES 275
20	240	EA 280	ES 280	EA 300	240	ES 275	EA 280	220	225	235	230	215	200	H 195	H 205	230	225	230	215	210	ES 240	ES 270	220	ES 270
21	S 285	EA 320	A 280	S 240	EA 265	ES 275	S 230	210	215	A	EA 235	215	A 210	195	H 190	240	225	240	210	195	ES 250	ES 250	S 250	ES 250
22	EA 320	S 305	EA 345	ES 305	S 270	220	225	210	235	A	EA 230	200	215	200	H 200	A 230	240	235	H 210	A 230	A 240	A	A 260	ES 250
23	S 280	S 265	S 280	S 290	S 250	240	210	205	210	235	225	A	A	A	235	215	225	230	210	A 230	A 245	A 240	S 240	ES 285
24	S 295	ES 270	ES 280	ES 270	ES 250	S 240	S 235	220	A 220	A	220	195	185	185	235	H 205	A	220	215	205	EA 295	A	ES 275	S 310
25	S 295	250	235	245	S 215	S 210	ES 250	210	215	230	215	200	200	H 180	235	240	235	225	215	200	A 270	ES 255	ES 255	S 285
26	ES 260	270	260	225	EA 230	ES 270	ES 230	225	225	220	EA 220	235	215	195	EA 245	A	A	EA 245	A 215	EA 245	S 255	EA 280	A 300	EA 280
27	A 275	S 260	S 260	S 265	S 235	S 200	255	215	225	H 210	215	200	235	H 190	H 205	240	250	210	EA 225	EA 235	EA 310	EA 255	EA 285	EA 300
28	EA 250	225	ES 265	225	255	215	210	200	200	210	A 245	A	EA 235	A	A 235	H 210	235	230	200	205	EA 275	ES 275	EA 295	EA 320
29	EA 335	280	285	260	225	200	ES 225	200	200	185	H 185	215	H 190	H 185	H 180	250	250	210	210	210	285	A	ES 295	ES 280
30	245	220	235	250	280	255	245	210	220	240	230	230	195	A	A	A	H 190	H 205	205	235	ES 280	240	250	250
31	EA 290	ES 275	ES 260	ES 270	ES 260	205	225	210	230	A 230	210	H 205	H 185	A 225	A	A	A	225	EA 250	A 245	ES 260	ES 255	A	ES 295
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	27	28	27	28	28	28	27	27	23	27	23	24	23	23	24	21	27	29	28	27	25	28	29
MED	U S 250	U 248	U S 255	242	U 226	U S 225	225	220	225	225	218	205	199	195	205	230	232	230	215	211	U 225	ES 265	U S 246	ES 280
UQ	ES 290	EE 280	ES 280	S 260	S 249	ES 272	S 241	225	230	230	230	220	206	200	235	240	240	239	222	226	EE 272	ES 285	ES 292	ES 285
LQ	251	242	252	232	213	224	221	210	215	220	210	200	190	190	H 195	220	225	225	210	205	224	ES 250	246	ES 270

OCT. 1985 | H'F (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'E (KM)

135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								A	A	A	E A 115	100	105	100	115	115	115	120	S					
2								120	110	110	110	110	A	A	A	A	A	E B 120	S					
3								C	C	A	105	105	A	105	A	E A 110	E A 110	A	S					
4								S	H 110	110	105	115	H 100	A	110	110	110	S	S					
5								S 120	110	C	C	C	C	C	C	C	C	C	C					
6								C	C	C	C	C	C	C	C	C	C	C	C					
7								C	C	C	110	105	105	105	110	105	115	A	S					
8								E S 130	115	115	105	105	105	105	105	105	115	A	S					
9								C	C	C	115	110	A 115	E A 120	110	110	110	A	S					
10								E S 130	E A 125	A	A	A	A	115	110	115	115	E S 120						
11								E S 125	115	110	E A 120	105	105	105	105	110	A	E S 125						
12								E S 130	110	E A 125	115	110	115	110	110	105	110	E S 125						
13								E S 135	110	E A 120	110	110	110	110	E A 115	110	110	A						
14								120	120	115	110	H 105	H 105	120	A	A	A	A						
15								120	120	115	110	A	115	110	110	115	115	S						
16								S	115	105	105	105	115	110	115	110	110	S						
17								E S 125	A	A	H 105	A	120	115	A	115	120	120						
18								E S 130	115	110	110	110	H 105	115	120	120	120	115						
19								E S 140	A	115	A	A	A	115	115	A	A	S						
20								E S 140	115	A	A	A	A	A	115	115	120	125						
21								125	115	110	H 105	105	105	110	105	110	115	A						
22								120	110	110	105	105	115	A 115	115	115	115	A						
23								130	115	H 110	H 105	H 105	105	A	A	A	A	A						
24								120	115	H 110	105	105	H 105	105	110	A	A	A						
25								S	110	H 105	110	110	H 105	A	110	A	A	A						
26								130	110	110	A	A	A	A	A	A	A	A						
27								S	110	H 105	A	A 110	H 105	105	110	110	110	S						
28								S	110	110	110	110	115	110	115	110	115	A						
29								S	A	110	110	110	110	105	110	110	A	A						
30								135	110	110	115	110	A	110	110	115	120	S						
31								S	A	110	110	110	120	120	110	115	115	S						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								19	22	22	24	23	22	23	23	22	20	8						
MED								S 125	111	110	110	110	105	110	110	110	115	118						
UQ								E S 130	115	112	110	110	115	115	115	115	115	125						
LQ								120	110	110	105	105	H 105	105	110	110	110	120						

OCT. 1985 | H'E (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'ES (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Hour / 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	100	105	105	S	S	S	140	100	100	130	120	G	G	G	G	125	120	S	110	105	110	S	S
2	100	100	105	100	S	S	S	150	130	G	110	110	100	100	170	185	150	135	120	110	S	S	S	105
3	S	S	S	S	S	S	S	C	C	135	135	115	105	G	105	100	110	105	115	S	105	110	S	S
4	S	100	S	S	S	S	S	145	130	125	120	130	G	100	G	160	G	145	S	110	S	110	110	105
5	S	S	S	S	S	S	S	130	115	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
7	C	C	C	C	C	C	C	C	C	C	115	120	115	110	110	120	115	105	105	115	110	105	105	105
8	105	105	105	105	105	S	135	130	120	125	120	115	110	110	110	105	105	105	105	105	110	S	105	S
9	105	C	C	C	C	C	C	C	C	C	120	105	105	105	105	115	115	110	110	110	115	105	105	105
10	105	100	100	95	S	S	S	G	160	100	100	100	100	110	135	125	115	110	105	105	S	S	S	S
11	S	S	S	S	S	S	S	160	150	E G 150	120	115	120	120	120	110	160	130	105	105	S	S	100	100
12	100	100	S	S	S	S	S	145	130	140	135	120	115	115	115	155	140	120	120	105	105	105	S	S
13	S	S	S	S	105	S	S	135	125	120	120	115	120	125	120	120	110	105	105	105	105	105	105	105
14	S	S	S	S	S	S	S	250	G	125	120	G	G	100	120	120	120	100	115	115	100	110	S	S
15	105	S	S	S	S	S	S	125	125	130	130	125	120	125	125	115	110	110	125	110	S	100	S	S
16	S	100	S	S	S	S	S	145	110	110	120	120	120	135	115	110	110	105	105	105	105	100	100	95
17	95	95	S	S	S	105	105	145	105	125	G	100	105	100	100	G	G	100	120	115	115	110	S	S
18	105	105	105	105	105	105	S	140	140	120	120	120	120	120	120	120	120	120	120	S	S	S	S	S
19	105	105	120	105	105	S	S	G	160	130	125	130	125	120	125	110	140	125	120	115	115	115	110	110
20	110	105	S	105	S	S	130	130	135	140	130	130	125	125	125	120	120	G	S	S	S	S	115	S
21	S	100	100	105	100	100	S	135	150	120	115	115	115	120	120	115	115	110	S	S	S	S	S	100
22	100	100	100	S	S	105	S	130	115	115	110	115	115	120	115	115	110	110	105	105	105	105	105	100
23	100	100	S	S	S	S	S	160	160	120	120	115	110	105	110	110	105	105	100	100	100	100	100	100
24	100	S	S	S	S	S	S	120	115	110	110	110	G	G	G	105	95	105	110	105	105	105	105	S
25	S	S	100	S	S	S	S	G	175	135	125	120	115	110	110	110	115	110	105	120	105	110	110	S
26	S	S	S	S	110	S	S	145	120	120	105	105	100	120	115	110	110	110	115	105	105	105	105	105
27	100	100	100	S	S	100	S	150	G	G	140	175	120	125	125	165	165	140	120	115	100	100	100	105
28	105	110	S	S	S	105	110	G	140	130	130	120	120	120	125	130	E G 135	110	105	110	105	105	105	105
29	100	100	100	105	S	S	S	G	105	135	120	150	105	125	135	155	160	130	120	100	100	105	115	115
30	110	105	105	105	105	105	S	E G 190	170	145	115	150	150	150	140	135	G	100	S	S	S	110	110	105
31	110	S	S	105	105	105	S	G	145	130	120	115	140	130	115	115	110	110	105	105	105	150	105	105
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	19	18	12	11	8	8	4	21	25	25	28	28	25	26	26	27	26	28	24	24	20	22	19	17
MED	105	100	102	105	105	105	120	142	130	125	120	118	115	120	120	115	115	110	110	108	105	105	105	105
UQ	105	105	105	105	105	105	132	148	150	132	128	122	120	125	125	128	135	120	120	112	108	110	110	105
LQ	100	100	100	105	105	102	108	130	115	120	115	115	105	110	110	110	110	105	105	105	105	105	105	100

OCT. 1985 | H'ES (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | TYPES OF ES | 135° E Mean Time (G.M.T. + 9 h)

Station YAMAGAWA Lat. 31° 12.1' N, Long. 130° 37.1' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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 5	F 2	F 1				CL 32	L 3	L 3	HL 12	C 1					C 1	C 2		F 1	F 2	F 2		
2	F 2	F 2	F 1	F 2				H 2	H 1		L 1	L 1	L 1	L 2	HL 21	HL 11	HL 12	C 3	C 2	F 7				F 7
3										HL 12	C 1	C 1	L 2		L 1	L 1	L 3	L 1	C 4		F 1	F 2		
4		F 3						H 3	H 2	C 2	C 1	H 1		L 2		H 1		H 2		F 4		F 1	F 2	F 2
5								C 2	C 4															
6																								
7											C 3	C 3	C 3	C 4	C 3	C 3	C 3	L 5	L 1	F 6	F 6	F 2	F 3	F 2
8	F 5	F 3	F 4	F 3	F 3		F 3	H 1	C 3	C 2	C 2	C 2	C 3	C 3	C 3	C 7	C 6	L 6	L 4	F 4	F 1		F 1	
9	F 1										CL 11	CL 51	CL 51	CL 31	C 4	C 3	C 3	LL 33	L 1	F 1	F 1	F 2	F 5	F 3
10	F 2	F 2	F 2	F 4					HL 12	L 4	L 3	L 3	L 2	L 1	HL 11	CL 21	C 3	C 4	F 3	FF 11				
11								H 2	HL 12	HL 11	CL 22	CL 11	C 1	C 1	C 1	CL 21	HL 13	HL 41	F 1	F 1			F 2	F 2
12	F 1	F 2						H 3	H 3	HL 12	HL 11	CH 11	CL 11	CL 11	CL 11	HL 11	H 2	C 6	F 1	F 7	F 3	F 2		
13					F 2			H 4	C 4	CL 21	C 2	C 3	C 1	CL 11	CL 21	C 3	C 3	L 6	F 7	F 3	F 3	F 3	F 2	F 2
14								H 3		C 2	C 2			L 2	CL 33	CL 32	CL 34	L 4	FF 54	FF 43	F 2	F 3		
15	F 3							C 3	C 2	H 2	C 2	CL 12	C 1	C 1	C 1	C 2	C 4	L 6	F 1	F 5		F 4		
16		F 2						HC 22	C 4	CH 32	CC 32	C 2	CL 11	HL 11	CL 31	C 3	C 5	L 6	F 6	F 4	F 5	F 3	F 5	F 3
17	F 2	F 2				F 1	F 1	HL 21	LC 33	CL 22		L 2	L 2	L 2	LH 21			LH 11	F 1	F 1	F 2	F 4		
18	F 3	F 2	F 2	F 2	F 2	F 4		H 3	H 2	C 2	C 2	C 2	C 2	C 2	C 3	C 1	C 4	C 3	F 1					
19	F 8	F 5	F 2	F 7	F 2				HL 13	HL 22	CL 22	CL 12	CL 21	C 4	C 1	L 2	HL 22	C 6	F 7	F 4	F 5	F 4	F 5	F 4
20	F 6	F 7		F 6			F 5	H 5	H 3	HL 12	HL 22	HL 12	CL 12	CL 21	C 2	C 2	C 3						F 5	
21		F 6	F 6	F 2	F 7	F 2		C 3	H 1	C 3	C 3	C 2	C 2	C 1	C 2	C 2	C 2	L 3						F 2
22	F 4	F 2	F 4			F 1		C 1	C 4	C 3	C 2	C 2	C 2	CL 11	C 2	C 2	C 3	L 2	F 7	F 6	F 6	F 6	F 6	F 3
23	F 5	F 2						H 2	H 2	C 2	C 1	C 2	C 3	L 3	L 1	L 2	L 3	L 2	F 3	F 3	F 4	F 5	F 3	F 1
24	F 1							C 1	C 3	C 3	C 2	C 1				L 2	L 3	L 4	F 7	F 7	F 4	F 7	F 3	
25			F 2						H 1	H 2	C 1	C 2	C 2	L 2	C 2	L 2	L 3	L 6	F 4	FF 23	F 2	F 3	F 2	
26					F 4			C 3	C 1	C 3	L 3	L 2	L 2	CL 11	CL 21	CL 31	L 3	L 5	FF 17	F 5	F 4	F 4	F 7	F 2
27	F 6	F 5	F 2			F 2		H 2			HL 12	HCL 11	C 1	C 1	C 1	HC 11	HC 21	HL 42	F 6	FF 16	F 3	F 2	F 3	F 4
28	F 3	F 2				F 1	F 1		H 3	H 3	HL 31	CL 31	CL 31	C 4	CL 21	H 1	H 1	L 4	F 1	F 7	F 2	F 2	F 6	F 8
29	F 7	F 2	F 3	F 1					L 4	HC 13	CL 11	HC 12	C 3	C 1	C 1	HC 13	HL 23	CL 34	FF 72	F 1	F 2	FF 41	F 1	FF 11
30	F 3	F 2	F 7	F 2	F 2	F 2		H 1	H 1	HC 22	CL 31	HCL 21	HL 11	H 3	HL 31	HL 21		L 1				F 3	F 3	F 2
31	F 5			F 2	F 3	F 1			HL 21	HL 33	CCL 22	CL 22	HL 12	HL 22	C 3	C 3	C 4	L 7	F 7	F 3	F 3	F 1	F 4	F 1
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
UQ																								
LQ																								

OCT. 1985 | TYPES OF ES

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FXI (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	U S 47	U S 48	U S 46	61	47	34	S 33													A	X 39	S 32	A	J S 36
2	U S 38	S 35	S 35	X 35	X 30	25	S 28													S 61	X 44	X 37	X 38	X 38
3	S 38	O S 38	S 38	S 35	X 36	X 33	X 33													X 73	X 45	X 39	U S 45	O S 47
4	U S 47	S 50	X 43	S 44	X 39	S 31	S 34													X 75	S 63	S 49	X 46	S 44
5	S 44	X 46	X 40	X 39	S 38	X 33	S 40													S 74	X 48	A	A	36
6	40	A	40	U S 36	A	S 34	X 29													S 68	S 63	A	A	A
7	X 38	39	44	A	A	X 26	X 31													X 86	X 37	A	A	A
8	S 33	X 38	X 37	X 29	S	S	X 26													S 60	X 56	S 49	S 50	S 50
9	S 34	X 27	X 30	X 33	X 34	X 25	X 26													U S 49	X 46	S 43	X 42	S 41
10	U S 44	S 50	S 49	61	S 57	U S 29	U S 29													S 53	S 43	X 37	X 38	S 35
11	S 33	U S 34	S 33	X 39	X 32	X 23	S 25													U S 47	A	A	S 34	X 39
12	X 40	X 40	S 41	U S 45	X 27	U S 23	S 28													S 56	S 53	S 52	U S 49	U S 44
13	S 48	S 44	45	U S 44	X 30	X 31	S 33													U S 45	A	A	36	38
14	X 38	40	X 35	37	U S 51	S	26													S 62	X 58	50	52	50
15	48	O S 45	41	X 41	S 40	X 37	S 28												X 82	U S 67	A	X 33	39	37
16	S 36	X 35	38	S 41	X 40	33	X 30												X 96	S 71	S	S 39	S 44	X 43
17	X 38	X 40	S 40	X 45	X 38	X 33	X 29												X 78	X 51	S 44	S 40	X 41	S 41
18	41	S 37	S 36	S 35	S 30	S 29	S 32												S 90	X 56	X 42	S 35	X 36	S 37
19	S 37	X 40	S 32	X 35	X 35	X 38	X 31												S 102	X 82	83	71	S 55	S
20	X 55	A	S 40	46	40	31	A												X 89	H 57	U S 53	X 43	S 35	32
21	35	S 38	U S 37	X 30	S 32	X 32	X 31												U S 99	X 89	47	S 40	X 40	47
22	X 39	S 36	X 36	X 37	X 39	X 44	X 32												Y	U S 118	S 91	S 72	X 70	S 48
23	U S 45	U S 42	S 38	S 37	S 40	S 41	X 29												U S 132	U S 127	S 82	U S 73	X 67	X 57
24	X 57	S 56	U S 50	X 55	S 63	X 38	X 38												S 124	S 96	S 77	S 67	S	52
25	51	58	S 52	S 49	S 52	S 28	S 28												U R 101	X 69	S 51	U S 51	S 48	U S 47
26	U S 38	39	50	S 48	36	30	33												X 106	X 69	U S 54	A	U S 48	S 49
27	S 51	X 49	S 50	S 52	X 58	33	30												X 106	X 76	U S 64	X 64	X 54	65
28	X 44	X 38	X 37	37	A	43	30												X 82	U S 54	X 46	O S 37	X 36	X 35
29	X 38	X 39	X 38	S 38	X 50	S 38	X 26												C	S 74	X 70	92	75	73
30	69	S 47	X 38	X 37	X 36	X 36	X 37												U R 94	S 97	U S 62	X 58	X 46	S 40
31	S 39	X 39	U S 39	X 38	S 41	S 40	X 27												X 71	X 70	X 48	X 50	X 53	S 52
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	29	31	30	27	29	30												15	30	27	25	26	28
MED	S 40	40	S 39	38	X 39	33	30												X 96	S 69	53	S 49	46	44
UQ	47	S 46	S 44	45	44	X 37	X 33												104	X 76	S 63	S 58	52	S 50
LQ	S 38	38	37	X 36	X 34	29	28												X 86	S 56	X 46	S 39	X 38	38

OCT. 1985 | FXI (0.1 MHZ)

