

# IONOSPHERIC DATA AT SYOWA STATION (ANTARCTICA)

July 1975 — December 1975

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**RADIO RESEARCH LABORATORIES**

**MINISTRY OF POSTS AND TELECOMMUNICATIONS**

**TOKYO, JAPAN**



## INTRODUCTION

Vertical soundings of ionosphere at Syowa Station, Antarctica, have been carried out by the Radio Research Laboratories through the sponsorship of the National Institute of Polar Research of Japan.

### LOCATION OF SYOWA STATION

Geographic		Geomagnetic	
Latitude	Longitude	Latitude	Longitude
69° 00.4' S	39° 35.4' E	69.8° S	78.2° E

### SPECIFICATIONS OF THE IONOSONDE USED AT SYOWA STATION

Items	Specifications
Frequency Range	500 kHz—15 MHz
Transmitting Power	10 kW (peak value)
Duration of Sweep	30 sec
Transmitted Pulse Width	100 $\mu$ sec
Recurrence Frequency of Transmitted Pulse	50 Hz (by power source frequency)
Frequency Scale	every 1 MHz
Height Range	900 km
Height Scale	every 50 km
Total Receiver Gain	120 dB
Recording Method	35 mm film and video fax for ionograms
Power Supply	100 volt AC, 2.5 kVA
Transmitting Antenna and Receiving Antenna	30 m height vertical delta terminated by 600 $\Omega$ respectively

### SYMBOLS AND TERMINOLOGY

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

$f_x I$	Top frequency of spread $F$ trace
$f_o F2$	Ordinary wave critical frequency for the $F2$ , $F1$ , $E$ and $E_s$ including particle $E$ layers respectively
$f_o F1$	
$f_o E$	
$f_o E_s$	
$f_{min}$	Lowest frequency which shows vertical ionospheric reflections
$M(3000)F2$	Maximum usable frequency factor for a path of 3000 km for transmission by $F2$ layer.
$h'F2$	Minimum virtual height on the ordinary wave for the $F2$ , whole $F$ and $E_s$ layers respectively.
$h'F$	
$h'E_s$	
Types of $E_s$	See below 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, <i>Es</i> .
B	Measurement influenced by, or impossible because of, absorption in the vicinity of <i>f<sub>min</sub></i> .
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.
E	Measurement influenced by, or impossible because of, the lower limit of the normal frequency range.
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 stratification.
K	Presence of particle <i>E</i> layer.
L	Measurement influenced by 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 perturbation of parameters—Presence of polar spur 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 atmospheric effects.
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 <i>f<sub>b</sub>Es</i> is deduced from <i>f<sub>o</sub>Es</i> 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.
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 Type of *Es*

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

The types are :

f	An <i>Es</i> trace which shows no appreciable increase of height with frequency.
l	A flat <i>Es</i> trace at or below normal <i>E</i> layer minimum virtual height or below the particle <i>E</i> layer minimum virtual height.
c	An <i>Es</i> trace showing a relatively symmetrical cusp at or below $f_oE$ .
h	An <i>Es</i> trace showing a discontinuity in height with the normal <i>E</i> layer trace at or above $f_oE$ . The cusp is not symmetrical, the lower frequency end of the <i>Es</i> trace laying clearly above the high frequency end of the normal <i>E</i> trace.
q	An <i>Es</i> trace which is diffuse and non-blaketing over a wide frequency range.
r	An <i>Es</i> trace showing an increase in virtual height at the high frequency end similar to group retardation.
a	An <i>Es</i> trace having a well-defined fiat or gradually rising lower edge with stratified and diffuse traced present above it.
s	A diffuse <i>Es</i> trace which rises steadily with frequency and usually emerges from another type <i>Es</i> trace.
d	A weak diffuse trace at heights below 95 km associated with high absorption and large $f_{min}$ .
n	The designation 'n' is used to denote an <i>Es</i> trace which cannot be classified into one of the standard types.
k	The designation k is used to show the presence of particle <i>E</i> . When $f_oEs > f_oE$ (particle <i>E</i> ) the <i>Es</i> 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.

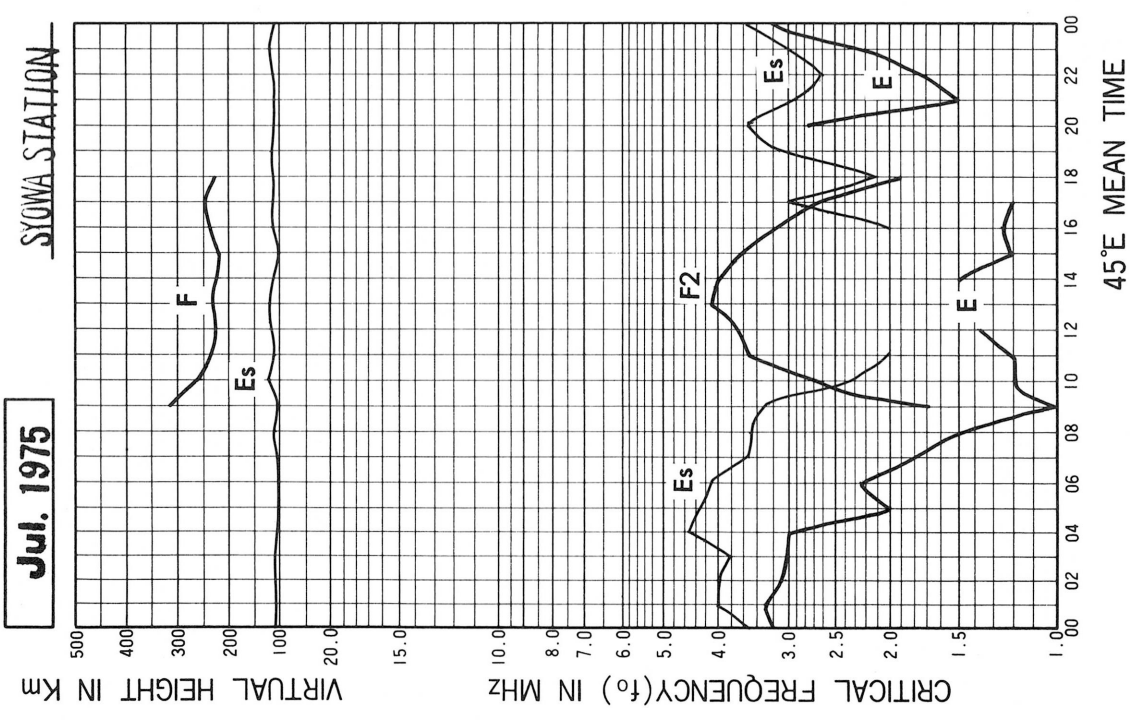
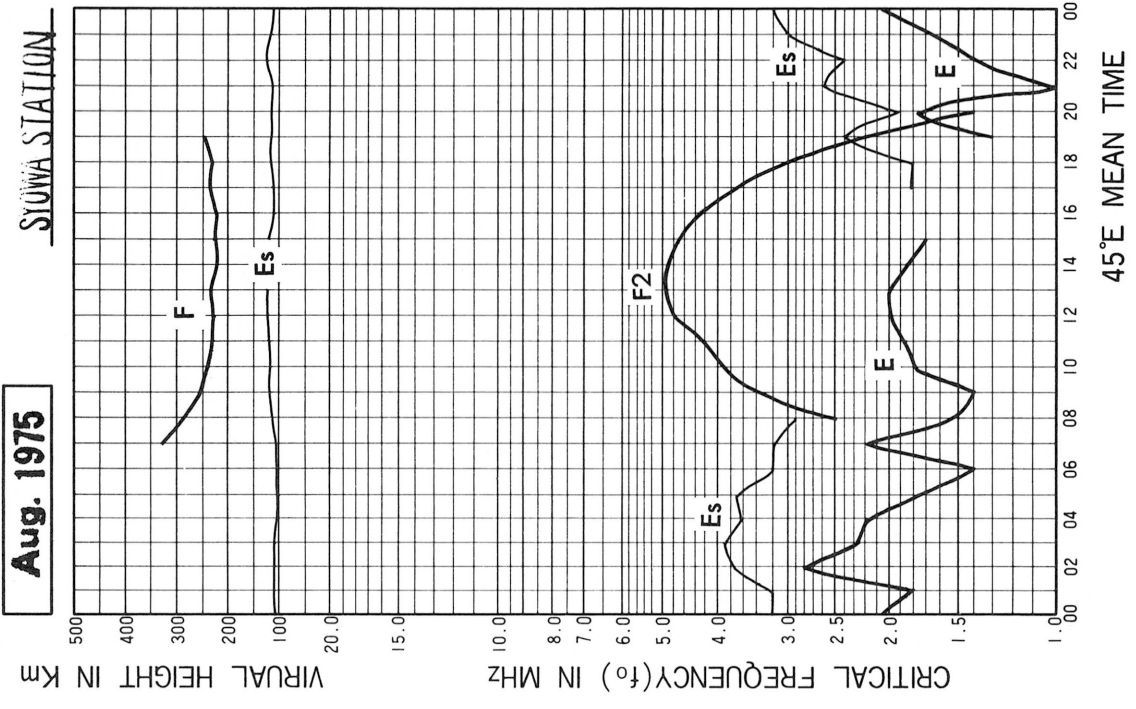
Median (MED) of a set of numbers is the middle value when the numbers are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (UQ) is the median value 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.

**d. *f*-plot.**

*f*-plots of ionospheric data are illustrated only the periods of the Regular World Days of every month.

IONOSPHERIC DATA  
MONTHLY MEDIAN CHARACTERISTICS



IONOSPHERIC DATA  
MONTHLY MEDIAN CHARACTERISTICS

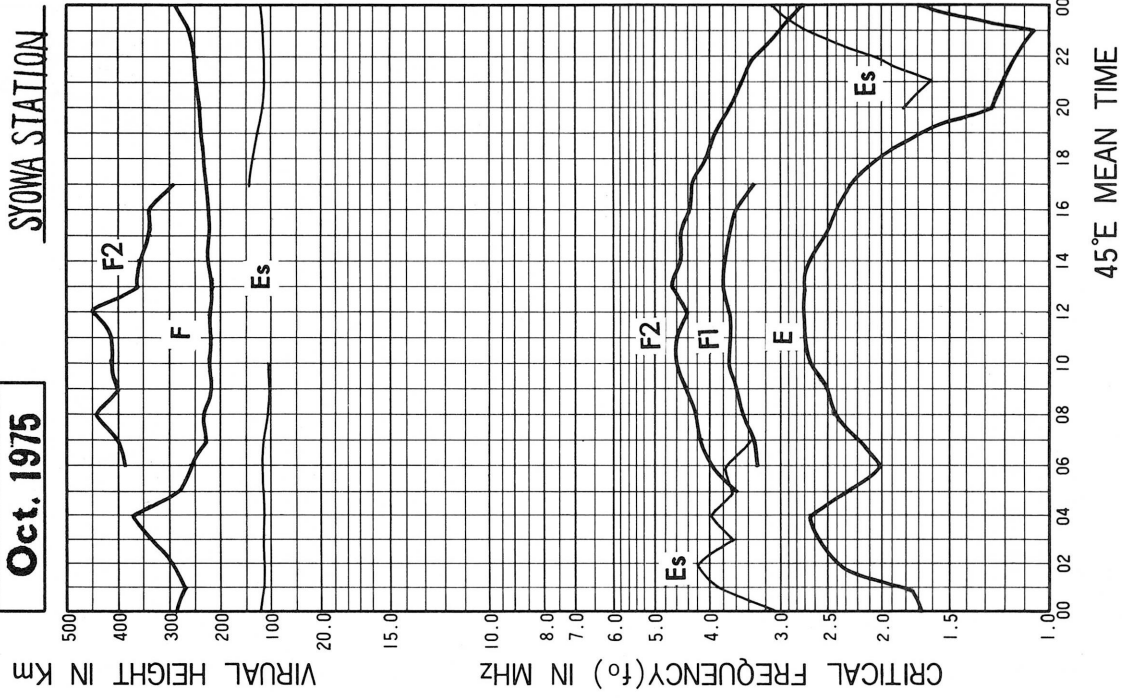
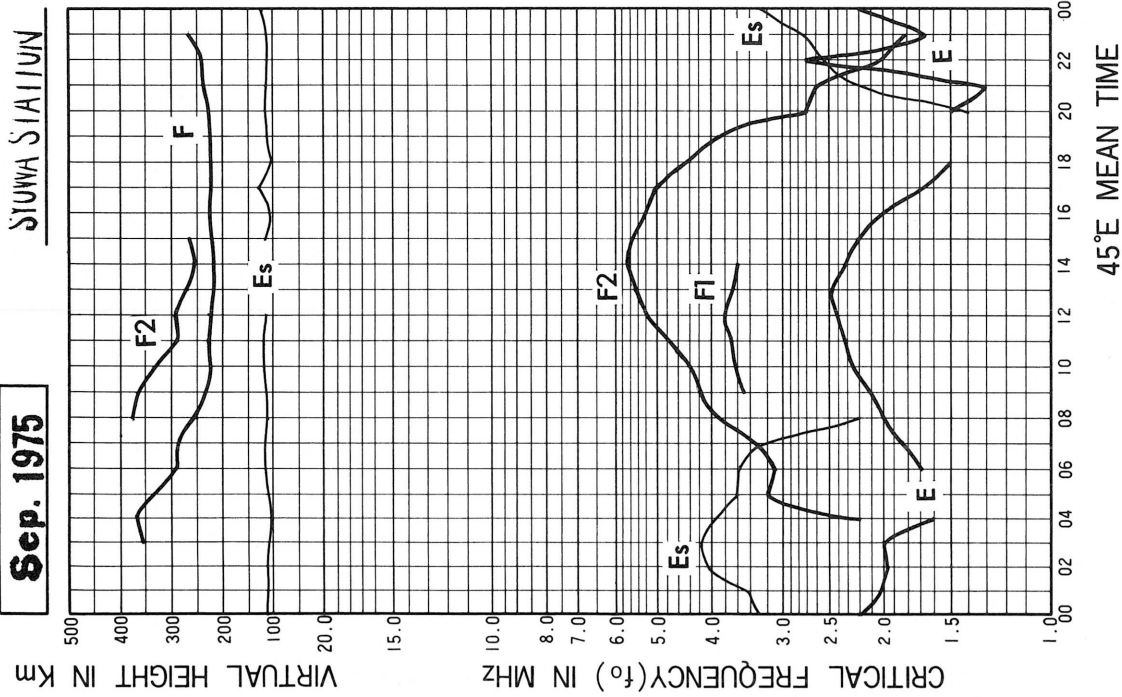
**Sep. 1975**

SYOWA STATION

SYOWA STATION

**Oct. 1975**

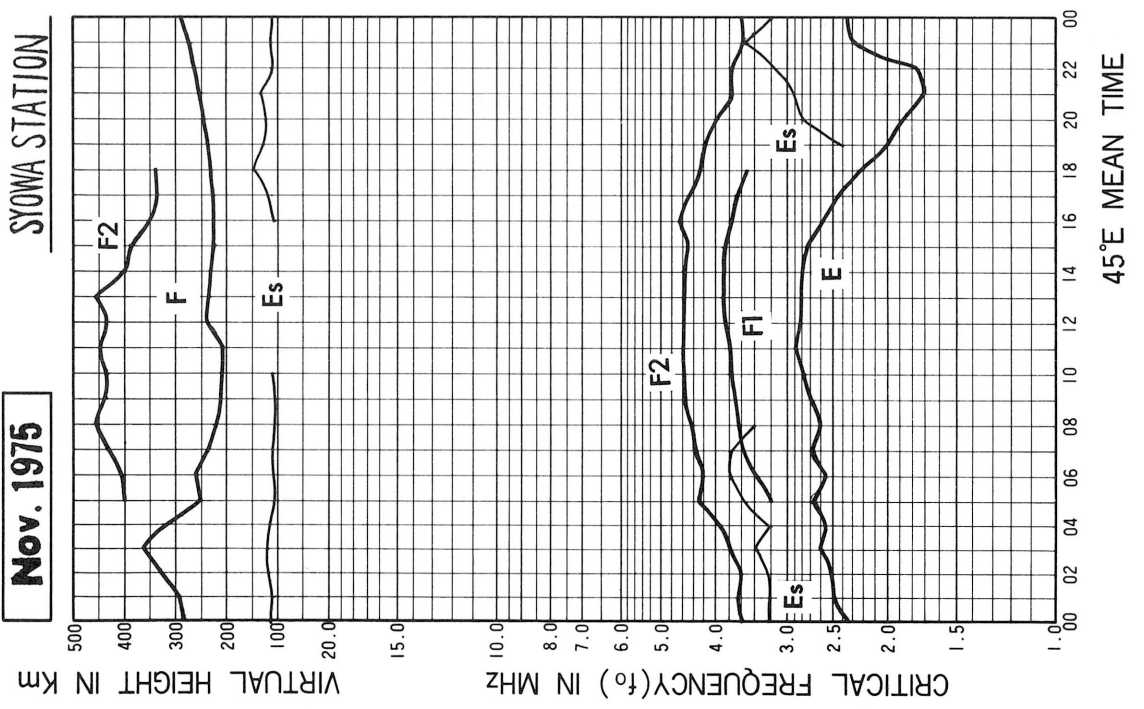
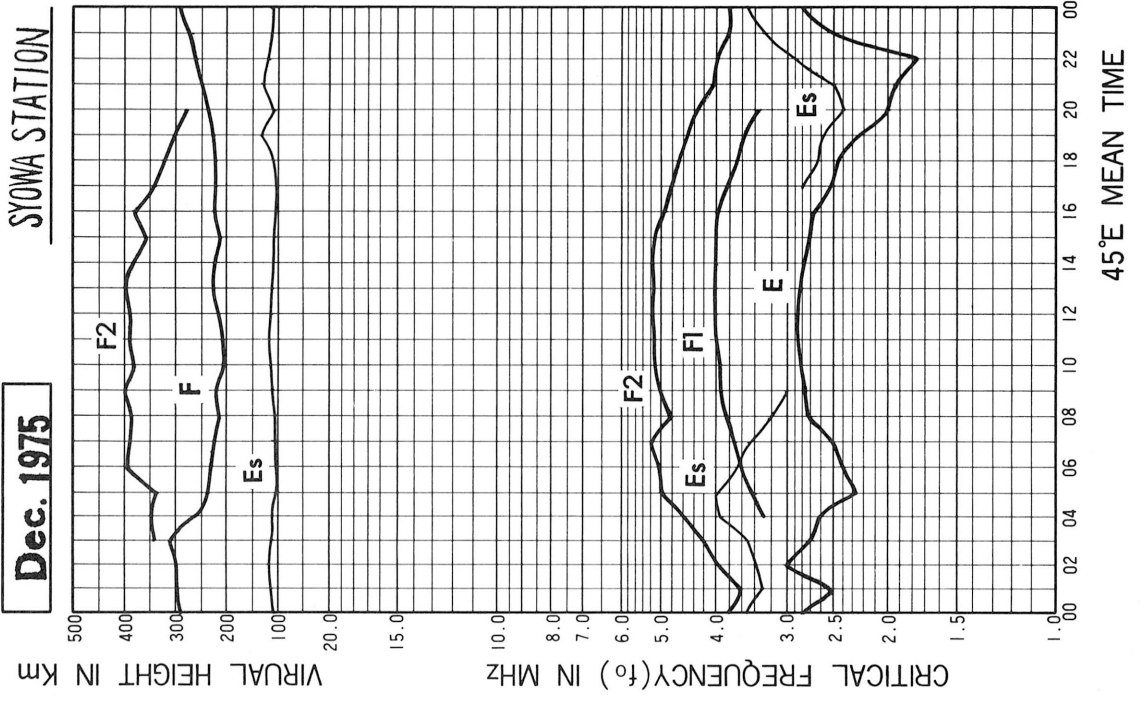
SYOWA STATION



45°E MEAN TIME

45°E MEAN TIME

IONOSPHERIC DATA  
MONTHLY MEDIAN CHARACTERISTICS



# IONOSPHERIC DATA

JUL. 1975

FXI (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69° 00' 4" S, Long. 39° 35' 4" E		Sweep 0.5 MHz to 15 MHz in 30 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	A	B	B	B	B	B	A	B	B	B	B	B	R <sub>43</sub>	B	B	B	B	B	B	R	B	B	R	B
2	A	A	B	B	A	A	A	A	A	A	A	X <sub>32</sub> Y <sub>37</sub>	45	44	45	41	23	A	O <sub>25</sub>	A	B	B	A	A
3	30	R	O <sub>47</sub>	B	A	A	A	A	A	B	B	O <sub>38</sub>	B	C <sub>48</sub>	O <sub>39</sub>	O <sub>30</sub>	B	B	26	B	B	B	A	A
4	A	A	A	O <sub>34</sub>	A	A	A	22	25	22	30	42	44	45	44	43	32	O <sub>24</sub>	O <sub>21</sub>	O <sub>22</sub>	A	26	30	S
5	A	B	A	B	A	R	A	35	36	33	B	B	45	O <sub>51</sub>	X <sub>39</sub>	O <sub>30</sub>	A	A	A	A	A	A	A	A
6	A	S	S <sub>28</sub>	U <sub>25</sub>	A	A	A	A	A	25	34	45	41	43	47	39	25	R	A	A	B	B	A	A
7	A	A	A	B	B	A	A	O <sub>21</sub>	A	28	32	41	40	45	58	55	R	O <sub>36</sub>	B	B	A	A	A	A
8	A	A	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	A	A	A	A	A	A
9	A	A	U <sub>69</sub>	A	A	A	A	A	A	B	B	B	O <sub>31</sub>	B	B	B	43	O <sub>34</sub>	B	A	A	A	A	A
10	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	O <sub>29</sub>	B	B	B	A	A	A	A
11	U <sub>47</sub>	A	B	B	B	A	B	B	B	A	B	B	B	73	O <sub>46</sub>	Y <sub>50</sub>	B	B	32	B	R	R	R	R
12	A	A	A	A	A	R	A	R	R	A	35	O <sub>41</sub>	52	B	B	34	26	B	O <sub>23</sub>	O <sub>19</sub>	B	B	R	A
13	R	R	R	A	R	A	A	A	A	A	B	O <sub>42</sub>	52	46	53	O <sub>36</sub>	O <sub>34</sub>	B	B	O <sub>21</sub>	O <sub>19</sub>	B	R	A
14	A	A	A	A	A	A	A	A	A	A	B	B	B	52	42	B	B	B	B	B	B	B	B	A
15	A	A	A	A	B	B	B	A	B	B	A	B	B	O <sub>50</sub>	55	B	62	B	B	B	A	A	39	R
16	A	A	A	A	A	B	B	B	R	B	B	B	B	O <sub>47</sub>	B	B	B	B	B	B	B	B	A	A
17	A	A	A	A	A	A	A	A	A	A	B	B	B	B	O <sub>46</sub>	X <sub>44</sub>	B	B	B	B	A	A	R	A
18	A	A	A	B	A	A	A	29	A	B	B	B	O <sub>42</sub>	B	B	B	B	B	A	A	A	A	A	A
19	A	A	A	A	B	B	A	A	A	B	B	O <sub>42</sub>	X <sub>54</sub>	X <sub>48</sub>	40	51	B	B	B	B	O <sub>17</sub>	R	A	A
20	A	A	B	B	A	B	B	A	R	O <sub>27</sub>	B	O <sub>37</sub>	B	O <sub>46</sub>	B	O <sub>49</sub>	O <sub>35</sub>	O <sub>31</sub>	O <sub>20</sub>	B	B	R	A	A
21	A	A	A	A	A	A	A	O <sub>24</sub>	A	29	O <sub>38</sub>	X <sub>46</sub>	X <sub>42</sub>	52	53	O <sub>40</sub>	45	A	B	A	B	B	A	A
22	A	B	A	A	A	A	A	A	A	A	A	B	54	46	47	O <sub>41</sub>	34	29	28	A	A	B	A	A
23	A	A	A	A	A	A	A	A	A	R	B	O <sub>38</sub>	45	49	46	35	31	42	32	A	A	R	O <sub>18</sub>	A
24	R	A	A	A	A	A	R	R	R	O <sub>26</sub>	X <sub>30</sub>	B	O <sub>46</sub>	X <sub>46</sub>	58	O <sub>45</sub>	B	O <sub>30</sub>	B	B	B	30	A	A
25	A	A	A	A	A	A	B	U <sub>43</sub>	A	A	B	B	B	B	R	O <sub>34</sub>	39	A	A	A	A	A	A	A
26	A	B	A	A	A	A	A	B	B	A	A	C	B	B	B	B	O <sub>39</sub>	43	O <sub>39</sub>	B	B	A	R	A
27	A	A	A	B	C	B	B	B	A	B	O <sub>33</sub>	O <sub>39</sub>	B	B	O <sub>55</sub>	B	O <sub>41</sub>	R	B	B	B	B	A	A
28	A	B	A	A	B	B	B	B	B	A	B	B	X <sub>42</sub>	O <sub>46</sub>	O <sub>58</sub>	O <sub>53</sub>	B	R	B	B	B	A	A	A
29	A	A	A	R	A	A	B	A	A	O <sub>28</sub>	X <sub>36</sub>	X <sub>48</sub>	O <sub>51</sub>	X <sub>58</sub>	57	61	53	40	O <sub>35</sub>	B	B	B	B	A
30	B	A	A	B	A	A	B	B	B	B	O <sub>37</sub>	X <sub>44</sub>	X <sub>45</sub>	Y <sub>52</sub>	B	O <sub>51</sub>	O <sub>43</sub>	O <sub>35</sub>	O <sub>21</sub>	B	B	B	A	A
31	A	A	A	A	A	B	A	R	O <sub>28</sub>	32	X <sub>42</sub>	X <sub>48</sub>	X <sub>48</sub>	X <sub>53</sub>	X <sub>53</sub>	X <sub>41</sub>	X <sub>38</sub>	43	30	O <sub>20</sub>	R	B	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	2		3	2				6	3	9	11	15	19	21	21	21	18	11	12	4	2	2	3	
MED	38		S <sub>47</sub>	30				26	28	28	34	42	45	48	47	41	36	O <sub>35</sub>	O <sub>27</sub>	O <sub>20</sub>	O <sub>18</sub>	28	30	
UQ			58					35	32	29	36	44	50	52	55	50	43	41	32	O <sub>22</sub>			34	
LQ			38					O <sub>22</sub>	26	O <sub>26</sub>	32	O <sub>38</sub>	42	46	45	O <sub>36</sub>	31	O <sub>30</sub>	O <sub>22</sub>	O <sub>20</sub>			24	

JUL. 1975

FXI (0.1 MHz)



### IONOSPHERIC DATA

JUL. 1975

FOF2 (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station **SYOWA STATION** Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	A	B	B	B	B	B	B	B	B	B	B	B	37	B	B	B	B	R	B	R	B	B	A	B	
2	A	A	B	B	B	A	B	B	A	A	25	31	38	37	38	J 34	17	A	19	B	B	B	A	A	
3	F	R	41	B	A	A	A	A	A	B	B	F 29	B	42	30	F	B	R	19	B	B	B	A	A	
4	A	A	A	F	A	A	A	F	F 17	14	22	31	37	U F 32	U F 32	F	F	F	F	F	A	F	S	S	
5	A	B	B	B	A	R	A	A	U F 12	F	B	B	F	41	33	24	A	A	A	A	A	A	A	A	
6	A	S	F	U F 15	A	A	A	A	A	F	F	U F 38	U F 32	35	F	F	F	A	A	A	B	B	A	A	
7	A	A	A	B	B	B	A	15	A	F 15	25	34	33	38	46	46	R	U F 27	B	B	A	A	A	A	
8	A	A	A	A	A	B	A	B	A	A	B	B	B	B	B	B	B	R	A	A	A	A	A	A	
9	A	A	A	A	A	A	A	A	B	B	B	B	25	B	B	B	U F 36	U F 23	B	A	A	A	A	A	
10	A	A	B	A	A	A	A	A	B	B	B	B	B	B	F	B	23	R	B	B	A	A	A	A	
11	F	A	B	B	B	B	B	B	B	A	B	B	B	U V 48	40	43	B	R	F	B	R	A	A	A	
12	A	A	A	A	A	A	A	A	A	U F 25	35	F	F	B	B	F	F	R	15	U F 13	B	B	R	A	
13	R	R	R	A	R	A	A	A	A	A	B	U R 36	36	33	43	F	U F 23	R	B	15	F	B	R	A	
14	A	A	A	A	A	A	B	A	A	A	B	B	B	45	U F 32	B	B	R	B	B	B	B	B	A	
15	A	A	A	A	B	B	B	A	B	B	A	B	B	44	U F 42	B	F	R	B	B	A	A	U F 28	A	
16	A	A	A	B	A	B	B	B	R	B	B	B	B	41	B	B	B	B	B	B	B	B	B	A	A
17	A	A	A	A	A	A	A	A	A	A	B	B	B	B	40	37	B	R	B	B	A	A	R	A	
18	A	A	B	B	B	A	A	22	A	B	B	B	36	B	B	B	B	R	A	A	A	A	A	A	
19	A	A	A	A	B	B	A	A	A	B	B	35	48	42	33	43	B	R	B	B	11	R	A	A	
20	A	A	B	B	B	B	B	A	A	F 17	B	F 30	B	40	B	42	U F 25	F 23	14	B	B	R	A	A	
21	A	A	A	A	A	A	A	F 15	A	F 31	F 10	40	36	43	45	33	F 37	A	B	A	B	B	A	A	
22	A	B	A	A	A	A	A	A	A	A	B	B	F 47	36	U F 38	U F 34	U F 27	U F 22	U F 15	B	B	B	A	A	
23	A	A	A	A	A	A	A	A	A	A	B	32	U F 30	42	39	29	24	U F 30	26	A	A	A	U F 10	A	
24	A	A	A	B	A	A	R	R	R	U F 17	U F 24	B	F 38	40	U F 38	34	B	24	B	B	B	12	A	A	
25	A	A	A	A	A	A	B	F	A	A	B	B	B	B	R	F 26	31	A	A	A	A	A	A	A	
26	A	B	B	B	A	A	A	B	B	A	A	C	R	B	B	B	F 32	F 37	31	B	B	A	A	A	
27	A	A	A	B	C	B	B	B	A	B	27	33	B	B	U R 49	B	35	R	B	B	B	B	A	A	
28	A	B	A	A	B	B	B	B	B	A	B	B	36	40	U R 52	47	B	R	B	B	B	A	A	A	
29	A	A	A	A	A	A	B	A	A	U R 22	30	42	45	51	52	J 47	F 36	F	29	B	B	B	B	A	
30	B	A	B	B	B	A	B	B	B	B	F 30	38	39	46	B	U F 42	F 37	F 28	15	B	B	B	A	A	
31	A	A	A	A	A	B	B	A	F 20	F 25	36	42	42	46	47	35	32	J 35	F 22	U F 12	A	B	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	1				3	3	6	10	15	17	21	19	16	14	9	10	3	1	1	2		
MED			41	U 15				15	17	17	26	35	37	41	40	36	32	27	19	U 13	11	12	U 19		
UQ								18	18	22	30	38	39	44	46	43	36	30	26	14					
LQ								15	14	15	25	32	36	38	36	34	24	U 23	15	U 12					

The Radio Research Laboratories, Japan

JUL. 1975

FOF2 (0.1 MHz)

# IONOSPHERIC DATA

JUL. 1975

FOF1 (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00' 4" S. Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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																								
2																								
3																								
4																								
5																								
6																								
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30																								
31																								
	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																								

JUL. 1975

FOF1 (0.01 MHz)

### IONOSPHERIC DATA

JUL. 1975

FOE (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station **SYOWA STATION** Lat. 69° 00' 4" S, Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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	U K 370									B	B	B	B	B	B	B					K 310			U K 150
2	170 K	125 K								B	120	120	125	130	95	95	F 120	U K 210					160 K	U K 170
3	U K 140	380 K	330 K							B	B	A	B	B	B	B								
4									95	100	U A 125	100	100	H 150	120 F	A								
5					325 K	200 K	140 K	150 K	85	100		B	B	B	B	A	A	U K 130				U K 100		
6										A	A	A	A	A	A	A	A	90	100 K					
7			U 250				U 290			U 90	A	U 95	105	A	U 100	A								
8	U K 350	U K 390	U K 330				U 400			B	B	B	B	B	B	B			350 K	350 K	U K 275			300 K
9	350 K	U K 350	U K 280							B	B	B	B	B	B	B				400 K	280 K	U K 360		U K 350
10	320 K	350 K		360 K						B	B	B	B	B	B	B					U 220	U K 350	330 K	330 K
11										B	B	B	B	B	B	B						U 150	170 K	150 K
12		U 200	280 K	U 270	U 220		U 280	180 K	U 180	B	B	B	B	B	B	B							U 130	
13	U 250	175 K	160 K	120 K	175 K	100	U 100	U 230	240 K	U 270	B	B	U 150	A	A	A	B	U 130					U 135	125 K
14									U 200	A	B	B	B	B	165 A	B								150 K
15	370 K	U 350		350 K						B	B	B	B	B	U 150	B						165 K	170 K	240 K
16	350 K	340 K	430 K					300 K	150 K	B	B	B	B	B	B	B							275 K	330 K
17	350 K	430 K	410 K	350 K						S	B	B	B	B	B	B	H 115				350 K	U 140	U 130	150 K
18								U 140	U 220	B	B	B	B	B	B	B					350 K		U 300	
19										B	B	B	170	B	A	B					U 95	170 K	320 K	
20	350 K	350 K							150 K	125	B	B	B	B	B	B			U 120			150 K	U 95	A
21		320 K	U 340	350 K	230 K	U 200	170 K	130 K	95	100	B	A	A	A	U 150	A	B	B					U 150	340 K
22		320 K			400 K	U 310		280 K	A	B	B	B	B	B	160 H	B	A	K 115	95 K				U 190	B
23		190 K	320 K	200 K			U 390		A	B	B	B	A	150	140	U 120	115 H			125 K				U 90
24	U 110	U 95	305 K				170 K	140 K	100	U 100	120	B	B	B	U 160	A	B	B				100 K	100 K	120 K
25	180 K	U 110	290 K	170 K	300 K	450 K	U 300		B	A	B	B	B	B	B	B	A 130				360 K	U 330	U 300	300 K
26	230 K								B	B	A	C	B	B	B	B	B	U 280					200 K	360 K
27	U 225	340 K							B	B	B	B	B	B	B	B	B						U 160	200 K
28									B	B	B	B	B	B	B	B	B					150 K	U 180	310 K
29	390 K	270 K		U 300	300 K				B	175	225	U 160	A	B	B	145 H	R							
30									B	B	B	A	U 180	B	B	B	B							U 200
31	120 K		U 190						170 K	115	110	160	B	B	B	130	B			U 190		U 100		
	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	17	18	13	9	7	5	8	9	11	9	5	5	6	3	9	5	6	5	3	4	9	10	19	18
MED	320 K	330 K	305 K	300 K	300 K	200 K	225 K	180 K	150 K	100	120	120	130	150	150	120	125	120 K	190 K	330 K	275 K	150 K	U 170	220 K
UQ	350 K	350 K	330 K	350 K	312 K	310 K	340 K	280 K	190 K	125	125	160	U 170	150	U 160	130	U 130	U 210	270 K	375 K	350 K	U 330	238 K	330 K
LQ	180 K	190 K	280 K	200 K	225 K	200 K	155 K	140 K	98	100	120	100	105	140	120	115	115	115 K	142 K	218 K	U 165	140 K	U 142	150 K

The Radio Research Laboratories, Japan

JUL. 1975

FOE (0.01 MHz)

IONOSPHERIC DATA

JUL. 1975

FOES (0.1 MHZ)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	J A 49	78	46	B	B	55	J A 54	B	B	B	B	B	E B 24	B	B	B	B	B	B	K 31	B	B	21	B
2	J A 39	J A 34	52	40	J A 50	40	32	45	34	30	15	18	19	G	J A 34	J A 24	15	J A 34	D C 126	38	28	B	J A 22	J A 25
3	J A 20	D S 40	K 33	B	47	43	35	35	D C 35	B	B	28	R	E B 21	E B 20	E B 20	B	R	E B 16	B	B	B	J A 26	J A 29
4	J A 33	J A 61	38	37	J A 51	J A 46	J A 44	J A 26	J A 24	14	15	17	G	G	20	35	J A 34	J A 26	17	14	28	J A 25	30	J A 30
5	J A 47	39	39	32	38	K 20	52	29	32	J A 27	B	B	E B 23	28	25	26	J A 125	115	82	44	J A 62	J A 37	J A 24	J A 29
6	J A 26	101	D S 25	J A 36	J A 51	J A 29	J A 30	J A 45	42	J A 95	66	J A 33	35	33	22	J A 23	26	18	J A 21	27	B	B	31	J A 33
7	J A 29	J A 34	J A 65	D S 42	B	51	J A 44	22	J A 27	J A 37	J A 27	J A 24	J A 26	J A 62	J A 27	J A 22	29	E B 18	B	B	38	J A 41	49	J A 46
8	J A 77	J A 109	J A 39	38	J A 36	62	D C 139	B	42	J A 69	B	B	B	B	B	B	B	R	42	J A 46	J A 38	117	J A 30	38
9	K 35	J A 37	J A 32	32	J A 34	J A 43	40	48	B	B	B	B	E B 19	B	B	B	E B 24	J A 34	36	40	J A 36	J A 36	J A 39	J A 62
10	K 32	K 35	46	K 36	J A 35	J A 46	J A 36	J A 32	B	B	B	B	B	B	E B 33	B	E B 9	R	B	B	J A 35	K 35	K 33	J A 52
11	J A 35	40	B	45	B	42	62	B	B	40	B	B	B	E B 28	E B 26	E B 23	R	R	E B 18	B	20	22	23	25
12	28	J A 26	28	27	32	J A 26	J A 34	25	J A 27	J A 36	J A 26	E B 20	E B 15	B	B	E B 24	25	B	34	E B 10	B	B	K 13	25
13	J A 25	J A 19	K 16	20	K 17	29	J A 28	J A 34	J A 49	33	B	E B 38	J A 19	22	18	E B 15	18	B	B	E B 12	E B 9	B	17	J A 26
14	125	J A 52	J A 69	J A 39	55	54	41	J A 36	J A 34	J A 39	B	B	B	E B 23	17	B	B	R	B	B	B	B	B	J A 22
15	J A 39	J A 84	47	K 35	45	B	51	44	B	B	36	B	B	E B 32	G	B	E B 28	R	B	B	27	J A 46	27	31
16	K 35	122	K 43	53	J A 54	82	B	J A 39	20	B	B	B	B	E B 21	B	B	B	R	B	B	B	B	35	K 33
17	K 35	45	J A 49	J A 57	47	42	J A 46	J A 44	J A 36	35	B	B	B	B	E B 28	G	B	B	B	B	35	J A 24	K 13	25
18	J A 47	J A 40	J A 60	B	45	42	J A 33	22	J A 39	B	B	B	E B 23	B	B	B	B	B	32	32	35	J A 42	J A 40	J A 41
19	J A 36	43	43	47	60	B	J A 40	J A 61	J A 46	B	B	E B 22	G	26	27	E B 20	B	R	B	B	K 10	21	K 32	J A 39
20	K 35	35	85	45	D S 60	52	46	J A 37	23	18	B	E B 23	B	E B 27	B	E B 26	E B 15	K 12	15	B	B	K 15	22	J A 26
21	J A 25	K 32	J A 45	J A 39	33	J A 32	J A 22	J A 22	J A 46	22	E B 17	26	35	J A 39	16	E B 19	E B 17	45	B	38	B	B	26	K 34
22	J A 40	37	40	45	40	J A 49	J A 44	J A 35	35	41	B	B	E B 22	E B 16	17	25	D S 23	30	21	J A 22	55	B	19	23
23	28	32	32	J A 29	42	J A 50	51	52	J A 49	26	B	E B 20	22	22	27	J A 28	22	J A 34	46	26	27	15	J A 32	J A 25
24	15	J A 39	K 30	J A 36	30	31	K 17	K 14	15	G	16	B	E B 23	E B 23	29	E B 20	B	E B 19	B	B	B	J A 29	17	22
25	28	J A 62	K 29	J A 40	K 30	K 45	53	J A 61	52	28	B	B	R	B	E B 32	E B 21	33	34	42	42	36	J A 47	59	J A 62
26	J A 42	52	40	40	33	30	38	B	B	41	33	C	B	B	B	B	E B 23	30	E B 17	B	B	23	K 20	K 36
27	J A 100	J A 60	J A 59	B	J A 48	B	B	B	36	B	E B 21	E B 26	B	B	E B 34	B	E B 23	B	B	B	B	B	J A 24	25
28	J A 51	43	42	40	B	B	B	B	B	36	B	B	25	E B 28	E B 40	E B 25	B	B	B	B	B	J A 25	J A 31	J A 31
29	K 39	31	37	30	K 30	43	B	35	J A 36	G	25	25	30	E B 18	23	18	17	30	E B 18	B	B	B	B	32
30	B	J A 29	38	27	J A 51	J A 39	60	B	B	B	E B 23	20	G	E B 18	B	E B 22	E B 22	E B 18	E B 13	B	B	B	23	K 20
31	32	30	J A 30	30	J A 53	47	36	J A 26	K 17	13	15	G	E B 18	E B 17	E B 18	13	16	30	10	15	17	B	J A 51	J A 37
CNT	30	31	30	27	27	27	27	24	23	21	13	15	19	21	22	21	20	16	18	15	17	17	29	30
MED	J A 35	40	40	38	45	43	41	J A 35	35	33	23	U 20	E G 22	E B 23	U 22	E B 22	U 20	30	21	31	35	J A 29	26	J A 30
UQ	J A 42	58	47	41	51	50	51	J A 44	J A 43	39	27	25	24	E B 28	E B 29	24	28	34	42	39	36	J A 41	32	J A 37
LQ	28	34	32	32	34	36	34	26	27	22	16	E G 18	E B 18	18	E B 20	16	16	E B 17	18	27	23	22	J A 25	

JUL. 1975

FOES (0.1 MHZ)

### IONOSPHERIC DATA

JUL. 1975

F=MIN (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	13	37	25	B	B	28	20	B	B	B	B	B	24	B	B	B	B	B	B	19	B	B	E C 10	B
2	10	E S 10	24	26	17	15	22	22	12	13	10	10	11	10	9	9	9	9	13	18	23	B	E C 10	9
3	9	10	12	B	28	18	18	10	10	B	B	15	B	21	20	20	B	B	16	B	B	B	8	8
4	9	9	E S 13	10	13	10	10	10	9	10	E C 10	9	9	10	8	7	8	9	8	9	9	9	8	8
5	14	21	18	27	10	10	9	9	8	9	B	B	23	22	12	9	10	11	12	13	10	10	9	9
6	9	8	E S 10	9	8	E C 9	8	7	7	8	8	9	9	E S 15	8	9	8	9	10	10	B	B	10	9
7	E S 13	9	8	23	B	22	10	10	10	9	10	9	9	9	8	9	25	18	B	B	8	9	8	9
8	10	16	8	13	10	20	23	B	13	14	B	B	B	B	B	B	B	B	13	8	8	8	8	9
9	11	9	9	18	12	10	10	9	B	B	B	B	19	B	B	B	24	15	31	E C 16	10	10	9	8
10	9	10	22	15	15	10	9	16	B	B	B	B	B	B	33	B	9	B	B	B	9	9	10	10
11	14	15	B	27	B	23	33	B	B	21	B	B	B	28	26	23	B	B	18	B	14	15	10	10
12	9	10	9	10	10	15	12	11	13	17	14	20	15	B	B	24	11	B	11	10	B	B	10	9
13	9	9	10	9	10	10	E S 10	E S 9	15	10	B	38	13	11	12	15	11	B	B	12	9	B	13	8
14	10	E C 10	12	9	20	20	23	14	13	10	B	B	B	23	15	B	B	B	B	B	B	B	B	12
15	14	10	15	8	35	B	29	10	B	B	27	B	B	32	14	B	28	B	B	B	10	9	10	10
16	10	13	17	21	15	70	B	E S 12	12	B	B	B	B	21	B	B	B	B	B	B	B	B	10	10
17	10	E C 22	14	11	20	20	14	20	13	E S 12	B	B	B	B	28	10	B	B	B	B	22	9	9	10
18	E S 11	15	20	B	20	18	13	10	10	B	B	B	23	B	B	B	B	B	17	10	10	9	E S 10	10
19	14	13	15	15	36	B	20	E S 15	12	B	B	22	15	16	13	20	B	B	B	B	9	11	9	13
20	9	9	26	28	20	32	23	14	13	10	B	23	B	27	B	26	15	10	12	B	B	10	9	9
21	9	10	10	11	11	10	10	9	9	9	17	15	15	17	11	19	17	28	B	22	B	B	15	8
22	10	24	8	16	11	10	8	10	9	14	B	B	22	16	10	16	10	10	9	15	16	B	10	12
23	13	8	9	9	15	14	13	12	10	20	B	20	12	E C 10	E C 10	8	10	11	10	12	9	9	9	9
24	11	9	9	19	10	E C 15	11	9	9	9	10	B	23	23	10	20	B	19	B	B	B	8	9	10
25	10	11	E C 9	8	8	E C 12	38	10	12	16	B	B	B	B	32	21	10	11	10	9	9	8	8	14
26	8	25	16	15	10	17	13	B	B	15	16	C	B	B	B	B	23	15	17	B	B	12	12	E C 10
27	14	15	12	B	E C 40	B	B	B	13	B	21	26	B	B	34	B	23	B	B	B	B	B	8	8
28	11	28	15	15	B	B	B	B	B	22	B	B	21	28	40	25	B	B	B	B	B	8	8	E C 10
29	15	13	E C 10	16	15	17	B	15	12	11	10	E C 10	22	18	21	11	15	20	18	B	B	B	12	
30	B	9	18	20	17	10	29	B	B	B	23	15	17	18	B	22	22	18	13	B	B	B	10	10
31	10	12	10	13	14	25	17	10	11	10	10	15	18	17	18	11	10	10	9	9	10	B	8	10
	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	30	31	31	31	31	31	31	31	31	31	31	31	31
MED	10	10	12	15	15	17	17	11	12	15	B	D B 38	23	23	21	21	23	28	18	B	22	12	10	10
UQ	13	15	18	24	U 22	24	26	21	D B 15	B	B	B	B	B	B	B	B	B	B	B	B	B	10	10
LQ	9	9	10	10	10	10	10	10	10	10	15	15	15	19	12	11	10	11	12	12	10	9	8	8

JUL. 1975

F=MIN (0.1 MHz)

### IONOSPHERIC DATA

JUL. 1975

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69 00.4 S. Long. 39 35.4 E		Sweep 0.5 MHz to 15 MHz in 30 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	A	B	B	B	B	B	B	B	B	B	B	B	330	B	B	B	B	B	B	R	B	B	A	B			
2	A	A	B	B	B	A	B	B	A		310	330	360	340	340	F	310	A	310	B	B	B	A	A			
3	F	R	315	B	A	A	A	A	A	B	B	310	B	340	335	F	B	B	360	B	B	B	A	A			
4	A	A	A	F	A	A	A	F	325	345	315	355	340	F	F	F	F	F	F	F	F	F	S	S			
5	A	B	B	B	A	R	A	A	F	F	B	B	F	340	355	300	A	A	A	A	A	A	A	A			
6	A	S	F	F	A	A	A	A	A	F	F	F	U F 345	345	F	F	F	A	A	A	B	B	A	A			
7	A	A	A	B	B	B	A		275	A	F	F	345	340	335	330	350	R	F	B	B	A	A	A			
8	A	A	A	A	A	B	A	B	A	A	B	B	B	B	B	B	B	B	A	A	A	A	A	A			
9	A	A	A	A	A	A	A	A	B	B	B	B	310	B	B	B	U F 325	U F 255	B	A	A	A	A	A			
10	A	A	B	A	A	A	A	A	B	B	B	B	B	B	F	B	305	R	B	B	A	A	A	A			
11	F	A	B	B	B	B	B	B	B	A	B	B	U V 320	325	300	B	B	F	B	R	A	A	A	A			
12	A	A	A	A	A	A	A	A	A	A	F	F	320	F	B	B	F	F	B	F	B	B	R	A			
13	R	R	R	A	R	A	A	A	A	A	B	U R 330	335	340	345	F	U F 285	B	B	335	F	B	R	A			
14	A	A	A	A	A	A	B	A	A	A	B	B	B	355	U F 340	B	B	B	B	B	B	B	B	A			
15	A	A	A	A	B	B	B	A	B	B	A	B	B	335	F	B	F	R	B	B	A	A	F	A			
16	A	A	A	B	A	B	B	B	R	B	B	B	B	325	B	B	B	B	B	B	B	B	A	A			
17	A	A	A	A	A	A	A	A	A	A	B	B	B	B	F	365	325	B	B	B	B	A	A	R	B		
18	A	A	B	B	B	A	A	290	F	A	B	B	B	335	B	B	B	B	R	A	A	A	A	A			
19	A	A	A	A	B	B	A	A	A	B	B	325	375	335	310	350	B	R	B	B	R	R	A	A			
20	A	A	B	B	B	B	A	A	295	F	B	335	B	345	B	355	F	355	355	B	B	R	A	A			
21	A	A	A	A	A	A	A	280	F	A	F	345	325	340	320	325	V 315	370	A	B	A	B	B	A	A		
22	A	B	A	A	A	A	A	A	A	A	B	B	F	360	360	340	F	F	F	F	B	B	B	A	A		
23	A	A	A	A	A	A	A	A	A	A	B	345	V U F 335	335	380	345	325	F	355	A	A	A	F	A			
24	A	A	A	B	A	A	R	R	R	F	U F 320	B	355	350	U F 330	345	B	335	B	B	B	350	A	A			
25	A	A	A	A	A	A	B	F	A	A	B	B	B	B	R	310	290	A	A	A	A	A	A	A			
26	A	B	B	B	A	A	A	B	B	A	A	C	B	B	B	B	340	345	325	B	B	A	A	A			
27	A	A	A	B	C	B	B	B	A	B	320	360	B	B	U R 335	B	330	B	B	B	B	B	A	A			
28	A	B	A	A	R	B	B	B	B	A	B	B	340	350	U B 335	360	B	B	B	B	B	A	A	A			
29	A	A	A	A	A	A	B	A	A	U R 305	350	350	335	360	365	F	370	F	380	B	B	B	B	A			
30	B	A	B	B	B	A	B	B	B	B	335	370	320	345	B	U F 335	325	330	B	B	B	B	A	A			
31	A	A	A	A	A	B	B	A	275	F 320	355	335	340	365	375	355	H 345	F	345	F	A	B	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	2	5	9	14	17	20	17	13	12	5	8	1		1					
MED			315					280	300	305	320	335	340	342	340	345	325	335	350	335		350					
UQ								285		320	345	350	345	352	355	350	342	345	358								
LQ								278		305	315	325	335	335	330	315	308	330	335								

