

ION. ANT. — 10

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

August 1967 — January 1968

Issued in February 1971

Prepared by

**THE RADIO RESEARCH LABORATORIES
MINISTRY OF POSTS AND TELECOMMUNICATIONS**

NUKUL-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 } The ordinary-wave critical frequency for the $F2$, $F1$ and E layers
 f_oF1 } respectively.
 f_oE }

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

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

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

$h'F2$ 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 atmospherics.
- V Forked trace which may influence the measurement.
- W Measurement influenced or impossible because the echo lies outside the height range recorded.
- X Measurement refers to the extraordinary component.
- Y Intermittent trace.
- Z Third magneto-ionic component present.

b. Qualifying Symbols

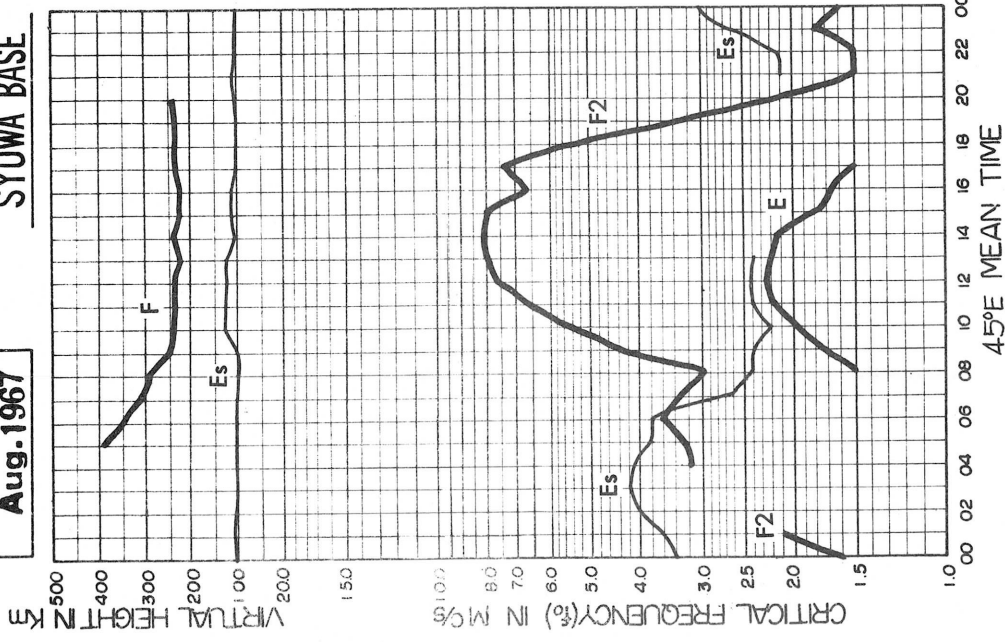
Used as a preceding symbol on monthly tabulation sheets.

- 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

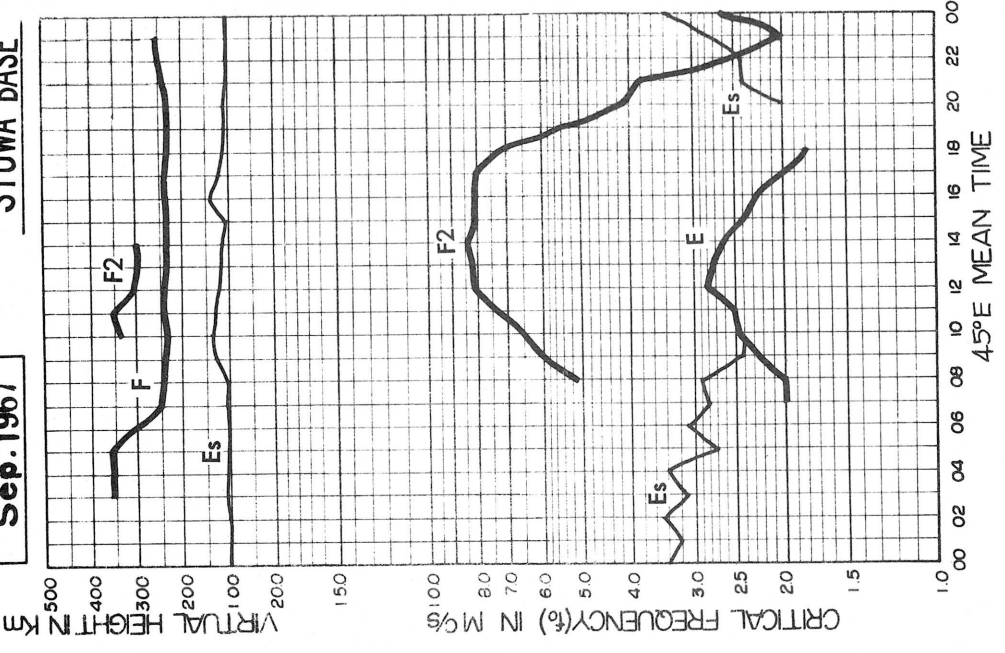
Aug. 1967

SYOWA BASE

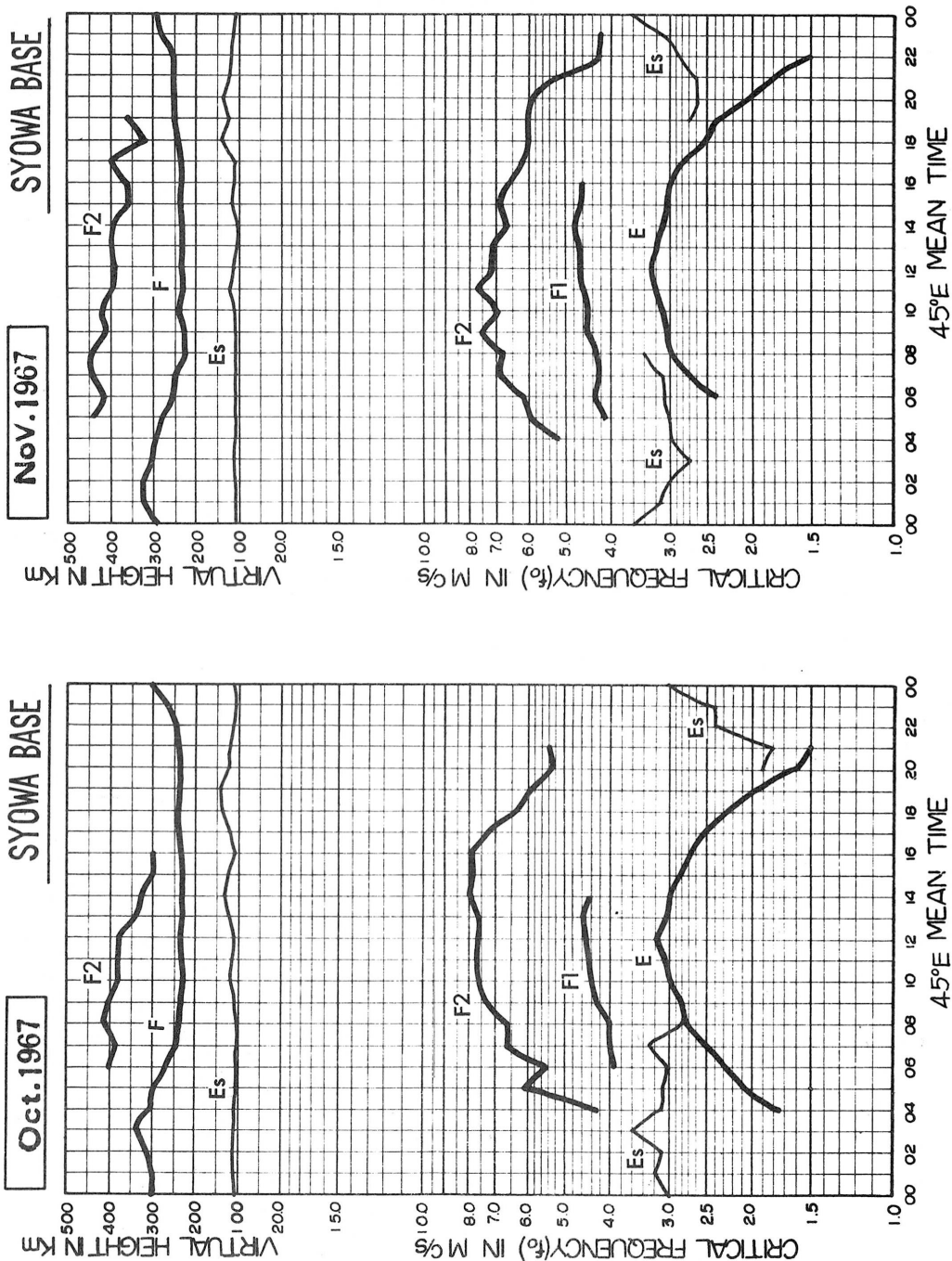


Sep. 1967

SYOWA BASE



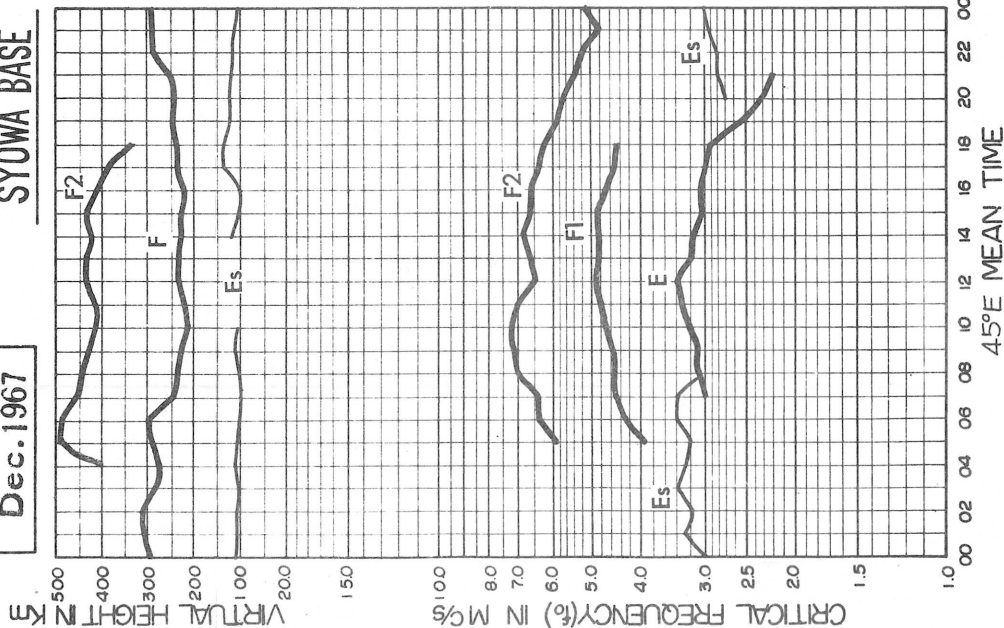
IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS



IONOSPHERIC DATA
MONTHLY MEDIAN CHARACTERISTICS

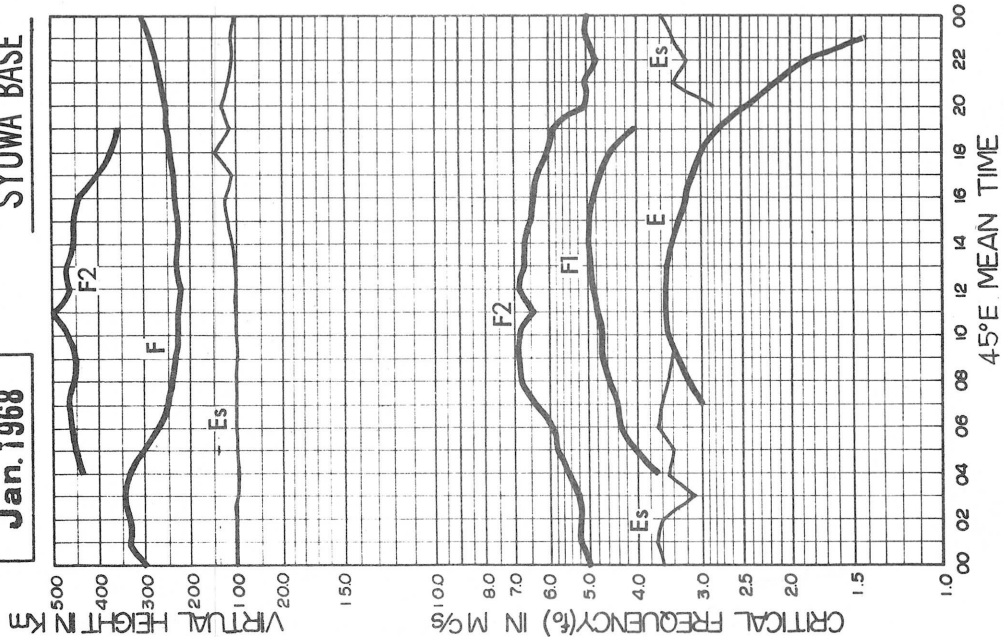
Dec. 1967

SYOWA BASE



Jan. 1968

SYOWA BASE



IONOSPHERIC DATA

AUG. 1967

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	A	16	16	F	F ₁₇	F ₁₆	F ₁₇	B	20	F	F ₅₄	J ₆₉	R	R	F	J ₇₇	J ₄₉	F	F ₃₈	F	F	F	16	A					
2	16	21	16	F	F	F	F	F	F	F	54	68	71	J ₇₂	F	R	R	A	F	23	14	13	15	F ₁₃					
3	14	F	F ₁₅	F	F	F	A	F	A	F	55	69	68	71	71	54	R	F	R	J ₂₉	A	F	F	J ₂₀					
4	F	15	13	F	F	C	C	F	F	F	F ₅₃	F ₅₃	75	76	80	J ₆₄	65	55	F	R	A	A	A	A					
5	A	A	A	A	A	A	A	F	F	F ₃₇	46	J ₅₆	F	J ₆₇	77	82	66	J ₇₄	47	20	16	B	14	F					
6	A	A	A	A	24	28	F	F ₄₆	F	F	F	F	F	B	B	F	R	46	55	A	R	12	F	A					
7	F ₂₆	A	A	A	A	A	A	F ₃₅	F	J ₄₃	56	J ₆₅	F	F	F	R	F	F	F	F	R	B	A	A					
8	A	B	A	A	A	B	A	A	A	B	B	R	B	81	R	F	F	F	F	B	16	A	23	F					
9	A	A	A	A	A	19	20	27	R	R	48	60	65	R	69	81	57	F	43	32	F	F	F	F					
10	16	A	A	A	A	A	A	A	A	B	B	F	65	69	77	73	78	F	R	R	B	B	K	A	A				
11	A	A	A	B	B	A	A	A	30	37	37	U ₄₅	61	F	70	J ₈₃	63	F	50	R	F	K	A	A					
12	B	A	A	A	B	B	A	F	F	39	46	56	68	74	64	60	65	B	R	B	B	B	B	A					
13	A	A	B	A	A	A	A	A	F	J ₄₄	55	68	76	75	70	R	F	R	F	R	B	F	13	A					
14	A	A	A	A	A	A	A	A	B	F	B	B	F	F ₈₄	B	B	R	F	B	B	B	14	A	A					
15	A	A	B	B	A	A	A	A	F	F	51	57	71	F	72	R	F	R	47	U ₃₃	B	15	B	A					
16	A	A	A	A	A	A	A	F ₂₉	F	F	J ₆₃	R	J ₈₀	J ₈₂	76	75	F	67	56	36	B	A	15	A					
17	U ₃₄	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	60	F	J ₅₂	R	A	A	A	A					
18	A	30	A	B	A	A	A	A	30	B	B	B	B	B	42	55	60	F	R	B	A	16	A	A					
19	A	A	A	A	A	A	A	23	A	B	B	F	F	F	J ₈₇	84	R	69	70	R	B	B	B	A					
20	A	A	A	A	A	A	A	F ₂₅	B	B	44	64	77	80	100	B	F	B	F	F	F	F	F	15					
21	A	32	A	A	A	A	A	34	B	45	J ₆₄	63	73	88	95	F	R	R	F	60	B	B	B	F					
22	R	F	A	A	A	F ₃₃	J ₃₅	F	F	F	64	72	82	86	J ₈₀	J ₇₇	R	R	R	R	F	A	15	F					
23	F	A	A	A	J ₃₂	F	J ₃₆	F	J ₅₀	56	67	81	F	76	82	U ₇₈	75	53	F	J ₄₄	F ₃₀	20	A	A					
24	A	A	A	A	A	A	A	F	R	J ₄₇	F ₅₃	61	C	F	F	B	76	82	F	48	26	F	A	A					
25	A	A	A	A	F	J ₅₂	R	B	B	35	42	F	F	F	F	F	F	J ₉₅	J ₁₀₁	F	R	F	A	A	A				
26	A	A	A	A	A	A	A	33	F	50	64	66	81	83	86	88	F ₉₀	F	F	R	F	F	R	A					
27	A	A	A	A	K	A	A	B	F ₄₅	F	F ₆₀	69	80	83	88	84	79	F ₇₇	R	R	F	B	F ₂₂	A					
28	F	A	A	A	33	F ₃₇	J ₄₀	F	F	R	70	85	93	88	97	83	J ₈₄	F ₈₄	65	R	J ₃₉	F	F	B					
29	B	A	R	F	A	F	F	J ₄₂	F	55	69	82	92	91	100	85	R	R	R	R	B	A	A	A					
30	16	A	A	51	44	45	48	F	B	B	F ₅₅	F	F	F	F ₉₆	88	F	84	R	F	R	15	A	25					
31	A	A	A	B	A	A	B	A	A	F	R	B	B	B	F	F	F	F	80	F	F	A	A	A					
CNT	6	5	4	2	5	7	6	9	5	11	23	21	20	18	21	18	14	11	11	9	6	8	8	4					
MED	16	21	16	42	32	35	36	35	30	44	55	65	76	80	80	80	66	74	52	33	21	15	15	18					
UQ	26	30	16		33	41	J ₄₀	F ₃₅	45	48	64	69	80	84	88	84	79	83	60	44	F ₃₀	18	19	22					
LQ	16	16	14		F ₂₄	24	20	27	30	38	50	60	68	75	71	75	60	61	47	29	16	14	14	14					

AUG. 1967

FOF2 (0.1 MHz)

IONOSPHERIC DATA

AUG. 1967

FOF1 (0.01 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																								
2																								
3																								
4																								
5																								
6															B	B								
7																								
8											B		B											
9																								
10																								
11																								
12																								
13																								
14											B	B				B	B							
15																								
16																								
17											C	C		C										
18											B	B		B	B									
19											B													
20																								
21																								
22																								
23																								
24															C		B							
25																								
26																								
27																								
28																								
29																								
30									B	B														
31												B		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																								
MED																								
UQ																								
LQ																								

The Radio Research Laboratories, Japan

AUG. 1967

FOF1 (0.01 MHz)

IONOSPHERIC DATA

AUG. 1967

FOE (0.01 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								B	B	B	B	A	A	A	A	B	A	A						
2								A	A	A	A	A	250	A	A	A	A	A						
3								A	A	A	A	A	A	A	180	175		A	A					
4								A	A	A	A	B	A	A	A	A	B	B						
5								A	A	A	B	B	A	225	210	175	A	A						
6								A	A	B	B	A	A	B	B	B	B	B						
7								A	120	A	A	A	B	B	B	B	B	B						
8								B	B	B	B	B	B	B	B	175	A	B						
9								A	A	170	A	200	A	205	195	A	A	B						
10								A	B	B	B	230	A	225	A	A	B	B						
11								B	B	B	200	A	B	B	B	B	170	A						
12								A	A	A	200	A	220	200	B	B	B	B						
13								A	A	170	200	210	220	210	A	A	A	B						
14								B	B	B	B	B	B	B	B	B	B	B						
15								A	A	170	200	215	220	A	200	195	B	B						
16								A	A	A	200	A	215	210	B	B	B	B						
17								C	C	C	C	C	C	C	C	C	B	B						
18								A	A	B	B	B	B	B	220	B	B	B						
19								A	A	B	B	B	B	225	220	B	B	B						
20								B	B	B	B	B	250	225	B	B	B	B						
21								A	B	B	190	220	225	220	A	A	170	150	B					
22								A	150	R	195	220	225	200	A	A	A	130	B					
23								A	A	A	180	200	210	225	215	200	B	B	B	B				
24								A	A	A	205	210	225	C	B	B	B	B	B	B				
25								A	B	B	B	A	225	B	B	B	B	B	B	A				
26								A	A	160	A	A	220	B	B	B	B	B	B	B				
27								B	B	A	200	220	A	250	A	220	A	A	150	B				
28								A	A	A	A	230	235	240	235	225	180	160	155	A				
29								A	A	150	A	225	230	245	240	B	A	150	B	A				
30								A	A	B	B	B	B	B	A	230	A	A	B	B				
31								B	A	A	A	B	B	B	B	B	B	B	B	B				
CNT									4	6	12	12	12	13	10	5	4	4						
MED									150	175	200	220	225	220	215	175	165	150						
UQ									155	200	215	228	248	225	220	180	170	152						
LQ									135	170	200	212	220	210	200	175	155	140						

The Radio Research Laboratories, Japan

AUG. 1967

FOE (0.01 MHz)

AUG. 1967

FOES (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	J ₄₂	J ₅₃	J ₅₂	J ₂₀	21	19	J ₃₆	B	E ₁₆	E ₁₄	E ₁₉	22	30	30	30	E ₁₉	J ₂₀	J ₂₀	J ₂₀	J ₁₈	J ₁₄	J ₁₈	J ₁₇	J ₁₈
2	J ₃₉	J ₂₉	20	20	21	J ₃₈	J ₂₃	J ₂₂	J ₂₄	J ₃₂	20	25	31	23	27	J ₂₇	J ₃₇	J ₄₈	J ₄₀	J ₁₈	J ₃₂	J ₂₀	J ₂₄	J ₂₀
3	J ₃₂	J ₂₅	J ₃₅	J ₃₅	J ₅₅	J ₃₈	J ₃₈	J ₂₆	J ₃₅	J ₃₁	J ₃₇	26	24	J ₂₃	24	J ₃₁	20	20	J ₅₂	J ₁₈	J ₂₄	J ₂₀	J ₂₀	J ₁₇
4	J ₁₄	J ₁₈	J ₂₄	J ₂₀	J ₅₀	C	C	J ₂₀	J ₆₈	21	21	E ₂₆	26	J ₂₅	20	17	E ₁₃	E ₁₇	E ₁₈	13	J ₂₆	J ₂₂	J ₃₀	J ₄₁
5	J ₃₈	J ₇₂	J ₃₇	J ₄₅	J ₄₆	J ₄₅	J ₅₁	J ₂₀	J ₁₇	18	E ₁₈	E ₄₀	23	24	J ₄₂	J ₂₀	J ₃₉	J ₂₀	J ₂₂	J ₂₀	J ₁₈	B	26	J ₂₆
6	J ₃₂	J ₃₃	J ₆₀	J ₃₂	J ₂₅	J ₃₅	J ₃₇	21	J ₂₃	40	E ₂₄	30	J ₅₀	B	B	E ₃₅	E ₃₅	E ₃₃	E ₁₉	J ₂₈	E ₁₄	E ₁₀	20	J ₃₀
7	26	32	J ₃₉	J ₈₅	J ₅₀	J ₅₄	J ₃₉	22	G	J ₂₄	J ₂₀	23	E ₃₀	E ₅₈	E ₄₄	E ₅₁	E ₂₃	E ₂₁	E ₁₈	E ₁₈	E ₁₈	B	J ₂₇	J ₄₁
8	J ₅₂	42	J ₄₉	J ₅₀	J ₅₁	B	J ₄₉	J ₅₁	J ₅₀	B	B	E ₅₂	B	E ₆₀	E ₆₀	G	21	E ₁₆	E ₁₃	B	E ₁₂	36	21	J ₂₂
9	J ₃₅	J ₂₇	J ₅₀	J ₅₀	31	J ₄₁	J ₂₄	J ₂₇	J ₂₀	J ₂₀	20	G	21	26	20	25	25	E ₁₅	E ₁₃	E ₁₀	20	J ₁₈	J ₃₃	J ₂₃
10	25	J ₃₄	J ₃₈	J ₅₁	J ₅₃	21	J ₄₉	J ₂₀	B	B	E ₂₃	24	27	G	21	J ₂₀	E ₁₈	E ₂₀	E ₃₇	B	B	J ₂₂	J ₂₆	J ₃₆
11	J ₃₄	J ₅₀	J ₄₇	43	J ₄₁	J ₂₁	J ₃₅	J ₂₄	20	27	G	25	E ₅₀	E ₃₁	E ₃₄	E ₃₃	18	20	J ₃₃	20	J ₃₇	23	J ₈₅	J ₄₀
12	43	J ₂₃	J ₄₀	J ₅₄	B	B	30	J ₄₂	J ₃₆	23	24	27	G	23	E ₃₄	E ₄₇	E ₃₅	B	E ₂₃	B	B	B	B	J ₄₅
13	J ₃₉	J ₃₈	B	J ₃₇	J ₃₅	J ₃₈	J ₂₉	J ₄₁	21	J ₃₈	22	26	G	23	J ₂₃	J ₂₄	22	E ₁₈	15	21	B	16	J ₂₆	J ₂₄
14	J ₁₀	J ₄₀	J ₄₂	J ₂₀	J ₄₈	J ₄₅	J ₆₀	J ₂₃	B	E ₃₁	B	B	E ₄₈	E ₄₈	B	B	E ₅₈	E ₄₅	B	B	B	J ₂₀	J ₂₀	J ₂₅
15	J ₃₃	J ₃₁	B	B	J ₃₇	J ₃₇	J ₄₂	J ₄₂	J ₃₂	G	G	G	27	22	G	26	E ₃₂	E ₃₄	E ₃₁	E ₁₁	B	J ₂₄	B	J ₁₇
16	J ₃₄	J ₃₆	J ₆₅	J ₄₂	J ₄₂	J ₅₂	J ₅₁	J ₃₈	J ₂₃	J ₂₂	24	30	29	G	E ₂₃	E ₃₃	E ₂₉	E ₂₃	E ₃₃	E ₁₄	B	J ₃₈	J ₃₀	J ₃₅
17	J ₂₂	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E ₄₃	E ₃₅	E ₁₅	17	J ₃₂	16	J ₂₂	J ₂₇
18	J ₂₆	J ₃₀	J ₇₆	42	J ₄₈	J ₅₈	J ₃₈	J ₄₆	J ₃₄	B	B	B	B	B	G	E ₂₁	E ₂₇	E ₃₀	E ₁₆	B	31	24	J ₃₉	J ₄₁
19	J ₄₁	36	J ₃₅	J ₃₀	J ₂₀	J ₃₇	J ₄₀	J ₃₇	J ₃₇	B	B	E ₂₅	E ₂₅	25	G	E ₂₃	E ₂₈	E ₃₃	E ₁₅	E ₁₅	B	B	B	J ₃₃
20	36	J ₃₄	J ₃₉	J ₅₀	J ₅₂	36	J ₃₇	E ₁₉	B	B	E ₂₈	E ₃₆	G	25	E ₃₁	B	E ₅₄	B	E ₃₅	E ₁₅	22	17	23	18
21	J ₃₅	J ₃₁	J ₂₈	J ₃₆	J ₄₁	J ₁₆	J ₄₀	J ₄₁	B	E ₂₅	24	G	28	26	24	24	20	G	E ₂₆	E ₁₈	B	B	B	J ₂₀
22	16	J ₃₃	J ₂₇	J ₄₇	J ₃₂	J ₂₂	23	24	G	G	23	26	32	26	26	25	25	J ₂₄	E ₁₂	E ₁₁	J ₂₁	J ₂₀	J ₁₅	20
23	J ₃₃	J ₅₅	J ₃₈	J ₄₂	23	J ₂₁	J ₂₄	J ₄₆	26	G	24	24	G	27	26	E ₄₈	E ₂₇	E ₂₂	E ₁₇	18	21	J ₂₁	J ₃₆	J ₂₆
24	J ₄₁	J ₃₇	J ₅₂	J ₈₉	48	J ₅₀	J ₅₄	J ₃₆	J ₃₇	J ₂₄	G	G	C	E ₂₅	E ₃₁	B	E ₃₄	E ₃₆	E ₂₆	20	29	24	J ₃₀	J ₃₁
25	J ₃₈	J ₄₀	J ₄₁	J ₆₅	J ₄₁	J ₅₀	J ₂₅	B	B	J ₄₂	J ₄₂	J ₅₈	E ₄₈	E ₅₈	E ₂₉	E ₃₂	E ₂₉	E ₁₉	17	32	J ₃₁	J ₃₄	J ₃₆	J ₇₂
26	J ₄₀	J ₄₂	J ₅₀	J ₇₀	J ₂₀	J ₅₀	J ₄₂	J ₃₈	19	25	24	G	E ₃₂	E ₃₂	E ₃₈	E ₂₈	E ₂₀	E ₄₇	E ₃₇	E ₃₃	E ₁₀	J ₁₄	J ₂₄	J ₃₉
27	J ₃₂	J ₅₁	J ₅₀	J ₃₄	J ₃₆	J ₄₈	J ₄₁	B	J ₃₂	27	25	J ₂₉	G	27	G	25	23	G	E ₂₅	E ₁₆	E ₁₉	B	15	J ₃₁
28	J ₂₉	J ₆₆	J ₉₀	J ₄₁	30	J ₂₃	J ₃₅	23	22	30	G	G	27	G	27	24	21	22	J ₃₈	E ₁₀	20	16	24	B
29	B	26	J ₃₅	J ₆₂	J ₃₈	27	25	18	23	J ₃₅	24	27	27	26	E ₂₆	24	J ₅₀	E ₁₇	15	E ₁₂	B	J ₃₆	J ₃₅	J ₃₆
30	J ₃₀	J ₃₅	J ₂₆	J ₇₀	J ₁₁₄	J ₁₂₅	J ₃₆	J ₂₄	B	B	E ₂₈	E ₂₆	E ₃₃	27	27	27	24	E ₂₁	E ₅₆	E ₃₂	E ₁₈	J ₃₁	J ₃₄	J ₄₀
31	J ₃₈	J ₄₆	J ₅₁	B	J ₅₂	J ₄₁	B	J ₆₆	J ₅₅	J ₃₈	E ₄₈	B	B	B	E ₆₂	E ₃₅	E ₂₆	E ₂₆	E ₅₂	E ₅₀	24	23	J ₂₄	J ₃₆
00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
CNT	30	30	28	28	29	27	28	27	24	24	26	27	26	27	28	27	31	29	30	26	22	25	27	30
MED	J ₃₄	J ₃₆	J ₄₀	J ₄₂	J ₄₁	J ₃₈	J ₃₈	J ₂₆	J ₂₄	24	U ₂₂	24	U ₂₄	24	E ₂₆	U ₂₁	E ₂₆	E ₂₁	E ₂₂	E ₁₈	21	J ₂₁	J ₂₆	J ₃₀
UQ	J ₃₉	J ₄₂	J ₅₀	J ₅₂	J ₅₀	J ₄₉	J ₄₂	J ₄₁	J ₃₆	32	24	27	U ₃₀	27	E ₃₂	E ₃₂	E ₃₄	E ₃₃	E ₃₅	19	J ₂₉	J ₂₄	J ₃₂	J ₃₉
LQ	J ₃₀	J ₃₁	J ₃₅	J ₃₄	J ₃₁	J ₂₅	J ₃₀	J ₂₂	20	20	E ₂₀	E ₂₂	22	23	21	24	20	E ₁₉	E ₁₆	E ₁₄	E ₁₈	J ₁₈	J ₂₂	J ₂₂

