

IONOSPHERIC DATA

Observations on board the "Soya" en route

between Japan and Antarctica

Nov. 1958 — Jan. 1959

Supplement

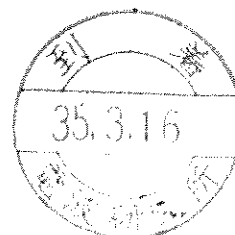


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MINISTRY OF POSTS AND TELECOMMUNICATIONS

KOKUBUNJI, TOKYO JAPAN



IONOSPHERIC DATA

Observations on board of the "Soya" en route
from Japan to Antarctica

Nov. 1958—Jan. 1959

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Preface

As a work of the Third Japanese Antarctic Research Expedition, 1958 - 1959, routine ionospheric soundings were carried out by ionospheric sounder for biennial observation on board the "Soya" along the whole course of outward run from Japan to Antarctica. This book, a supplement to "Ionospheric Data in Japan", explains the results obtained from these observations.

It is to be noted that the observational point was movable according as the ship ran and the time of observation is expressed as Greenwich mean time (G. M. T.) by 24 hours. The diurnal variation in observed values does not always cover just 24 hours a day. Therefore, the monthly median or mean values in the data have no significance, hence such calculations are dispensed with. The relations between the observational values and the place of observation may be found by cross reference to Figs 1, 2, Table 1 and other tables of the values. Symbols and terminology are the same as used in "Ionospheric Data in Japan."

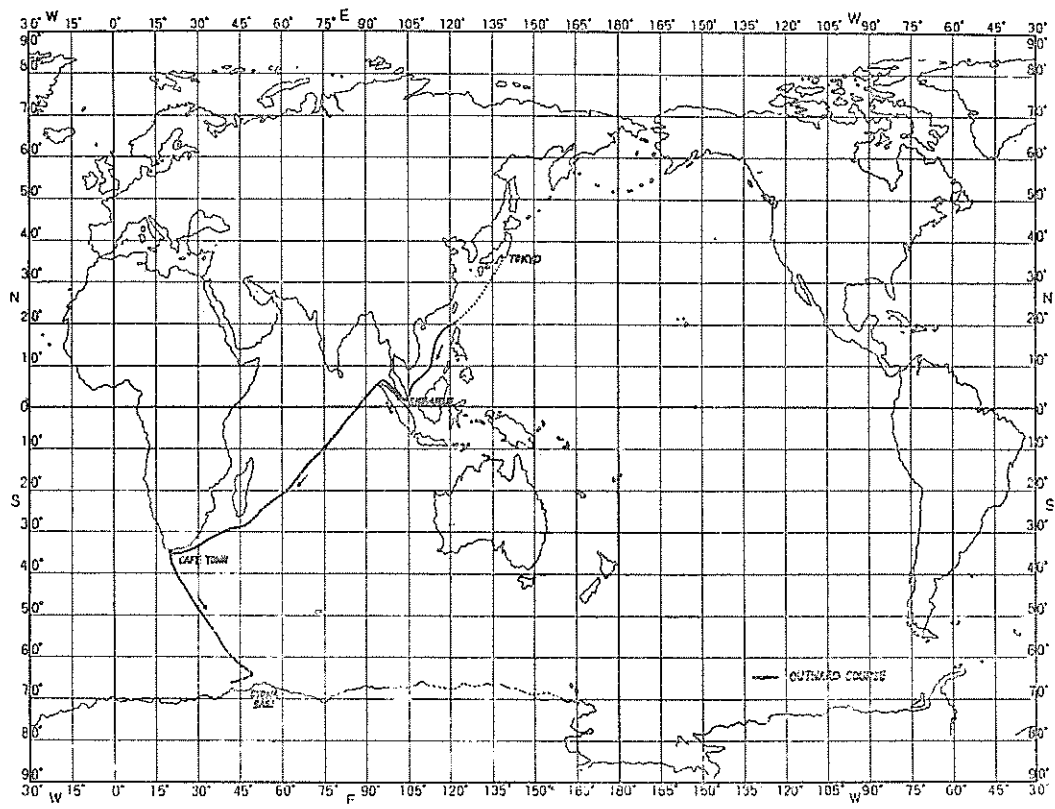


Fig. 1. The route of th Soya.

Table 1. position of the Soya (12 h 00 m G.M.T.)

Date	Nov. 1958		Dec. 1958				Jan. 1959				
	N		E		N and S		E		S		E
1					04° 23'	92° 45'	61° 55'	45° 48'			
2					01° 38'	89° 04'	65° 24'	50° 56'			
3					01° 15'	85° 29'	65° 42'	47° 20'			
4					04° 23'	82° 30'	} 66° 14'	} 41° 14'			
5					07° 14'	79° 01'					
6					10° 10'	75° 21'					
7					12° 41'	71° 57'					
8					15° 21'	67° 59'					
9					17° 51'	64° 01'			} 66° 07' (Antarctica)	} 41° 16'	
10					20° 23'	60° 02'					
11					22° 51'	56° 04'					
12					25° 06'	51° 54'					
13					27° 14'	47° 35'					
14					29° 17'	43° 23'					
15					30° 57'	38° 48'					
16					32° 34'	33° 54'					
17	21° 09'	123° 33'	34° 00'	28° 51'							
18	18° 56'	119° 47'	34° 53'	23° 25'							
19	16° 06'	115° 58'		18° 27'							
20	12° 36'	113° 05'									
21	09° 01'	110° 18'	34° 30'	(Capetown)							
22	05° 15'	107° 21'									
23	} 01° 42'	104° 39'									
24				34° 04'	18° 14.5'						
25		} 01° 17' (Singapore)	103° 51'	37° 15'	20° 56'						
26					40° 48'	23° 55'					
27					44° 12'	27° 07'					
28	01° 11'	103° 37'	47° 48'	30° 38'							
29	03° 30'	100° 05'	50° 57'	34° 23'							
30	05° 43'	96° 27'	54° 26'	37° 56'							
31			58° 06'	41° 46'							

Table 2. Schedule of routine observations

Period (G.M.T.)	Location (at noon J.S.T)		Time of observation
	from	to	
0000 Nov. 17, 1958— 0730 Jan. 10, 1959	21° 09' N 123° 33' E	66° 07' S 41° 16' E	every 00 ⁰⁰ and 30 ⁰⁰
0800 Jan. 10,— 1030 Jan. 11, 1959	66° 07' S 41° 16' E	66° 07' S 41° 16' E	every 00 ⁰⁰ , 15 ⁰⁰ , 30 ⁰⁰ and 45 ⁰⁰
1100 Jan. 11,— 1030 Jan. 14, 1959	66° 07' S 41° 16' E	66° 07' S 41° 16' E	every 00 ⁰⁰ and 30 ⁰⁰

Table 3. Main characteristic of the "Ionosonde"

Item	Specification
Frequency range	1-20 Mc,s
Transmitted power	10 kW (peak value)
Duration of sweep	10 sec and 30 sec
Transmitted pulse width	40-120 μ sec (variable)
Recurrence frequency of Transmitted pulse	50-60 c,s (by power frequency)
Frequency scale	every 1 Mc/s
Height range	100-1100 km
Height scale	every 100 km
Total receiver gain	140 db
Noise figure	about 9 (at 5 Mc,s)
Time constant of differential circuit	50 μ sec
Recording method	35 mm film running and 16 mm movie picture
Power supply	200 V AC 3 KVA

f_oF₂ 12^h00^m (L.T.)

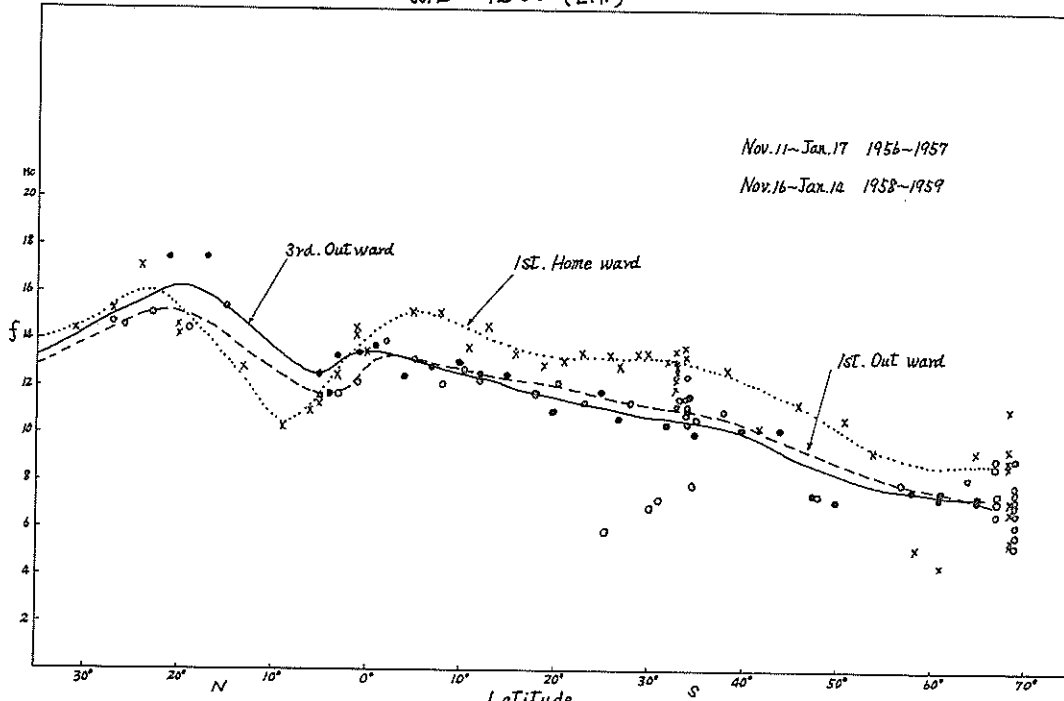


Fig. 2

IONOSPHERIC DATA

G. M. T.

Nov. 1958

foF2

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
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16	S	J166 ^S	J170 ^S	S	S	S	S	S	J174 ^S	S	S	S	S	S	S	S	J166 ^S	J144 ^S	S	SF	S	S	S	S
17	S	J171 ^S	J174 ^S	J170 ^S	S	S	S	S	S	S	S	S	S	S	S	S	C	C	C	C	C	C	C	C
18	C	C	C	C	C	C	C	C	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
19	S	S	S	S	AS	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
20	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
21	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
22	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
23	R	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
24	S	S	S	S	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
25	S	S	S	S	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	S	S	S	12.5 ^H	SH	12.9 ^H	13.5 ^S	SH	U12.4 ^S	SH	S	S	S	S	S	S	S	S	S	S	S	S	S	S
30	S	S	U12.4 ^S	13.2 ^S	U13.4 ^S	S	12.7	S	S	S	S	S	S	S	S	S	SF	S	SF	S	S	S	S	S
31																								
No.																								
Median																								

Sweep 1.0 Mc to 2.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

foF2

IONOSPHERIC DATA

Nov. 1958

f_oF₂

G. M. T.

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀		
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17	J _{16.1} ^s	J _{16.8} ^s	J _{17.4} ^s	S			J _{17.6} ^s	S	S	J _{17.7} ^s	S	S	J _{17.4} ^s	S	S	J _{16.1} ^s	S	S	SF	S	S	S	S	S	S	
18	J _{16.0} ^s	J _{17.1} ^s	J _{17.4} ^s	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
21	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
22	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
23	R	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
24	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
25	J _{16.0} ^s	J _{17.7} ^s	SH	U _{12.8} ^s	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	S	SH	12.7 ^s	12.5 ^u	12.7 ^u	U _{13.2} ^s	U _{13.6} ^s	SH	SH	SH	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
30	S	J _{12.9} ^s	12.8	13.3 ^s	U _{13.6} ^s	S	SH	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
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No.																										
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The Radio Research Laboratories, Japan.

Sweep 1.0 Mc to 2.0 Mc in 30 min in automatic operation.

IONOSPHERIC DATA

G. M. T.

foF1

Nov. 1958

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Sweep 1.0 Mc to 2.0 Mc in 30 min in automatic operation.

The Radio Research Laboratories, Japan.

foF1

IONOSPHERIC DATA

G. M. T.

foF1

Nov. 1958

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰
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No.																								
Median																								

The Radio Research Laboratories, Japan.

Sweep μ sec. Mc to 200. Mc in $\frac{1}{2}$ sec in automatic operation.

foF1

IONOSPHERIC DATA

G. M. T.

Nov. 1958

f_oE

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17	S	S	S	S	S	S	S	A	A	S											S			B	
18	S	J360 ^s	S	S	S	S	S	B	A	A														C	
19	C	C	C	C	C	C	C	C	S	S														S	
20	B	B	B	A	B	B	B	B	B	B														B	
21	B	B	B	B	B	B	B	B	B	B														B	
22	S	B	B	B	B	B	B	B	B	B														B	
23	B	B	B	B	B	S	B	B	B	B	S													B	
24	B	R	B	C	C	C	C	C	C	A	S													S	
25	A	380	B	B	C	C	C	C	C	C	C													C	
26	C	C	C	C	C	C	C	C	C	C	C													C	
27	C	C	C	C	C	C	C	C	C	C	C													C	
28	C	C	C	C	C	C	C	C	C	C	C													B	
29	B	S	S	B	B	B	B	B	B	S	S													S	
30	290 ^s	S	S	S	S	S	S	S	S	B	S	S	S											S	
31																									
No.																									
Median																									

Sweep rate Mc to 2e2 Mc in 30 min. in automatic operation.

f_oE

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

foE

Nov. 1958

G. M. T.

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀		
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18	S	S	S	S	S	S	S	A	A	B													S		S	
19	C	C	C	C	C	C	C	C	S	S															S	
20	A	B	A	A	B	B	B	B	B	S															B	
21	B	B	B	B	B	B	B	B	B	B															B	
22	B	B	B	B	B	B	B	B	B	B															B	
23	B	S	B	B	B	B	B	B	B	B															S	
24	B	B	B	C	C	C	C	C	A	S															B	
25	B	B	B	S	C	C	C	C	C	C													S		C	
26	C	C	C	C	C	C	C	C	C	C															C	
27	C	C	C	C	C	C	C	C	C	C															C	
28	C	C	C	C	C	C	C	C	C	C															C	
29	B	B	B	B	B	B	S	B	S	B															B	
30	S	S	S	S	S	S	S	S	S	S															S	
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No.																										
Median																										

foE

Sweep 1.0 Mc to 2.0 Mc in 3.0 sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

Nov. 1953

f_oE_s

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	S	S	S	S	S	S	48M	40X	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
2	S	G	S	S	S	S	S	42M	85M	73M	S	S	S	S	S	S	S	S	S	S	S	S	S	S
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	5.0M	130X	5.9M	76X	150X	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	43X
5	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
6	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
7	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
8	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
9	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
10	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
11	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
12	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
13	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
14	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
15	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
16	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
17	S	S	S	S	S	S	S	48M	40X	S	S	S	S	S	S	S	S	S	S	S	S	S	S	B
18	S	G	S	S	S	S	S	42M	85M	73M	S	S	S	S	S	S	S	S	S	S	S	S	S	C
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
20	5.0M	130X	5.9M	76X	150X	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	43X
21	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
22	S	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
23	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
24	B	G	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
25	4.0M	G	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
29	B	S	S	B	B	B	B	6.0M	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
30	3.5	S	S	S	S	S	S	S	S	4.5M	S	2.9M	S	S	S	S	S	S	S	S	S	S	S	S
31																								
N.O.																								
Median																								

The Radio Research Laboratories, Japan.