The Radio Research Laboratories, Japan

JUL. 1975

M(3000)F2 (0.01)

# IONOSPHERIC DATA

JUL. 1975

H<sup>o</sup>F<sub>2</sub> (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
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27																								
28																								
29																								
30																								
31																								
	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																								

JUL. 1975

H<sup>o</sup>F<sub>2</sub> (KM)

# IONOSPHERIC DATA

JUL. 1975

H<sup>o</sup>F (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69° 00.4' S, Long. 39° 35.4' E		Sweep 0.5 MHz to 15 MHz in 30 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	A	B	B	B	B	B	B	B	B	B	B	B	275	B	B	B	B	B	B	R	B	B	A	B	
2	A	A	B	B	B	B	B	B	A	A	250	215	200	210	205	200	250	A	A	B	B	B	A	A	
3	F	A	U S 280	B	B	B	B	A	A	B	B	285	B	220	225	B	B	B	E B 240	B	B	B	A	A	
4	A	A	A	A	A	A	A	A	275	250	250	205	220	200	210	200	F	A	A	A	A	F	S	S	
5	B	B	B	B	A	R	A	A	250	F	B	B	205	230	195	325	A	A	A	A	A	A	A	A	
6	A	S	S	A	A	A	A	A	A	A	U H 175	200	200	200	190	U H 180	F	A	A	A	B	B	A	A	
7	A	A	A	B	B	B	A	A	A	280	255	205	225	240	225	210	A	250	B	B	A	A	A	A	
8	A	A	A	A	A	B	A	B	A	A	B	B	B	B	B	B	B	B	A	A	A	A	A	A	
9	A	A	A	B	A	A	A	A	B	B	B	B	B	B	B	B	260	435	B	A	A	A	A	A	
10	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	230	B	260	B	B	B	A	A	A	
11	200	A	B	B	B	B	B	B	B	B	B	B	B	250	250	265	B	B	Q 260	B	A	A	A	A	
12	A	A	A	A	A	A	A	A	A	A	A	340	250	225	B	B	240	A	B	E A 240	B	B	B	R	A
13	R	A	R	A	R	A	A	A	A	A	B	270	210	200	220	B	U F 240	E	B	B	B	B	A	B	
14	A	A	A	A	B	B	B	A	A	A	B	B	B	240	205	B	B	B	B	B	B	B	B	B	A
15	A	A	A	A	B	B	B	A	B	B	B	B	B	250	210	B	B	R	B	B	A	A	280	A	
16	A	A	A	B	A	B	B	A	A	B	B	B	B	245	B	B	B	R	B	B	B	B	B	A	A
17	A	A	A	A	B	B	A	A	A	A	B	B	B	B	225	245	B	B	B	B	B	A	A	R	A
18	A	A	B	B	B	B	A	350	A	B	B	B	255	B	B	B	B	B	A	A	A	A	A	A	A
19	A	A	B	B	B	B	B	A	A	B	B	245	215	230	225	215	B	R	B	B	A	R	A	B	
20	A	A	B	B	B	B	B	A	A	340	B	255	B	240	B	230	Q 230	255	205	E 250	B	B	R	A	A
21	A	A	A	A	A	A	A	350	A	F	240	235	220	235	225	U H 240	205	R	B	B	B	B	A	A	
22	A	B	A	A	A	A	A	A	A	A	B	B	225	215	215	250	215	250	210	B	B	B	A	A	
23	B	A	A	A	B	A	A	A	A	A	B	250	235	210	210	210	240	250	U A 230	A	A	A	A	A	
24	A	A	A	B	A	C	R	R	A	U F 375	260	B	215	225	230	220	B	275	B	B	B	260	B	B	
25	A	A	A	A	A	A	B	F	A	A	B	B	B	B	230	300	290	A	A	A	A	A	A	A	A
26	A	B	B	B	A	B	A	B	B	A	A	C	B	B	B	B	250	270	265	B	B	A	A	A	A
27	A	A	A	B	C	B	B	B	A	B	280	250	B	B	230	B	250	B	B	B	B	B	A	A	A
28	A	B	B	B	B	B	B	B	B	A	B	B	250	250	250	230	B	B	B	B	B	A	A	A	A
29	A	A	A	A	A	A	B	A	A	380	255	220	250	210	210	210	200	275	215	B	B	B	B	A	A
30	B	A	B	B	B	A	B	B	B	B	E B 270	225	230	230	B	220	225	230	B	B	B	B	A	A	A
31	A	A	A	A	A	B	B	A	440	255	220	230	210	220	210	200	210	200	200	B	A	B	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		1					2	3	6	11	15	19	21	22	19	15	10	9			1	1		
MED	200		U S 280					350	275	310	252	235	225	230	222	220	240	250	U 225			260	280		
UQ									358	375	262	250	242	240	230	242	252	275	E 250						
LQ									262	255	245	218	212	210	210	210	218	230	212						

JUL. 1975

H<sup>o</sup>F (KM)



### IONOSPHERIC DATA

JUL. 1975

H<sup>°</sup>E S (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	K 125	K 105	K 115	B	R	110	105	B	B	B	B	B	B	B	B	B	R	R	K 115	B	B	K 130	B	
2	K 135	K 100	K 105	100	100	100	100	100	100	100	125	140	130	G	120	140	150	K 130	150	120	110	B	100	K 155
3	K 150	K 140	K 120	B	100	100	100	100	100	B	B	100	B	B	B	B	R	R	B	B	B	B	100	100
4	S 110	110	110	105	100	100	100	100	100	155	120	150	G	G	100	100	100	100	100	140	100	100	100	U 105
5	100	100	110	110	K 100	K 115	K 100	K 100	100	100	B	B	R	120	110	100	110	K 100	100	105	125	K 100	100	100
6	130	120	130	100	140	100	130	125	125	130	180	100	100	100	110	100	100	K 100	100	100	B	B	90	S 140
7	S 105	100	K 130	110	B	100	K 145	150	115	100	115	100	125	160	125	100	100	R	B	B	130	100	100	100
8	K 100	K 125	K 100	105	100	110	K 150	B	115	100	B	B	R	B	B	B	B	R	140	K 150	K 110	150	100	K 130
9	K 110	K 110	K 105	K 130	100	110	100	100	B	B	B	B	B	B	B	B	B	140	130	K 120	K 110	K 105	100	K 130
10	K 100	K 105	K 105	K 115	110	110	105	100	B	B	B	B	R	B	B	B	B	R	B	B	K 125	K 115	K 115	K 130
11	115	105	B	100	B	100	100	B	B	100	B	B	R	B	B	B	R	R	B	B	115	150	K 130	K 140
12	120	K 105	K 100	K 105	K 125	110	K 100	K 105	K 115	K 105	110	B	B	B	B	B	120	R	150	B	B	B	K 130	120
13	K 150	K 125	K 125	K 110	K 140	K 100	K 100	K 100	K 105	K 105	B	B	120	130	105	B	140	R	B	B	B	B	170	K 140
14	100	100	100	100	100	100	100	100	K 110	105	B	B	R	B	120	B	R	R	B	B	B	B	B	150
15	K 115	K 155	100	K 100	130	B	100	105	B	B	120	B	B	B	G	B	R	R	B	B	K 100	105	K 130	K 130
16	K 100	K 150	K 120	100	100	135	B	K 100	K 115	B	B	B	B	B	B	B	R	R	B	B	B	B	110	K 105
17	K 110	E 145	K 125	K 115	100	125	100	100	100	100	B	R	R	B	B	G	R	R	B	B	K 120	K 130	K 150	K 140
18	100	120	100	B	100	105	110	K 110	K 100	B	B	B	R	B	B	B	R	R	120	110	K 110	105	K 100	105
19	130	105	110	105	105	B	100	100	100	B	B	B	G	120	115	B	B	R	B	B	B	210	K 110	105
20	K 105	K 105	K 125	105	100	105	100	100	K 120	145	B	B	B	B	B	B	R	120	K 125	B	B	150	K 140	K 120
21	105	K 105	K 110	K 110	K 110	K 115	K 125	K 115	105	100	B	105	100	110	100	B	R	120	B	115	B	B	K 180	K 100
22	110	K 150	95	100	110	K 110	100	K 110	100	100	B	B	B	B	100	105	105	K 95	K 110	115	100	B	K 145	K 150
23	95	K 115	K 100	K 120	125	100	K 110	100	100	125	B	B	125	120	100	95	130	110	105	K 110	100	105	100	K 130
24	K 130	K 100	K 100	120	90	100	K 125	K 130	160	G	130	B	B	B	100	B	B	R	B	B	B	K 125	K 170	K 120
25	K 125	K 165	K 105	K 115	100	K 100	K 130	K 150	110	90	B	B	B	B	B	B	155	115	110	105	K 110	K 105	K 130	K 145
26	K 130	110	100	100	90	90	95	B	B	100	100	C	R	B	B	B	R	120	B	B	B	115	K 110	K 110
27	K 130	K 120	105	B	125	B	B	B	100	B	B	B	B	B	B	B	B	R	R	B	B	B	140	K 150
28	105	115	100	100	B	B	B	B	B	100	B	B	120	B	B	B	R	R	B	B	B	90	K 120	K 105
29	K 100	K 120	105	K 100	K 110	100	B	105	100	G	125	125	110	B	110	110	110	135	B	B	B	B	B	90
30	B	100	100	100	100	100	105	B	B	B	B	110	G	B	B	B	B	R	R	B	B	B	100	K 100
31	K 100	105	K 115	115	105	100	105	100	K 120	120	110	G	R	B	B	105	130	115	K 100	K 125	K 110	B	100	120
	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	30	27	27	27	27	24	23	19	10	8	8	7	13	9	12	13	13	13	15	17	29	30
MED	K 110	K 110	K 105	105	100	100	100	100	105	100	120	108	120	120	110	100	115	115	110	115	K 110	K 105	K 110	K 120
UQ	K 130	K 120	K 115	112	110	110	110	110	115	112	125	132	125	125	115	105	135	120	130	120	118	K 130	K 130	K 140
LQ	100	105	100	100	100	100	100	100	100	100	110	100	105	115	100	100	102	100	100	110	K 105	105	100	105

The Radio Research Laboratories, Japan

JUL. 1975

H<sup>°</sup>E S (KM)

# IONOSPHERIC DATA

JUL. 1975

TYPES OF ES

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69° 00.4' S, Long. 39° 35.4' E		Sweep 0.5 MHz to 15 MHz in 30 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	HK 12	F 1	R 1			F 1	R 2		D 1											K 1				RKA 11			
2	HKA 11	CKA 32	R 1	R 1	B 2	B 2	F 1	F 1	R 1	B 2	RR 11	H 1	H 1		C 2	HA 11	RK 11	HKA 22	AF 11	F 1	F 1		LKA 11	HKA 11			
3	RKA 11	HK 25	K 2		R 1	R 1	R 1	B 2	F 1			R 1												RA 11	RA 11		
4	RA 11	F 2	R 4	RA 11	R 1	R 3	RA 31	RA 11	C 1	H 1	L 1	H 1			LH 11	L 3	F 3	FRA 12	RA 11	FF 11	FA 11	FA 11	FA 11	RA 11			
5	R 2	F 1	R 1	F 1	RK 31	K 3	LK 11	LK 13	CH 11	LA 11					C 1	C 1	C 1	CK 31	F 3	FA 21	F 2	FFF 12	CK 41	R 3	FA 11		
6	RA 41	AF 11	A 1	F 5	FE 5	F 4	AF 11	FF 41	AF 11	AL 11	AL 11	R 1	+	+	CA 11	C 1	CH 11	LKH 11	F 2	F 1			F 1	AF 11			
7	BS 21	S 5	HKA 11	F 1		F 1	HK 2	FE 3	B 2	HH 11	CA 11	HH 11	H 1	HT 11	HA 11	+	F 1				RA 11	BS 31	RA 31	RA 21			
8	RK 12	RK 12	RK 13	BS 11	BS 11	RS 11	ARK 11		RD 11	RS 11									HKS 11	RKA 12	BS 51	AF 11	RA 11	HK 21			
9	K 5	RK 27	LK 31	R 1	FA 11	BS 31	S 3	BS 21										RA 11	R 1	K 2	RKS 16	KA 51	RS 31	HKA 12			
10	KA 41	KA 31	R 2	KA 21	BA 31	R 2	RA 21	BA 21														RKA 14	RS 11	RS 11	RS 11		
11	BA 31	R 2		R 1		F 1	F 1			+													R 1	HK 11	HK 12	RKA 12	
12	BA 21	AK 12	K 2	K 2	HAK 11	RA 11	RKA 11	FF 11	RKA 11	RA 11	RA 11						F 1		FR 11				K 1	RA 11			
13	KAL 11	LKA 13	K 3	CK 3	EL 11	LKH 11	LKR 11	LKA 21	RKA 11	RS 11			H 1	HT 11	+		RA 11						HK 11	BSA 11			
14	R 4	R 3	RA 11	B 2	R 1	R 1	R 1	R 1	LK 11	L 3					C 1										CK 11		
15	RK 21	RK 13	R 2	K 2	R 1		R 1	RA 31			R 1												RK 32	RS 11	RK 12	CK 24	
16	KS 11	RKA 12	K 2	B 2	BA 21	R 1		RK 11	CK 11																HKR 24	KS 11	
17	K 6	HK 13	CK 12	BKS 23	RA 11	R 1	B 2	R 1	B 2	B 3												K 1	CKA 11	KA 11	HKA 11		
18	B 3	R 2	R 1		R 1	B 2	B 3	BS 11	BS 22											R 1	BA 21	KS 11	RA 11	RKA 11	BA 11		
19	RA 11	R 2	R 2	R 2	R 1		R 1	B 2	B 2					C 1	C 1							K 1	AK 11	KS 11	R 2		
20	K 5	KA 41	R 1	R 1	R 1	R 1	R 1	R 2	CK 11	HA 11								K 1	F 1			K 1	RK 21	CK 31			
21	RA 11	K 6	RK 41	RK 13	BS 23	CK 31	HK 15	CK 21	C 2	L 1		+	+	C 1	L 1			F 1		F 1				HK 11	KS 11		
22	BA 11	HK 11	BS 11	B 2	S 3	BS 21	B 3	RK 14	B 3	R 1					+	+	+	FF 11	RK 11	R 1	F 1		KA 11	HK 11			
23	FR 11	RK 14	KA 11	CK 33	R 1	B 2	RK 3	R 1	B 3	R 1			H 1	HT 11	+	+	+	H 1	R 1	E 1	FF 11	F 1	F 1		HTK 11		
24	HK 11	CKA 11	KA 41	R 1	F 1	R 1	K 1	KA 11	B 3		H 1				+	+							HK 11	RKA 11	CKA 11		
25	RKA 11	HKH 11	K 6	CK 23	S 3	SL 11	R 1	RAK 11	RL 11	+							RA 11	BS 11	BS 11	BS 11	KA 11	RK 11	RRK 11	RK 11			
26	RK 33	RF 11	B 2	R 1	FF 11	F 1	R 1			R 1	R 1							RK 11					R 1	K 1	KS 11		
27	RK 11	RK 11	E 1		R 1				B 2																FF 11	HK 11	
28	R 4	R 1	B 2	B 2				D 1	D 1	R 1														+	+	K 1	
29	K 2	CK 12	R 3	LK 11	K 2	R 1		R 1	B 2				+	+	R 1											FF 11	
30		R 3	F 1	R 1	R 1	B 2	R 1	D 1				R 1														FF 11	K 2
31	LHK 11	R 1	LK 31	B 2	B 2	R 1	R 1	R 1	K 1	H 1	C 1						+	H 1	FF 11	CK 11	FF 11	RK 11		FF 41	R 4		
	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																											

JUL. 1975

TYPES OF ES

### IONOSPHERIC DATA

AUG. 1975

FXI (0.1 MHZ)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	A	A	A	A	A	A	A	A	A	A	X <sub>41</sub>	B	B	O <sub>48</sub>	O <sub>51</sub>	O <sub>46</sub>	41	O <sub>37</sub>	B	B	A	B	B	A	
2	A	A	A	R	R	R	45	R	B	B	O <sub>37</sub>	52	50	X <sub>51</sub>	50	45	O <sub>36</sub>	O <sub>35</sub>	O <sub>36</sub>	A	A	A	A	A	
3	R	A	A	A	A	A	A	R	36	X <sub>31</sub>	X <sub>39</sub>	X <sub>42</sub>	U <sub>49</sub>	X <sub>51</sub>	58	X <sub>51</sub>	43	36	A	A	A	A	A	A	
4	28	A	A	A	A	R	A	A	A	O <sub>34</sub>	X <sub>44</sub>	X <sub>46</sub>	X <sub>48</sub>	X <sub>46</sub>	X <sub>48</sub>	46	43	42	44	28	A	O <sub>19</sub>	A	A	
5	A	A	A	A	A	B	A	A	A	B	B	B	B	B	B	B	60	R	A	B	R	A	A	A	
6	A	A	A	A	B	A	A	R	A	B	B	O <sub>45</sub>	B	B	B	B	B	B	B	B	B	O <sub>21</sub>	R	A	
7	A	R	A	A	A	O <sub>26</sub>	O <sub>26</sub>	C	25	38	X <sub>48</sub>	X <sub>52</sub>	X <sub>67</sub>	U <sub>59</sub>	X <sub>60</sub>	45	44	58	47	O <sub>29</sub>	O <sub>21</sub>	15	A	A	
8	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	R	A	R	A
9	A	A	A	A	A	A	A	A	A	A	A	O <sub>50</sub>	B	B	B	B	O <sub>36</sub>	O <sub>36</sub>	O <sub>36</sub>	B	R	A	A	A	
10	A	A	A	B	B	A	A	B	A	B	B	B	B	B	B	B	B	B	R	R	R	A	R	R	
11	C	A	A	A	A	C	C	C	C	C	C	C	B	B	65	O <sub>56</sub>	46	55	B	B	B	B	R	A	
12	A	R	A	A	A	A	A	A	A	O <sub>37</sub>	45	50	B	X <sub>59</sub>	62	66	52	O <sub>37</sub>	65	A	A	A	R	R	
13	A	57	O <sub>26</sub>	A	A	24	25	A	O <sub>31</sub>	55	B	55	R	71	C	B	O <sub>71</sub>	O <sub>61</sub>	31	22	A	35	A	34	
14	A	O <sub>34</sub>	58	A	A	A	A	68	B	B	B	B	B	B	B	B	B	O <sub>40</sub>	B	O <sub>24</sub>	A	B	A	A	
15	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	65	R	B	B	R	A	A	A	
16	B	A	A	A	A	O <sub>38</sub>	30	34	36	X <sub>38</sub>	X <sub>43</sub>	X <sub>42</sub>	O <sub>46</sub>	O <sub>45</sub>	X <sub>52</sub>	X <sub>46</sub>	B	O <sub>35</sub>	34	40	24	B	17	R	
17	O <sub>23</sub>	C	R	R	A	A	B	B	B	B	B	B	B	B	B	B	O <sub>57</sub>	B	O <sub>33</sub>	O <sub>24</sub>	B	B	37	A	
18	A	A	A	A	A	O <sub>26</sub>	R	A	O <sub>32</sub>	X <sub>39</sub>	X <sub>41</sub>	B	O <sub>47</sub>	B	B	B	B	B	B	B	B	O <sub>19</sub>	R	34	
19	O <sub>31</sub>	R	A	A	A	A	28	30	33	X <sub>44</sub>	X <sub>48</sub>	X <sub>46</sub>	X <sub>60</sub>	X <sub>60</sub>	X <sub>60</sub>	57	X <sub>52</sub>	43	36	30	O <sub>22</sub>	O <sub>17</sub>	A	A	
20	C	A	A	A	O <sub>29</sub>	30	36	30	32	44	X <sub>55</sub>	60	X <sub>63</sub>	X <sub>62</sub>	X <sub>66</sub>	X <sub>61</sub>	60	60	X <sub>60</sub>	A	A	A	A	A	
21	A	A	A	B	A	A	A	85	B	B	B	B	B	O <sub>50</sub>	O <sub>52</sub>	X <sub>54</sub>	O <sub>44</sub>	48	42	22	O <sub>22</sub>	A	A	A	
22	A	B	A	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	37	B	O <sub>21</sub>	B	B	A	
23	A	A	C	A	A	B	B	A	O <sub>31</sub>	X <sub>39</sub>	O <sub>47</sub>	X <sub>52</sub>	X <sub>55</sub>	B	65	75	B	R	B	A	O <sub>23</sub>	R	C	A	
24	A	R	A	A	27	36	38	38	34	41	O <sub>51</sub>	O <sub>53</sub>	X <sub>58</sub>	63	57	O <sub>63</sub>	56	52	O <sub>43</sub>	45	B	O <sub>17</sub>	A	A	
25	A	A	A	B	A	A	A	A	B	O <sub>40</sub>	B	B	X <sub>68</sub>	O <sub>61</sub>	O <sub>56</sub>	X <sub>53</sub>	X <sub>53</sub>	57	68	40	B	B	B	R	
26	A	A	A	58	B	A	R	O <sub>29</sub>	32	X <sub>36</sub>	B	O <sub>46</sub>	X <sub>48</sub>	X <sub>47</sub>	X <sub>53</sub>	X <sub>56</sub>	X <sub>50</sub>	X <sub>47</sub>	35	O <sub>24</sub>	O <sub>19</sub>	B	A	A	
27	A	A	A	A	B	B	B	B	R	O <sub>41</sub>	X <sub>46</sub>	X <sub>45</sub>	X <sub>47</sub>	X <sub>49</sub>	X <sub>52</sub>	X <sub>53</sub>	X <sub>49</sub>	51	38	O <sub>23</sub>	R	B	B	R	
28	O <sub>18</sub>	U <sub>52</sub>	A	A	A	A	A	U <sub>40</sub>	37	46	58	X <sub>59</sub>	X <sub>64</sub>	X <sub>60</sub>	X <sub>60</sub>	X <sub>61</sub>	60	56	48	27	B	B	O <sub>21</sub>	A	
29	B	A	A	A	B	A	A	38	B	A	B	B	B	B	B	O <sub>47</sub>	R	B	42	O <sub>42</sub>	A	A	A	A	
30	A	A	A	A	A	A	R	R	B	B	B	B	B	O <sub>49</sub>	B	B	B	B	43	35	B	B	B	R	
31	A	A	A	A	A	A	A	R	B	O <sub>49</sub>	B	X <sub>56</sub>	57	X <sub>59</sub>	62	74	64	63	42	34	34	B	O <sub>24</sub>	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	3	2	1	2	6	7	9	11	16	14	17	15	18	18	19	21	20	20	16	8	7	4	2	
MED	O <sub>26</sub>	52	42	58	28	28	30	38	32	40	X <sub>46</sub>	X <sub>50</sub>	X <sub>55</sub>	X <sub>55</sub>	X <sub>58</sub>	54	52	48	42	28	O <sub>22</sub>	O <sub>19</sub>	22	34	
UQ	30	54			36	37	40	35	44	X <sub>48</sub>	X <sub>53</sub>	X <sub>62</sub>	X <sub>60</sub>	X <sub>62</sub>	61	60	56	46	38	24	O <sub>20</sub>	30			
LQ	O <sub>20</sub>	43			O <sub>26</sub>	27	30	32	X <sub>38</sub>	X <sub>41</sub>	X <sub>46</sub>	48	X <sub>49</sub>	52	46	44	O <sub>37</sub>	36	24	O <sub>21</sub>	O <sub>17</sub>	19			

The Radio Research Laboratories, Japan

AUG. 1975

FXI (0.1 MHZ)

### IONOSPHERIC DATA

AUG. 1975

FOF2 (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69° 00' 4" S, Long. 39° 35' 4" E		Sweep 0.5 MHz to 15 MHz in 30 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	A	A	A	A	A	B	A	A	A	A	F <sub>35</sub>	B	B	42	45	F <sub>40</sub>	F <sub>35</sub>	F <sub>28</sub>	B	B	A	B	B	A			
2	A	A	A	R	R	R	R	R	B	B	31	F	F <sub>42</sub>	45	F <sub>43</sub>	F <sub>35</sub>	F <sub>30</sub>	F <sub>26</sub>	F <sub>28</sub>	A	A	A	A	A			
3	A	A	A	A	A	A	A	R	A	24	33	36	U <sub>R</sub> <sub>43</sub>	44	J <sub>F</sub> <sub>51</sub>	J <sub>R</sub> <sub>45</sub>	F <sub>33</sub>	F	A	A	A	A	A	A			
4	F	A	A	A	A	A	A	A	A	F <sub>27</sub>	38	40	42	40	42	35	J <sub>F</sub> <sub>32</sub>	U <sub>F</sub> <sub>28</sub>	R	F	A	F	A	A			
5	A	A	A	A	A	B	A	A	A	B	B	B	B	B	B	B	F	R	A	B	A	A	C	A			
6	A	A	A	A	B	B	A	A	A	B	B	39	B	B	B	B	B	B	B	B	B	F	A	A			
7	A	R	A	A	A	F <sub>17</sub>	F <sub>17</sub>	C	F	F <sub>30</sub>	42	46	J <sub>R</sub> <sub>61</sub>	U <sub>R</sub> <sub>53</sub>	53	F <sub>37</sub>	F <sub>32</sub>	U <sub>F</sub> <sub>32</sub>	41	R <sub>33</sub>	15	Y	A	A			
8	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	R	A			
9	A	A	A	A	A	A	A	A	A	A	A	F <sub>42</sub>	B	B	B	B	R <sub>30</sub>	U <sub>F</sub> <sub>28</sub>	U <sub>F</sub> <sub>28</sub>	B	R	A	A	A			
10	A	A	A	B	B	A	A	B	A	B	B	B	B	B	B	B	B	B	R	R	R	A	R	A			
11	C	A	A	A	A	C	C	C	C	C	C	C	B	B	U <sub>F</sub> <sub>57</sub>	50	U <sub>F</sub> <sub>40</sub>	F	B	B	B	B	R	A			
12	A	R	A	A	A	A	A	A	A	F <sub>29</sub>	F <sub>39</sub>	43	B	J <sub>R</sub> <sub>53</sub>	56	F	F <sub>38</sub>	31	F	C	A	A	A	R			
13	A	A	U <sub>F</sub> <sub>18</sub>	A	A	U <sub>F</sub> <sub>18</sub>	U <sub>F</sub> <sub>18</sub>	A	U <sub>F</sub> <sub>23</sub>	F <sub>30</sub>	B	F	R	65	C	B	65	55	F	F	A	U <sub>R</sub> <sub>15</sub>	A	F			
14	A	28	A	A	A	A	A	F	B	B	B	B	B	B	B	B	B	34	B	U <sub>F</sub> <sub>17</sub>	B	B	A	A			
15	A	A	A	A	A	A	A	A	A	B	B	B	R	B	B	B	F	B	B	B	R	A	C	A			
16	B	A	A	A	A	F	F	F	F <sub>26</sub>	32	37	36	40	F <sub>37</sub>	45	40	B	29	F <sub>27</sub>	F	F	B	F	R			
17	F	C	A	A	A	B	B	B	B	B	B	B	B	B	B	B	51	B	U <sub>F</sub> <sub>27</sub>	F <sub>15</sub>	B	B	B	A			
18	A	A	A	A	A	F <sub>19</sub>	A	A	F <sub>23</sub>	F <sub>33</sub>	35	B	41	B	B	B	B	B	B	B	B	F <sub>13</sub>	R	R			
19	F <sub>19</sub>	A	A	A	A	A	F <sub>22</sub>	F <sub>21</sub>	F <sub>27</sub>	F <sub>38</sub>	42	40	54	54	J <sub>R</sub> <sub>54</sub>	J <sub>F</sub> <sub>51</sub>	F <sub>45</sub>	F <sub>37</sub>	F	U <sub>F</sub> <sub>24</sub>	16	11	C	A			
20	C	A	A	A	F <sub>23</sub>	F <sub>21</sub>	F	F	F <sub>25</sub>	F <sub>35</sub>	49	54	57	56	F <sub>60</sub>	55	F <sub>54</sub>	F <sub>51</sub>	J <sub>F</sub> <sub>50</sub>	A	A	A	A	A			
21	A	A	A	B	A	A	A	A	B	B	B	B	B	44	F <sub>46</sub>	48	F <sub>37</sub>	F <sub>42</sub>	U <sub>F</sub> <sub>36</sub>	F	F	A	A	A			
22	A	B	A	B	A	B	B	A	B	B	B	B	B	B	B	B	B	B	J <sub>F</sub> <sub>30</sub>	B	F <sub>14</sub>	B	B	A			
23	A	A	C	A	A	B	B	B	F <sub>24</sub>	33	41	46	48	B	59	U <sub>F</sub> <sub>63</sub>	B	B	B	A	U <sub>F</sub> <sub>14</sub>	R	C	A			
24	A	R	A	A	F	F <sub>30</sub>	J <sub>F</sub> <sub>31</sub>	F <sub>27</sub>	U <sub>F</sub> <sub>25</sub>	F <sub>34</sub>	45	47	51	J <sub>F</sub> <sub>57</sub>	U <sub>F</sub> <sub>47</sub>	U <sub>F</sub> <sub>56</sub>	F <sub>48</sub>	U <sub>F</sub> <sub>40</sub>	F <sub>37</sub>	U <sub>F</sub> <sub>29</sub>	B	U <sub>R</sub> <sub>11</sub>	A	A			
25	A	A	A	B	B	A	A	A	B	U <sub>R</sub> <sub>34</sub>	B	B	F <sub>62</sub>	55	F <sub>47</sub>	F <sub>47</sub>	48	43	F	F	B	B	B	A			
26	A	B	B	B	B	A	A	23	F <sub>25</sub>	30	B	40	42	42	47	50	43	J <sub>R</sub> <sub>41</sub>	F <sub>26</sub>	U <sub>R</sub> <sub>18</sub>	R <sub>13</sub>	B	A	A			
27	A	A	A	A	B	B	B	B	R	F <sub>35</sub>	39	39	41	43	46	47	43	44	F <sub>27</sub>	U <sub>F</sub> <sub>13</sub>	A	B	B	A			
28	U <sub>F</sub> <sub>10</sub>	R	A	A	A	A	A	F	U <sub>R</sub> <sub>30</sub>	U <sub>F</sub> <sub>38</sub>	50	52	56	53	54	55	U <sub>F</sub> <sub>51</sub>	U <sub>F</sub> <sub>45</sub>	J <sub>F</sub> <sub>42</sub>	U <sub>F</sub> <sub>21</sub>	B	B	F	A			
29	B	A	A	A	B	A	B	F	B	A	B	B	B	B	B	U <sub>R</sub> <sub>41</sub>	R	B	F	U <sub>F</sub> <sub>33</sub>	A	A	A	A			
30	A	A	A	A	A	A	A	R	B	B	B	B	B	43	B	B	B	B	37	F	B	B	B	A			
31	A	A	A	A	A	A	A	R	B	43	B	50	F <sub>49</sub>	53	U <sub>F</sub> <sub>56</sub>	F	F <sub>50</sub>	F	F	U <sub>F</sub> <sub>25</sub>	F	B	F	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	1	1		1	4	4	3	9	16	14	15	15	18	18	17	19	17	13	10	5	4					
MED	F <sub>16</sub>	28	U <sub>F</sub> <sub>18</sub>		F <sub>23</sub>	20	20	F <sub>25</sub>	F <sub>25</sub>	F <sub>35</sub>	39	42	48	49	49	47	F <sub>43</sub>	F <sub>37</sub>	F <sub>30</sub>	U <sub>F</sub> <sub>22</sub>	14	12					
UQ					F <sub>26</sub>	F <sub>26</sub>	25	F <sub>25</sub>	F <sub>35</sub>	42	46	55	54	56	51	49	F <sub>43</sub>	F <sub>37</sub>	U <sub>F</sub> <sub>29</sub>	15	14						
LQ					F <sub>18</sub>	F <sub>18</sub>	22	F <sub>24</sub>	30	35	40	42	43	46	40	F <sub>34</sub>	F <sub>29</sub>	F <sub>27</sub>	U <sub>F</sub> <sub>17</sub>	F <sub>14</sub>	11						

AUG. 1975

FOF2 (0.1 MHz)

# IONOSPHERIC DATA

AUG. 1975      FOF1 (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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																								
2																								
3																								
4																								
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9																								
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17																								
18																								
19																								
20												L	L											
21														L	L									
22																								
23													L				L							
24													L											
25																								
26												L	L											
27												L	L											
28												L		L										
29																								
30																								
31													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																								
MED																								
UQ																								
LQ																								

AUG. 1975      FOF1 (0.01 MHz)

### IONOSPHERIC DATA

AUG. 1975

FOE (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	205 <sup>K</sup>	330 <sup>K</sup>							B	B	A	B	B	B	B	B	C							145 <sup>K</sup>
2	170 <sup>K</sup>	105 <sup>K</sup>	450 <sup>K</sup>	450 <sup>K</sup>			230 <sup>K</sup>		B	B	B	A	180 <sup>H</sup>	180 <sup>H</sup>	B	A	B	B	490 <sup>K</sup>			200 <sup>K</sup>	170 <sup>K</sup>	
3	170 <sup>K</sup>	450 <sup>K</sup>	410 <sup>K</sup>				480 <sup>K</sup>	200 <sup>K</sup>	A	180	A	220 <sup>A</sup>	A	200 <sup>A</sup>	450 <sup>F</sup>	150	A							
4									A	A	A	170	195 <sup>H</sup>	C	B	A	B							
5			J 300 <sup>K</sup>						B	B	B	B	B	B	B	B	B	B	380 <sup>K</sup>		210 <sup>K</sup>			
6								250 <sup>K</sup>	B	B	B	B	B	B	B	B	B	B				95 <sup>K</sup>	80 <sup>K</sup>	
7	120 <sup>K</sup>	130 <sup>K</sup>		120 <sup>K</sup>	220 <sup>K</sup>	120 <sup>K</sup>	105 <sup>K</sup>		C	C	R 120	U 180 <sup>H</sup>	A	170	170	A	U 160 <sup>H</sup>	A	A					
8	300 <sup>K</sup>		480 <sup>K</sup>						B	B	B	B	B	B	B	B	B	B	B		170 <sup>K</sup>		200 <sup>K</sup>	
9	370 <sup>K</sup>	370 <sup>K</sup>	370 <sup>K</sup>	370 <sup>K</sup>		380 <sup>K</sup>		370 <sup>K</sup>	360 <sup>K</sup>	A	A	B	B	B	B	B	B	B	B		180 <sup>K</sup>			350 <sup>K</sup>
10		210 <sup>K</sup>	180 <sup>K</sup>						B	B	B	B	B	B	B	B	B	B	B	B	250 <sup>K</sup>	190 <sup>K</sup>	130 <sup>K</sup>	120 <sup>K</sup>
11		180 <sup>K</sup>	280 <sup>K</sup>	280 <sup>K</sup>	280 <sup>K</sup>				C	C	C	C	C	B	B	B	B	B	B	B			180 <sup>K</sup>	310 <sup>K</sup>
12		180 <sup>K</sup>	300 <sup>K</sup>						B	B	A	180	A	B	B	B	B	B	A					150 <sup>K</sup>
13		210 <sup>K</sup>					425 <sup>K</sup>		B	A	A	B	B	B	C	B	B	B	B					
14	230 <sup>K</sup>						360 <sup>K</sup>		B	B	B	B	B	B	B	B	B	B	B					120 <sup>K</sup>
15									B	B	B	B	B	B	B	B	B	B	B					
16						220 <sup>K</sup>	180 <sup>K</sup>	135 <sup>K</sup>	130	150	U 150	A	B	270 <sup>K</sup>	200	B	B	B	B		110 <sup>K</sup>	100 <sup>K</sup>	150 <sup>K</sup>	
17	U 150 <sup>K</sup>		U 180 <sup>K</sup>	U 170 <sup>K</sup>	U 220 <sup>K</sup>				B	B	B	B	B	B	B	B	B	B	B					170 <sup>K</sup>
18			305 <sup>K</sup>	280 <sup>K</sup>	175 <sup>K</sup>	430 <sup>K</sup>	410 <sup>K</sup>	380 <sup>K</sup>	180 <sup>K</sup>	125 <sup>K</sup>	250 <sup>K</sup>	B	B	B	B	B	B	B	B			130 <sup>K</sup>	C	
19	110 <sup>K</sup>	U 130 <sup>K</sup>	U 280 <sup>K</sup>				U 140 <sup>K</sup>	U 105 <sup>K</sup>	120 <sup>H</sup>	140 <sup>A</sup>	155 <sup>R</sup>	180	180	200 <sup>H</sup>	190	A	150 <sup>H</sup>	B						
20					U 170 <sup>K</sup>	U 100 <sup>K</sup>	C	C	110	140 <sup>A</sup>	190 <sup>H</sup>	B	210 <sup>R</sup>	200	B	B	B	C	U 220 <sup>K</sup>					
21	U 130 <sup>K</sup>	U 120 <sup>K</sup>					B	B	B	B	B	B	B	B	B	B	B	270 <sup>K</sup>	150 <sup>K</sup>	U 120 <sup>K</sup>	130 <sup>K</sup>		380 <sup>K</sup>	370 <sup>K</sup>
22	280 <sup>K</sup>				U 270 <sup>K</sup>	380 <sup>K</sup>		B	B	B	B	B	B	B	B	B	B	B	B					U 160 <sup>K</sup>
23							B	B	B	B	B	B	U 210 <sup>R</sup>	B	B	B	B	B	B			130 <sup>K</sup>		U 150 <sup>K</sup>
24		180 <sup>K</sup>			U 130 <sup>K</sup>	110		A	B	B	240 <sup>H</sup>	200	B	B	B	B	B	B	B	U 400 <sup>K</sup>	U 100 <sup>K</sup>		U 240 <sup>K</sup>	
25	J 340 <sup>K</sup>						B	B	B	B	B	B	B	B	B	H 190	B	H 120	B	U 120 <sup>K</sup>				
26							A	110	A	130	B	B	200	200	180	180	170 <sup>H</sup>	A	C					220 <sup>K</sup>
27	200 <sup>K</sup>	250 <sup>K</sup>	280 <sup>K</sup>				B	B	320 <sup>K</sup>	200 <sup>K</sup>	180 <sup>H</sup>	170	200	200 <sup>A</sup>	180 <sup>R</sup>	160	135	B	B					
28		200 <sup>K</sup>					A	B	450 <sup>K</sup>	160	190	190 <sup>H</sup>	230 <sup>H</sup>	215 <sup>A</sup>	200	200	150 <sup>A</sup>	B	B					450 <sup>K</sup>
29			U 360 <sup>K</sup>				B	250 <sup>K</sup>	B	B	B	B	B	B	B	B	B	B	R	A	U 220 <sup>K</sup>			J 390 <sup>K</sup>
30	J 370 <sup>K</sup>					350 <sup>K</sup>	A	U 240 <sup>K</sup>	B	B	B	B	B	B	B	B	B	B	B					420 <sup>K</sup>
31	J 290 <sup>K</sup>	350 <sup>K</sup>					A	A	B	B	B	B	B	B	B	B	B	B	B	B	U 110 <sup>K</sup>	U 110 <sup>K</sup>		150 <sup>K</sup>
CNT	15	15	13	6	6	8	9	10	7	9	8	6	10	9	6	6	4	2	4	6	8	3	10	16
MED	205 <sup>K</sup>	180 <sup>K</sup>	280 <sup>K</sup>	225 <sup>K</sup>	220 <sup>K</sup>	175 <sup>K</sup>	140 <sup>K</sup>	220 <sup>K</sup>	150	140	180	185	200	200	185	170	150	195	205 <sup>K</sup>	430 <sup>K</sup>	175 <sup>K</sup>	400 <sup>K</sup>	140 <sup>K</sup>	165 <sup>K</sup>
UQ	295 <sup>K</sup>	230 <sup>K</sup>	305 <sup>K</sup>	280 <sup>K</sup>	270 <sup>K</sup>	365 <sup>K</sup>	180 <sup>K</sup>	250 <sup>K</sup>	250 <sup>K</sup>	160	190	220 <sup>H</sup>	210	200	200	190	160		300 <sup>K</sup>	220 <sup>K</sup>	185 <sup>K</sup>	115 <sup>K</sup>	200 <sup>K</sup>	275 <sup>K</sup>
LQ	160 <sup>K</sup>	140 <sup>K</sup>	180 <sup>K</sup>	450 <sup>K</sup>	U 175 <sup>K</sup>	U 125 <sup>K</sup>	110 <sup>K</sup>	110	125	130	168	170	180	200	180	160	142		170 <sup>K</sup>	U 120 <sup>K</sup>	120 <sup>K</sup>	U 98 <sup>K</sup>	120 <sup>K</sup>	150 <sup>K</sup>

The Radio Research Laboratories, Japan

AUG. 1975

FOE (0.01 MHz)

# IONOSPHERIC DATA

AUG, 1975

FOES (0.1 MHZ)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	K 20	38	J A 50	J A 52	J A 35	41	J A 59	27	44	52	J A 36	B	B	E B 27	E B 34	E B 23	E C 20	15	B	B	22	B	B	30	
2	26	30	44	33	J A 36	J A 28	25	21	B	B	E B 22	19	G	J A 21	25	24	20	22	E C 20	J A 26	J A 29	J A 26	J A 24	25	
3	23	J A 26	J A 25	47	J A 34	J A 36	36	20	J A 21	G	22	32	24	28	G	20	17	E B 17	32	25	19	17	J A 24	J A 37	
4	J A 33	J A 26	J A 26	J A 31	55	25	J A 30	J A 42	J A 52	21	J A 29	20	22	E C 21	E B 18	30	E B 14	20	16	E C 13	17	E C 10	J A 29	J A 33	
5	J A 24	J A 27	J A 30	J A 35	83	B	J A 32	50	63	B	B	B	B	B	B	B	E B 19	30	38	B	25	J A 36	J A 44	J A 46	
6	J A 32	J A 60	J A 50	J A 60	B	47	46	32	40	B	B	E B 32	B	B	B	B	B	B	B	B	B	B	13	15	20
7	21	17	26	23	J A 30	J A 27	13	C	E C 17	G	40	30	21	21	19	20	25	J A 24	E B 12	E B 23	E B 12	Y	J A 30	J A 39	
8	J A 87	J A 62	68	71	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	22	J A 25	23	J A 36
9	K 37	K 37	K 37	45	J A 49	J A 99	J A 42	J A 50	J A 47	J A 49	40	31	B	B	B	B	E B 26	23	31	B	18	J A 47	J A 106	J A 85	
10	J A 34	27	J A 31	B	B	J A 42	53	B	52	B	B	B	B	B	B	B	B	B	B	27	K 25	24	J A 27	K 13	22
11	C	32	K 28	K 28	K 28	C	C	C	C	C	C	C	C	B	B	E B 23	E B 35	E B 18	E B 17	B	B	B	B	23	J K 31
12	J A 26	K 18	K 30	J A 36	41	J A 31	J A 41	35	38	J A 33	23	22	B	E B 47	E B 23	29	29	J A 32	37	37	J A 29	J A 26	20	17	
13	J A 26	21	23	32	J A 31	22	J A 24	22	43	27	B	E B 26	E B 45	E B 48	C	B	E B 57	E B 47	E B 22	J A 25	J A 24	J A 41	J A 52	27	
14	38	32	J A 36	J A 50	50	J A 146	38	J A 62	B	B	B	B	B	B	B	B	B	E B 27	B	E C 15	51	B	J A 24	38	
15	J A 40	J A 43	J A 40	J A 72	45	J A 48	50	42	43	B	B	B	B	B	B	B	E B 38	B	B	B	18	J A 34	J A 70	J A 78	
16	B	37	35	J A 36	J A 29	J A 26	K 18	K 13	G	G	22	23	E B 23	K 27	30	E B 19	B	E B 22	21	J A 24	20	B	13	K 15	
17	22	C	J A 27	22	31	45	B	B	B	B	B	B	B	B	B	B	E B 35	B	E B 20	E B 12	B	B	B	30	
18	J A 40	J A 33	J A 70	28	30	30	J A 26	38	20	G	J A 32	B	E B 30	B	B	B	B	B	B	B	B	E C 10	17	24	
19	15	17	J A 33	39	43	28	J A 24	22	16	G	G	G	G	G	G	19	16	17	17	16	E C 12	18	25	J A 31	
20	J A 28	J A 46	53	28	J A 25	20	J A 24	32	G	17	G	E B 23	G	G	E B 27	E B 22	E B 18	E C 18	J A 36	45	35	J A 34	J A 51	J A 43	
21	J A 52	J A 35	J A 63	52	J A 65	42	J A 50	28	B	B	B	B	B	E B 24	E B 25	E B 22	E B 28	K 27	22	E B 12	K 13	J A 36	K 38	J A 64	
22	J A 64	44	47	39	38	38	B	52	B	B	B	B	B	B	B	B	B	B	E B 18	B	E C 11	B	B	31	
23	J A 41	J A 41	C	55	J A 35	B	B	40	J A 24	E B 20	E B 23	G	25	B	E B 25	E B 21	B	B	B	35	J A 18	13	C	24	
24	J A 31	28	J A 38	35	25	20	G	G	15	E B 15	E B 20	G	25	26	26	29	E B 18	E B 30	E B 22	J A 35	B	29	30	K 24	
25	J A 34	J A 33	J A 41	B	38	32	47	J A 39	B	30	B	B	E B 30	E B 30	E B 33	G	E B 17	16	E C 10	13	B	B	B	20	
26	J A 41	J A 46	45	42	B	42	27	17	22	G	B	25	26	G	G	G	G	15	15	E B 16	17	B	24	J A 24	
27	K 20	K 25	K 28	44	B	B	B	B	32	K 20	G	G	25	21	G	G	G	E B 14	16	13	15	B	B	15	
28	J A 26	J A 24	J A 39	43	J A 36	J A 40	J A 32	J A 31	26	G	22	G	G	27	G	G	17	E B 16	E B 16	E B 15	B	B	17	25	
29	37	J A 52	57	53	B	77	53	35	B	70	B	B	B	B	B	E B 33	E B 33	B	38	J A 37	31	J A 47	J A 35	J K 39	
30	J K 37	J A 31	J A 39	J A 60	J K 39	38	25	25	B	B	B	B	B	E B 38	B	B	B	B	E B 25	E B 20	B	B	B	17	
31	J K 29	K 35	43	30	J A 41	J A 34	J A 35	J A 29	B	E B 30	B	E B 28	E B 25	E B 25	E B 30	E B 30	E B 23	E B 23	E B 16	25	E B 11	B	J 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	29	30	30	29	25	26	25	25	20	19	15	17	16	18	18	19	22	21	23	22	23	18	24	31	
MED	J A 32	32	J A 38	39	J A 36	37	32	32	29	E C 20	22	E C 23	E C 24	E C 26	E C 22	E B 20	U 18	U 18	24	19	J A 26	24	30		
UQ	J A 38	J A 41	J A 47	52	43	42	46	40	44	30	30	U 26	26	E B 28	E B 27	E B 29	E B 28	U 24	29	26	24	J A 36	J A 36	J A 38	
LQ	J 26	26	J 30	32	J A 31	J A 25	22	18	G	E G 21	G	E G 21	E G 21	G	E G 19	E B 17	E B 17	E B 16	E B 15	16	17	22	24		

AUG, 1975

FOES (0.1 MHZ)