IONOSPHERIC DATA

OCT. 1985 | FOF2 (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S 41	U S 42	U S 40	F	F 36	F 23	S 27	R 51	C	C	C	67	69	89	R 103	R 91	R 72	79	84	A	S 33	U S 26	A	S 30
2	U S 32	S 30	S 29	29	24	F	S 22	R 52	62	71	R 82	76	73	79	90	90	71	70	R 61	55	38	31	32	32
3	S 32	32	30	29	30	27	27	47	62	66	78	72	70	86	99	100	96	90	88	67	39	33	S 39	S 41
4	J S 41	S 44	37	38	33	25	S 28	64	J R 73	63	72	84	90	107	92	88	88	74	70	69	57	S 43	40	38
5	38	40	34	33	S 32	S 27	S 34	56	55	83	R 91	96	84	R 90	108	R 104	R 86	R 112	69	68	S 42	A	A	F
6	F 31	A	F	S 30	A	S 28	23	48	R 74	R 72	59	63	86	106	102	79	65	83	73	S 62	S 57	A	A	A
7	32	F	F 35	A	A	20	J S 25	49	53	58	70	78	R 94	83	90	R 95	82	R 97	79	80	31	A	A	A
8	U S 27	S 32	31	23	A	A	J S 20	47	58	70	R 83	80	74	88	102	75	67	61	70	54	S 50	U S 43	J S 44	44
9	J S 28	21	S 24	27	28	19	20	47	R 62	70	76	R 102	R 110	78	U R 85	R 105	R 91	70	69	U S 43	40	S 37	36	S 35
10	S 38	S 44	S 43	F 51	S 51	U S 23	U S 23	R 48	R 54	56	72	96	88	R 71	R 76	68	R 74	R 94	R 73	47	37	S 31	S 32	S 29
11	U S 27	S 28	S 27	S 33	S 26	J S 17	S 19	R 51	R 67	60	70	R 87	R 85	58	76	76	60	R 63	R 59	S 41	A	A	J S 28	S 33
12	34	34	35	S 39	S 21	J S 17	S 22	R 51	R 61	79	U R 98	102	R 86	87	80	78	R 85	R 72	R 57	U S 50	47	46	U S 43	S 38
13	U S 42	S 38	F	U S 38	S 24	25	U S 27	47	58	R 66	77	R 99	82	78	87	86	R 102	90	64	S 39	A	A	F	F
14	32	F	J S 29	F	U S 45	S	F	R 44	54	63	71	98	R 111	96	R 102	100	91	69	59	56	52	F	F	F
15	F	39	F 32	35	34	31	22	54	J R 72	R 72	82	R 103	R 120	117	127	110	R 84	82	76	S 61	A	S 27	F 32	F 30
16	30	S 29	F	35	34	F 24	S 24	53	64	71	78	89	99	88	100	107	J R 106	J R 105	90	U S 65	A	S 33	38	37
17	32	34	S 34	39	32	27	23	54	80	82	85	102	104	R 111	R 126	110	95	90	72	S 45	S 38	S 34	35	S 35
18	F	S 31	S 30	S 29	24	S 23	S 26	R 52	56	R 56	65	R 108	127	87	105	R 120	R 109	R 88	S 84	S 50	36	S 29	30	S 31
19	31	34	S 26	29	29	32	25	57	68	83	93	80	81	91	108	105	85	91	S 96	76	F	F	S 49	S
20	S 49	A	S 34	F	F	F	A	54	61	78	102	R 101	89	62	78	106	R 100	R 98	U S 83	S 48	U S 47	37	J S 29	F
21	F	32	S 31	24	S 26	S 26	25	R 52	66	68	84	105	102	76	96	U R 119	R 111	U R 110	S 93	S 83	F 35	S 34	S 34	F
22	33	S 30	30	31	33	38	26	53	S 70	86	109	99	112	R 119	U R 140	U R 154	R 145	U R 146	Y	112	S 85	66	U S 64	U S 42
23	U S 39	S 36	S 32	S 31	S 34	S 35	23	53	70	81	88	104	111	U R 94	109	R 131	126	R 116	S 126	U S 121	U S 76	S 67	S 61	S 51
24	S 51	50	U S 44	49	S 57	32	32	59	75	77	74	98	R 120	R 136	J R 160	162	J R 157	R 147	S 118	90	71	S 61	A	F
25	F	F	U S 46	S 43	J S 46	S 22	S 22	50	60	61	78	100	R 115	R 116	R 146	U R 155	R 148	R 113	U R 95	S 63	U S 45	S 44	S 42	S 41
26	S 32	F	F	S 42	F	F	F	48	58	70	78	114	138	U R 143	149	R 151	R 150	R 137	J S 100	S 63	U S 48	A	S 42	U S 43
27	45	43	S 44	46	52	F	F	R 51	64	58	J R 52	H 78	100	108	R 112	R 132	U R 137	U R 115	U S 100	70	S 58	58	48	F
28	38	32	31	F	A	F	F	50	56	60	63	84	89	75	94	U R 119	110	80	76	S 48	40	31	30	29
29	32	33	32	32	J S 44	32	20	42	54	63	66	90	105	R 110	U R 142	R 152	146	117	I C 92	S 68	U R 64	F	F	F
30	F	S 41	32	31	J S 30	30	31	55	58	57	72	86	65	74	93	J R 101	U R 88	95	U R 88	J S 91	U S 56	52	40	S 34
31	U S 33	33	U S 33	S 32	35	34	21	47	64	70	58	60	64	83	106	R 103	R 103	79	65	64	42	S 44	47	S 46
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	25	27	26	25	24	26	31	30	30	30	31	31	31	31	31	31	31	30	30	26	22	23	20
MED	S 32	34	S 32	32	33	26	24	51	62	70	78	96	90	88	102	105	R 95	90	78	S 63	46	S 37	S 39	S 36
UQ	S 39	40	S 35	39	36	32	S 27	54	68	77	84	102	110	108	110	R 120	R 110	R 111	S 92	70	S 57	S 46	S 44	S 42
LQ	32	32	S 30	29	28	23	22	48	58	61	70	80	83	78	91	90	84	79	69	S 50	38	S 31	32	S 32

OCT. 1985 | FOF2 (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOF1 (0.01 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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 450	460	460	430	L 430	L	A						
2									L	L	U L 450	L 440	440	L 450	L 440	L 420	L	L						
3									L	L	L 430	430	L 450	U L 480	L 420	L 430	U L 400	L						
4									L	L	U L 450	U L 450	U L 440	L 430	U L 430	L	L	L						
5										L	L	A	450	L 440	450	L 430	L	L						
6									L	L		L 440	L 430	L	L 450	L	L	L						
7									A	A	L	L	A	A	430	L 420	A	L						
8									A	L	L	A	L 440	A	A	A	A	A	A					
9									L	L	L	L 430	L 410	A	L	L 430	L	A						
10									L	420	L 430	L 440	440	L	L	L	L	A						
11									L	L 380	L 430	L 440	440	L 450	L 440	L 430	L							
12									L	L	L 440	L 440	440	L 460	L	L	L							
13									L	L	L 430	430	A	A	A	A	A	A						
14								L	A	L	U L 440	L 430	L 430	U L 430	A	A	L	A						
15									L	L	L 430	L 430	440	U L 430	L 440	L	L	A						
16									L	L	L	U L 440	U L 440	L	U L 430	U L 420	L	A						
17									L	L	L	L	500	450	L	L	L	L						
18											L	U L 460	L	L 440	L	L	L							
19										L	L	L	L 460	U L 440	440	L	L							
20										A	L	U L 460	U L 450	L	U L 380	L	L							
21										L	A	A	A	A	U L 470	L	L							
22									L	L	A	L	A	A	U L 480	L	L							
23									L	L	A	L	A	L	L	A	L	A						
24									L	L 430	L	A	490	L	L	L	U L 400	240						
25										L	L	L	L 460	L	L 470	L	L	A						
26										L	L	U L 450	U L 460	L	L 440	U L 430	A							
27									L	L	L	L	L 450	L	L	L	A							
28									L	L	L 400	L 450	450	L	L	L	L							
29									L	L	L	430	430	L	450	A	L	L						
30										L	L	440	A	A	420	L	L							
31										A	L	440	L 430	430	A	L	A	A						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										3	10	20	24	13	18	9	2	1						
MED										L 420	L 430	L 440	L 440	L 440	L 440	L 430	U L 400	240						
UQ										425	U L 440	L 450	455	L 450	L 450	L 430								
LQ										400	L 430	430	L 440	L 430	L 430	L 420								

IONOSPHERIC DATA

OCT. 1985 | FOE (0.01 MHZ) | 135° E Mean Time (G.M.T. + 9h)

Station OKINAWA Lat. 26° 16.9' N. Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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								195	C	C	C	A	A	R	310	300	285	235	S					
2								R	R 250	290	R	A	340	330	315	305	280	230	S					
3								S	255	295	R 315	A	A	A	A	300	A	A	S					
4								A	A	A	A	A	345	325	R 315	300	280	240	S					
5								R 190	A	A	310	R 320	R 325	R 320	315	295	270	215	S					
6								195	A	R 270	295	295	A	A	R 300	R	260	R 220	S					
7								S	R 250	R 290	300	310	320	320	310	A	260	220	A					
8								R 180	R 240	A	A	R 315	320	320	310	A	A	A	S					
9								S	250	A	A	A	A	A	A	A	A	A	A					
10								200	A	R 295	R 310	A	A	A	A	300	265	200	S					
11								R 205	245	285	300	315	320	325	310	295	R 265	A	S					
12								190	255	285	R 310	A	A	A	300	A	265	R 225	A					
13								S	R 240	290	300	315	320	325	315	R 295	R 260	A	S					
14								170	A	A	A	325	330	A	320	A	A	A	S					
15								A	A	A	A	R	340	335	R	A	A	A						
16								S	A	290	A	A	R 340	335	305	A	A	A						
17								175	250	A	A	A	A	A	340	300	A	A						
18								R 190	250	295	305	R 315	R 320	315	305	A	A	A						
19								R 175	250	285	305	315	R 320	300	A	A	R 240	A						
20								A	255	290	305	R 320	335	335	A	A	R 275	A						
21								A	R 255	290	310	320	A	A	A	A	A	A						
22								190	A	A	A	A	A	A	A	A	A	A						
23								R 200	245	285	310	330	335	330	320	A	A	A						
24								S	U R 240	U R 280	300	290	A	A	A	305	280	A						
25								175	255	290	300	305	R 300	U R 310	U R 315	A	285	U R 240						
26								180	A	A	R 315	325	340	R 335	A	A	A	A						
27								200	250	R 290	A	330	340	A	A	A	A	A						
28								195	A	285	310	325	330	335	A	320	A	S						
29								180	250	A	A	A	340	340	A	A	A	A						
30								190	250	A	A	A	A	320	310	290	265	200						
31								180	R 230	270	A	A	320	320	310	A	A	S						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								20	20	19	17	17	20	19	18	12	15	10						
MED								190	250	290	305	315	330	325	310	300	265	222						
UQ								195	252	290	310	325	340	335	315	302	280	235						
LQ								180	245	285	300	315	320	320	310	295	262	215						

OCT. 1985 | FOE (0.01 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FOES (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Day \ Hour	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	JA 51	23	23	ES 16	ES 16	24	ES 16	25	C	C	C	JA 35	JA 36	G	34	33	35	JA 36	JA 26	JA 65	ES 16	JA 24	JA 33	JA 24
2	ES 16	22	ES 16	ES 16	ES 16	ES 16	ES 16	JA 24	G	JA 33	G	40	G	G	G	JA 34	30	28	21	JA 26	22	ES 16	ES 16	ES 16
3	ES 16	ES 16	JA 21	20	ES 16	ES 16	ES 16	21	30	JA 36	G	JA 34	35	40	38	G 28	37	29	21	20	ES 16	JA 27	JA 26	JA 35
4	JA 20	22	JA 18	20	ES 16	ES 16	20	24	JA 28	JA 42	JA 32	40	G	G 29	G	G	G	G	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
5	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	23	JA 35	JA 36	JA 43	JA 52	JA 42	JA 35	G	34	34	26	22	JA 24	JA 29	JA 43	JA 42	ES 16
6	JA 33	JA 48	JA 22	JA 36	JA 49	JA 34	JA 21	JA 24	JA 33	JA 34	33	JA 36	JA 36	JA 45	G	G	29	28	JA 22	JA 30	JA 41	JA 77	JA 39	JA 36
7	20	JA 25	JA 20	JA 53	JA 30	21	19	JA 32	JA 33	JA 51	JA 41	39	JA 57	JA 46	40	35	JA 45	29	JA 29	JA 30	JA 34	JA 64	JA 70	JA 31
8	JA 29	JA 20	JA 26	JA 23	JA 23	JA 22	20	23	JA 36	JA 35	38	JA 47	41	JA 44	JA 55	JA 50	JA 53	JA 42	JA 33	JA 50	JA 50	JA 20	ES 16	ES 16
9	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	20	22	30	33	35	J 35	JA 56	JA 53	JA 34	JA 32	36	JA 78	JA 33	JA 40	JA 27	20	ES 16	22
10	JA 21	JA 24	24	24	21	ES 16	ES 16	22	JA 27	G	G	JA 33	JA 33	JA 36	JA 40	33	32	JA 36	JA 33	JA 33	JA 21	ES 16	ES 16	22
11	19	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	25	28	32	34	38	41	37	38	37	32	JA 30	JA 44	JA 41	JA 41	JA 33	JA 32	JA 24
12	JA 21	22	JA 26	JA 24	24	24	21	23	31	37	JA 41	JA 35	JA 33	JA 35	34	JA 29	31	JA 31	JA 26	JA 32	JA 26	JA 31	JA 32	JA 30
13	JA 22	21	ES 16	21	24	21	ES 16	JA 27	JA 35	JA 51	36	40	42	JA 51	JA 46	JA 73	JA 65	JA 65	JA 36	JA 33	JA 103	JA 52	JA 33	JA 25
14	JA 25	22	ES 16	ES 16	ES 16	ES 16	ES 16	22	JA 31	JA 35	35	G	G 30	40	JA 47	JA 46	JA 35	JA 42	42	JA 42	JA 51	ES 16	JA 33	JA 19
15	20	22	23	ES 16	ES 16	ES 16	ES 16	JA 24	JA 33	JA 35	35	G	G	G	G	JA 36	JA 39	41	JA 23	JA 33	JA 40	JA 20	ES 16	JA 30
16	JA 26	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	JA 23	36	G	JA 34	38	G 26	G	G	JA 50	JA 44	40	JA 35	JA 42	JA 32	JA 20	JA 20	ES 16
17	ES 16	22	JA 26	JA 25	ES 16	ES 16	19	23	32	33	JA 34	JA 40	JA 34	35	G	34	JA 37	JA 30	ES 16	ES 16	20	19	ES 16	ES 16
18	JA 26	23	JA 21	JA 24	23	ES 16	ES 16	25	28	JA 35	41	JA 42	JA 49	JA 43	JA 40	JA 39	JA 36	JA 30	JA 24	JA 25	23	23	ES 16	ES 16
19	ES 16	ES 16	ES 16	JA 24	JA 27	24	ES 16	21	G	32	38	38	51	38	JA 36	JA 77	JA 30	JA 35	JA 32	JA 32	JA 30	JA 53	JA 33	JA 25
20	JA 54	JA 41	JA 32	ES 16	20	ES 16	JA 30	JA 22	JA 28	40	JA 36	37	G 32	G	41	34	G	27	ES 16	20	ES 16	ES 16	ES 16	23
21	JA 32	22	ES 16	22	20	JA 30	20	JA 21	32	42	JA 48	73	JA 47	JA 55	38	34	30	JA 25	JA 24	JA 29	23	ES 16	ES 16	JA 21
22	JA 29	22	ES 16	JA 25	JA 18	ES 16	ES 16	G	JA 44	JA 46	JA 54	JA 66	JA 74	JA 56	JA 44	34	30	25	32	JA 33	ES 16	JA 33	JA 30	22
23	21	ES 16	ES 16	JA 20	20	20	23	G	30	39	JA 47	48	JA 53	JA 48	JA 41	JA 55	JA 84	JA 53	JA 33	JA 36	JA 32	JA 32	23	21
24	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	20	JA 20	JA 34	JA 36	JA 41	JA 56	JA 44	JA 33	JA 51	35	G	24	JA 21	JA 21	JA 20	JA 21	JA 42	JA 37
25	JA 22	22	ES 16	ES 16	ES 16	ES 16	ES 16	22	28	JA 43	JA 42	JA 53	JA 65	JA 54	JA 39	JA 33	31	JA 40	21	ES 16	ES 16	JA 24	JA 21	JA 28
26	23	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	27	JA 33	JA 34	G	G	G 23	G	JA 44	40	JA 38	JA 33	JA 42	JA 52	JA 33	JA 60	JA 32	22
27	20	19	23	19	JA 22	JA 18	ES 16	G	G	G	JA 40	G	G	40	JA 41	JA 41	JA 51	JA 48	JA 42	JA 41	JA 25	22	ES 16	22
28	JA 24	23	JA 26	JA 24	JA 38	JA 31	JA 24	G	JA 27	JA 34	JA 34	43	43	40	JA 50	40	33	24	JA 20	JA 65	JA 33	JA 25	JA 28	JA 22
29	ES 16	ES 16	JA 20	JA 26	JA 21	22	20	G	30	38	42	38	G	G	36	JA 47	JA 47	JA 36	C	JA 32	22	22	JA 31	JA 48
30	JA 28	JA 25	JA 26	JA 25	JA 24	JA 20	ES 16	G	30	33	33	37	JA 65	JA 47	G 28	33	28	G	22	ES 16	ES 16	22	22	JA 32
31	JA 32	JA 36	JA 20	JA 26	23	ES 16	ES 16	33	28	JA 42	33	33	35	34	JA 53	JA 40	JA 54	JA 50	JA 33	JA 35	JA 30	JA 30	JA 20	JA 25
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	30	31	31	31	31	31
MED	JA 21	22	20	20	20	ES 16	ES 16	23	30	JA 35	36	38	36	38	38	35	35	JA 31	JA 26	JA 32	JA 26	JA 23	JA 23	JA 22
UQ	JA 27	23	JA 23	JA 24	23	22	20	24	JA 33	JA 40	JA 41	42	JA 48	JA 46	JA 42	JA 40	JA 42	JA 40	JA 33	JA 40	JA 33	JA 32	JA 32	JA 29
LQ	18	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	21	28	33	33	35	G 31	31	31	33	30	28	21	JA 24	20	20	ES 16	20

