

COMMONWEALTH OF AUSTRALIA  
DEPARTMENT OF EXTERNAL AFFAIRS

AUSTRALIAN NATIONAL ANTARCTIC RESEARCH EXPEDITIONS



INTERIM REPORTS

13

Hourly Measurements of Ionospheric Characteristics  
Macquarie Island, 1955

*By*

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## INTRODUCTION

The following report presents hourly values and graphs of ionospheric characteristics observed during 1955 at Macquarie Island (Geographic co-ordinates  $54^{\circ} 29' S$ ,  $158^{\circ} 58' E$ ; Geomagnetic coordinates  $61^{\circ} S$ ,  $243 E$ .)

The equipment, originally designed and built at C.S.I.R.O. Radiophysics Laboratory, is, with minor modifications, as described by Higgs (1943) and is substantially similar to ionospheric recorders in use at Townsville, Brisbane, Canberra, Hobart and Watheroo. The recorder sweeps a frequency range from 1.0 to 13.0 Mc/s in one minute fifty five seconds, and is entirely automatic. The transmitter peak pulse power is approximately 1.5kw and the receiver sensitivity about 10 micro-volt. The record obtained is photographic, on standard 35mm film, and is normally made six times per hour. Height marks at 50 km intervals, frequency marks at every 0.5 Mc/s from 1 to 10 Mc/s and at 11, 12 and 13 Mc/s, and the time are included on each record. The frequency time sweep is logarithmic.

The main modification in the equipment is a change in antenna switching circuits to make possible the use of a single wire Delta antenna (Cones, 1949). Two such antennas, one for transmitting resistors, are supported on a single 70 foot guyed steel mast.

The characteristics published in this report are those recommended at the Fifth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Stockholm, 1948; namely hourly values and monthly median values for each hour of foF2, foF1, foE, fEs, (M3000)F2, hpF2, h'F2, h'F1, h'E, and h'Es.

The symbols and terminology used in these tabulations have conformed as far as possible to those adopted at the above meeting. They were modified slightly following further recommendations made by Commission III of U.R.S.I., 1950, and as the result of discussion during the Tenth General Assembly of U.R.S.I., 1952. A complete list of symbols used in presenting ionospheric data obtained at Australian stations, commencing with the data issued in Ionospheric Prediction Service Series D; No. 46, is included in that issue.

## ACKNOWLEDGMENTS

Acknowledgment is made to the Ionospheric Prediction Service of the Commonwealth Observatory for the loan of the equipment and for help in the reduction and publication of results.

## REFERENCES.

- |                  |                                                                                                                                                                |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Higgs, A.J. 1943 | Commonwealth Scientific and Industrial Research Organization, Radiophysics Laboratory Report No.P.D.25/2.                                                      |
| Cones, H.N. 1949 | Impedance Characteristics of Some Experimental Broad-band Antennas for Vertical Incidence Ionospheric Soundings, J. of Res. of N.B.S. <u>43</u> 71, July 1949. |
| U.R.S.I. 1950    | International Scientific Radio Union, Proceedings of the General Assembly held in Zurich from September 11-22, 1950 Vol. VIII, Part 1, p.345.                  |

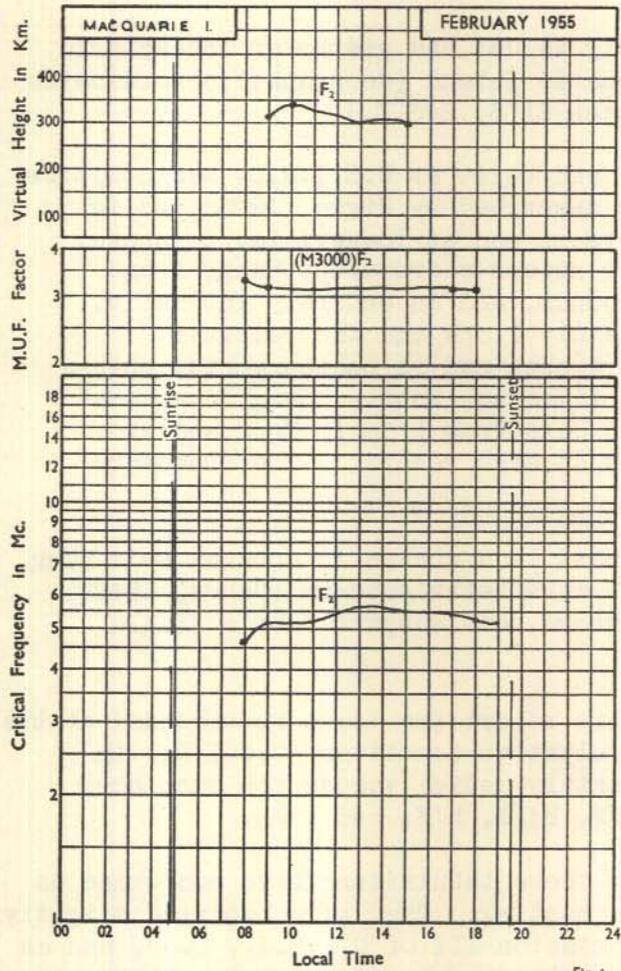


Fig. 1.

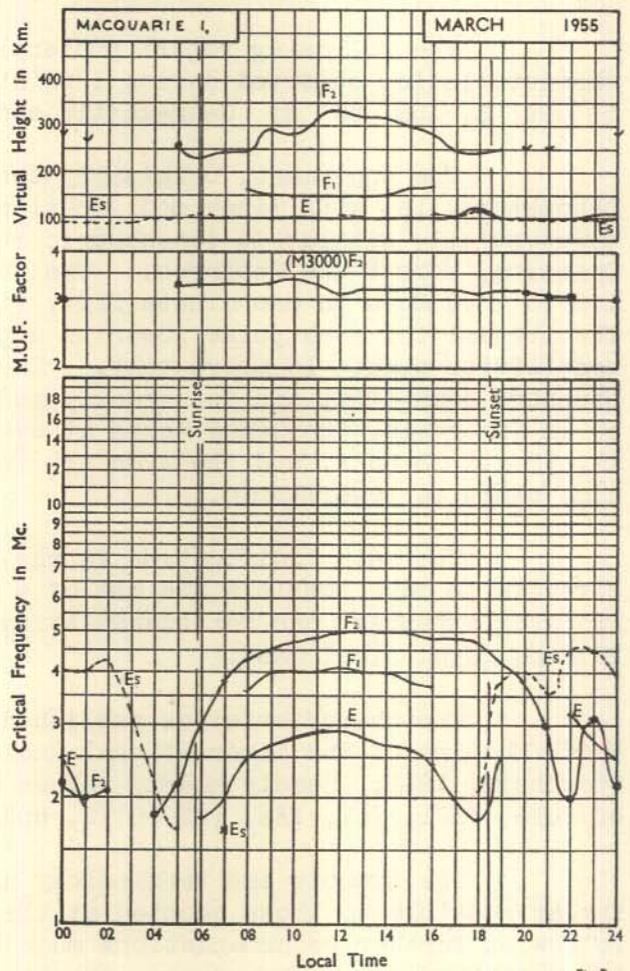


Fig. 2.

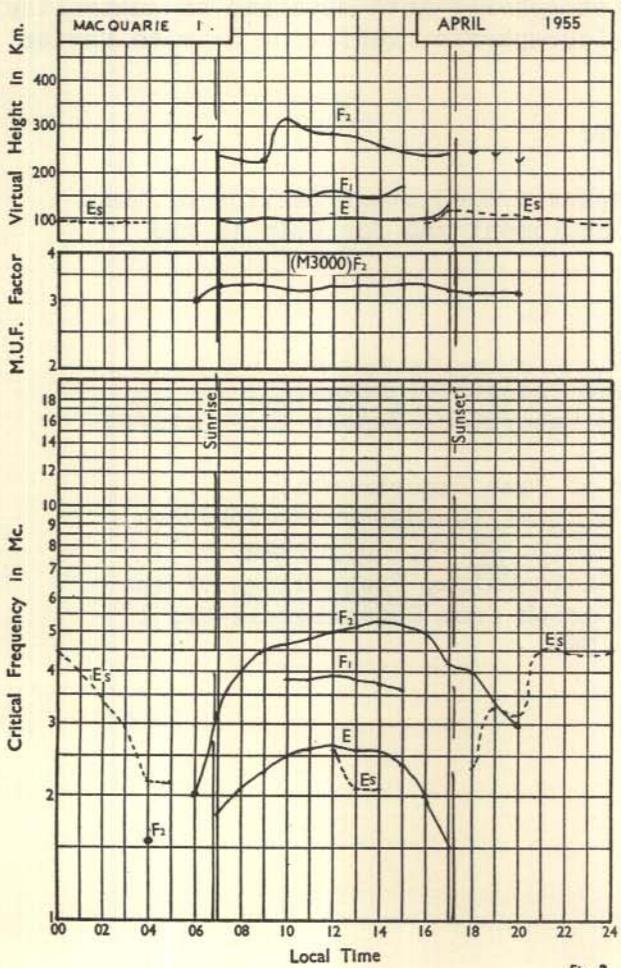


Fig. 3.

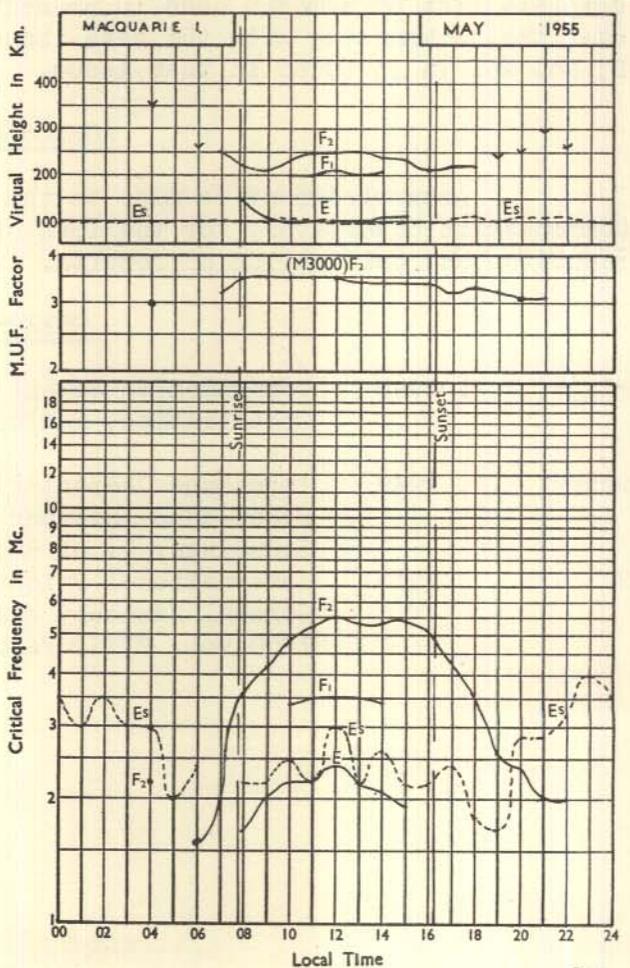


Fig. 4.

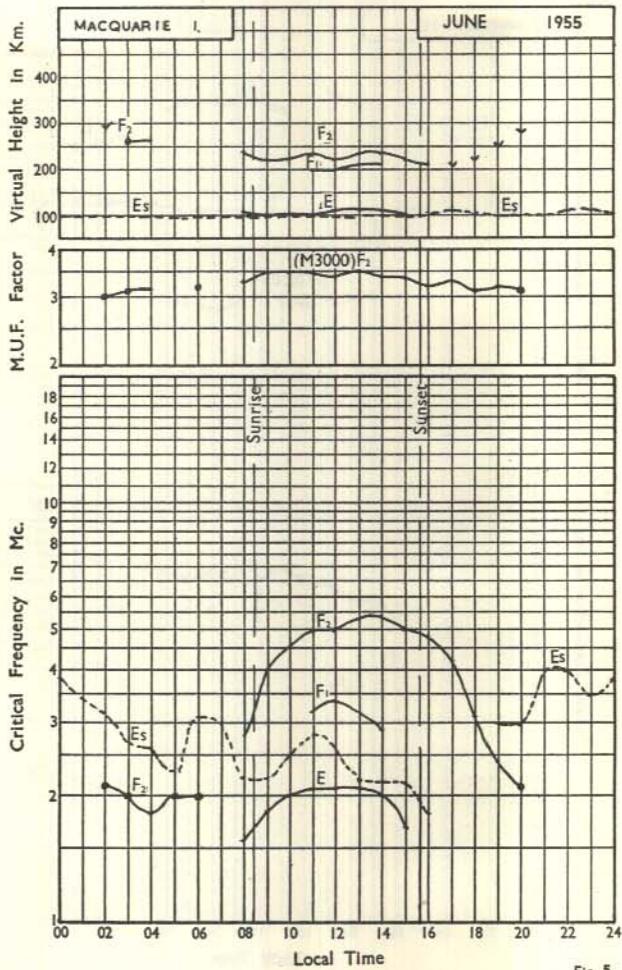


Fig. 5.

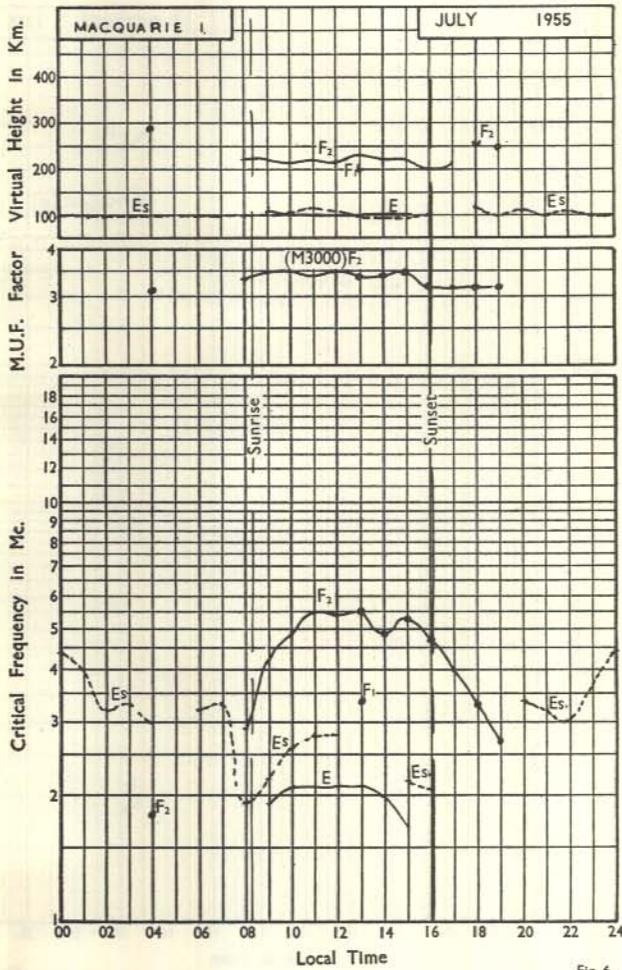


Fig. 6.

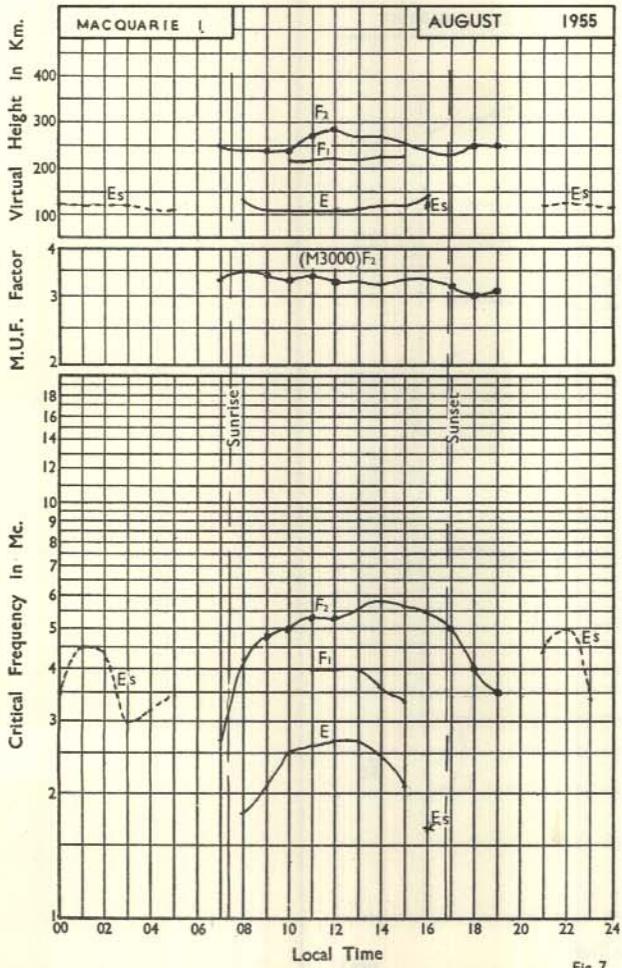


Fig. 7.

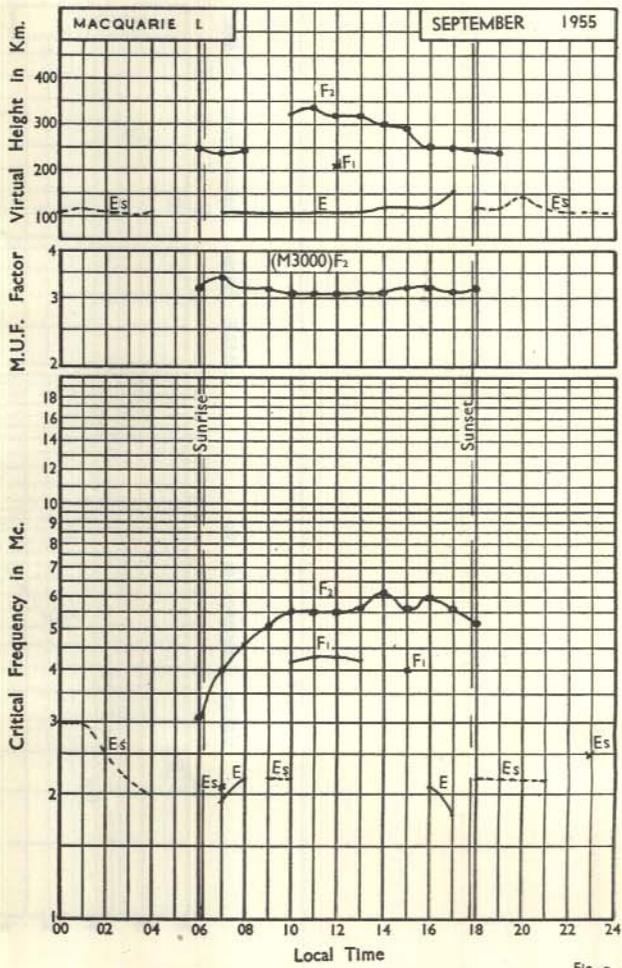


Fig. 8.