# IONOSPHERIC DATA

AUG. 1975

F-MIN (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69° 00' 4" S, Long. 39° 35.4' E		Sweep 0.5 MHz to 15 MHz in 30 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	8	14	10	18	10	25	10	11	13	18	15	B	B	27	34	23	E <sub>20</sub> C	12	B	B	16	B	B	12
2	E <sub>15</sub> C	10	11	10	10	E <sub>11</sub> C	12	11	B	B	22	14	17	15	18	11	16	15	E <sub>20</sub> C	E <sub>10</sub> C	E <sub>10</sub> C	E <sub>10</sub> C	E <sub>10</sub> C	7
3	E <sub>10</sub> C	6	7	8	8	8	8	8	7	E <sub>12</sub> C	13	12	16	17	15	13	8	17	E <sub>15</sub> C	12	12	E <sub>10</sub> C	9	10
4	E <sub>10</sub> C	8	8	10	15	11	E <sub>15</sub> C	10	10	11	E <sub>10</sub> C	15	16	E <sub>21</sub> C	18	12	14	E <sub>10</sub> C	8	E <sub>13</sub> C	8	10	10	7
5	7	7	7	7	E <sub>11</sub> C	B	E <sub>17</sub> C	22	21	B	B	B	B	B	B	B	19	24	20	B	9	9	E <sub>20</sub> C	13
6	10	E <sub>15</sub> C	E <sub>15</sub> C	8	B	23	18	12	16	B	B	32	B	B	B	B	B	B	B	B	B	9	8	8
7	7	9	9	11	10	E <sub>10</sub> C	E <sub>10</sub> C	C	E <sub>17</sub> C	11	14	16	16	16	16	12	16	E <sub>10</sub> C	12	23	12	Y	8	9
8	10	7	25	22	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	11	7	E <sub>12</sub> C	E <sub>10</sub> C
9	E <sub>21</sub> C	10	10	13	16	17	13	12	10	7	15	22	B	B	B	B	26	19	13	B	8	8	7	E <sub>20</sub> C
10	7	8	10	B	B	17	20	B	20	B	B	B	B	B	B	B	B	B	22	12	12	8	12	E <sub>10</sub> C
11	C	8	E <sub>10</sub> C	8	8	C	C	C	C	C	C	C	B	B	23	35	18	17	B	B	B	B	8	7
12	10	10	10	12	17	13	E <sub>12</sub> C	13	15	14	15	18	B	47	23	20	18	E <sub>15</sub> C	18	E <sub>27</sub> C	E <sub>10</sub> C	E <sub>15</sub> C	12	8
13	12	8	12	9	9	E <sub>15</sub> C	8	13	11	13	B	26	45	48	C	B	57	47	22	E <sub>13</sub> C	16	E <sub>12</sub> C	9	7
14	20	E <sub>15</sub> C	E <sub>14</sub> C	E <sub>14</sub> C	11	18	15	17	B	B	B	B	B	B	B	B	B	27	B	E <sub>15</sub> C	22	B	10	8
15	8	11	10	E <sub>10</sub> C	13	13	20	14	15	B	B	B	B	B	B	B	38	B	B	B	E <sub>10</sub> C	10	E <sub>20</sub> C	10
16	B	E <sub>15</sub> C	15	11	10	6	10	9	9	10	11	15	23	22	17	19	B	22	11	9	8	B	9	8
17	7	C	E <sub>15</sub> C	9	7	23	B	B	B	B	B	B	B	B	B	B	35	B	20	12	B	B	B	7
18	8	13	12	13	12	E <sub>10</sub> C	12	11	13	11	14	B	30	B	B	B	B	B	B	B	B	E <sub>10</sub> C	8	E <sub>18</sub> C
19	E <sub>10</sub> C	8	E <sub>13</sub> C	17	16	12	7	7	E <sub>10</sub> C	E <sub>10</sub> C	13	15	E <sub>17</sub> C	15	13	13	13	12	12	E <sub>10</sub> C	E <sub>12</sub> C	8	E <sub>15</sub> C	7
20	E <sub>30</sub> C	E <sub>15</sub> C	6	E <sub>14</sub> C	5	7	E <sub>10</sub> C	E <sub>10</sub> C	9	11	14	23	19	17	27	22	18	E <sub>18</sub> C	E <sub>10</sub> C	21	17	E <sub>10</sub> C	11	10
21	11	8	13	25	14	6	14	13	B	B	B	B	B	24	25	22	28	15	13	12	7	7	7	15
22	10	27	17	27	E <sub>21</sub> C	30	B	18	B	B	B	B	B	B	B	B	B	B	18	B	E <sub>11</sub> C	B	B	10
23	E <sub>11</sub> C	10	C	18	10	B	B	30	16	20	23	12	E <sub>13</sub> C	B	25	21	B	B	B	23	10	E <sub>10</sub> C	C	15
24	8	E <sub>11</sub> C	13	17	12	9	E <sub>10</sub> C	7	E <sub>10</sub> C	15	20	22	18	20	22	23	18	30	22	E <sub>12</sub> C	B	9	E <sub>10</sub> C	8
25	9	13	15	B	23	14	18	18	B	22	B	B	30	30	33	18	17	E <sub>10</sub> C	10	8	B	B	B	E <sub>10</sub> C
26	8	19	29	36	B	17	10	10	10	12	B	20	14	13	17	16	13	9	E <sub>13</sub> C	16	10	B	9	12
27	8	E <sub>10</sub> C	8	13	B	B	B	B	22	15	14	14	13	16	17	14	12	14	11	10	12	B	B	9
28	8	9	E <sub>10</sub> C	13	E <sub>10</sub> C	7	10	15	E <sub>10</sub> C	10	10	11	15	15	17	15	12	16	16	15	B	B	8	E <sub>10</sub> C
29	22	12	10	17	B	20	27	15	B	28	B	B	B	B	B	33	33	B	13	10	9	E <sub>14</sub> C	E <sub>10</sub> C	9
30	E <sub>10</sub> C	7	18	18	15	18	12	13	B	B	B	B	B	38	B	B	B	B	25	20	B	B	B	8
31	8	10	19	13	12	10	10	E <sub>10</sub> C	B	30	B	28	25	25	30	30	23	22	16	11	11	B	8	8
CNT	30	30	30	31	31	30	30	29	30	30	30	30	31	31	30	31	31	31	31	31	31	30	30	31
MED	9	9	11	13	12	14	12	13	16	19	D <sub>23</sub> B	27	45	38	28	23	23	22	18	14	12	10	9	8
UQ	10	12	15	18	18	23	20	18	B	B	B	B	B	B	B	B	B	D <sub>25</sub> B	B	D <sub>22</sub> B	B	20	10	
LQ	8	8	10	10	10	9	10	10	10	11	14	15	17	18	18	17	16	14	12	11	9	8	8	8

AUG. 1975

F-MIN (0.1 MHz)



# IONOSPHERIC DATA

AUG. 1975

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	A	A	A	A	A	B	A	A	A	A	310	F	B	B	345	340	325	F	355	340	B	B	A	B	B	A		
2	A	A	A	R	R	R	R	R	B	B	325	F	355	F	355	370	F	370	F	335	310	330	A	A	A	A		
3	A	A	A	A	A	A	A	R	A	320	325	335	U	R	360	365	R	320	F	A	A	A	A	A	A			
4	F	A	A	A	A	A	A	A	A	320	F	340	350	330	350	355	340	U	F	R	R	F	A	R	A	A		
5	A	A	A	A	A	B	A	A	A	A	B	B	B	B	B	B	B	F	R	A	B	A	A	C	A			
6	A	A	A	A	B	B	A	A	A	A	B	B	345	B	B	B	B	B	B	B	B	B	B	F	A	A		
7	A	R	A	A	A	F	F	C	F	F	350	355	370	R	U	R	345	390	F	315	F	335	350	335	Y	A	A	
8	A	A	A	A	B	B	B	B	B	B	B	B	B	R	B	B	B	B	R	B	B	B	A	A	R	A		
9	A	A	A	A	A	A	A	A	A	A	A	A	F	B	B	B	B	335	F	F	B	R	A	A	A			
10	A	A	A	B	B	A	A	B	A	B	B	B	B	B	B	B	B	B	R	R	R	R	A	R	A			
11	C	A	A	A	A	C	C	C	C	C	C	C	C	B	B	F	350	325	F	B	B	B	B	R	A			
12	A	R	A	A	A	A	A	A	A	A	F	315	F	355	325	B	R	365	F	330	305	F	C	A	A	A	R	
13	A	A	F	A	A	F	U	F	A	F	325	B	F	R	310	C	B	345	355	F	F	A	A	A	F			
14	A	310	A	A	A	A	A	F	B	B	B	B	B	B	B	B	B	B	320	B	F	B	B	A	A			
15	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	F	R	B	B	R	A	C	A			
16	B	A	A	A	A	F	F	F	F	290	320	325	335	355	325	F	335	360	B	310	320	F	F	B	F	R		
17	F	C	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	315	R	F	320	F	B	B	B	A		
18	A	A	A	A	A	250	A	A	A	F	305	325	315	R	290	B	B	B	B	B	B	B	F	R	R			
19	310	F	A	A	A	A	F	305	F	295	330	330	330	345	335	U	R	370	F	365	390	F	315	345	355	C	A	
20	C	A	A	A	A	F	F	F	F	F	305	345	345	335	340	355	345	305	330	295	U	F	280	A	A	A	A	
21	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	F	A	A	A	A	
22	A	B	A	B	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	F	B	355	B	B	A		
23	A	A	C	A	A	B	B	B	F	290	320	335	350	325	B	325	F	R	B	B	A	F	R	C	A			
24	A	R	A	A	F	285	F	275	295	U	F	280	325	335	335	335	F	F	340	335	315	350	F	B	R	A	A	
25	A	A	A	B	B	A	A	A	B	R	B	B	B	F	340	345	345	360	360	315	F	F	B	B	B	A		
26	A	B	B	B	B	A	A	290	320	F	300	B	295	325	335	360	340	365	R	355	R	310	B	A	A	A		
27	A	A	A	A	B	B	B	B	R	300	F	335	310	315	315	330	350	355	305	F	365	F	A	B	B	A		
28	F	R	A	A	A	A	A	F	U	R	285	330	335	340	340	345	350	355	F	U	F	335	355	F	B	B	F	A
29	B	A	A	A	B	A	B	F	B	B	B	B	B	B	B	B	R	R	B	F	320	A	A	A	A	A		
30	A	A	A	A	A	A	A	R	B	B	B	B	B	B	285	B	B	B	B	B	305	F	B	B	B	A		
31	A	A	A	A	A	A	A	R	B	310	B	335	315	325	U	F	F	350	F	F	F	F	F	B	F	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	1			1	3	4	3	8	15	14	15	14	16	16	13	18	13	10	4	4	1						
MED	310	310			295	285	278	295	292	320	335	335	338	340	348	350	335	315	340	320	340	355						
UQ					285	288	300	305	328	340	342	345	348	365	355	355	335	335	355	335	350							
LQ					268	275	292	288	318	325	332	325	325	332	340	330	310	320	318	322								

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AUG. 1975

M(3000)F2 (0.01)

# IONOSPHERIC DATA

AUG. 1975

H<sup>1</sup>F<sub>2</sub> (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69° 00.4' S.		Long. 39° 35.4' E		Sweep 0.5 MHz to 15 MHz in 30 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																												
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												
16																												
17																												
18																												
19																												
20												235	L	230														
21														260	240													
22																												
23													L			L												
24													L															
25																												
26												L	L															
27												L	L															
28												L	225															
29																												
30																												
31													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												1		3	1													
MED												235		230	240													
UQ														245														
LQ														228														

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H<sup>1</sup>F<sub>2</sub> (KM)

### IONOSPHERIC DATA

AUG. 1975

H'F (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	A	A	A	B	A	B	A	A	A	A	300	B	B	230	230	210	225	225		B	B	B	B	A	
2	A	A	A	U A 480	A	A	R	R	B	B	270	210	225	230	215	215	230	240	250		A	A	A	A	
3	A	A	A	A	A	A	A	R	A	A	310	270	260	220	220	220	200	220	230		A	A	A	A	
4	A	A	A	A	B	A	A	A	A	A	300	245	225	230	210	215	215	210	200	200		C	A	B	A
5	A	A	A	A	A	B	C	B	B	B	B	B	B	B	B	B	245	R	A	B	A	A	C	A	
6	A	C	A	A	B	B	B	A	A	B	B	B	225	B	B	B	B	R	R	B	B	B	A	A	
7	A	A	A	A	A	A	350	C	C	C	225	205	205	205	205	200	200	260	230	220	230	E B 245	Y	A	
8	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	R	B	B		A	A	A	
9	A	A	A	A	A	A	A	A	A	A	A	A	250	B	B	B	B	B	A	A	B	A	A	A	
10	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	R	R	A	R	A	A	R	
11	C	A	A	A	A	C	C	C	C	C	C	C	R	B	240	220	225	240		B	B	B	B	A	
12	A	R	A	A	B	A	A	A	A	A	275	240	225	B	225	220	240	240	305	270		C	A	C	
13	A	A	A	A	A	C	370	B	U F 315	260	B	240	B	265	C	B	E R 280	250	R	B	C	A	C	A	
14	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	E R 280	R	C	B	B	A	A	
15	A	A	A	A	A	A	B	A	A	A	B	B	B	B	B	B	B	B	B	B	B	R	A	C	
16	B	C	B	A	A	R	R	350	F	280	250	245	220	235	250	245	210	B	275	R	270	275	270	F	
17	A	C	A	A	A	B	B	B	B	B	B	B	B	B	B	B	250	R	B	E B 250	310	B	B	B	
18	A	A	A	A	A	A	A	A	A	300	250	275	B	300	B	B	B	B	R	B	B	B	E C 260	A	
19	280	A	A	B	B	A	350	305	250	225	235	225	H	245	230	200	220	200	200	200	250	E C 230	E B 245	C	
20	C	C	A	C	U F 360	F	U F 360	260	230	225	230	215	225	225	230	200	265	H	340	A	A	A	A	A	
21	A	A	A	A	A	A	A	A	B	B	B	B	B	240	230	230	240	B	275	225	275	F	A	A	
22	A	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	P	230	B	E C 220	B	B	A	
23	A	A	C	B	A	B	B	B	E A 350	250	250	230	245	B	245	250	B	R	B	A	A	R	C	A	
24	A	295	A	A	A	325	325	300	270	220	U H 215	225	225	230	210	240	220	260	R	230	205	B	300	A	
25	A	A	B	B	B	A	A	A	B	B	B	B	240	230	225	B	210	210	225	H	210	250	B	B	
26	A	B	B	B	B	A	A	325	290	290	B	240	220	U H 200	210	240	215	200	220	B	A	B	A	A	
27	A	A	A	A	B	B	B	B	R	255	240	200	210	230	240	230	220	220	200	A	A	B	B	A	
28	A	A	A	A	A	A	A	A	300	U H 225	220	225	225	215	215	240	215	210	210	225	B	B	B	A	
29	B	A	A	A	B	B	B	A	B	B	B	B	B	B	B	B	B	B	310	R	300	300	A	A	
30	A	A	B	B	A	A	A	A	B	B	B	B	B	B	B	B	B	B	R	270	250	B	B	A	
31	A	A	B	A	A	A	A	A	B	250	B	230	225	230	200	230	215	220	205	245	250	B	U F 370	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	2		1	1	3	4	5	9	15	14	17	15	17	18	18	20	19	18	11	5	3	1	1	
MED	280	298		U A 480	U F 360	360	350	325	285	250	242	225	225	230	220	225	221	230	228	250	E 245	E 260	U F 370	260	
UQ					418	360	350	F	300	268	270	230	238	230	230	240	241	258	270	268	250	280			
LQ					342	338	305		270	228	225	225	220	220	210	210	215	220	210	238	E C 230	E E 252			

The Radio Research Laboratories, Japan

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H'F (KM)

# IONOSPHERIC DATA

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H'ES (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69° 00.4' S.		Long. 39° 35.4' E		Sweep 0.5 MHz to 15 MHz in 30 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 <sup>K</sup>	160 <sup>K</sup>	100	100	100	115	105	90	120	100	105	B	B	B	B	B	C	110	B	B	100	B	B	140 <sup>K</sup>			
2	150 <sup>K</sup>	110 <sup>K</sup>	110 <sup>K</sup>	135 <sup>K</sup>	95	95	130 <sup>K</sup>	100	B	B	B	95	G	105	100	100	105	100 <sup>K</sup>	C	100	95	95	125 <sup>K</sup>	145 <sup>K</sup>			
3	130 <sup>K</sup>	120 <sup>K</sup>	120 <sup>K</sup>	100	100	100	100 <sup>K</sup>	115 <sup>K</sup>	120	G	110	110	115	105	G	130	125	B	90	100	105	160	145	110			
4	105	105	105	105	100	90	95	100	140	125	95	140	100	C	B	100	B	130	100	C	100	B	130	100			
5	110	105	100 <sup>K</sup>	100	100	B	110	100	100	B	B	B	B	B	B	B	B	130	110 <sup>K</sup>	B	105 <sup>K</sup>	100	105	100			
6	100	100	100	100	B	100	100	145 <sup>K</sup>	100	B	B	B	B	B	B	B	B	B	B	B	B	150 <sup>K</sup>	150 <sup>K</sup>	120			
7	140 <sup>K</sup>	150 <sup>K</sup>	105	105 <sup>K</sup>	100 <sup>K</sup>	95	125 <sup>K</sup>	C	C	G	130	120	130	130	125	100	110	95	B	B	B	Y	105	110			
8	110 <sup>K</sup>	150	110 <sup>K</sup>	115	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	160 <sup>K</sup>	110	130 <sup>K</sup>	105			
9	130 <sup>K</sup>	100 <sup>K</sup>	100 <sup>K</sup>	140 <sup>K</sup>	105	130	100	125 <sup>K</sup>	130 <sup>K</sup>	100	100	110	B	B	B	B	B	125	110	B	130 <sup>K</sup>	100	100	130 <sup>K</sup>			
10	100	130 <sup>K</sup>	120 <sup>K</sup>	B	B	100	100	B	105	B	B	B	B	B	B	B	B	B	150 <sup>K</sup>	110 <sup>K</sup>	140 <sup>K</sup>	105	B	120 <sup>K</sup>			
11	C	100 <sup>K</sup>	100 <sup>K</sup>	100 <sup>K</sup>	105 <sup>K</sup>	C	C	C	C	C	C	C	C	B	B	B	B	B	B	B	B	B	130 <sup>K</sup>	105 <sup>K</sup>			
12	125	120 <sup>K</sup>	110 <sup>K</sup>	110	110	110	100	90	100	100	115	120	B	B	B	125	100	115	120	115	110	110	115	150 <sup>K</sup>			
13	130	100 <sup>K</sup>	160	105	110	130	100 <sup>K</sup>	110	150	130	B	B	B	B	C	B	B	B	B	105	105	150	125	105			
14	120 <sup>K</sup>	120	105	100	100	125	100 <sup>K</sup>	100	B	B	B	B	B	B	B	B	B	B	B	C	115	B	130 <sup>K</sup>	110			
15	100	105	110	110	100	100	100	90	100	B	B	B	B	B	B	B	B	B	B	B	135 <sup>K</sup>	115	100	100			
16	B	110	110	110	100	90	100 <sup>K</sup>	115 <sup>K</sup>	G	G	110	115	B	120 <sup>K</sup>	120	B	B	B	120	105	95 <sup>K</sup>	B	175 <sup>K</sup>	105 <sup>K</sup>			
17	100 <sup>K</sup>	C	100 <sup>K</sup>	130 <sup>K</sup>	100 <sup>K</sup>	100	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	155 <sup>K</sup>			
18	105	120	150 <sup>K</sup>	110 <sup>K</sup>	175 <sup>K</sup>	100 <sup>K</sup>	115 <sup>K</sup>	100 <sup>K</sup>	130 <sup>K</sup>	G	130 <sup>K</sup>	B	B	B	B	B	B	B	B	B	B	C	190 <sup>K</sup>	145 <sup>K</sup>			
19	140 <sup>K</sup>	100 <sup>K</sup>	105 <sup>K</sup>	110	115	120	100 <sup>K</sup>	100	105	G	G	G	G	G	G	120	105	100	100	95	C	95	115	105			
20	C	110	100	100	100 <sup>K</sup>	95 <sup>K</sup>	95	95	G	150	G	B	G	G	B	B	B	C	100 <sup>K</sup>	115	115	105	110	100			
21	115 <sup>K</sup>	105 <sup>K</sup>	100	125	100	100	100	110	B	B	B	B	B	B	B	B	B	110 <sup>K</sup>	130 <sup>K</sup>	B	155 <sup>K</sup>	100	100 <sup>K</sup>	110 <sup>K</sup>			
22	120 <sup>K</sup>	100	100	125	170 <sup>K</sup>	170 <sup>K</sup>	B	100	B	B	B	B	B	B	B	B	B	B	B	B	C	B	B	135 <sup>K</sup>			
23	115	110	C	100	100	B	B	100	120	B	B	G	130	B	B	B	B	B	B	120	105	180 <sup>K</sup>	C	150 <sup>K</sup>			
24	100	125 <sup>K</sup>	110	120	115	110	G	G	100	B	B	G	150	150	100	120	B	B	B	100 <sup>K</sup>	B	95 <sup>K</sup>	110	130 <sup>K</sup>			
25	110 <sup>K</sup>	115	110	B	100	100	100	100	B	110	B	B	B	B	B	G	B	100	B	130 <sup>K</sup>	B	B	B	145			
26	105	105	110	140	B	100	110	125	115	G	B	110	110	G	G	G	G	120	110	B	120	B	125	125 <sup>K</sup>			
27	110 <sup>K</sup>	100 <sup>K</sup>	110 <sup>K</sup>	100	B	B	B	B	110 <sup>K</sup>	115 <sup>K</sup>	G	G	110	115	G	G	G	B	100	100	100	B	B	100			
28	100	100 <sup>K</sup>	105	105	115	100	105	115	100	G	135	G	G	130	G	G	105	B	B	B	B	B	140	105 <sup>K</sup>			
29	130	100	115 <sup>K</sup>	105	B	100	100	150 <sup>K</sup>	B	105	B	B	B	B	B	B	B	B	115	110 <sup>K</sup>	110	105	105	105 <sup>K</sup>			
30	110 <sup>K</sup>	110	100	100	100	115 <sup>K</sup>	105	105 <sup>K</sup>	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	100 <sup>K</sup>			
31	105 <sup>K</sup>	115 <sup>K</sup>	100	110	100	100	105	100	B	B	B	B	B	B	B	B	B	B	B	100 <sup>K</sup>	B	B	115 <sup>K</sup>	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	28	30	30	29	25	26	24	24	17	9	9	8	7	7	4	7	6	11	13	14	19	16	23	31			
MED	110 <sup>K</sup>	110	105	105	100	100	100	100	110	110	110	112	115	120	110	120	105	110	110	105	110	105	125	110 <sup>K</sup>			
UQ	128 <sup>K</sup>	120 <sup>K</sup>	110 <sup>K</sup>	115	110	115	105	115	120	125	130	120	130	130	122	122	110	122	120	115	125	132	130 <sup>K</sup>	132 <sup>K</sup>			
LQ	105	100	100	100	100	100	100	100	100	100	105	110	110	110	100	100	105	100	100	100	102	100	108	105			

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H'ES (KM)

### IONOSPHERIC DATA

AUG. 1975

TYPES OF ES

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00' 4" S, Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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	K <sub>3</sub>	HK <sub>12</sub>	R <sub>3</sub>	R <sub>1</sub>	RF <sub>31</sub>	R <sub>1</sub>	RF <sub>31</sub>	FS <sub>11</sub>	RL <sub>11</sub>	R <sub>1</sub>	R <sub>1</sub>							F <sub>1</sub>			F <sub>1</sub>			HK <sub>11</sub>							
2	HK <sub>11</sub>	CK <sub>21</sub>	CK <sub>21</sub>	HK <sub>11</sub>	F <sub>4</sub>	F <sub>2</sub>	HK <sub>11</sub>	F <sub>2</sub>				L <sub>1</sub>		L <sub>1</sub>	L <sub>1</sub>	C <sub>1</sub>	C <sub>1</sub>	CK <sub>11</sub>	K <sub>1</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>1</sub>	RK <sub>13</sub>	RK <sub>11</sub>							
3	HK <sub>11</sub>	RK <sub>14</sub>	BK <sub>21</sub>	R <sub>4</sub>	R <sub>4</sub>	RF <sub>41</sub>	CK <sub>34</sub>	R <sub>3</sub>	R <sub>1</sub>		R <sub>1</sub>	RL <sub>11</sub>	C <sub>1</sub>	C <sub>1</sub>	H <sub>1</sub>	R <sub>1</sub>		F <sub>1</sub>	R <sub>1</sub>	F <sub>1</sub>	R <sub>1</sub>	RF <sub>11</sub>	R <sub>1</sub>								
4	R <sub>2</sub>	R <sub>3</sub>	R <sub>2</sub>	RF <sub>41</sub>	R <sub>1</sub>	F <sub>1</sub>	R <sub>1</sub>	R <sub>2</sub>	R <sub>1</sub>	HL <sub>11</sub>	L <sub>1</sub>	H <sub>1</sub>	C <sub>1</sub>		L <sub>1</sub>			FF <sub>11</sub>	F <sub>1</sub>		R <sub>1</sub>	R <sub>1</sub>	RS <sub>41</sub>								
5	RA <sub>11</sub>	RA <sub>11</sub>	KL <sub>51</sub>	R <sub>5</sub>	FA <sub>21</sub>		RF <sub>11</sub>	R <sub>1</sub>	R <sub>1</sub>									R <sub>1</sub>	K <sub>1</sub>		RK <sub>21</sub>	R <sub>4</sub>	R <sub>2</sub>	R <sub>2</sub>							
6	RA <sub>11</sub>	R <sub>4</sub>	R <sub>2</sub>	R <sub>5</sub>		R <sub>1</sub>	R <sub>1</sub>	HK <sub>11</sub>	R <sub>1</sub>													HK <sub>11</sub>	RK <sub>11</sub>	RA <sub>11</sub>							
7	HK <sub>11</sub>	HK <sub>11</sub>	R <sub>1</sub>	RK <sub>11</sub>	LK <sub>21</sub>	LK <sub>11</sub>	HK <sub>11</sub>				H <sub>1</sub>	C <sub>1</sub>	H <sub>1</sub>	H <sub>1</sub>	C <sub>1</sub>	L <sub>1</sub>	R <sub>1</sub>	L <sub>1</sub>				R <sub>4</sub>	R <sub>5</sub>								
8	RK <sub>11</sub>	RB <sub>2</sub>	CK <sub>11</sub>	R <sub>1</sub>																	HKA <sub>11</sub>	R <sub>3</sub>	HK <sub>12</sub>	RS <sub>11</sub>							
9	K <sub>7</sub>	KA <sub>21</sub>	K <sub>2</sub>	RK <sub>12</sub>	R <sub>1</sub>	HK <sub>12</sub>	R <sub>1</sub>	RK <sub>11</sub>	HRK <sub>11</sub>	R <sub>2</sub>	R <sub>1</sub>	C <sub>1</sub>						R <sub>1</sub>	R <sub>3</sub>		K <sub>3</sub>	RS <sub>21</sub>	RA <sub>21</sub>	RK <sub>11</sub>							
10	RF <sub>21</sub>	HKA <sub>11</sub>	BK <sub>32</sub>			R <sub>1</sub>	R <sub>2</sub>		R <sub>1</sub>											HK <sub>11</sub>	K <sub>1</sub>	HKA <sub>11</sub>	R <sub>4</sub>	K <sub>1</sub>	CK <sub>22</sub>						
11		LK <sub>13</sub>	K <sub>4</sub>	K <sub>5</sub>	KA <sub>11</sub>																			CK <sub>11</sub>	K <sub>6</sub>						
12	R <sub>2</sub>	K <sub>1</sub>	K <sub>2</sub>	R <sub>3</sub>	R <sub>2</sub>	R <sub>3</sub>	R <sub>3</sub>	R <sub>1</sub>	R <sub>1</sub>	R <sub>1</sub>	R <sub>1</sub>	C <sub>1</sub>				CC <sub>11</sub>	C <sub>1</sub>	C <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>	F <sub>2</sub>	F <sub>1</sub>	RK <sub>11</sub>							
13	R <sub>2</sub>	K <sub>1</sub>	RR <sub>11</sub>	R <sub>2</sub>	RA <sub>11</sub>	R <sub>1</sub>	LK <sub>21</sub>	C <sub>1</sub>	HC <sub>11</sub>	H <sub>1</sub>										RA <sub>11</sub>	RA <sub>11</sub>	FF <sub>11</sub>	FF <sub>14</sub>	FA <sub>11</sub>							
14	CK <sub>11</sub>	AF <sub>11</sub>	BA <sub>31</sub>	R <sub>2</sub>	RA <sub>21</sub>	RA <sub>11</sub>	CK <sub>11</sub>	R <sub>1</sub>														F <sub>1</sub>	RK <sub>21</sub>	RS <sub>61</sub>							
15	RS <sub>31</sub>	RS <sub>31</sub>	R <sub>3</sub>	RA <sub>31</sub>	R <sub>1</sub>	R <sub>2</sub>	R <sub>1</sub>	R <sub>1</sub>	R <sub>1</sub>													K <sub>1</sub>	R <sub>1</sub>	F <sub>2</sub>	RAS <sub>11</sub>						
16		R <sub>2</sub>	R <sub>2</sub>	R <sub>3</sub>	R <sub>4</sub>	LK <sub>12</sub>	K <sub>2</sub>	KL <sub>11</sub>			H <sub>1</sub>	C <sub>1</sub>		K <sub>1</sub>	L <sub>1</sub>					R <sub>1</sub>	R <sub>1</sub>	LKR <sub>11</sub>	HK <sub>11</sub>	KA <sub>11</sub>							
17	RK <sub>11</sub>		AHK <sub>11</sub>	HKA <sub>11</sub>	BHK <sub>21</sub>	R <sub>1</sub>																			RK <sub>11</sub>						
18	R <sub>2</sub>	R <sub>2</sub>	HK <sub>13</sub>	KS <sub>21</sub>	RK <sub>11</sub>	LRK <sub>11</sub>	RK <sub>21</sub>	K <sub>1</sub>	HK <sub>11</sub>		HK <sub>11</sub>												HKA <sub>11</sub>	HKA <sub>11</sub>							
19	HK <sub>11</sub>	LKA <sub>11</sub>	RK <sub>14</sub>	R <sub>2</sub>	R <sub>2</sub>	R <sub>2</sub>	LK <sub>11</sub>	C <sub>1</sub>	C <sub>1</sub>						C <sub>1</sub>	L <sub>1</sub>	L <sub>1</sub>	R <sub>1</sub>	F <sub>1</sub>			F <sub>2</sub>	R <sub>2</sub>	R <sub>6</sub>							
20		F <sub>2</sub>	F <sub>6</sub>	F <sub>4</sub>	LK <sub>11</sub>	CK <sub>11</sub>	LR <sub>11</sub>	L <sub>1</sub>		H <sub>1</sub>											RK <sub>21</sub>	R <sub>1</sub>	R <sub>1</sub>	RF <sub>41</sub>	RS <sub>31</sub>						
21	RAK <sub>11</sub>	RK <sub>31</sub>	R <sub>1</sub>	RS <sub>11</sub>	RR <sub>11</sub>	RF <sub>31</sub>	R <sub>2</sub>	R <sub>2</sub>													KA <sub>21</sub>	RK <sub>11</sub>	K <sub>1</sub>	K <sub>1</sub>	R <sub>4</sub>	KS <sub>51</sub>	RK <sub>11</sub>				
22	RK <sub>23</sub>	R <sub>1</sub>	R <sub>1</sub>	R <sub>1</sub>	RKA <sub>11</sub>	K <sub>1</sub>		R <sub>1</sub>																		RK <sub>11</sub>					
23	R <sub>3</sub>	R <sub>5</sub>		R <sub>1</sub>	R <sub>3</sub>			F <sub>1</sub>	R <sub>1</sub>					H <sub>1</sub>								R <sub>1</sub>	R <sub>1</sub>	K <sub>1</sub>	HK <sub>11</sub>						
24	R <sub>3</sub>	HK <sub>21</sub>	R <sub>2</sub>	R <sub>1</sub>	R <sub>2</sub>	CK <sub>11</sub>			L <sub>1</sub>				R <sub>1</sub>	H <sub>1</sub>	L <sub>1</sub>	R <sub>1</sub>					LKR <sub>11</sub>	LK <sub>11</sub>	RA <sub>11</sub>	KA <sub>11</sub>							
25	KS <sub>51</sub>	R <sub>3</sub>	R <sub>1</sub>		R <sub>1</sub>	R <sub>2</sub>	R <sub>1</sub>	L <sub>1</sub>		R <sub>1</sub>												L <sub>1</sub>	CK <sub>11</sub>		RA <sub>11</sub>						
26	RS <sub>11</sub>	R <sub>1</sub>	R <sub>1</sub>	R <sub>1</sub>		R <sub>1</sub>	R <sub>2</sub>	C <sub>1</sub>	C <sub>1</sub>			C <sub>1</sub>	C <sub>1</sub>									C <sub>1</sub>	F <sub>1</sub>		R <sub>1</sub>	RA <sub>11</sub>	CK <sub>11</sub>				
27	K <sub>1</sub>	K <sub>3</sub>	K <sub>5</sub>	R <sub>2</sub>						K <sub>1</sub>	K <sub>1</sub>		L <sub>1</sub>	L <sub>1</sub>								L <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>			F <sub>1</sub>				
28	F <sub>1</sub>	LK <sub>11</sub>	RF <sub>11</sub>	R <sub>1</sub>	R <sub>2</sub>	R <sub>2</sub>	R <sub>3</sub>	R <sub>3</sub>	L <sub>1</sub>		H <sub>1</sub>															RA <sub>11</sub>	BS <sub>11</sub>				
29	R <sub>3</sub>	R <sub>2</sub>	FK <sub>11</sub>	R <sub>1</sub>		R <sub>1</sub>	R <sub>1</sub>	RKA <sub>11</sub>		R <sub>1</sub>												R <sub>1</sub>	RK <sub>21</sub>	R <sub>2</sub>	RS <sub>41</sub>	RS <sub>41</sub>	KS <sub>51</sub>				
30	K <sub>6</sub>	RA <sub>11</sub>	RA <sub>11</sub>	R <sub>1</sub>	R <sub>1</sub>	CK <sub>11</sub>	R <sub>1</sub>	LK <sub>11</sub>																			LKA <sub>11</sub>				
31	KS <sub>41</sub>	K <sub>2</sub>	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	R <sub>3</sub>	R <sub>3</sub>	R <sub>3</sub>																			LK <sub>11</sub>	K <sub>1</sub>		RA <sub>11</sub>	RS <sub>11</sub>
	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																															

AUG. 1975

TYPES OF ES

## IONOSPHERIC DATA

SEP. 1975 FXI (0.1 MHz)

° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00' 4" S Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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	A	A	28	28	29	33	30	S 52	57	OR 48	B	OR 66	70	66	B	70	OR 58	56	60	55	35	33	R	A	
2	A	A	A	A	A	B	A	46	47	51	50	X 52	X 54	X 58	X 56	X 53	X 56	X 49	43	37	X 32	29	A	A	
3	A	A	A	A	A	A	OR 31	S 38	X 40	X 48	X 49	X 54	X 55	X 56	X 57	X 55	X 54	X 40	41	31	28	29	23	OR 23	
4	R	64	56	30	A	A	OR 34	40	46	55	60	63	74	70	62	64	X 58	6P	54	36	OR 28	B	B	B	
5	B	30	R	R	27	40	42	X 39	49	X 55	X 62	X 72	73	75	X 72	X 61	X 56	X 55	X 46	X 37	29	OR 21	28	A	
6	26	A	A	A	A	A	A	A	S 54	58	60	B	67	75	70	66	U S 76	X 87	75	R	A	A	A	A	
7	A	A	A	A	40	A	A	R	OR 39	X 45	X 50	X 52	B	B	X 66	R	OR 58	OR 50	OR 47	X 38	OR 26	R	B	OR 19	
8	A	30	A	A	A	A	A	37	49	51	53	X 55	X 59	64	65	70	U S 73	58	75	50	B	B	R	A	
9	A	A	A	A	A	B	A	A	A	OR 43	OR 46	B	B	B	B	B	B	54	B	B	R	A	A	B	
10	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	R	A	A	A
11	A	A	A	A	B	B	B	B	B	B	B	B	OR 49	B	B	B	B	B	B	B	A	B	A	A	A
12	B	B	B	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	41	B	A	B	R	R	
13	A	A	A	A	A	B	B	B	B	OR 42	B	B	B	B	B	B	B	OR 46	OR 45	B	B	B	B	B	
14	A	A	60	B	B	B	B	B	B	B	OR 46	X 48	B	B	B	X 56	70	62	62	OR 44	29	28	A	30	
15	A	38	41	45	U S 55	40	OR 41	56	R	65	62	B	R	B	B	B	OR 50	OR 52	66	53	OR 38	24	20	A	
16	A	A	A	A	A	B	A	X 39	X 43	OR 44	OR 50	X 53	X 56	X 59	62	67	66	65	51	44	45	33	OR 30	OR 26	
17	OR 21	A	A	A	A	A	U S 44	X 48	62	B	B	66	75	67	63	65	X 58	X 60	57	X 58	S 47	A	A	A	
18	A	A	A	A	A	A	A	A	X 41	41	X 44	X 49	X 52	X 52	54	56	57	56	53	R	52	A	A	A	
19	A	A	A	A	A	A	A	OR 35	X 36	X 38	B	R	B	B	OR 50	B	X 52	X 53	B	B	B	OR 33	B	B	
20	A	R 36	X 30	R	OR 31	A	A	36	OR 42	49	50	57	57	60	X 65	60	61	58	51	46	39	R	B	A	
21	A	A	A	A	A	B	B	OR 54	47	51	49	52	X 56	X 62	X 64	X 58	X 56	X 52	X 44	X 40	34	31	C	29	
22	A	A	OR 23	23	28	32	39	40	X 45	C 48	X 51	50	51	57	53	54	X 55	52	48	47	39	38	32	OR 26	
23	A	A	46	30	B	A	A	40	45	48	X 53	X 59	62	61	61	B	58	58	70	66	40	40	X 32	X 30	
24	25	A	65	X 38	35	35	R	44	46	50	57	X 56	X 60	X 67	X 69	66	X 63	X 58	X 54	X 50	45	U S 48	31	28	
25	U C 86	63	A	31	39	43	OR 32	B	OR 47	B	OR 54	X 62	X 68	X 71	X 68	X 65	X 64	X 60	X 58	X 56	X 47	X 32	28	OR 26	
26	17	R	A	A	A	S	X 46	A	OR 56	S 60	68	69	76	73	71	68	77	X 76	68	R	A	A	A	A	
27	A	A	A	A	A	A	B	A	A	A	OR 44	B	B	B	OR 50	X 52	X 49	B	OR 46	A	R	A	A	A	
28	53	A	A	A	A	A	A	R	45	OR 46	X 50	X 53	X 55	B	B	B	B	R	OR 49	56	30	44	34	32	
29	29	25	42	66	A	44	X 46	47	50	53	53	B	OR 42	X 58	60	62	61	59	OR 55	OR 51	45	X 34	28	56	
30	A	A	R	R	U S 37	X 40	X 42	X 47	57	60	60	63	69	65	67	64	63	X 63	54	52	46	U S 44	U S 42	40	
31																									
	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	7	7	9	8	9	8	11	17	21	23	23	20	21	20	21	20	24	24	26	21	20	16	11	12	
MED	26	36	42	30	35	40	41	40	47	49	51	X 56	59	63	63	63	X 58	5P	54	47	38	33	30	28	
UQ	41	50	56	42	39	42	43	47	50	54	58	63	69	68	X 67	66	64	61	60	53	45	39	32	31	
LQ	23	30	30	29	29	34	OR 33	39	43	45	49	X 52	X 54	X 58	57	X 56	X 56	52	46	40	30	29	28	OR 26	

The Radio Research Laboratories, Japan

SEP. 1975 FXI (0.1 MHz)

# IONOSPHERIC DATA

SEP. 1975

F0F2 (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	A	A	F <sub>20</sub>	F <sub>20</sub>	F <sub>18</sub>	U <sub>17</sub>	U <sub>20</sub>	F	F	U <sub>40</sub>	B	U <sub>55</sub>	F	F	B	F	52	U <sub>50</sub>	U <sub>46</sub>	U <sub>41</sub>	J <sub>29</sub>	F	R	A	
2	B	A	A	A	A	B	A	F	F	F <sub>41</sub>	F <sub>43</sub>	F <sub>43</sub>	46	48	52	50	47	50	F <sub>43</sub>	F <sub>37</sub>	F <sub>30</sub>	J <sub>26</sub>	F	A	A
3	C	A	A	A	A	A	25	31	J <sub>34</sub>	42	43	48	49	50	51	48	48	43	34	F <sub>23</sub>	F <sub>20</sub>	F <sub>20</sub>	F	U <sub>13</sub>	
4	R	R	R	U <sub>20</sub>	A	A	F	F <sub>33</sub>	J <sub>39</sub>	F <sub>45</sub>	J <sub>53</sub>	J <sub>56</sub>	U <sub>56</sub>	F	F	U <sub>55</sub>	52	50	F <sub>37</sub>	F <sub>30</sub>	F <sub>20</sub>	B	B	B	
5	B	U <sub>23</sub>	R	A	F <sub>20</sub>	F <sub>32</sub>	F	J <sub>33</sub>	F	49	55	66	68	U <sub>65</sub>	65	55	50	48	40	F <sub>30</sub>	F <sub>22</sub>	F <sub>13</sub>	F <sub>12</sub>	A	
6	A	A	B	B	A	A	A	A	F	F	F	B	F <sub>60</sub>	F <sub>68</sub>	F	F <sub>58</sub>	F	J <sub>81</sub>	F	A	A	A	A	A	
7	A	A	A	A	F	A	A	A	33	39	F <sub>44</sub>	46	B	B	F <sub>60</sub>	R	52	44	41	F <sub>32</sub>	F <sub>17</sub>	A	B	U <sub>13</sub>	
8	A	F <sub>23</sub>	A	A	A	A	A	F	42	45	U <sub>46</sub>	48	F <sub>52</sub>	U <sub>55</sub>	57	60	U <sub>65</sub>	U <sub>51</sub>	U <sub>45</sub>	J <sub>35</sub>	B	B	A	A	
9	A	A	A	A	A	B	A	A	U <sub>37</sub>	40	B	B	B	B	B	B	B	F	B	B	R	A	A	B	
10	A	A	B	B	B	B	B	B	B	B	B	B	R	B	B	B	B	R	B	A	R	A	A	A	
11	A	A	A	A	B	B	B	B	B	B	B	B	43	B	B	B	B	R	B	A	B	A	A	A	
12	B	B	B	A	A	A	B	B	B	B	B	B	B	B	B	B	B	R	F	B	B	B	R	A	
13	A	A	A	A	A	B	B	B	B	36	B	B	B	B	B	B	B	R	40	39					
14	B	A	F	B	B	B	B	B	B	B	39	42	B	B	B	B	50	60	U <sub>66</sub>	U <sub>53</sub>	F <sub>36</sub>	J <sub>22</sub>	F <sub>17</sub>	A	F
15	A	F	F	F	F	F	F	F	R	F	U <sub>54</sub>	B	B	B	B	B	U <sub>44</sub>	44	J <sub>49</sub>	U <sub>34</sub>	F <sub>27</sub>	R	F	A	
16	A	A	A	A	A	B	A	33	38	38	44	47	49	52	56	F	U <sub>57</sub>	J <sub>55</sub>	F	F	U <sub>28</sub>	F <sub>27</sub>	F <sub>20</sub>	U <sub>18</sub>	
17	U <sub>13</sub>	A	A	A	A	A	F	U <sub>37</sub>	J <sub>42</sub>	B	B	U <sub>55</sub>	F <sub>64</sub>	60	J <sub>57</sub>	57	J <sub>52</sub>	53	U <sub>45</sub>	J <sub>52</sub>	F	A	A	A	
18	A	A	A	B	B	A	A	A	35	35	38	42	46	46	47	48	48	48	43	R	J <sub>26</sub>	A	A	A	
19	A	A	A	B	A	A	A	F <sub>28</sub>	30	32	B	R	B	B	F <sub>42</sub>	B	46	47	B	B	B	25	B	B	
20	A	F	23	A	25	A	A	F <sub>30</sub>	U <sub>36</sub>	F <sub>41</sub>	F <sub>44</sub>	U <sub>47</sub>	J <sub>51</sub>	53	58	U <sub>51</sub>	55	F <sub>50</sub>	F <sub>44</sub>	39	J <sub>31</sub>	A	B	A	
21	A	A	A	A	A	B	B	F <sub>36</sub>	U <sub>38</sub>	F <sub>43</sub>	U <sub>42</sub>	45	50	56	58	52	49	46	38	34	F <sub>27</sub>	J <sub>24</sub>	I <sub>22</sub>	U <sub>23</sub>	
22	A	A	17	16	F <sub>15</sub>	F <sub>24</sub>	F <sub>24</sub>	J <sub>34</sub>	F <sub>39</sub>	U <sub>42</sub>	J <sub>45</sub>	43	44	50	47	48	48	46	42	41	J <sub>30</sub>	J <sub>27</sub>	F <sub>25</sub>	F <sub>17</sub>	
23	A	A	A	F	B	A	A	F <sub>33</sub>	F <sub>38</sub>	41	46	52	53	53	54	B	52	52	U <sub>48</sub>	U <sub>39</sub>	J <sub>29</sub>	J <sub>34</sub>	J <sub>26</sub>	J <sub>24</sub>	
24	F <sub>19</sub>	A	F <sub>22</sub>	R	J <sub>28</sub>	J <sub>29</sub>	R	F <sub>38</sub>	40	44	51	50	54	60	63	J <sub>60</sub>	56	52	48	44	J <sub>37</sub>	U <sub>29</sub>	F <sub>20</sub>	U <sub>17</sub>	
25	U <sub>11</sub>	A	A	F	J <sub>32</sub>	F <sub>33</sub>	26	B	41	B	48	56	62	65	62	59	58	53	52	45	F <sub>41</sub>	F <sub>26</sub>	U <sub>20</sub>	F <sub>18</sub>	
26	F	R	A	A	A	S	40	A	U <sub>49</sub>	F	J <sub>54</sub>	J <sub>60</sub>	U <sub>61</sub>	J <sub>65</sub>	U <sub>59</sub>	J <sub>59</sub>	U <sub>69</sub>	U <sub>69</sub>	F	R	A	A	A	A	
27	A	A	A	A	A	A	B	A	A	A	38	B	B	B	44	46	43	R	U <sub>37</sub>	A	A	A	A	A	
28	A	A	A	A	A	A	A	A	F <sub>39</sub>	U <sub>40</sub>	44	46	48	B	B	B	R	42	U <sub>42</sub>	F	F	F	F	F <sub>25</sub>	
29	F <sub>22</sub>	F	F	A	A	F <sub>38</sub>	J <sub>40</sub>	J <sub>40</sub>	J <sub>41</sub>	U <sub>44</sub>	U <sub>47</sub>	B	U <sub>55</sub>	F	U <sub>54</sub>	U <sub>56</sub>	U <sub>53</sub>	52	F <sub>47</sub>	45	F	J <sub>26</sub>	U <sub>20</sub>	F	
30	A	A	A	A	F	R <sub>34</sub>	J <sub>36</sub>	J <sub>41</sub>	J <sub>47</sub>	J <sub>51</sub>	J <sub>54</sub>	U <sub>56</sub>	J <sub>62</sub>	56	J <sub>60</sub>	J <sub>57</sub>	J <sub>56</sub>	56	46	J <sub>46</sub>	J <sub>37</sub>	J <sub>34</sub>	U <sub>28</sub>	J <sub>29</sub>	
31																									
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	2	4	3	6	7	8	13	18	20	22	20	20	17	19	18	23	23	22	20	17	12	9	10	
MED	F <sub>16</sub>	F <sub>23</sub>	21	F <sub>20</sub>	F <sub>22</sub>	F <sub>32</sub>	31	F <sub>33</sub>	F <sub>39</sub>	42	44	48	52	55	57	55	52	50	44	F <sub>39</sub>	J <sub>27</sub>	F <sub>26</sub>	F <sub>20</sub>	F <sub>18</sub>	
UQ	F <sub>20</sub>		22	F <sub>20</sub>	J <sub>28</sub>	F <sub>34</sub>	38	F <sub>38</sub>	F <sub>41</sub>	F <sub>44</sub>	51	56	60	60	60	58	56	53	F <sub>47</sub>	43	J <sub>30</sub>	F <sub>28</sub>	F <sub>25</sub>	F <sub>24</sub>	
LQ	U <sub>12</sub>		18	F <sub>18</sub>	F <sub>18</sub>	F <sub>26</sub>	F <sub>24</sub>	F <sub>33</sub>	36	38	42	46	48	52	50	48	48	46	F <sub>40</sub>	F <sub>33</sub>	F <sub>22</sub>	F <sub>22</sub>	F <sub>20</sub>	U <sub>17</sub>	

The Radio Research Laboratories, Japan

SEP. 1975

F0F2 (0.1 MHz)

# IONOSPHERIC DATA

SEP. 1975

FOF1 (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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												L												
2									L	L			L	L	L									
3										L	L	L	340	L										
4										L	L	L	L	L										
5									L			L	L											
6										L	U F 380	B	U L 370	L	L									
7										L	L	L	B	B										
8									L				L	L	Q	L								
9											L	B	B	B	B									
10											B	B	B	B	B									
11											B	B		B	B									
12											B	B	B	B	B									
13											B	B	B	B	B									
14										B	L	350	B	B	B	L	L							
15										L	L	B	B	B	B									
16											340	L	L	U L 360	U L 350									
17												L	L	L	L	L								
18									A	320	330	360	350	L	360	L	L							
19											B	350	B	B	L									
20										320	350	360	L	380	U L 350	L	L							
21								300	F	U L 320	330	L	L	380	370	360	L	L						
22										L	L	360	L	L	360	L	L							
23										330	350	360	U L 380	380	U L 370	L								
24										L	L	U L 360	L	L	L	L								
25										340	B	L	L	L	L	U L 360	L	L						
26									A	U L 370	370	380	L	L	370	L	L							
27											360	B	B	B	360	340	U L 340							
28										340	360	370	380	380	B	B	B							
29										360	360	B	B	B	L	L								
30										L	L	U R 370	L	U L 380	L	L								
31																								
	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	7	13	6	9	6	6	1	1							
MED								300	F	325	350	360	365	380	365	360	340	U L 340						
UQ										335	355	360	380	380	370	360								
LQ										320	335	360	350	360	U L 360	U L 360								

SEP. 1975

FOF1 (0.01 MHz)