Sweep 1.0 Mc to 2.0 Mc in 30 sec in automatic operation.

f_oE_s

IONOSPHERIC DATA

G. M. T.

foEs

Nov. 1958

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰		
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17	G	S	S	S	S	S	5.9M	4.4X	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
18	S	S	S	S	S	S	S	6.4M	7.1M	5.2M	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
19	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
20	5.7M	8.9M	7.8M	11.6M	8.9M	5.1M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
21	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
22	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
23	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
24	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
25	B	B	B	B	B	B	B	B	4.5	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
29	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
30	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
31																										
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Median																										

Sweep 1.0 Mc to 20.0 Mc in 30 min in automatic operation.

foEs

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

f - min

Nov. 1958

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
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17	3.80	4.00	4.90	4.10	4.50	4.15	5.00	2.50	2.50	4.50	3.00	3.40	5.50	3.00	3.00	3.00	2.70	3.00	2.60	2.90	3.00	2.60	3.00	3.20	
18	3.50	3.70	4.40	5.60	5.60	S	4.30	3.80	2.80	2.70	3.00	S	2.70	5.60	S	C	C	C	C	C	C	C	C	C	
19	C	C	C	C	C	C	C	C	3.00	2.90	2.00	S	S	5.50	3.20	3.00	2.60	2.30	2.40	2.40	2.50	2.40	2.40	3.20	
20	3.20	4.00	3.50	3.80	4.70	4.50	4.70	3.70	3.20	2.70	S	S	S	S	3.40	3.40	2.60	2.30	2.60	2.20	2.60	2.30	2.50	3.00	
21	3.50	4.00	4.40	4.60	4.70	4.60	4.50	3.80	3.60	2.90	2.50	2.30	2.50	3.00	2.70	2.40	2.70	2.50	2.30	2.40	2.50	2.50	2.50	3.50	
22	4.10	4.00	4.70	4.60	4.40	4.80	4.60	4.40	4.30	3.30	3.40	S	2.90	S	2.70	2.80	3.50	2.40	2.50	2.60	2.60	2.50	2.40	2.90	
23	3.50	4.00	4.80	4.60	5.50	S	4.70	4.50	4.40	3.70	3.50	S	S	3.00	2.50	2.50	2.50	2.40	2.50	2.50	2.80	2.80	2.90	2.90	
24	3.50	3.50	5.70	C	C	C	C	C	C	2.80	3.50	3.50	2.50	2.70	2.50	3.00	2.50	2.60	3.00	3.00	3.00	2.50	2.60	3.00	
25	3.00	3.50	4.50	6.50	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	2.80	2.70	2.00	S	1.70	1.70	2.10	2.00	2.10	3.00	
29	3.50	S	5.00	4.70	5.70	4.80	5.00	5.00	4.30	3.60	3.60	3.50	3.00	3.50	2.20	2.10	2.10	1.70	1.80	1.70	2.00	1.70	2.00	3.00	
30	2.70	3.90	5.60	4.80	5.10	5.60	5.70	6.20	4.50	3.60	4.50	2.50	S	S	S	S	2.10	2.30	2.10	2.20	2.20	2.20	2.05	2.40	
31																									
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Sweep \dots Mc to \dots Mc in \dots sec in automatic operation.

The Radio Research Laboratories, Japan.

f - min

IONOSPHERIC DATA

G. M. T.

f - min

Nov. 1958

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀		
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17	3.60	4.60	12.20	4.30	5.00	5.50	3.50	2.50	5.55	2.50	12.40	3.30	3.40	3.50	3.00	3.00	2.50	3.00	2.60	2.90	2.90	2.90	3.00	3.00	3.50	
18	4.50	4.00	16.00	5.40	4.80	5.90	4.40	2.90	2.90	3.70	3.70	2.80	3.00	2.50	2.50	2.40	2.40	2.40	2.20	2.50	2.40	2.40	2.40	3.00	3.40	
19	C	C	C	C	C	C	C	C	3.00	2.20	2.30	S	S	S	2.50	2.50	2.50	2.10	2.50	2.00	2.00	2.10	2.60	3.50		
20	3.50	4.00	4.00	3.60	4.00	4.50	4.00	3.50	3.00	3.00	5.20	S	S	3.40	2.50	2.50	2.70	2.70	2.50	2.50	2.50	2.50	2.60	3.50		
21	3.70	4.30	4.40	4.50	4.70	4.50	4.50	3.70	3.50	2.80	2.90	B	3.00	2.50	2.80	2.40	2.70	2.70	2.50	2.50	2.50	2.50	2.60	3.50		
22	3.80	4.50	4.60	4.60	4.90	4.60	4.50	3.70	3.50	3.70	4.30	3.30	2.90	3.40	2.90	3.50	2.30	2.40	2.20	2.40	2.50	2.20	2.80	3.80		
23	4.00	S	4.60	4.50	5.50	4.60	4.60	3.70	3.70	3.50	3.40	S	2.80	2.60	2.60	1.60	2.50	2.50	2.60	2.50	2.80	2.50	2.80	3.80		
24	3.70	5.80	C	C	C	C	C	C	3.30	4.30	3.50	2.80	2.80	3.00	2.70	2.80	2.70	2.50	2.70	2.50	2.50	2.60	3.00	C		
25	3.80	4.40	5.00	4.70	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
29	3.70	4.40	5.00	4.90	5.30	4.70	5.00	4.50	4.50	3.50	3.50	3.00	3.50	1.80	1.80	1.70	1.80	1.70	2.00	2.10	2.20	1.60	2.30	3.10		
30	3.60	4.50	6.60	4.80	5.70	5.70	5.60	S	4.50	4.40	3.80	2.20	5.20	5.50	S	S	2.30	2.20	2.10	3.20	1.90	2.30	2.20	3.50		
31																										
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Sweep 1.0 Mc to 22.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

f - min

IONOSPHERIC DATA

G. M. T.

Nov. 1958

R'F2

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Sweep 1.0 Mc to 20.0 Mc in 30 ~~min~~ sec in automatic operation.

The Radio Research Laboratories, Japan.

R'F2

IONOSPHERIC DATA

Nov. 1958

R'F2

G. M. T.

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀		
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Sweep 1.0 Mc to 2.0 Mc in 3.0 sec in automatic operation.

R'F2

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

R'F

Nov. 1958

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	240	210	240	210	225	240	260	280 ^A	250	F ²⁹⁰	300 ^S	260 ^S	F ²⁸⁰	240	240	270	260	220	220	240	240	240	260	250	
2	240	240	230	260	270	S	240	240	A	S	300	S	320	270 ^S	S	C	C	C	C	C	C	C	C	C	
3	C	C	C	C	C	C	C	C	250	270	320	S	320	260	250	240	230	220	220	240	230	300	260	260	
4	230	270 ^A	230	A	A	220	240	230	250	270	S	S	S	S	300 ^S	250	250	250	240	240	230	270	260	260	
5	240	230	220	220	220	210	220	230	240	270	310	400	370	310	310	300	300	270	260	240	230	220	260	250	
6	240	230	230	210	210	210	220	230	260	260	310	S	380	S	270	280	300	270	260	260	250	230	240	260	
7	250	230	230	220	270	S	220	220	250	270	300	S	S	330	270	250	270	280	300	320	310	260	230	260	
8	240	230	270	C	C	C	C	C	C	260	300 ^S	F ³⁶⁰	410	390 ^S	F ³⁴⁰	290	280 ^S	290 ^S	260	270	300	290	310	270	
9	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
10	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
11	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
12	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
13	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
14	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
15	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
16	240	210	240	210	225	240	260	280 ^A	250	F ²⁹⁰	300 ^S	260 ^S	F ²⁸⁰	240	240	270	260	220	220	240	240	240	260	250	
17	240	240	230	260	270	S	240	240	A	S	300	S	320	270 ^S	S	C	C	C	C	C	C	C	C	C	
18	C	C	C	C	C	C	C	C	250	270	320	S	320	260	250	240	230	220	220	240	230	300	260	260	
19	230	270 ^A	230	A	A	220	240	230	250	270	S	S	S	S	300 ^S	250	250	250	240	240	230	270	260	260	
20	240	230	220	220	220	210	220	230	240	270	310	400	370	310	310	300	300	270	260	240	230	220	260	250	
21	240	230	230	210	210	210	220	230	260	260	310	S	380	S	270	280	300	270	260	260	250	230	240	260	
22	250	230	230	220	270	S	220	220	250	270	300	S	S	330	270	250	270	280	300	320	310	260	230	260	
23	240	230	270	C	C	C	C	C	C	260	300 ^S	F ³⁶⁰	410	390 ^S	F ³⁴⁰	290	280 ^S	290 ^S	260	270	300	290	310	270	
24	250	230	230	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
29	250	S	240	220 ^H	260 ^H	220 ^H	230	250 ^H	300	250 ^H	300	F ³⁸⁰	450 ^S	F ⁴⁵⁰	400 ^S	320	300	S	300	310	300	260	240	280	
30	260	240	260 ^H	230	230	260	270	S	230	240	300	340	S	S	S	S	S	S	300	300	270	220	240	280	
31																									
No.																									
Median																									

The Radio Research Laboratories, Japan.

Sweep Le. Mg to 2.2. Mg in 1.2 sec in automatic operation.

R'F

IONOSPHERIC DATA

G. M. T.

Nov. 1958

R'F

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀		
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17	230	240	B	200	260	260	A S	250	S	290	S	270	240	240	240	270	240	220	220	240	240	260	270	270	240	
18	250 ^S	240	S	250	230	290 ^S	250	300	300 A	S	330 ^S	280 ^S	290	250	C	C	C	C	C	C	C	C	C	C	C	
19	C	C	C	C	C	C	C	C	C	250	300	350	S	S	240	240	240	230	S	230	230	240	270	240	240	
20	250	240	250	260	260	260	230	240	260	300	S	S	S	300 ^S	300 ^S	260	250 ^S	250	240	240	230	240	270	240	240	
21	230	220	220	210	220	210	230	230	240	300	390 ^S	S	360	300	310	300	280	270	240	230	230	230	270	270	250	
22	240	220	220	210	220	210	220	200	250	300	S	400 ^S	350	300	270	S	280	280	270	260	240	220	220	280	260	
23	240	S	220	220	260	200	220	250	250	280	350	S	400	300	260	250	280	290	310	330	280	240	270	250		
24	240	270	C	C	C	C	C	C	250	F ₃₀₀₀ ^S	F ₃₂₀ ^S	400 ^S	410 ^S	F ₃₇₀ ^S	300	290	F ₂₈₀ ^S	270 ^S	260	260 ^S	280	300	300	C		
25	230	230	240 ^H	240	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
29	240	230 ^H	240	220 ^H	230 ^H	210	240	240 ^H	250 ^H	260 ^H	330	410 ^S	F ₄₅₀ ^S	S	360	310	310	300	300	290	240	230	240	270	260	
30	250	230	F ₃₀₀ ^S	230	260 ^S	270	260 ^H	S	240	270	320	410	S	S	S	S	330 ^S	330	F ₃₀₀ ^S	280	240	220	225	270	270	
31																										
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Median																										

Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

R'F

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

Nov. 1958

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19	C	C	C	C	C	C	C	C	S	S												S		
20	B	B	B	A	B	B	B	B	B	B												B		
21	B	B	B	B	B	B	B	B	B	B												B		
22	S	B	B	B	B	B	B	B	B	B												B		
23	B	B	B	B	B	S	B	B	B	B	S											B		
24	B	B	B	B	C	C	C	C	C	A	S											S		
25	A	A	B	B	C	C	C	C	C	C	C											C		
26	C	C	C	C	C	C	C	C	C	C	C											C		
27	C	C	C	C	C	C	C	C	C	C	C											C		
28	C	C	C	C	C	C	C	C	C	C	C											B		
29	B	S	S	B	B	B	B	B	B	S	S											S		
30	130	S	S	S	S	S	S	S	S	B	S	S	S									S		
31																								
No.																								
Median																								

The Radio Research Laboratories, Japan.

Sweep Δf ... Mc to Δf ... Mc in Δt ... sec in automatic operation.

f'E

IONOSPHERIC DATA

Nov. 1958

R'E

G. M. T.

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰	
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16																									
17	120	S	S	S	S	S	A	A	S	S												S		S	
18	S	S	S	S	S	S	S	A	A	B														S	
19	C	C	C	C	C	C	C	C	S	S														S	
20	A	B	A	A	B	B	B	B	B	S														S	
21	B	B	B	B	B	B	B	B	B	B														B	
22	B	B	B	B	B	B	B	B	B	B														B	
23	B	S	B	B	B	B	B	120	B	B	S													S	
24	B	B	C	C	C	C	C	C	A	S													S	S	
25	B	B	B	S	C	C	C	C	C	C												S		C	
26	C	C	C	C	C	C	C	C	C	C														C	
27	C	C	C	C	C	C	C	C	C	C														C	
28	C	C	C	C	C	C	C	C	C	C														C	
29	B	B	B	B	B	B	B	B	S	B	S													B	
30	S	S	S	S	S	S	S	S	S	S	S													S	
31																									S
No.																									
Median																									

Sweep 1.0 Mc to 22.0 Mc in 30 min in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

Nov. 1958

R'ES

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
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15																									
16	S	S	S	S	S	S	S	120	120	S	S	S	S	S	S	S	S	S	S	S	S	S	S	B	
17	S	G	S	S	S	S	S	120	110	110	S	S	S	S	S	S	S	S	S	S	S	S	S	C	
18	C	C	C	C	C	C	C	C	C	C	S	S	S	S	S	S	S	S	S	S	S	S	S	110	
19	110	110	110	110	110	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	B	
20	B	B	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	B	
21	S	B	B	B	B	B	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B	
22	B	B	B	B	B	S	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	B	
23	B	G	B	C	C	C	C	C	C	110	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
24	120	G	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
25	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
29	B	S	S	B	B	B	B	B	120	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
30	120	S	S	S	S	S	S	S	S	110	S	110	S	S	S	S	S	S	S	S	S	S	S	S	
31																									
No.																									
Median																									

Sweep 1.0 Mc to 20.0 Mc in 10 sec in automatic operation.