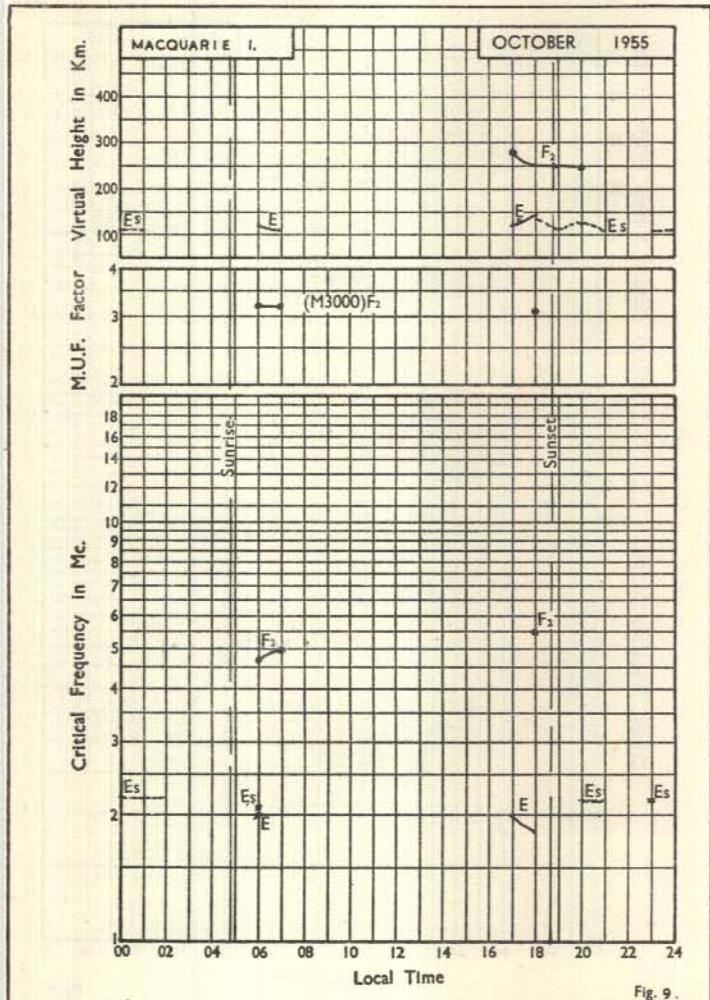


Fig. 9.

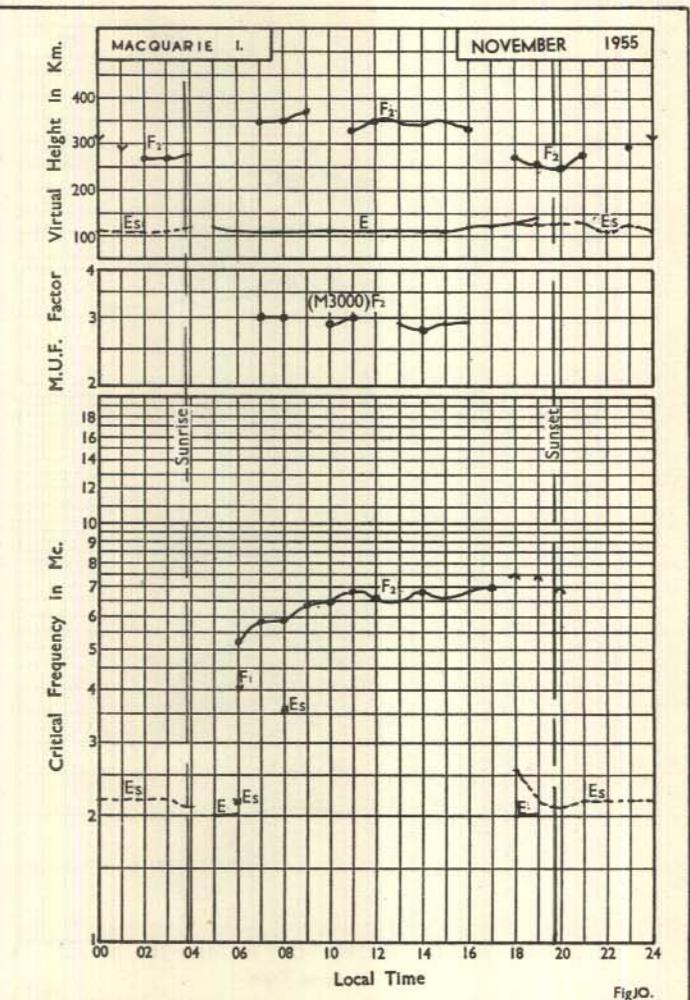


Fig. 10.

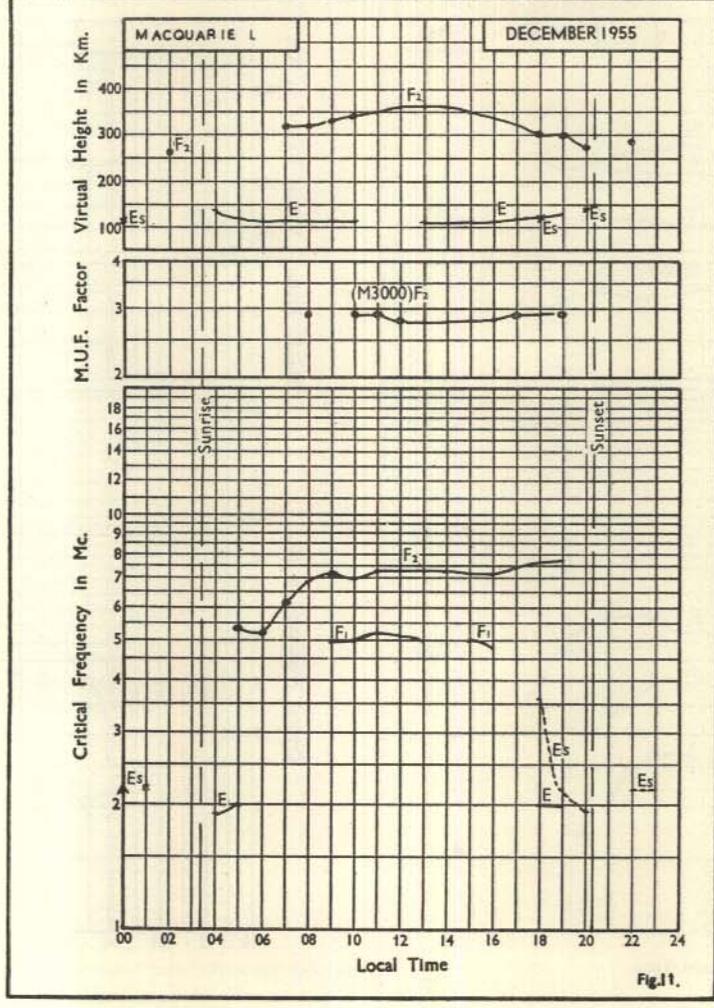


Fig. 11.

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING FEBRUARY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	#	#	#	#	(4.1)	(4.4)	4.7	(4.0)	5.3	5.4	5.4	5.4	c	c	c	c	c	c	c	c	c	c	c	c
2	c	c	c	c	c	c	c	c	c	c	c	c	c	6.0	5.6	5.6	5.6	5.5	(5.2f)	5.7	#	#	#	#
3	#	#	#	#	#	#	#	(4.6)	(4.6)	5.3	(5.2f)	5.5	5.5	5.6	5.5	5.4	5.5	(5.3f)	f	f	#	#	#	#
4	#	#	#	#	#	#	#	4.5	4.9	5.5	(5.2f)	5.7	5.8	6.0	5.9	6.0	5.5	5.5	5.4	5.8	#	#	#	#
5	#	#	#	#	#	#	#	#	#	b	b	b	4.3	4.5	b	(5.0)	4.9	(5.3f)	(5.5f)	#	f	#	#	#
6	#	#	c	#	#	b	b	b	b	b	c	c	c	c	c	c	c	c	c	c	c	c	c	c
7	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
8	#	#	#	#	#	#	#	b	b	b	5.3	5.3	5.5	5.8	5.5	5.4	5.5	(5.0)	(5.7)	(5.7)	(5.5f)	#	#	#
9	#	#	#	#	#	#	b	b	b	b	b	b	#	5.6	6.0	5.5	5.6	5.5	(5.8f)	5.5	f	#	#	#
10	#	#	#	#	#	#	b	b	b	4.7	4.7	5.0	c	5.3	c	c	c	c	c	c	c	c	c	c
11	c	#	#	#	#	#	b	b	4.8	5.7	5.4	5.4	5.4	5.8	5.7	5.5	5.6	5.1	(5.1)	(5.1)	5.9	#	#	#
12	c	#	c	#	#	#	b	b	b	b	b	b	b	b	b	5.5	5.3	(5.5f)	(5.8f)	f	b	b	b	#
13	#	#	#	#	#	#	b	b	b	b	b	5.5	5.7	b	(6.0)	5.6	5.7	5.5	5.0	(5.0f)	#	#	#	#
14	#	#	#	#	#	#	#	#	b	b	b	(4.9)	5.1	5.3	5.7	5.7	5.7	5.7	b	(5.7)	(5.2f)	#	#	#
15	#	#	#	#	#	b	b	b	b	b	5.0	b	5.1	b	5.2	5.2	5.2	5.4	5.0	#	#	#	#	#
16	#	#	#	#	#	#	#	#	#	#	#	5.2	5.4	5.4	5.5	5.3	5.0	5.0	#	(5.1f)	#	#	#	#
17	#	#	#	#	#	#	#	#	b	(5.7)	b	5.3	5.3	5.2	5.4	(5.2f)	(5.2f)	(5.2f)	#	#	#	#	#	#
18	#	#	#	#	#	#	#	(4.7)	5.2	5.5	5.2	5.5	5.7	5.8	6.0	5.5	c	c	c	c	c	c	c	c
19	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
20	#	#	#	#	#	#	#	#	4.5	4.8	5.1	5.2	5.3	5.4	5.4	5.5	5.4	5.1	#	#	#	b	#	#
21	#	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	f	(5.1f)	#	#	#	#	#	#
22	#	#	#	#	#	#	#	#	#	#	#	#	#	5.5	5.3	(5.3f)	#	#	#	#	#	#	#	#
23	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	c	c	c	c
24	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
25	c	c	c	c	c	c	c	c	c	c	c	c	5.5	5.6	5.6	5.9	(5.7f)	#	#	#	#	#	#	#
26	#	#	#	#	#	#	#	#	#	#	#	#	b	5.2	c	#	(5.1f)	b	b	5.2	#	#	#	#
27	#	#	#	#	#	#	#	#	(4.7)	(4.7)	4.9	5.5	5.7	5.5	5.3	5.5	5.3	5.0	5.0	(5.1f)	(4.6)	#	#	#
28	#	#	b	#	#	#	#	4.1	4.3	4.7	4.8	5.1	c	5.5	b	b	c	c	c	c	c	c	c	c
29																								
30																								
31																								
Median	*	*	*	*	*	*	*	*	(4.7)	5.2	5.2	5.2	5.4	5.6	5.6	5.5	5.5	5.4	(5.3)	5.2	*	*	*	*
No.	0	0	0	0	1	1	1	4	7	10	11	14	14	18	16	18	18	14	12	11	3	1	0	0

1a

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h'F_2$  OBSERVED DURING FEBRUARY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	#	#	#	#	#	c	c	c	320	320	300	340	c	c	c	c	c	c	c	c	c	c	c	c
2	c	c	c	c	c	c	c	c	c	c	c	c	c	290	290	280	280	b	b	b	#	#	#	#
3	#	#	#	#	#	#	#	b	b	320	350	320	350	270	310	b	b	b	f	f	#	#	#	#
4	#	#	#	#	#	#	#	b	b	290	(350)	320	300	300	320	290	280	b	b	b	#	#	#	#
5	#	#	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	#	f	#	#	#
6	#	#	c	#	#	b	b	b	b	b	c	c	c	c	c	c	c	c	c	c	c	c	c	c
7	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
8	#	#	#	#	#	#	#	b	b	b	b	b	b	320	280	b	b	b	b	b	b	#	#	#
9	#	#	#	#	#	#	#	b	b	b	b	b	b	#	320	310	340	b	b	f	b	#	#	#
10	#	#	#	#	#	#	#	b	b	b	b	b	c	b	c	c	c	c	c	c	c	c	c	c
11	c	#	#	#	#	#	#	b	b	400	320	340	260	320	300	280	300	b	b	b	b	b	#	#
12	c	#	c	#	#	#	#	b	b	b	b	b	b	b	b	300	b	b	b	f	b	b	b	#
13	#	#	#	#	#	#	#	b	b	b	b	b	b	350	b	300	b	300	b	b	b	#	#	#
14	#	#	#	#	#	#	#	#	#	b	b	b	b	400	350	340	320	c	b	b	b	#	#	#
15	#	#	#	#	#	b	b	b	b	b	c	b	350	b	b	b	b	b	b	#	#	#	#	#
16	#	#	#	#	#	#	#	#	#	#	#	#	330	b	300	300	b	b	b	#	f	#	#	#
17	#	#	#	#	#	#	#	#	b	b	b	b	320	b	b	320	b	b	b	#	#	#	#	#
18	#	#	#	#	#	#	#	#	b	300	290	310	300	300	290	280	b	c	c	c	c	c	c	c
19	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
20	#	#	#	#	#	#	#	#	b	b	340	380	c	320	300	320	310	b	b	#	#	#	#	#
21	#	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	f	b	#	#	#	#	#
22	#	#	#	#	#	#	#	#	#	#	#	#	#	b	b	b	#	#	#	#	#	#	#	#
23	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	c	c	c	c
24	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
25	c	c	c	c	c	c	c	c	c	c	c	c	c	320	300	330	300	290	#	#	#	#	#	#
26	#	#	#	#	#	#	#	#	#	#	#	#	#	b	b	c	#	b	b	b	#	#	#	#
27	#	#	#	#	#	#	#	#	#	b	b	b	300	290	300	b	b	b	b	b	b	b	#	#
28	#	#	b	#	#	#	#	b	b	b	b	330	c	350	b	b	c	c	c	c	c	c	c	c
29																								
30																								
31																								
Median	*	*	*	*	*	*	*	*	*	(320)	(340)	325	320	300	310	(300)	*	*	*	*	*	*	*	*
No.	0	0	0	0	0	0	0	0	2	5	6	10	11	13	13	8	4	0	0	0	0	0	0	0

1b

HOURLY VALUES OF  $f_p F_2$  OBSERVED DURING FEBRUARY 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 = 13.0$  Mc/s in  $1m55s$  157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	s	s	s	s	s	c	c	c	u	u	u	u	c	c	c	c	c	c	c	c	c	c	c	c
2	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
3	s	s	s	s	s	s	s	b	b	u	u	u	u	u	u	u	b	b	b	f	f	s	s	s
4	s	s	s	s	s	s	s	b	b	u	u	u	u	u	u	u	u	u	300	290	290	s	s	s
5	s	s	s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	(310f)	b	s	f	s	s	s
6	s	s	c	s	s	b	b	b	b	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
7	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	b	s	s	s
8	s	s	s	s	s	s	s	b	b	b	b	b	u	u	b	b	300	(300)	(300)	f	s	s	s	s
9	s	s	s	s	s	s	s	b	b	b	b	b	b	u	u	u	300	350	f	340	f	s	s	s
10	s	s	s	s	s	s	b	b	b	b	b	b	c	b	c	c	c	c	c	c	c	c	c	c
11	c	s	s	s	s	s	b	b	u	u	u	u	u	u	u	u	270	b	b	b	300	s	s	s
12	c	s	c	s	s	s	b	b	b	b	b	b	b	b	u	b	(300f)	(270f)	f	b	b	b	b	s
13	s	s	s	s	s	s	b	b	b	b	b	u	b	u	300	u	b	b	b	s	s	s	s	s
14	s	s	s	s	s	s	s	b	b	b	u	u	u	u	u	c	c	b	b	s	s	s	s	s
15	s	s	s	s	s	b	b	b	b	c	b	u	b	b	b	b	330	b	s	s	s	s	s	s
16	s	s	s	s	s	s	s	s	s	s	u	b	u	u	b	b	b	s	f	s	s	s	s	s
17	s	s	s	s	s	s	s	b	b	b	u	b	b	u	b	b	b	s	s	s	s	s	s	s
18	s	s	s	s	s	s	s	b	u	u	u	u	u	u	295	290	330	c	c	c	c	c	c	c
19	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
20	s	s	s	s	s	s	s	b	u	u	u	u	u	u	u	300	b	s	s	s	s	s	b	s
21	s	s	s	s	s	s	s	b	b	b	b	b	b	b	b	b	f	b	s	s	s	s	s	s
22	s	s	s	s	s	s	s	s	s	s	s	s	s	s	380	b	b	s	s	s	s	s	s	s
23	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	c	c	c	c	c
24	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
25	c	c	c	c	c	c	c	c	c	c	c	u	u	u	u	u	s	s	s	s	s	s	s	s
26	s	s	s	s	s	s	s	s	s	s	s	b	b	c	s	b	b	b	300	s	s	s	s	s
27	s	s	s	s	s	s	s	s	b	b	b	u	u	u	b	290	b	b	b	b	b	s	s	s
28	s	s	b	s	s	s	s	b	b	b	u	c	u	b	b	c	c	c	c	c	c	c	c	c
29																								
30																								
31																								
Median	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	(300)	(305)	*	(300)	*	*	*	*
No.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	5	6	3	5	1	0	0	0