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FBES (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Day \ Hour	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	29	E	E	ES 16	ES 16	E	ES 16	23	C	C	C	34	35	G	32	33	33	36	24	AA 65	ES 16	21	AA 33	20
2	ES 16	E	ES 16	ES 16	ES 16	ES 16	ES 16	23	G	31	G	24	G	G	G	34	30	27	21	24	E	ES 16	ES 16	ES 16
3	ES 16	ES 16	E	E	ES 16	ES 16	ES 16	21	30	33	G	34	34	35	32	G 23	31	24	17	E	ES 16	22	E	29
4	19	E	E	E	ES 16	ES 16	E	23	27	38	31	34	G	G 29	G	G	G	G	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16
5	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	23	29	34	40	48	38	35	G	34	34	26	E	23	29	AA 43	AA 42	ES 16
6	E	AA 48	E	22	AA 49	25	E	24	28	29	33	35	36	37	G	G	28	26	20	29	36	AA 77	AA 39	AA 36
7	E	E	18	AA 53	AA 30	E	E	28	31	50	40	38	52	46	40	35	46	29	28	28	25	AA 64	AA 70	AA 31
8	E	17	24	E	AA 23	AA 22	E	21	36	33	38	46	38	44	50	43	47	41	32	30	30	18	ES 16	ES 16
9	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	E	22	28	32	34	34	38	48	33	32	35	46	21	35	19	E	ES 16	E
10	UY 21	22	E	E	E	ES 16	ES 16	21	27	G	G	33	33	36	39	32	30	34	33	30	21	ES 16	ES 16	E
11	E	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	23	28	31	33	37	36	36	38	36	29	28	44	33	AA 41	AA 33	28	21
12	21	E	23	23	18	E	E	22	27	30	32	32	33	32	33	29	30	26	19	30	24	29	28	28
13	22	E	ES 16	E	E	E	ES 16	24	31	30	34	39	42	49	44	44	45	49	30	30	AA 103	AA 52	E	22
14	E	E	ES 16	ES 16	ES 16	ES 16	ES 16	21	26	30	34	G	G 23	35	44	44	32	33	36	31	25	ES 16	E	E
15	E	E	E	ES 16	ES 16	ES 16	ES 16	22	32	32	33	G	G	G	G	33	30	39	22	E	AA 40	E	ES 16	E
16	E	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	22	29	G	33	37	G 25	G	G	39	37	36	29	UY 42	AA 32	19	E	ES 16
17	ES 16	E	23	17	ES 16	ES 16	E	20	30	33	33	35	33	34	G	32	36	27	ES 16	ES 16	E	E	ES 16	ES 16
18	E	E	E	E	E	ES 16	ES 16	20	27	32	38	40	44	40	38	35	33	25	20	22	E	E	ES 16	ES 16
19	ES 16	ES 16	ES 16	E	E	E	ES 16	21	G	31	36	36	36	38	33	32	29	28	28	28	30	46	24	E
20	29	AA 41	24	ES 16	E	ES 16	AA 30	21	27	40	35	34	G 26	G	37	33	G	23	ES 16	E	ES 16	ES 16	ES 16	E
21	E	E	ES 16	E	E	E	E	20	28	30	46	65	45	52	37	32	29	23	21	22	E	ES 16	ES 16	20
22	20	E	ES 16	E	E	ES 16	ES 16	G	28	40	54	42	60	51	42	33	29	24	31	24	ES 16	28	E	UY 22
23	E	ES 16	ES 16	E	E	E	E	G	29	37	45	44	49	40	37	46	30	40	20	29	29	32	E	E
24	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	E	19	31	36	39	47	43	33	37	34	G	23	20	20	19	17	AA 42	25
25	E	E	ES 16	ES 16	ES 16	ES 16	ES 16	21	28	33	41	43	38	40	35	33	31	25	E	ES 16	ES 16	19	18	20
26	E	ES 16	ES 16	ES 16	ES 16	ES 16	ES 16	22	27	32	G	G	G 23	G	39	38	34	30	40	28	30	AA 60	E	E
27	E	E	E	E	21	E	ES 16	G	G	G	33	G	G	40	40	38	49	47	41	41	20	E	ES 16	E
28	22	E	25	21	AA 38	24	20	G	27	33	33	42	42	38	36	40	32	UY 24	E	38	20	25	E	E
29	ES 16	ES 16	18	18	19	E	E	G	29	35	40	36	G	G	34	47	34	26	C	20	20	20	25	20
30	25	22	18	20	17	E	ES 16	G	G	33	33	36	48	47	G 28	33	28	G	18	ES 16	ES 16	18	18	29
31	25	30	18	E	E	ES 16	ES 16	22	27	42	32	32	35	34	51	35	50	48	22	32	20	E	17	E
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	30	31	31	31	31	31
MED	16	16	16	16	16	ES 16	ES 16	21	28	32	34	36	36	36	36	34	31	27	21	28	20	19	16	16
UQ	20	ES 16	18	ES 16	16	ES 16	ES 16	22	29	35	39	41	42	40	39	38	34	36	30	30	30	30	24	22
LQ	E	E	E E 16	E	E	E	E	20	27	30	33	34	G 26	30	30	32	29	24	18	20	16	16	E E 16	E

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | FMIN (0.1 MHZ) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	C	C	C	18	18	16	23	26	16	16	E S 15	E S 16	E S 16	E S 16	E S 16	E S 16
2	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	15	15	15	21	22	26	24	24	16	16	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
3	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	15	17	18	24	21	18	18	14	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
4	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	14	17	17	23	24	20	27	27	19	15	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
5	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	16	16	16	22	18	23	23	23	16	15	14	E S 15	E S 16	E S 16	E S 16	E S 16	E S 16
6	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	15	16	16	22	16	16	14	14	14	E S 15	E S 16	E S 16	E S 16	E S 16	E S 16
7	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	15	15	17	21	22	17	15	17	15	14	15	E S 16	E S 16	E S 16	E S 16	E S 16
8	E S 16	E S 16	E S 16	E S 16	W S 16	E S 16	E S 16	15	15	15	16	19	19	18	18	16	15	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
9	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	15	15	17	20	22	22	15	15	14	15	15	E S 16	E S 16	E S 16	E S 16	E S 16
10	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	16	14	17	19	22	22	16	14	14	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
11	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	15	15	14	19	22	18	15	17	18	15	15	E S 15	E S 16	E S 16	E S 16	E S 16	E S 16
12	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	14	14	17	22	26	18	18	14	15	14	14	E S 16	E S 16	E S 16	E S 16	E S 16
13	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	14	17	17	17	23	14	14	18	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	15	14	14	17	23	17	18	16	15	18	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
15	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	14	16	22	27	27	24	17	18	15	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	16	17	18	18	17	22	15	16	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
17	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	15	14	15	15	22	15	17	20	15	14	15	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
18	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	14	15	16	17	21	16	19	14	15	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
19	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	15	16	15	16	16	22	21	17	17	17	15	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
20	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	14	14	16	17	21	21	16	14	18	15	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
21	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	15	16	16	16	18	23	27	26	22	16	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
22	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	16	14	17	18	22	17	26	26	22	16	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
23	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	14	16	16	18	18	16	16	14	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
24	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	15	16	24	21	19	17	18	16	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
25	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	16	16	19	23	23	18	16	19	14	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
26	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	15	14	19	17	18	22	20	17	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
27	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	16	16	14	16	16	20	18	16	16	14	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
28	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	14	17	14	16	17	16	18	22	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
29	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	16	16	16	16	16	16	17	16	15	15	14	C	E S 16	E S 16	E S 16	E S 16	E S 16
30	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	15	16	15	15	18	16	16	15	15	15	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
31	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	16	15	15	15	16	16	14	14	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	30	31	31	31	31	31
MED	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	14	15	17	18	21	18	17	16	15	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
UQ	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	16	16	17	22	22	22	20	18	16	16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
LQ	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	14	14	14	16	17	18	17	16	15	14	14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16

OCT. 1985 | FMIN (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | M(3000)F2 (0.01) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S 290	U S 310	U S 310	F	F 390	F 325	S 335	R 390	C	C	C	320	280	305	R 320	R 330	R 325	350	370	A	S 335	U S 305	A	S 285
2	U S 310	S 300	S 325	345	375	F	S 365	R 365	370	365	R 360	360	300	290	300	335	340	350	R' 360	365	340	290	310	310
3	S 310	345	315	325	335	335	335	360	370	350	350	345	315	300	335	330	345	345	365	390	320	305	S 280	S 315
4	J S 305	S 340	310	315	365	320	S 320	375	J R 375	335	320	315	290	315	325	325	340	365	355	345	340	S 350	325	300
5	300	325	350	320	S 310	S 315	S 350	375	345	325	R 345	345	350	R 290	315	R 310	R 290	R 365	345	345	S 355	A	A	F
6	F 340	A	F	S 350	A	S 305	325	345	R 315	R 360	320	315	325	295	330	330	315	350	340	S 320	S 335	A	A	A
7	295	F	F 340	A	A	300	J S 340	365	350	360	330	295	R 350	335	325	R 350	330	R 350	370	365	300	A	A	A
8	U S 315	S 330	340	345	A	A	J S 325	360	365	355	R 350	360	335	330	345	360	345	360	355	335	S 330	U S 325	J S 330	365
9	J S 355	335	S 310	335	355	315	325	360	R 355	360	335	330	R 350	300	U R 320	R 340	R 345	355	360	U S 350	325	S 310	305	S 315
10	S 290	S 305	S 290	F 335	S 370	U S 305	U S 305	R 385	R 370	320	320	350	350	R 325	R 330	330	R 330	R 365	R 330	360	350	S 305	S 310	S 310
11	U S 315	S 305	S 335	S 365	S 365	J S 350	S 315	R 360	R 380	360	335	R 350	R 365	325	320	355	335	R 365	R 355	S 355	A	A	S	S 305
12	310	310	330	S 370	S 335	J S 350	S 320	R 350	R 345	330	U R 335	345	R 325	335	325	325	R 360	R 360	R 360	U S 340	295	325	U S 325	S 315
13	U S 335	S 330	F	U S 355	S 310	320	U S 335	380	360	R 355	365	R 355	360	295	300	315	R 335	355	365	S 360	A	A	F	F
14	310	F	J S 325	F	U S 375	S	F	R 365	370	350	310	335	R 340	320	R 310	330	360	360	320	340	345	F	F	F
15	F	F 360	F 360	315	350	370	320	360	J R 375	R 360	340	R 330	R 340	305	320	340	R 310	340	360	S 370	A	S 335	F 310	F 300
16	300	S 310	F	340	355	F 375	S 335	375	360	365	350	325	335	320	320	335	J R 315	J R 350	355	U S 355	A	S 305	315	335
17	300	325	S 325	360	360	335	325	350	360	340	330	335	325	R 300	R 315	325	330	340	350	S 345	S 320	R 305	310	S 330
18	F	S 320	S 315	S 325	335	S 305	S 325	R 375	365	R 340	290	R 325	360	310	350	R 330	R 340	R 335	S 355	S 360	345	S 295	300	S 305
19	305	325	S 305	310	310	345	320	360	360	360	360	360	335	320	325	325	330	330	S 300	330	F	F	S 295	S
20	S 335	A	S 295	F	F	F	A	370	360	345	365	R 345	375	345	295	330	R 340	R 345	U S 335	S 355	U S 340	350	J S 325	F
21	F	345	S 355	335	S 345	S 345	360	R 365	370	345	350	340	365	300	310	U R 335	R 350	U R 335	S 365	S 375	F 370	S 295	S 325	F
22	335	S 300	300	290	305	370	345	365	S 355	335	355	345	325	R 300	U R 305	U R 320	R 325	U R 330	Y	340	S 330	325	U S 345	U S 320
23	U S 280	S 290	S 310	S 305	S 340	S 355	305	375	350	350	340	330	345	U R 300	300	R 295	335	R 330	S 335	U S 355	U S 295	S 330	S 325	S 325
24	S 315	300	U S 320	305	S 335	330	345	365	365	365	315	325	R 290	R 295	J R 305	305	J R 330	R 340	S 365	335	330	S 325	S	F
25	F	F	U S 305	S 315	J S 360	S 365	S 365	360	365	325	300	315	R 320	R 295	R 315	U R 330	R 330	R 345	360	S 340	U S 300	S 305	S 310	S 305
26	S 310	F	F	S 335	F	F	F	375	360	355	305	335	345	U R 300	320	R 325	R 335	R 350	J S 360	S 315	U S 335	A	S 310	U S 315
27	300	300	S 320	325	375	F	F	R 360	390	360	J R 335	H 305	320	325	R 310	R 310	U R 315	U R 345	U S 360	355	S 275	310	310	F
28	315	345	305	F	A	F	F	370	390	350	350	350	360	305	305	U R 350	355	360	390	S 345	325	305	315	310
29	310	320	310	310	J S 365	370	325	355	350	350	335	320	350	R 310	U R 300	R 320	335	330	I C 340	S 340	U R 275	F	F	F
30	F	S 355	345	340	J S 335	315	320	365	365	335	335	316	325	310	320	J R 345	U R 330	345	U R 330	J S 330	U S 310	315	310	S 295
31	U S 320	335	U S 335	S 310	355	350	335	350	365	375	380	330	320	315	330	R 325	R 330	365	360	360	295	S 305	320	S 295
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	26	25	27	26	25	24	26	31	30	30	30	31	31	31	31	31	31	31	30	30	26	22	22	20
MED	S 310	325	S 320	330	355	335	325	365	365	350	335	335	335	305	320	330	R 335	350	358	S 348	330	S 308	310	S 310
UQ	S 315	335	S 335	345	365	352	S 340	375	370	360	350	345	350	320	325	335	340	360	360	S 360	S 340	S 325	S 325	S 318
LQ	300	S 305	S 310	315	S 335	315	320	360	355	340	320	322	322	300	308	R 325	R 330	R 340	340	S 340	300	S 305	310	S 302

OCT. 1985 | M(3000)F2 (0.01)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | M(3000)F1 (0.01) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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 400	400	380	395	L 370	L	A						
2									L	L	U L 375	L 385	410	L 375	L 385	L 355	L	L						
3									L	L	L 385	420	L 400	U L 375	L 405	L 370	U L 375	L						
4									L	L	U L 365	U L 375	U L 410	L 405	U L 370	L	L	L						
5										L	L	A	390	L 385	355	L 345	L	L						
6									L	L		L 375	L 405	L	L 355	L	L	L						
7									A	A	L	L	A	A	395	L 400	A	L						
8									A	L	L	A	L 395	A	A	A	A	A	A					
9									L	L	L	395	L 450	A	L	L 380	L	A						
10									L	390	L 370	L 365	385	L	L	L	L	A						
11									L	L 405	L 395	L 365	395	L 400	A	L 465	L							
12									L	L	L 350	L 375	385	L 370	L	L	L							
13									L	L	L 385	395	A	A	A	A	A	A						
14								L	A	L	U L 365	L 395	L 395	U L 395	A	A	L	A						
15									L	L	L 395	L 395	395	U L 420	L 395	L	L	A						
16									L	L	L	U L 385	U L 410	L	U L 370	U L 355	L	A						
17									L	L	L	L	380	400	L	L	L	L						
18											L	U L 360	L	L 395	L	L	L							
19										L	L	L	L 390	U L 385	340	L	L							
20										A	L	U L 370	U L 390	L	U L 445	L	L							
21										L	A	A	A	A	U L 360	L	L							
22									L	L	A	L	A	A	U L 355	L	L							
23									L	L	A	L	A	L	L	A	L	A						
24									L	L 395	L	A	365	L	L	L	U L 375	415						
25										L	L	L	L 380	L	L 360	L	L	A						
26										L	L	U L 355	U L 360	L	L 385	U L 370	A							
27									L	L	L	L	L 400	L	L	L	A							
28									L	L	L 425	L 375	400	L	L	L	L							
29									L	L	L	395	420	L	375	A	L	L						
30										L	L	385	A	A	380	L	L							
31										A	L	430	L 420	395	A	L	A	A						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										3	10	20	24	13	17	9	2	1						
MED										L 395	L 380	L 385	L 395	L 395	L 375	L 370	U L 375	415						
UQ										L 400	L 395	395	L 408	L 400	L 395	L 380								
LQ										392	U L 365	L 372	388	L 380	L 360	L 355								

OCT. 1985 | M(3000)F1 (0.01)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'F2 (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Hour / 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	300	340	305	270	255	270	240						
2									245	245	260	245	275	285	300	255	250	250						
3									245	250	260	250	300	320	265	265	255	245						
4									225	260	275	275	300L	290	260	275	255	230						
5										280	255	240	255	275	285	265	305	225						
6									275	225		305	315	270	265	280	300L	245						
7									215	A	290	275	260	260	280	260	265	235						
8									235	260	265	250	260	275	250	240	255	235	230					
9									250	240	270	260	230	300	300	260	240	235						
10									215	295	290	250	250	270	275	275	270	220						
11									225	230	285	250	230	270	290	250	230							
12									235	270	270	300	250	270	260	275	240							
13									240	240	250	245	240	270	280	290	250	230						
14								210	220	255	300	265	250	255	275	255	235	230						
15									235	240	260	270	240	265	260	245	275	240						
16									235	240	265	275	250	265L	280	255	255	225						
17									240	240	270	270	270	280	260	250	255	240						
18											340	280	230	260	285	260	240							
19										240	250	230	260	265	265	250	250							
20										255	250	245	220	250	315	265	245							
21										250	255	260	240	280	300	260	240							
22									250	265	240	255	255	265	280	250	245							
23									230	245	255	255	245	250	300L	225	245	235						
24									210	230	260L	270	255	255	280	270	245	225						
25										250L	300	280	260	280	275	250	230	215						
26										250	275L	270	250	270	260	250	240							
27									220	235	U L 265	300	280	260	270	265	225							
28									210	215L	250	260	250	290L	300	250	240							
29									250	260	275	290	240	280	270	250	220	235	C					
30										260	270	245	260	305	280	250	245							
31										235	240	290	280	310	260	240	230	210						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	21	28	29	31	31	31	31	31	31	20	1					
MED								210	235	248	265	265	255	270	275	255	245	235	230					
UQ									245	260	275	278	265	282	285	265	255	240						
LQ									220	240	255	250	242	265	265	250	240	225						

OCT. 1985 | H'F2 (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'F (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

Hour / 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 320	265	S 270	250	195	E S 300	S 245	205	C	C	C	200	180	175	200	235	240	A	225	A	S 210	A	A	E A 340
2	275	270	255	230	210	S	275	220	215	210	190	195	200	190	H 190	220	225	250	210	215	210	S 265	280	270
3	265	250	275	255	225	245	240	210	220	225	210	200	200	195	190	H 200	230	240	215	200	205	E A 325	305	A
4	290	245	275	250	210	S 250	275	230	225	A	H 200	200	210	200	A 215	H 195	235	225	220	220	215	210	245	290
5	S 280	250	225	250	S 240	S 250	235	210	220	A 225	E A 250	A	215	200	240	240	A 260	230	220	225	A 230	A	A	E S 300
6	S 250	A	S 255	A 255	A	A	E A 280	230	230	225	220	215	200	260	215	230	225	230	230	A 250	A 245	A	A	A
7	S 310	S 290	250	A	A	S	250	215	A	A	A	A 225	A	A	A	E A 245	A	A	210	E A 250	A	A	A	A
8	S	A 260	A	S 230	A	A	S	220	A	A 230	A 230	A	A 225	A	A	A	A	A	A	A 240	E A 250	E A 250	E A 250	215
9	200	S	S	S 250	225	S	S	220	220	215	210	215	200	A	205	A 225	A	A	210	A	E A 250	A 245	S 260	E S 270
10	A 310	280	250	235	190	S 225	S	200	A 215	200	230	215	195	200	E A 240	200	230	A	205	230	210	A 270	250	A 260
11	S 300	S 280	S 245	215	210	S 250	S	220	220	210	200	A 220	205	195	A	A 250	230	230	225	250	A	A	A	320
12	300	270	A 275	215	A	S 240	S	225	220	220	220	210	200	190	220	215	240	220	215	240	A 260	A 275	270	270
13	250	250	245	205	S	S	A 230	210	A 230	230	205	A 225	A	A	A	A	A	A	210	A 235	A	A	S 300	A 300
14	270	250	250	245	200	S	S	200	A	215	215	H 210	210	200	A	A	A	A	230	240	240	250	250	265
15	240	245	265	260	225	200	S	220	A	220	215	200	H 200	190	190	240	225	A	210	205	A	S	250	300
16	S 295	S 295	265	225	220	210	S 265	210	215	H 210	200	H 200	205	195	H 190	A	A	A	210	230	A	A 320	260	225
17	S 275	270	A	230	210	S 235	S	230	A 230	A 225	210	210	205	200	210	E A 230	A	E A 240	210	205	220	E S 250	S	S 265
18	245	S 250	260	S 250	E S 245	S	S 255	205	210	215	A 235	E A 250	A	A 225	A 230	220	A 245	230	215	205	210	E S 270	S 275	S 295
19	S 290	250	E S 245	295	275	240	S 240	220	230	225	220	200	200	225	195	240	230	240	220	215	220	A 255	A 265	250
20	250	A	A	240	200	S	A	210	215	A	240	215	205	200	A 200	240	240	240	210	200	210	210	245	E S 275
21	S 275	250	240	E S 250	250	260	240	210	215	A	A	A	A	A	H 190	240	225	225	210	200	200	E S 260	255	250
22	265	285	280	S 300	290	210	225	210	225	A	A	A	A	A	A	A	240	245	215	200	200	230	215	250
23	290	280	S 290	S 290	245	210	E S 240	210	A 205	A 230	A	A	A	205	215	A	230	A	220	200	220	230	220	S 235
24	240	S 265	245	245	210	S 230	220	220	A 220	220	210	A	E A 240	175	235	225	235	A 240	200	205	205	230	A	300
25	270	245	220	210	205	S 225	S 225	210	215	225	A 250	A	220	A 250	220	A 260	230	A	205	190	S 230	240	250	A 275
26	S 275	300	240	205	205	S	250	205	210	220	210	H 200	230	H 205	A 210	A	A	220	205	210	240	A	260	270
27	275	260	250	250	215	205	S	215	220	210	205	205	210	A	A	A	A	210	210	210	215	250	250	265
28	275	250	E A 300	A 300	A	220	S	210	215	200	H 200	A	A	205	250	A	A	225	200	E A 250	210	A	285	300
29	S 280	260	260	260	225	200	S	215	230	E A 250	A	A 220	200	200	H 200	A	E A 240	A 230	I C 220	210	A 280	260	A 280	A 270
30	230	210	210	A 240	A 250	E S 260	S 250	230	225	220	210	A 220	A	A	200	E A 250	A 225	A 245	210	200	200	240	235	A
31	A	E A 280	250	S	240	200	S	230	230	A	210	200	200	H 200	A	A 230	A	A	210	210	E A 250	E S 240	A 260	250
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	28	27	29	25	21	18	31	26	24	25	23	23	23	23	21	20	19	30	29	26	22	24	27
MED	275	260	250	250	218	228	241	215	220	220	210	210	202	200	208	228	230	230	210	210	214	242	258	268
UQ	S 290	280	266	255	240	S 245	252	220	225	225	220	216	210	205	219	240	240	240	220	232	A 235	260	272	290
LQ	250	250	245	230	210	210	232	210	215	212	205	200	200	195	198	220	228	225	210	205	210	235	250	252