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AUG. 1967

FOES (0.1 MHz)

IONOSPHERIC DATA

AUG. 1967

F-MIN (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	13	11	11	10	12	12	12	B	16	14	19	17	18	16	16	19	16	11	9	12	9	9	8	8
2	8	8	9	9	10	12	10	11	11	8	13	13	16	12	16	11	8	9	8	8	9	6	7	9
3	6	7	8	9	9	9	10	9	9	10	10	14	17	16	14	11	10	10	9	9	6	6	9	8
4	8	6	8	6	6	C	C	9	9	10	12	26	19	15	16	13	13	17	18	11	10	13	9	10
5	29	13	11	12	21	10	10	9	10	10	18	40	19	10	16	11	9	9	9	13	13	B	17	9
6	8	8	9	9	8	8	9	12	10	33	24	16	12	B	B	35	35	33	19	14	14	10	9	8
7	5	10	10	13	16	10	12	10	9	9	10	14	30	58	44	51	23	21	18	18	18	B	9	9
8	10	37	10	16	16	B	16	16	16	B	B	52	B	60	60	16	17	16	13	B	12	10	11	10
9	9	9	14	12	11	11	10	9	10	9	9	11	13	14	15	14	13	15	13	10	9	10	10	10
10	9	5	10	16	13	16	11	11	B	B	23	21	20	18	17	16	18	20	37	B	B	12	12	14
11	14	16	18	37	37	13	11	14	18	19	18	16	50	31	34	33	11	13	8	9	9	10	10	16
12	37	17	12	16	B	B	13	10	12	11	11	17	20	18	34	47	35	B	23	B	B	B	B	10
13	18	12	B	16	11	14	11	10	11	10	11	11	16	16	11	11	16	18	12	8	B	8	9	9
14	8	8	10	11	25	35	22	14	B	31	B	B	48	48	B	B	58	45	B	B	B	10	10	8
15	7	8	B	B	11	14	11	8	11	11	11	11	9	14	14	11	32	34	31	11	B	10	B	9
16	8	6	14	15	14	15	11	8	11	12	18	20	17	15	23	33	29	23	33	14	B	10	11	9
17	8	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	43	35	15	8	11	8	9	8
18	8	8	8	33	13	11	10	11	9	B	B	B	B	B	21	21	27	30	16	B	12	11	8	8
19	11	11	13	15	11	15	13	10	11	B	B	25	25	21	20	23	28	33	15	15	B	B	B	8
20	26	11	15	19	14	15	11	19	B	B	28	36	18	20	31	B	54	B	35	15	9	11	11	11
21	9	10	10	15	13	E	12	7	B	25	15	18	15	18	18	14	15	11	26	18	B	B	B	8
22	8	8	8	17	14	10	11	10	11	13	17	16	16	13	15	13	11	8	12	11	9	8	12	9
23	8	7	7	11	9	9	8	11	11	14	13	12	11	16	19	48	27	22	17	14	12	9	9	8
24	9	14	13	11	9	12	11	11	16	12	16	20	C	25	31	B	34	36	26	16	17	11	8	8
25	8	9	11	8	8	8	8	B	B	23	16	21	48	58	29	32	29	19	11	9	8	8	8	9
26	8	9	8	11	11	11	13	9	9	11	11	17	32	32	38	28	20	47	37	33	10	7	11	6
27	11	11	18	18	23	22	36	B	12	12	13	12	11	13	15	20	16	13	25	16	19	B	11	10
28	9	15	16	16	12	11	9	9	11	11	12	14	13	14	13	14	14	10	9	10	8	7	11	B
29	B	14	8	7	11	11	10	10	8	9	11	11	14	15	26	14	12	17	11	12	B	17	14	11
30	8	9	18	8	8	7	8	6	B	B	28	26	33	16	14	18	11	21	56	32	18	9	8	7
31	13	13	22	B	19	20	B	17	11	11	48	B	B	B	62	35	26	26	52	50	14	11	11	8
	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	30	30	30	30	29	29	30	30	30	30	30	29	30	30	30	31	31	31	31	31	31	31	31
MED	9	10	11	14	12	12	11	10	11	12	16	17	18	17	20	20	18	20	17	14	13	10	10	9
UQ	12	13	15	16	16	15	12	14	16	31	24	26	32	32	34	35	29	33	28	25	B	12	12	10
LQ	8	8	9	10	10	10	10	9	10	10	11	14	15	15	15	14	13	13	12	10	9	8	9	8

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AUG. 1967

F-MIN (0.1 MHz)

IONOSPHERIC DATA

AUG. 1967

H^oF2 (KM)

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																								
2																								
3																								
4																								
5																								
6															B	B								
7																								
8											B		B											
9																								
10																								
11																								
12																								
13																								
14											B	B			B	B								
15																								
16																								
17											C	C	C											
18											B	B	B	B										
19											B													
20																								
21																								
22																								
23																								
24														C			B							
25																								
26																								
27																								
28																								
29																								
30									B	B														
31												B	B	B										
CNT																								
MED																								
UQ																								
LQ																								

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AUG. 1967

H^oF2 (KM)

IONOSPHERIC DATA

AUG. 1967

H'F (KM)

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	A	B	B	350	380	B	B	B	B	250	230	225	205	205	200	205	225	205	215	220	220	255	290	A	
2	300	A	B	B	B	B	B	B	B	305	250	225	225	220	215	205	225	240	200	220	200	B	B	B	B
3	B	B	B	B	B	B	A	A	A	250	240	225	210	215	200	200	200	200	250	200	A	A	350	240	
4	B	310	B	A	A	C	C	B	B	270	240	235	210	245	220	240	210	210	230	225	270	A	A	A	A
5	B	A	A	A	A	A	A	300	200	270	230	B	205	240	240	225	200	210	220	265	B	B	B	B	
6	A	A	A	A	A	380	340	290	300	B	240	240	240	B	B	240	260	250	225	B	210	B	B	A	
7	A	A	A	A	A	A	A	350	290	255	250	245	250	255	275	275	225	255	240	225	295	B	A	A	
8	A	B	A	A	A	B	B	B	B	B	B	B	B	B	250	220	200	205	205	B	305	A	305	B	
9	A	A	A	A	A	A	410	A	290	240	225	240	220	210	225	205	225	200	210	205	250	B	275	245	
10	B	A	A	A	A	B	A	A	B	B	255	240	240	225	240	240	230	235	250	B	B	A	A	A	
11	A	A	A	B	B	B	A	B	375	300	255	255	B	240	245	225	205	235	210	255	A	A	A	A	
12	B	A	A	A	B	B	A	A	305	250	250	250	225	230	225	240	240	B	240	B	B	B	B	A	
13	A	A	B	A	A	A	A	A	275	240	235	235	205	225	205	210	240	205	225	255	B	B	B	A	
14	A	A	A	A	A	A	A	A	B	290	B	B	300	350	B	B	250	250	B	B	B	B	A	A	
15	A	A	B	B	A	A	A	A	305	245	230	250	295	225	240	205	240	280	240	240	B	B	B	A	
16	A	A	A	A	A	A	A	A	300	240	235	230	220	220	230	230	220	225	240	240	B	A	B	A	
17	350	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	270	250	240	290	A	B	A	A	
18	A	A	A	B	B	A	A	A	A	B	B	B	B	B	255	250	240	255	255	B	A	B	A	A	
19	A	A	A	A	A	B	A	A	A	B	B	250	240	230	205	225	240	250	230	250	B	B	B	A	
20	B	A	A	A	A	A	A	B	B	B	250	240	240	215	225	B	255	B	250	240	B	A	B	B	
21	A	A	A	A	A	A	A	405	B	260	240	225	240	240	240	205	225	215	250	230	B	B	B	B	
22	A	B	A	A	A	400	350	320	400	240	225	240	235	225	220	220	225	215	210	225	210	A	B	325	
23	B	A	A	A	390	350	405	A	310	250	225	225	205	225	240	225	230	205	225	230	250	B	A	A	
24	A	A	A	A	A	A	A	A	A	270	250	250	C	250	240	B	240	250	240	235	A	290	A	A	
25	A	A	A	A	A	375	345	B	B	290	260	260	B	B	250	240	240	240	225	A	A	A	A	A	
26	A	A	A	A	A	A	A	A	280	250	250	240	250	250	240	225	220	250	250	250	230	A	A	A	
27	A	A	A	A	A	A	B	B	295	250	240	250	235	225	240	220	215	225	230	225	230	B	330	355	
28	A	A	A	A	A	400	355	305	280	255	250	240	240	240	225	205	225	200	220	200	240	280	300	B	
29	B	A	A	405	A	450	370	300	250	235	240	225	240	225	245	215	205	230	210	205	B	280	A	A	
30	A	A	B	A	350	345	350	350	B	B	255	250	240	225	230	240	210	245	240	250	280	B	A	A	
31	A	A	A	B	A	B	B	A	A	305	B	B	B	B	B	290	295	230	300	265	250	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	1		2	3	7	8	8	17	23	25	25	24	25	27	27	31	29	30	24	12	4	6	4	
MED	325	310		378	380	380	352	312	295	250	240	240	240	225	240	225	225	230	230	238	245	280	302	285	
UQ					385	400	388	350	305	265	250	250	240	240	240	240	240	250	240	252	265	285	330	340	
LQ					365	362	348	300	280	242	230	225	220	220	225	210	218	205	220	222	225	268	290	242	

AUG. 1967

H'F (KM)

IONOSPHERIC DATA

AUG. 1967

H°ES (KM)

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	125	165	125	100	100	150	105	B	B	B	B	150	115	105	105	B	100	100	105	105	105	115	125	115
2	100	100	105	100	100	125	125	100	105	100	105	100	100	100	100	100	100	100	105	100	100	100	100	120
3	130	100	115	125	105	100	100	100	100	100	100	100	120	105	100	100	100	100	100	100	100	100	100	100
4	100	100	100	100	100	C	C	105	105	100	155	B	140	125	115	115	B	B	B	105	125	140	105	125
5	100	105	120	120	100	100	100	100	100	100	B	B	105	125	105	100	140	100	100	100	130	B	110	100
6	105	105	100	105	100	100	100	100	100	140	B	100	105	B	B	B	B	B	B	100	B	B	155	100
7	100	100	110	105	100	100	105	105	G	100	100	100	B	B	B	B	B	B	B	B	B	B	110	105
8	105	145	100	105	105	B	100	100	100	B	B	B	B	B	B	G	145	B	B	B	B	105	145	140
9	125	100	100	100	100	100	125	100	100	105	100	G	100	100	105	100	105	B	B	B	100	100	105	100
10	125	100	105	100	100	100	100	100	B	B	B	125	150	G	140	100	B	B	B	B	B	115	105	115
11	120	105	100	125	125	100	100	100	100	105	G	105	B	B	B	B	115	100	100	115	100	105	120	105
12	110	100	100	100	B	B	100	100	110	115	100	120	G	115	B	B	B	B	B	B	B	B	B	115
13	120	105	B	100	100	100	100	100	125	130	160	100	G	125	100	100	120	B	125	120	B	140	100	140
14	100	105	105	100	100	100	100	100	B	B	B	B	B	B	B	B	B	B	B	B	B	105	100	105
15	105	105	B	B	100	110	105	100	100	G	G	G	100	150	G	100	B	B	B	B	B	140	B	110
16	105	105	120	100	100	100	100	100	105	110	125	150	125	G	B	B	B	B	B	B	B	115	120	100
17	105	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	B	B	100	110	120	110	100
18	100	100	105	120	100	100	100	100	100	B	B	B	B	B	G	B	B	B	B	B	105	130	105	105
19	110	100	100	135	100	100	105	105	100	B	B	B	B	170	G	B	B	B	B	B	B	B	B	105
20	130	105	115	105	100	100	100	B	B	B	B	B	G	150	B	B	B	B	B	B	120	120	100	125
21	105	105	105	110	105	100	105	100	B	B	165	G	150	150	125	125	155	G	B	B	B	B	B	105
22	105	120	110	105	100	100	100	100	G	G	150	150	130	140	115	120	100	120	B	B	140	120	100	110
23	140	105	100	110	125	100	110	100	105	G	155	150	G	150	150	B	B	B	B	100	100	100	105	100
24	105	120	105	100	100	100	100	105	100	110	G	G	C	B	B	B	B	B	B	100	105	150	105	110
25	105	100	105	100	100	100	100	B	B	155	100	150	B	B	B	B	B	B	100	105	100	100	100	100
26	100	100	100	100	100	100	105	100	100	100	120	G	B	B	B	B	B	B	B	B	B	100	150	100
27	105	105	105	110	145	100	110	B	100	150	125	125	G	120	G	145	120	G	B	B	B	150	130	
28	120	115	115	105	100	115	110	115	100	100	G	G	155	G	150	140	150	110	115	B	100	150	100	B
29	B	100	100	100	100	100	100	100	100	100	150	140	140	140	B	115	125	B	125	B	B	140	125	130
30	125	105	130	100	100	100	100	100	B	B	B	B	B	110	105	140	115	B	B	B	B	125	110	105
31	105	105	100	B	105	140	B	100	100	100	B	B	B	B	B	B	B	B	B	B	105	100	120	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	30	28	28	29	27	28	26	21	18	15	15	14	17	13	14	14	7	9	12	16	24	27	30
MED	105	105	105	102	100	100	100	100	100	102	125	125	122	125	105	108	118	100	105	100	105	115	105	105
UQ	120	105	112	110	100	100	105	100	105	115	152	150	140	150	125	125	140	105	115	105	115	135	120	115
LQ	105	100	100	100	100	100	100	100	100	100	100	100	105	110	105	100	100	100	100	100	100	100	100	100

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AUG. 1967

H°ES (KM)

IONOSPHERIC DATA

SEP. 1967

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	30	A	A	C	F	B	B	B	B	B	B	B	F ₇₅	E ₈₂	89	F	R	80	F	F	A	A	A	A
2	A	F	A	B	A	B	F	F	47	B	B	B	81	70	F	F	F	R	F	J ₅₂	A	R	A	R
3	A	A	A	A	27	F	R	F	F	56	59	J ₇₂	F ₇₂	F	F	F	F	R	R	F	F	F	13	18
4	15	A	A	F	F	F	F	A	B	55	63	70	83	99	94	101	F	97	F	F	F	F	18	20
5	A	A	A	A	A	F	F	F	F	69	F	91	J ₁₀₀	F	J ₉₈	R	R	R	F	R	R	F	F	F
6	F	F	F	J ₃₆	R	F	J ₃₀	B	F	J ₆₈	81	89	94	89	92	93	F	91	R	R	F	F	F	R
7	A	A	30	S	F	R	F	F	F	F	72	80	90	101	106	J ₁₀₀	R	R	R	55	A	A	A	A
8	A	38	F	38	A	F	S	F	F	F	60	74	82	73	81	F	R	102	F	R	A	A	A	C
9	A	C	F	A	A	A	F	B	41	51	52	59	67	72	79	F	F	F	F	F	F	F	R	A
10	A	A	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	80	J ₆₄	53	41	J ₃₄	U ₂₄	26
11	21	F	H ₂₅	F	F	26	J ₂₅	42	55	70	81	85	90	90	97	R	J ₁₀₂	R	82	R	C	C	C	C
12	C	C	C	C	C	R	R	R	J ₅₁	68	77	C	C	C	C	C	C	C	U ₈₁	62	R	J ₄₂	R	21
13	18	A	A	A	A	A	A	A	B	U ₃₉	A	40	42	64	81	R	J ₁₀₅	R	F	A	A	A	A	A
14	A	A	A	B	A	A	A	A	43	44	50	55	59	60	61	70	R	B	R	R	A	A	F	A
15	B	B	B	B	B	B	B	B	43	B	B	B	B	B	68	J ₇₂	67	64	57	52	J ₅₀	R	J ₂₄	A
16	40	A	A	A	B	A	B	B	B	48	54	58	67	73	J ₈₁	J ₈₆	R	R	R	B	30	B	B	R
17	A	A	32	32	30	R	R	R	53	J ₅₈	J ₆₇	J ₈₀	J ₉₂	J ₁₀₂	93	J ₉₆	R	R	R	R	R	F	A	A
18	C	A	A	A	A	A	R	R	51	62	J ₇₇	87	99	J ₁₀₄	93	F	110	F	F	R	R	A	A	A
19	A	F	A	F	F	B	A	A	A	B	B	B	B	70	69	71	75	87	B	B	F ₃₈	F	A	R
20	A	A	A	A	B	A	A	K	A	41	44	B	B	B	B	R	J ₈₄	80	40	34	R	R	35	A
21	A	A	A	A	B	B	B	A	B	39	B	B	B	B	B	53	54	50	C	A	A	A	A	B
22	B	A	A	B	B	A	B	A	B	R	43	48	48	R	48	49	54	61	57	51	41	R	R	R
23	R	R	A	R	A	J ₄₂	33	44	49	58	65	70	76	F	J ₇₆	80	R	R	R	R	R	R	R	F
24	J ₃₂	R	R	31	R	R	44	R	J ₇₁	J ₇₅	J ₈₂	J ₈₇	F	89	J ₉₆	93	J ₉₇	J ₈₉	J ₈₉	R	R	R	R	A
25	A	A	B	B	61	R	R	R	79	J ₈₁	J ₈₅	94	J ₁₀₅	109	105	J ₁₀₁	R	83	85	R	66	52	R	A
26	A	B	A	A	R	R	R	F	58	64	68	73	83	90	86	81	R	76	R	R	R	R	J ₄₁	A
27	A	A	A	A	A	A	R	J ₆₀	60	J ₆₆	65	68	78	80	81	80	80	R	R	R	R	R	R	25
28	R	R	R	R	R	68	A	A	A	A	B	B	55	70	F	B	65	R	R	R	A	R	A	K
29	A	R	A	R	A	B	R	F	B	R	B	B	B	70	72	66	58	J ₅₀	R	R	A	28	A	A
30	A	B	R	B	37	B	B	B	B	B	B	B	B	B	B	70	B	R	R	R	26	A	A	K
31																								
CNT	6	1	3	4	4	4	5	4	13	18	20	19	21	20	22	17	13	14	8	7	7	4	7	5
MED	26	38	30	34	34	38	33	46	51	60	65	73	81	81	84	80	80	80	72	52	41	38	24	20
UQ	32		31	37	49	55	44	54	58	68	77	86	90	94	94	93	J ₉₇	89	84	54	46	47	30	21
LQ	18		28	32	28	30	J ₃₀	43	47	51	53	64	67	70	76	70	65	64	57	52	34	31	18	20

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SEP. 1967

FOF2 (0.1 MHZ)

IONOSPHERIC DATA

SEP. 1967

FOF1 (0.01 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									B	B	B	B												
2										B	B	B												
3																								
4									B															
5																								
6																								
7																								
8																								
9										L		L												
10									C	C	C	C	C	C	C	C	C							
11																								
12												C	C	C	C	C	C							
13									B	B					B	L								
14											B	400	410		B	B	B							
15								B		B	B	B	B	B	B	L								
16								B	B		L	360	L	L										
17															L									
18						L	L				L				L									
19									B	B	B	B	B	B	B	L	L							
20										350	360	B	B	B	B	B	B	L	L					
21									B		B	B	B	B	B		380	370	A					
22									B	350	380	380	400	440	400									
23										L	B		L	L										
24										L	L	L	L		L									
25								L		L	L	L	L											
26								L	L	L	420	L	L		L									
27						L	L	420	L	L	420	L	L	L										
28													430	440	450	B								
29								350	B		B	B	B	B	B									
30								B	B	B	B	B	B	B	B	400	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								1	1	2	3	4	3	2	2	2	1							
MED							350	420	350	380	390	410	440	425	390	370								
UQ										400	410	420												
LQ										370	370	405												

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SEP. 1967

FOF1 (0.01 MHZ)

IONOSPHERIC DATA

SEP. 1967

FOE (0.01 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						B	B	B	B	B	B	B	B	B	B	B	200	A	B	B					
2						B	A	B	A	B	B	B	B	B	B	245	B	B	A	A					
3						B	A	A	200	A	245	250	270	250	240	220	B	B	B	B					
4						A	A	B	B	A	A	B	B	B	A	A	200	B	B	B					
5						A	A	A	190	220	240	250	255	250	A	A	A	A	B	B					
6						A	A	B	A	A	240	250	260	250	240	A	A	170	B	B					
7						A	A	A	190	220	B	250	260	255	250	A	200	A	A	A					
8						A	A	A	200	220	230	250	270	255	250	A	195	A	120	B					
9						A	B	B	A	225	230	240	B	B	B	230	B	B	B	B					
10						A	C	C	C	C	C	C	C	C	C	C	C	A	A	A					
11						110	A	A	200	220	245	250	265	255	250	200	B	110	A						
12						A	B	175	190	225	230	C	C	C	C	C	C	C	A	A					
13						A	A	A	B	B	A	250	A	B	260	B	205	A	A	A					
14						B	A	A	A	B	B	B	B	B	B	B	B	B	A	A					
15						B	B	B	A	B	B	B	B	B	B	240	210	B	175	125					
16						B	B	B	B	B	230	275	280	275	A	240	B	B	B	B					
17						A	B	B	200	220	240	A	A	270	B	230	225	200	190	115					
18						A	A	180	195	215	250	275	280	275	260	A	225	205	170	130					
19						B	B	A	A	B	B	B	B	B	B	250	B	B	B	B					
20					B	B	B	B	A	A	250	B	B	B	B	B	B	B	B	A	B				
21					B	B	B	B	B	230	B	B	B	B	B	B	215	A	C	A	A				
22					B	B	B	B	B	250	270	B	280	B	270	260	240	210	B	B	130				
23					A	A	A	190	205	B	B	250	B	280	275	B	225	A	B	B	B				
24					A	B	A	A	235	250	270	280	290	280	275	B	250	B	B	150	B				
25					B	B	B	200	215	250	270	290	295	285	280	275	250	200	195	B	A				
26					A	150	170	200	240	265	280	300	310	300	290	B	B	225	190	A	A				
27					B	A	130	200	A	250	275	290	300	290	285	270	250	220	180	B	B				
28					B	A	B	A	A	A	B	B	B	B	A	B	250	200	150	A	A				
29					B	B	A	225	B	265	B	B	B	B	B	B	B	175	A	A	A				
30					A	B	B	B	B	B	B	B	B	B	B	B	B	210	A	A	A				
31																									
CNT						2	2	7	12	15	16	15	13	14	13	11	15	11	8	4	1				
MED					130	150	200	200	225	245	250	280	272	260	240	225	200	178	128	130					
UQ							200	210	250	270	278	290	280	275	255	245	210	190	140						
LQ							185	192	220	235	250	265	255	250	230	202	188	160	120						

