

**Records of Radio Aurora at Syowa Station,
Antarctica in 1974**

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1. Introduction

Observations of radio aurora by means of the radar with frequency of 112.2 MHz have been carried out at Syowa Station, Antarctica, since March 1966 by representatives from the Radio Research Laboratories. New radar system was equipped at Syowa Station in February 1974 and the observations of radio aurora using 4 frequencies in VHF band (50, 65, 80 and 112 MHz) have been continued since the end of March 1974.

The records covering the period from March 26 to December 31, 1974, with the form of A-scope display on the 35 mm film, are deposited in the Radio Research Laboratories.

Inquiries about the details of the data should be addressed to:

Radio Research Laboratories
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2-1, Nukui-Kitamachi 4-chome, Koganei-shi,
Tokyo 184, Japan

2. Location

Syowa Station			
Geographic		Geomagnetic	
Latitude	Longitude	Latitude	Longitude
69°00'S	39°35'E	69.6°S	77.1°E

3. Observers

Isao SHIRO (Radio Research Laboratories)
Ichiro YAMAZAKI (Radio Research Laboratories)

4. Method of Measurement

The antenna was fixed with the direction of the magnetic south and an elevation angle of 25 degrees. The declination in the geomagnetic field at Syowa Station was $45^{\circ}50'W$ and the inclination was $65^{\circ}17'S$ in 1974.

The observation was continuously made during the period from 18:00 to 08:00 L.T. ($45^{\circ}E.M.T. = U.T. + 3$ hours) every day. However, a whole day observation was carried out every day in June, September, and December 1974.

Characteristics of the equipments are as follows:

Antennas

An 8-element Yagi, 0.75λ height

		(50 MHz)	(65 MHz)	(80 MHz)	(112 MHz)
Gain	:	12.3 dB	12.3 dB	12.2 dB	12.3 dB
Directional (Front/Back)	:	16 dB	19 dB	18 dB	17 dB
Polarization	:	horizontal			

Main equipment

Frequency	:	50, 65, 80, 112 MHz
Transmission power	:	~ 20 kW (peak)
Pulse width	:	50 or $100 \mu s$
Repetition frequency	:	50 Hz
Receiver bandwidth	:	$50 \text{ kHz} \pm 5 \text{ kHz}$
Receiver gain	:	noise figure 5 dB and less

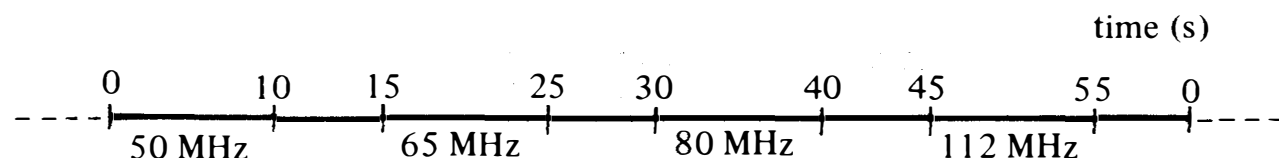
Indicator and recorder

A-scope display on 5-inch cathode ray oscilloscope as shown in Fig. 1.

Recording	:	1 step/10 s, 4 step/1 min with 35 mm camera
Maximum range	:	1000 or 1500 km
Range mark	:	every 50 and 100 km

Time schedule of operation

The following schedule was carried out every minute automatically.



5. Explanation of tables

Table 1 shows the operation times of the radar in 1974.

Table 2 shows the relative strengths and ranges of radio aurora in 50 and 112 MHz at both 00 and 30 minutes in every hour, respectively. Time is expressed in local time (45° E.M.T.) and the abbreviated symbols used in the tables are as follows:

- N : non-observation by schedule.
 F : non-observation due to failure of the equipment.

Typical examples of the A-scope record of radio aurora are shown in Fig. 1. Sometimes the echoes are not single but represent multiple peaks at different ranges. In case of isolated multiple echoes as shown in (b), the strengths and ranges are shown with respect to each peak in the table. On the other hand, in case of diffused multiple echoes as shown in (c), each of the strength and range of the most intense one only is shown and is marked by “.”.

Monthly mean strength of echo is shown only for the echoes' range of 300 ~ 350 km, and the cases, in which the echoes are received less than three times a month, are eliminated.

As to the scaled values, obtained near the starting and ending time of observation, the value within ± 5 minutes from 00 minute of every hour and used as those for 00 minute of every hour.

Special observations were carried out during the following periods:

Nov. 9	16 ^h 50 ^m	—	Nov. 10	12 ^h 48 ^m	50 MHz only
Nov. 10	15 ^h 15 ^m	—	Nov. 11	15 ^h 02 ^m	80 MHz only
Nov. 11	16 ^h 38 ^m	—	Nov. 12	17 ^h 31 ^m	65 MHz only
Nov. 12	17 ^h 55 ^m	—	Nov. 13	15 ^h 56 ^m	112 MHz only

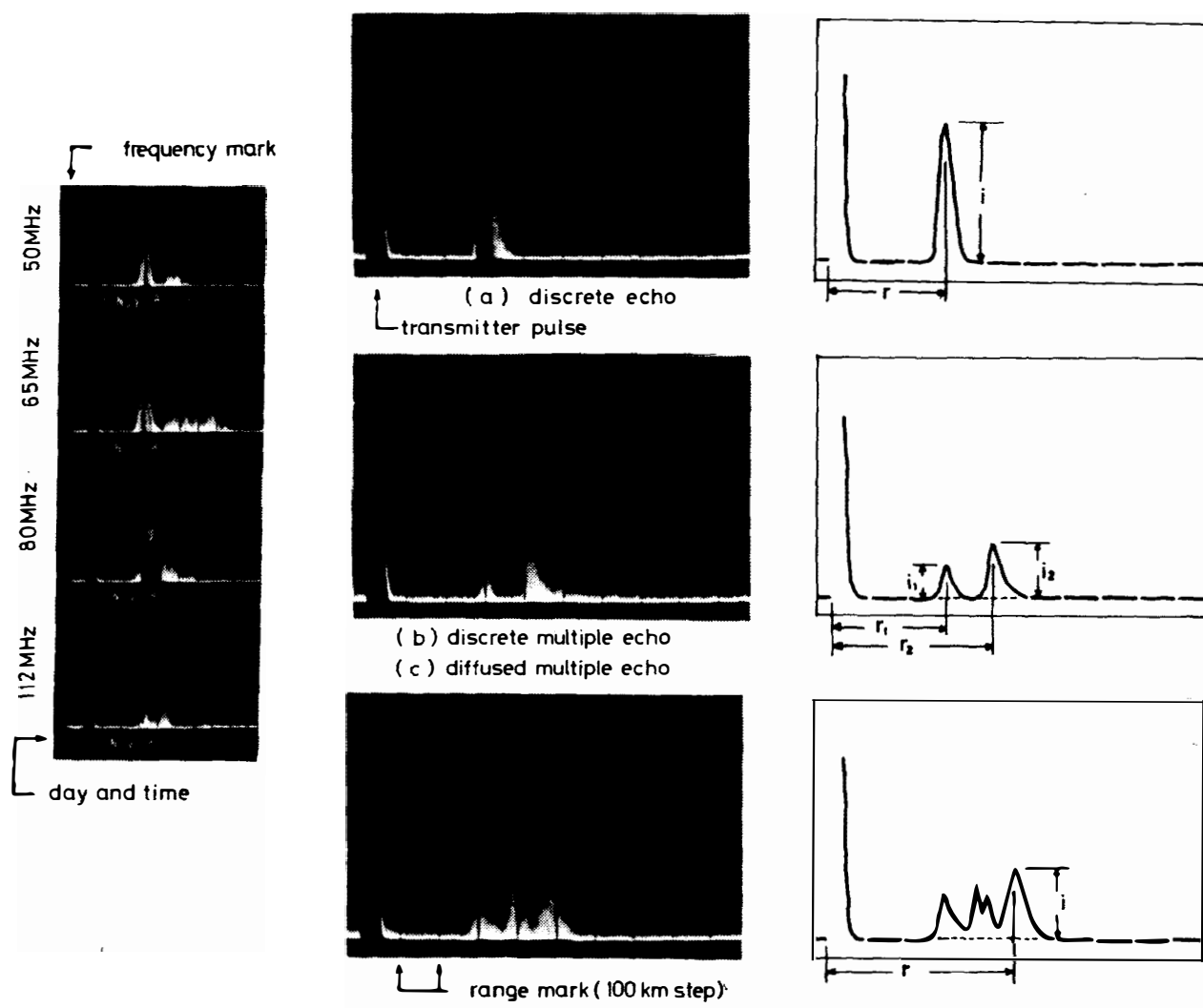


Fig. 1. Examples of radar echoes observed at Syowa Station (A-scope) in November 8, 1974.

Table 1. Time interval of operation of auroral radar at Syowa Station (1974).

Date	Observing time interval(45°E.M.T)				Total observing time interval (h.m.)
	Starting time	Ending time	Starting time	Ending time	
1974 March					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26	00 00 - 13 55		15 22 - 17 02 17 06 - 23 59		22 28
27	00 00 - 06 01		07 53 - 16 32		14 40
28			22 13 - 23 59		1 46
29	00 00 - 12 03		12 05 - 14 45 14 52 - 23 59		23 50
30	00 00 - 03 00 03 04 - 15 01		15 05 - 18 14 18 18 - 23 59		23 47
31	00 00 - 02 11		14 30 - 23 29 23 41 - 23 59		11 28
1974 April					
1	00 00 - 09 50		18 03 - 23 59		15 46
2	00 00 - 08 01		18 02 - 23 59		13 58
3	00 00 - 06 50		18 02 - 23 59		12 47
4	00 00 - 08 01		18 02 - 23 59		13 58
5	00 00 - 08 01		18 02 - 23 59		13 58
6	00 00 - 08 01		18 02 - 23 59		13 58
7	00 00 - 08 00		18 02 - 23 59		13 57
8	00 00 - 08 00		18 01 - 23 59		13 58
9	00 00 - 08 00		18 01 - 23 59		13 58
10	00 00 - 07 44		18 00 - 23 59		13 43
11	00 00 - 06 59		18 00 - 23 59		12 58
12	00 00 - 07 59		18 01 - 21 10		11 08
13			18 00 - 18 12		12
14					
15			18 02 - 23 59		5 57
16	00 00 - 07 58		18 01 - 23 59		13 56
17	00 00 - 08 00		18 02 - 23 59		13 57
18	00 00 - 08 00		18 01 - 23 59		13 58
19	00 00 - 07 59		18 00 - 23 59		13 58
20	00 00 - 07 59		18 01 - 23 59		13 57
21	00 00 - 07 57		18 01 - 23 59		13 55
22	00 00 - 08 00		18 01 - 23 59		13 58
23	00 00 - 07 59		18 03 - 21 53 22 50 - 23 59		12 58
24	00 00 - 08 01		18 04 - 23 59		13 56
25	00 00 - 08 02		18 02 - 23 59		13 59
26	00 00 - 08 00		18 03 - 23 59		13 56
27	00 00 - 08 00		18 02 - 23 59		13 57
28	00 00 - 08 00		18 02 - 23 59		13 57
29	00 00 - 08 01		18 03 - 23 59		13 57
30	00 00 - 07 03		18 05 - 23 59		12 57

Date	Observing time interval(45°E.M.T)				Total observing time interval (h.m.)
	Starting time	Ending time	Starting time	Ending time	
1974 May					
1	00 00 - 08 03		18 07 - 23 59		13 55
2	00 00 - 08 05		18 01 - 23 59		14 03
3	00 00 - 08 00		18 01 - 23 59		13 58
4	00 00 - 08 00		18 01 - 23 59		13 58
5	00 00 - 08 00		18 01 - 23 59		13 58
6	00 00 - 08 00		18 01 - 23 59		13 58
7	00 00 - 08 00		18 02 - 23 59		13 57
8	00 00 - 08 00		18 02 - 23 59		13 57
9	00 00 - 08 00		18 01 - 23 59		13 58
10	00 00 - 08 02		18 04 - 23 59		13 57
11	00 00 - 08 06		18 11 - 23 59		13 54
12	00 00 - 07 10		18 00 - 23 59		13 09
13	00 00 - 08 01				8 01
14			18 02 - 23 59		5 57
15	00 00 - 08 01		18 02 - 23 59		13 58
16	00 00 - 08 01		18 02 - 23 59		13 58
17	00 00 - 07 01		18 02 - 23 59		12 58
18	00 00 - 08 01		18 02 - 23 59		13 58
19	00 00 - 08 01		18 02 - 23 59		13 58
20	00 00 - 08 01		18 02 - 23 59		13 58
21	00 00 - 08 01		18 02 - 23 59		13 58
22	00 00 - 08 01		18 02 - 23 59		13 58
23	00 00 - 08 01		18 02 - 23 59		13 58
24	00 00 - 08 01		18 02 - 22 22 22 31 - 23 59		13 49
25	00 00 - 08 02		18 03 - 23 59		13 58
26	00 00 - 08 02		18 02 - 23 59		13 59
27	00 00 - 08 01		18 02 - 23 59		13 58
28	00 00 - 03 58		18 03 - 23 59		9 54
29	00 00 - 07 01		18 03 - 23 59		12 57
30	00 00 - 08 01		18 03 - 23 59		13 57
31	00 00 - 08 01		18 03 - 23 59		13 57

Date	Observing time interval(45°E.M.T)				Total observing time interval (h.m.)
	Starting time	Ending time	Starting time	Ending time	
1974 June					
1	00 00 - 08 44		08 55 - 22 59 23 02 - 23 59		23 45
2	00 00 - 13 51		13 58 - 23 59		23 52
3	00 00 - 03 59		04 02 - 19 03 19 07 - 23 59		23 52
4	00 00 - 10 03		10 06 - 23 59		23 56
5	00 04 - 14 01		14 04 - 23 59		23 52
6	00 00 - 04 59		05 03 - 18 59 19 02 - 23 59		23 52
7	00 00 - 10 02		11 00 - 23 59		23 01
8	00 00 - 01 01		01 04 - 16 00 16 04 - 23 59		23 52
9	00 00 - 08 54		08 58 - 21 02 21 07 - 23 59		23 50
10	00 00 - 11 07		11 10 - 23 59		23 56
11	00 00 - 02 00		02 04 - 16 59 17 06 - 23 59		23 48
12	00 00 - 07 11		07 20 - 22 01 22 06 - 23 59		23 45
13	00 00 - 12 01		12 05 - 23 59		23 55
14	00 00 - 02 01		02 04 - 17 00 17 05 - 23 59		23 51
15	00 00 - 09 30 15 28 - 23 02		09 34 - 14 01 23 07 - 23 59		22 23
16	00 00 - 14 01		14 33 - 23 59		23 27
17	00 00 - 04 04		04 07 - 17 59 18 03 - 23 59		23 52
18	00 00 - 09 04		09 08 - 23 42 23 45 - 23 59		23 52
19	00 00 - 13 38		14 40 - 23 59		22 57
20	00 00 - 05 29		05 32 - 19 07 19 11 - 23 59		23 52
21	00 00 - 09 29		09 32 - 23 59		23 56
22	00 00 - 00 03		00 07 - 14 39 14 42 - 23 59		23 52
23	00 00 - 05 01		05 05 - 20 15 20 19 - 23 59		23 51
24	00 00 - 10 05		10 10 - 23 59		23 54
25	00 00 - 00 15		00 18 - 15 02 15 08 - 23 59		23 50
26	00 00 - 05 02		05 05 - 20 05 20 09 - 23 59		23 52
27	00 00 - 10 02		10 07 - 23 59		23 54
28	00 00 - 01 06		01 10 - 15 02 15 05 - 23 59		23 52
29	00 00 - 06 05		06 10 - 21 04 21 07 - 23 59		23 51
30	00 00 - 11 06		11 11 - 23 59		23 54

Date	Observing time interval(45°E.M.T)				Total observing time interval (h.m.)
	Starting time	Ending time	Starting time	Ending time	
1974 July					
1	00 00 - 01 04		01 08 - 16 10 18 02 - 23 59		22 03
2	00 00 - 08 00		18 02 - 23 59		13 57
3	00 00 - 08 00		18 02 - 23 59		13 57
4	00 00 - 07 32		18 02 - 23 59		13 29
5	00 00 - 08 01		18 02 - 23 59		13 58
6	00 00 - 08 00		23 37 - 23 59		8 22
7	00 00 - 08 00		18 02 - 23 59		13 57
8	00 00 - 08 00		18 02 - 23 59		13 57
9	00 00 - 08 00		18 02 - 23 59		13 57
10	00 00 - 08 00		18 02 - 23 59		13 57
11	00 00 - 08 00		18 02 - 23 59		13 57
12	00 00 - 07 22		18 02 - 23 59		13 19
13	00 00 - 01 02		01 06 - 08 00 18 02 - 23 59		13 53
14	00 00 - 08 00		18 02 - 23 59		13 57
15	00 00 - 07 00		18 02 - 23 59		12 57
16	00 00 - 01 27		01 31 - 08 00 18 02 - 23 59		13 53
17	00 00 - 01 03		01 07 - 08 00 18 02 - 23 59		13 53
18	00 00 - 08 12		18 00 - 23 59		14 11
19	00 00 - 06 29		18 02 - 23 59		12 27
20	00 00 - 01 54		02 48 - 08 00 18 02 - 23 59		13 03
21	00 00 - 01 07		01 11 - 04 36 18 02 - 23 59		10 29
22	00 00 - 01 06		01 10 - 08 00 18 02 - 23 59		13 53
23	00 00 - 01 08		01 11 - 08 00 18 02 - 23 59		13 54
24	00 00 - 01 03		01 07 - 08 00 18 02 - 23 59		13 53
25	00 00 - 00 59		01 03 - 08 00 18 02 - 18 29		8 23
26	00 55 - 01 02		01 06 - 08 00 18 02 - 23 59		12 58
27	00 00 - 01 20		01 24 - 08 00 18 01 - 23 59		13 54
28	00 00 - 01 09		01 12 - 08 00 18 01 - 23 59		13 55
29	00 00 - 01 25		01 30 - 08 00 18 01 - 23 59		13 53
30	00 00 - 01 09		01 13 - 08 00 18 01 - 23 59		13 54
31	00 00 - 01 02		01 06 - 08 00 18 01 - 23 59		13 54

Date	Observing time interval(45°E.M.T)				Total observing time interval (h.m.)
	Starting time	Ending time	Starting time	Ending time	
1974 Aug.					
1	00 00 - 00 59		01 03 - 08 00 18 01 - 23 59		13 54
2	00 00 - 01 29		01 33 - 08 00 18 01 - 23 59		13 54
3	00 00 - 01 34		01 38 - 08 00 18 01 - 23 59		13 54
4	00 00 - 01 18		01 21 - 08 00 18 01 - 23 59		13 55
5	00 00 - 01 32		01 36 - 08 00 17 01 - 23 59		14 54
6	00 00 - 00 54		00 59 - 07 00 18 01 - 23 59		12 52
7	00 00 - 01 04		01 08 - 07 00 18 01 - 23 59		12 54
8	00 00 - 01 09		01 13 - 08 00 20 04 - 23 59		11 51
9	00 00 - 01 10		01 14 - 08 00 18 01 - 23 59		13 54
10	00 00 - 01 33		01 37 - 08 00 18 01 - 23 59		13 54
11	00 00 - 01 10		01 15 - 08 00 18 01 - 23 59		13 53
12	00 00 - 01 10		01 14 - 08 00 18 01 - 23 59		13 54
13	00 00 - 01 17		01 21 - 08 00 18 01 - 23 59		13 54
14	00 00 - 01 16		01 25 - 08 01 18 02 - 23 59		13 19
15	00 00 - 01 06		01 10 - 08 01 18 02 - 23 59		13 52
16	00 00 - 01 10		01 14 - 08 01 18 01 - 23 59		13 55
17	00 00 - 01 10		01 14 - 08 00		7 56
18			18 01 - 23 59		5 58
19	00 00 - 01 10		01 15 - 08 00 18 01 - 23 59		13 53
20	00 00 - 01 17		01 21 - 08 00 18 01 - 23 59		13 54
21	00 00 - 01 30		01 34 - 08 00 18 01 - 23 59		13 54
22	00 00 - 00 33		00 37 - 02 26 17 01 - 23 59		9 20
23	00 00 - 00 53		00 57 - 08 00 18 01 - 23 59		13 54
24	00 00 - 01 15		01 19 - 08 00 18 01 - 23 59		13 54
25	00 00 - 01 11		01 15 - 08 00 18 02 - 23 59		13 53
26	00 00 - 01 11		01 15 - 08 01 18 02 - 23 59		13 54
27	00 00 - 00 45		00 49 - 08 01 18 02 - 23 59		13 54
28	00 00 - 01 33		01 37 - 08 01 18 02 - 23 59		13 54
29	00 00 - 01 30		01 34 - 08 01 18 02 - 23 59		13 54
30	00 00 - 01 30		01 34 - 08 00 22 18 - 23 59		9 37
31	00 00 - 02 00		02 04 - 08 00 18 01 - 23 59		13 51

Date	Observing time interval(45°E.M.T)				Total observing time interval (h.m.)
	Starting time	Ending time	Starting time	Ending time	
1974 Sep.					
1	00 00 - 01 47		01 51 - 09 00 09 05 - 23 59		23 50
2	00 00 - 00 05		00 09 - 13 57 14 04 - 23 59		23 48
3	00 00 - 04 00		04 04 - 18 58 19 04 - 23 59		23 49
4	00 00 - 10 00		10 03 - 23 59		23 56
5	00 04 - 15 07		15 10 - 23 59		23 52
6	00 00 - 04 56		05 00 - 19 35 19 38 - 23 59		23 52
7	00 00 - 10 07		10 11 - 23 59		23 55
8	00 02 - 14 55		15 01 - 23 59		23 51
9	00 00 - 05 24		05 27 - 20 00 20 04 - 23 59		23 52
10	00 00 - 11 05		11 08 - 23 59		23 56
11	00 00 - 00 59		01 05 - 15 49 15 52 - 23 59		23 50
12	00 00 - 06 13		07 08 - 20 49 20 52 - 23 59		23 01
13	00 00 - 10 58		11 03 - 23 59		23 54
14	00 00 - 01 41		01 45 - 16 21 16 29 - 23 59		23 47
15	00 00 - 07 43		07 47 - 21 26 21 29 - 23 59		23 52
16	00 00 - 11 57		12 00 - 23 59		23 56
17	00 00 - 02 00		02 04 - 17 02 17 05 - 23 59		23 52
18	00 00 - 06 48		07 02 - 23 59		23 45
19	00 00 - 11 54		11 58 - 23 59		23 55
20	00 00 - 02 06		02 09 - 17 00 17 04 - 23 59		23 52
21	00 00 - 07 38		07 41 - 21 57 22 01 - 23 59		23 52
22	00 00 - 12 39		13 25 - 21 45 23 17 - 23 59		21 41
23	00 00 - 03 03		03 08 - 17 06 17 10 - 23 59		23 50
24	00 00 - 07 57		08 02 - 23 05 23 08 - 23 59		23 51
25	00 00 - 13 00		13 07 - 23 59		23 52
26	00 00 - 03 20		03 23 - 18 04 18 07 - 23 59		23 53
27	00 00 - 08 48		08 53 - 23 03 23 21 - 23 59		23 36
28	00 00 - 13 59		14 02 - 23 59		23 56
29	00 00 - 04 18		07 38 - 23 09 23 16 - 23 59		20 32
30	00 00 - 12 13		12 18 - 23 59		23 54

