

ION. ANT. —11

**IONOSPHERIC DATA AT SYOWA BASE
(ANTARCTICA)**

February 1968 — July 1968

Issued in May 1970

Prepared by

**THE RADIO RESEARCH LABORATORIES
MINISTRY OF POSTS AND TELECOMMUNICATIONS
NUKUI-KITAMACHI, KOGANEI-SHI, TOKYO, JAPAN.**



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**MAIN CHARACTERISTICS OF THE IONOSONDE
USED AT SYOWA BASE**

Item	Specification
Frequency Range	400 kHz~15 MHz
Transmitting power	10 kW (peak value)
Duration of Sweep	30 sec
Transmitted Pulse width	100 μ sec
Recurrence Frequency of Transmitted Pulse	50 Hz (by power 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 running
Power Supply	100 Volt AC, 2.5 kVA
Transmitting Antenna	25 m high vertical delta terminated by 600 Ω
Receiving Antenna	25 m high vertical delta terminated by 600 Ω

SYMBOLS AND TERMINOLOGY

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

Terminology

f_oF2 f_oF1 f_oE f_oEs	<p>The ordinary-wave critical frequency for the $F2$, $F1$ and E layers respectively.</p> <p>The ordinary wave top frequency corresponding to highest frequency at which a mainly continuous trace is observed.</p>
f -min	That frequency below which no echoes are observed.
$M(3000)F2$	The maximum usable frequency factor for a path of 3000 km for transmission by $F2$ layer.
$h'F2$	The minimum virtual height of the ordinary wave trace for the highest stable stratification in the F region.
$h'F$	The natural and most significant F region virtual height parameter is that for lowest F region stratification. This will be denoted by $h'F$. Thus $h'F$ is identical with the current $h'F2$ when F region stratification is absent, e. g., at night, and with the current $h'F1$ when $F1$ stratification is present.
$h'Es$	The lowest virtual height of the trace used to give the f_oEs .

a. Descriptive Symbols

Used following the numerical value on monthly tabulation sheets.

- A Measurement influenced by, or impossible because of, the presence of a lower thin layer, for example E_s .
- B Measurement influenced by, or impossible because of, absorption in the vicinity of f_{\min} .
- C Measurement influenced by, or impossible because of, any non-ionospheric reason.
- D Measurement influenced by, or impossible because of, the upper limit of the normal frequency range. Used in a qualifying sense, see below.
- E Measurement influenced by, or impossible because of, the lower limit of the normal frequency range. Used in a qualifying sense, see below.
- F Measurement influenced by, or impossible because of, the presence of spread echoes.
- G Measurement influenced or impossible because the ionization density is too small compared with that of a lower thick layer.
- H Measurement influenced by, or impossible because of, the presence of a stratification.
- L Measurement influenced by or impossible because the trace has no sufficiently definite cusp between layers.
- M Measurement questionable because the ordinary and extraordinary components are not distinguishable.
- N Conditions are such that the measurement cannot readily be interpreted, for example, in the presence of oblique echoes.
- O Measurement refers to the ordinary component.
- R Measurement influenced by, or impossible because of, absorption in the vicinity of a critical frequency.
- S Measurement influenced by, or impossible because of, interference or atmospheric effects.
- V Forked trace which may influence the measurement.
- W Measurement influenced or impossible because the echo lies outside the height range recorded.
- X Measurement refers to the extraordinary component.
- Y Intermittent trace.
- Z Third magneto-ionic component present.

b. Qualifying Symbols

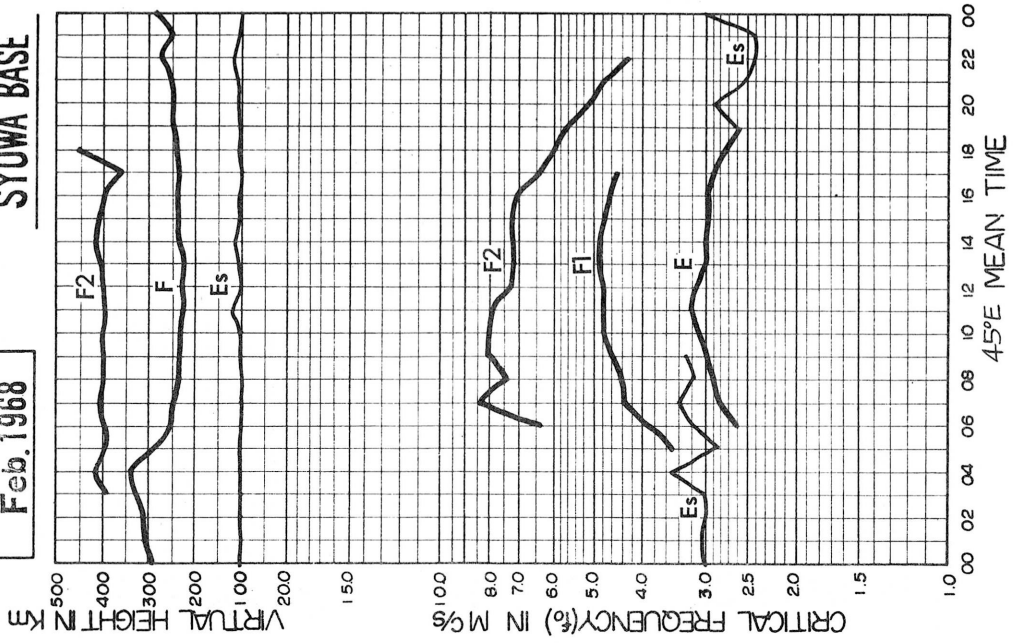
Used as a preceding symbol on monthly tabulation sheets.

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

IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS

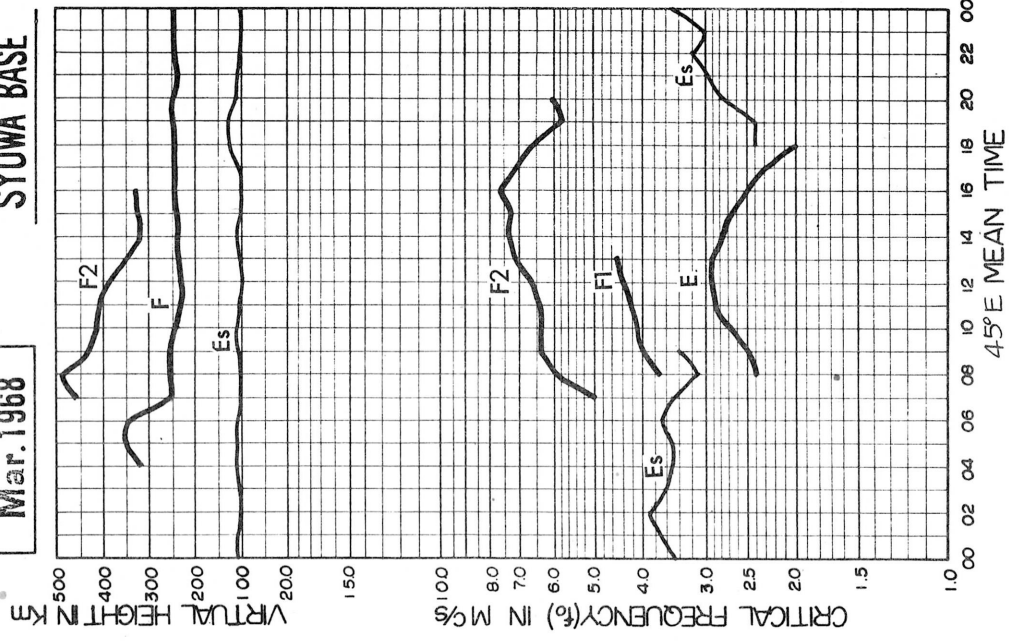
Feb. 1968

SYOWA BASE



Mar. 1968

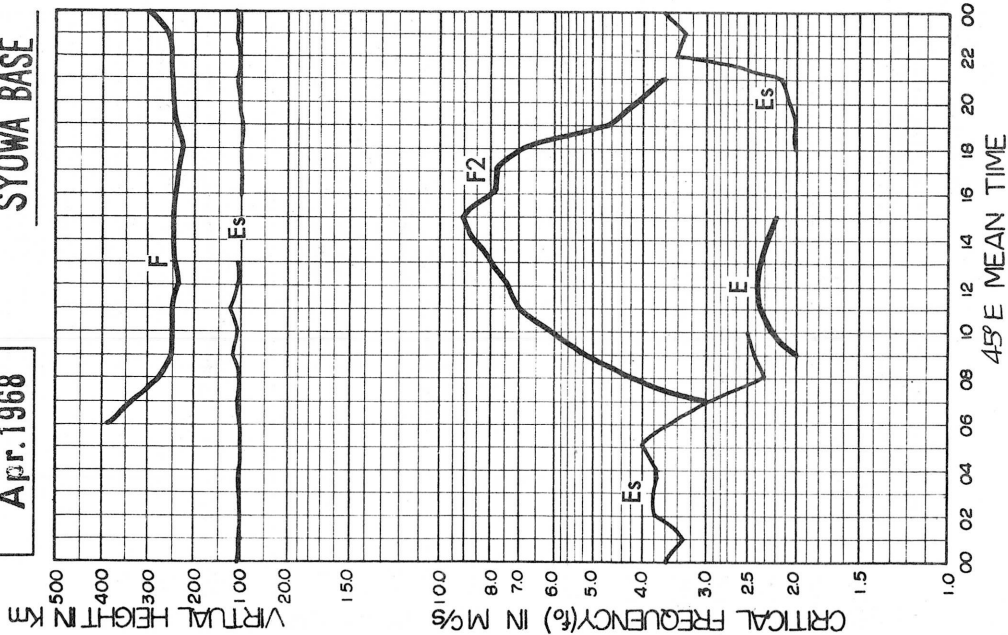
SYOWA BASE



IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS

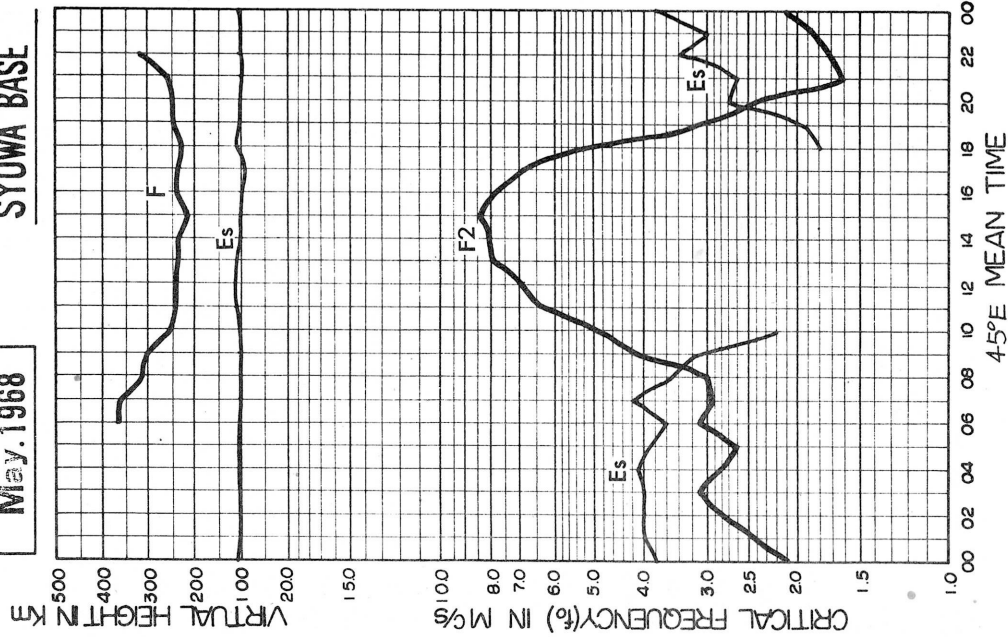
Apr. 1968

SYOWA BASE



May. 1968

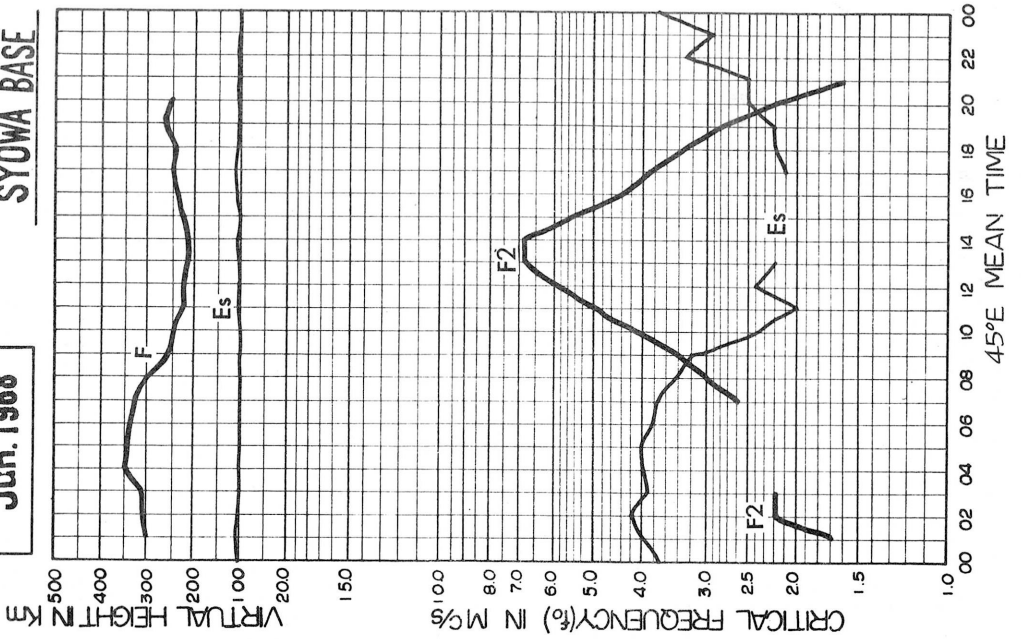
SYOWA BASE



IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS

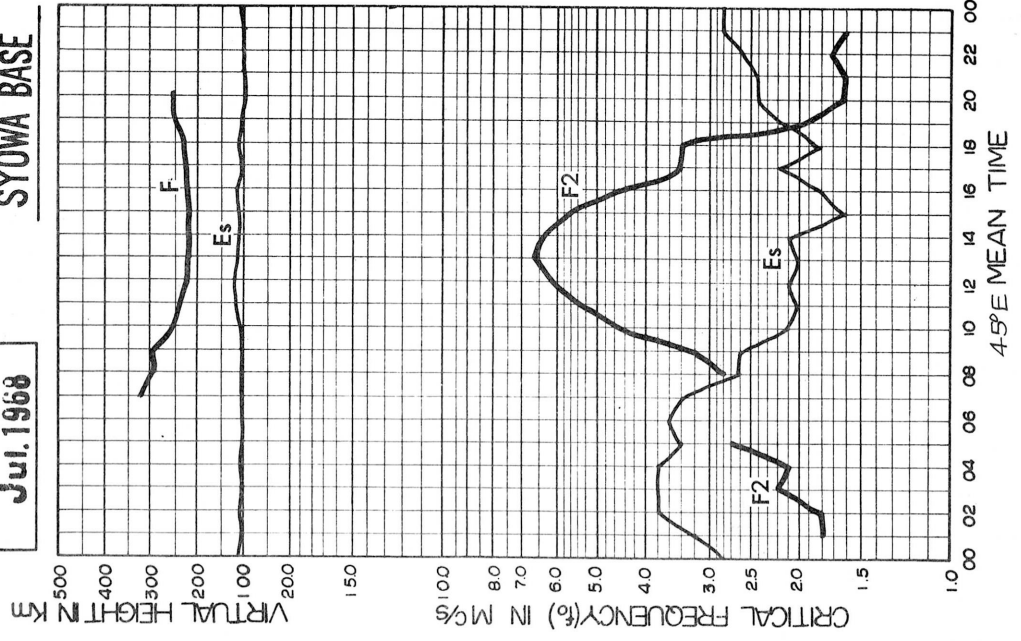
Jun. 1968

SYOWA BASE



Jul. 1968

SYOWA BASE



IONOSPHERIC DATA

FEB. 1968

FOF2 (0.1 MHZ)

45° E Mean Time (G. M. T. + 3 h)

Station	SYOWA BASE				Lat. 69 00 4 S	Long. 39 35 4 E	Sweep 0.4 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	R	R	R	R	R	88	85	79	83	JR	JR	UF	71	66	JR	64	JR	JR	JR	JR	R	JR	R	JR	UR					
2	R	B	R	A	R	JF	JR	R	JR	JR	JR	JR	66	66	UR	UR	61	JR	JR	JR	R	R	R	JR	JR	UR						
3	R	R	B	R	B	JR	A	F	61	63	69	B	B	JR	61	61	61	58	51	R	51	JR	JR	JR	R							
4	JR	A	R	JR	R	R	R	R	R	B	R	B	R	R	B	B	B	F	UR	UR	JR	R	UR	UR	JR	R						
5	R	R	R	R	R	UR	67	82	90	86	89	86	87	71	JR	C	C	C	C	C	57	R	R	R	R							
6	R	46	B	B	R	B	B	R	W	C	83	80	72	67	64	62	64	F	61	58	R	R	58	R	R							
7	R	R	R	R	R	R	JR	JR	JR	105	101	96	93	90	86	JR	87	87	R	C	C	R	R	R	R							
8	R	R	R	R	R	A	R	R	R	JR	JR	66	67	UR	UR	UR	64	64	JR	UR	B	B	B	B	B							
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C						
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	F	R	48	R	R	R							
11	R	R	A	A	R	A	R	A	R	R	R	R	R	R	R	R	R	R	F	52	R	A	A	R	R							
12	A	A	A	A	R	R	R	R	R	R	R	B	B	B	R	56	B	59	54	R	JR	R	R	R	R							
13	R	R	R	R	R	R	JR	F	JR	A	B	JF	F	R	JR	JR	75	71	JR	JF	R	R	JR	R	R							
14	R	UR	R	R	A	R	R	57	74	83	79	76	71	70	66	JR	JR	JA	R	R	R	R	R	R	R							
15	R	R	A	R	R	R	R	JF	F	F	81	81	88	88	JR	JR	94	F	46	R	R	R	R	R	R							
16	R	43	A	A	A	R	R	R	71	81	JR	JR	JR	JR	73	76	77	JR	JR	51	JR	R	R	R	R							
17	R	R	JR	R	A	51	JR	67	76	F	R	F	F	F	JF	74	B	R	59	JA	JA	JA	R	R	R							
18	R	A	A	R	F	R	R	R	69	R	75	B	R	JF	B	UR	C	R	R	R	JF	A	A	A	A							
19	A	A	R	R	A	B	R	B	R	R	54	61	JR	62	66	69	71	72	68	R	R	R	R	R	R							
20	R	R	R	R	R	R	R	F	R	JR	F	F	F	B	R	R	F	R	41	R	R	44	R	A	A							
21	A	R	R	B	R	R	JF	B	R	60	B	F	JF	B	B	JR	R	64	52	R	UR	JR	R	R	R							
22	B	R	R	R	R	B	B	53	B	B	B	C	JR	UR	F	F	B	56	R	JR	UR	41	36	38	R							
23	39	R	R	R	R	R	R	R	JR	F	F	F	R	87	JR	76	71	JR	R	R	R	R	R	R	R							
24	JR	R	R	R	R	R	R	JR	R	JR	JR	JR	R	R	R	JR	R	C	R	R	C	R	R	R	R							
25	R	R	R	R	R	R	F	R	R	R	R	R	R	R	R	91	84	UR	74	70	R	R	R	R	R							
26	R	R	R	R	R	R	JR	R	R	R	R	95	93	87	81	R	R	R	R	R	R	R	R	R	R							
27	R	R	R	R	R	R	R	R	R	R	R	100	99	93	91	86	82	71	66	R	R	R	R	R	R							
28	A	A	A	R	R	R	F	JR	R	UR	UR	66	71	76	76	81	83	R	F	R	A	A	A	A	A							
29	A	A	A	R	R	R	R	R	R	R	R	A	B	B	56	57	53	59	UR	R	R	R	R	R	R							
30																																
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	3	3	1	1		4	6	10	11	13	14	15	15	17	20	22	16	18	18	8	9	7	7	2								
MED	JR	46	JR	JR		52	JR	84	74	81	80	80	72	71	72	72	71	64	60	J	JR	48	JR	38								
UQ	40	48				58	R	JR	83	86	83	88	88	87	82	84	82	71	65	J	JR	52	JR	50								
LQ	36	44				49	JR	59	70	66	69	68	68	67	65	64	63	61	52	52	JR	47	43	JR	42							

FEB. 1968

FOF2 (0.1 MHZ)

IONOSPHERIC DATA

FEB. 1968

FOF1 (0.01 MHZ)

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

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4 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	L	L	460	480	520	530	520	530	R	530	L	530	L	L	L	L			
2							A	R	440	460	470	490	500	B	B	L	B	500	500		R			
3		R	B		B	380	A	R	440	440	B	B	B	500	B	500	500	L	400	380	370	300		
4		A	R	A	R	R	R	R	R	B	R	B	R	R	B	B	B	500	L	490	480			
5					L	L		500	490	500	520	510	R	520	520	C	C	C	C	C	C	L		
6	A	A	B	B	A	B	B	430	460	C	480	500	490	510	510	540	L	L	R					
7					L	L	L	L	470	L	510	530	520	L	510	L	L	L	L	C	C	R		
8				A	A	A	A	R	440	480	480	480	R	500	510	480	460	L	B	B	B	B	B	B
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B		R	360	R 330
11	A	A	A	A	A	A	R	A	A	R	R	R	R	R		440	A	R	400	A	R	A	A	A ^L 350
12	A	A	A	A	A	R	R	R	A	A	R	B	B	B		450	460	B	L	L	L			
13					L	360	450	460	440	A	B	450	460	460	470	460	450	450	L	L				
14					R	R		370	450	450	470	460	490	480	500	L								
15					330	R	R	R	460	450	450	460	450	480	470	450	450 ^H		330			A	A	
16					A	R	R	430	430	440	450	460	470	480	470	L	L	430	A					
17				A	A	A	L	400	R	450	B	470	450	B	B	480	B	L	L					
18			270	A	350	350	490	440	440	440	B	B	450	B	B	450	R	L	R	A	A	A	A	
19	A	A	A	A	A	B	R	B	R	R	B	470	480	490	490	L	L	L						
20							400	430	450	450	B	B	B	B	L	540	470		A	R	A	A	A	
21	A	A	A	B	A		R	B	A	430	B	B	440	B	B	470	B	L	L	R		240	A	A
22	B	A	A	A	A	B	B	B	B	B	B	C	460	470	B	480	B	L						
23				310	L	L	L	450	430	480	480	490	470	500	L	L	L							
24					310 ^H	390	450	450	480	L	A	470	L	L	L	480	L	C						
25					L	A	480	530	520	490	500	520	520	L		L								
26			310	L	R	320	430	L	470	510	L	L	L	L										
27			A	A	A	L	L	L	550	490	L	L	L	L	L									
28			J R 350	A	A	A	350	A	400	470	470	480	500	490	460	B	430	L	A	390	A	A	A	
29			A	A	A	A	A	A	A	A	A	A	B	B	440	450	450							
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			4	5	5	14	14	18	16	15	17	13	14	12	8	9	2	3	3	3			2	
MED			310	350	390	440	445	455	480	480	480	490	490	475	465	450	450	380	390	300			340	
UQ			330	360	430	460	470	480	500	500	490	500	510	490	515	470		435	435	330				
LQ			290	330	350	400	440	440	460	465	460	470	470	460	450	430		355	380	270				

The Radio Research Laboratories, Japan

FEB. 1968

FOF1 (0.01 MHZ)

IONOSPHERIC DATA

FEB. 1968

FOE (0.01 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station **SYOWA BASE** Lat. **69 00.4 S** Long. **39 35.4 E** Sweep **0.4 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	215	275	280	285	A	B	B	A	B	A	A	320	290	295	265	A	220	A	A	
2	A	B	A	A	A	A	A	B	300	300	340	345	R	B	B	R	B	B	275	B	A	A	A	B	
3	B	A	B	A	B	B	A	A	A	R	B	B	B	B	B	B	R	295	300	R	240	230	A	A	
4	A	A	A	A	B	A	A	A	R	B	A	B	A	B	B	B	B	B	R	255	B	A	A	A	
5	A	A	A	A	180	240	260	280	295	315	315	R	R	325	325	320	C	C	C	C	C	A	205	A	A
6	A	B	B	B	B	B	B	A	310	C	320	325	315	R	R	305	R	295	280	255	240	200	140	A	
7	A	140	A	160	195	225	255	280	290	300	305	R	320	A	300	295	290	285	275	C	C	145	130	A	
8	A	A	A	A	A	A	A	A	A	310	325	325	330	B	R	310	300	295	280	B	B	B	B	B	
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	B	A	190	B	A	
11	A	A	A	A	A	A	A	A	A	R	A	B	A	R	R	A	R	A	A	A	A	A	A	A	
12	A	A	A	A	A	A	A	A	A	A	R	B	B	B	B	B	B	280	250	A	A	A	A	B	
13	A	A	A	A	A	A	255	A	A	A	B	R	325	B	R	R	300	B	250	245	A	200	A	170	
14	A	A	250	A	A	A	A	A	265	A	300	305	320	305	300	285	A	A	A	A	A	A	A	A	
15	A	A	A	A	A	A	260	265	290	310	315	320	A	A	295	B	300	A	280	255	A	A	A	180	
16	A	A	A	A	A	B	B	A	R	B	B	B	B	R	R	B	B	300	A	A	240	160	A	A	
17	A	A	A	A	A	A	290	295	A	B	B	B	A	B	B	300	B	290	275	A	A	A	A	A	
18	A	A	A	A	A	A	A	A	275	300	300	B	B	B	B	B	300	295	B	280	A	A	A	A	
19	A	A	A	A	A	B	A	B	A	A	B	B	A	305	R	A	285	280	250	245	A	A	B	A	
20	A	A	A	A	B	A	A	A	280	295	A	B	B	B	B	A	R	290	A	260	A	A	A	A	
21	A	A	A	B	A	A	275	B	A	A	B	B	B	B	B	B	B	300	A	H	270	A	A	A	
22	B	A	A	A	A	B	B	B	B	B	B	C	320	R	B	B	B	A	240	260	200	130	A	A	
23	A	A	A	A	A	A	A	A	A	A	B	R	320	A	305	A	A	A	A	A	A	B	A	A	
24	B	B	A	A	A	A	A	A	A	A	B	A	R	300	310	B	R	C	A	245	C	A	A	A	
25	A	A	A	A	A	A	A	280	285	290	310	R	A	R	R	A	R	290	A	260	A	A	B	A	
26	A	A	A	A	A	A	A	A	300	305	R	325	R	300	300	A	A	280	275	A	R	A	A	A	
27	A	A	A	A	A	A	A	A	A	290	A	A	R	A	A	305	300	R	R	A	A	A	A	A	
28	A	A	A	A	A	A	A	A	A	A	300	315	310	300	295	290	B	290	A	A	A	A	A	A	
29	A	A	A	A	A	A	A	A	A	A	A	315	B	B	305	R	B	A	A	A	A	A	A	A	
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		1	1	1	2	3	7	6	11	11	10	8	9	7	9	7	8	15	13	12	4	9	2	2	
MED		140	250	160	188	225	260	280	290	300	312	322	320	300	300	300	300	290	275	258	240	200	135	175	
UQ					232	275	280	298	308	320	325	325	305	305	305	300	295	280	262	240	205				
LQ					220	258	280	282	298	300	315	320	300	300	292	295	288	250	250	220	160				

FEB. 1968

FOE (0.01 MHZ)

IONOSPHERIC DATA

FEB. 1968

FOES (0.1 MHz)