SEP. 1967

FOE (0.01 MHz)

SEP. 1967

FOES (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	J ₂₆	J ₁₀₈	J ₆₂	C	J ₆₅	B	B	B	B	B	B	B	E ₃₇	E ₃₃	E ₄₇	E ₂₉	G	20	E ₃₈	E ₃₆	32	J ₃₉	J ₃₈	J ₅₀	
2	J ₄₁	J ₉₆	J ₅₃	B	J ₃₆	B	J ₆₉	J ₂₈	J ₃₇	B	B	B	E ₄₈	E ₄₈	E ₆₇	27	E ₈₆	E ₆₁	24	J ₅₀	J ₄₀	24	J ₂₇	J ₂₅	
3	J ₃₆	J ₃₂	J ₃₅	J ₂₈	23	J ₃₇	J ₃₅	J ₃₇	J ₃₂	22	G	G	G	G	G	G	E ₃₉	E ₂₄	E ₁₇	E ₁₇	E ₉	12	21	17	
4	J ₂₅	J ₅₀	J ₄₅	J ₂₉	J ₂₄	J ₃₂	J ₄₂	J ₃₃	B	J ₄₂	29	E ₄₉	E ₄₈	E ₃₃	26	26	J ₃₄	E ₃₆	E ₃₁	E ₂₀	E ₃₃	J ₃₈	J ₁₈	27	
5	24	J ₃₇	J ₃₈	J ₃₇	J ₃₈	J ₃₄	J ₃₃	J ₂₄	J ₃₀	26	28	J ₃₁	J ₄₀	J ₉₆	30	J ₃₃	27	22	E ₁₄	E ₁₁	16	13	J ₂₀	J ₂₀	
6	18	J ₅₅	J ₅₂	J ₃₁	23	J ₄₀	J ₃₈	B	J ₂₈	26	G	G	29	30	28	28	22	J ₄₁	E ₁₄	E ₁₁	E ₁₃	13	15	J ₂₈	
7	J ₄₁	J ₂₄	J ₃₈	J ₂₃	23	J ₂₀	J ₂₀	J ₁₈	G	G	E ₂₈	27	32	30	29	27	24	21	J ₁₅	J ₃₈	J ₃₄	J ₄₂	J ₃₇	J ₃₅	
8	J ₄₁	J ₃₄	J ₃₁	J ₂₈	J ₃₂	J ₂₃	J ₄₁	J ₃₃	J ₂₂	26	30	30	G	G	J ₄₁	27	J ₂₀	33	J ₁₈	E ₁₀	J ₄₀	J ₄₁	J ₅₅	C	
9	J ₆₀	C	J ₂₆	J ₅₄	J ₄₇	J ₅₀	29	B	J ₄₂	21	27	29	E ₃₆	E ₂₉	E ₃₃	G	E ₄₅	E ₃₈	E ₃₉	E ₁₄	E ₁₃	J ₂₃	J ₂₄	J ₅₂	
10	J ₄₅	J ₃₇	J ₃₈	J ₅₃	J ₃₈	27	C	C	C	C	C	C	C	C	C	C	C	29	20	J ₁₅	J ₃₉	J ₂₀	J ₂₀	J ₁₅	
11	J ₂₀	J ₁₈	J ₂₄	J ₁₄	19	J ₁₃	J ₂₃	22	22	G	J ₃₀	G	G	G	G	G	G	E ₂₀	G	22	C	C	C	C	
12	C	C	C	C	C	25	E ₁₉	G	23	G	G	C	C	C	C	C	C	C	16	17	13	10	J ₁₈	J ₃₃	
13	J ₂₆	J ₃₂	J ₂₆	J ₂₉	J ₄₄	J ₃₆	J ₂₅	J ₃₈	B	B	J ₃₇	27	J ₂₅	E ₄₈	G	E ₃₈	26	26	J ₂₃	J ₄₁	J ₆₅	J ₄₃	J ₄₂	J ₆₅	
14	J ₄₃	J ₃₀	J ₃₃	B	J ₃₈	J ₄₅	J ₄₀	J ₃₀	31	E ₃₈	E ₄₀	E ₃₄	E ₃₂	E ₄₈	E ₄₄	E ₅₉	E ₂₃	B	J ₂₃	28	J ₃₃	J ₃₈	23	J ₃₇	
15	B	B	B	B	B	B	B	B	J ₃₇	B	B	B	B	B	E ₃₀	G	G	E ₂₆	G	G	E ₁₂	23	18	J ₃₇	
16	J ₂₆	J ₃₅	31	J ₅₀	B	J ₃₂	B	B	B	E ₃₃	G	G	G	G	J ₂₅	G	E ₃₄	E ₃₀	E ₁₉	B	E ₁₁	B	B	J ₂₁	
17	20	J ₂₈	J ₂₈	J ₃₂	J ₃₀	J ₂₄	J ₃₇	E ₃₉	29	G	28	30	30	G	E ₄₉	G	27	24	G	G	J ₆₂	J ₂₄	24	J ₂₅	
18	C	J ₂₃	J ₃₄	J ₃₃	J ₃₀	J ₂₄	J ₁₈	G	G	24	G	G	G	G	G	27	G	G	G	G	E ₁₁	J ₂₆	J ₈₅	39	
19	J ₆₄	J ₃₇	J ₆₂	J ₂₄	J ₃₅	B	J ₃₄	J ₄₅	J ₃₈	B	B	B	B	E ₆₀	E ₅₀	G	E ₂₂	E ₆₀	B	B	E ₁₈	24	30	31	
20	J ₆₅	J ₄₇	J ₄₀	J ₆₅	B	J ₄₀	J ₂₀	E ₃₇	J ₄₉	J ₃₇	G	B	B	B	B	E ₅₄	E ₃₄	E ₃₃	E ₂₂	17	24	23	J ₃₇	J ₇₂	
21	J ₂₈	J ₅₅	J ₃₀	J ₅₅	B	B	B	26	B	30	B	B	B	B	B	E ₂₉	27	J ₂₈	C	J ₁₁	33	J ₂₅	J ₇₄	B	
22	B	J ₃₀	37	B	B	35	B	J ₃₇	B	G	G	E ₃₁	G	E ₃₃	G	G	G	G	E ₂₁	E ₁₈	G	13	24	18	
23	21	25	J ₂₇	J ₂₄	J ₃₇	23	19	24	G	E ₃₂	E ₄₈	G	E ₃₁	27	G	E ₃₄	26	23	E ₂₁	E ₁₇	E ₁₉	E ₁₄	12	21	
24	17	24	J ₂₅	19	18	E ₁₄	J ₄₂	J ₃₇	G	30	G	31	G	G	G	E ₃₄	G	E ₂₃	E ₂₀	G	J ₂₄	E ₁₁	15	J ₁₉	
25	J ₃₈	J ₄₁	B	B	J ₃₂	J ₂₆	18	G	G	G	G	31	32	30	G	G	G	G	G	E ₁₅	20	E ₁₀	17	J ₃₈	
26	J ₃₃	B	J ₃₅	J ₃₅	22	24	G	G	G	G	G	G	G	G	G	E ₂₈	E ₃₉	G	G	18	J ₂₀	22	20	J ₃₁	
27	32	J ₂₂	J ₄₀	J ₃₈	J ₄₃	J ₄₁	23	26	J ₃₅	32	G	G	G	G	G	G	G	G	G	E ₂₇	E ₁₂	J ₂₀	16	22	
28	J ₃₇	J ₂₃	J ₂₁	31	J ₄₇	J ₂₃	J ₅₂	J ₃₈	J ₆₆	J ₃₂	B	B	E ₄₀	E ₃₃	30	B	G	29	J ₃₂	J ₃₀	J ₃₈	24	J ₄₂	26	
29	J ₇₇	18	J ₄₄	J ₂₂	J ₇₁	B	J ₃₁	31	B	G	B	B	B	E ₆₂	E ₆₀	E ₃₄	E ₃₉	G	29	J ₃₈	J ₃₄	J ₈₈	J ₃₄	J ₁₁₃	
30	J ₅₄	B	J ₃₀	B	24	B	B	B	B	B	B	B	B	B	B	E ₃₃	B	26	30	J ₃₂	19	25	J ₂₈	20	
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	25	27	22	24	23	23	23	21	23	21	19	22	24	25	27	27	28	28	28	29	28	28	27	
MED	J ₃₄	J ₃₂	J ₃₅	J ₃₁	J ₃₄	J ₂₇	J ₃₁	J ₂₈	J ₂₉	U ₂₄	G	E ₂₇	E ₃₀	E ₃₀	E ₂₈	E ₂₇	E ₂₄	E ₂₅	E ₂₀	E ₁₈	20	24	J ₂₄	J ₂₈	
UQ	J ₄₃	J ₄₁	J ₄₀	J ₃₈	J ₄₀	J ₃₆	J ₃₉	J ₃₆	J ₃₇	U ₃₀	28	30	E ₃₆	E ₄₀	E ₄₁	E ₃₃	U ₂₉	U ₂₉	U ₂₂	30	J ₃₄	J ₃₂	J ₃₇	J ₃₈	
LQ	J ₂₅	J ₂₄	J ₂₉	J ₂₄	24	J ₂₄	20	23	G	G	G	G	G	G	G	G	G	E ₂₀	E ₁₄	E ₁₂	E ₁₃	14	18	21	

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SEP. 1967

FOES (0.1 MHz)

IONOSPHERIC DATA

SEP. 1967

F-MIN (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	7	17	13	C	9	B	B	B	B	B	B	B	37	33	47	29	14	9	38	36	14	11	10	6	
2	14	8	7	B	11	B	8	23	10	B	B	B	48	48	67	13	86	61	9	11	9	11	7	7	
3	11	10	11	10	15	13	11	11	10	11	18	11	20	10	11	16	39	24	17	17	9	8	9	9	
4	7	6	12	11	11	10	13	25	B	21	22	49	48	33	23	14	9	36	31	20	33	10	8	13	
5	16	11	9	8	11	12	9	8	9	11	11	10	16	16	14	12	11	11	14	11	8	6	8	8	
6	8	7	6	7	13	11	11	B	15	16	11	11	15	16	17	10	14	14	14	11	13	11	8	9	
7	8	11	9	9	8	5	8	11	15	15	28	17	19	18	14	14	13	11	9	8	8	9	8	7	
8	8	9	9	8	9	8	8	7	9	11	18	23	12	11	11	11	9	18	11	10	8	8	9	C	
9	15	C	10	11	16	12	18	B	13	13	14	12	36	29	33	19	45	38	39	14	13	11	9	13	
10	11	12	20	22	14	10	C	C	C	C	C	C	C	C	C	C	C	12	9	8	8	7	8	8	
11	8	8	8	7	7	7	7	8	11	12	12	11	17	11	15	15	17	20	10	10	C	C	C	C	
12	C	C	C	C	C	10	19	15	15	14	14	C	C	C	C	C	C	C	11	9	9	8	10	9	
13	6	10	7	8	11	9	8	18	B	B	15	11	13	48	9	38	15	14	10	8	8	10	7	9	
14	10	11	11	B	13	15	12	14	12	38	40	34	32	48	44	59	23	B	14	15	11	8	11	6	
15	B	B	B	B	B	B	B	B	16	B	B	B	B	B	30	17	18	26	15	9	12	9	9	7	
16	8	10	10	21	B	18	B	B	B	33	16	17	18	13	12	12	34	30	19	B	11	B	B	11	
17	9	9	9	11	11	8	31	39	14	11	13	11	11	16	49	11	10	11	11	9	9	9	15	10	
18	C	9	11	8	9	8	9	12	14	14	14	21	23	18	15	14	14	12	11	12	11	17	14	16	
19	18	11	16	15	11	B	22	12	16	B	B	B	B	60	50	18	22	60	B	B	18	12	12	12	
20	21	12	14	16	B	18	21	37	19	15	16	B	B	B	B	54	34	33	22	12	13	13	11	11	
21	11	11	9	48	B	B	B	19	B	16	B	B	B	B	B	29	19	11	C	11	12	11	11	B	
22	B	19	31	B	B	25	B	21	B	20	22	31	25	33	21	20	20	15	21	18	12	8	10	12	
23	13	11	10	10	9	10	10	12	16	32	48	20	31	18	10	34	14	19	21	17	19	14	10	9	
24	7	9	9	10	10	14	12	15	14	16	24	15	15	14	21	34	21	23	20	13	15	11	9	8	
25	11	14	B	B	21	18	15	15	14	13	12	22	15	18	16	12	15	15	14	15	9	10	8	9	
26	11	B	21	17	12	11	11	11	11	13	12	12	12	14	14	28	39	16	13	11	11	9	9	11	
27	15	13	12	26	24	15	11	11	14	11	11	11	12	12	12	11	11	10	12	27	12	10	9	9	
28	9	9	12	16	15	9	26	16	15	13	B	B	40	33	12	B	21	14	11	9	8	15	6	7	
29	14	11	14	8	14	B	11	14	B	17	B	B	B	62	60	34	39	15	13	12	8	11	7	11	
30	8	B	17	B	11	B	B	B	B	B	B	B	B	B	B	33	B	18	11	9	11	11	9	11	
31																									
CNT	28	28	29	28	29	30	29	29	29	29	29	28	28	28	28	28	28	28	29	29	30	29	29	29	28
MED	11	11	11	13	12	12	12	15	15	16	18	22	24	24	19	18	18	16	14	12	11	10	9	9	9
UQ	14	12	14	37	16	25	26	37	B	33	B	B	48	48	48	34	34	26	20	17	13	11	10	11	11
LQ	8	9	9	8	11	10	10	12	13	13	14	12	15	15	13	12	14	12	11	9	9	9	9	8	8

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SEP. 1967

F-MIN (0.1 MHz)

IONOSPHERIC DATA

SEP. 1967

H^oF2 (KM)

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									B	B	B	B												
2										B	B	B												
3																								
4									B															
5																								
6																								
7																								
8																								
9										L		L												
10									C	C	C	C	C	C	C	C	C							
11													C	C	C	C	C							
12													C	C	C	C	C							
13									B	B					B ₃₅₀	L								
14											B	410	350	350	325	325								
15								B		B	B	B	B	B	B	295								
16								B	B		L	300	295	295										
17															250									
18						370	295				270				250									
19									B	B	B	B	B	B	300	L	280							
20									650	540	B	B	B	B	B	355	350	380						
21									B		B	B	B	B	B	455	380	380						
22									B	R	530	450	480		R	435								
23									340	330			290		L									
24									L	290	300		285		265									
25								305		370	L	300	265											
26								L	440	L	345	350	300		255									
27							L	L	455	L	320	370	350	285	290									
28													425	450	450	B								
29								455	B		B	B	B	B	B	410								
30								B	B	B	B	B	B	B	B	410	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	3	2	3	7	7	9	7	9	4	3	2						
MED							370	305	448	370	330	350	300	295	300	382	350	380						
UQ								380		510	438	390	350	350	410	432	365							
LQ								300		355	305	300	290	268	290	340	315							

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H^oF2 (KM)

IONOSPHERIC DATA

SEP. 1967

H^oF (KM)

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	340	A	A	C	A	B	B	B	B	B	B	B	290	240	250	255	250	280	290	275	A	A	A	A
2	A	A	A	B	A	B	A	A	A	B	B	B	275	B	B	250	B	240	235	290	A	A	A	A
3	A	A	A	A	A	A	A	A	270	235	230	270	240	225	230	245	245	225	220	240	225	A	B	290
4	A	A	A	390	350	440	400	B	B	290	260	290	270	240	230	245	225	225	240	245	280	250	315	B
5	A	A	A	A	A	A	340	280	240	225	220	240	245	235	225	205	235	210	205	200	210	240	A	B
6	A	A	A	320	A	A	A	B	A	240	225	220	230	225	220	230	225	205	205	200	220	240	290	A
7	A	A	A	340	315	250	300	250	245	245	240	230	230	200	235	215	225	210	215	240	A	A	A	A
8	A	A	A	E A 410	A	A	A	340	270	230	235	245	240	215	210	240	250	265	205	230	240	A	A	C
9	A	C	A	A	A	A	A	B	A	240	245	240	250	240	255	240	270	250	240	225	225	255	A	A
10	A	A	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	210	205	205	200	225	240	275
11	340	350	350	380	390	380	320	240	240	240	230	215	205	200	235	220	230	220	205	200	C	C	C	C
12	C	C	C	C	C	365	340	250	240	240	230	C	C	C	C	C	C	C	205	210	210	220	205	225
13	A	A	A	390	A	A	A	A	B	B	230	220	225	B	230	250	240	240	275	A	A	A	A	A
14	A	A	A	B	A	A	A	A	A	B	B	275	250	B	B	B	250	B	290	250	A	A	A	A
15	B	B	B	B	B	B	B	B	A	B	B	B	B	B	250	245	240	240	230	210	210	205	250	A
16	A	A	A	A	B	A	B	B	B	B	265	245	230	240	230	240	255	240	215	B	260	B	B	A
17	A	A	A	A	A	A	B	B	250	200	240	210	230	205	240	240	225	210	225	215	255	A	A	A
18	C	A	A	A	A	A	305	250	230	240	240	240	250	235	220	240	225	220	215	230	230	A	A	A
19	A	A	A	A	A	B	A	A	A	B	B	B	B	B	B	225	240	265	B	B	240	A	A	A
20	A	A	A	A	B	A	B	B	A	320	230	B	B	B	B	B	260	300	320	340	A	300	A	A
21	A	A	A	B	B	B	B	A	B	265	B	B	B	B	B	290	290	A	C	A	A	A	A	B
22	B	A	B	B	B	B	B	B	B	250	240	230	240	B	240	255	250	250	240	230	240	300	A	A
23	A	A	A	A	A	440	305	250	230	250	B	245	230	230	230	250	240	230	225	220	240	240	235	255
24	280	305	390	350	340	330	390	305	250	235	240	225	230	225	240	250	230	240	240	240	255	305	340	A
25	A	A	B	B	A	355	310	255	240	240	240	240	235	240	225	240	240	225	235	210	210	215	250	A
26	A	B	B	A	355	320	260	250	250	240	230	220	240	225	240	230	240	230	220	225	220	210	225	A
27	A	A	A	B	B	A	A	300	275	250	230	200	230	240	225	235	230	240	230	250	235	280	280	A
28	A	A	A	A	A	A	B	A	A	A	B	B	B	270	280	B	260	270	250	A	A	330	A	245 ^H
29	A	A	A	300	A	B	A	270	B	R	B	B	B	B	B	260	260	280	A	A	A	A	A	A
30	A	B	A	B	A	B	B	B	B	B	B	B	B	B	B	275	B	280	240	A	E A 395	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	2	2	8	5	8	10	12	13	19	19	19	21	18	21	25	26	27	27	23	20	15	10	5
MED	340	328	370	355	350	360	315	252	245	240	235	240	240	232	230	240	240	240	230	230	230	240	250	255
UQ	340			388	355	410	340	290	250	250	240	245	250	240	240	250	250	258	240	242	244	290	290	275
LQ	310			330	340	325	305	250	240	238	230	220	230	225	225	235	230	222	215	210	215	222	235	245

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SEP. 1967

H^oF (KM)

IONOSPHERIC DATA

SEP. 1967

H^oES (KM)

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	105	120	105	C	100	B	B	B	B	B	B	B	B	B	B	B	G	100	B	B	110	105	105	109	
2	105	100	100	B	100	B	105	105	100	B	B	B	B	B	B	140	B	B	110	150	105	105	100	100	
3	120	110	110	105	110	120	100	100	100	130	G	G	G	G	G	G	B	B	B	B	B	120	100	145	
4	115	105	105	100	100	100	100	105	B	105	110	B	B	B	120	105	100	B	B	B	B	150	100	150	
5	140	105	105	100	100	110	100	100	100	170	145	100	120	120	120	120	115	110	B	B	110	120	100	150	
6	140	100	100	100	100	100	100	B	100	120	G	G	145	130	130	115	110	120	B	B	B	100	150	105	
7	110	110	105	100	100	100	100	100	G	G	B	155	140	140	110	105	150	120	100	100	120	105	110	100	
8	100	110	105	105	100	100	100	100	100	100	140	125	G	G	105	100	100	120	100	B	100	100	100	C	
9	100	C	105	100	100	100	125	B	100	110	140	135	B	B	B	G	B	B	B	B	B	100	115	125	
10	105	100	115	120	105	105	C	C	C	C	C	C	C	C	C	C	C	105	100	100	100	100	100	100	
11	105	100	100	100	100	100	100	100	100	G	105	G	G	G	G	G	G	B	G	100	C	C	C	C	
12	C	C	C	C	C	110	B	G	160	G	G	C	C	C	C	C	C	C	100	100	120	100	100	100	
13	125	140	110	105	100	100	105	110	B	B	105	150	100	B	G	B	140	140	125	125	150	110	140	100	
14	100	100	100	B	100	105	105	100	100	B	B	B	B	B	B	B	B	B	110	115	105	100	110	105	
15	B	B	B	B	B	B	B	B	100	B	B	B	B	B	B	G	G	B	G	G	B	100	100	105	
16	120	100	105	100	B	105	B	B	B	B	G	G	G	G	100	G	B	B	B	B	B	B	B	140	
17	120	105	100	100	100	100	125	B	170	G	150	100	100	G	B	G	150	145	G	G	125	100	135	120	
18	C	110	120	105	110	120	140	G	G	155	G	G	G	G	G	100	G	G	G	G	B	130	125	110	
19	100	100	105	125	100	B	100	105	100	B	B	B	B	B	B	G	B	B	B	B	B	110	120	105	
20	110	100	105	120	B	115	110	B	100	125	G	B	B	B	B	B	B	B	B	B	160	150	120	115	115
21	100	100	105	140	B	B	B	110	B	140	B	B	B	B	B	B	160	110	C	120	120	110	115	B	
22	B	110	120	B	B	120	B	100	B	G	G	B	G	B	G	G	G	G	B	B	G	105	105	139	
23	105	100	100	100	100	100	105	110	G	B	B	G	B	120	G	B	140	140	B	B	B	B	100	100	
24	100	100	100	105	100	B	115	125	G	130	G	130	G	G	G	B	G	B	B	G	150	B	140	100	
25	110	100	B	B	120	110	140	G	G	G	G	130	125	120	G	G	G	G	G	B	100	B	100	115	
26	120	B	105	105	120	100	G	G	G	G	G	G	G	G	G	G	G	G	G	G	100	100	100	105	
27	110	120	105	105	105	110	125	145	105	130	G	G	G	G	G	G	G	G	G	B	B	100	150	150	
28	100	105	120	140	110	120	105	100	100	105	B	B	B	B	130	B	G	150	130	110	110	150	100	100	
29	100	100	100	100	105	B	100	135	B	G	B	B	B	B	B	B	B	B	G	105	150	120	105	140	100
30	105	B	115	B	100	B	B	B	B	B	B	B	B	B	B	B	B	155	140	100	140	110	105	110	
31																									
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
CNT	26	25	27	22	24	22	21	17	15	12	7	8	6	5	7	7	9	12	10	13	18	25	28	27	
MED	105	100	105	105	100	105	105	105	100	128	140	130	122	120	120	105	140	120	108	110	115	105	105	105	
UQ	120	110	108	105	105	110	115	110	100	135	142	142	140	130	125	118	150	142	125	125	125	110	122	122	
LQ	100	100	100	100	100	100	100	100	100	108	108	112	100	120	108	102	110	110	100	100	105	100	100	100	

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SEP. 1967

H^oES (KM)

IONOSPHERIC DATA

OCT. 1967

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	33	R	B	A	B	B	B	45	55	54	57	JR 64	76	93	B	B	R	R	JR 87	R	R	JR 52	R	R
2	R	R	R	R	R	R	F	JR 67	JR 77	83	UR 81	JR 84	JF 95	96	100	102	JR 110	F	82	R	R	K	A	A
3	R	R	R	R	A	K	R	R	JR 74	F	JF 77	JF 84	JR 96	96	JR 97	R	R	JR 87	R	R	R	R	R	A
4	A	B	R	R	R	JR 61	JF 62	65	67	72	83	81	84	87	90	87	84	81	77	R	R	R	R	R
5	JR 30	A	41	A	38	R	R	B	54	F	JR 69	71	65	75	79	79	78	88	77	UR 66	F	A	A	A
6	A	A	R	R	A	R	A	B	JF 67	F	F	69	71	73	80	82	84	88	R	F	R	R	R	R
7	R	R	R	A	A	A	53	R	75	78	82	84	90	92	104	R	F	R	R	R	R	R	R	A
8	A	31	R	R	R	R	R	R	F	F	75	72	76	80	JR 87	85	93	JR 100	R	R	R	R	R	A
9	A	A	A	A	39	R	A	W	JR 55	JR 62	JR 61	JR 62	63	65	67	66	60	60	JR 63	JR 62	R	A	A	A
10	A	A	A	B	A	R	A	JR 65	F	F	53	55	58	JR 67	63	66	F	43	43	R	A	R	A	B
11	B	R	B	B	B	B	F	A	A	A	B	B	64	61	60	56	61	57	51	B	B	37	R	A
12	A	A	R	A	A	41	B	B	B	B	B	B	49	B	B	58	59	61	JR 60	51	R	B	30	31
13	F	A	A	A	B	B	B	A	60	62	F	56	57	57	54	57	55	56	R	53	F	F	F	R
14	R	A	A	A	A	46	52	F	JF 62	F 66	66	75	B	82	82	82	80	82	R	B	R	R	R	B
15	A	A	F	A	B	R	B	51	57	60	58	60	58	57	JR 57	57	59	R	JR 59	57	55	JR 51	R	R
16	R	R	32	A	B	B	A	UR 52	61	66	67	77	JF 85	F 89	F 93	86	83	75	R	62	R	F	R	R
17	R	R	R	R	JR 52	JR 62	R	R	F	F	B	B	75	74	F	F	F	JF 78	79	85	R	R	35	36
18	A	48	A	A	43	A	JR 52	R	60	61	65	JR 60	70	73	72	R	B	F	R	R	51	F	R	JR 42
19	F	A	A	43	43	B	R	JR 72	72	F	85	83	86	87	85	77	75	68	70	46	62	JR 62	R	R
20	R	A	R	R	A	A	F 55	F	66	74	75	76	76	76	75	73	72	JR 69	JR 63	JR 62	JR 62	R	R	R
21	R	R	R	R	R	R	R	70	75	80	81	80	77	74	73	73	70	68	66	R	R	R	R	R
22	R	R	R	R	R	R	84	84	88	86	90	94	96	95	89	JR 90	85	R	R	R	R	R	R	A
23	A	A	R	JR 50	R	B	A	52	JR 65	JR 72	JF 80	72	72	JF 68	64	64	B	B	60	55	R	R	R	R
24	R	37	R	42	R	R	R	JR 74	78	82	79	80	82	76	72	70	JR 70	JR 72	R	R	A	R	R	R
25	R	A	R	R	R	R	R	JR 84	R	95	105	112	116	114	116	115	112	106	R	R	JR 79	R	R	R
26	R	R	R	R	R	R	R	R	94	JR 94	JR 94	JR 95	91	94	91	85	83	78	R	R	R	R	R	R
27	R	R	34	A	R	R	R	R	R	JR 103	F	88	96	JR 105	F	102	87	89	92	R	46	F	A	A
28	A	A	A	R	A	A	R	JR 70	C	C	C	JR 78	F	77	B	B	91	JR 64	JR 61	R	JR 53	58	50	A
29	A	A	A	F	R	JR 62	A	R	F	56	61	56	63	65	67	78	79	68	R	JR 54	51	A	A	A
30	A	A	A	A	A	A	B	R	A	R	58	F	JF 70	JF 65	66	61	60	JR 60	58	59	R	56	54	R
31	R	R	R	R	R	R	R	R	99	100	JR 100	96	93	93	88	85	85	83	80	R	R	R	R	R
CNT	2	3	3	3	5	5	7	13	22	20	24	27	29	30	26	25	24	23	17	13	7	6	4	3
MED	32	37	34	43	43	JR 61	55	67	67	73	76	77	76	76	80	78	80	72	63	59	53	54	42	36
UQ		42	38	46	43	JR 62	73	JR 72	77	84	82	84	90	92	90	85	84	82	77	62	58	58	52	39
LQ		34	33	42	39	46	52	52	60	62	63	66	65	68	67	66	66	62	JR 60	54	51	JR 51	32	34