R'ES

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Nov. 1958

f_oF₂

G. M. T.

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰		
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16	G	S	S	S	S	S	120	120	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
17	S	S	S	S	S	S	S	110	110	110	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
18	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
19	120	110	110	110	110	110	B	B	B	B	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
20	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
21	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
22	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
23	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
24	B	B	B	B	B	B	B	B	110	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
25	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
26	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
28	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
29	B	B	B	B	B	B	B	B	S	B	S	S	S	110	S	S	S	S	S	S	S	S	S	S	S	S
30	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
31																										
No.																										
Median																										

Sweep 1.0 Mc to 26.0 Mc in 3.0 ^{min} sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

Dec. 1958

foF2

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	U91 ^S	S	S	S	S	11.0	11.5 ^S	S	S	S	S	S	S	S	S	SF	S	S	S	S	S	S	S	S	
2	J84 ^S	S	S	11.3 ^S	S	U12.7 ^S	U13.3 ^S	13.0	U13.1 ^S	S	S	S	S	S	S	C	C	S	S	S	S	S	S	J6.7 ^S	
3	J4.0 ^S	S	S	12.0 ^S	12.8	S	J13.4 ^S	13.8	U14.0 ^S	S	U13.3 ^S	S	S	S	S	S	S	S	S	S	S	S	U8.0 ^S	S	6.9
4	U78 ^S	J8.9 ^S	10.2	11.0 ^H	10.8	U10.3 ^S	12.3	12.2	11.5 ^S	11.0	11.1	S	S	S	S	S	S	S	S	S	S	S	S	S	S
5	S	5.4 ^S	6.0	S	S	S	U11.0 ^S	12.8	13.7	13.4	J14.3 ^S	J14.1 ^S	S	S	S	S	S	S	S	S	S	S	S	S	S
6	U77 ^S	S	J10.4 ^S	S	S	13.7	13.1	13.0	12.3	11.7 ^S	11.2	S	S	S	S	S	S	S	S	S	S	S	S	J7.6	7.1 ^S
7	U6.4 ^S	U7.6 ^S	7.3 ^S	S	11.4	11.7	12.4	12.5	12.4	11.8	11.0	10.9 ^S	S	S	S	S	S	S	S	S	S	S	S	J7.8 ^S	6.9
8	S	S	11.3 ^S	S	11.7	12.3 ^H	12.4	12.4	12.5	12.0	U12.0 ^S	S	S	S	S	S	S	S	S	S	S	S	S	J8.6 ^S	S
9	6.8 ^S	7.4 ^S	U7.7 ^S	8.5	U7.6 ^S	7.8 ^S	S	U7.6 ^S	7.4	7.5	7.5	6.9 ^S	7.0	7.0	C	S	S	U7.4 ^S	S	U7.5 ^S	7.0 ^S	6.0 ^S	5.6 ^S	U7.7 ^S	6.2 ^S
10	5.0	6.2 ^S	7.8 ^S	9.3 ^S	S	10.8	11.0	11.0	11.0	11.0	10.9	J10.0 ^S	U4.4 ^S	9.0 ^S	S	U4.1 ^S	S	S	S	S	S	S	S	5.6 ^S	5
11	U6.3 ^S	6.6	C	C	C	C	C	C	C	C	C	C	10.8 ^S	S	S	S	S	S	S	S	S	S	S	7.3 ^S	6.8
12	6.1 ^S	6.3 ^S	8.3	9.6 ^S	11.0 ^H	11.8	12.3	12.3	11.9	11.5	U11.6 ^S	U11.1 ^S	10.9 ^S	U10.6 ^S	S	S	S	S	S	S	S	S	S	7.3	6.7
13	6.3	6.7	8.4	U12.2 ^S	10.8	10.8	11.0 ^S	10.8	10.6	J9.8 ^S	S	9.4 ^S	9.0	U7.8 ^S	S	S	S	S	S	S	S	S	S	5.5	5
14	5.0	4.8 ^S	5.3	5.6	U6.0 ^S	6.0	5.9	B	B	B	B	B	6.1 ^R	B	U6.3 ^S	6.3	5.9 ^S	6.0	5.8	S	U4.7 ^S	4.2 ^S	4.2	4.0	
15	3.5	S	4.7	5.4	S	S	S	7.5	S	U7.4 ^S	S	8.3	U8.2 ^S	8.2	7.9 ^S	7.7	S	7.7 ^S	7.2 ^S	7.1	6.2 ^S	6.1	5.6 ^S	4.5 ^S	
16	U3.3 ^R	5.2 ^S	6.3	7.9 ^S	8.5 ^R	S	S	11.4	S	10.8	J10.4 ^R	10.5	U9.7 ^S	U9.0 ^R	U9.2 ^R	J8.4 ^R	8.5	R	U7.7 ^S	7.4 ^R	7.0	6.4	S	6.2	
17	5.7 ^S	5.1 ^S	5.2 ^S	7.1	8.5	S	10.5	10.6	10.9	11.2	11.0	10.7	10.8	10.2 ^S	S	R	U8.9 ^S	S	U8.1 ^S	S	S	S	J8.6 ^S	6.1 ^S	
18	5.8	J5.4 ^S	4.1 ^S	S	6.3	7.0	U7.5 ^S	R	8.7	R	J9.5 ^S	J9.7 ^S	U9.4 ^S	S	S	8.8	8.6	S	S	S	6.7	U6.3 ^S	U6.2 ^S	5.9	
19	U5.2 ^R	J5.0 ^R	5.0	U5.2 ^R	S	8.4	R	7.6 ^R	R	U9.0 ^R	R	R	S	9.1 ^S	9.0 ^R	8.6	8.4	8.0	7.0	6.8	6.0	5.8	5.2 ^S	5.1	
20	5.1	4.9	4.4	5.2 ^S	7.4 ^S	8.6 ^S	J10.0 ^S	J10.0 ^R	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
22	5.3 ^R	5.0	5.0	U5.3 ^R	J7.6 ^R	9.2	10.2	10.8	C	11.4	11.7	11.2	11.2	10.9	10.6	S	S	S	S	S	6.5	5.9	U5.4 ^R	5.5 ^S	
23	6.3	6.0	5.6	6.0 ^S	U7.6 ^R	8.8	B	R	C	J10.1 ^R	10.1 ^S	J10.0 ^S	R	U9.7 ^S	U9.1 ^R	U9.0 ^R	R	R	R	6.9	6.7	5.9	5.3	5.2	
24	5.1	5.1	5.0	5.5 ^S	7.1	J8.3 ^R	S	10.6 ^R	11.0	11.6	11.9	11.6	11.1 ^R	J10.4 ^S	S	S	S	R	S	B	6.7	6.1	U5.5 ^R	U5.4 ^S	
25	5.1 ^R	5.0	4.8	5.8	7.2	J8.3 ^S	R	11.2	11.2	11.2	11.1	10.9	B	R	U9.5 ^R	U8.8 ^R	8.9	R	R	R	U7.2 ^R	7.0	6.5	6.1 ^S	
26	5.8	5.3 ^R	5.0	6.8	U7.5 ^S	C	C	C	10.4	J10.1 ^R	J10.1 ^R	10.2 ^R	B	S	J8.2 ^R	J8.5 ^R	R	R	R	7.1 ^S	6.3	5.8	U5.8 ^R	5.0	
27	4.7 ^F	S	4.9	6.7	R	S	J10.1 ^R	10.8 ^R	10.8 ^R	11.0 ^H	10.5	J9.9 ^R	R	S	S	S	R	R	S	7.0 ^R	R	6.0 ^R	U5.5 ^R	5.1 ^R	
28	F	U4.1 ^F	J5.5 ^R	7.7 ^S	7.5	7.6	J8.3 ^R	J7.0 ^R	R	B	U7.5 ^R	7.3	B	6.9	U6.2 ^R	6.4	6.7	6.5	6.5	J5.9 ^R	5.2 ^F	U4.6 ^F	U4.3 ^F	4.0 ^F	
29	3.4 ^F	S	J5.3 ^R	6.2	7.1	7.2	7.4 ^R	7.0	B	B	7.0	6.9 ^R	6.7	6.6 ^S	S	6.6	6.5	S	6.0	5.9	S	U4.5 ^F	U4.0 ^F	U3.5 ^F	
30	B	5.3 ^S	R	C	C	C	C	C	C	C	C	C	U6.5 ^S	B	B	6.4	6.5	6.3	5.4 ^S	5.0 ^S	5.5 ^R	U4.2 ^F	U3.6 ^F	F	
31	F	F	SF	R	C	S	R	B	B	U7.7 ^R	7.2	B	6.9	7.0	6.9	6.4	6.3 ^R	B	S	S	5.5 ^R	6.1 ^R	U6.5 ^R	6.8 ^F	
No.																									
Median																									

Sweep 1.0 Mc to 26.0 Mc in 3.0 sec

The Radio Research Laboratories, Japan.

foF2

in automatic operation.

IONOSPHERIC DATA

Dec. 1958

foF2

G. M. T.

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰		
1	S	S	S	S	10.9	U11.5 ^S	U11.6 ^S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	7.4 ^S	
2	S	S	S	U11.7 ^S	U12.2 ^S	U13.3 ^S	U13.0 ^S	U13.0 ^S	U13.0 ^S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
3	3.2 ^S	S	11.2 ^S	12.4 ^S	13.0	13.6	13.7 ^S	14.0 ^S	14.0 ^S	S	S	S	S	S	S	S	S	S	S	S	S	S	7.5 ^S	7.4 ^S	S	
4	8.7	S	10.7	11.0	11.0 ^H	11.0	11.3 ^S	11.2 ^S	11.0	11.3 ^S	11.2 ^S	S	S	S	S	S	S	S	S	U7.7 ^S	6.9	S	5.1	J4.0 ^S	S	
5	U4.7 ^S	S	6.0 ^S	7.3	S	J11.2 ^S	13.5	13.5	13.6	13.5 ^S	14.3	14.4 ^H	S	J4.2 ^S	S	S	S	S	S	S	S	S	7.7	7.4	7.2	
6	J8.1 ^S	S	U1.3 ^S	J12.9 ^S	S	13.3 ^H	13.0	12.6	12.2 ^S	11.4	J10.7 ^S	11.3 ^S	S	S	S	S	S	S	S	S	S	S	S	7.3	6.7 ^S	
7	7.0	8.6	9.3	10.7 ^H	11.9	12.0 ^H	12.5	12.5	12.2	12.0 ^S	S	S	S	S	S	S	S	S	S	S	S	S	S	7.4	S	
8	U7.7 ^S	9.3 ^S	10.7	11.3	12.0	12.3 ^H	12.5	12.5	12.2	12.0 ^S	S	S	S	S	S	S	S	S	S	S	S	S	S	U7.3 ^S	6.9 ^S	
9	6.8	7.4 ^S	8.5	8.0 ^S	7.7 ^S	7.7 ^S	S	U7.7 ^S	7.3	7.7	7.1	6.8	6.8 ^S	C	U7.6 ^S	S	U7.3 ^S	S	U7.3 ^S	S	U7.3 ^S	S	5.9	5.3	5.0	
10	5.3 ^S	7.2 ^S	8.7	S	10.5	10.9 ^S	11.0	10.9	11.0	11.0	10.6	U9.8 ^S	U9.3 ^S	9.1 ^S	J8.5 ^S	S	S	S	S	S	S	S	U7.5 ^S	7.0	6.7	
11	6.0 ^S	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	S	S	S	U8.9 ^S	U6.4 ^S	U6.0 ^S	
12	6.1 ^S	7.3 ^S	9.0	S	11.2 ^H	12.2	S	12.1	11.8	11.6	11.3 ^S	11.0	S	S	S	S	S	S	S	S	S	S	8.3	S	U7.3 ^S	6.5
13	U1.3 ^S	7.4 ^S	8.0 ^S	S	S	11.0	U11.0 ^S	11.0 ^S	10.5	S	J9.7 ^S	U9.3 ^S	S	8.5	S	S	S	U7.4 ^S	U6.5 ^S	S	S	S	5.2	5.3	5.0	
14	4.9	U4.9 ^S	5.3 ^S	5.9	6.0	6.0	5.9 ^S	B	B	R	6.0	6.1	6.0 ^R	6.3	6.3 ^S	6.1 ^S	6.0 ^S	6.3 ^S	5.1 ^S	U5.0 ^S	4.5 ^S	4.3 ^S	4.3	U3.5 ^R	4.3	
15	3.5 ^S	4.1	5.3	5.8	6.3	J6.4 ^S	7.4	S	U7.4 ^S	S	S	B	8.2	U8.0 ^S	U7.6 ^S	S	S	J7.7 ^S	7.0	6.6	6.2	6.0	5.5 ^S	5.4 ^S		
16	5.3	5.3 ^S	7.2 ^S	8.1 ^S	9.1 ^H	U9.5 ^S	U11.4 ^R	U10.8 ^S	U10.9 ^R	U10.9 ^R	10.4	10.1 ^R	9.0 ^R	U9.0 ^S	R	8.7 ^R	S	R	U7.4 ^S	U7.3 ^S	U6.3 ^S	J6.1 ^R	6.2 ^S	6.0		
17	U5.3 ^R	5.0 ^S	6.3	7.9 ^S	U9.1 ^R	J10.0 ^S	9.7	10.8	S	11.0	10.7	10.7	10.7 ^S	S	S	J8.5 ^S	S	S	S	S	S	7.0	S	U7.8 ^S	U6.4 ^S	
18	U5.4 ^S	U4.8 ^S	4.4	U5.9 ^S	6.9	7.1 ^H	7.3 ^S	R	J8.5 ^S	J10.0 ^R	B	B	J9.5 ^S	S	S	8.6	S	S	S	S	S	7.0	6.7	6.2	5.9	U5.7 ^S
19	5.0	J5.0 ^R	4.8	6.8	U7.8 ^R	SH	U8.3 ^R	R	U9.0 ^R	U9.0 ^R	B	R	R	9.0	8.6	8.6	9.0 ^R	U7.3 ^R	6.9	6.6	5.8	U5.6 ^S	U5.2 ^S	5.0		
20	5.0	4.5	4.7	6.5	B	9.3 ^R	10.2	R	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
22	U5.2 ^S	5.0	5.0 ^S	6.4	8.7	U9.8 ^S	10.7	11.2	11.3	11.6	11.5	11.2	11.1	10.8	10.3	10.1	S	S	C	R	7.1 ^R	6.2 ^S	5.8	5.5 ^S	5.3 ^S	
23	6.1 ^S	5.8 ^R	5.6	U6.8 ^R	R	B	C	C	R	R	10.1 ^R	10.0	J9.8 ^R	9.3 ^R	U8.9 ^R	8.5	U8.0 ^R	S	7.2	6.5	6.1	5.4 ^S	5.3	5.1	5.1	
24	5.1	5.1	5.0 ^Z	6.5	U8.0 ^R	J8.5 ^R	U10.6 ^R	10.8	11.3	11.7	11.5	11.5	10.8	R	S	S	S	R	7.2	6.8	6.2	5.9	5.5 ^R	5.2 ^S	5.2	
25	U5.1 ^R	4.9	5.0	6.6	R	R	11.0	11.4	11.2	11.1	11.0	10.7	10.1 ^R	J9.6 ^S	U9.4 ^R	8.9 ^R	8.7	J8.0 ^R	B	R	R	7.0 ^R	R	6.3 ^S	6.0	
26	U5.4 ^R	5.1 ^R	5.9	7.4 ^S	10.4	C	C	10.3	10.2	J10.2 ^R	J9.9 ^R	R	R	R	J8.3 ^R	J8.4 ^R	J8.1 ^R	R	7.0	U6.2 ^R	U5.8 ^R	5.3 ^R	5.0 ^S	4.8 ^F		
27	4.6	4.4	5.9	7.3	U8.2 ^R	S	U9.0 ^R	10.4 ^H	11.0 ^H	10.8	10.2	J10.1 ^R	J9.7 ^R	S	B	R	R	R	U6.9 ^R	U6.8 ^S	6.1	5.8	5.2	U4.6 ^F	4.6 ^F	
28	U4.3 ^F	S	6.7	U7.7 ^R	B	U7.4 ^R	R	J7.3 ^R	B	B	7.4	B	B	6.6	6.3	6.6	6.7	6.5	6.1 ^F	U5.4 ^{RF}	F	4.4 ^F	4.3 ^F	U3.5 ^F	3.5 ^F	
29	4.0 ^F	4.7	5.9	4.9 ^Z	7.2	7.2	7.2 ^R	B	B	7.1	6.9	B	S	S	U6.7 ^S	6.6	6.1	6.1	S	B	4.8 ^F	4.1 ^F	U4.0 ^F	B	B	
30	B	B	C	C	C	C	C	C	C	C	C	C	6.4	B	6.5	6.5 ^S	U6.3 ^S	6.0 ^S	U5.0 ^S	U4.4 ^F	U4.0 ^F	U4.0 ^F	U3.6 ^F	F	F	
31	U6.6 ^F	F	R	R	S	S	B	B	R	U7.4 ^R	S	U7.0 ^R	7.0	6.9	6.7	6.4	6.5	6.1	5.9 ^S	J5.5 ^S	U6.1 ^R	U6.4 ^S	U6.7 ^F	C	C	
No.																										
Median																										