2a

HOURLY VALUES OF  $(M3000)F_2$  OBSERVED DURING FEBRUARY 1955 AT MACQUARIE ISLAND

Sweep  $1.0 = 13.0$  Mc/s in  $1m55s$  157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	s	s	s	s	s	c	c	c	3.2	3.2	3.3	3.2	c	c	c	c	c	c	c	c	c	c	c	c
2	c	c	c	c	c	c	c	c	c	c	c	c	c	3.3	3.3	3.3	3.3	3.2	b	3.3	s	s	s	s
3	s	s	s	s	s	s	s	b	b	3.3	(2.9f)	3.2	3.0	(3.3f)	(3.1f)	3.2	b	(3.4f)	f	f	s	s	s	s
4	s	s	s	s	s	s	s	b	b	3.3	f	3.1	3.3	3.2	3.2	3.3	3.2	3.2	3.2	3.2	s	s	s	s
5	s	s	s	s	s	s	s	s	b	b	b	b	b	b	b	b	b	(2.9f)	(3.0f)	s	f	s	s	s
6	s	s	c	s	s	b	b	b	b	b	c	c	c	c	c	c	c	c	c	c	c	c	c	c
7	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	b	s	s	s
8	s	s	s	s	s	s	s	b	b	b	b	3.1	3.2	3.4	b	3.2	3.2	3.2	(3.2)	(3.1)	f	s	s	s
9	s	s	s	s	s	s	b	b	b	b	b	b	s	3.2	3.2	3.1	3.2	2.9	f	3.0	f	s	s	s
10	s	s	s	s	s	s	b	b	b	b	b	3.2	c	3.0	c	c	c	c	c	c	c	c	c	c
11	c	s	s	s	s	s	b	b	2.9	3.2	3.0	3.6	3.2	3.2	3.3	3.3	3.4	b	b	b	3.2	s	s	s
12	c	s	c	s	s	s	b	b	b	b	b	b	b	b	b	3.2	3.0	(3.2f)	(3.4f)	f	b	b	b	s
13	s	s	s	s	s	s	b	b	b	b	(3.1f)	3.0	b	(3.2)	3.2	3.2	3.3	b	(3.1f)	s	s	s	s	s
14	s	s	s	s	s	s	s	b	b	b	(2.9)	3.1	3.2	3.2	3.2	3.0	b	f	(3.2f)	s	s	s	s	s
15	s	s	s	s	s	b	b	b	b	3.1	b	3.0	b	3.0	3.0	2.8	3.0	2.9	s	s	s	s	s	s
16	s	s	s	s	s	s	s	s	s	s	s	3.2	3.2	3.3	3.3	3.2	3.2	3.2	s	f	s	s	s	s
17	s	s	s	s	s	s	s	b	b	b	3.3	3.2	3.1	3.2	(3.0f)	(3.0f)	(3.4f)	s	s	s	s	s	s	s
18	s	s	s	s	s	s	s	b	3.3	3.4	3.2	3.3	3.3	3.2	3.3	3.0	c	c	c	c	c	c	c	c
19	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
20	s	s	s	s	s	s	s	b	b	3.2	3.1	3.3	3.2	3.2	3.1	3.3	3.3	s	s	s	s	s	b	s
21	s	s	s	s	s	s	s	b	b	b	b	b	b	b	b	b	f	b	s	s	s	s	s	s
22	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	2.8	3.0	(2.9f)	s	s	s	s	s	s
23	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	c	c	c	c
24	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
25	c	c	c	c	c	c	c	c	c	c	c	c	3.1	3.3	3.0	3.1	(3.2f)	s	s	s	s	s	s	s
26	s	s	s	s	s	s	s	s	s	s	s	s	b	3.0	c	s	b	b	3.2	s	s	s	s	s
27	s	s	s	s	s	s	s	s	b	b	b	3.3	3.2	3.2	3.1	3.3	3.3	3.2	3.2	(3.2f)	b	s	s	s
28	s	s	b	s	s	s	s	b	b	b	3.2	s	3.0	b	b	c	c	c	c	c	c	c	c	c
29																								
30																								
31																								
Median	*	*	*	*	*	*	*	*	*	(3.3)	(3.2)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	(3.2)	(3.2)	*	*	*	*
No.	0	0	0	0	0	0	0	0	2	5	6	13	13	17	15	17	15	13	6	8	2	0	0	0

2b

HOURLY VALUES OF foF1 OBSERVED DURING FEBRUARY 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 = 13.0$  Mc/s in 1m55s

$157.5^\circ E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1				e	a	a	a	a	c	b	b	b	a	a	a	a	a	a	a	a				
2						a	a	a	c	a	a	a	a	b	b	a	b	h	h	h				
3						s	s	b	b	b	b	b	b	4.2	b	b	b	b						
4								b	b	b	b	b	4.3	b	4.3	4.3	h	h	h					
5						s	s	s	s	b	b	b	b	b	b	b	b	h	h	h				
6						b	b	b	b	b	c	c	c	c	c	c	c	a	a	a				
7				e	e	a	a	a	c	c	c	c	e	e	e	e	e	a	a	a				
8				s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	b	b				
9				s	s	s	b	b	b	b	b	b	s	b	b	b	h	h	h	h				
10				s	s	s	b	b	b	b	b	h	h	h	h	a	a	a	a	a				
11				s	s	s	b	b	4.3	4.3	b	b	b	b	b	h	h	h	h	h				
12								b	b	b	h	h	h	h	h	b	b	b	b	b				
13				s	s	s	b	b	b	b	b	b	b	b	h	h	b	b	b	b				
14				s	s	s	s	s	c	c	c	c	c	c	a	a	a	a	a	a				
15				s	s	b	b	b	b	b	c	b	c	b	c	e	a	a	a	a				
16				s	s	s	s	s	s	s	s	c	c	c	c	c	e	e	e	s	s			
17				s	s	s	s	s	b	c	b	b	c	c	c	b	a	b	s	s				
18				s	s	s	s	s	b	c	c	c	c	e	4.3	e	e	e	e	e				
19				a	a	c	c	c	c	c	c	c	c	c	c	e	e	e	e	e				
20				s	s	s	s	s	c	c	c	c	e	4.2	e	(4.2)	e	e	s	s				
21				s	s	s	s	s	b	b	b	b	b	b	b	b	b	s	s	s				
22				s	s	s	s	s	s	s	s	s	s	4.2	c	c	s	s	s	s				
23				s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s				
24				c	c	c	c	c	c	c	c	c	e	e	e	e	e	e	e	e				
25				c	c	c	c	c	c	c	c	c	c	c	c	a	e	s	s	s				
26				s	s	s	s	s	s	s	s	s	b	b	c	s	e	b	b	b				
27				s	s	s	s	s	s	b	c	c	b	4.3	4.3	4.2	b	b	b	b				
28				s	s	s	s	c	c	c	c	c	a	a	b	c	c	c	c	c				
29																								
30																								
31																								
Median				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*				
No.				0	0	0	0	0	1	1	0	0	1	4	3	3	0	0	0	0				

HOURLY VALUES OF h'F1 OBSERVED DURING FEBRUARY 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 = 13.0$  Mc/s in 1m55s

$157.5^\circ E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1				a	a	a	a	a	a	h	b	b	a	a	a	a	e	a	a	a				
2						c	c	c	c	c	c	c	c	b	b	b	c	b	b	b				
3						s	s	b	b	b	b	b	b	b	b	b	b	b	b	b				
4						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
5						s	s	s	s	b	b	b	b	b	b	b	b	b	b	b				
6						b	b	b	b	b	a	a	a	a	c	e	e	e	e	e				
7				e	e	c	c	c	c	c	c	c	c	c	c	e	e	e	e	c				
8				s	s	s	s	b	b	b	b	b	a	b	b	b	b	b	b	b				
9				s	s	s	s	b	b	b	b	b	s	b	b	b	b	b	b	b				
10				s	s	s	b	b	b	b	b	b	c	b	e	e	e	e	e	c				
11				b	b	s	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
12								b	b	b	b	b	b	b	b	b	b	b	b	b				
13				s	s	s	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
14				s	s	s	s	s	c	c	c	c	c	c	c	c	c	c	c	b				
15				s	s	b	b	b	b	b	c	b	c	b	c	a	e	e	c	s				
16				s	s	s	s	s	s	s	s	c	c	c	c	c	e	e	e	s	s			
17				s	s	s	s	s	b	c	b	b	c	c	c	b	e	b	s	s				
18				s	s	s	s	s	b	c	c	c	c	c	c	c	e	c	c	c				
19				e	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c				
20				s	s	s	s	s	c	c	c	c	c	s	s	s	s	s	s	s				
21				s	s	s	s	s	b	b	b	b	b	b	b	b	b	s	s	s				
22				s	s	s	s	s	s	s	s	s	s	s	c	c	s	s	s	s				
23				s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s				
24				c	c	c	c	c	c	c	c	c	c	e	e	e	e	e	e	e				
25				c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	s	s				
26				s	s	s	s	s	s	s	s	s	b	b	c	s	e	b	b	b				
27				s	s	s	s	s	s	b	c	c	b	c	e	a	b	b	b	b				
28				s	s	s	s	c	c	c	c	c	c	c	b	c	c	c	c	c				
29																								
30																								
31																								
Median				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*				
No.				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

HOURLY VALUES OF  $f_oE$  OBSERVED DURING FEBRUARY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5<sup>00</sup> Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1				b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e				
2						e	e	e	e	e	e	e	e	b	b	b	b	b	b	b				
3						s	s	b	b	b	b	b	b	b	b	b	b	b	b					
4								b	b	b	b	b	b	b	b	b	b	b	b	b				
5						s	s	s	s	b	b	b	b	b	b	b	b	b	b	b				
6						b	b	b	b	b	e	e	e	e	e	e	e	e	e					
7						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
8						s	s	b	b	b	b	b	b	b	b	b	b	b	b	b				
9				s	s	s	b	b	b	b	b	b	s	b	b	b	b	b	b	b				
10				s	s	s	b	b	b	b	b	b	e	b	e	e	e	e	e					
11				s	s	s	b	b	b	b	b	b	b	b	b	b	b	b	b					
12								b	b	b	b	b	b	b	b	b	b	b	b	b				
13				s	s	s	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
14				s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	b				
15				s	s	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
16				s	s	s	s	s	s	s	s	s	b	b	b	b	b	b	b	s				
17				s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	s				
18				s	s	s	s	s	b	b	b	b	b	b	b	b	b	e	e	e				
19				e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
20				s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	s				
21				s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	s				
22				s	s	s	s	s	s	s	s	s	s	b	b	b	b	b	s					
23				s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s					
24				e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
25				e	e	e	e	e	e	e	e	e	b	b	b	b	b	s	s	s				
26				s	s	s	s	s	s	s	s	s	b	b	e	s	b	b	b	b				
27				s	s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b				
28				s	s	s	s	b	b	b	b	b	e	b	b	b	e	e	e	e				
29																								
30																								
31																								
Median				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*				
No.																								

4a

HOURLY VALUES OF  $h'E$  OBSERVED DURING FEBRUARY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5<sup>00</sup> Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1				b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e					
2						e	e	e	e	e	e	e	e	b	b	b	b	b	b	b				
3						s	s	b	b	b	b	b	b	b	b	b	b	b	b					
4								b	b	b	b	b	b	b	b	b	b	b	b					
5						s	s	s	s	b	b	b	b	b	b	b	b	b	b					
6						b	b	b	b	e	e	e	e	e	e	e	e	e	e					
7						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
8						s	s	b	b	b	b	b	b	b	b	b	b	b	b	b				
9				s	s	s	b	b	b	b	b	b	s	b	b	b	b	b	b	b				
10				s	s	s	b	b	b	b	b	b	e	b	e	e	e	e	e					
11				s	s	s	b	b	b	b	b	b	b	b	b	b	b	b	b					
12								b	b	b	b	b	b	b	b	b	b	b	b	b				
13				s	s	s	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
14				s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	b				
15				s	s	b	b	b	b	b	b	b	b	b	b	b	b	b	b	s				
16				s	s	s	s	s	s	s	s	b	b	b	b	b	b	b	b	s				
17				s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	s				
18				s	s	s	s	s	b	b	b	b	b	b	b	b	b	e	e	e				
19				e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
20				s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	s				
21				s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	s				
22				s	s	s	s	s	s	s	s	s	s	b	b	b	b	b	b	s				
23				s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s					
24				e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
25				e	e	e	e	e	e	e	e	e	e	b	b	b	b	b	s	s				
26				s	s	s	s	s	s	s	s	s	b	b	e	s	b	b	b	b				
27				s	s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b				
28				s	s	s	s	b	b	b	b	b	e	b	b	b	e	e	e	e				
29																								
30																								
31																								
Median				*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*				
No.																								

4b

HOURLY VALUES OF  $f^oF_2$  OBSERVED DURING FEBRUARY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour/Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	#	#	#	b	b	b	b	b	b	b	b	b	c	c	c	c	c	c	c	c	c	c	c	c	
2	c	c	c	c	c	c	c	c	c	c	c	c	c	6.0	b	b	b	b	b	b	#	#	#	#	
3	c	c	c	c	c	#	#	b	b	4.8	5.7	5.5	7.1	7.1	5.6	6.9	7.0	b	b	5.7	b	#	#	#	
4	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	#	(5.6)	5.8	#	
5	#	#	#	5.8	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	#	#	#	#	
6	#	#	c	#	#	b	b	b	b	b	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
7	#	#	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	b	#	#	#	#	
8	#	#	#	#	#	#	#	b	b	b	7.0	b	b	b	b	b	b	b	b	b	b	#	#	5.7	
9	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	#	#	#	#	
10	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	#	#	#	#	
11	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	5.7	#	(5.9)	(5.6)	
12	c	#	c	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
13	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	#	#	#	#	
14	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	#	#	#	#	
15	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	5.7	b	#	#	#	
16	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
17	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
18	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
19	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
20	5.8	#	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	#	#	#	#	#	
21	#	#	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	#	#	#	#	#	
22	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
23	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
24	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
25	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
26	#	#	#	#	#	#	#	#	#	#	#	#	#	b	b	c	#	b	b	b	#	#	#	#	
27	#	#	#	#	#	#	#	#	#	#	#	#	#	b	b	c	#	b	b	b	#	#	#	#	
28	#	#	6.5	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	#	
29																6.3	c	c	c	c	c	c	c	c	
30																									
31																									
Median	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No.	1	0	1	1	0	0	0	0	0	1	2	1	1	2	1	2	1	0	1	1	1	1	1	5	

5a

HOURLY VALUES OF  $h'F_2$  OBSERVED DURING FEBRUARY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour/Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	#	#	#	b	b	b	b	b	b	b	b	b	c	c	c	c	c	c	c	c	c	c	c	c	
2	c	c	c	c	c	c	c	c	c	c	c	c	c	100	b	b	b	b	b	b	#	#	#	#	
3	#	#	#	#	#	#	#	b	b	120	110	110	110	120	120	150	180	b	b	140	b	#	#	#	
4	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	#	130	110	#	
5	#	#	#	90	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	#	120	#	
6	#	#	c	#	#	b	b	b	b	b	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
7	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
8	#	#	#	#	#	#	#	b	b	b	130	b	b	b	b	b	b	b	b	b	b	#	#	100	
9	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	#	#	100	
10	#	#	#	#	#	#	#	b	b	b	b	b	b	c	b	c	c	c	c	c	c	c	c	c	
11	c	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	#	110	110	
12	c	#	c	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
13	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	#	#	#	#	
14	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
15	#	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	120	b	#	#	#	
16	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
17	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
18	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
19	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
20	90	#	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	b	#	#	#	#	#	#	
21	#	#	#	#	#	#	#	#	#	b	b	b	b	b	b	b	b	#	#	#	#	#	#	#	
22	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
23	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
24	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
25	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
26	#	#	#	#	#	#	#	#	#	#	#	#	#	b	b	c	#	b	b	b	#	#	#	#	
27	#	#	#	#	#	#	#	#	#	#	#	#	#	b	b	c	#	b	b	b	#	#	#	#	
28	#	#	90	#	#	#	#	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	#	
29																110	c	c	c	c	c	c	c	c	
30																									
31																									
Median	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No.	1	0	1	1	0	0	0	0	0	1	2	1	1	2	1	2	1	0	1	1	1	1	1	5	

5b

HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING MARCH 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 = 13.0 \text{ m/s in 1m 55s}$

$157.5^\circ \text{E}$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	e	e	e	e	e	e	e	e	e	e	e	e	e	4.0	4.9	4.9	4.7	4.8	4.8	5.0	4.9	f	s	s
2	s	s	s	s	s	s	s	5.9	5.1	5.0	b	5.0	4.7	4.9	b	4.8	4.7	4.8	5.0	4.7	4.4	s	s	s
3	s	s	s	s	s	s	s	4.1	4.3	4.9	4.9	4.9	5.3	e	e	e	e	e	e	e	e	e	e	e
4	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	7.0	5.4	e	e
5	e	e	e	e	e	e	e	e	e	e	e	e	e	5.6	5.0	5.5	5.5	5.4	5.7	5.5f	4.0	a	a	(2.1f) f
6	a	a	a	a	1.8f	2.2	3.4	4.0	b	b	b	b	b	b	b	e	e	4.5	4.7	3.8	f	a	f	(1.7)
7	a	a	a	1.8f	1.6	2.0	3.0	3.7	4.4	4.5	4.7	(4.8)	5.0	b	(5.6)	b	5.4	e	a	a	b	a	a	f
8	(2.0f)	2.0	a	a	b	b	b	b	b	3.6	e	4.5	(4.5)	5.1	b	4.2	(4.8f)	5.7	4.5f	3.8f	a	a	a	a
9	a	a	a	a	a	b	b	3.8	(4.5)	4.8	(5.0)	5.2	5.5	5.6	5.7	5.7	6.0	(4.5f)	(3.4f)	a	a	a	a	b
10	b	b	a	a	a	b	b	b	b	3.8	3.9	4.3	(4.3)	w	4.4	4.5	4.6	e	e	e	e	e	e	e
11	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	4.8	4.4	3.4	(2.8f)	3.0	a	a	b
12	a	a	f	b	b	a	2.9	3.3	3.7	4.0	(4.2)	4.6	4.9	5.3	5.5	5.5	(6.2)	(5.1)	a	(3.0)	(2.6f)	a	a	b
13	a	a	a	a	a	a	b	3.3	b	b	4.1	4.3	(4.2)	s	s	(4.3)	4.1	4.6	4.8	4.3	3.1	s	f	a
14	a	a	a	a	a	b	b	b	b	4.3	4.7	4.5	5.1	s	(5.0)	5.0	b	b	b	b	4.0	f	a	3.1
15	2.3f	(2.1f)	a	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
16	e	e	e	e	e	e	2.8	b	b	b	b	b	4.5	4.6	4.6	b	b	a	(4.5f)	(3.7f)	2.0	s	a	a
17	2.1	f	1.6	e1.5	a	a	b	(3.4f)	b	b	4.2	b	b	b	(4.6f)	4.4	4.5	4.7	e	a	a	b	a	a
18	a	b	a	a	(1.7f)	(1.5f)	2.7	3.5	3.8	(4.1)	(4.2)	4.7	4.9	4.8	5.0	5.0	5.1	4.8	(4.0)	a	b	b	a	a
19	a	a	a	b	b	b	b	3.6	3.8	3.8	3.8	(4.1)	4.3	4.3	4.2	4.1	4.0	3.9	(3.1f)	(2.7f)	(1.9f)	(0.9f)	s	s
20	s	(1.8f)	f	a	a	2.6	4.1	4.7	4.6	5.2	5.2	(5.1)	e	e	e	5.0	5.0	4.7	4.7	4.6	3.8	2.5	e	e
21	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	5.5	e	e	e	5.0	f	(3.3f)	1.9f	(2.2f)
22	2.2	f	b	b	b	2.5	4.2	4.8	5.3	5.5	5.5	5.7	5.8	5.8	e	5.7	5.8	5.7	s	f	e	e	a	3.7
23	(3.5f)	b	b	a	b	b	a	a	3.0	b	3.6	3.7	(4.0)	4.2	4.1	(4.0)	4.0	3.7	3.8	3.3	2.9	2.1	1.7	e
24	e	e	a	a	a	a	b	b	b	3.3	(3.5)	(3.9)	3.6	b	(4.6)	4.9	4.8	5.0	(4.7)	3.3	a	e	e	e
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	5.1	5.5	5.4	2.9	a	a	a	a	a
27	e	e	a	a	a	b	2.4	3.5	4.2	4.5	4.9	5.2	5.6	5.9	5.9	(5.6)	5.5	5.5	4.3	a	b	a	a	a
28	f	2.9f	2.6f	1.8	2.6	3.5	4.2	4.9	4.7	5.3	5.5	e	e	e	e	e	e	e	5.8	5.7	5.8	5.5	5.5	4.8
29	2.6f	2.0	(1.7f)	f	f	1.6	3.3	4.0	4.8	(5.2)	6.0	5.7	5.6	6.0	5.7	5.5	5.5	5.5	5.6	5.0	4.2	3.1f	f	f
30	f	(2.8f)	(2.1f)	f	b	b	2.4	3.5	(4.3)	4.5	4.7	5.0	5.0	5.0	5.5	5.5	4.9	5.0	5.0	4.7	3.8	3.0	2.0	f
31	a	a	3.0	3.1	2.7	2.1	b	3.7	4.3	4.8	5.5	b	(6.0)	a	(3.9)	e	e	a	b	a	a	b	b	e
Median	(2.2)	(2.0)	(2.1)	*	(1.8)	(2.2)	3.0	3.8	4.3	4.5	4.7	4.8	5.0	5.0	5.0	5.0	4.8	4.7	4.2	3.8	(3.0)	(2.0)	(3.1)	6a
No.	7	7	5	4	5	8	11	16	15	17	19	18	20	15	17	21	20	21	18	18	14	7	6	5