OCT. 1967

FOF2 (0.1 MHz)

IONOSPHERIC DATA

OCT. 1967

FOF1 (0.01 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									L	B		B	B	L	B	B								
2									L	L	L	L	B	L	L									
3									L		L	B	L	L	L									
4							L	L	420	440	L	L	L											
5							L	B	400	410	420	L	450	L	B	L								
6									L	L	L	L	L	L	L	L								
7							A	360	420	L	L		L	B	B	B								
8					L	L	L	L	L	L	L	B	L	L	L									
9								330	380	400	400	420	430	430	L	L								
10								370	410	410		B	420	440	450	L	420	400	A					
11													B	440	430	L	L	L	A					
12							B	B	B	B	B	B	B	B	B	L	L	L						
13								400	460	420	430	420	430	430	L	L								
14							A	380	400	440	450	B	B	L	L									
15							B		380	400	400	430	430	L	L	L								
16						B		390	400	430	430	450	L	L	L	L	L							
17								430	R	B	B	B	B	L	B	B	L							
18							350	400	390	400	430	B	430	L	L	B	B							
19						B		390	400	B	440	460	L	460	L	L								
20								370	440	400	430	430	440	450	460	L	L							
21							L	400	430	440	460	460	460	L	L	L								
22								420	400	440	L	460	L	L	L	L								
23						B		420	430	430	450	B	450	470	L	L	B	B						
24								400	410	420	440	460	460	460	460	L	L	L						
25								L	L	L	L	L	460	L		L	L							
26					L	L	R	L	L	L	L	L	L	L	L	L								
27								L	L	L	500	500	B	B	B	L	L							
28								400	450	C	C	C	470	B	470	B	B	L						
29									400	420	430	440	470	L	510	B	L							
30											R	460	450	480	470	460	L							
31						L	L	L	L	L	420	L	L	L	L									
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							6	14	16	16	16	12	14	9	4	1	1							
MED							395	400	400	430	440	445	450	460	445	420	400							
UQ							400	420	420	440	460	460	460	470	485									
LQ							370	380	400	410	425	430	430	440	430									

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OCT. 1967

FOF1 (0.01 MHz)

IONOSPHERIC DATA

OCT. 1967

FOE (0.01 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	A	A	B	B	B	B	B	A	280	B	305	B	B	B	B	B	260	250	B	B	A	A	A	A							
2	A	A	A	A	A	A	B	250	A	280	290	300	B	300	295	275	A	220	B	B	B	A	A	A							
3	A	180	185	A	190	B	A	A	250	B	B	B	B	295	290	270	250	B	B	150	A	A	A	A							
4	A	B	A	A	A	A	A	200	250	275	280	290	A	A	300	295	260	235	230	175	A	B	A	A							
5	A	A	A	A	A	A	A	B	A	A	290	295	B	B	B	260	250	240	190	175	B	A	A	A							
6	A	A	A	A	B	A	A	B	A	280	290	295	310	290	275	270	250	B	180	160	A	A	A	A							
7	A	A	A	B	A	A	A	250	255	275	285	290	300	B	B	B	B	230	B	175	B	140	A	A							
8	A	A	A	A	A	A	230	250	260	270	285	B	B	285	280	270	255	250	245	240	210	A	A	A							
9	A	A	A	A	A	A	A	A	245	255	275	280	290	280	B	275	260	250	B	B	125	A	A	A							
10	A	A	B	B	B	A	B	A	A	A	B	B	B	280	275	265	A	A	B	A	A	A	A	B							
11	B	A	B	B	B	B	A	B	A	A	B	B	B	300	295	275	260	230	A	B	B	170	A	A							
12	A	A	A	B	180	A	B	B	B	B	B	B	B	B	B	260	255	230	210	205	A	B	B	B							
13	A	A	A	A	B	B	B	B	A	260	300	305	A	A	295	275	250	280	B	B	150	140	A	A							
14	A	A	A	A	A	A	A	A	275	280	295	B	B	B	B	R	275	240	225	B	B	B	A	B							
15	B	B	B	A	B	B	B	A	270	280	290	300	305	290	280	275	270	250	A	180	150	A	A	A							
16	A	A	A	A	B	B	A	A	275	280	300	305	310	305	300	295	260	250	210	150	110	A	A	A							
17	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	270	245	B	B	B	B	A	A							
18	A	A	A	B	A	A	A	A	270	280	B	B	B	B	300	B	B	B	B	B	B	A	A	A							
19	A	A	A	A	B	B	A	A	B	280	300	305	310	305	300	295	275	260	220	200	B	B	A	A							
20	A	A	A	A	A	B	A	250	270	280	295	310	320	310	305	300	A	A	210	180	110	105	100	A							
21	B	B	A	A	160	200	230	250	280	295	300	305	A	310	300	295	280	255	220	205	175	A	105	A							
22	A	A	A	120	155	A	225	250	280	295	310	320	325	320	315	305	280	265	225	210	A	145	A	A							
23	A	A	A	A	A	B	A	A	295	300	310	B	325	A	305	300	B	B	B	B	A	A	A	A							
24	A	A	B	A	175	A	235	250	275	300	310	A	325	320	310	300	280	250	220	195	A	A	A	A							
25	A	A	A	A	A	A	240	275	295	300	305	310	A	320	A	300	A	275	250	200	A	A	A	A							
26	A	A	A	A	A	210	230	270	275	A	320	325	330	325	320	310	295	260	245	200	190	A	A	A							
27	A	A	B	B	A	A	A	280	300	305	320	335	B	B	B	B	300	270	230	A	A	175	A	A							
28	A	A	B	A	A	A	A	A	C	C	C	330	B	B	B	B	B	250	A	190	160	A	B	A							
29	A	A	A	A	A	A	A	A	A	315	325	330	350	320	310	B	B	B	A	225	A	A	A	A							
30	A	A	A	A	A	A	B	A	A	A	A	B	350	A	320	A	290	260	240	200	195	175	A	A							
31	A	B	A	A	A	230	250	260	295	305	310	A	350	330	325	310	285	A	250	230	200	160	A	A							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23							
CNT		1	1	1	5	3	7	12	19	21	23	18	14	18	21	22	22	23	17	20	11	8	2								
MED		180	185	120	175	210	230	250	275	280	300	305	322	305	300	285	265	250	225	198	160	152	102								
UQ					180	220	238	265	280	300	310	320	330	320	310	300	280	260	240	205	192	172									
LQ					160	205	230	250	265	280	290	295	310	290	295	270	255	240	210	175	138	140									

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OCT. 1967

FOE (0.01 MHZ)

OCT. 1967

FOES (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	J ₂₄	J ₃₀	B	J ₃₃	B	B	B	J ₃₁	G	J ₃₇	G	E ₆₃	E ₆₄	E ₃₇	B	B	G	G	E ₅₉	E ₃₇	22	21	26	20		
2	J ₁₄	J ₁₃	J ₂₁	J ₂₁	J ₂₃	23	J ₃₈	J ₃₇	J ₃₂	G	G	G	E ₅₁	G	G	G	27	G	E ₅₈	E ₁₇	E ₁₅	24	J ₃₈	J ₃₂		
3	J ₂₅	G	21	J ₄₅	J ₂₃	J ₃₃	J ₃₆	31	G	E ₃₈	E ₃₃	E ₄₅	E ₃₁	G	G	G	G	E ₂₃	E ₃₁	G	21	14	18	J ₃₇		
4	J ₈₂	B	J ₄₁	J ₃₆	J ₃₇	30	29	J ₃₄	G	G	31	32	36	34	G	G	G	G	G	G	G	12	E ₉	12	10	
5	J ₂₀	34	J ₃₀	J ₅₁	32	26	24	B	34	31	G	G	E ₃₃	E ₃₃	E ₄₈	27	G	G	24	G	E ₁₃	J ₃₃	31	J ₃₀		
6	J ₃₈	J ₃₇	J ₃₆	J ₃₃	J ₃₇	J ₃₃	J ₅₀	B	31	G	G	G	G	31	31	31	G	E ₂₃	24	G	18	J ₂₄	14	14		
7	J ₂₅	J ₃₁	J ₃₂	J ₄₂	J ₆₁	J ₄₁	J ₅₃	G	G	G	G	G	E ₅₈	E ₅₀	E ₆₀	E ₄₀	G	E ₂₃	G	E ₁₄	G	J ₃₂	J ₃₆			
8	J ₃₃	J ₃₃	31	J ₂₅	J ₂₄	23	G	G	G	G	G	E ₄₅	E ₃₄	33	G	G	G	G	27	G	J ₂₈	J ₃₁	J ₃₅	J ₄₂		
9	J ₆₁	J ₆₂	J ₅₁	J ₃₈	J ₃₃	J ₂₃	J ₃₃	27	30	G	33	31	31	30	E ₃₅	G	G	G	E ₂₆	E ₁₇	G	J ₅₁	J ₈₇	J ₁₀₈		
10	J ₆₀	J ₅₇	J ₅₄	B	J ₄₅	27	J ₄₃	J ₃₆	J ₃₂	J ₃₀	E ₄₈	E ₃₄	E ₃₇	33	31	G	28	27	E ₃₀	J ₃₆	J ₃₆	J ₃₈	J ₃₆	B		
11	B	38	B	B	B	B	J ₂₉	J ₃₄	42	J ₄₀	B	B	E ₄₄	G	G	G	G	G	27	B	B	G	21	J ₃₂		
12	J ₄₉	J ₃₅	J ₂₆	J ₈₇	29	35	B	B	B	B	B	B	E ₄₈	B	B	G	G	G	G	G	J ₃₄	B	E ₁₇	J ₂₂		
13	J ₂₇	J ₂₅	J ₃₂	J ₃₄	B	B	B	J ₃₃	J ₃₇	G	G	G	34	J ₃₂	G	G	G	G	E ₃₈	E ₃₃	G	G	18	J ₁₃		
14	38	35	J ₃₂	J ₃₅	J ₄₂	38	J ₃₁	36	G	G	G	E ₄₉	B	E ₃₉	E ₃₅	G	G	G	G	B	E ₂₁	E ₂₀	24	B		
15	J ₅₁	J ₃₆	31	J ₄₅	B	31	B	J ₄₁	G	G	G	G	G	30	30	G	G	G	G	23	G	G	J ₁₆	22		
16	32	30	J ₂₅	J ₄₂	B	B	J ₄₇	J ₄₀	G	31	G	G	G	G	G	G	G	G	G	G	19	16	13	16	23	
17	18	20	22	26	J ₂₁	22	30	33	41	E ₄₈	B	B	E ₆₁	E ₃₈	E ₅₁	E ₄₉	G	G	E ₄₃	E ₃₅	E ₂₈	E ₂₂	J ₃₇	J ₅₃		
18	J ₆₅	J ₂₃	J ₄₆	J ₄₅	37	40	J ₂₃	J ₃₂	G	G	E ₃₇	E ₃₃	E ₃₈	E ₃₄	G	E ₅₂	B	E ₄₈	E ₄₈	E ₄₈	E ₂₆	20	J ₃₂	J ₁₇		
19	23	32	J ₃₆	36	E ₃₇	B	28	44	E ₅₀	G	G	G	G	G	G	G	G	G	G	G	E ₃₃	E ₂₀	12	12		
20	23	J ₃₄	25	J ₂₆	J ₄₁	J ₄₁	28	G	G	G	G	G	G	G	G	G	J ₂₈	250	23	23	21	16	J ₂₃	J ₂₀		
21	E ₁₀	E ₁₀	23	12	G	G	27	30	33	31	32	G	J ₃₂	G	G	G	G	G	G	G	22	G	15	J ₁₈	J ₂₃	
22	17	18	J ₂₂	G	G	J ₃₈	29	G	G	35	G	G	G	G	G	G	G	G	G	G	28	21	G	J ₄₁	J ₃₇	
23	J ₄₀	J ₃₆	J ₂₆	J ₃₆	J ₂₇	B	J ₅₄	J ₅₁	G	G	G	E ₄₈	G	33	G	G	B	B	E ₃₈	E ₃₄	20	J ₂₄	J ₃₄	22		
24	21	J ₂₉	J ₃₁	24	20	22	G	G	G	G	G	J ₃₇	G	G	G	G	G	27	J ₃₂	J ₃₈	J ₆₂	J ₃₂	24	24		
25	J ₂₁	J ₂₅	J ₂₆	J ₂₅	J ₃₈	J ₃₂	31	34	36	G	38	J ₆₂	J ₆₆	J ₅₀	J ₃₄	32	30	G	G	23	J ₂₃	16	22	J ₂₁		
26	J ₂₄	J ₂₂	20	21	25	21	G	G	33	J ₃₆	G	G	G	G	G	G	G	G	G	G	22	G	17	13	24	
27	J ₂₅	J ₂₉	J ₂₂	J ₆₁	J ₃₈	J ₄₀	30	G	36	37	38	G	E ₅₈	E ₆₁	E ₄₈	E ₃₄	G	G	G	25	J ₃₇	J ₂₅	J ₄₀	J ₃₄		
28	J ₄₀	J ₆₂	J ₅₁	J ₄₂	J ₁₀₈	J ₅₁	J ₄₂	J ₄₈	C	C	C	G	E ₄₈	E ₃₈	B	B	E ₃₈	33	J ₃₅	G	J ₂₇	J ₄₀	J ₄₉	J ₈₅		
29	D	J ₅₀	J ₄₂	J ₄₀	J ₂₇	J ₂₅	J ₃₆	J ₃₆	J ₂₆	G	G	G	G	38	G	E ₇₅	E ₃₄	E ₃₃	J ₄₀	53	J ₃₅	J ₅₄	J ₄₂	J ₄₁		
30	J ₆₂	J ₈₅	J ₆₁	J ₄₆	J ₃₈	J ₃₆	B	J ₃₆	J ₄₈	J ₄₁	J ₄₂	E ₃₃	G	J ₃₃	G	J ₃₂	G	G	26	24	G	G	J ₃₃	J ₅₀		
31	J ₃₃	E ₂₀	18	J ₂₃	25	G	G	30	31	36	43	J ₆₄	40	G	G	G	G	J ₂₉	310	G	J ₂₀	J ₁₈	J ₂₃	J ₃₆		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
CNT	30	30	29	29	26	25	26	28	29	29	27	28	30	30	28	29	29	30	31	29	30	30	31	29		
MED	J ₃₀	J ₃₂	J ₃₁	J ₃₆	J ₃₁	31	30	33	U	28	G	G	G	E ₃₂	E ₃₂	G	G	G	E ₂₆	E ₂₂	U	19	U	18	J ₂₄	J ₂₄
UQ	J ₄₉	J ₃₆	J ₃₆	J ₄₂	J ₃₈	J ₃₈	J ₃₈	J ₃₆	34	U	34	32	E ₄₅	E ₄₄	E ₃₇	E ₃₂	E ₃₁	G	E ₂₃	E ₃₆	U	28	J ₂₆	J ₂₅	J ₃₆	J ₃₇
LQ	J ₂₃	J ₂₃	J ₂₃	J ₂₅	24	23	27	E ₂₇	G	G	G	G	G	G	G	G	G	G	G	G	G	E ₁₃	14	18	21	

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FOES (0.1 MHz)

IONOSPHERIC DATA

OCT. 1967

F-MIN (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	9	8	B	29	B	B	B	17	15	35	17	63	64	37	B	B	18	11	59	37	18	14	11	11					
2	10	9	9	8	8	18	25	19	15	17	14	18	51	17	17	17	14	15	58	17	15	10	8	15					
3	15	9	10	9	11	23	11	13	12	38	33	45	31	15	13	14	11	23	31	13	12	10	11	12					
4	7	B	17	16	15	13	10	11	11	12	12	14	20	16	19	14	12	13	12	11	10	9	9	9					
5	11	12	10	15	12	12	11	B	21	16	12	12	33	33	48	14	12	14	11	10	13	10	8	8					
6	10	10	11	10	21	22	17	B	14	17	16	13	11	17	11	12	14	23	16	13	12	10	11	9					
7	13	7	11	21	16	17	15	12	11	10	11	9	11	58	50	60	40	18	23	15	14	12	9	7					
8	11	10	10	8	8	8	10	10	14	14	21	45	34	12	11	12	11	11	21	12	11	10	10	10					
9	10	16	14	11	10	9	18	10	11	10	11	11	11	12	35	18	15	11	26	17	10	9	11	11					
10	11	10	34	B	22	22	33	11	20	25	48	34	37	17	14	16	16	19	30	11	10	11	18	B					
11	B	18	B	B	B	B	16	29	16	20	B	B	44	17	10	16	13	17	12	B	B	15	12	9					
12	9	11	11	21	10	20	B	B	B	B	B	B	48	B	B	17	18	15	13	11	9	B	17	17					
13	10	9	9	15	B	B	B	31	17	15	15	16	12	14	14	13	13	13	38	33	14	10	10	10					
14	10	21	21	16	16	18	12	16	16	18	15	49	B	39	35	21	21	13	11	B	21	20	11	B					
15	16	18	21	15	B	26	B	17	15	18	13	11	16	15	14	16	15	14	13	11	11	9	11	11					
16	8	11	11	14	B	B	18	18	12	13	14	13	14	11	11	11	11	11	13	13	10	8	8	8					
17	11	9	11	11	14	12	13	30	34	48	B	B	61	38	51	49	23	12	43	35	28	22	9	9					
18	11	10	13	18	18	16	11	12	13	11	37	53	38	34	23	52	B	48	48	48	26	16	11	9					
19	9	12	19	14	37	B	14	16	50	15	13	14	13	12	14	11	13	11	11	10	33	20	10	10					
20	11	11	14	12	14	19	17	12	11	11	11	11	12	13	11	12	12	10	10	9	9	8	7	10					
21	10	10	8	9	9	9	9	9	9	13	12	11	11	14	15	14	11	11	11	9	8	8	8	9					
22	8	6	12	8	8	8	8	9	12	11	12	11	11	11	11	11	11	12	10	9	9	9	9	9					
23	9	10	10	10	11	B	14	12	11	11	13	48	20	11	16	17	B	B	38	34	12	9	11	10					
24	11	11	19	15	12	10	11	12	11	13	12	14	12	11	12	11	13	11	15	14	10	10	11	10					
25	9	8	8	9	10	9	10	10	11	10	11	11	12	11	11	12	13	16	13	16	9	9	9	10					
26	7	6	10	7	12	9	9	7	20	21	14	16	12	14	15	11	9	10	9	8	8	9	10	9					
27	9	8	17	17	15	11	9	11	9	9	11	13	58	61	48	34	12	11	17	14	9	11	10	8					
28	7	13	28	9	12	14	22	11	C	C	C	25	48	38	B	B	38	12	15	10	11	9	15	10					
29	11	11	11	8	9	8	11	18	14	22	15	15	15	15	26	75	34	33	11	14	11	11	14	12					
30	10	9	9	9	11	11	B	17	17	23	9	33	21	17	14	13	11	10	11	12	10	10	9	9					
31	9	20	9	11	9	11	9	11	13	13	17	16	18	14	13	15	9	8	10	10	9	9	8	8					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23					
CNT	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31					
MED	10	10	11	12	12	16	14	12	14	15	14	16	20	15	15	15	13	13	13	13	11	10	10	10					
UQ	11	12	18	16	20	22	20	18	17	21	17	45	41	34	35	20	18	16	28	17	14	12	11	11					
LQ	9	9	10	9	10	10	10	11	11	11	12	12	12	12	12	12	12	11	11	10	10	9	9	9					

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F-MIN (0.1 MHZ)

OCT. 1967

H¹F² (KM)

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									L	A		B	B	315	B	B									
2									350	L	L	300	310	270	250										
3									350		L	290	290	275	275										
4						350	L	390	400	340	345	330													
5						L	B	490	425	390	305	430	290	380	B	L									
6									335	330	335	350	340	305	L	300									
7						450	380	375	345	335		330	340	340	300										
8					330	L	340	380	340	355	380	390	L	285											
9							650	475	430	420	430	425	395	L	290										
10							480	490	455		B	530	480	390	400	430	405	440							
11													390	350	405	L	300	L	390						
12							B	B	B	B	B	B	B	B	B	315	295	270							
13									430	420	440	440	430	390	370	350	L								
14						450	440	440	420	430	390		B	340	300										
15						B			475	430	440	425	440	385	400	L									
16						B			410	440	430	400	415	355	L	290	L	260							
17							370	440	440		B	B	375	360	320	285	L								
18							445	R	475	450	425		B	390	340	300	300	B							
19						B	410	500	455	375	350	345	330	305	300										
20							500	645	440	415	395	375	350	350	320	300									
21							350	385	375	375	355	355	340	330	340	280									
22							345	355	355	360	345	345	325	305	L	L									
23						B		525	480	420	380	400	395	410	380	385	B	B							
24							400	410	405	385	400	390	375	355	375	L	350								
25							L	345	350	340	295	295	285	285		255	250								
26						375	365	350	360	350	340	350	320	300	305	300	L								
27								385	340	350	350	425	400	355	300	285	L								
28							420	380		C	C	C	470	480	455	B	B	275							
29									600	550	465	500	445	425	450	B	B	350							
30											550	455	415	450	400	L									
31						340	335	350	355	340	340	350	400	325											
	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	12	18	26	24	23	25	28	27	22	13	8	2	1						
MED					375	340	405	385	418	408	380	380	382	340	330	300	298	355	390						
UQ					352	448	480	475	430	422	425	420	388	380	315	350									
LQ					335	350	360	355	348	348	345	330	305	300	285	268									

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H¹F² (KM)

IONOSPHERIC DATA

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H¹F (KM)

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	215	210	B	B	B	B	B	A	255	B	250	B	B	275	B	B	240	250	250	240	260	235	285	350		
2	380	330	360	A	380	350	315	280	250	240	220	220	B	230	235	235	240	230	250	240	240		A	A		
3	A	380	R	350	A	350	300	295	240	B	250	B	240	220	220	240	240	250	225	230	225	220	220	A		
4	A	B	A	A	A	385	300	250	240	245	230	240	230	240	240	230	235	235	220	215	215	220	230	235		
5	280	A	A	A	240	A	250	B	A	250	225	235	240	245	B	230	235	245	235	240	295	A	A	A		
6	A	A	A	A	A	A	A	B	290	250	240	230	230	230	230	230	245	250	235	220	225	220	245	270		
7	280	325	A	B	A	A	A	265	250	225	225	230	220	B	B	B	275	240	235	225	250	250	250	A		
8	A	A	A	A	370	300	250	240	230	240	235	B	240	205	220	250	250	250	245	240	240	270	240	A		
9	A	A	A	A	A	A	A	350	245	235	230	230	240	225	250	245	240	235	250	245	240	A	A	A		
10	A	A	B	B	A	A	B	A	325	A	A	B	290	270	240	240	250	A	A	300	A	A	A	B		
11	B	A	B	B	B	B	A	B	A	A	B	B	B	240	225	240	240	250	A	B	B	260	280	A		
12	A	A	A	B	A	A	B	B	B	B	B	B	B	B	B	240	240	240	240	270	A	B	280	B		
13	A	A	A	A	B	B	B	B	210	210	250	210	H	A	220	230	225	210	H	250	250	265	275	290	390	A
14	A	A	A	A	A	A	A	A	240	235	230	B	B	250	240	240	240	240	250	B	255	B	300	B		
15	A	B	A	A	B	A	B	A	250	230	230	230	230	230	230	230	240	240	245	255	250	245	250	280		
16	325	A	A	A	B	B	A	A	240	230	250	235	240	230	240	230	240	235	240	230	240	240	255	270		
17	B	320	300	340	A	300	290	300	B	B	B	B	B	B	B	B	240	240	270	250	255	250	230	220		
18	A	280	A	B	A	A	350	350	240	240	B	B	B	250	240	B	B	B	B	B	250	250	265	290		
19	330	A	A	A	B	B	275	A	B	240	240	215	215	210	235	230	240	235	245	240	240	240	240	255		
20	340	A	A	300	A	B	A	250	240	220	220	230	230	220	230	220	215	230	230	250	230	240	235	A		
21	320	305	315	310	290	265	250	230	225	210	225	215	200	205	215	225	225	230	240	240	230	225	225	240		
22	240	250	285	300	280	255	245	220	220	210	215	225	225	235	230	220	220	235	240	240	235	250	300	A		
23	A	A	355	340	A	B	A	A	250	200	200	B	230	230	235	240	B	B	260	255	255	250	235	A		
24	300	A	A	350	300	265	270	245	225	220	225	240	220	230	230	225	235	240	250	270	A	240	330	325		
25	340	A	A	350	350	325	270	245	230	220	225	A	220	A	225	220	220	230	230	235	230	240	235	235		
26	310	310	325	350	340	285	240	240	250	240	220	215	210	205	220	235	230	230	245	240	275	240	230	250		
27	255	290	A	A	A	A	A	225	220	225	225	225	B	B	B	240	240	240	250	250	A	300	240	A		
28	A	A	B	A	A	A	A	260	C	C	C	240	B	280	B	B	250	A	275	305	260	A	A	A		
29	A	A	A	A	A	290	A	A	260	260	225	235	230	235	245	B	255	280	A	A	A	A	A	A		
30	A	A	A	A	A	A	B	A	A	A	E A	H	230	220	220	250	230	240	225	250	250	280	250	275		
31	280	290	305	300	305	260	250	225	225	240	A	A	205	205	220	230	225	220	240	225	230	240	240	250		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
CNT	14	11	7	10	9	12	14	17	24	23	24	20	21	27	24	25	28	27	28	26	25	24	25	14		
MED	305	305	315	340	305	295	270	250	240	235	226	230	230	230	230	230	240	240	245	240	240	242	245	262		
UQ	330	322	340	350	350	338	300	280	250	240	239	235	240	240	240	240	240	248	250	250	255	255	280	280		
LQ	280	285	302	300	290	265	250	240	228	220	225	222	220	220	222	230	230	235	235	235	230	240	235	240		