OCT. 1985 | H'F (KM)

IONOSPHERIC DATA

OCT. 1985 | H'E (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Hour / 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								125	C 110	C 105	C 110	A	A 105	100 105	115 110	120	105	110	S					
2								B 120	110	105	110	A	105	105	110	110	110	110	S					
3								S	110	105	105	A	A 110	A	A		A	A	S					
4								A	A 110	A 110	A 110	A 110	110	110	110	110	110	110	S					
5								120	110	110	110	105	105	105	105	105	110	110	S					
6								120	105	105	105	105	A	A 100	100		100	115	S					
7								S	110	110	110	110	110	110	110	A	105	110	A					
8								E B 120	110	110	110	110	110	110	110	110	110	110	S					
9								S	110	110	110	110	110	110	110	110	110	A	A					
10								125	105	100	100	A	A	A	A	A	100	110	S					
11								120	115	100	110	115	100	100	105	105	105	A	S					
12								120	110	105	105	105	105	105	105	100	110	110	105					
13								S	105	105	105	105	100	110	100	100	105	105	S					
14								B 115	110	A	A	110	110	110	A 120	110	110	110	S					
15								B 120	110	110	110	110	110	110	110	A	A	A						
16								S	110	105	105	A	110	105	110	110	A	A						
17								120	110	A	A	A	A	105	105	100	A	105						
18								125	110	105	105	105	105	105	105	100	105	105						
19								135	110	105	100	100	105	105	110	110	110	A						
20								A	110	110	110	110	110	110	A	110	110	110						
21								E B 125	110	110	110	110	110	110	E B 125	110	110	A						
22								B 120	110	110	105	A	A	A	A	110	110	A						
23								130	115	100	100	105	105	105	105	110	105	105						
24								S	110	105	105	105	100	105	100	110	115	110						
25								125	110	105	105	110	110	110	105	110	100	105						
26								B	110	110	110	105	105	105	110	110	110	S						
27								B	110	105	A	105	105	105	105	105	A	A						
28								B	105	110	110	110	110	110	110	A 115	110	S						
29								B 120	110	A	A	A	110	110	110	110	105	A						
30								B 125	110	110	110	110	105	105	A 115	105	110	110						
31								E S 125	110	110	110	110	110	110	A 120	A 120	A 120	S						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								20	29	26	25	22	25	27	27	28	26	18	1					
MED								120	110	105	110	110	110	105	110	110	110	110	105					
UQ								125	110	110	110	110	110	110	110	110	110	110						
LQ								120	110	105	105	105	105	105	105	105	105	105						

OCT. 1985 | H'E (KM)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

OCT. 1985 | H'ES (KM) | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24 sec in automatic operation

Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	120	105	95	S	S	100	S	135	C	C	C	100	100	G	120	120	130	130	130	115	S	100	100	100
2	S	105	S	S	S	S	S	B 145	G	125	G	105	G	G	G	160	B 150	150	125	110	110	S	S	S
3	S	S	100	100	S	S	S	B 150	145	135	G	105	105	100	100	100	100	100	100	100	S	100	100	100
4	100	100	100	100	S	S	105	105	120	105	110	105	G	100	G	G	G	G	S	S	S	S	S	S
5	S	S	S	S	S	S	S	120	120	120	115	110	110	115	G	E G 145	130	120	120	105	105	100	100	S
6	105	100	100	100	105	105	105	125	120	115	120	115	100	100	G	G	135	120	110	105	105	105	115	105
7	110	110	105	110	110	110	110	135	125	115	115	115	115	115	115	E G 160	120	120	110	110	110	110	110	110
8	105	105	100	105	100	100	105	125	120	120	120	115	115	115	115	115	115	115	110	110	110	110	S	S
9	S	S	S	S	S	S	120	130	115	120	115	115	115	110	120	120	120	110	110	110	110	110	S	110
10	100	100	100	100	100	S	S	E G 140	125	G	G	100	100	100	100	125	115	110	105	105	105	S	S	105
11	100	S	S	S	S	S	S	125	120	120	120	115	115	115	115	115	110	105	105	105	100	100	100	100
12	100	100	100	100	100	100	105	125	120	115	115	110	105	105	115	115	150	120	105	105	105	105	100	100
13	100	100	S	100	100	100	S	120	120	115	120	120	115	115	115	110	105	105	105	105	105	105	105	100
14	100	100	S	S	S	S	S	150	120	110	105	G	100	115	110	110	120	110	105	105	105	S	105	105
15	105	105	105	S	S	S	S	125	110	115	110	G	G	G	G	110	105	105	110	110	105	105	S	100
16	100	S	S	S	S	S	S	145	150	G	150	110	100	G	G	110	110	105	100	100	100	100	100	S
17	S	110	100	100	S	S	105	150	150	140	100	100	100	120	G	125	100	115	S	S	105	105	S	S
18	100	100	100	100	100	S	S	125	140	120	115	110	110	110	110	110	105	105	105	105	105	105	S	S
19	S	S	S	100	100	100	S	145	G	135	120	120	120	115	120	115	110	105	105	105	105	105	105	105
20	100	100	100	S	100	S	100	145	B 145	115	125	125	100	G	100	110	G	115	S	100	S	S	S	100
21	105	100	S	100	100	100	100	125	135	110	110	110	110	110	115	115	110	105	105	105	105	S	S	100
22	100	100	S	100	100	S	S	G	115	110	110	105	105	105	105	110	110	105	105	100	S	100	100	100
23	100	S	S	100	100	100	100	G	125	120	120	120	115	115	115	105	105	105	105	100	100	100	100	100
24	S	S	S	S	S	S	100	115	110	110	110	105	100	105	100	E G 170	G	110	105	110	105	105	100	105
25	100	105	S	S	S	S	S	E G 170	E G 165	105	110	110	110	115	120	115	155	110	110	S	S	105	105	100
26	105	S	S	S	S	S	S	145	125	115	G	G	100	G	125	110	110	110	105	105	105	100	100	105
27	110	105	100	100	100	100	S	G	G	G	125	G	G	125	120	115	105	100	100	100	150	100	S	100
28	100	100	100	100	100	100	100	G	B 150	140	145	120	120	120	125	145	115	110	105	110	110	105	105	105
29	S	S	105	100	100	100	100	G	E G 165	150	140	E G 150	G	G	120	115	115	110	C	110	100	100	110	110
30	110	110	110	105	100	100	S	G	E G 140	115	120	120	125	120	100	E G 150	E G 150	G	105	S	S	105	105	105
31	105	105	100	105	105	S	S	E G 140	125	120	115	130	130	E G 150	120	120	120	115	110	110	110	110	110	110
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	21	17	19	17	13	13	25	27	27	26	27	26	24	24	29	28	29	27	27	24	25	20	24
MED	100	100	100	100	100	100	105	130	122	115	115	110	110	115	115	115	114	110	105	105	105	105	102	102
UQ	105	105	100	100	100	100	105	145	136	120	120	119	115	115	120	120	122	115	110	110	110	105	105	105
LQ	100	100	100	100	100	100	100	125	120	115	110	105	100	105	108	110	108	105	105	105	105	100	100	100

OCT. 1985 | H'ES (KM)

IONOSPHERIC DATA

OCT. 1985 | TYPES OF ES | 135° E Mean Time (G.M.T. + 9 h)

Station OKINAWA Lat. 26° 16.9' N, Long. 127° 48.4' E Sweep 1 MHz to 25 MHz in 24sec in automatic operation

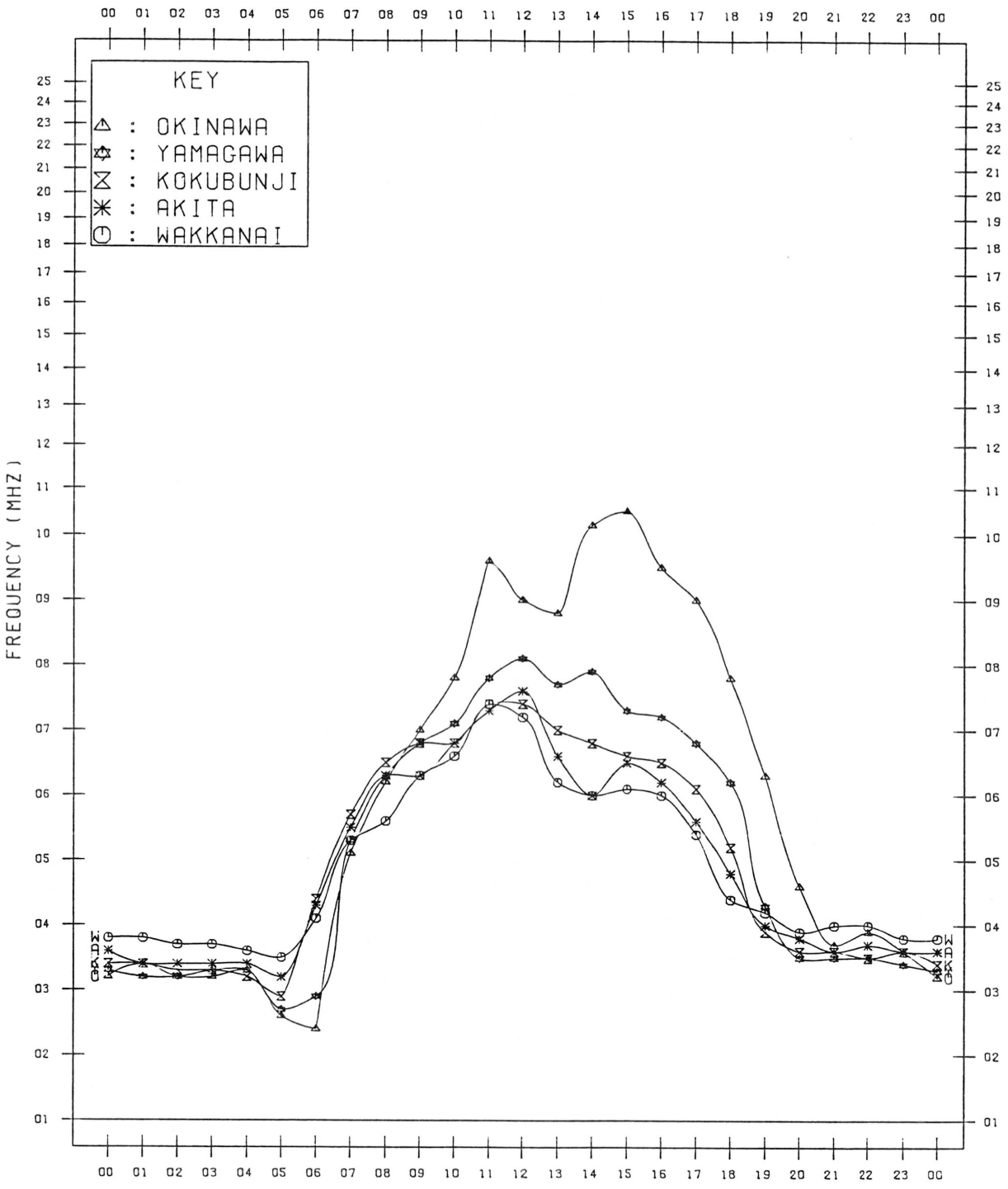
Day \ Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	FF 25	F 5	F 2			F 1		HL 21				L 1	L 2		C 1	C 1	H 2	H 4	H 3	F 3		F 2	F 4	F 3
2		F 1						H 1		C 1		L 1				HL 11	H 1	H 1	C 1	F 3	F 2			
3			F 2	F 2				H 1	H 2	H 2		L 1	L 2	L 2	L 1	L 1	L 4	L 2	L 2	F 1		F 3	F 3	F 3
4	F 1	F 2	F 1	F 1			F 1	L 1	HL 11	L 4	CL 11	L 1		L 1										
5								C 2	C 2	C 2	C 3	C 3	C 2	C 1		H 1	H 1	C 1	C 1	F 2	F 2	F 4	F 4	
6	F 3	F 7	F 4	F 7	F 5	F 6	F 4	C 3	C 1	C 1	C 1	C 1	L 1	L 2			H 1	C 1	C 2	F 4	F 7	F 6	F 7	F 7
7	F 2	F 2	F 4	F 3	F 3	F 1	F 1	H 3	C 1	C 3	C 2	C 2	C 3	C 2	C 3	HL 11	C 4	C 1	L 4	F 6	F 6	F 2	F 4	F 3
8	F 2	F 4	F 6	F 3	F 2	F 8	F 2	C 1	C 3	C 2	C 2	C 3	C 2	C 2	C 3	C 3	C 4	C 5	L 5	F 5	F 3	F 4		
9							F 1	C 2	C 2	C 1	C 1	C 1	C 2	C 2	C 1	C 1	C 4	L 4	L 4	F 3	F 2	F 2		F 2
10	F 2	F 2	F 1	F 1	F 1			C 2	C 1			L 2	L 2	L 3	L 4	CL 11	C 2	C 5	L 4	F 6	F 2			F 1
11	F 1							C 2	C 1	C 1	C 1	C 1	C 1	C 1	C 1	C 2	C 1	L 3	L 7	F 6	F 5	F 3	F 2	F 3
12	F 3	F 2	F 3	F 5	F 5	F 3	F 2	C 2	C 1	C 1	C 1	L 1	L 1	L 2	C 1	C 1	H 1	C 1	L 5	F 7	F 6	F 4	F 6	F 5
13	F 6	F 2		F 2	F 2	F 1		C 2	C 2	C 1	C 1	C 2	C 2	C 3	CL 21	CL 81	L 5	L 4	L 7	F 7	F 4	F 3	F 3	F 3
14	F 2	F 3						H 2	C 1	L 1	L 2		L 1	CL 11	CL 21	CL 21	C 2	C 3	L 7	F 3	F 3		F 3	F 2
15	F 2	F 1	F 2					C 2	C 3	C 2	C 2					L 2	L 2	L 5	F 6	F 2	F 4	F 2		F 3
16	F 2							H 2	HC 12		HC 11	L 2	L 1			C 2	L 3	L 7	F 7	F 4	F 7	F 3	F 2	
17		F 1	F 2	F 1			F 1	H 1	H 3	HL 11	L 1	L 2	L 1	C 1		C 1	L 2	C 2			F 1	F 1		
18	F 2	F 1	F 2	F 1	F 1			C 2	H 1	C 2	C 1	C 2	C 2	C 2	C 2	C 2	L 3	L 3	F 2	F 7	F 2	F 2		
19				F 2	F 4	F 3		H 2		H 1	C 1	C 2	C 1	C 2	C 2	C 2	C 2	L 4	F 3	F 7	F 7	F 5	F 6	F 4
20	F 4	F 6	F 6		F 1		F 4	HL 11	HL 11	CL 31	CL 11	CL 11	L 1		L 2	CL 11		C 2		F 1				F 2
21	F 4	F 2		F 2	F 1	F 8	F 1	C 2	H 1	C 3	C 5	C 3	C 2	C 2	C 2	C 1	C 1	L 2	F 2	F 4	F 1			F 2
22	F 2	F 2		F 2	F 2				C 1	C 3	C 4	L 3	L 4	L 3	L 2	C 1	C 1	L 1	F 4	F 3		F 3	F 3	F 1
23	F 1			F 1	F 1	F 1	F 1		C 1	C 3	C 2	C 2	C 2	C 2	C 2	L 4	L 3	L 5	F 4	F 5	F 7	F 7	F 2	F 1
24							F 1	C 2	C 3	C 2	C 3	C 4	L 3	L 1	L 2	H 1		L 2	F 2	F 5	F 4	F 4	F 8	F 3
25	F 2	F 1						H 1	H 1	LC 12	C 2	C 3	C 2	C 2	C 1	L 1	HL 22	C 1	C 1			F 4	F 3	F 4
26	F 2							H 2	C 1	C 1			L 1		C 1	C 3	C 3	L 3	F 7	F 4	F 4	F 4	F 3	F 2
27	F 2	F 2	F 3	F 2	F 7	F 2					CL 11			C 1	C 1	C 2	L 5	L 7	F 7	F 8	F 2	F 1		F 1
28	F 1	F 2	F 4	F 4	F 4	F 5	F 8		HC 11	HL 21	HL 11	CL 21	CL 21	CL 11	C 1	HL 31	C 3	C 2	F 1	F 7	F 2	F 2	F 2	F 1
29			F 2	F 2	F 1	F 1	F 1		H 1	HL 22	HL 12	HL 12			C 1	C 4	C 2	L 3		F 4	F 2	F 2	F 2	F 3
30	F 5	F 6	F 3	F 1	F 3	F 2			C 1	C 1	C 2	C 2	C 2	C 2	L 1	H 1	H 1		F 1			F 3	F 2	F 2
31	F 2	F 2	F 2	F 2	F 1			C 3	C 2	C 2	C 2	C 1	C 1	H 1	CL 32	CL 21	CL 51	C 4	F 4	F 4	F 2	F 3	F 4	F 2
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
UQ																								
LQ																								