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

Station SYOWA BASE Lat. 69 00.4 S Long. 39 35.4 E Sweep 0.4 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 X 30	J X 32	J X 40	J X 36	J X 25	J X 23	G	34	31	33	38	43	J X 36	37	35	34	G	G	G	G	28	28	32	26	
2	J X 21	B	J X 29	J X 85	J X 36	26	J X 37	34	G	G	G	39	G	E B 60	E B 56	G	E B 58	E B 24	G	E B 34	28	29	J X 31	B	
3	J X 27	J X 23	B	J X 18	B	E B 38	J X 52	J X 32	J X 32	G	E B 54	B	B	E B 36	E B 53	E B 45	G	G	G	G	30	28	J X 32	J X 31	
4	J X 33	J X 37	J X 23	J X 27	J X 40	J X 37	36	J X 39	G	B	J X 37	B	32	E B 38	B	B	B	E B 34	G	31	E B 36	24	J X 35	J X 26	
5	J X 22	J X 20	J X 25	J X 23	26	23	G	G	34	G	G	G	G	34	37	C	C	C	C	C	29	G	27	32	
6	30	J X 31	B	B	J X 21	B	B	J X 33	G	C	38	37	G	38	35	34	G	G	G	G	26	G	18	18	
7	J X 38	19	J X 20	G	G	G	G	G	33	34	37	J X 36	J X 43	34	34	32	33	G	G	C	C	G	19	15	
8	24	23	J X 25	J X 26	J X 39	J X 53	28	J X 49	J X 48	G	G	G	G	E B 38	G	34	G	G	G	B	B	B	B	B	
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	E B 36	J X 32	J X 70	23	J X 37	
11	J X 36	J X 39	J X 43	J X 52	J X 40	J X 54	31	J X 72	31	G	32	E B 41	J X 37	G	G	J X 38	G	29	J X 35	J X 30	J X 62	J X 50	J X 39	J X 42	
12	J X 43	J X 52	J X 47	J X 37	J X 34	27	28	J X 35	J X 45	J X 50	G	B	B	B	E B 35	E B 37	B	29	32	J X 32	28	J X 30	21	E B 15	
13	J X 27	J X 40	J X 27	J X 26	J X 22	J X 25	G	J X 34	J X 40	J X 47	B	G	G	E B 37	G	G	G	E B 27	31	G	J X 37	G	21	J X 19	
14	J X 21	J X 27	J X 29	J X 22	J X 52	33	35	27	29	32	31	41	37	J X 37	J X 41	J X 46	J X 36	J X 60	J X 36	G	28	29	J X 26	J X 34	J X 23
15	J X 29	J X 30	J X 42	J X 36	J X 22	27	G	G	36	G	33	J X 36	31	33	J X 65	E B 34	G	J X 37	G	G	J X 35	J X 37	24	J X 23	
16	J X 36	J X 38	J X 42	J X 49	J X 43	41	J X 38	J X 38	G	E B 37	E B 34	E B 40	E B 34	G	G	J X 35	E B 33	G	J X 35	26	24	21	16	15	
17	16	J X 16	J X 30	J X 40	J X 42	J X 42	G	G	J X 36	E B 45	E B 57	E B 47	J X 65	E B 51	E B 49	33	B	G	G	J X 84	J X 52	J X 58	J X 42	J X 38	
18	J X 38	J X 52	J X 84	J X 30	J X 37	J X 27	J X 38	33	G	G	G	B	E B 62	E B 33	B	E B 78	G	G	E B 37	G	J X 34	J X 62	J X 33	J X 40	
19	J X 42	J X 36	J X 40	J X 35	J X 33	B	J X 31	B	J X 36	J X 36	E B 48	E B 44	J X 47	36	G	J X 58	G	G	G	G	26	25	E B 22	J X 22	
20	J X 22	J X 21	J X 22	J X 20	J X 41	28	J X 53	J X 40	G	J X 34	J X 37	E B 50	E B 59	B	E B 59	J X 35	G	G	36	G	J X 52	J X 34	J X 36	J X 21	
21	J X 61	J X 50	J X 36	B	J X 37	28	G	B	J X 33	J X 45	B	E B 53	E B 39	B	B	E B 43	E B 52	G	32	G	J X 32	J X 27	J X 30	J X 33	
22	B	J X 41	J X 52	J X 40	J X 38	B	B	E B 40	B	B	B	C	G	G	E B 49	E B 38	B	28	19	G	G	G	12	J X 13	
23	J X 22	J X 23	J X 19	J X 25	J X 22	J X 22	J X 30	J X 40	J X 37	J X 37	E B 36	G	33	J X 37	J X 47	34	J X 43	J X 37	J X 35	J X 27	27	E B 18	20	J X 25	
24	J X 25	E B 14	J X 22	J X 22	23	23	J X 37	J X 37	J X 35	J X 37	E B 42	J X 37	G	G	G	E B 35	G	C	J X 46	28	C	17	J X 23	J X 24	
25	J X 19	J X 18	J X 18	J X 18	J X 22	24	J X 42	G	G	G	G	G	33	G	G	J X 40	G	G	J X 28	G	J X 25	22	E B 17	11	
26	J X 20	J X 17	23	J X 25	27	J X 25	32	40	G	G	G	G	G	G	31	J X 33	36	32	28	J X 25	G	22	J X 21	J X 30	
27	J X 37	J X 31	J X 51	J X 39	J X 42	J X 36	32	29	31	G	34	38	G	J X 33	36	32	J X 52	G	G	28	J X 19	21	23	J X 21	
28	J X 48	J X 38	J X 51	J X 40	J X 33	J X 65	J X 42	J X 37	J X 38	J X 39	G	36	36	J X 69	34	G	E B 49	G	J X 35	J X 46	J X 61	48	J X 50	J X 62	
29	J X 43	J X 62	J X 47	31	J X 38	28	J X 37	J X 45	J X 34	J X 38	41	J X 88	B	B	G	G	E B 33	36	33	29	J X 33	J X 22	J X 36	J X 28	
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	26	26	25	25	26	24	25	25	26	24	24	22	24	23	24	25	22	25	26	25	25	27	27	26	
MED	J X 30	J X 31	J X 30	J X 30	J X 35	28	32	J X 34	32	33	E B 34	E B 38	E B 33	E B 36	E B 35	33	E B 26	G	U 26	26	29	25	24	J X 24	
UQ	J X 38	J X 39	J X 43	J X 39	J X 40	38	J X 37	J X 40	J X 36	J X 38	37	E B 43	37	37	U 42	U 36	U 31	29	J X 35	29	J X 34	J X 32	J X 34	J X 32	
LQ	J X 22	J X 21	J X 23	J X 23	J X 23	24	G	29	G	G	G	G	G	E B 33	G	32	G	G	G	G	26	20	20	J X 19	

FEB. 1968

FOES (0.1 MHz)

IONOSPHERIC DATA

FEB. 1968

F-MIN (0.1 MHz)

45° E Mean Time (G. M. T. + 3h)

Station **SYOWA BASE** Lat. **69° 00.4' S** Long. **39° 35.4' E** Sweep **0.4 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	18	19	18	12	12	10	9	12	10	22	33	36	15	34	15	13	12	11	12	18	10	10	10	9
2	11	B	12	9	14	12	17	36	14	16	13	11	16	60	56	23	58	24	11	34	11	11	10	B
3	26	9	B	12	B	38	11	25	14	12	54	B	B	36	53	45	20	19	12	16	12	11	8	11
4	11	23	13	11	35	24	15	21	19	B	23	B	16	38	B	B	B	34	23	13	36	19	15	10
5	8	8	17	9	13	11	10	10	9	11	11	11	13	12	13	C	C	C	C	C	12	E	9	12
6	14	16	B	B	22	B	B	18	11	C	13	14	18	22	17	13	14	11	11	12	10	9	9	9
7	9	9	18	10	11	11	12	10	10	10	10	18	14	13	12	E	14	11	11	C	C	9	9	9
8	9	9	9	12	16	19	9	12	13	10	10	11	10	38	21	17	18	12	11	B	B	B	B	B
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	36	22	7	19	8
11	4	12	14	8	7	11	10	11	9	11	9	41	10	11	12	8	11	11	9	8	12	8	9	8
12	9	10	11	9	8	17	12	21	17	11	14	B	B	B	35	37	B	19	13	10	20	9	9	12
13	7	7	9	9	15	18	11	11	10	10	B	14	12	37	15	22	13	27	13	17	13	15	10	9
14	10	10	10	10	14	24	19	11	10	9	9	10	10	10	9	18	8	8	8	8	8	9	9	8
15	9	13	13	13	11	12	10	10	9	18	15	15	16	16	13	34	11	11	13	13	10	13	11	10
16	9	9	9	12	13	37	34	10	15	37	34	40	34	21	27	33	33	18	10	22	20	11	8	9
17	10	7	9	13	14	16	17	10	17	45	57	47	18	51	49	18	B	15	12	21	13	11	9	9
18	9	7	6	6	13	19	11	9	11	9	9	B	62	33	B	78	13	13	37	9	8	12	10	8
19	9	9	7	9	15	B	19	B	18	18	48	44	20	19	21	10	10	10	10	12	18	17	22	9
20	8	9	8	8	34	15	20	13	11	12	13	50	59	B	59	11	10	10	10	10	9	9	10	7
21	7	16	23	B	10	8	15	B	24	14	B	53	39	B	B	43	52	11	18	13	10	9	9	12
22	B	14	10	13	13	B	B	40	B	B	B	C	18	11	49	38	B	17	14	17	14	10	9	9
23	9	9	5	7	9	7	7	11	14	15	36	18	12	12	12	10	10	11	12	10	9	18	12	7
24	14	14	13	9	9	9	10	11	11	13	42	25	13	11	11	35	20	C	10	12	C	10	12	9
25	8	9	9	9	9	9	14	11	9	9	17	22	11	19	14	12	12	12	9	10	17	9	17	9
26	9	7	9	9	13	21	14	7	9	9	19	12	12	12	11	10	9	9	10	9	12	10	9	9
27	10	9	8	9	14	19	9	9	9	9	11	12	11	12	10	8	9	9	8	7	7	8	8	7
28	7	8	9	9	6	11	11	9	10	12	11	10	9	10	10	10	49	12	9	9	10	8	8	12
29	10	9	9	9	7	18	10	8	9	10	11	10	B	B	19	19	33	21	24	12	13	7	9	9
30																								
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	27	27	27	27	27	27	27	27	27	26	27	26	27	27	27	26	26	25	27	26	26	28	28	28
MED	9	9	10	9	13	17	12	11	11	12	15	20	16	21	17	18	14	12	11	12	12	10	9	9
UQ	10	14	14	12	14	22	17	20	14	18	39	47	27	38	49	35	49	18	13	17	17	12	12	10
LQ	8	9	9	9	10	11	10	10	10	10	11	12	12	12	12	10	11	11	10	10	10	9	9	8

The Radio Research Laboratories, Japan

FEB. 1968

F-MIN (0.1 MHz)

IONOSPHERIC DATA

FEB. 1968

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4 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	R	R	R	R	R	240	245	240	265	R	R	U F	255	255	R	250	R	R	R	R	R	U R
2	R	B	R	A	R	F	R	R	R	R	J R	J R	242	225	U R	U R	245	R	R	R	R	R	R	B
3	R	R	B	R	B	R	A	F	225	225	240	B	B	R	245	250	255	F	260	235	R	245	R	R
4	R	A	R	R	R	R	R	R	R	B	R	B	R	R	B	B	B	F	U R	U R	R	R	U R	R
5	R	R	R	R	R	U R	260	250	245	250	235	R	245	250	255	R	C	C	C	C	C	320	R	R
6	R	260	B	B	R	B	B	R	W	C	235	245	250	265	255	250	270	275	295	330	R	R	310	R
7	R	R	R	R	R	R	R	R	R	275	255	250	243	260	255	260	U R	275	300	R	C	C	R	R
8	R	R	R	R	R	A	R	R	R	R	R	240	245	U R	U R	U R	270	R	U R	B	B	B	B	B
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	325	F	R	245	R
11	R	R	A	A	R	A	R	A	R	R	R	R	R	R	R	R	R	R	R	F	235	R	A	A
12	A	A	A	A	R	R	R	R	R	R	R	B	B	B	R	260	B	260	295	R	R	R	R	R
13	R	R	R	R	R	R	R	F	R	A	B	F	F	R	R	F	250	F	295	R	F	R	R	R
14	R	U R	R	R	A	R	R	300	250	270	265	260	260	275	275	R	R	A	R	R	R	R	R	R
15	R	R	A	R	R	R	R	F	F	F	245	250	250	220	R	R	260	F	320	R	R	R	R	R
16	R	285	A	A	A	R	R	R	255	270	R	R	F	R	255	260	265	R	R	295	R	R	R	R
17	R	R	R	R	A	240	R	R	235	245	F	R	F	F	F	F	240	B	R	305	A	A	A	R
18	R	A	A	R	F	R	R	R	245	R	225	B	R	F	B	U F	C	R	R	R	F	A	A	A
19	A	A	R	R	A	B	R	B	R	R	235	255	R	255	270	290	305	290	300	R	R	R	R	R
20	R	R	R	R	R	R	R	F	R	R	F	F	F	B	R	R	F	R	275	R	R	275	R	A
21	A	R	R	B	R	R	F	B	R	235	B	F	F	B	B	R	R	275	285	R	U R	R	R	R
22	B	R	R	R	R	B	B	235	B	B	B	C	R	U F	260	250	F	B	320	R	R	U R	280	285
23	280	R	R	R	R	R	R	R	R	F	F	F	R	260	F	275	325	R	R	R	R	R	R	R
24	U R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	C	R	R	C	R	R	R
25	R	R	R	R	R	R	F	R	R	R	R	R	R	R	R	275	280	U R	295	310	300	R	R	R
26	R	R	R	R	R	R	R	R	R	R	R	270	265	265	270	R	R	R	R	R	R	R	R	R
27	R	R	R	R	R	R	R	R	R	R	R	260	265	260	270	280	295	315	320	R	R	R	R	R
28	A	A	A	R	R	R	F	R	R	J R	U R	235	260	275	250	245	235	R	F	R	A	A	A	A
29	A	A	A	R	A	R	R	R	R	R	R	A	B	B	230	250	245	300	U R	275	R	R	R	R
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	2	3			2	2	4	8	9	11	11	10	14	15	17	14	13	14	3	4	4	2	2	
MED	268	285			248	268	245	245	245	240	245	255	258	255	255	268	290	290	325	298	272	298	280	
UQ		285					275	248	255	255	258	260	265	270	275	295	300	300	328	315	278			
LQ		272					238	230	240	235	242	250	255	252	250	250	265	265	310	265	258			

FEB. 1968

M(3000)F2 (0.01)

IONOSPHERIC DATA

FEB. 1968

H^oF₂ (KM)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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	415	400	405	410	400	450	430	395	375	490	430	L	450	L	L	L	300				
2							A	R	590	480	480	525	480		B	460	L	B	490	500	R				
3		R	B		B	505	530	R	560	540	485	B	B	450	500	510	450	450	540	R	515	295			
4		A	R		405	R	R	R	R	B	R	B	R	R	B	B	B	420	445	380	395				
5						400	395	405	390	370	400	440		R	405	425	C	C	C	C	C	L			
6	375	E A 425	B	B	400	B	B	440	395	C	420	405	405	430	460	495	400	L	R						
7					345	300	350	355	345	345	335	370	360	345	365	350	310	265	L	C	C	R			
8				R	R	A	R	R	540	475	470	480	475	440	485	440	405	385	L	B	B	B	B	B	
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B		R	515	R	400	
11	A	A	A	A	430	A	R	A	R	R	R	R	R	R	R	695	R	R	R	475	R	A	A	A	A
12	A	A	A	A	R	R	R	R	R	R	R	B	B	B	R	480	B	L	340	300					
13					400	400	400	425	450		A	B	F	445	440	425	430	415	310	L	320				
14						R	R	300	400	360	365	360	400	350	380	315									
15					390	390	410	350	400	400	390	400	440	410	340	325	405		475			A	R		
16					A	R	R	440	425	355	385	390	355	370	435	370	340	345	300						
17				A	A	A	440	400	440	440	400	425	440	385	350	425	B	340	L						
18			335	485	440	415	460	435	R	465	B	440	430	B	B	330	R	L	R	330	A	A	A		
19	A	A		A	A	B	R	B	R	R	B	450	450	425	385	L	L	L							
20						420	390	400	440	470			B	B	375	L	470	320	A	R	A	A	A		
21	A	A	R	B	R		R	B	R	495	B	B	445	B	B	380	340	340	L	R	330	A	A		
22	B	A	A	A	A	B	B	525	B	B	B	C	425	445	420	430	B	L							
23				370	R	330	350	380	400	430	400	370	340	340	300	L	L								
24					350	400	415	390	400	350	385	345	340		L	320	280	C							
25					350	E A 450	380	375	340	355	390	360	340	310		L									
26				390	425	R	340	360	350	360	345	340	340	330	345										
27				A	A	A	380	340	350	340	360	350	340	L	330	300									
28				400	A	A	550	510	R	480	425	470	400	390	410	400	405	445	L	A	A	A	A	A	
29				A	A	A	A	A	A	A	A	A	B	B	550	480	515								
30																									
31																									
CNT	1	1		5	7	10	14	18	19	18	19	19	20	19	22	16	14	12	6	4	4	3		1	
MED	375	E A 425		390	415	395	399	410	400	400	400	395	400	405	415	412	402	365	460	350	362	330		400	
UQ				400	428	407	428	440	438	475	435	450	442	440	460	460	450	432	500	428	455	422			
LQ				370	400	350		380	382	360	362	378	358	348	365	345	330	330	340	310	315	312			

FEB. 1968

H^oF₂ (KM)

IONOSPHERIC DATA

FEB. 1968

H'F (KM)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S, Long. 39° 35.4' E Sweep 0.4 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	275	280	300	A	280	250	240	230	H	H	270	270	220	230	R	275	235	225	H	230	230	245	250	250	280	A	255		
2	350	B	300	330	A	A	A	R	H	H	250	245	240	B	B	235	B	B	235	B	250	265	275	275	A	A	300	B	
3	R	R	B	330	B	B	A	A	275	245	B	B	B	240	B	B	225	240	E	R	290	280	A	285	320	380			
4	A	A	A	A	B	A	A	A	R	B	A	B	230	225	B	B	B	B	250	250	275	E	B	340	300	285	295		
5	315	330	300	350	A	280	250	240	235	225	220	220	240	240	225	C	C	C	C	C	C	250	240	H	330	H	230		
6	A	A	B	B	A	B	B	300	230	C	220	210	230	235	225	230	205	225	240	250	210	250	250	250	250	250	250		
7	275	260	315	325	295	250	250	230	230	A	230	230	225	E	A	H	260	195	230	H	225	230	230	220	C	C	250	280	250
8	A	410	A	A	A	A	A	A	A	A	200	240	210	205	240	B	230	225	230	230	245	B	B	B	B	B	B	B	
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
11	230	300	A	A	A	A	A	A	A	R	R	R	220	R	240	A	R	255	A	A	A	A	A	250	A	A	A		
12	A	A	A	A	A	A	R	A	A	A	R	B	B	B	240	250	B	225	240	260	275	340	300	305	305	305	305		
13	330	375	A	340	330	340	360	265	H	245	255	A	B	E	R	250	250	200	240	240	245	250	250	240	A	315	265	250	
14	280	320	350	A	A	A	A	275	H	235	235	225	230	205	H	210	220	220	220	220	205	240	250	240	240	240	220		
15	A	A	A	400	450	320	255	220	245	240	235	215	205	200	255	255	240	A	250	A	A	A	A	A	A	A	290		
16	340	A	A	A	A	A	A	375	R	275	245	280	225	H	220	240	A	240	B	235	220	250	250	250	320	340	340		
17	275	315	350	A	A	A	300	250	A	B	B	B	240	A	B	B	240	B	245	250	260	250	300	225	235	235	235		
18	205	A	A	200	A	A	A	270	H	215	235	240	B	B	B	B	200	250	E	B	280	290	A	A	A	A	A		
19	A	A	A	A	A	B	A	B	A	A	A	B	B	250	245	250	220	230	230	240	250	250	240	260	250	250	250		
20	260	290	320	315	B	A	A	E	A	250	H	200	200	270	H	B	B	B	B	230	R	H	240	A	A	A	A	A	
21	A	A	A	B	A	350	E	R	300	B	A	E	A	300	B	B	B	B	B	B	B	240	220	245	340	240	A	A	
22	B	A	A	A	A	B	B	B	B	B	B	B	C	250	230	B	E	B	270	B	220	230	280	200	215	275	215		
23	290	300	305	E	A	340	275	260	230	260	A	E	B	240	235	200	200	225	225	E	A	250	205	240	225	250	250	240	250
24	410	420	325	340	355	290	E	A	275	325	240	250	E	B	280	A	230	220	220	240	240	C	250	A	245	C	245	275	A
25	280	260	275	275	300	300	A	260	H	235	220	220	245	200	230	245	250	225	230	220	245	245	245	230	275	A	A	A	
26	H	H	H	300	325	350	A	A	240	240	205	220	225	H	210	220	210	225	220	240	240	240	240	240	240	240	240	315	
27	A	300	A	A	A	A	290	250	225	225	225	205	235	220	210	220	225	230	230	240	250	240	285	200	200	200	200		
28	A	A	A	255	240	A	245	A	A	A	250	240	240	240	230	290	B	205	230	A	225	A	A	A	A	A	280		
29	A	280	A	A	A	A	A	A	A	A	A	A	195	B	B	240	250	230	260	290	275	305	350	A	A	A	A		
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	15	16	12	13	9	9	11	16	16	16	17	16	22	20	19	20	17	24	24	21	18	21	19	19					
MED	280	308	310	325	340	290	255	250	235	230	235	224	230	225	230	231	230	232	240	250	250	250	275	250					
UQ	335	392	332	330	350	320	272	272	242	245	248	240	240	240	240	248	235	248	250	275	262	285	292	292					
LQ	275	285	300	U	295	295	275	250	232	225	222	222	212	210	215	225	225	225	228	230	245	245	240	250	232				

FEB. 1968

H'F (KM)

IONOSPHERIC DATA

FEB. 1968

H¹ES (KM)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S Long. 39° 35.4' E Sweep 0.4 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	100	110	105	125	115	125	S	120	F ¹ G ¹ 130	105	120	125	100	120	100	100	G	G	G	G	100	100	120	105
2	115	B	100	100	110	100	105	125	G	G	G	125	G	B	B	G	B	B	G	B	110	110	110	B
3	125	110	B	110	B	B	105	115	105	G	B	B	B	B	B	B	G	G	G	G	105	105	105	110
4	115	105	100	100	110	100	100	100	G	B	100	B	100	B	B	B	B	B	G	150	B	150	125	130
5	105	100	100	100	100	100	G	G	110	G	G	G	G	125	115	C	C	C	C	C	100	G	110	115
6	100	105	B	B	130	B	B	110	G	C	100	100	G	105	100	120	G	G	G	100	G	G	125	120
7	105	120	145	G	G	G	G	G	120	130	125	120	100	100	100	100	100	G	G	C	C	G	130	105
8	100	100	100	105	105	125	105	100	100	G	G	G	G	B	G	130	G	G	G	B	B	B	B	B
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	B	130	125	100	100
11	100	130	100	100	100	100	100	100	100	G	100	B	100	G	G	135	G	100	100	100	100	130	100	100
12	100	100	100	100	100	100	100	100	100	100	G	B	B	B	B	B	B	125	150	105	130	100	120	B
13	100	100	100	100	110	130	G	100	100	100	B	G	G	B	G	G	G	B	150	G	105	G	125	100
14	115	105	110	140	110	135	125	100	130	100	F ¹ G ¹ 140	125	100	120	120	110	100	100	100	100	135	100	120	100
15	100	145	125	110	105	105	G	G	125	G	125	120	115	100	105	B	G	100	G	G	110	105	100	140
16	130	100	100	100	100	115	120	100	G	B	B	B	B	G	G	105	B	G	105	150	145	140	130	125
17	100	100	100	100	100	105	G	G	100	B	B	B	100	B	B	105	B	G	G	130	145	125	105	120
18	100	100	100	100	105	135	105	120	G	G	G	B	B	B	B	B	G	G	B	G	100	115	125	110
19	100	100	100	100	100	B	105	B	115	100	B	B	105	125	G	100	G	G	G	G	140	130	B	100
20	100	100	100	100	135	100	100	100	G	100	100	B	B	B	B	100	G	G	100	G	100	105	100	100
21	100	100	125	B	100	100	G	B	100	100	B	B	B	B	B	B	B	G	125	G	100	105	100	100
22	B	100	100	100	100	B	B	B	B	B	B	C	G	G	B	B	B	115	105	G	G	G	150	110
23	100	100	100	100	100	100	100	100	100	100	B	G	135	100	115	100	100	100	100	100	100	B	130	100
24	140	B	140	140	100	100	130	125	125	100	B	100	G	G	G	B	105	C	100	100	C	100	100	100
25	100	100	100	100	100	100	100	G	G	G	G	G	100	G	G	100	G	G	100	G	110	125	B	130
26	100	100	100	100	105	125	100	100	G	G	G	G	G	G	120	120	100	100	110	100	G	140	170	100
27	100	150	100	100	100	125	100	100	125	G	100	100	G	100	100	115	100	G	G	140	100	100	100	100
28	100	100	100	130	100	100	125	100	100	100	G	120	140	125	125	G	B	G	120	110	100	105	110	140
29	130	100	100	100	100	100	100	105	100	100	100	120	B	B	G	G	B	130	130	140	135	100	125	100
30																								
31																								
CNT	26	25	25	24	25	22	18	19	18	12	10	10	11	10	10	14	6	8	14	13	21	21	25	25
MED	100	100	100	100	100	100	100	100	101	100	100	120	100	112	110	105	100	100	105	105	105	105	120	105
UQ	115	105	100	108	110	125	105	112	122	100	122	125	110	125	120	120	100	120	125	140	130	125	125	120
LQ	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

FEB. 1968

H¹ES (KM)

IONOSPHERIC DATA

MAR. 1968

FOF2 (0.1 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4' S. Long. 39 35.4' E Sweep 0.4 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	31	R	R	B	B	R	R	W	W	F	64	62	61	66	71	JR 78	R	JR 64	R	R	R	A	R
2	A	A	R	R	30	R	R	R	R	A	R	JR 68	R	UF 88	JR 93	JF 90	F	R	JR 82	R	R	R	B	B
3	B	B	B	B	B	B	B	B	B	B	B	B	B	64	68	69	86	82	JR 84	R	R	A	A	A
4	A	41	R	36	B	A	A	R	R	A	A	B	B	B	B	R	B	61	62	JR 57	R	R	A	A
5	R	A	R	R	R	R	R	A	R	R	F	51	B	B	B	F	JR 78	52	JR 62	R	R	R	R	A
6	A	A	R	R	A	R		35 42	46	56	57	63	62	68	64	65	67	70	68	R	F	R	R	R
7	R	C	A	R	R	C	F	R	F	C	UF 61	R 63	66	71	71	70	73	71	R	R	R	R	UR 40	R
8	A	A	A	A	A	R	R	UR 48	59	64	63	63	66	72	72	69	68	66	64	57	R	R	R	R
9	R	R	R	R	R	R	R	A	R	F	JR 65	63	62	67	63	65	61	UR 61	UR 59	R	R	R	R	R
10	JR 30	R	A	A	A	A	R	R	R	B	46	53	F	61	75	JR 70	68	68	70	43	UR 47	A	A	A
11	A	A	A	A	R	R	A	R	R	A	F	56	JR 61	F	63	70	JF 74	R	UR 61	55	JR 53	R	R	R
12	R	A	A	A	A	R	R	R	R	F	72	77	81	89	86	90	JR 102	106	JR 98	88	C	C	A	A
13	C	C	C	C	R	R	A	R	R	JF 65	R	F 74	F 73	78	73	69	68	67	R	R	R	R	R	R
14	R	A	C	R	R	R	C	JR 50	R	71	JR 77	JR 77	72	71	76	77	86	R	R	F	A	R	A	R
15	A	A	A	A	R	R	R	A	R	A	B	B	B	F	B	76	72	F	F	R	R	A	A	A
16	R	B	R	R	A	B	B	B	B	B	64	59	C	F	B	72	71	C	R	C	R	R	A	R
17	A	B	B	A	R	B	R	R	B	R	62	67	69	74	76	76	72	69	66	66	R	R	R	R
18	A	A	R	R	R	R	B	JR 61	A	UF 59	JR 65	67	F	81	88	89	81	UR 82	R	R	R	A	24	C
19	C	C	C	C	C	C	C	C	C	C	C	C	R	F	JR 105	R	JR 107	UR 109	105	JR 78	R	R	F	R
20	A	A	R	A	A	A	R	B	UR 59	JR 69	JR 75	JR 69	75	80	89	106	R	F	B	R	R	R	R	A
21	R	A	A	R	R	R	R	JR 61	UR 60	F	JF 75	UF 77	80	89	UR 94	95	93	88	R	R	R	R	R	JR 28
22	23	21	A	A	32	R	R	R	R	R	86	86	F	89	90	89	R	R	R	R	R	R	JR 53	R
23	A	A	R	R	JR 60	R	R	R	R	R	JR 82	JR 90	UR 96	102	103	JR 106	R	R	R	R	R	R	R	A
24	A	B	A	R	B	F	JF 62	R	JF 65	B	B	B	61	JF 67	JF 90	88	UR 96	R	B	R	A	A	A	A
25	B	A	A	JR 37	R	R	B	B	R	B	42	UR 45	B	B	61	66	JF 78	UR 91	F	81	R	R	A	A
26	R	R	A	A	A	32	34	R	R	JF 55	54	62	F	64	66	70	F	F	R	F	R	R	A	R
27	A	B	A	A	R	A	F	R	R	B	B	B	B	B	B	78	64	65	JR 66	R	R	29	32	A
28	R	R	A	R	R	R	F	53	B	B	51	58	B	B	UF 67	66	60	65	70	63	60	JR 61	R	A
29	A	A	A	R	31	A	B	B	B	A	48	B	62	JF 63	JF 67	JR 70	F	F	R	F	JR 64	F	R	R
30	R	R	R	R	A	A	R	B	R	B	B	B	B	R	66	72	79	R	R	R	A	A	A	A
31	A	R	R	R	A	R	R	A	47	B	JR 52	F 53	B	F	63	66	66	71	UR 69	B	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	2	3		2	4	1	4	5	6	9	19	23	17	22	27	28	24	19	16	7	5	1	3	1
MED	26	31		36	32	32	44	JR 50	59	64	63	64	66	71	73	72	76	70	67	57	R 61	32	R 40	JR 28
JQ		36			46		58	JR 61	60	69	J 75	76	75	81	90	88	86	82	82	63	JR 62		R 46	
LQ		26			30		34	R 48	47	F 56	56	60	62	66	66	68	68	66	62	55	R 47		32	