Date	Observing time interval(45°E.M.T)				Total observing time interval (h.m.)
	Starting time	Ending time	Starting time	Ending time	
1974 Oct.					
1	00 00 - 02 18		02 21 - 17 29 18 03 - 23 59		23 22
2	00 00 - 08 01		18 03 - 23 59		13 57
3	00 00 - 08 01		18 03 - 23 59		13 57
4	00 00 - 08 01		18 03 - 23 59		13 57
5	00 00 - 08 01		18 03 - 23 59		13 57
6	00 00 - 08 01		18 03 - 23 59		13 57
7	00 00 - 08 01		18 03 - 23 59		13 57
8	00 00 - 08 01		18 03 - 23 59		13 57
9	00 00 - 08 01		18 03 - 23 59		13 57
10	00 00 - 08 01		18 03 - 23 59		13 57
11	00 00 - 08 01		18 03 - 23 59		13 57
12	00 00 - 08 01		18 03 - 23 59		13 57
13	00 00 - 08 01		18 03 - 23 59		13 57
14	00 00 - 08 01		18 03 - 23 59		13 57
15	00 00 - 08 01		18 02 - 23 59		13 58
16	00 00 - 08 00		18 02 - 23 59		13 57
17	00 00 - 08 00		18 02 - 23 59		13 57
18	00 00 - 07 00		18 02 - 23 59		12 57
19	00 00 - 08 00		18 02 - 23 59		13 57
20	00 00 - 08 00		18 02 - 23 59		13 57
21	00 00 - 08 00		18 02 - 23 59		13 57
22	00 00 - 08 00		18 02 - 23 59		13 57
23	00 00 - 08 00		18 02 - 23 59		13 57
24	00 00 - 08 00		18 02 - 23 59		13 57
25	00 00 - 08 00		18 02 - 23 59		13 57
26	00 00 - 08 00		18 02 - 23 59		13 57
27	00 00 - 08 00		18 02 - 23 59		13 57
28	00 00 - 08 00		18 02 - 23 59		13 57
29	00 00 - 08 00		18 02 - 23 59		13 57
30	00 00 - 08 00		18 02 - 23 59		13 57
31	00 00 - 08 00		18 02 - 23 59		13 57

Date	Observing time interval(45°E.M.T)				Total observing time interval (h.m.)
	Starting time	Ending time	Starting time	Ending time	
1974 Nov.					
1	00 00 - 08 00		18 02 - 23 59		13 57
2	00 00 - 08 00		18 02 - 23 59		13 57
3	00 00 - 08 00		18 02 - 23 59		13 57
4	00 00 - 08 00		18 02 - 23 59		13 57
5	00 00 - 08 00		18 02 - 23 59		13 57
6	00 00 - 08 00		18 02 - 23 59		13 57
7	00 00 - 06 50		18 02 - 23 59		12 47
8	00 00 - 08 00		18 02 - 23 59		13 57
9	00 00 - 08 00		16 50 - 23 59		15 09
10	00 00 - 08 26		08 30 - 12 48 15 15 - 23 59		21 28
11	00 00 - 00 03		00 13 - 15 02 16 38 - 23 59		22 13
12	00 00 - 06 34		09 54 - 17 31 17 55 - 23 59		20 15
13	00 00 - 09 05		09 10 - 15 56 18 02 - 23 59		21 48
14	00 00 - 08 00		18 02 - 23 59		13 57
15	00 00 - 08 00		18 02 - 23 59		13 57
16	00 00 - 08 00		18 02 - 23 59		13 57
17	00 00 - 08 00		18 02 - 23 59		13 57
18	00 00 - 08 00		18 02 - 23 59		13 57
19	00 00 - 08 00		18 00 - 23 59		13 59
20	00 00 - 08 00		18 01 - 23 59		13 58
21	00 00 - 08 00		18 01 - 23 59		13 58
22	00 00 - 08 00		18 01 - 23 59		13 58
23	00 00 - 07 59		18 00 - 23 59		13 58
24	00 00 - 07 59		18 00 - 23 59		13 58
25	00 00 - 07 59		18 00 - 23 59		13 58
26	00 00 - 07 59		18 00 - 23 59		13 58
27	00 00 - 07 59		18 00 - 23 59		13 58
28	00 00 - 07 59		18 00 - 23 59		13 58
29	00 00 - 07 59		18 00 - 23 59		13 58
30	00 00 - 07 59		18 00 - 23 59		13 58

Date	Observing time interval(45°E.M.T)				Total observing time interval (h.m.)
	Starting time	Ending time	Starting time	Ending time	
1974 Dec.					
1	00 00 - 08 04		21 30 - 23 59		10 33
2	00 00 - 11 16		11 20 - 23 59		23 55
3	00 00 - 02 07		02 11 - 16 55 16 58 - 23 59		23 52
4	00 00 - 07 09		07 14 - 21 48 21 51 - 23 59		23 51
5	00 00 - 12 02		12 06 - 23 59		23 55
6	00 00 - 02 10		02 13 - 17 03 17 07 - 23 59		23 52
7	00 00 - 08 22		08 25 - 22 02 22 06 - 23 59		23 52
8	00 00 - 11 47		11 49 - 23 59		23 57
9	00 00 - 03 09		04 11 - 18 00 18 03 - 23 59		22 54
10	00 00 - 09 00		09 04 - 23 08 23 11 - 23 59		23 52
11	00 00 - 13 59		14 03 - 23 59		23 55
12	00 00 - 04 07		04 10 - 07 15 13 36 - 23 59		17 35
13	00 00 - 00 04		00 08 - 14 36 14 39 - 23 59		23 52
14	00 00 - 05 13		05 28 - 19 04 19 07 - 23 59		23 41
15	00 00 - 09 57		10 01 - 23 59		23 55
16	00 00 - 00 10		00 13 - 15 12 15 29 - 23 59		23 39
17	00 00 - 05 44		05 47 - 20 04 20 07 - 23 59		23 53
18	00 00 - 10 20		10 24 - 23 59		23 55
19	00 00 - 01 02		01 05 - 15 02 15 05 - 23 59		23 53
20	00 00 - 06 06		06 21 - 20 05 20 09 - 23 59		23 40
21	00 00 - 11 14		11 18 - 23 59		23 55
22	00 00 - 01 04		01 07 - 16 09 16 13 - 23 59		23 52
23	00 00 - 06 56		07 00 - 21 15 21 18 - 23 59		23 52
24	00 00 - 11 53		12 07 - 23 59		23 45
25	00 00 - 02 10		02 14 - 17 25 17 28 - 23 59		23 52
26	00 00 - 07 05		07 09 - 21 40 21 43 - 23 59		23 52
27	00 00 - 12 02		12 08 - 23 59		23 53
28	00 00 - 02 09		02 12 - 17 04 17 08 - 23 59		23 52
29	00 00 - 07 23		07 27 - 22 02 22 05 - 23 59		23 52
30	00 00 - 11 59		12 02 - 23 59		23 56
31	00 00 - 02 59		03 03 - 17 11 17 14 - 23 59		23 52

Table 2. The strengths and ranges of radio aurora at Syowa Station (1974).

Syowa Station		45° EAST MERIDIAN TIME (U.T. +3hours)										F = 50 MHz		INTENSITY (dB)										
														March 1974										
Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
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26		16	20		15	22	19	•22	•25	•23	•27	•20	20	•26	•21	5		7						
27			5	27	18		25	7 5	•29	•11			N	N	N		•26	•29	36	7				
28																								
29	10 13	17	12	•18	18	•21	•27	25	12	22	18 10	•31	7	5	5 7		•22	•28	34 18					
30	20	16	13	5 5 5	11	15	23	•17	32	18	24	•18	22	•22	23	•25	22	10		8				
31	7	6 7	•28	26	22	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Mean	13	14	16	19	17	19	24	18	25	19	23	23	16	18	16	15	23	19	35	8				

F = 50 MHz

RANGE (km)

Svowa Station

45° EAST MERIDIAN TIME (U.T. +3 hours)

March 1974

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
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24												
25												
26	310	310	320 320	320 320	320 330	300 390	310 310	300 280	350			
27		430 310	310	310 330 460	320 300		N	N N	320 350	350 320		
28												
29	270 350	350 330	320 360	300 300	310 310	360 460 350	300 430	340 520	400 300	310 390		
30	290 310	300 290 310 340	310 310	330 330	350 330	400 330	300 400	350 380	420 310	320		
31	300 350 380	310 310	330 N	N N	N N	N N	N N	N N	N N	N N	N N	N N

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3 hours)

F = 50 MHz

INTENSITY (dB)

March 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
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24																								
25																								
26			N	N	N	11	11	13	17						15	13	17	15					5	
27					10	5		5	N	N	N	N	N	N	N	N	N	N	N	N				
28																					12	17		
29					5	7	10	5	27	22					3	23	8	5	6	38	8		13	16
30											5	10	20	12	22	24	22	9	12	20	25	16	13	8
31	N	N	N	N	N	18								17	25	25	16	18	22				10	
Mean							11	8	11	15	20	5	10	20	12	21	19	18	15	16	32	12	11	13

F = 50 MHz

RANGE (km)

Syowa Station

45°EAST MERIDIAN TIME (U.T. +3hours)

March 1974

Day	12	13	14	15	16	17	18	19	20	21	22	23
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
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24												
25												
26			N N	N 320	320 290	320		330 330	320	350		470
27				320 350	330	N N	N N	N N	N N	N N	N	
28											300	290
29				300 540	330 420 320	330		340 340	330 430	420	320 350	310 360
30						350	330 320	430 350	350 320 410	320 320	310 300	260 310 350
31	N N	N N	N	300				340 340	350 340	320 340		

F = 50 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) April 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1					7		15	25	14	12	5										N	N	N	N
2				24			14	10	28	25	14	17	25	28	22	27	7	N	N	N	N	N	N	N
3	15 16	17	25	14	16	26	22	22		27	34	35	33	13 25	N	N	N	N	N	N	N	N	N	N
4	25	30	18 6	22	10	15	20	14	12 9	5 12	22	18	22	33	34	33	38	N	N	N	N	N	N	N
5					15			8	7		3	10	12				N	N	N	N	N	N	N	
6	5	5		7	23	12		13			17	17	6	20	5		26	N	N	N	N	N	N	N
7		21	10	20	28	22		24	20	25	28	25	13				N	N	N	N	N	N	N	N
8	8	11 9	13	23			10	11					22	27	11		N	N	N	N	N	N	N	N
9					8 5				12								13	N	N	N	N	N	N	N
10	20		15	22						5	16	22 10	25	30	21	17	N	N	N	N	N	N	N	N
11			6	12	28	20	14	13	15			30	25	26	22	N	N	N	N	N	N	N	N	N
12																	N	N	N	N	N	N	N	N
13	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
14	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
15	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
16	10	14	8	7													N	N	N	N	N	N	N	N
17				21				5	13	20 8	3						N	N	N	N	N	N	N	N
18			8		21	10	19	16	20	21	20	7			9	18	32	N	N	N	N	N	N	N
19	23 13	3		33	29	16	18			5	5		15	27	26	34	32	N	N	N	N	N	N	N
20	27	15 10 9		11		12	17	12	20				10 10	9	25	33	17 14	N	N	N	N	N	N	N
21	10	22	17	25	22		24	18	10					11		20	23 10	N	N	N	N	N	N	N
22	5	21	20	5		10	38	25 10	11	12		13 18		7 13	7	27	23	N	N	N	N	N	N	N
23	10	27	17				30		5	13	27	6		23	24	5		N	N	N	N	N	N	N
24	19	18	11	22	7	15		27 8	32	25	7				9	7	22	N	N	N	N	N	N	N
25							6		25	30	33		30	25	23	20		N	N	N	N	N	N	N
26	12		35		25		14	12	17	16	28	11	17	17	15		15	N	N	N	N	N	N	N
27		5		23	10		17	5	22 10	28	25	17	22 15	27	22	28	23	N	N	N	N	N	N	N
28							10	6 5				8 5	23	12	18			N	N	N	N	N	N	N
29			3		5 12	27	5	11		6	12	25	18	20	22	32	18 5	N	N	N	N	N	N	N
30	5 4	20		10	5	15	16	11 7	18	15	25	14	20	25	30	N	N	N	N	N	N	N	N	N
Mean	14	16	16	17	17	16	17	15	16	17	18	18	20	21	19	23	22							

F = 50 MHz
Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) RANGE (km)
April 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1					320		320 330		290 330	300											N	N	N	N
2			370				310 310		350 330	310 320		340 340	360 350	350	N	N	N	N	N	N	N	N	N	N
3	320 450	310	330 350	330 340	330 340		330 350			310	300 310	320 300 390	N	N	N	N	N	N	N	N	N	N	N	N
4	330 320	310 370	310 310	310 330		310 310		330 300 370 410	330 290		280 300	330 350	330	N	N	N	N	N	N	N	N	N	N	N
5				330		340		390		420 370	320			N	N	N	N	N	N	N	N	N	N	N
6	360 360		330	350 320		330			330 300		300 310	300	350	N	N	N	N	N	N	N	N	N	N	N
7		300	320 310	310 320		410	300 300	300 360	290				N	N	N	N	N	N	N	N	N	N	N	N
8	330 320 420	380 360				300 360					340 340	330		N	N	N	N	N	N	N	N	N	N	N
9				310 370			320						360	N	N	N	N	N	N	N	N	N	N	N
10	300		330 310					300 310 450	370 370	300 380	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11		350 320	300 300		300 290	300			320	310 320	320	N	N	N	N	N	N	N	N	N	N	N	N	N
12														N	N	N	N	N	N	N	N	N	N	N
13	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
14	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
15	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
16	350 350	330 340												N	N	N	N	N	N	N	N	N	N	N
17		350				330	320 310 450	330						N	N	N	N	N	N	N	N	N	N	N
18		360	320 310	310 320	330 330	330 310					330 320	300	N	N	N	N	N	N	N	N	N	N	N	N
19	330 410	350	300	310 310	300		290	350		300 280	310 270	300	N	N	N	N	N	N	N	N	N	N	N	N
20	370 340 450 530	310	310	310 300	330					310 310 350	300 300	300 390	N	N	N	N	N	N	N	N	N	N	N	N
21	320 300	320 300	310		300 310	300				340	300	310 430	N	N	N	N	N	N	N	N	N	N	N	N
22	300 300	310 430	390	300 300 380	300 300		300 350		320 300	300	320 300	300	N	N	N	N	N	N	N	N	N	N	N	N
23	380 310	310			260	300 280	300 430		340	330 360		N	N	N	N	N	N	N	N	N	N	N	N	N
24	300 300	300 300	320 330		310 380	290 300	300			300 350	370	N	N	N	N	N	N	N	N	N	N	N	N	N
25					370	300 300		300 300		320 330		N	N	N	N	N	N	N	N	N	N	N	N	N
26	300	300	330	300 300	290 290	350 330	310 320	310	300		300	N	N	N	N	N	N	N	N	N	N	N	N	N
27		350	320	330	320 320	320 380	340	310 300	310 400	300	330 350	320	N	N	N	N	N	N	N	N	N	N	N	N
28					310 350 430			320 380		320 300	350		N	N	N	N	N	N	N	N	N	N	N	N
29		370	260 330	310	300 300		300	350 330	330 300	310 300	320 470	N	N	N	N	N	N	N	N	N	N	N	N	N
30	290 350	320	300	300 300	300 310 360	320 320	320 320	340 310		310	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3 hours)

F = 50 MHz

INTENSITY (dB)

April 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	20	5 5										
2	N	N	N	N	N	N	N	N	N	N	N	N		14 8			12		12					
3	N	N	N	N	N	N	N	N	N	N	N	N	27 13	25	9 7						17			
4	N	N	N	N	N	N	N	N	N	N	N	N	20 32		10 6		17	21	10					
5	N	N	N	N	N	N	N	N	N	N	N	N							6					
6	N	N	N	N	N	N	N	N	N	N	N	N									7 11	11	10 5	
7	N	N	N	N	N	N	N	N	N	N	N	N			7		7	11 8				11 9	19	
8	N	N	N	N	N	N	N	N	N	N	N	N					20		25	16	10			
9	N	N	N	N	N	N	N	N	N	N	N	N	9						22		12	14	8	
10	N	N	N	N	N	N	N	N	N	N	N	N					13		17	10		10		
11	N	N	N	N	N	N	N	N	N	N	N	N	6											
12	N	N	N	N	N	N	N	N	N	N	N	N							F		F	F	F	F
13	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
14	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
15	F	F	F	F	F	F	F	F	F	F	F	F												
16	N	N	N	N	N	N	N	N	N	N	N	N												15
17	N	N	N	N	N	N	N	N	N	N	N	N			22		8	17	18	17	12		12	5
18	N	N	N	N	N	N	N	N	N	N	N	N	22	16		7	10				5		5	8
19	N	N	N	N	N	N	N	N	N	N	N	N	24			23	24		10 12					
20	N	N	N	N	N	N	N	N	N	N	N	N	27	11	10	24	10			17				14 6 11
21	N	N	N	N	N	N	N	N	N	N	N	N			10				6		7			
22	N	N	N	N	N	N	N	N	N	N	N	N		10	20	25	20	10			22			
23	N	N	N	N	N	N	N	N	N	N	N	N	22	23	14	10	22	20			F	F		30
24	N	N	N	N	N	N	N	N	N	N	N	N											27	
25	N	N	N	N	N	N	N	N	N	N	N	N			5				15				12	18
26	N	N	N	N	N	N	N	N	N	N	N	N			-1						12	12		24
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N	24	23		20	17	18	16	15	20		5	
29	N	N	N	N	N	N	N	N	N	N	N	N	22	18	14					5 7	17	10		
30	N	N	N	N	N	N	N	N	N	N	N	N		6		18	18	11						
Mean													24	16	12	15	15	16	15	12	13	11	12	16

F = 50 MHz RANGE (km)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) April 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	330	310 380										
2	N	N	N	N	N	N	N	N	N	N	N	N		330 380	330		320							
3	N	N	N	N	N	N	N	N	N	N	N	N	340 330 560	360 310 370							350			
4	N	N	N	N	N	N	N	N	N	N	N	N	350 330	330 410	320	320	320							
5	N	N	N	N	N	N	N	N	N	N	N	N							310					
6	N	N	N	N	N	N	N	N	N	N	N	N									300 400	280	300 450	
7	N	N	N	N	N	N	N	N	N	N	N	N		320	350	300 360					220 320		350	
8	N	N	N	N	N	N	N	N	N	N	N	N					350	340	350	300				
9	N	N	N	N	N	N	N	N	N	N	N	N	310						300		280	300	300	
10	N	N	N	N	N	N	N	N	N	N	N	N					340	310	320		350			
11	N	N	N	N	N	N	N	N	N	N	N	N	300											
12	N	N	N	N	N	N	N	N	N	N	N	N							F	F	F	F	F	F
13	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
14	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
15	F	F	F	F	F	F	F	F	F	F	F	F												
16	N	N	N	N	N	N	N	N	N	N	N	N												310
17	N	N	N	N	N	N	N	N	N	N	N	N		320	320	350	340	350	310				340	330
18	N	N	N	N	N	N	N	N	N	N	N	N	330	320	320	310					320		300	300
19	N	N	N	N	N	N	N	N	N	N	N	N	300	310	310		300 350							
20	N	N	N	N	N	N	N	N	N	N	N	N	320	310	270	340	300		310				300 370 430	
21	N	N	N	N	N	N	N	N	N	N	N	N		320				330			330			
22	N	N	N	N	N	N	N	N	N	N	N	N	320	330	330	310	290				300			
23	N	N	N	N	N	N	N	N	N	N	N	N	330	320	300	300	330	310		F	F			290
24	N	N	N	N	N	N	N	N	N	N	N	N											300	
25	N	N	N	N	N	N	N	N	N	N	N	N		310				350					330	300
26	N	N	N	N	N	N	N	N	N	N	N	N		330						330	310			310
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N	340	320	310	300	320	320	300	300			380	
29	N	N	N	N	N	N	N	N	N	N	N	N	340	320	310				310 360	300	310			
30	N	N	N	N	N	N	N	N	N	N	N	N	350		340	330	310							

F = 50 MHz INTENSITY (dB)

Syowa Station 45°EAST MERIDIAN TIME (U.T. +3hours) May 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	10	6	5	33	23				25	20	20	¹⁴ / ₅	13				N	N	N	N	N	N	N	N
2	¹⁹ / ₁₈	18		7	24	20	⁵ / ₅	10	17	27	27	18		17	•27	¹⁶ / ₁₀	¹² / ₆	N	N	N	N	N	N	N
3							³⁸ / ₁₀	³⁵ / ₁₃	•18	•21	•25	28	17	22	29	⁵ / ₅	18	N	N	N	N	N	N	N
4									4		16		15		13	15		N	N	N	N	N	N	N
5		13	9		8	6		17	•24	20	18	11	8	•20	20	20	•23	N	N	N	N	N	N	N
6	14				22		11	9										N	N	N	N	N	N	N
7																		N	N	N	N	N	N	N
8																		N	N	N	N	N	N	N
9			33		5	³⁵ / ₅	15	24	22	18	30	•35	26	16	28	•22	11	N	N	N	N	N	N	N
10									20									N	N	N	N	N	N	N
11																		N	N	N	N	N	N	N
12					10		¹⁸ / ₆		10	10	9					N		N	N	N	N	N	N	N
13	13																	N	N	N	N	N	N	N
14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
15		⁷ / ₈	²² / ₅	3	37	•20	25	33	23	5	•26		3					N	N	N	N	N	N	N
16	15	⁸ / ₁₂	¹⁵ / ₃	34	20	27		25	27	27	18	19	23		¹⁷ / ₆	27		N	N	N	N	N	N	N
17					•7	•35	35	3	⁶ / ₆		•20	⁸ / ₁₂		16	35	N	N	N	N	N	N	N	N	N
18		23		13	30	28	14	19	12	27	13	18						N	N	N	N	N	N	N
19	43	13		13	12	11	27	10	12					12	•18	19	•18	N	N	N	N	N	N	N
20			17				35	²⁵ / ₁₀	13		22		26	17		11	28	N	N	N	N	N	N	N
21	10		¹⁰ / ₁₀	4		15	10		•30	•22	22	27	25	5	26	7		N	N	N	N	N	N	N
22					¹⁵ / ₅	16	•12	23	19	19	18		18	24	•28	•17	•27	N	N	N	N	N	N	N
23	35	12	15	32	25	8	22	25	25							10	•11	N	N	N	N	N	N	N
24	33	17	30	24	23	14	28	28	24	28	17	•38	¹⁸ / ₁₆	•27	¹³ / ₇	20		N	N	N	N	N	N	N
25	35	35	33	23	7	20	17	20	•26	25	•22		20	20	5			N	N	N	N	N	N	N
26	14						23	18	18	7				•14	•15	13	¹² / ₁₆	N	N	N	N	N	N	N
27			20		5		20			33	30	31	28	•33	29	15	20	N	N	N	N	N	N	N
28				12	18	15	14	14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
29										18	27		28	•32	¹⁴ / ₈	N	N	N	N	N	N	N	N	N
30			7						14		•27	27	31	10				N	N	N	N	N	N	N
31	•25	•18	14		³³ / ₈	28			20						25		27	N	N	N	N	N	N	N
Mean	22	15	18	18	17	21	18	20	20	21	20	23	20	19	21	16	19							

F = 50 MHz

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) RANGE (km)

May 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	330	300	290	300	300				320	330	310	300 400	300				N	N	N	N	N	N	N	N
2	320 390	310		310	340	300	290 350	400	350	340	320	300		320	360	310 400	300 370	N	N	N	N	N	N	N
3							300 560	310 400 460	310	300	370	310	300	320	300	230 330	300	N	N	N	N	N	N	N
4									320		350		370		300	300		N	N	N	N	N	N	N
5		300	300		290	300		310	390	290	320	330	300	320	300	310	290	N	N	N	N	N	N	N
6	320				300		300	330										N	N	N	N	N	N	N
7																		N	N	N	N	N	N	N
8																		N	N	N	N	N	N	N
9			300		300	300 380	300	300	290	290	330	310	300	310	350	300	300	N	N	N	N	N	N	N
10									320									N	N	N	N	N	N	N
11																		N	N	N	N	N	N	N
12					330		300 450		300	300	300				N		N	N	N	N	N	N	N	N
13	300																	N	N	N	N	N	N	N
14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
15		310 440	310 430	330		310	300	320	330	310	310	310	310					N	N	N	N	N	N	N
16	310	310 390	310 450	300	420	320		300	320	330	300	330	370		300 400	330		N	N	N	N	N	N	N
17					400	290	290	300	340 370		310	320 410 470	370	300	N		N	N	N	N	N	N	N	N
18		310		300	300	300	330	330	320	310	310	300						N	N	N	N	N	N	N
19	290	300		310	310	300	300	300	300				400	300	320	310	N	N	N	N	N	N	N	N
20			320				290	300 440	290		320		350	300		300	310	N	N	N	N	N	N	N
21	310		330 400	350		300	330		350	380	290	300	300	400	350	300		N	N	N	N	N	N	N
22					300 390	320	400	320	300	300	340		400	300	340	360	340	N	N	N	N	N	N	N
23	300	290	300	300		300	320	300	330	320					300	340	N	N	N	N	N	N	N	N
24	320	340	280	310	290	320	300	300	310	350	300	350	330 400	310	290 380	340		N	N	N	N	N	N	N
25	300	300	300	300	300	300	300	280	300	330	320		300	310	360			N	N	N	N	N	N	N
26	310						320	310	300	300				310	300	350	270 310	N	N	N	N	N	N	N
27			340		400		330		290	350	300	350	300	340	300	330	N	N	N	N	N	N	N	N
28			320	300	310	290	310	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
29									330	340			350	300	320 440	N	N	N	N	N	N	N	N	N
30			320						320		320	330	300	300				N	N	N	N	N	N	N
31	330	330	320		280 660	300			290						310		300	N	N	N	N	N	N	N