OCT. 1985 | TYPES OF ES

The Radio Research Laboratories, Japan

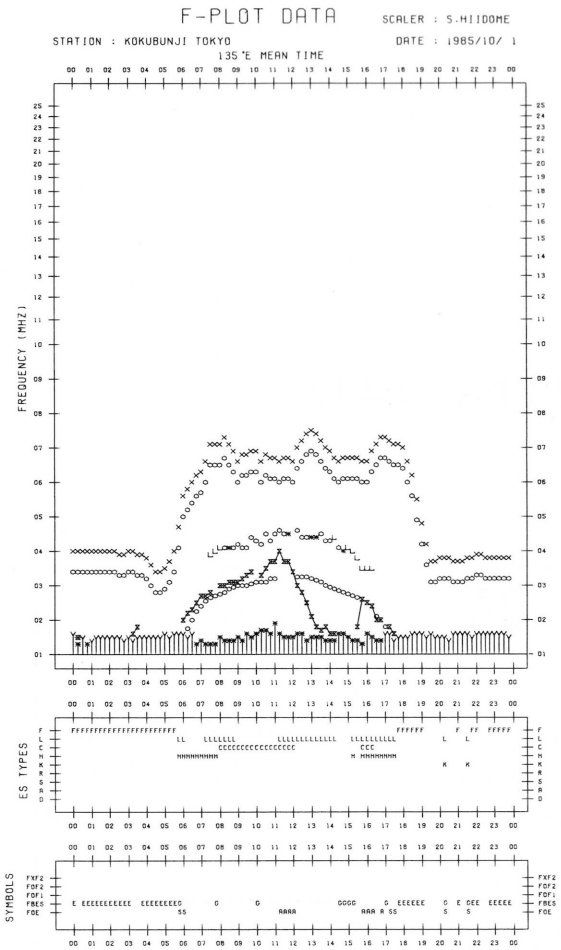
MONTHLY MEDIAN VALUES OF FOF2

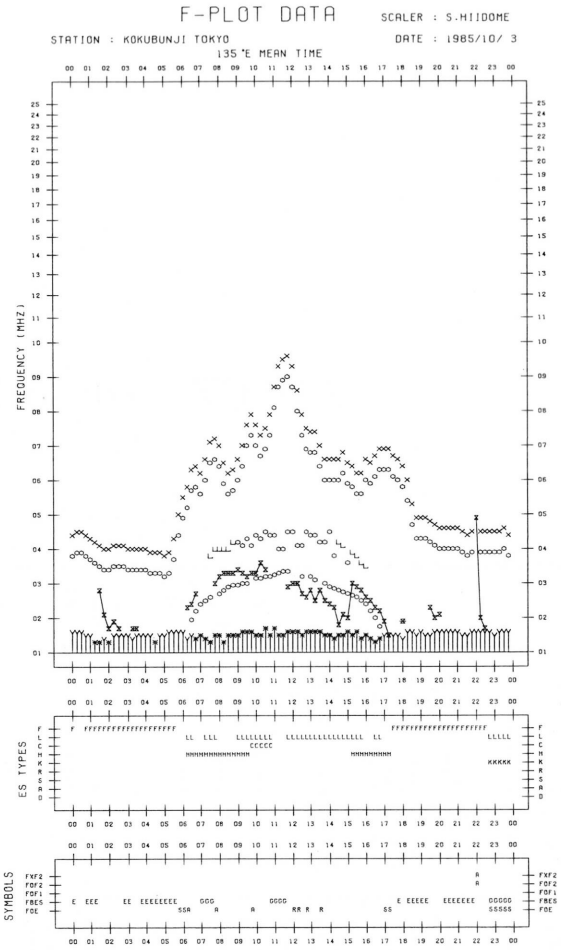
135 °E MEAN TIME OCT. 1985

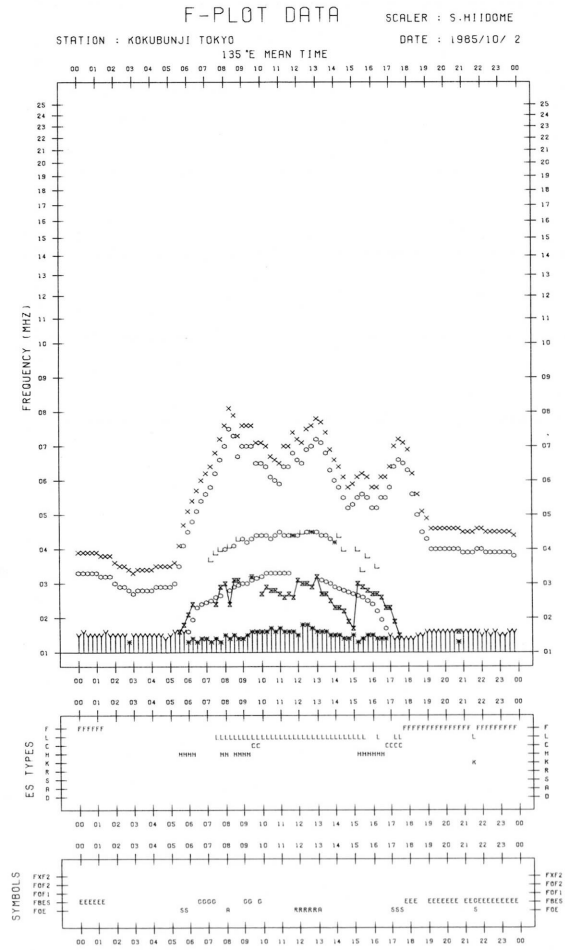


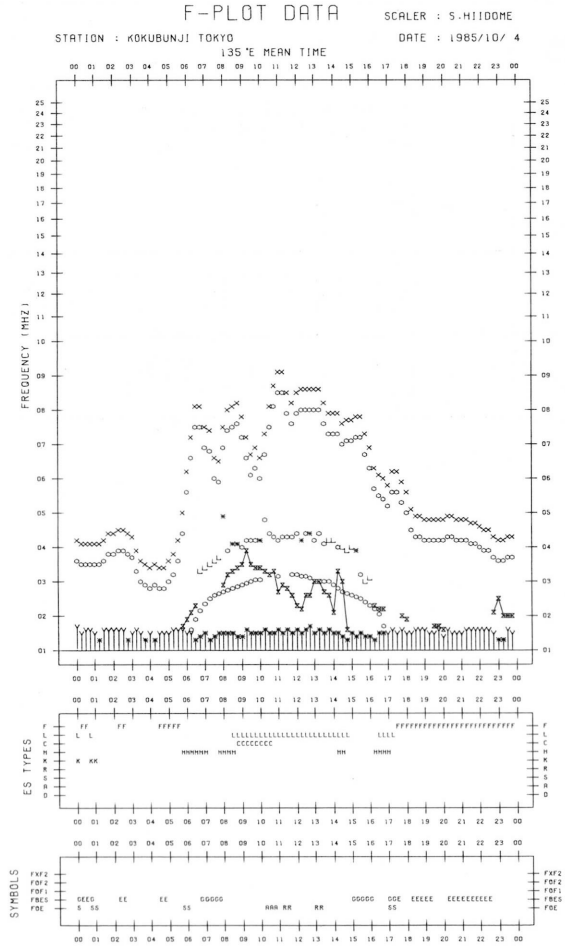
f-PLOTS OF IONOSPHERIC DATA

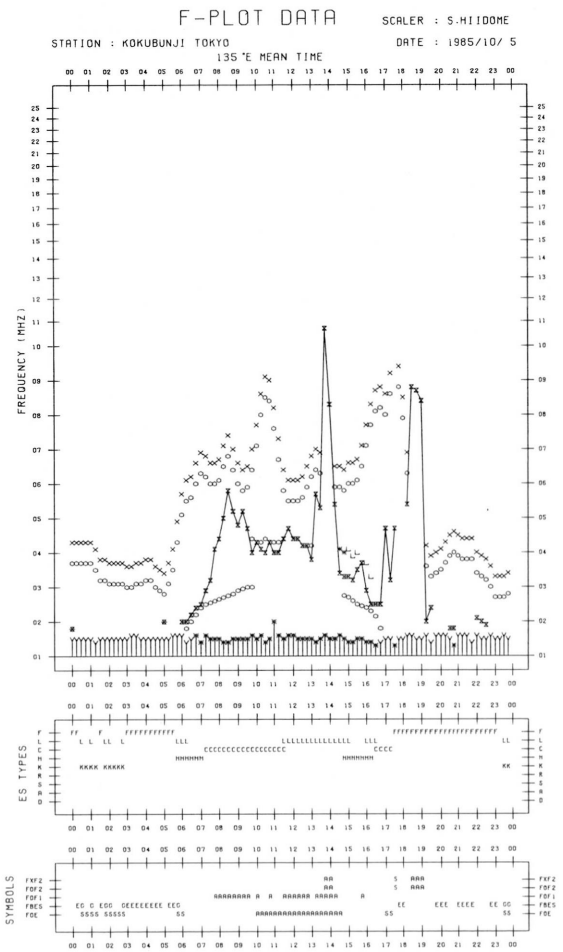
KEY OF F-PLOT	
!	SPREAD
○	FOF2,FOF1,FOE
×	FXF2
✳	DOUBTFUL FOF2,FOF1,FOE
⧖	FBES
⌊	ESTIMATED FOF1
↑,Y	FMIN
∧	GREATER THAN
∨	LESS THAN

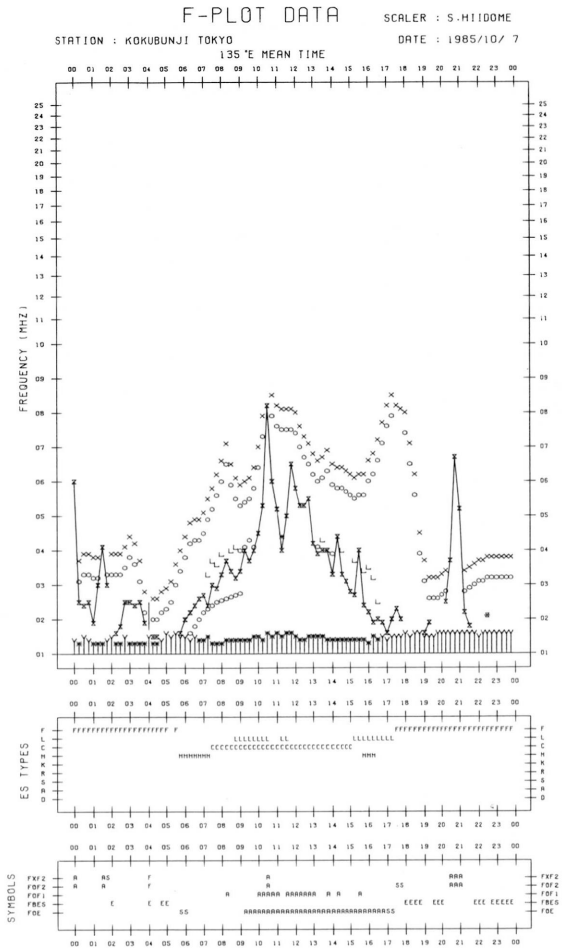

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/ 1
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FDF2
FDF1
FBES
FDE


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/ 3
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FDF2
FDF1
FBES
FDE


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/ 2
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FDF2
FDF1
FBES
FDE


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/ 4
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FDF2
FDF1
FBES
FDE


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/ 5
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FDF2
FDF1
FBES
FDE


F-PLOT DATA
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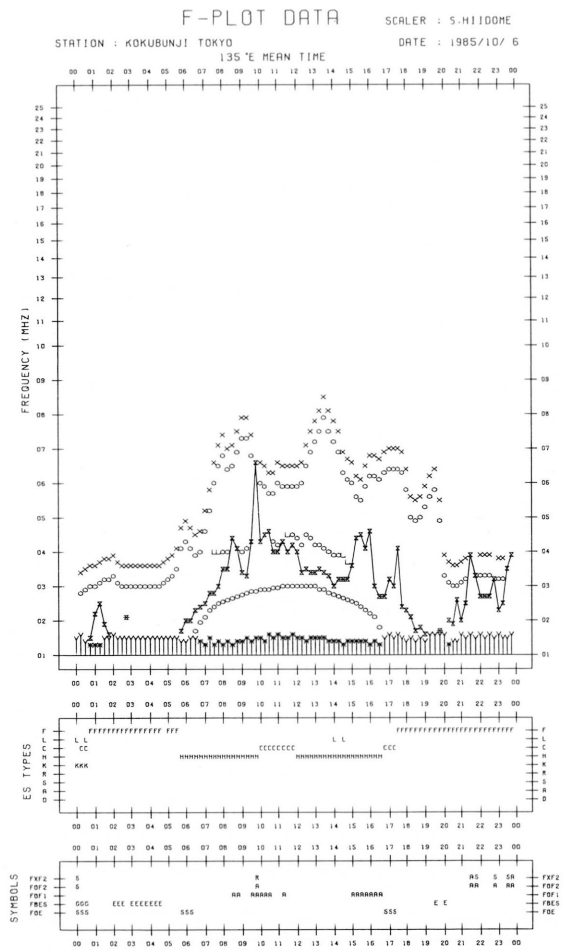
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/ 7
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FDF2
FDF1
FBES
FDE


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/ 6
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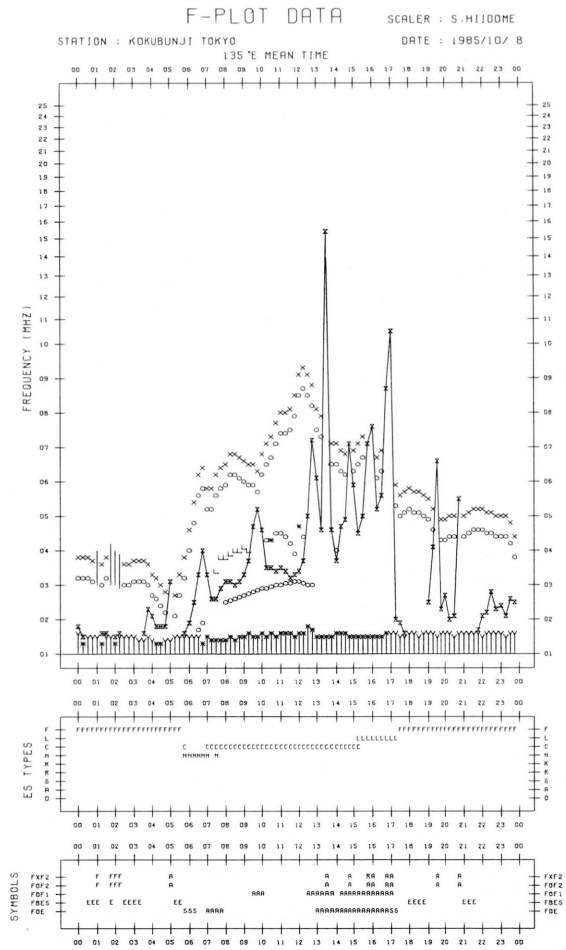
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FDF2
FDF1
FBES
FDE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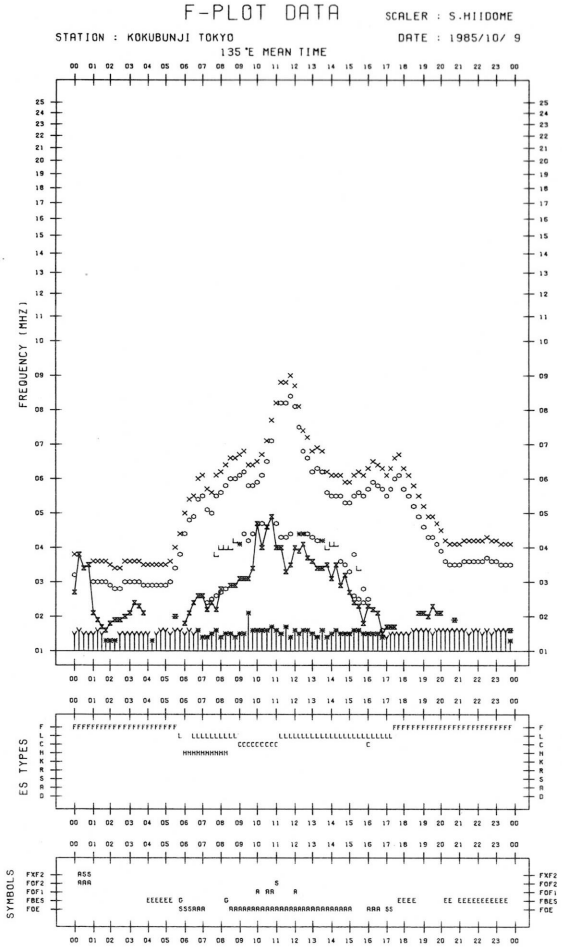
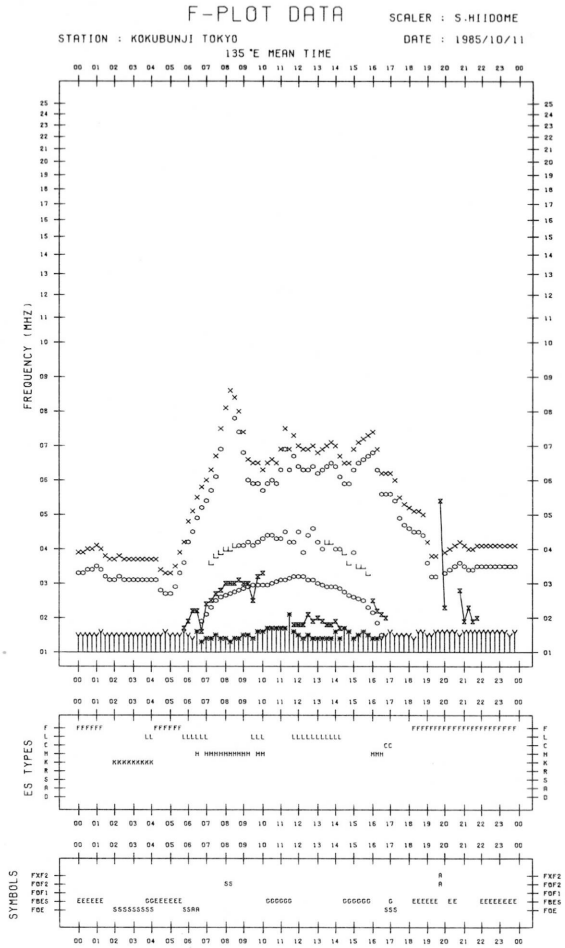
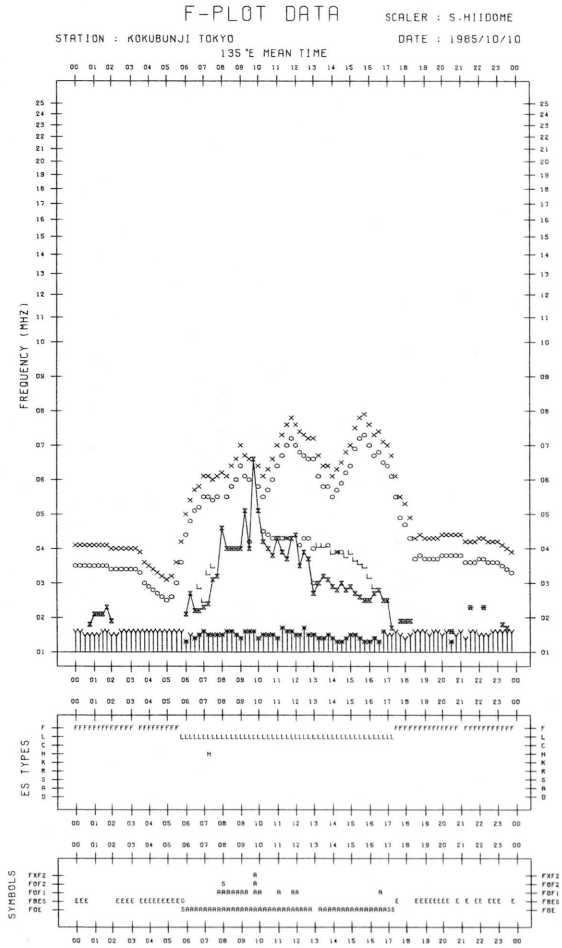
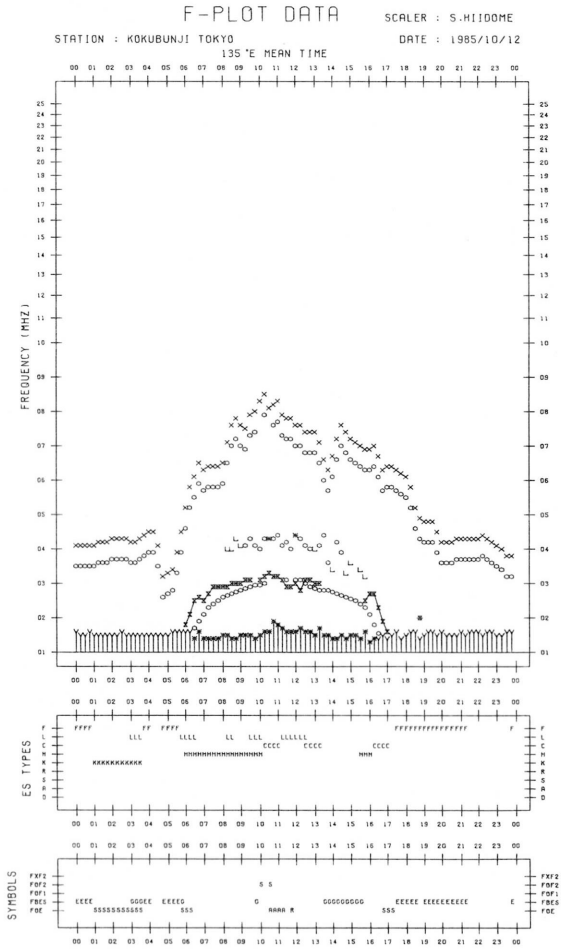
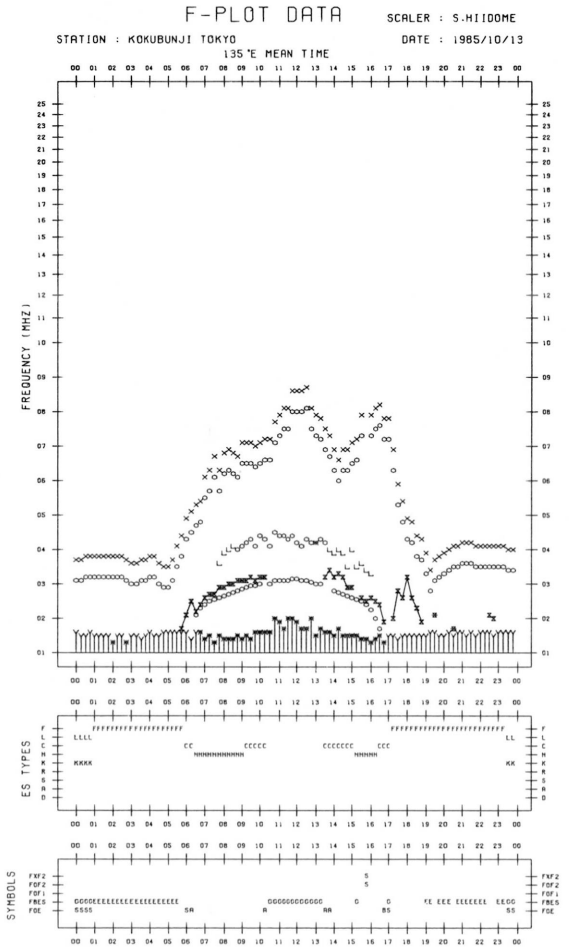
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/ 8
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FDF2
FDF1
FBES
FDE