Sweep 1.0 Mc to 20.0 Mc in 30 min in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

Dec. 1958

f_oF₁

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1					L	L	L	L	L	L														
2				L	L	L	L	7.1	L	L	L													
3				L	6.5 ^L	S	6.4	L	6.5	L	L													
4					7.3 ^L	6.8	6.5	6.3 ^S	6.1	6.7 ^L	L													
5			4.7 ^L	5.0	5.3	5.6 ^S	5.9 ^S	6.0 ^S	6.0 ^S	S	S	6.2 ^L	L											
6						7.3 ^L	L	6.9 ^L	6.5	6.0 ^S	L													
7						6.4 ^L	L	6.4	6.3	5.9 ^L	L													
8						L	6.5	L	6.4	6.3	5.9 ^L	L												
9			L	5.6	5.6 ^S	S	5.6 ^S	5.3	5.0	4.3 ^L	L													
10				L	L	L	6.1 ^L	6.5	6.4	6.2	5.9	5.5	5.8 ^L	L										
11													5.8 ^L	L										
12				L		6.5 ^L	L	S	6.4 ^S	6.7	6.3 ^S	6.2	L	L										
13				L		L	6.6	6.5	6.3	6.4	5.9	5.9	5.6	L										
14			L	4.4	4.7	S	S	5.8 ^S		B	S	B	B	5.5 ^S	5.0 ^L	L								
15				4.7 ^L	4.9	5.5																		
16								L	L	6.5 ^R	6.3	6.0	L	5.8	L									
17						L	L	6.0 ^L	L	6.2	6.0	5.8 ^R	L	R	5.6 ^R	L								
18					L		S	6.3	6.2 ^R	6.1	6.2	6.2	5.9	5.8	L	5.1 ^L								
19							5.8	R	R	5.9	6.3	B	6.1	6.1	5.5	5.5								
20							L	L	L															
21									L	C	C	B	6.5 ^L	6.5	6.2	5.8 ^L	L							
22									L	C	6.3	B	S	6.0	5.7	5.6	L	L						
23						L		B	C	6.0 ^R	L	B	B	6.2 ^L	R	S	L	L						
24							6.1 ^L	6.1	6.0 ^R	L	B	B	6.2 ^L	R	S	L	L							
25						L	L	L	6.2	6.0	L	6.2 ^R	B	6.0 ^R	5.7 ^R	5.2								
26						C	C	C	6.0 ^R	6.3	B	B	6.0	6.0 ^R	5.9	5.4	L							
27					L	S	S	6.1	6.2		L	L	6.0 ^L	S	S	L								
28				L	L	R	5.3 ^R	B	B	B	B	B	B	B	R	4.5 ^R								
29			4.0 ^L	4.4 ^R	5.0 ^R	5.1	5.3 ^R	B	B	B	B	R	R	S	S	4.8 ^L								
30																								
31			4.7	R	5.0 ^R	R	B	B	B	B	B	B	5.1 ^R	5.1	5.0	L								
No.																								
Median																								

Sweep 1.0 Mc to 2.0 Mc in 30 min in automatic operation.

The Radio Research Laboratories, Japan.

f_oF₁

IONOSPHERIC DATA

Dec. 1958

foF1

G. M. T.

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰	
1					L	L	L	L	L	L															
2				L	L	L	L	6.7	6.5 ^L	L	L														
3				L	L	L	L	7.0 ^L	6.1 ^L	L	L														
4				L	L	6.9	6.7	6.4	6.1 ^L	5.9	L														
5	4.1 ^L	5.0 ^S	5.1	5.5 ^S	S	6.0 ^S	S	S	L	6.4 ^S	L														
6							7.5 ^L	L	6.3	S	5.9 ^L	L													
7					6.0 ^L		6.3	6.5	L	6.2	6.2 ^S	L													
8				L	6.4 ^L		7.0 ^L	L	6.8	6.3 ^S	L	5.3													
9			5.5	5.6	5.7 ^S	S	S	S	S	5.4	S	5.2	4.7												
10			L	L	L	L	6.3	6.0 ^S	6.2 ^S	6.0	6.1	6.1 ^L	L												
11												L													
12					6.6 ^L	S	7.1 ^L	L	6.6	L	5.8 ^S	L													
13					L	L	6.4	6.6	S	6.3	S	5.8	5.6 ^L	L											
14			4.2	4.4	4.9 ^S	5.1	5.3 ^S					5.1	5.1	4.9											
15			L	4.7	5.1	5.5 ^S	AS		R			5.6 ^R	5.5 ^S	L											
16						5.8 ^L	6.3	6.2		6.7 ^H	6.2	R	5.7	L	L										
17					L	L	6.5 ^L	6.5	B	B	B	6.0 ^R	5.9 ^S	5.8											
18				L	5.2 ^L	L	6.5 ^R	6.2 ^L	L	R		A	L	L											
19				L	L	5.2 ^R	6.0	5.9 ^R	6.0	B	B	5.9	L	L	5.5 ^L										
20						L	L	L																	
21																									
22					L				6.1 ^L	L	B	6.2 ^L	6.4	L	L	L									
23								C	B	B	6.0 ^R	B	B	L	5.4										
24							L	6.1	B	L	L	B	6.0	5.7 ^R	S	L									
25						L	5.9	R	A	6.1	6.1 ^R	6.1 ^R	6.0	5.9	R	5.0 ^L									
26					R	C	C	L	L	6.0	6.0	L	B	5.5	5.4	L									
27					S	L	6.0 ^R	L		6.4	6.3	R	6.0	S	B	L									
28			L	5.0 ^L	6.1	5.5 ^R	R	B	B	B	B	B	B	B	5.0 ^R	4.4 ^R									
29			4.3 ^L	R	5.0 ^R	B	5.4 ^R	B	B	B	B	B	B	B	5	4.8	L								
30												5.2	B	5.1 ^L	4.5 ^L										
31		L	4.7	4.9	S	S	B	B	5.5 ^R	B	S	R	5.0 ^R	5.1 ^R	S	L									
No.																									
Median																									

Sweep 1.0 Mc to 2.0 Mc in 30 min in automatic operation.

The Radio Research Laboratories, Japan.

foF1

IONOSPHERIC DATA

G. M. T.

foE

Dec. 1958

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	S	S	S	S	S	S	S	S	S	S	S												S
2	S	B	S	S	S	S	S	S	4.20	S	S	S												
3	S	U _{3.20} ^R	S	S	S	S	S	S	S	S	S	S												
4	S	S	S	A	S	S	S	S	S	A	S	S												
5	S	3.50	U _{3.70} ^S	S	S	S	S	S	S	S	S	S												
6	S	2.80 ^S	S	S	S	S	S	U _{3.90} ^S	S	A	U _{3.80} ^S	U _{3.20} ^S	S											
7	S	A	A	U _{3.80} ^S	S	S	S	S	S	U _{4.30} ^S	S	S	S											
8		S	A	S	S	S	S	S	S	S	S	S												
9		S	S	S	S	S	S	S	S	S	S	S	S											
10			S	S	S	S	S	S	S	S	S	S	2.70 ^S											
11				C	C	C	C	C	C	C	C	C	S	U _{2.00} ^S										
12			S	S	S	S	S	S	S	S	S	S	S	S										S
13			S	S	S	S	S	S	S	S	S	S	S	2.80 ^S										
14			2.20 ^S	S	S	S	S	B	B	B	B	B	B	B	S									
15				U _{2.70} ^S	U _{3.30} ^S	S	S	S	S	B	B	B	B	B	B									
16				B	B	B	S	S	B	B	B	B	S	B	B									
17				B	B	R	B	B	B	B	B	B	R	A	A									
18					U _{2.50} ^R	U _{3.40} ^S	S	B	B	B	B	B	B	U _{3.90} ^A	B	A	B							
19					B	B	B	B	B	B	B	B	B	B	B	B	B	B						
20					B	B	B	B	B	B	C	C	C	C	C	C	C	C						
21					C	C	C	C	C	C	C	C	C	C	C	C	C	C						
22					B	3.20	B	B	C	B	B	B	B	S	B	B	3.00	B						
23					B	3.20	B	B	C	B	B	B	B	B	U _{3.50} ^R	3.20	B							
24					B	3.00	R	B	B	B	B	B	B	B	S	S	B							
25					B	B	B	B	B	B	B	B	B	B	B	U _{3.50} ^R	B	B						
26					B	B	B	B	B	B	B	B	B	B	B	B	B	B						
27					B	B	S	S	B	B	B	B	B	S	S	B	B	B						
28					B	B	B	B	B	B	B	B	B	B	B	B	B	B						
29					B	B	B	B	B	B	B	B	B	S	S	B	B	B						
30					B	B	C	C	C	C	C	C	B	B	B	B	B	B						
31					B	B	B	B	B	B	B	B	U _{3.70} ^R	B	S	B	B	B						
No.																								
Median																								

Sweep 1.0 Mc to 2.0 Mc in 30 sec in automatic operation. The Radio Research Laboratories, Japan.

foE

IONOSPHERIC DATA

G. M. T.

Dec. 1958

foEs

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀		
1	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
2	S	S	S	S	S	S	S	S	S	S	S	40M	37M	S	C	C	C	S	S	S	S	S	S	S	S	
3	S	B	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
4	S	S	G	S	S	S	S	S	47	S	S	40M	40M	S	S	S	S	S	S	25M	S	S	S	S	S	
5	44M	42M	40M	G	S	S	50M	S	S	S	S	44M	43M	S	S	S	S	S	S	S	S	S	S	S	S	
6	G	S	S	S	S	S	S	S	70M	47	48	60M	47M	S	S	S	S	25M	S	S	S	24M	26M	33M	33M	
7	26M	40M	S	S	S	S	61M	S	S	S	S	44M	40M	20M	29M	27M	S	S	S	S	S	S	S	40M	40M	
8	S	40	47M	47M	S	S	55M	S	S	S	S	38M	26M	27M	27M	27M	S	S	S	S	57M	41M	S	S		
9	S	G	S	S	S	S	S	S	S	S	S	S	C	23M	25M	S	S	S	S	S	S	S	34M	S	S	
10	33M	38M	37M	39M	S	S	S	S	S	S	S	41	40	33M	26M	27M	S	S	S	S	S	S	S	S	S	
11	S	C	C	C	C	C	C	C	C	C	C	C	S	27M	20M	S	S	S	S	S	28M	S	S	S	S	
12	S	S	G	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	26M	S	S	S	S	
13	S	S	25G	46M	S	S	S	S	S	53M	S	S	S	34M	25M	S	S	S	S	S	32M	S	S	S	S	
14	S	S	27	S	S	S	S	B	B	B	B	B	B	40M	33M	27M	26M	27M	28M	47M	37M	45M	35M	27M		
15	27M	S	33M	G	41M	51M	60M	60M	46M	S	S	57M	B	S	B	B	B	B	S	B	B	B	B	B	32M	
16	B	B	B	B	B	B	43	B	B	B	B	B	B	B	41M	B	S	B	B	B	B	31M	B	B	B	
17	B	B	B	B	B	G	B	B	S	50M	49M	B	S	45M	54M	56M	S	S	S	S	S	S	B	S	S	
18	B	B	B	B	B	G	43M	47M	B	B	B	B	B	B	S	B	B	B	56M	33M	57M	37M	30M	S	S	
19	B	B	B	B	B	B	B	B	B	B	B	B	B	39M	G	B	B	B	B	B	B	B	B	B	B	
20	B	B	B	B	B	G	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
22	B	B	B	B	G	G	B	S	B	B	B	S	B	35M	C	C	B	B	B	B	B	B	B	B	B	
23	B	B	B	B	B	B	B	B	B	B	B	B	B	45M	42M	42M	32M	40M	B	B	B	B	B	B	B	
24	B	B	B	B	B	B	45M	B	B	B	B	B	B	B	S	B	B	B	B	B	31M	B	B	B	B	
25	B	B	B	B	B	39	B	51M	73M	49M	B	B	B	B	B	B	31	41M	71M	B	29M	B	B	B	B	
26	B	B	B	B	B	C	C	B	B	B	B	B	B	B	B	G	B	B	B	B	B	B	B	B	B	
27	B	B	B	B	B	S	B	B	B	B	B	B	B	S	50M	42M	B	B	57M	B	42M	40M	B	B	B	
28	B	B	B	B	B	B	B	B	50M	B	B	B	B	B	40M	B	37M	B	35M	B	B	B	B	B	B	
29	B	B	B	B	B	B	B	B	B	B	B	B	B	S	40M	39M	40M	B	B	B	B	B	B	B	B	
30	B	B	C	C	C	C	C	C	C	C	C	C	C	B	B	B	S	40M	S	B	B	B	B	B	B	
31	B	B	B	B	S	46M	B	B	B	B	B	B	B	B	S	41M	58M	40M	B	B	B	B	B	B	C	
No.																										
Median																										

Sweep 1.0 Mc to 2.0 Mc in 30 $\frac{\text{min}}{\text{sec}}$ in automatic operation.