HOURLY VALUES OF  $h'F_2$  OBSERVED DURING MARCH 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 = 13.0 \text{ M/s in 1m 55s}$

$157.5^\circ \text{E}$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	b	b	b	b	b	f	s	s
2	s	s	s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	s	s	s
3	s	s	s	s	s	s	s	b	b	b	b	b	270	e	e	e	e	e	e	e	e	e	e	e	
4	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	220	e	e	
5	e	e	e	e	e	e	e	e	e	e	e	e	330	e	280	300	280	260	230	250	a	a	a	f	
6	a	a	a	a	e300	260	230	220	b	b	b	b	b	b	b	e	e	e250	240	270	e250	a	f	e300	
7	a	a	a	e350	e300	e240	250	e250	340	290	330	350	360	b	350	b	340	e	a	a	b	a	a	f	
8	e350	e400	a	a	b	b	b	b	240	e	400	440	320	b	420	350	340	260	340	a	a	a	a	a	
9	a	a	a	a	a	b	b	240	320	300	300	330	300	300	300	300	300	(330f)	250f	a	a	a	a	b	
10	b	b	a	a	a	b	b	b	b	220	200	460	570	w	450	340	250	e	e	e	e	e	e	e	
11	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	350	360	e450	e450	320	a	a	b		
12	a	a	f	b	b	a	e250	e240	220	520	450	380	340	320	310	320	270	290	a	a	a	a	a	b	
13	a	a	a	a	a	a	b	e250	b	b	490	450	490	s	s	450	220	270	240	240	e240	s	f	a	
14	a	a	a	a	a	b	b	b	b	380	340	430	340	s	320	330	b	b	b	b	e240	f	a	a	
15	a	a	a	a	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
16	e	e	e	e	e	e	250	b	b	b	b	b	410	330	360	b	b	a	250	230	e350	s	a	a	
17	e350	f	s	s	a	a	b	260	b	b	450	b	b	b	350	340	320	230	e	a	a	b	a	a	
18	a	b	a	a	s	s	250	240	230	470	460	350	300	340	300	300	270	230	a	a	b	b	a	a	
19	a	a	a	b	b	b	b	210	200	190	200	630	450	400	360	360	240	250	e260	a	e300	e	s		
20	s	s	f	a	a	250	230	260	310	270	260	(300)	e	e	e	300	220	230	240	e250	e250	e250	e	e	
21	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	270	e	e	e	230	f	e250	e250	e300	
22	280	f	b	b	b	220	230	250	260	270	270	260	250	e	250	230	240	250	f	e	e	a	a	a	
23	a	b	b	a	b	b	a	a	a	b	270	220	600	560	430	450	350	250	e260	e250	e250	e300	s	e	
24	e	e	a	a	a	a	b	b	b	250	210	620	230	b	(360f)	(340f)	300	250	240	280	a	e	e	e	
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	260	270	250	250	a	a	a	a	a	
27	e	e	a	a	a	b	220	240	290	300	290	280	280	250	240	230	230	e220	e220	a	b	a	a	a	
28	f	e250	e250	e300	250	270	220	280	280	290	280	e	e	e	e	e	e	e	e	260	260	250	230	240	
29	e250	280	e300	f	f	e300	220	220	230	260	250	260	260	260	250	220	230	230	210	e220	e220	e220	f	f	
30	e280	e260	e260	f	b	b	e240	220	230	260	280	300	1	270	260	260	220	230	220	e220	e230	e240	e260	f	
31	a	a	a	e300	e260	260	b	e250	230	330	250	b	240	a	g	e	e	a	b	a	a	b	b	e	
Median	e280	e270	*	*	*	(260)	230	245	245	290	280	315	335	320	320	300	280	250	245	250	e250	e250	*	*	
No.	6	5	3	3	4	7	11	14	12	15	18	16	18	12	17	19	19	19	16	15	11	7	3	3	

HOURLY VALUES OF  $h_p f_2$  OBSERVED DURING MARCH 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mo/s in 1x 55s

157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	b	b	b	b	f	s	s	
2	s	s	s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	b	b	b	s	s	s	
3	s	s	s	s	s	s	s	b	b	b	b	b	u	e	e	e	e	e	e	e	e	e	e	e	
4	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
5	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
6	a	a	a	a	300	270	270	300	b	b	b	b	b	b	b	e	e	300	280	340	f	a	f	s	
7	a	a	a	e350	320	250	280	300	u	u	u	u	u	u	b	u	b	350	e	a	a	b	a	a	
8	350	a	a	a	b	b	b	b	b	u	e	u	u	u	u	b	u	u	350	300	370	a	a	a	
9	a	a	a	a	a	b	b	300	u	u	u	u	u	u	u	u	310	330	u	270f	a	a	a	a	
10	b	b	a	a	a	b	b	b	b	u	u	u	u	u	w	u	u	330	e	e	e	e	e	e	
11	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
12	a	a	f	b	b	a	280	270	250	u	u	u	u	u	u	u	330	290	(300)	a	a	a	a	a	
13	a	a	a	a	a	a	b	250	b	b	u	u	u	u	s	u	u	300	280	270	270	260	s	f	
14	a	a	a	a	a	b	b	b	u	u	u	u	u	s	u	u	b	b	b	b	280	f	a	a	
15	a	a	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
16	e	e	e	e	e	e	300	b	b	b	b	u	u	u	u	b	b	a	280	270	s	s	a	a	
17	a	f	s	s	a	a	b	280	b	b	u	b	b	b	u	u	u	300	e	a	a	b	a	a	
18	a	b	a	a	s	s	280	270	280	u	u	u	u	u	u	u	280	300	a	a	b	b	a	a	
19	a	a	a	b	b	b	b	b	u	u	200	u	u	u	u	u	u	300	300	(320)	a	e300	e	s	
20	s	s	f	a	a	260	240	u	u	u	u	u	e	e	e	e	270	270	260	290	320	260	e	e	
21	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	280	e	e	e	270	f	300	e250	
22	u	f	b	b	b	230	250	u	270	u	u	u	u	u	e	260	270	260	s	f	e	e	a	a	
23	a	b	b	a	b	b	a	a	a	b	280	230	u	u	u	u	u	320	310	330	320	300	s	e	
24	e	e	a	a	a	a	b	b	b	u	u	u	u	u	b	u	u	u	300	(300)	290	a	e	e	
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
27	e	e	a	a	a	b	280	260	u	u	u	u	290	260	270	270	290	300	300	a	a	b	a	a	
28	f	280	280	340	270	280	270	u	u	u	u	e	e	e	e	e	e	270	280	260	260	280	300		
29	280	290	300	f	f	300	250	260	240	u	255	270	270	270	260	260	260	270	270	260	270	250f	f	f	
30	f	f	f	f	b	b	250	240	240	u	u	u	310	u	u	270	260	260	270	280	280	300	270	f	
31	a	a	a	a	300	300	270	b	260	300	u	u	b	250	a	g	e	e	a	b	a	a	b	b	
Median	*	*	*	*	*	(270)	270	270	(260)	*	*	*	*	*	*	*	(275)	285	300	280	290	(280)	(300)	*	*
No.	2	2	2	3	4	7	11	11	6	0	3	2	4	2	3	8	12	17	15	15	9	7	3	2	

7a

HOURLY VALUES OF  $(M3000) f_2$  OBSERVED DURING MARCH 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mo/s in 1x 55s

157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	b	b	b	b	f	s	s	
2	s	s	s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	s	s	s
3	s	s	s	s	s	s	s	b	b	b	b	b	3e4	e	e	e	e	e	e	e	e	e	e	e	
4	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
5	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
6	a	a	a	a	3e2f	3e2	3e3	3e0	b	b	b	b	b	b	b	e	e	3e2	3e3	3e3f	3e0	a	a	(3e2f)	
7	a	a	a	3e1f	3e0	3e5	3e2	3e3	3e2	3e3	(3e3)	3e1	b	(3e1)	b	3e0	e	a	a	b	a	a	a	f	
8	(2e9f)	(3e0f)	a	a	b	b	b	b	b	3e7	e	2e8	2e8	3e2	b	2e9	(3e1f)	2e9	(3e1f)	3e0f	a	a	a	a	
9	a	a	a	a	a	b	b	3e2	3e3	3e4	(3e4)	3e3	3e2	3e2	3e2	3e2	2e9	(3e1f)	(3e2f)	a	a	a	a	b	
10	b	b	a	a	a	b	b	b	b	3e7	3e7	2e7	(2e5)	w	2e7	3e0	2e9	e	e	e	e	e	e	e	
11	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
12	a	a	f	b	b	a	3e3	3e3	3e3	2e6	(2e6)	3e0	3e1	3e1	3e1	3e0	3e2	(3e2)	a	a	a	a	a	b	
13	a	a	a	a	a	a	b	3e4	b	b	2e7	2e8	(2e6)	s	s	(2e7)	3e1	3e4	3e0f	(3e2f)	(3e1f)	s	f	a	
14	a	a	a	a	a	b	b	b	b	3e0	3e1	2e7	3e1	s	3e3	3e1	b	b	b	b	3e2	f	a	a	
15	(3e0f)	a	a	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
16	e	e	e	e	e	e	3e1	b	b	b	b	b	3e4	3e0	3e1f	b	b	a	(2e8f)	(3e2f)	s	s	a	a	
17	3e0	f	s	s	a	a	b	3e2	b	b	2e7	b	b	b	(3e1f)	3e1	3e1	3e1	e	a	a	b	a	a	
18	a	b	a	a	s	s	2e3	3e3	3e2	(2e6)	(2e7)	3e1	3e2	3e1	3e4	3e3	3e4	3e1	a	a	b	b	a	a	
19	a	a	a	b	b	b	b	3e6	3e7	3e6	3e7	w	2e7	2e8	2e9	3e1	3e2	3e1	(2e9f)	a	f	e	s		
20	s	s	f	a	a	3e4	3e7	3e5	3e2	3e3	3e5	3e3	e	e	e	3e0	3e3	3e2	3e1	3e1	3e0	3e1	e	e	
21	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
22	3e1	f	b	b	b	3e4	3e3	3e3	3e5	3e5	3e4	3e5	3e5	3e5	3e4	3e5	3e5	s	f	e	e	a	2e8		
23	a	b	b	a	b	b	a	a	a	b	3e1	3e6	w	2e5	2e8	2e7	2e8	3e1	3e0	2e9	3e0	3e1	s	e	
24	e	e	a	a	a	a	b	b	b	3e5	(3e8)	(2e2)	3e6	b	f	f	3e2	3e2	(3e1)	3e3	a	e	e	e	
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
27	e	e	a	a	a	b	3e2	3e4	3e4	3e1	3e3	3e4	3e4	3e4	3e3	(3e4)	3e2	3e1	3e1	a	a	a	a	a	
28	f	3e0	(2e7f)	3e1	3e3	3e3	3e3	3e4	3e3	3e3	3e3	e	e	e	e	e	e	e	3e4	3e3	3e4	3e4	3e4	3e2	
29	2e7f	3e1	(3e0f)	f	f	3e2	3e5	3e3	3e6	(3e5)	3e5	3e5	3e4	3e4	3e4	3e5	3e4	3e3	3e3	3e3	3e2	3e4f	f	f	
30	f	f	f	f	b	b	3e3	3e5	(3e7)	3e4	3e4	3e3	3e0	3e4	3e5	3e3	3e4	3e3	3e3	3e2	3e2	3e1	(3e0f)	f	
31	a	a	a	3e1	3e0	3e0f	b	3e3	2e9	(2e7f)	3e5	b	(3e4)	a	g	e	e	a	b	a	a	b	b	e	
Median	(3e0)	*	*	*	*	(3e3)	3e3	3e3	3e3	3e3	3e4	3e3	3e1	3e2	3e2	3e2	3e2	3e2	3e1	3e2	(3e2)	(3e1)	(3e1)	*	
No.	5	3	2	3	4	7	11	14	12	15	18	16	19	12	16	18	19	19	15	14	9	5	5	2	

7b

HOURLY VALUES OF  $f_oF_1$  OBSERVED DURING MARCH 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 = 13.0 \text{ Mc/s in } 1 \text{ m } 55 \text{ s}$   $157.5^\circ \text{E}$  Mean Time

Hour/Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						e	e	e	e	e	e	e	b	b	b	4.2	q							
2						#	#	b	b	b	b	b	b	b	b	b	b							
3						#	#	b	b	4.1	4.3	4.3	b	e	e	e	e	e	e					
4						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
5						e	e	e	e	e	e	e	4.2	4.1	4.2	4.0	3.9	3.4	q					
6						q	q	q	b	b	b	b	b	b	b	e	e	q						
7						q	q	q	3.7	4.0	4.0	4.2	4.1	b	4.2	b	3.7	e	q					
8						b	b	b	b	q	e	4.0	4.0	4.0	b	3.7	(3.8)	a	1					
9						b	b	1	3.3	4.0	3.8	4.1	4.2	4.3	4.2	4.0	3.7	3.5	q					
10						b	b	b	b	q	q	4.0	4.0	4.0	4.0	3.7	1	e						
11						e	e	e	e	e	e	e	e	e	e	b	3.7	3.4	b					
12						q	q	b	q	3.8	3.9	4.0	4.1	4.1	4.1	4.0	b	1	a					
13								b	b	b	3.7	3.9	3.9	#	#	3.8	1	3.3						
14						q	q	q	q	3.8	4.0	4.1	4.1	4.1	4.0	3.8	b	b	b	b				
15						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
16						e	q	b	b	b	b	b	4.0	4.0	3.9	b	b	q						
17						q	b	q	b	b	3.8	b	b	b	3.9	3.9	3.6	1	e					
18						q	q	q	1	4.0	3.9	4.2	4.1	4.1	4.0	3.8	(3.5)	1						
19						b	b	b	q	q	q	q	3.9	3.9	3.8	3.6	3.6	q						
20						q	q	3.6	4.0	4.2	4.2	(4.1)	e	e	e	3.8	1	q						
21						e	e	e	e	e	e	e	e	e	e	e	3.9	e	e	e				
22						q	q	1	1	4.1	4.1	4.2	4.1	4.0	e	3.8	1	q						
23						q	a	a	a	b	b	q	3.8	3.8	3.8	3.7	3.2	q						
24						q	b	b	b	q	b	3.6	3.2	b	(3.9)	a	3.5	q						
25						e	e	e	e	e	e	e	e	e	e	e	e	e						
26						e	e	e	e	e	e	e	e	e	e	4.0	1	1	q					
27						b	q	q	3.4	1	3.8	4.0	4.1	1	1	q	q							
28						q	q	3.8	4.0	4.2	4.0	e	e	e	e	e	e	e	4.0	3.7	3.5			
29						q	q	q	3.6	3.7	4.0	4.0	4.1	4.0	3.9	1	1	q	q					
30						b	q	q	1	3.6	3.8	4.0	1	4.0	3.8	1	q	q	q					
31						q	b	q	q	3.7	4.0	b	4.1	a	3.7	e	e	a	b					
Median						*	*	*	3.6	4.0	4.0	4.0	4.1	4.0	4.0	3.8	3.7	*	*	*	*			
No.						0	0	2	6	12	15	14	17	13	16	15	11	4	1	1	1			

8a

HOURLY VALUES OF  $h'F_1$  OBSERVED DURING MARCH 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 = 13.0 \text{ Mc/s in } 1 \text{ m } 55 \text{ s}$   $157.5^\circ \text{E}$  Mean Time

Hour/Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						e	e	e	e	e	e	e	e	b	b	b	q							
2						#	#	b	b	b	b	b	b	b	b	b	b							
3						#	#	b	b	b	b	b	b	e	e	e	e	e	e					
4						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
5						e	e	e	e	e	e	e	190	230	200	220	200	b	q					
6						q	q	q	b	b	b	b	b	b	b	e	e	q						
7						q	q	q	250	200	200	200	190	b	210	b	200	e	q					
8						b	b	b	b	q	e	200	200	180	b	220	(220)	a	1					
9						b	b	1	220	200	200	210	b	200	200	220	220	250	q					
10						b	b	b	b	b	q	q	230	200	280	240	230	1	e					
11						e	e	e	e	e	e	e	e	e	e	b	220	240	b					
12						q	q	b	q	220	200	200	200	180	b	220	b	b	a					
13								b	b	b	210	200	200	#	#	220	1	190						
14						q	q	q	q	210	190	200	210	b	b	200	b	b	b	b				
15						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
16						e	q	b	b	b	b	b	210	200	200	b	b	q						
17						q	b	q	b	b	210	b	b	b	b	200	220	1	e					
18						q	q	q	1	200	200	180	200	200	200	200	220	1						
19						b	b	b	q	q	q	q	200	200	200	220	220	q						
20						q	q	210	200	200	180	(180)	e	e	e	200	1	q						
21						e	e	e	e	e	e	e	e	e	e	e	220	e	e	e				
22						q	q	1	1	b	200	200	180	200	e	210	1	q						
23						q	a	a	a	b	b	q	220	230	220	220	220	q						
24						q	b	b	b	q	b	190	200	b	220	a	220	q						
25						e	e	e	e	e	e	e	e	e	e	e	e	e						
26						e	e	e	e	e	e	e	e	e	e	200	200	220	q					
27						b	q	q	q	230	220	220	200	210	220	q	q							
28						q	q	210	200	190	190	e	e	e	e	e	e	e	220	210	230			
29						q	q	q	210	190	180	190	200	200	200	1	1	q	q					
30						b	q	q	q	200	190	190	190	210	200	220	q	q	q					
31						q	b	q	q	q	210	b	b	b	a	240	e	a	b					
Median						*	*	*	215	200	200	200	200	200	200	220	220	*	*	*	*			
No.						0	0	2	6	11	13	13	16	13	14	16	12	3	1	1	1			