F = 50 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) May 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	N	N			5 5		15				18	
2	N	N	N	N	N	N	N	N	N	N	N	N	5	18	5	29	28	*28	*22	23	15	10		
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N		17	*24	14		11	17	7		12		
5	N	N	N	N	N	N	N	N	N	N	N	N	13	5	26	25	25	15	22	12	7			
6	N	N	N	N	N	N	N	N	N	N	N	N												
7	N	N	N	N	N	N	N	N	N	N	N	N	21	15	12									
8	N	N	N	N	N	N	N	N	N	N	N	N												
9	N	N	N	N	N	N	N	N	N	N	N	N												
10	N	N	N	N	N	N	N	N	N	N	N	N												
11	N	N	N	N	N	N	N	N	N	N	N	N	N											
12	N	N	N	N	N	N	N	N	N	N	N	N										7	13	
13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
14	N	N	N	N	N	N	N	N	N	N	N	N								11	7	5	29	
15	N	N	N	N	N	N	N	N	N	N	N	N	25	*20		6 7	22	24	11				9	
16	N	N	N	N	N	N	N	N	N	N	N	N				12		12	13		6	23		
17	N	N	N	N	N	N	N	N	N	N	N	N	20		3	11	17	10		10	11			
18	N	N	N	N	N	N	N	N	N	N	N	N	15	12			14	6		5	5	8		
19	N	N	N	N	N	N	N	N	N	N	N	N	18	10	14	5		13	27		12			
20	N	N	N	N	N	N	N	N	N	N	N	N		20	17	16	10		13	11 10	18	12 10		
21	N	N	N	N	N	N	N	N	N	N	N	N	5				18	*22				10		
22	N	N	N	N	N	N	N	N	N	N	N	N			14		17	12	8	7		16 3		
23	N	N	N	N	N	N	N	N	N	N	N	N		14		32	30	23		25		25	18	
24	N	N	N	N	N	N	N	N	N	N	N	N	23	22	25	12		5		14 15		17	12	
25	N	N	N	N	N	N	N	N	N	N	N	N					12		5					
26	N	N	N	N	N	N	N	N	N	N	N	N										5	10	
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N												
29	N	N	N	N	N	N	N	N	N	N	N	N									20			
30	N	N	N	N	N	N	N	N	N	N	N	N		20	32	30	25	28	34	25 10	27 14	20	18	25
31	N	N	N	N	N	N	N	N	N	N	N	N		6	7	18	25 8	18	17	14	17	20	12	
Mean													18	14	17	18	20	16	21	14	15	15	12	16

F = 50 MHz
 Syowa Station 45°EAST MERIDIAN TIME (U.T. +3 hours) RANGE (km)
 May 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	N				350 450		340				330	
2	N	N	N	N	N	N	N	N	N	N	N	N	320	310	350	330	310	340	290	320	300		320	
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N			300	350	320		300	300	300		320	
5	N	N	N	N	N	N	N	N	N	N	N	N	310	300	330	340	320	350	350	300	350			
6	N	N	N	N	N	N	N	N	N	N	N	N												
7	N	N	N	N	N	N	N	N	N	N	N	N	320	300	320									
8	N	N	N	N	N	N	N	N	N	N	N	N												
9	N	N	N	N	N	N	N	N	N	N	N	N												
10	N	N	N	N	N	N	N	N	N	N	N	N												
11	N	N	N	N	N	N	N	N	N	N	N	N	N											
12	N	N	N	N	N	N	N	N	N	N	N	N											310	350
13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
14	N	N	N	N	N	N	N	N	N	N	N	N									350	480	330	300
15	N	N	N	N	N	N	N	N	N	N	N	N	340	300			270 410	300	320	300				340
16	N	N	N	N	N	N	N	N	N	N	N	N					310		300	300			370	310
17	N	N	N	N	N	N	N	N	N	N	N	N	330		380	320	310	330			320	320		
18	N	N	N	N	N	N	N	N	N	N	N	N	320	300			330	320			300		340	260
19	N	N	N	N	N	N	N	N	N	N	N	N	320	320	330	320			330	330			350	
20	N	N	N	N	N	N	N	N	N	N	N	N	320	320	340	320	320		310	320 390	330		320 360	
21	N	N	N	N	N	N	N	N	N	N	N	N	300				330	310					330	
22	N	N	N	N	N	N	N	N	N	N	N	N			310		300	300		310	320			280 730
23	N	N	N	N	N	N	N	N	N	N	N	N	330		330		330	290			310		340	300
24	N	N	N	N	N	N	N	N	N	N	N	N	320	330	320	300	300			290 330			300	310
25	N	N	N	N	N	N	N	N	N	N	N	N					310		360					
26	N	N	N	N	N	N	N	N	N	N	N	N											300	320
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N												
29	N	N	N	N	N	N	N	N	N	N	N	N									310			
30	N	N	N	N	N	N	N	N	N	N	N	N	330	310	320	310	320	350	340 480	340 450	340		350	340
31	N	N	N	N	N	N	N	N	N	N	N	N	300	320	320	310 420	320	320	310	310	320		290	

F = 50 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) June 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1		32	10	35	12				12	28		13			7									
2		28		12				13	17					12										
3	17	13		32			20			12		32	27	10	22	27	7		12					
4	28		20	9	22	32	33		15			27		33										
5				18											6	22			5					
6							12	9					10		10	5								
7																					N			
8					18																			
9																								
10	18	25	37				14	20	33	25	35	34	34	20	17	38	37	37	37	43	15			
11	13		28								17	17	18	16	24		5							
12		25	10		7	25	25	20	22	30	23	30	27	23	32	21		27	30	12	23			
13							25	29	14	28	27	27	33	25	12			8						
14								10	17	13		27	23			20	19	13			25	17		
15				27		14			32	33	30	18	23	23	20	32	32	40	20					
16			12	14	13	31	30	12			23		27	25	22					13				
17	27	22			25	20	25	19	18	15				20	10		7	7					13	10
18		25	15				17	20	20	10	13						29	12	12					
19		21	11		22		17	18	13	13		10	13											
20	12		12				23		25	32	17	17	16	10	27	34	25		9				17	
21		32	35	20			13	18	32	13	21											12		
22					12		12		21	22	15	12	16	8										
23					14		12			16	12	27												
24				14			12		11	9	10		11	10		15	22	9						
25	25	10							13	11	25	23	13											
26	15	12	7	10			30	15					22	18	17	34	20	30	35	37	32			
27		10		13			28	10	27	10	12	12	40		30	22	33		18	10	23	36	32	
28					12	13	18	37		21	23		9					7						
29	25		22				22	18	29	10					10	23			7					
30	18			10					6	11	13				22									
Mean	20	21	18	18	18	21	21	18	19	20	20	21	21	19	16	25	22	21	20	24	20		18	

F = 50 MHz

RANGE (km)

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3hours)

June 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1		290	290	290 430	310				310	320		310			300									
2		310		310 350 380	320		330 390		320 410				300											
3	330	330		300			320		350		300	330	290	300	290	290 350		300						
4	290		300	300	320	300	290		270			320		300										
5				290											360	330		270 310						
6							340	320					330		330	300								
7																					N			
8					290																			
9																								
10	330	350	300				330	320	330	310 470	320	350	310	310	310	320	300	300	300	320	310			
11	400		330								300	320	300	250	320		280							
12		300	300		300	300	320	300	300	300	310	300	300	310	280	300		300	280	300	310			
13							300	300	300	300	310	300	280	300	300		280							
14								300	320	290 350		300	300		300	300	300	300			290	300		
15			310		300				300	400	310	300	310	300	310	320	310	300	350	380				
16			300 330		320	290	310	300			300		300	300	320						270			
17	290	290			320	300 380		300	310	310	320			340	300		360	300 330					280 310	
18		300	300					310	300	300	290	310					320	320	310					
19		320	330		320	300	290	330 390	320			320	320											
20	290		320			290			310	330	300	340	300	320	340	340	310		320				300	
21		300	300	300			300	300	340	320	310											300		
22					320	300			300	300	320 420	300	280											
23					300		300			350	290	330												
24				340				300	300 370 430	350			360	310		290	310	270						
25	300	290 350							290	320	300	320	320											
26	320	320 530	330	320			300	290					300	320	300	300	300	290 390	400	290 470	310	310		
27		300		300			290	300	300	290	300	290	290		300	290	300		300	300	330	320	310	
28					290 330	300	280		360	350		290					300 360							
29	290		400			300	330		300	340					300	310		320						
30	320 390		310						310	300	300				330									

F = 50 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) June 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1											24	25		12							18	17		11
2											17		10						10					19
3													22				10				8	13	20	14
4																					12		15	
5																								
6																								
7																								
8																			15	15				
9																	15	17	15	22	13	10		13
10													18				12					12		
11			23		14	12		17	12	15	17	22	21		23				20					
12	14	18																						14
13	10												15	20	12							12		
14														17	14	25	22		17	11	15	11		13
15				N	N	13		12								17	21	22			9			13
16											23	13		10	23		18	14	13	17			12	12
17							18	20	20	16									20		12			
18																					13	14		
19				N	N					10				15	22	21	15	12	13					18
20													17	10		12								8
21																			15					
22																					8		5	
23																								
24																					12	15	15	
25																			13				17	17
26						15		18	23	15	17	5	16	35	23	27	16	30	23					16
27	18				12	7		12	13		20	10	22	28	16	29	20	23	20		20		37	15
28						10		28	27	17		15	20			19	11	22	17	25	20	22	11	
29								10	11		10	18		10	17	13	14	16		6				
30																	7	17	15					
Mean						13		16		17	18	18	15	16	19	18	19	16	18	15	13		18	13

F = 50 MHz
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) RANGE (km)
 June 1974

Day	12	13	14	15	16	17	18	19	20	21	22	23
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1						350	330	330			330 350	300
2						310	300			330		320
3							310		320		310 330	320 310
4											310	320
5												
6												
7												
8										320 330		
9									330 330	350 330	300 320	320
10							320		310		320	
11		300	300	310	310 300	310 310	310 320	330		310		
12	310 530	320										310
13							300	330 300			310	
14								310 330	310 330	320 400	330 400	350
15			N	N 300	330				330 310	310	310	300
16						300	300	330	330	320 290	340 320	280 310
17					300 310	300 310				320	310	
18											340 320	
19			N	N		320		320	330 330	320 340	300	310
20							310	310	310			310
21										320		
22											320	300
23												
24											320 320	330
25										360		330 330
26				290	290	310 320	320 310	330 360	300 330	320 330	350	320
27	290		340 410	350	300	300	300 330	340 300	290 320	330 320	310	280 300
28				300	330	320 300	300	330	320 390	330 300	320 280	300 310
29					300	300	310 300	300	300 300	300 320	300	
30									330	320 300		
31												

F = 5.0 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) July 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									23	20	13													
2	29		17							11	11 13						N	N	N	N	N	N	N	N
3	10	13															N	N	N	N	N	N	N	N
4		10	16	13		30		20 10	16	28	42 14	40	40	40	37	N	N	N	N	N	N	N	N	N
5	17	22	12 10	18	12	5	35	34 8	13	23	16	7	19	18	18 11	25	13	N	N	N	N	N	N	N
6		20	24	12	21	16	13	28	10	14			22				30	N	N	N	N	N	N	N
7	23							21	5	18	27	27	32	23	25		18	N	N	N	N	N	N	N
8				30								10			22	27		N	N	N	N	N	N	N
9	23	39	32	15	15 18	25			22	27	30	30	12 11	35		17	36	N	N	N	N	N	N	N
10				16	20				25	27		18	22	24	25	10		N	N	N	N	N	N	N
11			17	35		12		22		22	27	33	27	18	17		22	N	N	N	N	N	N	N
12				10 6	28	23	15	7	20	13	10	20			32	N	N	N	N	N	N	N	N	N
13		18	18		10	26	19	18	26	30	26	15					N	N	N	N	N	N	N	N
14		16			17	25	28	5	29	34	37	25	20	33	25		N	N	N	N	N	N	N	N
15			15	17	25	16	15	13		15	12	18	29	33	30	N	N	N	N	N	N	N	N	N
16	12		20	5	15	23		23	25	28	8		23	35	26 5	17		N	N	N	N	N	N	N
17	14	13	12						25	25				10 12				N	N	N	N	N	N	N
18					30	11	20	13									N	N	N	N	N	N	N	N
19						21	15	15	27						N	N	N	N	N	N	N	N	N	N
20		20	12	15	N	N		13									N	N	N	N	N	N	N	N
21						10 10 10	5	29		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
22		25 13	14										15				N	N	N	N	N	N	N	N
23				28 17	20	34	30	13 15	22	30	20	27	38	40	37		N	N	N	N	N	N	N	N
24	27	33	30		18		22	30	27 13	10 28	29	25	27	17	23	18	12 14	N	N	N	N	N	N	N
25	22	13				17		30		15	5	27					N	N	N	N	N	N	N	N
26	F	F		14							18		22 22	31	35	25	21 12	N	N	N	N	N	N	N
27		10							18	23	22	22	25	12			N	N	N	N	N	N	N	N
28				24		34			12		33		15 15				N	N	N	N	N	N	N	N
29									10				12	30	33	17	23	N	N	N	N	N	N	N
30		8	18 17	23	15									33			N	N	N	N	N	N	N	N
31	20	10		25			22		9		27		12				N	N	N	N	N	N	N	N
Mean	20	18	19	18	18	18	23	21	18	21	22	23	22	25	28	23	24							

F 50 MHz
Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) RANGE (km)
July 1974

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1					300 290	290						
2	310	300			300	330 380			N	N N	N N	N N
3	330 330								N	N N	N N	N N
4	300	300	300	290	290 390	310 310	280 290 460	280 290	N N	N N	N N	N N
5	310 300	270 330	300	310 340	290 290 430	290 300	310 310	300 310	300 290 400	330 N	N N	N N
6	300	300 300	300 300	320 330	300 300		350		300 N	N N	N N	N N
7	320			330	350 320	320 320	300 320	300	320 N	N N	N N	N N
8			360			340		330 310	N	N N	N N	N N
9	300 290	300 310	300 370	300	300 300	300 300	320 280 400	320	290 N	N N	N N	N N
10			330	300	300 300	330	320 300	300 330	N	N N	N N	N N
11		300 280	290	380	330	320 320	340 360	310	320 N	N N	N N	N N
12			280 310	290	300 300	300 320	340 310	330	320 N	N N	N N	N N
13	290	290	300	290 310	310 300	300 280	320		N	N N	N N	N N
14	340		300	310 300	290 290	360 340	330 320	320 300	N	N N	N N	N N
15		320 320	300 290	300 300	310	300 300	300 320	320 N	N N	N N	N N	N N
16	330	310 320	290 310	330	310 300	310	320 320	300 320 410	N	N N	N N	N N
17	330 300	320			290 310		320 350		N	N N	N N	N N
18			330 350	310 310					N	N N	N N	N N
19			320	350 310	300			N N	N N	N N	N N	N N
20	330	350 310	N N	340					N	N N	N N	N N
21			350 390 450	270	300	N N	N N	N N	N N	N N	N N	N N
22	300 390	290					330		N	N N	N N	N N
23			270 400	300 310	320 320 410	310 300	300 300	330 290	310 N	N N	N N	N N
24	290 290	300	290	330 330	290 230 360 370	300 280	310 300	320 360	300 350	N	N N	N N
25	290 290			330	310	300 330	310		N	N N	N N	N N
26	F F	300				300	290 390	320 350	300 350	N	N N	N N
27	340				280 340	320 300	300 300		N	N N	N N	N N
28		280	330		330	300	300 340		N	N N	N N	N N
29					330		350 320	300 300	280 N	N N	N N	N N
30	350	270 310	320 350				350		N	N N	N N	N N
31	350 300	340		330	330	320	300		N	N N	N N	N N

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3hours)

F = 50 MHz

INTENSITY (dB)

July 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									N	N	N	N									23	22	17	15
2	N	N	N	N	N	N	N	N	N	N	N	N												
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N			16	28	18	25	28 14	20	18	23	20	19
5	N	N	N	N	N	N	N	N	N	N	N	N	22	18 5	18	22	27	20	24	28	16			
6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
7	N	N	N	N	N	N	N	N	N	N	N	N		8										
8	N	N	N	N	N	N	N	N	N	N	N	N	33		20	27		7			11 10		13	
9	N	N	N	N	N	N	N	N	N	N	N	N									5		13	
10	N	N	N	N	N	N	N	N	N	N	N	N					27	5			12	16	10	
11	N	N	N	N	N	N	N	N	N	N	N	N	5 10		26						25	35	17	5
12	N	N	N	N	N	N	N	N	N	N	N	N			17	28	20	15					23 10	
13	N	N	N	N	N	N	N	N	N	N	N	N							27		15			
14	N	N	N	N	N	N	N	N	N	N	N	N												
15	N	N	N	N	N	N	N	N	N	N	N	N											14	
16	N	N	N	N	N	N	N	N	N	N	N	N											12	15
17	N	N	N	N	N	N	N	N	N	N	N	N												
18	N	N	N	N	N	N	N	N	N	N	N	N												
19	N	N	N	N	N	N	N	N	N	N	N	N			15								20	
20	N	N	N	N	N	N	N	N	N	N	N	N												
21	N	N	N	N	N	N	N	N	N	N	N	N							5					13 15
22	N	N	N	N	N	N	N	N	N	N	N	N							17		15			
23	N	N	N	N	N	N	N	N	N	N	N	N	28	9 18		25	25	8 25	10	12	25		5	20
24	N	N	N	N	N	N	N	N	N	N	N	N	20	17	14	18	11 10	22	17	15	10	25		10
25	N	N	N	N	N	N	N	N	N	N	N	N	13		F	F	F	F	F	F	F	F	F	F
26	N	N	N	N	N	N	N	N	N	N	N	N			10			17	12		18		5	
27	N	N	N	N	N	N	N	N	N	N	N	N						14		29		13	10	10
28	N	N	N	N	N	N	N	N	N	N	N	N						12	5	7				
29	N	N	N	N	N	N	N	N	N	N	N	N			15		11		23	17	10	18	20	20
30	N	N	N	N	N	N	N	N	N	N	N	N											23	15
31	N	N	N	N	N	N	N	N	N	N	N	N							17		16	5		
Mean													21	15	17	23	20	19	15	18	16	18	15	14

F = 50 MHz
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) RANGE (km)
 July 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									N		N	N									300	310	310	320
2	N	N	N	N	N	N	N	N	N	N	N	N												
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N			320	320	320	310	340 440	300	300	320	330	310
5	N	N	N	N	N	N	N	N	N	N	N	N	290	300 530	290	310	330	310	330	320	320			
6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
7	N	N	N	N	N	N	N	N	N	N	N	N		290										
8	N	N	N	N	N	N	N	N	N	N	N	N	330		300	320		310			280 320		290	
9	N	N	N	N	N	N	N	N	N	N	N	N									320		310	
10	N	N	N	N	N	N	N	N	N	N	N	N					320	300			330	320	300	
11	N	N	N	N	N	N	N	N	N	N	N	N	190 300		340						310	300	300	320
12	N	N	N	N	N	N	N	N	N	N	N	N				320	340	320	310				320 420	
13	N	N	N	N	N	N	N	N	N	N	N	N							330	320				
14	N	N	N	N	N	N	N	N	N	N	N	N												
15	N	N	N	N	N	N	N	N	N	N	N	N										290		
16	N	N	N	N	N	N	N	N	N	N	N	N										320	320	
17	N	N	N	N	N	N	N	N	N	N	N	N												
18	N	N	N	N	N	N	N	N	N	N	N	N												
19	N	N	N	N	N	N	N	N	N	N	N	N			320							320		
20	N	N	N	N	N	N	N	N	N	N	N	N												
21	N	N	N	N	N	N	N	N	N	N	N	N							320				340 530	
22	N	N	N	N	N	N	N	N	N	N	N	N							310	310				
23	N	N	N	N	N	N	N	N	N	N	N	N	300	300 350		320	330 510	340	300	290	350		310	320
24	N	N	N	N	N	N	N	N	N	N	N	N	320	330	330	320	300 350	330	320	310	300	320		340
25	N	N	N	N	N	N	N	N	N	N	N	N	300		F	F	F	F	F	F	F	F	F	F
26	N	N	N	N	N	N	N	N	N	N	N	N			310		350	320			320		360	
27	N	N	N	N	N	N	N	N	N	N	N	N					320		330		290	300	450	
28	N	N	N	N	N	N	N	N	N	N	N	N					310	300	300					
29	N	N	N	N	N	N	N	N	N	N	N	N			350		330		330	320	330	310	300	300
30	N	N	N	N	N	N	N	N	N	N	N	N											330	340
31	N	N	N	N	N	N	N	N	N	N	N	N							330	330	300			

F = 50 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) August 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	18				10				10						20	13	N	N	N	N	N	N	N	N
2	19	23	23	20	16				16	18	10						N	N	N	N	N	N	N	N
3	10	23 ₅	27	23	26	20	28	27	20	12		17	23	27	26	24	N	N	N	N	N	N	N	N
4	28	18	20	26	25	24	40	34	38	32	28	14 ₁₆	32	31	33	37	35	N	N	N	N	N	N	N
5	29	29	15	25	23		20	27	18	20	12	32					N	N	N	N	N	N	N	N
6					7	25	15	25		11	13		28	N	N	N	N	N	N	N	N	N	N	N
7							30	18	33	27	28	19	27	25	N	N	N	N	N	N	N	N	N	N
8			30	23	30	10				17	13	33	37	32	33	33	N	N	N	N	N	N	N	N
9			15	24			23		10	10		12	25	33	38	29	N	N	N	N	N	N	N	N
10	17		30	35	37	22	15	17		7	25		25	35	30	29	N	N	N	N	N	N	N	N
11					20	14	28 ₁₁	37	27	25	5	23	20				N	N	N	N	N	N	N	N
12		10		5		17				18	10						N	N	N	N	N	N	N	N
13									10	5			12				N	N	N	N	N	N	N	N
14			5			22			35	20				5	11	20	N	N	N	N	N	N	N	N
15		5	11	10			23										N	N	N	N	N	N	N	N
16					27											19	N	N	N	N	N	N	N	N
17			10		5 ₅	8								5			N	N	N	N	N	N	N	N
18	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	N	N	N	N	N	N	N	N
19					27 ₈	22	29	23	28	26	28	27		33	10		N	N	N	N	N	N	N	N
20				16	18	13 ₂₅	26		30	23	25		12	12	28	26	31	N	N	N	N	N	N	N
21			25				40	16	22	33	25 ₁₀	27	14		33		32	N	N	N	N	N	N	N
22	18	10			12		F	F	F	F	F	F	F	F	F	F	N	N	N	N	N	N	N	N
23			8				30		23		28				13	30	N	N	N	N	N	N	N	N
24		14			28	40	20	33	23	33	27	17		12 ₇	23	16		N	N	N	N	N	N	N
25					27	20	17		18	12			15	28	25		N	N	N	N	N	N	N	N
26	20								11								N	N	N	N	N	N	N	N
27							13								25		N	N	N	N	N	N	N	N
28		13 ₁₂				5		13 ₈	12	23	36	22	5	26	5		N	N	N	N	N	N	N	N
29	11 ₁₀	18 ₁₀ ₅	39		28 ₁₆	23 ₁₀	22	10		23	26	33	21		27	10 ₅	30	N	N	N	N	N	N	N
30	10				13	25		18	33								N	N	N	N	N	N	N	N
31	20		16	26		20	26	23	17 ₅	26 ₁₁	27		11 ₁₀	17	18	10	N	N	N	N	N	N	N	N
Mean	18	16	18	23	21	21	25	22	23	24	20	19	19	22	25	22	27							