# IONOSPHERIC DATA

SEP. 1975

FOE (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00' 4" S, Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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			K 110	K 120	U K 120	U K 130	A	A	B	B	B	B	B	B	B	U R 210	B	B	B	B	U K 100	U K 130			
2						B	B	200	140	170	210	215	210	200	180		B	180	150		A	A			
3			350			B	A	A	170	180	200	220	220	220	210	U 200	180	150		B	C		80		
4	220	220	250	180	U K 210	B	A	A	160	175	200	225	250	250	220	220	220	H	B	B					
5		175	170			190	170	130	190	B	220	220	240	240	235	210	200	135		B	B	U K 120	100	100	
6						B	B	A	A	A	230	B	B	240	225	200	180	F	P	B	B	U K 400	380	U K 350	
7			440			B	A	A	B	A	225	U A 250	B	B	B	B	B	P	B	B					
8	180	100	300			A	B	A	210	200	215	U 240	B	B	B	B	B	P	B	B				350	
9	370					B	B	A	A	A	B	B	B	B	B	B	B	P	B	B	B	U 220		U K 340	
10	320					B	B	B	B	B	B	B	B	B	B	B	B	P	B	B	C	130		310	310
11	U K 320	410				B	B	B	B	B	B	B	B	B	B	B	B	P	B	B	A		U K 340	U K 330	
12				280		B	B	B	B	B	B	B	B	B	B	B	B	P	B	B	B		120	200	
13						B	B	B	B	235	B	B	B	B	B	B	B	P	B	B	B				
14						B	B	B	B	B	B	250	P	B	B	B	170	P	B	B		U 140	U 230		
15				U K 280	A	B	A	A	B	A	U H 250	B	B	B	B	B	B	P	A	B	B				
16					B	B	A	U 250	275	B	B	250	230	225	240	U 250	B	A	B	B	B				
17					B	B	U 270	A	230	B	B	B	240	250	245	225	200	U A 145	160	A	A				
18					B	B	A	A	210	240	230	240	240	230	230	U 210	200	A	A	U K 180	A				
19					B	B	A	A	A	220	B	B	B	B	B	B	200	P	B	B	B				
20		U K 250	U K 125	270	U K 200	A	B	160	B	U A 200	215	230	240	250		225	225	200	H	B	A	A		U K 300	
21					B	B	B	200	200	200	215	215	240	A	230	220	200	U 175	U 130	A	A	95		U K 130	
22		U K 180	140	U 125	100	A	A	A	150	200	200	225	230	A	250	240	230	225	160	135	C	A	C	U K 95	U K 100
23			220	U 200	B	B	A	175	200	220	225	230	220	220	A	B	B	B	B	B	A	A	C	U K 80	
24	U K 90		U 125		100	C	100	A	200	A	250	U 230	270	250	230	200	215	200	H	B	B	B	C	U 110	U K 90
25		U K 225	220	180	A	C	B	B	B	B	B	C	250	250	250	230	210	200	150	B	A	C		U K 90	
26		U K 170			A	A	U 300	A	B	A	A	U 250	U 260	250	250	U 230	B	P	U 330	A	A	C	370		
27					B	A	B	B	A	A	A	B	B	B	B	A	B	B	B	B	A	A	C		350
28					B	B	B	A	A	250	260	A	250	250	B	B	B	B	B	B	80	U K 170	A		
29	U K 125				B	A	A	A	195	U 220	B	B	B	B	B	B	B	P	B	B	B	B	B		
30			K 130	K 260	U K 275	U K 200	170	U A 190	220	260	250	240	260	250	U R 250	240	240	200	C	B	A	A			
31																									
	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	7	8	12	9	6	3	5	8	14	14	16	16	15	16	14	15	15	10	5	2	6	7	10	10	
MED	220	200	195	200	U 160	U 190	170	182	200	210	225	230	240	250	232	220	200	160	150	130	U 150	130	270	165	
UQ	K 320	K 238	K 275	K 270	U K 210	K 195	U K 270	200	210	235	240	245	250	250	245	230	218	200	160		U 220	240	340	310	
LQ	K 152	K 172	K 128	K 180	100	K 160	170	155	190	200	215	222	235	228	225	210	190	150	135		U K 120	K 98	K 110	U K 90	

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SEP. 1975

FOE (0.01 MHz)

# IONOSPHERIC DATA

SEP. 1975

FOES (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION	Lat. 69 00.4 S.		Long. 39 35.4 E		Sweep 0.5 MHz to 15 MHz in 30 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	44	26	15	14	17	J A 22	17	22	E B 15	E B 20	B	E B 25	30	E B 32	B	G	E B 32	E B 20	E B 13	E B 12	E B 10	17	25	J A 33	
2	32	40	J A 46	55	52	47	J A 40	26	24	G	G	G	G	G	G	E B 24	22	18	13	13	14	J A 24	J A 31	J A 33	
3	J A 40	J A 40	43	J A 49	48	J A 52	J A 36	22	G	G	G	G	G	G	G	22	G	G	E B 12	27	E B 9	K 8	16	15	
4	K 22	J K 22	J K 25	K 18	J A 34	J A 50	J A 29	J A 30	30	32	G	G	G	G	G	28	G	E B 16	E B 15	E B 13	E B 13	B	B	B	
5	B	J A 24	K 17	J A 24	J A 29	K 19	K 17	G	G	E B 31	G	26	G	G	G	24	18	G	E B 12	E B 11	E B 12	11	10	K 27	
6	J A 25	J A 32	52	57	57	48	33	J A 49	J A 35	J A 36	30	R	E B 30	G	G	G	G	E B 32	E B 52	41	J K 41	K 38	J A 39	J A 34	
7	J A 52	J A 40	44	J A 46	J A 29	42	42	J A 36	31	30	28	29	R	B	E B 48	E B 35	F 36	E B 22	E B 23	E B 16	16	16	B	13	
8	J A 31	18	K 30	40	J A 50	J A 44	54	J A 39	G	J A 22	G	G	E B 33	E B 27	E B 32	24	E B 30	E B 27	E B 21	E B 12	B	B	24	K 35	
9	K 37	92	42	93	45	B	J A 60	J A 50	D C 45	J A 38	E B 32	B	B	B	B	B	B	E B 26	B	B	22	K 36	J K 36	40	
10	J A 61	J A 52	44	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	32	K 13	J A 34	K 31	K 31
11	J A 53	52	J A 31	J A 59	B	B	D C 40	B	B	B	B	B	E B 35	B	B	B	B	B	B	J A 36	B	K 34	J A 34	J A 63	
12	B	B	42	42	56	32	B	B	B	B	B	B	B	B	B	B	B	B	E B 22	B	30	B	K 12	J A 26	
13	J A 74	J A 64	J A 63	J A 52	J A 76	83	B	B	B	G	B	B	B	B	B	B	B	B	E B 28	E B 25	B	B	B	B	
14	J A 35	85	21	B	81	B	B	B	B	B	E B 24	G	B	B	B	E B 23	G	E B 23	E B 24	E B 23	E B 16	14	27	23	
15	J A 29	32	J A 32	33	31	37	J A 41	J A 41	33	27	G	B	R	B	B	B	E B 30	E B 25	19	E B 23	E B 15	25	25	30	
16	J A 34	42	47	37	42	B	36	38	K 27	E B 28	E B 29	G	G	E C 25	G	G	E B 24	18	E B 15	E B 13	E B 11	20	E C 15	18	
17	21	34	J A 38	J A 34	J A 53	50	J A 36	J A 30	G	B	B	E B 35	G	G	G	G	G	20	G	J A 21	15	J A 36	J A 39	J A 41	
18	J A 49	J A 46	J A 47	J A 46	68	35	J A 38	J A 49	37	G	G	27	G	G	G	23	G	21	J A 27	20	15	J A 40	35	J A 35	
19	J A 61	37	48	42	38	42	44	30	22	G	B	E B 27	B	B	E B 25	B	G	E B 27	B	B	B	E B 15	B	B	
20	J A 25	J A 25	J A 24	K 27	25	J A 29	27	27	E B 23	J A 26	27	27	G	G	E B 25	G	G	G	E B 16	15	J A 30	J A 27	B	J K 30	
21	J A 41	40	40	42	40	B	B	G	G	G	31	G	G	27	G	G	G	G	G	J A 30	13	G	C	J A 25	
22	J A 24	28	120	J A 24	15	J A 21	16	32	G	G	24	25	29	G	G	G	18	17	16	E C 20	19	J A 41	10	15	
23	J A 26	28	J A 38	J A 49	38	42	J A 36	G	G	G	25	26	29	26	25	B	E B 27	E B 22	E B 17	25	18	13	10	10	
24	11	J A 26	17	20	12	E C 22	14	25	23	J A 31	G	27	G	G	G	G	G	G	E B 17	E B 14	E B 10	E C 11	12	10	
25	J A 25	33	32	J A 29	22	E B 29	E B 13	B	E B 30	B	E B 30	G	G	G	G	G	G	G	G	E B 11	10	E C 10	27	12	
26	16	K 17	39	J A 50	J A 50	25	35	D C 45	D C 35	30	28	32	28	30	G	J A 26	E B 23	E B 34	35	42	J A 52	J A 49	K 37	J A 41	
27	46	46	D 70	55	J A 60	35	B	58	J A 59	55	33	B	B	B	E B 31	25	E B 22	R	E B 18	J A 36	J A 33	J A 43	J A 40	45	
28	40	J A 69	83	J A 64	40	J A 60	52	J A 40	40	G	G	28	27	G	B	B	B	B	E B 23	15	21	24	20	20	
29	J A 26	J A 28	J A 50	64	40	28	J A 27	22	G	23	E B 25	B	E B 41	E B 43	E B 36	E B 28	E B 30	E B 21	E B 25	E B 25	E B 15	15	13	J A 24	
30	J A 26	J A 34	J A 21	25	J A 31	36	22	34	G	G	G	30	G	G	G	G	G	G	E C 21	E B 14	16	18	J A 34	16	
31																									
CNT	28	29	30	28	28	24	24	24	25	24	23	21	21	20	21	21	24	24	26	27	26	26	24	27	
MED	J A 35	34	41	42	40	36	36	31	22	E G 22	E G 24	E G 26	G	G	G	E G 22	E G 18		E B 18	E E 20	14	22	26	27	
UQ	J A 45	46	47	52	52	48	40	J A 40	33	30	27	27	E G 29	E G 26	E B 25	24	E B 26	E B 24	E B 23	26	21	J A 36	J A 34	J A 34	
LQ	J A 25	28	30	28	30	27	24	24	G	G	G	G	G	G	G	G	G	G	E B 13	E B 14	E B 13	14	13	17	

SEP. 1975

FOES (0.1 MHz)

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### IONOSPHERIC DATA

SEP. 1975

F=MIN (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	9	10	9	8	8	8	8	E <sub>11</sub> C	15	20	B	25	25	32	B	18	32	20	13	12	10	9	E <sub>15</sub> C	8		
2	21	15	12	20	12	32	15	E <sub>10</sub> C	12	13	13	15	18	15	E <sub>17</sub> C	24	14	13	11	E <sub>10</sub> C	E <sub>10</sub> C	8	7	8		
3	E <sub>20</sub> C	13	18	15	E <sub>20</sub> C	12	10	8	8	12	12	13	12	11	13	12	11	13	12	E <sub>10</sub> C	9	8	8	8		
4	10	E <sub>10</sub> C	8	8	9	18	10	9	11	11	11	13	19	15	15	18	18	16	15	13	13	B	B	B		
5	B	E <sub>10</sub> C	E <sub>10</sub> C	8	E <sub>15</sub> C	8	E <sub>10</sub> C	8	10	31	18	12	13	18	18	14	14	13	12	11	10	10	8	8		
6	9	9	22	20	18	13	17	13	E <sub>15</sub> C	13	20	B	30	21	18	13	13	32	52	14	10	8	10	10		
7	10	13	13	E <sub>10</sub> C	12	22	14	E <sub>10</sub> C	21	20	14	13	B	B	48	33	36	22	23	16	12	12	B	10		
8	E <sub>10</sub> C	9	12	19	15	11	19	12	11	11	13	19	33	27	32	22	30	27	21	12	B	B	11	8		
9	22	E <sub>16</sub> C	E <sub>12</sub> C	15	21	B	18	12	15	11	32	B	B	B	B	B	B	26	B	B	E <sub>10</sub> C	E <sub>15</sub> C	10	29		
10	10	8	38	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E <sub>12</sub> C	9	8	8	8		
11	E <sub>11</sub> C	15	9	10	B	B	32	B	B	B	B	B	33	B	B	B	B	B	B	11	B	9	10	11		
12	B	B	30	12	22	21	B	B	B	B	B	B	B	B	B	B	B	B	22	B	23	B	9	7		
13	15	7	E <sub>10</sub> C	E <sub>10</sub> C	12	50	B	B	B	23	B	B	B	B	B	B	B	B	28	25	B	B	B	B		
14	18	15	9	B	51	B	B	B	B	B	24	11	B	B	B	23	16	23	24	23	16	13	9	E <sub>10</sub> C		
15	7	E <sub>10</sub> C	9	E <sub>22</sub> C	10	13	13	17	25	14	23	B	B	B	B	B	30	25	15	23	15	9	7	8		
16	E <sub>12</sub> C	E <sub>15</sub> C	15	16	15	B	12	15	12	28	29	22	18	E <sub>25</sub> C	18	21	24	14	15	13	11	9	E <sub>15</sub> C	9		
17	10	12	12	7	14	14	E <sub>10</sub> C	11	E <sub>13</sub> C	B	B	35	14	13	13	E <sub>12</sub> C	12	12	8	8	7	E <sub>10</sub> C	8	10		
18	15	11	16	26	30	15	14	13	10	13	13	14	12	14	11	11	E <sub>10</sub> C	9	8	E <sub>15</sub> C	E <sub>10</sub> C	6	12	E <sub>10</sub> C		
19	13	18	17	22	13	19	14	11	10	E <sub>12</sub> C	B	27	B	B	25	B	18	27	B	B	B	15	B	B		
20	10	8	7	E <sub>12</sub> C	E <sub>13</sub> C	E <sub>10</sub> C	18	E <sub>13</sub> C	23	10	11	12	18	24	25	22	21	14	16	11	E <sub>10</sub> C	E <sub>13</sub> C	B	E <sub>10</sub> C		
21	E <sub>13</sub> C	11	14	23	15	B	B	15	12	11	12	11	13	12	13	13	13	15	13	6	8	7	C	6		
22	8	8	8	8	8	9	8	13	13	15	12	17	18	16	11	11	12	13	E <sub>10</sub> C	E <sub>20</sub> C	9	E <sub>10</sub> C	9	8		
23	10	E <sub>10</sub> C	9	12	30	21	12	11	12	12	12	12	10	11	19	B	27	22	17	14	8	E <sub>11</sub> C	7	8		
24	7	7	E <sub>10</sub> C	8	8	E <sub>22</sub> C	8	10	10	12	18	10	13	17	15	14	13	14	17	14	10	E <sub>11</sub> C	9	8		
25	9	13	11	8	E <sub>11</sub> C	E <sub>29</sub> C	13	B	30	B	30	24	20	14	14	13	12	10	11	11	7	E <sub>10</sub> C	10	9		
26	9	9	11	E <sub>10</sub> C	9	E <sub>10</sub> C	12	15	23	12	12	E <sub>15</sub> C	18	12	12	10	23	34	17	20	10	E <sub>10</sub> C	E <sub>10</sub> C	E <sub>10</sub> C		
27	9	15	10	23	18	10	B	24	18	14	20	B	B	B	31	22	22	B	B	B	18	10	E <sub>10</sub> C	E <sub>13</sub> C	10	15
28	20	E <sub>10</sub> C	E <sub>15</sub> C	15	23	17	18	15	19	18	20	15	E <sub>21</sub> C	E <sub>10</sub> C	B	B	B	B	23	7	9	E <sub>10</sub> C	8	8		
29	E <sub>10</sub> C	E <sub>10</sub> C	15	18	18	12	10	E <sub>11</sub> C	E <sub>10</sub> C	12	25	B	41	43	36	28	30	21	25	25	15	12	9	8		
30	8	7	E <sub>12</sub> C	13	10	E <sub>10</sub> C	12	10	10	E <sub>20</sub> C	E <sub>10</sub> C	10	11	10	E <sub>10</sub> C	9	E <sub>10</sub> C	10	E <sub>21</sub> C	14	8	9	10	9		
31																										
CNT	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	30		
MED	10	10	11	13	14	<sup>U</sup> 16	14	13	13	14	20	18	20	21	22	22	22	22	17	13	10	9	10	8		
UQ	15	14	15	20	21	32	19	17	23	28	32	B	B	B	B	B	32	32	24	20	15	12	11	10		
LQ	9	8	9	9	10	11	10	10	10	12	12	12	14	14	14	13	13	13	13	11	8	8	8	8		

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SEP. 1975

F=MIN (0.1 MHz)

### IONOSPHERIC DATA

SEP. 1975

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	A	A	F 295	F 275	F 260	F	U F 275	F	F	F	B	F	F	F	B	F	345	F	R	F	F	F	R	A
2	B	A	A	A	A	B	A	F	305	310	315	325	290	325	340	335	355	335	325	330	325	F	A	A
3	C	A	A	A	A	A	F	270	285	R	290	300	315	315	320	355	365	345	370	340	345	320	300	F 310
4	R	R	R	F	A	A	F	295	F	F	310	320	340	305	F	F	F	345	355	350	340	350	B	B
5	B	F	R	A	F	F	F	R	F	F	340	320	320	280	U H 310	350	350	360	340	350	355	365	310	F 315
6	A	A	B	B	A	A	A	A	F	F	F	B	F	290	325	F	F	F	R	F	A	A	A	A
7	A	A	A	A	F	A	A	A	265	295	285	300	R	B	B	330	R	365	350	340	345	340	A	B
8	A	F 305	A	A	A	A	A	F	310	305	U F 325	310	315	F	290	310	F	F	F	F	F	B	B	A
9	A	A	A	A	A	B	A	A	A	A	265	B	B	B	B	B	B	F	B	B	R	A	A	B
10	A	A	B	B	B	B	B	B	B	B	B	B	R	B	B	B	B	B	B	B	A	R	A	A
11	A	A	A	A	B	B	B	B	B	B	B	B	295	B	B	B	B	R	B	A	B	A	A	A
12	B	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	F	B	B	B	R	A
13	A	A	A	A	A	B	B	B	B	290	B	B	B	B	B	B	B	R	325	335	B	B	B	B
14	B	A	F	B	B	B	B	B	B	B	F	280	290	R	B	B	300	315	F	U F 365	335	F	310	A
15	A	F	F	F	F	F	F	F	R	F	F	B	B	B	B	B	U R 340	340	F	U F 315	335	F	R	F
16	A	A	A	A	A	B	A	295	320	295	290	310	295	325	325	F	F	F	F	F	F	F	350	F 340
17	F	A	A	A	A	A	F	U R 275	U F 310	F	B	B	F	320	U F 335	F	350	J R 335	350	F	S	F	A	A
18	A	A	A	B	B	A	A	A	290	285	260	280	285	300	F	320	325	315	355	F	R	U F 295	A	A
19	A	A	A	B	A	A	A	A	325	345	B	R	B	B	310	B	335	330	B	B	B	350	B	B
20	A	F	275	A	280	A	A	300	U R 240	300	F	300	F	F	F	325	335	F	365	360	350	335	J F 310	A
21	A	A	A	A	A	B	B	F	U F 260	U F 290	300	F	305	295	315	335	325	345	350	355	325	315	J F 285	C
22	A	A	275	275	265	285	300	F	310	F	310	315	315	330	325	335	355	345	340	355	F	U F 320	320	295
23	A	A	A	F	B	A	A	295	285	290	300	315	340	F	340	B	345	345	F	F	U F 345	U R 310	U R 325	U F 315
24	F 310	A	F	R	R	J R 305	R	315	300	310	315	320	305	340	350	340	345	345	355	345	350	345	325	330
25	U S 320	A	A	F	J F 270	295	275	B	295	B	310	320	325	340	350	340	355	370	365	345	360	F	U F 340	280
26	F	R	A	A	A	S	275	A	F	F	F	F	U F 320	F	F	F	U F 320	U R 270	F	R	A	A	A	A
27	A	A	A	A	A	A	B	A	A	A	200	B	B	B	295	310	300	B	F	A	A	A	A	A
28	A	A	A	A	A	A	A	A	A	255	C	295	305	315	B	B	B	B	340	F	F	F	F	310
29	F 260	F	F	A	A	F	R	F	J F 320	F	F	B	U F 295	F	U F 325	U F 320	U F 325	345	330	340	F	F	U F 290	F
30	A	A	A	A	F	J R 295	305	R	F	F	F	F	F	345	F	F	F	360	360	F	F	F	U F 320	J F 300
31																								
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	1	4	2	5	6	7	8	13	15	16	15	18	14	16	14	20	18	15	14	12	10	8	8
MED	F 310	F 305	275	275	270	292	275	295	300	300	300	315	305	325	332	330	345	348	350	340	338	315	322	F 310
UQ	315		285		275	295	288	305	310	310	315	320	315	335	345	340	355	355	355	345	350	345	332	U F 318
LQ	F 285		275		265	285	275	290	290	290	282	302	295	315	322	310	330	340	340	335	318	310	318	F 298

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M(3000)F2 (0.01)

The Radio Research Laboratories, Japan

### IONOSPHERIC DATA

SEP. 1975      H<sup>1</sup>F<sup>2</sup> (KM)

45° E Mean Time (G. M. T. + 3 h)

Station **SYOWA STATION** Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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												L												
2									L	L			L	240	230									
3										L	L	260	265	L										
4										L	245	L	L	L										
5									L			255	L											
6										L	350	B	295	250	250									
7										L	360	L	R	B										
8										L			300	L	R	260								
9											L	B	B	B	B									
10											B	B	B	B	B									
11											B	B	380	B	B									
12											B	B	B	B	B									
13											B	B	B	B	B									
14										B	L	355	R	B	B	290	255							
15										L	310	B	B	B	B									
16											350	L	L	265	250									
17												290	265	L	L	225								
18										375	410	470	390	355	L	300	270	L						
19											B	R	B	B	L									
20										500	355	340	L	295	265	260	L							
21										425	L	340	L	L	350	300	260	L	230					
22											L	L	315	L	L	270	L	L						
23											380	375	330	280	275	280	250							
24											L	L	300	280	L	255	230							
25											350	B	L	280	270	250	230	L	L					
26											375	F	295	295	L	270	270	L	275					
27												780	B	B	B	375	370	325						
28											470	450	365	330	325	B	B	B						
29											325	330	B	F	B	260	260							
30											L	L	260	L	250	250	250							
31																								
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
CNT								1	5	6	15	10	13	12	13	6	4							
MED								425	375	365	330	285	295	265	250	265	265							
UQ								380	410	355	355	330	275	260	290	300								
LQ								375	340	305	280	270	250	250	260	242								

SEP. 1975      H<sup>1</sup>F<sup>2</sup> (KM)

# IONOSPHERIC DATA

SEP. 1975

H<sup>o</sup>F (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00' 4" S, Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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	A	A	305	345	380	430	A	300	250	240	B	250	275	230	B	230	225	220	230	225	250	U F	R	A					
2	B	B	A	B	A	B	A	310	255	225	215	230	225	230	230	240	225	220	215	225	230	300	A	A					
3	C	A	A	A	C	A	A	360	250	250	225	240	240	200	240	220	220	210	210	210	240	240	A	A					
4	R	R	R	380	A	B	A	300	250	220	225	225	240	220	210	215	220	210	200	240	250	B	B	B					
5	B	300	R	A	E C	375	375	350	275	220	240	220	225	230	H	H	230	215	210	210	200	200	225	290	340	A			
6	A	A	B	B	B	A	B	A	290	200	250	B	250	240	225	235	240	250	B	A	A	A	A	A	A				
7	A	A	A	A	A	B	A	A	290	260	245	B	B	280	240	230	215	225	215	E A	260	A	B	A					
8	A	300	A	B	A	A	A	A	250	240	200	230	E R	240	250	240	230	240	225	230	B	B	A	A					
9	A	A	A	A	B	B	A	A	A	A	B	B	B	B	B	B	B	R	B	B	R	A	A	B					
10	A	A	B	B	B	B	B	B	B	B	B	B	R	B	B	B	B	R	B	A	R	A	A	A					
11	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	R	B	A	B	A	A	A					
12	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	R	B	B	B	B	R	A					
13	B	A	A	A	A	B	B	B	B	295	B	B	B	B	B	B	B	R	B	255	B	B	B	B					
14	B	A	A	B	R	B	B	B	B	B	215	250	R	B	B	200	220	225	215	230	250	275	A	A					
15	A	F	A	350	A	A	A	F	R	200	250	B	B	B	B	B	230	210	215	240	250	A	A	A					
16	A	A	A	A	A	B	A	330	260	280	E B	225	225	240	H	205	250	225	205	260	240	225	235	E C	250				
17	B	B	B	A	A	A	360	300	U H	290	B	B	B	H	U H	200	210	215	225	220	230	220	A	A	A				
18	B	A	A	B	B	A	A	A	A	250	225	215	H	225	230	210	245	250	230	230	R	290	A	A	A				
19	A	B	B	B	A	B	A	A	270	220	B	230	B	B	220	B	H	220	255	B	B	B	240	B	B				
20	A	R	E A	A	380	A	A	275	280	U H	200	200	220	H	190	210	250	195	225	215	205	220	A	B	A				
21	A	A	A	B	A	B	B	300	220	240	U H	205	220	225	H	205	220	220	220	225	220	235	260	C	340				
22	A	A	400	390	370	325	300	230	230	210	200	195	205	205	200	200	230	225	210	210	H	220	220	230	280				
23	A	A	A	F	B	B	A	270	210	215	205	205	215	U H	190	225	B	230	225	210	220	225	235	220	240				
24	255	A	350	330	310	280	230	225	225	240	220	230	225	225	200	230	H	220	215	215	210	205	240	240					
25	B	A	A	U Q	330	C	275	B	E B	275	B	230	210	225	225	210	200	220	H	220	210	210	215	200	230	280			
26	A	R	A	A	A	330	370	A	A	230	205	U H	190	230	200	195	H	200	H	245	310	330	A	A	A	A			
27	A	A	A	B	B	A	B	B	A	A	270	B	R	B	E B	260	255	245	B	275	A	A	A	A	A				
28	B	A	A	A	B	A	A	A	A	250	230	225	H	220	215	B	B	B	B	230	245	375	300	280	290				
29	325	A	A	B	H	340	255	225	H	230	200	210	B	B	B	B	250	215	245	230	230	225	215	230	270	A			
30	A	A	A	A	U H	360	325	260	220	H	U H	205	U H	205	H	210	205	210	200	215	U H	190	215	200	205	210	240	235	230
31																													
CNT	2	2	4	6	7	7	8	14	18	22	22	20	19	19	21	21	24	23	25	21	20	15	9	8					
MED	290	300	350	352	365	330	288	288	250	235	219	225	225	220	215	220	225	220	220	225	226	240	238	265					
UQ			375	380	378	358	355	300	265	250	230	230	232	230	235	240	230	228	230	230	250	282	270	285					
LQ			316	345	345	325	258	230	225	210	205	210	218	208	205	210	220	215	210	215	220	232	230	240					

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H<sup>o</sup>F (KM)

# IONOSPHERIC DATA

SEP. 1975

H<sup>°</sup>ES (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	145	120	100 <sup>K</sup>	100 <sup>K</sup>	120 <sup>K</sup>	95 <sup>K</sup>	115	130	B	B	B	B	130	B	B	G	B	B	B	B	B	150 <sup>K</sup>	110	110		
2	125	100	100	105	105	120	100	110 <sup>K</sup>	155	G	G	G	G	G	G	B	160	100	100	100	175	120	115	110		
3	110	100	130 <sup>K</sup>	105	100	100	110	110	100	G	G	G	G	G	G	115	110	G	B	B	110	B	160 <sup>K</sup>	125	100	
4	140 <sup>K</sup>	125 <sup>K</sup>	115 <sup>K</sup>	125 <sup>K</sup>	150 <sup>K</sup>	130	105	120	140	130	G	G	G	G	G	160	G	B	B	B	B	B	B	B		
5	B	160 <sup>K</sup>	150 <sup>K</sup>	130	120	120 <sup>K</sup>	110 <sup>K</sup>	G	G	B	G	G	140	G	G	G	105	100	G	B	B	B	120 <sup>K</sup>	150 <sup>K</sup>	110	
6	115	115	120	100	100	110	115	105	105	120	130	B	B	G	G	G	G	B	B	B	115	110 <sup>K</sup>	110 <sup>K</sup>	110 <sup>K</sup>	115	
7	125	100	100 <sup>K</sup>	100	110	110	100	100	105	115	110	110	B	B	B	B	B	B	B	B	B	120	120	B	110	
8	110 <sup>K</sup>	130 <sup>K</sup>	115 <sup>K</sup>	100	100	100	100	100	G	110	G	G	B	B	B	160	B	B	B	B	B	B	B	130	110 <sup>K</sup>	
9	115 <sup>K</sup>	100	100	105	100	B	100	100	100	100	B	B	B	B	B	B	B	B	B	B	B	150 <sup>K</sup>	105	110 <sup>K</sup>	120	
10	150 <sup>K</sup>	105	115	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	105	155 <sup>K</sup>	110	110 <sup>K</sup>	110 <sup>K</sup>	
11	170 <sup>K</sup>	150 <sup>K</sup>	100	110	B	B	110	B	B	B	B	B	B	B	B	B	B	B	B	B	100	B	110 <sup>K</sup>	115 <sup>K</sup>	110	
12	B	B	105	115 <sup>K</sup>	100	120	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	130	B	130 <sup>K</sup>	100 <sup>K</sup>	
13	110	100	100	100	100	105	B	B	B	G	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
14	115	100	105	B	120	B	B	B	B	B	B	G	B	B	B	B	B	G	B	B	B	B	B	130 <sup>K</sup>	115	
15	100	105	105	120 <sup>K</sup>	105	115	105	150	125	110	G	B	B	B	B	B	B	B	B	100	B	B	110	125	110	
16	105	100	105	120	115	B	100	110 <sup>K</sup>	105 <sup>K</sup>	B	B	G	G	C	G	G	B	150	B	B	B	100	C	105		
17	150	125	115	100	100	100	110 <sup>K</sup>	110	G	B	B	B	G	G	G	G	G	140	G	130	140	105	110	110		
18	100	105	105	105	100	105	100	100	110	G	G	125	G	G	G	G	G	130	100	130 <sup>K</sup>	125	100	105	105		
19	125	120	100	100	105	105	100	100	110	G	B	B	B	B	B	B	B	G	B	B	B	B	B	B	B	
20	150	110 <sup>K</sup>	110 <sup>K</sup>	110 <sup>K</sup>	100 <sup>K</sup>	105	140	180	B	100	100	155	G	G	B	G	G	G	G	B	120	115	140	B	110 <sup>K</sup>	
21	110	105	100	105	105	B	B	G	G	G	140	G	G	105	G	G	G	G	G	G	95	100	G	C	100 <sup>K</sup>	
22	115	105 <sup>K</sup>	105 <sup>K</sup>	105 <sup>K</sup>	110	95	125	120	G	G	120	120	110	G	G	G	100	100	100	C	95	110	100 <sup>K</sup>	110 <sup>K</sup>		
23	120	105	130 <sup>K</sup>	110 <sup>K</sup>	100	100	105	G	G	G	125	120	105	105	110	B	B	B	B	95	95	120	120	125 <sup>K</sup>		
24	110 <sup>K</sup>	145	150 <sup>K</sup>	130	125	C	120	110	120	110	G	115	G	G	G	G	G	G	G	B	B	B	C	100 <sup>K</sup>	115 <sup>K</sup>	
25	100	120 <sup>K</sup>	145 <sup>K</sup>	140 <sup>K</sup>	100	C	B	B	B	B	B	B	G	G	G	G	G	G	G	G	B	95	C	100	180 <sup>K</sup>	
26	145	115 <sup>K</sup>	110	105	100	115	115 <sup>K</sup>	100	110	110	105	120	110	100	G	105	B	B	125 <sup>K</sup>	120	110	105	110 <sup>K</sup>	110		
27	100	100	100	100	100	110	B	100	100	100	115	B	B	B	B	110	B	B	B	105	115	110	100	155 <sup>K</sup>		
28	115	110	110	100	100	110	100	100	105	G	G	115	100	G	B	B	B	B	B	150	130 <sup>K</sup>	125	120	115		
29	105 <sup>K</sup>	105	125	130	100	110	125	110	G	110	B	B	B	B	B	B	B	B	B	B	B	B	B	105	100	105
30	115	110	125 <sup>K</sup>	130 <sup>K</sup>	110 <sup>K</sup>	110 <sup>K</sup>	140	100	G	G	G	110	G	G	G	G	G	G	G	C	B	95	95	100	110	
31																										
	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	29	30	28	28	22	23	21	14	11	8	10	5	3	1	7	4	5	5	13	17	21	23	27		
MED	115	105	108	105	100	110	110	110	108	110	118	120	110	105	110	115	105	130	100	110	115	110	110	110		
UQ	132	120	120 <sup>K</sup>	120	110	115	115	110	120	112	128	125	110	105		142	135	140	100	120	130	120	122	115		
LQ	110	100	100	100	100	100	100	100	105	105	108	115	105	102		108	100	100	100	100	100	100	105	102	110	

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H<sup>°</sup>ES (KM)

# IONOSPHERIC DATA

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TYPES OF ES

45° E Mean Time (G. M. T. + 3 h)

Station **SYOWA** STATION Lat. **69° 00' 4" S**, Long. **39° 35.4' E** Sweep **0.5** MHz to **15** MHz in **30** 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	RR 12	R 2	RK 11	LK 11	RKL 11	LK 11	RAL 21	HAC 11					R 1								K 1	RKA 11	R 2	R 4			
2	R 1	RS 11	R 1	R 1	R 2	R 1	R 1	RK 11	H 1								H 1	L 1	L 1	L 1	R 1	RA 11	R 5	RS 51			
3	R 3	RS 21	CK 21	R 1	R 1	R 2	R 3	R 3	L 1							C 1	L 1			C 1		K 1	RA 11	R 1			
4	K 1	K 4	KA 21	KA 11	RK 12	AR 11	R 3	RL 21	HA 11	R 1						H 1											
5		RKA 11	K 1	RA 11		KA 11	K 3					H 1				L 1	L 1				K 1	CK 11	K 1	RA 11			
6	R 1	R 3	AR 11	R 1	R 1	R 1	R 1	R 1	R 1	AR 11	R 1									RS 11	KS 61	KS 71	RK 16	RS 71			
7	RA 51	R 3	K 1	R 3	R 3	R 1	R 1	R 1	R 1	R 1	R 1	R 2									F 1	F 1		F 1			
8	RK 31	RK 11	K 2	R 1	R 2	R 2	R 1	R 2		L 1						H 1							RA 11	K 5			
9	K 1	F 1	R 2	RR 11	R 1		R 2	R 2	RS 11	R 2											KA 11	RA 21	K 2	A 1			
10	RK 11	R 4	R 1																	R 2	K 1	R 3	K 4	K 5			
11	HK 12	AK 11	R 2	RA 21			C 1													R 2		KS 51	RK 21	RA 11			
12			R 1	RK 21	R 1	R 1															R 1		K 1	RK 31			
13	R 1	R 4	R 1	R 3	RA 11	RR 11																					
14	RA 11	RR 21	RA 21		RR 11																		K 1	HKL 11	RF 21		
15	R 3	R 4	R 4	RK 31	R 3	RA 11	RA 21	AC 11	C 1	C 1									L 1			R 2	R 1	R 4			
16	R 2	R 2	R 2	R 2	R 3		R 2	RK 12	K 2											C 1		F 1		F 1			
17	A 1	R 2	RS 11	R 5	R 2	R 2	RK 31	R 3												R 1		R 1	RA 11	R 5	RA 21	RS 51	
18	R 2	R 2	R 2	R 1	R 1	R 1	RA 11	R 2	R 2		H 1					C 1				RL 11	LR 11	CK 11	R 1	RS 61	R 2	R 4	
19	F 1	R 1	R 2	R 1	R 2	R 1	R 1	R 2	R 2																		
20	RA 11	K 5	RK 11	K 2	LK 11	RA 11	R 1	R 1		L 1	L 1	H 1								C 1	RA 11	RA 11		K 5			
21	R 3	R 3	R 3	RA 11	R 2						H 1			R 1							L 1	R 1			LRK 11		
22	R 2	RK 21	CK 31	CK 11	R 1	LH 11	RA 11	R 1			C 1	C 1	R 1							L 1	L 1	L 1		C 1	F 1	LK 11	RAK 11
23	RA 11	RA 31	RK 11	RK 11	L 1	R 1	R 2				C 1	C 1	C 1	C 2	R 1						L 1	L 2	C 1	F 1	CK 11		
24	RK 11	RA 11	AK 11	RA 11	C 1		C 1	CA 31	C 2	C 1		C 1												RK 11	CK 11		
25	F 1	RK 11	RK 11	RK 11	CA 11																L 1		F 1		HK 11		
26	R 1	K 1	R 2	R 4	R 4	R 1	RK 13	R 1	R 1	C 1	R 1	C 1	C 1	L 1		C 1					RK 11	R 1	R 5	R 2	K 7	RA 31	
27	RA 31	R 1	RA 21	R 1	R 1	RA 11		R 1	R 1	R 1	R 1					C 1						R 2	R 5	R 1	RA 21	RK 11	
28	RR 11	RA 41	R 1	RR 12	R 1	R 2	R 1	R 1	R 1			C 1	L 1								R 1	RAK 11	R 1	RA 11	R 3		
29	RK 21	R 3	R 1	RA 21	R 1	R 2	RL 11	R 1		R 1													L 1	FA 11	R 1		
30	R 4	FRA 11	RAK 11	RKA 11	RK 22	RL 21	R 1	LR 11				C 1									L 1	L 1	F 1	A 1			
31																											
CNT																											
MED																											
UQ																											
LQ																											

SEP. 1975

TYPES OF ES



# IONOSPHERIC DATA

45° E Mean Time (G. M. T. + 3 h)

OCT. 1975

FXI (0.1 MHz)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	32	R	B	A	43	O <sub>46</sub> R	52	R	50	60	60	63	69	68	70	70	70	66	60	70	U <sub>57</sub> S	45	45	35	
2	30	A	A	A	56	A	O <sub>47</sub> R	52	55	56	57	63	64	68	63	64	68	60	58	51	56	39	37	35	
3	U <sub>56</sub> S	A	S	42	A	U <sub>45</sub> S	X <sub>47</sub>	54	60	60	62	X <sub>72</sub>	80	X <sub>78</sub>	X <sub>81</sub>	X <sub>78</sub>	X <sub>80</sub>	X <sub>80</sub>	X <sub>70</sub>	X <sub>52</sub>	X <sub>48</sub>	40	A	A	
4	A	U <sub>35</sub> S	40	A	A	B	A	A	X <sub>41</sub>	46	52	O <sub>56</sub> R	R	X <sub>57</sub>	61	55	59	59	55	X <sub>52</sub>	43	39	R	R	
5	A	A	A	A	A	O <sub>51</sub> R	44	B	O <sub>49</sub> R	49	48	O <sub>52</sub> R	O <sub>54</sub> R	60	58	55	53	52	53	X <sub>46</sub>	X <sub>46</sub>	O <sub>51</sub> R	O <sub>41</sub> R	32	
6	31	30	A	A	A	O <sub>40</sub> R	45	A	A	B	B	B	B	B	B	B	84	O <sub>61</sub> R	50	74	41	O <sub>40</sub> R	A	A	A
7	A	A	A	A	A	B	A	43	B	B	B	B	B	B	B	B	B	B	R	O <sub>46</sub> R	R	A	A	A	A
8	A	A	A	A	A	B	R	A	B	B	B	B	B	B	B	B	B	B	R	O <sub>41</sub> R	A	A	A	A	A
9	A	B	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B	R	O <sub>41</sub> R	O <sub>33</sub> R	A	A	R	B
10	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	R	O <sub>43</sub> R	R	O <sub>43</sub> R	O <sub>39</sub> R	27	A	A	37	
11	B	A	B	B	B	B	R	O <sub>39</sub> R	O <sub>39</sub> R	C	C	C	C	C	C	O <sub>46</sub> R	O <sub>46</sub> R	X <sub>48</sub>	O <sub>46</sub> R	X <sub>42</sub>	O <sub>38</sub> R	27	R	B	
12	A	B	A	B	R	B	B	B	R	R	B	B	B	B	B	B	O <sub>46</sub> R	O <sub>46</sub> R	X <sub>43</sub>	O <sub>33</sub> R	A	O <sub>38</sub> R	A	A	
13	B	R	R	R	B	A	A	O <sub>42</sub> R	B	R	R	B	O <sub>45</sub> R	R	O <sub>46</sub> R	O <sub>47</sub> R	U <sub>46</sub> R	X <sub>43</sub>	B	O <sub>41</sub> R	O <sub>36</sub> R	25	24	A	
14	A	A	A	U <sub>57</sub> S	A	O <sub>47</sub> R	55	51	D <sub>47</sub> C	O <sub>46</sub> R	O <sub>52</sub> R	B	R	O <sub>59</sub> R	B	B	62	55	B	40	44	R	R	A	
15	A	B	A	A	O <sub>33</sub> R	X <sub>36</sub>	X <sub>41</sub>	42	B	B	O <sub>48</sub> R	59	49	O <sub>52</sub> R	51	49	48	47	X <sub>46</sub>	X <sub>45</sub>	X <sub>44</sub>	42	43	U <sub>45</sub> S	
16	30	A	A	S	U <sub>40</sub> S	56	A	45	49	50	47	45	37	50	50	B	O <sub>49</sub> R	O <sub>45</sub> R	47	O <sub>46</sub> R	47	40	R	R	
17	A	A	A	A	A	A	A	X <sub>44</sub>	41	42	O <sub>44</sub> R	R	X <sub>36</sub>	46	50	48	44	44	45	40	O <sub>36</sub> R	28	29	30	
18	28	28	O <sub>25</sub> R	33	34	X <sub>39</sub>	X <sub>44</sub>	X <sub>46</sub>	48	48	O <sub>47</sub> R	O <sub>48</sub> R	50	51	53	57	56	65	62	60	45	47	45	42	
19	X <sub>42</sub>	X <sub>42</sub>	X <sub>39</sub>	S <sub>43</sub>	42	60	50	50	O <sub>51</sub> R	X <sub>53</sub>	X <sub>54</sub>	X <sub>54</sub>	56	58	61	58	57	56	54	X <sub>52</sub>	51	U <sub>64</sub> S	47	40	
20	A	A	A	O <sub>36</sub> R	A	A	B	X <sub>38</sub>	O <sub>41</sub> R	O <sub>43</sub> R	45	46	O <sub>48</sub> R	52	51	50	49	49	X <sub>46</sub>	46	46	44	X <sub>40</sub>	X <sub>39</sub>	
21	U <sub>40</sub> S	32	A	A	42	A	R	A	X <sub>46</sub>	C <sub>49</sub>	X <sub>46</sub>	X <sub>46</sub>	O <sub>48</sub> R	48	O <sub>49</sub> R	X <sub>50</sub>	X <sub>49</sub>	X <sub>50</sub>	48	45	X <sub>45</sub>	X <sub>39</sub>	X <sub>46</sub>	X <sub>36</sub>	
22	X <sub>32</sub>	U <sub>46</sub> S	A	A	R	O <sub>41</sub> R	50	B	B	57	52	52	53	53	62	51	51	50	47	53	45	42	39	A	
23	A	A	A	A	51	47	B	R	X <sub>49</sub>	X <sub>52</sub>	X <sub>53</sub>	51	50	52	51	53	55	52	50	52	X <sub>40</sub>	X <sub>43</sub>	X <sub>40</sub>	O <sub>38</sub> R	
24	A	A	O <sub>41</sub> R	A	A	A	50	50	57	60	60	58	54	X <sub>53</sub>	X <sub>52</sub>	X <sub>51</sub>	O <sub>49</sub> R	X <sub>49</sub>	X <sub>48</sub>	X <sub>48</sub>	49	46	X <sub>43</sub>	X <sub>40</sub>	
25	43	31	39	38	42	D <sub>48</sub> S	59	60	61	61	58	60	60	59	59	58	52	54	50	40	48	48	48	X <sub>48</sub>	
26	S <sub>46</sub>	S <sub>42</sub>	X <sub>38</sub>	O <sub>36</sub> R	A	45	54	57	58	60	60	63	62	62	60	56	56	55	51	X <sub>48</sub>	R	R	31	31	
27	35	A	A	A	O <sub>41</sub> R	A	A	R	R	O <sub>48</sub> R	C <sub>47</sub>	O <sub>43</sub> R	X <sub>43</sub>	45	46	47	47	C <sub>48</sub>	46	47	44	41	41	X <sub>42</sub>	
28	X <sub>41</sub>	X <sub>38</sub>	R	O <sub>38</sub> R	A	A	45	X <sub>46</sub>	50	52	O <sub>48</sub> R	O <sub>49</sub> R	X <sub>48</sub>	X <sub>53</sub>	54	51	O <sub>49</sub> R	46	46	45	45	X <sub>40</sub>	R	A	
29	A	A	37	35	R	R	A	O <sub>46</sub> R	A	A	B	B	R	O <sub>43</sub> R	O <sub>43</sub> R	O <sub>43</sub> R	O <sub>43</sub> R	O <sub>44</sub> R	X <sub>43</sub>	X <sub>42</sub>	X <sub>41</sub>	X <sub>38</sub>	R	A	
30	A	A	B	103	R	R	A	A	49	47	B	R	O <sub>48</sub> R	C <sub>49</sub>	O <sub>47</sub> R	O <sub>49</sub> R	53	53	O <sub>48</sub> R	X <sub>43</sub>	43	41	40	O <sub>32</sub> R	
31	A	A	A	B	B	R	B	B	A	R	B	B	B	B	B	B	B	O <sub>43</sub> R	O <sub>43</sub> R	X <sub>43</sub>	42	A	A	A	A
CNT	13	9	8	10	10	13	14	17	19	20	20	18	20	22	22	23	28	27	29	29	25	23	17	16	
MED	35	35	39	37	42	46	48	46	49	51	52	52	50	53	52	51	50	X <sub>47</sub>	45	45	41	41	38		
UQ	42	42	40	43	43	48	52	51	53	58	58	60	58	59	61	58	56	55	53	51	47	44	45	41	
LQ	31	31	38	36	40	41	45	43	46	48	47	48	48	50	50	49	O <sub>46</sub> R	X <sub>46</sub>	X <sub>46</sub>	X <sub>46</sub>	41	41	39	34	

The Radio Research Laboratories, Japan

OCT. 1975

FXI (0.1 MHz)

# IONOSPHERIC DATA

OCT. 1975

FOF2 (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69° 00' 4" S		Long. 39° 35' 4" E		Sweep 0.5 MHz to 15 MHz in 30 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	U <sub>25</sub> F	A	B	A	F	F <sub>40</sub>	A	R	U <sub>40</sub> F	J <sub>52</sub> F	F <sub>53</sub>	57	U <sub>59</sub> F	J <sub>59</sub> F	J <sub>62</sub> F	U <sub>60</sub> F	F <sub>59</sub>	J <sub>59</sub> F	F	F	R	J <sub>36</sub> F	J <sub>33</sub> F	U <sub>28</sub> F	
2	F	A	A	A	F	A	U <sub>38</sub> F	J <sub>46</sub> F	U <sub>46</sub> F	48	50	57	57	62	57	56	J <sub>60</sub> F	53	J <sub>52</sub> F	J <sub>45</sub> F	J <sub>40</sub> F	J <sub>32</sub> F	J <sub>31</sub> F	J <sub>29</sub> F	
3	R	A	U <sub>23</sub> R	A	A	F	J <sub>41</sub> R	J <sub>42</sub> F	U <sub>50</sub> F	53	J <sub>56</sub> R	J <sub>66</sub> R	72	71	74	71	J <sub>74</sub> R	73	J <sub>66</sub> R	46	J <sub>42</sub> F	F	A	A	
4	A	F	F	A	A	B	A	A	E <sub>35</sub> G	40	46	50	B	51	55	49	52	50	49	45	37	U <sub>26</sub> F	R	R	
5	A	A	A	A	A	F <sub>35</sub>	F <sub>38</sub>	B	F <sub>40</sub>	43	42	46	48	53	51	49	U <sub>47</sub> F	46	47	40	40	F <sub>41</sub>	U <sub>30</sub> F	U <sub>25</sub> F	
6	U <sub>21</sub> F	F	A	A	A	F	F <sub>38</sub>	B	A	B	B	B	R	B	B	F	F	F <sub>42</sub>	J <sub>40</sub> F	F	F	A	A	A	
7	A	A	A	A	A	B	A	R	B	B	B	B	B	B	B	B	B	B	F <sub>35</sub>	A	A	A	A	A	
8	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	R	F <sub>33</sub>	A	A	A	A	A	
9	A	B	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	R	F <sub>35</sub>	27	A	A	R	B	
10	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	R	37	B	37	33	F	A	A	A	
11	B	A	B	B	B	B	A	E <sub>33</sub> G	E <sub>33</sub> G	C	C	C	C	C	C	40	40	42	40	36	32	F	R	B	
12	A	B	A	B	R	B	B	R	R	B	B	B	B	B	B	B	40	40	37	25	A	U <sub>32</sub> F	A	A	
13	B	R	R	A	B	A	A	F	B	R	R	B	39	R	40	41	40	37	B	35	30	U <sub>19</sub> F	F	A	
14	A	A	A	R	A	41	J <sub>46</sub> F	J <sub>44</sub> F	42	40	46	B	R	U <sub>51</sub> R	B	B	F	F <sub>48</sub>	B	F <sub>33</sub>	J <sub>34</sub> F	R	R	A	
15	A	B	A	A	B	H <sub>30</sub>	35	U <sub>36</sub> F	B	B	41	45	43	45	45	43	42	41	40	39	37	F <sub>33</sub>	F <sub>31</sub>	F	
16	F	A	A	S	F	F	A	U <sub>39</sub> F	F <sub>40</sub>	F <sub>43</sub>	F <sub>40</sub>	U <sub>39</sub> F	U <sub>41</sub> F	U <sub>43</sub> F	42	B	43	39	40	38	J <sub>40</sub> F	J <sub>31</sub> F	A	R	
17	A	A	A	A	A	A	A	37	F <sub>34</sub>	F <sub>35</sub>	38	R	39	40	43	40	F <sub>38</sub>	F <sub>38</sub>	F <sub>38</sub>	F <sub>33</sub>	F <sub>27</sub>	F	F	F	
18	F	F	F	F	J <sub>23</sub> F	33	38	40	40	41	41	42	42	44	47	51	50	59	56	43	J <sub>39</sub> F	J <sub>40</sub> F	J <sub>39</sub> R	J <sub>34</sub> F	
19	J <sub>36</sub> R	J <sub>36</sub> R	J <sub>33</sub> R	J <sub>32</sub> F	F	J <sub>38</sub> F	J <sub>42</sub> F	F <sub>43</sub>	U <sub>44</sub> F	48	48	48	50	52	55	52	50	50	48	46	45	U <sub>43</sub> F	F	J <sub>32</sub> F	
20	A	A	A	A	A	A	B	E <sub>32</sub> G	35	U <sub>37</sub> R	39	40	42	45	45	44	42	42	40	39	F <sub>38</sub>	J <sub>36</sub> F	J <sub>34</sub> R	J <sub>33</sub> F	
21	J <sub>29</sub> F	A	A	A	F	A	R	A	40	43	40	40	42	42	43	44	43	44	42	39	38	32	30	30	
22	R <sub>26</sub>	F	A	A	R	35	F <sub>43</sub>	B	B	F <sub>46</sub>	F <sub>46</sub>	F <sub>46</sub>	47	47	45	45	45	43	41	U <sub>42</sub> F	U <sub>33</sub> F	F <sub>35</sub>	F <sub>30</sub>	A	
23	A	A	A	A	F	F	B	R	42	45	46	45	45	45	45	46	48	45	43	45	34	37	34	U <sub>28</sub> F	
24	A	A	F <sub>32</sub>	A	A	A	F <sub>42</sub>	F <sub>51</sub>	50	U <sub>49</sub> F	50	51	48	47	45	45	43	43	42	42	43	40	J <sub>37</sub> R	J <sub>34</sub> R	
25	F	J <sub>23</sub> R	J <sub>26</sub> R	J <sub>30</sub> R	J <sub>36</sub> R	F	F	J <sub>54</sub> F	J <sub>55</sub> F	J <sub>54</sub> F	51	53	53	52	53	52	46	48	44	43	J <sub>41</sub> F	J <sub>42</sub> F	J <sub>42</sub> R	J <sub>42</sub> F	
26	F	J <sub>35</sub> R	J <sub>32</sub> R	30	A	38	J <sub>46</sub> F	F <sub>49</sub>	F <sub>49</sub>	F <sub>53</sub>	F <sub>54</sub>	56	56	55	51	J <sub>49</sub> F	J <sub>47</sub> F	J <sub>47</sub> F	45	J <sub>42</sub> R	R	R	F	U <sub>24</sub> F	
27	F <sub>27</sub>	A	A	A	A	A	A	A	40	U <sub>40</sub> F	E <sub>37</sub> G	E <sub>37</sub> G	E <sub>37</sub> G	E <sub>37</sub> G	40	40	42	40	41	37	J <sub>35</sub> R	35	J <sub>36</sub> R		
28	J <sub>35</sub> R	J <sub>32</sub> R	R	32	A	A	38	40	42	45	42	42	43	48	C <sub>48</sub>	45	43	40	J <sub>40</sub> R	37	U <sub>37</sub> F	J <sub>34</sub> R	A	A	
29	A	A	F	F	R	A	A	F	B	A	B	B	R	E <sub>37</sub> G	E <sub>37</sub> G	E <sub>37</sub> G	37	38	37	35	F <sub>35</sub>	32	R	A	
30	A	A	B	A	A	A	A	U <sub>42</sub> F	U <sub>40</sub> F	B	R	42	43	41	43	47	48	42	37	37	35	F <sub>33</sub>	U <sub>24</sub> F		
31	A	A	A	B	B	A	B	B	A	A	B	B	R	B	B	B	37	37	37	U <sub>32</sub> F	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	7	4	5	6	4	8	12	14	19	20	20	18	20	22	22	22	26	27	28	27	22	20	14	13	
MED	F <sub>27</sub>	J <sub>36</sub> R	J <sub>32</sub> R	30	31	36	F <sub>40</sub>	F <sub>41</sub>	F <sub>42</sub>	F <sub>44</sub>	F <sub>46</sub>	46	44	47	45	45	43	43	40	39	F <sub>37</sub>	F <sub>35</sub>	33	J <sub>30</sub> F	
UQ	J <sub>32</sub> R	J <sub>36</sub> R	J <sub>32</sub> R	J <sub>32</sub> R	36	39	J <sub>42</sub> F	J <sub>46</sub> F	45	48	50	53	52	52	53	51	48	48	44	42	40	F <sub>38</sub>	J <sub>35</sub> R	J <sub>34</sub> F	
LQ	F <sub>26</sub>	J <sub>28</sub> R	J <sub>26</sub> R	J <sub>29</sub> R	27	34	F <sub>38</sub>	37	40	40	40	42	42	43	43	43	40	40	38	35	34	32	F <sub>30</sub>	U <sub>28</sub> F	