MAR. 1968

FOF2 (0.1 MHZ)

IONOSPHERIC DATA

MAR. 1968

FOF1 (0.01 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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									390	430	440	R	460	470	460	470	L	L	B						
2									A	400	430	470	480	L											
3									B	B	B	B	B	B	L	B	B	L							
4									A	A	A	B	B	B	B	R	B		L						
5									A	R	410	410	B	B	B	520	L	L							
6									A	370	410	440	440	L	460	L	L	L							
7								A	R	380	C	B	440	440	450	B									
8									350	360	400	410	L	L	L	L	L								
9									A	A	430	420	430	L	450	450	L	L							
10									A	A	B	390	420	420	440	L	L	L							
11									A	A	A	400	410	430	L	L	L								
12									L	L	L	L	L	L	L	L									
13											L	L	L	L	L										
14									330	A	A	430	430	420	L	L	430								
15											B	B	B	B	B	B	L	L	L						
16									B	B	B	B	B	C	B	B	B	L	L						
17									A	B	B	B	420	B	B	B	L								
18									B	L	A	430	L	L	L										
19									C	C	C	C	L	B	L	L	B								
20									B	B	L	L	L	L	L	L	B								
21									A	A	L	L	L	L											
22											360	L	L	L	L	L	L								
23																									
24										R	B	B	B	L		L	B	B							
25												370	380	B	B	B	L								
26									L	L	L	B	B	L	L	B	B								
27									A	A	A	B	B	B	B	B									
28										B	B	360	400	B	B	420	L								
29									B	B	B	A	390	B	430	L	L								
30									A	B	R	B	B	B	B	L	L								
31									F	A	370	B	400	400	B	L									
									380																
CNT									1	2	6	7	14	11	8	6	1	3							
MED									F	380	340	370	400	410	420	435	450	460	470						
UQ											380	420	430	435	455	460	495								
LQ											360	395	400	410	425	440	450								

MAR. 1968

FOF1 (0.01 MHZ)

IONOSPHERIC DATA

MAR. 1968 FOE (0.01 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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	B	A	A	A	A	A	R	310	305	300	A	B	B	230	A	A	A	A		
2		A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	270	245	B	R	A	B			
3		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	215	B	115	A	A			
4		A	A	A	B	A	A	A	A	A	A	B	B	B	B	B	B	B	B	A	A	A	A		
5		A	B	A	A	A	A	A	A	A	A	290	B	B	B	B	B	A	A	A	A	A	A		
6		A	A	A	A	A	A	A	280	310	280	295	A	A	U R	A	B	255	A	A	B	A			
7		C	A	A	A	C	A	A	A	C	B	B	B	B	B	A	A	A	A	A	A	A	A		
8		A	A	A	A	A	A	A	A	A	265	290	295	290	260	A	250	230	205	R	A	A	A		
9		A	A	A	A	A	B	A	A	A	280	290	R	300	295	280	A	A	A	A	A	A	A		
10		A	A	A	A	A	A	A	A	B	A	A	300	315	300	B	250	225	195	A	A	A	A		
11		A	A	A	A	B	A	A	A	A	A	B	300	B	B	B	B	A	190	A	A	A	A		
12		A	A	A	A	A	A	A	240	250	A	A	A	A	A	260	250	245	190	C	C	A	A		
13		C	C	C	A	A	A	A	A	A	300	A	A	A	A	A	A	A	200	A	A	A	B		
14		A	C	B	A	A	C	A	A	A	270	A	A	A	A	A	A	220	A	A	A	A	A		
15		A	A	A	A	B	A	A	A	A	B	B	B	B	B	B	A	B	B	A	A	A	A		
16			A	A	A	B	B	B	B	B	B	B	C	B	B	B	A	B	A	C	A	A	A		
17			B	B	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	
18			A	A	A	A	B	A	A	A	275	B	B	B	B	275	245	B	200	105	B	A			
19			C	C	C	C	C	C	C	C	C	C	B	B	B	290	B	B	B	B	B	B	A	A	
20			A	B	A	A	B	B	B	245	265	275	275	270	265	B	285	A	B	B	A	A	A		
21			A	A	B	A	A	A	240	B	290	280	290	290	275	260	A	A	200	A	A	A	A		
22				A	A	B	A	A	230	245	260	270	275	260	260	250	235	220	A	A	A	A			
23				A	A	A	A	A	A	245	260	280	275	265	260	A	A	A	A	A	B	B			
24				B	B	A	A	A	A	A	B	B	B	A	B	B	B	B	B	B	B	A	A		
25				A	A	R	B	B	A	B	A	A	B	B	B	270	B	B	B	B	B	A	A		
26				A	A	A	A	A	235	A	B	B	A	280	B	B	B	B	B	A	B	A			
27				A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	A	A			
28				A	A	A	A	B	B	A	A	B	B	B	260	B	B	B	B	B	A				
29				B	A	A	B	B	B	A	A	B	B	B	B	B	B	B	B	160	A				
30				A	A	B	B	B	235	B	B	B	B	B	A	B	B	B	B	A	A				
31				A	A	A	A	A	240	B	B	B	B	B	B	B	B	B	180	B	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	5	10	8	8	9	11	6	6	7	11	1	2				
MED									240	245	272	285	292	290	275	265	250	230	200	160	110				
UQ									240	250	280	290	300	300	292	275	250	250	210						
LQ									235	245	265	278	275	270	260	260	245	222	192						

MAR. 1968 FOE (0.01 MHZ)

IONOSPHERIC DATA

MAR. 1968

FOES (0.1 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4 S Long. 39 35.4 E Sweep 0.4 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 X 30	J X 32	J X 37	J X 38	B	B	J X 47	J X 36	J X 35	J X 38	J X 40	G	G 31	G 30	G	J X 31	E B 29	E B 48	33	34	35	J X 42	J X 38	J X 27
2	J X 32	J X 30	24	J X 20	26	J X 28	J X 20	J X 25	J X 36	J X 45	J X 45	J X 34	J X 39	34	33	30	E B 48	G	28	E B 34	G	J X 29	B	B
3	B	B	B	B	B	B	B	B	B	B	B	B	B	E 49	E B 34	E B 49	E 44	E B 34	28	E 40	J X 36	J X 52	J X 62	J X 72
4	J X 30	J X 42	J X 37	J X 25	B	J X 34	J X 43	J X 35	J X 27	J X 47	J X 50	B	B	B	B	E B 37	B	E B 38	E B 26	J X 36	J X 30	J X 64	J X 49	
5	J X 50	J X 49	J X 23	J X 45	J X 35	J X 41	J X 32	J X 40	31	J X 32	31	G	B	B	B	E B 50	E 34	J X 33	J X 63	J X 46	J X 62	J X 35	J X 30	J X 79
6	J X 53	J X 47	J X 42	J X 36	J X 52	27	33	34	25	J X 69	G	J X 58	31	32	G	J X 32	E B 32	G	28	28	E B 23	21	J X 25	J X 34
7	J X 42	C	J X 42	J X 36	J X 36	C	J X 38	30	29	C	E 44	29	E B 33	E B 38	E B 49	J X 35	J X 36	31	24	21	20	16	J X 23	J X 32
8	J X 32	J X 37	J X 51	J X 61	J X 94	J X 40	J X 35	J X 37	J X 27	31	G	G	31	35	31	J X 38	G	G	22	G	J X 32	J X 27	J X 19	J X 30
9	J X 36	J X 36	J X 42	J X 36	J X 35	J X 37	J X 52	J X 41	J X 44	J X 36	G	G	28	36	G	G	J X 29	31	J X 28	J X 24	J X 25	12	J X 24	J X 25
10	J X 26	J X 21	J X 85	J X 42	J X 47	J X 46	J X 28	31	31	B	38	32	31	G	G	E B 30	G	G	G	J X 36	J X 37	J X 36	J X 36	J X 31
11	J X 37	J X 42	J X 40	J X 46	J X 28	J X 26	J X 52	J X 36	J X 47	J X 67	J X 47	E B 38	G	E B 38	E B 43	E B 31	E B 39	24	J X 34	23	19	J X 25	J X 22	J X 25
12	J X 27	J X 51	J X 51	J X 36	J X 42	J X 30	J X 37	29	31	31	33	J X 28	J X 31	J X 36	J X 35	G	G	G	29	C	C	J X 32	J X 42	J X 42
13	C	C	C	C	J X 22	J X 31	J X 51	J X 40	J X 44	J X 31	31	J X 34	33	J X 34	J X 29	J X 38	32	31	G	21	18	J X 30	E B 9	23
14	J X 26	J X 36	C	16	J X 50	28	C	J X 32	J X 60	J X 52	J X 40	32	33	J X 28	J X 38	26	28	24	J X 25	J X 35	J X 39	J X 26	J X 42	J X 26
15	J X 62	J X 51	J X 52	J X 42	J X 31	J X 39	J X 32	J X 77	J X 44	J X 46	B	B	B	E 52	B	E B 58	28	E B 25	E B 28	J X 26	J X 33	38	J X 42	J X 42
16	J X 48	B	J X 34	J X 31	J X 70	B	B	B	B	B	E 55	E B 48	C	E B 52	B	E B 49	30	E B 25	J X 46	C	J X 32	J X 37	J X 51	J X 26
17	J X 38	B	B	J X 44	J X 24	B	J X 32	J X 39	B	E B 40	E B 48	E B 34	E 53	E B 62	E B 39	E B 25	J X 68	E B 39	E B 39	E B 35	E B 29	J X 18	J X 23	J X 30
18	J X 32	J X 37	J X 35	J X 40	J X 41	J X 25	B	J X 37	J X 62	31	G	E B 37	E B 38	E B 42	E B 33	G	G	E 26	G	16	G	J X 22	J X 39	C
19	C	C	C	C	C	C	C	C	C	C	C	E B 31	E 51	E 39	G	E B 88	E B 24	E B 24	E B 24	E B 17	E B 18	J X 42	J X 30	J X 29
20	J X 38	J X 38	J X 30	J X 71	J X 48	J X 65	E B 35	B	E B 33	26	G	G	G	G	G	E B 52	G	19	B	E B 25	J X 33	J X 25	J X 33	J X 20
21	J X 22	J X 61	J X 61	J X 36	J X 25	42	J X 37	J X 32	30	E B 33	G	G	G	G	30	G	J X 29	J X 27	28	J X 25	J X 26	26	J X 26	15
22	J X 25	J X 27	J X 30	J X 39	J X 40	J X 42	J X 38	J X 25	G	G	G	30	G	G	G	G	G	G	J X 24	J X 24	20	J X 29	J X 22	J X 25
23	J X 25	J X 33	J X 24	J X 21	22	25	J X 61	J X 27	J X 30	G	G	G	G	28	29	J X 26	28	23	24	24	26	26	21	J X 36
24	J X 36	B	J X 42	J X 36	B	J X 35	J X 37	J X 32	28	B	B	B	J X 31	E B 38	E B 30	E B 49	E B 80	E B 24	B	J X 25	J X 37	J X 42	J X 36	J X 42
25	B	J X 35	J X 38	34	J X 21	G	B	B	J X 35	B	33	32	B	B	E 52	G	E B 39	E B 51	E B 38	E B 25	J X 28	J X 38	31	J X 37
26	J X 37	J X 26	J X 42	J X 37	J X 33	26	J X 36	J X 25	G	31	E 45	E 44	30	29	E 44	E B 48	E B 60	E B 60	E B 19	J X 22	J X 37	J X 34	J X 31	J X 23
27	J X 25	B	J X 42	J X 34	J X 32	J X 44	J X 21	J X 39	J X 30	B	B	B	B	B	E 56	E B 33	E B 34	E 22	E B 17	J X 23	J X 26	J X 34	J X 51	J X 52
28	J X 35	J X 35	J X 52	J X 40	28	J X 29	J X 32	B	B	J X 37	28	B	B	E B 34	G	E B 30	E B 52	E B 49	E B 26	E B 23	20	J X 23	J X 36	J X 30
29	J X 30	J X 42	J X 37	J X 25	J X 32	J X 48	B	B	B	J X 46	J X 34	B	E B 37	E B 34	E B 30	E B 30	E B 52	E B 38	E B 20	J X 28	J X 25	34	J X 27	J X 29
30	J X 35	J X 51	J X 25	J X 25	J X 92	J X 60	J X 42	B	25	B	B	B	B	E B 26	31	E 25	E B 36	E B 31	E B 23	J X 33	J X 53	J X 83	J X 51	J X 37
31	J X 42	J X 37	J X 35	J X 29	J X 95	J X 37	J X 37	J X 54	J X 38	B	E B 28	E B 35	B	E B 37	E B 28	E B 28	E B 33	E B 33	G	B	J X 61	J X 37	J X 36	J X 61
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	23	26	28	26	25	24	23	25	21	25	23	21	27	27	31	30	31	29	28	30	31	30	29
MED	J X 35	J X 37	J X 39	J X 36	J X 35	J X 35	J X 37	J X 35	J X 31	J X 34	E G 33	E G 32	30	E G 34	E G 30	E B 31	G	E B 26	U 24	24	J X 28	J X 30	J X 32	J X 30
UQ	J X 38	J X 44	J X 42	J X 41	J X 48	J X 42	J X 42	J X 39	J X 38	J X 46	U 39	33	32	E B 38	E B 36	E 43	E B 39	E B 34	28	J X 31	J X 36	J X 37	J X 42	J X 42
LQ	J X 28	J X 34	J X 34	J X 30	J X 28	J X 28	J X 32	J X 30	28	31	G	G	28	E 28	G	E 26	E 28	E 22	E 22	22	20	J X 26	J X 24	J X 26

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FOES (0.1 MHZ)

IONOSPHERIC DATA

MAR. 1968

F-MIN (0.1 MHZ)

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

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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	11	9	10	13	B	B	19	16	14	13	18	24	26	9	17	13	29	48	12	18	19	9	9	9	
2	9	9	13	12	22	11	9	14	13	15	11	21	19	18	16	17	48	22	14	34	13	8	B	B	
3	B	B	B	B	B	B	B	B	B	B	B	B	B	49	34	49	44	34	18	40	9	9	10	8	
4	8	9	9	9	B	12	10	14	17	18	10	B	B	B	B	37	B	38	26	9	9	9	7	8	
5	10	13	17	7	7	9	8	7	17	25	22	13	B	B	B	50	34	9	14	15	9	8	8	9	
6	9	10	12	6	10	9	17	17	10	10	9	12	15	20	21	25	32	17	19	10	23	9	7	9	
7	17	C	10	18	10	C	17	14	20	C	44	28	33	38	49	23	23	15	12	10	17	12	9	7	
8	9	9	13	9	9	18	17	17	9	10	11	13	15	17	17	13	17	14	10	9	9	7	7	7	
9	17	11	13	14	13	19	26	17	24	15	13	14	14	14	15	12	12	12	12	10	9	5	9	11	
10	10	9	11	16	13	9	11	10	13	B	18	17	10	23	10	30	9	12	9	13	11	12	10	9	
11	9	9	9	14	14	24	8	9	18	17	18	38	23	38	43	31	39	18	14	12	10	10	9	10	
12	10	14	13	13	14	9	9	9	9	9	8	8	11	10	10	16	17	12	9	C	C	6	8	8	
13	C	C	C	C	9	8	10	11	14	18	13	11	13	10	10	10	10	10	13	12	11	8	9	14	
14	10	9	C	13	13	16	C	13	14	13	12	9	11	9	11	14	19	10	13	12	10	7	9	11	
15	7	7	8	7	7	38	14	15	25	19	B	B	B	52	B	58	23	25	28	19	9	7	8	7	
16	10	B	21	14	12	B	B	B	B	B	55	48	C	52	B	49	22	25	19	C	19	9	8	9	
17	10	B	B	23	20	B	23	38	B	40	48	34	53	62	39	25	28	39	39	35	29	10	10	9	
18	8	10	24	17	14	22	B	14	24	25	17	37	38	42	33	24	22	26	18	10	9	16	10	C	
19	C	C	C	C	C	C	C	C	C	C	C	C	31	51	39	24	88	24	24	24	17	18	8	14	7
20	9	9	9	18	11	18	35	B	33	19	18	17	18	18	17	52	16	6	B	25	13	18	7	8	
21	9	13	17	14	21	17	18	8	8	33	14	12	23	23	14	20	12	12	10	9	11	11	9	9	
22	10	10	10	10	15	20	9	12	13	13	13	14	13	17	13	13	12	12	9	9	8	10	9	7	
23	9	10	8	8	9	10	8	8	18	12	12	12	13	9	10	9	13	13	12	12	22	18	10	13	
24	13	B	20	33	B	10	13	19	22	B	B	B	24	38	30	49	80	24	B	22	10	9	9	10	
25	B	10	19	17	15	10	B	B	17	B	23	17	B	B	52	21	39	51	38	23	9	10	9	18	
26	12	17	17	11	13	13	10	8	11	10	45	44	15	13	44	48	60	60	19	11	22	10	11	10	
27	10	B	18	21	69	17	18	14	17	B	B	B	B	B	56	33	34	22	17	9	13	10	11	9	
28	10	10	18	18	13	18	11	B	B	19	16	B	B	B	34	12	30	52	49	26	23	10	9	10	5
29	8	18	21	15	11	17	B	B	B	A	A	B	37	34	30	30	52	38	20	13	11	9	8	9	
30	16	16	11	19	16	24	25	B	13	B	B	B	B	26	21	25	36	31	23	9	9	8	8	19	
31	11	10	10	13	9	9	15	18	13	B	28	35	B	37	28	28	33	33	13	B	19	10	9	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	29	28	28	29	30	29	29	30	30	28	29	31	30	31	31	31	31	31	31	29	30	31	31	30	
MED	10	10	13	14	13	17	17	14	17	19	18	28	25	34	24	25	28	22	17	12	11	9	9	9	
UQ	11	16	18	18	20	22	25	38	24	B	45	D B 48	B	46	44	42	39	34	24	22	18	10	10	11	
LQ	9	9	10	11	10	10	10	11	13	13	13	14	15	17	14	16	17	12	12	10	9	8	8	8	

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F-MIN (0.1 MHZ)

IONOSPHERIC DATA

MAR. 1968

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4 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	355	R	R	B	B	R	R	W	W	F	240	255	240	240	255	R	R	R	R	R	R	A	R	
2	A	A	R	R	R	R	R	R	R	A	R	R	R	U F 275	R	F	U F 300	R	R	R	R	R	R	B	B
3	B	B	B	B	B	B	B	B	B	B	B	B	B	275	285	270	295	310	R	R	R	A	A	A	
4	A	255	R	230	B	A	A	R	R	A	A	B	B	B	B	R	B	300	275	R	R	R	A	A	
5	R	A	R	R	R	R	R	A	R	R	F	235	B	B	B	F 245	R	285	A	R	R	R	R	A	
6	A	A	R	R	A	R	230	240	235	250	250	240	260	275	280	280	285	300	330	R	F	R	R	R	
7	R	C	A	R	R	C	F	R	F	C	U F 260	255	275	275	280	295	310	315	R	R	R	R	U R 275	R	
8	A	A	A	A	A	R	R	U R 235	240	245	255	265	265	290	280	290	305	305	320	320	R	R	R	R	
9	R	R	R	R	R	R	R	A	R	F	R	265	260	280	290	260	295	U R 315	U R 335	R	R	R	R	R	
10	R	R	A	A	A	A	R	R	R	B	225	265	F	280	300	R	305	285	285	275	U R 270	A	A	A	
11	A	A	A	A	R	R	A	R	R	A	F	F 275	R	F	280	295	F	U R 310	315	R	R	R	R	R	
12	R	A	A	A	A	K	R	R	R	F	265	270	280	270	265	245	R	280	R	290	C	C	A	A	
13	C	C	C	C	R	R	A	R	R	F	R	F 270	F	275	290	290	310	330	320	R	R	R	R	R	
14	R	A	C	R	R	R	C	R	R	245	R	R	255	255	255	265	255	275	F	F	R	A	A	A	
15	A	A	A	A	R	R	R	A	R	A	B	B	B	F	B	250	275	F	F	R	R	A	A	A	
16	R	B	R	R	A	B	B	B	B	B	245	265	C	F	B	280	245	C	R	C	R	R	A	R	
17	A	B	B	A	R	B	R	R	B	R	265	255	275	285	315	305	310	310	315	310	R	R	R	R	
18	A	A	R	R	R	R	B	R	A	J F 270	R	290	F	280	290	300	315	U R 325	R	R	R	A	270	C	
19	C	C	C	C	C	C	C	C	C	C	C	265	R	F	R	R	R	U R 295	320	R	R	R	F	R	
20	A	A	R	A	A	A	R	B	U R 290	J R 275	R	R	275	290	270	275	R	F	B	R	R	R	R	A	
21	R	A	A	R	R	R	R	R	U R 260	F	F	U F 265	275	290	U R 305	305	330	320	R	R	R	R	R	R	
22	260	300	A	A	235	R	R	R	R	R	265	275	265	F	270	285	280	R	R	R	R	R	R	R	
23	A	A	R	R	R	R	R	R	R	R	F	R	U R 285	275	300	R	R	R	R	R	R	R	R	A	
24	A	B	A	R	B	F	F	R	F	B	B	B	245	F	F	270	U R 250	R	B	R	A	A	A	A	
25	B	A	A	R	R	R	B	B	R	B	I	20	U R 220	B	B	295	275	F	U R 300	310	F	R	R	A	
26	R	R	A	A	A	240	265	R	R	F	260	260	280	265	275	F	F	R	F	R	R	A	R	R	
27	A	B	A	A	K	A	F	R	R	B	B	B	B	B	245	280	290	R	R	R	275	360	A	A	
28	R	R	A	R	R	R	F	B	B	F	240	F	250	F	B	U F 265	295	290	290	315	315	295	R	R	
29	A	A	A	R	260	A	B	B	B	A	240	B	260	F	F	R	F	F	R	F	R	F	R	R	
30	R	R	R	R	A	A	R	B	R	B	B	B	B	R	285	295	315	R	R	R	A	A	A	A	
31	A	R	R	R	A	R	R	A	230	B	R	F	255	B	F	285	280	285	280	U R 285	B	A	A	A	
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	3		1	2	1	3	2	6	8	12	19	16	20	23	22	20	17	12	4	3	1	2		
MED	260	300		230	248	240	255	238	238	248	252	265	268	275	285	280	295	310	315	302	275	360	272		
UQ		328				260		U R 260	268	262	268	275	282	295	295	310	315	320	315	295					
LQ		278				242		230	242	242	255	260	268	278	270	282	300	288	285	272					

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M(3000)F2 (0.01)

IONOSPHERIC DATA

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H^oF₂ (KM)

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

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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									565	560	500	450	440	500	450	400	340	290						
2									R	A	550	375	375	L										
3									B	B	B	B	B	B	360	325	380	295	325					
4									A	A	A	B	B	B	B	430	B		325					
5									R	R	360	540	B	B	B	500	430	L						
6								600	560	450	490	440	410	375	L	350	300							
7						500		R	505	C	415	440	390	350	325									
8									525	450	415	410	380	390	315	305	295							
9									570	A	420	380	400	400	350	L	L							
10									A	A	B	570	425	635	F	350	305	265	L					
11									480	A	A	450	410	450	355	330	295							
12									300	350	L	340	305	300	325	L								
13											L	350	350	315	305									
14									440	A	390	365	375	380	L	R	335							
15											B	B	B	380	B	430	310	345	L					
16									B	B	B	B	E	B	490	415	C	360	B	325	410	265		
17									R	B	B	430	375	390	365	350	B	280	L					
18									B	415	A	345	305	L	L									
19									C	C	C	C	C	L	335	L	270	B						
20									B	B	340	315	300	L	315	290	315	280						
21									A	400	350	L	340	L	L									
22											L	L	L	L	290	270	250							
23																								
24										R	B	B	B	L		295	300	B						
25												630	580	B	B	B	L							
26									L	L	430	B	380	L	L	315	300							
27										A	A	B	B	B	B	B								
28						390			B	B	480	460	B	B	320	L								
29									B	B	B	A	525	B	425	400	380							
30									A	B	R	B	B	B	L	330								
31									R	A	550	B	475	480	B	375								
	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	8	8	9	21	18	15	18	14	15	6	4	1					
MED							445	460	478	430	412	405	390	350	315	325	325	308	325					
UQ							548	555	450	490	440	418	375	330	390	410	335							
LQ							408	350	415	360	375	350	320	295	295	300	278							

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H^oF₂ (KM)

IONOSPHERIC DATA

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H·F (KM)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4 S Long. 39 35.4 E Sweep 0.4 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	230	A	A	B	B	A	280	315	280	E 300	250	230	220	240	240	250	B	260	A	A	240	225	A	
2	A	A	270	260	A	360	315	H	A	A	E 335	275	240	250	225	240	240	260	250	295	245	265	A	B	B
3	B	B	B	B	B	B	B	B	B	B	B	B	B	B	250	B	B	265	255	300	A	A	A	A	
4	240	420	A	480	B	A	A	A	A	A	A	B	B	B	B	280	B	300	290	345	A	290	A	A	A
5	240	A	A	A	A	A	A	A	A	A	E 280	H 230	B	B	B	B	310	H 270	270	245	A	250	240	215	
6	A	A	A	A	350	A	H 595	A	275	305	200	235	230	260	230	255	260	240	245	240	240	250	A	250	
7	230	C	A	A	250	C	215	A	255	C	B	245	265	270	B	255	240	250	240	235	245	240	330	A	
8	A	A	A	A	A	A	A	A	280	275	H 230	H 220	240	250	230	270	A	240	240	240	240	200	A 240	280	245
9	A	A	A	A	A	A	A	A	A	295	230	200	230	225	240	225	225	240	245	235	240	230	245	330	
10	B	B	A	A	A	A	A 345	A	A	B	250	270	235	245	230	230	225	250	265	360	350	A	A	A	
11	A	A	A	A	A	A	A	250	A	A	E 365	E 340	225	H 280	E 300	245	275	240	250	250	245	240	250	280	
12	275	A	A	A	A	375	395	250	245	225	H 225	225	210	210	210	240	240	240	240	C	C	A	A	A	
13	C	C	C	C	290	260	A	230	A	280	240	215	H 240	230	240	225	240	240	225	205	225	225	235	250	
14	235	250	C	R	A	A	C	250	A	A	250	225	225	240	230	240	250	240	310	370	A	215	230	A	
15	A	A	A	A	230	B	A	A	A	A	B	B	B	B	B	B	255	280	300	280	230	220	250	225	
16	310	B	A	A	A	B	B	B	B	B	B	B	C	B	B	B	A	250	260	C	300	330	A	250	
17	275	B	B	B	A	B	A	B	B	B	B	E 275	B	B	B	225	245	255	250	250	250	250	275	A	
18	A	A	A	A	A	325	B	A 340	A	E 290	240	270	250	B 280	250	240	245	230	240	230	200	330	330	C	
19	C	C	C	C	C	C	C	C	C	C	C	250	B	B 250	240	B	240	235	235	220	270	A	375	A	
20	A	A	A	A	A	A	B	B	E 320	240	235	210	215	225	220	B	290	250	B	260	250	250	295	E 300	
21	250	H 240	B	A	B	A	A	A	325	290	250	235	230	235	240	240	240	225	230	240	235	250	A	A	A 280
22	E 360	A 340	A	A	A	A	A	300	240	215	205	H 235	240	235	240	220	240	240	230	240	240	245	240	280	A
23	325	A	A	340	350	340	310	245	240	240	225	225	230	225	230	230	340	225	235	210	250	240	275	A	
24	A	B	B	B	B	A	A	A	R	B	B	B	295	260	245	B	B	250	B	325	A	A	A	A	
25	B	A	A	A	225	R	B	B	A	B	A	250	B	B	B	250	290	250	240	255	230	A	A	B	
26	260	A	A	A	A	A	390	320	240	E 305	B	B	235	235	B	B	B	B	205	300	B	A	A	A	
27	A	B	A	B	A	A	A	A	A	B	B	B	B	B	B	270	265	260	255	305	340	230	A	A	
28	A	A	A	A	A	460	390	B	B	E 390	245	B	B	B	270	240	255	325	B 280	240	250	240	265	A	225
29	240	A	A	480	560	A	B	B	B	A	A	B	300	290	290	270	B	330	300	250	280	A	250	240	
30	B	A	A	A	420	A	A	B	A	B	B	B	B	275	250	250	250	240	250	A	A	A	A	A	
31	A	245	250	A	A	A	240	A	E 245	B	B 280	E 305	B	310	275	265	280	280	200	B	A	A	A	A	
CNT	12	6	2	4	8	6	9	9	11	14	18	21	19	23	22	23	25	29	29	26	22	19	16	13	
MED	250	248	260	410	320	350	345	250	250	262	237	232	235	242	240	240	250	250	245	250	245	240	250	250	
UQ	284	340		480	385	375	390	300	288	E 305	262	248	245	268	248	255	275	260	260	300	270	250	288	280	
LQ	240	240		300	240	325	310	250	241	240	230	225	230	228	230	235	240	240	240	240	235	235	240	240	