F -- 50 MHz
Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) RANGE (km)
August 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	330				330				350						310	330	N	N	N	N	N	N	N	N
2	330	330	320	300	330				300	290						N	N	N	N	N	N	N	N	N
3	380	310 530	300	320	300	300	320	350	300	330		330	300	300	310	310	N	N	N	N	N	N	N	N
4	310	300	300	300	310	290	270	280	300	270	300	360 410	350	310	350	330	330	N	N	N	N	N	N	N
5	300	300	290	300	300		310	300	290	400	310	310				N	N	N	N	N	N	N	N	N
6					330		300	300	350		310	300		320	N	N	N	N	N	N	N	N	N	N
7							300	300	300	300	320	300	380	300	N	N	N	N	N	N	N	N	N	N
8			320	310	300	300					320	320	300	260	300	280	260	N	N	N	N	N	N	N
9			300	300			330		320	310		330	330	320	300	290	N	N	N	N	N	N	N	N
10	350		310	300	290	320	310	300			290	320		300	330	320	320	N	N	N	N	N	N	N
11					310	320	300 530	320	310	310		300	320	310			N	N	N	N	N	N	N	N
12	320		350		300				330	300							N	N	N	N	N	N	N	N
13									350	420			390				N	N	N	N	N	N	N	N
14			280		320				320	370				370	300	300	N	N	N	N	N	N	N	N
15	370	320	330				330										N	N	N	N	N	N	N	N
16					320											330	N	N	N	N	N	N	N	N
17			300		320 430	490								370			N	N	N	N	N	N	N	N
18	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	N	N	N	N	N	N	N	N
19					320 420	370	320	320	300	330	330	300		300	290		N	N	N	N	N	N	N	N
20			440	300	260 310	320		300	310	320		320	300	330	340	310	N	N	N	N	N	N	N	N
21			280			290	340	300	300	300 420	330	320		310		310	N	N	N	N	N	N	N	N
22	310	290			300	F	F	F	F	F	F	F	F	F	F	F	N	N	N	N	N	N	N	N
23			300			300		310		320				320	320	N	N	N	N	N	N	N	N	N
24	320				300	290	300	300	300	310	300	320	320 380	310	300		N	N	N	N	N	N	N	N
25					310	300	320		300	290			310	320	310		N	N	N	N	N	N	N	N
26	300							340									N	N	N	N	N	N	N	N
27							310							300			N	N	N	N	N	N	N	N
28		330 400			350		290 330	330	300	290	300	300	300	360			N	N	N	N	N	N	N	N
29	290 330 410 450		290	310 430	290 350 430	300	300		300	310	330	320		300	330 410	350	N	N	N	N	N	N	N	N
30	300			300	330		330	270									N	N	N	N	N	N	N	N
31	300	310	330		310	300	300	290 380	330 410	330		320 380	310	290	300		N	N	N	N	N	N	N	N

F = 50 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) August 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N									16		5	10
2	N	N	N	N	N	N	N	N	N	N	N	N		25	30	18	28	15	32	34			27	27
3	N	N	N	N	N	N	N	N	N	N	N	N	31	31	30	29	20	34	27	35	20	5		12
4	N	N	N	N	N	N	N	N	N	N	N	N							25		15		25	5
5	N	N	N	N	N	N	N	N	N	N	17	15							5		18	16		15
6	N	N	N	N	N	N	N	N	N	N	N	N					10	24	17	25	18	5	7	18 20
7	N	N	N	N	N	N	N	N	N	N	N	N			22	12	12	18		28	13		5	
8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			5	12				13
9	N	N	N	N	N	N	N	N	N	N	N	N					25	20					5	
10	N	N	N	N	N	N	N	N	N	N	N	N											5	16
11	N	N	N	N	N	N	N	N	N	N	N	N											18	
12	N	N	N	N	N	N	N	N	N	N	N	N												
13	N	N	N	N	N	N	N	N	N	N	N	N												
14	N	N	N	N	N	N	N	N	N	N	N	N												
15	N	N	N	N	N	N	N	N	N	N	N	N												
16	N	N	N	N	N	N	N	N	N	N	N	N												
17	N	N	N	N	N	N	N	N	N	N	N	N												
18	N	N	N	N	N	N	N	N	N	N	N	N												
19	N	N	N	N	N	N	N	N	N	N	N	N	28	25	23	32 10	27	32	20	10	10			15
20	N	N	N	N	N	N	N	N	N	N	N	N		17	25	21	22	17	17		20	17	33	15
21	N	N	N	N	N	N	N	N	N	N	N	N	20		22	25	25	25	27	17	26	17	23	
22	N	N	N	N	N	N	N	N	N	N		12	13	10	22		28	15	27	25	30	24		
23	N	N	N	N	N	N	N	N	N	N	N	N		18	25	25	25		27			15 11	21	
24	N	N	N	N	N	N	N	N	N	N	N	N	25	10	22	18	23	15 10	23	12	30		35	
25	N	N	N	N	N	N	N	N	N	N	N	N	10		5	5	7	17	20					
26	N	N	N	N	N	N	N	N	N	N	N	N									11	20	10	12
27	N	N	N	N	N	N	N	N	N	N	N	N					12		17	7	18			
28	N	N	N	N	N	N	N	N	N	N	N	N			12	28	20		25		25	12	17	8 7 10
29	N	N	N	N	N	N	N	N	N	N	N	N			21	27		24	14	16	10			
30	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	17		27	7 10
31	N	N	N	N	N	N	N	N	N	N	N	N				5		20	20	5				
Mean													21	19	22	20	21	21	20	19	18	16	18	14

Syowa Station		45° EAST MERIDIAN TIME (U. T. +3 hours)										F = 50 MHz				RANGE (km)				August 1974				
Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N									320		320	330
2	N	N	N	N	N	N	N	N	N	N	N	N	310	320	320	320	320	320	330	340			290	330
3	N	N	N	N	N	N	N	N	N	N	N	N	330	320	330	330	320	350	330	300	310	370		310
4	N	N	N	N	N	N	N	N	N	N	N	N							330		320		310	320
5	N	N	N	N	N	N	N	N	N	N	330	320							280		320	310		320
6	N	N	N	N	N	N	N	N	N	N	N	N					320	320	310	320	320	300	290	370 420
7	N	N	N	N	N	N	N	N	N	N	N	N			310	310	330	320		310	340		300	
8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			310	300				300
9	N	N	N	N	N	N	N	N	N	N	N	N					290	320						370
10	N	N	N	N	N	N	N	N	N	N	N	N											300	300
11	N	N	N	N	N	N	N	N	N	N	N	N											290	
12	N	N	N	N	N	N	N	N	N	N	N	N												
13	N	N	N	N	N	N	N	N	N	N	N	N												
14	N	N	N	N	N	N	N	N	N	N	N	N												
15	N	N	N	N	N	N	N	N	N	N	N	N												
16	N	N	N	N	N	N	N	N	N	N	N	N												
17	N	N	N	N	N	N	N	N	N	N	N	N												
18	N	N	N	N	N	N	N	N	N	N	N	N												
19	N	N	N	N	N	N	N	N	N	N	N	N	320	330	320	330 480	310	320	300	300	310			300
20	N	N	N	N	N	N	N	N	N	N	N	N		330	300	310	290	300	300		300	330	300	300
21	N	N	N	N	N	N	N	N	N	N	N	N	320		320	330	330	310	320	310	330	320	300	
22	N	N	N	N	N	N	N	N	N	N	300	300	300	320			330	310	310	310	300	300		
23	N	N	N	N	N	N	N	N	N	N	N	N		330	300	310	310		320		300 350		330	
24	N	N	N	N	N	N	N	N	N	N	N	N	300	330	320	320	310	300 400	310	300		300	290	
25	N	N	N	N	N	N	N	N	N	N	N	N	310		340	350	350	330	320					
26	N	N	N	N	N	N	N	N	N	N	N	N									340	320	330	320
27	N	N	N	N	N	N	N	N	N	N	N	N					320	320	330	300				
28	N	N	N	N	N	N	N	N	N	N	N	N			350	330	390	320		310	330	330	290 330 450	
29	N	N	N	N	N	N	N	N	N	N	N	N			320	320	320	320	300	300				
30	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	320	310	280 330	
31	N	N	N	N	N	N	N	N	N	N	N	N			380		320	310	380					

Syowa Station

45° EAST MERIDIAN TIME (U.T.

F = 50 MHz

INTENSITY (dB)

+3 hours)

September 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	11 5	15	5		39	30	25				30		20	15 8	25	16	18 8	5						
2						33	17	17	30	18	27	28	9	28	11		11		28	36	11			
3	24				11 5	27	9	18	23	18	25	27	23											
4					8				25	20	22		22	14		27		5						
5	32	27	18	15			20	17	27	25	28	20	30	25	17	20 8	23	12						
6	12 8						15		27	30	27	18		18	23									
7		28			15	5	14	5	16			13	16	14										
8	10		17			24	5		20	24	25													
9		20	16	5	14		18	22	23	25				20	8									
10	15	20					26		14	25	26	15	13											
11	12	23		29	13	10	17	10																
12					10			17																
13	24	20	20	20				5			11			20		25								
14	12	23	25	37	22	23		18	17		22													
15			18 13	20	8				13	15														
16	22	15	10	22 20	33	30	10		40	35		22	33	33	20	29	20	18	27	43	10		15	
17						10	23	17		23														
18										12														
19				20			18	23 10		25	10								10		10	15	17	
20	23		14		22	11	5	14	20	23	21	24	29											
21	12		15			18	19			20	14													
22	10	32	32	20	20			27	20	24	20	10		29	6		15							
23									13	8	15													
24										12				21 12	28	13	34	26						
25									22	27	10													
26	20		30	15	23	22			10		23	27		18	18	25	27	27	39	26	39			
27	10	26 13	17	17	17	27	17	10	24							30	12							
28				12	18	17			18		21	20	20		29	21	22	26						
29	34	20	18				23		27	F	F	F	F	F	F	F				16 10				
30					30		15	30	27	22	30	28	29	24	27	23								
Mean	18	22	18	19	18	21	16	17	22	22	21	22	22	21	19	23	21	17	26		18			

F = 50 MHz

RANGE (km)

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3hours)

September 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	330 380 460	300	280		280	320	340				320	340	350 450	360	310	320 370 420	370							
2					300	300	300	300	290	310	300	300	340	400				300	330	350				
3	300				290 420	320	320	300	310	320	300	300	320											
4					280				310	300	310		300	310	300	370								
5	300	310	320	290			310	300	300	300	300	310	300	320	350	300 430	320	300						
6	330 390						310		300	300	320	290	300	310										
7		330			300	290	310	310	300		300	300	320											
8	300		310		300	300	300		320	300	290													
9		340	340	330	330		320	300	340	330			330	320										
10	330	330					310		310	320	320	310	320											
11	340	340		300	350	340	310	310																
12					450			320																
13	330	350	300	320			320			320			330	340										
14	290	300	300	320	330	350	350	330	330															
15			340 470	300	300			350	350															
16	320	330	320	300 380	320	300	320	330	310	310	300	300	300	310	300	310	300	310	300	340	330		300	
17					330	330	340	320																
18								330																
19			330				300	320 420	300	300								300	330	300		330		
20	290		310		300	310	320	340	300	300	310	330	330											
21	320		320		310	300			300	320														
22	280	300	300	300	300		310	300	300	320	320		300	310		310								
23								330	310	320														
24								300					310 400	340	330	320	290							
25								310	300	290														
26	300		310	290	300	320		300		300	290		320	290	300	290	300	300	330	330				
27	300	320 440	350	290	330	300	310	310	320						310	330								
28			380	300	320			300		300	300	290		330	300	310	320							
29	290	290	300				310	310	F	F	F	F	F	F	F	F			320 410					
30					300	330	330	330	340	320	300	310	330	300	320									

F = 50 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) September 1974

Day	12	13	14	15	16	17	18	19	20	21	22	23
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1					16	23		20	11		13	
2						11	13	5	14	25 15		25 35
3								5	10 17	5 10		13
4										17	5	
5									5			
6										15		
7								13	15 18			
8												5 20
9												15 10
10												12 14
11												
12									5	17 23	23	28 30
13											5	
14										11 17	28 29	14
15						15 20	17	19 23	21 25	22	13 25	23 34
16		13	25	32 23	20 20	25						
17												
18							22 25	32 27	30 25	26	26 10 9	23 22
19		23					13 12	23	25	17 14		29
20					10 15	13 20	25 28	17 17	16 10	26	15	
21				15	22	10	10	20		15	10 7	13
22		F				14		22	12 18	20	F F	F 19
23												
24					12		12 25		11	5 15		
25						22 13		23	17 12	16 25	27 13	16
26	13	12		22 23		5	27 10	22	22 18	12 5		
27		23	25 23	24 24	22	12	18	20 16	10 27	12		27
28									17 7		15 17	17
29							25	22 15		19		
30						10		23		18 23	18	
Mean		18		21	18	20 12	20 18	23 18	17 15	15 17	17 16	19 21

F = 50 MHz

RANGE (km)

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3 hours)

September 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									300		320				340		330				320			
2											320	300			340		320	330	310				300	290
3															320	320	330	320	310					300
4																			340	300				
5																	330							
6																			330					
7															470	330	320							
8																							260	330
9																							330	330
10																							310	340
11																								
12																	320	330	340		310		320	320
13																					320			
14																			330	340	340	330	300	
15											310 440	250	330	300	310	320	310	300	300 530	300	330	330	330	310
16			310		330	340	330	320	320	310														
17																								
18													330	350	300	320	330	350		330	320	310 400	340	340
19			310										320	330		330	330		310	290				290
20								320	320	320	320	320	310	320	310	310	310	300	350		290			
21							310	330			300		330		320				320	330	310		340	
22			F								320				300	300	300		330	F	F	F	300	
23																								
24									310				320	320		320	330		310	300				
25											330	310			330		290 360		310	300	300	300		300
26	330		310			310	330				320	320	310		340		340	340	320	310				
27			310		300	300	320	320	310		300		320		310	310	320	310	340				290	
28																	320	300			350	320	350	
29													320	330	300				320					
30											300				320				310	310	310			

F = 50 MHz INTENSITY (dB)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) October 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1		10	15	•35	13	20	22	25	26	27	33	10			10	25	24	10						
2	24	19		17		24	20		14	10	12	18					N	N	N	N	N	N	N	N
3					15	28	20		5	24	10 15	10 17		15			N	N	N	N	N	N	N	N
4							20		25	18	27						N	N	N	N	N	N	N	N
5			18								•25		20				N	N	N	N	N	N	N	N
6	12	•28	23				19	31	28	25	26						N	N	N	N	N	N	N	N
7	14																N	N	N	N	N	N	N	N
8	24						27	24	21								N	N	N	N	N	N	N	N
9			13	14	5	18	13	•27	29	26	30	28	40	36	38	34	N	N	N	N	N	N	N	N
10	33	42	20	•25		17		10 15	22	15	17		16			22	N	N	N	N	N	N	N	N
11			17		11	20	16	23		24	26	14	10				N	N	N	N	N	N	N	N
12							10	15		17	23					15	N	N	N	N	N	N	N	N
13	5	25	•22	33	•32	•30	28	18	26	35	37	28	37	•32	33	33	•25	N	N	N	N	N	N	N
14	30		33	14													N	N	N	N	N	N	N	N
15	24	42	20	27	25	17	16	23	26	10	33		26	22	30	28	•32	N	N	N	N	N	N	N
16		13		15		20			17		33	27	17	30	33	30	31	N	N	N	N	N	N	N
17	24	25	21	35	32 16	•47	•18	22		8	17		20	13 10		10	•24	N	N	N	N	N	N	N
18	10		15	16	5	23	14	23	28	29		15	33	•30	33	N	N	N	N	N	N	N	N	N
19	12	15	15				10	15	10		10	27	20		25	22	25	N	N	N	N	N	N	N
20		•28	18	25	27	13											33	N	N	N	N	N	N	N
21		30		14	15	13		10					17				N	N	N	N	N	N	N	N
22					17	20				15	11						N	N	N	N	N	N	N	N
23	15				10					23			5		25	8 10	N	N	N	N	N	N	N	N
24							5				18			•34	•25	27	•30	N	N	N	N	N	N	N
25	18				20		27	17	12								N	N	N	N	N	N	N	N
26			24		25	23	27	8	10		22		27	27	30	38	•35	N	N	N	N	N	N	N
27	•20			5	18	22	26	10	30	21	15	17	20		20		N	N	N	N	N	N	N	N
28		11			23	21	23	12	16	17	25	30		24	33	40	20	N	N	N	N	N	N	N
29		5	23	28	28	17	7	12							17	13	30	N	N	N	N	N	N	N
30				10	11	15	20			10							N	N	N	N	N	N	N	N
31	15		15	21	•29	•	15	18		5	20	17					N	N	N	N	N	N	N	N
Mean	19	23	20	20	19	21	19	17	20	19	22	21	22	25	27	26	27							

F - 50 MHz
Syowa Station 15° EAST MERIDIAN TIME (U.T. +3 hours) RANGE (km)
October 1971

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1		270	300	270	290	300	320	300	300	330	280	320			310	300	360	320						
2	300	290		300		310	300		300	290	330	330					N	N	N	N	N	N	N	N
3					310	300	300		310	310	310	310	350	310			N	N	N	N	N	N	N	N
4							300		300	300	300						N	N	N	N	N	N	N	N
5				320								300	330				N	N	N	N	N	N	N	N
6	320	350	320				320	330	300	320	300						N	N	N	N	N	N	N	N
7	300																N	N	N	N	N	N	N	N
8	330						320	320	300								N	N	N	N	N	N	N	N
9			330	310	310	350	310	310	300	320	320	340	350	350	320	320	N	N	N	N	N	N	N	N
10	300	310	350		300		310		320	350	300	310	330		300		350	N	N	N	N	N	N	N
11			310		310	320	310	300		300	300	300		300			N	N	N	N	N	N	N	N
12							310	310		320	330						330	N	N	N	N	N	N	N
13	330	310	300	360	330	330	320	320	320	300	300	310	310	320	330	350	300	N	N	N	N	N	N	N
14	330		300	300													N	N	N	N	N	N	N	N
15	350	300	310	320	340	300	300	310	310	310		330	330	350	350	320	N	N	N	N	N	N	N	N
16		330		300		310			300		300	330	300	330	280	300	340	N	N	N	N	N	N	N
17	310	300	320	300	300	250	300	320		320	310		320	200	300	320	300	N	N	N	N	N	N	N
18	300		320	330	340	320	300	300	320	290		300	300	300	N		N	N	N	N	N	N	N	N
19	430	410	320				300	320	300		330	300	300		300	300	340	N	N	N	N	N	N	N
20		300	330	340	300	300											300	N	N	N	N	N	N	N
21		340		340	320	300		310					330				N	N	N	N	N	N	N	N
22					320	350			290	320							N	N	N	N	N	N	N	N
23	340				320				320				300		310	300	430	N	N	N	N	N	N	N
24							370			300			300		300	300	320	N	N	N	N	N	N	N
25	320				300		300	300	300	300							N	N	N	N	N	N	N	N
26			310		300	310	310	320	300		310		300	300	300	280	300	N	N	N	N	N	N	N
27	300		390	310	300	300	300	300	290	300	390	300	300		300		N	N	N	N	N	N	N	N
28		310			320	310	300	300	310	320	300	300		300	290	320	300	N	N	N	N	N	N	N
29		330	300	290	290	290	310	310							300	330	330	N	N	N	N	N	N	N
30			330	300	290	290			300								N	N	N	N	N	N	N	N
31	320		300	310	380	360	300		290	300	300						N	N	N	N	N	N	N	N

F = 50 MHz INTENSITY (dB)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) October 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									20	17	15				5		25	15	18				15	8
2	N	N	N	N	N	N	N	N	N	N	N	N						12	17					
3	N	N	N	N	N	N	N	N	N	N	N	N			13			10	5					
4	N	N	N	N	N	N	N	N	N	N	N	N												
5	N	N	N	N	N	N	N	N	N	N	N	N									5			5
6	N	N	N	N	N	N	N	N	N	N	N	N												13
7	N	N	N	N	N	N	N	N	N	N	N	N												
8	N	N	N	N	N	N	N	N	N	N	N	N					14		13	12				10
9	N	N	N	N	N	N	N	N	N	N	N	N	27	15	13				10				40	12
10	N	N	N	N	N	N	N	N	N	N	N	N	14											
11	N	N	N	N	N	N	N	N	N	N	N	N												
12	N	N	N	N	N	N	N	N	N	N	N	N									8			
13	N	N	N	N	N	N	N	N	N	N	N	N			21						19	9	14	25
14	N	N	N	N	N	N	N	N	N	N	N	N			18	17			13		11		27	28
15	N	N	N	N	N	N	N	N	N	N	N	N	18	23	18								8	
16	N	N	N	N	N	N	N	N	N	N	N	N	19	12	21	10			12				10	
17	N	N	N	N	N	N	N	N	N	N	N	N	20	25	25		20		20				5	29
18	N	N	N	N	N	N	N	N	N	N	N	N	28	27	23	27	23	10	24	13	13	30	38	28
19	N	N	N	N	N	N	N	N	N	N	N	N			15	17	24	20	25	11	16		27	
20	N	N	N	N	N	N	N	N	N	N	N	N			16						13		25	20
21	N	N	N	N	N	N	N	N	N	N	N	N						17	15					
22	N	N	N	N	N	N	N	N	N	N	N	N					17	16	24	24	17			20
23	N	N	N	N	N	N	N	N	N	N	N	N											5	
24	N	N	N	N	N	N	N	N	N	N	N	N	17	20		22	23	20						12
25	N	N	N	N	N	N	N	N	N	N	N	N	8	18	15	25	10	18	11					5
26	N	N	N	N	N	N	N	N	N	N	N	N		18	18	16	18	19	18	10	15			
27	N	N	N	N	N	N	N	N	N	N	N	N		20	24	20	14	5	15		5		18	10
28	N	N	N	N	N	N	N	N	N	N	N	N		25	30	18	20		10		18			
29	N	N	N	N	N	N	N	N	N	N	N	N		15										
30	N	N	N	N	N	N	N	N	N	N	N	N	16	11	10									
31	N	N	N	N	N	N	N	N	N	N	N	N									12		5	
Mean													19	20	20	17	19	16	15	15	14	15	17	17

F = 50 MHz
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) RANGE (km)
 October 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									320		310	300			340		320	340	330				320	350
2	N	N	N	N	N	N	N	N	N	N	N	N						300	300					
3	N	N	N	N	N	N	N	N	N	N	N	N			330		330	330						
4	N	N	N	N	N	N	N	N	N	N	N	N												
5	N	N	N	N	N	N	N	N	N	N	N	N									320			310
6	N	N	N	N	N	N	N	N	N	N	N	N												350
7	N	N	N	N	N	N	N	N	N	N	N	N												
8	N	N	N	N	N	N	N	N	N	N	N	N					330	300	300					300
9	N	N	N	N	N	N	N	N	N	N	N	N	320	320					310					350
10	N	N	N	N	N	N	N	N	N	N	N	N	430											280
11	N	N	N	N	N	N	N	N	N	N	N	N	450											340
12	N	N	N	N	N	N	N	N	N	N	N	N									310			
13	N	N	N	N	N	N	N	N	N	N	N	N			300						300	330	370	280
14	N	N	N	N	N	N	N	N	N	N	N	N			310	330		300						300
15	N	N	N	N	N	N	N	N	N	N	N	N	330	330	300									320
16	N	N	N	N	N	N	N	N	N	N	N	N	310		330	300		300						310
17	N	N	N	N	N	N	N	N	N	N	N	N	430		330	330	330		320					340
18	N	N	N	N	N	N	N	N	N	N	N	N	330	310	310	340	330	320	300		430	310		290
19	N	N	N	N	N	N	N	N	N	N	N	N			300	330	320	280	330	300	290			320
20	N	N	N	N	N	N	N	N	N	N	N	N			300						320			290
21	N	N	N	N	N	N	N	N	N	N	N	N					330	320						300
22	N	N	N	N	N	N	N	N	N	N	N	N					330	310	300	300	300			300
23	N	N	N	N	N	N	N	N	N	N	N	N												330
24	N	N	N	N	N	N	N	N	N	N	N	N	330	320		330	310	300						380
25	N	N	N	N	N	N	N	N	N	N	N	N	310	330	310	320	300	310	310					330
26	N	N	N	N	N	N	N	N	N	N	N	N		310	310	330	310	320	300	310	300			
27	N	N	N	N	N	N	N	N	N	N	N	N	330	330	310	300	290	300			340			320
28	N	N	N	N	N	N	N	N	N	N	N	N	330	340	300	300		310			300			320
29	N	N	N	N	N	N	N	N	N	N	N	N	310											
30	N	N	N	N	N	N	N	N	N	N	N	N	340	340	330									
31	N	N	N	N	N	N	N	N	N	N	N	N									330			290