OCT. 1975

FOF2 (0.1 MHz)

# IONOSPHERIC DATA

OCT. 1975

FOF1 (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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								A	320	330	360	380	L	L	L	L								
2								L	L	370	370	380	L	390	L	L								
3							L			L	U L 380 400	U L 380 400	L	L	L	370	L	L						
4								A	F	350	360	370	B	R	380	370	U L 340	L						
5							L	B	350	360	F	370	370	B	380	380	L	L	L					
6								B	A	B	B	B	B	B	B	B	350	C	320					
7								A	B	B	B	B	B	B	B	B	B	B	B					
8								A	B	B	B	B	B	B	B	B	B	B	B					
9								B	B	B	B	B	R	B	B	B	B	B	B					
10								B	B	B	B	B	R	B	B	B	340	330	R					
11							A	330	330	340	340	360	C	360	U C 360	U L 360	L	L						
12							B	B	R	A	B	B	B	B	B	B	350	330	U L	L				
13							A	A	B	F	350	B	370	370	360	360	L	L						
14													B	R	B	B	B	B	330					
15								U	320	320	B	B	360	370	380	370	370	L	L	L				
16							A	F	340	F	340	350	360	360	370	F	370	F	B	L				
17							A	F	320	330	330	360	360	360	360	370	F	370						
18							L	330	F	350	360	380	360	390	400	390	380	L	380	B				
19							U	F	280	U L 330	350	360	370	370	390	390	H	390	380	350	U L 320			
20							A	B	320	330	350	360	360	370	380	380	L		L					
21							A	A	A	350	360	370	370	360	370	370	380	L	L	L				
22							U	F	300	U R 330	B	B	360	370	380	F	390	380	380	H	360	L		
23							F	B	A	360	370	370	380	380	380	380	390	370	L					
24							A	350	A	360	F	360	370	380	380	380	380	L	L	L				
25							300	F	330	F	360	F	370	380	390	H	400	390	370	L	L			
26							A	340	350	360	360	370	F	400	F	400	F	390	380	370	L	L		
27							A	A	A	A	360	370	370	370	370	F	370	F	370	F	U L 360	360	L	
28							A	F	320	F	330	350	370	370	370	370	C	380	370	L				
29							A	A	A	B	A	B	B	B	370	370	370	350	L	L				
30							A	A	A	F	350	370	B	360	360	380	H	380	370	360	350	L	L	
31							A	B	B	A	A	B	B	R	B	B	B	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						3	8	11	17	20	22	20	17	21	20	19	10	6						
MED						U	F		330	330	350	360	370	370	380	380	370	360	330					
UQ						300	F		335	345	360	370	370	380	390	380	380	370	350					
LQ						290	F		320	320	330	350	360	370	370	370	365	350	320					

The Radio Research Laboratories, Japan

OCT. 1975

FOF1 (0.01 MHz)

# IONOSPHERIC DATA

OCT. 1975

FOE (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	U K 100			C	A	U K 350	A	A	U A 240	230	250	250	260	260	250	U H 275	225	210	170	A	C	R 110	A 105		
2				B	B	B	A	180	220	220	250	255	250	250	250	U H 250	230	210	155	140	H	B	C		
3	K 70			C	B	A	170	190	210	230	260	U A 265	U F 280	U A 260	U R 255	245	230	200	A	K 275	U A 125	A			
4	U K 360	U K 175	200	U K 280	B	B	B	A	U K 275	U F 260	250	B	B	B	B	R 250	205	190	U R 180	A	B	C		K 150	
5				B	B	230	200	B	U K 300	A	255	B	B	260	250	240	U A 220	B	C	B	B	B			
6				B	B	U K 280	A	B	A	B	B	B	B	B	B	A	B	F 240	U A 230	A	A	C			
7				A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A		
8				A	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	A	A	C		
9				B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	160	A	C	
10			B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	U K 220	A	K 250	
11			B	B	B	B	B	240	R 210	240	240	U R 250	I C 270	R 270	255	250	230	B	B	B	B	C	K 330		
12	K 350		U K 320	B	K 280	B	B	B	A	B	B	B	B	B	B	B	B	B	150	B	A	U K 280	A		
13		U K 330	290	A	B	A	B	A	B	A	280	B	B	B	260	240	275	210	B	B	B	B	125		
14			B	K 330	B	K 350	180	185	230	235	250	B	B	B	B	B	B	235	B	A	A	J K 350	J K 320		
15		B	B	B	250	H 160	H 170	H 225	B	B	U A 270	270	270	260	250	240	250	H U A 220	190	H 160	B	B	B	C	
16	U K 180	C	A	U K 230	A	A	A	U K 280	220	240	240	260	270	270	A	B	B	B	190	B	110	A	A	C	
17	K 320	C	B	A	B	A	A	260	250	250	250	260	265	270	270	F 250	230	220	220	H U H 190	F 170	A	A	140	
18	U K 160	A	A	A	A	175	200	H 220	230	250	A 265	H 275	275	270	A	260	240	B	B	140	165	A	A	U R 105	
19	U H 100	A	A	A	A	170	190	215	240	250	H 265	275	280	280	270	260	H 250	H 200	200	170	A	A	A	R	
20	C	A 135	A	A	A	A	B	250	260	250	H 270	270	280	270	265	260	240	215	200	150	120	C	C	C	
21	A	B	A	B	A	A	A	B	A	260	270	260	270	270	A 275	260	250	230	200	170	125	130	100	100	
22	A	250	K 360	A	K 330	220	220	B	B	270	U A 270	280	280	260	A	U A 260	240	230	210	150	U R 100	B	C	A	
23	A	A	B	220	200	A	B	B	U K 320	270	270	270	U A 275	270	260	250	H 240	240	230	200	180	B	C	C	A
24	A	A	U K 280	350	B	A	350	A	320	255	265	275	A	275	A	260	250	225	205	160	150	95	75	B	
25	C	85	100	A	U K 210	A	210	225	250	250	250	270	H 275	280	270	265	260	230	215	H	C	A	U A 120	B	B
26	B	C	U K 170	A	A	A	230	220	250	260	270	270	270	A	F 280	A	245	230	210	210	H	A	B	A	100
27	A	B	B	A	U K 290	A	B	A	A	A	A	300	270	260	250	250	250	230	U A 195	150	C	U A 100	H 100	80	
28	A	A	A	A	A	A	U A 230	220	225	250	270	270	H 275	275	H 270	240	240	H 225	200	A	A	A	A	B	
29	A	A	160	210	A	A	A	U K 350	B	A	B	B	B	310	270	250	235	B	205	180	H	A	110	A	C
30	A	C	B	A	B	B	A	A	260	260	B	U B 290	R	275	270	260	240	B	B	175	B	B	B	C	
31	B	B	B	B	B	B	B	B	A	A	B	B	B	B	B	B	250	240	205	170	H	A	A	A	U K 280
	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	8	5	8	6	6	8	11	14	18	19	21	19	17	20	18	21	24	20	20	17	9	9	8	7	
MED	U 170	175	240	255	265	225	200	222	245	250	265	270	270	270	262	250	240	225	200	170	125	120	115	105	
UQ	335	250	305	330	290	315	225	250	260	260	270	275	275	275	270	260	250	230	208	180	165	280	285	145	
LQ	U K 100	135	165	220	210	172	185	215	225	240	250	260	270	260	250	250	230	210	190	150	120	110	100	100	

OCT. 1975

FOE (0.01 MHz)

# IONOSPHERIC DATA

OCT. 1975

FOES (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	J <sub>26</sub> A	J <sub>29</sub> A	B	35	J <sub>22</sub> A	J <sub>33</sub> A	J <sub>52</sub> A	35	32	G	G	G	G	29	G	G	G	23	G	15	15	G	18	17	
2	18	J <sub>32</sub> A	J <sub>41</sub> A	J <sub>44</sub> A	J <sub>64</sub> A	40	38	33	G	G	G	G	G	G	G	G	G	G	15	G	E <sub>9</sub> B	E <sub>10</sub> C	E <sub>33</sub> C	12	
3	10	J <sub>30</sub> A	J <sub>26</sub> A	32	52	J <sub>31</sub> A	G	G	G	G	G	35	J <sub>31</sub> A	32	G	G	G	23	22	29	26	30	J <sub>38</sub> A	J <sub>105</sub> A	
4	J <sub>39</sub> A	J <sub>61</sub> A	J <sub>46</sub> A	J <sub>50</sub> A	J <sub>40</sub> A	B	52	J <sub>46</sub> A	J <sub>38</sub> A	J <sub>36</sub> A	G	E <sub>44</sub> B	E <sub>28</sub> B	E <sub>35</sub> B	G	G	G	28	G	J <sub>34</sub> A	E <sub>13</sub> B	E <sub>10</sub> C	16	21	
5	J <sub>31</sub> A	J <sub>41</sub> A	J <sub>64</sub> A	53	45	K <sub>23</sub> B	G	B	37	43	G	E <sub>28</sub> B	E <sub>44</sub> B	G	G	G	24	E <sub>22</sub> B	E <sub>25</sub> C	E <sub>20</sub> B	E <sub>20</sub> B	E <sub>18</sub> B	E <sub>12</sub> B	12	
6	J <sub>24</sub> A	J <sub>32</sub> A	J <sub>35</sub> A	J <sub>48</sub> A	J <sub>43</sub> A	J <sub>40</sub> A	J <sub>42</sub> A	52	J <sub>51</sub> A	B	B	B	B	B	B	B	28	E <sub>27</sub> B	30	J <sub>36</sub> A	J <sub>30</sub> A	J <sub>29</sub> A	J <sub>64</sub> A	70	42
7	J <sub>36</sub> A	J <sub>104</sub> A	J <sub>65</sub> A	J <sub>36</sub> A	78	B	40	33	B	B	B	B	B	B	B	B	B	B	B	25	J <sub>36</sub> A	J <sub>41</sub> A	J <sub>45</sub> A	J <sub>96</sub> A	J <sub>54</sub> A
8	J <sub>64</sub> A	56	42	J <sub>34</sub> A	J <sub>76</sub> A	B	35	J <sub>79</sub> A	B	B	B	B	B	B	B	B	B	B	34	30	38	J <sub>33</sub> A	J <sub>45</sub> A	J <sub>86</sub> A	J <sub>57</sub> A
9	J <sub>65</sub> A	B	40	33	B	43	B	B	B	B	B	B	B	B	B	B	B	B	E <sub>30</sub> B	E <sub>20</sub> B	33	37	K <sub>25</sub> B	70	
10	B	J <sub>59</sub> A	B	B	B	B	B	B	B	B	B	B	B	B	B	E <sub>30</sub> B	G	B	E <sub>23</sub> B	E <sub>24</sub> B	22	35	J <sub>42</sub> A	J <sub>80</sub> A	
11	B	43	B	B	B	B	35	G	G	G	G	G	E <sub>30</sub> C	G	G	G	G	E <sub>23</sub> B	E <sub>23</sub> B	E <sub>18</sub> B	E <sub>15</sub> B	E <sub>12</sub> C	K <sub>33</sub> B	B	
12	J <sub>61</sub> A	B	61	78	K <sub>28</sub> B	B	B	D <sub>34</sub> C	38	B	B	B	B	B	B	B	E <sub>26</sub> B	E <sub>26</sub> B	G	E <sub>20</sub> B	J <sub>34</sub> A	58	J <sub>34</sub> A	37	
13	41	K <sub>33</sub> B	K <sub>29</sub> B	32	B	J <sub>62</sub> A	46	33	B	32	G	B	E <sub>28</sub> B	E <sub>28</sub> B	G	G	G	G	B	E <sub>31</sub> B	E <sub>18</sub> B	E <sub>12</sub> B	G	27	
14	J <sub>40</sub> A	J <sub>40</sub> A	41	K <sub>33</sub> B	49	37	G	G	G	G	G	B	E <sub>43</sub> B	B	B	E <sub>55</sub> B	G	B	26	32	J <sub>35</sub> A	J <sub>32</sub> A	55		
15	J <sub>37</sub> A	B	52	35	K <sub>25</sub> B	20	G	G	B	B	28	G	G	G	G	G	G	23	G	E <sub>12</sub> B	E <sub>10</sub> B	E <sub>10</sub> B	12		
16	26	J <sub>33</sub> A	J <sub>30</sub> A	J <sub>29</sub> A	27	30	J <sub>48</sub> A	44	G	G	G	G	G	67	J <sub>29</sub> A	B	E <sub>26</sub> B	E <sub>26</sub> B	G	E <sub>22</sub> B	22	J <sub>30</sub> A	J <sub>26</sub> A	16	
17	K <sub>32</sub> B	J <sub>43</sub> A	J <sub>49</sub> A	128	48	40	40	G	G	G	G	G	G	G	G	30	30	G	G	26	G	32	28	18	
18	23	J <sub>31</sub> A	16	15	17	G	G	G	G	28	G	G	G	G	30	G	G	E <sub>34</sub> B	E <sub>25</sub> B	G	G	15	19	J <sub>23</sub> A	
19	J <sub>24</sub> A	J <sub>26</sub> A	22	20	20	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	15	16	15	12	G
20	J <sub>36</sub> A	J <sub>46</sub> A	J <sub>43</sub> A	J <sub>50</sub> A	67	67	B	G	G	G	G	G	G	G	G	G	G	G	G	G	21	17	13	E <sub>10</sub> C	E <sub>14</sub> C
21	22	32	J <sub>49</sub> A	43	24	51	32	53	40	G	G	G	G	28	G	G	G	G	G	G	G	G	G	G	G
22	22	66	J <sub>60</sub> A	J <sub>46</sub> A	K <sub>33</sub> B	32	35	B	B	G	32	31	30	30	29	27	G	G	G	G	20	E <sub>15</sub> B	21	J <sub>37</sub> A	
23	J <sub>31</sub> A	44	47	36	30	J <sub>34</sub> A	B	35	K <sub>32</sub> B	G	G	G	29	G	G	G	G	G	G	E <sub>16</sub> B	E <sub>16</sub> C	E <sub>17</sub> C	J <sub>26</sub> A		
24	J <sub>36</sub> A	J <sub>79</sub> A	J <sub>38</sub> A	57	43	D <sub>43</sub> C	42	34	K <sub>32</sub> B	G	G	G	30	34	33	G	G	G	G	G	G	15	10	E <sub>16</sub> B	
25	22	12	12	J <sub>25</sub> A	27	J <sub>33</sub> A	G	G	G	J <sub>29</sub> A	30	G	G	G	G	G	G	24	G	E <sub>25</sub> C	18	16	E <sub>10</sub> B	30	
26	12	19	32	32	C <sub>43</sub> B	35	G	G	G	G	J <sub>29</sub> A	G	G	J <sub>29</sub> A	32	31	27	27	25	26	J <sub>37</sub> A	31	18	20	
27	24	J <sub>31</sub> A	54	J <sub>43</sub> A	31	J <sub>51</sub> A	58	42	C <sub>43</sub> B	36	42	G	G	G	G	G	G	G	22	G	E <sub>25</sub> C	15	G	G	
28	14	J <sub>25</sub> A	J <sub>26</sub> A	27	50	J <sub>48</sub> A	J <sub>41</sub> A	G	G	J <sub>26</sub> A	G	G	G	G	G	25	G	G	G	J <sub>26</sub> A	20	20	15	J <sub>34</sub> A	J <sub>49</sub> A
29	J <sub>44</sub> A	114	J <sub>61</sub> A	J <sub>61</sub> A	30	J <sub>34</sub> A	J <sub>49</sub> A	83	53	47	B	B	B	36	G	G	G	E <sub>25</sub> B	G	G	20	G	21	J <sub>31</sub> A	
30	J <sub>36</sub> A	J <sub>38</sub> A	B	J <sub>50</sub> A	36	43	54	49	43	J <sub>26</sub> A	B	G	E <sub>32</sub> B	G	G	G	G	E <sub>27</sub> B	E <sub>26</sub> B	G	E <sub>22</sub> B	E <sub>18</sub> B	E <sub>13</sub> B	J <sub>28</sub> A	
31	45	53	45	B	B	36	B	B	J <sub>49</sub> A	J <sub>41</sub> A	B	B	B	B	B	B	G	G	24	28	J <sub>80</sub> A	J <sub>105</sub> A	J <sub>76</sub> A	J <sub>45</sub> A	
CNT	29	28	27	28	26	25	25	25	24	25	22	21	21	24	23	24	28	28	29	31	31	31	31	30	
MED	J <sub>31</sub> A	J <sub>39</sub> A	J <sub>42</sub> A	36	40	36	38	33	E <sub>32</sub> B	G	G	G	G	G	G	G	G	E <sub>22</sub> B	G	E <sub>20</sub> B	18	16	20	26	
UQ	J <sub>39</sub> A	J <sub>54</sub> A	J <sub>50</sub> A	J <sub>50</sub> A	50	43	46	44	40	32	G	G	E <sub>30</sub> B	30	26	G	E <sub>24</sub> B	24	24	24	26	28	34	J <sub>34</sub> A	J <sub>45</sub> A
LQ	23	J <sub>31</sub> A	31	32	27	32	G	G	G	G	G	G	G	G	G	G	G	G	G	E <sub>15</sub> B	E <sub>12</sub> B	E <sub>12</sub> B	E <sub>12</sub> B	16	

OCT. 1975

FOES (0.1 MHz)

# IONOSPHERIC DATA

OCT. 1975

F-MIN (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA		STATION		Lat. 69° 00' 4" S		Long. 39° 35' 4" E		Sweep 0.5 MHz to 15 MHz in 30 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	7	8	B <sup>E</sup> C <sup>C</sup> <sub>13</sub>	E <sup>C</sup> <sub>10</sub>	11	17	18	14	13	12	11	11	9	14	14	15	13	13	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	10	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>				
2	9	10	14	17	19	17	15	10	10	10	10	13	E <sup>C</sup> <sub>10</sub>	10	12	11	13	9	12	E <sup>C</sup> <sub>10</sub>	9	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>33</sub>	9			
3	6	9	10	E <sup>C</sup> <sub>14</sub>	14	10	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	8	8	18	18	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	10	10	11	10	E <sup>C</sup> <sub>17</sub>	13	E <sup>C</sup> <sub>10</sub>	11	E <sup>C</sup> <sub>10</sub>	9			
4	E <sup>C</sup> <sub>13</sub>	12	10	13	18	B	19	17	E <sup>C</sup> <sub>15</sub>	14	13	44	B	28	35	20	20	15	17	14	13	E <sup>C</sup> <sub>10</sub>	5	8			
5	10	14	12	17	21	17	15	B	18	17	15	28	44	21	23	15	11	22	E <sup>C</sup> <sub>25</sub>	20	20	18	12	10			
6	E <sup>C</sup> <sub>15</sub>	7	18	15	15	13	13	43	11	B	B	B	B	B	B	25	27	16	12	E <sup>C</sup> <sub>13</sub>	10	E <sup>C</sup> <sub>10</sub>	15	13			
7	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	9	B	29	18	B	B	B	B	B	B	B	B	B	B	19	11	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	11	E <sup>C</sup> <sub>10</sub>			
8	9	21	E <sup>C</sup> <sub>15</sub>	11	15	B	24	18	B	B	B	B	B	B	B	B	B	28	22	E <sup>C</sup> <sub>10</sub>	11	E <sup>C</sup> <sub>13</sub>	E <sup>C</sup> <sub>10</sub>	9			
9	11	B	20	13	B	30	B	B	B	B	B	B	B	B	B	B	B	B	30	20	15	9	11	28			
10	B	11	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	30	22	B	23	24	8	8	15	E <sup>C</sup> <sub>12</sub>
11	B	18	B	B	B	B	28	17	E <sup>C</sup> <sub>15</sub>	20	20	20	E <sup>C</sup> <sub>30</sub>	22	17	17	16	23	23	18	15	E <sup>C</sup> <sub>12</sub>	12	B			
12	9	B	14	50	20	B	B	B	24	22	B	B	B	B	B	B	26	26	11	20	10	19	10	E <sup>C</sup> <sub>15</sub>			
13	35	24	17	15	B	16	25	15	B	20	18	B	28	28	22	20	16	E <sup>C</sup> <sub>20</sub>	B	31	18	12	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>			
14	E <sup>C</sup> <sub>10</sub>	11	20	26	27	15	13	11	11	17	15	B	B	43	B	B	55	23	B	16	7	7	10	22			
15	8	B	15	13	11	8	8	13	B	B	23	15	E <sup>C</sup> <sub>15</sub>	15	14	13	15	17	10	14	12	10	10	E <sup>C</sup> <sub>10</sub>			
16	E <sup>C</sup> <sub>15</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	9	E <sup>C</sup> <sub>15</sub>	17	12	E <sup>C</sup> <sub>10</sub>	11	E <sup>C</sup> <sub>20</sub>	11	12	12	13	B	26	26	18	22	10	E <sup>C</sup> <sub>10</sub>	6	E <sup>C</sup> <sub>10</sub>			
17	17	E <sup>C</sup> <sub>13</sub>	16	10	28	15	15	11	E <sup>C</sup> <sub>12</sub>	10	13	11	13	E <sup>C</sup> <sub>20</sub>	13	14	14	11	13	10	E <sup>C</sup> <sub>14</sub>	E <sup>C</sup> <sub>10</sub>	9	E <sup>C</sup> <sub>10</sub>			
18	E <sup>C</sup> <sub>13</sub>	E <sup>C</sup> <sub>10</sub>	10	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	10	10	E <sup>C</sup> <sub>10</sub>	12	10	11	11	15	14	12	34	25	13	10	9	9	9	9			
19	8	9	9	8	E <sup>C</sup> <sub>10</sub>	11	10	14	16	19	18	15	14	12	10	12	11	11	10	10	8	8	8	7			
20	E <sup>C</sup> <sub>13</sub>	11	9	14	E <sup>C</sup> <sub>15</sub>	21	B	10	12	E <sup>C</sup> <sub>11</sub>	9	9	10	9	11	E <sup>C</sup> <sub>10</sub>	10	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>11</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>14</sub>				
21	8	17	14	20	12	17	17	27	E <sup>C</sup> <sub>10</sub>	11	11	12	E <sup>C</sup> <sub>20</sub>	11	20	20	17	E <sup>C</sup> <sub>15</sub>	15	15	11	E <sup>C</sup> <sub>10</sub>	9	8			
22	E <sup>C</sup> <sub>12</sub>	11	15	15	27	12	11	B	B	15	14	15	14	E <sup>C</sup> <sub>15</sub>	11	14	12	8	15	12	8	15	E <sup>C</sup> <sub>10</sub>	7			
23	9	13	17	15	15	10	B	25	10	12	11	11	10	11	E <sup>C</sup> <sub>12</sub>	E <sup>C</sup> <sub>15</sub>	E <sup>C</sup> <sub>10</sub>	15	15	12	16	E <sup>C</sup> <sub>16</sub>	E <sup>C</sup> <sub>17</sub>	8			
24	12	18	9	11	27	16	13	E <sup>C</sup> <sub>12</sub>	17	10	10	11	11	9	10	10	9	E <sup>C</sup> <sub>16</sub>	E <sup>C</sup> <sub>15</sub>	E <sup>C</sup> <sub>10</sub>	9	8	7	16			
25	E <sup>C</sup> <sub>10</sub>	7	7	6	8	10	9	9	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	12	13	15	18	15	17	E <sup>C</sup> <sub>25</sub>	13	10	10	10			
26	10	E <sup>C</sup> <sub>10</sub>	10	13	14	12	10	E <sup>C</sup> <sub>16</sub>	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	9	E <sup>C</sup> <sub>10</sub>	E <sup>C</sup> <sub>10</sub>	12	13	13	10	9	9	9	7	24	9	7			
27	8	12	21	15	11	16	27	22	20	18	13	22	15	E <sup>C</sup> <sub>12</sub>	11	11	10	11	13	8	E <sup>C</sup> <sub>25</sub>	7	8	7			
28	8	9	9	E <sup>C</sup> <sub>10</sub>	18	12	10	8	9	9	E <sup>C</sup> <sub>10</sub>	10	9	11	11	10	12	12	E <sup>C</sup> <sub>10</sub>	8	12	E <sup>C</sup> <sub>11</sub>	11	15			
29	8	E <sup>C</sup> <sub>10</sub>	14	15	13	11	E <sup>C</sup> <sub>16</sub>	16	40	17	B	B	B	18	15	17	17	25	16	13	E <sup>C</sup> <sub>15</sub>	9	7	E <sup>C</sup> <sub>10</sub>			
30	10	E <sup>C</sup> <sub>12</sub>	B	14	21	28	17	15	10	10	B	29	32	15	20	22	19	27	26	16	22	18	13	E <sup>C</sup> <sub>10</sub>			
31	22	23	25	B	B	25	B	B	22	14	B	B	B	B	B	B	24	18	16	10	12	12	E <sup>C</sup> <sub>10</sub>	15			
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	31		
MED	9	11	14	14	15	16	17	16	15	14	15	18	14	14	15	15	16	16	16	12	10	9	10	9			
UQ	12	18	19	16	27	26	28	26	32	20	B	B	B	36	D <sub>35</sub>	28	23	26	21	16	13	11	10	U <sub>12</sub>			
LQ	8	10	10	10	12	12	11	11	10	10	12	11	10	11	12	12	12	12	12	9	10	10	8	8			

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F-MIN (0.1 MHz)

# IONOSPHERIC DATA

OCT. 1975

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	U F 270	A	B	A	F	F 290	A	R	U F 245	J F 275	F 290	300	F	J F 305	F	F	F 340	F	F	F	R	F	F	U F 320	
2	F	A	A	A	F	A	F	F	U F 295	F 315	F 290	320	325	325	345	340	F	F 370	R	R	F	R	C	R	
3	R	A	U R 285	A	A	F	R	F	F	F 285	R	R	F 305	315	320	325	R	325	R	345	F	F	A	A	
4	A	F	F	A	A	B	A	A	G	F 250	F 300	300	B	295	325	325	325	F 350	345	350	325	U F 310	R	R	
5	A	A	A	A	A	F 280	F 285	B	290	F 285	F 235	270	F 275	285	310	315	F	335	330	325	320	320	U F 315	U F 315	
6	U F 310	F	A	A	A	R	F 260	B	A	B	B	B	B	B	B	B	F	F 310	J F 270	F	F	A	A	A	
7	A	A	A	A	A	B	A	R	B	B	B	B	B	B	B	B	B	B	315	A	A	A	A	A	
8	A	A	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	R	305	A	A	A	A	A	
9	A	B	A	A	B	B	B	B	B	B	B	B	B	R	B	B	B	B	290	275	A	A	R	B	
10	B	A	B	B	B	B	B	B	B	B	B	B	R	B	B	R	245	B	295	325	F	A	A	A	
11	B	A	B	B	B	B	A	G	G	C	C	C	C	C	C	310	305	320	335	335	320	F	R	B	
12	A	B	A	B	R	B	B	B	R	R	B	B	B	B	B	B	300	325	295	290	A	U F 305	A	A	
13	B	R	R	A	B	A	A	F	B	R	R	B	260	R	275	290	310	310	B	330	320	U F 275	F	A	
14	A	A	A	R	A	270	J F 285	J F 295	265	230	260	B	B	U R 260	B	B	F	F 290	B	F 335	J F 295	R	R	A	
15	A	B	A	A	250	R 275	H 265	F	B	B	245	275	270	260	F 295	300	320	315	325	330	330	305	305	F	
16	F	A	A	S	F	F	A	F	255	F 275	F 250	F	F	F	F 275	B	320	335	335	330	F	U F 285	A	R	
17	A	A	A	A	A	A	A	270	F	F	230	R	230	250	285	F	330	310	320	320	305	F	F	F	
18	F	F	F	F 280	J F 290	295	290	285	F 275	250	265	285	260	F 285	315	330	290	325	345	340	J F 310	F	R	F	
19	R	R	R	F	F	F	F	F 275	F	280	290	270	280	305	310	325	340	340	340	340	320	U F 325	F	F	
20	A	A	A	250	A	A	B	G	R	R	235	250	250	280	285	295	315	335	330	325	330	F	R	R	
21	F	A	A	A	F	A	R	A	245	265	245	250	260	255	280	310	310	320	335	335	335	330	300	305	
22	300	F	A	A	R	255	F 270	B	B	F 285	F 280	F 280	F 290	300	295	295	320	320	320	F	F	F 305	F 315	A	
23	A	A	A	A	F	F	B	R	250	F 285	F 285	270	250	290	270	290	325	335	325	350	325	330	315	F	
24	A	A	265	A	A	A	245	F 275	F 275	F 275	F	F 275	F 275	280	300	305	310	310	330	310	335	325	310	R	R
25	F	J E 295	J B 295	R	R	F	F	F	F	F	F	F 280	F 270	300	305	305	315	325	325	340	F 330	F	F	F	R
26	F	R	J B 305	265	A	F 270	J E 265	F 285	280	F 280	F 280	290	300	F 300	315	F 325	F	F	315	R	R	R	300	F	U F 275
27	F 310	A	A	A	270	A	A	A	A	F 250	F	G	G	G	G	275	315	310	315	R 325	F 325	J R 315	300	R	
28	R	J B 290	R	280	A	A	260	250	255	F 260	F 280	235	240	F 290	315	310	310	330	R	330	F	J R 290	A	A	
29	A	A	F	F	R	A	A	F	B	A	B	B	B	G	G	G	255	285	305	330	300	F 295	R	A	
30	A	A	B	A	A	A	A	A	F	F	B	R	260	270	270	280	295	300	315	325	340	315	310	F	U F 240
31	A	A	A	B	B	A	B	B	A	A	B	B	B	B	B	B	285	325	305	F	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	4	2	4	4	3	7	9	9	13	15	18	16	18	21	21	20	22	25	25	23	16	15	8	5	
MED	305	J 292	290	R 272	270	275	265	F 275	255	F 275	F 278	272	265	290	295	310	312	325	320	330	322	310	F 308	F 305	
UQ	310		J B 300	280	280	285	285	F 285	F 275	F 285	F 285	288	290	300	315	325	325	335	335	335	335	328	318	F 315	F 315
LQ	285		275	258	260	270	F 260	250	245	F 255	F 245	260	250	260	275	292	300	310	305	F 325	315	F 300	300	F 275	

OCT. 1975

M(3000)F2 (0.01)

# IONOSPHERIC DATA

OCT. 1975

H'F2 (KM)

°  
45 E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00' 4" S, Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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								A	500	365	320	315	L	L	250	245								
2								L	L	320	L	275	265	270	250	L								
3							L			L	290	270	L	250	250	255	L	240						
4								A	G	480	345	350	B	B	325	290	250	L						
5							L	B	265	390	410	410	B	B	330	310	L	L	245					
6								B	A	B	B	B	B	B	B	300	C	320						
7								R	B	B	B	B	B	B	B	B	B	B						
8								A	B	B	B	B	B	B	B	B	B	B						
9								B	B	B	B	B	R	B	B	B	B	B						
10								B	B	B	B	B	B	B	B	R	525	B						
11								A	G	G	C	C	C	C	C	350	L	L						
12								B	B	R	R	B	B	B	B	B	350	310	L					
13								A	A	B	R	R	B	R	R	455	370	L	L					
14								340	325	390	580	425	B	B	430	B	B	B	325					
15								L	F	B	B	500	355	415	430	360	L	L	L					
16								A	500	455	400	510	F	540	315	410	B	L						
17								A	440	690	R	620	R	600	500	400	355							
18								L	370	425	500	480	415	450	F	330	340	295	340	270				
19								F	L	400	430	375	370	415	370	325	300	270	255	240				
20								A	B	G	700	R	550	515	500	410	390	L						
21								A	A	A	475	410	540	520	450	470	410	330	L	L	L			
22								485	415	B	B	385	400	405	360	350	370	350	300	L				
23								F	B	A	410	390	380	710	480	390	410	355	300	L				
24								A	490	380	375	410	400	380	360	350	350	L	L	L				
25								370	340	350	F	350	350	360	365	325	325	320	300	L	L			
26								400	380	340	390	355	350	350	320	325	320	280	290	250	L			
27								A	A	A	A	505	U	F	G	G	G	425	L	320	L			
28								A	465	450	445	445	410	480	530	355	320	325	L					
29								A	A	A	B	A	B	B	B	G	G	G	505	L	L			
30								A	A	A	U	F	U	F	B	R	475	435	450	405	355	310	L	
31								A	B	B	A	A	B	B	B	B	B	B	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						3	7	11	17	17	19	17	17	21	22	19	9	10						
MED						400	380	400	445	400	410	405	450	355	355	330	340	290						
UQ						442	440	475	500	480	505	480	500	430	410	355	355	320						
LQ						385	340	360	390	375	365	350	370	325	310	288	300	245						

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H'F2 (KM)



# IONOSPHERIC DATA

OCT. 1975

H<sup>o</sup>F (KM)

45° E Mean Time (G. M. T. + 3 h)

Station **SYOWA STATION** Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	290	A	B	A	365	375	A	A	H 240	U H 210	U H 220	H 205	205	220	205	220	H 210	220	225	210	220	250	240	250
2	A 305	A	A	A	A	A	U F 390	225	210	230	200	230	205	200	210	210	220	200	210	210	220	210	A 225	A 225
3	250	A	E A 340	U A 350	A	Q 315	220	H 230	250	220	210	220	215	210	240	190	230	240	215	240	240	330	A	A
4	A	U F 410	290	A	A	B	A	A	300	265	225	B	B	260	I B 240	220	H 225	230	220	225	235	230	A	R
5	A	A	A	B	B	350	300	B	290	H 200	250	230	B	235	210	220	200	220	245	240	240	250	240	250
6	C 300	A	B	A	A	U F 480	435	B	A	B	B	B	B	B	B	260	260	270	300	370	A	A	A	A
7	A	A	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	A 280	A	A	A	A	A
8	A	B	A	A	A	B	A	B	B	B	B	B	B	B	B	B	B	B	B 325	A	A	A	A	A
9	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	R	B
10	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	E B 250	230	B	B 275	290	A	A	A	A
11	B	C	B	B	B	B	B	275	C 255	280	H 220	210	225	H 220	255	225	220	240	240	245	240	E C 380	R	B
12	A	B	A	B	R	B	B	B	R	A	B	B	B	B	B	B	225	250	250	345	A	360	A	A
13	B	R	R	A	B	A	A	A	B	215	220	B	200	H 200	215	225	255	225	B E B 280	250	300	B 380	U F	A
14	A	A	B	R	A	420	240	H 220	H 200	H 210	240	B	B	B	B	B	B	275	B	250	300	R	R	A
15	A	B	A	A	U R 300	270	260	250	B	B	H 200	230	220	225	U H 190	220	210	220	225	250	230	230	250	C 280
16	F	A	A	F	A	240	A	315	220	210	200	250	220	H 200	200	B	225	225	240	245	230	305	A	A
17	A	A	A	A	B	A	A	270	H 220	210	200	250	225	H 240	240	220	H 215	225	250	H 290	290	440	A	U F 380
18	425	A	F	350	380	250	230	225	195	215	220	200	U H 200	200	200	210	H 200	B	230	220	225	240	255	290
19	280	280	300	310	295	250	225	225	230	240	215	225	215	205	H 230	210	210	210	H 220	230	225	225	225	255
20	A	A	A	A	A	A	B	260	235	210	195	240	230	220	225	210	215	200	210	225	240	230	240	245
21	290	A	A	A	F	A	A	A	E A 300	280	250	215	225	230	245	230	215	225	215	240	240	240	245	250
22	280	A	A	A	R	U A 250	275	B	B	230	225	210	230	220	225	210	230	230	225	240	250	280	275	A
23	A	A	A	A	F	F	B	A	285	225	220	210	220	200	205	230	210	220	H 220	235	230	230	250	F 290
24	A	A	425	A	A	A	A	A	270	H 200	225	210	215	200	205	220	210	205	225	245	240	230	230	B 255
25	280	265	260	300	305	225	240	H 210	205	200	U H 195	H 210	200	200	240	205	225	220	230	230	245	245	250	245
26	250	260	280	A 375	A	A	250	210	220	210	205	200	215	210	210	200	210	205	210	220	A	B	300	330
27	260	A	A	A	420	A	A	A	A	A	E A 275	200	275	230	225	210	220	225	225	240	245	250	245	240
28	250	230	350	E A 375	A	A	375	205	205	220	225	H 200	245	H 210	215	210	205	H 200	225	230	245	255	A	A
29	A	A	F	F	A	A	A	A	B	A	B	B	B	275	230	220	240	B 240	260	250	270	270	A	A
30	A	A	B	A	A	A	A	A	U F 250	U H 210	B	240	225	200	245	245	230	230	230	245	250	255	250	330
31	B	B	B	B	B	A	B	B	A	A	B	B	B	B	B	B	240	245	255	270	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	12	5	7	6	6	11	12	13	19	21	22	20	20	23	23	24	27	26	28	28	23	23	16	15
MED	280	265	295	340	372	270	255	225	232	215	220	212	220	210	225	220	220	225	228	240	240	250	248	255
UQ	295	280	345	A 375	420	362	338	260	257	230	225	230	225	228	240	224	230	240	250	250	248	282	252	290
LQ	255	260	285	310	305	250	235	220	215	210	200	208	210	200	208	210	210	220	220	230	230	230	240	248

The Radio Research Laboratories, Japan

OCT. 1975

H<sup>o</sup>F (KM)

# IONOSPHERIC DATA

OCT. 1975

H<sup>+</sup>ES (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00' 4" S, Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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	K 125	105	B	100	110	K 110	110	100	150	G	G	G	G	150	G	G	G	145	G	165	130	G	120	130		
2	110	115	110	110	110	100	100	135	G	G	G	G	G	G	G	G	G	95	G	G	B	C	C	110		
3	K 110	120	130	170	100	110	G	G	G	G	G	110	110	110	G	G	G	130	125	K 125	140	115	110	100		
4	K 140	K 130	K 105	K 150	110	B	110	100	105	110	G	B	B	B	B	G	G	170	G	100	B	C	150	K 150		
5	115	100	100	100	100	K 115	G	B	K 110	110	G	B	B	G	G	G	110	B	C	B	B	B	B	100		
6	120	115	120	100	105	K 120	115	110	100	B	B	B	B	B	B	B	125	B	175	110	115	115	100	115	100	
7	100	100	100	100	110	B	110	120	B	B	B	B	B	B	B	B	B	B	B	140	105	100	100	100	100	
8	105	100	100	100	100	B	130	105	B	B	B	B	B	B	B	B	B	B	160	150	115	105	105	130	125	
9	100	B	100	115	B	105	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	K 125	110	K 100	140
10	B	105	B	B	B	B	B	B	B	B	B	B	B	B	B	B	G	B	B	B	105	K 110	110	110	110	
11	B	100	B	B	B	B	110	G	G	G	G	G	C	G	G	G	G	B	B	B	B	C	K 110	B		
12	K 150	B	K 150	K 160	K 110	B	B	B	100	100	B	B	B	B	B	B	B	B	B	G	B	115	K 180	110	100	
13	130	K 125	K 110	K 120	B	110	165	100	B	110	G	B	B	B	G	G	G	G	B	B	B	B	B	G	110	
14	110	100	125	K 130	110	K 110	G	G	G	G	G	B	B	B	B	B	B	G	B	130	130	K 105	K 125	K 125		
15	100	B	100	110	K 110	145	G	G	B	B	125	G	G	G	G	G	G	120	G	G	B	B	B	125		
16	K 140	110	115	K 120	110	110	110	110	K 110	G	G	G	G	G	100	110	B	B	B	B	G	B	120	115	100	110
17	K 125	110	100	100	115	100	100	G	G	G	G	G	G	G	G	G	140	135	G	G	135	G	110	110	115	
18	K 120	K 125	K 125	K 125	120	G	G	G	G	105	G	G	G	G	105	G	G	B	B	G	G	125	155	140		
19	130	115	120	130	125	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	100	100	100	100	G	
20	120	115	105	115	160	105	B	G	G	G	G	G	G	G	G	G	G	G	G	G	130	130	130	C	C	
21	115	130	100	110	110	160	115	120	100	G	G	G	G	100	G	G	G	G	G	G	G	G	G	G	G	
22	135	K 110	K 150	K 110	K 140	115	110	B	B	G	105	105	100	100	100	110	G	G	G	G	145	B	130	110		
23	120	110	100	K 130	K 130	105	B	110	K 100	G	G	G	100	G	G	G	G	G	G	G	B	C	C	110		
24	125	100	K 100	K 100	115	110	K 115	100	K 115	G	G	G	100	100	100	G	G	G	G	G	G	125	125	B		
25	100	130	130	130	K 110	110	G	G	G	100	110	G	G	G	G	G	G	115	G	C	145	130	B	100		
26	120	150	K 120	110	100	100	G	G	G	G	100	G	G	100	100	105	100	145	145	160	100	165	140	125		
27	115	120	110	110	K 110	110	100	100	100	105	105	G	G	G	G	G	G	G	G	110	G	C	135	G	G	
28	120	110	115	110	100	110	105	G	G	95	G	G	G	G	100	G	G	G	95	120	110	140	125	100		
29	100	110	140	K 110	100	100	100	K 175	115	100	B	B	B	130	G	G	G	B	G	G	150	G	120	115		
30	120	130	B	110	105	110	105	100	145	100	B	G	B	G	G	G	G	B	B	G	B	B	B	110		
31	110	100	110	B	B	115	B	B	100	100	B	B	B	B	B	B	G	G	140	140	115	100	100	K 110		
CNT	29	28	27	28	26	23	17	14	12	11	5	2	4	8	6	4	3	9	8	13	18	19	21	25		
MED	120	110	110	110	110	110	110	108	102	100	105	108	100	100	100	118	110	145	132	125	118	115	115	110		
UQ	125	122	122	128	115	112	115	120	115	108	110	105	120	105	132	122	160	142	135	130	130	125	125			
LQ	110	102	100	105	105	105	105	100	100	100	105	100	100	100	108	105	120	110	115	105	105	110	100			

OCT. 1975

H<sup>+</sup>ES (KM)

# IONOSPHERIC DATA

45° E Mean Time (G. M. T. + 3 h)

OCT. 1975

TYPES OF ES

Station SYOWA STATION Lat. 69° 00' 4" S Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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	RK11	R1		R2	R3	RK21	R1	R1	H1					H1				HA11		RA11	H1		C1	FA11	
2	RA11	R3	B3	B2	R1	R1	R1	H1																F1	
3	CK11	RA11	R1	RR11	RA11	R2					L1	C2	C1					HL11	R1	RK11	RA11	R2	R3	RA21	
4	BK22	RK11	RK11	RAK11	CA11		R1	R1	BK21	R1								A1		H11			RA11	HKA11	
5	B5	R1	R3	R2	R1	K1			CK11	C1							RL11							F1	
6	RA11	RF41	R1	R2	R2	BK31	R4	C1	R2						R1			HA11	RA11	RA31	RA21	RA11	RA21	R1	
7	R2	RA11	R3	R3	RA11		R1	RA11											R1	RS21	RS21	RS21	RA11	RA11	
8	RA21	R1	R1	R2	RA11		H1	RA11										R1	R1	R2	RS31	R2	AR16	RA31	
9	RR11		R1	RL11		R1															RK11	RS31	K4	RA11	
10		R3																			RA11	K6	R3	RA11	
11		R1					R1																K2		
12	RAK21		RKA11	R1	K1				L1	R1											R1	AK11	RA31	RA11	
13	R1	K1	K1	R1		R1	HR11	R1		RA11														R2	
14	BS11	R3	RS11	K1	R1	BK21														R1	RA4	K6	K4	RS11	
15	RA11		R1	R2	K3	H1					C1								C1					C1	
16	RK11	RL51	R4	RKA51	RAA22	R1	RS11	RK12					L1	C1							C1	RAS11	R2	RA11	
17	K2	R4	R2	B2	R1	R1	R2								RA11	HA11				R1		RA21	R4	R1	
18	RKA11	RA31	R1	R2	R3					R2					R1							R1	RC11	RA11	
19	R1	R1	RA11	RA11	R1																L1	L1	L1	L1	
20	R2	R3	R3	RA21	RR12	RR11															R1	R1	RA11		
21	RA11	R2	R2	RA11	RA11	AR11	R1	R1	R2						R1								RA11	RS	
22	RA11	RKA11	RK12	R2	K1	R1	R1				R1	R1	R1	R1	R1	R1					R1		RA11	RS	
23	R3	R3	R1	RK11	R1	R1		R1	K2					R2										RA11	
24	R3	RA11	RK21	KRA21	R1	R2	RK12	R2	K1					R2	R2	R2						H1	H1		
25	L1	R1	R1	CL11	RKA11	B3					C1	C1							R1		H1	R1		C2	
26	A1	AR11	RK11	RA11	R2	R2					C1			C1	C1	R1	R2	H1	H1	H1	R3	R1	RA11	RA11	
27	R1	R3	R1	B2	BK21	R2	L1	L1	R1	R1	R2											R1			
28	R1	R1	R1	R3	R1	R2	RA31				L1				L1					L1	RL11	RA11	RA11	RS21	
29	RS21	RA21	RAC11	RAK11	R1	RA21	RA21	AK11	R1	R1				H1							R1		RA11	R6	
30	R6	RA31		RA21	R1	R1	RA11	R1	RCA11	L1													RA11	R2	
31	R1	R1	R1			R1			R1	R2										H1	R1	RA11	RA11	RA21	RK11
	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. 1975