MAR. 1968

H·F (KM)

IONOSPHERIC DATA

MAR. 1968

H^oES (KM)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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	100	125	100	B	B	100	115	100	115	105	G	100	100	G	105	B	B	120	130	130	115	130	100	
2	115	105	125	125	130	115	100	100	100	105	100	135	105	105	105	125	B	G	160	B	G	105	B	B	
3	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	140	B	130	125	105	100	
4	105	100	150	110	B	100	100	105	105	100	100	B	B	B	B	B	B	B	B	100	100	100	100	100	
5	100	100	100	100	100	100	100	100	110	125	110	G	B	B	B	B	B	110	130	125	100	125	125	100	
6	100	100	110	100	110	115	130	110	100	120	G	120	110	115	G	110	B	G	135	140	B	100	105	120	
7	115	C	100	110	100	C	130	100	125	C	B	100	B	B	B	100	100	100	150	140	105	140	130	100	
8	110	100	100	105	120	100	110	110	100	100	G	G	155	130	110	100	G	G	140	G	100	100	100	125	
9	120	115	115	120	120	120	125	105	105	110	G	G	100	100	G	G	100	105	100	100	115	100	100	100	
10	100	110	110	100	100	100	120	100	100	B	110	105	100	G	G	B	G	G	G	140	125	115	120	100	
11	110	110	105	110	125	135	135	110	105	105	110	B	G	B	B	B	B	B	130	120	140	125	100	110	100
12	140	140	100	125	100	100	100	100	140	130	100	100	100	100	105	G	G	G	150	C	C	125	100	100	
13	C	C	C	C	100	100	100	100	100	105	115	100	100	100	100	100	100	100	G	135	125	100	B	100	
14	125	135	C	100	100	115	C	125	100	105	105	100	100	100	125	125	105	165	145	140	100	100	115	100	
15	100	100	100	100	100	140	110	100	105	100	B	B	B	B	B	B	175	B	B	135	120	100	130	100	
16	100	B	110	100	100	B	B	B	B	B	B	B	C	B	B	B	125	B	125	C	140	125	100	115	
17	110	B	B	100	130	B	115	115	B	B	B	B	B	B	B	B	125	B	B	B	B	125	130	125	
18	120	105	100	100	115	135	B	100	100	125	G	B	B	B	B	G	G	B	G	140	G	100	105	C	
19	C	C	C	C	C	C	C	C	C	C	C	C	B	B	B	G	B	B	B	B	B	100	125	100	
20	105	100	105	110	110	110	B	B	B	125	G	G	G	G	G	B	G	125	B	B	135	135	100	100	
21	150	125	110	100	125	105	100	100	100	B	G	G	G	G	100	G	100	100	100	100	100	125	115	115	
22	120	110	105	100	125	125	100	105	G	G	G	130	G	G	G	G	G	G	100	100	100	100	100	100	
23	100	125	100	100	100	100	100	100	110	G	G	G	G	150	130	100	100	100	100	100	100	110	100	120	
24	110	B	100	120	B	130	100	150	125	B	B	B	110	B	B	B	B	B	B	150	110	100	125	120	
25	B	105	110	110	120	G	B	B	100	B	115	130	B	B	B	G	B	B	B	B	110	110	100	100	
26	110	125	100	125	100	100	130	100	G	125	B	B	110	100	B	B	B	B	B	140	130	115	100	100	
27	115	B	105	145	100	100	115	105	130	B	B	B	B	B	B	B	B	B	B	100	100	110	105	115	
28	100	130	100	125	100	120	130	B	B	110	115	B	B	B	G	B	B	B	B	B	140	140	105	105	
29	115	110	105	100	115	115	B	B	B	100	130	B	B	B	B	B	B	B	B	130	140	120	100	115	
30	120	140	100	100	120	100	120	B	130	B	B	B	B	B	B	120	B	B	B	B	105	110	100	100	100
31	120	125	135	100	130	125	120	115	100	B	B	B	B	B	B	B	B	B	G	B	110	100	105	125	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
CNT	27	23	26	28	26	24	23	23	22	17	12	9	11	10	8	8	9	9	15	20	25	31	29	29	
MED	110	110	105	100	110	112	110	105	102	110	110	105	100	100	108	102	100	105	130	132	110	110	105	100	
UQ	120	125	110	115	120	122	122	110	110	125	115	130	109	115	122	118	125	125	142	140	130	125	120	115	
LQ	102	100	100	100	100	100	100	100	100	105	102	100	100	100	102	100	100	100	110	100	100	100	100	100	

The Radio Research Laboratories, Japan

MAR. 1968

H^oES (KM)

IONOSPHERIC DATA

APR. 1968

FOF2 (0.1 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station	SYOWA BASE				Lat. 69° 00.4' S.	Long. 39° 35.4' E	Sweep 0.4 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	F	B	B	B	R	B	B	F	F	F	J	F	F	F	F	A	A	A								
2	B	B	A	B	B	A	A	J	F	F	51	B	B	73	71	B	76	76	77	F	54	F	R	A	R							
3	B	A	A	A	B	A	R	B	B	J	R	B	B	B	F	B	R	76	F	B	B	B	A	A	A							
4	A	A	A	B	B	B	B	B	B	A	B	B	B	B	B	R	74	F	76	F	F	B	B	B								
5	B	A	B	A	B	A	A	A	B	A	J	R	J	42	47	67	71	77	80	81	F	F	C	C	C							
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	F	F	F	F	R	R	R	A								
7	A	A	A	A	F	B	F	R	B	51	F	63	B	U	R	83	86	93	R	F	F	F	B	F	B	A						
8	R	R	R	F	A	A	A	A	42	F	F	C	85	94	102	U	F	U	R	89	U	F	R	R	36	F	F					
9	F	18	F	20	F	32	F	33	F	19	30	F	F	78	95	102	99	102	F	U	R	102	F	F	F	U	F	41	F	F	B	
10	F	A	A	A	A	A	F	A	F	F	F	F	F	F	F	F	F	F	92	F	F	F	J	F	A	A	A					
11	A	A	A	A	A	F	A	B	B	F	F	F	62	73	77	77	76	77	75	66	49	F	F	F	F							
12	F	F	F	F	20	F	26	F	32	F	54	71	79	88	94	101	94	88	76	71	58	47	36	F	A							
13	31	A	A	F	F	F	F	B	B	F	F	57	F	63	F	68	74	80	F	78	F	F	R	A	A	F	A					
14	F	A	A	F	A	F	B	B	R	B	61	71	74	75	75	96	F	F	90	F	A	R	A	A								
15	A	R	A	A	F	A	41	F	J	F	54	51	55	69	66	72	86	96	91	85	F	F	R	F	A	B						
16	A	A	B	A	A	A	A	B	B	49	F	72	R	R	U	F	106	U	F	100	F	F	37	F	21	A						
17	A	A	R	A	B	A	F	F	F	52	F	F	F	F	R	95	F	F	F	F	B	A	A	F								
18	A	A	A	A	B	B	R	F	F	F	B	F	90	U	R	93	F	117	105	F	F	J	F	F	F	F						
19	F	A	A	A	A	F	F	F	F	41	56	70	79	97	102	96	102	93	73	55	F	F	F	F	U	F	23	U	F	21		
20	F	19	18	U	F	J	F	28	F	F	F	18	F	F	U	F	87	Y	105	111	121	J	F	A	A							
21	A	A	F	A	A	A	16	F	F	F	93	F	114	J	F	116	113	F	F	98	88	F	F	F	U	F	26	F	15			
22	16	16	A	A	F	F	F	F	F	F	82	F	F	F	F	J	F	B	F	F	R	R	F	F	F							
23	F	R	R	A	B	B	A	A	A	R	B	51	54	R	F	70	F	F	F	F	U	F	F	A	A							
24	A	B	A	A	A	A	B	A	B	B	47	F	62	68	86	F	81	76	J	F	78	55	44	B	B	A	A					
25	F	22	A	A	A	F	F	28	U	F	40	57	68	81	96	95	92	89	75	67	55	F	F	F	A							
26	F	A	A	A	A	A	F	F	A	F	51	B	F	F	82	F	F	F	F	R	F	F	A	A	B							
27	A	A	A	A	A	A	A	A	B	40	46	B	B	B	B	F	66	58	61	46	F	41	34	F	F	R						
28	A	A	A	A	A	A	A	A	B	B	B	B	B	B	F	56	R	68	J	F	68	B	46	41	20	B	A	A				
29	A	A	A	B	B	A	B	A	B	B	B	B	B	R	R	74	F	F	B	F	B	26	24	A								
30	A	A	A	A	F	F	A	F	F	F	61	64	68	R	88	F	F	F	F	F	F	B	F	19								
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	4	2	2	3	2	4	5	5	10	15	14	17	18	19	20	21	14	15	12	7	5	4	3								
MED	18	19	F	F	F	F	F	F	F	42	52	61	70	74	80	86	91	78	F	68	F	41	36	F	F	19						
UQ	25	21		F	44	34	32	F	F	45	56	74	79	96	95	102	98	91	85	76	56	F	46	37	25	20						
LQ	17	17		26		18	28	F	41	51	53	63	68	71	78	76	75	75	55	F	42	36	36	22	17							

APR. 1968

FOF2 (0.1 MHZ)

IONOSPHERIC DATA

APR. 1968

FOF1 (0.01 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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											
2													L		B									
3											B	B	B		B									
4											B	B	B	B	B									
5																								
6											C	C	C	C	C									
7											L		B											
8												C												
9																								
10									L															
11											L		L											
12													L											
13														L	L									
14												L	L	L	L									
15												L	L											
16																								
17																								
18											B													
19																								
20																								
21																								
22																								
23											B													
24																								
25																								
26												B												
27											B	B	B	B										
28											B	B	B											
29											B	B	B											
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																								

APR. 1968

FOF1 (0.01 MHZ)

IONOSPHERIC DATA

APR. 1968

FOE (0.01 MHZ)

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

Station **SYOWA BASE** Lat. **69 00.4' S.** Long. **39 35.4' E** Sweep **0.4 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	B	B	B	B	B	B	B	B	B	B	A				
2							B	B	B	B	B	B	B	B	B	B	B	B	B	160				
3							B	B	B	B	B	B	B	B	B	B	B	B	B	B				
4							B	B	B	B	B	B	B	B	B	B	B	B	B	B				
5							B	B	B	B	B	B	B	B	B	B	B	B	B	A	A			
6							C	C	C	C	C	C	C	C	C	C	C	B	B	A				
7							B	B	B	B	A	B	B	B	B	B	B	B	B	B				
8							B	A	A	A	A	C	240	235	230	225	A	A	A					
9							B	B	180	210	230	A	A	B	A	R	A	B	B					
10							A	A	A	A	B	B	B	250	240	220	A	175	A					
11							A	B	B	A	A	B	250	B	B	B	A	A	A					
12							A	A	A	190	225	235	A	240	235	220	A	A	A					
13							A	B	B	B	A	240	250	240	B	B	A	A	B					
14							B	B	B	B	B	235	240	235	220	B	B	A	A					
15							A	A	190	200	220	230	240	B	B	B	B	B	A					
16							B	B	B	B	240	B	B	B	B	B	B	B	B					
17							A	A	B	B	B	A	B	B	B	B	B	B	B					
18							B	A	A	B	B	B	235	B	B	B	B	B	B					
19							A	B	A	A	A	225	230	225	220	210	170	B	A					
20							A	B	B	B	B	B	230	230	B	210	170	A	B					
21							A	A	B	190	215	A	240	235	230	220	190	150	B					
22							A	A	A	200	B	B	B	B	B	B	B	A	A					
23							A	B	B	B	B	A	B	B	B	B	B	B	B					
24							B	B	B	B	B	250	A	240	235	B	B	B	B					
25							A	A	A	A	A	210	220	A	210	A	A	A	A					
26							A	A	A	B	B	B	B	B	B	B	B	B	A					
27							A	B	B	B	B	B	B	B	B	B	B	B	A					
28							B	B	B	B	B	B	B	B	B	B	B	B	A					
29							A	B	B	B	B	B	B	B	B	B	B	B	B					
30							A	A	195	A	B	B	B	B	B	B	B	B	B					
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									2	6	5	7	10	9	8	6	3	2	1					
MED									185	198	225	235	240	235	230	220	170	162	160					
UQ									200	230	238	240	240	235	220	180								
LQ									190	220	228	230	235	220	210	170								

APR. 1968

FOE (0.01 MHZ)

IONOSPHERIC DATA

APR. 1968

FOES (0.1 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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 X 37	J X 32	J X 25	J X 33	J X 33	B	J X 29	B	B	B	J X 35	B	B	E B 58	E B 58	E B 36	E B 29	E B 24	J X 38	J X 22	J X 13	30	J X 41	32	
2	B	B	J X 39	B	B	J X 46	J X 48	J X 22	E B 23	32	B	B	E B 36	E B 55	B	E B 56	E B 26	E B 22	G	E B 26	27	E B 17	J X 34	J X 30	
3	B	J X 71	J X 40	J X 43	B	J X 37	27	B	B	E B 37	B	B	B	E B 35	B	E B 58	E B 31	E B 24	B	B	B	20	J X 43	18	
4	25	32	21	B	B	B	B	B	J X 41	B	B	B	B	B	E B 62	E B 60	E B 57	E B 24	E B 27	J X 24	B	B	B	B	
5	23	J X 37	B	J X 42	B	J X 39	45	J X 38	B	J X 37	E B 33	E B 39	E B 35	E B 59	E B 37	E B 30	E B 27	J X 23	26	J X 52	J X 22	C	C	C	
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E B 25	E B 34	J X 18	J X 30	J X 36	J X 30	J X 41	J X 43	
7	J X 47	J X 47	J X 45	J X 45	27	B	J X 52	J X 42	B	E B 42	27	E B 48	B	E B 57	E B 58	E B 58	E B 62	E B 48	E B 36	E B 33	B	28	38	21	
8	J X 25	J X 24	J X 26	J X 26	J X 42	J X 44	J X 37	J X 55	36	J X 24	28	C	26	27	G	G	23	21	19	E B 16	E B 26	13	J X 17	16	
9	15	J X 25	17	J X 24	23	J X 25	J X 21	E B 16	G	G	G	26	27	E B 26	27	G	21	E B 21	J X 20	J X 23	E B 20	E B 15	E B 15	B	
10	15	J X 25	38	J X 38	J X 85	J X 52	32	J X 51	J X 42	J X 22	E B 51	E B 33	E B 27	31	G	G	21	21	J X 20	22	J X 24	31	J X 33	J X 30	
11	36	J X 33	35	J X 42	J X 39	J X 75	J X 68	B	B	J X 26	31	E B 29	G	E B 31	E B 28	E B 27	E B 20	E B 16	E B 11	E B 13	12	14	J X 23	J X 27	
12	J X 28	J X 27	J X 27	J X 27	J X 28	J X 25	J X 26	12	J X 22	22	J X 24	G	26	G	G	24	J X 37	J X 30	J X 28	18	J X 22	J X 17	17	39	
13	J X 40	J X 54	J X 53	J X 32	28	42	J X 50	B	B	J X 40	J X 27	G	G	G	E B 29	E B 27	J X 23	E B 16	E B 15	J X 37	J X 40	39	28	J X 42	
14	J X 32	J X 50	J X 38	J X 64	J X 36	J X 47	B	B	40	B	E B 35	28	G	G	G	E B 21	E B 34	18	20	18	J X 38	35	J X 53	33	
15	J X 33	J X 21	J X 63	J X 47	J X 37	J X 37	J X 37	J X 27	G	G	G	G	G	E B 32	E B 27	E B 22	E B 21	E B 13	J X 22	35	J X 20	J X 37	J X 42	B	
16	J X 88	J X 77	48	J X 40	J X 37	36	J X 22	B	B	E B 36	29	E B 28	E B 58	E B 61	E B 57	E B 51	E B 24	E B 20	E B 17	E B 25	E B 26	E B 15	J X 27	J X 38	
17	J X 70	J X 90	J X 25	J X 37	B	J X 56	J X 36	J X 18	E B 27	E B 25	E B 26	28	E B 35	E B 39	E B 69	E B 84	E B 51	E B 27	E B 36	E B 23	B	41	43	33	
18	33	J X 42	J X 50	J X 34	B	B	J X 22	J X 22	24	E B 23	B	E B 52	G	E B 76	E B 55	E B 66	E B 62	E B 33	E B 19	J X 21	E B 16	16	18	15	
19	J X 85	J X 29	J X 35	J X 26	21	13	J X 22	E B 12	15	19	J X 21	G	24	G	G	G	G	E B 11	J X 22	13	J X 32	J X 23	J X 32	E B 10	
20	J X 30	J X 26	J X 17	13	21	J X 25	23	J X 32	E B 15	E B 21	E B 22	E B 24	G	31	E B 22	G	G	27	23	J X 22	17	J X 22	J X 30	J X 25	
21	J X 22	26	J X 24	J X 24	J X 24	18	J X 24	14	E B 14	J X 58	G	27	27	G	G	G	G	G	E B 19	E B 17	E B 14	20	J X 12	J X 54	
22	J X 22	J X 23	J X 27	J X 42	J X 47	J X 54	J X 62	J X 65	J X 37	J X 22	E B 25	E B 23	E B 27	E B 32	E B 28	E B 51	B	17	J X 21	21	31	J X 28	J X 33	J X 36	
23	59	J X 38	J X 38	J X 57	B	B	J X 58	J X 63	J X 66	28	B	25	E B 48	E B 58	E B 26	J X 107	E B 35	E B 26	E B 35	E B 16	E B 17	18	J X 34	J X 47	
24	J X 42	B	J X 40	J X 42	J X 85	J X 65	B	J X 63	B	B	E B 24	J X 23	29	28	J X 29	E B 20	E B 18	E B 13	E B 10	E B 20	B	B	J X 26	J X 27	
25	J X 25	J X 32	J X 36	J X 29	J X 36	J X 26	J X 23	J X 21	J X 22	J X 22	J X 30	27	23	J X 33	J X 35	J X 38	21	16	J X 27	J X 22	J X 18	18	J X 62	J X 36	
26	D	J X 39	46	48	J X 65	J X 52	J X 35	J X 24	J X 62	J X 41	J X 41	B	39	E B 29	E B 50	E B 36	E B 35	E B 14	J X 31	22	20	33	J X 79	B	
27	J X 58	J X 44	J X 54	J X 36	J X 37	32	J X 36	J X 51	B	J X 30	J X 61	B	B	B	E B 26	E B 51	E B 36	E B 19	J X 46	18	14	J X 22	J X 63	J X 40	
28	J X 37	28	J X 40	J X 47	J X 66	J X 127	J X 25	J X 33	B	B	B	B	B	E B 23	E B 58	E B 35	E B 45	B	17	J X 23	J X 28	B	J X 42	J X 62	
29	J X 37	46	J X 48	38	B	J X 47	B	J X 28	B	B	B	B	B	E B 58	E B 61	E B 23	E B 49	E B 58	B	J X 34	B	E B 15	17	J X 22	
30	38	44	J X 57	J X 37	J X 39	J X 27	J X 53	J X 36	J X 32	G	J X 68	E B 32	E B 60	E B 59	E B 52	E B 51	E B 25	30	E B 25	17	25	B	J X 42	J X 57	
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	27	27	28	27	21	24	25	22	17	24	22	20	22	27	26	29	29	29	28	29	25	25	28	25	
MED	J X 36	J X 33	J X 38	J X 38	J X 37	J X 40	J X 35	J X 30	23	U 24	U 25	E G 27	E G 27	E B 32	E B 28	E B 35	E B 26	E B 21	U 20	U 20	21	22	J X 34	J X 33	
UQ	J X 44	J X 45	J X 47	J X 42	J X 42	J X 52	J X 48	J X 51	J X 37	J X 34	U 32	E B 30	E B 35	E B 58	E B 55	E B 51	E B 36	E B 27	U 25	J X 24	J X 27	30	J X 42	J X 40	
LQ	J X 25	J X 26	J X 26	J X 30	J X 28	J X 26	J X 24	J X 21	E G 15	20	E G 24	E G 23	G	E G 26	E G 22	E B 21	E G 21	E B 16	18	18	16	17	J X 24	25	

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APR. 1968

FOES (0.1 MHZ)

IONOSPHERIC DATA

APR. 1968

F-MIN (0.1 MHz)

45° E Mean Time (G. M. T. + 3h)

Station	SYOWA BASE				Lat. 69° 00.4' S.	Long. 39° 35.4' E	Sweep 0.4 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	26	17	13	28	30	B	22	B	B	B	25	B	B	58	58	36	29	24	13	13	10	9	9	13
2	B	B	28	B	B	22	20	22	23	26	B	B	36	55	B	56	26	22	15	26	21	17	10	11
3	B	11	23	26	B	11	15	B	B	37	B	B	B	35	B	58	31	24	B	B	B	14	12	13
4	15	14	12	B	B	B	B	B	B	31	B	B	B	B	B	62	60	57	24	27	17	B	B	B
5	16	17	B	17	B	33	36	32	B	31	33	39	35	59	37	30	27	19	11	8	8	C	C	C
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	25	34	12	13	9	12	12	12
7	11	14	13	15	14	B	24	18	B	42	22	48	B	57	58	58	62	48	36	33	B	20	32	12
8	8	8	10	13	15	14	15	15	18	18	13	C	18	18	21	19	11	16	13	16	26	11	10	10
9	9	7	10	10	12	8	11	16	16	18	21	23	12	26	17	13	19	21	15	13	20	15	15	B
10	9	9	12	10	13	13	13	14	13	19	51	33	27	17	17	10	12	11	10	12	11	11	8	9
11	9	13	12	12	15	13	13	B	B	18	17	29	23	31	28	27	20	16	11	13	9	10	9	9
12	8	9	8	9	9	9	8	9	13	14	15	15	16	16	15	15	14	11	9	11	8	8	9	9
13	10	12	14	10	9	13	11	B	B	21	18	14	14	14	29	27	14	16	15	10	10	14	9	12
14	9	11	18	10	20	27	B	B	35	B	35	11	18	18	18	21	34	12	10	9	11	9	12	13
15	12	15	19	15	28	20	12	11	13	16	17	14	14	32	27	22	21	13	10	10	9	9	11	B
16	10	10	40	15	25	16	14	B	B	36	22	28	58	61	57	51	24	20	17	25	26	15	11	9
17	9	11	22	23	B	21	12	12	27	25	26	23	35	39	69	84	51	27	36	23	B	9	10	10
18	11	14	13	22	B	B	15	13	13	23	B	52	12	76	55	66	62	33	19	13	16	9	12	9
19	9	8	21	15	13	12	11	12	11	13	14	15	14	14	14	14	13	11	10	8	E	10	9	10
20	8	9	9	9	10	10	12	12	15	21	22	24	15	14	22	12	14	15	15	13	15	11	9	10
21	13	13	11	11	11	10	9	12	14	12	15	17	17	17	20	17	11	11	19	17	14	14	9	9
22	9	9	8	13	12	12	10	10	12	13	25	23	27	32	28	51	B	11	10	11	15	12	9	9
23	9	10	13	13	B	B	24	15	26	23	B	21	48	58	26	26	35	26	35	16	17	9	9	11
24	11	B	16	18	14	19	B	28	B	B	24	16	17	17	18	20	18	13	10	20	B	B	10	9
25	8	10	9	11	10	10	10	9	10	7	11	12	13	14	14	14	11	11	11	9	8	13	10	8
26	16	15	18	25	14	22	14	13	15	16	30	B	31	29	50	36	35	14	11	12	9	9	10	B
27	10	10	37	23	12	24	14	14	B	23	27	B	B	B	26	51	36	19	12	14	13	10	13	14
28	18	10	14	17	18	13	19	24	B	B	B	B	B	23	58	35	45	B	13	12	10	B	8	10
29	14	15	13	33	B	16	B	14	B	B	B	B	B	58	61	23	49	58	B	14	B	15	11	12
30	13	14	28	22	10	10	13	11	10	8	12	32	60	59	52	51	25	27	25	12	10	B	10	14
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	29	29	29	29	29	29	29	29	29	29	29	28	29	29	29	29	30	30	30	30	30	29	29	29
MED	10	11	13	15	15	16	14	15	26	23	25	28	27	32	28	27	26	19	13	13	14	12	10	11
UQ	14	14	21	23	B	24	22	32	B	36	51	B	60	58	58	51	36	27	19	17	21	15	12	13
LQ	9	10	12	11	12	12	12	12	13	16	17	16	16	17	20	19	14	13	11	11	9	9	9	9

APR. 1968

F-MIN (0.1 MHz)

IONOSPHERIC DATA

APR. 1968

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4 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	F	B	B	B	R	B	B	F	F	F	F	F	F	F	F	A	A	A	
2	B	B	A	B	B	A	A	F	F	270	B	B	280	305	B	305	315	310	F	300	F	R	A	R	
3	B	A	A	A	B	A	R	B	B	R	B	B	B	F	B	R	305	F	B	B	B	A	A	A	
4	A	A	A	B	B	B	B	B	B	A	B	B	B	B	B	R	310	F	315	F	F	B	B	B	
5	B	A	B	A	B	A	A	A	B	A	R	R	270	285	300	305	335	320	305	F	F	C	C	C	
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	F	F	F	F	R	R	R	A	
7	A	A	A	A	F	B	F	R	B	260	F	280	B	U R	F	310	R	F	F	F	B	F	B	A	
8	R	R	R	F	A	A	A	A	260	F	F	C	280	300	285	U F	U R	U F	335	R	R	330	F	F	
9	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	B	
10	F	A	A	A	A	A	F	A	F	F	F	F	F	F	F	F	315	F	325	F	F	A	A	A	
11	A	A	A	A	A	F	A	B	B	F	F	F	255	290	285	285	290	310	320	330	310	F	F	F	
12	F	F	F	F	225	240	240	F	250	F	280	290	290	285	285	285	310	325	315	310	300	335	295	F	A
13	290	A	A	F	F	F	F	B	B	F	F	290	285	265	270	260	F	280	F	F	R	A	A	F	A
14	F	A	A	F	A	F	B	B	R	B	265	270	295	295	290	265	F	F	320	F	A	A	A	A	
15	A	R	A	A	F	A	240	F	F	280	280	305	275	270	280	300	285	290	F	F	R	F	A	B	
16	A	A	B	A	A	A	A	B	B	265	F	270	R	R	U F	U F	F	320	325	310	F	325	310	A	
17	A	A	R	A	B	A	F	F	F	305	F	F	F	F	R	290	F	F	F	F	B	A	A	F	
18	A	A	A	A	B	B	R	F	F	F	B	F	300	U R	F	285	305	F	F	F	F	F	F	F	
19	F	A	A	A	A	F	F	F	F	F	305	305	300	325	325	330	340	330	325	F	F	F	F	U F	
20	F	265	265	U F	F	F	F	F	280	F	F	U F	F	315	345	F	U F	320	U F	F	F	F	F	A	A
21	A	A	F	A	A	A	265	F	F	F	F	315	F	325	F	335	F	F	305	330	F	F	F	F	
22	300	280	A	A	F	F	F	F	F	F	F	280	F	F	F	F	F	B	F	F	R	R	F	F	
23	F	R	R	A	B	B	A	A	A	R	B	290	280	R	F	F	F	F	F	305	U F	F	A	A	
24	A	B	A	A	A	A	B	A	B	B	265	F	315	310	300	F	310	315	F	325	335	B	B	A	A
25	F	275	A	A	A	F	F	240	U F	F	315	325	300	F	315	340	325	325	335	345	315	F	F	F	A
26	F	A	A	A	A	A	F	F	A	F	275	B	F	F	280	F	F	F	R	F	F	A	A	B	
27	A	A	A	A	A	A	A	A	B	260	305	B	B	B	F	320	310	300	305	F	F	F	F	R	
28	A	A	A	A	A	A	A	A	B	B	B	B	B	B	285	R	310	F	B	325	330	340	B	A	A
29	A	A	A	B	B	A	B	A	B	B	B	B	B	B	R	R	305	F	F	B	F	B	290	300	A
30	A	A	A	A	F	F	A	F	F	F	F	295	300	290	R	315	F	330	F	F	F	F	B	F	305
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	4	2		3	2	4	4	4	9	14	12	17	17	18	19	19	13	15	11	6	5	4	3	
MED	285	270	250		275	252	252	265	268	280	292	290	290	295	292	305	315	320	325	305	318	325	305	300	
UQ	295	278			278		265	282	272	305	310	302	315	310	315	310	325	320	325	318	335	330	312	302	
LQ	272	265			250		240	245	262	265	280	275	280	285	280	295	308	305	312	300	295	295	300	298	