foEs

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

f - min

Dec. 1958

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	3.15	3.70	3.70	4.65	S	5.90	5.00	4.90	4.70	3.70	3.70	3.70	2.90	S	2.50	2.20	2.30	2.30	2.10	2.30	2.05	1.80	2.30	2.20	
2	2.10	3.80	4.70	4.80	5.00	5.10	4.90	4.90	3.80	5.30	3.60	3.70	3.00	2.00	3.70	C	C	3.80	2.20	2.10	2.10	2.05	2.05	2.00	
3	2.40	3.00	4.50	4.75	4.50	4.90	4.65	4.90	4.90	4.40	3.90	3.90	2.30	2.30	3.00	2.40	2.20	1.80	2.10	1.90	2.10	2.10	2.05	2.00	
4	2.60	3.70	3.80	3.70	4.70	5.00	5.00	4.80	4.40	4.40	3.70	3.00	2.80	1.70	2.10	S	3.65	3.50	2.00	4.60	2.30	2.20	S	S	
5	2.20	2.50	3.00	4.50	4.60	5.00	4.80	4.90	4.60	5.30	4.40	3.50	1.70	1.70	3.00	4.50	2.70	2.10	2.30	3.00	1.60	1.70	1.80	2.00	
6	2.30	2.20	3.80	5.30	5.30	5.00	5.70	3.50	6.30	3.95	3.80	2.40	2.30	1.70	2.30	2.00	2.30	3.00	3.70	3.40	1.70	1.65	1.66	1.65	
7	1.70	2.10	3.50	3.80	4.60	4.70	5.60	5.10	5.00	4.30	4.40	3.70	3.00	2.40	1.60	2.30	2.10	1.70	1.70	3.40	2.30	1.70	1.66	1.70	
8	1.70	2.90	2.80	3.70	3.80	5.00	4.15	4.30	4.80	5.80	4.40	3.80	4.55	1.70	3.10	2.70	2.20	2.10	2.70	1.60	1.70	1.80	2.40	1.70	
9	1.60	2.60	3.50	3.80	4.45	4.50	S	7.10	4.80	4.40	4.70	4.00	3.50	3.10	C	1.60	2.20	1.60	2.05	3.00	2.20	2.30	2.00	2.10	
10	1.70	2.20	2.25	3.50	4.40	4.40	5.60	5.60	5.00	5.60	4.40	4.00	3.60	2.25	2.60	2.10	2.05	3.50	3.70	2.20	2.00	2.20	3.50	2.40	
11	2.30	2.00	C	C	C	C	C	C	C	C	C	C	3.80	3.50	2.00	3.50	2.40	2.10	1.65	1.70	2.40	2.00	2.20	2.30	
12	2.00	2.30	3.40	3.50	4.00	4.80	4.60	9.30	5.00	5.00	4.80	4.60	4.00	4.40	3.10	2.00	2.60	2.90	1.70	1.70	1.80	2.10	2.00	2.00	
13	1.70	2.60	2.90	2.00	4.70	4.20	4.40	4.85	4.85	4.85	4.70	4.70	4.40	4.65	2.05	1.80	S	1.60	1.70	1.70	2.15	1.70	2.10	2.10	
14	2.10	2.10	2.50	3.40	3.85	4.35	5.50	B	B	B	B	B	5.70	B	4.70	2.20	2.10	2.15	2.30	2.20	2.10	2.00	2.20	2.20	
15	2.70	2.20	2.10	2.20	2.30	3.40	4.30	5.00	4.60	6.30	1.20	6.25	3.70	4.30	3.50	2.70	2.95	2.50	2.30	2.85	2.50	2.70	2.50	2.70	
16	2.80	2.50	2.80	2.80	3.60	4.30	8.05	5.70	5.60	5.60	5.60	4.70	4.80	4.00	3.70	2.90	3.70	2.60	3.30	2.90	2.70	2.80	2.60	2.80	
17	2.85	2.30	2.80	3.10	3.50	3.00	4.20	4.80	5.60	5.60	4.40	4.60	5.70	3.20	2.90	2.85	2.90	2.30	2.90	2.50	S	2.50	2.50	2.50	
18	2.60	2.50	2.70	3.50	2.50	2.60	5.20	4.30	5.50	4.60	5.30	4.70	5.40	3.60	3.70	3.00	2.70	2.60	3.30	2.50	2.80	2.60	2.30	2.70	
19	2.35	2.70	2.40	2.75	3.00	3.60	3.85	4.30	4.50	5.20	5.30	4.00	6.00	5.60	3.90	3.70	3.10	2.70	2.50	3.00	2.40	2.50	2.40	2.70	
20	2.60	2.65	2.50	2.70	2.70	2.70	3.75	4.30	5.30	5.30	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	2.70	2.65	2.30	2.50	2.50	2.60	2.35
22	2.60	2.60	2.60	2.30	2.75	2.60	4.40	5.50	C	5.70	8.50	5.60	5.30	5.50	4.30	4.30	2.80	2.70	2.60	2.50	2.60	2.30	2.15	2.50	
23	2.20	2.30	2.15	2.40	2.70	2.70	B	4.30	C	4.70	6.70	5.90	5.60	4.30	3.30	2.90	2.70	3.80	2.70	2.70	2.70	2.70	2.40	2.20	
24	2.50	2.40	2.40	2.70	2.80	2.80	2.95	4.50	6.00	5.80	6.40	6.90	5.85	4.50	S	5.35	3.20	3.30	2.70	B	2.50	2.40	2.40	2.70	
25	2.70	2.70	2.70	2.60	3.00	3.50	3.80	4.50	4.40	5.50	4.50	6.05	6.10	4.00	4.50	2.95	3.10	2.65	2.50	2.50	2.40	2.60	2.70	2.20	
26	2.60	2.70	2.60	2.65	3.00	C	C	C	4.40	5.70	6.60	5.70	5.25	5.80	3.90	3.65	3.00	2.70	2.40	2.60	2.80	2.50	2.40	2.80	
27	2.70	2.70	2.80	2.80	3.20	S	4.50	4.40	4.60	5.00	5.70	4.40	4.60	S	S	3.60	3.00	3.30	2.80	2.80	2.70	2.60	2.50	2.60	
28	2.40	2.40	2.70	3.50	3.20	3.70	3.70	6.60	6.40	B	5.70	6.00	B	5.70	4.00	3.70	2.90	3.10	2.80	2.75	2.70	2.70	2.80	2.65	
29	2.60	2.85	2.90	3.60	3.50	3.80	4.70	5.80	B	B	6.30	4.55	4.40	5.50	S	3.60	2.90	2.70	2.80	5.30	3.70	2.70	2.70	2.70	
30	B	3.00	3.70	C	C	C	C	C	C	C	C	C	5.70	4.60	B	3.20	3.70	3.30	2.90	2.90	2.90	2.70	2.60	2.70	
31	2.70	2.70	3.20	3.70	3.60	4.00	5.70	B	B	6.00	6.40	4.35	3.70	3.90	3.90	3.10	2.80	3.50	2.80	2.85	2.85	2.60	3.50	3.10	
No.																									
Median																									

Sweep Δ e Mc to 2.0 Mc in 30 min in automatic operation.

The Radio Research Laboratories, Japan.

f - min

IONOSPHERIC DATA

G. M. T.

foE

Dec. 1958

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀				
1	S	S	S	S	S	S	S	S	S	S	S	S													S			
2	S	S	S	S	S	S	S	S	S	S	S	S																
3	S	B	S	S	S	S	S	S	S	S	S	S																
4	S	S	U ₄₀₀ ^S	S	S	S	S	S	S	390 ^S	S	S																
5	A	A	A	U ₄₃₀ ^S	S	S	S	S	S	S	S	S																
6	U ₂₃₀ ^S	S	S	S	S	S	S	S	S	S	S	U ₂₉₀ ^S	S															
7	S	A	A	S	S	S	S	S	S	S	S	S	S															
8	S	A	A	S	S	S	S	S	S	S	S	S	S															
9	S	U ₂₅₀ ^S	S	S	S	S	S	S	S	S	S	S	U ₂₈₀ ^S	C														
10					S	S	S	S	S	S	S	U ₃₄₀ ^S	A															
11					C	C	C	C	C	C	C	C	A	S														
12					S	S	S	S	S	S	S	S	S	S														
13					S	S	S	S	S	S	S	S	S	S	2.30													
14					S	S	S	S	B	B	B	B	B	S	2.70 ^S													
15					S	S	S	S	S	S	S	S	B	S	B													
16					B	B	B	B	B	B	B	B	B	B	B													
17					B	B	B	B	B	B	B	B	B	B	B													
18					B	B	B	B	B	B	B	B	B	B	S	B												
19					B	B	B	B	B	B	B	B	B	B	A	R	B	B										
20					B	B	B	B	B	B	B	B	B	B	A	R	B	B										
21					C	C	C	C	C	C	C	C	C	C	C	C	C	C										
22					300	S	B	S	B	B	B	B	B	B	A	B	B	B										
23					B	B	B	B	B	B	B	B	B	B	U ₃₅₀ ^R	B	B	B										
24					280 ^R	B	B	B	B	B	B	B	B	B	S	B	B	B										
25					B	U ₃₄₀ ^R	B	B	B	B	B	B	B	B	S	B	B	B										
26					B	B	C	B	B	B	B	B	B	B	B	310	B	B										
27					B	B	S	B	B	B	B	B	B	B	S	B	B	B										
28					B	B	B	B	B	B	B	B	B	B	B	B	B	B										
29					B	B	B	B	B	B	B	B	B	B	S	B	B	B										
30					C	C	C	C	C	C	C	C	C	C	B	B	B	B										
31					B	B	B	S	B	B	B	B	B	B	S	U ₂₈₀ ^R	B	B										
No.																												
Median																												

The Radio Research Laboratories, Japan.

Sweep 4.0 Mc to 20.0 Mc in 30 sec in automatic operation.

foE

IONOSPHERIC DATA

G. M. T.

Dec. 1958

foEs

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	S	S	4.1M	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
2	S	B	S	S	S	S	S	S	G	S	4.0M	4.2M	3.3M	4.2M	S	C	C	S	S	S	S	S	S	S	
3	S	G	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
4	S	S	S	4.1M	S	S	S	S	4.7M	4.6M	4.3	4.0M	6.7M	3.7	S	S	S	S	S	S	S	S	S	S	
5	4.5M	4.0	G	S	S	S	S	S	6.0M	S	S	S	3.7M	4.0M	S	S	S	S	S	S	S	S	S	S	
6	S	G	S	S	S	S	S	5.4M	S	5.2M	5.8	4.6	4.5M	5.8M	S	S	S	S	S	S	S	2.7M	2.6M	3.5M	
7	S	3.6M	4.6M	4.7	S	S	S	5.7M	S	4.7	S	5.7M	4.3M	3.3M	3.8M	S	S	2.4M	S	S	S	S	S	S	
8	4.4M	S	4.6M	4.7M	4.9M	5.8M	6.8M	5.8M	S	S	S	S	S	3.3M	S	S	S	1.9M	S	S	4.5M	3.4M	S	S	
9	S	S	S	S	S	S	S	S	S	S	S	S	S	S	C	2.5M	S	S	S	S	S	S	S	S	
10	3.0M	3.6M	4.2M	3.9M	S	S	S	S	S	S	S	S	4.0	4.0M	S	2.5M	4.0M	S	S	2.6M	2.6M	S	S	S	
11	S	S	2.4M	C	C	C	C	C	C	C	C	C	S	S	2.5	S	S	S	2.8M	2.6M	S	S	S	S	
12	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	2.8M	S	S	S	S	
13	S	S	S	4.0M	S	S	S	S	S	S	S	S	S	S	4.1M	2.5M	S	2.2M	3.3M	2.5M	3.1M	2.7M	S	S	
14	S	S	G	S	S	S	S	S	B	B	B	B	B	B	S	3.5M	2.8M	2.7M	4.3M	3.3M	4.7M	4.0M	3.4M	2.8M	
15	S	S	2.7M	G	3.7	4.3M	6.0M	S	5.0M	B	S	B	4.0M	B	B	B	B	B	B	B	B	B	B	3.4M	
16	B	B	B	B	B	B	B	B	B	B	B	B	S	4.5M	4.2M	3.4M	B	B	B	B	B	6.4M	3.6M	B	
17	S	B	B	B	B	G	B	B	B	B	5.6M	5.6M	B	4.4M	4.6M	4.8M	4.2M	S	S	B	S	S	B	S	
18	B	B	B	B	B	G	S	B	B	B	B	B	6.7M	5.9M	4.4M	3.3M	3.3M	S	4.1M	6.7M	3.2M	4.2M	3.4M	S	
19	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	
20	B	B	B	B	B	3.0M	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
22	B	B	B	B	B	G	B	B	C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
23	B	B	B	B	B	3.5	B	4.8M	C	5.3M	B	B	B	B	4.7M	4.7M	3.9M	B	S	B	B	B	3.7M	B	
24	B	B	B	B	B	3.4	4.0M	B	B	B	B	B	B	B	S	S	B	B	B	B	B	3.2M	B	B	
25	B	B	B	B	B	B	4.0	B	6.8M	B	6.0M	B	B	B	B	G	B	4.5M	4.1M	2.8M	3.1M	B	B	B	
26	B	B	B	B	B	C	C	C	4.8M	B	B	B	B	B	B	B	B	B	B	B	B	3.1M	B	B	
27	B	B	B	B	B	S	S	B	B	B	B	B	B	S	S	4.0M	B	B	3.9M	B	3.2M	3.1M	3.2M	B	
28	B	B	B	B	B	B	4.0	B	B	B	B	B	B	B	B	B	3.3M	B	B	B	B	B	B	B	
29	B	B	B	B	B	B	B	B	B	B	B	B	B	S	4.1M	4.1M	3.8M	B	B	B	B	B	B	B	
30	B	B	B	B	B	C	C	C	C	C	C	C	B	B	B	B	B	4.7M	4.2M	B	B	B	B	B	
31	B	B	B	B	B	B	B	B	B	B	B	6.0M	4.7M	B	S	B	4.6M	5.6M	B	B	B	B	B	B	
No.																									
Median																									

Sweep 1.0 Mc to 20.0 Mc in 30 min in automatic operation.

The Radio Research Laboratories, Japan.

foEs

IONOSPHERIC DATA

Dec. 1958

f-min

G. M. T.

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰	
1	3.60	4.42	4.40	5.30	5.00	6.30	6.05	4.60	4.35	3.80	3.30	5.15	S	2.00	2.90	5.30	2.05	2.05	2.10	2.10	1.70	2.20	2.00	3.60	
2	3.70	4.50	4.80	4.90	4.90	6.20	5.00	4.50	4.40	4.40	3.70	3.00	2.00	S	C	C	C	2.40	2.00	1.90	2.20	1.80	2.40	2.90	
3	3.20	3.70	4.50	5.00	4.80	5.60	5.00	4.30	4.50	3.90	3.50	3.05	2.60	2.50	2.20	3.00	2.05	2.00	2.10	2.15	2.10	1.70	1.70	2.20	
4	3.00	3.50	3.70	4.50	6.40	4.90	5.00	4.80	4.40	3.80	4.50	S	2.10	2.10	2.00	3.00	2.10	2.85	2.00	1.70	S	2.20	2.20	S	
5	2.00	3.00	3.70	3.60	S	4.80	4.70	4.30	6.40	4.40	3.70	3.60	1.75	1.60	3.00	3.80	3.60	2.00	2.00	2.10	2.00	1.70	1.45	3.30	
7	1.80	2.30	3.90	4.30	4.90	4.90	4.80	4.80	4.90	4.40	3.80	2.90	2.00	2.00	3.00	2.30	2.00	1.70	3.15	2.00	1.70	1.65	1.60	2.00	
8	2.30	2.20	3.30	3.80	5.00	5.70	4.50	4.90	5.00	4.50	4.40	3.70	2.20	2.30	1.70	1.75	2.00	2.00	2.90	1.70	2.10	1.60	2.10	2.20	
9	2.00	2.10	3.50	4.00	4.50	4.85	4.85	5.00	5.00	4.50	4.40	3.70	3.50	C	1.50	1.70	4.00	2.00	2.25	2.10	2.30	2.10	2.15	2.10	
10	2.20	2.20	3.00	3.50	4.50	4.70	4.90	5.60	5.00	5.00	4.40	3.60	3.00	2.20	2.10	1.60	3.50	2.20	S	2.10	3.80	2.90	2.80	2.15	
11	2.30	C	C	C	C	C	C	C	C	C	C	C	3.70	2.20	1.70	3.00	1.80	1.80	3.90	2.00	1.80	2.40	1.70	1.70	
12	2.10	3.50	2.20	3.70	4.40	4.50	S	4.90	5.20	4.90	6.20	4.30	S	3.40	2.30	2.60	2.00	2.30	1.70	2.30	1.80	2.10	2.00	1.70	
13	2.00	3.15	2.20	3.70	4.35	4.40	4.55	5.00	4.70	4.70	4.70	4.70	5.00	3.70	2.10	1.50	2.00	2.00	2.30	1.60	1.50	2.10	2.10	2.15	
14	2.10	2.10	2.10	3.50	4.00	4.40	4.70	B	B	4.80	5.60	4.40	4.40	3.60	2.30	2.20	2.00	2.10	2.30	1.80	2.00	2.10	2.20	2.15	
15	2.10	2.70	2.20	2.25	3.70	4.40	4.80	4.50	4.35	S	S	3.80	4.30	4.20	3.10	2.95	2.60	3.40	2.50	2.70	2.70	2.35	2.70	2.50	
16	2.40	2.50	2.60	3.30	4.10	4.05	4.00	5.60	6.00	5.90	5.70	6.20	4.30	5.30	3.20	4.90	2.90	2.60	3.00	2.50	2.60	6.50	2.80	2.75	
17	2.60	2.50	2.75	3.50	3.50	3.50	3.30	4.50	6.30	4.70	4.70	5.60	5.50	3.10	3.70	2.80	2.65	2.50	2.60	2.60	2.30	2.40	2.30	2.60	
18	2.50	2.90	2.90	2.70	2.50	3.00	4.00	4.15	4.70	5.50	5.60	B	4.35	4.40	4.90	3.50	2.70	3.90	2.70	2.40	2.50	2.25	2.30	2.70	
19	2.60	2.40	2.80	2.70	3.15	3.80	4.00	5.20	5.30	4.65	B	5.60	5.60	3.20	3.10	3.70	2.80	2.70	2.40	2.70	2.70	2.60	2.60	2.70	
20	2.50	2.60	2.70	2.70	3.30	2.80	3.90	5.40	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
22	2.40	2.35	2.60	2.70	2.60	3.15	4.30	5.60	5.50	5.60	5.70	4.80	4.80	4.90	2.90	4.85	2.70	2.35	C	2.60	2.60	2.70	2.35	2.50	
23	2.50	2.40	2.10	2.30	3.50	5.70	B	C	5.95	6.70	5.50	6.10	6.10	5.40	3.00	2.90	2.70	2.40	2.70	2.70	2.50	2.35	2.70	2.10	
24	2.35	2.40	2.50	2.75	2.80	3.80	5.30	3.90	6.20	6.10	6.40	9.20	5.70	4.50	5.80	3.70	3.50	2.70	2.70	2.60	2.50	2.65	2.70	2.65	
25	2.70	2.70	2.65	3.00	3.20	2.80	4.20	4.50	5.85	4.50	5.60	4.50	4.55	4.05	3.90	3.70	2.75	2.50	2.40	2.40	2.40	2.60	2.50	2.40	
26	2.30	2.50	2.50	2.90	4.50	C	C	5.70	4.60	5.80	5.80	4.80	6.20	4.20	3.70	2.70	3.00	2.50	2.55	2.60	2.60	2.50	2.40	2.40	
27	2.80	2.70	3.10	3.05	4.10	4.20	4.00	4.60	4.60	4.70	4.60	4.70	4.70	S	3.80	3.30	3.00	3.50	2.80	3.00	2.60	2.70	2.70	2.50	
28	2.90	2.80	2.80	3.25	3.60	3.90	4.30	4.80	4.70	B	6.50	B	B	6.30	3.70	3.80	2.80	3.10	2.70	2.70	2.80	2.80	2.70	2.70	
29	2.70	2.70	3.10	3.70	3.80	5.20	4.50	B	B	6.20	6.00	B	B	S	3.70	3.10	3.00	2.90	S	B	2.70	2.70	2.90	B	
30	B	B	C	C	C	C	C	C	C	C	C	C	4.10	B	3.70	3.00	3.85	2.70	2.70	3.70	2.70	2.80	2.70	2.80	
31	2.80	3.00	3.20	3.80	S	4.00	B	B	4.60	6.00	S	4.40	3.90	3.70	3.80	2.80	3.50	2.80	2.80	2.85	2.60	2.65	2.85	C	
No.																									
Median																									