TYPES OF ES

# IONOSPHERIC DATA

NOV. 1975

FXI (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69° 00' 4" S, Long. 39° 35' 4" E		Sweep 0.5 MHz to 15 MHz in 30 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	R	R	A	A	A	O R 37	40	45	O R 46	O R 49	O R 46	O R 46	R	O R 47	O R 48	O R 46	B	O R 46	X 45	43	X 42	X 38	40	38	
2	A	53	B	B	48	R	A	52	B	O R 43	R	52	O R 47	48	52	62	B	A	A	A	81	A	A		
3	A	A	A	A	B	A	R	R	B	B	B	B	B	B	B	B	76	O R 46	C 58	116	91	B	A	B	
4	B	B	R	A	O R 38	B	B	B	B	B	B	B	B	B	B	B	O R 41	R	O R 40	O R 37	92	35	A	65	
5	R	R	A	B	55	B	B	R	45	O R 48	O R 47	R	B	R	B	B	R	C 47	45	O R 39	R	O R 37	A	B	
6	B	B	O R 33	B	B	B	B	B	B	R	50	O R 46	R	O R 46	O R 47	B	B	B	B	X 42	X 42	B	O R 40	42	
7	47	47	X 48	53	51	B	A	O R 48	52	X 51	X 52	X 52	X 52	X 52	X 52	O R 53	X 54	O R 54	54	X 48	R	O R 40	36	X 39	
8	X 38	40	35	O R 41	O R 44	R	51	B	58	60	57	O R 54	O R 53	B	B	B	55	54	X 53	X 50	X 48	X 50	X 52	X 47	
9	O R 35	A	O R 39	O R 46	48	A	B	A	O R 48	O R 49	X 48	X 53	B	B	B	O R 50	B	B	44	71	89	35	85	57	
10	U S 55	O S 49	70	100	93	92	R	X 42	X 42	X 42	X 43	X 43	X 43	X 44	O R 45	X 46	X 47	46	45	X 43	X 45	47	93	R	
11	45	B	B	B	B	R	B	R	R	R	X 43	X 43	O R 47	B	R	O R 47	O R 46	B	B	O R 44	X 45	52	O R 40	O R 41	
12	A	B	B	B	B	B	B	R	R	B	B	O R 51	R	R	O R 48	O R 48	O R 48	X 48	X 49	X 46	X 44	X 43	X 42	R	
13	38	O R 36	X 42	U S 45	46	45	45	X 48	R	O R 47	51	O R 50	45	U S 45	48	X 47	O R 47	X 48	X 48	X 49	X 48	X 47	X 47	X 45	
14	X 44	41	41	45	49	50	49	51	52	X 52	X 51	O R 50	51	X 53	53	52	53	41	51	48	50	X 48	R	32	
15	42	R	X 42	O R 41	47	55	53	59	60	63	63	61	59	58	56	54	54	52	51	50	50	51	47	46	
16	39	X 42	O R 44	B	R	X 50	O R 48	A	R	53	54	R	53	R	56	O R 58	55	52	52	53	52	52	50	47	
17	57	U S 58	52	52	71	53	60	63	62	60	58	59	65	67	66	72	O R 73	53	70	U S 70	87	92	A	A	
18	A	U S 45	U S 98	R	U S 61	64	45	R	X 50	O R 46	W	O R 47	O R 50	X 52	X 50	X 50	X 50	X 51	X 50	X 48	X 46	X 44	X 42	S 39	
19	X 39	67	S 39	46	U S 55	57	53	R	O R 48	53	52	B	56	B	R	52	X 56	53	C	C	C	C	X 43	R	
20	O R 43	R	45	57	A	A	A	48	53	58	57	X 56	X 51	X 51	X 50	X 52	C 49	C 49	O R 49	X 46	O R 48	X 42	X 48	R	
21	A	A	57	40	55	R	B	B	A	85	B	B	B	B	B	B	O R 62	X 57	58	53	55	X 61	S 49	87	
22	X 42	39	X 42	O R 42	O R 49	52	70	R	R	R	B	R	R	B	B	82	73	R	R	57	O R 43	O R 41	A	B	
23	57	90	A	O R 37	R	A	O R 39	X 43	X 43	X 52	X 55	O R 45	O R 47	O R 51	X 53	X 51	X 52	X 48	X 48	X 46	X 45	X 45	X 44	X 44	
24	X 45	X 45	46	50	O R 47	X 49	52	52	X 53	X 59	X 58	64	62	64	66	O R 62	68	60	55	54	R	47	R	B	
25	A	44	B	A	B	A	A	A	R	B	B	O R 53	X 53	58	O R 62	O R 59	61	X 54	57	O R 45	46	44	45	X 42	
26	R	B	O R 48	52	R	60	65	74	69	66	O R 62	63	R	B	B	B	O R 75	B	B	O R 53	B	B	R	43	
27	S 52	S 50	S 58	B	R	51	57	64	71	66	64	O R 62	R	O R 60	X 58	B	O R 55	X 52	O R 51	X 52	52	50	52	56	
28	S 56	U S 52	O R 49	R	R	R	51	58	56	X 60	X 65	O R 68	74	77	77	75	62	62	63	64	48	44	45	X 44	
29	X 42	O R 38	46	48	55	58	R	52	65	70	68	B	75	73	73	78	67	R	48	126	86	A	A	B	
30	R	A	R	44	42	R	B	R	R	B	B	B	B	B	O R 52	B	R	R	R	R	X 46	R	R	52	
31																									
	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	18	17	20	17	18	14	15	15	18	21	22	20	18	17	20	21	25	21	23	27	24	24	19	19	
MED	44	45	46	46	49	52	51	52	52	53	X 53	O R 52	X 52	52	52	52	55	X 52	51	49	48	46	45	44	
UQ	52	S 52	50	52	55	58	55	58	60	60	X 58	60	X 59	60	60	59	62	X 54	54	54	54	50	50	50	
LQ	39	41	42	42	47	50	46	48	48	49	48	O R 46	X 50	47	48	X 50	50	48	48	X 46	X 46	42	42	42	

NOV. 1975

FXI (0.1 MHz)

# IONOSPHERIC DATA

NOV. 1975

FOF2 (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station **SYOWA STATION** Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	R	R	A	A	A	F <sub>30</sub>	F <sub>34</sub>	U <sub>37</sub>	E <sub>40</sub>	F <sub>40</sub>	F <sub>40</sub>	40	R	41	42	40	B	40	39	F <sub>36</sub>	35	32	J <sub>32</sub>	F <sub>32</sub>	
2	A	F	B	B	F	A	A	R	B	B	E <sub>37</sub>	R	U <sub>42</sub>	F <sub>40</sub>	F <sub>42</sub>	F <sub>45</sub>	F <sub>47</sub>	B	A	A	A	F	A	A	
3	A	A	A	A	B	A	R	R	B	B	B	B	B	B	B	B	R	U <sub>39</sub>	R	A	A	B	A	B	
4	B	B	R	A	F	B	B	B	B	B	B	B	B	B	B	B	E <sub>35</sub>	R	34	31	A	U <sub>28</sub>	A	B	
5	A	A	A	B	F <sub>33</sub>	B	B	R	U <sub>38</sub>	F <sub>40</sub>	41	R	B	R	B	B	R	41	F <sub>38</sub>	33	A	U <sub>31</sub>	A	B	
6	B	B	R	B	B	B	B	B	B	A	F <sub>41</sub>	40	I <sub>40</sub>	40	41	B	B	R	B	36	36	B	F <sub>32</sub>	F <sub>35</sub>	
7	J <sub>39</sub>	F <sub>41</sub>	J <sub>42</sub>	F <sub>43</sub>	F	B	A	42	F <sub>44</sub>	F <sub>44</sub>	45	46	F <sub>46</sub>	44	45	47	48	48	F <sub>47</sub>	42	R	F <sub>32</sub>	F <sub>30</sub>	33	
8	32	F	J <sub>27</sub>	F <sub>33</sub>	38	R	F <sub>45</sub>	B	J <sub>50</sub>	F <sub>52</sub>	51	48	47	B	B	B	F <sub>48</sub>	F <sub>47</sub>	46	43	42	44	45	J <sub>41</sub>	
9	F <sub>28</sub>	A	33	40	U <sub>42</sub>	A	B	A	U <sub>40</sub>	F <sub>41</sub>	42	47	B	B	B	44	B	B	U <sub>34</sub>	F <sub>37</sub>	F <sub>29</sub>	F <sub>29</sub>	F	F	
10	F	U <sub>43</sub>	F	F	F	A	A	E <sub>35</sub>	E <sub>36</sub>	E <sub>36</sub>	E <sub>37</sub>	E <sub>37</sub>	E <sub>37</sub>	E <sub>38</sub>	39	40	F <sub>42</sub>	F <sub>40</sub>	F <sub>39</sub>	F <sub>37</sub>	38	F <sub>38</sub>	F	R	
11	F	B	B	B	B	A	B	A	A	R	E <sub>37</sub>	E <sub>37</sub>	41	B	R	41	40	B	B	38	39	F	F <sub>34</sub>	35	
12	A	B	B	B	B	B	B	A	A	B	B	45	R	R	U <sub>42</sub>	42	42	42	42	43	40	38	37	36	R
13	U <sub>22</sub>	F <sub>29</sub>	36	F	F <sub>39</sub>	F <sub>39</sub>	F <sub>39</sub>	42	R	U <sub>41</sub>	F <sub>43</sub>	U <sub>41</sub>	E <sub>39</sub>	E <sub>39</sub>	U <sub>41</sub>	F <sub>41</sub>	F <sub>41</sub>	F <sub>41</sub>	41	42	42	42	41	41	J <sub>39</sub>
14	J <sub>38</sub>	F <sub>35</sub>	J <sub>34</sub>	U <sub>35</sub>	F <sub>39</sub>	U <sub>43</sub>	U <sub>41</sub>	F <sub>44</sub>	F <sub>43</sub>	46	45	44	45	46	46	F <sub>45</sub>	F <sub>46</sub>	F <sub>45</sub>	44	F <sub>42</sub>	44	J <sub>42</sub>	R	J <sub>26</sub>	
15	F	R	J <sub>36</sub>	F <sub>32</sub>	F <sub>40</sub>	F <sub>46</sub>	F <sub>46</sub>	F <sub>51</sub>	F <sub>52</sub>	57	60	55	53	52	50	48	48	46	45	44	44	45	J <sub>41</sub>	J <sub>37</sub>	
16	J <sub>30</sub>	J <sub>36</sub>	U <sub>38</sub>	B	A	F <sub>43</sub>	42	A	R	U <sub>45</sub>	F <sub>47</sub>	R	F <sub>47</sub>	I <sub>47</sub>	50	F <sub>48</sub>	F <sub>47</sub>	F <sub>45</sub>	F <sub>45</sub>	F <sub>45</sub>	U <sub>45</sub>	44	J <sub>42</sub>	F	
17	J <sub>46</sub>	J <sub>46</sub>	J <sub>42</sub>	F <sub>41</sub>	R	F <sub>47</sub>	U <sub>52</sub>	J <sub>56</sub>	U <sub>52</sub>	F <sub>54</sub>	52	52	59	62	58	66	67	47	F	F	F	F	A	A	
18	A	F	F	A	F	F	F	R	44	F <sub>40</sub>	W	41	44	46	44	43	44	45	43	42	40	38	J <sub>38</sub>	J <sub>34</sub>	
19	J <sub>33</sub>	32	F	R	F	F	F	A	U <sub>40</sub>	U <sub>44</sub>	F <sub>44</sub>	B	50	B	R	45	50	47	C	C	C	C	37	R	
20	37	R	F	F	A	A	A	F <sub>41</sub>	F <sub>46</sub>	51	50	49	45	45	44	46	43	43	43	40	U <sub>42</sub>	U <sub>35</sub>	U <sub>42</sub>	R	
21	A	A	F <sub>35</sub>	U <sub>35</sub>	F <sub>39</sub>	R	B	B	A	A	B	B	B	B	B	B	56	51	50	U <sub>45</sub>	F <sub>47</sub>	J <sub>55</sub>	F <sub>43</sub>	R	
22	36	35	F <sub>35</sub>	F <sub>36</sub>	42	U <sub>44</sub>	A	A	R	R	B	R	R	B	B	F	B	R	R	B	F <sub>35</sub>	F	A	B	
23	R	R	A	F <sub>30</sub>	A	A	E <sub>33</sub>	E <sub>37</sub>	E <sub>37</sub>	46	48	39	41	45	47	45	45	42	41	40	40	39	38	37	
24	38	38	F <sub>40</sub>	U <sub>40</sub>	42	42	42	44	47	53	52	58	55	58	60	56	61	53	F <sub>47</sub>	F <sub>47</sub>	R	U <sub>38</sub>	R	B	
25	A	U <sub>38</sub>	B	A	B	A	A	A	A	B	B	C <sub>47</sub>	R	F <sub>50</sub>	F <sub>55</sub>	53	55	48	50	49	F	F <sub>38</sub>	F <sub>39</sub>	36	
26	R	B	F	U <sub>41</sub>	R	F	U <sub>48</sub>	U <sub>56</sub>	U <sub>62</sub>	U <sub>60</sub>	56	U <sub>56</sub>	R	B	B	B	69	B	B	U <sub>47</sub>	B	B	R	F	
27	F	U <sub>42</sub>	U <sub>43</sub>	B	R	F <sub>44</sub>	U <sub>46</sub>	F <sub>49</sub>	F	F	U <sub>55</sub>	56	R	54	52	B	C <sub>49</sub>	46	45	45	F <sub>45</sub>	F <sub>44</sub>	F <sub>45</sub>	J <sub>46</sub>	
28	F	F	F <sub>43</sub>	A	R	A	F <sub>43</sub>	U <sub>48</sub>	48	54	59	62	U <sub>65</sub>	J <sub>71</sub>	F	F	F <sub>55</sub>	U <sub>55</sub>	53	U <sub>45</sub>	F <sub>38</sub>	F <sub>37</sub>	F <sub>34</sub>	38	
29	J <sub>36</sub>	32	F	U <sub>42</sub>	F	F	R	F <sub>46</sub>	F <sub>54</sub>	F <sub>54</sub>	U <sub>56</sub>	B	J <sub>69</sub>	F	F	F	U <sub>44</sub>	R	U <sub>42</sub>	F	F	A	A	B	
30	A	A	R	F	F <sub>35</sub>	R	B	A	A	B	B	B	B	B	U <sub>46</sub>	B	R	R	R	R	40	A	R	U <sub>44</sub>	
31																									
CNT	12	12	13	12	10	9	12	14	17	19	22	20	18	17	18	18	23	21	21	23	19	20	17	14	
MED	36	37	36	38	39	43	42	44	44	46	46	46	46	46	46	45	47	45	43	42	40	38	38	36	
UQ	38	42	42	41	42	44	46	49	50	54	52	54	53	52	50	48	52	47	46	45	43	43	42	J <sub>39</sub>	
LQ	31	32	F <sub>35</sub>	F <sub>33</sub>	F <sub>38</sub>	F <sub>42</sub>	40	41	F <sub>40</sub>	F <sub>41</sub>	41	40	41	41	42	42	44	42	41	38	38	34	F <sub>34</sub>	34	

NOV. 1975

FOF2 (0.1 MHz)

# IONOSPHERIC DATA

NOV. 1975

FOF1 (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00' 4" S, Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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						270	F 300	F 330	F 350	360	370	370	370	370	370	370	B	L	L	L					
2						A	A	A	B	B	370	370	370	360	360	350	350	B							
3						A	U F 320	F 350	B	B	B	B	B	B	B	B	R	F		300					
4						B	B	B	B	B	B	B	B	B	B	B									
5						B	B	350	350	360	360	360	B	370	B	B	360	350	F 330						
6						B	B	B	B	A	380	370	370	380	380	B	B	B	B						
7					F	B	A	U R 380	370	380	380	400	380	380	F 400	390	380	370	L	L					
8						A	350	B	F 370	380	400	390	B	B	B	B	390	L	L	L					
9						A	B	A	380	380	380	380	B	B	B	B	B	B							
10						A	A	350	360	360	370	370	370	380	370	370	F 360	350	L	L	L				
11						A	B	A	A	350	370	370	380	B	380	370	370	B	B						
12						B	B	A	A	B	B	380	390	380	390	390	380	370	L						
13						F	F	F	B	370	380	390	390	390	400	F 390	F 390	L	L	L					
14					F	U F 310	F 320	F 330	350	A	370	380	400	400	F 400	U F 400	U F 400	L	L						
15					320	F 320	F 340	F 360	F 360	380	400	400	F 400	F 400	400	400	400	370	L	L					
16					A	330	A	A	A	F 390	U C 400	400	400	I R 400	U R 400	U C 400	F 390	390	L	L	L				
17					320	350	F 380	F 380	400	400	400	400	400	400	400	400	I B 380	F 370	F 360						
18					F	F	F 390	F	370	380	380	400	400	400	400	390	380	370	L	L					
19					F	F	A	F	360	370	F 380	B	390	B	C	C	380	380	C	C					
20					A	A	F 350	F 370	380	380	390	390	400	400	400	400	390	L	350						
21					A	B	B	A	A	B	B	B	B	B	B	B	C 380	380	380	L	L				
22					370	F	A	A	F	R	B	U C 390	370	B	B	B	B	R	A						
23					A	330	370	370	370	380	370	380	380	380	380	380	370	L	L	L					
24					B	31	33	35	37	37	40	40	41	41	C 40	I B 40	40	38	U H 37	36					
25					A	A	A	A	A	B	B	390	380	400	B	B	370	370	370	B	A				
26				360	A	R	350	F 360	F 360	370	380	C 390	C	B	B	B	B	B	B	L	B				
27					350	F 360	F 360	A	A	390	B	B	B	A	B	390	390	B	L	L					
28					A	A	360	370	390	380	400	B	390	U C 400	400	U C 390	400	380	380	L					
29					F	F	A	F	380	380	380	390	B	B	390	H 380	B	380	370	F 360	F				
30					F	F	B	A	A	B	B	B	B	B	U C 380	B	R	360	340	F	A				
31																									
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	
CNT				1	1	9	12	17	16	19	23	22	20	19	19	16	23	18	11	1					
MED			360	320	F 320	F 335	360	365	370	380	380	385	390	390	390	380	370	350	36						
UQ					F 330	350	370	375	380	390	390	395	400	400	400	390	380	365							
LQ					310	320	350	355	365	370	370	370	380	380	370	370	360	335							

NOV. 1975

FOF1 (0.01 MHz)

# IONOSPHERIC DATA

NOV. 1975

FOE (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	K 310	K 320	B	B	A	K 270	200	230	R 230	H 275	300	A	270	270	270	270	B	220	H 200	180	130	120	A	K 230	
2	A	A	B	B	A	K 370	A	A	B	B	A	300	270	H 265	H 260	250	U 240	B	A	A	A	A	A	A	
3	B	U 260	C	B	B	B	280	K 340	B	B	B	B	B	B	B	B	A	275	Y	A	B	B	A	B	
4	B	B	C	B	U 230	K	B	B	B	B	B	B	B	B	B	B	B	A	B	B	B	K 350	K 210	K 280	
5	265	K 350	U 250	B	A	B	B	320	270	300	B	B	B	B	B	B	B	230	210	H 180	A	B	K 345	B	
6	B	B	K 250	B	B	B	B	B	B	A	275	B	B	B	280	270	B	B	B	B	210	180	B	B	125
7	A	A	A	160	220	B	B	K 375	300	270	270	275	275	270	275	275	B	B	220	180	A	175	140	F 125	
8	K 235	K 280	A	U 225	300	A	270	K	280	270	280	290	R	B	B	B	A	250	230	180	170	B	120	K 195	
9	K 210	B	300	K 280	300	A	B	B	300	280	290	300	B	B	B	B	B	R	U 230	H 230	H 180	110	B	A	
10	U 180	A	A	A	A	A	K 380	250	U 250	250	270	280	280	280	280	270	250	230	215	180	200	H 195	H 330	K 360	
11	K 310	B	B	B	B	A	B	A	A	A	275	280	285	B	B	B	B	B	B	B	160	U 310	U 320	U 320	
12	B	B	B	B	B	B	B	A	A	B	B	290	310	300	R 270	265	260	250	215	H 180	180	140	125	K 280	
13	A	K 270	K 280	A	K 270	K 260	225	250	B	310	U 300	U 300	300	300	300	270	270	250	215	200	170	150	125	105	
14	100	U 105	165	A	H 170	A	210	A	260	270	275	A	280	280	I 290	C 280	270	240	210	A 200	170	H 170	H 170	A	
15	125	105	125	260	K 255	200	240	U 250	H 270	270	270	A	A	295	U 300	290	270	240	A	200	200	H	A	U 100	
16	A	A	K 280	B	A	K 325	A	A	A	K 320	280	B	A	A	U 290	290	275	270	265	F 220	175	140	A	A	
17	A	U 130	U 175	U 275	A	K 270	A	260	260	275	300	300	300	300	300	280	B	R	K 270	A	290	A	C	K 240	
18	A	A	A	C	A	A	A	370	C	270	275	290	A	A	U 295	280	250	245	225	200	200	170	110	A	
19	U 150	U 220	A	200	U 200	200	A	A	A	270	A	B	A	B	B	280	260	250	C	C	C	C	K 180	K 370	
20	K 305	K 320	C	200	A	A	A	270	250	265	280	280	290	280	290	275	250	250	230	220	U 250	U 340	U 360	U 340	
21	B	B	U 275	U 275	U 280	B	B	B	A	A	B	B	B	B	B	B	B	B	U 240	H 220	175	A	U 270	U 280	
22	K 275	K 210	K 285	K 325	J 320	U 330	K 320	A	R	A	B	R	B	B	B	B	B	B	R	B	200	B	B	B	
23	K 320	K 370	A	200	A	A	K 310	U 330	K 325	270	270	275	275	275	270	260	240	H 240	H 210	205	205	150	140	150	
24	160	175	H 190	K 240	B	H 220	210	225	230	250	275	280	280	280	270	I 270	B 250	230	215	A	U 370	U 330	U 330	B	
25	B	U 250	B	A	B	A	A	A	A	B	B	R	300	300	B	B	B	B	B	225	B	F 200	150	U 110	K 220
26	K 350	B	K 350	U 270	K 350	K 350	U 315	250	A	A	A	U 290	B	B	B	B	B	B	B	B	B	B	B	B	B
27	A	135	A	B	A	310	225	A	A	A	A	B	B	B	A	B	250	A	B	U 230	190	B	B	A	
28	A	120	A	A	B	A	A	270	260	260	260	B	275	U 290	B	A	A	A	230	195	A	U 240	A	K 205	
29	R 100	U 270	A	K 350	U 220	U 230	A	U 320	240	270	275	B	B	280	U 280	B	K 360	250	235	A	180	A	A	B	
30	B	A	K 250	A	210	A	B	A	A	B	B	B	R	B	B	B	305	240	U 225	A	K 355	A	B	U 380	
31																									
CNT	15	17	13	13	13	12	12	15	14	18	18	14	14	17	16	15	15	17	20	18	23	16	16	17	
MED	K 235	K 250	K 250	K 260	K 255	K 270	255	270	260	270	275	290	280	280	280	275	260	245	225	200	190	170	175	K 230	
UQ	K 308	K 280	K 280	U 275	K 300	K 328	K 312	K 325	280	275	280	300	300	295	292	280	270	250	230	220	202	K 225	K 325	K 320	
LQ	155	135	190	200	220	225	218	250	250	270	270	280	275	275	270	270	250	240	215	180	175	145	125	150	

The Radio Research Laboratories, Japan

NOV. 1975

FOE (0.01 MHz)

# IONOSPHERIC DATA

NOV. 1975

FOES (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00' 4" S, Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 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	K31	K32	58	48	41	27	G	30	G	G	J34	30	G	G	G	G	B	G	G	G	G	G	J37		
2	J30	42	B	B	32	K37	62	39	B	B	34	G	G	G	G	G	30	B	J38	J44	J45	J64	J59	133	
3	45	36	102	73	B	47	K28	39	72	B	B	B	B	B	B	B	30	G	G	29	43	B	J112	B	
4	B	B	22	58	32	B	B	B	B	B	B	B	B	B	B	B	32	E28	E24	E23	K35	28	J35	B	
5	J31	K35	J47	B	42	B	B	32	32	G	E35	E31	B	G	B	B	E30	G	27	J36	33	34	K36	B	
6	B	B	K25	B	B	B	B	B	B	40	G	E33	E32	G	G	B	B	B	B	23	25	B	J37	J38	
7	32	32	26	29	25	B	53	42	G	G	G	G	G	G	G	E28	E32	G	G	33	G	G	G		
8	25	K28	26	25	K30	39	K27	B	G	G	G	G	E43	B	B	B	27	G	G	G	G	E15	G	27	
9	32	37	K30	34	K30	44	B	52	G	G	G	G	B	B	B	E42	B	B	32	G	27	42	22	60	
10	47	32	J34	J64	J24	J52	K38	G	G	G	G	G	G	G	G	G	G	G	G	G	G	40	K36		
11	J31	K10	B	B	55	35	B	41	38	32	30	G	32	B	E32	E30	E28	B	B	E27	G	32	35	J37	
12	42	43	B	B	B	B	B	43	43	B	B	G	G	G	G	G	G	G	G	G	G	G	G	K28	
13	28	K27	K28	34	K27	K26	G	G	41	44	33	G	G	G	G	32	28	26	G	G	21	G	G	15	
14	12	15	G	22	G	30	42	43	G	J44	37	32	G	G	E35	G	J29	29	24	G	G	G	G	14	
15	G	16	20	32	K25	G	G	J26	J27	G	G	J32	J30	G	G	G	26	32	J32	32	G	J25	J29	20	
16	J23	15	K28	B	41	K32	J45	58	40	K32	G	E34	32	32	34	G	40	32	G	G	27	34	J31	39	
17	33	J29	22	30	27	30	37	32	26	43	G	J30	31	40	36	G	E52	G	32	J93	29	J56	J58	36	
18	J61	J52	J49	44	27	36	33	K37	35	G	G	G	J34	32	30	G	G	G	G	G	G	18	J22		
19	18	J29	47	J32	32	23	32	43	36	32	J41	B	32	B	E30	G	G	G	C	C	C	C	K18	K39	
20	35	35	J61	23	41	48	J45	32	G	G	G	G	32	33	32	G	G	G	G	G	35	J37	K36	J37	
21	48	40	37	J37	35	35	B	B	65	J47	B	B	B	B	B	B	E32	E28	28	27	23	30	J32	32	
22	32	J30	K28	35	J32	39	50	47	37	37	B	G	E32	B	B	E47	B	35	40	B	J64	43	51	67	
23	K32	K37	J38	72	32	J40	K31	37	35	G	G	G	G	G	G	G	32	G	G	25	28	19	G	J26	
24	J26	24	G	K24	E32	G	G	G	G	G	30	G	36	33	J41	E46	G	G	G	39	K37	45	K33	B	
25	38	32	B	J74	B	J51	52	J66	45	B	B	B	B	32	E43	E50	E35	E38	G	56	32	21	27	J49	
26	K35	B	39	33	40	K35	38	G	34	33	30	G	B	B	B	B	E60	B	B	50	B	B	26	J26	
27	32	30	28	B	36	K31	J24	J36	J71	73	42	E42	E45	E44	42	B	G	32	E39	G	J33	E20	E22	J24	
28	20	J51	J42	43	35	42	43	G	G	G	G	E50	G	G	E30	29	30	J34	G	J29	J32	32	J32	K20	
29	J25	J29	J48	J40	30	32	J40	J44	G	G	G	B	E48	G	G	E41	K36	35	31	53	J68	J46	J41	B	
30	35	J41	33	32	52	J35	B	41	46	B	B	B	B	B	E34	B	G	35	G	J40	J36	J44	31	J67	
31																									
	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	26	23	26	25	22	26	27	24	23	23	22	20	22	21	26	25	26	28	28	26	30	25	
MED	32	32	32	34	32	35	38	38	34	G	G	G	E32	G	E30	G	E28	E26	G	24	28	29	31	36	
UQ	35	37	J47	46	41	40	45	43	40	38	33	E32	32	32	U32	E32	31	32	30	38	35	42	J36	38	
LQ	26	28	26	31	28	30	27	30	G	G	G	G	G	G	G	G	G	G	G	G	G	G	18	24	

NOV. 1975

FOES (0.1 MHz)



# IONOSPHERIC DATA

NOV. 1975

F-MIN (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	13	28	20	20	13	14	11	10	21	16	23	14	11	18	20	22	B	19	13	10	12	16	8	7	
2	11	10	B	B	15	22	21	E <sub>17</sub> C	B	B	18	21	13	18	11	9	E <sub>12</sub> C	B	11	7	E <sub>10</sub> C	E <sub>10</sub> C	7	10	
3	21	15	E <sub>25</sub> C	17	B	28	E <sub>10</sub> C	18	55	B	B	B	B	B	B	B	20	15	13	18	17	B	10	B	
4	B	B	E <sub>20</sub> C	25	17	B	B	B	B	B	B	B	B	B	B	B	18	28	24	23	11	10	13	B	
5	18	18	12	B	E <sub>10</sub> C	B	B	15	26	21	35	31	B	22	B	B	30	18	10	11	10	27	10	B	
6	B	B	15	B	B	B	B	B	B	21	18	33	32	15	21	B	B	B	B	E <sub>12</sub> C	16	B	17	11	
7	E <sub>10</sub> C	E <sub>12</sub> C	8	8	11	B	24	18	13	22	14	13	15	17	18	25	28	32	10	17	E <sub>15</sub> C	14	10	10	
8	9	8	10	17	19	24	10	B	17	17	16	15	43	B	B	B	20	11	12	13	13	15	10	E <sub>10</sub> C	
9	10	21	28	24	17	15	B	26	15	16	15	20	B	B	B	42	B	B	13	E <sub>12</sub> C	8	7	13	8	
10	10	8	7	E <sub>10</sub> C	8	7	11	10	E <sub>12</sub> C	10	10	10	11	11	13	E <sub>15</sub> C	12	10	E <sub>15</sub> C	10	E <sub>12</sub> C	E <sub>10</sub> C	7	E <sub>10</sub> C	
11	E <sub>10</sub> C	40	B	B	42	21	B	25	12	24	15	12	E <sub>17</sub> C	B	32	30	28	B	B	27	13	7	11	E <sub>15</sub> C	
12	20	40	B	B	B	B	B	21	25	B	B	25	26	28	17	18	17	15	12	11	14	12	10	12	
13	E <sub>10</sub> C	9	10	18	14	11	E <sub>10</sub> C	11	35	15	13	14	12	13	12	10	11	12	10	10	10	10	7	7	
14	9	9	E <sub>10</sub> C	E <sub>10</sub> C	9	E <sub>10</sub> C	8	9	9	9	10	12	11	11	E <sub>35</sub> C	11	10	12	11	E <sub>12</sub> C	E <sub>10</sub> C	8	E <sub>10</sub> C	E <sub>10</sub> C	
15	9	E <sub>10</sub> C	7	21	12	10	10	9	9	9	10	10	E <sub>25</sub> C	11	10	10	E <sub>15</sub> C	10	E <sub>18</sub> C	8	E <sub>10</sub> C	7	6	7	
16	E <sub>10</sub> C	7	19	B	20	11	11	23	11	14	12	34	16	21	12	E <sub>15</sub> C	12	11	15	17	15	10	10	10	
17	E <sub>10</sub> C	8	9	14	15	E <sub>12</sub> C	17	13	11	10	10	11	12	20	20	20	52	11	E <sub>10</sub> C	E <sub>10</sub> C	8	E <sub>10</sub> C	E <sub>15</sub> C	8	
18	10	E <sub>10</sub> C	10	E <sub>20</sub> C	B	E <sub>10</sub> C	10	10	E <sub>30</sub> C	13	15	12	12	10	11	10	12	E <sub>15</sub> C	10	9	E <sub>10</sub> C	10	E <sub>10</sub> C	E <sub>10</sub> C	
19	7	E <sub>12</sub> C	16	E <sub>10</sub> C	9	7	E <sub>10</sub> C	14	13	E <sub>14</sub> C	E <sub>12</sub> C	B	18	B	30	21	18	15	C	C	C	C	8	E <sub>10</sub> C	
20	10	18	E <sub>21</sub> C	9	15	11	11	10	9	8	10	10	10	E <sub>10</sub> C	E <sub>20</sub> C	12	E <sub>12</sub> C	E <sub>10</sub> C	9	7	E <sub>10</sub> C	10	16	7	
21	13	15	10	10	E <sub>22</sub> C	24	B	B	18	19	B	B	B	B	B	B	32	28	24	12	10	10	12	19	
22	11	11	15	18	17	20	23	26	22	23	B	28	32	B	B	47	B	25	13	B	19	20	22	45	
23	12	14	10	10	18	10	14	10	12	12	E <sub>10</sub> C	13	12	13	12	11	11	E <sub>14</sub> C	11	9	E <sub>20</sub> C	12	9	9	
24	E <sub>12</sub> C	9	E <sub>11</sub> C	10	32	14	10	10	10	12	12	14	15	21	15	46	13	13	8	E <sub>13</sub> C	13	13	23	B	
25	21	E <sub>15</sub> C	B	10	B	17	20	15	19	B	B	25	25	23	43	50	35	38	12	28	E <sub>13</sub> C	12	11	8	
26	30	B	15	15	15	14	10	10	19	25	22	22	B	B	B	B	60	B	B	26	B	B	22	15	
27	14	12	13	B	15	15	9	10	15	11	13	42	45	44	22	B	23	15	39	23	12	20	22	11	
28	8	8	13	13	26	9	12	10	E <sub>10</sub> C	8	10	50	20	29	30	20	18	11	21	12	15	11	11	7	
29	7	13	8	10	13	10	11	E <sub>10</sub> C	E <sub>10</sub> C	10	9	B	48	23	20	41	14	15	E <sub>10</sub> C	10	11	9	E <sub>10</sub> C	B	
30	31	9	E <sub>15</sub> C	E <sub>10</sub> C	4	14	B	20	18	B	B	B	B	B	34	B	24	15	15	12	9	12	22	18	
31																									
	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	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	29	29	29	30	30
MED	10	11	U <sub>12</sub>	16	16	14	12	14	16	16	15	22	20	22	21	28	19	15	12	12	11	11	10	10	
UQ	18	18	U <sub>18</sub>	25	26	24	B	23	24	24	35	42	48	B	B	B	32	28	18	17	14	15	15	18	
LQ	10	8	10	10	13	10	10	10	11	10	10	13	12	15	14	15	12	12	10	10	9	10	10	8	

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F-MIN (0.1 MHz)

# IONOSPHERIC DATA

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M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	R	R	A	A	A	F	F	F	250	270	265	225	R	250	270	275	B	300	315	335	315	305	J	F	F							
2	A	F	B	B	F	A	A	R	B	B	G	R	F	F	F	F	255	B	A	A	A	F	A	A								
3	A	A	A	A	B	A	R	R	B	B	B	B	B	B	B	B	R	F	R	A	A	B	A	B								
4	B	B	R	A	F	B	B	B	B	B	B	B	B	B	B	B	G	R														
5	A	A	A	B	F	B	B	R	F	F	240	R	B	B	B	B	R	295	295	320	A	U	F	A	B							
6	B	B	R	B	B	B	B	B	B	A	F	225	C	240	230		B	B	B	B												
7	J	F	J	F	J	F	300	F	B	A	225	255	F	F	270	270	255	270	F	265	285	275	305	315	320	335	R	310	F	F	310	
8	310	F	F	F	295	275	R	F	260	B	F	280	F	275	270	280	B	B	B	F	F	325	325	315	325	315	R					
9	F	A	280	260	F	A	B	A	F	F	250	240	B	B	B	330	B	B	U	F	F	305	300	F	F	F						
10	F	U	S	F	F	F	A	A	G	G	G	G	G	G	G	R	245	265	F	285	285	290	315	F	R							
11	F	B	B	B	B	A	B	A	A	R	G	G	230	B	R	R	245	B	B	305	310	F	F	A								
12	A	B	B	B	B	B	B	A	A	B	B	260	R	R	R	265	265	275	305	310	330	315	305	R								
13	U	F	280	290	F	F	270	F	250	250	R	F	F	245	F	G	G	F	F	F	285	295	315	320	325	315	315	J	F	285		
14	R	285	J	E	F	280	U	F	F	255	240	250	250	255	280	R	F	F	F	305	325	335	320	R	R	J	E	285				
15	F	R	R	280	255	270	270	270	F	265	265	285	275	285	290	305	325	315	330	325	335	340	345	R	F							
16	J	F	J	R	U	B	A	275	A	A	R	U	F	F	280	R	265	R	280	270	300	310	310	335	310	335	310	335	J	F	F	
17	F	F	F	F	245	R	250	280	F	F	280	260	270	270	285	270	260	275	255	F	F	F	F	A	A							
18	A	F	F	A	F	F	F	R	245	240	W	230	245	255	250	275	290	305	315	330	320	305	J	S	J	R	310					
19	J	R	275	F	R	F	F	F	A	F	U	F	F	245	260	B	235	B	R	290	310	310	C	C	C	C	295	R				
20	285	R	F	F	A	A	A	255	250	265	270	265	255	265	R	295	285	295	320	285	H	F	R	U	R	305	R					
21	A	A	285	F	300	F	R	B	B	A	A	B	B	R	B	B	B	295	295	305	F	F	F	F	F	R						
22	285	275	270	250	250	F	A	A	R	R	B	R	R	B	B	F	B	R	R	B	295	F	F	A	B							
23	R	R	A	F	235	A	A	G	G	G	240	270	215	R	255	275	245	305	285	300	320	315	310	310	310	310						
24	310	285	275	U	H	G	260	260	255	270	275	285	285	285	290	295	290	305	290	315	F	F	R	R	R	R	B					
25	A	U	F	B	A	B	A	A	A	A	B	B	255	R	260	260	265	285	315	300	F	320	F	330	320	F	310					
26	R	B	F	U	E	R	F	U	F	F	F	U	F	265	260	280	B	B	B	B	315	B	B	U	C	B	B	R	F			
27	F	F	F	B	R	F	F	F	F	F	F	F	270	R	295	290	B	305	305	310	300	335	F	305	310	F						
28	F	F	300	A	R	A	280	F	U	V	265	285	270	275	F	F	F	F	F	290	F	285	F	315	F	305	295	320				
29	J	R	285	F	F	F	F	R	F	250	290	F	270	U	F	B	R	F	F	F	U	F	R	U	F	F	A	A	B			
30	A	A	R	F	F	250	R	B	A	A	B	B	B	B	B	R	B	R	R	R	R	R	315	A	R	U	R	310				
31																																
CNT	10	10	9	9	9	8	9	11	11	17	22	19	13	13	12	15	22	17	21	21	18	15	15	10								
MED	298	285	285	F	275	F	270	260	255	250	265	260	255	265	260	272	275	290	300	315	320	315	310	310	310							
UQ	310	290	295	285	280	275	275	262	265	270	270	270	280	285	288	290	305	310	320	335	325	320	315	315								
LQ	285	280	280	F	250	255	F	262	250	238	242	250	245	228	235	250	255	262	265	295	300	300	310	305	298	310						

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M(3000)F2 (0.01)

# IONOSPHERIC DATA

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H<sup>1</sup>F<sub>2</sub> (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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					490	530 <sup>F</sup>	F	480	460	430 <sup>F</sup>	630	R	500	430	440	B	L	L	L						
2					A	A	A	B	B	G	R	457 <sup>F</sup>	525 <sup>F</sup>	490	420	445	B								
3					A	R	R	B	B	B	B	B	B	B	B	B	R	F	R						
4					B	B	B	B	B	B	B	B	B	B	B	B	G	R							
5					B	B	F	U <sup>F</sup>	530 <sup>F</sup>	490	565	R	B	R	B	B	R	350	U <sup>F</sup>	350					
6					B	B	B	B	A	460	520 <sup>E</sup>	C	580	600	B	B	B	B							
7					F	B	A	R	460	470	440	450	425	470	415	400	325	315	L	L					
8					A	430	B	390	315	375	430	410	B	B	B	325	L	L	L						
9					A	B	A	F	500	575	505	495	B	B	B	380	B	B							
10					A	A	G	G	G	G	G	G	G	G	R	545	445	F	L	L	L				
11					A	B	A	A	R	G	G	600	B	R	R	550	B	B							
12					B	B	A	A	B	B	460	R	R	550 <sup>R</sup>	450	440	400	L							
13					F	420	475	475	A	F	600	500	480 <sup>F</sup>	G	G	F	F	400	L	340	L				
14					375	375	400	430	E <sup>A</sup>	460	470	475	430	R	U <sup>F</sup>	330	375	U <sup>F</sup>	345	L	L				
15					430	395	375	385	400	380	340	380	370	360	340	315	305	290	L	L					
16					A	400	A	A	A	450	400	R	430	R	375	415	350	340	L	275	L				
17					405	350	350	350	360	420	400	390	340	330	360	350	440	R							
18					F	F	R	500	550 <sup>R</sup>	840	590	520	470	500	430	400	340	L	L						
19					F	F	A	F	510	480	455	B	430	B	R	R	330	325	C	C					
20					A	A	455	450	395	400	420	485	455	R	355	375	L	305							
21					R	B	B	A	A	B	B	B	B	B	B	B	340	325	300	L	L				
22					U <sup>F</sup>	450	A	A	R	R	B	R	R	B	B	F	B	R	A						
23					A	G	G	G	440	400	680	775	465	400	495	350	375	L	L	L					
24					C	415	400	445	430	405	375	350	355	365	350	325	350	300	335	320	350				
25					A	A	A	A	B	B	405	U <sup>R</sup>	390	410 <sup>F</sup>	380	B	355	300	320	280	U <sup>F</sup>	290			
26					F	A	C	400	370	345	375	400	360	B	B	B	B	330	B	B	305	B			
27					R	400	U <sup>F</sup>	390	380	405	375	380	390	C	U <sup>C</sup>	350	B	325	345	340	L	L			
28					R	A	400	380 <sup>F</sup>	420	355	360	360	355	350	U <sup>F</sup>	360	290	350	340	340	L				
29					F	F	A	455	350	400	410	B	375	390	430	355	560	600	400	F					
30					U <sup>F</sup>	430	R	B	A	A	B	B	B	B	B	400	B	R	R	R	A				
31																									
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	
CNT					4	10	11	12	18	20	23	20	18	16	17	16	23	15	9	4	1				
MED					422	400	400	430	455	432	430	448	430	460	400	390	350	340	340	292	U <sup>F</sup>	290			
UQ					430	420	460	465	500	485	502	555	520	512	430	435	420	362	340	328					
LQ					395	395	395	380	400	375	400	395	390	355	350	355	330	325	320	278					

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H<sup>1</sup>F<sub>2</sub> (KM)

## IONOSPHERIC DATA

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H<sup>o</sup>F (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69 00.4 S, Long. 39 35.4 E		Sweep 0.5 MHz to 15 MHz in 30 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	R	R	B	B	A	A	U F	280	220	245	250	200	U R	280	270	F	U F	230	B	H	200	240	225	240	270	280	410
2	A	F	B	B	A	A	A	A	B	B	F	205	245	220	225	225	230	230	B	A	A	A	A	A	A	A	
3	A	A	C	A	B	B	U F	U A	B	B	B	B	B	B	B	B	B	R	F	Y	A	A	B	A	B		
4	B	B	A	A	A	B	B	B	B	B	B	B	B	B	B	B	A	B									
5	A	A	A	B	F	B	B	F	255	245	B	220	B	230	B	B	250	210	250	250	A	B	A	B			
6	B	B	A	B	B	B	B	B	B	A	195	B	240	R	H	250	B	B	B	B	250	250	B	265	275		
7	265	275	300	290	290	B	A	A	245	200	200	200	245	230	225	210	215	240	B	230	215	A	290	250	260		
8	290	F	H	325	E Y	A	R	B	220	205	220	200	B	B	B	B	210	210	225	225	230	250	245	270			
9	350	A	E R	405	395	395	A	B	A	275	205	200	205	B	B	B	B	B	B	230	245	265	280	A	A		
10	U F	A	F	F	F	A	A	220	240	230	220	220	250	250	215	200	H	225	220	230	250	270	260	F	R		
11	R	B	B	B	B	A	B	A	A	230	210	205	240	B	R	215	225	B	B	E B	260	255	350	F	A		
12	A	B	B	B	B	B	B	A	A	B	B	200	240	230	230	220	215	240	230	245	245	250	260	R			
13	340	375	330	270	345	275	225	250	B	U F	260	230	205	H	195	H	230	210	200	210	210	225	250	250	245	255	
14	255	255	280	280	250	250	230	225	230	A	195	H	240	255	210	220	C	H	200	200	210	230	220	240	250	255	
15	275	270	305	390	H	320	250	260	200	H	200	215	200	200	195	H	200	H	205	210	225	205	220	230	245	240	250
16	255	260	290	B	A	A	A	A	A	215	205	200	195	H	R	F	220	210	205	220	240	250	245	H	270		
17	260	300	340	390	R	285	220	220	210	195	220	200	260	E A	250	240	240	I B	240	320	250	F	F	F	A	A	
18	A	F	A	A	F	U H	F	U F	F	200	H	245	220	250	250	225	H	250	230	235	220	240	225	H	235	255	290
19	280	355	F	A	A	F	F	A	260	200	U F	225	B	F	B	C	235	215	230	C	C	C	C	275	R		
20	310	R	F	F	A	A	A	240	205	225	200	200	250	230	200	215	205	220	225	230	U H	325	A	370	U S	305	
21	A	A	380	U F	330	A	B	B	A	A	B	B	B	B	B	B	240	240	230	235	240	210	260	R			
22	350	A	380	390	A	F	295	A	A	F	A	B	U C	250	205	B	B	B	B	H	250	R	B	325	A	B	B
23	R	R	A	475	A	A	F	325	300	U H	200	240	240	230	230	230	240	250	235	220	240	E A	275	260	270	285	
24	290	295	320	340	H	B	250	230	220	210	200	220	195	250	230	A	B	225	205	235	305	R	U H	390	R	B	
25	A	345	B	A	B	A	A	A	A	B	B	240	H	245	245	B	B	B	B	235	230	B	A	230	H	270	270
26	R	B	F	295	A	A	345	255	240	A	230	200	B	B	B	B	B	B	B	B	A	B	B	275	270		
27	290	280	325	H	B	A	330	220	H	225	A	A	210	B	B	B	A	B	215	210	B	245	225	245	260	245	
28	270	280	295	A	A	A	275	220	200	H	190	200	B	200	230	225	210	220	220	220	240	250	275	330	250		
29	285	320	F	U F	F	245	F	230	A	300	200	220	205	B	B	200	230	B	330	240	H	235	A	F	A	A	B
30	B	A	A	F	F	A	B	A	A	B	B	B	B	B	B	B	B	R	250	250	A	330	A	A	330		
31																											
	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	16	13	13	12	10	9	11	16	16	18	22	21	20	18	19	16	22	23	23	21	19	19	18	16			
MED	288	295	322	358	322	250	260	232	225	210	210	205	240	230	230	218	222	225	230	240	250	250	260	270			
UQ	310	345	335	392	U	370	285	285	290	250	230	225	220	250	240	230	232	240	240	235	248	264	278	275	288		
LQ	268	275	300	292	290	250	228	220	208	200	200	200	210	225	222	210	210	210	222	225	240	245	250	255			

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H<sup>o</sup>F (KM)

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# IONOSPHERIC DATA

NOV. 1975      H<sup>o</sup>Es (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION    Lat. 69 00.4 S, Long. 39 35.4 E    Sweep 0.5 MHz to 15 MHz in 30 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	K130	K130	115	110	105	K110	G	150	G	G	115	105	G	G	G	G	B	G	G	G	G	G	115	K105	
2	100	105	B	B	110	K120	105	105	B	B	105	G	G	G	G	G	100	B	105	100	110	110	105	110	
3	100	K110	K150	115	B	110	K100	K110	130	B	B	B	B	B	B	B	110	G	G	105	110	B	100	B	
4	B	B	130	110	K105	B	B	B	B	B	B	B	B	B	B	B	105	B	B	B	K105	K140	K105	B	
5	K115	K105	K100	B	130	B	B	K100	130	G	B	B	B	G	B	B	B	G	165	125	100	145	K110	B	
6	B	B	K110	B	B	B	B	B	B	100	G	B	B	G	G	G	B	B	B	B	150	150	B	125	115
7	105	100	100	95	100	B	100	K105	G	G	G	G	G	G	G	G	G	B	B	G	G	110	G	G	G
8	K115	K105	150	K130	K120	115	K105	B	G	G	G	G	G	B	B	B	B	110	G	G	G	G	B	G	K105
9	K140	110	K140	K125	K110	100	B	100	G	G	G	G	G	B	B	B	B	B	B	150	G	160	180	170	135
10	140	125	95	125	100	100	K100	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	K105	K105	
11	K105	100	B	B	100	110	B	105	100	110	105	G	105	B	B	B	B	B	B	B	B	G	K100	K105	K105
12	110	160	B	B	B	B	B	105	105	B	B	G	G	G	G	G	G	G	G	G	G	G	G	G	K110
13	105	K105	K110	K120	K110	K105	G	G	105	130	100	G	G	G	G	G	110	120	110	G	G	125	G	G	140
14	120	130	105	105	G	105	100	100	G	105	105	100	G	G	C	G	105	105	105	G	G	G	G	150	
15	G	145	150	K125	K110	G	G	105	105	G	G	100	100	G	G	G	100	100	100	100	G	100	100	100	
16	130	105	K130	B	100	K100	100	100	100	K100	G	B	100	110	100	G	115	140	G	G	125	120	115	120	
17	110	120	110	K115	120	K100	105	150	100	125	G	100	100	120	120	G	B	G	K190	150	K110	135	120	K135	
18	100	125	100	110	115	100	100	K100	140	G	G	G	100	100	100	G	G	G	G	G	G	G	G	140	115
19	130	K110	110	120	100	140	100	100	100	100	100	B	100	B	B	B	B	B	B	C	C	C	C	K105	K105
20	K100	K125	K140	K150	100	100	100	100	G	G	G	G	105	105	100	G	G	G	G	G	K105	K110	K110	K100	
21	105	100	K110	K100	K120	100	B	B	100	100	B	B	B	B	B	B	B	B	B	150	150	160	100	K125	K150
22	K115	K105	K105	K105	K110	K105	K160	140	145	100	B	G	B	B	B	B	B	B	150	150	B	140	145	150	100
23	K105	K100	100	140	100	100	K100	K100	K100	G	G	G	G	G	G	G	160	G	G	G	135	125	130	G	100
24	125	100	G	K100	B	G	G	G	G	G	120	G	125	125	110	B	G	G	G	105	K110	K160	K130	K130	B
25	105	K100	B	100	B	100	100	100	100	B	B	G	G	125	B	B	B	B	B	G	140	150	130	120	K130
26	K140	B	K105	K105	K120	K105	K100	G	100	100	100	G	B	B	B	B	B	B	B	B	130	B	B	100	120
27	115	120	110	B	105	110	100	100	100	100	100	B	B	B	100	B	G	100	G	130	B	B	B	100	
28	100	100	100	100	100	100	100	G	G	G	G	B	G	G	B	100	100	100	G	140	130	K130	125	K105	
29	115	K120	150	K100	105	130	100	K100	G	G	G	B	B	G	G	B	K100	140	140	100	125	100	100	B	
30	95	100	K105	95	155	130	B	100	100	B	B	B	B	B	B	B	G	180	G	105	K105	105	95	K150	
31																									
CNT	27	27	25	23	24	23	18	21	17	11	9	4	8	6	6	2	11	9	9	14	20	17	23	24	
MED	110	105	110	110	108	105	100	100	100	100	105	100	100	115	100	105	105	110	150	128	125	130	110	110	
UQ	122	122	130	121	K118	110	100	105	105	108	105	102	105	125	110		112	140	150	140	135	140	125	132	
LQ	105	100	105	100	100	100	100	100	100	100	100	100	100	105	100		100	100	105	105	110	105	105	K105	