8b

HOURLY VALUES OF  $f_oE$  OBSERVED DURING MARCH 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1						e	e	e	e	e	e	e	e	b	b	b	b	b							
2						e	e	b	b	b	b	b	b	b	b	b	b	b							
3						e	e	b	b	b	b	b	b	e	e	e	e	e							
4						e	e	e	e	e	e	e	e	e	e	e	e	e							
5						e	e	e	e	e	e	e	e	e	e	e	e	e							
6						q	1.7	2.0	b	b	b	b	b	b	b	e	e	b	1.8	(1.6f)	q				
7							1.9	b	b	2.7	3.0	3.0	3.0	b	b	b	e	b	2.8	e	b				
8						b	b	b	b	3.0	e	3.1	(3.0)	3.0	b	2.8	(2.5)	e	(2.0f)						
9						b	b	b	(2.5)	b	(2.9)	3.1	b	3.1	2.9	2.7	2.4	2.3	1.7	e	3.0				
10						b	b	b	b	b	2.9	3.0	3.0	2.9	3.5	3.1	2.5	(2.2)	e	e	e	e	e	e	
11						e	e	e	e	e	e	e	e	e	e	b	2.6	b	b	e	e	3.9	4.0	b	
12		3.5				q	q	b	2.4	2.6	2.7	2.9	3.1	2.8	3.6	2.7	b	b	b	3.3	3.2	4.0		b	
13						e	b	b	b	b	2.2	2.8	2.8	2.9	e	e	2.5	2.1							
14	3.2	(3.1f)		3.5	3.5	b	b	b	b	2.7	2.8	2.9	3.0	b	b	2.8	b	b	b	b				2.8	
15	1.7	1.8				e	e	e	e	e	e	e	e	e	e	e	e	e							
16						e	1.8	b	b	b	b	b	2.8	2.9	2.7	b	b	q						3.0	
17		1.9				q	b	2.3	b	b	2.8	b	b	b	b	2.6	2.3	2.0	e						
18						q	1.6	2.0	2.2	2.5	2.6	2.9	3.0	2.8	3.0	2.6	2.5	2.0	b	4.2	b	b	a		
19						b	b	b	(2.7f)	2.8	2.8	2.8	2.9	2.7	2.6	2.3	2.4	2.0	1.7	e					
20	2.8					1.5	2.0	2.5	2.7	2.7	3.0	(3.0)	e	e	e	2.7	2.4	2.0	q		f				
21						e	e	e	e	e	e	e	e	e	e	2.7	e	e	e						
22						q	1.9	2.4	2.7	b	3.1	3.0	2.8	2.8	e	2.7	2.6	1.9	1.8	(2.5f)	e	e		3.0	
23						q	e	e	e	b	b	2.7	2.8	2.8	2.7	2.5	2.3	1.9	(1.5)						
24	2.1	a		(2.2f)		q	b	b	b	2.7	b	3.0	2.7	b	b	a	2.1	2.0	1.8	2.0	4.4	e	e	e	
25						e	e	e	e	e	e	e	e	e	e	e	e	e							
26						e	e	e	e	e	e	e	e	e	e	2.9	2.5	2.3	2.0f	q				3.3 (4.3f)	
27						b	1.6	2.0	2.1	(2.5)	2.7	2.8	2.8	2.9	2.7	2.0	1.5	e	e	4.2	b	(5.1)	(6.3)		
28		1.6	e		1.5	1.9	2.2	2.4	2.6	2.8	2.8	e	e	e	e	e	e	2.7	2.5	2.3	1.8	e	1.7		
29	f	e				q	1.6	2.0	2.2	2.4	2.4	2.7	2.8	2.8	2.7	2.5	2.2	1.8	q			(2.3)	2.8		
30	(2.5)					b	q	1.8	2.2	2.3	2.7	2.7	2.8	2.7	2.4	2.1	1.8	q						2.5	
31						f	b	q	(2.5)	b	b	b	b	a	2.4	e	e	a	b						
Median	2.5	1.9	*	*	*	*	1.8	2.0	2.5	2.7	2.8	2.9	2.9	2.8	2.7	2.6	2.4	2.0	1.8	2.5	*	*	3.2	2.8	9a
No.	5	5	0	2	2	2	9	9	11	12	15	16	16	13	13	18	18	14	9	7	4	4	6	6	

HOURLY VALUES OF  $h^*E$  OBSERVED DURING MARCH 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1						e	e	e	e	e	e	e	e	b	b	b	b	b	b						
2						e	e	b	b	b	b	b	b	b	b	b	b	b	b						
3						e	e	b	b	b	b	b	b	e	e	e	e								
4						e	e	e	e	e	e	e	e	e	e	e	e	e							
5						e	e	e	e	e	e	e	e	e	e	e	e	e							
6						q	100	e150	b	b	b	b	b	b	b	e	e	e130	120	130	q				
7						b	b	b	b	100	100	100	90	b	b	b	100	e	b						
8						b	b	b	b	b	e	100	b	b	b	b	(100)	a	120						
9						b	b	b	100	100	(100)	e	b	110	100	100	90	100	e120		100				
10						b	b	b	b	b	b	100	90	100	100	90	100	100	e	e	e	e	e	e	
11						e	e	e	e	e	e	e	e	e	e	b	b	b	b			100	100	b	
12	100					q	q	b	90	90	90	90	90	90	110	100	b	e120	b	100	100	100		b	
13						e	b	b	b	b	100	90	100	90	100	e	90	100	e100						
14	90	110		90	90	b	b	b	b	e120	90	100	e130	b	b	100	b	b	b	b				90	
15	110	100				e	e	e	e	e	e	e	e	e	e	e	e	e	e						
16						e	100	b	b	b	b	b	100	100	100	b	b	q						100	
17		e				q	b	100	b	b	e120	b	b	b	b	100	100	100	e						
18						q	100	100	90	100	90	100	100	90	90	90	90	90	b	110	b	b	a		
19						b	b	b	b	90	90	90	100	90	90	90	90	110	120	e					
20	90					110	120	110	100	100	100	(100)	e	e	e	b	100	100	q		f				
21						e	e	e	e	e	e	e	e	e	e	90	e	e	e						
22						q	100	100	b	b	b	100	90	90	e	b	b	110	110	100	e	e		100	
23						q	e	e	e	b	b	100	100	90	90	90	90	90	e110e						
24	130	140		100		q	b	b	b	110	b	100	90	b	b	a	100	110	e130	100	100	e	e	e	
25						e	e	e	e	e	e	e	e	e	e	e	e	e	e						
26						e	e	e	e	e	e	e	e	e	e	90	90	100	110	q				110 90	
27						b	100	90	100	90	100	90	90	80	80	100	120	e	e	100	b	100	100		
28		e110	110		e130	120	100	100	90	90	90	e	e	e	e	e	e	e	90	90	90	e130	e	e130	
29	110					q	150	100	100	100	100	100	100	100	100	100	110	140	q				150	150	
30	180					b	q	100	100	100	100	100	100	100	100	100	100	110	q					120	
31						f	b	q	120	b	b	b	b	a	100	e	e	a	b						
Median	110	*	*	*	*	*	100	100	100	100	100	100	100	100	100	100	100	110	120	100	*	*	100	110	9b
No.	7	4	1	2	2	2	8	9	9	12	13	15	15	12	13	15	16	16	9	7	4	4	5	6	

HOURLY VALUES OF  $f^oF_2$  OBSERVED DURING MARCH 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s 157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
3	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
4	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
5	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
6	3.8	4.5	4.7	3.3	2.2	1.8	2.0	2.2	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	
7	6.5	5.0	5.0	2.2	1.8	e	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
8	3.8	4.0	2.5	4.7	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
9	5.6	4.6	4.7	2.2	2.9	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
10	b	b	4.5	5.5	5.0	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
11	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
12	4.8	e	3.3	b	b	1.6	g	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
13	4.3	4.3	4.4	4.5	3.5	4.3	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
14	e	5.0	4.5	4.5	e	b	b	b	b	2.9	2.9	g	g	b	g	g	b	b	b	b	b	b	b	b	
15	2.7	4.0	4.5	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
16	e	e	e	e	e	e	2.2	b	b	b	b	b	b	g	g	3.3	b	b	4.1	3.5	2.2	3.2	4.0	2.9	4.5
17	2.2	2.9	2.2	2.2	3.0	4.0	b	3.6	b	b	b	b	b	b	b	3.3	2.6	g	e	4.9	4.5	b	4.9	4.5	
18	5.0	b	4.5	3.2	2.2	e	g	1.9	2.7	2.6	2.9	3.1	3.0	3.4	g	3.0	g	g	2.2	5.7	b	b	4.7	5.0	
19	4.9	5.0	3.3	b	b	b	b	b	g	g	3.2	3.0	3.0	g	g	g	2.6	g	2.5	3.2	5.0	3.2	3.2	3.2	
20	4.0	2.1	1.5	2.1	3.0	1.7	3.1	g	g	g	g	e	e	e	e	e	e	e	1.9	e	e	6.0	e	e	
21	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
22	3.0	g	b	b	b	e	g	g	b	b	g	g	g	g	e	g	g	g	3.4	7.0	e	e	6.0	6.0	
23	5.0	b	b	4.5	b	b	6.5	4.4	4.0	b	2.9	g	g	g	g	g	g	g	2.0	1.9	e	e	3.3	e	
24	3.2	2.2	3.2	3.4	4.2	4.4	b	b	b	g	g	g	3.0	b	g	3.9	1.7	g	g	4.7	5.9	e	e	e	
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
27	e	e	4.9	2.2	2.2	b	1.7	g	g	g	g	g	g	g	2.5	g	g	g	g	5.0	b	7.0	e	4.5	
28	4.9	e	2.0	e	e	2.1	g	g	2.7	g	g	e	e	e	e	e	e	e	e	3.0	g	1.9	1.8	e	
29	e	e	e	e	e	g	g	g	2.0	1.4	g	2.7	g	g	g	g	g	1.7	2.3	g	e	e	e	4.0	
30	2.1	e	e	e	e	b	b	g	1.7	2.1	2.5	g	g	g	g	3.0	g	g	g	1.5	e	e	e	3.2	
31	5.0	4.5	4.3	4.5	e	e	b	e	g	g	g	b	g	4.5	g	e	e	8.0	b	4.0	4.5	b	b	e	
Median	4.0	4.0	4.3	3.2	2.2	1.7	**	1.7	**	**	**	**	**	**	**	**	**	**	**	2.1	3.8	4.0	3.5	4.5	4.5
No.	19	16	19	17	14	12	11	12	11	13	18	15	17	14	15	19	18	19	19	24	20	19	21	19	

10a

HOURLY VALUES OF  $h^oF_2$  OBSERVED DURING MARCH 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s 157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
3	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
4	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
5	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
6	90	90	90	90	110	110	110	100	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e
7	90	90	90	100	110	e	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
8	110	90	90	90	b	b	b	b	b	e	g	g	g	g	g	g	g	g	100	g	100	100	100	90
9	90	90	90	90	90	b	b	g	g	g	g	g	e	b	g	g	g	110	g	120	100	120	100	90
10	b	b	100	85	80	b	b	b	b	b	b	g	g	100	100	g	g	g	g	e	e	e	e	e
11	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
12	90	e	110	b	b	90	g	b	g	g	g	g	100	100	g	g	g	b	b	100	110	100	e	100
13	90	90	90	90	90	90	b	b	b	b	b	g	90	g	e	e	e	e	g	120	110	100	110	100
14	e	90	80	100	e	b	b	b	b	b	140	130	g	g	b	g	g	b	b	b	b	110	160	100
15	120	100	80	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
16	e	e	e	e	e	e	110	b	b	b	b	b	g	g	120	b	b	120	130	110	140	120	100	100
17	120	90	130	120	100	100	b	120	b	b	g	b	b	b	b	130	110	g	e	90	100	b	90	90
18	90	b	100	90	140	e	g	90	130	120	120	130	120	110	g	g	100	g	g	100	120	b	90	90
19	90	110	90	90	b	b	b	b	g	g	100	120	110	g	g	g	130	g	g	160	120	100	110	120
20	90	110	e	120	140	120	110	140	g	g	g	g	g	e	e	e	g	g	g	140	e	e	100	e
21	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
22	140	g	b	b	b	e	g	g	b	b	g	g	g	g	e	g	g	g	g	130	110	e	e	90
23	90	b	b	90	b	b	90	100	110	b	140	g	g	g	g	g	g	g	110	100	e	e	100	e
24	140	130	90	90	90	90	b	b	b	b	g	g	100	b	g	g	100	140	g	g	100	120	e	e
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
27	e	e	90	100	100	b	100	g	g	g	g	g	g	g	130	g	g	g	g	110	b	140	e	100
28	90	e	130	e	e	100	g	g	100	g	g	e	e	e	e	e	e	e	e	90	g	100	100	e
29	e	e	e	e	e	g	g	g	90	90	g	100	g	g	g	g	90	90	g	e	e	e	e	120
30	150	e	e	e	b	b	g	100	90	110	g	g	g	120	g	g	g	g	110	e	e	e	e	140
31	100	90	90	90	e	b	e	g	g	g	b	g	100	g	e	e	90	b	90	90	b	b	e	e
Median	90	90	90	90	100	100	110	100	100	*	*	*	105	100	*	*	110	100	120	100	100	100	100	100
No.	17	12	17	14	10	7	5	5	5	4	4	4	6	5	2	3	5	5	13	21	14	15	19	16

10b

HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING APRIL 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	e	b	b	b	b	b	b	b	b	b	b	4.5	4.5	b	b	4.6	4.1	3.2	f	3.0	f	a	b	b
2	b	b	a	b	b	b	2.0	3.2	b	b	b	b	b	b	4.5	4.5	f	3.0	f	a	a	a	a	a
3	b	b	b	a	a	a	a	2.8	3.4	b	b	(3.7)	4.5	4.9	5.6	4.8	4.5	(2.7f)	f	f	f	a	a	a
4	b	b	b	b	a	a	a	3.1	3.4	3.9	3.9	4.1	4.1	4.2	4.2	4.3	4.3	4.3	4.0	3.8	a	b	a	a
5	a	a	a	a	a	b	b	3.3	3.7	b	b	e	4.7	b	(4.6)	4.5	5.0	f	(2.2)f	f	a	a	a	b
6	b	b	a	a	a	a	2.1	b	b	4.0	4.2	4.7	4.8	5.0	5.2	5.5	4.4	4.5	3.9	f	(1.8f)	2.0	a	a
7	a	a	b	a	a	b	2.0	3.4	3.8	4.5	4.8	5.0	5.1	(5.1)	b	(4.9f)	f	3.5	f	2.5	(2.2f)	b	a	a
8	a	a	a	a	1.5	1.5	b	b	4.2	4.8	5.0	b	5.0	5.0	5.3	5.3	e	e	e	e	e	e	e	e
9	e	e	e	e	e	e	e	e	e	e	e	e	5.5	5.7	5.6	5.5	5.0	5.5	(5.3f)	4.6	3.2	(2.1f)	(1.9f)	(2.6)
10	(2.4f)	1.8	f	b	b	b	1.8	3.4	4.5	4.5	b	5.3	5.6	5.6	5.6	5.6	(5.2)	5.4	5.5	4.8	3.7	a	a	a
11	b	a	a	a	3.1	b	2.2	3.3	4.0	4.5	5.0	5.8	5.5	(5.6)	5.5	5.5	b	(4.2f)	(3.0f)	f	f	a	a	b
12	a	a	2.1	(1.9f)	0.1.6f	1.6	f	3.3	4.1	4.4	4.6	5.1	5.2	5.7	5.7	(6.3)	(5.5)	(5.9)	4.5	(3.1f)	a	2.9	a	a
13	2.7	a	f	a	a	b	1.6	3.0	3.6	4.0	4.4	4.5	4.9	b	4.9	5.2	4.5	4.1	(3.2f)	(2.6f)	f	a	a	a
14	e	a	1.9	a	1.5	b	b	3.1	4.0	4.1	4.5	4.6	4.5	4.8	4.7	e	e	e	e	e	e	e	e	e
15	e	e	e	e	e	e	e	e	e	e	e	5.2	5.0	5.1	5.3	5.2	5.2	5.3	5.3	4.5	3.7	3.0	2.3	f
16	f	b	a	a	f	f	f	3.1	4.1	4.5	4.7	5.0	5.0	5.4	5.3	5.1	5.0	4.8	4.7	3.9	3.0	e	e	e
17	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	5.9	(6.0)	(2.3f)	2.3	2.5	f	b	3.5
18	3.1	2.8	2.3	1.8	1.6	f	1.7	3.5	4.2	4.6	4.9	e	e	e	e	e	e	e	e	e	e	e	e	e
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29	e	e	e	e	e	e	e	e	e	e	e	e	e	b	(6.5)	5.5	b	2.8	a	a	a	b	a	b
30	b	a	2.6	2.4	b	b	b	b	b	b	b	b	b	b	b	5.2	4.0	2.9	1.7	f	a	a	b	f
31																								
Median	*	*	*	*	(1.6)	*	(2.0)	3.2	4.0	4.5	4.6	4.8	5.0	5.1	5.3	5.2	5.0	4.2	4.0	3.4	(3.0)	*	*	*
No.	3	2	4	3	5	2	7	12	12	11	10	12	15	12	15	17	13	16	12	10	7	4	2	2