f-min

Sweep 1.0 Mc to 2.0 Mc in 30 min in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

Dec. 1958

R'F2

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1					L	L	L		L	L														
2				L	L	L	L	560	L	L	L													
3				L	L	S	440	S	520	L	L													
4						510	480	460	470	520	470	L												
5		L	380	S	S	S	S	500	450	S	450	L												
6								400	430	430	420	L												
7					400		450	420	420	410	400	430	L											
8					300	380	420	S	S	S	430	400	L											
9			L	450	560	530	S	S	S	590	510	510	530	410										
10				L	390	S	430	470	470	470	430	410	400	L										
11													380	L										
12				L		390	L	S	420	430	430	420	L	L										
13				L	L	L	410	420	420	420	460	450	430	L										
14			L	630	S	S	S																	
15				L	S	B		560		540	530	500	470	450	390	L								
16								400	B	420	450	420	470	460	400									
17					L	L	380	370	410	410	420	430	420	400	380	L								
18					L		400	500	490	430	470	440 ^B	430	400	400	330								
19							450 ⁻	480	480	400	460	430	400	420 ^S	390	370								
20							L	L	L															
21																								
22								370	C	400	B	400	410	400	370	360								
23						L		420	C	430	460	450	430	410	410	370	L							
24						L	L	400	410	400	400	400	370	360	S	370	L							
25						L	L	L	410	420	430	420	420	420	400	370								
26						C	C	C	410	450	450	420	B	450	440	380								
27						450	S	S	400 ^B	410	440	430	S	S	L									
28				L	L	480	430	B	B	B	510	500	B	500	B	420 ^B								
29			L	580	530	540	550 ^B	520	B	B	B	B	560	540	S	410								
30													580	B	B	420								
31			470 ^F	470	470	480	500	B	B	520	B	B	520	470	420	370								
No.																								
Median																								

Sweep 1.0 Mc to 2.0 Mc in 3.0 min in automatic operation.

The Radio Research Laboratories, Japan.

R'F2

IONOSPHERIC DATA

G. M. T.

P'F2

Dec. 1958

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀	
1					L	L	L	L	L	L															
2				L	L	L	L	L	L	L	L														
3				L	L	L	L	L	L	L	L														
4				L	L	L	L	L	L	L	L														
5	L	S	870 ^S	700 ^S	S	S	S	S	L	L	470	430													
6																									
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31																									
No.																									
Median																									

Sweep 1.0 Mc to 2.0 Mc No in 30 min sec in automatic operation.

P'F2

IONOSPHERIC DATA

G. M. T.

Dec. 1958

h'F

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	270	240	230	230	S	270	230	S	240	230	270	320 ^S	S	S	S	370	320	310	300	300	260	230	230	240
2	275	250	240	230	225	220	210	220	215	S	260	310 ^S	370 ^S	E440 ^S	310 ^S	C	C	305 ^S	300	320	300	280	300	450
3	300	250	240	220	230	S	210	S	240	220	250	300 ^S	330	370	340 ^S	300	300	300	290	290	270	250	280	250
4	250	240	230	225 ^H	225	220	220	220	230	240	280	290 ^S	S	E410 ^S	370 ^S	S	E315 ^S	E330 ^S	310	S	400 ^S	S	S	S
5	300	260	270	270	270	250	230	230	S	270 ^S	260	270	300 ^S	330	330 ^S	E320 ^S	300	280	290	270	250	230	260 ^S	300
6	300	250	240	260	270 ^S	230 ^S	260 ^S	250	S	270 ^S	AS	290 ^A	330	310 ^A	300	300	280	300	E320 ^S	310 ^S	270	260	270	320
7	340	260	230	230	230	230 ^H	E280 ^S	S	250 ^S	260	230	S	280	310	330	300	300	270	240	300 ^S	300	270	250	250
8	310	240	250	230	250	S	SH	S	215	S	230	230	270	300	300	300	300	310	310	270	230	E310 ^S	E380 ^S	300
9	260	270	260	230	230	S	S	S	S	230	250	230	260	300 ^S	C	320 ^S	320	330	330	290	290	300	310	S
10	A	E300 ^S	240	230	230	220	S	S	230	S	210	230	240	270 ^S	310	310 ^S	S	E320 ^S	E330 ^S	310	290	280	280	300
11	300	290	C	C	C	C	C	C	230	C	C	C	240	250	280	300 ^S	300	300	290	300	270	260	300	E330 ^S
12	330 ^S	300	260	240	230 ^H	230	210	S	230	225	230	230	240	E270 ^S	270	280	280	300	280	310 ^S	300	290	300	310
13	310	320	260	250	250 ^S	230	230	230	220	220	230	E250 ^S	250	250	S	310	S	310	S	360 ^S	S	E360 ^S	E380 ^S	350
14	370 ^S	370 ^S	310	280 ^S	260	250	S	B	B	B	B	B	B	B	S	E320 ^S	320	310	S	S	AS	S	S	S
15	S	350 ^S	310	310 ^S	230	240	A	240	250	B	S	B	B	B	S	E320 ^S	320	310	S	S	AS	S	S	S
16	E330 ^S	310	270	250	240	240	S	B	B	B	B	B	B	B	270	260	300	290	300	270	260	300	310	E370 ^S
17	310	310	320 ^S	250	250	240	220	E230 ^B	B	B	240 ^A	B	B	B	230	A	E290 ^A	E290	290	310	S	E370 ^S	290	E260 ^S
18	360 ^S	E400 ^B	B	B	270	250	S	230	E270 ^B	200	250	230	B	A	B	230	260	270 ^S	270 ^S	A	S	310 ^S	E340 ^S	E330 ^S
19	310	E400 ^B	350 ^B	350 ^B	270	230	220	230	220	B	B	B	B	B	B	230	240	250	270	260	270	300	310 ^B	E340 ^S
20	330 ^B	E330 ^B	B	300	260	250	230	210	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
21	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
22	330	320	E370 ^H	340	260	250	260 ^B	B	C	C	B	B	280	S	240	250 ^B	270	280	270 ^S	260 ^S	280	310	E320 ^A	310
23	290	300 ^B	310	300	260	240	B	B	C	B	B	S	B	210	A	230	260 ^A	300	290	300 ^B	310 ^B	310 ^B	330 ^B	E340 ^B
24	370 ^B	E370 ^B	E330 ^B	300	270	250	230	220	B	B	B	B	B	210	S	S	250	280 ^B	260	260	300	310 ^A	310	E370 ^B
25	E350 ^B	310	310 ^B	260	250	240	220	220	A	B	A	B	B	220	250	260	250	270	270 ^A	280 ^B	300	300	310 ^B	310
26	300	E340 ^B	350 ^B	270	250	C	C	C	230	B	B	B	B	B	215	250	260	270	270	290	B	B	340 ^B	E380 ^B
27	E400 ^B	E400 ^B	E400 ^B	270	250	S	230	210	230 ^B	220 ^H	B	220	230	S	S	230	270	270	S	300 ^B	B	320	320 ^A	320
28	E350 ^B	420 ^E	E310 ^B	300 ^B	230	230	240 ^B	B	B	B	B	B	B	B	260	270 ^B	E300 ^B	E290 ^B	275	302 ^B	330 ^B	E380 ^B	E410 ^B	B
29	BF	E420 ^B	E310 ^H	300	250	230	240 ^B	B	B	B	B	210 ^B	220	S	S	270	290	S	300 ^B	B	B	BF	BF	BF
30	B	B	B	C	C	C	C	C	C	C	C	C	B	B	B	230	300 ^B	310 ^S	300 ^B	E340 ^B	B	E410 ^B	BF	BF
31	E350 ^B	E310 ^B	250	260	230	220	B	B	B	B	B	B	220	240	250 ^S	250	300	300	290 ^B	300	E350 ^B	350	340	

Sweep 1.0 Mc to 2.0 Mc in 30 min in automatic operation.

The Radio Research Laboratories, Japan.

h'F

No.
Median

IONOSPHERIC DATA

Dec. 1958

f_oF

G. M. T.

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰	
1	250	250	230	250 ^S	220	S	S	220	240	250	270 ^S	S	S	470 ^S	400 ^S	310	300	300	300	280	250	240	230	280	
2	270	250	240	230	220	S	220	215	230	270	280	S	440 ^S	S	S	C	C	300	305	310	280	250	400 ^S	370 ^S	
3	260	250	230	230	230	240	210	230	250	250	270	300 ^S	365 ^S	350	320 ^S	300	300	300	300	280	260	250	260	250	
4	230	230	230	220	S	215	230	230	230	270	S	S	300	370 ^S	360 ^S	S	300	305	300	370 ^S	S	S	500 ^S	S	
5	270	250	260	250 ^S	S	230	220	260	S	240	250	290 ^H	310 ^S	340 ^S	330 ^S	310 ^S	300 ^S	280	280	260	220	230	290	220 ^S	
6	280	240	240	230 ^H	230	230 ^H	S	220	230	S	280 ^S	300 ^A	320 ^A	300	320 ^S	280 ^S	270	310	310 ^S	290	260	250	280	380	
7	270	250	250	220	240	S	240	220	220	250	240	260	310	310	330	310	300	250	250	290	290	250	230	300 ^S	
8	330	250	240	230	220	250 ^S	250 ^S	240 ^S	260	230	240	250	260	C	330	310	S	330	320	300	250	S	S	350 ^S	
9	S	260	240	230	220	220	230 ^S	S	210	230 ^S	230	260	260	300	300	310 ^S	310 ^S	300	S	280	300	290	300	300	
10	300	C	C	C	C	C	C	C	C	C	C	230	260	300	300	310 ^S	310 ^S	290	310 ^S	290	270	270 ^S	300	320	
11	310	270 ^S	250	240	230 ^H	220	S	250	260	240	S	230	S	260	280	300 ^S	300	290	310 ^S	290	270	270 ^S	300	320	
12	330	300	250	240	230	230	230 ^S	230	220	270	230 ^S	440 ^S	S	260	300 ^S	270	310 ^S	300	300	300	S	S	350 ^S	360 ^S	
13	330	370 ^S	290	250	250	250	240	B	B	250	B	220	270	290	S	320 ^S	320	S	310	AS	AS	400 ^S	400 ^S	S	
14	S	S	300 ^A	260	230	300	S	AS	250	S	S	A	240	270	260	290	300	310 ^S	300	300	300	330 ^B	310	350	
15	320	310	260	240	240 ^H	220	220	270 ^B	B	B	B	B	230	B	AS	B	280 ^S	295	300 ^B	300	310 ^B	B	330	310 ^S	
16	300	320 ^S	280	250	220	220	210	210	S	B	B	B	S	240	S	330 ^A	270	270	310	330 ^S	410 ^S	310	260	340 ^S	
17	400 ^B	B	500 ^B	300	250	240 ^H	230	230	210	B	270 ^B	B	A	230 ^S	300 ^S	260 ^B	270	300 ^S	280 ^S	270 ^S	AS	AS	340 ^B	310 ^S	
18	360 ^B	380 ^B	360 ^B	290	260	220 ^H	210	230	B	B	B	B	B	220	220	260	270	260	270	290	310 ^B	320 ^B	320 ^B	350 ^B	
19	310 ^B	B	340 ^B	270	250	230	210	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
20	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
21	320	330 ^B	340	280	250	230	240	S	270	B	B	S	240	250	230	250 ^B	270	260	270	260	300 ^B	320 ^S	320	330 ^B	
22	300 ^B	300 ^B	300	270	250	B	B	C	B	B	B	B	B	B	250	A	280	S	270 ^B	300 ^B	300	310 ^B	320 ^B	340 ^B	
23	350	320	330	280	260	250	S	230	B	B	B	B	B	B	230	S	280 ^B	260	260 ^B	300	300 ^B	310 ^B	320	350 ^B	
24	330 ^B	310 ^B	290 ^B	260	250	230	220	B	B	B	B	220	220	220	220	230	260	300 ^A	A	270	300	300	300	300 ^B	
25	300	370 ^B	300	270	230	C	C	B	200	B	B	B	B	220	210	240	270	260	280 ^B	300 ^B	330 ^B	320 ^B	370	370 ^B	
26	400 ^B	400 ^B	B	260	260	230	220	210	210 ^H	210	210	220	230 ^B	S	B	250	270 ^B	290 ^B	A	300 ^B	320 ^B	B	310 ^B	300 ^F	
27	410 ^B	370 ^B	300	250	250	230	220	B	B	B	B	B	B	B	260	B	300 ^B	300 ^B	270 ^B	310	350 ^F	410 ^B	410 ^B	BF	
28	420 ^B	B	300	270	230	B	250 ^B	B	B	B	B	B	B	S	260	280	280	300	300	S	B	BF	B	BF	
29	B	B	C	C	C	C	C	C	C	C	C	C	C	250	B	240	320 ^S	280	320 ^B	SF	400 ^B	BF	BF	270	
30	340 ^B	280	250	240	S	S	B	B	230	B	S	240	240	240	260	250	330 ^A	300 ^B	300	B	340 ^B	330	340	C	
No.																									
Median																									

Sweep 1.0 Mc to 2.0 Mc in 20 sec in automatic operation.