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APR. 1968

M(3000)F2 (0.01)

IONOSPHERIC DATA

APR. 1968

H^oF₂ (KM)

45° E Mean Time (G. M. T. + 3h)

Station **SYOWA BASE** Lat. **69° 00.4' S** Long. **39° 35.4' E** Sweep **0.4 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											
2													300		B									
3											B	B	B		B									
4											B	B	B	B	B									
5																								
6											C	C	C	C	C									
7											L		B											
8												C												
9																								
10										390														
11											300		275											
12													270											
13															L	L								
14												L	L	L		325								
15												270	300											
16																								
17																								
18												B												
19																								
20																								
21																								
22																								
23												B												
24																								
25																								
26												B												
27												B	B	B										
28											B	B	B											
29											B	B	B											
30																								
31																								
CNT											1	1	1	4		1								
MED										390	300	270	288		325									
UQ													300											
LQ													272											

APR. 1968

H^oF₂ (KM)

IONOSPHERIC DATA

APR. 1968

H^oF (KM)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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	A	A	B	B	B	E A 480	B	B	B	A	B	B	B	B	280	290	275	310	375	340	A	A	A	
2	B	B	B	B	B	B	B	B	300	320	B	B	280	B	B	B	245	240	300	275	265	295	A	A	
3	B	A	B	B	B	A	A	B	B	B	B	B	B	300	B	B	255	250	B	B	B	B	A	B	
4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	300	280	240	275	E R 350	B	B	B	
5	B	B	B	B	B	B	B	B	B	B	E B 300	E B 345	270	345	270	245	240	245	210	340	A	C	C	C	
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	300	300	220	A	A	A	A	A	
7	A	A	A	B	B	B	B	A	B	B	270	325	B	275	280	270	280	260	250	265	B	E B 310	B	B	
8	A	A	B	B	B	B	B	A	A	E A 300	250	C	240	240	245	225	215	215	230	225	240	220	250	250	
9	310	A	A	A	350	305	A	325	250	245	240	240	235	225	220	225	205	205	205	210	230	245	250	B	
10	300	A	A	A	A	A	A	425	A	A	280	B	270	240	240	230	225	225	205	205	225	235	A	A	A
11	A	B	B	B	B	A	A	B	B	355	280	305	240	270	260	240	230	225	215	230	225	250	300	A	
12	325	330	280	310	A	410	380	340	275	250	240	240	240	235	240	220	210	220	225	215	225	250	315	A	
13	A	A	A	A	A	A	A	B	B	260	280	200	230	240	260	240	250	240	250	360	A	A	A	A	
14	A	A	A	A	A	A	B	B	B	B	340	250	250	245	250	250	240	210	200	300	A	A	A	A	
15	A	210	B	B	B	B	A	375	310	260	250	250	220	260	250	235	220	190	220	340	A	A	A	B	
16	A	A	B	B	B	A	A	B	B	B	255	250	E B 315	B	300	270	250	210	225	220	240	250	235	300	A
17	A	A	210	B	B	B	A	300	285	275	260	250	265	260	330	B	250	245	240	230	B	A	A	E A 300	
18	A	A	A	B	B	B	370	370	275	255	B	215	240	B	250	250	250	240	225	210	240	E A 290	250	300	
19	E A 350	A	B	B	A	425	350	320	225	250	240	230	235	220	215	220	210	200	200	205	225	215	235	E B 250	
20	E A 295	A	330	355	355	385	460	405	E B 350	250	220	220	205	220	225	205	205	200	200	205	225	260	220	A	A
21	B	B	B	B	B	B	A	320	250	230	210	220	215	215	205	210	200	200	215	210	220	230	240	315	
22	E A 335	E A 360	A	A	A	A	365	300	280	205	250	245	275	240	240	235	B	225	230	245	270	325	A	A	
23	A	A	A	A	B	B	B	A	B	A	B	330	B	B	280	255	280	250	260	255	260	E A 315	A	A	
24	A	B	B	A	A	B	B	B	B	B	315	270	B	B	280	255	280	250	260	255	260	E A 315	A	A	
25	270	A	A	A	A	A	425	350	275	240	240	225	220	225	225	200	205	200	225	200	230	275	260	A	
26	300	B	B	B	B	B	A	A	A	A	315	B	310	275	275	270	250	240	375	410	290	A	A	B	
27	A	A	B	B	A	B	B	A	B	B	290	B	B	B	255	300	275	240	250	275	280	320	A	A	
28	B	A	B	B	B	B	B	B	B	B	B	B	B	265	B	250	280	B	235	225	240	A	B	A	A
29	A	B	B	B	B	B	B	A	B	B	B	B	B	E B 300	B	325	250	300	275	B	365	B	350	295	A
30	B	B	B	B	A	A	A	400	275	250	250	275	375	300	250	250	240	255	240	235	270	B	A	E B 220	
31																									
CNT	8	4	3	2	2	4	8	11	12	16	20	20	20	22	24	25	29	29	28	28	21	17	10	6	
MED	295	300	280	332	368	418	384	332	275	251	251	249	240	247	250	245	245	240	228	242	245	255	255	262	
UQ	320	338	318			442	420	360	282	273	282	271	270	275	272	250	280	250	250	288	268	315	300	300	
LQ	298	270	245			358	368	320	250	242	240	228	232	235	235	225	215	210	215	225	230	235	250	E B 250	

The Radio Research Laboratories, Japan

APR. 1968

H^oF (KM)

IONOSPHERIC DATA

APR. 1968

H^oES (KM)

45° E Mean Time (G. M. T. + 3h)

Station	SYOWA BASE																							Lat. 69° 00.4' S.	Long. 39° 35.4' E	Sweep 0.4 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	110	100	100	125	130	B	130	B	B	B	105	B	B	B	B	B	B	B	105	125	125	115	105	105																								
2	B	B	120	B	B	105	105	125	B	120	B	B	B	B	B	B	B	B	G	B	195	B	100	100																								
3	B	100	100	100	B	100	105	B	B	B	B	B	B	B	B	B	B	B	B	B	B	140	105	125																								
4	125	125	120	B	B	B	B	B	B	120	B	B	B	B	B	B	B	B	B	B	150	B	B	B																								
5	130	125	B	100	B	100	110	115	B	115	B	B	B	B	B	B	B	135	120	100	100	C	C	C																								
6	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	B	150	105	105	100	110	115																							
7	100	105	100	100	100	B	135	100	B	B	130	B	B	B	B	B	B	B	B	B	B	140	130	120																								
8	100	100	105	145	125	100	100	105	105	105	100	C	130	110	G	G	100	100	100	B	B	150	140	125																								
9	125	110	120	120	105	100	110	B	G	G	G	140	115	B	105	G	100	B	100	100	B	B	B	B																								
10	120	110	115	100	105	100	100	100	100	150	B	B	B	100	G	G	100	100	150	150	100	115	110	105																								
11	120	120	120	120	125	110	105	B	B	105	110	B	G	B	B	B	B	B	B	B	130	125	120	120																								
12	105	115	100	100	100	100	145	125	100	100	100	G	105	G	G	105	100	100	100	100	100	100	100	110																								
13	120	100	100	100	115	100	110	B	B	150	130	G	G	G	B	B	100	B	B	110	105	110	100	110																								
14	110	100	100	105	105	145	B	B	105	B	B	100	G	G	G	B	B	115	110	100	110	110	100	115																								
15	110	110	100	100	120	125	115	120	G	G	G	G	G	B	B	B	B	B	100	100	110	110	110	B																								
16	100	100	120	100	100	100	100	B	B	B	135	B	B	B	B	B	B	B	B	B	B	B	120	100																								
17	100	100	100	105	B	100	105	120	B	B	B	125	B	B	B	B	B	B	B	B	B	105	105	105																								
18	110	110	100	110	B	B	100	110	115	B	B	B	G	B	B	B	B	B	B	100	B	135	125	130																								
19	140	105	110	105	125	140	115	B	140	120	120	G	110	G	G	G	G	B	100	100	100	100	100	B																								
20	100	100	140	140	125	105	100	125	B	B	B	B	G	105	B	G	G	100	100	100	100	100	100	100																								
21	105	100	100	100	100	100	100	100	B	140	G	135	120	G	G	G	G	G	B	B	B	120	110	110																								
22	100	100	100	125	105	100	110	110	125	130	B	B	B	B	B	B	B	110	100	150	150	130	105	105																								
23	125	100	100	105	B	B	100	100	100	100	B	140	B	B	B	110	B	B	B	B	B	135	100	100																								
24	100	B	105	105	105	105	B	125	B	B	B	115	110	110	100	B	B	B	B	B	B	110	115																									
25	130	110	100	100	100	100	100	100	100	100	100	105	105	100	100	100	100	100	100	100	100	110	135	105																								
26	150	100	105	115	110	120	120	120	105	120	110	B	130	B	B	B	B	B	105	150	140	110	100	B																								
27	100	100	100	140	100	130	110	100	B	105	140	B	B	B	B	B	B	120	140	100	110	105	105																									
28	100	100	100	105	120	105	100	100	B	B	B	B	B	B	B	B	B	100	100	100	B	100	110																									
29	100	100	100	150	B	100	B	100	B	B	B	B	B	B	B	B	B	B	B	120	B	B	125	110																								
30	105	100	100	100	100	100	100	100	125	G	100	B	B	B	B	B	B	115	B	100	100	B	100	100																								
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	27	27	28	27	21	24	25	20	11	15	12	7	8	5	3	3	6	9	16	19	19	21	27	24																								
MED	110	100	100	105	105	100	105	108	105	120	110	125	111	105	100	105	100	100	100	100	105	110	105	110																								
UQ	122	110	112	120	120	108	110	120	120	125	130	138	122	110	102	108	100	115	115	122	128	130	115	115																								
LQ	100	100	100	100	100	100	100	100	100	105	100	110	108	100	100	102	100	100	100	100	100	110	100	105																								

APR. 1968

H^oES (KM)

IONOSPHERIC DATA

MAY 1968

FOF2 (0.1 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4 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	F 35	F	A	F 47	55	65	J R 67	J F 74	F	93	84	F	F	R	B	A	A	A	
2	A	A	A	A	A	A	35	A	A	A	52	B	B	69	F	B	83	F 82	U F 76	F	R	R	R	A	
3	A	A	A	A	A	A	A	A	A	B	F	F	63	77	71	F 73	F	F	F	49	F 30	B	A	A	
4	A	A	A	A	31	R	A	F	F	J F 60	F 72	82	81	91	87	83	72	F 71	F	F	F 30	F 18	17	A	
5	A	R	30	F 26	F 26	F 31	F 31	F 31	F	F	F	F 75	83	104	F 94	F	R	64	58	45	R	F	16	15	
6	F 14	F	25	24	17	17	16	19	F	R	F	R	E 92	96	100	96	81	64	E 52	41	18	16	17	F 18	
7	21	24	23	F	F 21	A	A	41	F	B	R	A	F 44	B	F	F	F	24	A	A	A	A	A	A	
8	A	A	A	A	A	A	A	A	29	37	46	51	60	66	77	93	65	R	36	26	R	15	A	A	
9	A	A	A	A	B	B	B	A	A	B	B	B	71	71	F	93	R	107	R	63	R	A	A	A	
10	A	37	26	31	F 31	A	A	A	A	B	44	46	52	55	61	55	51	F 49	U F 44	F 29	F	F	F	F 21	
11	F	F 23	R	F 37	F	A	A	A	F	F	B	E 63	B	J R 62	F	F 86	J F 90	75	U F 88	F	F 24	F	F 23	R	
12	34	A	A	A	B	A	B	R	37	B	B	51	50	54	B	B	R	84	R	R	28	A	A	A	
13	A	A	A	A	B	B	A	F 34	B	B	B	F 56	F 73	75	B	84	R	F 73	F	F	A	A	R	R	
14	A	A	A	A	A	A	A	A	46	F 57	B	B	F	82	80	94	78	F	F	R	R	F 19	A	R	
15	F 21	24	A	A	B	A	B	J F 27	A	B	B	B	B	J R 106	F	87	F	F	F 51	30	F	15	16	16	
16	R	A	37	A	R	A	A	A	A	46	B	B	73	86	80	90	92	F	R	A	A	A	A	A	
17	A	A	37	A	R	A	A	A	A	A	B	73	B	B	B	C	89	F	67	B	R	A	A	A	
18	A	A	A	A	A	A	A	A	A	F	B	B	B	81	81	F	F	R	49	A	A	A	A	A	
19	A	A	A	A	A	A	A	B	B	F 38	F 51	60	67	83	81	77	69	F	F	41	A	A	A	A	
20	A	A	A	A	A	A	A	A	R	B	B	B	R	53	F 55	R 75	83	F	R	31	A	R	A	A	
21	A	A	A	A	B	36	A	A	A	F 41	F 51	B	B	B	103	96	F 91	94	F	A	A	A	A	A	
22	A	A	A	B	B	B	B	B	R	B	B	47	B	R	64	B	B	R	F	31	A	A	B	A	
23	A	A	A	A	B	B	B	38	F	C	C	C	C	C	C	94	C	C	F	B	C	A	A	A	
24	A	B	A	A	A	B	B	A	A	B	30	B	B	F	R	R	R	78	B	B	B	R	A	43	
25	A	A	B	B	A	21	F 27	F 27	F 28	J F 34	F 47	64	66	86	83	76	55	F 57	F	39	R	B	A	A	
26	A	A	A	22	A	A	A	A	B	F	F 52	F 71	77	J R 87	82	73	F 57	F 53	F	26	B	B	B	B	
27	B	B	F	R	F	20	20	F 26	F 31	F 36	60	71	F	J R 85	R	F 68	F	F	R	F	F 15	F 14	F	F 14	
28	F 16	16	F	33	30	35	F	F	F 28	F	44	F	F 77	86	76	R	E 45	38	33	J R 27	F 21	17	A	26	
29	A	A	A	A	A	A	R	A	A	A	J F 45	B	B	F 66	R	F	F	F	62	F	A	A	A	A	
30	A	A	A	A	A	A	33	A	F	F	F	R	51	52	51	56	F	F	45	F 43	F 35	F	B	A	A
31	37	A	A	36	A	R	A	A	A	F 44	F 47	C	69	F	82	73	57	R	R	B	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	6	5	6	7	6	6	7	8	6	10	14	14	18	24	18	21	17	16	12	15	7	7	5	7	
MED	21	24	28	31	28	26	31	29	30	F 42	49	64	68	79	80	84	78	68	F 52	31	F 24	16	17	18	
UQ	34	24	37	34	31	35	34	36	37	F 47	F 52	71	77	86	83	93	89	83	64	43	F 29	18	17	24	
LQ	F 16	23	25	25	F 21	20	24	F 26	F 28	F 37	45	51	60	66	71	73	65	53	F 44	30	F 20	15	16	16	

The Radio Research Laboratories, Japan

MAY 1968

FOF2 (0.1 MHZ)

IONOSPHERIC DATA

MAY 1968

FOF1 (0.01 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station	SYOWA BASE				Lat. 69° 00.4' S. Long. 39° 35.4' E				Sweep 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												B	B											
3																								
4																								
5																								
6																								
7													350	B										
8																								
9										B	B	B												
10										B														
11											B		B											
12										B	B													
13											B				B									
14											B	B												
15											B	B	B											
16											B	B												
17											B		B	B	B	C								
18											B	B	B											
19																								
20											B	B												
21											B	B	B											
22											B	B	B			B								
23											C	C	C	C	C									
24												B	B											
25																								
26																								
27																								
28																								
29												B	B											
30																								
31												C												
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											
MED													350											
UQ																								
LQ																								

MAY 1968

FOF1 (0.01 MHZ)

IONOSPHERIC DATA

MAY 1968

FOE (0.01 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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	180	A	A	A	A	A	A	A	A	A						
2								B	B	B	B	B	B	B	B	B	B	B							
3								B	B	B	B	B	B	B	B	B	B	B							
4								A	A	A	A	215	B	A	A	180	130	B							
5								A	A	B	B	B	B	B	B	B	A	A							
6									A	A	180	200	205	200	A	175	120								
7								A	A	B	A	A	A	B	A	B	B	B							
8									A	B	B	B	B	B	B	170	B	B							
9								B	B	B	B	B	B	B	B	B	B	B							
10								A	B	B	B	B	210	B	B	155	A	B							
11								B	A	B	B	B	B	B	B	B	B	B							
12								B	B	B	B	B	B	B	B	B	B	B							
13									B	B	B	B	B	B	B	B	B	B							
14									A	A	B	B	B	B	B	B	B	B							
15									B	B	B	B	B	B	B	B	B	B							
16									B	B	B	B	B	B	B	B	B	B	B	A					
17									A	B	B	B	B	B	B	C	B	B							
18									A	A	B	B	B	B	B	B	B	B							
19									B	A	A	B	B	B	B	160	A	B							
20									A	B	B	B	B	B	B	B	B	B							
21									A	A	A	B	B	B	B	B	B	B							
22									A	B	B	B	B	B	B	B	B	B	B	A					
23									A	C	C	C	C	C	C	B	C	C	B						
24									A	B	B	B	B	B	B	B	B	B	B						
25									130	A	A	A	A	B	170	A	A	A	A						
26									B	A	A	A	R	A	B	B	B	B	B						
27									B	B	B	B	A	A	A	A	A	A							
28									A	A	105	A	B	A	A	A	A	A							
29									B	B	B	B	B	B	B	B	B	B							
30									A	A	A	B	B	B	A	A	A	A							
31									A	A	A	C	A	A	A	A	B	B							
	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	2	2	1	1	5	2								
MED									130	180	142	208	208	200	170	170	125								
UQ																175									
LQ																160									

The Radio Research Laboratories, Japan

MAY 1968

FOE (0.01 MHZ)

IONOSPHERIC DATA

MAY 1968

FOES (0.1 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station	SYOWA BASE				Lat. 69° 00.4' S. Long. 39° 35.4' E		Sweep 0.4 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	J X 60	J X 40	J X 38	J X 42	J X 26	J X 25	J X 23	J X 30	21	J X 22	J X 23	J X 27	30	J X 24	J X 32	J X 25	J X 25	34	E B 29	B	32	J X 41	J X 32		
2	J X 65	J X 94	J X 52	J X 03	J X 46	J X 40	39	J X 57	J X 57	J X 37	E B 35	B	B	E B 58	E B 52	B	E B 57	E B 36	E B 27	E B 24	E B 22	23	J X 30	30		
3	28	J X 32	J X 86	J X 41	J X 42	J X 47	J X 51	J X 46	44	E B 26	E B 37	E B 54	E B 31	E B 50	E B 31	E B 50	E B 23	E B 21	E B 21	E B 18	B	J X 62	J X 22			
4	J X 22	J X 36	J X 38	J X 65	J X 44	J X 33	44	J X 41	J X 23	J X 32	J X 24	J X 27	E B 21	22	J X 20	G	G	E B 21	E B 13	J X 18	J X 34	J X 24	J X 24	21		
5	J X 32	J X 28	J X 24	J X 20	J X 28	J X 24	J X 27	J X 28	J X 40	E B 18	E B 20	E B 22	E B 22	E B 23	E B 15	E B 20	J X 36	J X 37	J X 22	16	18	13	E B 11	J X 25		
6	J X 25	12	17	20	J X 28	J X 25	J X 32	J X 32	J X 25	J X 33	J X 24	J X 22	26	J X 62	J X 26	J X 38	J X 22	J X 21	J X 27	J X 36	J X 32	J X 26	J X 23	J X 107		
7	J X 26	J X 25	J X 30	J X 25	J X 25	J X 40	J X 62	J X 68	J X 62	B	20	J X 69	J X 30	B	22	30	E B 20	E B 20	J X 46	J X 40	J X 50	J X 37	J X 52	J X 41		
8	J X 84	J X 22	J X 85	J X 42	J X 41	J X 51	36	J X 32	J X 52	E B 29	E B 23	E B 35	E B 48	E B 19	E B 21	J X 23	E B 43	E B 33	E B 28	E B 20	E B 15	21	J X 31	J X 85		
9	J X 30	J X 63	J X 40	J X 46	B	B	B	J X 47	J X 42	B	B	B	E B 36	E B 28	E B 27	E B 66	E B 74	E B 32	E B 61	J X 22	34	J X 37	J X 109	J X 52		
10	J X 72	J X 75	J X 77	J X 40	J X 29	J X 30	J X 31	J X 39	J X 48	B	J X 63	E B 24	G	E B 26	E B 22	G	J X 82	E B 16	J X 18	J X 21	J X 32	J X 24	J X 25	J X 25		
11	J X 26	J X 21	J X 37	31	J X 34	D	J X 46	J X 66	J X 54	J X 38	B	E B 26	B	E B 58	E B 40	E B 24	E B 17	E B 14	16	E B 15	J X 25	J X 25	J X 24	J X 29		
12	J X 35	J X 45	J X 61	J X 41	B	36	B	E B 50	28	B	B	31	E B 26	E B 24	B	B	E B 34	E B 29	E B 34	E B 26	E B 21	J X 20	J X 22	J X 38		
13	J X 45	J X 48	38	33	J X 37	B	J X 46	J X 42	B	B	B	E B 23	E B 26	E B 27	B	E B 48	E B 33	E B 15	E B 18	17	32	J X 22	J X 28	J X 26		
14	J X 30	37	J X 37	J X 36	J X 42	J X 23	J X 24	J X 24	J X 37	J X 41	B	B	E B 29	E B 26	E B 21	E B 26	E B 37	E B 22	J X 27	15	E B 14	20	J X 28	22		
15	24	27	J X 40	J X 61	B	J X 50	B	E B 23	J X 26	B	B	B	B	E B 57	E B 83	E B 48	E B 37	E B 22	E B 23	E B 14	E B 12	14	J X 52	J X 25		
16	32	J X 51	J X 47	J X 52	J X 26	J X 46	J X 87	J X 55	33	J X 38	B	B	28	24	E B 28	E B 22	E B 50	E B 52	J X 39	30	J X 27	J X 35	J X 51	J X 53		
17	J X 42	J X 61	J X 61	41	J X 45	J X 50	J X 62	J X 67	J X 54	J X 37	B	E B 56	B	B	B	C	E B 30	E B 21	E B 28	B	16	J X 87	J X 40	J X 42		
18	J X 68	J X 40	J X 40	38	J X 37	J X 47	J X 36	J X 47	J X 54	J X 33	B	B	B	E B 58	E B 34	E B 21	E B 20	E B 24	E B 11	J X 54	J X 100	J X 37	J X 52	43		
19	J X 27	J X 52	J X 40	43	48	J X 59	J X 40	B	B	J X 35	J X 25	20	E B 48	E B 33	E B 45	G	21	E B 22	E B 22	J X 21	J X 41	37	J X 38	J X 38		
20	J X 99	J X 40	J X 41	J X 36	J X 29	J X 38	J X 64	J X 40	J X 22	B	B	B	E B 37	E B 35	E B 29	E B 57	E B 39	E B 24	E B 29	21	40	J X 22	J X 53	J X 33		
21	J X 70	J X 107	J X 51	J X 40	B	J X 37	J X 37	44	J X 46	J X 34	26	B	B	B	E B 58	E B 24	E B 22	E B 16	17	J X 87	J X 30	J X 64	J X 40	J X 62		
22	J X 70	J X 34	J X 23	B	B	B	B	B	16	B	B	E B 34	B	E B 56	E B 50	B	B	E B 24	12	J X 18	20	J X 27	B	J X 22		
23	J X 84	J X 34	J X 73	36	B	B	B	J X 38	J X 23	C	C	C	C	C	E B 34	C	C	C	25	B	C	J X 38	J X 41	J X 42		
24	J X 69	B	J X 40	J X 73	J X 47	B	B	J X 37	J X 30	B	E B 28	B	B	E B 45	E B 61	E B 58	E B 62	E B 33	B	B	B	29	J X 39	J X 27		
25	J X 47	J X 24	B	B	J X 39	23	15	14	G	20	23	18	J X 35	E B 21	21	J X 20	20	J X 23	16	E B 24	E B 14	B	J X 33	30		
26	J X 40	J X 26	J X 27	J X 32	J X 29	J X 40	J X 53	J X 51	B	J X 28	21	19	18	19	E B 34	E B 50	E B 16	E B 17	J X 20	E B 17	B	B	B	B		
27	B	B	23	19	19	22	23	22	E B 11	E B 12	E B 14	E B 16	18	18	J X 20	18	18	18	18	16	J X 21	17	13	E B 10		
28	16	J X 35	J X 38	J X 37	J X 45	J X 33	J X 21	J X 23	15	13	16	17	E B 18	J X 27	23	J X 52	J X 27	15	E B 10	E B 13	E B 10	E B 10	J X 34	J X 25		
29	J X 30	J X 40	J X 39	J X 84	J X 65	J X 64	J X 35	J X 50	J X 53	J X 38	E B 30	B	B	E B 35	E B 27	E B 33	E B 14	E B 11	J X 58	J X 27	J X 31	J X 41	J X 52	J X 52		
30	J X 45	J X 62	J X 41	J X 70	J X 55	J X 51	J X 30	J X 47	J X 26	J X 22	22	E B 34	E B 27	E B 34	18	23	J X 22	J X 26	J X 23	J X 20	J X 30	B	J X 26	J X 23		
31	J X 65	J X 35	J X 38	J X 42	J X 84	E B 37	J X 24	J X 51	J X 50	J X 29	20	C	26	22	J X 27	J X 25	E B 34	E B 35	E B 34	B	J X 31	J X 31	J X 22	J X 20		
	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	29	30	29	25	26	25	29	28	20	19	19	21	27	27	27	29	30	30	27	27	27	29	30		
MED	J X 38	J X 40	J X 40	J X 40	J X 41	J X 39	J X 36	J X 42	J X 35	J X 32	22	E B 24	E B 27	E B 28	E B 27	E B 26	E B 30	E B 22	U	U	19	27	J X 26	J X 34	J X 30	
UQ	J X 68	J X 52	J X 51	J X 46	J X 45	J X 50	J X 46	J X 50	J X 51	J X 37	25	E B 34	E B 35	E B 39	E B 42	E B 43	E B 39	E B 29	U	U	24	J X 32	J X 37	J X 51	J X 42	
LQ	J X 28	J X 32	J X 37	J X 36	J X 29	J X 28	J X 27	J X 32	J X 24	21	20	20	E B 22	E B 24	20	E B 22	E B 20	E B 18	U	U	15	16	E B 18	22	J X 25	J X 25

MAY 1968

FOES (0.1 MHZ)