F = 5.0 MHz INTENSITY (dB)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) November 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1		20		23													N		N	N	N	N	N	N
2		15		8 8		10 13					25		23		10		N		N	N	N	N	N	N
3									10				25				N		N	N	N	N	N	N
4			15 23		10												N		N	N	N	N	N	N
5							25	28	18	15			17 15		12	18	N		N	N	N	N	N	N
6	26 17	20	10		23			10	5	5	5	18	5	25	5 5	38	N		N	N	N	N	N	N
7															N	N	N		N	N	N	N	N	N
8							17						18				N		N	N	N	N	N	N
9	22	41			27	17	19	16		32	25	20	31	32	32	35	N		N	N	N	N	N	N
10	12						13		14	24	15	24	46	20										
11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		N	N	N	N	N	N
12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		N	N	N	N	N	N
13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		N	N	N	N	N	N
14		5			30		10 14		5				17	30	34	29	27	N		N	N	N	N	N
15																	N		N	N	N	N	N	N
16						20				29		5					N		N	N	N	N	N	N
17					10		13	24		20	22	12	30	25	18	28	N		N	N	N	N	N	N
18	29 12	23	15			17	30										N		N	N	N	N	N	N
19	12	15	5	10					18 12				27		5		N		N	N	N	N	N	N
20				22	20	23	25	17		15		17 17					N		N	N	N	N	N	N
21																	N		N	N	N	N	N	N
22	19	15	24	26		15	18		10	17			27	12	32		N		N	N	N	N	N	N
23							11	11	22								N		N	N	N	N	N	N
24			21		5	18	13	10	18 11	15				20 10	10		N		N	N	N	N	N	N
25			18	5	10	10	15		23	5				24	25		N		N	N	N	N	N	N
26		10	23		18												N		N	N	N	N	N	N
27						24	18		19								N		N	N	N	N	N	N
28										23					28		N		N	N	N	N	N	N
29			12		17								8				N		N	N	N	N	N	N
30																	N		N	N	N	N	N	N
Mean	20	18	17	15	18	16	17	18	20	13	17	19	17	25	21	20	32							

Syowa Station		45°EAST MERIDIAN TIME (U.T. +3hours)										F = 50 MHz				RANGE (km)								
												November 1974												
Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1		300		330													N		N	N	N	N	N	N
2		300		270 360		310 380					310		310	300			N		N	N	N	N	N	N
3									300				320				N		N	N	N	N	N	N
4			260 310		350												N		N	N	N	N	N	N
5							320	310 310	330			290 340	330 340				N		N	N	N	N	N	N
6	300 370	330	320		310			320 300	320 310	320 300	320 300	300 290 380	320	N			N		N	N	N	N	N	N
7													N	N			N		N	N	N	N	N	N
8							310					320					N		N	N	N	N	N	N
9	310 310				300 300		300	300	320 300	290 290	300 300	320	N				N		N	N	N	N	N	N
10	300					280		290	320 320	310 250	280													
11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		N	N	N	N	N	N
12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		N	N	N	N	N	N
13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		N	N	N	N	N	N
14		310			330		270 310		290			300 300	300 360	300			N		N	N	N	N	N	N
15																	N		N	N	N	N	N	N
16						320				330	290						N		N	N	N	N	N	N
17					310		310	300		300 300	330 300	300 290	300				N		N	N	N	N	N	N
18	310 670	330	320			320 320											N		N	N	N	N	N	N
19	310 300	300 300						270 300			340		290				N		N	N	N	N	N	N
20			300	300 300	300 300					330	290 330						N		N	N	N	N	N	N
21																	N		N	N	N	N	N	N
22	300 300	300 300		300	300			310	300		300		300	290 330			N		N	N	N	N	N	N
23						300 300	300										N		N	N	N	N	N	N
24			320		350 310	290 300		290 520	300				300 400	280			N		N	N	N	N	N	N
25			300 310		330	370 330		300	300				300 320				N		N	N	N	N	N	N
26		310	300		300												N		N	N	N	N	N	N
27						300 300		320									N		N	N	N	N	N	N
28									320				300				N		N	N	N	N	N	N
29			350		300						330						N		N	N	N	N	N	N
30																	N		N	N	N	N	N	N

F = 50 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) November 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N												
2	N	N	N	N	N	N	N	N	N	N	N	N												
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N												
5	N	N	N	N	N	N	N	N	N	N	N	N												11
6	N	N	N	N	N	N	N	N	N	N	N	N	25	18	15	17								
7	N	N	N	N	N	N	N	N	N	N	N	N					17	18	17	8				
8	N	N	N	N	N	N	N	N	N	N	N	N							18		18	15		
9	N	N	N	N	N	N	N	N	N	N	N	N		30	26	25	19		22	23	15 16			
10			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
13	N	N	N	N	N	N	N	N	N	N	N	N	16	10	18	11	25	28	10	12	30	17	20	
14	N	N	N	N	N	N	N	N	N	N	N	N	16	10		18								
15	N	N	N	N	N	N	N	N	N	N	N	N												
16	N	N	N	N	N	N	N	N	N	N	N	N	25 16	20					22					
17	N	N	N	N	N	N	N	N	N	N	N	N	24	25	23	20	16	19	20	23	18	19	24	15
18	N	N	N	N	N	N	N	N	N	N	N	N		5					22		8	17	17	5
19	N	N	N	N	N	N	N	N	N	N	N	N			18	18	19		11					10
20	N	N	N	N	N	N	N	N	N	N	N	N		24	18	18	26	19	17					
21	N	N	N	N	N	N	N	N	N	N	N	N	25	17	25	14 11		13		7	5			
22	N	N	N	N	N	N	N	N	N	N	N	N		18	18				16					
23	N	N	N	N	N	N	N	N	N	N	N	N												
24	N	N	N	N	N	N	N	N	N	N	N	N		21	18	17		28	24	27	20			
25	N	N	N	N	N	N	N	N	N	N	N	N	16			12		10	11					
26	N	N	N	N	N	N	N	N	N	N	N	N	24	26	25	5	20	17	10					17
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N												
29	N	N	N	N	N	N	N	N	N	N	N	N												
30	N	N	N	N	N	N	N	N	N	N	N	N												
Mean													21	19	21	16	20	19	17	17	16	17	18	12

F = 50 MHz

RANGE (km)

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3hours)

November 1974

Day	12		13		11		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N												
2	N	N	N	N	N	N	N	N	N	N	N	N												
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N												
5	N	N	N	N	N	N	N	N	N	N	N	N												310
6	N	N	N	N	N	N	N	N	N	N	N	N	300	300	320	300								
7	N	N	N	N	N	N	N	N	N	N	N	N					330	330	300	330				
8	N	N	N	N	N	N	N	N	N	N	N	N							330		330	300		
9	N	N	N	N	N	N	N	N	N	N			330	330	330	300			320	310	290 320			
10			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
13	N	N	N	N	N	N	N	N	N	N	N	N	300	300	310	300	300	300	310	360	320	300	320	
14	N	N	N	N	N	N	N	N	N	N	N	N	300	290		300								
15	N	N	N	N	N	N	N	N	N	N	N	N												
16	N	N	N	N	N	N	N	N	N	N	N	N	330 460	320				300						
17	N	N	N	N	N	N	N	N	N	N	N	N	330	320	310	320	310	340	330	330	250	270	330	310
18	N	N	N	N	N	N	N	N	N	N	N	N		300					310		350	310	300	290
19	N	N	N	N	N	N	N	N	N	N	N	N			320		310	310	310					320
20	N	N	N	N	N	N	N	N	N	N	N	N	330	320	330		420	300	310					
21	N	N	N	N	N	N	N	N	N	N	N	N	330	300	330	300 390		350		300	310			
22	N	N	N	N	N	N	N	N	N	N	N	N	300	320					290					
23	N	N	N	N	N	N	N	N	N	N	N	N												
24	N	N	N	N	N	N	N	N	N	N	N	N	330	300	330		320		330	320	330			
25	N	N	N	N	N	N	N	N	N	N	N	N	300		320		310		290					
26	N	N	N	N	N	N	N	N	N	N	N	N	300	320	330	330	330	300	300					290
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N												
29	N	N	N	N	N	N	N	N	N	N	N	N												
30	N	N	N	N	N	N	N	N	N	N	N	N												

F = 50 MHz

INTENSITY (dB)

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3 hours)

December 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1																	N		N	N	N	N	N	N
2	•18	25 13	•23	30 20	16	•18	30	26	18	23	23	20	30		•30	•18	18	12						
3					11 5		•20			28	13	17	12	5	27	•23	5		28					
4	19	19	17			27	12				34	25												
5																								
6		5										12	25	28	31	15 14	27							
7								23		22		16												
8											25		13 15	22										
9		23		15	15	28	F	F	15		12					18 20	•29	24						
10		12	20	5		8	26						25	20	11									
11	17					23	17	17			16	16				•32	33	28 15						
12							27	12		15		17	16	16	33	F	F	F	F	F	F	F	F	F
13			29					15	11				30	25										
14				22	10	10		12	17	23	22	30 10	23	18	22	13	20							
15																10	26							
16	25		18	17	17																			
17											24	12	20	22	15									
18			31 10						28	17					26	29	•29	17	27	28				
19				15			12		5	20	23 17	11		15			•32	17	25					
20			27	32			10	24	15				16	13			24	16						
21			17	20 15										14										
22	19				25	23				10			5	5	22 5	28	23	18						
23			27	•23	21	18																		
24	25									16														
25																								
26			22	21								13		13	23									
27			28	18	25		10	5	22	10		15	•15	15			•26	33	33	•25		33	13	
28		15		15 5			17																	
29											10	20												
30				14 16																				
31						10		5			•25		16	19	20	10	29	33						
Mean	21	17	24	19	18	18	20	14	20	17	21	19	18	17	24	19	24	24	26					

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) F = 50 MHz RANGE (km)
 December 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1																	N		N	N	N	N	N	N
2	380	330	290	300	290	300	320	320	340	300	300	310	310		300	330	340	320						
3					290	380	350			350	300	300	290	290	330	320	370		330					
4	300	300	310			340	290				300	320												
5																								
6		320									300		320	320	320	300	390	300						
7							330		310		310													
8											300		290	310	370									
9		300		290	320	300	F	F	330		300					300	360	340	300					
10		330	300	330		270	280						300	300	290									
11	300				320	310	330				310	330				310	320	320	390					
12						350	300		290		300		300	300	350	F	F	F	F	F	F	F	F	F
13			310			290		370					330	310										
14			290	290	300		290	330	300	310	300	430	330	310	370	360	370							
15																350	330							
16	300		300	310	320																			
17											350		350	310	310	300								
18			290	360					380	330					310	320	290	320	340	320				
19			300				310		320	300	300	410	370		330			340	320	320				
20			290	290			320	310	300				290	290			300	290						
21			300	300	390									320										
22	300				300	300			290				290	380	290	380	310	330	350					
23			320	290	330	280																		
24	300								340															
25																								
26			300	310							320		300		260									
27			300	310	330		350	310	300	290		350	300	320			330	320	300	390	290	380		
28		300		330			280																	
29											300	330												
30				270																				
31				360							300		260	300	290	290	350	310						

F = 50 MHz INTENSITY (dB)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) December 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	18	25	21	28	17 22
2							12																	
3																			12					
4																								
5																			12					
6																								
7												8			20	13	13							
8											17	13		23	23	22	24							
9						27	28		20	25	27	15		25 12							13	27	30	20
10								8			16	24	18	13	18	15	24				5	12	8	
11						10 8	28	28						17		18	15							
12	F	F	F	F	18			18		28	30	28	12											
13											30	27	16	25	30	5	18		13		20 10			
14														10	12	5								
15							16								5	20	23	17		24	25	15	20	
16															15	16		17	23	19				
17														22	27	19	15	5		10		19		
18							20			15	27	30	25		23	5		5						
19							18					13		15	16	17		19 12	20 28	24	23	15		
20														23	12			5	23					
21						10				19	21 15					12	5	17		17				
22												10		18	12	12								
23										15	28	28				22	24	25	15		27		25 17	
24														12	17		18	10	12					
25														16	25	21		10		14		20		
26																		15	18	10		23	18 12	
27										10	19	15				11					10			
28																	5							
29							10	19	17	18	25	18	5											
30																								
31													12	10							17			
Mean						20	17		20	21	19	19	17	18	16	16	13	14	18	19	21	18		

F = 50 MHz

RANGE (km)

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3hours)

December 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	320	330	320	330	270 320
2							340																	
3																			300					
4																								
5																			320					
6																								
7													300		320	330	320							
8												300	330		320	330	300	320						
9							320	330		330	300	340	300		330 470						350	320	390	350
10									310		300	310	310	310	320	300	340				300	310	300	
11							280 410	300	320						310		310	300						
12	F	F	F	F	300				300		320	320	320	310										
13											330	320	330	320	320	380	320		320		300 390			
14															310	300	320							
15									330						330	330	330	330			320	330	330	320
16															310	300			320	320	340			
17															320	320	300	290	300		330		350	
18									350		300	320	330	330		310	290		360					
19									330				350		300	310	310		340 370	290 340	290	290	290	320
20															330	310			320	300				
21							300				340	320 390					310	310	330		330			
22													300		300	320	310							
23											330	330	390				310	300	330	290	350		290 350	
24														310	310		330	300	330					
25														310	330	320		280		290		300		
26																		330	330	290		320	310 420	
27											330	320	330				330				320			
28																	350							
29									340	300	330	330	330	310	310									
30																								
31													330	310							330			

Syowa Station

45°EAST MERIDIAN TIME (U.T. +3hours)

F = 112 MHz

INTENSITY (dB)

March 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26		-6	5		-4	13	9	13	11	10	9	⁻⁴ / ₀	20	7										
27			16	8		13		8	-7	-8			N	N	N	10	17	16						
28																								
29	-6	-6		7	-7	2	13	11	-4	7	2	6	-7			-7	20	25						
30	23	5	-1	-7	-5	0	8	⁻² / ₇	15	3	4	-3	8	7	-2	⁴ / ₋₇	6		5					
31		3	13	4	11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Mean	-1		6	5	1	5	11	7	8	3	2	0	1											

F = 112 MHz RANGE (km)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) March 1974

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26	320	320	320 310	300 300	300 330	320 300 380	310 300					
27		300	320	300	340 300	300	N N N	310 310	330			
28												
29	280 310	330	330 320	310 300	310 320	320 350	300		370 300	320		
30	300 310	310 340	310 320	310 300 400	350 330	320 350	310 330	350 300 410	320	340		
31	330	310 300	330 N	N N	N N	N N	N N	N N	N N	N N	N N	N N

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) F = 112 MHz INTENSITY (dB) March 1974

Day	12	13	14	15	16	17	18	19	20	21	22	23
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26			N N	N -6	-5 -7	0		-5 -5	-5 0			
27				-7		N N	N N	N N	N N	N N	N	
28											-4	-1
29					-4 10	4		6 -4			27	-5 -3
30							-6 2	-8 2	3 10	7	10 -3	-6 -2
31	N N	N N	N	2				-4 8	5 -5	-2 4		
Mean				-3 -6	-5 2	2	-6 2	-6 3	1 0	-1 6	19 -4	-2 -5

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) F = 112 MHz RANGE (km)
 March 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26			N	N	N	300	300	310	320						320	320	310	330						
27					330				N	N	N	N	N	N	N	N	N	N	N					
28																					300	290		
29							320	320	320						340	310					310		300	380
30													310	320	340	350	350	310			320	290	280	310
31	N	N	N	N	N	300									330	330	330	330	320	340				

F = 112 MHz INTENSITY (dB)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) April 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1							-4	12	0	-7											N	N	N	N
2				5			-6	-7	12	10	2	3	14	15	6	12	-8	N	N	N	N	N	N	N
3	-6		10	-4	•5	•10	2	0		20	•18	17	17	5	N	N	N	N	N	N	N	N	N	N
4	10	0	16	10	-5	-8	-5	-5		-5	8	10	•12	16	18	•13	25	N	N	N	N	N	N	N
5						-6		-7					-2				N	N	N	N	N	N	N	N
6					0	-8		-8			8	1					20	N	N	N	N	N	N	N
7		0	-6	7	8	-5		10	7	•13	17	8	-1	-6			N	N	N	N	N	N	N	N
8	-6	-6	-4	0			-8	-7					8	10			N	N	N	N	N	N	N	N
9									-7								-4	N	N	N	N	N	N	N
10	5		-5	7							-6	10	•8	•15	•10	•8	N	N	N	N	N	N	N	N
11			-6		•14	7	•4	-8	-7			13	12	14	9	N	N	N	N	N	N	N	N	N
12																	N	N	N	N	N	N	N	N
13	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
14	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
15	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
16	-8	-5	-7														N	N	N	N	N	N	N	N
17				-8					0	7 -6	-8						N	N	N	N	N	N	N	N
18			-7		14	-3	5	2	5	8	4	-8			0	20	N	N	N	N	N	N	N	N
19	17	-7		26	19	-2	9						-5	3	7	27	16	N	N	N	N	N	N	N
20	-5	-5		-5		-5	-2		17				-7	-3	17	24	0	N	N	N	N	N	N	N
21	-4	8	7	14 -5	13		10	0	4				-5		7	8	N	N	N	N	N	N	N	N
22		10	•10	-4		•2	25	8	-5	6		-6		0	-6	15	11	N	N	N	N	N	N	N
23	-6	6	5				•29		3	24					5		N	N	N	N	N	N	N	N
24		3	•4	6	-6	1		15	20	13					-5	-5	•11	N	N	N	N	N	N	N
25									•13	18	•18		18	12	13	-1		N	N	N	N	N	N	N
26	-1		22	-5	8	-3	-3	0	2	8	-6		•4	•11	3		-4	N	N	N	N	N	N	N
27			10			-7	-1 -3	-8	3	20	10	5	8	20	10	13	10	N	N	N	N	N	N	N
28						2							7	-3	-3 3			N	N	N	N	N	N	N
29					15		-3		-3	-5	10		7	6	5	12	0	N	N	N	N	N	N	N
30	-6	3		-6	-6	0	-4	-7	2	-2	12	-2	4	13	25	N	N	N	N	N	N	N	N	N
Mean	1	1	3	3	6	0	1	1	4	7	8	5	7	7	8	0	8							

F = 112 MHz RANGE (km)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) April 1974

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1				320 330	300 310						N N	N N
2		360		350 300	330 320	310 320	330 340	340 330	370 N	N N	N N	N N
3	450	320 350	360 330	330 330	320	320 330	320 320	N N	N N	N N	N N	N N
4	330 330	320 320	310 330	310 310	290	350 290	290 310	340 330	350 N	N N	N N	N N
5			320	330			320		N N	N N	N N	N N
6			340 330	320		310 300		320	N N	N N	N N	N N
7	300	320 320	320 320	330	300 300	300 370	300 300		N N	N N	N N	N N
8	330 320	330 340		280 330			330 330		N N	N N	N N	N N
9					320			360	N N	N N	N N	N N
10	300	330 310				350 320	300 320	310 310	N N	N N	N N	N N
11		320	320 330	350 300	300	320	320 320	330 N	N N	N N	N N	N N
12									N N	N N	N N	N N
13	F F	F F	F F	F F	F F	F F	F F	F F	F F	F F	F F	F F
14	F F	F F	F F	F F	F F	F F	F F	F F	F F	F F	F F	F F
15	F F	F F	F F	F F	F F	F F	F F	F F	F F	F F	F F	F F
16	350 350	330							N N	N N	N N	N N
17		380			320 310 400	310			N N	N N	N N	N N
18		370	320 300	310 320	330 330	330 320		320 300	N N	N N	N N	N N
19	330 350	320	330 310	300			300 280	310 280	300 N	N N	N N	N N
20	330 360	330	300	310	310		350 310	310 310	300 N	N N	N N	N N
21	330 330	320 310 670	310	310 320	320		360	300	310 N	N N	N N	N N
22	310	310 410	420	300 310	300 310	300	320	310 310	330 N	N N	N N	N N
23	380 330	350		290	300 300			320	N N	N N	N N	N N
24	300	300 300	320 330	310	300 300			300 330	350 N	N N	N N	N N
25					300 320 320	320 310	320 320		N N	N N	N N	N N
26	300	310 330	320	300 290	310 300	360 320	290 330	310	310 N	N N	N N	N N
27		320	300	320 390	330 320 310	310 320	310 310	350 330	350 N	N N	N N	N N
28				330			310 300	300 360	N N	N N	N N	N N
29			320	300	320	350 330	330 310	320 350	320 N	N N	N N	N N
30	300 330	300	320 300	300 310	330 320	320 320	310 310	310 N	N N	N N	N N	N N

F = 112 MHz INTENSITY (dB)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) April 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	5											
2	N	N	N	N	N	N	N	N	N	N	N	N		-7		-5								
3	N	N	N	N	N	N	N	N	N	N	N	N	9	8	15						5			
4	N	N	N	N	N	N	N	N	N	N	N	N	-7	17			0	4	-7					
5	N	N	N	N	N	N	N	N	N	N	N	N												
6	N	N	N	N	N	N	N	N	N	N	N	N									-6	-7	-6	
7	N	N	N	N	N	N	N	N	N	N	N	N			-7		-5				-5	-3		
8	N	N	N	N	N	N	N	N	N	N	N	N					6	8	-6	-7				
9	N	N	N	N	N	N	N	N	N	N	N	N		-8				4			-4	-6		
10	N	N	N	N	N	N	N	N	N	N	N	N						-4						
11	N	N	N	N	N	N	N	N	N	N	N	N												
12	N	N	N	N	N	N	N	N	N	N	N	N							F	F	F	F	F	F
13	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
14	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
15	F	F	F	F	F	F	F	F	F	F	F	F												
16	N	N	N	N	N	N	N	N	N	N	N	N												-2
17	N	N	N	N	N	N	N	N	N	N	N	N			5	-7	-3	-2	-4	-8			-7	
18	N	N	N	N	N	N	N	N	N	N	N	N	6	-2		-8	-6							
19	N	N	N	N	N	N	N	N	N	N	N	N	12		4	6		-5						
20	N	N	N	N	N	N	N	N	N	N	N	N	14	-5	7	-5		-2						-3
21	N	N	N	N	N	N	N	N	N	N	N	N												
22	N	N	N	N	N	N	N	N	N	N	N	N	-5	2	7	3	-6			3				
23	N	N	N	N	N	N	N	N	N	N	N	N	6	9	-6	-5	12	5		F	F		15	
24	N	N	N	N	N	N	N	N	N	N	N	N											14	
25	N	N	N	N	N	N	N	N	N	N	N	N		-6				-3					9	
26	N	N	N	N	N	N	N	N	N	N	N	N		-7						-5			12	
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N	5	4	2	1	-1	0	-2	2		-5		
29	N	N	N	N	N	N	N	N	N	N	N	N	8	-2	0					0				
30	N	N	N	N	N	N	N	N	N	N	N	N			-2	0	-4							
Mean													7	2	-1	0	0	-1	-1	-4	-3	-3	-1	4

F = 112 MHz RANGE (km)
 Syowa Station 15° EAST MERIDIAN TIME (U.T. +3hours) April 1971