The Radio Research Laboratories, Japan.

f_oF

IONOSPHERIC DATA

G. M. T.

Dec. 1958

K'E

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	S	S	S	S	S	S	S	S	S	S	S												S
2	S	B	S	S	S	S	S	S	110	S	S	S												
3	S	110	S	S	S	S	S	S	S	S	S	S												
4	S	S	S	A	S	S	S	S	S	A	S	S												
5	S	110	120	S	S	S	S	S	S	S	S	S												
6	S	120	S	S	S	S	S	S	S	A	S	110	S											
7	S	A	A	S	S	S	S	S	S	S	S	S	S											
8	S	A	A	S	S	S	S	S	S	S	S	S	S											
9	S	S	S	S	S	S	S	S	S	S	S	S	S											
10		S	S	S	S	S	S	S	S	S	S	S	110											
11				C	C	C	C	C	C	C	C	C	S											
12			S	S	S	S	S	S	S	S	S	S	S			S								
13			S	110	S	S	S	S	S	S	S	S	S		110									
14			S	S	S	S	S	B	B	B	B	B	B		S									
15				120	110	S	S	S	S	S	B	B	B		B									
16				B	B	B	S	B	B	B	B	B	B		B									
17				B	B	110	B	B	B	B	B	B	B		110	A	B							
18					B	110	S	B	B	B	B	B	B		110	B	A	B						
19					B	B	B	B	B	B	B	B	B		B	B	B	B						
20					B	B	B	B	B	C	C	C	C		C	C	C	C						
21					C	C	C	C	C	C	C	C	C		C	C	C	C						
22					B	120	B	B	C	B	B	B	B		B	B	B	B						
23					B	110	B	B	C	B	B	B	B		110	120	B	B						
24					B	130	110	B	B	B	B	B	B		B	S	S	B						
25					B	B	B	B	B	B	B	B	B		B	B	120	B						
26					B	C	C	C	B	B	B	B	B		B	B	B	B						
27					B	S	S	S	B	B	B	B	B		S	S	B	B						
28					B	B	B	B	B	B	B	B	B		B	B	B	B						
29					B	B	B	B	B	B	B	B	B		S	S	B	B						
30					B	C	C	C	C	C	C	C	C		B	B	B	B						
31					B	B	B	B	B	B	B	B	B		S	S	B	B						
No.																								
Median																								

Sweep 1.0 Mc to 2.0 Mc in 30 sec in automatic operation. The Radio Research Laboratories, Japan.

K'E

IONOSPHERIC DATA

Dec. 1958

R'E

G. M. T.

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰	
1	S	S	S	S	S	S	S	S	S	S	S	S													
2	S	S	S	S	S	S	S	S	S	S	S	S													
3	S	B	S	S	S	S	S	S	S	S	S	S													
4	S	S	S	S	S	S	S	S	S	S	S	S													
5	A	A	A	120	S	S	S	S	S	S	S	S													
6	S	S	S	S	S	S	S	S	S	S	S	S													
7	S	A	S	S	S	S	S	S	S	S	S	S													
8	S	A	A	S	S	S	S	S	S	S	S	S													
9	S	110	S	S	S	S	S	S	S	S	S	S		C											
10			S	S	S	S	S	S	S	S	S	S		A											
11				C	C	C	C	C	C	C	C	C		S	A	S									
12			110	S	S	S	S	S	S	S	S	S		S	S	S									
13			S	S	S	S	S	S	S	S	S	S		S	S	S									
14			120	S	S	S	S	S	B	B	B	B		S	120										
15			130	110	S	S	S	S	S	S	S	S		B	110										
16			B	B	B	B	B	B	B	B	B	B		B	B										
17			B	B	B	B	B	B	S	B	B	B		S	110	S									
18			B	B	A	110	B	A	B	B	B	B		S	S	B									
19			B	B	B	B	B	B	B	B	B	B		A	120	B	B								
20					B	110	B	B	C	C	C	C		C	C	C	C								
21					C	C	C	C	C	C	C	C		C	C	C	C								
22					120	120	B	S	B	B	B	S		B	A	B	B								
23					B	B	B	C	B	B	B	B		B	110	B	B								
24					130	B	B	B	B	B	B	B		B	S	B	B								
25					B	110	B	B	B	B	B	B		B	B	B	B								
26					B	B	C	B	B	B	B	B		B	B	110	B	B							
27					B	B	S	B	B	B	B	B		S	B	B	B								
28					B	B	B	B	B	B	B	B		B	B	B	B								
29					B	B	B	B	B	B	B	B		S	S	B	B								
30					C	C	C	C	C	C	C	C		B	B	B	B								
31					B	B	B	S	B	B	B	B		B	S	B	B								
No.																									
Median																									

R'E

Sweep 1.0 Mc to 2.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

Dec. 1958

11°E S

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

Sweep 1.0 Mc to 2.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

11°E S

IONOSPHERIC DATA

Dec. 1958

R'ES

G. M. T.

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

Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

R'ES

IONOSPHERIC DATA

G. M. T.

foF2

Jan. 1959

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	7.3 ^S	R	R	R	B	S	S	R	B	7.3 ^R	7.3	7.3 ^R	7.2	7.2	B	6.9	6.8	S	6.4 ^S	S	6.5	6.8 ^F	F	R	F
2	K	R	R	S	11.0 ^R	10.8	10.1	9.7 ^R	9.1 ^R	B	R	7.9 ^S	C	C	C	C	7.5	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	7.5	7.4 ^R	7.7	7.5 ^R	S	7.2 ^F	7.0 ^F	6.5 ^F	6.5 ^F	5.9 ^F	5.9 ^F	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	6.7 ^R	R	B	B	B	S	B	6.6 ^R	B	B	B	B	B	B	B
5	B	B	B	B	R	R	R	B	7.1 ^R	7.3	7.1	7.3	B	B	B	6.0 ^R	R	S	B	B	F	B	B	B	B
6	B	B	B	B	B	B	B	B	C	C	B	B	B	B	B	S	B	S	R	B	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	S	6.0 ^R	6.0 ^F	6.0 ^R	6.0 ^R	5.5	R	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	C	C	6.4 ^F	B	5.6 ^R	B	B	B	C	B	4.9 ^F	B	B	R
9	C	C	C	C	C	C	C	C	C	C	B	B	6.0 ^R	C	C	C	C	C	C	C	C	C	C	C	R
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	B	B	B	B	B
11	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	R	B	B	5.9 ^R	S	B	B	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	S	B	R	B	B	B	B	B	B	B
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	6.3 ^R	R	R	B	B	B	B	B	B
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	R	R	B	B	B	B	B	B
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No.																									
Median																									

The Radio Research Laboratories, Japan.

S_{min} : 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

foF2

IONOSPHERIC DATA

G. M. T.

foF2

Jan. 1959

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰	
1	U7.7 ^R	R	R	R	J9.2 ^R	S	B	R	B	7.2 ^S	7.1 ^R	7.3	S	U7.0 ^R	7.0	6.8	S	6.8	6.0 ^R	6.4 ^S	6.9 ^F	U6.9 ^F	F	R	
2	R	R	R	R	10.9 ^S	J10.7	J10.1 ^R	R	8.9	B	S	C	C	C	C	U7.5 ^R	C	C	C	C	6.3 ^R	C	C	C	
3	C	C	C	C	C	C	C	C	C	7.4	S	7.8 ^R	U7.5 ^R	R	7.6 ^R	7.0 ^F	S	6.4 ^F	S	6.4 ^F	U5.9 ^S	C	C	C	
4	C	C	C	C	C	C	C	C	6.9	S	B	S	S	B	B	B	6.8 ^R	S	B	B	B	B	B	B	
5	B	B	7.0 ^F	B	B	B	B	B	B	B	S	B	S	B	B	R	5.7 ^F	B	B	B	B	U4.9 ^F	B	B	
6	B	B	B	B	B	B	B	B	C	C	B	B	B	S	B	B	S	B	B	B	B	U4.2 ^R	B	B	
7	B	B	B	B	B	B	B	B	B	B	B	B	S	6.0 ^F	6.0 ^R	6.1 ^F	5.5	5.4 ^R	B	B	B	B	B	B	
8	B	B	B	B	B	B	B	B	B	6.3 ^R	C	C	C	6.2 ^F	6.1 ^R	5.5	C	B	C	C	C	C	F	S	
9	C	C	C	C	C	C	C	C	C	C	B	B	U6.0 ^R	C	C	C	C	C	C	C	C	A	B	B	
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	B	B	B	B	F	B	
11	B	C	C	C	C	C	C	C	B	B	B	C	B	B	B	R	R	R	5.9	R	5.7 ^R	B	B	B	
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	5.7 ^R	R	R	U5.7 ^R	B	B	B	B	B	B	
13	B	B	J5.7 ^R	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	U6.0 ^R	R	B	B	B	B	
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
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31																									
No.																									
Median																									

Sweep 1.0 Mc to 2.0 Mc in 30 min in automatic operation.

foF2

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

Jan. 1959

foF1

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1			4.7	5.1	A	S	S	B	B	5.6 ^R	5.5 ^R	5.6	5.4	5.3	B	L								
2	L	L	5.0	5.7	5.4 ^R	5.7	5.9	5.8	B	B	B	S	C	C	C									
3	C	C	C	C	C	C	C	C	C	C	5.6	B	5.3 ^R	5.3	S	L								
4	C	C	C	C	C	C	C	C	B	B	B	5.2 ^R	B	B	B	S	B	L						
5	B	B	B	B	B	B	B	B	B	B	B	5.6	B	B	4.7 ^R	L								
6	4.5 ^R	B	B	B	4.3 ^F	4.6 ^F	B	R	C	C	B	B	S	B	B	S	B	S						
7	B	B	B	B	B	B	B	B	B	B	B	R	S	R	4.8 ^R	B	B	L						
8	B	B	B	B	B	B	B	B	B	B	B	C	C	5.0 ^R	B	4.7	B	B						
9	C	C	C	C	C	C	C	C	C	C	B	B	5.1	C	C	C	C	C	C					
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	4.5 ^F	C	C	C					
11	B	B	C	C	C	C	C	B	B	B	B	C	B	B	B	4.7 ^R	B							
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B							
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B							
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B							
15																								
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No.																								
Median																								

The Radio Research Laboratories, Japan.

Sweep 1.0 Mc to 2.0 Mc in 30 sec in automatic operation.

foF1

IONOSPHERIC DATA

G. M. T.

foF1

Jan. 1959

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀		
1		4.7 ^L	4.8	5.1	5.3	S	B	B	B	U _{1.6} ^R	R	R	5.3 ^S	5.1 ^L	L										L	
2	L	4.9 ^L	5.0	5.5 ^R	S	5.7	5.8	5.7	6.0	5.8	5.6	C	C	C	C											
3	C	C	C	C	C	C	C	C	C	5.6	S	5.5 ^R	5.2 ^R	5.2 ^F	4.6	L										
4	C	C	C	C	C	C	C	C	5.2 ^R	S	B	U _{1.5} ^R	S	B	B	B	∅									
5	B	B	B	B	B	B	B	B	B	B	S	B	S	B	4.6	L										
6	4.4 ^F	B	B	4.3 ^F	4.4 ^F	R	R	R	C	C	C	B	B	B	B	B	S	B								
7	B	B	B	B	B	B	B	B	B	B	B	R	S	4.9 ^R	4.8 ^R	L	L									
8	B	B	B	B	B	B	B	B	B	B	B	C	C	5.0 ^R	5.1 ^L	4.6	C	B	C							
9	C	C	C	C	C	C	C	C	C	C	C	5.1 ^R	5.0	C	C	C	C	C	C	C						
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C						
11	B	C	C	C	C	C	C	B	B	B	B	C	B	B	4.9	L	L									
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B										
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B										
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B										
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Median																										

Sweep 1.0 Mc to 2.0 Mc in 30 min in automatic operation.

foF1

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

foE

Jan. 1959

Day	00	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	S	S	B	B	B	B	B	B	B	B	B	B							
2	B	B	B	B	B	A	B	B	B	B	B	S	C	C	C	C								
3	C	C	C	C	C	C	C	C	C	C	B	B	A	B	S	B	B							
4	C	C	C	C	C	C	C	C	B	B	B	B	B	B	B	S	B	B	B					
5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	S						
6	320	B	B	B	B	B	B	B	C	C	B	B	S	B	B	S	B	S						
7	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B					
8	B	B	B	B	B	B	B	B	B	B	B	C	C	B	B	B	B	B	B					
9	C	C	C	C	C	C	C	C	C	C	C	B	B	C	C	C	C	C	C					
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C					
11	B	B	C	C	C	C	C	B	B	B	B	C	B	B	B	B	B	B	B					
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	S	B						
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B							
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Sweep rate Mc to 2.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

foE

IONOSPHERIC DATA

G. M. T.

foE

Jan. 1959

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀	
1	B	B	B	B	B	S	B	B	B	B	B	B	S	B	B	B	B	S							B
2	B	B	3.20 ^R	R	S	B	B	A	B	B	B	C	C	C	C	C	B								
3	C	C	C	C	C	C	C	C	C	B	S	A	A	B	B	B	B								
4	C	C	C	C	C	C	C	C	B	S	B	B	S	B	B	B	B	B	S	B					
5	B	B	B	B	B	B	B	B	B	B	S	B	S	B	B	B	B	S	S						
6	3.60	B	B	B	B	B	B	B	C	C	B	B	B	B	B	B	B	S	B						
7	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	S	B						
8	B	B	B	B	B	B	B	B	B	B	B	B	C	B	B	B	B	C	B	B					
9	C	C	C	C	C	C	C	C	C	B	B	B	B	B	B	B	C	C	C	C					
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C					
11	B	C	C	C	C	C	C	B	B	B	B	B	B	B	B	B	B	B	B	B					
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B					
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B					
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B					
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Median																									

foE

Sweep 1.0 Mc to 2.0 Mc in 1.0 min in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

Jan. 1959

foEs

Day	00	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	5.6M	S	6.7M	B	B	B	B	B	4.0M	B	B	4.5M	B	S	S	S	B	B	B	B
2	B	G	B	B	B	3.9M	B	B	4.9M	B	4.2M	S	C	C	C	C	4.2M	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	6.0M	B	5.4M	B	S	4.4M	3.9M	B	B	B	B	C	C	C
4	C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B	4.1	B
5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	S	B	4.3M	B	5.7F	B	B
6	G	B	B	B	B	B	B	B	C	C	B	B	S	B	B	S	B	S	B	5.2F	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	B	C	B	B	B	B	B	B	C	B	B	B	B
9	C	C	C	C	C	C	C	C	C	C	B	B	B	C	C	C	C	C	C	C	C	3.9M	3.9M	B
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	4.0M	3.4M	B	B
11	B	B	B	B	B	B	B	B	B	B	B	C	B	B	B	B	B	B	B	S	B	4.4M	4.0M	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	5.6M	B	B
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
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No.																								
Median																								

The Radio Research Laboratories, Japan.