IONOSPHERIC DATA

MAY 1968

F-MIN (0.1 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4 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	14	21	14	14	13	10	11	15	12	12	11	10	10	11	10	10	10	14	29	B	10	11	13
2	8	29	12	14	11	23	22	28	27	24	35	B	B	58	52	B	57	36	27	24	22	15	10	17
3	12	9	11	8	16	18	14	14	39	B	26	37	54	31	50	31	50	23	21	21	18	B	21	20
4	13	8	13	15	14	17	24	10	12	12	12	11	21	20	17	12	11	21	13	15	9	8	9	14
5	9	9	8	10	10	8	9	10	11	18	20	22	22	23	15	20	11	10	13	14	14	10	11	7
6	10	9	10	8	7	8	7	8	8	10	12	13	12	11	10	8	9	10	9	7	10	8	10	10
7	8	9	8	8	8	9	9	10	9	B	12	15	15	B	18	24	20	20	7	9	9	9	11	17
8	9	9	11	20	18	14	12	11	13	29	23	35	48	19	21	12	43	33	28	20	15	9	9	8
9	9	11	20	14	B	B	B	26	18	B	B	B	36	28	27	66	74	32	61	11	8	7	9	8
10	9	11	11	11	11	10	14	9	15	B	25	24	19	26	22	14	14	16	14	16	11	9	9	9
11	9	8	7	10	9	13	14	14	10	30	B	26	B	58	40	24	17	14	9	15	12	11	10	8
12	9	11	13	7	B	28	B	50	21	B	B	26	26	24	B	B	34	29	34	26	21	13	11	10
13	10	13	13	10	33	B	13	13	B	B	B	23	26	27	B	48	33	15	18	10	9	14	11	9
14	12	11	27	11	23	13	10	14	11	18	B	B	29	26	21	26	37	22	11	13	14	11	9	10
15	9	9	9	11	B	22	B	23	23	B	B	B	B	57	83	48	37	22	23	14	12	10	11	8
16	10	9	14	24	13	26	24	20	28	22	B	B	25	20	28	22	50	52	11	11	9	10	9	8
17	9	15	9	11	16	14	13	15	14	23	B	56	B	B	B	C	30	21	28	B	10	9	9	19
18	8	13	19	33	29	20	11	14	11	11	B	B	B	58	34	21	20	24	11	9	11	9	11	13
19	16	14	14	18	14	17	23	B	B	12	13	18	48	33	45	14	13	22	22	13	8	11	9	9
20	28	22	21	23	13	19	12	10	13	B	B	B	37	35	29	57	39	24	29	15	9	10	9	9
21	14	16	14	12	B	13	24	16	14	12	11	B	B	B	58	24	22	16	11	10	11	11	11	9
22	9	28	14	B	B	B	B	B	14	B	B	34	B	56	50	B	B	24	10	14	13	9	B	14
23	10	10	12	25	B	B	B	14	11	C	C	C	C	C	C	34	C	C	14	B	C	C	C	18
24	E C 10	B	14	E C 11	11	B	B	11	13	B	28	B	B	43	61	58	62	33	B	B	B	11	10	10
25	10	13	B	B	13	13	12	11	11	15	13	13	13	21	12	10	9	11	11	24	14	B	11	10
26	13	13	12	12	13	13	24	23	B	13	16	15	15	17	34	50	16	17	17	17	B	B	B	B
27	B	B	17	15	16	13	12	10	11	12	14	16	14	12	11	12	10	12	13	11	11	9	9	10
28	10	10	12	10	11	10	10	10	10	9	10	12	18	14	10	13	14	13	10	13	10	10	12	11
29	11	13	26	19	12	24	20	38	26	32	30	B	B	35	27	33	14	11	10	9	9	13	10	11
30	10	13	11	15	11	11	10	11	11	10	10	34	27	34	14	18	10	9	10	13	9	B	18	10
31	9	9	12	10	14	37	14	18	13	11	10	C	12	19	11	13	34	35	34	B	8	8	11	9
	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	29	30	30	30	30	30	30	31	31	30	30	30	31
MED	10	11	13	12	14	17	14	14	13	22	26	34	28	28	28	24	21	21	14	14	11	10	10	10
UQ	12	14	16	18	26	25	24	22	22	B	B	B	B	56	50	48	39	24	25	22	14	13	11	14
LQ	9	9	11	10	11	13	12	10	11	12	12	16	18	20	15	13	13	13	11	11	9	9	9	9

MAY 1968

F-MIN (0.1 MHZ)

IONOSPHERIC DATA

MAY 1968

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3h)

Station	SYOWA BASE				Lat. 69° 00.4' S.	Long. 39° 35.4' E	Sweep 0.4 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	F 255	F	A	F 295	315	310	R	F	F	325	325	F	F	R	B	A	A	A		
2	A	A	A	A	A	A	235	A	A	A	290	B	B	285	F	B	300	305	F 300	F	R	R	R	A		
3	A	A	A	A	A	A	A	A	B	F	F		285	300	315	300	F	F	F	325	345	B	A	A		
4	A	A	A	A	245	R	A	F	F	F	295	330	330	320	310	335	320	325	F	F	335	335	295	A		
5	A	R	300	260	F 240	F 240	F 240	F 240	F	F	F	315	325	325	335	F	R	335	330	335	R	F	290	300		
6	F 300	F	260	250	255	245	270	270	F	R	F	R	F 305	315	300	315	325	330	325	365	365	320	295	F 250		
7	240	270	265	F	F 240	A	A	255	F	B	R	A	260	B	F	F	F	230	A	A	A	A	A	A		
8	A	A	A	A	A	A	A	A	250	270	285	315	305	320	310	325	310	R	310	320	R	300	A	A		
9	A	A	A	A	B	B	B	A	A	B	B	B	310	F 295	F	260	R	280	R	255	R	A	A	A		
10	A	215	250	275	F 290	A	A	A	A	B	290	285	305	310	330	320	295	305	F 345	F 285	F	F	F	F 285		
11	F	F 270	R	F 230	F	A	A	A	F	F	B	F 290	B	R	F	F 335	F	300	F 250	F	F 315	F	F 230	R		
12	310	A	A	A	B	A	B	R	280	B	B	310	315	295	B	B	R	285	R	R	320	A	A	A		
13	A	A	A	A	B	B	A	F 255	B	B	B	330	F 310	305	B	305	R	310	F	F	F	A	A	R	R	
14	A	A	A	A	A	A	A	A	265	F 265	B	B	F	320	315	330	320	F	F	R	R	F 245	A	R		
15	F 285	260	A	A	B	A	B	F	A	B	B	B	B	R	F	335	F	F	F	335	315	F	335	280	280	
16	R	A	295	A	R	A	A	A	A	260	B	B	325	315	310	310	315	F	R	A	A	A	A	A		
17	A	A	325	A	R	A	A	A	A	A	B	310	B	B	B	C	310	F	315	B	R	A	A	A		
18	A	A	A	A	A	A	A	A	A	F	B	B	B	315	320	F	F	R	265	A	A	A	A	A		
19	A	A	A	A	A	A	A	B	B	F 325	F 295	315	325	320	325	325	320	F	F	310	A	A	A	A		
20	A	A	A	A	A	A	A	A	R	B	B	B	R	285	F 290	260	315	F	R	285	A	R	A	A		
21	A	A	A	A	B	250	A	A	A	F 270	F 280	B	B	B	310	300	265	275	F	A	A	A	A	A		
22	A	A	A	B	B	B	B	B	R	B	B	285	B	R	315	B	B	R	F	355	A	A	B	A		
23	A	A	A	A	B	B	B	240	F	C	C	C	C	C	C	320	C	C	F	B	C	A	A	A		
24	A	B	A	A	A	B	B	A	A	B	335	B	B	F	R	R	R	335	B	B	B	R	A	320		
25	A	A	B	B	A	F 240	F 250	F 270	F 270	F 320	330	330	320	330	320	315	305	F	F	320	R	B	A	A		
26	A	A	A	250	A	A	A	A	B	F	F 310	F 325	315	R	330	315	320	F 315	F	345	B	B	B	B		
27	B	B	F	R	F	255	255	270	F 250	F 280	315	310	F	F	R	R	F 340	F	F	R	F 310	F 340	F 285	F 270		
28	F 295	280	F	225	240	235	F	F 270	F	F 275	F	F	F 330	335	315	R	335	290	340	R	F 285	330	A	260		
29	A	A	A	A	A	A	R	A	A	A	F	B	B	F 295	R	F	F	F	310	F	A	A	A	A		
30	A	A	A	A	A	A	305	A	F	F	F	R	295	300	300	320	F	310	325	F 325	F	B	A	A		
31	290	A	A	310	A	R	A	A	A	F 290	F 300	C	335	F	330	330	280	R	R	B	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	6	5	6	7	6	6	7	7	6	8	13	14	17	19	18	21	16	16	12	14	7	7	5	7		
MED	292	270	280	250	242	242	255	255	268	275	295	312	315	315	315	320	315	305	320	320	335	320	290	280		
UQ	F 300	F 270	300	268	255	250	262	270	270	F 292	F 315	325	325	320	330	330	320	320	F 332	335	F 342	F 332	295	292		
LQ	285	260	260	240	F 240	F 240	245	248	250	268	290	310	305	298	310	310	305	288	305	310	F 318	292	280	265		

MAY 1968

M(3000)F2 (0.01)

IONOSPHERIC DATA

MAY 1968

H'F2 (KM)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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												B	B											
3																								
4																								
5																								
6																								
7													495	B										
8																								
9									B	B	B													
10									B															
11										B	B													
12									B	B														
13										B					B									
14										B	B													
15										B	B	B												
16										B	B													
17										B		B	B	B	C									
18										B	B	B												
19																								
20										B	B													
21										B	B	B												
22										B	B	B				B								
23										C	C	C	C	C										
24											B	B												
25																								
26																								
27																								
28																								
29											B	B												
30																								
31												C												
	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											
MED													495											
UQ																								
LQ																								

MAY 1968

H'F2 (KM)

IONOSPHERIC DATA

MAY 1968

H'F (KM)

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

Station	SYOWA BASE																							Lat.	69 00.4 S.		Long.	39 35.4 E		Sweep 0.4 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	B	B	B	B	370	390	A	B	260	240	225	235	225	225	215	200	230	270	250	B	A	A	A																											
2	A	B	A	A	A	B	470	B	B	B	325	B	B	B	300	B	B	270	240	240	270	A	325	B																												
3	B	A	B	A	B	B	B	B	B	B	265	265	B	270	B	250	B	220	240	250	250	B	B	B																												
4	B	A	A	A	A	A	B	405	A	240	275	240	225	225	230	205	210	205	210	210	225	220	260	310	B																											
5	A	310	285	375	405	340	340	350	305	270	255	215	215	225	215	210	200	225	220	205	225	225	B	A	260																											
6	320	300	320	380	A	A	360	325	270	250	230	205	205	205	200	205	190	200	200	190	220	A	A	A																												
7	315	325	320	350	365	A	460	A	A	B	A	A	350	B	325	315	355	B	A	A	A	A	A	B																												
8	A	A	A	B	A	A	A	A	A	B	285	275	B	B	240	240	200	255	260	B	B	270	A	A	A																											
9	A	A	B	B	B	B	B	B	B	B	B	B	250	255	265	B	B	280	E B 290	345	A	A	A	A																												
10	A	A	A	A	A	A	A	A	A	B	305	275	250	250	230	240	250	240	240	A	A	250	240	300																												
11	E A 300	300	245	A	A	A	A	A	400	355	B	275	B	B	240	210	240	240	200	225	275	305	390	375																												
12	340	A	A	A	B	B	B	B	355	B	B	300	260	280	B	B	290	280	255	280	300	B	B	A	A																											
13	B	B	A	A	B	B	B	A	B	B	B	245	240	245	B	B	250	220	225	250	A	B	300	A																												
14	B	B	B	B	B	B	A	B	380	335	B	B	240	225	225	240	240	240	215	220	215	B	A	310																												
15	A	A	A	A	B	B	B	E B 385	B	B	B	B	B	250	B	B	250	215	220	245	250	A	350	A																												
16	255	A	B	B	300	B	B	B	B	350	A	B	B	240	225	225	230	250	B	275	A	A	A	A																												
17	B	B	240	B	B	B	B	B	A	B	B	B	B	B	B	C	250	250	250	B	A	A	A	B																												
18	A	A	B	B	B	B	A	B	290	B	B	B	B	B	240	250	200	220	250	A	A	A	A	A																												
19	B	B	B	B	B	B	B	B	220	275	245	B	240	B	210	215	240	225	250	A	A	A	A	A																												
20	B	B	B	B	B	B	A	A	A	B	B	B	300	335	290	B	250	255	245	200	A	A	A	A																												
21	A	A	A	A	B	A	B	B	A	330	235	B	B	B	B	220	290	240	250	A	A	A	A	A																												
22	B	B	B	B	B	B	B	B	A	B	B	B	B	B	B	B	B	230	205	260	B	A	B	B																												
23	A	A	A	B	B	B	B	450	370	C	C	C	C	C	C	240	C	C	210	B	C	A	A	B																												
24	A	B	A	A	A	B	B	A	A	B	B	B	B	B	B	B	240	B	B	B	A	A	A	A																												
25	B	B	B	B	B	A	355	350	A	320	305	245	230	215	215	215	205	200	250	225	275	260	B	A	A																											
26	B	B	B	A	B	A	B	B	B	300	245	215	225	200	230	B	205	220	240	260	B	B	B	B																												
27	B	B	B	450	455	A	A	A	280	280	220	225	205	190	210	200	200	210	200	275	A	A	325	B																												
28	A	A	A	300	A	480	A	400	330	275	300	255	240	215	225	200	205	200	240	225	250	240	270	B	A																											
29	A	A	B	B	A	B	B	B	B	B	335	B	B	260	250	275	225	240	235	320	A	A	A	A																												
30	A	A	A	A	A	A	A	A	A	325	250	B	300	275	250	250	245	230	220	250	255	B	B	B																												
31	240	A	A	A	A	200	A	A	A	300	250	C	225	210	220	205	280	300	B	B	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	6	4	6	4	5	2	7	8	10	16	17	15	18	22	21	21	25	28	27	21	13	5	7	4																												
MED	308	305	292	378	405	270	370	359	312	300	250	240	238	235	230	215	240	240	225	250	250	260	325	305																												
UQ	320	318	320	415	455		430	398	370	328	275	270	250	255	250	240	250	250	245	260	270	270	338	342																												
LQ	248	300	245	362	365		358	340	275	272	240	225	215	225	215	205	200	220	218	225	225	250	305	280																												

MAY 1968

H'F (KM)

IONOSPHERIC DATA

MAY 1968

H^oES (KM)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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	100	115	105	100	100	100	100	100	105	150	100	100	100	100	100	100	100	100	105	B	B	105	105	100
2	105	125	100	100	100	115	125	120	105	105	B	B	B	B	B	B	B	B	B	B	B	145	100	145
3	110	105	110	125	100	100	100	100	150	B	B	B	B	B	B	B	B	B	B	B	B	B	155	135
4	125	100	115	100	105	125	115	100	100	100	100	100	B	115	100	G	G	B	B	100	100	100	100	145
5	100	100	105	100	110	100	100	100	110	B	B	B	B	B	B	B	100	100	100	100	115	100	B	100
6	100	120	135	100	100	100	100	100	100	100	100	100	100	150	100	100	100	100	100	100	100	100	100	100
7	100	100	115	100	100	105	100	100	105	B	100	100	105	B	150	140	B	B	100	100	100	105	105	115
8	100	100	105	110	100	100	100	100	150	B	B	B	B	B	B	100	B	B	B	B	B	110	105	105
9	110	110	105	100	B	B	B	100	115	B	B	B	B	B	B	B	B	B	B	125	105	105	100	110
10	100	115	115	105	110	100	115	110	100	B	140	B	G	B	B	G	105	B	125	150	100	100	100	100
11	100	100	100	100	125	100	100	100	100	115	B	B	B	B	B	B	B	B	140	B	100	100	100	105
12	100	105	105	100	B	140	B	B	140	B	B	120	B	B	B	B	B	B	B	B	B	130	115	110
13	105	105	105	110	115	B	100	100	B	B	B	B	B	B	B	B	B	B	B	150	100	120	105	100
14	110	110	140	100	110	100	100	100	100	110	B	B	B	B	B	B	B	B	100	100	B	140	110	145
15	115	105	100	125	B	100	B	B	115	B	B	B	B	B	B	B	B	B	B	B	B	115	155	100
16	105	125	110	105	100	140	100	100	130	100	B	B	130	120	B	B	B	B	100	105	100	100	105	100
17	100	100	105	105	105	100	100	100	100	120	B	B	B	B	B	C	B	B	B	B	150	105	105	125
18	115	100	100	140	130	100	100	100	100	100	B	B	B	B	B	B	B	B	105	150	100	105	100	100
19	120	100	100	100	105	105	105	B	B	125	105	140	B	B	B	G	125	B	B	150	100	110	110	100
20	125	100	105	150	100	100	100	125	100	B	B	B	B	B	B	B	B	B	B	140	105	110	105	105
21	110	110	100	100	B	110	115	100	100	100	105	B	B	B	B	B	B	B	150	110	105	105	100	100
22	100	100	100	B	B	B	B	B	100	B	B	B	B	B	B	B	B	B	170	100	125	105	B	100
23	100	105	105	140	B	B	B	100	100	C	C	C	C	C	C	B	C	C	125	B	C	105	105	115
24	100	B	100	100	100	B	B	100	100	B	B	B	B	B	B	B	B	B	B	B	B	110	105	100
25	105	140	B	B	105	110	115	125	G	125	115	115	115	B	100	100	125	125	130	B	B	B	105	105
26	110	110	110	110	110	110	100	100	B	100	130	120	105	105	B	B	B	B	120	B	B	B	B	B
27	B	B	120	155	140	140	125	145	B	B	B	B	125	105	110	140	105	105	115	120	105	120	115	B
28	140	125	125	110	105	100	100	100	100	100	165	150	B	105	105	105	100	110	B	B	B	115	110	
29	115	115	115	105	110	100	120	110	110	105	B	B	B	B	B	B	B	150	145	105	100	100	100	100
30	100	100	100	100	100	100	100	100	100	100	100	100	B	B	B	105	130	100	100	100	100	100	100	100
31	100	100	100	100	100	B	100	100	100	105	125	C	110	125	100	100	B	B	B	B	100	105	100	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	30	29	30	29	25	25	25	27	26	17	12	9	8	8	9	9	9	7	16	17	19	26	28	29
MED	105	105	105	100	105	100	100	100	100	105	105	115	108	110	100	100	100	100	118	105	100	105	105	105
UQ	110	115	115	110	110	110	115	100	110	115	128	120	120	122	105	130	105	108	135	140	105	110	108	110
LQ	100	100	100	100	100	100	100	100	100	100	100	100	102	105	100	100	100	100	100	100	100	100	100	100

The Radio Research Laboratories, Japan

MAY 1968

H^oES (KM)

IONOSPHERIC DATA

JUN. 1968

FOF2 (0.1 MHz)

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

Station SYOWA BASE Lat. 69 00.4 S Long. 39 35.4 E Sweep 0.4MHz 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	26	A	A	A	A	F ₃₉ U _R 41	44	F	F ₆₂	70	75	F	F	F	F	F	F	F	A	A	A	A	
2	A	36	A	A	A	A	B	A	A	A	A	F ₄₉	F	C	C	C	C	C	C	C	C	C	C	C	
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	51	F	F ₄₄	42	F ₂₉	21	A	A	
5	A	A	A	A	A	A	F ₂₈ F ₃₁	F ₃₁	A	F	F	F	71	U _R 76	66	46	F	R	F ₂₁	27	F ₁₈	15	F ₁₅		
6	A	F	F ₂₂	25	F ₂₆ F ₂₇	F	F ₂₅	F ₂₇ F ₃₀	F	F	R	U _R 79	70	72	F	55	37	23	B	A	B	B	B		
7	A	F ₁₇	F ₂₂	F	F	A	A	26	F	F ₃₈	B	R	F	F	70	70	65	55	R	B	A	A	A	A	
8	A	43	35	A	A	A	55	F	F	F	F	F	F	F	F	F ₆₁	F ₅₁	F	F	F	A	A	A	A	
9	A	A	A	F	C	C	C	C	C	F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
10	C	C	C	C	C	C	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
11	B	B	B	B	B	A	B	A	A	A	A	B	B	B	F	B	B	B	A	A	23	A	A	A	
12	A	A	A	B	B	B	B	B	B	B	A	B	B	B	B	R	F	A	A	A	A	A	A	A	
13	A	B	A	A	A	A	A	B	B	A	B	B	B	B	F	F ₅₅ J _F 107	F	F	F	A	A	A	B	A	
14	A	A	A	A	A	A	A	28	23	B	B	B	B	B	B	F	F ₈₄	R	A	A	F ₂₆	A	A	43	
15	A	F	A	A	A	A	A	F ₂₆	A	A	B	B	B	72	R	A	F ₄₅	F ₃₉	B	B	B	13	A	A	
16	R	A	B	A	A	37	28	F	F ₃₀	F	F ₄₁	49	R	F	F	F	F	R	J _F 37	A	A	A	A	A	
17	A	A	A	26	A	A	A	A	A	B	R	B	B	B	B	B	R	B	42	38	22	B	R	A	
18	A	A	A	A	A	A	A	A	A	A	B	B	B	R	J _F 64	R	B	F	43	26	A	A	A	A	
19	A	A	A	B	A	B	B	B	B	B	B	B	B	R	B	B	R	B	33	A	A	A	A	A	
20	A	A	A	B	A	A	A	A	B	B	B	F ₄₉	F ₅₆	F ₆₆	65	40	F ₄₁	F ₃₉	22	21	A	16	A	F ₁₆	
21	R	27	F ₂₇	F	F	F	F	20	19	F	41	48	61	F ₆₆ J _F 69	41	H ₂₅	F	17	A	16	14	A	A		
22	14	17	F ₂₁	F ₁₆	F	F	F	18	F	F	B	44	52	72	72	F	F	R	A	A	F	F	A	A	
23	A	A	A	A	A	A	A	C	C	C	C	C	C	C	75	B	B	B	36	B	B	A	A	A	
24	F	F	A	A	A	F ₂₈	F	F ₃₁	F ₃₁	F ₃₁	F	54	F ₅₆	63	52	45	30	A	F ₁₉	A	16	A	A	16	
25	A	F ₁₆	F ₁₆	F ₁₇	F ₁₆	A	A	20	F ₂₈	F ₂₇	31	48	F ₆₄	F ₅₃	F ₅₄	F ₄₆	F ₃₁	F ₃₁	R	A	12	17	F ₁₅	F ₁₇	
26	F ₁₈	F ₁₆	F ₁₆	F ₂₃	A	A	F	F	F	F ₄₂	F ₄₂	53	54	64	65	F	F ₄₃	F	F ₂₆	F	R	F ₁₅	A	J _A 22	
27	A	A	A	A	A	A	F	F	A	F	F	F	60	72	68	56	B	F	F	28	B	A	A	F	
28	28	A	A	A	A	A	F	F	F	F	F	48	64	65	65	55	F ₃₈	35	F	F	F ₁₆	12	13	A	
29	A	F	J _A 31	F ₂₁	A	A	F	J _F 30	F ₃₁	F	F	F	F ₅₅	61	69	71	52	F ₃₇	F	J _R 32	F ₂₈	F	F	16	A
30	F	A	A	A	A	A	A	A	A	A	F	36	F	F	F	F ₇₃	F ₄₄	F ₄₁	J _R 23	B	B	A	A	A	
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	3	7	9	6	2	3	3	11	9	6	5	11	10	14	14	13	15	7	12	9	9	8	4	6	
MED	18	17	F ₂₂	F ₂₂	F ₂₁	F ₂₈	28	F ₂₆	F ₃₀	F ₃₄	F ₄₁	49	60	68	68	55	F ₄₄	F ₃₉	34	28	22	16	14	16	
UQ	23	32	27	25	32	42	30	F ₃₁	F ₄₂	F ₄₁	54	64	72	71	66	F ₅₁	48	40	33	26	18	16	22		
LQ	16	F ₁₆	F ₂₁	F ₁₇	F ₂₈	28	22	F ₂₇	F ₃₀	36	48	56	64	65	46	F ₃₈	F ₃₇	22	23	16	14	13	F ₁₆		

JUN. 1968

FOF2 (0.1 MHz)

IONOSPHERIC DATA

JUN. 1968

FOF1 (0.01 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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															C	C								
3											C	C	C	C	C									
4											C	C	C	C	C									
5																								
6																								
7											B													
8																								
9											C	C	C	C	C									
10											C	C	C	C	C									
11												B	B	B										
12												B	B	B	B									
13											B	B	B	B										
14											B	B	B	B	B									
15											B	B	B											
16																								
17												B	B	B	B									
18											B	B	B											
19											B	B	B	B										
20											B													
21																								
22											B													
23											C	C	C	C										
24																								
25																								
26																								
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																								

JUN. 1968

FOF1 (0.01 MHZ)

IONOSPHERIC DATA

JUN. 1968

FOE (0.01 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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	A	A	A	B	B	B	B							
2									B	A	A	B	B	C	C	C	C							
3									C	C	C	C	C	C	C	C	C							
4									C	C	C	C	C	C	C	C	B							
5									B	B	A	160	B	A	140	A	A							
6									A	A	A	A	A	A	140	A								
7									B	B	B	B	B	B	B	B	B							
8									B	A	175	A	155	A	A	A	A							
9									C	B	C	C	C	C	C	C	C							
10									C	C	C	C	C	C	C	C	C							
11									B	B	B	B	B	B	B	B	B							
12									B	B	A	B	B	B	B	B	A							
13									B	B	B	B	B	B	B	B	B							
14									A	B	B	B	B	B	B	B	B							
15									B	A	B	B	B	B	B	A	B							
16									110	125	A	A	A	A	A	A	B							
17									B	B	A	B	B	B	B	B	B							
18									B	A	B	B	B	B	B	B	B							
19									B	B	B	B	B	B	B	B	B							
20									B	B	B	B	A	A	135	A	B							
21									B	A	A	A	A	A	A	B	B							
22									A	B	B	B	B	B	B	B	B							
23									C	C	C	C	C	C	B	B	B							
24									A	A	A	A	145	A	A	A	A							
25									A	A	A	A	A	A	A	A	A							
26									A	A	130	A	A	H	140	A	B	B						
27									B	A	A	160	A	A	A	A	B							
28									A	130	A	A	160	A	A	B	B							
29									B	A	A	A	A	140	A	A	A							
30									B	B	A	A	A	B	B	B	B							
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	2	2	2	3	2	3									
MED									110	128	152	160	155	140	140									
UQ													158		140									
LQ													150		138									

JUN. 1968

FOE (0.01 MHZ)

IONOSPHERIC DATA

JUN. 1968

FOES (0.1 MHZ)