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H¹F (KM)

IONOSPHERIC DATA

OCT. 1967

H^oES (KM)

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

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OCT. 1967

H^oES (KM)

IONOSPHERIC DATA

NOV. 1967

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	A	R	R	R	R	R	J ₈₅ B	E ₈₃	83	84	88	89	82	79	75	70	67	62	65	62	64	R	R	R
2	A	A	48	A	A	B	A	48	50	F ₅₅	62	66	71	74	76	78	73	73	73	70	J ₆₀ R	A	A	B
3	B	R	R	B	B	R	R	R	58	55	59	62	63	B	B	63	B	53	56	53	A	R	A	A
4	A	B	B	R	A	B	B	R	A	56	54	55	53	57	C	R	C	C	53	A	51	J ₅₀ R	R	R
5	R	R	A	R	R	J ₆₆ F	61	A	52	63	B	B	71	70	72	72	73	B	R	R	42	A	A	A
6	B	A	A	R	B	54	J ₆₅ B	J ₇₈ R	J ₈₀ B	78	80	79	77	71	70	65	61	60	58	61	61	57	R	J ₅₂ B
7	R	R	R	R	R	R	R	R	F ₉₀	F	R	F	87	83	78	J ₈₀ R	J ₇₇ R	J ₇₂ R	R	R	R	R	R	R
8	R	R	R	R	R	B	B	R	J ₇₀ R	J ₇₅ R	J ₇₂ R	68	65	68	65	67	63	62	62	59	J ₅₁ R	R	A	A
9	A	B	R	R	R	R	R	53	56	J ₆₂ R	66	76	J ₇₃ R	72	63	65	60	55	55	50	R	37	R	R
10	J ₄₂ B	R	R	R	A	A	46	56	J ₆₇ R	71	75	73	71	68	65	67	65	61	J ₆₂ B	65	59	55	J ₅₂ B	J ₄₂ B
11	R	R	R	R	R	R	40	R	R	J ₆₈ R	68	J ₆₄ R	64	62	60	54	56	53	55	58	55	R	R	A
12	A	A	R	R	R	B	A	R	R	B	B	B	66	B	66	69	66	B	R	R	R	R	A	B
13	B	R	A	B	R	R	B	B	51	51	54	B	B	B	B	67	66	U ₆₃ B	54	R	R	R	39	38
14	R	B	B	B	B	R	R	J ₇₄ R	R	J ₇₈ R	B	76	J ₇₇ R	71	67	66	62	B	60	57	R	R	R	R
15	R	45	J ₄₉ R	48	55	B ₆₃	70	77	80	80	78	79	72	67	65	J ₆₄ R	63	64	61	51	B	A	B	B
16	B	B	R	A	B	B	R	B	B	57	60	60	62	66	63	65	65	58	55	51	49	45	42	40
17	39	R	53	R	45	R	60	62	R	80	79	78	F	75	U ₆₉ R	68	65	64	62	62	60	R	R	R
18	R	R	R	R	J ₆₂ R	J ₆₂ R	R	80	87	U ₉₃ B	84	87	83	81	79	75	72	C	69	68	R	R	R	R
19	R	R	R	R	R	R	R	R	90	85	R	85	81	77	78	74	68	67	68	67	R	R	R	R
20	R	R	R	R	R	R	J ₈₅ R	89	101	101	104	98	90	85	82	78	74	70	70	65	61	R	R	R
21	R	R	R	R	R	R	R	106	106	108	104	101	U ₉₇ B	93	87	85	82	R	R	R	R	R	R	R
22	A	A	R	R	B	R	83	56	F	R	F	63	F	F	R	J ₈₆ R	R	J ₇₀ R	B	61	61	R	R	R
23	R	R	A	R	R	58	R	J ₆₉ R	J ₇₇ R	J ₈₀ R	J ₈₀ R	77	74	75	76	J ₇₃ R	70	69	68	61	57	R	R	R
24	A	B	A	A	R	B	B	R	F	B	B	R	54	F	R	J ₈₀ R	75	R	55	J ₅₅ R	R	A	A	45
25	A	A	J ₆₂ B	R	45	B	B	56	J ₅₉ R	60	57	58	60	62	64	68	66	J ₅₉ R	46	R	J ₅₂ R	47	45	R
26	41	R	R	R	B	B	49	63	67	66	65	65	65	65	65	64	61	U ₆₁ R	60	55	55	R	A	A
27	A	R	R	R	J ₅₂ B	56	62	R	F	J ₈₂ R	F	F	F	65	67	67	64	65	61	60	66	J ₅₀ R	B	43
28	A	A	B	B	B	B	B	B	B	B	B	B	B	B	56	61	63	62	J ₆₀ R	52	R	R	A	R
29	R	R	52	B	B	B	R	R	60	57	56	60	68	67	66	64	J ₆₃ R	J ₆₀ R	J ₅₈ R	J ₅₈ R	R	J ₄₈ R	40	R
30	R	R	55	R	B	R	56	J ₆₄ R	F	F	F	89	J ₈₈ R	F	F	J ₈₀ R	72	66	60	R	63	59	R	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	1	6	1	5	6	12	17	18	25	20	24	25	24	24	29	27	23	25	22	17	9	5	6
MED	41	45	52	48	52	60	62	69	68	75	70	76	71	71	67	68	66	62	60	60	59	50	42	42
UQ	42		55		J ₅₅ R	J ₆₃ B	76	80	83	82	80	86	81	78	76	75	72	66	62	62	61	55	45	45
LQ	40		49		45	56	52	56	58	60	60	64	65	66	65	65	63	60	55	55	52	47	40	40

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FOF2 (0.1 MHz)

NOV. 1967

FOF1 (0.01 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					L	L	L	L	440	460	460	460	480	L	480	L								
2						B	A	A	A	320	450	460	B	L	L	L	B	L	B					
3							370	A	420	430	430	470	460	B	B	B	B	410						
4						B	B		A	A	420	430	430	420		C	R	C	C					
5						350	A	A	430	430	B	B	B	B	500	440	B	B	L	L				
6					B		400	420	420	430	450	440	460	460	L	L	L							
7					L	420	490	420	B	480	460	470		L	L	L	L							
8						B	B		430	440	440	440	450	450	470		L	L	L	L	A	340		
9							400	400	420	420	430	440	460	460	440	430	420		L					
10							A	400	410	430	440	450	480	470		L	L	L	L					
11								410	420	440	450	450	460	440	L	L	L							
12						B			B	B	B	450	B	460	450	B	B							
13							B	B	430	R	430	B	B	B	B	440	B	L	L					
14					B	360	B	420	430	450	B	B	480	480	480	470	L	B	L	L				
15					380	L	400	410	430	440	440	460	450	L	470	L	460	B	L	330				
16					B	B	L	B	B	B	440	450	480	470	480	460	L	L	L					
17						L	440	420	430	450	460	490	L	480	490	490	L	L	L	L				
18						L	440	450	450	480	470	500	500	500	L	L	L	C						
19						L	420	440	460	B	R	500	L	L	L	L	L	L	L					
20						A	460	L	L	L	500	500	L	500	500	L	L	L	L					
21						L	L	L	L	490	A	500	530	490	L	L	L	L	L					
22				A	B	A	420	490	480	460	460	460	470	480	480	L	430	L	B					
23						410	440	440	440	460	490	480	490	490	510	L	L	L	L					
24					A	B	B	430	450	B	B	R	R	R	B	490	L	L						
25					B	B	B	A	460	450	460	480	480	480	490	480	460	460	400					
26					B	B	400	440	460	450	460	480	480	R	480	480	460	L	L	L	L			
27					330	410	450	A	A	480	450	480	480	470	470	470	460	L	L	L				
28					B	B	B	B	B	B	B	B	B	B	B	460	450	440	B	420	420			
29					B	B		A	430	430	450	450	440	B	B	470	460	L	L	L				
30					B		A	440	450	450	440	460	470	460	460	460	L	L	L					
31																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT					2	5	12	14	21	22	23	24	21	17	18	14	8	3	2	2	1			
MED					355	410	430	425	430	450	450	460	470	470	480	465	460	420	410	375	340			
UQ					410	445	440	450	460	460	480	480	480	490	480	460	440							
LQ					360	400	420	430	430	440	450	450	460	460	460	450	435	415						

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FOF1 (0.01 MHz)

IONOSPHERIC DATA

NOV. 1967

FOE (0.01 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	B	A	A	A	A	A	240	255	280	295	310	A	325	A	A	300	285	275	250	215	175	160	150	A
2	A	A	A	A	A	B	A	A	A	290	310	320	B	B	R	B	B	B	B	B	B	A	B	B
3	B	A	A	B	B	A	A	A	K	B	R	R	B	B	B	B	B	280	A	200	A	A	B	A
4	B	B	B	B	B	B	B	A	A	A	310	R	B	B	C	A	C	C	B	B	180	A	A	A
5	A	A	A	A	A	B	A	A	A	A	B	B	B	B	B	300	B	B	230	A	200	A	A	B
6	B	B	A	A	B	B	A	270	R	300	310	320	325	A	305	R	280	260	240	215	190	160	145	A
7	A	A	A	160	A	220	230	260	B	300	B	B	R	310	300	295	280	A	A	A	A	A	A	A
8	A	A	A	170	A	B	B	B	A	305	310	315	325	310	305	300	290	270	250	225	A	A	A	A
9	A	B	A	A	A	230	250	280	305	320	R	330	335	A	310	300	295	280	B	190	A	A	A	A
10	A	A	A	A	A	B	A	265	R	300	310	315	B	315	305	295	A	275	250	A	185	180	150	A
11	A	A	A	A	A	225	240	270	290	300	310	320	325	R	305	300	270	A	250	A	220	180	135	A
12	B	B	A	A	A	B	A	A	A	B	B	B	B	B	R	B	B	B	250	A	225	A	A	B
13	B	A	A	B	A	A	B	B	A	A	B	B	B	B	B	B	B	280	B	B	B	A	A	A
14	A	B	B	B	B	B	B	270	280	B	B	B	B	325	315	B	B	B	B	B	200	B	A	A
15	B	B	B	B	B	B	B	250	270	290	A	B	B	B	310	305	300	295	B	B	250	B	B	B
16	B	B	B	B	B	B	B	B	B	B	R	R	325	R	315	310	300	280	250	240	225	200	195	A
17	A	A	A	B	A	A	250	280	290	310	R	325	R	320	A	300	290	280	270	245	195	185	150	A
18	A	A	180	A	A	A	230	275	300	305	R	320	330	R	315	310	305	C	280	240	215	185	180	A
19	A	125	130	A	230	A	245	280	300	B	320	330	335	A	325	A	R	280	270	250	200	A	B	B
20	A	A	180	190	A	A	230	A	310	325	330	335	A	A	A	325	310	280	275	250	205	155	A	A
21	A	A	A	A	A	200	270	290	310	315	R	R	R	325	A	310	305	280	240	230	220	195	A	140
22	B	A	B	B	B	A	A	270	A	A	335	B	B	335	A	320	310	290	B	A	B	170	A	A
23	A	B	B	A	200	A	A	A	305	315	320	330	335	A	320	315	305	290	275	240	210	170	A	A
24	A	B	B	A	A	B	B	A	A	B	B	R	R	320	B	B	R	300	B	215	A	A	A	A
25	A	A	A	B	B	B	B	A	A	300	320	325	R	R	R	300	295	280	B	A	A	A	B	A
26	A	B	A	A	B	B	A	295	300	310	315	320	325	320	315	310	300	280	260	240	A	A	A	A
27	A	A	A	A	A	A	A	A	A	A	A	R	R	325	310	305	300	A	280	250	A	A	B	B
28	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	R	B	275	B	240	A	B	A
29	A	A	A	B	B	B	A	A	280	300	310	320	R	B	B	B	310	295	250	210	190	A	A	A
30	A	A	B	A	B	A	A	A	300	305	B	B	R	R	310	305	B	B	260	B	220	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	3	3	2	4	10	14	14	17	14	14	10	11	15	19	18	18	19	17	18	11	7	1
MED		125	180	170	215	222	242	270	300	305	310	320	325	320	310	300	298	280	250	240	202	180	150	140
UQ			180	180		228	250	280	305	310	320	330	335	325	315	310	305	280	272	245	220	185	165	
LQ			155	165		210	230	270	290	300	310	320	325	312	305	300	290	280	250	215	190	165	148	

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NOV. 1967

FOE (0.01 MHZ)

IONOSPHERIC DATA

NOV. 1967

FOES (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	J ₂₃	J ₂₄	26	24	26	23	G	G	G	33	32	39	34	38	38	G	G	30	G	30	21	G	G	J ₃₁	
2	J ₅₁	J ₅₁	J ₄₈	J ₃₄	J ₆₅	B	J ₄₅	J ₄₂	J ₄₂	G	G	G	E ₆₃	E ₃₅	G	E ₃₅	E ₄₈	E ₃₅	E ₅₄	E ₂₈	E ₃₃	J ₂₆	J ₅₈	B	
3	B	J ₂₅	26	B	B	J ₃₂	27	J ₃₄	G	E ₃₃	G	G	E ₃₇	B	B	E ₄₈	B	G	33	27	J ₈₄	J ₂₈	J ₄₂	J ₃₅	
4	J ₃₆	B	B	E ₅₀	J ₆₀	B	B	J ₃₁	J ₄₅	J ₄₄	G	G	E ₃₆	E ₃₇	C	30	C	C	E ₃₃	J ₅₂	23	22	22	24	
5	J ₂₄	J ₃₄	J ₆₅	J ₄₄	J ₃₅	29	J ₃₅	J ₅₄	J ₄₆	J ₃₈	B	B	E ₆₂	E ₆₀	E ₄₇	G	E ₄₇	B	31	30	26	J ₃₇	J ₆₁	J ₃₇	
6	B	J ₄₀	J ₅₄	J ₂₄	B	J ₃₄	31	G	G	G	G	G	G	38	34	G	G	G	G	G	24	24	20	21	
7	23	26	22	23	25	G	G	G	E ₄₈	G	E ₃₅	E ₃₇	G	G	G	G	G	J ₃₇	J ₃₁	J ₃₇	26	21	19	18	
8	J ₂₇	21	19	24	J ₂₈	B	B	J ₄₂	J ₃₈	G	G	36	35	33	33	G	G	G	G	J ₂₈	J ₃₈	J ₃₆	J ₄₂	J ₆₄	
9	J ₅₂	B	J ₄₂	J ₂₃	23	26	G	G	38	G	G	G	G	41	G	G	G	E ₃₈	G	J ₃₄	J ₂₇	J ₁₈	J ₁₈	18	
10	27	J ₃₁	J ₂₂	J ₂₄	J ₃₆	41	J ₃₆	G	G	G	G	G	E ₃₆	37	J ₃₈	J ₃₇	34	G	G	29	G	20	20	23	
11	20	25	29	25	29	31	30	G	G	G	G	G	G	G	G	33	42	29	G	30	J ₂₈	G	G	J ₄₇	
12	J ₇₀	J ₄₇	J ₂₂	23	20	B	J ₅₅	J ₃₂	J ₃₅	B	B	B	E ₃₇	B	B	G	E ₃₈	E ₄₉	B	27	28	30	J ₃₄	J ₅₃	B
13	B	J ₂₁	J ₅₈	B	J ₃₀	27	B	B	J ₃₇	31	E ₃₆	B	B	B	E ₃₅	E ₄₈	E ₃₈	E ₂₆	E ₃₄	25	20	24	J ₂₇	B	
14	32	B	B	B	B	E ₃₄	E ₄₂	G	G	E ₃₅	B	E ₄₈	E ₃₇	G	G	E ₃₄	E ₃₉	B	E ₃₃	E ₂₆	E ₃₄	E ₄₀	28	J ₂₇	
15	33	J ₂₆	J ₃₇	30	29	29	G	G	G	32	E ₃₄	E ₃₆	E ₃₇	33	G	G	G	E ₅₃	E ₃₂	G	B	J ₈₂	B	B	
16	B	B	E ₂₂	35	B	B	E ₃₄	B	B	E ₅₁	G	G	G	G	G	G	G	G	G	28	G	G	27	29	
17	25	21	J ₃₈	J ₃₉	J ₄₂	32	G	G	G	G	G	37	G	36	32	G	G	G	G	G	21	20	20	17	
18	13	14	21	J ₂₄	J ₃₀	J ₂₈	29	30	G	33	G	34	G	G	G	G	G	C	31	27	26	22	G	19	
19	13	15	J ₁₈	J ₂₂	27	J ₄₇	32	30	G	E ₄₈	G	34	G	J ₆₈	G	J ₃₈	G	33	G	27	24	J ₂₂	E ₂₃	E ₂₅	
20	17	21	J ₂₃	26	J ₅₁	J ₃₇	J ₂₇	J ₃₇	38	39	J ₄₆	J ₄₀	J ₅₉	J ₄₆	J ₄₅	36	J ₃₇	J ₃₈	29	28	J ₂₈	J ₃₃	J ₃₈	J ₄₁	
21	J ₆₂	J ₄₂	J ₃₀	J ₂₅	J ₂₈	26	J ₄₉	G	J ₃₅	J ₃₅	J ₃₅	J ₄₆	J ₃₆	34	38	33	33	31	31	G	G	22	J ₂₀	J ₃₁	
22	J ₅₃	J ₆₀	J ₄₈	J ₃₅	B	J ₃₁	J ₃₈	31	J ₄₇	J ₄₂	G	E ₄₈	E ₃₈	G	34	G	G	33	B	J ₄₃	J ₆₃	J ₃₆	J ₃₃	J ₅₁	
23	J ₄₁	28	J ₆₁	J ₂₈	26	J ₂₆	J ₃₆	J ₃₇	J ₄₈	G	G	G	41	34	J ₃₅	J ₆₁	34	G	33	G	J ₂₇	J ₂₃	22	21	
24	36	B	J ₃₆	J ₄₈	J ₃₁	B	B	J ₄₂	33	B	B	G	G	E ₄₈	E ₃₃	G	G	J ₃₅	27	J ₃₃	J ₆₂	J ₈₉	J ₃₉	J ₃₉	
25	J ₈₇	J ₄₁	J ₃₀	J ₃₄	E ₄₀	B	B	J ₄₇	J ₃₇	37	G	G	G	G	G	G	G	E ₃₃	J ₃₅	J ₄₁	J ₃₈	J ₃₈	J ₃₅	J ₃₅	
26	J ₃₆	J ₃₁	J ₂₈	J ₃₈	B	B	J ₃₂	G	G	G	G	G	G	G	G	G	G	G	G	G	26	J ₃₆	J ₅₁	J ₃₇	
27	J ₅₀	J ₃₆	J ₃₄	J ₄₁	36	J ₃₂	J ₂₈	J ₃₆	J ₄₈	32	33	G	G	G	G	G	36	J ₃₂	29	G	J ₃₅	J ₂₅	B	33	
28	J ₃₈	J ₃₅	B	B	B	B	B	3	B	B	B	B	B	B	E ₄₃	E ₃₁	G	E ₄₈	31	E ₃₈	J ₃₄	J ₃₂	J ₅₉	J ₃₃	
29	37	J ₃₂	J ₅₁	B	B	B	J ₃₇	J ₄₅	J ₃₃	G	G	G	G	E ₅₉	E ₄₉	E ₃₈	G	G	J ₄₂	J ₆₀	34	J ₃₇	J ₃₅	35	
30	35	35	E ₃₉	31	B	30	J ₄₅	J ₄₂	G	G	E ₃₄	E ₃₇	G	G	G	G	E ₄₀	E ₃₁	G	E ₂₆	26	29	J ₃₈	J ₁₁₀	
31																									
CNT	26	25	27	25	21	20	24	27	28	27	25	26	28	26	27	30	28	25	29	30	29	30	28	27	
MED	J ₃₆	J ₃₁	J ₃₀	J ₂₇	J ₃₀	30	31	31	34	E ₃₂	G	G	E ₃₄	E ₃₄	G	E ₃₀	G	G	E ₃₁	27	26	J ₂₆	J ₂₈	J ₃₁	
UQ	J ₅₀	J ₃₆	J ₄₅	J ₃₅	J ₃₆	J ₃₂	J ₃₇	J ₄₀	J ₃₉	34	E ₃₃	36	E ₃₇	37	36	E ₃₅	E ₃₈	32	32	30	J ₃₄	J ₃₆	J ₄₂	J ₃₇	
LQ	24	24	22	J ₂₄	27	26	27	G	G	G	G	G	G	G	G	G	G	G	G	G	24	22	20	23	

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FOES (0.1 MHZ)

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F-MIN (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	9	9	9	9	8	9	10	11	19	14	12	14	15	14	11	11	10	10	10	10	10	11	9	9	
2	10	11	10	10	10	B	14	12	12	12	12	15	63	35	17	35	48	35	54	28	33	15	21	B	
3	B	14	15	B	B	21	22	26	24	33	20	25	37	B	B	48	B	15	17	17	14	17	17	11	
4	23	B	B	50	26	B	B	23	18	15	24	22	36	37	C	23	C	C	33	25	22	11	10	10	
5	10	14	11	11	12	20	23	14	13	16	B	B	62	60	47	28	47	B	14	11	11	9	14	16	
6	B	31	13	16	B	25	12	10	11	12	15	16	16	14	12	12	11	10	9	10	9	9	9	8	
7	9	10	11	11	10	12	10	10	48	26	35	37	17	14	11	12	11	10	10	10	11	11	11	10	
8	8	10	11	11	10	B	B	33	13	13	15	15	14	14	16	12	14	9	9	15	11	11	11	13	
9	9	B	14	14	10	9	9	13	11	15	23	22	19	14	12	26	13	14	38	16	8	11	9	12	
10	11	8	11	13	15	33	11	13	16	13	13	17	36	20	15	13	11	14	10	9	14	12	9	10	
11	10	10	9	10	14	13	12	14	13	14	14	14	15	14	14	15	14	12	11	10	12	15	10	14	
12	28	41	14	15	15	B	18	15	19	B	B	B	37	B	23	38	49	B	14	12	16	14	13	B	
13	B	12	14	B	18	18	B	B	23	19	36	B	B	B	B	35	48	20	38	26	34	15	15	14	
14	17	B	B	B	B	34	42	17	16	35	B	48	37	16	16	34	39	B	33	26	16	40	14	15	
15	15	21	22	23	21	20	18	16	20	19	34	36	37	19	17	18	16	53	32	20	B	24	B	B	
16	B	B	22	23	B	B	34	B	B	51	28	10	16	23	17	14	18	16	21	17	19	14	17	15	
17	14	15	15	23	20	18	15	14	21	14	14	15	22	16	23	16	14	11	11	11	10	11	11	11	
18	11	11	13	15	15	16	14	12	11	12	13	16	14	14	14	11	11	C	12	11	9	12	11	11	
19	11	11	12	11	14	12	12	12	12	48	14	15	14	12	16	12	14	11	11	11	11	11	23	25	
20	11	11	11	11	23	13	14	10	11	12	12	12	12	11	12	12	10	11	11	11	11	11	8	8	
21	8	9	11	9	10	11	9	11	11	15	14	14	17	11	12	12	11	12	12	11	11	11	9	11	
22	16	16	22	25	B	19	14	13	14	12	14	48	38	23	13	12	11	14	B	27	28	15	9	11	
23	10	23	19	8	11	17	13	11	11	11	11	11	11	18	14	11	11	11	12	18	17	11	12	8	
24	13	B	23	12	9	B	B	19	11	B	B	24	14	14	48	33	21	15	31	13	11	11	15	8	
25	11	11	9	25	40	B	B	18	15	11	11	11	13	12	14	16	16	14	33	14	11	15	21	11	
26	14	21	15	11	B	B	17	14	11	14	15	16	16	19	16	19	14	14	11	13	12	8	12	15	
27	14	12	13	22	16	12	11	28	17	21	23	23	17	14	12	12	19	16	14	9	9	10	B	24	
28	18	14	B	B	B	B	B	B	B	B	B	B	B	B	43	31	20	48	19	38	11	17	23	11	
29	11	9	9	B	B	B	21	14	11	11	12	14	23	59	49	38	23	16	11	11	14	13	13	9	
30	11	17	39	11	B	11	12	11	11	16	34	37	19	16	14	16	40	31	11	26	18	12	11	12	
31																									
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
CNT	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	30	29	28	30	30	30	30	30	30	
MED	11	14	14	14	17	20	14	14	14	15	15	16	18	16	16	16	14	14	13	13	12	12	12	11	
UQ	17	23	22	25	B	B	34	19	19	26	34	37	37	35	23	31	23	26	32	20	17	15	17	15	
LQ	10	11	11	11	11	13	12	12	11	12	13	14	15	14	13	12	11	11	11	11	11	11	10	10	

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F-MIN (0.1 MHZ)

IONOSPHERIC DATA

NOV. 1967

H^oF₂ (KM)

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					340	350	355	380	390	405	390	355	385	390	350	330								
2						B	A	A	A	445	500	430	B	405	355	350	340	L	300					
3							480	A	500	500	500	460	415	B	B	430	B	500						
4						B	B		A	A	505	485	505	460	C	R	C	C						
5						450	425	A	595	455	B	B	E B 320	E B 395	395	350	290	B	290	L				
6					B		415	400	390	360	380	360	365	355	330	300	290							
7					340	R	355	340	360	375	320	315	320	325	335	315	L							
8						B	B		440	405	390	400	400	350	400	350	L	L	L	400	320			
9								525	550	480	420	370	370	425	400	355	400	415	330					
10							A	490	420	405	370	370	370	385	380	355	340	L						
11								495	430	395	430	375	395	390	350	L	L							
12						B				B	B	B	420	B	405	365	330	B						
13							B	B	450	500	515	B	B	B	B	400	325	320	300					
14					B	420	450	390	390	370	B	370	370	375	375	345	365	B	305	325				
15					415	400	380	390	385	370	390	365	355	350	385	355	360	450	310	305				
16					B	B	410	B	B	500	475	450	480	400	450	405	355	400	300					
17						440	405	440	415	400	395	390	370	370	365	380	L	L	L	L				
18						455	405	380	400	370	330	355	355	345	L	L	L	C						
19						390	470	430	400	375	380	380	350	330	345	305	L	L						
20						435	390	405	400	355	350	355	360	380	360	310	L	300						
21						310	370	355	355	340	350	350	350	340	L	330	300	L						
22				440	B	455	425	585	500	545	480	530	470	440	425	400	470	350	B					
23						495	430	490	440	415	420	390	425	430	385	345	L	L						
24					R	B	B	490	490	B	B	R	500	550	440	390	360	R						
25					B	B	B	A	470	490	510	475	480	465	480	420	445	455	600					
26					B	B	570	590	440	415	455	450	440	440	410	400	400	400	L	L	290			
27					470	490	470	475	455	500	470	430	440	460	400	390	420	370	375	465				
28					B	B	B	B	B	B	B	B	B	B	500	480	445	400	445	530				
29					B	B		A	465	490	500	490	500	B	455	420	440	315	350	275				
30					B		530	460	355	400	430	430	400	395	425	380	370	330	375					
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	4	12	18	18	25	26	25	25	27	25	25	28	19	13	12	6	2			
MED				440	378	438	420	435	440	410	420	390	385	395	395	355	360	400	320	362	305			
UQ					442	455	470	490	470	490	480	450	440	430	425	400	410	415	375	465				
LQ					340	395	390	390	390	375	380	365	362	352	365	345	335	330	300	305				