11a

HOURLY VALUES OF  $h^oF_2$  OBSERVED DURING APRIL 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	e	b	b	b	b	b	b	b	b	b	b	380	370	b	b	300	350	250	f	f	f	a	b	b	
2	b	b	a	b	b	b	e270	240	b	b	b	b	b	b	300	340	f	b	370	a	a	a	a	a	
3	b	b	b	a	a	a	a	260	250	b	b	220	380	340	260	290	1	e250	f	f	f	a	a	a	
4	b	b	b	b	a	a	a	b	240	220	240	500	480	400	1	340	1	250	240	250	a	b	a	a	
5	a	a	a	a	a	b	b	b	230	b	b	e	330	b	300	300	290	f	e250	f	a	a	a	b	
6	b	b	a	a	a	a	e300	b	b	350	450	320	330	330	f	270	220	250	e230	240	e	e300	a	a	
7	a	a	b	a	a	b	e280	240	240	300	320	300	300	300	b	250	250	260	f	e260	a	b	a	a	
8	a	a	a	a	e300	e300	b	b	b	b	320	b	280	280	270	250	e	e	e	e	e	e	e	e	
9	e	e	e	e	e	e	e	e	e	e	e	e	270	250	250	240	240	230	e220	e220	e230	e250	e300	a	
10	a	e300	f	b	b	b	e250	220	250	1	b	260	260	250	220	240	220	220	e200	e210	e220	a	a	a	
11	b	a	a	a	a	b	e250	250	230	220	270	270	270	250	270	250	b	b	240	e270	f	a	a	b	
12	a	a	a	a	a	e230	a	f	230	220	1	320	270	270	300	250	240	230	210	230	240	a	300	a	a
13	e320	a	f	a	a	b	e300	230	230	240	320	340	320	b	270	270	e250	240	e250	a	f	a	a	a	
14	e	a	a	a	e	b	b	260	240	200	310	320	290	280	300	e	e	e	e	e	e	e	e	e	
15	e	e	e	e	e	e	e	e	e	e	e	e	270	270	270	200	200	230	210	e200	e200	230	e250	e250	f
16	f	b	a	a	f	f	f	220	230	220	280	290	290	250	200	200	240	220	e200	e210	e220	e	e	e	
17	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	230	220	240	e250	e300	f	b	e350	
18	300	250	250	e300	e270	f	e260	230	220	250	260	e	e	e	e	e	e	e	e	e	e	e	e	e	
19																									
20																									
21																									
22																									
23																									
24																									
25																									
26																									
27																									
28																									
29	e	e	e	e	e	e	e	e	e	e	e	e	e	b	240	240	230	260	a	a	a	b	a	b	
30	b	a	300	260	b	b	b	b	b	b	b	b	b	b	b	e250	270	260	e300	f	a	a	b	f	
31																									
Median	*	*	*	*	*	*	e270	235	230	(230)	315	295	290	280	260	250	240	245	e240	e240	e230	*	*	*	
No.	2	2	2	2	4	1	7	10	11	8	10	12	15	12	13	17	13	14	13	10	6	4	2	1	

11b

HOURLY VALUES OF  $h_p F_2$  OBSERVED DURING APRIL 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	a	b	b	b	b	b	b	b	b	b	u	u	b	b	u	u	270	f	330	f	a	b	b		
2	b	b	a	b	b	b	280	270	b	b	b	b	b	u	u	f	270	f	a	a	a	a	a		
3	b	b	b	a	a	a	a	270	260	b	b	u	u	u	270	u	300	260	f	f	f	a	a	a	
4	b	b	b	b	a	a	a	270	250	250	250	u	u	u	u	u	320	290	300	325	a	b	a	a	
5	a	a	a	a	a	b	b	290	270	b	b	o	u	b	u	300	f	(260f)	f	a	a	a	b		
6	b	b	a	a	a	a	350	b	b	u	u	u	u	u	f	280	260	270	270	f	e	a	a	a	
7	a	a	b	a	a	b	280	270	270	u	u	u	u	u	b	u	f	280	f	280	f	b	a	a	
8	a	a	a	a	e300	e300	b	b	290	280	u	b	u	u	275	260	o	o	o	o	o	o	o	o	
9	o	o	o	o	o	o	o	o	o	o	o	o	280	260	260	260	260	270	260	260	260	260	260	260	
10	(320)	e300	f	b	b	b	260	250	u	u	b	u	u	260	250	250	(250)	270	270	280	290	a	a	a	
11	b	a	a	a	320	b	300	260	290	270	u	u	u	u	280	270	b	(260f)	260	f	f	a	a	b	
12	a	a	a	a	f	a	(300f)	f	250	250	u	u	u	310	260	(260)	(270)	250	270	290	a	u	a	a	
13	a	a	f	a	a	b	e	270	260	270	u	u	u	b	u	280	270	260	(300f)	300	f	a	a	a	
14	c	a	a	a	e	b	b	u	280	280	u	u	u	u	u	o	o	o	o	o	o	o	o	o	
15	o	o	o	o	o	o	o	o	o	o	o	u	u	u	260	250	250	260	250	250	270	280	250	f	
16	f	b	a	a	f	f	f	240	250	260	u	u	u	260	260	240	250	250	250	250	260	e	o	o	
17	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	250	260	250	250	300	f	b	350	
18	310	270	300	300	270	f	280	250	250	u	u	o	o	o	o	o	o	o	o	o	o	o	o	o	
19																									
20																									
21																									
22																									
23																									
24																									
25																									
26																									
27																									
28																									
29	o	o	o	o	o	o	o	o	o	o	o	o	o	o	b	(250)	260	b	270	a	a	a	b	a	b
30	b	a	310	270	b	b	b	b	b	b	b	b	b	b	b	260	280	320	b	f	a	a	b	f	
31																									
Median	*	*	*	*	*	*	(280)	270	260	270	*	*	*	*	(260)	260	265	270	260	280	(270)	*	*	*	
No.	2	2	2	2	4	2	6	11	11	6	1	0	1	4	9	11	12	16	11	10	5	2	1	1	

12a

HOURLY VALUES OF  $(M3000)F_2$  OBSERVED DURING APRIL 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	e	b	b	b	b	b	b	b	b	b	b	2.9	3.1	b	b	3.2	2.9	3.1	f	2.7	f	a	b	b	
2	b	b	a	b	b	b	3.2	3.3	b	b	b	b	b	b	3.3	3.0	f	3.1	f	a	a	a	a	a	
3	b	b	b	a	a	a	a	3.3	3.2	b	b	(3.8)	3.0	3.1	3.3	3.2	3.2	(3.0f)	f	f	f	a	a	a	
4	b	b	b	b	a	a	a	3.3	3.2	3.3	3.4	2.5	2.6	2.8	2.8	3.1	3.0	3.1	3.2	3.0	a	b	a	a	
5	a	a	a	a	a	b	b	3.2	3.2	b	b	o	3.3	b	(3.4)	3.3	3.2	f	f	f	a	a	a	b	
6	b	b	a	a	a	a	2.8	b	b	3.1	2.7	3.2	3.1	3.1	(3.2f)	3.3	3.3	3.3	3.1	f	e	3.3	a	a	
7	a	a	b	a	a	b	3.2	3.3	3.2	3.3	3.1	3.2	3.3	3.1	b	(3.5f)	f	3.1	f	3.1	f	b	a	a	
8	a	a	a	a	3.0	3.0	b	b	3.3	3.4	3.2	b	3.4	3.3	3.4	3.3	o	o	o	o	o	o	o	o	
9	o	o	o	o	o	o	o	o	o	o	o	o	3.3	3.3	3.4	3.4	3.5	3.3	(3.1f)	3.3	3.2	(3.1f)	f	e	
10	f	3.3	f	b	b	b	3.0	3.4	3.3	3.3	b	3.3	3.4	3.4	3.5	3.6	(3.5)	3.3	3.3	3.3	3.2	a	a	a	
11	b	a	a	a	3.0	b	3.0	3.3	3.1	3.3	3.4	3.3	3.3	(3.4)	3.3	3.3	b	(3.2f)	(2.8f)	f	f	a	a	b	
12	a	a	a	f	f	f	f	3.5	3.5	3.3	3.2	3.4	3.4	3.1	3.3	(3.2)	(3.2)	f	3.2	(3.2f)	a	3.2	a	a	
13	3.2	a	f	a	a	b	(3.0f)	3.2	3.3	3.1	3.2	3.2	3.2	b	3.2	3.2	3.3	3.2	(3.1f)	(3.2f)	f	a	a	a	
14	o	a	3.1	a	3.2	b	b	3.2	3.3	3.1	3.1	3.0	3.2	3.3	3.1	o	o	o	o	o	o	o	o	o	
15	o	o	o	o	o	o	o	o	o	o	o	3.4	3.5	3.3	3.4	3.3	3.3	3.2	3.2	3.3	3.2	3.2	3.2	f	
16	f	b	a	a	f	f	f	3.5	3.5	3.3	3.3	3.2	3.2	3.5	3.4	3.6	3.5	3.5	3.4	3.3	3.2	o	o	o	
17	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	3.3	3.2	(3.0f)	3.3	2.8	f	b	3.0	
18	3.1	3.1	3.2	3.0	3.3	f	3.2	3.3	3.5	3.6	3.5	o	o	o	o	o	o	o	o	o	o	o	o	o	
19																									
20																									
21																									
22																									
23																									
24																									
25																									
26																									
27																									
28																									
29	o	o	o	o	o	o	o	o	o	o	o	o	o	o	b	(3.4)	3.2	b	3.0	a	a	a	b	a	b
30	b	a	2.9	3.2	b	b	b	b	b	b	b	b	b	b	b	3.3	3.3	3.3	(3.0f)	f	a	a	b	f	
31																									
Median	*	*	*	*	*	*	(3.0)	3.3	3.3	3.3	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.2	3.1	3.2	(3.2)	*	*	*	
No.	2	2	3	2	4	1	7	12	12	11	10	12	15	12	15	17	13	15	11	10	5	4	1	1	

12b

HOURLY VALUES OF **foF1** OBSERVED DURING **APRIL 1955** AT **MACQUARIE ISLAND**

Sweep: **1.0 - 13.0 Mc/s in 1m 55s**

**157.5°E** Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							b	b	b	b	b	3.8	3.9	b	b	3.6	3.3	q						
2							q	q	b	b	b	b	b	b	3.8	3.6	b	q						
3							a	q	q	b	b	b	3.9	3.9	3.7	3.6	(3.3)	q						
4							a	q	q	q	q	3.8	3.8	3.8	(3.8)	3.5	1	q						
5							b	q	q	b	b	e	3.9	b	b	b	b	q						
6								b	b	3.5	3.8	3.9	3.9	4.0	(4.0)	1	q	q						
7							q	q	q	(3.7)	3.9	(4.0)	4.0	3.9	b	1	q							
8							b	b	q	b	3.9	b	3.9	4.0	(3.7)	(3.5)	e	e						
9							e	e	e	e	e	e	4.0	3.9	3.7	1	q							
10								q	(3.1)	(3.7)	(4.2)	3.9	4.0	3.8	1	q								
11							q	q	q	q	3.8	3.8	3.9	3.8	3.7	b	q							
12							q	q	q	1	3.8	3.9	4.0	3.8	3.7	b	q							
13							q	q	q	q	3.7	3.8	3.8	b	3.7	1	q							
14							q	q	q	q	3.7	3.8	3.8	3.7	3.6	e	e	e						
15							e	e	e	e	e	3.8	4.0	3.9	1	q								
16							q	q	q	1	3.8	4.0	(3.8)	1	1	e	e	e						
17							e	e	e	e	e	e	e	e	e	e	e	e						
18										1	1	e	e	e	e	e	e	e						
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median							*	*	*	*	3.8	3.8	3.9	3.8	3.7	3.6	*	*						
No.							0	0	1	3	8	11	15	12	10	5	2	0						

13a

HOURLY VALUES OF **h'F1** OBSERVED DURING **APRIL 1955** AT **MACQUARIE ISLAND**

Sweep: **1.0 - 13.0 Mc/s in 1m 55s**

**157.5°E** Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							b	b	b	b	b	230	b	b	b	b	240	q						
2							q	q	b	b	b	b	b	b	b	230	b	q						
3							a	q	q	b	b	b	220	220	240	220	220	q						
4							a	q	q	q	q	220	200	210	200	240	240	q						
5							b	q	q	b	b	e	b	b	b	b	b							
6								b	b	230	220	230	220	b	b	200	q	q						
7							q	q	q	230	200	200	220	200	b	220	q							
8							b	b	q	b	b	b	200	b	200	210	e	e						
9							e	e	e	e	e	e	220	200	200	b	q							
10								q	200	200	220	210	220	190	1	q								
11							q	q	q	q	200	200	200	b	210	b	q							
12							q	q	q	200	200	180	170	200	210	b	q							
13							q	q	q	q	230	200	220	b	b	1	q							
14							q	q	q	q	220	220	200	220	200	e		e						
15							e	e	e	e	e	200	210	180	1	q								
16								q	q	q	1	200	210	200	1	1	e	e	e					
17							e	e	e	e	e	e	e	e	e	e	e	e						
18										1	200	e	e	e	e	e	e	e						
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median							*	*	*	*	210	200	210	200	200	220	*	*						
No.							0	0	1	4	8	11	13	9	7	6	3	0						

13b

HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING APRIL 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1					(2.5)	b	b	b	b	b	b	2.8	b	b	b	b	2.1	(1.8f)	(1.7f)	(1.8f)	3.8		b	b
2	b	b	2.7	b	b	b	q	(1.8)	b	b	b	b	b	b	b	2.5	b	b						
3							a	1.8	2.3	b	b	b	b	2.6	2.1	b	2.0	f	1.8	f	(2.3f)	a	2.1	a
4	b	b	b	b			a	2.1	2.2	2.5	b	2.7	2.7	2.6	2.6	2.3	2.0	1.9						
5	2.2	2.0	a				b	b	b	b	a	b	b	b	b	b	b			2.0				
6								b	b	b	2.6	2.6	2.7	b	b	2.4	b	q						
7							q	1.8	2.1	b	2.6	b	b	b	b	2.4	f	1.8	(1.7f)	(1.6f)	(1.6f)	b		
8							q	b	b	b	b	b	b	b	b	2.3	e	e	e	e	e	e	e	e
9							e	e	e	e	e	e	2.7	2.8	2.5	(2.3)	2.1	a						
10	(1.8f)						q	1.6	2.0	2.2	3.0	3.1	2.8	b	2.8	b	2.1	q						
11							q	1.9	2.4	2.5	2.5	2.7	b	2.9	b	b	b							
12					(1.4f)		q	1.7	1.8	2.3	2.4	2.6	2.6	2.5	b	b	1.7	1.5				2.3		
13								1.5	2.1	b	2.5	2.5	2.6	b	b	2.7	b							
14							b	2.3	2.1	2.8	2.5	2.6	b	2.6	2.1	e	e	e						
15							e	e	e	e	e	b	2.1	(2.3)	2.5	2.2	1.7	(1.4f)						
16								1.6	1.8	2.3	2.5	2.5	2.6	2.5	2.6	2.3	2.0	e	e					
17							e	e	e	e	e	e	e	e	e	e	2.0							
18	2.1							1.6	1.8	2.2	2.3	e	e	e	e	e	e	e	e	e				
19								e	e	e	e	e	e	e	e	e	e	e	e	e				
20								e	e	e	e	e	e	e	e	e	e	e	e	e				
21							e	e	e	e	e	e	e	e	e	e	e	e	e	e				
22								e	e	e	e	e	e	e	e	e	e	e	e	e				
23								e	e	e	e	e	e	e	e	e	e	e	e	e				
24								e	e	e	e	e	e	e	e	e	e	e	e	e				
25								e	e	e	e	e	e	e	e	e	e	e	e	e				
26								e	e	e	e	e	e	e	e	e	e	e	e	e				
27								e	e	e	e	e	e	e	e	e	e	e	e	e				
28								e	e	e	e	e	e	e	e	e	e	e	e	e				
29								e	e	e	e	e	e	e	b	b	2.5	b	1.4					
30								b	b	b	b	b	b	b	b	b	b	1.5	1.5	2.1				
31																								
Median	*	*	*	*	*	*	*	1.8	2.1	2.3	2.5	2.6	2.7	2.6	2.6	2.4	2.0	1.5	*	*	*	*	*	*
No.	3	1	1	0	2	0	0	11	10	7	9	9	9	7	8	10	9	7	3	4	3	1	1	0

14a

HOURLY VALUES OF  $h'F_2$  OBSERVED DURING APRIL 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1					90	b	b	b	b	b	b	100	b	b	b	b	130	130	140	100		b	b	
2	b	b	90	b	b	b	q	90	b	b	b	b	b	b	b	110	b	b						
3							a	a	90	b	b	b	b	110	a	b	a	f	110	f	100	a	120	a
4	b	b	b	b			a	90	90	90	b	100	100	90	100	100	e130							
5	100	90	a				b	b	b	b	b	e	b	b	b	b			100					
6								b	b	b	100	100	90	b	b	100	b	q						
7							q	100	90	b	100	b	b	b	b	110	140	140	100	120	110	b		
8							q	b	b	b	b	b	b	b	b	120	e	e	e	e	e	e	e	e
9							e	e	e	e	e	e	90	110	90	100	100	a						
10	140						q	b	100	100	b	b	b	90	100	90	100	q						
11							q	100	100	100	100	100	100	b	90	b	b	b						
12					110		q	100	90	90	100	100	100	90	b	b	b	e				e110		
13								130	100	b	100	100	90	b	b	100	b							
14							b	100	100	100	100	100	b	100	100	e	e	e						
15							e	e	e	e	e	100	100	100	100	90	100	130						
16								150	100	100	110	100	100	100	100	100	130	e	e					
17							e	e	e	e	e	e	e	e	e	e	100							
18	100							110	90	100	100	e	e	e	e	e	e	e						
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29								e	e	e	e	e	e	b	b	b	b	130						
30								b	b	b	b	b	b	b	b	b	b	110	120	110				
31																								
Median	*	*	*	*	*	*	*	100	95	100	100	100	100	100	100	100	100	130	*	*	*	*	*	*
No.	3	1	1	0	2	0	0	9	10	7	8	9	8	8	7	10	7	7	3	3	3	1	1	0