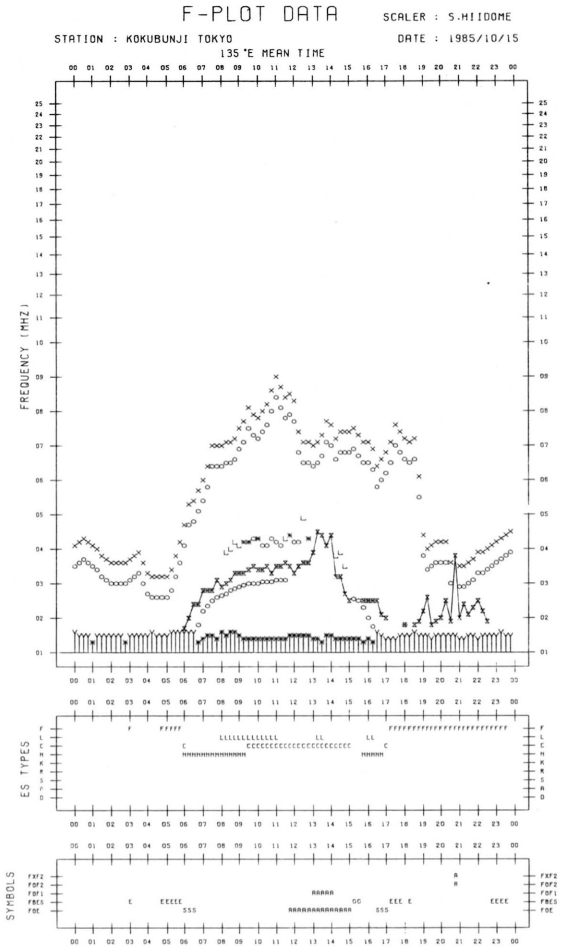

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/ 9
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FOF2
FOF1
FBES
FOE

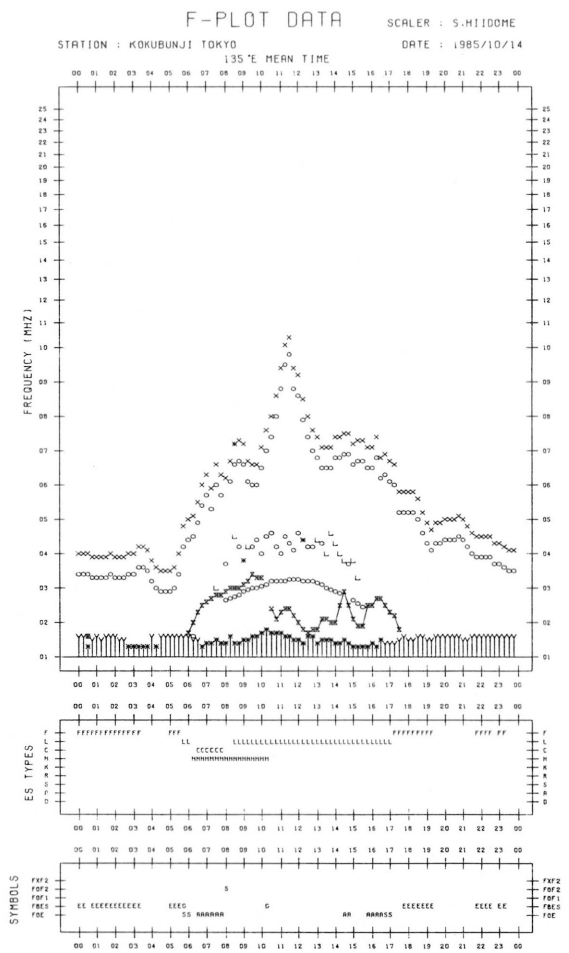

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/11
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FOF2
FOF1
FBES
FOE

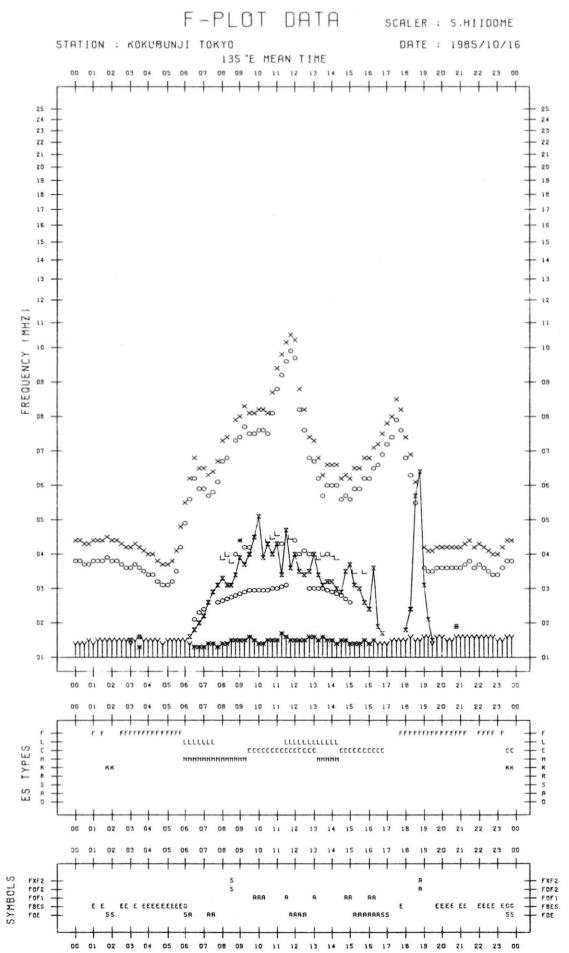

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/10
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FOF2
FOF1
FBES
FOE

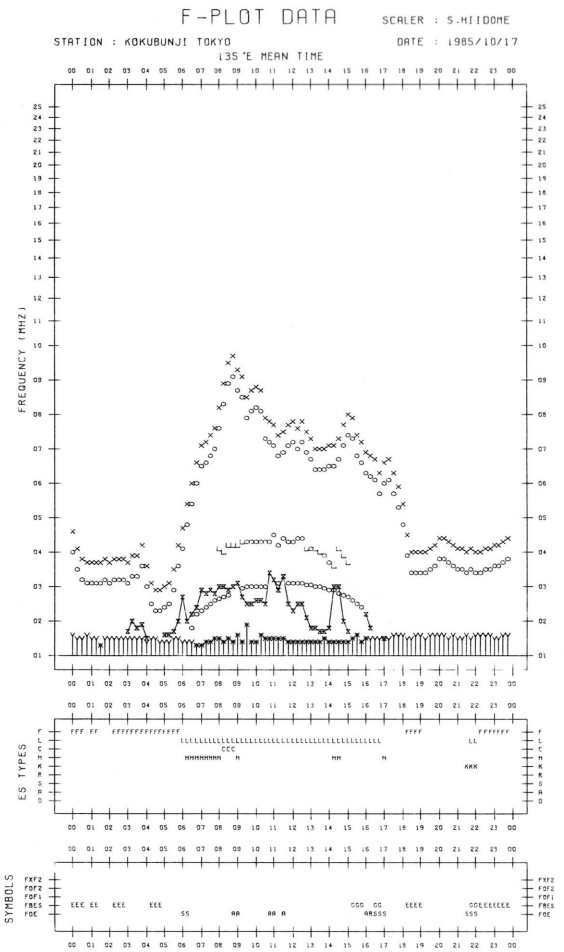

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/12
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FOF2
FOF1
FBES
FOE

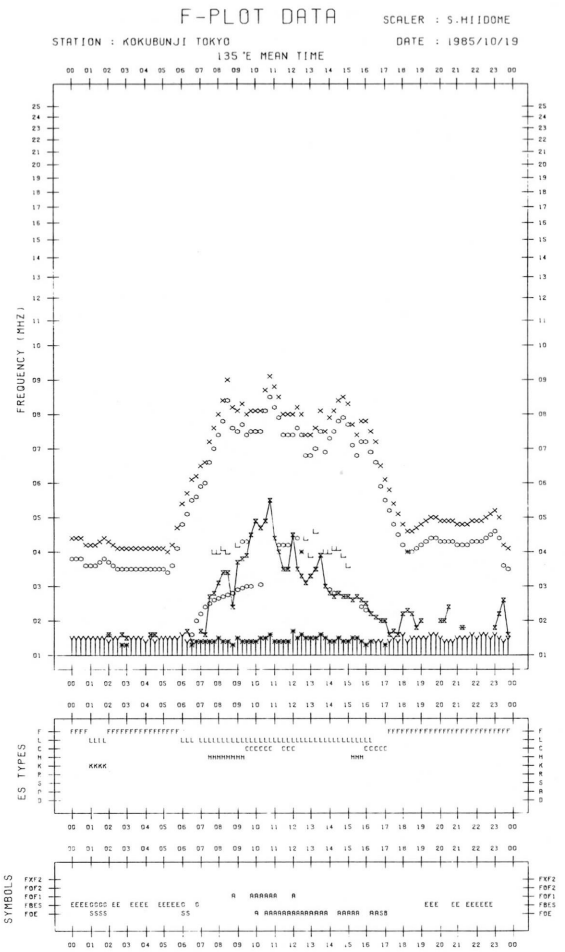

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/13
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS

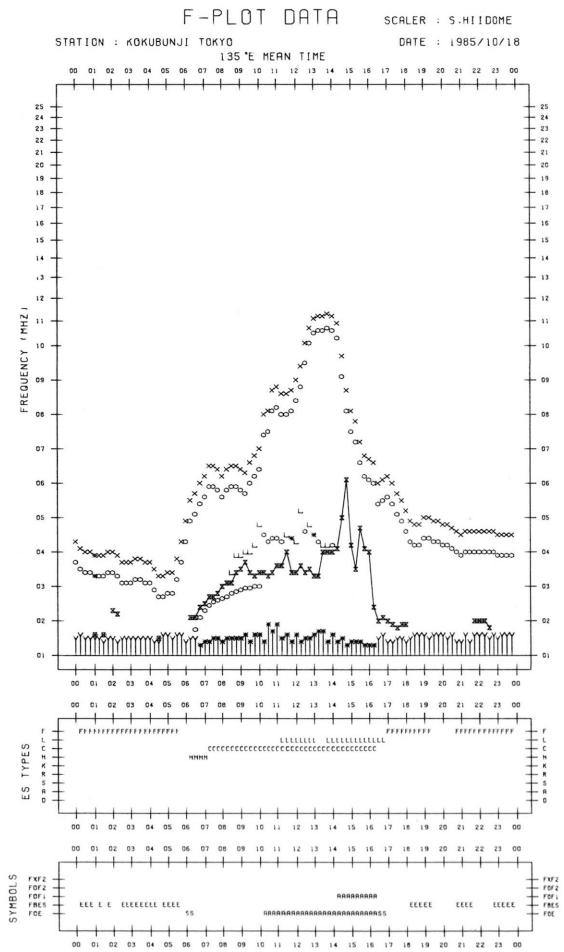

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/15
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS

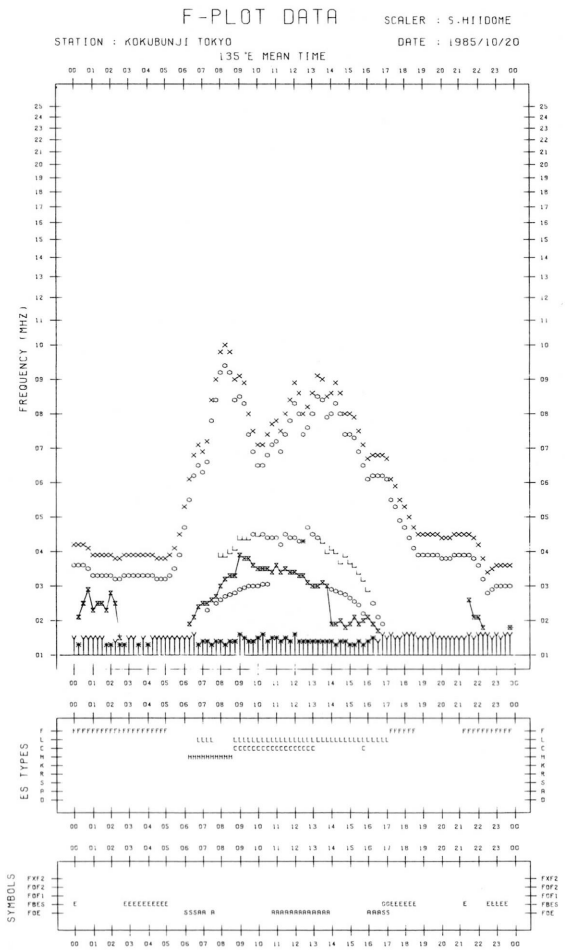

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/14
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS

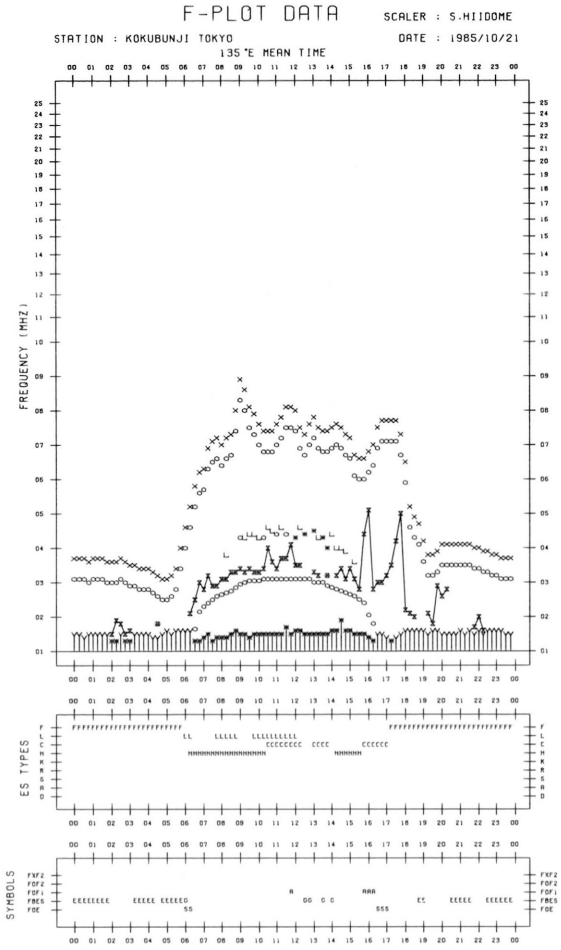

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/16
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS

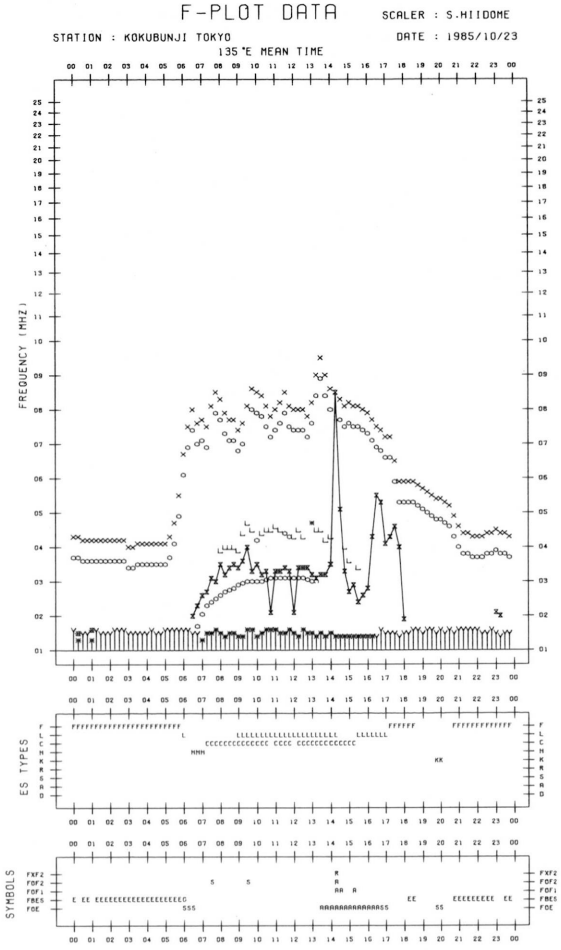

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/17
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS

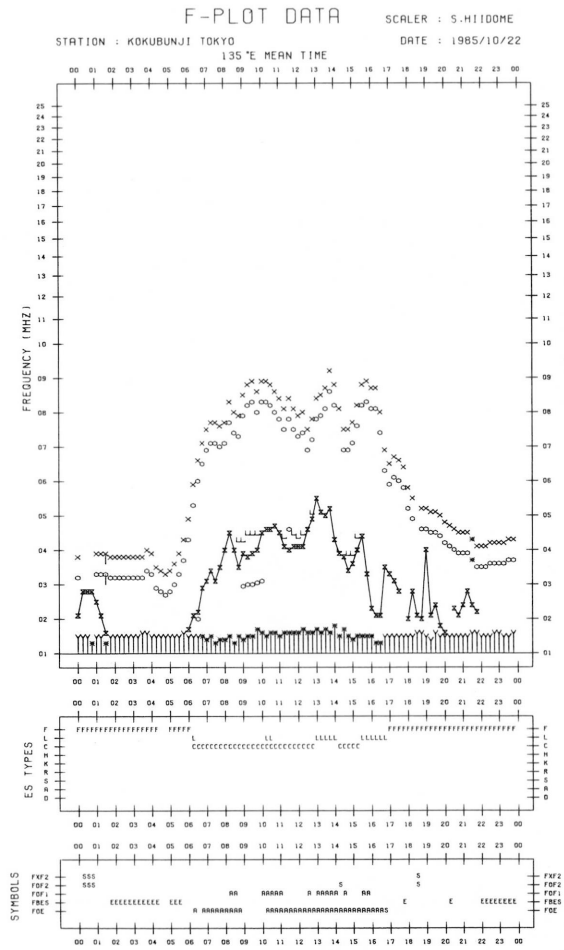

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/19
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS

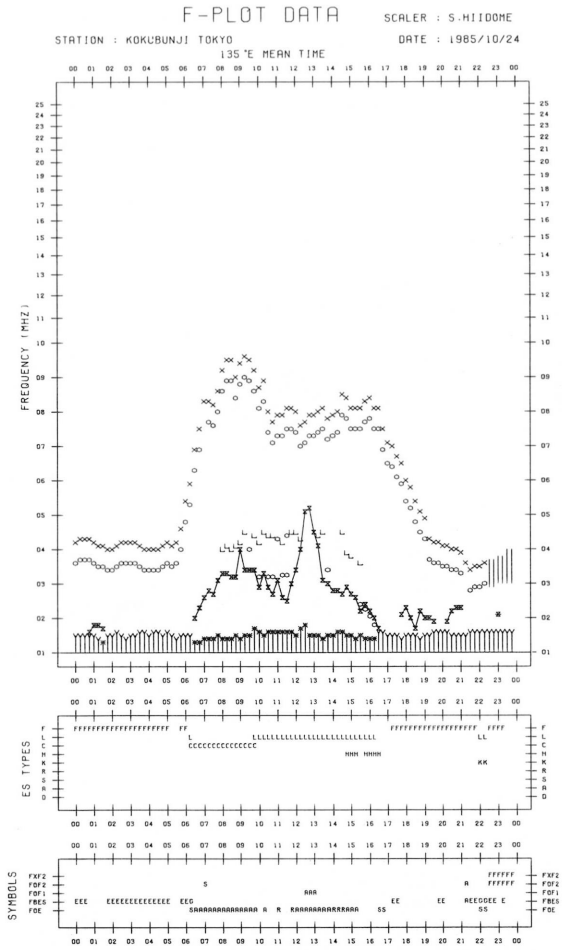

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/18
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS

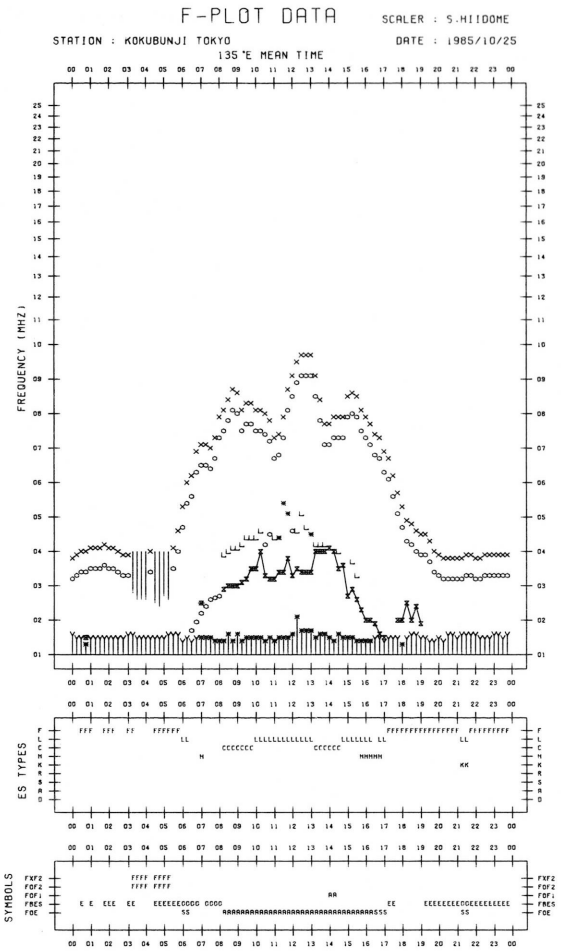

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/20
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS

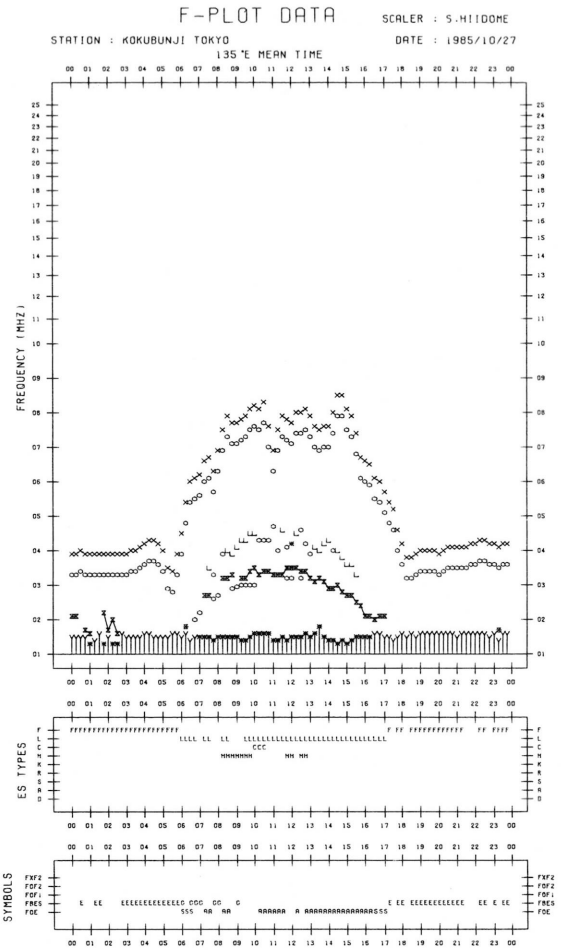

F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/21
135°E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/23
135°E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/22
135°E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/24
135°E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/25
135°E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS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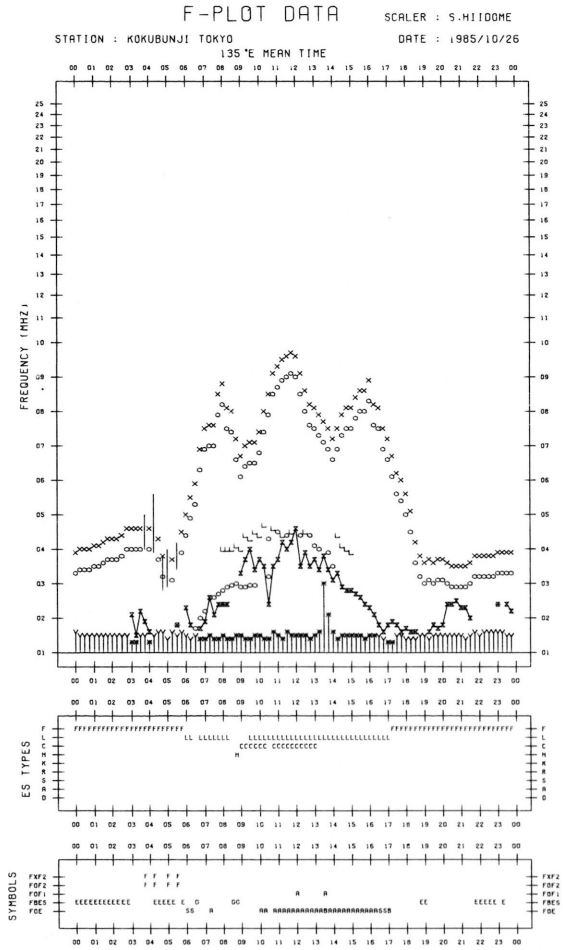
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/27
135°E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS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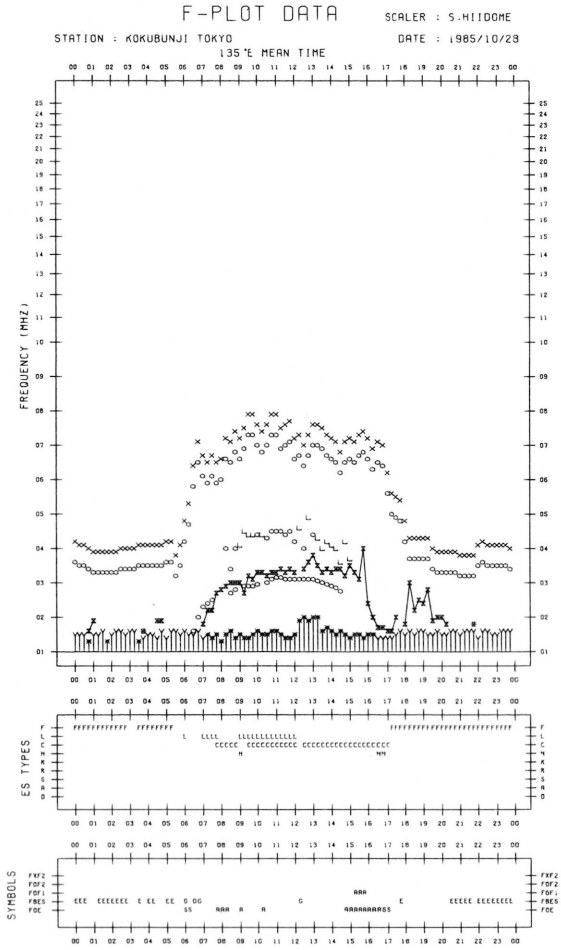
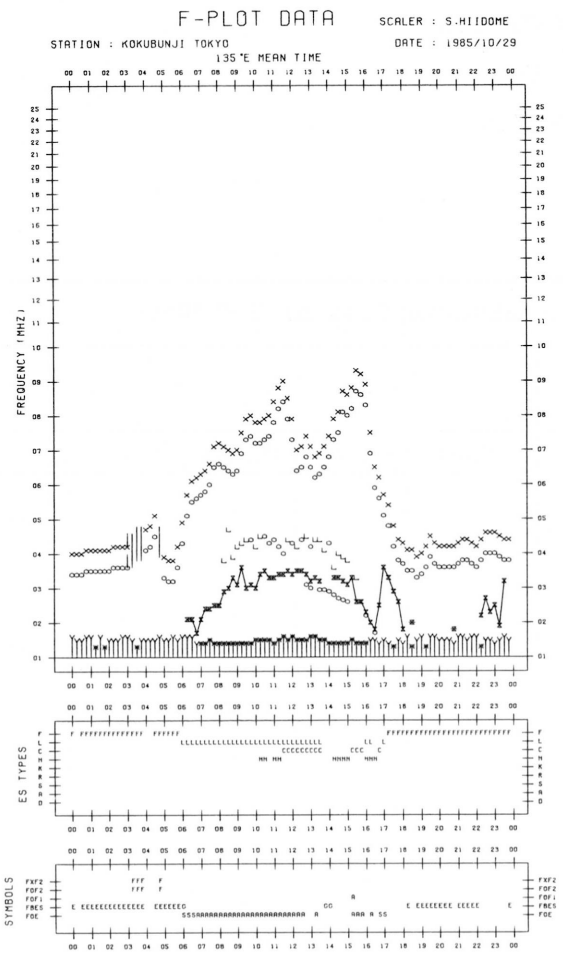
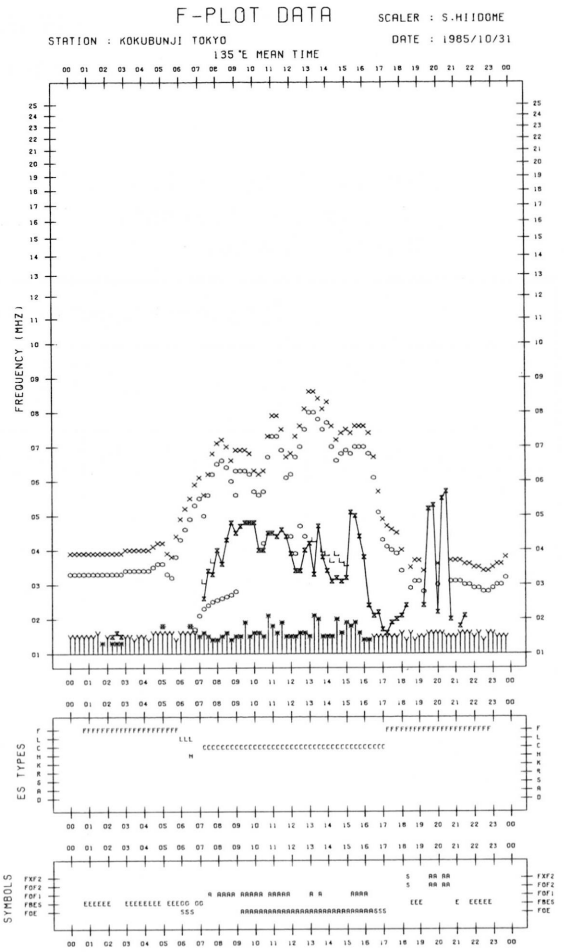
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/26
135°E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/23
135°E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/29
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FOF2
FOF1
FMES
FOE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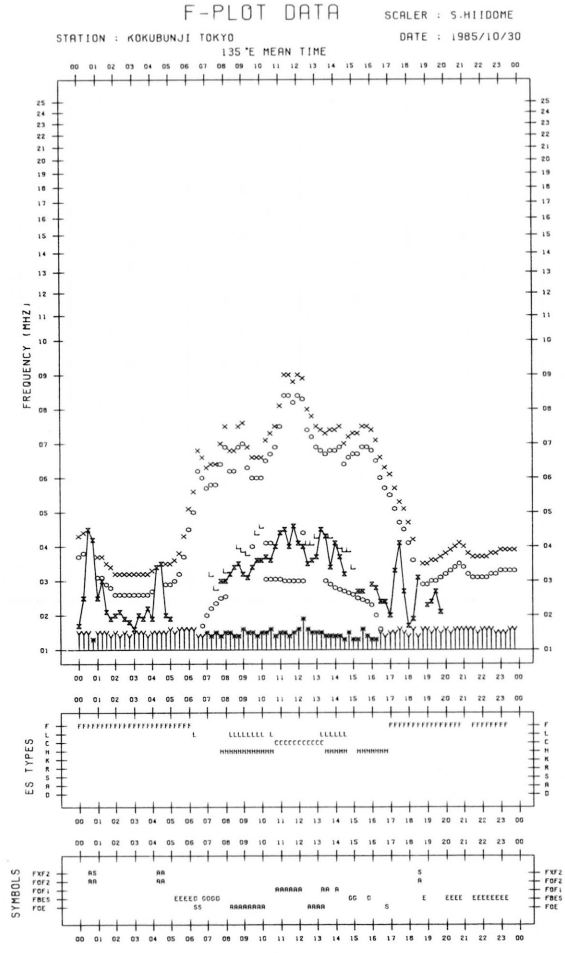
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/31
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FOF2
FOF1
FMES
FOE


F-PLOT DATA
SCALER : S.HIIDOME
STATION : KOKUBUNJI TOKYO
DATE : 1985/10/30
135 °E MEAN TIME
FREQUENCY (MHZ)
ES TYPES
SYMBOLS
FXF2
FOF2
FOF1
FMES
FOE

SOLAR RADIO EMISSION

HIRAISO (HIRA)

36.37N 140.62E

Hiraiso Branch, R.R.L.,
Nakaminato, Ibaraki,
311-12 JAPAN

October 1985

Single-frequency total flux observations at 200 MHz										
Flux density: 10^{-22} Wm^{-2}Hz^{-1}						Variability: 0 to 3				
UT	00-03	03-06	06-09	21-24	Day	00-03	03-06	06-09	21-24	Day
Date										
1	6	6	6	q	6	0	0	0	*	0
2	6	6	6	6	6	0	0	0	0	0
3	6	6	6	6	6	0	0	*	*	0
4	6	6	6	6	6	*	*	*	0	*
5	6	6	6	6	6	0	0	*	*	0
6	6	6	6	6	6	*	*	0	*	*
7	6	6	6	6	6	0	*	*	*	*
8	6	6	6	q	6	0	0	0	*	0
9	-	q	q	6	q	-	*	*	*	*
10	6	6	q	6	6	*	*	*	*	*
11	6	6	6	q	6	0	0	0	*	0
12	6	6	6	q	6	*	*	*	*	*
13	q	q	q	6	q	*	*	*	0	*
14	6	6	q	6	6	0	*	*	*	*
15	6	6	6	6	6	*	*	*	*	*
16	6	6	6	6	6	*	*	*	*	*
17	6	6	6	6	6	*	*	*	*	*
18	6	6	6	6	6	*	*	*	*	*
19	6	6	7	q	6	0	0	0	*	0
20	q	q	q	6	q	*	*	*	*	*
21	7	7	7	7	7	*	1	0	1	*
22	7	7	(7)	7	7	2	3	(2)	1	2
23	7	7	(7)	q	7	1	*	(0)	*	1
24	6	6	(7)	7	6	*	*	(*)	1	*
25	6	7	(7)	q	7	0	1	(*)	*	1
26	6	7	(7)	6	7	0	1	(*)	*	*
27	7	7	(7)	q	7	1	0	(0)	*	0
28	6	6	(6)	6	6	*	0	(*)	*	*
29	6	6	(6)	6	6	*	*	(*)	0	*
30	6	6	(q)	6	6	*	*	(*)	0	*
31	6	6	(6)	6	6	0	*	(0)	0	*

Note No observations during the following periods:

9th 0100 - 0350

q: likely quiet.

*: interference.