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	320											
2	N	N	N	N	N	N	N	N	N	N	N	N		380		330								
3	N	N	N	N	N	N	N	N	N	N	N	N	330 330	380							330			
4	N	N	N	N	N	N	N	N	N	N	N	N	350 330			310 320	320							
5	N	N	N	N	N	N	N	N	N	N	N	N												
6	N	N	N	N	N	N	N	N	N	N	N	N									300	300 440		
7	N	N	N	N	N	N	N	N	N	N	N	N		330		310					340	350		
8	N	N	N	N	N	N	N	N	N	N	N	N				330	330 350	300						
9	N	N	N	N	N	N	N	N	N	N	N	N	320				300			300	290			
10	N	N	N	N	N	N	N	N	N	N	N	N					320							
11	N	N	N	N	N	N	N	N	N	N	N	N												
12	N	N	N	N	N	N	N	N	N	N	N	N						F	F	F	F	F	F	F
13	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
14	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
15	F	F	F	F	F	F	F	F	F	F	F	F												
16	N	N	N	N	N	N	N	N	N	N	N	N												300
17	N	N	N	N	N	N	N	N	N	N	N	N		320	330 350	330 340	300							350
18	N	N	N	N	N	N	N	N	N	N	N	N	320 320		320	310								
19	N	N	N	N	N	N	N	N	N	N	N	N	310		320	310	350							
20	N	N	N	N	N	N	N	N	N	N	N	N	330 310		330	300		290						300
21	N	N	N	N	N	N	N	N	N	N	N	N												
22	N	N	N	N	N	N	N	N	N	N	N	N	320	320 330	310 290					310				
23	N	N	N	N	N	N	N	N	N	N	N	N	330 320	330 310	330 310				F	F			300	
24	N	N	N	N	N	N	N	N	N	N	N	N											300	
25	N	N	N	N	N	N	N	N	N	N	N	N		320			350							300
26	N	N	N	N	N	N	N	N	N	N	N	N		370						330				310
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N	320 310		320	310 320	310 300	300					100	
29	N	N	N	N	N	N	N	N	N	N	N	N	330 330	320						300				
30	N	N	N	N	N	N	N	N	N	N	N	N			330	310 310								

Svowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) F = 112 MHz INTENSITY (dB) May 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1			24		11				8	1	6	-3	-3 -5				N		N	N	N	N	N	N
2	-2	-4			5	3	-7	-6	4	16	13	4		4	•5	-2	-2	N	N	N	N	N	N	N
3					-7		23	28 3	7	•2	-4 -2	16	0	12	14		5	N	N	N	N	N	N	N
4											-5		-5		8	2		N	N	N	N	N	N	N
5		-2			-7	-8	-7	•-2	5	13	•3			•0	15	9	19	N	N	N	N	N	N	N
6			-7			11	-5	-6										N	N	N	N	N	N	N
7																		N	N	N	N	N	N	N
8																		N	N	N	N	N	N	N
9			18			7	5	15	4	5	14	25	15	4	8	•6		N	N	N	N	N	N	N
10									2									N	N	N	N	N	N	N
11																		N	N	N	N	N	N	N
12					-6	-6			-5	-7					N		N	N	N	N	N	N	N	N
13	-3																	N	N	N	N	N	N	N
14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
15		-2	5 -6	-5	2	12	7	9	15	4	-3	14	-7					N	N	N	N	N	N	N
16	2		-6 -6	12	-5	12		14	13	14	8	-5	•10		9	7 8		N	N	N	N	N	N	N
17					-6 -5	23	22	-2	-2		•0	-2		5	27	N	N	N	N	N	N	N	N	N
18		-2		0	11	10	-2	•5		13	-7	8						N	N	N	N	N	N	N
19	27				-5	-5	15	-2	-7						10	•4	•5	N	N	N	N	N	N	N
20		-3					17	16	-6		9	10	1		-2	14	N	N	N	N	N	N	N	N
21	-8		-7				7		•15	-6 -5	11	16	11		12	-5		N	N	N	N	N	N	N
22					-3	0	-3 2	12	12	5	-3		-5 -2	10	17	0 -2	22	N	N	N	N	N	N	N
23	17	-6	-5	17		12	-7	7	15	11						-6	2	N	N	N	N	N	N	N
24	23		12	5	7	-4	12	17	12	7	0 -3	17	12 -5	10 -1	-2 -4	11		N	N	N	N	N	N	N
25	22	12	15	8	-7	2	-2	11	•7	5	7		4	7	-7			N	N	N	N	N	N	N
26	-7						5	10	4	-6	-7		-4 -5		-5 -5	-5	-5 -3	N	N	N	N	N	N	N
27			-6				-3	1		23	17	17	•12	23	10	5	7	N	N	N	N	N	N	N
28			-8		3		-5	-5	N	N	N	N	N	N	N	N		N	N	N	N	N	N	N
29									4	10			11	25	-5	N	N	N	N	N	N	N	N	N
30			-7						-5		8	12	18	-5				N	N	N	N	N	N	N
31	7	0	-5		20 -6				0						12		-1	N	N	N	N	N	N	N
Mean	8	-1	0	7	2	4	3	7	7	6	3	10	6	7	8	2	7							

F = 112 MHz RANGE (km)
 Syowa Station 15° EAST MERIDIAN TIME (U.T. +3 hours) May 1974

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1		310	300		320 330	310 300	310 350		N	N N	N N	N N
2	330 310		340 300	310 400	310 330	320 310	320	310 320	310 N	N N	N N	N N
3			330	310 310 550	310 310	320 390	310	310 310	310	310 N	N N	N N
4						330	370	300 320		N N	N N	N N
5	300		290 300	340 340	320 300	310	320	320 330	300 N	N N	N N	N N
6		320	310	320 330					N	N N	N N	N N
7									N	N N	N N	N N
8									N	N N	N N	N N
9		300	310	300 300	300 300	330 310	300 310	350 320	N	N N	N N	N N
10					320				N	N N	N N	N N
11									N	N N	N N	N N
12			340 300		300 310			N	N N	N N	N N	N N
13	300								N	N N	N N	N N
14	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N
15	300	310 430	300	320 330	350 320	320 330	300 320	300	N	N N	N N	N N
16	310	310 470	300	410 320	300	320 330	310 320	320	310 310 370	N	N N	N N
17			350 450	300	300 350	350	310 330	370	310 N	N N	N N	N N
18	310	300	300 300	320 320	310	290 300			N	N N	N N	N N
19	300		310 300	300 300	300			310 310	320 N	N N	N N	N N
20		320		300	300 330	320	330 310	300	300 N	N N	N N	N N
21	310	350		330	300 300 400	300 300	300	320 300	N	N N	N N	N N
22			300 320	310 390	320	300 300	340	320 400	300	320 300 380	330 N	N N
23	300 300	320 300	320	300 300	330 320			300	320 N	N N	N N	N N
24	320	300 310	310 320	310 300	320 350	310 380	300	330 300 390 400	290 400	300	N	N N
25	300 300	310 300	310 310	300 310	300 330	320		300 310	370		N N	N N
26	300			330 310	300 300	320		300 380	300 380	330 320	N	N N
27		340		350 330		300	320 310	380 310	340 300	320 N	N N	N N
28		300	300	290 310	N N	N N	N N	N N	N N	N N	N N	N N
29					330	330		320 320	330 N	N N	N N	N N
30		310			350	320 320	310 330			N N	N N	N N
31	330 330	320	290 660		330			300	320 N	N N	N N	N N

F = 112 MHz INTENSITY (dB)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) May 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	N						-3				3	
2	N	N	N	N	N	N	N	N	N	N	N	N			-3		15	15	13	7	6	2	-5	
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N			2	5	-3		-5	-2				-6
5	N	N	N	N	N	N	N	N	N	N	N	N	-3	-5	10	12	12	-1	4	-3	-5			
6	N	N	N	N	N	N	N	N	N	N	N	N												
7	N	N	N	N	N	N	N	N	N	N	N	N	5	3	-3									
8	N	N	N	N	N	N	N	N	N	N	N	N												
9	N	N	N	N	N	N	N	N	N	N	N	N												
10	N	N	N	N	N	N	N	N	N	N	N	N												
11	N	N	N	N	N	N	N	N	N	N	N	N	N											
12	N	N	N	N	N	N	N	N	N	N	N	N											-7	-3
13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
14	N	N	N	N	N	N	N	N	N	N	N	N									-5	-8		
15	N	N	N	N	N	N	N	N	N	N	N	N	12	3			5		7	-5				
16	N	N	N	N	N	N	N	N	N	N	N	N					-3		-2		-3		-1	
17	N	N	N	N	N	N	N	N	N	N	N	N	5		-7	-3	3	-6			-5	-7		
18	N	N	N	N	N	N	N	N	N	N	N	N	2				-1		-6				-7	-7
19	N	N	N	N	N	N	N	N	N	N	N	N	-2	-6	-2	-6			-3		15			
20	N	N	N	N	N	N	N	N	N	N	N	N		3	0	5			-2		-4	4	-4	
21	N	N	N	N	N	N	N	N	N	N	N	N	-8				-8	5	5				-2	
22	N	N	N	N	N	N	N	N	N	N	N	N			0		0		-5		-3		0	-7
23	N	N	N	N	N	N	N	N	N	N	N	N		-5		15	13	10			-3		3	0
24	N	N	N	N	N	N	N	N	N	N	N	N	9	3	12	-5		-7			-6		6	0
25	N	N	N	N	N	N	N	N	N	N	N	N					-4		-8					
26	N	N	N	N	N	N	N	N	N	N	N	N											-6	-4
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N												
29	N	N	N	N	N	N	N	N	N	N	N	N										7		
30	N	N	N	N	N	N	N	N	N	N	N	N		-3	14	12	10	12	20	6	5	0	0	6
31	N	N	N	N	N	N	N	N	N	N	N	N		-5		-6	3	-5	5	-3	-3	0	-7	
Mean													3	-1	2	3	5	2	5	-2	-1	0	-3	-1

F = 112 MHz RANGE (km)
 Syowa Station 45° EAST MERIDIAN TIME (U. T. +3 hours) May 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	N						340				320	
2	N	N	N	N	N	N	N	N	N	N	N	N		310		330	330	340	340	320	330		310	
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N		330	350	320		310	310				320	
5	N	N	N	N	N	N	N	N	N	N	N	N	320	300	320	320	320	330	300	310				
6	N	N	N	N	N	N	N	N	N	N	N	N												
7	N	N	N	N	N	N	N	N	N	N	N	N	310	310	310									
8	N	N	N	N	N	N	N	N	N	N	N	N												
9	N	N	N	N	N	N	N	N	N	N	N	N												
10	N	N	N	N	N	N	N	N	N	N	N	N												
11	N	N	N	N	N	N	N	N	N	N	N	N	N											
12	N	N	N	N	N	N	N	N	N	N	N	N											310	350
13	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
14	N	N	N	N	N	N	N	N	N	N	N	N									330	470		
15	N	N	N	N	N	N	N	N	N	N	N	N	320	300			300	320	300					
16	N	N	N	N	N	N	N	N	N	N	N	N					310		300	300			350	
17	N	N	N	N	N	N	N	N	N	N	N	N	320		370	320	310	310			320	320		
18	N	N	N	N	N	N	N	N	N	N	N	N	330				330	310					300	290
19	N	N	N	N	N	N	N	N	N	N	N	N	330	310	320	310			330	330				
20	N	N	N	N	N	N	N	N	N	N	N	N		310	320	320			310	300	330		310	
21	N	N	N	N	N	N	N	N	N	N	N	N	310				330	330	310				330	
22	N	N	N	N	N	N	N	N	N	N	N	N			310		300		330	320			290	740
23	N	N	N	N	N	N	N	N	N	N	N	N		330		330	320	300			310		320	300
24	N	N	N	N	N	N	N	N	N	N	N	N	320	330	320	300		300			290	330	310	310
25	N	N	N	N	N	N	N	N	N	N	N	N					310		350					
26	N	N	N	N	N	N	N	N	N	N	N	N											300	320
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N												
29	N	N	N	N	N	N	N	N	N	N	N	N									330			
30	N	N	N	N	N	N	N	N	N	N	N	N		310	310	310	320	310	340	320	340	330	340	330
31	N	N	N	N	N	N	N	N	N	N	N	N		300		320	320	320	310	310	320		280	

F = 112 MHz INTENSITY (dB)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) June 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1		23	$\begin{smallmatrix} -3 \\ -2 \end{smallmatrix}$	18	-4				-4	20		5			-7									
2		8		-5	25			0	-5					-6										
3	3	-5	13	15				2		-5		18	14		$\begin{smallmatrix} 5 \\ 2 \end{smallmatrix}$	0	4	-4	2					
4	13		5	-4	0	22	10		-2			10		20										
5															-6	5			-5					
6							-2	-5					-5			-5								
7																							N	
8					-5																			
9																								
10	3	8	27				0	-2	12	5	18	15	20	8		23	22	20	28	28	3			
11	-2		10								-2	1	-3	-3	12		-3							
12		17	-1		17	7	0		5	13	11	17	14	13	23	-1		14	13	-4	3			
13						10	15		0	13	12	9	21	18	2			11						
14									6	5		13	13			12	$\begin{smallmatrix} 3 \\ 2 \end{smallmatrix}$					3		
15				8		-2			23	22	14	-3	11	4	3	24	17	24	20					
16			-5		-2	20	26	-3			13		20	8	3									
17	17	7			12	12		15	5	3	1			8	-6		$\begin{smallmatrix} 12 \\ 3 \end{smallmatrix}$	-3					-6	
18		15	-3					3	5	8	-6	-3					16	0	-2					
19		5			13	5	-1		-5				-3											
20	-3		-3				-1		13	18	2		-2	-2	-3	12	20	12		$\begin{smallmatrix} -2 \\ -5 \end{smallmatrix}$	$\begin{smallmatrix} -7 \\ -7 \end{smallmatrix}$			
21		20	19	7			2		$\begin{smallmatrix} 4 \\ -5 \end{smallmatrix}$	18	-5	7											-2	
22					1	-5			5	5	2		0	-5										
23					-6		-3			-7	-5	17												
24			$\begin{smallmatrix} -2 \\ -3 \end{smallmatrix}$				-1	-1					-6	-6		2	4	0						
25	9	-5						-1			15	12	-3											
26	-1	-5	-6	-5		-7	16	0					12	5	-1	18	$\begin{smallmatrix} 0 \\ 3 \end{smallmatrix}$	16	$\begin{smallmatrix} 30 \\ -5 \end{smallmatrix}$	23	25			
27		-4		-2		-6	-3	12		-4	-2	25			18		13	18		8	7	5	15	15
28						5	17		2	7			-2					12						
29	10		$\begin{smallmatrix} -5 \\ -4 \end{smallmatrix}$			5	3		2						10				-4					
30	2			-6					-4		-2				1									
Mean	5	7	4	2	3	10	5	2	4	6	6	7	7	5	2	10	10	10	11	6				

F = 112 MHz RANGE (km)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) June 1971

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1	300	290 300 330	310		320 320	310		310				
2	310	380	320	300	370		310					
3	320 330	290 300		320	370	300	330	290 340 300	300 300	310		
4	310	310 320	320 310	310	300	320	320					
5								370 320		310		
6				330 330			300	300				
7											N	
8			300									
9												
10	320 330	310		320 320	320 310	330 350	320 310	320	300 320	300 320	320	
11	400	320				300 310	330 280	320	350			
12	300	300	290	300 300	310 330	310 300	300 310	300 300	300	320 300	300	
13				310 300	300 300	310 300	290 300	300	300			
14					310 290	300	300	300	290 350		300	
15		310	310		310 310	310 310	310 320	320 310	310 320	330		
16		330	320 310	300 300		310	310 290	320				
17	300 300		320 300	300	310 320	320	310	300	290 370 310			300
18	290	300		320	300 300	290 310			320 320	300		
19	320		320	290 300	310		320					
20	290	320		290	310	310 300	350 300	300 300	330 310	310 370	670 740	
21	300	300 300		360	300 400 330	320 320						330
22			330	310	300	310 320	300 280					
23			330	300	370	290 330						
24		320 380		330	300		350 310	300	320 290			
25	310 300				290	310 310	310					
26	310 320	330 320	430	300 290			300 320	310 300	300 390 300	300 550 310	310	
27	300	300		300 300	310	300 300	300	320	300 320	300	300 310	340 310
28				330 300	330	350	290		300			
29	300	290 380		320 330	300			320		280		
30	300	320			320	300		310				

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3hours)

F = 112 MHz

INTENSITY (dB)

June 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1											5	10		-4							2	7		-5
2											-6													0
3													-1								-4	-3		1
4																						-5		-2
5																								
6																								
7																								
8																	-3	2	-1	-3				
9																		-2	-1	5	-2	3		-4
10													0									-5		
11			5		0				-1	-5	-3	-3	5	4	5				5					
12	8	2																						-4
13													0	0								-5		
14														-4	-5	12	8		5	17			-4	
15					N	N	-1		-2							2	4	7			-4			-6
16											-1	-5				7		-3	-3	-3	3			2
17								0	4	3	-3								5					
18																					-3	-5		
19					N	N					-4				-3	9	4	-3	-3					1
20													-2	-3		-1								-6
21																			-3					
22																						-5		
23																								
24																					-6	-4	0	
25																			-5				3	2
26								0	10	3	9	-5	0	20	5	11	3	16	4	3				-1
27	-1				-3	7		-3					-1	-5	5	5	-5	13	5	5	5		23	-3
28								7	10	6		-2	-2				-1	6	-2	7	7		-1	-2
29										-5			5		-6		-3	-7	3	-2	-6	-4		
30												-4						-7	-2	-6				
Mean								0	2	0	2	-1	-1	3	3	3	1	1	1	-2	2	-2		

F = 11.2 MHz RANGE (km)

Svowa Station 15° EAST MERIDIAN TIME (U.T. +3hours) June 1971

Day	12	13	14	15	16	17	18	19	20	21	22	23
	00 30	00 30	00 30	00 30	00 30	00 30	00 30	00 30	00 30	00 30	00 30	00 30
1						340	330	330			320 330	300
2						330						320
3							310				310 320	320
4											310	320
5												
6												
7												
8										320 320		
9									330 330	330 320	310 320	320
10							320		310		310	
11		300	300		320 300	310 310	300 300	320		310		
12	300 300											310
13							300	330			300	
14								310 310	310 330	320	310	350
15			N	N 300	330				320 310	310	310	300
16						300	300		330	310 290	320 320	300
17					300 310	310 310				320		
18											330 310	
19			N, N			320		320	330 320	310 340		300
20							300	300	310			330
21										320		
22											320	
23												
24											320 320	320
25										340		320 320
26					290	310 320	320 300	320 330	300 320	320 330	300 100	320
27	300		360	300	330		310 310	330 310	290 320	320 310	310	280 300
28					330	320 310	300	330	340	320 310	310 290	300 290
29						300	300	300	300 310	310 310	310 300	
30							300		330	320 300		

F = 112 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) July 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									12	7	-3													
2	16			-1						-3	-4						N	N	N		N	N	N	N
3	-6																N	N	N		N	N	N	N
4		-6		3	-5			13	-5	-3	12	33	33	27	30	20	N	N	N	N	N	N	N	N
5	2	2		-3		-4	19	18	-5	6	-2	-4	7	5	⁵ / ₋₃	17	2	N	N	N	N	N	N	N
6		5	5	-4	6	0	-2	9	2	-2			8				0	N	N	N	N	N	N	N
7	-2							0	[•] -3	7	12	[•] 8	[•] 15	4	10			N	N	N	N	N	N	N
8					3										-1	10		N	N	N	N	N	N	N
9	10	16		-1	4	5			4	7	11	15	-2	28		0	18	N	N	N	N	N	N	N
10					-5		5		¹⁰ / ₋₆	12		-2	3	3	13	-5		N	N	N	N	N	N	N
11		-5	-2	[•] 20		-5		-5		4	5	13	5	[•] -1	-2		-2	N	N	N	N	N	N	N
12					-4	10	4	-2		-2	-4	-3	[•] 2		[•] 12	N	N	N	N	N	N	N	N	N
13		6	-5				2	3	2	5	10	8		-4				N	N	N	N	N	N	N
14		-3			-5		0	11	0	13	[•] 13	[•] 18	[•] 5	-4	18	3		N	N	N	N	N	N	N
15			-2	[•] 5	-3		-2	-3				5	15	13	16	N	N	N	N	N	N	N	N	N
16	-6		10		-3	-5		3	4	10	-5		7	[•] 18	[•] 15	-2		N	N	N	N	N	N	N
17	-5	-5	-6						4	8				-2				N	N	N	N	N	N	N
18							10	-2	3	-5								N	N	N	N	N	N	N
19							7	-2	-3		5				N	N	N	N	N	N	N	N	N	N
20		1		-3	N	N		-5										N	N	N	N	N	N	N
21							6	12			N	N	N	N	N	N	N	N	N	N	N	N	N	N
22		4											-4					N	N	N	N	N	N	N
23					28		2	17	9	-5	4	15	1	10	23	[•] 27	20	N	N	N	N	N	N	N
24	10	15	7		-3		-2	10	⁻² / ₋₂	7	5	19	15	-2	9	[•] 5	⁻² / ₋₂	N	N	N	N	N	N	N
25		-3							10		0	⁻⁴ / ₋₅	10					N	N	N	N	N	N	N
26	F	F		-2							5	-3	10	12	17	[•] 11	3	N	N	N	N	N	N	N
27		5							[•] 0	8	2	5	13	5				N	N	N	N	N	N	N
28			[•] -2				17		⁻² / ₋₃		15		13					N	N	N	N	N	N	N
29													15	20	3		5	N	N	N	N	N	N	N
30			20	[•] 10	-3								20					N	N	N	N	N	N	N
31	2	-6		3			2		-8		6		-5					N	N	N	N	N	N	N
Mean	2	2	3	2	0	2	5	5	2	3	5	8	8	9	13	8	6							

Svowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) F = 112 MHz RANGE (km)
 July 1974

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1					300 300	300						
2	320	300			330	320			N	N N	N N	N N
3	330								N	N N	N N	N N
4	300	310	330	300	380 320	310 290	280 300	300 300	N	N N	N N	N N
5	290 300	300	330	310 300	320 320	320 310	300 310	350 390 300	330	N	N N	N N
6	300	330 310	300 310	320 320	320 300		350		310	N	N N	N N
7	310			320	320 320	320 320	320 310	320		N	N N	N N
8			320					320 310		N	N N	N N
9	300 300	310	350 300		300 300	300 310	300 290	300	300	N	N N	N N
10			330	310	300 560 300	340	320 300	300 300		N	N N	N N
11	300	310 280	330	390	320	320 320	310 380	310	330	N	N N	N N
12			300 300	310 300	320	360 310	320	310 N	N	N N	N N	N N
13	300	300		290 300	310 300	290 280	310			N	N N	N N
14	330		300	300 300	310 300	390 360	320 310	320 300		N	N N	N N
15		320	310 300	300 310		300	330 330	320 N	N	N N	N N	N N
16	320	290	300 310	330	300 310	300	310 320	300 300		N	N N	N N
17	320 300	320			300 320		350			N	N N	N N
18				320 350	320 310					N	N N	N N
19				310	330 310	300		N N	N	N N	N N	N N
20	320	310	N N	330						N	N N	N N
21				280	300	N N	N N	N N	N	N N	N N	N N
22	300						350			N	N N	N N
23			280	310 310	320 400	310 300	310 300	310 310	320	N	N N	N N
24	300 300	310	290	320 330	300 360 330	320 280	320 310	320 360	300 350	N	N N	N N
25	370				320	320 290 340	310			N	N N	N N
26	F F	300				310 300	300 320	320 300	300	N	N N	N N
27	350				320 300	310 310	300 300			N	N N	N N
28		330		330	330 430	300	300			N	N N	N N
29					340		320	320 300	300	N	N N	N N
30		290 350	350				330			N	N N	N N
31	340 290	320		330	320	310	300			N	N N	N N