Sweep 1.0 Mc to 2.0 Mc in 30 sec in automatic operation.

foEs

IONOSPHERIC DATA

G. M. T.

foES

Jan. 1959

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰
1	B	B	B	4.0 ^M	7.4 ^M	S	B	B	B	B	B	B	S	B	B	B	S	B	B	B	B	B	B	B
2	B	B	G	G	S	B	B	5.0 ^M	5.8 ^M	B	B	C	C	C	C	5.4 ^M	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	5.0 ^M	S	4.4 ^M	3.8 ^M	4.0 ^M	3.9 ^M	B	S	B	S	B	B	B	B	B
4	C	C	C	C	C	C	C	C	C	B	B	B	S	B	B	B	S	S	B	S	B	B	B	B
5	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	S	S	3.9 ^M	3.9 ^M	B	B	B	B
6	G	B	B	B	G	B	B	B	C	C	B	B	B	S	B	B	S	B	4.9 ^M	4.9 ^M	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	C	C	C	B	B	C	C	B	C	C	4.0 ^M	B	B
9	C	C	C	C	C	C	C	C	C	C	C	B	B	C	C	C	C	C	C	C	C	4.6 ^M	B	B
10	B	4.5 ^M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	B	B	B
11	B	C	C	C	C	C	B	B	B	B	B	C	B	B	B	B	B	B	B	4.3 ^M	4.0 ^M	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
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31																								
No.																								
Median																								

Sweep 1.0 Mc to 20.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

foES

IONOSPHERIC DATA

G. M. T.

f - min

Jan. 1959

Day	00	01	02	03	04	05	06	07	08	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.50	3.00	3.20	3.70	3.60	S	5.50	4.55	B	5.70	4.70	4.60	4.60	3.70	4.20	B	3.00	3.00	3.50	3.05	3.50	2.80	2.30	2.15	2.70
2	2.70	2.50	3.60	3.70	3.80	3.20	4.15	4.70	3.50	B	4.95	4.30	4.30	C	C	C	C	2.70	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	3.70	4.00	4.00	3.10	3.70	3.60	3.00	3.60	3.00	3.00	2.70	2.70	C	C	C
4	C	C	C	C	C	C	C	C	5.15	B	5.70	4.60	4.60	B	B	B	S	B	4.50	B	B	B	B	3.00	B
5	B	B	B	4.70	5.10	5.50	5.80	B	6.00	6.00	5.80	5.50	5.50	B	B	3.80	3.70	3.10	S	B	3.00	3.20	3.10	B	B
6	2.90	B	B	B	3.60	3.70	B	4.20	C	C	B	B	B	S	B	B	S	B	S	2.80	3.00	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	3.80	3.80	S	3.90	3.70	5.25	3.70	3.30	3.70	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	C	C	C	3.90	B	3.70	B	B	B	C	B	3.50	B	3.70
9	C	C	C	C	C	C	C	C	C	C	C	B	B	3.70	C	C	C	C	C	C	C	C	3.00	3.30	3.70
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	3.00	C	C	C	B	3.25	3.00	3.60	B
11	B	B	C	C	C	C	C	C	B	B	B	C	C	B	B	B	3.60	B	B	3.70	S	B	4.10	3.70	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	3.70	S	B	3.80	B	B	B	2.90	3.20	B
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	3.70	3.60	3.70	B	B	B	B
14	B	B																							
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No.																									
Median																									

The Radio Research Laboratories, Japan.

Sweep 1.0 Mc to 2.2 Mc in 30 min in automatic operation.

f - min

IONOSPHERIC DATA

G. M. T.

f-min

Jan. 1959

Day	00 ³⁰	01 ³⁰	02 ³⁰	03 ³⁰	04 ³⁰	05 ³⁰	06 ³⁰	07 ³⁰	08 ³⁰	09 ³⁰	10 ³⁰	11 ³⁰	12 ³⁰	13 ³⁰	14 ³⁰	15 ³⁰	16 ³⁰	17 ³⁰	18 ³⁰	19 ³⁰	20 ³⁰	21 ³⁰	22 ³⁰	23 ³⁰
1	3.80	3.70	3.30	3.70	3.80	S	5.70	5.70	B	4.80	3.70	4.00	4.60	3.70	3.30	3.60	3.30	3.00	3.00	3.00	3.30	2.20	2.60	2.70
2	2.90	3.00	2.70	3.10	4.05	C	4.50	3.20	4.20	5.35	4.95	C	C	C	C	2.85	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	3.70	S	3.10	3.10	3.60	3.20	3.60	4.00	3.00	3.00	2.70	5.15	C	C	C
4	C	C	C	C	C	C	C	C	4.20	S	B	4.50	S	B	B	B	6.30	B	B	B	3.00	B	B	B
5	B	B	4.70	5.60	B	B	B	B	B	B	S	B	S	B	3.70	3.15	3.70	S	3.25	B	3.10	B	B	B
6	2.90	B	B	3.70	3.10	4.05	B	4.20	C	C	B	B	B	S	B	B	S	B	2.80	3.70	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	4.00	S	3.90	3.60	3.10	3.70	3.60	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	4.50	C	C	C	C	3.80	3.20	C	C	C	C	B	B	B	B
9	C	C	C	C	C	C	C	C	C	C	B	4.00	3.60	C	C	C	C	C	C	C	3.00	3.00	S	3.00
10	B	3.30	B	B	B	B	B	B	B	B	S	B	B	B	B	C	C	C	C	C	3.00	B	B	B
11	B	C	C	C	C	C	B	B	B	B	B	B	B	B	B	C	C	C	3.30	B	B	3.70	3.60	B
12	B	B	B	B	B	B	B	B	B	B	B	C	B	B	3.60	3.60	3.70	3.70	3.10	3.10	B	B	B	B
13	B	B	5.20	B	B	B	B	B	B	B	B	B	B	B	3.70	3.60	3.70	3.70	B	B	B	3.00	B	B
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	3.30	3.00	B	B	B	B	B
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No.																								
Median																								

Swamp 1.0 Mc to 30.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

f-min

IONOSPHERIC DATA

G. M. T.

Jan. 1959

f_oF₂

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1			410	430	B	S	S	500	B	530	500	530	470	460	B	L								
2	460	C	370	450	410	430	430	B	460	B	460	470	C	C	C									
3	C	C	C	C	C	C	C	C	C	C	540	520	470	440	S	L								
4	C	C	C	C	C	C	C	C	610	B	500 ^B	500 ^B	B	B	B	S	B	L						
5	B	B	B	530 ^B	B	B	500 ^B	B	530	550	540 ^B	B	B	B	B	L								
6	B	B	B	B	B	B	B	B	C	C	B	B	S	B	B	S	B	S						
7	B	B	B	B	B	B	B	B	B	B	B	B	S	570 ^F	520	490 ^B	B	L						
8	B	B	B	B	B	B	B	B	B	B	B	C	C	540 ^F	B	B	B	B	B					
9	C	C	C	C	C	C	C	C	C	C	B	B	630 ^B	C	C	C	C	C	C	C				
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C				
11	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B				
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No.																								
Median																								

Sweep 1.0 Mc to 25.0 Mc in 30 min. ^{with} in automatic operation.

f_oF₂

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

R12

Jan. 1959

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀	
1	L	450	430	410	460	S	500	500 ^B	B	500	530	480	440 ^S	410	L										470
2	C	390	390	420	410	420	440	450	460	B	470	C	C	C	C										
3	C	C	C	C	C	C	C	C	C	S	S	480	470	420	340	L									
4	C	C	C	C	C	C	C	C	550	S	B	B	S	B	B	B	B								
5	B	B	550 ^F	520	480	B	B	B	B	B	S	B	S	B	B	L									
6	B	B	B	B	B	B	B	B	C	C	B	B	B	S	B	B	S	B							
7	B	B	B	B	B	B	B	B	B	B	B	B	S	550	B	L	L								
8	B	B	B	B	B	B	B	B	B	B	C	C	C	550 ^F	450	500	C	B	C						
9	C	C	C	C	C	C	C	C	C	C	B	B	470 ^B	C	C	C	C	C	C						
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C						
11	B	C	C	C	C	C	B	B	B	B	B	C	B	B	B	L	B								
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B									
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B									
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B									
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Median																									

The Radio Research Laboratories, Japan.

Sweep 1.0 Mc to 2.0 Mc in 3.0 sec in automatic operation.

R12

IONOSPHERIC DATA

G. M. T.

Jan. 1959

R'F

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	400	300	250	250	A	S	S	250 ^S	B	250 ^B	250	260	220	270	B	270	260	270	270	300 ^S	300	300	310	330
2	280	250	250	240	220 ^H	250	230	250 ^B	270	B	B	S	C	C	C	C	280	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	230	B	270	240	260	230	310 ^B	280	290	290	370 ^F	C	C	C
4	C	C	C	C	C	C	C	C	B	B	B	B	B	B	B	S	B	B	B	B	B	B	B	B
5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	280	290	S	S	B	B	B	B	B
6	430 ^F	B	B	B	230	240	B	230	C	C	B	B	S	B	B	S	B	S	B	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	240	S	240	250	B	300 ^B	300 ^B	370	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	C	C	240	B	290 ^B	B	B	B	C	B	410	B	400 ^F
9	C	C	C	C	C	C	C	C	C	C	C	B	230	C	C	C	C	C	C	C	C	B	B	B
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	260	C	C	C	B	B	B	B	B
11	B	B	C	C	C	C	C	B	B	B	B	C	B	B	B	270	B	B	290	S	B	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	240	S	B	300 ^B	B	B	B	B	B	B
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	300	310 ^B	300	B	B	B	B	B
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
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Sweep 1.0 Mc to 26.0 Mc in 30 $\frac{min}{sec}$ in automatic operation.

The Radio Research Laboratories, Japan.

R'F

IONOSPHERIC DATA

G. M. T.

R'F

Jan. 1959

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀
1	370	300 ^B	250	240	260	S	B	B	B	250	230	230	260 ^S	250	260	280	270	270	290	300	300	310	330	300
2	270	240	230	230	250 ^S	250	230	270	260 ^A	B	290	C	C	C	C	300 ^A	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	230	S	270	240	240	240	270	5300 ^S	280	290 ^S	340	B	B	C	C
4	C	C	C	C	C	C	C	C	230	S	B	260	S	B	B	B	B	S	B	B	B	B	B	B
5	B	B	B	B	B	B	B	B	B	S	B	B	S	B	260	280	300 ^S	B	B	B	400 ^F	B	B	B
6	770 ^F	B	B	280	230	260 ^F	B	230	C	C	B	B	B	S	B	B	S	B	B	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	230	S	250	260	280	B	400	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	250 ^B	C	C	C	240	260	260	C	B	C	C	B	370 ^F	S	B
9	C	C	C	C	C	C	C	C	C	C	B	220	230	C	C	C	C	C	C	C	A	B	B	B
10	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	B	B	B	B	B	B
11	B	C	C	C	C	C	C	B	B	B	B	C	B	B	280	260	B	310 ^B	310	330	B	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	260	270 ^S	B	300 ^B	B	B	B	B	B	B
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	300	300 ^B	B	B	B	B	B
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Sweep 1.0 Mc to 2.0 Mc in 3.0 $\frac{\text{min}}{\text{sec}}$ in automatic operation.

R'F

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

G. M. T.

Jan. 1959

f_oF₂

Day	00	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	S	S	B	B	B	B	B	B	B	B	B	B	B						
2	B	110	B	B	B	A	B	B	110	B	B	S	C	C	C	C	B	B						
3	C	C	C	C	C	C	C	C	C	C	B	B	A	B	S	B	B	B						
4	C	C	C	C	C	C	C	C	B	B	B	B	B	B	B	S	B	B	B					
5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B					
6	120	B	B	B	B	B	B	B	C	C	B	B	S	B	B	S	B	S						
7	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B					
8	B	B	B	B	B	B	B	B	B	B	B	C	C	B	B	B	B	B	B					
9	C	C	C	C	C	C	C	C	C	C	B	B	B	C	C	C	C	C	C					
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C					
11	B	B	C	C	C	C	C	C	B	B	B	C	B	B	B	B	B	B	B					
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B						
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B						
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B						
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The Radio Research Laboratories, Japan.

Sweep 1.0 Mc to 2.2 Mc in 30 sec in automatic operation.

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IONOSPHERIC DATA

G. M. T.

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Jan. 1959

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀
1	B	B	B	B	B	S	B	B	B	B	B	B	S	B	B	B	S							B
2	B	B	110	110	S	B	B	A	B	B	B	C	C	C	C	B								
3	C	C	C	C	C	C	C	C	C	B	S	A	A	B	B	B								
4	C	C	C	C	C	C	C	C	B	S	B	B	S	B	B	B	B	S	B					
5	B	B	B	B	B	B	B	B	B	B	S	B	S	B	B	B	S	S						
6	120	B	B	B	120	B	B	B	C	C	B	B	B	S	B	B	S	B						
7	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B					
8	B	B	B	B	B	B	B	B	B	B	C	C	C	B	B	B	C	B	B					
9	C	C	C	C	C	C	C	C	C	C	B	B	B	C	C	C	C	C	C					
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C					
11	B	C	C	C	C	C	C	B	B	B	B	B	B	B	B	B	B	B	B					
12	B	B	B	B	B	B	B	B	B	B	B	C	B	B	B	B	B	B	B					
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B					
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The Radio Research Laboratories, Japan.

Sweep 1.0 Mc to 20.0 Mc in 3.0 sec in automatic operation.

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IONOSPHERIC DATA

G. M. T.

Jan. 1959

R'ES

Day	00	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	S	120	B	B	B	B	B	110	B	B	110	B	S	S	S	B	B	B	B
2	B	B	B	B	B	110	B	B	110	B	110	S	C	C	C	C	110	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	110	B	110	B	S	110	B	B	B	B	B	C	C	C
4	C	C	C	C	C	C	C	C	C	B	B	B	B	B	B	S	B	B	B	B	B	B	B	B
5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B
6	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	S	B	S	B	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	C	C	B	B	B	B	B	B	C	B	B	B	B
9	C	C	C	C	C	C	C	C	C	C	C	B	B	C	C	C	C	C	C	C	C	C	C	C
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C
11	B	B	C	C	C	C	C	C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B	B	B
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
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Median																								

Sweep rate Mc to 24.0 Mc in 30 sec in automatic operation.

The Radio Research Laboratories, Japan.

R'ES

IONOSPHERIC DATA

Jan. 1959

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G. M. T.

Day	00 ₃₀	01 ₃₀	02 ₃₀	03 ₃₀	04 ₃₀	05 ₃₀	06 ₃₀	07 ₃₀	08 ₃₀	09 ₃₀	10 ₃₀	11 ₃₀	12 ₃₀	13 ₃₀	14 ₃₀	15 ₃₀	16 ₃₀	17 ₃₀	18 ₃₀	19 ₃₀	20 ₃₀	21 ₃₀	22 ₃₀	23 ₃₀
1	B	B	B	B	B	B	B	B	B	B	B	B	S	C	B	B	S	B	B	B	B	B	B	B
2	B	B	G	G	S	B	B	B	B	B	B	B	C	C	C	B	C	C	C	C	C	C	C	C
3	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
4	C	C	C	C	C	C	C	C	C	C	C	C	S	B	B	B	B	S	B	B	B	B	B	B
5	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	S	S	S	S	S	S	S	S
6	G	B	B	B	G	B	B	B	C	C	B	B	S	S	B	B	S	B	B	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B	B	B	B	B	B
8	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C
9	C	C	C	C	C	C	C	C	C	C	C	C	B	C	C	C	C	C	C	C	C	C	C	C
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
11	B	C	C	C	C	C	C	C	C	C	C	C	B	B	B	B	B	B	B	B	B	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
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Sweep 1.0 Mc to 20.0 Mc in 3.0 ^{min}sec in automatic operation.

The Radio Research Laboratories, Japan.

IONOSPHERIC DATA

Observations on board the "Soya" in route
between Japan and Antarctica
Nov. 1958—Jan. 1959

Supplement

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編 集 兼
発 行 人

岡 登 博 美

東京都小金井市貫井北町4の573

発 行 所

郵 政 省 電 波 研 究 所

東京都小金井市貫井北町4の573

電 話 固 分 寺 138, 139, 151

印 刷 所

山内欧文社印刷株式会社

東京都豊島区日ノ出町2の228

電 話 (971) 9341