SOLAR RADIO EMISSION

HIRAISO (HIRA)

36.37N 140.62E

Hiraiso Branch, R.R.L.,
Nakaminato, Ibaraki,
311-12 JAPAN

October 1985

Single-frequency total flux observations at 500 MHz

Flux density: 10^{-22} $Wm^{-2}Hz^{-1}$

UT	00-03	03-06	06-09	21-24	Day
Date					
1	24	24	24	24	24
2	24	24	24	24	24
3	24	24	24	24	24
4	24	24	24	23	24
5	24	24	24	23	23
6	23	23	23	23	23
7	23	23	23	23	23
8	23	23	23	23	23
9	(23)	23	23	23	23
10	23	23	23	23	23
11	23	23	22	22	23
12	23	23	23	22	23
13	23	23	23	22	23
14	23	24	24	24	23
15	24	24	24	24	24
16	24	24	24	24	24
17	24	24	24	24	24
18	25	25	25	25	25
19	25	25	-	-	25
20	26	26	26	26	26
21	27	27	26	27	27
22	28	28	(27)	30	28
23	30	28	(28)	28	29
24	28	28	(27)	27	28
25	27	27	(27)	26	27
26	26	27	(28)	26	27
27	27	27	(26)	26	27
28	26	26	(25)	26	26
29	26	26	(25)	25	26
30	26	25	(24)	-	25
31	25	25	(24)	-	25

Note No observations during the following periods:

9th 0100 - 0400
14th 0300 - 0403
19th 0600 - 0750
19th 2050 - 20th 0005
23rd 0600 - 0611
30th 2105 - 2353
31st 2105 - 2343

SOLAR RADIO EMISSION

HIRAISO (HIRA)

36.37N 140.62E

Hiraiso Branch, R.R.L.,
Nakaminato, Ibaraki,
311-12 JAPAN

October 1985

Outstanding Occurrences

(single-frequency observations)

Normal observing period: 2050 - 0800 (sunrise to sunset)

OCT 1985	FREQ	STATION	TYPE	START TIME UT	TIME OF MAXIMUM UT	DUR MIN	FLUX DENSITY PEAK	FLUX DENSITY MEAN	POLARIZATION POSITION REMARKS
19	200	HIRA	46 C	0458	0458.3	1.3	2300	390	0
	500		6 S	0458.3	0458.6	1.5	10	5	WL
20	500		6 S	2106.5	2106.6	1.7	16	10	WR
	500		8 S	2110.0	2110.3	0.6	17	11	WR
21	200		46 C	0133.2	0133.4	1.5	57	8	0
	100		46 C	0133.3	0133.6	1.2	340	85	ML
	500		45 C	0136.2	0137.6	6.0	4	2	WL
	500		8 S	0311.0	0311.0	0.6	5	-	0
	200		42 SER	0509.8	0510.2	32	1050	-	0
	500		42 SER	0509.9	0519.6	12.0	145	-	WR
	100		42 SER	0513.0	0538.3	29	7000	-	WL
	200		44 NS	2050E	0437	660D	110	25	WL
	100		42 SER	2229.7	2230.3	14.5	930	-	WR
	200		42 SER	2307	2312	10.3	180	-	0
	500		45 C	2310.4	2311.7	3.2	30	7	WR
	100		42 SER	2313.3	2318.5	6.8	560	-	WL
	500		45 C	2314.0	2314.1	1.6	38	10	WL
22	500		27 RF	0304.9	0320.4	146	40	17	ML
	100		43 NS	0324	0400	230D	280	60	WL
	500		45 C	0407.3	0408.6	3.0	25	10	WR
	500		45 C	0412.0	0413.3	2.6	13	6	WR
	200		44 NS	2050E	2259	600D	10	5	0
23	500		6 S	2210.0	2210.4	1.0	25	6	0
24	500		42 SER	0230.7	0230.7	1.2	15	-	0
	200		8 S	0609.2	0609.4	0.4	730	-	0
	500		8 S	0609.3	0609.3	0.3	40	-	WL
	200		44 NS	2050E	2200	180D	6	3	0
25	100		8 S	0140.8	0141.0	0.3	530	-	ML
	500		45 C	2202.3	2204.4	2.7	7	2	0
26	500		42 SER	0418.2	0424.1	7.7	7	-	0
	200		43 NS	0424	0516	190D	10	3	0
	500		42 SER	0436.7	0447.0	36	12	-	0
	500		8 S	0633.5	0633.8	0.4	7	-	0
	500		8 S	2332.0	2332.4	0.7	19	-	0
27	500		42 SER	0011.4	0015.2	7.3	9	-	0
28	500		42 SER	0601.7	0607.7	6.3	50	-	0

RADIO PROPAGATION

MEASUREMENT OF H.F. FIELD STRENGTH (UPPER SIDE-BAND OF WWV)

OCT 1985 FREQUENCY 15 MHZ BANDWIDTH 80 HZ RECEIVING ANTENNA ROD 4.5 M

MEASURED AT HIRAISO

UT DAY	00H 15M	01H 15M	02H 15M	03H 15M	04H 15M	05H 15M	06H 15M	07H 15M	08H 15M	09H 15M	10H 15M	11H 15M	12H 15M	13H 15M	14H 15M	15H 15M	16H 15M	17H 15M	18H 15M	19H 15M	20H 15M	21H 15M	22H 15M	23H 15M
1	11	2	ES -8	ES -1	ES -10	ES -14	ES -23	ES -5	ES -8	ES -14	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	7	4	7	5
2	-1	9	-6	ES -9	ES -14	ES -14	ES -18	ES -9	ES -6	ES -18	ES -18	ES -18	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -23	-5	7	4	5
3	2	4	6	ES -5	ES -4	ES -14	ES -14	ES -4	ES -4	ES -14	ES -14	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	0	-5	ES -14
4	ES -14	ES 0	ES -2	ES -5	ES -1	ES -2	ES -8	ES -8	ES -11	ES -14	ES -14	ES -14	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	1	3	2
5	-3	ES 1	ES -2	ES -6	ES -6	ES 2	ES 2	ES 4	ES 1	ES -15	ES -24	ES -15	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24
6	ES -14	ES 7	ES -5	ES -5	ES -5	ES 1	ES -5	ES -14	ES -2	ES -14	ES -23	ES -23	ES -23	ES -23	ES -14	ES -14	ES -8	ES -2	ES -23	ES -23	ES -23	-11	-4	-2
7	ES -15	ES 1	ES -4	ES -6	ES -7	ES -2	ES -3	ES -2	S	ES -2	ES -15	ES -2	ES -2	ES -4	ES -4	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24
8	ES -14	ES -2	ES -5	ES -3	ES -2	ES -5	ES -5	ES -5	ES -5	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES 1	ES -5	ES 2	2	ES -8
9	ES -8	C	C	ES 1	ES -2	ES -3	ES -2	ES -2	ES -2	ES -8	ES -5	ES -5	ES -5	ES -5	ES -8	ES -14	ES -14	ES -14	ES 0	-11	-8	-2	6	9
10	3	ES -3	ES -3	ES -5	ES 0	ES -5	ES 0	ES -5	ES -3	ES -14	ES -14	ES -14	ES -9	ES -9	ES -9	ES -9	ES -9	ES -9	ES -6	ES -9	-1	5	4	4
11	4	ES -1	ES -19	ES -5	ES -7	ES -4	ES -5	ES -4	ES -10	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -24	-4	-4	-1
12	ES -13	0	5	ES -7	ES -4	ES -7	ES -7	ES -6	ES 2	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	0	3	8	7
13	7	ES -2	ES -2	ES -2	ES -5	ES -7	ES -4	ES 1	ES 5	ES -1	ES -1	ES -1	ES -4	ES -4	ES -4	ES -4	ES -4	ES -4	-1	ES -19	-4	2	4	1
14	0	ES -14	ES 1	ES 0	ES 7	ES 1	ES 11	ES -5	ES 1	ES 1	ES 1	ES -14	ES -14	ES -14	ES -14	ES -5	ES -5	ES -5	-5	ES -14	-2	4	8	8
15	3	ES 6	ES 0	ES -5	ES -5	ES -10	ES -14	ES -10	ES -10	ES -10	ES -10	ES -5	ES -1	ES -1	ES -1	ES -1	ES -19	ES -19	-19	ES -24	-7	4	2	7
16	-4	ES 3	ES 7	ES -1	ES -1	ES -1	ES 3	ES -1	ES -3	ES -6	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	12	6	7
17	10	4	ES 4	ES -1	ES 4	ES 4	ES -2	ES 6	S	ES -23	ES -23	ES -23	ES 1	ES 1	ES -5	ES -5	ES -5	ES -5	ES -5	-2	1	14	4	-1
18	ES -14	ES -14	ES -14	ES -3	ES -5	ES -3	ES -3	ES -10	ES -10	ES -10	ES -2	ES 1	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -3	-3	6	4	0
19	ES -14	ES -2	ES 1	ES -5	ES -1	ES -5	ES -1	ES -5	ES 2	ES -23	ES -23	ES -23	ES -8	ES -8	ES -8	ES -8	ES -8	ES -8	ES -8	ES -8	1	6	8	9
20	12	ES 2	ES 1	ES -2	ES -1	ES -1	ES -2	ES 1	ES -9	ES -13	ES -13	ES -13	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	2	14	9	8
21	12	ES 3	ES -6	ES -6	ES -4	ES -3	ES -18	ES -6	ES -6	ES -6	ES -18	ES -18	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	6	7	7	9
22	8	ES -2	0	3	ES -5	ES -2	ES -2	ES -1	ES -2	ES -5	ES -5	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	-6	ES -23	5	12	17	3
23	2	-2	0	0	ES 2	ES 2	ES 2	ES -1	ES 0	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	2	7	1	9	9	1	9	4	5
24	4	6	-3	2	-3	ES -3	ES 0	ES 1	ES 3	ES -15	ES -15	ES -24	ES -24	ES -24	ES -24	ES -24	-15	-12	-1	ES -24	-4	6	6	4
25	12	5	ES -2	ES -2	ES -7	ES -4	-1	ES -4	ES -2	ES -2	ES -5	ES -19	ES -19	ES -19	ES -19	1	-1	14	13	5	10	10	7	7
26	2	ES -3	ES -2	ES -1	ES -6	ES -2	ES -5	ES -1	ES -2	ES -15	ES -15	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-9	3	5	6	9	10	5
27	3	2	ES -6	ES -6	ES -8	ES -2	ES -2	ES -2	ES -8	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	-14	ES -23	3	11	0	2	9	7	8
28	4	6	ES -1	ES -2	ES -6	ES -6	ES -15	ES -2	ES -1	ES -5	ES -15	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-3	3	2	1	6	6	6
29	2	ES 8	ES -6	2	ES -15	2	ES 1	ES 5	ES -1	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-9	-6	ES -15	-3	-9	11	6	1
30	6	ES 6	ES 2	ES 0	ES -1	ES -7	ES -4	ES 6	ES 6	ES -19	ES -19	ES -19	ES -24	ES -24	ES -24	ES -6	ES -24	-9	-5	-3	2	5	2	8
31	5	6	6	ES -2	ES 5	ES 5	ES 1	ES 3	ES -1	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	2	8	11	11
CNT	31	30	30	31	31	31	31	31	29	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	2	ES 2	ES -2	ES -2	ES -4	ES -3	ES -3	ES -2	ES -2	ES -14	ES -15	ES -19	ES -23	ES -23	ES -19	ES -18	ES -19	ES -14	ES -14	ES -19	-2	6	6	5
UD	12	ES 7	ES 6	2	ES 4	ES 2	ES 2	ES 5	ES 3	ES -2	ES -2	ES -2	ES -2	ES -4	ES -4	ES -1	ES -4	1	9	5	6	12	10	9
LD	ES -14	ES -3	ES -8	ES -6	ES -10	ES -14	ES -18	ES -10	ES -10	ES -23	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -11	-5	ES -14

RADIO PROPAGATION

MEASUREMENT OF H.F. FIELD STRENGTH (UPPER SIDE-BAND OF WWVH)

OCT 1985 FREQUENCY 15 MHZ BANDWIDTH 80 HZ RECEIVING ANTENNA ROD 4.5 M

MEASURED AT HIRAISO

UT DAY	00H 45M	01H 45M	02H 45M	03H 45M	04H 45M	05H 45M	06H 45M	07H 45M	08H 45M	09H 45M	10H 45M	11H 45M	12H 45M	13H 45M	14H 45M	15H 45M	16H 45M	17H 45M	18H 45M	19H 45M	20H 45M	21H 45M	22H 45M	23H 45M
1	12	15	12	19	27	29	19	2	ES -5	-10	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	14	14	13	10
2	17	14	17	17	23	19	18	-5	ES -9	ES -18	ES -18	ES -18	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	7	6	13	13	11	12
3	16	16	17	22	23	33	29	ES -4	-1	ES -14	ES -14	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	-8	23	22	17	8
4	14	20	21	26	22	25	21	5	-11	ES -14	ES -14	ES -14	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	-14	8	13	20	12
5	8	16	16	16	21	12	20	26	26	8	-15	8	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	UC 16	10	11	25
6	12	12	13	19	26	22	16	9	10	5	-2	5	2	6	ES -14	ES -14	ES 1	-8	6	12	15	17	17	11
7	13	18	15	18	22	19	17	17	16	1	6	ES -7	ES -7	ES -4	ES -9	ES -24	ES -24	3	-11	11	10	14	16	12
8	14	17	22	22	25	ES -5	ES -5	ES -5	ES -5	-5	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	ES -14	12	8	10	9	14
9	12	C	C	18	22	18	ES -2	ES -2	ES -2	17	ES -5	ES -5	ES -5	ES -5	ES -8	ES -14	ES -14	5	2	14	13	19	14	8
10	16	17	21	16	22	-3	-3	ES -5	ES 0	ES -14	ES -14	ES -14	ES -9	ES -9	ES -9	ES -9	ES -9	ES -9	ES -6	6	16	15	15	11
11	17	17	17	15	21	17	ES -2	ES -10	ES -18	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -10	10	12	16	24	17
12	21	13	13	25	23	22	16	ES -6	ES -19	-6	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	ES -19	-7	21	16	25	16
13	14	23	25	17	21	15	1	ES 7	ES 3	ES -1	ES -1	ES -1	ES -4	ES -4	ES -4	ES -4	ES -4	6	8	21	11	20	20	16
14	16	16	18	21	21	17	11	ES 3	ES 1	ES 1	ES -14	ES -14	ES -14	ES -14	ES -5	ES -5	ES -5	ES -5	ES -5	11	16	13	14	21
15	14	19	21	13	22	17	-8	ES -10	ES -5	-5	ES -10	ES -5	ES -1	ES -1	ES -1	ES -1	ES -19	-10	ES -24	6	12	28	14	11
16	21	18	21	21	21	15	2	ES 7	12	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	ES -18	17	23	22	9	21
17	13	17	24	23	18	14	2	S	ES 2	ES -23	ES -23	ES 2	ES 1	ES 1	ES -5	ES -5	ES -5	ES -5	ES -5	ES -8	23	17	18	12
18	15	17	21	25	24	20	26	ES -5	ES -10	ES -10	ES 1	ES 1	ES -14	ES -14	ES -14	ES -14	ES -14	-10	ES -3	ES -3	21	21	21	16
19	13	18	23	22	23	26	ES 0	ES -11	ES -5	ES -23	ES -23	ES -23	ES -8	ES -8	ES -8	ES -8	ES -8	ES -8	4	12	14	18	17	16
20	14	16	21	23	23	21	6	8	-9	ES -13	ES -13	ES -13	ES -23	ES -23	ES -23	ES -23	ES -23	-14	ES -23	7	17	21	19	17
21	8	17	20	23	24	27	-3	ES -9	ES -4	ES -18	ES -18	ES -18	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	6	9	8	19	16
22	16	16	18	25	27	23	ES 0	1	ES -2	2	ES -5	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	9	22	23	17	18
23	11	15	17	22	22	19	27	ES 0	ES 3	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	7	5	2	17	19	17	13
24	18	17	22	19	19	17	20	8	6	6	-9	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	0	ES -24	-9	21	18	18	15
25	15	14	17	23	16	6	-4	ES -2	ES -2	6	ES -19	ES -19	ES -19	ES -19	ES -19	ES -4	ES -5	-2	14	9	18	21	16	16
26	14	17	18	21	20	13	ES -1	1	-2	ES -15	ES -15	ES -24	ES -24	-7	ES -24	ES -24	ES -24	5	-5	10	17	16	20	15
27	17	18	22	27	23	12	ES -4	ES -8	ES -8	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	ES -23	-8	-2	7	19	19	17	14
28	18	15	15	17	21	ES -15	ES -1	ES -1	ES -6	ES -15	ES -15	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-7	-5	11	18	21	23	12
29	18	18	18	21	16	17	20	11	-9	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	-13	-13	11	15	16	16
30	16	20	17	22	20	ES 4	ES 0	ES -2	ES -2	ES -19	ES -19	ES -19	ES -24	ES -24	ES -6	ES -9	ES -24	ES -6	ES -15	-2	12	19	21	16
31	16	19	19	21	22	ES -1	ES 6	ES -2	ES -15	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	10	20	14	16	16
CNT	31	30	30	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	15	17	18	21	22	17	US 2	ES -2	ES -2	ES -14	ES -15	ES -18	ES -19	ES -19	ES -19	ES -19	ES -23	ES -10	ES -11	7	16	17	17	15
UD	18	20	23	25	26	27	26	11	12	6	ES -1	ES 2	ES -1	ES -1	ES -5	ES -4	ES -5	5	7	14	23	22	23	21
LD	11	14	13	16	18	ES -3	ES -4	ES -10	ES -15	ES -23	ES -23	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -24	ES -14	9	10	11	10

RADIO PROPAGATION

RADIO PROPAGATION QUALITY FIGURES

HIRAISO

Time in U.T.

Oct. 1985	Whole Day Figure	W W V 00 06 12 18 / 06 12 18 24	W W V H 00 06 12 18 / 06 12 18 24	Conditions 00 06 12 18 / 06 12 18 24	Principal Geomagnetic Storms Start	End	Range
1	4-	4U S S 4	4 4U S 3	N N N N			
2	4o	4U S S 4	4 S S 4	N N N N			
3	4-	4U S S 2U	4 4U S 4	N N N N			
4	4-	S S S 3	4 5U S 3	N N N N	19.7	---	133
5	3+	S S S 1U	4 5U S 3	U U U U	---	---	
6	4o	S S S 2U	4 5U 5U 4	U U U U	---	---	
7	4-	S S S 1U	4 5U 4U 4	U U U U	---	21.0	
8	4-	S S S 4U	4 4U S 3	U N N N			
9	4+	S S S 4	4 4U 5U 4	N N N N			
10	4-	S S S 4	3 S S 4	N N N N			
11	4-	S S S 3U	4 S S 4	N N N N			
12	4o	3U S S 4	4 5U S 4	N N N N			
13	4+	S S S 4	4 S 5U 4	N N N N			
14	4o	S S S 4	4 S S 4	N N N N			
15	4o	S S S 4	4 4U S 4	N N N N			
16	4o	S S S 4	4 4U S 4	N N N N			
17	4o	4U S S 4	4 S S 4	N N N N			
18	4-	S S S 3	4 S S 4	N N N N			
19	4o	S S S 4	4 S S 4	N N N N			
20	3o	S S S 4	4 4U S 4	N N N N			
21	4o	S S S 4	4 S S 4	N N N N			
22	4+	4U S S 5	4 4U S 4	N N N N			
23	4+	4U S 5U 4	4 S 5U 4	N N N N			
24	4o	4U S 4U 4	4 5U S 4	N N N N			
25	4+	4U S 5U 4	4 4U 5U 4	N N N N			
26	4o	S S 4U 4	4 4U 5U 4	N N N N			
27	4o	4U S 5U 4	4 S 4U 4	N N N N			
28	4o	4U S 5U 4	4 S 4U 4	N N N N			
29	4o	4U S 5U 4	4 5U S 3	N N N N			
30	4o	S S 4U 4	4 S S 4	N N N N			
31	4o	4U S S 4	4 S S 4	N N N N			

SUDDEN IONOSPHERIC DISTURBANCES

HIRAISO

Time in U.T.

Oct. 1985	S W F Drop-out Intensities(dB) CO	HA	1)	2)	Start	Duration	Type	Imp.	Correspondence Solar Flare	Solar Noise	Geomag. Crochet
26	10	33D	x		0411	49	G	3-	x	x	

CO: Colorado(WWV) HA: Hawaii(WWVH) 1): Australia 2): Moscow

RADIO PROPAGATION

Sudden Ionospheric Disturbance (SPA)

I N U B O

Oct.	S P A							
1985	Phase Advance (degrees)					Time (U.T.)		
Date	GBR	Ω/LR	NWC	Ω/H	Ω/ND	Start	End	Maximum
16				7		2201	2228	2204
16				4		2345	0012	2348
20				6		2109	2139	2114
21			4	6		2311	2338	2316
22		9	8			0314	0352	0325
22		24	22			0410	0534	0434
22		11	4			0534	0557	0538
23				5		2250	2315	2253
24		10	14	16		0008	0036	0017
24		18	14	7		0323	0355	0333
24		11	6			0514	0542	0521
24		13				1152	1218	1201
26			6			0258	0325	0302
26	42	166	107	49	40	0355	0648	0434
29	29	22	13*			0550	0658	0614

IONOSPHERIC DATA IN JAPAN FOR OCTOBER 1985

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