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) F = 112 MHz INTENSITY (dB) July 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									N	N	N										6	4	-4	2
2	N	N	N	N	N	N	N	N	N	N	N	N												
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N			-4	5	-1	7	8	0	0	5	0	0
5	N	N	N	N	N	N	N	N	N	N	N	N	2	-1	0	2	11	0	6	10	-2			-2
6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
7	N	N	N	N	N	N	N	N	N	N	N	N		-5										
8	N	N	N	N	N	N	N	N	N	N	N	N	13		0	12		-5			-5			
9	N	N	N	N	N	N	N	N	N	N	N	N									-3			-2
10	N	N	N	N	N	N	N	N	N	N	N	N					5	-5			-5	-2		
11	N	N	N	N	N	N	N	N	N	N	N	N	-5		4						5	-3	-5	-6
12	N	N	N	N	N	N	N	N	N	N	N	N			-5	10	2	-2						-4
13	N	N	N	N	N	N	N	N	N	N	N	N							5	0				
14	N	N	N	N	N	N	N	N	N	N	N	N												-6
15	N	N	N	N	N	N	N	N	N	N	N	N												-5
16	N	N	N	N	N	N	N	N	N	N	N	N												-5 -4
17	N	N	N	N	N	N	N	N	N	N	N	N												
18	N	N	N	N	N	N	N	N	N	N	N	N												
19	N	N	N	N	N	N	N	N	N	N	N	N		-5									1	
20	N	N	N	N	N	N	N	N	N	N	N	N												
21	N	N	N	N	N	N	N	N	N	N	N	N							-6					-6
22	N	N	N	N	N	N	N	N	N	N	N	N							2	-3				
23	N	N	N	N	N	N	N	N	N	N	N	N	8	-2 -1		0	5	7	-1	-3 0	4	-4	0	
24	N	N	N	N	N	N	N	N	N	N	N	N	5	-2	-5	-2	-4	2	-3		-4	3		
25	N	N	N	N	N	N	N	N	N	N	N	N	-5		F	F	F	F	F	F	F	F	F	F
26	N	N	N	N	N	N	N	N	N	N	N	N			-4		-2	-5		2				
27	N	N	N	N	N	N	N	N	N	N	N	N					-2		12				-4	-5
28	N	N	N	N	N	N	N	N	N	N	N	N					-4		-6					
29	N	N	N	N	N	N	N	N	N	N	N	N		-1		-5	-2	5	-2	-6	-2	0	2	
30	N	N	N	N	N	N	N	N	N	N	N	N											5	-2
31	N	N	N	N	N	N	N	N	N	N	N	N							-2		1	-7		
Mean													3	-2	-2	2	3	1	1	1	-1	0	-2	-3

F = 112 MHz RANGE (km)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) July 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									N	N	N										310 320	300 320		
2	N	N	N	N	N	N	N	N	N	N	N	N												
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N			320 340	320 310	320 300	310 320	310 320	320 310				
5	N	N	N	N	N	N	N	N	N	N	N	N	300 290	290 300	320 300	310 320	320						310	
6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
7	N	N	N	N	N	N	N	N	N	N	N	N		320										
8	N	N	N	N	N	N	N	N	N	N	N	N	320		310 310		320				320			
9	N	N	N	N	N	N	N	N	N	N	N	N									310		310	
10	N	N	N	N	N	N	N	N	N	N	N	N					320 300				340 310			
11	N	N	N	N	N	N	N	N	N	N	N	N	300		330						320 350	350 320		
12	N	N	N	N	N	N	N	N	N	N	N	N				320	310 320	310						310
13	N	N	N	N	N	N	N	N	N	N	N	N							330	320				
14	N	N	N	N	N	N	N	N	N	N	N	N												320
15	N	N	N	N	N	N	N	N	N	N	N	N												290
16	N	N	N	N	N	N	N	N	N	N	N	N												310 310
17	N	N	N	N	N	N	N	N	N	N	N	N												
18	N	N	N	N	N	N	N	N	N	N	N	N												
19	N	N	N	N	N	N	N	N	N	N	N	N			300									320
20	N	N	N	N	N	N	N	N	N	N	N	N												
21	N	N	N	N	N	N	N	N	N	N	N	N								320				330
22	N	N	N	N	N	N	N	N	N	N	N	N								310	310			
23	N	N	N	N	N	N	N	N	N	N	N	N	300 300 340		320	320 320	290	290 350	290	310 310				
24	N	N	N	N	N	N	N	N	N	N	N	N	320 320	320 330	330 320	320		300 300						
25	N	N	N	N	N	N	N	N	N	N	N	N	320	F F	F F	F F	F F	F F	F F	F F				
26	N	N	N	N	N	N	N	N	N	N	N	N		290		340	320		320					
27	N	N	N	N	N	N	N	N	N	N	N	N				320		310				330 330		
28	N	N	N	N	N	N	N	N	N	N	N	N				310		300						
29	N	N	N	N	N	N	N	N	N	N	N	N			320	330 320	320 310	320 300	330 320					
30	N	N	N	N	N	N	N	N	N	N	N	N												350 320
31	N	N	N	N	N	N	N	N	N	N	N	N							330	330 320				

F = 112 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) August 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	0				-5	-3	-6		-5						4		-1	N	N	N	N	N	N	N
2	0	6	5	-1	-1		-5		-1		-1						N		N	N	N	N	N	N
3	-4	² -5	10	5	⁵ 1		⁰ -2	15	5	-3			2	1	9	[•] 13	1	N	N	N	N	N	N	N
4	15	-3	3	5	8	5	28	15	28	10	20	⁻² -3	20	12	15	20	13	N	N	N	N	N	N	N
5	15	13	-5	10	5		6	10	5	[•] -3	-2		18	-5			N	N	N	N	N	N	N	N
6					-3		5	1	3	-5			0		8	N	N	N	N	N	N	N	N	N
7		-4					15	2	[•] 14	11	12		1	[•] 7	-5	N	N	N	N	N	N	N	N	N
8			-5	7	15	-5					0	-2	16	27	[•] 19	17	17	N	N	N	N	N	N	N
9			0	0			-2		-3	-4	-5			7	17	20	15	N	N	N	N	N	N	N
10	-2		9	19	14	8	0	2			-1	7		10	15	5	[•] 13	N	N	N	N	N	N	N
11					-5		12	22	14	10		-2	-4	0			N	N	N	N	N	N	N	N
12		-5				4				-3	-4						N	N	N	N	N	N	N	N
13										-5	-3			-3			N	N	N	N	N	N	N	N
14					-4				17	-1					-3		2	N	N	N	N	N	N	N
15			-4	-4			3										N	N	N	N	N	N	N	N
16						13											3	N	N	N	N	N	N	N
17			-5		-1										-5		N	N	N	N	N	N	N	N
18	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	N	N	N	N	N	N	N
19						8	[•] 0	15	5	9	7	10	3	-5	18		N	N	N	N	N	N	N	N
20					6	3	8		9	2	9		-5	-1	14	4	12	N	N	N	N	N	N	N
21			20				20	⁻² -7	12	16	10	10	-7		[•] 20		5	N	N	N	N	N	N	N
22	0				3		F	F	F	F	F	F	F	F	F	F	F	N	N	N	N	N	N	N
23			-2				18		2		8					-4	12	N	N	N	N	N	N	N
24		-3		13	12	25	8	18	4	[•] 15	12	-2		-7	10	3		N	N	N	N	N	N	N
25					6		12	-3		4	-5			-3	7	3		N	N	N	N	N	N	N
26	0								-5								N	N	N	N	N	N	N	N
27									-6						8		-6	N	N	N	N	N	N	N
28		-4		-3		1		-2	-3	10	[•] 14	10	-6	10			N	N	N	N	N	N	N	N
29	-4	3		20	⁶ -6	[•] 7	5	-2	-7	9	12	10	[•] 3		13	-4	[•] 12	N	N	N	N	N	N	N
30	-3				-1	7		[•] 0	27								N	N	N	N	N	N	N	N
31	2		0	0		[•] 0	15	[•] 8	0	8	8		-1	3	8	7		N	N	N	N	N	N	N
Mean	2	1	2	6	4	5	9	5	6	7	4	4	3	4	10	7	8							

F = 112 MHz
 Syowa Station 45 EAST MERIDIAN TIME (U.T. +3 hours) RANGE (km)
 August 1971

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	310				330	330	330		340						310	340	N	N	N	N	N	N	N	N
2	330	320	320	300	330		340		350		300					N	N	N	N	N	N	N	N	N
3	350	290 430	320	310	300 360		320 400		310	300	310		330	310	300	350	320	N	N	N	N	N	N	N
4	300	330	330	300	320	300	280	300	300	300	300	350 410	320	310	330	320	330	N	N	N	N	N	N	N
5	300	310	290	300	300		320		300	300	300	310	320	300			N	N	N	N	N	N	N	N
6					330		300	300	300	300			300		330	N	N	N	N	N	N	N	N	N
7		290					300		300	300	310	320	310	320	300	N	N	N	N	N	N	N	N	N
8			420	300	300	300					320	320	300	260	300	290	300	N	N	N	N	N	N	N
9			300	300			370		320		320	350		310	310	310	290	N	N	N	N	N	N	N
10	330		310	310	300	320	320	300			320	320		300	330	320	320	N	N	N	N	N	N	N
11					300		290	310	310	310		300	320	300			N	N	N	N	N	N	N	N
12		320				300				320		300					N	N	N	N	N	N	N	N
13										350	420			380			N	N	N	N	N	N	N	N
14					330				320	320					350		320	N	N	N	N	N	N	N
15			320	330			390										N	N	N	N	N	N	N	N
16					320												320	N	N	N	N	N	N	N
17			300		330										370		N	N	N	N	N	N	N	N
18	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	N	N	N	N	N	N	N
19					300	330	320		310	300	320	320	300	300	300		N	N	N	N	N	N	N	N
20					300	330	320		310	310	320		310	300	330	320	350	N	N	N	N	N	N	N
21			290				310	300 360	300	300	300	330	330		320		320	N	N	N	N	N	N	N
22	310				310		F	F	F	F	F	F	F	F	F	F	F	N	N	N	N	N	N	N
23			300				300		310		320				320	320	N	N	N	N	N	N	N	N
24		320		300	320	300	300	300	300	310	300	320		320	290	300		N	N	N	N	N	N	N
25					310	300	320		300	290			320	320	330		N	N	N	N	N	N	N	N
26	310								350								N	N	N	N	N	N	N	N
27							320								300		320	N	N	N	N	N	N	N
28		330		330		330		300	330	300	300	300	300	300			N	N	N	N	N	N	N	N
29	300	290		300	300	320	320	320	320	300	320	360	360		310	320	320	N	N	N	N	N	N	N
30	300				300	320		360	280								N	N	N	N	N	N	N	N
31	300		320	350	310		300	300	290	320	320		320	310	300	310		N	N	N	N	N	N	N

F = 112 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3 hours) August 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N									-1		-5	-5
2	N	N	N	N	N	N	N	N	N	N	N	N	8		15	3	11	-2	17	15			13	6
3	N	N	N	N	N	N	N	N	N	N	N	N	16	17	16	10	13	15	15	12	-2	0		2
4	N	N	N	N	N	N	N	N	N	N	N	N			-5				3		-4		6	
5	N	N	N	N	N	N	N	N	N	N		-5							-1		0	-4		-4
6	N	N	N	N	N	N	N	N	N	N	N	N					-7	3	0	8	0		-7	
7	N	N	N	N	N	N	N	N	N	N	N	N	-5		6	-5		-1		10	-5		-7	
8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N				-4				-5
9	N	N	N	N	N	N	N	N	N	N	N	N					8	0					-5	
10	N	N	N	N	N	N	N	N	N	N	N	N											-4	-3
11	N	N	N	N	N	N	N	N	N	N	N	N									-5		-2	
12	N	N	N	N	N	N	N	N	N	N	N	N												
13	N	N	N	N	N	N	N	N	N	N	N	N												
14	N	N	N	N	N	N	N	N	N	N	N	N												
15	N	N	N	N	N	N	N	N	N	N	N	N												
16	N	N	N	N	N	N	N	N	N	N	N	N												
17	N	N	N	N	N	N	N	N	N	N	N	N												
18	N	N	N	N	N	N	N	N	N	N	N	N												
19	N	N	N	N	N	N	N	N	N	N	N	N	9	4	5	13	5	15	0	-7	-7			-5
20	N	N	N	N	N	N	N	N	N	N	N	N		-4	8	0	-1	2	-3		2	-8	18	-2
21	N	N	N	N	N	N	N	N	N	N	N	N	-3		-2	7	5	10	7	-1	5	-2	10	
22	N	N	N	N	N	N	N	N	N	N	N	N	-6	-5	-2		9	-2	7	5	10	7		
23	N	N	N	N	N	N	N	N	N	N	N	N		0	8	5	5		8			-6	3	
24	N	N	N	N	N	N	N	N	N	N	N	N	7	-5	2	-1	0	-3	7			8	15	
25	N	N	N	N	N	N	N	N	N	N	N	N	-4				-2	-1	0					
26	N	N	N	N	N	N	N	N	N	N	N	N									-5	3	-6	-5
27	N	N	N	N	N	N	N	N	N	N	N	N					-3		-1	-5	-2			
28	N	N	N	N	N	N	N	N	N	N	N	N			-4	10		7	8		13	-3	-3	-6
29	N	N	N	N	N	N	N	N	N	N	N	N			10	11		4	-1	-3	-4			
30	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	3	12	-6
31	N	N	N	N	N	N	N	N	N	N	N	N					4		-1	-5				
Mean													2	2	5	5	4	3	4	2	0	-1	3	-3

Syowa Station		15° EAST MERIDIAN TIME (U.T. +3hours)										F = 112 MHz		RANGE (km)										
												August 1974												
Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N									320		310	310
2	N	N	N	N	N	N	N	N	N	N	N	N	310	320 320	320 320	330 330							300	300
3	N	N	N	N	N	N	N	N	N	N	N	N	330 320	330 320	320 330	330 310	300 360						370	
4	N	N	N	N	N	N	N	N	N	N	N	N		290			320		320		310			
5	N	N	N	N	N	N	N	N	N	N		330					320		330 310		320		320	
6	N	N	N	N	N	N	N	N	N	N	N	N				320 320	310 320	320		290				
7	N	N	N	N	N	N	N	N	N	N	N	N	300		310 300		320		310	330		330		
8	N	N	N	N	N	N	N	N	N	N	N	N	N N	N N				300				320		
9	N	N	N	N	N	N	N	N	N	N	N	N				290 320						360		
10	N	N	N	N	N	N	N	N	N	N	N	N										300	300	
11	N	N	N	N	N	N	N	N	N	N	N	N								330		300		
12	N	N	N	N	N	N	N	N	N	N	N	N												
13	N	N	N	N	N	N	N	N	N	N	N	N												
14	N	N	N	N	N	N	N	N	N	N	N	N												
15	N	N	N	N	N	N	N	N	N	N	N	N												
16	N	N	N	N	N	N	N	N	N	N	N	N												
17	N	N	N	N	N	N	N	N	N	N	N	N												
18	N	N	N	N	N	N	N	N	N	N	N	N												
19	N	N	N	N	N	N	N	N	N	N	N	N	320 320	310 330	320 320	300 300	310 380		300					
20	N	N	N	N	N	N	N	N	N	N	N	N	330	310 320	310 300	300 340	300 300	290 300						
21	N	N	N	N	N	N	N	N	N	N			310	320 320	320 310	310 310	320 320	300						
22	N	N	N	N	N	N	N	N	N	N	N	N	300 320	310	320 310	320 310	300 300							
23	N	N	N	N	N	N	N	N	N	N	N	N	320	300 300	330	320		320		310				
24	N	N	N	N	N	N	N	N	N	N	N	N	300 320	310 320	310 390	310		300	290					
25	N	N	N	N	N	N	N	N	N	N	N	N	300		320 330	320								
26	N	N	N	N	N	N	N	N	N	N	N	N						330 310	350 330					
27	N	N	N	N	N	N	N	N	N	N	N	N				310 320 330	300							
28	N	N	N	N	N	N	N	N	N	N	N	N		330 320	310	320	310 320	320 330						
29	N	N	N	N	N	N	N	N	N	N	N	N		320 320		310 320 300	300							
30	N	N	N	N	N	N	N	N	N	N	N	N	N N	N N	N N	N N	N 320	310 370						
31	N	N	N	N	N	N	N	N	N	N	N	N				320 310 300								

F = 112 MHz INTENSITY (dB)

Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) September 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	-5	•2			20	17	8			14	-2	-4	•11	-2	5	-3								
2				-7		14	12	5	17	7	12	14	-4	8	-6		-5	•20	15		3			
3	•5				-2	0	-6	8	10	-2	10	13	3											
1					-5				3	5	3		7	-5		13		3						
5	•16	8	15	0			2	7	13	8	12	⁰ ₋₃	15	•6	-5	5	17	6						
6	-5				-7	-2	-2		15	17	13	0		5	6									
7		15	-5		0	-5	3	-3	2			1	⁰ ₋₂	3										
8	-3	4	3			3	-6		7	7	•8													
9		0	⁰ ₋₅	-5	-5		-1	7	1	3				4	-6									
10	-2	3					10		⁵ ₋₄	10	9	-1	-2											
11	-5	5		12	-5	-6	0	-7																
12				-3	-6			-2																
13	8	5	3	5				-5			-2	-5		-2		10								
14	0	13	14	25	5	5		1	-3		3													
15			0	5					-5	-4	-6													
16	16	0	-6	4	17	11		2	27	18		5	17	18	5	12	3	-1	11	31	0	-4	-4	12
17					-5	3	-3			2														
18										-1														
19				14			0			16	-2								-1	-3	•5		-2	
20	4		-2		13	-1	-5	11	9	12	9	4	17			-3								
21	-4	-1				16	4			•3	-3													
22	-5	19	12	3	4			0	8	10	•6	0	-1	22	3		1							
23									-3	-4	0													
24										0				8	•6	-5	17	•15						
25									-1	13	-6													
26	4	-3	13	-2	8	•8		-3	-5		5	0		5	8	•10	19	•12	32	11	20			-3
27	-5	1	2	0	-4	10	-1	-2	7				-1			18	-5							
28				-5	2	•-3			•0		4	•5	3		4	3	5	11						
29	27	3	0				-1		7	F	F	F	F	F	F	F			•-3					
30					6		15		7	•3	13	10	11	10	•7	13								
Mean	3	5	4	3	3	4	1	2	6	6	5	4	5	6	3	8	7	5	11		5			

F = 112 MHz

RANGE (km)

Syowa Station

15° EAST MERIDIAN TIME (U. T. +3 hours)

September 1974

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1	330 310		300 330	330		310	340 330	300 330	320 320			
2		330	300	300 300	300 310	310 310	310 350	410	300	310 330	330	
3	300		410 310	330 300	310 320	300 300	310					
4			300		310 300	310	300 350	300	300			
5	390 300	310 330		310 300	310 300	300 310 400	300 320	350 290	320 310			
6	330		360	310 290	310 300	300 290	310	310				
7	330	330	310 300	310 310	300	310	300 380 310					
8	300 310	310	300	310	310 300	300						
9	340	320 380 320	320	320 310	360 330		320	320				
10	330 340			320 400 400	300 420 420	310 310	320					
11	340 330	320	320 320	310 310								
12		310	350	320								
13	320 330	310 320		320		320 360	330	320				
14	290 300	320 320	320 340	330	330	330						
15		320 310			360 350	370						
16	320 320	300 300	320 310	320	320 320	310	310 310	300 310	300 300	300 320	330 320	360 310
17			330	320 300	320							
18					330							
19		320		300	320	310				310	330 310	330
20	300	310	310 320	320 300	300 320	320 340	340		300			
21	320 320		310 310		300	330						
22	300 300	300 300	300	320	300 300	320 310	310 300	330	310			
23					320 320	320						
24					300		310	380 320	340 300			
25					310 300	290						
26	310 310	310 320	300 300	320	340	310 300	350	300 290	300 310	300 330	330	310
27	300 330	350 300	330 310	310 310	320		320	320	330			
28		300	300 290		300	310 300	300	340 310	320 320			
29	290 290	330		300	320 F	F F	F F	F F		300		
30			330	330	330 360	310 310	310 350	310 320				

Syowa Station

45° EAST MERIDIAN TIME (U.T.

F = 112 MHz

INTENSITY (dB)

+3 hours)

September 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									-2	-5	0				3		-7				-4			-7
2	-3										-6		-2		-7		-3		9	7			7	22
3	-2														-7	-5	-2		-6	-5				-3
4																			-6		-5	-7		-8
5																	-5							
6																			-3					
7																	-3	-1						
8																					-5		-7	6
9																							0	-5
10																							0	-4
11																								
12																	-6		2	7	9	14	15	
13																								
14																			-4	0	10	14	-3	
15									-4	-2	1	6	5	4			8	3	-2	3	10	5	14	
16	-6		4		5	5	3	0	2	8														
17																								
18													6	13	22	9	15	12	-1	7	9	-5	5	2
19	-5		-2								-5	-1	-3		5	7	-5	2	0				13	
20					-2			-2	2	1	7	10	13	-1	2	2	-1	7		-5	0			
21							3	16		-4	-5				7				-2	-4	-4		-3	
22			F						-6		-1				7	0	0	-7	1	F	F	F	2	
23																					-6	-6		
24								-3					-3		6		-4		-2	0				
25										4	-3				4	10		5	5	14	-2		-2	
26	-2		-5				3	4			-5	10	-6		2	6	1	-4	-4					
27			1		6	7	5	6	3		-4		-2		2	0		4			-4		2	
28																	-6	-6			-5	-3	-2	-6
29													1		5	-2			0					
30											-5					7			4	0	-1	-5		
Mean	-4		-1				4	2	-2	1	-3	4	2	7	2	2	-1	1	0	1	-1	2	2	

Syowa Station		45° EAST MERIDIAN TIME (U.T. +3hours)						F = 112 MHz		RANGE (km)		
										September 1974		
Day	12	13	14	15	16	17	18	19	20	21	22	23
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1					310 330	320		320	330		320	350
2	300 370					300 320		320	320 530	330 310		300 290
3								320	320 320	320 310		290
4										320	310 350	370
5									330			
6										320		
7									330 320			
8											340	260 320 320 420
9												330 330
10												310 330
11												
12									320	320 330	320	310 320
13												
14										320 320	320 330	300
15						310 410 320	310 310	310 330	320	300 310	300 330	320 300
16	310	310	330	320 320	320 300	310						
17												
18							320 320	320 310	330 330	310 330	320 300	340 320
19	350	300				320	320 330	320	320 320	310 320		290
20			300		320 330	320 320	310 310	310 310	310 300	350	300 300	
21				310 300	310 300			320		320	330 310	370
22		F			320	310		310	310 300	310 330	F F	F 300
23											300 350	
24					310		320	320	320	310 300		
25						320 310		330	310	310 300	310 310	300
26	330	340		300 320		320	310 300	330	330 330	320 300		
27		310	300 300	310 310	310	300	310	310 310	310		330	350
28									320 300		320 320	320 480
29							310	330 320		320		
30						310		320		310 320	310 300	

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3 hours)

F = 112 MHz

INTENSITY (dB)

October 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1		0		17	2	5	8	11	10	8	15	-3			-2	8	8	-5						
2	10	7		-1		11	-5		-1	1	-3	-2					N	N	N	N	N	N	N	N
3					1	13	2		-6	5	-4	•-3		-4			N	N	N	N	N	N	N	N
4					-3		0		11	-1	10						N	N	N	N	N	N	N	N
5				3							7		3				N	N	N	N	N	N	N	N
6	-3	•14	7				5	8	12	10	12						N	N	N	N	N	N	N	N
7	0																N	N	N	N	N	N	N	N
8	5				-2	7	5		7	-5							N	N	N	N	N	N	N	N
9			-2	-2	-4	•4	-2	•12	9	9	8	•8	•15	•22	24	23	N	N	N	N	N	N	N	N
10	15	18	2	-5	5		-1		6	1	-2		1			5	N	N	N	N	N	N	N	N
11			3		3	0	10		2	6	-3	-3					N	N	N	N	N	N	N	N
12							-5	-1	4	6						1	N	N	N	N	N	N	N	N
13	-6	•7	•0	•12	16	•15	13	7	10	20	24	11	20	25	18	13	•3	N	N	N	N	N	N	N
14	9		12	-4													N	N	N	N	N	N	N	N
15	2	25	1	1	13	3	-2	•13	8	-5	17		10	7	10	8	15	N	N	N	N	N	N	N
16	-1		-2		0				-2		•17	7	6	15	20	15	•14	N	N	N	N	N	N	N
17	-2	7	7	18	12	34	•10	7		-5	6					-5	5	N	N	N	N	N	N	N
18	•0		-5	3	-5	12	2	16	10	20		-2	15	•18	18	N	N	N	N	N	N	N	N	N
19	-6	-3	0	-5			-4	0			9		3		9	8	8	N	N	N	N	N	N	N
20		13	•-3	7	5	•4											18	N	N	N	N	N	N	N
21		7	-4	-5	2	2		-3						-2				N	N	N	N	N	N	N
22	-5					-2				-2	-5							N	N	N	N	N	N	N
23	-5				-6					5			-5		7	-3		N	N	N	N	N	N	N
24								-6			-3		-7	20	•8	13	13	N	N	N	N	N	N	N
25	-2				-3	-7	9	3	0									N	N	N	N	N	N	N
26			14		8	•-1	8		-5		7		12	•9	15	27	15	N	N	N	N	N	N	N
27	-3			-4	6	0	13	-2	9	0		2	-1	-3	-2			N	N	N	N	N	N	N
28		-4			4	4	11	-4	-1	-1	10	15		12	23	18	8	N	N	N	N	N	N	N
29		-6	8	18	5	-2	-5	-1							0	-1	13	N	N	N	N	N	N	N
30				-5	5	4	8			-3				-3				N	N	N	N	N	N	N
31	-5		2	6	1	•6	0	0		-4	3	2						N	N	N	N	N	N	N
Mean	0	6	3	3	4	5	3	4	5	3	7	3	5	8	11	10	11							