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

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4 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 X 27	38	J X 28	J X 38	J X 40	J X 47	J X 63	J X 38	E B 34	E B 25	J X 27	J X 25	J X 25	E B 28	E B 23	E B 18	E B 36	30	J X 19	J X 32	J X 42	J X 41	J X 36	J X 44
2	J X 42	J X 23	J X 110	J X 57	J X 42	J X 62	B	J X 62	94	J X 56	J X 55	E B 55	E B 45	C	C	C	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E B 14	E B 22	E B 16	E B 28	J X 20	J X 23	J X 27	J X 24
5	32	J X 62	J X 50	J X 47	J X 45	J X 42	J X 26	J X 22	J X 24	J X 37	J X 22	18	E B 19	17	G	16	J X 65	20	E B 14	E B 11	E B 11	J X 24	J X 22	J X 27
6	27	J X 22	16	J X 26	J X 27	J X 25	J X 36	J X 25	J X 65	J X 32	J X 21	17	19	J X 25	G	18	E B 10	E B 34	E B 23	E B 18	B	22	B	B
7	J X 24	J X 36	J X 22	J X 19	J X 28	J X 61	J X 65	J X 52	J X 41	J X 48	B	E B 57	31	E B 28	E B 53	E B 18	E B 44	E B 38	J X 27	B	J X 37	35	J X 28	J X 32
8	37	J X 38	J X 42	J X 42	J X 39	J X 39	J X 42	J X 41	J X 52	J X 39	J X 36	J X 70	J X 16	J X 22	17	J X 25	16	20	14	13	42	37	36	J X 52
9	J X 52	J X 42	J X 41	J X 38	C	C	C	C	C	E B 26	C	C	C	C	C	C	C	C	C	C	C	C	C	C
10	C	C	C	C	C	C	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
11	B	B	B	J X 132	B	J X 32	B	J X 30	J X 34	J X 41	J X 32	B	B	B	E B 31	B	B	B	J X 43	J X 17	20	J X 32	J X 38	J X 92
12	J X 46	J X 47	J X 35	B	B	B	B	B	B	B	J X 24	B	B	B	B	E B 41	J X 53	J X 22	J X 62	J X 30	J X 39	J X 26	J X 62	J X 32
13	J X 56	B	J X 33	J X 37	J X 46	J X 55	J X 26	B	B	B	28	B	B	B	B	E B 51	E B 37	24	24	31	J X 47	J X 91	J X 68	J X 25
14	J X 47	J X 43	J X 38	J X 52	J X 46	J X 40	J X 39	J X 39	J X 33	31	B	B	B	B	B	E B 16	J X 22	J X 30	J X 39	J X 36	27	32	J X 33	J X 35
15	J X 34	J X 65	J X 27	J X 42	J X 38	J X 42	J X 37	22	J X 27	J X 32	B	B	B	E B 39	E B 57	D	E B 26	E B 23	B	B	J X 20	J X 42	J X 30	
16	39	J X 37	42	J X 46	J X 48	J X 32	J X 40	J X 39	21	J X 67	J X 24	19	J X 30	23	J X 52	26	J X 48	E B 31	21	J X 35	J X 25	J X 42	J X 42	J X 41
17	J X 28	J X 24	34	26	J X 31	J X 37	J X 62	J X 56	J X 29	B	14	B	B	B	B	B	E B 57	B	E B 22	17	17	B	19	J X 25
18	32	J X 40	J X 60	J X 39	J X 44	J X 40	J X 36	J X 45	J X 41	31	B	B	B	E B 46	E B 14	E B 40	B	E B 26	J X 21	E B 18	J X 29	J X 33	J X 32	J X 31
19	J X 50	J X 42	J X 47	42	J X 41	J X 55	B	B	B	B	B	B	B	B	E B 62	B	B	E B 38	B	J X 21	J X 85	J X 33	J X 42	J X 37
20	J X 39	J X 42	J X 35	B	J X 24	J X 42	J X 41	J X 41	B	B	B	E B 22	J X 21	18	G	18	E B 14	17	E B 14	J X 25	J X 25	J X 25	J X 51	13
21	J X 29	J X 26	J X 42	J X 40	J X 18	J X 48	J X 58	J X 40	J X 43	J X 46	J X 62	J X 30	J X 68	J X 33	J X 21	E B 21	E B 15	J X 30	J X 51	J X 35	J X 23	16	16	14
22	23	J X 86	J X 35	J X 34	J X 24	J X 25	J X 25	J X 33	J X 22	J X 32	B	26	E B 34	E B 59	26	16	E B 45	J X 17	J X 33	J X 36	J X 45	J X 32	J X 34	J X 29
23	J X 37	J X 44	J X 54	J X 37	J X 45	J X 47	J X 26	C	C	C	C	C	C	C	E B 39	B	B	B	E B 26	B	B	23	J X 31	24
24	J X 29	J X 41	J X 61	J X 37	J X 33	J X 20	J X 32	J X 27	16	15	27	19	17	31	31	21	21	J X 37	J X 53	17	32	J X 22	J X 17	J X 20
25	J X 37	J X 24	J X 37	J X 26	J X 99	J X 54	J X 88	J X 101	J X 37	J X 23	16	J X 21	J X 22	J X 58	J X 32	20	21	J X 28	17	19	17	J X 23	J X 27	J X 24
26	J X 41	32	J X 57	J X 34	D	30	J X 42	J X 28	20	23	G	18	J X 46	G	15	E B 9	E B 11	J X 25	23	24	E B 23	16	24	J X 26
27	J X 38	J X 85	J X 110	J X 52	J X 42	J X 61	J X 41	J X 34	J X 35	J X 43	J X 27	23	J X 26	J X 25	J X 22	J X 29	B	E B 28	E B 25	E B 22	B	J X 23	J X 46	J X 25
28	J X 29	J X 38	J X 42	J X 40	J X 24	J X 32	J X 22	J X 16	16	J X 25	15	16	17	22	19	E B 15	E B 10	13	E B 10	15	E B 10	J X 23	J X 23	J X 25
29	J X 36	J X 41	J X 45	J X 61	J X 39	J X 32	J X 29	18	J X 33	J X 23	J X 23	J X 21	J X 66	G	17	E B 10	J X 20	13	J X 33	J X 26	J X 20	32	J X 18	J X 41
30	J X 77	J X 37	J X 48	J X 37	J X 39	28	J X 32	J X 51	J X 49	J X 40	J X 43	J X 26	22	E B 45	E B 50	E B 23	J X 21	E B 12	E B 16	B	B	J X 20	J X 37	J X 33
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	26	25	26	25	24	25	22	22	21	22	17	17	17	18	22	21	21	23	24	22	21	25	25	25
MED	J X 37	J X 40	J X 42	J X 39	J X 40	J X 40	J X 38	J X 38	J X 34	J X 32	J X 24	20	J X 24	U 22	E B 24	E B 20	E B 21	U 21	22	22	J X 25	J X 25	J X 33	J X 29
UQ	J X 42	J X 43	J X 50	J X 46	J X 45	J X 48	J X 42	J X 45	J X 41	J X 41	J X 32	26	J X 32	E B 39	E B 50	U 23	U 32	U 28	J X 33	J X 32	J X 39	J X 33	J X 42	J X 35
LQ	J X 29	J X 36	J X 35	J X 37	J X 30	J X 32	J X 29	J X 27	J X 23	24	J X 21	18	19	22	16	E B 16	E B 15	18	E B 16	16	20	J X 23	J X 24	J X 25

The Radio Research Laboratories, Japan

JUN. 1968

FOES (0.1 MHZ)

IONOSPHERIC DATA

JUN. 1968

F-MIN (0.1 MHz)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69° 00.4' S. Long. 39° 35.4' E Sweep 0.4 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	10	12	11	13	23	10	12	34	25	12	11	12	28	23	18	36	28	11	10	11	10	10	13	
2	15	11	14	17	18	28	B	28	58	10	14	35	45	C	C	C	C	C	C	C	C	C	C	C	
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	14	22	16	28	13	9	14	10	
5	8	16	12	14	20	12	10	10	15	13	12	14	19	14	12	10	10	14	14	11	11	10	9	10	
6	10	8	10	10	10	10	10	10	10	10	10	10	10	12	14	12	10	34	23	18	B	13	B	B	
7	14	10	10	10	11	14	13	15	12	14	B	57	24	28	53	18	44	38	23	B	10	10	10	10	
8	9	9	12	12	11	10	14	10	14	10	10	10	10	13	15	10	10	10	10	9	11	14	12	14	
9	14	13	10	10	C	C	C	C	C	26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
10	C	C	C	C	C	C	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
11	B	B	B	51	B	23	B	14	13	24	20	B	B	B	31	B	B	B	11	11	15	18	10	11	
12	14	13	23	B	B	B	B	B	B	B	14	B	B	B	B	41	9	15	10	10	15	18	14	13	
13	13	B	14	14	14	13	14	B	B	19	B	B	B	B	B	51	37	15	15	15	12	13	11	10	13
14	11	14	14	10	14	23	15	11	11	25	B	B	B	B	B	16	15	13	10	10	9	10	10	11	
15	10	10	11	14	14	13	11	10	14	10	B	B	B	B	39	57	10	26	23	B	B	B	10	8	9
16	10	10	35	14	13	11	11	10	8	11	10	10	10	10	11	11	13	31	13	10	10	10	14	13	
17	11	10	28	12	16	22	13	10	11	B	9	B	B	B	B	B	57	B	22	15	16	B	12	10	
18	9	10	22	17	15	10	14	12	11	12	B	B	B	B	46	14	40	B	26	13	18	8	9	10	23
19	9	14	11	36	23	49	B	B	B	B	B	B	B	B	62	B	B	38	B	12	10	9	9	9	
20	13	18	27	B	11	14	13	11	B	B	B	22	13	12	12	14	14	14	14	13	13	10	14	9	
21	9	8	10	9	9	8	9	9	11	8	9	9	11	9	14	21	15	12	12	12	10	10	10	10	
22	9	9	9	8	9	8	9	9	9	14	B	23	34	59	23	14	45	14	18	18	12	12	9	9	
23	10	13	19	12	14	16	13	C	C	C	C	C	C	C	39	B	B	B	26	B	B	16	13	13	
24	11	9	12	14	10	10	10	10	9	9	9	10	11	10	10	11	13	10	11	11	10	10	10	10	
25	10	10	9	9	9	9	8	9	9	9	9	11	9	10	10	11	11	12	12	13	10	10	10	8	
26	8	9	9	8	13	20	13	10	10	10	10	10	12	12	11	9	11	15	11	9	23	10	13	9	
27	8	10	9	12	11	15	11	9	13	10	13	13	11	11	10	11	B	26	25	22	B	16	16	9	
28	9	13	12	12	21	11	14	12	10	10	12	13	11	12	10	15	10	10	10	11	10	10	11	9	
29	9	9	9	10	16	11	11	10	11	11	10	11	10	12	10	10	9	9	11	9	8	8	9	12	
30	10	10	24	25	23	14	16	12	14	14	12	11	15	45	50	23	14	12	16	B	B	9	9	11	
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	27	27	27	27	26	26	27	25	25	26	25	25	25	24	25	25	26	26	26	26	26	26	26	26	
MED	10	10	12	12	14	14	13	10	12	12	12	14	15	21	15	15	14	15	14	12	12	10	10	10	
UQ	12	13	20	16	18	22	14	12	15	25	B	B	B	D	B	59	51	37	45	31	22	18	16	13	13
LQ	9	10	10	10	11	10	10	10	10	10	10	11	11	12	11	11	11	12	11	10	10	10	10	9	

JUN. 1968

F-MIN (0.1 MHz)

IONOSPHERIC DATA

JUN. 1968

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4 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	315	A	A	A	A	F	UR	270	275	F	305	315	320	F	F	F	F	F	F	A	A	A	A						
2	A	335	A	A	A	A	B	A	A	A	A	F	280	F	C	C	C	C	C	C	C	C	C	C	C						
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C						
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	315	F	320	335	330	245	A	A							
5	A	A	A	A	A	A	250	F	260	F	260	A	F	F	F	325	UR	315	345	325	F	R	310	F	320	305	335	F	320		
6	A	F	275	F	240	F	225	F	F	270	F	300	F	F	R	UR	305	315	335	F	325	325	315	B	A	B	B				
7	A	F	295	F	280	F	F	A	A	250	F	290	F	B	R	F	F	330	295	270	315	R	B	A	A	A	A				
8	A	325	285	A	A	A	260	F	F	F	F	F	F	F	F	F	305	F	275	F	F	F	A	A	A	A					
9	A	A	A	F	C	C	C	C	C	F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C				
10	C	C	C	C	C	C	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C				
11	B	B	B	B	B	A	B	A	A	A	A	B	B	B	F	B	B	B	A	A	A	260	A	A	A						
12	A	A	A	B	B	B	B	B	B	B	A	B	B	B	B	R	F	A	A	A	A	A	A	A	A	A					
13	A	B	A	A	A	A	A	B	B	A	B	B	B	B	F	270	F	F	F	F	A	A	A	B	A						
14	A	A	A	A	A	A	A	255	275	B	B	B	B	B	B	F	285	R	A	A	280	A	A	265							
15	A	F	A	A	A	A	A	F	270	A	A	B	B	B	345	R	A	F	F	B	B	B	330	A	A						
16	R	A	B	A	A	215	245	F	285	F	F	295	320	R	F	F	F	F	R	F	A	A	A	A	A						
17	A	A	A	345	A	A	A	A	A	B	R	B	B	B	B	B	R	B	305	320	325	B	R	A							
18	A	A	A	A	A	A	A	A	A	A	B	B	B	B	R	F	R	B	F	315	335	A	A	A	A						
19	A	A	A	B	A	B	B	B	B	B	B	B	B	B	R	B	B	R	B	305	A	A	A	A							
20	A	A	A	B	A	A	A	A	B	B	B	F	325	320	320	340	325	295	340	365	310	A	350	A	295						
21	R	285	290	F	F	F	F	260	245	F	280	340	330	320	F	340	250	F	340	A	315	330	A	A							
22	285	295	240	F	F	F	F	265	F	F	B	275	260	255	265	F	F	R	A	A	F	F	A	A							
23	A	A	A	A	A	A	A	C	C	C	C	C	C	C	320	B	B	B	360	B	B	A	A	A							
24	F	F	A	A	A	260	F	275	F	290	290	F	335	315	350	310	310	300	A	370	A	315	A	275							
25	A	F	280	F	295	315	F	A	A	255	275	F	290	295	315	330	335	360	305	340	340	R	A	335	310	325	F	275			
26	F	F	300	F	A	A	F	F	F	F	285	310	340	310	315	315	F	300	F	F	F	R	335	A	A						
27	A	A	A	A	A	A	F	F	A	F	F	F	F	290	345	325	315	B	F	F	340	B	A	A	F						
28	250	A	A	A	A	A	F	F	F	F	F	F	335	345	340	325	295	315	330	F	F	295	335	310	A						
29	A	F	A	F	A	A	F	F	F	F	F	F	295	305	315	350	330	350	F	R	300	F	F	290	A						
30	F	A	A	A	A	A	A	A	A	A	A	F	F	F	360	F	F	340	F	F	R	B	B	A	A	A					
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	3	7	8	6	2	3	3	10	9	6	5	11	10	14	12	13	14	7	9	9	9	8	4	5							
MED	280	295	282	F	272	F	225	250	260	F	275	F	290	295	F	320	315	322	322	315	308	F	330	325	315	315	330	318	F	275	
UQ	282	310	295	345	F	242	F	255	270	F	275	F	290	F	300	F	335	330	345	335	335	330	F	340	360	335	325	335	330	F	295
LQ	265	282	278	F	295	F	220	248	255	F	260	F	285	295	300	305	305	315	315	305	285	F	320	320	310	295	308	300	275		

JUN. 1968

M(3000)F2 (0.01)

IONOSPHERIC DATA

JUN. 1968

H^oF₂ (KM)

45° E-Mean Time (G. M. T. + 3h)

Station	SYOWA BASE				Lat. 69° 00.4' S. Long. 39° 35.4' E				Sweep 0.4 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															C	C								
3											C	C		C	C	C								
4											C	C		C	C	C								
5																								
6																								
7											B													
8																								
9											C	C		C	C	C								
10											C	C		C	C	C								
11												B		B	B									
12												B		B	B	B								
13											B	B		B	B									
14											B	B		B	B	B								
15											B	B		B										
16																								
17												B		B	B	B								
18											B	B		B										
19											B	B		B	B									
20											B													
21																								
22											B													
23											C	C		C	C									
24																								
25																								
26																								
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																								

JUN. 1968

H^oF₂ (KM)

IONOSPHERIC DATA

JUN. 1968

H^oF (KM)

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

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4MHz 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	A	B	B	B	A	A	B	320	240	220	205	250	240	240	280	250	250	290	A	A	A	A			
2	B	275	B	B	B	B	B	B	B	A	A	B	B	C	C	C	C	C	C	C	C	C	C	C			
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C			
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	215	240	225	265	B	250	A	B	B		
5	A	A	A	A	B	A	A	375	400	A	290	225	220	205	200	200	220	255	200	250	240	300	320	B			
6	B	335	310	E A 360	E A 350	345	340	300	300	240	250	205	205	200	210	210	200	255	240	E B 290	B	B	B	B			
7	B	A	A	A 350	A 350	A 350	A	A	A	400	350	B	B	240	250	B	240	B	B	250	B	A	A	A	A		
8	A	A	A	A	A	A	A	A	330	320	255	240	220	205	210	200	200	220	215	290	B	B	B	B			
9	B	B	A	A	C	C	C	C	C	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
10	C	C	C	C	C	C	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
11	B	B	B	B	B	B	B	A	A	B	B	B	B	B	B	B	280	B	B	B	A	A	B	A	A		
12	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	325	A	B	A	B	B	B	B	B		
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	290	A	A	A	B	B	B	B	B		
14	A	B	B	A	A	B	B	A	A	B	B	B	B	B	B	225	300	A	A	B	A	B	A	A	A		
15	A	230	B	B	B	B	B	400	B	B	B	B	B	B	240	B	A	250	250	B	B	B	B	A	A		
16	A	B	B	B	B	A	A	350	275	265	240	225	220	230	225	230	215	240	B	235	A	A	A	A	A		
17	A	A	A	305	A	A	A	A	A	B	A	B	B	B	B	B	B	B	B	B	275	B	250	295	B	A	A
18	A	A	B	B	B	A	B	A	A	A	B	B	B	B	210	B	B	B	290	240	280	A	A	A	B		
19	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	250	A	A	A	A	A	
20	A	B	B	B	A	A	A	A	B	B	B	255	240	215	205	230	240	225	230	280	B	A	215	A	340		
21	A	A	320	335	350	340	315	310	A	245	250	205	205	225	200	220	B	265	A	A	A	A	B	B	B		
22	A	A	A	A	340	335	315	320	310	A	B	B	B	B	255	250	B	240	B	B	A	A	B	B	B		
23	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	B	B	B	B	250	B	B	B	B	B		
24	A	A	290	B	A	A	360	300	255	255	250	200	200	215	200	205	255	A	240	B	245	A	A	A	A		
25	A	A	290	305	315	A	A	A	275	290	250	230	225	200	200	240	240	240	240	B	B	230	A	A	A		
26	275	310	310	290	A	B	E A 425	325	230	260	215	220	210	220	215	220	200	250	250	270	200	200	A	250	A		
27	B	B	B	B	B	B	A	A	B	250	275	225	A	205	225	240	B	275	B	275	B	B	B	A	A		
28	A	B	B	B	B	A	A	340	300	A	230	225	225	205	205	220	195	250	210	250	B	B	A	A	A		
29	A	300	295	A	B	B	390	330	355	350	290	240	210	200	200	190	220	205	210	260	250	A	A	A	A		
30	A	A	B	B	B	A	B	A	A	A	300	300	245	B	B	240	240	205	250	B	B	A	A	A	A		
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	7	6	5	3	6	10	11	12	13	15	14	15	16	17	17	17	18	13	6	4	1	2			
MED	275	300	310	312	350	340	339	328	300	262	250	225	220	215	210	225	240	250	240	268	248	222	320	295			
UQ		310	315	342	350	342	375	350	342	320	275	240	225	228	225	240	255	255	250	280	250	265					
LQ		275	292	305	328	338	315	310	275	248	240	220	205	205	200	210	215	240	225	250	240	208					

The Radio Research Laboratories, Japan

JUN. 1968

H^oF (KM)

IONOSPHERIC DATA

JUN. 1968

H^oES (KM)

45° E Mean Time (G. M. T. + 3h)

Station **SYOWA BASE** Lat. **69°00.4' S**, Long. **39°35.4' E** Sweep **0.4 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	100	110	105	105	120	105	100	100	B	B	105	105	100	B	B	B	B	155	100	125	105	100	100	105	
2	105	135	100	100	100	105	B	140	155	100	100	B	B	C	C	C	C	C	C	C	C	C	C	C	
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
4	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	B	B	B		100	110	100	100
5	100	125	100	100	105	100	100	105	100	100	100	160	B	150	G	140	130	120	B	B	B	100	100	105	
6	105	125	115	100	120	100	100	100	110	145	100	105	105	105	G	100	B	B	B	B	B	105	B	B	
7	100	100	125	105	100	100	100	100	105	100	B	B	100	B	B	B	B	B	150	B		105	100	100	105
8	100	100	125	100	105	100	110	110	100	100	100	110	105	110	140	100	100	110	140	160	110	100	105	105	
9	100	105	100	100	C	C	C	C	C	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
10	C	C	C	C	C	C	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
11	B	B	B	125	B	145	B	100	100	110	110	B	B	B	B	B	B	B	100	100	140	120	100	100	
12	100	100	110	B	B	B	B	B	B	B	100	B	B	B	B	B	100	100	100	105	115	110	100	100	
13	100	B	100	100	100	100	100	B	B	100	B	B	B	B	B	B	115	140	115	110	100	100	100	100	
14	100	110	100	100	130	100	100	105	110	145	B	B	B	B	B	B	100	100	100	100	100	100	105	105	
15	100	105	100	100	100	110	100	100	100	100	B	B	B	B	B	100	B	B	B	B	B	150	100	105	
16	105	105	150	100	100	110	100	120	100	120	100	120	110	105	125	125	120	B	140	105	100	105	105	100	
17	100	100	140	105	115	115	100	120	100	B	100	B	B	B	B	B	B	B	B	150	155	B	130	155	
18	150	105	120	105	100	100	100	100	100	105	B	B	B	B	B	B	B	B	130	B	105	105	105	104	
19	100	100	100	150	100	140	B	B	B	B	B	B	B	B	B	B	B	B	B	100	115	100	105	100	
20	100	100	105	B	100	100	100	145	B	B	B	B	105	110	G	150	B	130	B	100	100	100	110	120	
21	105	100	100	100	115	100	100	110	110	105	100	100	100	100	100	B	B	105	105	100	100	100	115	135	
22	140	135	125	120	125	100	110	100	100	110	B	125	B	B	120	100	B	100	125	120	110	110	105	105	
23	105	105	105	100	100	100	100	C	C	C	C	C	C	C	B	B	B	B	B	B	B	120	105	115	
24	105	100	105	100	100	100	100	100	125	155	130	100	135	100	100	100	150	105	110	105	105	140	105	130	
25	130	125	120	115	105	100	100	100	100	105	100	100	140	100	100	105	105	100	120	105	105	100	100	110	
26	110	100	100	100	125	100	100	100	110	140	G	125	195	G	135	B	B	120	105	100	B	140	150	105	
27	105	100	100	100	100	100	100	100	100	100	100	105	100	100	100	100	B	B	B	B	B	100	105	135	
28	105	105	100	100	100	100	105	140	105	105	145	130	120	105	105	B	B	145	B	105	B	100	100	115	
29	105	110	110	110	100	100	100	100	100	110	100	100	105	G	120	B	100	140	100	100	150	115	130	100	
30	100	105	100	100	105	125	100	100	100	100	100	105	125	B	B	B	115	B	B	B	B	120	100	100	
31																									
CNT	26	25	26	25	24	25	22	22	20	20	16	14	14	10	10	10	10	14	15	17	18	25	25	25	
MED	102	105	105	100	100	100	100	100	100	105	100	105	105	105	112	100	110	115	110	105	105	105	105	105	
UQ	105	110	120	105	115	105	100	110	110	115	102	125	120	110	125	125	120	140	128	110	115	115	105	115	
LQ	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	

JUN. 1968

H^oES (KM)

IONOSPHERIC DATA

JUL. 1968

FOF2 (0.1 MHz)

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

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4MHz 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	26	A	B	A	A	B	B	A	J	F	B	B	B	61	B	48	45	F	B	B	B	B	A		
2	A	A	A	A	A	B	A	F	F	F	F	43	J	R	F	74	B	B	B	32	F	16	14	A	A	
3	A	A	A	A	A	A	B	B	A	A	B	B	B	B	F	F	U	R	B	R	F	17	F	F		
4	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	
5	A	A	A	A	B	B	A	B	A	F	34	45	51	B	B	B	F	F	F	F	19	B	B	B	B	
6	A	A	F	C	C	C	C	C	C	C	36	B	60	C	F	62	41	38	F	F	17	B	B	B	A	
7	20	17	F	F	F	F	23	F	F	J	F	B	B	R	R	B	R	B	F	B	F	B	B	A	16	
8	A	16	A	F	22	F	A	A	A	A	B	46	57	53	F	F	36	34	F	A	A	B	A	A		
9	A	A	A	22	16	F	F	F	B	A	F	F	F	F	B	R	29	26	24	A	A	A	A	A	A	
10	A	A	A	39	34	B	A	A	R	B	B	B	B	B	B	F	R	B	B	B	A	A	A	A	A	
11	A	J	A	B	A	A	B	A	B	B	B	37	46	56	67	49	39	30	B	B	B	B	A	A	A	
12	B	B	A	A	A	A	30	F	B	B	40	52	58	R	55	69	F	F	A	A	21	A	B	16		
13	A	A	F	18	17	18	B	A	A	A	34	49	62	68	61	47	F	26	F	23	16	B	B	B		
14	B	A	B	B	A	B	B	B	B	A	B	B	B	B	B	67	B	R	B	B	A	17	A	A		
15	A	A	A	A	A	A	A	A	B	A	A	53	53	64	53	58	F	F	A	A	F	15	14	A	A	
16	A	A	A	A	A	A	A	F	F	A	U	F	F	58	63	71	56	F	F	F	18	14	B	B	A	
17	A	A	F	F	A	F	F	F	F	F	41	U	F	F	F	F	F	B	B	B	A	16	B	16		
18	R	F	A	F	A	B	A	A	A	29	39	R	61	64	66	66	B	45	41	R	A	A	A	A		
19	A	A	A	A	A	A	A	A	A	B	F	54	F	B	F	B	B	B	F	F	24	B	B	B	B	
20	A	A	A	A	A	A	A	F	F	F	31	48	C	73	R	J	R	F	F	F	F	F	F	15	15	
21	A	A	A	F	A	41	F	F	F	F	F	F	F	R	F	F	F	F	R	16	16	A	A	F	26	
22	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	R	R	F	A	A	A	A	A	A	
23	A	A	A	A	A	A	A	A	A	B	B	B	B	F	F	B	B	B	R	R	B	A	A	A	A	
24	A	A	A	A	A	28	F	F	F	F	34	45	R	69	73	68	51	F	A	A	U	F	17	F	21	16
25	17	F	F	F	F	F	F	F	F	F	F	F	F	F	71	83	69	F	F	F	A	A	18	16	16	
26	R	R	R	A	A	F	A	A	50	F	F	F	F	70	76	R	R	R	F	R	B	A	A	A	A	
27	F	A	A	B	B	B	B	A	B	A	B	F	B	B	B	76	58	R	B	B	B	A	B	A	A	
28	A	A	A	A	A	A	A	A	B	F	45	61	75	71	U	R	F	F	R	F	21	17	B	A	F	
29	A	A	A	A	A	A	A	F	F	B	46	F	65	67	67	76	56	34	37	F	19	19	A	18	U	18
30	15	F	18	F	F	A	A	A	F	F	36	47	56	63	67	66	59	46	R	F	F	F	16	13	A	A
31	F	A	24	A	A	A	A	F	F	F	35	46	54	63	68	64	F	F	F	F	F	F	F	11	16	16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
CNT	3	6	6	7	5	6	4	4	7	10	15	14	17	16	18	18	15	12	9	11	12	6	8	9		
MED	17	18	F	F	21	27	25	F	F	F	45	54	61	66	64	57	45	34	F	F	16	16	17	16		
UQ	18	26	F	F	22	29	28	F	F	F	46	60	65	70	67	67	54	F	F	F	18	16	20	16		
LQ	16	16	F	F	17	23	23	F	F	F	40	46	57	62	59	48	37	30	F	F	16	15	14	16		

JUL. 1968

FOF2 (0.1 MHz)

IONOSPHERIC DATA

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JUL. 1968

FOF1 (0.01 MHz)

45° E Mean Time (G. M. T. + 3h)

Station	SYOWA BASE				Lat. 69° 00.4' S. Long. 39° 35.4' E				Sweep 0.4 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		B									
2																								
3											B	B	B	B										
4											B	B	B	B	B									
5														B	B									
6												B		C										
7															B									
8											B													
9															B									
10											B	B	B	B										
11											B													
12																								
13																								
14											B	B	B	B	B									
15																								
16																								
17																								
18																								
19															B									
20												C												
21																								
22											B	B												
23											B	B	B											
24																								
25																								
26																								
27											B		B	B	B									
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. 1968

FOF1 (0.01 MHz)

IONOSPHERIC DATA

JUL. 1968

FOE (0.01 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4 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	B	B	B	B	B	B							
2									A	A	A	A	B	B	B	B	B							
3									B	B	B	B	B	B	B	B	B							
4									B	B	B	B	B	B	B	B	B							
5									B	B	A	A	A	B	B	B	B							
6									C	C	A	B	A	C	B	B	B							
7									A			B	B	B	B	B	B							
8									B	B	B	180	A	B	B	A	A							
9									B	B	A	A	A	B	B	B	B							
10									B	B	B	B	B	B	B	B	B							
11									B	B	B	B	B	B	B	B	B							
12									B	B	B	A	B	160	150	A	B							
13									B	A	B	B	B	B	A	A	A							
14									B	B	B	B	B	B	B	B	B							
15									B	A	B	A	A	A	A	B	B							
16									A	B	B	A	A	A	A	A	A							
17									A	A		140	150	A	A	A	B	B						
18									A	B	B	B	B	165	160	A	B							
19								B	B	B	A	B	A	B	B	B	B	B						
20								A	B	A		160	C	A	A	A	A	A	A					
21								A	A	A		140	A	160	A	A	A	B	B					
22								A	A	A	B	B	B	B	B	B	B	B						
23								B	A	B	B	B	B	B	B	B	B	B						
24								A	A		120	A	A	A	A	A	A	A						
25								A	A	A	A	A	A	A	A	A	A	A						
26								B	B	A	A	A	A	170	B	B	115	B						
27								A	B	B	B	B	B	B	B	B	B	B						
28								B	B	B	170	A	A	A	A	A	B	B						
29								A	A	B	B	A	A	A	A	150	B	B						
30								B	A		155	160	A	A	A	A	A	A						
31								A	A	A	A	A	A	A	A	150	135	A						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT										3	5	2	1	3	2	2	2							
MED										125	160	165	160	165	155	150	125							
UQ										140	160			168										
LQ										122	140			162										

JUL. 1968

FOE (0.01 MHZ)