14b

N O D A T A A V A I L A B L E 19th to 28th APRIL INCLUSIVE

HOURLY VALUES OF  $f^oF_2$  OBSERVED DURING APRIL 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	e	b	b	b	b	b	b	b	b	b	b	g	b	b	b	b	g	4.0	4.2	4.5	4.0	b	b	
2	b	b	4.3	b	b	b	e	2.2	b	b	b	b	b	b	b	g	b	b	4.5	5.0	4.6	4.0	4.0	5.0
3	b	b	b	3.1	4.5	3.5	2.2	2.2	2.1	b	b	b	b	2.2	2.2	b	2.1	g	e	e	6.5	6.3	4.5	4.4
4	b	b	b	b	3.9	2.5	2.2	g	2.1	g	b	g	g	g	g	g	g	2.3	4.4	4.2	b	4.5	4.0	
5	3.5	3.5	3.7	2.0	2.2	b	b	b	b	b	b	e	b	b	b	b	2.0	1.6	e	4.7	4.5	4.2	b	
6	b	b	3.5	3.0	3.3	2.2	e	b	b	b	g	g	2.7	b	b	g	b	4.5	3.0	1.8	3.2	3.0	7.0	4.0
7	4.5	5.0	b	3.6	3.2	b	g	g	g	b	g	b	b	b	b	g	g	g	3.4	g	3.1	b	5.6	6.0
8	4.7	2.2	4.5	3.1	1.4	e	b	b	b	e	b	b	b	b	b	2.2	e	e	e	e	e	e	e	e
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	2.1	2.5	2.1	2.0	1.6	2.1	e	e	2.0
10	4.5	3.5	e	b	b	b	e	g	g	g	b	g	g	g	2.7	g	2.2	1.8	e	e	e	5.5	5.0	4.5
11	b	4.7	5.0	5.7	2.8	b	e	g	g	g	g	g	3.5	2.7	b	g	b	b	2.4	3.0	3.0	5.0	5.5	b
12	4.5	5.0	2.0	1.6	e	e	2.1	g	g	g	g	g	g	g	b	b	g	g	2.0	3.5	4.0	3.6	4.0	4.5
13	4.9	4.5	2.5	2.6	1.9	b	e	1.6	g	b	2.5	g	2.6	b	b	g	3.5	5.0	3.5	4.5	1.9	3.3	5.0	5.0
14	e	3.2	2.1	1.8	e	b	b	g	g	g	g	b	g	g	c	e	e	e	e	e	e	e	e	e
15	e	e	e	e	e	e	e	e	e	e	e	e	3.0	2.9	3.1	2.7	g	2.0	g	e	4.5	e	e	e
16	b	b	2.1	4.0	f	f	e	2.2	2.1	g	g	2.7	2.8	2.9	g	g	g	e	e	e	e	e	e	e
17	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	2.6	2.2	e	3.3	3.2	4.6	b	4.5
18	e	1.8	3.2	3.0	e	e	d	g	2.2	2.1	g	e	e	e	e	e	e	e	e	e	e	e	e	e
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	g	b	g	5.0	6.0	4.6	b	4.5	b
30	b	4.5	2.8	3.0	b	b	b	b	b	b	b	b	b	b	b	b	b	1.9	2.4	4.2	4.5	4.9	b	4.0
31																								
Median	4.5	4.0	3.4	3.0	2.2	2.2	**	**	**	**	**	**	2.6	2.1	2.1	**	2.0	**	2.3	3.3	3.2	4.0	4.5	4.4
No.	7	10	12	12	11	6	10	11	10	7	8	10	9	8	8	11	10	15	17	17	17	13	13	12

15a

HOURLY VALUES OF  $h^oF_2$  OBSERVED DURING APRIL 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	e	b	b	b	b	b	b	b	b	b	b	g	b	b	b	b	b	g	160	130	110	120	b	b
2	b	b	140	b	b	b	e	90	b	b	b	b	b	b	b	g	b	b	100	100	110	90	90	90
3	b	b	b	b	80	80	80	90	90	b	b	b	b	90	90	b	90	g	e	e	150	100	100	100
4	b	b	b	b	90	90	100	g	100	g	b	g	g	g	g	g	g	g	150	120	100	b	100	100
5	120	90	90	90	90	b	b	b	b	b	b	e	b	b	b	b	b	150	120	e	100	90	100	b
6	b	b	90	100	100	150	e	b	b	b	g	g	110	b	b	g	b	120	110	130	100	100	90	90
7	90	90	b	90	90	b	g	g	g	b	g	b	b	b	b	g	g	g	130	g	110	b	90	90
8	90	80	90	90	100	e	b	b	b	b	b	b	b	b	b	90	e	e	e	e	e	e	e	e
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	90	90	90	90	110	e	e	e	90
10	100	90	e	b	b	e	g	g	g	g	b	g	g	g	100	g	90	100	e	e	e	100	100	90
11	b	90	90	100	120	b	e	g	g	g	g	g	130	110	b	g	b	b	110	110	110	100	100	b
12	90	90	100	100	e	e	100	g	g	g	g	g	g	g	b	b	g	g	140	120	100	130	120	90
13	90	90	90	90	90	b	e	100	g	b	90	g	100	b	b	g	120	120	110	110	120	100	100	100
14	e	80	110	120	e	b	b	g	g	g	g	g	b	g	g	e	e	e	e	e	e	e	e	e
15	e	e	e	e	e	e	e	e	e	e	e	e	100	100	100	120	g	90	g	e	110	e	e	e
16	b	b	110	100	f	f	e	90	100	g	g	110	110	100	g	g	g	e	e	e	e	e	e	e
17	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	110	140	e	110	140	100	b	100
18	e	100	90	90	e	e	d	g	100	100	g	e	e	e	e	e	e	e	e	e	e	e	e	e
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	g	b	g	110	100	100	b	100	b
30	b	100	90	100	b	b	b	b	b	b	b	b	b	b	b	b	b	110	160	110	100	120	b	100
31																								
Median	90	90	90	95	90	*	*	*	*	*	*	*	110	*	*	*	90	120	115	110	110	100	100	90
No.	6	10	11	12	8	3	3	4	4	1	1	3	5	4	4	2	6	7	12	12	13	11	11	11

15b

HOURLY VALUES OF foF2 OBSERVED DURING MAY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s 157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	2.4	1.8	1.7	1.4	a	f	1.3	2.4	3.4	3.8	4.5	b	4.9	5.0	5.1	5.4	5.5	f	(3.4f)	f	f	(1.5f)	f	f	
2	f	a	(0.9f)	1.7	1.8	a	a	2.4	3.8	4.4	4.5	5.0	(5.0)	5.0	5.3	4.9	4.8	4.9	(3.9f)	(2.9f)	(2.4f)	(1.9f)	(1.6f)	(2.1f)	
3	2.0	a	a	a	1.9	f	1.6	2.8	3.6	4.8	5.0	5.2	5.5	5.2	5.3	5.6	5.6	5.5	4.4	3.3	(2.4f)	2.0	(1.8f)	a	
4	a	2.1	f	a	2.7	(1.9)	f	2.5	3.8	4.3	4.9	5.1	5.7	5.3	5.6	5.5	5.5	4.9	4.5	3.5	2.7	2.5	2.1	f	
5	a	a	a	2.5	2.5	a	(1.6f)	2.5	4.2	a	5.4	5.7	5.5	5.5	5.6	5.5	5.5	2.1	f	f	f	f	2.6	a	
6	2.0	f	b	b	2.6	2.5	2.0	2.6	4.3	4.5	4.5	5.0	6.0	5.5	5.0	5.1	5.3	f	f	2.8	a	a	b	b	
7	a	a	a	a	f	a	b	2.4	3.5	4.0	b	b	b	b	b	f	a	2.3	2.5	a	a	a	a	a	
8	a	a	b	a	b	b	b	3.7	4.1	b	b	b	b	b	5.5	4.2	a	3.7	2.7	a	a	a	a	4.3	b
9	a	a	a	a	a	b	b	b	3.2	b	b	b	4.7	4.9	5.2	5.0	4.3	2.5	f	f	a	(3.3)	a	f	
10	a	a	1.7	b	1.7	b	a	2.3	3.7	4.2	4.5	4.5	5.0	4.8	4.7	5.0	4.5	(4.2f)	f	f	f	b	a	f	
11	1.9	f	a	a	b	b	b	2.1	3.7	4.3	4.6	4.8	4.8	4.9	5.2	5.2	5.3	4.9	3.1	f	f	2.1	a	a	
12	f	f	b	b	b	b	b	2.3	3.7	4.2	4.7	4.8	5.2	5.3	5.3	5.8	5.5	5.0	3.5	2.0f	f	(2.3f)	a	a	
13	f	a	a	a	b	b	b	f	3.6	4.1	4.2	a	4.7	4.9	b	5.6	4.7	4.2	f	(2.1f)	a	a	a	a	
14	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	5.0	5.3	4.1	a	f	a	a	a	2.4	
15	a	f	a	b	b	b	b	1.8	3.2	3.8	4.2	4.8	5.3	5.3	5.0	5.2	5.6	2.4	b	b	a	a	b	b	
16	a	b	b	b	a	b	b	1.8	3.5	4.0	5.0	5.4	5.2	5.5	5.3	(4.2f)	3.0	f	f	a	a	f	f	a	
17	a	f	f	f	1.4	b	b	2.0	3.5	4.4	4.8	5.5	5.7	5.5	5.6	5.5	5.2	4.3	3.2	f	f	f	f	a	
18	a	b	b	b	b	b	b	(1.7f)	3.3	4.2	4.8	5.0	5.1	5.8	5.3	5.6	5.4	5.4	3.6	2.6	2.2	1.8	f	f	
19	f	f	f	f	b	b	a	1.8	3.7	4.2	5.3	5.6	5.4	a	5.5	5.1	4.2	3.9	2.5	2.0	2.0	f	f	f	
20	f	f	f	f	f	b	a	(1.8f)	3.8	5.5	5.0	5.4	6.4	5.9	5.5	5.7	5.2	4.7	3.8	(2.1f)	2.0	f	f	a	
21	f	a	a	a	a	a	a	a	a	a	a	a	a	a	a	5.5	a	4.8	4.1	3.0	2.5	2.1	1.9	f	
22	f	f	a	a	f	f	f	(1.6f)	a	4.6	5.1	5.5	5.6	5.6	6.0	5.8	5.0	4.6	4.0	2.6	2.3	2.0	(1.7f)	f	
23	f	f	f	f	f	b	b	f	3.6	4.8	5.2	6.0	6.0	5.2	6.0	5.7	4.8	4.5	4.0	2.8	2.5	2.5	2.0	f	
24	f	f	f	f	f	f	f	f	4.0	4.9	5.3	5.5	6.0	5.9	5.9	a	5.1	5.2	3.9	f	f	f	f	f	
25	f	a	a	f	f	f	f	f	3.7	4.5	5.0	5.5	5.5	5.8	6.5	5.5	5.0	a	4.0	f	b	f	2.0	1.8	
26	f	f	f	f	f	1.4	f	f	3.2	3.0	5.0	5.8	5.0	5.8	6.5	f	a	a	a	b	b	b	a	a	
27	a	a	a	a	f	a	a	b	3.3	4.0	4.3	5.2	5.5	5.7	5.9	5.7	4.9	4.3	3.5	2.6	2.2	2.0	a	a	
28	b	a	a	b	2.4	a	b	b	3.1	4.1	b	b	b	b	b	4.5	2.7	1.9	a	a	a	b	b	b	
29	a	a	a	a	f	a	1.4	1.5	2.9	3.5	4.0	4.1	4.5	4.2	4.3	4.5	4.0	2.1	1.9	1.8	f	2.0	1.3	a	
30	a	a	b	a	f	b	a	1.8	3.5	4.5	4.7	5.0	4.9	4.7	4.5	4.9	4.5	4.1	3.0	2.0	f	f	f	2.4	
31	f	2.0	f	f	f	b	2.0	1.7	3.1	4.1	4.5	5.0	5.9	5.3	5.5	5.1	5.6	(5.1f)	3.4	f	f	f	f	f	
Median	*	*	*	*	(2.2)	*	(1.6)	2.7	3.6	4.2	4.8	5.2	5.5	5.3	5.3	5.4	5.1	4.3	3.6	2.6	2.4	2.0	2.0	*	
No.	4	3	3	3	8	3	6	20	28	27	25	23	26	26	24	28	27	26	21	15	10	13	10	4	

HOURLY VALUES OF h'F2 OBSERVED DURING MAY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s 157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	e300	e300	e300	e	a	f	e	150	b	210	l	b	260	260	200	240	240	220	210	e250	e280	e300f	e300	e320	
2	a350	a	e	e300	e300	a	a	250	230	210	250	260	280	250	250	a	230	a	a	a	a	e300	a	a	
3	a	a	a	a	e	e250	e260	230	230	250	250	250	250	250	250	250	250	e210	220	e240	e250	250	a	a	
4	a	e300	f	a	e350	e250	f	240	220	200	240	250	240	240	250	230	210	e200	e200	e220	e250	e250	e250	f	
5	a	a	a	260	e250	a	a	240	240	240	250	250	250	250	250	240	230	240	270	f	f	f	f	a	
6	a	f	b	b	290	270	e250	e240	220	200	160	330	260	250	210	240	240	f	f	e300	a	a	b	b	
7	a	a	a	a	f	a	b	e250	240	b	b	b	b	b	b	f	a	260	a	a	a	a	a	a	
8	a	a	b	a	b	b	b	240	220	b	b	b	b	b	b	250	260	a	300	320	a	a	a	260	b
9	a	a	a	a	a	a	b	b	270	b	b	b	270	280	250	250	250	260	f	f	a	a	a	f	
10	a	a	e	b	e	b	a	e250	220	210	260	270	270	250	300	240	220	e220	f	f	f	b	a	f	
11	e260	f	a	a	b	b	b	e250	210	210	240	240	250	190	240	230	210	e220	e260	f	f	e300	a	a	
12	f	f	b	b	b	b	b	e250	220	220	240	240	260	240	230	240	200	220	e230	e270	f	e260	a	a	
13	f	a	a	a	b	b	b	f	220	250	220	280	260	260	b	240	230	220	250	e260	a	a	a	a	
14	a	c	c	c	a	c	c	a	c	c	c	c	c	c	c	250	210	250	a	300	a	a	a	a	
15	a	f	a	b	b	b	b	e250	230	200	200	250	250	250	250	240	220	e220	b	b	a	a	b	b	
16	a	b	b	b	a	b	b	e	220	200	240	250	200	280	310	250	200	240	f	a	a	f	f	a	
17	a	f	f	f	e	b	b	e	220	210	230	250	230	250	220	220	200	220	e220	f	f	f	f	a	
18	a	b	b	b	b	b	b	e	200	200	220	250	220	220	200	230	200	200	e200	e220	e260	e300	f	f	
19	f	f	f	f	f	b	a	a	220	200	220	240	220	220	240	220	200	e200	200	e220	e	f	f	f	
20	f	f	f	f	f	b	a	e	210	230	210	220	210	220	210	210	200	e200	e200	e200	e280	f	f	a	
21	f	a	c	c	c	c	a	a	a	a	a	a	a	a	a	200	190	210	e200	e240	e250	e260	e250	f	
22	f	f	a	a	f	f	f	e250	a	200	210	210	220	200	220	220	190	e200	e200	e210	e250	e300	e	f	
23	f	f	f	f	f	b	b	f	200	210	210	230	200	1	200	210	190	e200	e200	e210	e250	e250	e260	f	
24	f	f	f	f	f	f	f	f	200	190	200	220	240	210	210	210	200	200	200	200	f	f	f	f	
25	f	a	a	f	f	f	f	e190	200	200	250	200	240	240	210	200	e200	e210	220	b	f	f	f	e	
26	f	f	f	f	f	e	b	f	250	260	430	320	240	350	f	a	a	a	a	b	b	b	a	a	
27	a	a	a	a	f	a	a	b	240	240	230	230	250	240	240	220	200	210	220	e260	e250	e300	a	a	
28	b	a	a	b	a	a	b	b	b	b	b	b	b	b	b	260	300	e400	a	a	a	b	b	b	
29	a	a	a	a	f	a	e	e	240	240	230	210	270	250	230	240	240	e340	300	e300	f	e290	e	a	
30	a	a	b	a	f	b	a	e	220	200	240	220	1	250	220	230	210	e220	220	a	f	f	f	a	
31	f	a	f	f	b	b	e250	e	220	230	200	250	240	250	230	240	210	200	230	f	f	f	f	f	
Median	*	*	*	*	e350	*	e260	250	220	210	230	250	250	250	240	235	210	220	220	e240	e250	e295	e260	*	
No.	3	2	3	3	7	3	5	19	26	26	24	24	25	25	25	28	23	28	21	16	10	12	7	2	

HOURLY VALUES OF  $h_p f_2$  OBSERVED DURING MAY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	300	300	320	e	a	f	e	260	260	250	u	b	u	270	210	260	260	f	(250f)	f	f	f	f	f	
2	f	s	e	300	310	a	a	260	250	240	u	u	u	255	260	260	250	270	(250f)	(260f)	(280f)	(320f)	s	(300f)	
3	300	a	a	a	300	f	e	250	250	u	u	u	255	260	255	230	250	250	270	290	(270f)	260	s	a	
4	a	320	f	a	350	(270f)	f	260	240	250	250	260	250	260	260	260	250	260	260	270	280	280	270	f	
5	a	a	a	300	280	s	s	260	250	s	260	260	u	260	260	260	260	250	f	f	f	f	f	a	
6	a	f	b	b	300	280	270	260	240	260	280	u	270	260	260	260	270	260	f	f	320	a	a	b	b
7	a	a	a	a	f	a	b	300	280	b	b	b	b	b	f	a	300	310	a	a	a	a	a	a	a
8	a	a	b	a	b	b	b	250	250	b	b	b	b	270	280	a	310	u	a	a	a	a	u	b	
9	a	a	a	a	a	b	b	b	280	b	b	b	u	u	260	260	280	290	f	f	s	a	a	f	
10	a	a	e	b	e	b	a	270	260	260	u	u	u	u	u	260	250	(270f)	f	f	f	b	a	f	
11	280	f	a	a	b	b	b	250	240	240	250	250	260	250	260	260	250	270	300	f	f	300	a	a	
12	f	f	b	b	b	b	b	270	250	230	250	260	265	250	260	260	240	240	260	270	f	(270f)	a	a	
13	f	a	a	a	b	b	b	f	250	220	280	s	u	270	b	260	250	260	f	(290f)	e	a	a	c	
14	c	c	c	c	c	c	c	c	c	c	c	c	e	e	e	280	250	260	a	f	a	a	a	a	
15	a	f	a	b	b	b	b	270	250	250	290	260	260	255	255	250	260	240	b	b	a	a	b	b	
16	a	b	b	b	a	b	b	260	250	230	250	260	260	290	320	u	250	f	f	a	a	f	f	a	
17	a	f	f	f	e	b	b	e	250	240	250	260	250	260	250	250	260	260	260	f	f	f	f	a	
18	a	b	b	b	b	b	b	e	220	240	230	260	230	230	240	260	240	250	250	260	280	e	f	f	
19	f	f	f	f	b	b	a	s	240	210	240	250	230	240	s	240	220	240	240	240	e	f	f	f	
20	f	f	f	f	f	b	a	e	240	240	220	230	230	240	240	240	240	250	240	e	e	f	f	s	
21	f	a	e	e	e	e	e	e	e	e	e	e	e	e	e	230	s	260	230	270	260	260	e	f	
22	f	f	a	a	f	f	f	(260f)	o	220	230	220	240	220	250	250	210	240	240	250	260	300	e	f	
23	f	f	f	f	f	b	b	f	230	230	230	240	220	280	240	240	220	260	250	250	270	280	e	f	
24	f	f	f	f	f	f	f	f	220	210	220	230	250	240	220	s	240	240	240	f	f	f	f	f	
25	f	a	a	f	f	f	f	f	250	230	220	260	210	250	250	230	240	s	260	f	b	f	f	e	
26	f	f	f	f	f	e	b	f	290	u	u	d	d	u	f	a	a	a	a	b	b	b	a	a	
27	a	a	a	a	f	a	a	b	260	250	270	250	260	250	270	250	260	270	270	300	260	300	a	a	
28	b	a	a	b	a	a	b	b	b	b	b	b	b	b	b	300	310	400	a	a	a	b	b	b	
29	a	a	a	a	f	a	e	e	260	270	260	270	u	270	270	270	280	340	u	300	f	290	e	a	
30	a	a	b	a	f	b	a	e	250	250	250	250	270	255	250	250	240	270	250	s	f	f	f	240	
31	f	a	f	f	b	b	260	e	250	250	250	255	250	270	260	260	260	(270f)	260	f	f	f	f	f	
Median	*	*	*	*	(300)	*	(e)	270	250	240	250	260	250	255	260	260	250	260	250	270	275	290	(e)	*	
No.	3	2	3	3	5	2	5	19	27	23	20	18	18	23	23	27	27	26	19	13	10	11	5	3	