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H^oF₂ (KM)

IONOSPHERIC DATA

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H^oF (KM)

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	A	325	315	335	290	255	240	225	225	230	225	220	225	230	220	225	225	230	235	245	245	250	205	A	
2	A	A	A	A	A	B	A	A	A	280	250	240	B	250	235	235	B	B	B	275	300	A	B	B	
3	B	A	A	B	B	A	B	A	220	210	225	260	250	B	B	B	B	300	370	340	A	A	A	A	
4	B	B	B	B	A	B	B	A	A	A	250	240	265	255	C	R	C	C	270	B	210	255	270	300	
5	330	350	A	A	375	350	A	A	330	275	B	B	B	B	B	240	B	B	250	300	305	A	A	A	
6	B	B	A	A	B	A	A	270	220	215	240	225	220	215	240	240	225	220	230	245	245	245	240	240	
7	310	315	320	325	290	255	250	230	B	B	250	230	225	210	220	210	230	225	225	240	250	250	245	250	
8	260	255	300	300	225	B	B	A	295	215	220	250	230	250	230	250	225	230	235	A	240	265	225	A	
9	A	B	A	A	A	260	240	250	240	H	220	220	255	225	230	225	240	245	250	B	260	280	A	300	300
10	310	A	350	330	A	B	A	240	225	200	220	220	260	B	230	240	A	230	240	240	250	250	250	265	300
11	330	340	A	290	A	300	275	280	225	230	230	225	255	215	240	235	A	230	240	250	255	255	255	A	
12	A	B	A	A	A	B	A	A	A	B	B	B	240	B	250	270	B	B	240	A	290	A	A	B	
13	B	A	A	B	A	A	B	B	280	A	220	B	B	B	B	255	B	250	B	280	290	290	340	380	
14	A	B	B	B	B	B	B	255	225	235	B	B	240	220	230	240	260	B	B	250	270	B	275	280	
15	A	B	340	350	350	325	240	250	230	230	225	225	230	230	215	220	230	B	240	250	B	B	B	B	
16	B	B	325	B	B	B	250	B	B	B	240	225	230	230	235	225	225	230	230	250	250	255	320	360	
17	340	340	335	A	A	340	255	240	220	225	230	220	225	245	215	220	240	235	240	240	240	240	250	240	250
18	260	275	300	300	330	A	290	320	225	220	220	205	210	200	230	220	230	C	235	245	250	200	250	250	
19	215	250	290	290	300	315	280	225	250	B	220	215	205	210	215	A	220	230	240	250	255	250	245	275	
20	255	280	290	300	A	A	270	250	210	200	260	215	200	205	200	240	225	250	240	240	245	230	225	250	
21	265	A	280	265	260	255	240	225	A	230	A	A	A	240	215	225	225	235	235	240	240	250	255	A	
22	A	A	A	A	B	A	A	215	A	E A	300	230	B	255	260	240	230	240	250	B	A	B	280	250	255
23	A	380	A	A	A	220	250	290	225	220	220	225	240	240	240	A	230	240	240	255	255	270	250	275	
24	A	B	B	A	A	B	B	A	275	A	B	B	250	220	240	B	240	240	250	290	240	A	A	A	A
25	A	A	395	B	B	B	B	A	A	200	235	235	230	210	225	230	240	235	290	A	A	325	A	350	
26	A	A	370	A	B	B	280	250	200	200	200	225	215	215	220	240	210	230	240	230	255	A	A	A	
27	A	340	330	A	A	380	340	A	A	250	230	225	210	230	220	230	240	240	230	235	250	330	B	B	
28	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	250	240	B	250	B	A	250	A	A
29	A	A	A	B	B	B	A	A	240	225	250	200	240	B	B	240	245	225	A	A	280	A	A	A	
30	280	A	A	300	B	250	A	A	230	225	230	B	250	225	240	225	B	235	240	A	260	280	A	A	
31																									
CNT	11	11	14	11	8	12	15	16	20	23	24	22	25	24	23	25	22	23	24	22	24	20	18	15	
MED	280	325	322	300	295	280	255	250	225	225	230	225	230	230	230	235	230	235	240	250	252	252	250	275	
UQ	320	340	340	328	340	332	280	262	245	231	238	240	240	240	240	240	240	250	245	255	275	275	270	300	
LQ	260	278	300	295	275	255	245	228	222	215	220	220	215	215	218	225	225	230	235	240	245	250	240	250	

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H^oF (KM)

NOV. 1967

H^oES (KM)

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	115	100	105	105	100	100	G	G	G	120	130	100	110	100	100	G	G	100	G	130	145	G	G	115	
2	105	100	100	100	100	B	100	100	105	G	G	G	B	B	G	B	B	B	B	B	B	115	125	B	
3	B	105	100	B	B	105	120	120	G	B	G	G	B	B	B	B	B	G	120	150	115	105	100	100	
4	105	B	B	B	105	B	B	105	100	105	G	G	B	B	C	120	C	C	B	100	130	140	125	125	
5	115	115	105	105	100	120	120	105	100	105	B	B	B	B	B	G	B	B	170	105	155	105	125	115	
6	B	155	105	100	B	120	100	G	G	G	G	G	G	100	100	G	G	G	G	G	100	100	100	100	
7	100	125	125	140	110	G	G	G	B	G	B	B	G	G	G	G	G	100	100	100	100	100	100	100	
8	100	100	150	140	130	B	B	110	105	G	G	130	130	130	125	G	G	G	G	130	115	105	105	100	
9	100	B	115	110	115	130	G	G	100	G	G	G	G	100	G	G	G	G	B	G	105	110	115	140	
10	105	105	105	110	105	105	100	G	G	G	G	G	B	110	110	110	100	G	G	100	G	100	100	145	
11	125	150	105	100	115	175	160	G	G	G	G	G	G	G	G	120	105	100	G	100	130	G	G	105	
12	120	130	120	125	125	B	100	100	105	B	B	B	B	B	G	B	B	B	175	105	140	120	130	B	
13	B	115	110	B	110	105	B	B	105	105	B	B	B	B	B	B	B	G	B	B	B	130	165	110	
14	115	B	B	B	B	B	B	G	G	B	B	B	B	G	G	B	B	B	B	B	B	G	B	120	120
15	120	140	125	130	130	130	G	G	G	105	B	B	B	120	G	G	G	B	B	G	B	105	B	B	
16	B	B	B	120	B	B	B	B	B	B	G	G	G	G	G	G	G	G	G	150	G	G	G	175	120
17	140	130	115	105	120	125	G	G	G	G	G	125	G	125	105	G	G	G	G	G	130	160	150	120	
18	130	120	150	140	105	110	105	135	G	130	G	125	G	G	G	G	G	C	100	155	140	140	G	115	
19	115	175	150	110	115	100	130	130	G	B	G	125	G	100	G	100	G	105	G	100	150	125	B	B	
20	150	105	110	135	105	100	125	100	135	125	105	105	100	100	100	125	105	105	130	140	120	110	105	100	
21	100	100	100	105	105	105	100	G	120	120	120	110	105	115	100	120	125	125	100	G	G	145	105	135	
22	140	105	100	125	B	125	105	100	100	100	G	B	B	G	105	G	G	155	B	135	130	125	125	125	
23	110	150	140	100	140	110	105	100	145	G	G	G	110	105	130	120	140	G	155	G	130	125	120	100	
24	125	B	125	100	100	B	B	105	100	B	B	G	G	G	B	B	G	G	140	150	105	170	105	100	
25	100	100	100	105	B	B	B	105	105	165	G	G	G	G	G	G	G	G	B	105	115	125	115	100	
26	100	115	125	100	B	B	100	G	G	G	G	G	G	G	G	G	G	G	G	G	115	120	125	100	
27	110	115	120	120	120	110	100	110	100	105	105	G	G	G	G	G	120	110	165	G	100	110	B	130	
28	105	100	B	B	B	B	B	B	B	B	B	B	B	B	B	B	G	B	170	B	150	130	150	125	
29	100	100	100	B	B	B	155	150	110	G	G	G	G	B	B	B	G	G	140	150	125	120	120	100	
30	115	130	B	125	B	100	100	100	G	G	B	B	G	G	G	G	B	B	G	B	135	120	105	150	
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	25	25	24	20	18	17	16	15	11	4	7	5	11	9	7	6	8	13	16	23	26	24	26	
MED	112	115	110	110	110	110	105	105	105	105	112	125	110	105	105	120	112	105	140	118	130	120	120	115	
UQ	120	130	125	125	120	125	120	115	108	122	125	125	110	118	110	120	125	118	165	145	138	130	125	125	
LQ	100	100	105	102	105	105	100	100	100	105	105	108	105	100	100	115	105	100	120	100	115	105	105	100	

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NOV. 1967

H^oES (KM)

IONOSPHERIC DATA

DEC. 1967

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	B	R	A	R	R	J ₆₀	R	B	R	R	R	B	B	B	75	B	B	B	R	F	52	A	A	R
2	44	R	A	43	A	B	B	R	B	B	R	B	B	54	57	57	57	63	J ₆₂	54	53	J ₅₂	J ₅₂	R
3	R	R	R	B	R	R	J ₈₅	89	90	88	89	86	85	84	82	B	B	B	B	B	B	B	B	B
4	B	B	A	B	B	B	B	B	B	56	62	63	64	68	68	66	65	63	60	58	58	52	U ₅₀	48
5	J ₅₂	A	R	R	56	R	77	82	90	C	83	79	U ₆₃	R	77	72	71	70	70	70	J ₆₀	R	R	R
6	A	A	J ₆₂	R	R	R	R	R	B	56	J ₇₂	63	62	62	63	66	62	68	B	48	R	A	U ₅₂	47
7	A	A	B	B	R	43	R	R	R	R	48	B	53	56	58	60	67	B	R	F	51	43	R	R
8	U ₄₆	J ₅₂	B	A	R	B	A	50	50	B	B	B	R	B	J ₆₂	61	63	J ₆₂	52	J ₅₃	58	R	R	B
9	B	B	R	B	B	B	B	54	J ₆₂	67	61	63	63	60	65	56	J ₆₂	R	56	56	50	J ₄₁	U ₅₁	45
10	B	B	B	R	B	B	R	J ₅₇	J ₆₂	70	69	67	65	B	60	66	60	58	60	55	57	J ₆₂	56	R
11	R	R	R	B	B	J ₆₄	J ₇₄	77	J ₈₀	81	79	75	72	71	65	66	65	65	65	65	64	J ₆₃	J ₆₂	R
12	R	R	R	R	R	60	R	57	B	58	J ₆₂	J ₆₅	J ₆₂	61	58	R	62	65	63	60	R	R	B	R
13	R	R	R	B	54	51	50	62	61	67	64	66	61	58	59	58	55	57	60	55	53	52	51	R
14	R	R	R	B	R	R	F	64	J ₆₆	80	77	80	78	76	75	70	70	70	73	68	R	J ₆₂	R	R
15	R	C	C	J ₆₂	B	A	61	R	51	52	56	64	60	58	64	66	66	68	67	J ₆₁	R	R	R	R
16	R	A	A	A	R	R	57	F ₆₃	63	63	65	61	59	58	59	R	64	63	57	58	55	54	48	R
17	A	R	F	R	R	R	A	56	65	66	65	J ₇₀	F	92	F	83	B	R	56	59	63	58	R	U ₆₁
18	58	B	R	R	B	B	J ₅₉	J ₇₈	J ₈₀	76	B	R	B	F	R	63	59	B	B	R	J ₆₂	R	A	
19	R	R	R	F	F	B	B	B	B	B	R	R	R	53	B	58	61	53	R	R	B	R	A	B
20	C	J ₄₇	B	J ₄₇	R	R	R	A	A	B	B	B	60	60	58	56	R	R	R	R	R	A	B	44
21	R	49	R	52	R	R	R	R	49	55	57	59	61	59	J ₆₈	68	J ₇₂	J ₆₄	R	48	49	R	R	R
22	51	R	R	48	A	59	R	65	68	62	R	J ₇₂	68	67	71	69	67	60	R	55	57	50	48	R
23	A	A	A	B	B	A	J ₆₆	R	R	B	67	B	J ₆₅	B	68	68	J ₆₈	J ₇₀	59	50	R	R	R	48
24	R	B	53	B	51	R	F	R	J ₇₉	J ₈₄	75	73	U ₇₄	70	69	66	63	62	60	60	62	R	R	R
25	R	R	R	R	R	R	R	R	90	95	97	91	86	77	72	73	U ₇₃	71	U ₇₃	R	65	61	60	R
26	R	R	R	R	R	R	J ₇₈	J ₇₆	J ₇₃	74	79	78	76	75	U ₇₂	71	68	60	R	R	R	J ₄₇	J ₅₂	R
27	R	R	R	A	R	R	R	67	70	72	75	77	73	76	68	68	J ₆₆	54	R	F	55	54	53	R
28	R	R	R	R	R	R	R	R	J ₈₅	J ₈₄	J ₈₁	J ₇₈	79	78	77	77	J ₇₇	76	J ₈₂	R	R	R	R	R
29	B	R	R	R	B	R	R	J ₆₉	J ₇₃	J ₇₈	77	70	68	65	66	64	64	63	65	67	U ₆₁	U ₆₀	R	R
30	R	R	R	R	R	R	R	65	J ₇₁	J ₇₂	R	78	87	79	76	71	70	72	70	68	R	R	R	A
31	A	R	A	R	A	R	R	B	B	B	B	B	B	B	B	R	R	R	R	U ₅₅	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	5	3	2	5	3	5	9	17	21	22	23	22	24	24	27	25	26	24	19	21	18	16	12	6
MED	51	J ₄₉	58	48	54	59	64	64	70	71	72	71	65	66	68	66	66	63	62	58	57	54	52	48
UQ	52	50		52	55	60	J ₇₇	69	J ₇₈	J ₈₀	78	78	76	76	72	70	68	69	68	61	61	62	54	48
LQ	46	48		47	52	51	61	57	62	62	63	64	62	58	61	61	62	60	60	55	53	51	50	45

DEC. 1967

FOF2 (0.1 MHz)

IONOSPHERIC DATA

DEC. 1967

FOF1 (0.01 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					370	A	B	R	R	R	B	B	B	450	B	B	B	410							
2					B	B	A	B	B	R	B	B	440	460	450	460	430	L							
3				390	L	410	440	450	460	470	470	480	R	B	B	B	B	B	B						
4				B	B	B	B	B	B	B	B	460	B	450	B	B	470	L	L	L	L				
5				L	420	440	R	420	C	470	450	480	480	490	490	470	L	L	L						
6				L	L	450	R	B	440	450	470	470	460	450	470	490	440	B	A						
7					380	400	R	R	R	430	B	460	450	450	440	430	B								
8					B	A	400	410	B	B	B	450	B	B	460	L	450	450	L	L					
9				B	B	B	B	430	440	460	450	490	480	450	L	460	L	B	B						
10				B	B	410	410	430	450	450	470	480	B	480	470	L	440	L	L	B					
11				B	B	430	450	450	450	470	490	470	480	L	L	450	L	L	L	L					
12				R	A	A	A	B	A	470	460	470	480	L	480	450	L	L	L	L					
13				370	400	410	440	430	440	450	460	470	480	480	450	L	460	L	L						
14				A	A	A	A	450	460	490	480	490	500	L	L	L	L	L	L	L					
15				B	A	A	A	450	450	460	480	500	440	480	500	490	490	450	L	L					
16					430	440	450	470	470	480	490	A	500	L	520	470	L	L	L						
17					A	A	450	460	B	480	B	B	490	B	B	R		L							
18				B	B	450	450	480	510	B	B	R	B	480	490	480	450	B	B	A					
19					B	B	B	B	B	R	R	470	480	B	490	470	440	R	R	B					
20				380	R	A	A	A	B	B	B	480	480	480	480	450	R	R	A						
21			A	R	R	A	A	450	460	B	490	490	490	500	490	500	480	440	420	370					
22					420	A	450	470	480	B	490	500	500	490	510	480	450	L	L						
23				B	A	430	R	R	B	480	B	530	B	510	510	480	L	L	420	420					
24			B	B	R	420	440	450	480	490	500	500	520	L	500	500	L	450	L						
25				R	R	440	460	490	500	500	500	L	520	520	500	500	470	L							
26					A	460	480	500	500	490	500	500	520	520	500	480	470	R	410						
27					390	420	450	470	480	490	500	500	490	B	480	480	R	R							
28				400	R	440	450	470	480	480	500	520	L	L	L	L	L	L							
29				B	A	400	430	430	450	480	490	490	500	500	A	470	470	L							
30				L	L	450	450	470	480	490	500	500	510	520	R	L	L	L	L						
31					R	R	B	B	B	B	B	B	B	B	B	R	R	R	R	L					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
CNT					4	6	17	15	21	20	20	22	24	21	20	19	21	14	5	3	2				
MED					385	395	430	450	450	460	470	480	490	480	485	490	470	455	450	420	395				
UQ					395	420	440	450	470	480	490	500	500	500	500	500	480	470	450	420					
LQ					375	380	410	440	430	450	460	470	470	480	470	470	460	440	440	415					

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DEC. 1967

FOF1 (0.01 MHz)

IONOSPHERIC DATA

DEC. 1967

FOE (0.01 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	B	A	A	A	A	A	A	B	R	R	335	B	B	B	B	B	B	B	R	A	A	A	A	A	
2	A	A	A	A	A	B	B	A	B	B	R	B	B	B	B	R	305	300	280	B	B	210	A	A	
3	A	A	A	B	B	260	270	290	290	R	305	A	R	B	R	B	B	B	B	B	B	B	B	B	
4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	225	B	A
5	B	B	B	A	A	B	B	B	B	C	R	310	R	300	300	295	A	A	A	250	210	A	A	B	
6	A	A	A	205	250	260	B	295	B	B	B	R	R	R	R	B	R	280	B	A	A	A	A	A	
7	A	A	B	B	A	A	A	A	A	A	R	B	B	B	B	R	295	B	R	A	215	195	A	150	
8	A	A	B	B	A	B	A	A	A	B	B	B	B	B	B	B	290	B	250	A	205	A	B		
9	B	B	200	B	B	B	B	B	330	340	R	R	R	R	A	310	305	R	B	B	220	A	A	A	
10	B	B	B	A	B	B	B	285	R	310	325	R	B	B	R	B	B	B	B	255	B	A	A	A	
11	A	A	190	B	B	B	A	300	310	R	R	B	330	R	R	290	A	B	280	250	220	A	A	A	
12	A	A	180	200	205	A	A	A	B	A	A	335	A	B	B	B	B	B	B	250	225	B	B	B	
13	170	200	220	B	A	A	270	280	305	300	305	R	B	R	R	300	A	290	275	250	225	220	B	A	
14	170	180	A	B	A	A	A	A	A	310	320	310	310	305	305	300	A	A	280	250	A	A	B	B	
15	175	C	C	A	B	B	A	A	A	305	300	R	R	R	R	315	310	305	300	290	245	A	A	A	
16	A	A	A	A	A	A	A	300	305	310	R	340	355	A	R	315	310	305	300	270	250	220	A	A	
17	A	A	A	A	A	A	A	A	R	B	B	B	B	B	B	B	B	R	A	A	A	220	150	A	
18	A	B	A	B	B	B	B	R	B	R	B	B	R	B	B	R	B	B	B	B	B	B	A	B	B
19	A	A	A	205	A	B	B	B	B	B	R	R	R	R	B	B	R	R	R	R	B	A	A	B	
20	C	A	B	B	270	290	A	A	A	B	B	B	R	R	R	B	R	305	R	A	A	A	B	A	
21	A	A	A	A	250	A	A	A	R	B	B	B	R	B	B	B	300	280	B	250	245	A	A	A	
22	A	A	A	A	A	300	A	A	A	A	B	R	R	R	R	B	R	300	290	B	250	240	A	A	
23	A	A	B	B	B	A	A	A	A	B	R	B	B	B	B	A	305	295	260	A	A	A	A	A	
24	B	B	B	B	B	B	A	A	300	310	R	R	R	R	R	R	B	310	290	B	B	225	A	170	
25	A	205	A	A	B	A	A	A	310	325	A	R	R	A	350	A	325	315	300	260	250	A	A	A	
26	A	A	A	A	A	A	A	A	A	305	R	R	R	R	A	R	R	R	310	R	A	A	A	A	
27	A	A	A	A	A	A	A	300	R	R	330	340	B	B	B	R	R	300	295	A	225	A	A	A	
28	A	A	A	A	A	A	A	300	310	325	330	335	345	340	330	A	A	300	295	255	230	A	130	A	
29	B	A	A	A	B	A	A	300	R	R	R	330	340	R	R	320	310	300	295	250	245	220	170	160	
30	A	160	A	A	220	A	A	A	A	315	A	A	340	330	R	R	R	300	R	290	270	225	A	A	
31	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	300	R	290	280	230	B	A	B	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	3	4	4	3	5	4	2	9	8	12	7	7	6	4	4	10	8	17	15	16	15	11	3	3
MED	170	190	195	205	250	275	270	300	308	310	325	335	340	318	318	305	308	300	295	250	230	220	150	160
UQ	172	202	210	205	250	295		300	310	320	330	338	345	335	340	315	310	305	298	260	248	225	160	165
LQ	170	170	185	202	220	260		290	302	305	312	320	330	302	302	300	302	290	280	250	222	215	140	155

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DEC. 1967

FOE (0.01 MHZ)

DEC. 1967

FOES (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	B	J ₃₆	J ₆₀	J ₃₂	J ₂₈	J ₃₅	J ₄₄	B	G	G	G	B	B	B	E ₃₈	B	B	B	G	J ₄₁	J ₄₅	J ₈₄	J ₈₉	25		
2	J ₆₁	34	J ₇₁	J ₃₄	J ₇₇	B	B	34	B	B	G	B	B	E ₃₈	E ₃₅	G	G	G	32	E ₂₉	E ₂₇	27	27	J ₂₅		
3	J ₂₄	J ₃₆	J ₄₀	B	E ₃₃	27	G	G	G	32	J ₃₇	G	E ₄₀	G	E ₅₂	B	B	B	B	B	B	B	B	B		
4	B	B	J ₆₀	B	B	B	B	B	B	E ₄₈	E ₄₈	E ₄₁	E ₄₉	E ₄₁	E ₄₈	E ₄₉	E ₃₇	E ₃₇	E ₃₃	E ₃₃	E ₂₉	G	E ₂₃	22		
5	30	J ₃₆	41	27	30	E ₃₀	E ₃₅	E ₃₅	E ₃₈	C	G	G	G	G	34	J ₃₇	J ₃₇	J ₃₂	J ₃₁	G	26	J ₃₆	J ₂₄	45		
6	J ₈₁	J ₅₂	J ₃₂	26	29	G	E ₄₁	G	B	E ₃₇	E ₃₉	G	G	G	G	E ₃₄	G	32	B	37	35	J ₃₈	J ₃₆	J ₃₇		
7	J ₄₄	J ₅₇	B	B	J ₃₄	35	35	33	J ₃₄	35	G	B	E ₃₂	E ₃₈	E ₃₇	G	G	B	G	32	28	24	J ₃₇	22		
8	30	31	B	J ₄₂	J ₃₃	B	J ₃₂	32	J ₃₇	B	B	B	E ₃₇	B	E ₄₈	E ₃₃	E ₃₈	G	E ₃₃	31	J ₃₇	G	J ₃₆	B		
9	B	B	J ₂₈	B	B	B	B	E ₄₃	G	G	G	G	G	G	36	36	G	G	E ₄₂	E ₄₄	G	31	25	34		
10	J ₆₈	B	B	J ₂₇	B	B	E ₃₆	G	G	33	G	G	E ₄₆	B	G	E ₃₄	E ₄₄	E ₃₂	E ₃₃	G	E ₃₅	J ₂₇	J ₂₇	J ₂₁		
11	23	J ₂₂	24	B	B	B	J ₃₁	G	G	G	E ₃₄	36	G	G	31	35	E ₃₆	G	G	G	J ₂₃	J ₂₃	J ₂₁			
12	J ₂₂	21	20	J ₄₄	27	J ₃₂	J ₃₄	J ₃₄	B	J ₃₇	34	G	35	E ₄₂	E ₄₃	E ₃₇	E ₃₅	E ₃₄	E ₃₅	29	G	E ₂₆	B	E ₃₇		
13	18	G	27	B	30	32	36	G	G	G	G	E ₄₀	G	G	36	31	G	35	26	26	G	E ₃₄	20			
14	G	G	J ₃₂	B	J ₃₅	J ₃₆	J ₃₆	41	35	G	G	G	G	G	G	34	J ₄₂	G	G	26	29	E ₂₂	E ₂₁			
15	26	C	C	27	B	J ₄₅	J ₄₂	J ₃₃	34	G	G	G	G	G	G	G	G	37	44	G	28	37	J ₃₀	J ₄₅		
16	J ₄₃	J ₅₃	J ₇₃	J ₄₂	J ₄₂	29	J ₂₉	31	G	G	G	37	40	39	G	34	J ₃₄	G	G	34	28	G	J ₂₃	J ₂₅		
17	J ₄₂	32	J ₃₃	J ₅₇	J ₃₉	J ₃₅	43	J ₃₇	G	E ₄₃	E ₅₄	E ₄₄	E ₄₉	E ₄₈	E ₃₈	E ₅₈	B	G	J ₃₆	37	J ₃₅	J ₄₆	J ₂₀	20		
18	25	B	J ₄₆	J ₃₆	B	B	39	G	E ₃₈	G	E ₄₈	B	G	B	E ₂₇	G	E ₃₅	35	B	B	41	J ₁₀	30	J ₃₃		
19	27	23	27	G	J ₃₅	B	B	B	B	B	G	G	G	G	B	E ₃₇	G	G	G	G	B	26	J ₈₅	B		
20	C	J ₃₃	B	J ₃₅	30	G	J ₃₇	J ₄₉	J ₃₆	B	B	B	G	G	G	E ₃₇	G	G	G	38	J ₂₆	J ₆₂	B	34		
21	47	J ₃₄	J ₃₁	J ₇₀	31	27	J ₃₅	J ₃₆	G	E ₃₉	E ₄₉	E ₃₇	G	E ₃₉	E ₃₈	E ₄₃	G	G	E ₃₅	G	G	27	J ₃₃	J ₃₇		
22	J ₄₂	J ₃₆	26	J ₅₃	J ₅₂	J ₃₅	J ₄₆	J ₃₆	J ₃₇	J ₃₈	E ₄₉	G	G	G	G	E ₃₈	G	G	G	E ₃₁	J ₄₁	G	J ₃₅	37		
23	J ₄₁	J ₆₅	J ₁₁₀	B	B	J ₅₃	J ₃₀	J ₃₄	J ₃₅	B	G	B	E ₄₈	B	E ₄₀	E ₃₈	32	39	G	G	J ₂₇	J ₃₁	J ₂₉	J ₃₀		
24	31	B	E ₃₅	B	E ₄₇	E ₃₇	J ₃₅	33	G	G	G	G	G	G	G	G	E ₃₇	G	G	E ₃₅	E ₃₈	28	26	20		
25	22	22	27	30	33	J ₃₁	J ₃₁	34	G	G	38	G	41	38	J ₇₂	J ₄₇	J ₆₀	G	35	J ₄₂	J ₄₈	J ₃₄	29	J ₃₄		
26	J ₂₆	J ₃₄	J ₂₈	J ₂₈	J ₃₉	J ₄₄	31	J ₃₇	J ₃₇	G	G	G	G	G	39	G	G	G	G	G	G	G	24	37	J ₆₁	31
27	J ₃₁	30	30	J ₆₂	J ₃₃	J ₃₂	J ₂₉	G	G	G	G	E ₄₆	E ₃₈	E ₅₉	G	G	G	G	32	30	28	25	J ₃₂			
28	26	J ₃₃	J ₃₂	32	29	31	38	36	36	35	35	36	36	G	G	34	J ₃₅	G	32	31	J ₃₂	J ₄₅	19	J ₂₂		
29	B	J ₂₇	J ₃₂	J ₄₉	B	J ₃₇	J ₃₃	G	G	G	G	G	41	G	J ₈₂	J ₆₁	37	G	G	G	G	29	J ₂₁	21		
30	J ₂₃	G	29	31	29	J ₆₂	J ₄₅	J ₃₈	34	G	39	37	36	G	G	G	G	G	G	G	G	G	27	31	J ₆₁	
31	J ₅₀	J ₃₇	J ₈₄	J ₃₃	J ₆₁	J ₃₂	33	B	B	B	B	B	B	B	B	B	G	G	G	G	26	J ₄₅	J ₅₈	41	D	
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	22	23	23	27	27	25	24	28	23	28	25	29	29	28	28	28	29	29	30	28	28		
MED	J ₃₀	J ₃₃	J ₃₂	J ₃₄	J ₃₃	J ₃₂	J ₃₄	34	G	G	G	G	E ₃₆	G	E ₃₅	E ₃₄	E ₃₂	G	G	E ₂₉	27	28	J ₂₈	29		
UQ	J ₄₃	J ₃₆	J ₄₆	J ₄₄	J ₃₈	J ₃₆	38	J ₃₆	36	34	U	E ₃₈	E ₃₅	E ₄₀	E ₃₈	E ₄₀	E ₃₇	34	E ₃₃	32	33	35	J ₃₇	J ₃₆	37	
LQ	24	23	28	28	30	30	J ₃₂	G	G	G	G	G	G	G	G	G	G	G	G	G	G	25	26	24	22	