NOV. 1975      H<sup>o</sup>Es (KM)

# IONOSPHERIC DATA

NOV. 1975

TYPES OF ES

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	KL 11	K 11	R 11	C 11	R 21	K 21		R 11			C 11	R 11											RA 11	LRK 15	
2	RA 21	RA 11			R 21	K 11	R 11	R 11			R 11						R 21	RS 21	RS 41	RA 11	RA 11	RA 31	RA 11	RA 11	
3	R 11	RK 21	AR 11	RA 11		R 11	K 21	RK 12	A 11								R 11		R 11	R 11			L 21		
4			RC 11	C 11	RK 11												R 11				K 21	RAK 11	K 21		
5	CK 11	K 11	RK 11		RAL 11			K 11	C 11									R 11	R 11	R 21	H 11	K 21			
6			KL 11							R 11										H 11	H 11		C 11	C 21	
7	C 11	L 51	R 21	L 21	R 11		R 11	RK 11													R 11				
8	CK 13	K 31	AR 11	RK 11	K 11	R 11	K 21										R 11							LK 11	
9	RKA 11	R 11	K 11	RK 11	K 11	R 21		R 11											A 11		H 11	RAR 11	RA 11	AR 14	
10	RA 11	CA 11	LA 31	RAL 11	RA 21	RA 31	K 21																RKA 41	K 51	
11	K 51	RA 11			R 11	R 11		R 11	B 21	C 11	C 11		L 11										RK 41	RK 12	RKA 13
12	R 21	R 11						R 11	R 11																K 11
13	RA 11	K 31	K 31	R 11	K 11	K 21			L 11	H 11	R 11					C 11	C 11	C 11			C 11			H 11	
14	C 11	H 11	L 11	R 21		C 31	C 11	L 31		C 31	C 11	C 11					C 11	C 11	C 11					R 11	
15		H 11	R 11	RK 11	K 11			C 11	C 11		C 11	R 21					L 21	L 21	C 11	L 11		L 21	L 31	LH 11	
16	B 21	C 21	K 11		L 11	K 21	R 21	R 11	R 21	K 11			R 11	R 11	R 11		C 11	R 11				L 11	C 11	CA 11	
17	R 11	RA 11	CA 21	RK 11	C 11	L 11	RA 11	A 11	L 11	H 11		L 21	L 11	C 11	H 11				AK 11	AR 11	K 11	RA 31	RA 31	RK 11	
18	RA 21	RA 11	RA 21	RL 21	RA 21	R 31	RA 21	K 31	R 11				C 21	R 11	R 11								R 11	R 11	
19	RA 11	RK 14	R 11	RA 11	RA 11	HA 11	R 11	R 11	R 11	L 11	R 21		L 11										K 21	K 41	
20	RK 41	RK 11	RAL 11	H 11	R 11	L 11	R 31	L 11					C 11	C 11	L 11							RAS 11	RK 41	K 31	RK 15
21	R 31	R 11	RKL 31	RK 31	RAK 11	L 11			C 11	R 11									H 11	H 11	HA 11	AR 11	RK 21	RK 11	
22	CK 11	RK 11	K 11	K 11	K 11	RK 11	HK 11	HL 11	H 11	R 11								H 11	H 11		AC 11	RA 11	HA 11	L 11	
23	K 21	K 21	RA 31	AL 11	L 11	R 11	K 11	RK 12	RK 12																LC 13
24	R 11	R 11		K 11							C 11		H 11	H 11	C 21						RA 11	K 21	RKR 11	K 11	
25	RA 11	RKA 11		RA 21		R 11	R 11	R 11	R 11						H 11						H 11	HA 11	H 11	C 11	HK 21
26	K 11		RK 11	RK 11	RKL 11	K 11	RK 11		C 11	L 11	L 11									C 11			L 11	RA 11	
27	C 11	H 11	RA 21		R 21	KA 11	C 21	L 31	L 21	L 21	L 21														CA 11
28	LA 11	CA 21	C 11	R 21	L 11	R 11	L 21									C 11	L 11	C 21		RA 11	RA 11	KA 21	RA 11	K 31	
29	R 11	RK 21	RAR 11	RK 11	RA 11	RA 11	R 11	RKL 21									K 11	R 11	H 11	RA 11	CA 21	RS 21	RA 21		
30	L 11	R 31	CK 11	LA 11	RH 11	RL 11		R 11	R 11										HA 11	RS 21	RA 21	RA 21	L 11	HAK 11	
31																									
CNT																									
MED																									
UQ																									
LQ																									

NOV. 1975

TYPES OF ES

# IONOSPHERIC DATA

45° E Mean Time (G. M. T. + 3 h)

DEC. 1975      FXI (0.1 MHz)

Station SYOWA STATION    Lat. 69 00.4 S, Long. 39 35.4 E    Sweep 0.5 MHz to 15 MHz in 30 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	O 38	R 92	B	B	B	B	B	A	B	B	B	B	B	B	67	O 71	R	R	60	60	51	O 37	A	B
2	B	B	B	B	67	B	B	R	O 49	52	O 49	O 51	B	B	84	84	66	R	X 45	44	X 43	X 43	O 44	R
3	46	R	B	B	B	R	O 49	55	54	X 55	X 57	X 58	62	63	O 69	O 63	60	X 52	O 47	B	X 45	X 44	40	O 44
4	R	A	R	B	45	B	56	82	R	R	R	66	O 61	O 61	B	B	60	B	R	43	R	45	40	45
5	45	45	R	R	A	R	55	60	63	65	64	68	70	71	69	65	U 63	O 59	X 54	C 49	X 48	44	X 46	42
6	44	B	R	50	O 53	59	57	56	69	C	C	C	C	C	X 62	64	60	O 59	X 55	X 48	54	67	R	R
7	R	54	42	R	55	57	56	70	70	67	73	70	64	X 58	X 57	X 58	55	X 56	A	X 54	O 49	X 48	X 43	O 43
8	R	O 42	A	R	52	A	63	B	B	O 56	55	52	58	52	62	O 60	67	69	70	52	117	52	47	105
9	42	70	A	B	R	72	R	56	R	55	X 45	X 45	O 49	O 50	X 52	X 57	57	R	47	46	O 46	X 39	X 47	X 41
10	X 46	46	49	53	56	58	64	X 58	X 60	O 58	O 57	X 57	O 59	O 60	61	61	58	54	O 49	X 46	O 46	X 48	47	48
11	X 47	X 48	X 49	O 52	54	55	X 52	55	55	61	65	65	69	65	63	O 58	57	X 60	X 59	X 57	X 55	X 51	53	O 48
12	O 41	45	O 46	50	56	66	66	66	75	68	61	65	66	61	O 58	A	X 53	X 53	R	X 53	X 53	X 55	X 53	X 50
13	O 51	X 50	X 51	58	60	68	70	69	74	65	X 65	X 62	X 62	X 59	X 61	X 58	X 53	X 53	X 53	54	X 53	X 58	X 57	48
14	S 42	R	U 47	R	46	59	70	65	70	65	X 61	X 62	X 62	X 62	X 68	X 55	X 54	X 57	X 57	X 57	X 58	57	47	46
15	R	A	A	56	56	70	R	C 50	56	53	X 56	X 57	X 58	X 58	X 52	O 48	X 50	X 55	X 48	X 53	51	46	42	43
16	R	S 50	A	R	B	A	O 48	R	R	O 48	52	O 50	O 52	X 58	O 58	X 57	60	X 56	X 54	51	45	X 44	45	45
17	R	R	45	R	R	R	R	B	R	O 46	43	X 51	O 51	X 55	X 54	X 55	X 52	X 51	X 50	X 47	X 48	42	43	38
18	44	R	R	O 39	O 42	R	R	O 46	53	X 54	X 57	X 56	X 62	X 64	X 59	X 56	X 55	X 54	X 59	X 52	X 48	46	46	45
19	S 44	X 43	S 44	S 48	54	60	60	57	63	70	68	55	X 57	X 56	X 59	X 61	X 56	X 54	X 53	X 55	X 51	X 48	X 50	43
20	S 37	S 39	S 46	S 52	59	59	58	52	66	64	66	62	60	58	59	50	50	51	52	51	52	49	X 50	X 50
21	X 47	X 40	47	O 49	62	58	58	65	68	62	O 57	X 61	X 59	X 56	X 60	64	X 57	X 53	X 52	O 58	58	50	40	44
22	R	55	67	A	A	A	64	R	R	O 56	59	57	55	X 53	X 52	X 51	51	X 56	X 56	X 56	52	46	45	R
23	S	R	R	R	R	R	O 51	52	55	54	56	X 56	X 52	X 53	X 53	X 55	X 53	X 53	X 53	49	A	X 50	R	X 46
24	38	S	R	45	59	60	76	67	69	65	O 59	A	56	A	A	A	A	X 53	53	X 52	52	50	S 65	S 57
25	46	R	80	57	R	R	A	A	A	R	B	R	O 51	O 49	O 49	X 51	O 54	X 51	R	R	56	O 42	X 47	R
26	A	85	79	A	A	R	R	A	R	B	B	O 49	R	O 52	B	65	B	R	O 46	O 46	R	R	46	A
27	A	R	R	O 40	B	A	A	B	B	B	B	B	B	B	O 50	O 50	O 49	O 48	X 47	S 62	100	63	83	B
28	B	O 38	R	R	B	B	B	R	B	R	O 44	O 49	R	O 46	O 51	51	54	X 56	X 53	51	X 50	X 45	43	52
29	58	52	55	45	A	B	O 47	B	R	B	B	B	B	B	X 62	B	R	O 52	B	57	O 49	X 47	83	A
30	X 40	R	B	A	B	R	R	R	B	O 51	X 57	X 57	X 51	B	O 48	B	O 59	O 53	O 49	X 53	49	O 46	40	S
31	47	39	B	O 44	46	59	B	67	56	56	60	59	X 56	X 54	X 53	X 51	X 52	X 52	O 50	X 52	X 53	X 52	X 52	X 43
	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	14	15	17	14	19	19	18	23	24	25	24	24	27	27	26	26	26	29	28	30	29	23
MED	44	47	48	50	55	59	58	58	63	56	57	X 57	58	58	X 59	X 57	X 55	X 54	X 53	X 52	52	48	47	45
UQ	46	54	55	52	59	66	64	66	69	65	61	62	62	61	62	62	60	X 56	X 55	X 55	54	51	50	48
LQ	42	42	46	45	52	58	54	55	55	54	56	52	54	X 53	X 53	X 51	X 53	X 52	X 49	49	48	44	44	43

The Radio Research Laboratories, Japan

DEC. 1975      FXI (0.1 MHz)

IONOSPHERIC DATA

DEC. 1975

FOF2 (0.1 MHz)

45 E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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 <sub>32</sub>	A	B	B	B	B	B	A	B	B	B	B	B	B	U <sub>60</sub> F	U <sub>63</sub> F	R	R	U <sub>47</sub> F	J <sub>47</sub> F	F	31	A	B		
2	B	B	B	B	F	B	B	R	F <sub>43</sub>	U <sub>44</sub> F	U <sub>43</sub> R	45		B	F	F	F	R	39	F <sub>36</sub>	37	37	38	R		
3	F	A	B	B	B	A	F <sub>42</sub>	U <sub>45</sub> F	U <sub>47</sub> F	49	50	52	56	57	63	57	54	46	41	B	39	38	F <sub>34</sub>	F <sub>38</sub>		
4	R	A	R	B	F	B	F <sub>49</sub>	B	R	R	R	F	55	U <sub>55</sub> F	B	B	F	B	R	F <sub>36</sub>	I <sub>40</sub> R	F <sub>38</sub>	F <sub>34</sub>	F <sub>38</sub>		
5	F <sub>38</sub>	U <sub>38</sub> F	R	R	A	R	F	F <sub>53</sub>	U <sub>56</sub> F	F <sub>56</sub>	55	62	64	65	62	F <sub>57</sub>	U <sub>57</sub> C	53	47	43	42	F <sub>37</sub>	40	F <sub>36</sub>		
6	U <sub>38</sub> F	B	R	F <sub>43</sub>	47	F <sub>49</sub>	F <sub>50</sub>	F	F	C	C	C	C	C	56	F <sub>58</sub>	U <sub>52</sub> F	53	J <sub>49</sub> C	42	F	U <sub>36</sub> F	R	R		
7	R	A	F	A	F	F <sub>48</sub>	U <sub>50</sub> F	J <sub>62</sub> F	J <sub>64</sub> F	F	F	F	F	F	51	50	52	49	50	A	48	U <sub>43</sub> R	42	37	37	
8	R	36	A	A	F	A	R	B	B	C <sub>50</sub>	F	U <sub>45</sub> F	U <sub>47</sub> F	U <sub>55</sub> F	F	F	F	59	U <sub>59</sub> F	F	J <sub>42</sub> F	R	F <sub>45</sub>	U <sub>40</sub> R	F	
9	F <sub>35</sub>	F	A	B	A	R	R	R	A	U <sub>45</sub> F	E <sub>39</sub> G	E <sub>39</sub> G	43	44	46	51	50	R	J <sub>41</sub> F	F	40	33	41	35		
10	40	F <sub>39</sub>	F <sub>42</sub>	J <sub>46</sub> F	U <sub>46</sub> F	U <sub>49</sub> F	52	52	53	52	51	51	53	54	55	55	52	47	U <sub>42</sub> F	40	37	42	38	40		
11	J <sub>41</sub> R	42	43	U <sub>46</sub> R	U <sub>45</sub> F	45	46	U <sub>44</sub> F	F <sub>47</sub>	F <sub>51</sub>	F	U <sub>56</sub> F	F	F	57	57	55	52	51	54	53	50	49	45	J <sub>47</sub> F	42
12	F <sub>35</sub>	F <sub>39</sub>	40	F <sub>42</sub>	F	F	F	F	F	U <sub>60</sub> F	55	59	60	54	52	A	C <sub>47</sub>	46	A	47	47	49	47	44		
13	45	44	45	F	F	F	U <sub>53</sub> F	F <sub>57</sub>	F <sub>60</sub>	60	60	57	56	53	55	51	47	47	47	48	47	52	51	J <sub>42</sub> F		
14	U <sub>36</sub> F	R	41	A	F <sub>40</sub>	U <sub>50</sub> F	J <sub>54</sub> F	F <sub>57</sub>	F <sub>58</sub>	55	56	57	56	62	49	47	50	50	50	50	51	U <sub>45</sub> F	J <sub>41</sub> F	R		
15	A	A	A	F	F	B	R	F <sub>44</sub>	F <sub>48</sub>	F <sub>47</sub>	50	51	52	F <sub>51</sub>	46	42	44	48	42	47	45	40	35	U <sub>32</sub> F		
16	A	F <sub>36</sub>	A	A	B	A	F <sub>42</sub>	R	R	U <sub>42</sub> F	F <sub>45</sub>	F <sub>44</sub>	46	51	52	51	F <sub>54</sub>	50	F <sub>48</sub>	F <sub>45</sub>	F <sub>39</sub>	F <sub>38</sub>	F <sub>38</sub>	F <sub>35</sub>		
17	R	R	F	R	A	A	R	B	R	F	F	F	F	49	48	J <sub>49</sub> C	F <sub>46</sub>	45	44	40	42	36	U <sub>37</sub> F	F <sub>32</sub>		
18	F <sub>37</sub>	A	A	33	F	A	A	F	F <sub>46</sub>	48	U <sub>51</sub> R	50	56	58	53	50	49	48	52	46	42	U <sub>37</sub> F	F <sub>40</sub>	F <sub>38</sub>		
19	U <sub>38</sub> F	J <sub>37</sub> R	F <sub>38</sub>	J <sub>42</sub> F	F <sub>47</sub>	U <sub>52</sub> F	53	U <sub>44</sub> F	U <sub>48</sub> F	U <sub>53</sub> F	54	48	50	50	52	55	50	48	47	48	45	41	43	37		
20	J <sub>31</sub> R	J <sub>33</sub> R	J <sub>40</sub> F	F	F <sub>53</sub>	U <sub>53</sub> F	F	U <sub>46</sub> F	U <sub>42</sub> F	F	U <sub>54</sub> F	F <sub>54</sub>	F <sub>54</sub>	52	52	44	44	45	45	45	46	43	44	44		
21	41	J <sub>34</sub> R	U <sub>40</sub> F	F <sub>43</sub>	U <sub>46</sub> R	J <sub>52</sub> F	F <sub>47</sub>	F <sub>52</sub>	F <sub>57</sub>	55	51	54	53	J <sub>50</sub> R	54	F <sub>58</sub>	50	46	46	U <sub>52</sub> R	U <sub>46</sub> F	F	F	F		
22	R	F	F	A	A	A	F	A	A	U <sub>45</sub> F	F <sub>52</sub>	F <sub>50</sub>	49	46	46	45	45	50	49	50	41	F <sub>39</sub>	J <sub>38</sub> F	R		
23	S	R	R	A	A	R	F <sub>44</sub>	F <sub>45</sub>	U <sub>45</sub> F	F <sub>48</sub>	F <sub>50</sub>	50	46	J <sub>47</sub> R	47	48	46	47	J <sub>47</sub> R	43	A	43	43	40		
24	F	S	R	F	F	J <sub>54</sub> F	U <sub>56</sub> F	F <sub>60</sub>	F <sub>59</sub>	U <sub>51</sub> F	F <sub>52</sub>	A	F <sub>49</sub>	A	A	A	A	47	45	45	45	J <sub>44</sub> F	U <sub>46</sub> R	J <sub>37</sub> R		
25	U <sub>38</sub> F	A	F	F	R	R	A	A	A	R	B	R	45	42	F <sub>43</sub>	45	U <sub>48</sub> C	45	R	R	F	36	41	R		
26	A	F	F	A	A	A	A	A	A	B	B	U <sub>42</sub> F	B	46	B	F	B	R	U <sub>40</sub> R	F <sub>39</sub>	R	R	F	A		
27	A	R	R	U <sub>34</sub> R	B	A	A	B	B	B	B	B	B	B	F	U <sub>42</sub> F	43	42	F <sub>41</sub>	F	R	F	F	B		
28	B	F <sub>31</sub>	R	A	B	B	B	R	B	R	E <sub>38</sub> G	F <sub>43</sub>	R	E <sub>40</sub> G	45	45	48	50	47	45	43	37	F <sub>37</sub>	R		
29	R	F	F	F <sub>32</sub>	A	B	F	B	A	B	B	B	B	B	F <sub>55</sub>	B	R	U <sub>46</sub> R	B	R	F	40	R	A		
30	35	R	B	A	B	A	A	R	B	U <sub>45</sub> F	51	51	45	B	B	U <sub>42</sub> R	B	U <sub>53</sub> R	47	43	U <sub>46</sub> F	F <sub>43</sub>	40	F		
31	R	F <sub>35</sub>	B	F <sub>38</sub>	J <sub>49</sub> F	U <sub>46</sub> F	B	F	F	F	F	F	F <sub>52</sub>	J <sub>50</sub> R	48	47	45	46	46	44	45	47	45	46	37	
CNT	15	12	8	10	8	10	13	13	15	19	21	24	24	24	25	25	25	26	25	27	24	29	26	18		
MED	38	36	40	42	46	50	50	52	48	50	51	51	52	51	52	51	49	48	47	45	43	40	40	38		
UQ	39	39	42	43	48	52	53	57	57	54	54	55	56	55	55	55	52	50	47	48	46	44	43	40		
LQ	F <sub>35</sub>	34	40	34	U <sub>46</sub> F	F <sub>48</sub>	F <sub>46</sub>	U <sub>45</sub> F	46	46	50	45	46	48	47	45	46	46	42	42	40	F <sub>37</sub>	F <sub>38</sub>	36		

DEC. 1975

FOF2 (0.1 MHz)



# IONOSPHERIC DATA

DEC. 1975

FOF1 (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station **SYOWA STATION** Lat. **69 00.4 S**, Long. **39 35.4 E** Sweep **0.5** MHz to 15 MHz in 30 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					B	B	B	A	B	B	B	B	B	B	370	B	R	360	A	L														
2					U F 320	B	B	A	370	380	380	380	B	B	390	370	400	F	C															
3					B	A	U A 340	350	370	380	380	U C 390	400	400	B	B	400	380	L															
4					F	B		B	B	R	R	370	I B 390	390	B	B	390	B	360	U F 360														
5					A	A	A	380	390	390	400	400	400	400	410	410	400	380	370	L	L	L												
6					330	340	A	A	390	C	C	C	C	C	410	410	400	390	L			330	F											
7					A	A	F	F	400	A	400	410	410	420	420	410	I C 400	390	A	U L 370	R	C												
8					A	A	A	B	B	390	390	F	F	400	400	400	400	390	390	380														
9					A	320	U F 360	R	A	F	390	390	400	400	400	390	I C 380	U R 380	U F 380															
10					U F 320	F	360	350	370	380	390	A	400	400	410	400	410	400	380	F	A													
11					F	F	340	F	370	380	390	400	400	A	A	A	A	A	370	L	L	L	L											
12					320	350	U C 360	F	370	360	360	390	400	400	410	410	A	400	L	A	U L 350	L	L	L	L									
13					290	U F 320	F	330	F	350	F	370	380	400	400	400	410	R	420	410	410	400	L	370	L	L	L	L						
14					A	350	350	360	F	370	380	400	400	400	420	400	410	410	410	390	380	360	U B 330											
15					300	F	B	A	370	380	380	380	400	400	400	400	400	400	390	370	360	L												
16					A	B	A	B	A	390	390	390	390	390	390	400	400	400	380	370	360	350												
17					A	A	A	R	B	370	380	380	380	390	400	400	U C 390	390	390	F	L	L	L	L	L									
18					R	A	A		370	370	380	400	400	400	400	400	400	390	390	380	350	U L 310												
19					L	300	F	320	F	340	F	360	390	380	F	380	400	410	410	410	400	400	A	380	360	L	L							
20					F	L	U H 330	F	330	F	360	F	380	390	F	390	F	390	A	400	400	400	L	390	380	380	360	A						
21						L	350	380	360	370	390	400	400	U R 400	400	400	F	400	U C 390	390	390	360	L	L	L	L								
22					A	A	A	F	A	A	A	380	380	400	390	390	U C 390	380	F	370	360	370	L											
23					A	A	A	U A 370	370	F	370	370	380	400	400	400	400	400	400	390	A	L	A	A	A	A	L							
24					270	U L 280	U F 320	F	320	F	330	F	350	F	360	F	370	F	380	400	F	A	400	A	A	A	A	380	380	U L 360	L	L	L	
25						F	R	A	A	A	A	R	B	380	400	400	400	380	380	360	A	A	A											
26					A	A	A	A	A	A	A	B	B	C	R	B	B	B	B	R	Y	U F 350												
27					B	A	A	B	B	B	B	B	B	B	B	B	390	U C 390	B	B	B	F	A	A										
28					A	B	B	B	R	B	R	380	380	I C 390	400	400	390	C	380	350	360	350	L	L										
29					A	B	A	B	A	B	B	B	B	R	B	B	B	B	B	U R 370	B	B	L	L	L									
30					A	B	A	A	A	B	380	380	U R 400	400	B	B	B	B	B	B	B	L	L	L	L	L								
31					320	F	330	B	Y	370	370	380	U C 400	400	400	400	400	400	390	L	L	330	L	L	L	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		1	2	7	11	12	14	15	20	21	23	24	25	22	23	21	24	22	18	13	5													
MED		270	285	320	330	340	360	370	380	390	390	400	400	400	400	400	400	380	370	360	330													
UQ			320	330	350	370	375	385	390	400	400	400	400	400	410	400	390	380	360	330														
LQ			310	320	330	350	365	370	380	380	385	400	400	400	400	390	390	380	360	350	330													

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DEC. 1975

FOF1 (0.01 MHz)

# IONOSPHERIC DATA

DEC. 1975

FOE (0.01 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	K 250	A	B	B	B	B	B	A	B	B	B	B	R	B	B	B	A	B	A	220	U 300	U 290	U 350	B		
2	B	B	B	B	U 270	B	B	A	290	275	B	B	R	B	U 280	270	260	U 250	230	200	230	210	H 350	K 350		
3	U 300	B	B	B	B	B	A	250	250	260	280	U 280	B	A	B	B	260	250	B	B	U 210	A	170	A		
4	K 340	K 340	U 320	B	A	B	K 300	B	B	A	A	B	B	B	B	B	310	R	B	320	210	A	195	200	250	
5	K 280	U 260	A	B	B	A	A	U 270	F 280	C	270	280	300	280	290	H 280	H 280	B	R	225	200	230	U 200	F 250	K 320	
6	U 330	B	K 260	K 280	K 290	A	A	C	285	C	C	C	C	C	A	275	260	245	245	210	195	A	K 330	K 380	K 350	
7	K 350	B	A	A	B	A	A	250	A	A	300	300	285	275	260	245	A	A	A	210	C	180	170	300		
8	U 170	F 300	U 320	U 320	A	B	A	B	B	B	280	290	290	295	R 290	I 280	C 270	260	A	250	R 220	A	320	A	A	
9	U 300	A	A	B	B	270	255	A	A	270	270	270	U 290	A	270	280	270	A	B	U 340	K 320	K	205	180	170	U 160
10	A 190	K 315	U 280	U 290	U 270	230	225	220	275	H 275	280	290	A 290	R 290	290	275	290	H	260	255	A	220	200	160	150	140
11	C	K 250	K 300	U 230	K 270	U 270	K 290	250	280	A	A	U 290	U 300	A	A	A	A	260	220	A	A	A	200	195	A	K 360
12	K 330	U 320	K 325	K 290	250	A	250	F 260	H 270	275	280	280	290	275	275	255	250	245	U 200	A	200	170	170	160		
13	H 165	H 175	H 195	H 180	160	170	A 200	250	255	270	A	A	315	300	A	280	275	A	255	250	220	H 225	H 175	H 160	K 200	
14	A	C	U 300	A	K 350	K 300	K 255	250	260	270	280	295	305	305	300	270	270	250	240	H	230	195	200	205	K 320	
15	B	A	A	U 270	U 280	B	A	290	F 270	H 270	270	280	290	280	300	260	A	270	250	H	235	U 220	U 170	F 130	U 225	
16	A	U 250	A	B	B	A	R	A	A	280	I 260	C 280	B	290	B	270	270	260	B	230	A	K 265	K 330	K 250		
17	K 350	A	K 370	B	B	A	A	B	A	A	275	270	275	280	R 280	U 280	C	265	250	230	200	190	A	150	180	
18	K 305	B	B	280	K 285	B	A	U 330	260	275	280	290	290	U 290	U 275	275	270	270	230	210	180	C	175	U 160		
19	K 200	A	H 175	H 180	H 200	H 225	230	A	A	270	280	280	270	275	H 280	275	270	245	260	H	225	200	155	145	125	
20	100	105	A	185	H 200	220	230	A	275	275	A	280	280	280	A	260	285	A	250	250	225	H 200	160	A	140	
21	160	165	A	K 350	K 230	220	230	250	250	A	260	270	275	290	A	320	270	250	245	250	B	I 200	C 205	K 300	U 340	
22	K 350	K 260	A	A	A	A	A	A	A	A	300	300	280	275	270	260	265	A	A	245	210	180	155	130	K 350	
23	U 250	A	K 350	B	A	A	U 350	A	U 275	A	H 300	U 280	290	A	A	270	I 260	C 240	U 220	225	A	205	185	H 170	170	F
24	K 270	H 145	H 140	H 180	H 190	200	230	230	260	H 275	290	285	280	265	U 245	A	A	A	A	A	A	C	200	Z	A	A
25	K 300	B	U 360	K 360	A	A	A	A	A	A	A	B	B	B	B	290	290	275	I 260	B 230	K 400	A	A	K 350	K 380	K 430
26	A	U 150	A	B	A	A	A	A	A	A	B	B	290	B	B	B	B	B	A	Y	B	A	K 325	K 250	U 300	
27	B	B	A	U 260	B	A	B	B	B	B	B	B	B	B	B	300	B	B	B	270	A	A	U 270	A	B	
28	B	A	B	A	B	B	B	A	B	A	A	270	280	275	R 250	270	R	265	260	U 235	230	H 230	K 250	U 250	K 380	
29	K 340	A	K 305	U 250	B	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	A	200	A	K 200
30	U 200	K 360	B	B	B	B	B	A	B	B	280	U 290	U 280	B	B	B	B	B	B	B	250	240	U 180	B	K 330	
31	K 215	F 195	B	K 320	210	A	B	Y	310	I 280	C 270	U 280	275	280	270	260	270	R	A	A	275	H 200	U 180	U 150	F 150	
	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	15	14	14	14	9	12	12	16	17	19	23	21	19	22	20	21	18	20	22	22	29	23	26		
MED	280	250	300	260	260	225	240	250	272	275	280	285	285	280	278	270	265	250	245	220	200	195	175	250		
UQ	330	300	325	290	280	270	272	265	280	275	285	290	290	290	280	275	270	255	255	230	225	250	275	340		
LQ	200	170	260	185	200	220	230	250	260	270	278	280	280	275	270	265	260	245	230	210	195	170	155	160		

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DEC. 1975

FOE (0.01 MHz)

### IONOSPHERIC DATA

DEC. 1975

FOEs (0.1 MHz)

45 E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	J A 80	J A 61	B	B	B	B	B	47	B	B	B	B	B	E B 33	E B 45	30	E B 33	41	G	J A 33	J A 36	40	B		
2	B	B	B	B	34	B	B	40	42	G	E B 34	E B 31	B	B	G	G	G	G	G	G	G	G	K 35	K 35	
3	39	42	B	B	B	42	35	G	G	G	G	G	40	35	E B 47	E B 52	G	G	E B 27	B	26	G	24	37	
4	K 34	J A 47	K 32	B	J A 79	B	36	B	B	45	32	32	E B 30	E B 50	E B 35	B	B	G	B	K 32	G	J A 35	G	J A 31	
5	28	30	37	38	46	41	40	41	G	G	G	G	G	G	G	G	E B 48	G	G	G	G	23	30	K 32	
6	J A 62	B	K 26	K 28	K 29	35	J A 45	43	31	C	C	C	C	C	34	32	G	E B 34	27	G	33	K 33	K 38	K 35	
7	K 35	44	33	J A 45	65	40	J A 39	25	38	40	34	40	36	43	J A 40	J A 36	28	J A 34	J A 79	G	E C 30	G	22	K 30	
8	J A 26	33	51	42	48	J A 69	42	B	B	37	G	G	G	G	G	G	G	28	G	28	J A 39	J A 48	J A 39	J A 44	
9	65	30	J A 48	B	44	35	34	32	48	G	33	G	30	G	30	G	30	E B 29	36	K 32	G	23	21	J A 34	
10	27	J A 35	32	30	33	G	G	31	31	33	J A 50	33	38	39	34	G	G	G	37	G	25	25	20	22	
11	J A 29	J A 33	K 30	31	K 27	J A 64	31	G	34	33	34	G	33	J A 64	J A 62	J A 52	J A 55	J A 61	53	J A 61	22	24	22	K 36	
12	K 33	35	K 33	K 29	30	41	30	G	G	G	33	36	34	43	J A 56	J A 67	45	46	J A 49	J A 27	G	25	G	J A 25	
13	19	20	20	J A 24	J A 27	25	27	G	J A 29	30	J A 35	J A 37	35	32	G	32	33	33	J A 30	27	J A 29	J A 16	15	32	
14	J A 26	J A 26	34	J A 41	K 35	38	G	G	J A 26	G	G	33	G	G	G	G	G	30	G	G	G	G	J A 26	J A 36	
15	38	44	43	J A 37	43	B	37	33	G	G	G	G	G	G	34	J A 38	G	G	G	G	G	J A 25	22	31	
16	38	J A 31	J A 49	41	B	51	G	J A 37	32	G	E C 30	G	E B 35	G	E B 35	G	G	G	E B 27	33	38	34	K 33	32	
17	41	J A 37	K 37	35	40	J A 44	43	B	34	33	G	G	G	G	G	G	G	G	G	G	G	G	21	26	27
18	K 30	43	36	K 28	K 28	42	40	J A 37	G	G	G	G	33	G	G	G	G	G	26	G	25	21	E C 23	J A 25	23
19	J A 26	22	G	G	G	J A 43	46	J A 37	G	G	G	31	32	G	G	31	G	J A 39	G	G	G	23	23	27	
20	18	19	19	G	19	G	35	45	G	G	42	J A 57	36	37	33	G	31	25	25	J A 25	J A 39	J A 47	35	35	
21	J A 41	G	30	K 35	27	G	G	J A 27	32	31	G	J A 38	34	53	J A 34	35	40	G	G	E B 29	J A 61	29	K 30	K 34	
22	K 35	32	J A 39	J A 49	51	53	J A 34	J A 46	44	43	G	G	33	J A 37	J A 40	32	30	J A 39	25	26	32	46	J A 44	J K 35	
23	J A 29	J A 32	K 35	41	45	42	42	J A 42	33	31	G	30	32	31	29	32	J A 61	J A 57	J A 51	33	56	41	42	G	
24	32	25	22	22	47	J A 30	G	G	31	J A 44	35	J A 74	43	72	D C 76	J A 80	J A 67	J A 67	50	42	E C 25	22	33	J A 26	
25	J A 86	43	J A 51	58	J A 61	40	52	J A 57	75	33	B	E B 36	E B 40	G	G	30	E B 30	G	40	K 36	C 36	J A 42	38	K 38	K 43
26	J A 39	J A 32	34	65	45	40	44	53	43	B	B	G	E B 40	B	E B 51	B	33	G	E B 27	J A 34	35	J A 36	70		
27	45	32	37	K 26	B	43	45	B	B	B	B	B	B	B	G	E B 34	E B 40	E B 40	G	92	J A 37	K 27	68	B	
28	B	J A 66	30	35	B	B	B	33	B	34	34	30	G	G	G	G	30	32	30	G	G	29	29	K 38	
29	K 34	J A 99	35	J A 82	64	B	45	B	42	B	B	B	B	B	E B 45	B	E B 41	E B 28	B	42	E B 24	30	J A 34	58	
30	J A 51	J A 39	B	67	B	43	45	41	B	E B 31	G	G	G	B	B	E B 41	B	E B 51	E B 40	35	G	21	25	K 33	
31	J A 41	25	B	K 32	28	32	B	G	30	E C 29	G	G	G	G	G	G	G	J A 34	31	29	G	G	21	G	
	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	29	26	26	25	25	27	26	26	26	25	27	25	25	28	29	29	30	30	30	31	31	31	29	
MED	35	33	34	35	40	40	37	35	32	30	G	E C 30	37	E C 31	E C 32	E C 32	E C 30	U 28	26	26	24	25	29	33	
UQ	41	J A 43	37	42	47	43	43	43	42	33	34	34	35	38	U 36	U 35	U 35	U 36	40	33	J A 34	34	36	K 36	
LQ	29	30	30	28	28	32	30	G	26	G	G	G	G	G	G	G	G	G	G	G	G	20	22	27	

DEC. 1975

FOEs (0.1 MHz)

# IONOSPHERIC DATA

DEC. 1975

F-MIN (0.1 MHz)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION		Lat. 69° 00' 4" S, Long. 39° 35' 4" E		Sweep 0.5 MHz to 15 MHz in 30 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	10	9	B	B	B	B	B	20	B	B	B	B	B	B	33	45	14	33	10	10	E <sub>10</sub> C	10	18	B
2	B	B	B	B	15	B	B	23	18	27	34	31	B	B	25	21	15	25	11	11	13	E <sub>10</sub> C	25	24
3	E <sub>10</sub> C	29	B	B	B	24	17	10	E <sub>15</sub> C	11	16	22	30	25	47	52	20	13	27	B	19	15	12	E <sub>12</sub> C
4	20	13	27	B	E <sub>12</sub> C	B	15	B	45	25	23	30	50	35	B	B	30	B	17	10	9	11	16	7
5	8	E <sub>15</sub> C	13	20	27	21	10	11	15	E <sub>10</sub> C	16	18	17	17	16	15	48	21	15	11	10	E <sub>12</sub> C	9	E <sub>15</sub> C
6	10	B	22	11	27	E <sub>19</sub> C	16	E <sub>35</sub> C	11	C	C	C	C	C	E <sub>13</sub> C	26	18	34	23	17	10	24	11	25
7	14	21	11	12	27	20	13	9	10	25	22	23	20	E <sub>17</sub> C	10	10	12	11	10	8	E <sub>30</sub> C	E <sub>15</sub> C	11	17
8	E <sub>12</sub> C	20	9	17	23	16	26	B	B	23	18	E <sub>15</sub> C	10	15	14	12	E <sub>10</sub> C	10	13	9	E <sub>15</sub> C	11	10	10
9	13	E <sub>15</sub> C	16	B	28	12	10	12	12	10	20	10	10	13	12	17	10	29	10	13	17	13	12	10
10	9	9	13	10	E <sub>10</sub> C	7	8	9	17	15	20	20	24	25	12	12	E <sub>10</sub> C	11	12	10	15	11	13	12
11	E <sub>20</sub> C	11	19	12	12	9	10	9	10	11	15	21	15	E <sub>10</sub> C	E <sub>10</sub> C	10	10	16	12	16	12	E <sub>10</sub> C	10	12
12	12	12	16	15	20	13	E <sub>10</sub> C	10	E <sub>10</sub> C	E <sub>10</sub> C	10	10	E <sub>10</sub> C	10	12	E <sub>16</sub> C	10	10	10	8	E <sub>10</sub> C	E <sub>10</sub> C	6	E <sub>10</sub> C
13	10	9	E <sub>10</sub> C	E <sub>12</sub> C	8	8	E <sub>11</sub> C	E <sub>15</sub> C	10	E <sub>10</sub> C	10	10	10	10	13	10	10	E <sub>11</sub> C	E <sub>15</sub> C	8	8	E <sub>10</sub> C	9	9
14	12	E <sub>28</sub> C	11	10	10	9	10	10	E <sub>10</sub> C	10	10	10	E <sub>10</sub> C	10	10	14	E <sub>10</sub> C	10	11	10	9	E <sub>10</sub> C	13	E <sub>15</sub> C
15	24	8	E <sub>10</sub> C	E <sub>10</sub> C	12	B	18	15	11	10	E <sub>11</sub> C	15	15	21	12	12	10	10	E <sub>20</sub> C	22	10	15	9	10
16	13	10	12	21	B	18	22	16	22	18	E <sub>30</sub> C	11	35	21	35	10	E <sub>15</sub> C	13	27	18	12	15	14	9
17	14	13	20	22	20	17	18	B	14	10	14	13	15	15	E <sub>15</sub> C	11	11	10	E <sub>13</sub> C	10	13	12	E <sub>10</sub> C	E <sub>10</sub> C
18	9	28	19	E <sub>16</sub> C	18	29	17	13	15	10	11	E <sub>20</sub> C	14	13	13	10	10	10	10	13	10	E <sub>23</sub> C	15	15
19	E <sub>10</sub> C	10	E <sub>10</sub> C	10	E <sub>10</sub> C	E <sub>10</sub> C	10	10	11	9	10	10	10	13	11	E <sub>10</sub> C	10	E <sub>15</sub> C	E <sub>10</sub> C	13	17	12	10	10
20	9	10	9	9	E <sub>10</sub> C	E <sub>10</sub> C	11	15	10	E <sub>20</sub> C	11	E <sub>10</sub> C	E <sub>20</sub> C	10	11	10	10	10	10	10	9	10	E <sub>10</sub> C	8
21	E <sub>10</sub> C	E <sub>15</sub> C	10	11	10	9	10	9	10	E <sub>13</sub> C	E <sub>13</sub> C	10	11	10	10	19	17	11	10	29	E <sub>30</sub> C	20	10	11
22	27	12	7	15	17	13	13	18	17	20	18	15	9	11	12	E <sub>13</sub> C	10	12	13	14	10	13	11	8
23	E <sub>10</sub> C	E <sub>10</sub> C	20	23	15	E <sub>13</sub> C	E <sub>15</sub> C	10	20	21	12	10	E <sub>15</sub> C	12	13	10	12	E <sub>10</sub> C	15	13	11	E <sub>10</sub> C	10	E <sub>11</sub> C
24	12	E <sub>10</sub> C	10	10	10	10	10	10	E <sub>10</sub> C	E <sub>10</sub> C	10	E <sub>15</sub> C	10	10	10	11	10	12	11	10	E <sub>25</sub> C	12	E <sub>12</sub> C	9
25	E <sub>15</sub> C	27	17	12	13	12	17	19	18	17	B	36	40	18	E <sub>13</sub> C	8	30	12	14	18	9	7	E <sub>13</sub> C	15
26	E <sub>10</sub> C	E <sub>10</sub> C	7	22	14	12	21	12	22	B	B	22	R	40	B	51	B	12	13	27	10	11	23	22
27	22	29	15	23	B	21	25	B	B	B	B	B	B	B	21	34	40	40	E <sub>15</sub> C	12	11	10	10	B
28	B	9	18	10	B	B	B	20	B	12	14	14	E <sub>10</sub> C	13	18	15	15	15	23	14	10	13	10	E <sub>10</sub> C
29	11	13	20	E <sub>10</sub> C	25	B	26	B	23	B	B	B	B	B	45	B	41	28	B	36	24	12	9	10
30	10	14	B	29	B	25	25	22	B	31	18	15	E <sub>22</sub> C	B	B	41	B	51	40	22	22	15	22	13
31	15	E <sub>15</sub> C	B	16	14	20	B	20	14	E <sub>29</sub> C	E <sub>10</sub> C	11	13	10	10	16	9	16	16	11	11	15	13	11
	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	30	30	30	30	30	31	31	31	31	31	31	31	31	31	31
MED	11	12	16	15	17	16	16	14	15	U <sub>14</sub>	16	14	14	14	12	13	12	12	12	13	10	12	10	10
UQ	14	18	20	22	27	24	24	20	22	25	22	22	35	25	23	24	19	23	16	18	U <sub>14</sub>	14	13	15
LQ	10	10	10	10	12	10	10	10	10	10	10	10	10	10	11	10	10	10	10	10	10	9	10	10

DEC. 1975

F-MIN (0.1 MHz)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

DEC. 1975

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4' S, Long. 39 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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 280	A	B	B	B	B	B	A	B	B	B	B	B	B	F	F	R	R	F	F	F	C	A	B	
2	B	B	B	B	F	B	B	R	245	F	R	235	B	B	F	F	F	R	310	330	320	325	295	R	
3	F	A	B	B	B	A	260	U 250	U 265	255	275	260	280	270	295	285	310	290	270	B	320	325	310	A	
4	R	A	R	B	F	B	250	B	R	R	R	F	275	F	B	B	260	R	R	330	R	340	325	295	
5	315	U 315	R	R	A	A	F	285	285	285	270	270	265	290	290	295	300	315	335	325	315	315	315	295	
6	U 270	F	B	R	275	260	245	260	F	F	C	C	C	C	275	295	F	290	J 285	C	300	F	F	R	
7	R	A	F	A	F	260	U 255	J 275	J 260	F	290	285	300	280	290	305	305	300	A	290	U 325	320	335	315	
8	R	305	A	A	F	A	R	B	B	C	250	F	F	F	U 290	275	270	280	F	F	F	A	290	R	
9	F	F	A	B	A	R	R	R	A	F	G	G	240	250	250	255	240	R	F	F	300	310	305	340	
10	300	295	285	F	F	F	275	265	275	270	A	C	275	280	275	275	260	250	F	330	350	345	315	330	
11	315	285	280	R	U 290	260	250	U 250	260	270	F	F	280	300	325	295	270	315	325	310	305	305	F	325	
12	F	280	300	260	F	F	F	F	F	285	270	280	300	295	305	A	280	290	A	320	330	325	330	325	
13	325	315	280	F	F	F	F	280	275	280	265	300	285	275	310	300	295	310	310	315	300	320	335	F	
14	U 315	R	F	A	255	U 300	J 295	280	305	280	275	285	280	270	325	285	300	310	310	300	320	F	J 300	R	
15	A	A	A	F	F	B	R	260	260	255	260	270	270	305	290	250	250	325	265	295	295	325	285	295	
16	A	295	A	A	B	A	350	R	R	F	265	250	240	280	290	285	295	300	290	305	255	280	330	285	
17	R	R	F	R	A	A	R	B	R	F	F	F	280	F	245	265	280	J 295	285	295	295	300	315	330	315
18	310	A	A	R	F	A	A	F	270	270	U 295	260	285	295	300	300	285	290	325	325	310	U 295	335	340	
19	U 320	J 305	R	J 290	F	F	270	F	F	F	F	F	280	260	280	270	295	315	310	315	300	335	335	325	
20	325	305	R	F	275	U 300	F	F	U 275	F	F	F	265	265	310	325	340	290	290	310	320	340	320	340	
21	335	R	U 300	S	F	U 305	J 325	285	290	280	290	275	295	290	R	275	295	300	305	265	U 310	F	330	F	
22	R	F	F	A	A	A	F	A	A	F	275	275	290	275	270	260	260	300	290	300	305	335	J 320	R	
23	S	R	R	A	A	R	260	260	F	255	280	290	260	R	275	295	285	300	J 335	305	A	315	325	310	
24	F	S	R	F	F	F	U 275	280	280	U 265	290	F	A	285	A	A	A	A	310	340	335	335	F	R	
25	F	A	F	F	R	R	A	A	A	R	B	R	260	240	285	245	U 285	245	R	R	F	R	275	R	
26	A	A	F	A	A	A	A	A	A	B	B	F	R	245	B	F	B	R	U 285	F	R	R	280	A	
27	A	R	R	U 285	B	A	A	B	B	B	B	B	R	B	B	F	F	265	260	255	F	R	F	B	
28	B	290	R	A	B	B	B	R	B	R	G	255	R	G	290	255	275	300	315	310	300	260	310	R	
29	R	F	F	295	A	B	F	B	A	B	B	B	B	B	285	B	R	U 250	B	R	F	310	345	A	
30	270	R	B	A	B	A	A	A	B	F	255	275	265	B	B	R	B	R	300	300	U 315	300	300	F	
31	R	295	B	255	J 285	U 265	B	F	F	F	F	290	R	280	295	255	285	295	295	310	330	310	335	320	
	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	11	7	7	7	7	12	11	13	13	18	19	22	21	24	22	24	24	22	24	22	24	23	16	
MED	315	295	290	285	275	265	265	275	275	270	275	270	278	280	290	290	285	300	300	310	315	320	320	320	
UQ	320	305	298	292	288	300	280	280	280	280	280	285	285	290	298	295	298	310	315	325	330	330	335	325	
LQ	285	292	282	268	258	260	258	260	260	255	265	260	265	270	275	260	268	290	285	300	305	305	305	302	

DEC. 1975

M(3000)F2 (0.01)

IONOSPHERIC DATA

DEC. 1975 H'F2 (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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					B	B	B	A	B	B	B	B	B	B	U R 440	U F 415	R	R	310	L					
2					F	B	B	A	480	U F 430	U R 530	R 530	B	B	350	355	310	F	R						
3					B	A	455	450	425	425	400	420	385	C 380	330	B	310	370	L						
4					F	B	F	B	B	R	R	F	360	410	E B 380	B	B	410	B	R	F	290			
5					A	A	425	F 350	355	350	390	320	360	330	320	350	B 330	305	290	L	310	L			
6					420	C 430	F 430	A	390	C	C	C	C	C	370	330	360	330	L		U F 330				
7					F 325	425	430	350	370	355	330	330	330	400	390	340	340	325	A	340	R	C			
8					A	A	A	B	B	450	425	F 540	F 450	F 360	390	400	340	300	320						
9					A	R	R	R	A	U F 445	G	G	530	515	490	440	475	R	F						
10					F 360	F	355	390	375	395	A	380	400	380	380	380	395	420	F 450	U F 450					
11					U F 320	F 350	425	F 470	480	450	400	400	380	380	345	300	350	A 415	A 310	285	300	290		L	
12					F 400	F 380	F 395	F 405	F 395	F 360	F 375	380	340	305	365	370	A	380	L	A	295	L	260	255	
13					340	330	345	330	340	350	345	325	365	330	350	405	320	350	320	F 310	325	290	L	L	235
14					A	F 480	320	340	355	410	360	380	305	350	400	280	325	350	320	315	325	275			
15					345	F	B	A	430	440	430	420	400	400	350	375	U R 530	480	F 300	460	350	L			
16					A	B	A	270	R	R	530	440	460	530	390	390	350	350	330	340	300	420			
17					R	A	A	R	B	R	F	400	470	500	430	380	355	360	F 355	340	L	L	L		
18					R	A	A	R	H 390	420	345	440	355	330	350	340	360	365	290	290	280				
19					L	350	350	330	390	F 490	F 400	340	340	430	390	410	360	300	320	355	330	275	270		
20					F 340	L	F 350	325	370	430	U F 440	F 400	315	395	A 350	330	305	L	400	F 375	320	300	260		
21					L	280	380	350	330	330	370	340	340	R	380	310	330	330	410	260	265				
22					A	A	A	F	A	A	A	365	375	355	430	405	450	F 450	340	350	300				
23					A	A	A	440	450	F 400	F 405	370	355	455	405	R 400	350	380	300	280	L	A	275	265	L
24					350	305	340	340	330	340	345	345	395	355	A 355	F	A	A	A	330	F 290	280	L	L	
25					F	R	A	A	A	A	R	B	R	450	470	425	500	390	470	R	R	A			
26					A	A	A	A	A	A	B	B	C	B	480	B	B	B	R	Y	F				
27					B	A	A	B	B	B	B	B	B	B	B	U F 560	U F 450	450	480	500	F	A			
28					A	B	B	B	R	B	R	G	490	C	G	405	475	380	345	325	300	L	L		
29					A	B	F	B	A	B	B	B	B	B	B	390	B	395	500	B	R	L			
30					A	B	A	A	A	B	F 480	405	410	450	B	B	R	B	B	310	L	L			
31					F 450	F 350	400	B	Y	F	R	F 380	360	R	425	395	480	390	360	L	320	275	L	245	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	3	7	11	11	16	14	17	20	23	24	23	23	27	23	27	24	20	16	10	2	4		
MED		350	340	345	F 350	330	398	392	390	400	380	388	385	400	380	355	380	335	322	300	278	268	250		
UQ			340	375	F 370	412	435	450	F 425	430	412	450	450	428	398	445	398	368	345	310	310		260		
LQ			322	335	348	328	348	350	360	358	365	348	352	358	350	345	340	315	300	290	270		240		