Syowa Station 15° EAST MERIDIAN TIME (U.T. F = 112 MHz RANGE (km)
+3 hours) October 1974

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1	270	300	300 300	300 300	300 320	300 310		340 300	330 310			
2	310 300	310	300	300	290 290	320 320			N N N	N N N	N N	N N
3			330 300	310	300 310	380 350	320		N N N	N N N	N N	N N
4		300		300	300 290	300			N N N	N N N	N N	N N
5		330				300 330			N N N	N N N	N N	N N
6	300 350	300		320 330	300 320	300			N N N	N N N	N N	N N
7	300								N N N	N N N	N N	N N
8	320		320	320 320	300 370				N N N	N N N	N N	N N
9		330	310 310	370 310	310 300	310 330	360 360	320 330	320 N	N N N	N N	N N
10	330 330	330 290	300	310	300	310 340	310		350 N	N N N	N N	N N
11		310	320	320 320	300	300 300	300		N N N	N N N	N N	N N
12				310	310	320 340			320 N	N N N	N N	N N
13	330 350	330 320	320 320	320 330	320 300	310 310	320 300	320 310	300 N	N N N	N N	N N
14	320	300 350							N N N	N N N	N N	N N
15	340 300	310 320	330 330	310 350	310 310	320	330 330	350 350	330 N	N N N	N N	N N
16	320	300	300		300	340 330	300 330	300 320	320 N	N N N	N N	N N
17	300 310	320 310	300 250	300 320	320	310		310	300 N	N N N	N N	N N
18	300	300 330	330 300	310 320	320 300	310	300 300	300 N	N N N	N N N	N N	N N
19	410 450	320 350		300 310		300	300	300 300	330 N	N N N	N N	N N
20	300	300 340	300 300						330 N	N N N	N N	N N
21	340	350 320	330 310	310			330		N N N	N N N	N N	N N
22	330		320		290	320			N N N	N N N	N N	N N
23	340		320		320		300	320 300	N N N	N N N	N N	N N
24				370		300	350 300	310 310	320 N	N N N	N N	N N
25	300		320	350 300	310 300				N N N	N N N	N N	N N
26		330	300 300	300	300	320	300 300	310 280	330 N	N N N	N N	N N
27	300	360	310 300	300 310	300 300	300	340 300	300	N N N	N N N	N N	N N
28	310		310 300	300 300	300 320	300 300	300	300 330	300 N	N N N	N N	N N
29	330	300 300	300 290	360 320				300 300	320 N	N N N	N N	N N
30		310	300 290	300	300		300		N N N	N N N	N N	N N
31	320	300 300	340 390	300 300	300	300 310			N N N	N N N	N N	N N

Syowa Station

45° EAST MERIDIAN TIME (U.T.

F = 112 MHz

INTENSITY (dB)

+3 hours)

October 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									-2	2	0						7	-3	0				-5	8
2	N	N	N	N	N	N	N	N	N	N	N	N						-2	-3		3			
3	N	N	N	N	N	N	N	N	N	N	N	N			-3		-5	-5	-5	-5				
4	N	N	N	N	N	N	N	N	N	N	N	N												
5	N	N	N	N	N	N	N	N	N	N	N	N										-5	-4	
6	N	N	N	N	N	N	N	N	N	N	N	N												-5
7	N	N	N	N	N	N	N	N	N	N	N	N												
8	N	N	N	N	N	N	N	N	N	N	N	N						-1	-5	-2				-5
9	N	N	N	N	N	N	N	N	N	N	N	N	7	-3					-5	-5			19	-5
10	N	N	N	N	N	N	N	N	N	N	N	N												
11	N	N	N	N	N	N	N	N	N	N	N	N												
12	N	N	N	N	N	N	N	N	N	N	N	N										-5		
13	N	N	N	N	N	N	N	N	N	N	N	N			4				-3		-6 -5		-5	7
14	N	N	N	N	N	N	N	N	N	N	N	N			-2	-2			-5				5	8
15	N	N	N	N	N	N	N	N	N	N	N	N	0	1	-3								-5	
16	N	N	N	N	N	N	N	N	N	N	N	N	0		0	-3			-2				-4	
17	N	N	N	N	N	N	N	N	N	N	N	N	0	5	3			7		3			-5	13
18	N	N	N	N	N	N	N	N	N	N	N	N	10	8	5	7	3	3	-5		4 5	3	20	8
19	N	N	N	N	N	N	N	N	N	N	N	N			-5	2	9	-4	8	-1	5		11	
20	N	N	N	N	N	N	N	N	N	N	N	N				-3				-5	-4		-3	3
21	N	N	N	N	N	N	N	N	N	N	N	N						-4	-3			-4		
22	N	N	N	N	N	N	N	N	N	N	N	N					-2	0	7	5	-2	-6	-5	2
23	N	N	N	N	N	N	N	N	N	N	N	N												
24	N	N	N	N	N	N	N	N	N	N	N	N	-2	-3	-7	8	8							-7 -7
25	N	N	N	N	N	N	N	N	N	N	N	N	-5	0	-1	8	-5	0	-4					
26	N	N	N	N	N	N	N	N	N	N	N	N	-5	-1	-2	0	-4	-2	-2	-4	-2			
27	N	N	N	N	N	N	N	N	N	N	N	N		0	8	5	-5	-6	-2	-5	-3		0	
28	N	N	N	N	N	N	N	N	N	N	N	N	2	11	0	0			-5			1		
29	N	N	N	N	N	N	N	N	N	N	N	N		-3								-5		
30	N	N	N	N	N	N	N	N	N	N	N	N	-3	-5	-4									
31	N	N	N	N	N	N	N	N	N	N	N	N										-4		-6
Mean													0	0	1	2	1	-1	-2	-2	-1	-3	1	2

Syowa Station 45° EAST MERIDIAN TIME (U.T. F = 112 MHz RANGE (km)
+3hours) October 1974

Day	1 2		1 3		1 4		1 5		1 6		1 7		1 8		1 9		2 0		2 1		2 2		2 3	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1									320		320	310					320	330	310				300	290
2	N	N	N	N	N	N	N	N	N	N	N	N						310	320		300			
3	N	N	N	N	N	N	N	N	N	N	N	N			330		300	330	300	340				
4	N	N	N	N	N	N	N	N	N	N	N	N												
5	N	N	N	N	N	N	N	N	N	N	N	N									310		310	
6	N	N	N	N	N	N	N	N	N	N	N	N												330
7	N	N	N	N	N	N	N	N	N	N	N	N												
8	N	N	N	N	N	N	N	N	N	N	N	N					320	300	300					300
9	N	N	N	N	N	N	N	N	N	N	N	N	320	320					320	310			320	320
10	N	N	N	N	N	N	N	N	N	N	N	N												
11	N	N	N	N	N	N	N	N	N	N	N	N												
12	N	N	N	N	N	N	N	N	N	N	N	N									330			
13	N	N	N	N	N	N	N	N	N	N	N	N			310				330		290 370		310	350
14	N	N	N	N	N	N	N	N	N	N	N	N			330	340			300				330	310
15	N	N	N	N	N	N	N	N	N	N	N	N	330	320	300								320	
16	N	N	N	N	N	N	N	N	N	N	N	N	320		320	300			310				310	
17	N	N	N	N	N	N	N	N	N	N	N	N	330	310	320		320		310				350	300
18	N	N	N	N	N	N	N	N	N	N	N	N	320	310	320	340	330	320	300		310 370	330	300	300
19	N	N	N	N	N	N	N	N	N	N	N	N			300	330	330	300	320	300	290		320	
20	N	N	N	N	N	N	N	N	N	N	N	N			300				300		300		290	300
21	N	N	N	N	N	N	N	N	N	N	N	N					320	320			300			
22	N	N	N	N	N	N	N	N	N	N	N	N					330	310	310	310	300	380	300	310
23	N	N	N	N	N	N	N	N	N	N	N	N												
24	N	N	N	N	N	N	N	N	N	N	N	N	330	320	310	320	310							310 380
25	N	N	N	N	N	N	N	N	N	N	N	N	310	320	300	320	320	320	310					
26	N	N	N	N	N	N	N	N	N	N	N	N	310	310	310	320	310	310	300	310	300			
27	N	N	N	N	N	N	N	N	N	N	N	N	330		320	310	300	290	300	430	350		320	
28	N	N	N	N	N	N	N	N	N	N	N	N	330		320	300	300		320		300			
29	N	N	N	N	N	N	N	N	N	N	N	N	320								310			
30	N	N	N	N	N	N	N	N	N	N	N	N	320	330	320									
31	N	N	N	N	N	N	N	N	N	N	N	N									330		330	

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3 hours)

F = 112 MHz

INTENSITY (dB)

November 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1		-5		12													N	N	N	N	N	N	N	N
2		0		-2		-6		-5				7		10	-4		N	N	N	N	N	N	N	N
3										-4				9			N	N	N	N	N	N	N	N
4			10		-2												N	N	N	N	N	N	N	N
5								7	10	-2	-6			-2	-5	-4	N	N	N	N	N	N	N	N
6	15	-2	-6		4	-5			0				-1	-5	0	-5	25	N	N	N	N	N	N	N
7															N	N	N	N	N	N	N	N	N	N
8								-3						-3			N	N	N	N	N	N	N	N
9	0	22			7	-4	-5	-3	0		8	4	-3	15	15	18	25	N	N	N	N	N	N	N
10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
12	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
13					-4		10				0						-2	12	7					
14	-6	-7			7		-2		-4				-5	17	15	8	12	N	N	N	N	N	N	N
15																	N	N	N	N	N	N	N	N
16							-3				4	-5					N	N	N	N	N	N	N	N
17			-5	-1			-4	-1			5	-3	14	5	4	22	N	N	N	N	N	N	N	N
18	17	-2	1				3										N	N	N	N	N	N	N	N
19	-3	-3	-6						-3				8		-3		N	N	N	N	N	N	N	N
20				6	0	3	8	2			-2	0	-6				N	N	N	N	N	N	N	N
21																	N	N	N	N	N	N	N	N
22	6	0	-2	9		3	7		-4	-3			8	3	13		N	N	N	N	N	N	N	N
23				-6			-5	-3	3								N	N	N	N	N	N	N	N
24			5		-2	4	-5	-4	4	-4					3	-5	N	N	N	N	N	N	N	N
25			5	-4		-2			6						9	0	N	N	N	N	N	N	N	N
26		-5	3	14	0						-1						N	N	N	N	N	N	N	N
27							2	0	10								N	N	N	N	N	N	N	N
28											4					11	N	N	N	N	N	N	N	N
29					-4								-5				N	N	N	N	N	N	N	N
30																	N	N	N	N	N	N	N	N
Mean	5	0	1	3	1	-1	0	0	2	0	0	3	-1	5	5	4	16							

F = 112 MHz RANGE (km)
 Syowa Station 15° EAST MERIDIAN TIME (U.T. +3hours) November 1974

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1	290	330							N	N N	N N	N N
2	300	330	300 400	380		310	310	300	N	N N	N N	N N
3					300		320		N	N N	N N	N N
4		330	350						N	N N	N N	N N
5				320	310 310	330	300	330 370	N	N N	N N	N N
6	300 390	320 380	310 320		320		300 300	300 290	320 N	N N	N N	N N
7								N N	N N	N N	N N	N N
8				310			300		N	N N	N N	N N
9	300 320		300 300	290 300	300	350 300	310 290	290 300	320 N	N N	N N	N N
10	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N
11	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N
12	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N	N N
13			310	300		300			300 300	320		
14	300 300		300	300	290		300 300	300 300	300 N	N N	N N	N N
15									N	N N	N N	N N
16				320		300	290		N	N N	N N	N N
17		370 320		320	300	300	290 300	300 290	310 N	N N	N N	N N
18	310 330	320		320					N	N N	N N	N N
19	300 300	310			350	350		290	N	N N	N N	N N
20		310	300 310	300 310		330	290 300		N	N N	N N	N N
21									N	N N	N N	N N
22	300 310	310 300	310 320		300 300		300	290 320	N	N N	N N	N N
23		300		300 320	320				N	N N	N N	N N
24		310	320 310	300 300	290 300			350 280	N	N N	N N	N N
25		300 310	330		300			300 350	N	N N	N N	N N
26	300	300 320	300			350			N	N N	N N	N N
27				310 310	320				N	N N	N N	N N
28						320		320	N	N N	N N	N N
29			300				330		N	N N	N N	N N
30									N	N N	N N	N N

Syowa Station

45° EAST MERIDIAN TIME (U.T. +3 hours)

F = 112 MHz

INTENSITY (dB)

November 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N												
2	N	N	N	N	N	N	N	N	N	N	N	N												
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N												
5	N	N	N	N	N	N	N	N	N	N	N	N												-6
6	N	N	N	N	N	N	N	N	N	N	N	N	5	0	-2	-3								
7	N	N	N	N	N	N	N	N	N	N	N	N					0	1	-3					
8	N	N	N	N	N	N	N	N	N	N	N	N							-5	5	3	-4		
9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
12	N	N	N	N	N	N	N	N	N	N	N	N	-2	-5	7		0 10		20		-1	-5	12	
13					-1				N	N	N	N	-4	-6	0	-3	8	10	-3	-2	15	-2	-7	
14	N	N	N	N	N	N	N	N	N	N	N	N	-2	-4		8								
15	N	N	N	N	N	N	N	N	N	N	N	N												
16	N	N	N	N	N	N	N	N	N	N	N	N	6	1					3					
17	N	N	N	N	N	N	N	N	N	N	N	N	6	8	5	0	2	0	2	4	-4	-3	2	-4
18	N	N	N	N	N	N	N	N	N	N	N	N		-4				-6	-5	4	-5	2	-1	-5
19	N	N	N	N	N	N	N	N	N	N	N	N				0	-1	1		-4				-7
20	N	N	N	N	N	N	N	N	N	N	N	N	-3	3	1	-1	5	0	-4		7 -5			
21	N	N	N	N	N	N	N	N	N	N	N	N	6	-3	8	-2		-5		-6	-2			-6
22	N	N	N	N	N	N	N	N	N	N	N	N		-2	-1			-1						
23	N	N	N	N	N	N	N	N	N	N	N	N										-7		
24	N	N	N	N	N	N	N	N	N	N	N	N		2	-5	-1	2	22	-2	7	4			-5
25	N	N	N	N	N	N	N	N	N	N	N	N	-2			-3		-5	-2					
26	N	N	N	N	N	N	N	N	N	N	N	N	7	4	7	-5	2	-3	-2					
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N												
29	N	N	N	N	N	N	N	N	N	N	N	N												
30	N	N	N	N	N	N	N	N	N	N	N	N												
Mean													2	0	2	-1	4	1	-2	4	2	-3	-1	-6

F = 112 MHz RANGE (km)
 Syowa Station 15° EAST MERIDIAN TIME (U.T. +3 hours) November 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N												
2	N	N	N	N	N	N	N	N	N	N	N	N												
3	N	N	N	N	N	N	N	N	N	N	N	N												
4	N	N	N	N	N	N	N	N	N	N	N	N												
5	N	N	N	N	N	N	N	N	N	N	N	N											310	
6	N	N	N	N	N	N	N	N	N	N	N	N	310	300	310	300								
7	N	N	N	N	N	N	N	N	N	N	N	N					330	320	300					
8	N	N	N	N	N	N	N	N	N	N	N	N							300	330	330	300		
9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
12	N	N	N	N	N	N	N	N	N	N	N	N	300	310	310		290 340		290		330	290	300	
13					300				N	N	N	N	310	300	310	300	300	300	310	350	300	300	320	
14	N	N	N	N	N	N	N	N	N	N	N	N	290	290		300								
15	N	N	N	N	N	N	N	N	N	N	N	N												
16	N	N	N	N	N	N	N	N	N	N	N	N	320	310					300					
17	N	N	N	N	N	N	N	N	N	N	N	N	320	320	310	310	310	320	330	340	280	280	320	300
18	N	N	N	N	N	N	N	N	N	N	N	N	300				300		300	310	350	310	300	300
19	N	N	N	N	N	N	N	N	N	N	N	N			320	320	310		290				320	
20	N	N	N	N	N	N	N	N	N	N	N	N	320	320	310	320	330	300	300		350 430			
21	N	N	N	N	N	N	N	N	N	N	N	N	320	300	310	300		330		300	310		380	
22	N	N	N	N	N	N	N	N	N	N	N	N	300	310			300							
23	N	N	N	N	N	N	N	N	N	N	N	N									320			
24	N	N	N	N	N	N	N	N	N	N	N	N	310	300	380	320	330	330	320	300		300		
25	N	N	N	N	N	N	N	N	N	N	N	N	310		300		300	290						
26	N	N	N	N	N	N	N	N	N	N	N	N	310	310	320	320	320	300	300					
27	N	N	N	N	N	N	N	N	N	N	N	N												
28	N	N	N	N	N	N	N	N	N	N	N	N												
29	N	N	N	N	N	N	N	N	N	N	N	N												
30	N	N	N	N	N	N	N	N	N	N	N	N												

Syowa Station

45° EAST MERIDIAN TIME (U.T.

F = 112 MHz

INTENSITY (dB)

+3 hours)

December 1974

Day	00		01		02		03		04		05		06		07		08		09		10		11	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1																	N		N	N	N	N	N	N
2	-2	3	1	10	-2	-2	12	9	4	0	0	4	14		9	1	-2	0						
3					-4		1		4		-4	2	-3	-5	14	0	-5		7					
4	-2	-2	-2			5	-4				10	4												
5																								
6		-5															8							
7							2		5		-3													
8				-5							1		-2	2										
9		2	15	-2	9		F	F	-5		-6					4	13	5						
10		-4	-6	8		-6	11						3	5	-5	0								
11	-3				8		0	-5			0	-4			19	12	9							
12							5	-5	1		2		0	2	12	F	F	F	F	F	F	F	F	F
13			2				-5	-3					15	8										
14				6	0	-3	-4	-6	7	7	11	3	-1	-2	-3	-5								
15					-5										-5	5								
16	-2				-3																			
17											0	-6	-2	2										
18			7				-3	7	-1						8	14	10	7	5	17				
19				-5					-4	7	1	-4		-1			7	-2	14					
20	-2		5	12			-3	-4	-4				5	0			0		-2					
21			-4											2										
22	5				7	0			-2				-1			7	-2	-3						
23			9	9	2	9																		
24	12								-2															
25																								
26			6	-5							0		-5	10										
27			2	-2	9		0 2	-6	9	-4	3	-3	-6			10	15	16	4		20		-5	
28		-5		-3			-5																	
29							-2				-5	3												
30				6																				
31						5		-2			12		-2	-1	5	-5	0	12						
Mean	1	-2	2	4	0	3	2	-2	1	0	3	1	2	1	6	3	4	7	5					

F = 112 MHz RANGE (km)
 Syowa Station 45° EAST MERIDIAN TIME (U.T. +3hours) December 1974

Day	00	01	02	03	04	05	06	07	08	09	10	11
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1									N	N N	N N	N N
2	380 320	290 300	290 290	320 320	340 300	300 310	310	300 290	310 320			
3			290	330	310	300 300	300 290	300 290	370	340		
4	330 300	290	310	310		310 300						
5												
6	320					300	320 320	320 300	300			
7				340	310	310						
8		330				300	290 310					
9	300	300	320 300	F	F 330	320		310 390	310 320			
10	310	290 330	290	280			300 300	300				
11	300		310	330 320		310 350		300	350 310			
12				330 330	290	300	300 300	340 F	F F	F F	F F	F F
13		310		290	370		330 310					
14		300	300 300	290	370 310	310 310	320 310	370 390	370			
15			300					350	320			
16	310		320									
17						350	310 330	310				
18		300		320	320 310			320 320	300 320	340 320		
19		300			330	310 310	290	330	320	330 320		
20	300	310 290		320	330 300		300 290		300	400		
21		290					320					
22	310		310 300		290		280	310	300 330			
23		320 320	310 310									
24	300				310							
25												
26		310 310				330	310	290				
27		300 300	310	290 350	330	300 290	310	300 320	310 350	320 350	300	370
28	310	310		320								
29				330		300 320						
30		310										
31			290	330		320	310 300	300 350	350 330			

Syowa Station

45° EAST MERIDIAN TIME (U.T.

F = 112 MHz

+3 hours)

INTENSITY (dB)

December 1974

Day	12		13		14		15		16		17		18		19		20		21		22		23	
	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30	.00	.30
1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	3		9	3	11	10
2							-4														-5			
3																			-3					
4																								
5																			-5					
6																								
7													-5		2	-4	-4							
8												-4	-5		2	9	2	3						
9						10	12		2	7	5	-4		-4							-4	5	10	-4
10								-5			-2	-7	-1	-4	0	-2	5	-5			-5		-4	-4
11						-5	22	15							-3	-4	4							
12	F	F	F	F	2			-4		9	11	8	-5											
13											12	9	0	6	9	-6	0		-4		13			
14															-5	-5								
15								4	-5							-1	12	-4		4	4		-3	
16															-2	-2		-5	2	2	1			
17															2	10	2	-5	-5		6		-2	
18								-3		-1	5	7	11			7								
19								-6	0						-4	-2	-3				12	10	3	5
20															4	-4			-5		4			
21											1						2	-5	0		2			
22												-3		3	-5	-3								
23										0	10	9	-6		9	5	5	-5			2		-4	
24															-2	6		8	-2	0			-3	
25															-2	10	13				-2		2	
26																			-3	2	-5	-5	4	0
27										-5	3	2					-5							
28																		-5						
29								-5	1	0	5	4	2	-4										
30																								
31													-6	0							8			
Mean								-1	0	3	3	3	1	0	2	0	1	-2	-2	2	4	3	0	

Syowa Station

45° EAST MERIDIAN TIME (U.T.

F = 112 MHz

+3 hours)

RANGE (km)

December 1974

Day	12	13	14	15	16	17	18	19	20	21	22	23
	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30	.00 .30
1	N N	N N	N N	N N	N N	N N	N N	N N	N N	N 320	320 320	320 320
2				330							300	
3										300		
4												
5										310		
6												
7							300	310 320 320				
8						300	310	330 330 320 320				
9				330 320	330	330 320	320	330			350 300	300 340
10					310	300	310 310	310 320	310 320	320	300	320 300
11				320 360	350			310	310 310			
12	F F	F F	300		310	320 320	320 310					
13						320	320 330	330 320	380 320	310	300	
14								300	310			
15					330 320				330 330	300	320 300	300
16								300 300	300	320 310	330	
17								310 330	300 280	300	390	300
18					380	320	310 320	350	310			
19					290 310			300	310 310		340 310	290 310
20								330 310		300	300	
21						310			310	300 310	310	
22							300	300 310	310			
23						330	330 310	300	310 300	330 320	350	310 360
24								310 310	330	300 320		
25								310 330	310		280	300
26										330 320	290 320	320 310
27						330 310	330		320			
28									330			
29					330 310	320 330	330 310	320				
30												
31							320	310			330	