IONOSPHERIC DATA

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JUL. 1968

FOES (0.1 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station **SYOWA BASE** Lat. **69 00.4 S.** Long. **39 35.4 E** Sweep **0.4MHz** 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 ₃₈	J ₇₀	J ₅₂	B	J ₂₆	J ₅₂	B	J ₈₅	J ₂₃	J ₉₁	B	B	B	E ₂₉	B	E ₃₄	E ₂₅	E ₁₈	B	B	B	B	B	J ₂₃
2	J ₂₆	J ₅₂	J ₃₄	J ₄₂	J ₅₃	B	J ₃₂	23	J ₁₇	J ₁₄	J ₄₂	J ₂₀	E ₃₁	E ₂₃	E ₃₅	B	B	E ₁₆	17	J ₂₇	J ₂₃	13	J ₃₄	J ₁₅
3	J ₃₃	34	J ₄₁	J ₃₄	J ₃₈	J ₂₈	B	J ₄₆	J ₃₃	J ₄₇	B	B	B	B	E ₂₄	E ₂₃	E ₃₄	B	16	J ₂₅	J ₂₁	J ₂₄	J ₂₇	30
4	J ₄₁	29	42	J ₄₅	J ₃₈	J ₄₇	J ₄₂	J ₄₅	J ₃₅	B	B	B	B	B	B	E ₄₉	B	B	B	B	B	B	J ₂₅	J ₃₆
5	27	36	J ₄₀	38	B	B	J ₂₇	B	31	18	18	18	17	B	B	B	E ₂₂	30	E ₁₄	E ₉	B	B	B	B
6	J ₂₆	J ₂₆	J ₃₈	C	C	C	C	C	C	C	J ₃₂	B	23	C	E ₃₃	E ₂₈	E ₂₆	31	16	J ₃₁	B	B	B	J ₃₀
7	J ₂₂	J ₃₈	J ₁₇	J ₂₉	12	22	J ₃₇	J ₃₄	J ₂₃	J ₂₂	B	B	E ₅₆	E ₆₁	B	E ₃₄	B	23	B	E ₁₄	B	B	J ₂₀	J ₂₆
8	J ₂₈	J ₂₅	J ₅₃	J ₃₄	32	J ₃₅	J ₄₂	J ₃₃	J ₆₇	J ₁₉	B	23	J ₂₁	E ₃₁	E ₂₇	J ₂₀	J ₂₁	27	J ₄₅	J ₆₀	J ₄₂	B	J ₂₅	J ₂₂
9	J ₂₂	J ₃₈	J ₃₂	J ₄₁	J ₄₁	J ₁₂₃	J ₆₀	27	B	J ₅₇	J ₄₆	J ₃₀	J ₂₅	E ₂₈	B	E ₂₆	E ₂₀	J ₃₄	J ₄₁	J ₂₃	J ₁₆	J ₂₂	22	J ₂₃
10	J ₂₄	J ₂₂	J ₃₅	J ₃₇	J ₂₅	J ₉₅	J ₅₂	J ₆₅	35	B	B	B	B	B	E ₃₈	E ₂₅	E ₂₅	B	B	B	25	32	J ₄₈	J ₅₃
11	J ₁₁₀	J ₆₁	B	J ₃₄	J ₃₈	26	B	J ₄₉	B	B	B	J ₂₁	E ₃₃	E ₂₂	J ₂₁	E ₂₄	21	E ₂₀	B	B	B	B	J ₃₇	J ₄₁
12	J ₃₁	J ₃₂	J ₇₉	J ₂₅	J ₄₀	J ₃₂	J ₆₅	J ₃₄	B	B	E ₁₈	J ₂₁	E ₁₇	17	G	19	E ₂₀	18	J ₂₄	31	J ₂₂	J ₁₇	B	J ₃₇
13	J ₃₅	J ₂₆	J ₁₆	J ₁₈	16	J ₂₂	B	J ₃₅	J ₄₀	J ₄₅	E ₂₅	E ₂₃	E ₂₁	E ₁₈	J ₂₀	17	J ₁₅	J ₂₁	17	14	J ₂₂	B	34	J ₄₁
14	J ₃₃	J ₃₈	J ₈₄	B	J ₆₂	J ₆₆	B	B	J ₄₄	J ₃₇	B	B	B	B	B	E ₂₆	B	E ₃₇	B	B	21	15	E ₃₀	28
15	J ₃₃	J ₃₈	J ₄₂	J ₄₀	J ₄₂	J ₅₀	J ₃₄	J ₃₃	B	J ₂₇	J ₃₀	19	21	19	19	E ₁₅	E ₃₃	J ₂₁	J ₂₄	J ₂₆	J ₂₅	J ₂₃	J ₂₂	J ₃₀
16	J ₂₆	J ₂₉	J ₃₂	J ₃₄	J ₂₇	J ₃₂	J ₂₈	25	J ₂₂	J ₂₆	E ₁₅	22	20	20	18	19	20	16	17	E ₁₂	J ₂₁	B	B	J ₂₄
17	J ₃₇	J ₃₂	J ₂₉	31	J ₃₇	J ₃₄	18	15	15	15	G	17	21	J ₂₁	J ₂₅	E ₁₄	E ₃₃	B	B	B	J ₂₂	20	B	J ₂₄
18	J ₂₄	J ₂₄	J ₇₈	23	J ₃₈	B	J ₃₁	J ₃₁	J ₁₈	J ₃₀	J ₃₀	J ₂₈	21	19	21	J ₂₀	B	J ₂₃	12	J ₂₂	J ₂₅	21	J ₂₆	J ₄₅
19	J ₄₀	J ₆₅	J ₄₇	J ₃₈	J ₄₃	32	J ₄₂	J ₄₅	J ₂₅	J ₄₀	J ₂₂	30	27	B	E ₄₉	B	B	B	J ₂₂	14	J ₂₅	B	B	B
20	J ₄₃	J ₆₁	J ₄₀	J ₃₇	J ₃₄	J ₃₃	J ₃₁	J ₂₇	17	15	20	C	19	J ₃₅	22	17	18	J ₂₁	J ₁₈	J ₂₄	J ₂₅	J ₂₅	J ₂₄	J ₂₅
21	J ₂₆	J ₂₈	J ₃₃	J ₃₈	J ₄₂	J ₃₂	J ₂₆	J ₃₁	17	J ₂₀	G	J ₂₁	J ₂₂	29	J ₂₃	J ₁₂	19	16	E ₂₀	21	J ₁₀₅	J ₂₅	J ₂₄	J ₂₂
22	J ₃₅	J ₈₈	J ₅₃	J ₄₁	J ₇₂	J ₃₉	J ₃₄	J ₅₀	J ₅₀	J ₅₂	B	B	B	B	B	B	E ₂₂	32	J ₂₅	J ₂₅	J ₂₇	J ₃₉	J ₄₁	J ₃₇
23	J ₃₆	J ₃₂	J ₄₆	J ₅₀	J ₅₂	J ₃₉	J ₈₄	J ₃₈	J ₅₇	B	B	B	B	E ₃₄	E ₂₈	B	B	B	E ₁₂	E ₁₈	B	J ₂₃	J ₂₅	20
24	J ₂₅	J ₂₅	J ₂₇	J ₃₄	J ₄₈	J ₃₀	J ₃₁	J ₄₂	J ₂₅	J ₁₇	J ₂₅	18	J ₂₀	J ₂₂	J ₂₁	J ₂₁	J ₆₈	D	J ₆₅	J ₂₂	J ₂₂	J ₂₆	J ₄₆	J ₂₅
25	25	15	J ₂₈	J ₂₅	J ₃₆	J ₂₀	J ₃₂	J ₂₆	J ₂₆	J ₃₆	J ₁₉	20	J ₂₄	16	J ₂₆	J ₃₂	J ₁₈	J ₂₂	J ₂₄	28	24	J ₃₂	J ₂₃	J ₂₄
26	J ₁₇	28	J ₃₂	J ₄₅	J ₃₉	J ₄₈	J ₆₂	J ₃₈	J ₄₇	J ₂₈	16	J ₂₄	J ₂₄	J ₁₈	E ₂₂	E ₁₅	16	E ₂₃	J ₃₁	B	J ₂₄	J ₂₅	J ₃₈	36
27	J ₃₂	J ₃₉	J ₄₁	J ₆₅	B	B	B	J ₂₅	B	31	B	E ₂₄	B	B	B	E ₂₅	E ₂₅	E ₃₉	B	B	B	26	B	27
28	J ₂₅	J ₂₇	28	J ₄₅	J ₄₁	J ₄₆	J ₅₀	J ₃₅	B	E ₁₇	G	20	22	22	J ₂₄	18	J ₂₂	E ₂₂	14	E ₁₁	E ₁₃	B	J ₃₈	J ₃₁
29	J ₂₁	J ₃₅	J ₃₃	J ₄₁	J ₃₃	J ₄₀	J ₄₈	J ₄₄	J ₁₇	B	E ₂₇	23	J ₂₀	21	20	17	E ₁₄	E ₁₃	E ₁₃	E ₁₀	E ₁₃	J ₂₂	E ₈	J ₄₁
30	15	31	J ₃₈	J ₃₀	J ₂₂	J ₅₉	J ₆₅	J ₂₂	18	18	J ₂₆	20	22	21	22	19	18	16	18	J ₁₈	J ₂₅	J ₃₅	J ₂₁	J ₂₂
31	J ₃₁	J ₃₁	J ₃₈	J ₄₈	J ₅₁	J ₃₂	J ₃₃	J ₅₄	J ₂₇	J ₂₂	21	J ₁₈	19	21	21	J ₁₈	16	J ₂₃	J ₃₃	J ₃₇	J ₂₇	33	J ₄₂	D
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	28	28	26	24	28	24	24	20	21	23	22	23	26	24	25	23	23	23	20	24	29
MED	J ₂₈	J ₃₂	J ₃₈	J ₃₈	J ₃₈	J ₃₄	J ₃₆	J ₃₄	J ₂₆	J ₂₆	21	20	21	U ₂₀	21	U ₁₆	U ₁₈	22	18	J ₂₂	J ₂₄	J ₂₄	J ₂₆	J ₂₈
UQ	J ₃₅	J ₃₈	J ₄₆	J ₄₂	J ₄₂	J ₄₈	J ₅₁	J ₄₅	J ₃₈	J ₃₈	J ₂₈	23	23	E ₂₉	E ₂₆	E ₂₆	E ₂₅	U ₂₆	J ₂₄	J ₂₆	J ₂₅	J ₂₉	J ₃₈	J ₃₇
LQ	J ₂₅	J ₂₈	J ₃₂	J ₃₂	J ₃₂	J ₃₂	J ₃₁	J ₂₇	J ₁₈	J ₁₈	16	20	20	19	20	17	18	17	16	E ₁₄	J ₂₂	J ₂₂	J ₂₂	J ₂₄

JUL. 1968

FOES (0.1 MHZ)

The Radio Research Laboratories, Japan

IONOSPHERIC DATA

JUL. 1968

F-MIN (0.1 MHZ)

45° E Mean Time (G. M. T. + 3h)

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4 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	11	10	11	B	11	14	B	58	14	13	B	B	B	29	B	34	25	18	B	B	B	B	17	10
2	10	9	10	15	14	B	14	20	11	10	13	15	31	23	35	B	B	16	11	9	10	10	9	14
3	12	9	10	14	14	12	B	20	14	15	B	B	B	B	24	23	34	B	11	13	10	10	10	9
4	9	9	10	11	9	14	11	14	23	B	B	B	B	B	B	49	B	B	B	B	B	B	9	9
5	10	13	13	13	B	B	14	B	24	14	14	14	16	B	B	B	22	22	14	9	B	B	B	B
6	10	9	9	C	C	C	C	C	C	C	13	B	13	C	33	28	26	13	11	11	B	B	B	11
7	8	9	9	9	9	9	10	9	10	10	B	B	56	61	B	34	B	16	B	14	B	B	18	12
8	9	9	8	8	9	9	11	11	14	15	B	14	13	31	27	13	11	13	11	14	24	B	14	13
9	12	11	12	10	11	11	13	10	B	14	11	13	16	28	B	26	20	17	17	16	14	14	11	11
10	11	13	11	14	14	48	13	19	31	B	B	B	B	B	38	25	25	B	B	B	16	14	16	16
11	17	15	B	29	26	21	B	23	B	B	B	23	33	22	21	24	15	20	B	B	B	B	15	16
12	23	28	22	13	23	21	15	14	B	B	18	15	17	14	14	13	20	9	11	11	11	11	B	10
13	11	11	10	11	11	11	B	21	22	11	25	23	21	18	13	10	9	9	10	9	10	B	28	35
14	30	28	34	B	28	63	B	B	31	25	B	B	B	B	B	26	B	37	B	B	16	11	30	11
15	12	11	10	18	14	18	11	14	B	11	19	14	13	14	13	15	33	13	15	14	10	10	9	9
16	8	10	12	11	9	13	14	13	13	27	15	15	14	15	14	14	11	10	11	12	7	B	B	11
17	10	10	9	13	11	12	12	11	10	9	9	11	14	9	11	14	33	B	B	B	14	11	B	10
18	9	9	9	9	21	B	11	13	11	19	27	18	18	14	14	11	B	11	9	15	11	14	12	14
19	17	9	9	9	12	10	10	13	13	37	16	26	15	B	49	B	B	B	11	9	9	B	B	B
20	13	14	12	13	10	19	15	14	12	10	11	C	14	12	12	10	10	10	9	8	9	8	8	6
21	6	5	6	9	9	9	7	9	8	9	9	9	11	11	11	10	12	10	20	12	10	5	7	11
22	7	27	10	9	9	11	13	12	11	13	B	B	B	B	B	B	22	24	13	14	10	8	9	6
23	9	9	8	8	16	14	19	21	11	B	B	B	B	34	28	B	B	B	12	18	B	11	10	11
24	7	6	6	9	10	8	9	8	8	7	9	15	14	13	14	10	13	11	12	11	11	9	9	7
25	9	10	7	7	7	8	9	6	5	8	10	11	11	13	10	9	10	6	10	14	16	10	8	8
26	10	8	9	13	10	9	10	13	20	11	14	12	12	13	22	15	11	23	16	B	18	9	7	10
27	10	8	19	33	B	B	B	9	B	24	B	24	B	B	B	25	25	39	B	B	B	22	B	13
28	8	7	9	11	18	14	13	29	B	17	14	16	15	13	11	11	13	22	13	11	13	B	18	7
29	11	9	9	13	14	14	10	9	12	B	27	14	14	15	15	13	14	13	13	10	13	9	8	9
30	9	8	7	7	8	13	7	13	11	9	9	13	13	13	13	12	9	10	7	9	8	6	7	7
31	5	7	8	13	12	11	12	11	8	14	11	11	15	15	13	12	10	7	7	9	7	7	7	5
	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	30	30	30	30	30	30	30	31	30	31	30	31	31	31	31	31	31	31	31	31	31
MED	10	9	10	12	12	14	13	13	14	14	18	16	16	20	22	15	22	16	13	14	13	11	12	11
UQ	12	11	12	14	16	21	15	20	31	27	B	B	D B 56	B	D B 49	31	34	30	D B 20	D B 18	D B 24	B	29	13
LQ	9	9	9	9	9	11	10	11	11	10	12	14	14	13	13	12	12	10	11	10	10	10	9	9

JUL. 1968

F-MIN (0.1 MHZ)

IONOSPHERIC DATA

JUL. 1968

M(3000)F2 (0.01)

45° E Mean Time (G. M. T. + 3h)

Station **SYOWA BASE** Lat. **69° 00.4' S** Long. **39° 35.4' E** Sweep **0.4 MHz** to **15 MHz** in **30 sec** in automatic operation

Hour Day	Station SYOWA BASE Lat. 69° 00.4' S Long. 39° 35.4' E Sweep 0.4 MHz to 15 MHz in 30 sec in automatic operation																										
	00	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	345	A	B	A	A	B	B	A	F	B	B	B	310	B	290	310	330	B	B	B	B	B	A			
2	A	A	A	A	A	B	A	F	F	F	F	300	R	300	340	B	B	B	345	315	315	300	A	A			
3	A	A	A	A	A	A	B	B	A	A	B	B	B	B	F	F	UR 315	B	R	F	260	370	355	F			
4	A	A	A	A	A	A	A	A	A	B	B	B	B	B	B	R	B	B	B	B	B	B	A	A			
5	A	A	A	A	B	B	A	B	A	F	320	310	325	B	B	B	300	310	F	F	B	B	B	B			
6	A	A	F	C	C	C	C	C	C	C	305	B	320	C	F	340	285	F	340	345	B	B	B	A			
7	300	280	295	F	F	F	260	F	F	F	B	B	R	R	B	R	B	F	B	F	B	B	A	280			
8	A	315	A	280	290	240	A	A	A	A	B	350	350	325	F	350	310	340	F	A	A	B	A	A			
9	A	A	A	295	315	265	F	F	B	A	F	F	F	F	B	340	340	355	340	A	A	A	A	A			
10	A	A	A	335	320	B	A	A	R	B	B	B	B	B	310	F	R	285	B	B	B	A	A	A			
11	A	A	B	A	A	A	B	A	B	B	B	305	345	325	345	315	335	305	B	B	B	B	A	A			
12	B	B	A	A	A	A	265	F	B	B	300	340	330	R	330	365	355	F	360	A	A	285	A	B	300		
13	A	A	F	280	265	260	B	A	A	A	275	315	340	355	350	315	355	345	335	315	300	B	B	B			
14	B	A	B	B	A	B	B	B	B	A	B	B	B	B	B	365	B	R	B	B	A	355	A	A			
15	A	A	A	A	A	A	A	A	B	A	A	325	340	345	300	320	F	F	A	A	F	330	365	355	A		
16	A	A	A	A	A	A	A	F	260	A	U 300	F	330	300	340	325	F	295	F	345	340	285	B	B	A		
17	A	A	F	F	A	260	285	F	270	F	285	295	300	U 335	F	330	315	F	320	B	B	B	A	315	B	345	
18	R	F	A	F	A	B	A	A	A	285	310	R	310	295	350	350	B	305	340	R	A	A	A	A			
19	A	A	A	A	A	A	A	A	A	B	F	325	F	B	F	B	B	B	F	F	315	B	B	B			
20	A	A	A	A	A	A	A	F	285	F	285	335	C	320	R	R	R	300	F	325	F	315	F	265	265		
21	A	A	A	F	A	245	F	295	F	F	F	310	F	F	R	F	F	F	320	R	325	270	A	A	F		
22	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	R	R	F	A	A	A	A	A	A		
23	A	A	A	A	A	A	A	A	A	B	B	B	B	F	F	B	B	B	R	R	B	A	A	A	A		
24	A	A	A	A	A	255	F	F	295	290	300	R	335	310	330	335	F	A	A	U 345	355	F	260	295			
25	355	300	F	F	240	F	F	245	F	F	F	305	F	325	F	295	320	335	F	355	330	325	A	A	290	300	
26	R	R	R	A	A	F	A	A	250	F	F	F	315	290	R	R	R	F	R	B	A	A	A	A	A		
27	F	A	A	B	B	B	B	A	B	A	B	F	B	B	B	320	310	R	B	B	B	A	B	A	A		
28	A	A	A	A	A	A	A	A	B	F	310	315	345	350	UR 325	F	F	R	F	320	365	B	A	F			
29	A	A	A	A	A	A	A	F	270	F	B	330	310	F	335	330	310	325	325	325	370	315	F	355	A	335	U 345
30	335	315	F	270	F	260	A	A	A	F	285	345	355	315	345	320	320	300	R	F	F	F	275	270	A		
31	F	A	270	A	A	A	A	F	255	F	300	310	335	335	325	330	350	F	F	F	F	F	F	365	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	3	5	6	7	5	6	4	4	7	8	15	14	16	16	17	17	15	12	9	11	12	6	8	9			
MED	335	315	285	280	290	258	262	278	270	285	310	325	332	325	325	335	310	328	340	325	315	335	312	300			
UQ	345	315	295	288	315	260	275	290	290	292	315	335	340	338	340	350	330	350	345	345	342	365	355	335			
LQ	318	300	F	270	F	265	245	252	270	F	258	285	300	310	320	300	310	320	300	308	335	F	285	300	268	280	

The Radio Research Laboratories, Japan

JUL. 1968

M(3000)F2 (0.01)

IONOSPHERIC DATA

JUL. 1968

H'F2 (KM)

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

Station SYOWA BASE Lat. 69 00.4 S. Long. 39 35.4 E Sweep 0.4MHz 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		B									
2																								
3											B	B	B	B										
4											B	B	B	B	B									
5														B	B									
6												B		C										
7																B								
8											B													
9																B								
10											B	B	B	B										
11											B													
12																								
13																								
14											B	B	B	B	B									
15																								
16																								
17																								
18																								
19															B									
20													C											
21																								
22											B	B												
23											B	B	B											
24																								
25																								
26																								
27											B		B	B	B									
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. 1968

H'F2 (KM)

IONOSPHERIC DATA

JUL. 1968

H'F (KM)

45° E Mean Time (G. M. T. + 3h)

Station **SYOWA BASE** Lat. **69° 00.4' S**, Long. **39° 35.4' E** Sweep **0.4 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	B	B	B	B	B	A	365	B	B	B	240	B	B	275	250	B	B	B	B	B	B		
2	A	A	A	B	B	B	B	A	350	290	270	265	270	250	250	B	B	B	225	300	305	A	A	B		
3	B	B	A	B	B	B	B	B	B	B	B	B	B	B	240	215	240	B	215	275	A	A	A	A		
4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A		
5	B	B	B	B	B	B	B	B	B	325	260	240	240	B	B	B	320	290	255	250	B	B	B	B		
6	B	B	A	C	C	C	C	C	C	325	B	220	C	250	250	310	250	220	265	B	B	B	B	B		
7	255	A	330	355	A	390	355	A	A	305	290	B	B	B	B	E B 250	B	215	B	250	B	B	B	A		
8	A	A	A	A	375	A	B	A	A	B	B	250	225	240	250	200	220	240	250	B	B	B	B	B		
9	B	B	B	A	A	A	A	315	B	A	255	240	240	235	B	240	250	A	A	B	B	B	B	B		
10	A	B	B	A	A	B	B	B	B	B	B	B	B	B	B	280	250	305	B	B	B	B	A	B	B	
11	A	245	B	A	B	B	B	B	B	B	B	E A 300	255	250	230	250	250	B	B	B	B	B	B	B		
12	B	B	B	B	B	B	A	A	B	B	275	230	230	205	210	205	255	225	A	A	A	B	B	B		
13	A	A	A	A	A	A	B	B	A	B	250	215	225	205	205	195	210	240	225	A	B	B	B	B		
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	240	B	B	B	B	B	A	B	A		
15	B	B	B	B	B	B	B	B	B	A	A	240	220	215	205	220	250	225	B	B	B	B	200	B		
16	A	A	A	A	B	B	B	A	A	B	250	240	215	210	200	205	205	290	210	255	A	B	B	B		
17	A	A	310	A	B	A	E A 380	325	270	240	245	205	205	205	205	240	E B 250	B	B	B	B	A	B	A		
18	300	A	A	A	B	B	A	A	A	B	B	260	220	205	215	220	B	225	225	A	275	B	B	B		
19	B	B	B	B	B	B	A	A	A	B	260	260	220	B	B	B	B	B	220	260	250	B	B	B		
20	B	B	B	B	B	B	A	A	255	250	240	C	220	205	200	200	205	200	215	195	A	260	A	A		
21	B	B	B	B	B	A	A	310	310	250	240	200	205	215	200	195	195	220	230	A	A	A	B	275		
22	A	B	B	B	B	A	A	A	A	A	B	B	B	B	B	B	250	275	310	E B 325	A	A	B	B		
23	B	B	B	B	B	A	A	A	A	B	B	B	B	E B 245	210	B	B	B	225	B	B	B	B	B		
24	B	B	B	B	B	A	350	320	280	250	245	225	210	220	215	200	200	A	A	215	245	215	365	295		
25	270	300	325	E A 350	A	350	400	330	280	210	250	215	205	200	210	250	200	200	250	260	B	B	275	300		
26	A	A	A	B	B	A	A	A	A	260	245	245	215	250	230	225	205	255	215	B	B	A	A	A		
27	A	A	B	B	B	B	B	B	B	B	B	265	B	B	B	215	235	B	B	B	B	B	B	B		
28	B	B	B	B	B	A	A	B	B	300	240	240	215	200	200	225	200	280	210	295	E B 255	B	B	A		
29	B	B	B	B	B	A	A	A	A	B	255	215	225	215	225	225	190	200	215	245	205	E B 330	255	230		
30	B	E B 260	A	A	A	A	A	A	A	A	255	300	225	220	225	205	215	200	195	195	240	220	A	A	A	A
31	320	B	A	A	A	A	A	A	E A 350	300	250	230	240	225	215	200	215	195	205	220	260	240	B	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	3	3	2	2	3	5	9	13	17	21	22	21	22	24	24	19	19	16	7	4	4	4		
MED	285	260	325	355	382	352	380	320	280	290	250	240	220	215	215	219	223	225	225	251	255	239	265	285		
UQ	310	280	328	358			390	325	308	300	260	250	230	238	230	240	250	252	240	266	268	278	320	298		
LQ	262	248	318	352			358	315	270	250	245	225	215	205	205	202	200	205	215	222	236	228	228	252		

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IONOSPHERIC DATA

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45° E Mean Time (G. M. T. + 3h)

Station **SYOWA BASE** Lat. **69° 00.4' S**, Long. **39° 35.4' E** Sweep **0.4 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	100	105	100	B	100	100	B	125	100	100	B	B	B	B	B	B	B	B	B	B	B	B	130	140	
2	120	120	100	100	100	B	100	145	120	120	120	115	B	B	B	B	B	B	125	100	100	150	100	145	
3	140	100	105	100	100	100	B	100	100	100	B	B	B	B	B	B	B	B	140	100	110	155	110	100	
4	110	105	105	110	105	100	105	100	100	B	B	B	B	B	B	B	B	B	B	B	B	B	115	100	
5	110	105	100	105	B	B	100	B	100	125	120	125	140	B	B	B	B	130	B	B	B	B	B	B	
6	100	100	110	C	C	C	C	C	C	C	100	B	105	C	B	B	B	100	115	105	B	B	B	140	
7	125	110	110	100	105	105	105	110	110	105	B	B	B	B	B	B	B	150	B	B	B	B	125	100	
8	120	110	100	100	105	100	100	100	100	100	B	105	105	B	B	105	105	105	110	115	125	B	100	100	
9	100	115	115	120	125	100	105	105	B	100	100	100	115	B	B	B	B	105	115	120	120	110	110	100	
10	100	140	110	110	125	175	100	100	140	B	B	B	B	B	B	B	B	B	B	B	B	110	105	105	100
11	150	125	B	105	120	125	B	105	B	B	B	140	B	B	120	B	125	B	B	B	B	B	110	105	
12	110	140	110	100	100	110	120	125	B	B	B	110	B	115	G	100	B	125	105	105	100	145	B	100	
13	105	110	105	110	105	110	B	150	100	100	B	B	B	B	150	125	120	120	120	105	120	B	130	130	
14	125	145	120	B	100	150	B	B	140	115	B	B	B	B	B	B	B	B	B	B	175	125	B	105	
15	105	105	100	100	105	100	100	100	B	100	100	140	125	115	105	B	B	125	110	105	100	100	100	100	
16	120	105	105	100	100	100	100	105	110	100	B	120	100	140	125	145	105	105	115	B	100	B	B	100	
17	100	100	125	105	100	100	125	150	150	130	G	115	140	100	100	B	B	B	B	B	125	105	B	100	
18	140	110	110	100	105	B	100	100	100	125	105	105	130	130	140	100	B	100	155	105	100	115	100	120	
19	120	105	105	100	105	105	100	100	100	145	130	125	120	B	B	B	B	B	105	105	140	B	B	B	
20	105	100	105	105	100	105	100	100	100	125	155	C	150	110	105	115	115	105	105	100	100	100	100	100	
21	105	110	105	105	105	100	100	100	100	125	110	100	105	100	105	110	125	100	B	120	100	130	100	105	
22	100	125	100	100	125	100	100	100	100	100	B	B	B	B	B	B	B	160	125	100	100	105	105	100	
23	100	100	100	100	110	100	105	100	100	B	B	B	B	B	B	B	B	B	B	B	B	100	110	150	
24	100	100	100	100	100	100	100	105	100	100	105	105	105	100	100	100	105	100	100	150	100	100	105	100	
25	140	125	100	100	100	110	105	100	100	125	105	100	100	100	100	100	100	100	100	100	110	100	100	100	
26	170	100	105	105	105	100	100	100	100	105	125	100	100	100	B	B	105	B	100	B	130	100	100	100	
27	120	100	100	120	B	B	B	100	B	125	B	B	B	B	B	B	B	B	B	B	B	150	B	150	
28	100	105	105	105	100	100	100	110	B	B	G	150	150	150	100	155	115	B	130	B	B	B	100	100	
29	120	110	105	100	100	100	100	100	105	B	B	120	130	110	120	E G 160	B	B	B	B	B	100	B	100	
30	140	130	100	105	105	100	100	100	120	105	100	145	140	100	130	125	125	150	100	105	100	100	100	150	
31	120	105	105	100	100	100	100	125	100	100	105	105	140	170	130	100	150	100	100	140	100	100	100	130	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
CNT	31	31	30	28	28	26	24	28	24	23	14	19	18	14	14	13	12	17	19	17	21	20	22	29	
MED	110	105	105	100	105	100	100	100	100	105	105	115	122	110	112	108	115	105	110	105	100	105	102	100	
UQ	122	118	110	105	105	105	105	110	110	125	120	125	140	130	130	125	125	125	122	115	120	128	110	130	
LQ	100	102	100	100	100	100	100	100	100	100	100	105	105	100	100	100	105	100	102	100	100	100	100	100	

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