DEC. 1975 H'F2 (KM)

# IONOSPHERIC DATA

DEC. 1975

H<sup>o</sup>F (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69 00.4 S, Long. 39 35.4 E Sweep 0.5 MHz to 15 MHz in 30 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	400	A	B	B	B	B	B	A	B	B	B	B	B	B	240 <sup>B</sup>	B	R	E <sup>R</sup> 250	A	240	250	C	A	B	
2	B	B	B	B	350 <sup>F</sup>	B	B	A	250	230	E <sup>B</sup> 250	U <sup>B</sup> 200	B	B	240	230	225	225	265	U <sup>H</sup> 200	H <sup>H</sup> 265	250	350 <sup>R</sup>	R	
3	F	B	B	B	B	A	A	225	225	210	210	250 <sup>A</sup>	A	220	B	B	210	220	230	B	240	250	300 <sup>F</sup>	A	
4	R	A	R	B	F	B	300	B	B	R	R	215	B	240 <sup>B</sup>	B	B	295	B	345	200	A	260	250	310	
5	290	300	A	A	B	A	A	240	220	240	195 <sup>H</sup>	200 <sup>H</sup>	205	240	230	210	220 <sup>B</sup>	215	230	230 <sup>H</sup>	250	255	295	330	
6	U <sup>F</sup> 425	B	R	390	R	A <sup>A</sup> 315	A	C	220	C	C	C	C	C	230	215	230	E <sup>B</sup> 255	215	220	290	370	R	R	
7	R	A	F	A	A	A	A	225	270	A	205	225	200	210	205	205	200	210	A	220	C	250	245	300	
8	U <sup>H</sup> 290	330	A	A	A	A	A	B	B	225	200	205	210	220	220	205 <sup>H</sup>	225	220	205 <sup>H</sup>	250	A	345	A	A	
9	370	U <sup>F</sup> 350	A	B	A	A	A	A	A	200	U <sup>C</sup> 280	H <sup>H</sup> 220	250	225	240	245	R	210	F <sup>F</sup> 280	350	260	250	245	270	
10	290	325	340	305	320 <sup>F</sup>	H <sup>H</sup> 260	240	215	215	225	A	200	225	270 <sup>A</sup>	225	215	230	240	A	210	225	200	250	240	
11	280	315	350	310	320	265	290 <sup>H</sup>	230	205	245	230	220	225 <sup>H</sup>	A	A	A	A	A	225 <sup>H</sup>	A	210	250	260	305	
12	U <sup>F</sup> 525	360	330	395	245	A	220	200	200	225	195	240	220	225	A	A	E <sup>A</sup> 255	A	A	215	240	235	225	230	
13	240	245	U <sup>F</sup> 300	250	240	220	245	205	200	225	200	U <sup>H</sup> 195	H <sup>H</sup> 205	215	205	200	200	U <sup>H</sup> 225	230	225	230	230	230	245	
14	260	280	345	A	A	F	225	200	195	240	U <sup>H</sup> 200	U <sup>H</sup> 195	240	205	200	210 <sup>H</sup>	200	220	210	225	210	225	300	F	
15	A	A	A	U <sup>F</sup> 350	F	B	A	255	200	205	205	205	225	225	215	220	215	220	205	205	225	250	U <sup>A</sup> 255	320 <sup>F</sup>	
16	A	350	A	A	B	A	B	A	255	225	200	205	250 <sup>R</sup>	210 <sup>H</sup>	225	200	200	220	225	245	A	320	295	325	
17	R	A	F	A	A	A	R	B	E <sup>A</sup> 260	240	200	245	230 <sup>H</sup>	225	225	200 <sup>H</sup>	225	U <sup>H</sup> 205	200 <sup>H</sup>	225 <sup>H</sup>	240	225	280	300	
18	325	A	A	R	R	A	A	280	200	200 <sup>H</sup>	230	230	225	185	225	230	225	215	210	220	200 <sup>H</sup>	230 <sup>C</sup>	240	240	
19	225	300	230	250	230	215	200	A	240	190 <sup>H</sup>	200	U <sup>H</sup> 195	U <sup>H</sup> 180	240	U <sup>H</sup> 190	205	225	A	215	210	240	215 <sup>H</sup>	230 <sup>H</sup>	275	
20	255	230	220	230	225 <sup>F</sup>	240	250 <sup>F</sup>	A	205	195 <sup>H</sup>	U <sup>H</sup> 190	A	200	230	220	200 <sup>H</sup>	200	225	200 <sup>H</sup>	225	A	290 <sup>A</sup>	250	240	
21	240	240	250	330	260	240	200	195	200	195	205	E <sup>A</sup> 230	220	250	200 <sup>H</sup>	A	230	200	200 <sup>H</sup>	B <sup>B</sup> 230	C <sup>C</sup> 245	240	R	F	
22	R	F	F	A	A	A	F	A	A	A	220	230	205	U <sup>A</sup> 205	A	200	220	210	220	230	250	265 <sup>H</sup>	255	R	
23	290	A	R	A	A	A	A	250 <sup>F</sup>	215	200 <sup>F</sup>	225	205	200	200	205	225	A	215	A	230 <sup>A</sup>	A	A	A	225	
24	U <sup>F</sup> 375	280	220	230	250 <sup>F</sup>	240	230	200 <sup>H</sup>	235	205	205	A	210	A	A	A	A	225 <sup>A</sup>	225	230	220	210	240	250	
25	280 <sup>F</sup>	A	F	F	A	A	A	A	A	A	A	B	B	R	230	220 <sup>H</sup>	210	215 <sup>H</sup>	225	A	A	A	A	350	R
26	A	F	F	A	A	A	A	A	A	B	B	F	B	B	B	B	B	R	Y	250	A	R	350	A	
27	A	B	A	R	B	A	A	B	B	B	B	B	B	B	B	250	E <sup>B</sup> 280	B	B	250 <sup>H</sup>	A	A	F	F	B
28	B	A	A	A	B	B	B	R	B	250 <sup>R</sup>	U <sup>F</sup> 215	230	280	U <sup>H</sup> 220	270	220	225	225	215	230	240	330	295	R	
29	R	F	F	345	A	B	A	B	A	B	B	B	B	B	B	B	B	230	B	B	220	250	A	A	
30	330	A	B	A	B	A	A	A	B	210	235	200 <sup>H</sup>	200 <sup>H</sup>	B	B	B	B	B	B	205 <sup>C</sup>	240	220	275	280	
31	290	290 <sup>F</sup>	B	A	250	A	B	Y	200	205	205	200	195 <sup>H</sup>	200	250	215	240	200	210	200 <sup>H</sup>	225	215	230	200	
	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	14	9	11	10	8	10	13	20	22	23	23	22	22	22	21	22	24	22	26	22	26	24	18	
MED	290	300	300	310	250	240	235	225	212	218	205	205	215	222	225	210	224	220	218	225	240	250	255	272	
UQ	350	330	340	348	320 <sup>F</sup>	262	250	240	234	230	220	230	225	230	240	220	228	225	230	230	250	260	295	305	
LQ	270	280	230	250	240	230	220	200	200	200	200	200	200	210	205	205	210	212	210	210	225	225	242	240	

DEC. 1975

H<sup>o</sup>F (KM)

# IONOSPHERIC DATA

DEC. 1975

H<sup>o</sup>ES (KM)

45° E Mean Time (G. M. T. + 3 h)

Station SYOWA STATION Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.5 MHz to 15 MHz in 30 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	K 100	K 125	B	B	B	B	B	100	B	B	B	B	B	B	B	B	100	B	100	G	K 100	K 100	K 120	B	
2	B	B	B	B	K 150	B	B	105	125	G	B	B	B	B	G	G	G	G	G	G	G	G	K 110	K 125	
3	K 110	100	B	B	B	100	105	G	G	G	G	G	105	105	B	B	G	G	B	B	140	G	125	100	
4	K 120	K 100	K 130	B	120	B	K 105	B	B	100	100	B	B	B	B	B	G	B	K 110	G	100	G	G	K 120	
5	K 100	K 110	100	105	100	100	100	100	G	G	G	G	G	G	G	G	B	G	G	G	G	170	K 100	K 115	
6	K 165	B	K 130	K 110	K 130	120	100	100	95	C	C	C	C	C	100	105	G	B	150	G	105	K 130	K 100	K 110	
7	K 100	165	130	100	125	125	100	100	100	120	125	115	110	110	105	100	100	100	100	G	C	G	140	K 125	
8	140	K 135	K 100	120	105	100	110	B	B	105	G	G	G	G	G	G	G	100	G	150	105	K 105	110	100	
9	K 130	130	95	B	110	K 130	120	100	100	G	130	G	100	G	100	G	100	B	K 100	K 105	G	130	125	120	
10	110	100	K 120	K 105	K 160	G	G	105	125	130	120	125	120	115	120	G	G	G	100	G	130	130	120	115	
11	110	120	K 120	K 115	K 110	K 115	K 100	G	105	100	100	G	120	100	100	105	105	100	100	100	105	170	125	K 115	
12	K 115	K 120	K 120	K 120	130	105	160	G	G	G	130	125	120	105	105	100	100	100	100	100	G	140	G	100	
13	105	100	100	125	110	105	105	G	110	105	105	100	105	100	G	110	110	105	115	130	95	130	105	K 155	
14	125	C	K 115	105	K 100	K 140	G	G	95	G	G	125	G	G	G	G	G	130	G	G	G	G	K 130	K 120	
15	125	100	100	100	K 155	B	95	100	G	G	G	G	G	G	100	100	G	G	G	G	G	140	140	K 110	
16	110	K 105	105	105	B	100	G	95	105	G	C	G	B	G	B	G	G	G	B	150	110	K 115	K 115	K 105	
17	K 110	105	K 120	100	95	100	100	B	100	100	G	G	G	G	G	G	G	G	G	G	G	130	115	110	
18	K 105	110	105	K 110	K 110	100	100	K 100	G	G	G	G	110	G	G	G	G	100	G	130	120	C	145	140	
19	K 105	150	G	G	G	G	130	100	100	G	G	120	105	G	G	100	G	105	G	G	G	110	140	130	
20	145	130	125	G	105	G	140	100	G	G	110	105	110	105	105	G	100	100	100	100	120	105	105	100	
21	105	G	130	K 100	105	G	G	110	105	105	G	115	110	100	100	105	105	G	G	B	120	140	K 115	K 115	
22	K 130	K 130	160	105	100	100	105	100	100	100	G	G	105	105	105	105	105	100	105	130	125	125	130	K 100	
23	K 105	105	K 120	100	100	100	100	K 95	115	105	G	100	110	100	110	105	100	160	100	140	125	130	120	G	
24	K 110	140	130	125	100	110	G	G	135	125	115	105	105	100	100	100	100	100	100	C	100	100	115		
25	K 100	140	K 100	100	100	100	100	100	100	95	B	B	B	G	G	100	B	G	K 100	110	100	K 110	K 115	K 110	
26	100	110	100	100	100	100	100	100	105	B	B	G	B	B	B	B	B	100	G	B	100	K 100	K 155	K 100	
27	100	120	100	K 130	B	100	110	B	B	B	B	B	B	B	B	G	B	B	B	G	140	105	K 105	100	B
28	B	100	95	100	B	B	B	100	B	100	100	110	G	G	G	G	145	130	130	G	G	K 110	K 105	K 105	
29	K 110	110	K 120	K 100	120	B	105	B	100	B	B	B	B	B	B	B	B	B	B	B	170	B	150	100	K 145
30	K 130	K 105	B	105	B	100	100	100	B	B	G	G	G	B	B	B	B	B	B	B	140	G	130	155	K 110
31	K 130	130	B	K 120	155	120	B	G	100	C	G	G	G	G	G	G	G	100	100	130	G	G	125	G	
CNT	29	27	25	24	24	21	22	19	19	13	10	11	14	11	12	12	12	15	16	16	17	24	29	27	
MED	K 110	110	120	105	110	100	102	100	100	105	112	115	110	105	102	102	100	100	100	130	105	130	120	K 115	
UQ	K 125	130	K 125	K 118	128	115	110	100	108	105	125	122	110	105	105	105	105	105	108	140	120	135	130	K 120	
LQ	K 105	105	100	100	100	100	100	100	100	100	100	105	105	100	100	100	100	100	100	102	100	K 108	105	K 105	

DEC. 1975

H<sup>o</sup>ES (KM)

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# IONOSPHERIC DATA

DEC. 1975

TYPES OF ES

45° E Mean Time (G. M. T. + 3 h)

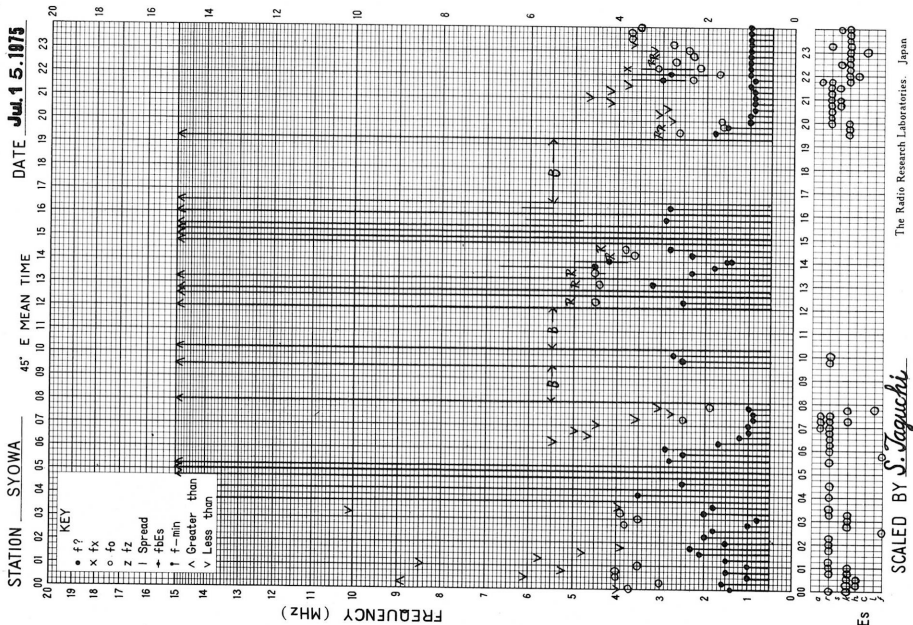
Station **SYOWA STATION** Lat. 69° 00' 4" S Long. 39° 35' 4" E Sweep 0.5 MHz to 15 MHz in 30 sec in automatic operation

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	CKA 11	AL 12						R 1									R 1		RS 11		RK 21	RK 12	RK 11		
2					HRK 11			R 1	C 1														K 1	K 1	
3	RK 13	L 1				R 1	R 1					C 1	C 1							H 1		RA 11		R 2	
4	K 1	RK 11	K 1		AK 11		RK 11			L 1	R 1								K 1	RS 21				CK 21	
5	K 2	RK 11	R 1	R 1	R 1	R 1	R 2	R 1														R 1	RK 13	K 2	
6	RBK 12		K 1	K 2	K 1	R 1	R 1	R 1	L 2						C 2	C 1			H 1		R 1	K 1	K 1	K 1	
7	K 1	H 1	RA 11	RA 22	R 1	R 1	RA 21	C 3	L 2	R 1	C 1	C 1	C 1	C 1	C 2	C 2	CL 21	C 2	LA 31			RA 11		K 1	
8	RA 11	RK 11	RKA 22	R 1	R 1	AR 11	RA 11			R 1								R 1		A 1	RS 11	RAK 11	RA 21	RA 21	
9	ACK 11	HA 11	CA 11		R 1	RK 11	R 2	R 1	R 2		H 1		R 1		R 1		R 1		RK 11	K 2		H 1	C 1	C 3	
10	C 4	LK 32	RK 11	RK 21	AK 12				C 2	C 1	H 1	H 1	HC 11	H 1	C 1	H 1				R 1		R 1	H 1	C 2	C 2
11	C 2	CK 33	K 1	RK 21	K 2	CAK 11	RAK 11		C 1	C 1	L 1		HL 12	L 3	L 2	C 3	C 5	C 3	C 3	AL 13	C 1	HA 11	RA 11	K 2	
12	K 3	RK 21	K 1	K 1	H 1	RA 21	HA 11				HL 11	H 1	H 1	H 3	C 3	C 3	C 3	C 3	C 4	C 4	C 3		H 3	L 2	
13	C 2	CH 11	C 2	CL 12	C 2	C 2	C 3		C 2	C 2	C 2	C 2	C 1	R 2							H 1	L 1	H 1	L 1	HK 11
14	RA 11	R 1	RK 12	R 2	KA 21	RK 12			L 1			H 2								H 2			RAK 11	RK 31	
15	R 1	RR 12	R 2	RAK 21	HAK 11		L 1	R 1							C 1	L 2						RA 11	RA 11	RK 21	
16	R 2	RK 21	R 2	R 1		R 1		L 1	R 1											A 1	R 2	RAK 11	K 1	RKA 21	
17	RK 11	R 2	K 1	L 1	L 1	R 1	R 1		R 1	R 2												RA 11	RA 11	RA 11	
18	K 2	R 1	R 1	K 2	K 1	R 1	R 1	RK 11					C 1						L 1	H 1	H 1		CA 11	H 1	
19	RK 11	RA 11				H 1	RA 21	RA 11			H 1		C 1			L 2	C 2				C 2	H 2	RA 11		
20	RA 11	H 1	C 1		C 2	HA 11	RA 11			C 1	C 2	C 1	C 2	C 2	C 2		C 3	L 2	L 1	L 2	C 3	C 3	C 3	C 2	
21	R 1		C 1	K 2	R 2			C 2	C 2	C 1		C 2	C 2	C 2	C 1	C 1	C 1				C 1	H 1	K 2	K 3	
22	K 1	HAK 11	HRA 13	RA 21	R 2	R 2	RA 21	RS 11	RL 11	R 1			C 2	C 2	C 2	C 2	C 1	L 2	C 1	HA 11	HA 11	CA 11	C 1	KA 31	
23	RK 21	R 3	K 1	R 1	R 2	R 1	RKA 21	AR 11	R 1	R 1		R 1	C 1	C 1	C 1	C 1	C 2	HC 12	C 2	HC 21	C 3	CL 31	CL 31		
24	RKA 11	R 1	H 2	C 1	LC 13	C 4			H 1	H 2	C 2	C 4	C 2	C 2	C 3	C 4	C 4	L 2	L 3	LA 31		C 1	C 4	RA 11	
25	RAK 11	R 1	CK 11	AR 11	AR 11	R 2	RA 11	R 1	R 2	L 1						L 1				K 1	R 1	R 3	RK 13	K 4	K 2
26	RA 31	RA 21	RA 11	R 1	R 1	RA 11	R 1	R 2	R 1											R 1	S 1	RS 21	RK 12	RK 11	RK 11
27	R 1	R 1	R 1	K 1		R 1	R 1														AR 12	R 2	KA 11	AR 11	
28		RAL 11	L 1	R 1				R 1		R 1	R 1	C 1							H 1	H 1	H 1		RK 11	RK 21	K 3
29	K 2	AC 11	K 1	RAK 11	R 1		R 1		R 1												H 1		HC 11	R 2	RK 41
30	HK 21	CK 22		C 1		R 1	R 1	R 1													C 1		C 1	H 1	K 2
31	CK 11	R 1		K 1	R 1	RA 11			L 2											L 2	L 1	H 1		C 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																									

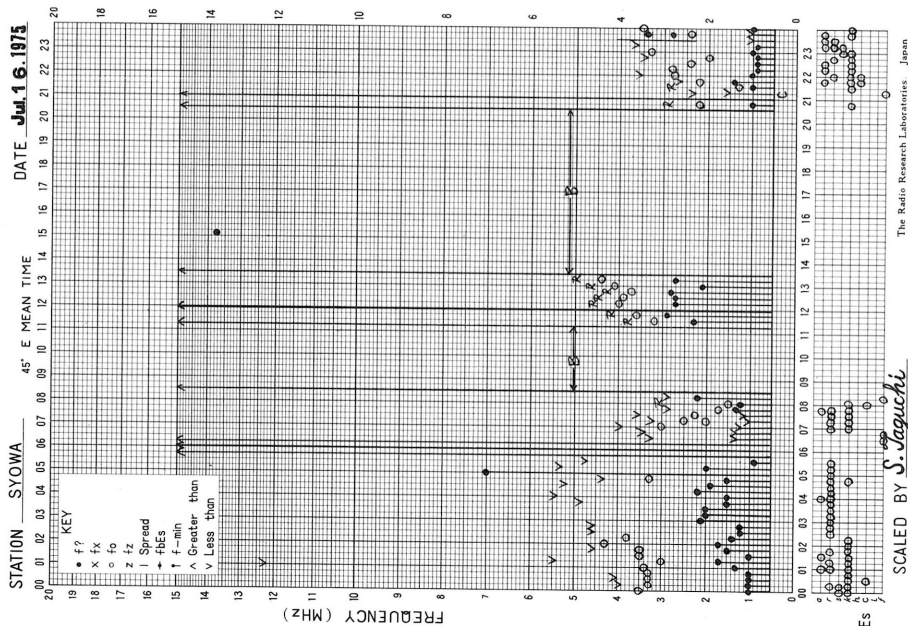
DEC. 1975

TYPES OF ES

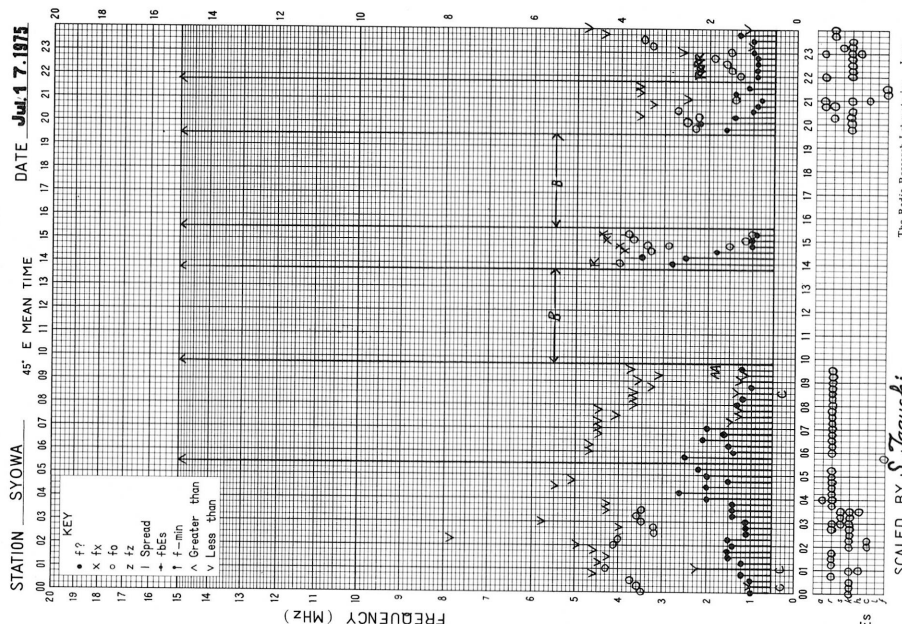
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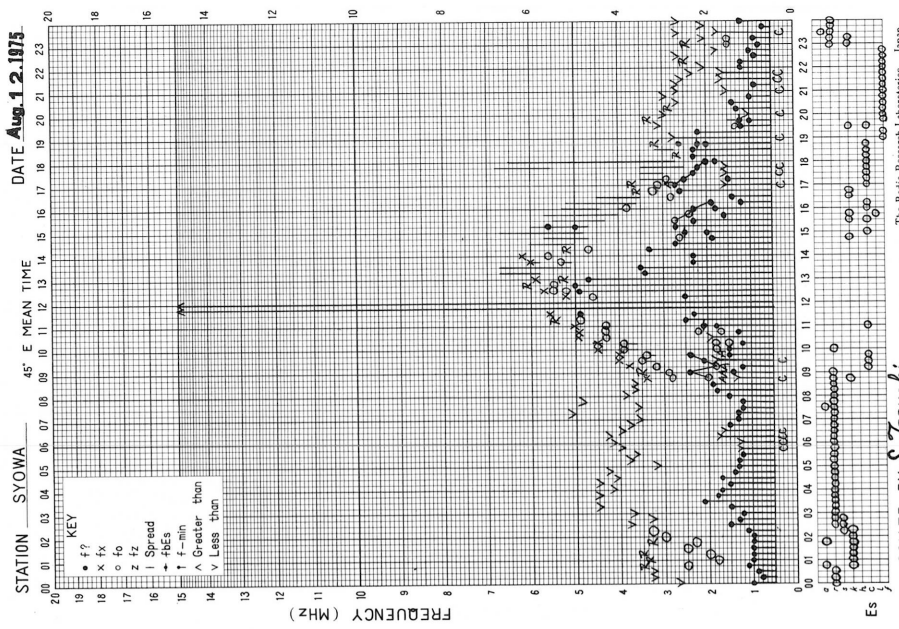
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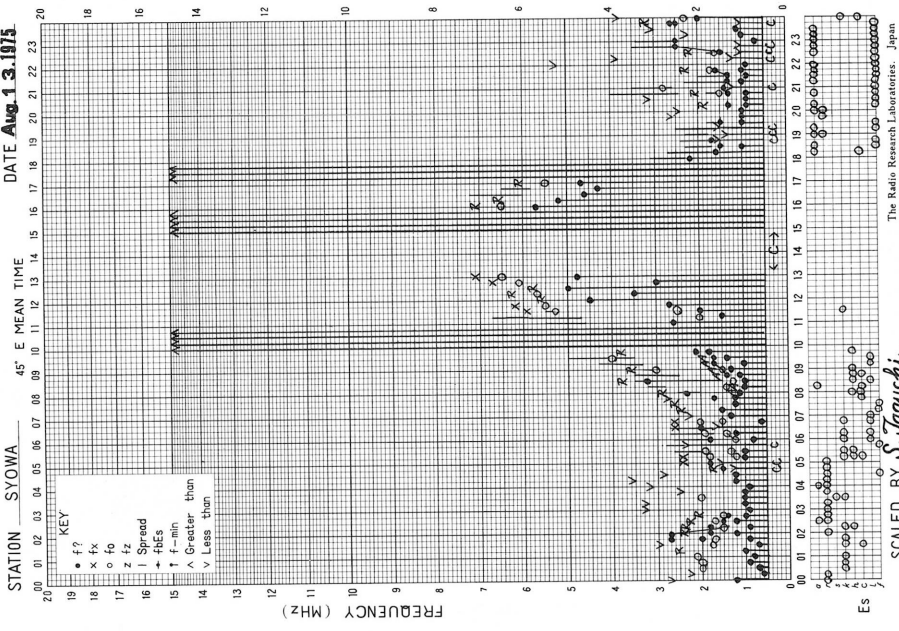
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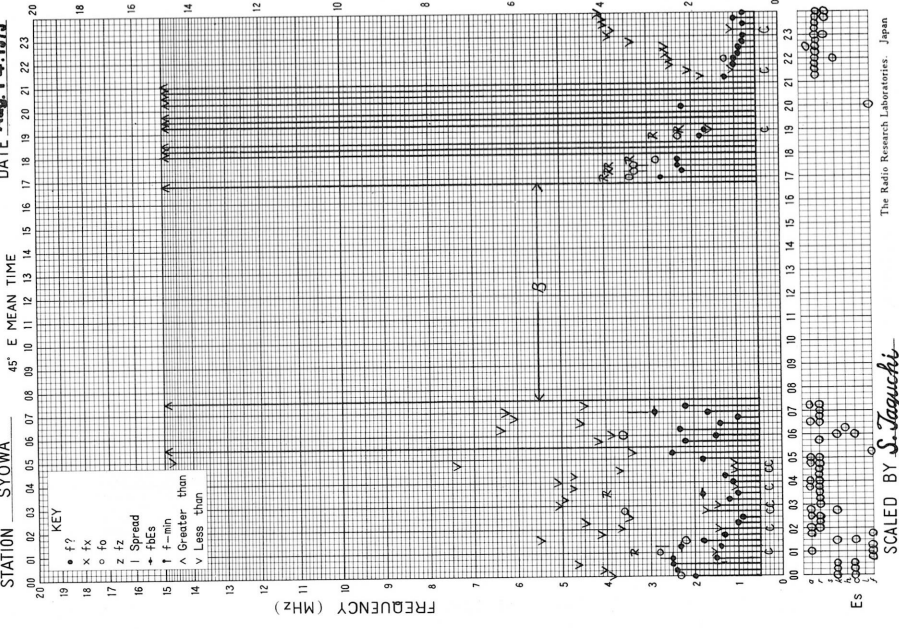
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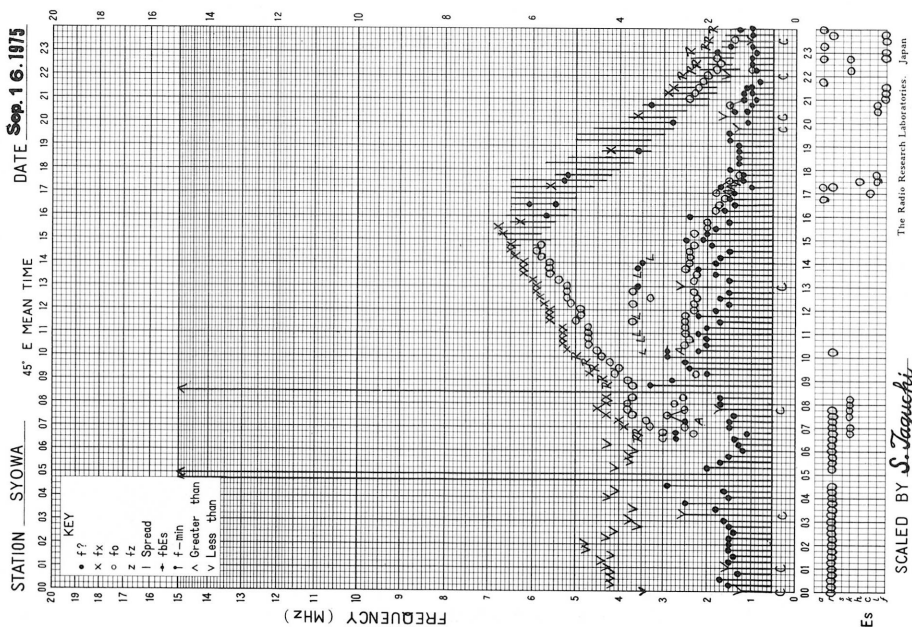
f-PLOT OF IONOSPHERIC DATA



f-PLOT OF IONOSPHERIC DATA



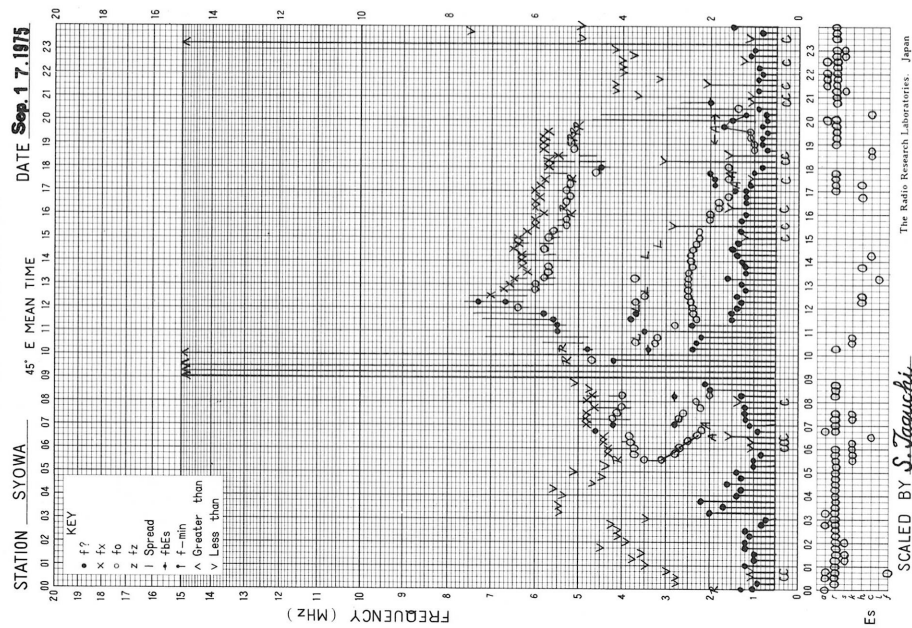
f-PLOT OF IONOSPHERIC DATA



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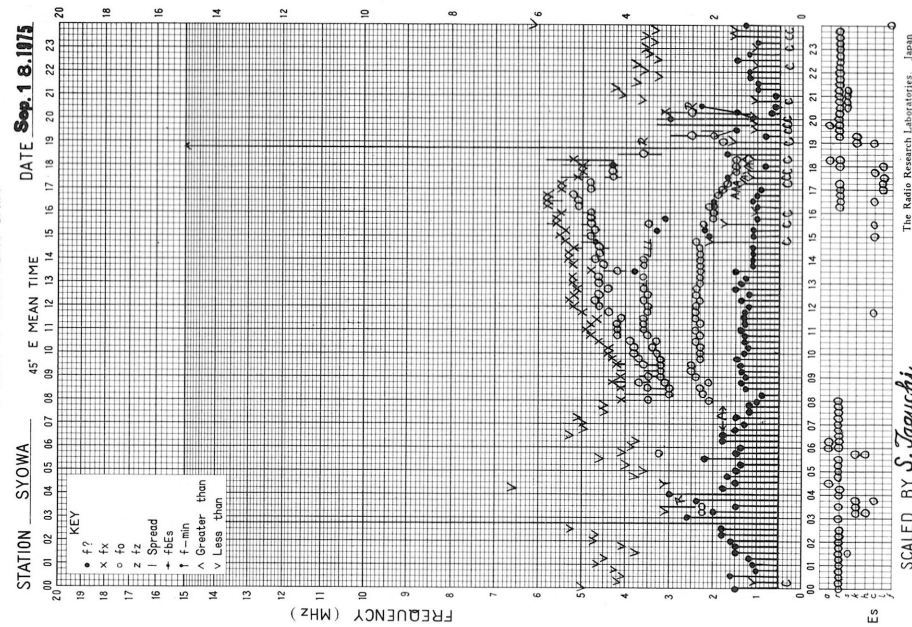
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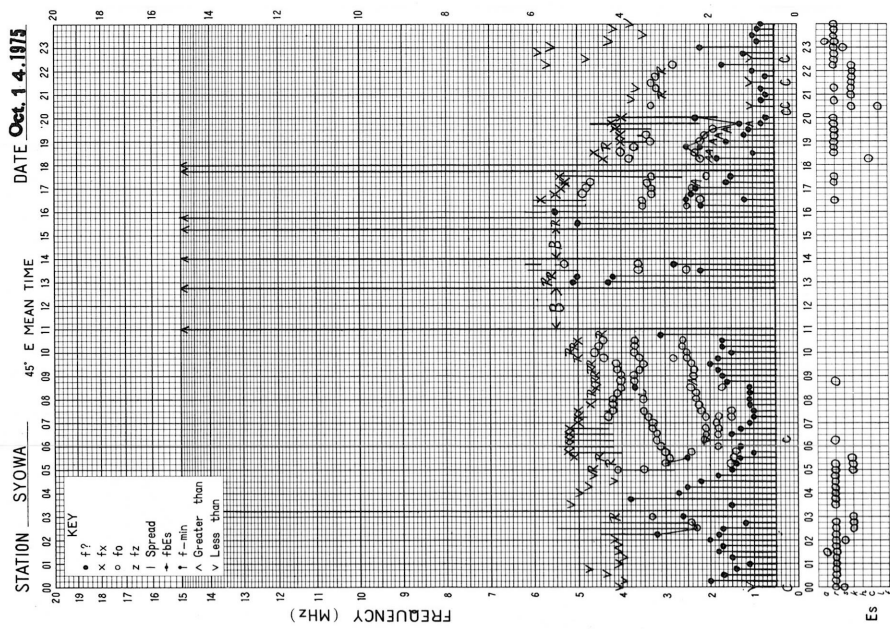
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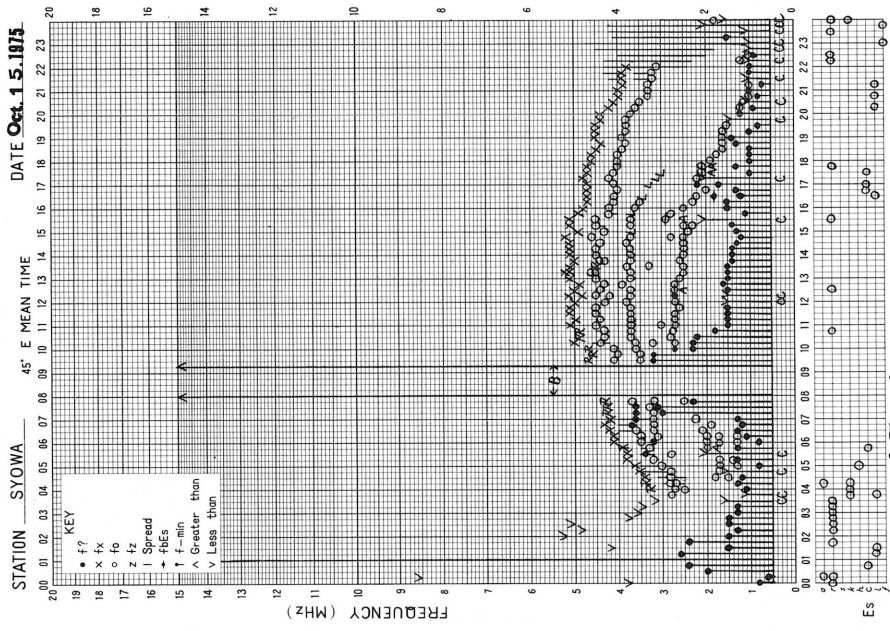
f-PLOT OF IONOSPHERIC DATA



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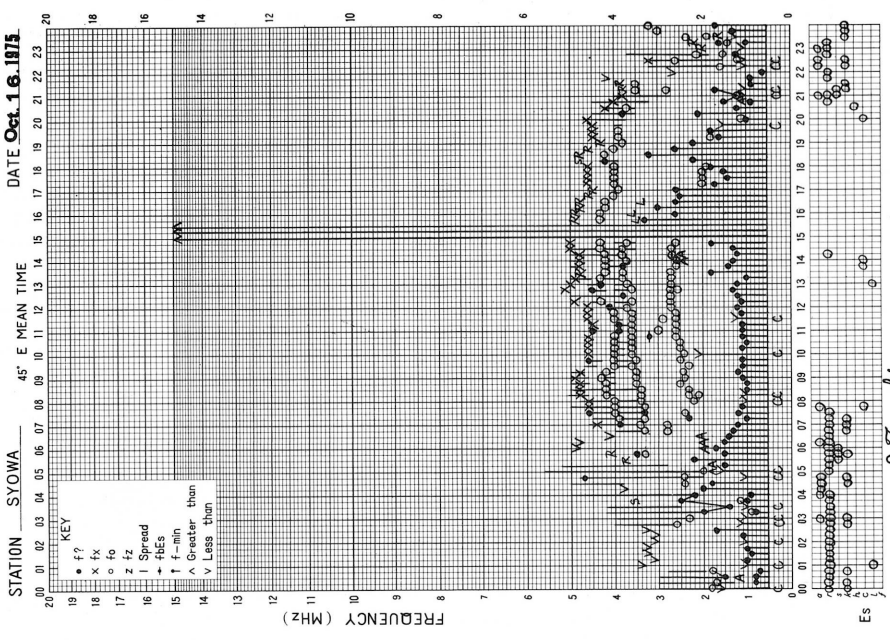
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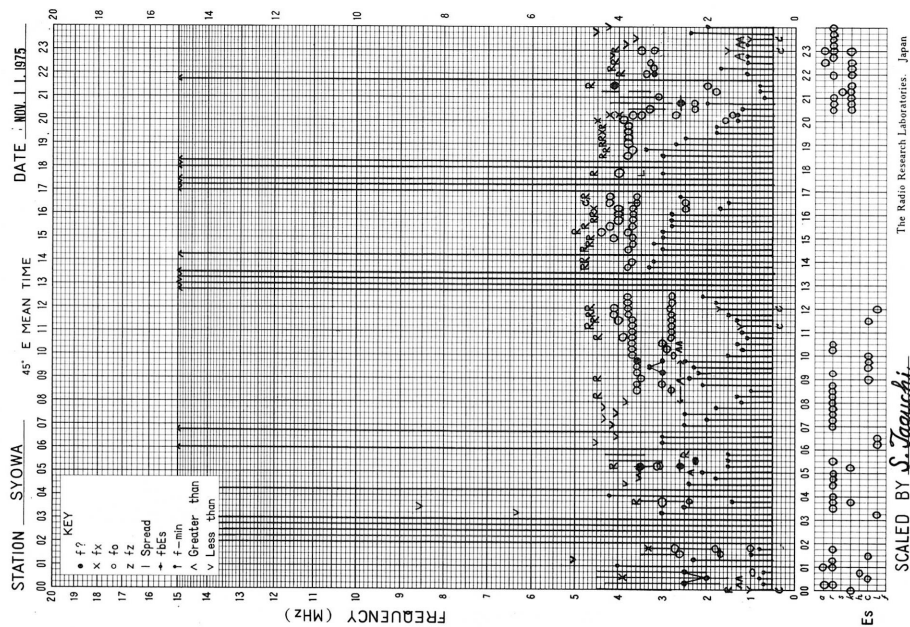
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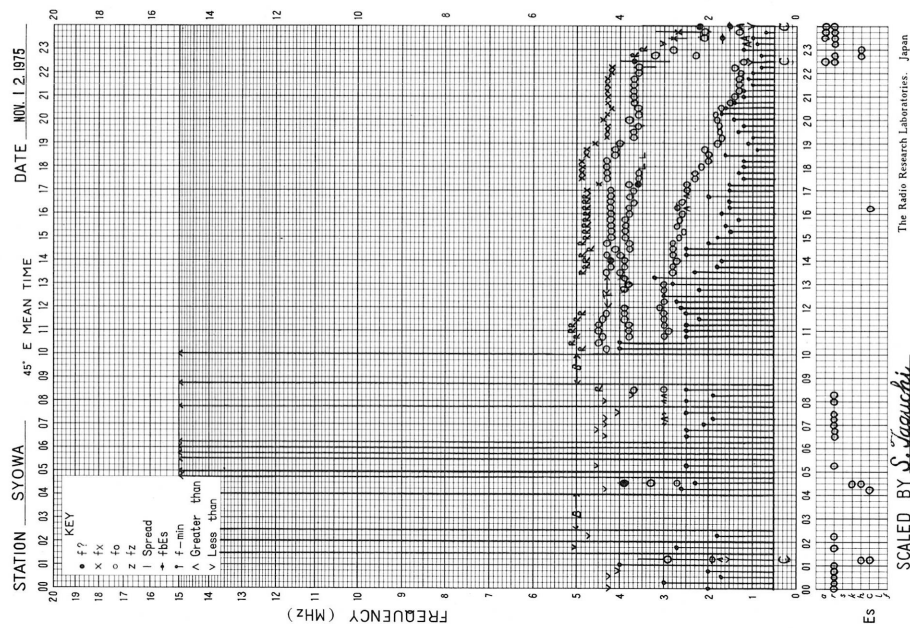
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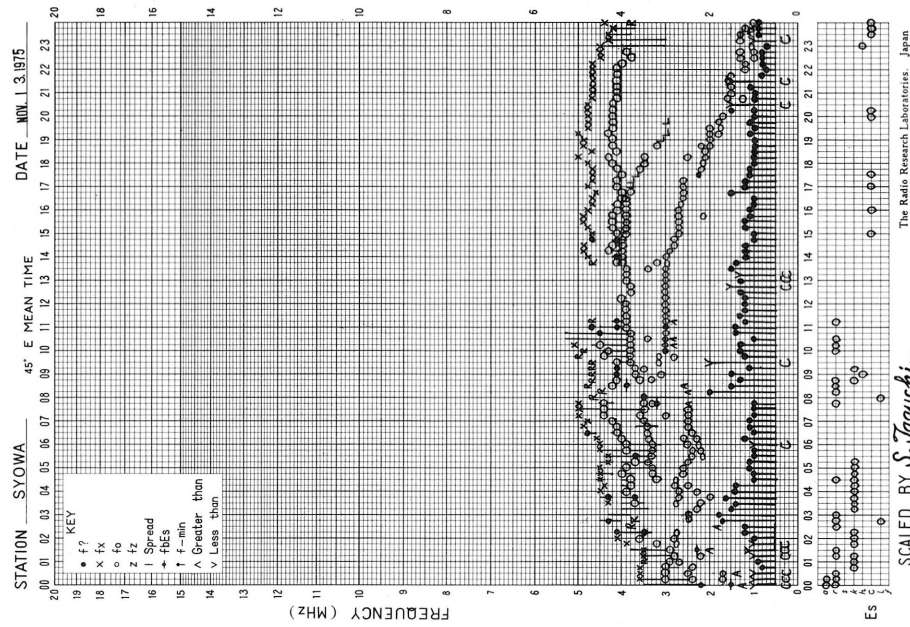
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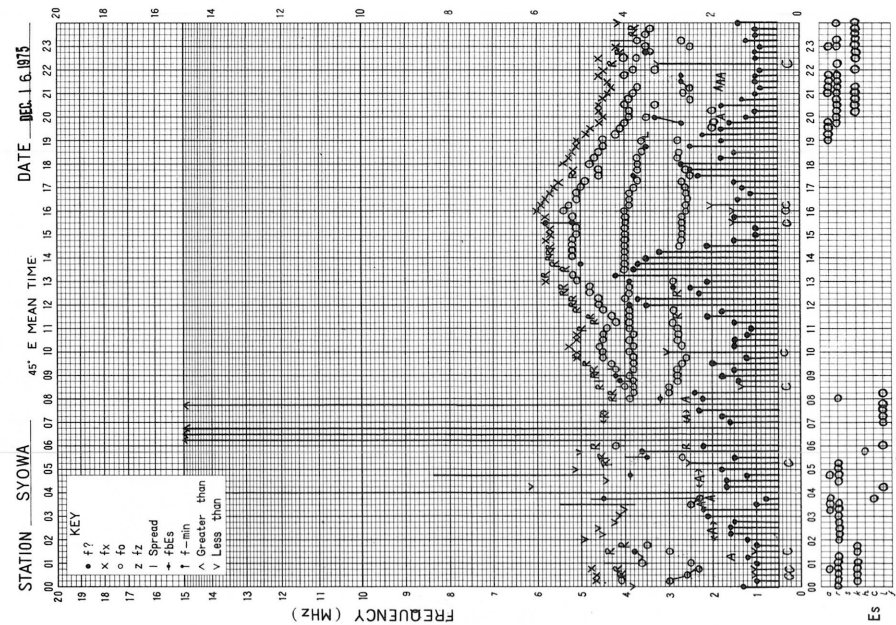
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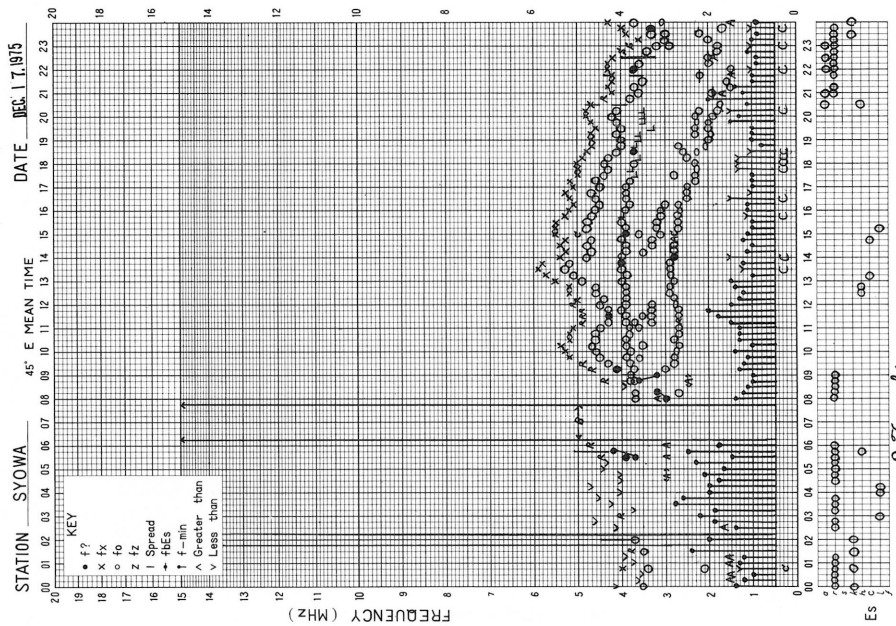
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f-PLOT OF IONOSPHERIC DATA



f-PLOT OF IONOSPHERIC DATA



f-PLOT OF IONOSPHERIC DATA