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DEC. 1967

FOES (0.1 MHZ)

DEC. 1967

F-MIN (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	B	11	10	12	11	18	20	B	25	20	21	B	B	B	38	B	B	B	15	11	11	9	17	11
2	11	11	11	9	15	B	B	24	B	B	21	B	B	38	35	15	22	25	15	29	27	16	17	12
3	10	11	14	B	33	13	12	11	11	12	15	14	40	15	52	B	B	B	B	B	B	B	B	B
4	B	B	39	B	B	B	B	B	B	48	48	41	49	41	48	49	37	37	33	33	29	19	23	17
5	22	26	35	21	17	30	35	35	38	C	14	11	11	12	11	11	11	12	11	11	10	12	14	37
6	12	15	23	11	20	23	41	15	B	37	39	15	11	12	17	34	21	14	B	13	11	12	16	25
7	11	11	B	B	10	10	18	21	13	17	18	B	32	38	37	15	11	B	21	11	12	12	11	11
8	11	11	B	23	9	B	19	17	11	B	B	B	37	B	48	33	38	13	33	16	14	11	11	B
9	B	B	14	B	B	B	B	43	14	15	12	19	18	23	32	14	11	12	42	44	42	10	10	13
10	51	B	B	15	B	B	36	19	24	16	12	19	46	B	23	34	44	32	33	20	35	14	11	12
11	12	10	14	B	B	B	14	16	12	13	15	34	15	21	20	15	16	36	14	21	11	21	13	13
12	12	13	14	11	11	21	25	22	B	17	21	19	47	42	43	37	35	34	35	14	11	26	B	37
13	11	11	13	B	13	16	14	14	12	12	14	21	40	14	16	14	13	21	14	11	11	11	34	11
14	11	12	11	B	16	18	16	15	12	13	11	14	15	14	23	17	14	11	11	11	13	14	22	21
15	14	C	C	11	B	38	14	15	14	11	13	14	12	13	14	11	15	19	12	11	14	13	10	14
16	11	11	10	10	13	11	19	14	11	16	13	14	14	25	15	14	16	13	17	14	13	11	14	19
17	19	14	15	18	15	17	20	16	19	43	54	44	49	48	38	58	B	19	21	19	16	15	14	14
18	16	B	19	23	B	B	36	16	38	19	48	B	16	B	27	21	35	33	B	B	33	15	25	24
19	15	16	17	18	21	B	B	B	B	B	22	16	19	18	B	37	18	17	18	16	B	16	16	B
20	C	15	B	22	12	13	15	16	12	B	B	B	21	15	16	37	17	17	18	13	12	10	B	12
21	18	19	17	11	11	17	23	16	22	39	49	37	16	39	38	43	18	14	35	15	17	12	12	17
22	13	21	11	15	11	14	15	13	12	11	49	19	16	17	16	38	17	14	12	31	11	9	10	18
23	11	19	33	B	B	12	11	13	21	B	22	B	48	B	40	38	11	15	15	11	16	10	10	10
24	26	B	35	B	47	37	23	12	11	11	13	14	16	13	11	15	37	12	13	35	38	13	9	9
25	14	11	13	17	28	13	17	11	12	11	11	16	11	13	14	14	14	11	10	11	13	17	17	10
26	9	10	9	9	10	20	17	16	12	11	13	12	12	14	14	11	14	17	17	17	13	17	13	14
27	13	13	12	14	12	12	12	11	12	11	12	14	46	38	59	21	16	11	13	11	14	11	11	11
28	9	9	11	14	11	11	11	10	10	11	11	11	12	11	11	11	10	11	11	11	9	9	10	9
29	B	10	10	9	B	17	15	11	23	12	18	11	11	12	11	12	12	11	11	11	10	11	9	9
30	10	9	9	9	12	11	11	16	13	11	11	17	14	13	17	16	13	11	21	17	9	10	12	9
31	9	10	11	9	12	13	25	B	B	B	B	B	B	B	B	13	13	11	11	9	38	12	37	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	30	30	30	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	12	12	14	17	15	18	19	16	14	16	18	19	17	21	23	17	16	15	17	14	13	12	14	13
UQ	19	19	33	B	D B 47	D B 38	30	22	32	43	44	D B 44	43	42	39	37	35	28	33	20	22	16	20	20
LQ	11	11	11	11	12	13	14	14	12	11	13	14	14	14	16	14	13	12	12	11	11	11	11	11

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DEC. 1967

F-MIN (0.1 MHz)

IONOSPHERIC DATA

DEC. 1967

H^oF2 (KM)

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					430	A	B	325	R	R	B	B	B	480	B	B	B	430							
2					B	B	A	B	B	R	B	B	530	465	470	480	345	330							
3					390	440	360	380	370	380	395	380	385	345	350	B	B	B	B	B					
4					B	B	B	B	B	470	460	440	440	390	385	410	370	330	305	L					
5					400	400	360	400	420	C	390	380	370	320	390	355	350	355	305	300					
6					L	R	415	320	B	550	400	440	450	465	495	350	440	415	B	A					
7					500	R	R	R	R	620	B	550	500	475	415	410	B								
8					B	A	500	505	B	B	B	475	B	400	450	345	380	490	L						
9					B	B	B	575	480	420	490	425	470	455	355	L	385	380	B	B					
10					B	B	560	500	490	400	415	400	430	B	470	390	350	390	300	L	300				
11					B	B	450	410	400	390	370	390	375	385	340	370	350	325	320	L	270				
12					380	375	R	550	B	480	420	400	450	440	L	480	340	370	320	L	325				
13					385	510	550	460	450	450	445	445	435	490	430	450	L	440	340	L					
14					400	R	530	490	455	405	400	390	390	400	355	350	370	350	330	300	L				
15					B	A	480	A	520	535	490	425	480	460	390	375	435	390	355	L					
16					550	450	480	440	420	405	405	495	470	L	500	340	L	L	L						
17					A	500	425	500	440	485	500	400	400	440	B	R		L	L						
18					B	B	545	490	475	440	490	B	R	B	535	560	515	550	B	B	480				
19					B	B	B	B	B	R	R	R	R	650	B	570	530	605	R	R	B				
20					480	R	R	A	A	B	B	B	580	600	600	650	700	R	R	A					
21					615	R	R	A	A	650	575	575	550	555	590	460	495	415	450	375	580	305			
22					530	A	480	520	495	495	410	470	490	490	440	420	495	L	L						
23					B	A	500	R	R	B	470	B	515	B	490	490	450	380	L	470	400				
24					B	B	R	535	480	440	415	430	435	380	440	420	425	440	450	395	L				
25					405	R	405	380	375	340	360	380	350	385	420	400	375	375	350						
26					A	400	430	430	425	385	410	415	410	405	420	450	515	R	R						
27					550	490	420	425	420	410	440	455	400	B	475	505	680	R							
28					480	490	490	400	440	410	380	395	385	350	L	L	305	320	310						
29					B	500	500	450	460	415	400	420	405	450	425	440	370	410	L						
30					L	L	405	530	460	470	410	450	390	390	400	420	350	390	365	L					
31					R	R	B	B	B	B	B	B	B	B	B	R	R	R	R	460					
	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	8	10	18	21	22	22	25	22	26	25	26	25	26	25	16	5	6				
MED				615	400	495	490	460	452	432	420	415	438	440	422	440	412	390	335	460	315				
UQ					442	510	535	500	480	480	470	440	475	490	475	475	450	450	370	470	400				
LQ					388	430	405	410	425	410	400	395	390	390	390	400	350	355	315	300	300				

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H^oF2 (KM)

IONOSPHERIC DATA

DEC. 1967

H^oF (KM)

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	B	350	A	A	275	A	A	B	R	R	215	B	B	B	B	B	B	B	275	250	A	A	350	A	
2	A	A	A	A	A	B	B	A	B	B	R	B	B	B	220	240	240	230	240	270	290	255	265	285	
3	280	330	A	B	340	255	220	220	210	215	220	210	250	225	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	B	B	230	235	240	255	250	300	275	300	
5	280	B	B	R	A	280	260	255	265	C	205	220	210	215	200	215	220	230	230	230	260	380	295	B	
6	A	A	355	285	275	280	B	235	B	250	225	195	230	230	220	230	230	250	B	A	A	A	345	A	
7	A	A	B	B	A	A	300	A	A	A	215	B	230	240	235	220	200	B	240	300	260	250	330	290	
8	250	310	B	A	270	B	A	E 290	A	B	B	B	240	B	B	210	B	230	250	250	A	250	A	B	
9	B	B	295	B	B	B	B	B	270	240	230	220	230	225	230	240	205	200	B	B	250	290	310	350	
10	B	B	B	A	B	B	300	B	265	240	230	200	200	B	B	210	220	B	230	240	250	B	270	250	265
11	255	280	295	B	B	B	315	205	210	220	240	200	205	230	225	220	215	240	230	240	240	255	250	260	
12	275	270	265	255	270	A	A	A	B	A	205	205	200	210	B	230	230	250	240	240	250	B	290	290	
13	285	280	A	B	225	A	250	250	220	225	200	205	250	225	225	220	205	240	240	230	240	250	330	275	
14	240	255	330	B	A	350	A	A	A	210	200	220	225	230	220	220	220	A	220	240	240	245	275	250	
15	275	C	C	300	B	B	A	A	275	280	200	280	220	H	H	240	225	240	240	255	245	290	330	300	A
16	360	350	A	A	A	A	270	250	240	250	240	240	225	A	235	230	250	230	250	240	240	205	335	300	
17	A	350	320	A	A	A	A	A	300	B	B	B	B	B	255	B	B	A	250	235	230	230	240	260	
18	300	B	A	A	B	B	A	230	245	240	B	B	220	B	240	235	205	240	B	B	A	A	A	A	
19	A	330	340	300	A	B	B	B	B	B	225	210	230	230	B	250	240	R	240	R	B	A	A	B	
20	C	A	B	A	355	240	A	A	A	B	B	B	250	245	225	250	230	R	R	275	A	A	A	B	A
21	A	430	A	330	350	A	A	A	270	230	B	245	240	240	240	260	230	240	250	300	230	275	290	300	
22	A	A	A	A	A	A	A	350	A	270	B	250	250	230	225	230	220	240	245	250	280	270	A	345	
23	A	A	B	B	B	A	A	A	250	B	240	B	B	B	235	220	215	245	250	240	A	360	A	A	
24	B	B	B	B	B	240	A	270	240	230	240	225	230	230	210	225	210	205	230	260	290	255	280	270	
25	290	290	340	A	A	A	320	270	225	200	220	225	240	225	230	230	A	230	245	240	240	245	260	250	
26	275	300	270	250	A	A	R	A	275	210	200	260	240	230	225	225	220	240	240	315	A	380	250	350	
27	300	325	320	A	A	300	255	250	230	210	200	225	300	225	B	240	240	270	R	280	250	250	270	275	
28	290	300	310	A	370	300	390	240	215	225	200	210	210	205	225	205	205	210	220	250	240	240	250	350	
29	B	400	A	230	B	A	A	240	225	240	230	225	220	210	230	A	230	205	250	250	230	250	270	255	
30	275	280	280	A	250	260	A	A	250	210	205	200	225	240	225	210	210	210	240	240	245	250	315	A	
31	A	A	A	A	A	330	A	B	B	B	B	B	B	B	B	230	R	250	240	240	B	A	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	15	17	12	7	10	10	11	15	19	19	22	21	24	20	23	26	24	25	26	25	20	24	22	19	
MED	280	310	315	285	275	280	300	250	240	230	215	220	230	230	225	228	220	240	240	250	242	252	278	285	
UQ	290	350	335	300	350	300	308	264	268	240	230	225	240	230	235	235	230	240	250	255	260	282	315	300	
LQ	275	280	288	252	270	255	258	238	225	212	200	205	220	225	222	220	210	230	240	240	240	250	260	262	

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DEC. 1967

H^oF (KM)

IONOSPHERIC DATA

DEC. 1967

H^oES (KM)

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	B	100	100	100	100	125	100	B	G	G	G	B	B	B	B	B	B	B	G	105	105	100	105	100	
2	100	100	100	100	105	B	B	105	B	B	G	B	B	B	B	G	G	G	150	B	B	140	125	130	
3	105	105	105	B	B	120	G	G	G	120	110	G	B	G	B	B	B	B	B	B	B	B	B	B	
4	B	B	125	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	G	B	140
5	140	120	110	105	120	B	B	B	B	C	G	G	G	G	120	105	100	100	100	G	160	100	120	150	
6	100	125	125	130	125	G	B	G	B	B	B	G	G	G	G	B	G	165	B	105	110	100	120	110	
7	100	100	B	B	100	100	100	105	100	100	G	B	B	B	B	G	G	B	G	105	145	140	100	145	
8	100	105	B	110	100	B	100	105	100	B	B	B	B	B	B	B	B	B	G	B	145	105	G	105	B
9	B	B	130	B	B	B	B	B	G	G	G	G	G	G	125	125	G	G	B	B	G	105	105	120	
10	180	B	B	110	B	B	B	G	G	130	G	G	B	B	G	B	B	B	B	G	B	130	115	110	
11	125	120	150	B	B	B	100	G	G	G	G	B	120	G	G	115	100	B	G	G	G	120	110	105	
12	105	105	130	135	130	105	105	105	B	100	105	G	100	B	B	B	B	B	B	140	G	B	B	B	
13	170	G	140	B	115	110	155	G	G	G	G	G	B	G	G	105	100	G	125	130	125	G	B	120	
14	G	G	105	B	110	110	105	100	100	G	G	G	G	G	G	G	100	100	G	G	105	130	B	B	
15	140	C	C	100	B	105	100	100	100	G	G	G	G	G	G	G	G	140	140	G	150	110	120	115	
16	100	100	100	100	100	105	105	140	G	G	G	145	140	105	G	135	105	G	G	130	145	G	120	145	
17	150	125	120	100	100	100	110	100	G	B	B	B	B	B	B	B	B	G	115	115	125	120	110	100	
18	105	B	135	125	B	B	150	G	B	G	B	B	G	B	B	G	B	190	B	B	135	120	140	120	
19	150	150	130	G	125	B	B	B	B	B	G	G	G	G	B	B	G	G	G	G	B	105	140	B	
20	C	100	B	115	145	G	100	100	100	B	B	B	G	G	G	B	G	G	G	105	100	100	B	110	
21	115	115	110	110	145	100	100	100	G	B	B	B	G	B	B	B	G	G	B	G	G	105	115	110	
22	115	100	100	105	100	150	100	100	100	100	B	G	G	G	G	B	G	G	G	B	125	G	110	125	
23	105	150	130	B	B	105	100	100	105	B	G	B	B	B	B	B	100	140	G	G	110	110	100	110	
24	140	B	B	B	B	B	125	100	G	G	G	G	G	G	G	G	B	G	G	B	B	140	100	155	
25	130	140	115	100	115	100	105	100	G	G	100	G	120	130	100	100	100	G	145	120	125	120	115	100	
26	100	100	100	100	100	100	105	100	100	G	G	G	G	G	100	G	G	G	G	G	105	130	120	125	
27	120	125	125	125	100	100	100	100	G	G	G	G	B	B	B	G	G	G	G	100	125	105	100	100	
28	100	100	100	125	110	105	100	115	100	140	135	125	125	G	G	100	100	G	150	130	120	100	110	100	
29	B	100	100	100	B	100	100	100	G	G	G	G	130	G	120	105	140	G	G	G	G	130	130	130	
30	130	G	105	100	140	100	100	100	100	G	100	100	120	G	G	G	G	G	G	G	G	145	125	105	
31	100	100	100	100	100	105	120	100	B	B	B	B	B	B	B	G	G	G	G	165	130	150	120	100	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
CNT	25	22	25	21	21	19	23	17	10	6	5	3	7	2	5	8	9	6	7	13	19	24	25	26	
MED	115	105	110	105	110	105	100	100	100	110	105	125	120	118	120	105	100	140	140	120	125	120	115	112	
UQ	140	125	130	115	125	108	105	105	100	130	110	135	128		120	120	100	165	148	130	132	130	120	130	
LQ	100	100	100	100	100	100	100	100	100	100	100	112	120		100	102	100	100	120	105	108	105	105	105	

The Radio Research Laboratories, Japan

DEC. 1967

H^oES (KM)

IONOSPHERIC DATA

JAN. 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	A	R	JR51	A	A	A	B	R	A	A	K	B	R	R	51	F	R	R	R	49	49	49	A	
2	A	A	A	R	47	JR61	F	UR57	60	64	JR58	R	B	R	F	92	F	R	R	R	40	A	51	A	
3	R	R	A	R	R	R	A	R	R	50	54	55	57		R	R	54	52	JR57	R	JR59	R	JA55	R	R
4	R	54	A	A	55	62	56	F	70	73	71	70	68	67	63	59	R	57	JR60	JR62	R	56	45	B	
5	R	UR64	A	53	JR62	R	R	R	R	A	58	B	64	65	65	60	64	B	58	54	53	A	A	A	
6	A	A	A	A	R	B	A	A	48	53	R	54	54	56	57	65	R	R	B	R	46	R	A	A	
7	A	UR43	UR40	R	A	R	55	R	R	55	55	55	55	53	56	56	65	64	JE62	JR58	50	R	R	R	
8	UR57	R	R	R	58	60	B	64	78	81	JR76	C	70	69	71	69	69	68	65	60	50	53	R	R	
9	R	R	R	R	R	R	JR82	86	86	89	85	77	76	74	71	68	65	65	67	66	JR64	51	R	JR50	
10	R	R	R	B	55	55	70	60	JR71	JR75	76	70	70	71	71	70	69	71	72	70	68	R	R	R	
11	R	R	R	58	JR62	R	63	62	67	73	72	73	71	68	67	63	63	59	58	47	B	58	A	JA50	
12	A	A	A	R	R	R	R	R	R	R	R	B	53	53	60	58	60	60	55	R	JR46	R	R	R	
13	JR48	JR52	B	F	JR50	56	61	B	A	R	R	R	B	R	R	55	56	60	57	53	B	R	R	R	
14	JA52	A	R	R	50	R	A	A	B	R	B	B	B	B	54	B	B	63	JR62	57	54	R	R	R	
15	50	R	A	B	R	R	R	F	R	R	B	53	R	54	65	64	61	58	59	JR59	40	43	A	57	
16	A	JA44	R	A	R	JR60	48	R	49	58	58	58	60	58	56	60	61	63	60	JR64	JR47	A	R	53	
17	R	A	A	R	R	53	48	R	R	R	R	51	B	64	64	64	64	66	56	53	48	50	JR48	R	
18	A	A	JR52	R	A	47	51	54	64	B	B	B	B	62	58	60	63	61	60	67	UR59	R	R	R	
19	R	JR52	R	R	R	JR62	70	JR80	JR77	JR82	UR82	R	80	R	F	UR69	66	JR69	JR63	JR60	48	48	R	R	
20	B	B	B	B	R	B	A	64	73	JR69	JR67	64	JE67	70	70	JR67	63	JR60	53	F	R	JR51	R	R	
21	41	R	R	R	JR60	R	R	R	72	56	B	F	F	F	72	JR65	64	70	JR67	JR63	R	53	R	R	
22	R	A	R	A	R	JR63	R	70	72	F	JR75	JE72	JR72	JR74	68	68	68	70	62	46	R	46	UR51	R	
23	R	R	JA54	R	A	B	JR64	JE62	63	JR70	B	JE82	JE82	JE74	JR66	66	64	64	JR62	59	JR52	48	R	40	
24	R	R	R	R	R	JR52	65	71	76	76	77	76	76	77	72	73	73	70	71	59	57	R	R	R	
25	B	A	B	51	R	B	JA54	JE59	JE65	JR70	68	69	66	67	67	68	67	65	65	65	64	58	R	R	
26	R	R	R	R	JR61	R	R	R	UR67	69	C	C	77	75	78	70	71	75	R	R	R	R	R	A	
27	R	R	JR51	R	JR52	R	JR57	A	R	F	F	F	JR70	65	JR64	F	JR61	63	58	57	R	UR48	R	A	
28	A	R	A	R	K	A	R	R	56	69	F	58	67	70	70	63	66	63	60	56	46	A	A	A	
29	R	R	A	A	F	R	B	A	A	R	52	53	59	64	JR67	68	66	62	59	57	UR60	R	R	A	
30	A	A	B	R	R	47	R	A	K	A	B	C	R	R	55	67	55	55	50	69	JR51	45	45	43	
31	R	R	A	R	55	F	B	F	A	JR66	65	61	64	65	60	59	60	JR60	R	56	57	R	R	R	
CNT	5	6	4	4	13	12	14	12	18	19	17	19	22	23	26	29	26	27	25	25	22	16	6	6	
MED	50	52	JR52	52	55	JR58	59	63	68	69	68	64	68	67	66	65	64	63	60	59	50	50	48	50	
UQ	52	54	J	56	JR60	JR62	65	70	73	74	76	72	72	70	70	68	66	67	63	63	57	54	51	53	
LQ	48	JR44	R	46	51	52	52	54	60	63	61	58	55	60	63	60	60	61	60	58	56	47	48	45	43

The Radio Research Laboratories, Japan

JAN. 1968

FOF2 (0.1 MHZ)

IONOSPHERIC DATA

JAN. 1968

FOF1 (0.01 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					A	L	460	B	R	A	A	R	B	450	450	430	440	450	450	400				
2					390	400	440	430	450	B	B	R	B	470	450	450	460	R	R					
3							A	410	R	A	440	450	470	490	490	470	490	470	L	L				
4					A	410	430	450	450	490	470	490	490	490	500	500		R	L	L	L			
5					370	390	410	R	R	A	480	B	490	500	L	500	500	B	L	L				
6						B	A	A	A	460	460	470	470	470	480	480	R	470	B	400	R			
7								R	A	460	460	460	480	490	490	490	490	480	L	L	L			
8						A	B	450	480	490	490	510	510	500	520	520	520	L	L	L	460			
9						L	440	460	470	510	510	520	540	550	510	530	L	500	L					
10					400	450	470	470	500	520	510	530	520		L	530	510	L	L	L				
11					440	450	460	480	500	520	510	510	520	530	530	510	480	450	430					
12						R	420	R	R	R	R	B	470	500	500	500	480	510	450	380		L		
13					A	400	440	B	A	A	460	490	B	R	490	480	490	470	460					
14						L	A	A	B	R	B	B	B	B	500	B	B	470	450	L				
15							R	420	A	A	B	460	470	R	510	480	480	460	L					
16						380	430	430	430	450	470	460	490	510	500	L	480	450	L	L				
17						380	410		A	440	450	450	460	B	490	490	480	L	470	450	L			
18					A	400	440	B	460	B	B	B	B	480	470	460	480	L	L					
19					R	440	470	450	450	480	480	490	480	490	500	490	L	470	450	L	L			
20						B	A	A	420	450	450	460	460	480	B	480	470	470						
21					350	400	R	440	460	A	B	470	470	480	480	500	470	L	L					
22					A	420	430	440	460	470	480	480	490	490	500	L	470	L	L					
23						B	420	440	460	430	B	500	500	480	480	480	L	L						
24				A	370	A	420	L	460	460	470	500	490	490	500	500	490	L	L	L				
25					400	B	410	440	450	460	480	490	500	510	490	500	L	L	L	L				
26				L	340	A	A	460	460	480	C	C	500	500	490	510	500	L	L					
27						L	460	A	L	470	480	460	460	500	490	L	500	460						
28						A	380	A	440	470	460	480	500	510	510	L	L	L	L					
29					350	A	B	A	A	A	460	450	490	490	500	500	L	L	L					
30						R	A	A	K	A	B	C	490	490	480	490	L	L						
31					A	A	B	A	A	480	470	470	B	B	500	500	480	L	L	L				
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT					7	12	20	15	18	19	21	23	24	27	28	26	20	15	7	5				
MED					370	400	430	440	460	470	470	480	490	490	495	495	485	470	450	400				
UQ					380	415	445	455	460	485	480	495	500	500	500	500	500	475	450	430				
LQ					350	395	420	435	450	460	460	460	470	485	485	480	475	465	450	400				

The Radio Research Laboratories, Japan

JAN. 1968

FOF1 (0.01 MHz)

IONOSPHERIC DATA

JAN. 1968

FOE (0.01 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	A	A	155	A	A	A	A	B	A	A	A	R	B	R	R	330	325	310	305	R	A	A	A	A	
2	A	A	A	180	A	A	A	K	A	B	B	A	B	R	A	330	320	300	A	R	A	A	A	A	
3	A	A	A	A	A	A	A	A	A	R	B	B	350	B	R	R	320	305	300	280	240	A	A	A	
4	A	B	A	A	A	A	A	300	310	300	A	330	R	345	330	R	310	A	300	275	240	A	A	B	
5	A	A	A	A	A	A	A	A	K	A	A	B	B	A	330	A	320	B	295	270	225	B	A	A	
6	A	A	A	A	A	B	A	A	A	R	350	355	360	B	R	340	330	325	B	R	240	A	A	A	
7	A	A	A	A	A	A	A	K	A	330	R	350	R	355	350	345	R	R	310	280	250	210	A	A	
8	R	150	B	A	A	A	B	A	A	A	A	A	360	355	R	B	R	310	300	295	260	B	A	170	
9	A	A	A	A	A	A	295	300	A	320	320	R	340	350	345	R	320	315	A	A	275	260	250	210	180
10	A	170	A	B	A	A	310	A	320	330	R	B	370	350	R	330	325	320	R	A	245	A	225	A	
11	A	A	A	A	A	A	A	A	340	350	360	365	R	365	350	340	315	R	A	A	B	A	A	A	
12	A	A	A	180	A	A	A	A	A	A	A	B	R	A	350	345	325	R	290	A	275	A	A	A	
13	A	A	B	A	A	A	A	B	A	A	A	B	B	B	R	R	B	R	B	B	B	A	280	A	
14	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	325	300	275	235	190	A	A	
15	B	A	A	B	A	B	A	A	A	A	B	R	R	A	340	330	R	A	300	275	A	A	A	A	
16	A	A	A	A	225	A	A	A	A	A	350	B	B	340	325	320	R	300	B	B	A	A	A	B	
17	A	A	A	A	A	A	A	A	A	B	R	B	B	B	B	R	R	B	295	A	250	A	A	A	
18	A	A	A	A	A	A	A	B	A	B	B	B	B	B	R	R	B	R	290	B	B	A	190	A	
19	A	170	A	A	A	280	A	310	315	340	A	A	R	B	R	B	B	B	B	275	A	A	A	A	
20	B	B	B	B	A	B	A	A	B	B	R	B	B	A	B	B	B	305	R	270	A	A	A	A	
21	A	A	A	A	A	A	290	300	320	A	B	A	340	B	B	320	B	R	R	B	275	220	A	A	
22	A	A	B	B	A	A	A	300	B	325	R	B	R	A	340	R	R	A	295	280	A	A	A	A	
23	A	A	B	A	B	B	A	A	325	330	B	R	R	R	R	R	325	310	285	260	240	220	A	A	
24	140	A	A	A	A	A	A	300	310	A	325	R	340	R	R	R	R	B	B	265	230	A	A	140	
25	B	B	B	A	215	B	A	300	310	325	340	345	R	R	R	R	R	300	290	260	B	185	180	140	
26	A	A	180	A	A	A	A	330	340	C	C	R	B	R	R	R	R	R	270	A	A	A	135	A	
27	A	A	A	210	A	290	K	A	A	A	R	R	350	340	330	320	A	310	280	B	245	230	A	A	
28	A	A	A	170	A	A	R	A	A	A	345	350	B	B	A	A	R	320	300	280	270	A	A	A	
29	A	A	A	A	A	A	B	A	A	A	R	B	B	R	R	B	B	325	B	265	225	180	A	A	
30	A	A	B	210	A	A	A	A	R	B	B	C	B	R	R	335	330	320	300	290	225	180	150	A	
31	A	A	A	A	A	A	B	R	A	A	350	355	B	B	B	R	315	310	R	250	210	A	145	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	1	3	2	5	2	2	3	7	9	10	8	8	8	8	9	13	13	16	18	18	19	9	8	5	
MED	140	170	168	180	220	285	295	300	320	330	348	350	350	348	340	330	320	310	298	275	240	210	185	140	
UQ		170		210			302	300	325	340	350	355	360	355	350	340	325	320	300	280	255	220	218	170	
LQ		160		180			292	300	310	325	332	342	345	342	330	320	315	305	290	265	232	185	148	140	

The Radio Research Laboratories, Japan

JAN. 1968

FOE (0.01 MHz)

IONOSPHERIC DATA

JAN. 1968

FOES (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	J X 31	J X 64	J X 30	J X 31	J X 61	J X 89	J X 65	B	J X 70	J X 68	J X 52	G	B	G	G	G	G	38	39	J X 45	J X 38	J X 43	J X 36	J X 39	
2	J X 46	J X 49	J X 67	27	J X 36	J X 34	J X 39	G	J X 32	E B 49	E B 52	33	B	G	35	38	G	G	G	G	27	J X 75	J X 24	J X 51	
3	J X 33	J X 23	J X 50	J X 23	J X 36	J X 36	J X 47	38	J X 35	J X 34	E B 38	E B 38	G	E B 38	G	G	36	G	32	J X 37	J X 34	J X 62	J X 24	J X 37	
4	J X 23	J X 49	J X 50	J X 54	J X 35	29	36	G	G	G	J X 33	41	38	G	G	G	32	32	36	J X 35	27	26	33	B	
5	J X 38	J X 35	J X 97	27	J X 36	32	32	29	G	55	J X 37	B	E B 38	34	37	J X 43	34	B	G	G	27	J X 63	J X 59	J X 40	
6	J X 108	J X 51	J X 84	J X 70	29	B	J X 43	J X 44	J X 44	G	G	G	G	E B 39	39	37	36	G	B	G	27	J X 45	J X 62	J X 62	
7	J X 37	J X 32	J X 31	26	J X 37	J X 36	J X 37	G	J X 37	G	G	G	G	G	G	38	G	G	G	G	28	27	J X 37	J X 20	
8	J X 38	J X 34	30	J X 31	J X 35	J X 46	B	J X 38	J X 43	41	35	39	G	G	G	E B 37	G	G	G	G	J X 31	E B 39	26	J X 24	
9	23	23	J X 28	J X 35	27	J X 36	G	G	J X 31	38	G	G	G	G	G	G	G	J X 55	J X 63	G	G	G	G	J X 23	
10	23	23	29	B	J X 35	J X 38	G	J X 37	G	G	G	E B 39	G	40	42	J X 48	J X 56	40	G	J X 37	J X 53	J X 36	29	33	
11	J X 24	J X 28	J X 34	33	32	J X 37	J X 48	38	G	G	G	G	G	G	G	37	G	G	35	42	B	J X 49	J X 43	J X 52	
12	J X 70	J X 46	J X 49	27	28	26	J X 32	J X 36	J X 36	J X 36	39	B	G	38	G	G	38	G	G	J X 34	G	31	J X 42	J X 30	
13	36	J X 36	B	42	40	31	32	B	J X 85	37	J X 35	E B 38	B	E B 38	G	G	E B 37	G	E B 33	E B 37	B	26	G	J X 38	
14	J X 51	J X 50	J X 37	J X 28	J X 31	J X 32	J X 40	J X 45	B	J X 42	B	B	B	B	E B 38	B	B	36	35	J X 35	J X 35	J X 48	30	38	
15	E B 38	J X 38	J X 36	B	40	39	J X 40	J X 34	J X 35	J X 38	B	G	G	36	G	G	G	33	G	31	J X 29	32	J X 36	J X 38	
16	J X 39	J X 49	31	J X 65	28	30	J X 37	J X 31	J X 32	J X 32	G	E B 38	E B 39	37	J X 41	34	G	G	E B 34	E B 34	J X 35	J X 98	J X 42	43	
17	J X 37	J X 51	J X 46	37	36	35	J X 36	48	J X 34	E B 35	G	E B 36	B	E B 48	E B 38	G	E B 36	G	J X 34	J X 31	J X 37	J X 38	J X 35		
18	J X 45	J X 51	J X 38	J X 37	J X 49	29	J X 38	E B 49	J X 38	B	B	B	B	E B 38	G	G	E B 38	G	31	E B 34	E B 33	J X 39	J X 24	J X 32	
19	J X 34	J X 28	J X 23	28	27	G	J X 37	J X 35	G	G	J X 42	43	G	E B 49	G	E B 38	E B 48	E B 32	E B 35	29	29	J X 37	J X 35	J X 37	
20	B	B	B	B	J X 31	B	J X 53	J X 36	E B 37	E B 38	G	E B 36	E B 40	40	E B 59	E B 37	E B 36	G	G	31	29	27	J X 33	32	
21	35	J X 39	33	J X 37	31	J X 34	G	G	41	J X 47	B	J X 37	G	E B 37	E B 37	G	E B 34	G	G	E B 37	G	26	22	J X 32	
22	J X 29	J X 61	J X 32	J X 37	J X 45	J X 38	J X 35	G	E B 43	G	G	E B 39	G	36	G	G	G	37	G	31	36	30	J X 34	33	
23	J X 23	J X 33	J X 58	J X 28	J X 48	B	J X 37	35	G	G	B	G	G	G	G	G	G	G	30	G	G	G	30	J X 29	
24	30	29	J X 45	33	J X 35	38	J X 49	G	38	39	G	G	G	G	G	G	G	E B 36	E B 33	G	25	27	G	23	
25	B	J X 82	B	J X 34	30	B	36	G	G	G	G	G	G	G	G	G	G	G	G	G	E B 25	23	22	16	
26	22	26	G	23	J X 32	32	J X 39	36	G	G	C	C	G	E B 39	G	G	G	G	G	J X 46	J X 45	J X 37	J X 32	J X 51	
27	J X 40	J X 38	32	26	J X 24	G	G	J X 45	J X 53	J X 36	G	G	G	G	G	G	33	G	31	E B 28	26	G	J X 32	J X 42	
28	J X 51	J X 32	J X 65	31	J X 43	J X 49	G	40	J X 42	37	G	39	E B 39	E B 38	35	36	G	G	G	G	G	J X 37	J X 52	J X 40	
29	30	J X 35	J X 36	J X 44	J X 33	32	B	J X 42	J X 50	40	G	E B 37	E B 39	38	G	E B 35	E B 37	G	E B 31	G	27	J X 43	J X 36	J X 32	
30	J X 61	J X 39	B	26	J X 34	29	J X 30	J X 48	G	48	B	C	E B 40	G	G	G	G	G	G	G	29	24	J X 24	J X 24	
31	J X 30	32	J X 40	J X 23	J X 35	J X 53	B	J X 40	J X 37	J X 32	G	G	E B 57	E B 52	E B 47	G	G	G	G	29	26	26	19	22	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
CNT	29	30	27	28	31	27	28	29	30	30	24	25	25	30	31	30	30	30	30	31	29	31	31	30	
MED	J X 36	J X 37	J X 36	J X 31	J X 35	34	J X 37	36	J X 35	34	G	E B 36	G	E B 36	G	G	G	G	G	E B 31	28	U 34	J X 32	J X 34	
UQ	J X 40	J X 49	J X 50	J X 37	J X 36	J X 38	J X 40	J X 40	J X 42	40	35	E B 38	E B 38	E B 38	E B 37	36	E B 36	E B 33	32	34	J X 33	J X 43	J X 36	J X 40	
LQ	J X 30	J X 32	J X 31	27	31	30	32	G	G	G	G	G	G	G	G	G	G	G	G	G	G	26	26	24	J X 29

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JAN. 1968

FOES (0.1 MHZ)

IONOSPHERIC DATA

JAN. 1968

F-MIN (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	9	17	11	10	14	11	10	B	12	11	11	14	B	16	14	12	11	12	10	10	11	9	11	9
2	12	12	9	9	9	11	25	12	14	49	52	21	B	16	13	12	14	13	11	11	10	10	11	10
3	11	11	9	9	12	11	11	12	11	12	38	38	14	38	20	12	11	11	11	14	9	12	13	10
4	11	23	10	14	14	17	14	11	14	11	11	15	13	14	17	16	12	11	14	16	11	10	11	B
5	11	9	11	12	11	9	10	11	14	21	25	B	38	13	12	12	13	B	11	15	11	37	16	9
6	11	10	10	13	10	B	11	11	11	11	17	13	14	39	12	11	14	10	B	11	19	9	13	13
7	11	22	9	10	10	11	16	17	16	14	12	11	14	17	11	13	16	11	11	9	12	13	11	11
8	10	11	24	21	18	16	B	18	12	12	14	11	17	16	22	37	19	14	11	11	17	39	17	11
9	9	9	11	10	11	11	10	10	10	12	13	11	15	12	14	13	11	11	12	11	11	11	19	14
10	11	12	11	B	19	12	11	15	11	11	16	39	16	16	14	12	11	11	19	12	12	23	10	13
11	14	20	16	11	11	11	11	12	12	11	11	11	11	16	13	12	12	11	11	16	B	11	12	12
12	18	13	10	11	12	11	15	15	17	15	12	B	24	18	15	12	14	15	16	11	13	10	14	12
13	11	11	B	19	15	23	15	B	17	21	21	38	B	38	23	20	37	20	33	37	B	11	11	12
14	16	12	11	9	22	11	9	12	B	37	B	B	B	B	38	B	B	17	15	17	19	14	9	11
15	38	11	17	B	12	34	22	9	16	23	B	14	24	16	11	11	23	23	26	14	24	10	14	11
16	11	11	12	12	11	9	11	14	12	16	15	38	39	18	13	15	16	14	34	34	11	12	10	21
17	9	9	11	12	11	11	11	11	23	35	11	36	B	48	38	19	21	36	17	11	11	11	11	10
18	13	26	12	16	21	14	12	49	11	B	B	B	B	38	14	14	38	21	15	34	33	14	15	10
19	9	8	9	9	9	11	13	12	11	12	12	18	12	49	19	38	48	32	35	12	11	12	11	16
20	B	B	B	B	21	B	14	29	37	38	11	36	40	23	59	37	36	11	21	18	13	14	9	11
21	11	8	10	12	18	14	11	11	13	21	B	21	14	37	37	16	34	12	23	37	11	13	14	10
22	9	14	23	26	15	12	11	11	43	14	17	39	11	17	16	24	13	11	11	10	17	16	10	11
23	11	13	25	12	37	B	11	11	9	10	B	17	17	15	16	16	14	11	12	11	11	11	11	17
24	11	13	14	16	18	22	12	11	11	11	12	16	12	23	16	17	24	36	33	19	13	11	13	11
25	B	25	B	14	21	B	14	14	13	14	14	12	14	16	13	14	11	11	10	14	25	15	9	9
26	8	13	10	13	13	14	11	14	18	14	C	C	20	39	13	17	16	16	12	14	9	9	11	9
27	11	9	16	10	9	11	11	11	12	11	11	17	15	12	14	12	12	15	12	28	10	9	11	16
28	9	9	11	12	20	11	19	14	16	12	11	12	39	38	20	18	14	11	11	12	9	9	11	13
29	12	10	10	11	12	9	B	22	22	12	21	37	39	24	14	35	37	17	31	10	14	9	9	14
30	12	12	B	10	14	11	11	17	11	35	B	C	40	16	14	15	16	14	28	15	14	12	10	12
31	11	11	13	9	17	21	B	11	18	13	13	15	57	52	47	26	13	13	17	14	18	14	12	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	31	30	29	31	31	31	31	31	31	31	31	31	31	31	31
MED	11	12	11	12	14	11	11	12	13	14	14	18	20	18	14	15	14	13	15	14	12	11	11	11
UQ	12	14	16	15	18	19	15	16	17	21	38	38	40	38	20	20	24	17	24	16	18	14	13	13
LQ	10	10	10	10	11	11	11	11	11	12	12	14	14	16	13	12	12	11	11	11	11	10	10	10

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JAN. 1968

F-MIN (0.1 MHz)

IONOSPHERIC DATA

JAN. 1968

H^oF₂ (KM)

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					500	500	480	B	R	A	A	R	B	R	R	655	660	R	R	R				
2					R	450	465	550	575	510	575	R	B	R	515	400	350	R	R					
3							A	R	R	A	580	500	600	560	510	540	530	415	L	L				
4					470	400	360	495	410	465	425	440	450	450	450	450	R	L	L	L				
5					450	460	460	R	R	A	590	B	450	480	L	490	430	B	450	L				
6						B	A	A	A	615	R	600	640	585	560	450	R	450	B	R				
7							470	R	R	495	570	600	565	690	510	480	460	450	L	L	L			
8						R	B	580	530	500	450	440	440	480	430	450	450	400	340	400				
9					400	400	400	405	395	405	450	500	425	415	445	L	410	315						
10					535	440	600	490	480	430	480	460	455	410	450	460	405	340	280					
11					455	495	490	490	450	450	450	420	450	440	515	450	535	530	610					
12						R	R	R	R	R	R	B	600	610	480	540	550	490	530	R	L			
13					500	465	490	B	A	R	R	R	B	R	R	630	570	480	455					
14					465	A	A	B	R	B	B	B	B	B	625	B	B	400	350					
15						R	470	R	R	B	590	R	650	R	450	475	310	435						
16					450	490	R	650	505	505	525	485	520	560	405	450	430	L	350					
17					535	580	R	R	R	645	590	B	490	475	480	L	355	410	L					
18					A	630	630	460	480	B	B	B	B	470	490	455	440	415	415					
19					R	390	485	430	400	420	415	460	450	415	450	430	L	390	380	L	L			
20						B	A	500	425	440	450	500	445	400	B	415	425	420						
21					380	420	390	405	420	A	B	500	490	500	405	430	430	360	300					
22					A	445	440	400	430	420	430	410	425	390	390	390	390	340	L					
23						B	355	500	470	450	B	400	400	360	400	385	L	325						
24					400	380	430	390	L	390	400	400	390	430	360	400	400	375	L	290	L			
25					410	B	460	470	420	415	450	415	470	455	420	430	370	360	L	315				
26					385	400	350	355	435	440	450	C	C	430	450	375	400	405	365	360				
27						440	440	A	600	540	500	505	470	450	430	450	435	380						
28						A	240	A	565	450	520	525	465	430	410	L	L	L	L					
29					440	500	B	A	A	R	600	650	550	500	455	400	400	330	350					
30						350	R	A	R	A	B	C	R	690	590	510	L	L						
31					A	450	B	A	A	490	475	535	B	480	530	525	450	L	L	L				
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT				2	9	21	21	15	18	19	20	22	22	27	26	29	22	23	16	5				
MED				392	440	450	460	470	455	450	462	500	462	470	450	450	445	400	370	350				
UQ					470	465	485	500	530	498	572	535	500	510	510	490	460	425	442	400				
LQ					400	420	390	432	420	430	430	440	440	440	410	415	405	360	340	315				

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JAN. 1968

H^oF₂ (KM)

IONOSPHERIC DATA

JAN. 1968

H^oF (KM)

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	A	A	250	A	A	320	330	B	A	A	A	A	B	250	250	250	250	250	A	315	330	A	230	A	A
2	A	A	330	A	380	A	A	230	A	B	B	A	B	245	290	255	230	R	A	R	A	A	260	A	
3	A	350	A	A	A	A	A	200	A	A	250	240	220	220	225	225	225	235	250	255	250	275	275	290	
4	300	B	A	A	A	A	A	215	240	220	205	240	250	225	210	215	205	200	230	250	240	250	350	B	
5	340	370	A	A	A	310	260	A	R	A	230	B	230	210	205	205	215	B	240	265	A	B	265	A	
6	A	A	A	A	A	B	A	A	A	235	210	200	200	240	235	230	210	230	B	250	260	330	260	290	
7	A	A	415	290	A	310	A	K	A	205	200	200	245	230	205	225	220	240	230	240	250	A	250	A	
8	270	290	A	425	440	A	B	280	250	250	250	200	205	220	240	225	230	225	225	245	250	B	270	265	
9	285	280	A	310	290	250	245	250	210	240	200	225	210	200	200	230	225	240	200	235	250	250	210	265	
10	270	290	300	B	A	A	280	275	220	210	225	235	225	210	230	A	A	250	230	200	255	270	260	A	
11	340	A	A	315	310	295	A	275	250	230	225	225	210	200	225	220	200	240	285	310	B	A	A	A	
12	A	A	A	A	A	280	270	A	A	275	A	B	215	240	215	210	230	240	250	A	295	A	A	A	
13	A	A	B	A	A	350	295	B	A	A	250	205	B	240	215	235	225	235	245	270	B	250	295	290	
14	300	A	A	A	A	300	A	A	B	B	B	B	B	B	240	B	B	240	260	255	250	280	270	A	
15	B	A	A	B	A	B	A	290	A	A	B	240	235	230	240	230	250	240	245	255	285	330	A	340	
16	A	345	310	A	A	285	280	270	250	275	250	240	240	230	215	210	240	230	240	250	A	A	A	A	
17	215	A	A	340	A	A	A	A	A	205	225	240	B	B	230	220	240	250	240	240	260	A	A	A	
18	A	A	A	375	A	K	A	B	260	B	B	B	B	225	215	225	270	240	250	290	290	255	250	270	
19	265	290	315	350	290	300	275	235	215	290	A	250	215	B	250	225	B	230	260	270	A	A	A	340	
20	B	B	B	B	A	B	A	A	240	240	225	225	B	235	B	240	230	230	250	250	250	240	325	A	
21	A	340	340	355	A	A	230	230	A	A	B	210	255	230	230	215	230	230	240	300	240	250	290	270	
22	330	A	370	B	A	A	275	275	B	225	220	230	220	225	215	210	215	210	240	240	370	275	290	280	
23	280	A	B	A	B	B	A	250	225	210	B	250	250	205	210	200	220	205	225	230	230	250	300	A	
24	A	350	A	A	350	A	300	230	200	200	200	235	210	230	215	210	215	255	B	240	240	260	R	305	
25	B	B	B	A	A	B	A	230	230	225	215	215	205	215	225	215	220	220	225	240	240	250	260	280	
26	335	340	330	355	A	A	A	290	240	220	C	C	210	240	230	230	225	230	240	A	A	A	280	A	
27	330	330	340	300	300	290	260	A	270	225	220	210	200	215	225	205	230	235	240	240	260	275	A	A	
28	A	A	A	280	A	A	K	A	230	300	205	250	245	240	235	225	230	240	230	245	235	250	A	A	
29	A	A	A	A	A	A	B	A	A	A	255	220	250	240	230	230	250	235	240	250	265	260	A	A	
30	A	A	B	A	350	305	A	A	K	A	B	C	265	245	230	230	220	230	250	250	255	260	305	320	
31	310	A	A	350	A	A	B	A	A	240	200	215	B	B	B	225	235	240	235	245	255	260	260	250	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
CNT	14	11	10	12	8	12	12	16	15	20	20	23	23	27	29	29	28	29	27	28	24	21	20	14	
MED	300	330	330	345	330	300	275	250	240	228	222	225	220	230	225	225	228	235	240	250	252	260	270	285	
UQ	330	348	340	355	365	310	288	275	250	245	240	240	245	240	235	230	232	240	250	260	262	275	292	305	
LQ	270	290	310	305	295	288	260	230	222	215	205	212	210	218	215	215	220	230	230	240	245	250	260	270	

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JAN. 1968

H^oF (KM)

JAN. 1968

H^oES (KM)

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	100	105	125	100	105	100	100	B	100	100	100	G	B	G	G	G	G	160	150	130	100	100	120	105
2	100	100	100	125	100	100	120	G	100	B	B	105	B	G	100	170	G	G	G	G	100	100	100	100
3	100	100	140	100	100	100	100	100	100	100	B	B	G	B	G	G	155	G	150	125	120	130	105	100
4	105	130	100	100	100	110	105	G	G	G	100	120	130	G	G	G	125	100	145	130	130	105	110	B
5	100	100	100	100	100	100	100	100	100	100	110	B	B	100	105	100	130	B	G	G	160	140	125	100
6	100	100	100	100	100	B	100	100	100	G	G	G	G	B	140	145	150	G	B	G	155	100	115	115
7	105	135	100	100	100	100	105	G	100	G	G	G	G	G	G	165	G	G	G	G	105	140	120	115
8	115	130	130	125	115	100	B	105	100	100	100	100	G	G	G	B	G	G	G	G	110	B	140	130
9	125	140	105	100	100	100	G	G	100	100	G	G	G	G	G	G	G	100	100	G	G	G	G	105
10	110	140	110	B	105	105	G	100	G	G	G	B	G	125	115	110	105	135	G	100	140	145	160	125
11	130	130	105	105	105	105	100	100	G	G	G	G	G	G	G	115	G	G	100	110	B	105	105	105
12	105	100	100	110	105	105	105	105	100	100	100	B	G	130	G	G	120	G	G	105	G	105	110	100
13	100	100	B	100	105	130	100	B	100	100	105	B	B	B	G	G	B	G	B	B	B	110	G	125
14	125	100	100	100	120	100	100	100	B	100	B	B	B	B	B	B	B	150	150	115	140	130	100	115
15	B	100	100	B	100	150	105	100	100	105	B	G	G	105	G	G	G	115	G	180	140	105	130	100
16	100	115	115	105	125	100	100	100	100	100	G	B	B	135	115	130	G	G	B	B	105	105	100	105
17	100	105	110	105	105	100	100	100	110	B	G	B	B	B	B	G	G	B	G	105	155	115	110	105
18	100	110	105	115	100	100	100	B	100	B	B	B	B	B	G	G	B	G	170	B	B	125	140	130
19	115	105	100	100	100	G	100	100	G	G	100	100	G	B	G	B	B	B	B	120	110	120	110	125
20	B	B	B	B	100	B	100	125	B	B	G	B	B	105	B	B	B	G	G	150	115	130	100	115
21	115	105	110	100	125	110	G	G	145	100	B	105	G	B	B	G	B	G	G	B	G	175	150	100
22	105	105	125	120	100	100	105	G	B	G	G	B	G	100	G	G	G	100	G	105	125	125	110	105
23	140	115	160	130	110	B	100	100	G	G	B	G	G	G	G	G	G	G	130	G	G	105	125	
24	140	115	115	120	130	120	100	G	120	100	G	G	G	G	G	G	G	B	B	G	165	115	G	150
25	B	115	B	105	130	B	100	G	G	G	G	G	G	G	G	G	G	G	G	G	B	120	140	140
26	105	140	G	115	115	110	105	100	G	G	C	C	G	B	G	G	G	G	G	105	105	110	110	100
27	110	110	120	140	100	G	G	100	100	130	G	G	G	G	G	G	100	G	150	B	160	G	110	110
28	100	100	100	100	100	100	G	100	110	100	G	140	B	B	100	105	G	G	G	G	G	100	100	110
29	100	100	100	100	100	100	B	100	105	100	G	B	B	105	G	B	B	G	B	G	155	115	110	125
30	105	100	B	100	105	105	100	100	G	125	B	C	B	G	G	G	G	G	G	G	150	140	140	120
31	120	120	105	100	100	115	B	100	100	100	G	G	B	B	B	G	G	G	G	155	145	125	120	110
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	30	26	28	31	25	23	20	19	17	7	6	1	8	6	8	7	7	9	14	22	27	28	30
MED	105	105	105	100	100	100	100	100	100	100	100	105	130	105	110	122	125	115	150	118	135	115	110	110
UQ	115	120	115	115	108	110	105	100	102	100	102	120		128	115	155	140	142	150	130	155	130	128	125
LQ	100	100	100	100	100	100	100	100	100	100	100	100		102	100	108	112	100	130	105	110	105	105	105

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