17a

HOURLY VALUES OF  $(M3000) f_2$  OBSERVED DURING MAY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	(2.8f)	3.0	3.0	e	a	f	e	3.3	3.4	3.5	3.3	b	3.4	3.4	3.6	3.3	3.4	f	(3.4f)	f	f	f	f	f	
2	f	s	e	3.3	3.1	a	a	3.3	3.6	3.6	3.6	3.5	(3.5)	3.5	3.5	3.5	3.5	3.5	(3.5f)	(3.5f)	(3.1f)	(3.2f)	s	(3.2f)	
3	3.2	a	a	a	(2.3f)	f	(3.5f)	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.4	3.5	3.5	3.4	3.6	3.2	3.2	(3.0f)	3.3	f	a
4	a	3.0	f	a	3.0	3.3f	f	3.2	3.5	3.5	3.3	3.5	3.6	3.4	3.5	3.4	3.4	3.3	3.3	3.2	3.1	3.2	3.2	f	
5	a	a	a	3.2	3.1	s	s	3.2	3.5	s	3.2	3.4	3.5	3.4	3.4	3.4	3.3	2.9	f	f	f	f	f	a	
6	f	f	b	b	3.0	3.1	3.1	3.2	3.4	3.2	3.2	3.1	3.2	3.4	3.2	3.2	3.2	f	f	2.7	a	a	b	b	
7	a	a	a	a	f	a	b	3.1	3.2	3.1	b	b	b	b	b	f	a	2.8	(2.6f)	a	a	a	a	a	
8	a	a	b	a	b	b	b	b	3.6	3.2	b	b	b	b	3.3	3.1	a	2.7	3.0	a	a	a	3.5	b	
9	a	a	a	a	a	b	b	b	3.3	b	b	b	3.3	3.4	3.4	3.4	3.4	3.2	2.8	f	s	a	a	f	
10	a	a	e	b	e	b	a	3.2	3.5	3.5	3.5	3.3	3.2	3.5	3.2	3.1	3.3	(3.2f)	f	f	f	b	a	f	
11	3.0	f	a	a	b	b	b	3.2	3.5	3.5	3.5	3.5	3.3	3.1	3.4	3.4	3.5	3.2	3.1	f	f	2.9	a	a	
12	f	f	b	b	b	b	b	3.2	3.5	3.6	3.5	3.4	3.3	3.5	3.4	3.5	3.5	3.4	3.4	3.2f	f	(3.1f)	a	a	
13	f	a	a	a	b	b	b	f	3.4	3.4	3.1	s	3.4	3.3	b	3.1	3.3	3.1	f	(3.2f)	e	a	a	e	
14	c	c	c	c	c	c	c	c	c	c	c	c	c	e	e	e	3.2	3.2	3.1	a	f	a	a	a	
15	a	f	a	b	b	b	b	3.3	3.5	3.4	3.3	3.4	3.4	3.5	3.2	3.2	3.2	3.3	3.2	b	b	a	b	b	
16	a	b	b	b	a	b	b	3.2	3.5	3.6	3.2	3.4	3.3	3.1	2.9	(2.8f)	3.0	f	f	a	a	f	f	a	
17	a	f	f	f	e	b	b	e	3.4	3.6	3.4	3.5	3.5	3.5	3.4	3.4	3.2	3.3	3.3	f	f	f	f	a	
18	a	b	b	b	b	b	b	e	3.6	3.5	3.6	3.2	3.5	3.6	3.4	3.5	3.5	3.4	3.2	3.1	3.0	3.2	f	f	
19	f	f	f	f	b	b	a	s	3.5	3.6	3.5	3.5	3.6	3.5	s	3.6	3.5	3.2	3.3	3.1	e	f	f	f	
20	f	f	f	f	f	b	a	e	3.6	3.7	3.5	3.6	3.6	3.6	3.6	3.6	3.5	3.3	(3.2f)	e	3.1	f	f	s	
21	f	a	e	e	e	e	e	e	e	e	e	e	e	e	e	3.6	s	3.3	3.4	3.2	3.1	3.1	3.2	f	
22	f	f	a	a	f	f	f	(3.3f)	o	3.6	3.6	3.7	3.6	3.7	3.6	3.5	3.5	3.4	3.3	3.2	3.2	3.0	e	f	
23	f	f	f	f	f	b	b	f	3.6	3.6	3.6	3.6	3.6	3.2	3.5	3.5	3.4	3.2	3.4	3.2	3.2	3.1	3.2	f	
24	f	f	f	f	f	f	f	f	3.6	3.6	3.6	3.6	3.6	3.6	3.7	s	3.5	3.3	3.3	f	f	f	f	f	
25	f	a	a	f	f	f	f	f	3.4	3.6	3.5	3.4	3.5	3.5	3.5	3.6	3.5	s	3.3	f	b	f	f	e	
26	f	f	f	f	f	e	b	f	2.9	3.2	2.5	d	d	3.0	f	a	a	a	a	b	b	b	a	a	
27	a	a	a	a	f	a	a	b	3.2	3.4	3.2	3.3	3.5	3.6	3.3	3.4	3.3	3.1	3.0	3.0	3.1	3.2	a	a	
28	b	a	a	b	a	a	b	b	b	b	b	b	b	b	b	3.3	3.0	2.6	a	a	a	b	b	b	
29	a	a	a	a	f	a	e	e	3.3	3.3	3.3	3.3	3.4	3.2	3.2	3.3	3.2	3.0	2.8	2.9	f	3.0	e	a	
30	a	a	b	a	f	b	a	e	3.3	3.4	3.5	3.5	3.4	3.5	3.5	3.3	3.5	3.2	3.2	e	f	f	f	3.1	
31	f	3.0	f	f	b	b	3.0	e	3.3	3.4	3.2	3.5	3.4	3.4	3.4	3.4	3.3	(3.1f)	3.2	f	f	f	f	f	
Median	*	*	*	*	(3.0)	*	*	3.2	3.5	3.5	3.5	3.5	3.4	3.4	3.4	3.4	3.3	(3.1f)	3.2	3.2	(3.1)	3.1	*	*	
No.	3	3	1	2	5	2	3	13	27	26	25	22	25	26	24	28	27	26	21	13	9	11	4	2	

17b

HOURLY VALUES OF  $f_oF_1$  OBSERVED DURING MAY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								q	q	q	1	b	3.7	(3.6)	(3.5)	q	q	q	q					
2								q	q	q	(3.5)	(3.7)	(3.7)	(3.6)	1	q	q	q	q					
3								q	q	1	3.5	3.7	1	3.7	3.5	q	q							
4								q	q	q	1	1	3.7	3.5	1	q	q	q						
5								q	q	q	3.8	3.8	3.7	3.7	3.5	q	q							
6								q	q	q	1	2.8	3.7	1	1	q	q	q						
7								q	q	b	b	b	b	b	b	a	a	q						
8								b	q	q	b	b	b	b	1	q	a	q						
9								q	q	b	b	b	b	3.6	1	b	b	b						
10								q	q	q	3.3	3.6	3.6	3.5	3.4	q	q							
11								q	q	1	3.5	(3.2)	(3.5)	1	3.0	q	q	q						
12								q	q	3.1	3.0	3.1	3.5	3.4	1	1	a	a						
13								q	1	b	b	3.7	3.6	3.5	b	a	a	q						
14								e	e	e	e	e	e	e	e	2.6	q	q						
15								q	q	q	1	3.5	(3.5)	(3.5)	3.2	2.6	q	q						
16								q	q	1	3.4	(3.5)	1	3.7	3.6	q	q							
17								q	q	q	3.0	3.5	3.5	3.5	1	q	q	q						
18								q	q	q	(3.2)	(3.5)	(3.5)	3.5	q	q	q	q						
19								q	q	q	q	(3.3)	3.5	(3.2)	3.4	q	q	q						
20								q	q	4.2	q	3.5	3.5	3.5	2.4	q	q	q						
21								e	e	e	e	e	e	e	e	q	q	q						
22									e	q	q	2.8	3.5	3.1	q	q	q	q						
23								q	q	q	q	3.5	3.2	4.2	q	q	q	q						
24								q	q	q	q	3.3	(3.6)	q	q	q	q	q						
25								q	q	q	q	3.7	q	3.5	q	q	q	q						
26								q	q	q	3.4	a	a	a	a	a	a	a						
27								q	q	q	q	q	3.5	3.5	q	q	q	q						
28								b	b	b	b	b	b	b	b	b	q	q						
29								q	q	q	q	q	3.4	q	q	q	q	q						
30								q	q	q	3.0	1	3.5	3.4	q	q	q	q						
31								q	q	q	q	3.5	3.4	3.1	q	q	q	q						
Median								*	*	*	3.4	3.5	3.5	3.5	3.4	*	*	*						
No.								0	0	2	11	19	21	21	9	2	0	0						

18a

HOURLY VALUES OF  $h'F_1$  OBSERVED DURING MAY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								q	q	q	240	b	b	210	180	q	q	q	q					
2								q	q	q	200	230	190	200	1	b	q	q	q					
3								q	q	1	210	180	1	200	b	q	q							
4								q	q	q	200	180	220	200	200	q	q	q						
5								q	q	q	200	190	210	b	230	q	q							
6								q	q	q	1	220	210	210	1	q	q	q						
7								q	q	b	b	b	b	b	b	a	a	q						
8								b	q	q	b	b	b	b	b	q	a	q						
9								q	q	b	b	b	b	220	b	b	b	b						
10								q	q	q	200	220	220	210	220	q	q							
11								q	q	1	200	b	200	1	210	q	q	q						
12								q	q	200	160	190	220	220	1	1	a	a						
13								q	1	b	b	230	b	210	b	a	a	q						
14								e	e	e	e	e	e	e	e	220	q	q						
15								q	q	q	1	200	190	200	200	200	q	q						
16								q	q	1	210	180	1	220	240	q	q							
17								q	q	q	200	210	220	200	1	q	q	q						
18								q	q	q	200	180	190	200	q	q	q	q						
19								q	q	q	q	180	200	180	2	q	q	q						
20								q	q	200	q	180	200	200	200	q	q	q						
21								e	e	e	e	e	e	e	e	q	q							
22									e	q	q	200	200	200	q	q	q	q						
23								q	q	q	q	210	180	200	q	q	q	q						
24								q	q	q	q	190	210	q	q	q	q	q						
25								q	q	q	q	220	q	220	q	q	q	q						
26								q	q	q	240	a	a	a	a	a	a	a						
27								q	q	q	q	q	220	210	q	q	q	q						
28								b	b	b	b	b	b	b	b	b	q	q						
29								q	q	q	q	q	210	q	q	q	q	q						
30								q	q	q	200	1	210	200	q	q	q	q						
31								q	q	q	q	200	200	210	q	q	q	q						
Median								*	*	*	200	200	210	200	205	*	*	*						
No.								0	0	2	13	19	19	21	8	2	0	0						

18b

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $f_oE$  OBSERVED DURING MAY 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^{\circ}E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	#							q	q	2.3	b	b	b	b	b	2.0	b	b	q					
2		1.9	1.5			2.1	2.2		1.9	2.3	2.2	2.9	2.5	2.5	a	a	a	a	a					
3								q	1.6	2.2	2.4	2.5	2.4	2.2	b	2.3	b						(3.0)	1.8
4								q	q	2.1	2.3	2.4	2.5	2.5	2.3	2.0	q	q						
5								q	q	2.2	2.3	2.4	2.5	b	b	b	b	q						2.1
6					2.2			q	2.3	2.1	2.2	2.4	2.4	2.2	2.2	2.0	(1.7)	q						
7								q	1.8	b	b	b	b	b	b	a	b	q						
8								b	2.1	2.2	b	b	b	b	b	a	2.0	2.0						
9								q	2.0	b	b	b	b	b	b	b	b	b						
10								q	1.7	2.0	2.2	2.7	2.5	2.4	2.1	1.8	q	q						
11								q	1.7	2.1	b	b	b	2.2	2.2	2.0	a	q						
12								q	q	2.0	2.2	a	2.4	2.2	2.5	a	a	a						
13								q	1.7	b	b	2.3	b	b	b	b	b	b						
14								o	o	o	o	o	o	o	o	1.9	f	q						
15								q	1.7	2.0	2.1	2.2	2.2	2.2	2.1	2.0	b	q						
16								q	1.6	b	2.2	2.1	2.1	2.1	2.0	2.1	q	q					2.3	1.9
17		2.1						q	q	1.9	2.1	2.4	2.4	2.3	2.1	1.9	q	q						
18								q	q	1.9	2.1	2.1	2.3	2.3	2.0	1.8	q	q						
19								q	1.7	2.0	2.0	2.1	2.2	2.1	2.1	1.9	q	q						
20								q	1.7	2.0	2.1	2.0	2.5	(2.3)	2.1	1.8	1.5	q						
21								e	o	o	o	o	o	o	o	1.9	e	q						
22								q	o	2.0	2.3	2.3	2.2	2.2	2.1	1.8	q	q						
23								q	#	2.1	2.1	2.0	2.0	2.0	2.2	b	q	q						
24								q	q	2.0	2.2	2.3	o	2.2	2.2	1.9	q	q						
25								q	1.7	2.0	f	2.2	2.4	f	2.1	1.7	e	q						
26								q	q	2.1	2.2	a	a	a	a	a	a	a						
27								q	q	1.9	2.1	2.2	2.2	2.1	2.1	1.8	#	q						
28								b	b	b	b	b	b	b	b	b	2.0	1.5						
29								q	1.7	1.9	2.2	b	b	2.3	b	1.8	q	q						
30								q	q	1.9	2.1	2.2	2.3	2.2	2.3	2.1	q	q						
31								q	q	1.9	2.1	2.1	1.9	1.9	2.0	1.8	q	q						
Median	*	*	*	*	*	*	*	*	1.7	2.0	2.2	2.2	2.4	2.2	2.1	1.9	*	*	*	*	*	*	*	*
No.	0	2	1	0	1	1	1	0	15	24	21	20	19	20	18	21	3	2	1	0	0	1	3	1

19a

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h^pE$  OBSERVED DURING MAY 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^{\circ}E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	#							q	q	100	b	b	b	b	b	100	b	b	q					
2	160	150			120	140		120	120	b	b	b	b	a	a	a	a	a					#	#
3								q	e150	120	100	110	100	100	b	b	b							
4								q	q	100	100	100	100	100	120	100	q	q						
5								q	q	110	100	100	100	b	b	b	b	q						
6					100			q	q	100	100	100	100	100	110	110	130	q					120	
7								q	120	b	b	b	b	b	b	a	b	q						
8								b	100	100	b	b	b	b	b	b	a	110	100					
9								q	100	b	b	b	b	b	b	b	b	b						
10								q	e	100	110	100	110	110	120	b	q	q						
11								q	b	120	b	b	b	100	110	120	a	q						
12								q	q	a	130	a	100	120	110	a	a	a						
13								q	180	b	b	100	b	b	b	b	b	b						
14								o	o	o	o	o	o	o	o	o	f	#	q					
15								q	#	100	90	100	100	100	90	100	b	q						
16								q	e	b	120	100	100	120	120	120	q	q					100	110
17		90						q	q	120	100	110	100	110	130	b	q	q						
18								q	q	100	100	100	90	100	100	120	q	q						
19								q	160	110	120	100	90	100	110	110	q	q						
20								q	150	120	110	100	100	100	f	f	110	e	q					
21								e	o	o	o	o	o	o	o	o	110	e	q					
22								q	e	110	100	100	100	100	110	110	q	q						
23								q	#	110	b	b	b	f	f	b	q	q						
24								q	q	b	160	110	110	110	110	#	q	q						
25								q	e	b	100	100	90	100	90	110	e	q						
26								q	q	f	b	a	a	a	a	a	a	a						
27								q	q	100	100	100	120	f	100	110	110	q						
28								b	b	b	b	b	b	b	b	b	110	e						
29								q	100	100	100	b	b	90	b	b	q	q						
30								q	q	110	120	100	100	100	90	100	q	q						
31								q	q	#	100	100	100	b	110	130	q	q						
Median	*	*			*	*	*	*	150	105	100	100	100	100	100	110	110	*	*	*	*	*	*	*
No.	1	2			2	1		1	12	18	19	18	18	16	16	15	6	1	1			1	2	0

19b

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $f^oF_2$  OBSERVED DURING MAY 1955 AT MACQUARIE ISLAND

Sweep: 100 - 1300 Mc/s in 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	3.5	3.4	1.7	3.5	4.5	2.0	e	b	b	g	b	b	b	b	g	b	3.2	1.8	2.5	2.8	1.3	2.0	2.2		
2	1.7	3.0	e	3.0	e	1.8	2.3	2.2	2.3	2.6	g	g	3.0	g	4.0	3.0	3.4	7.0	4.5	4.7	2.2	e	e	e	
3	3.5	5.5	4.4	2.3	e	e	e	e	1.8	2.2	g	2.2	3.3	3.5	b	g	g	3.9	e	e	e	3.0	5.7	6.0	
4	4.7	2.9	e	3.5	4.2	3.5	3.0	e	e	g	3.0	2.6	2.6	g	g	2.3	3.0	2.7	3.5	2.2	2.1	2.7	e	3.0	
5	4.9	4.9	4.5	3.0	3.1	e	3.1	2.1	2.7	g	2.8	2.6	g	b	3.0	b	b	1.5	2.1	1.7	4.5	4.0	2.2	5.5	
6	4.0	6.0	b	b	e	e	e	3.5	4.2	2.8	g	g	g	g	2.5	2.2	2.7	4.4	2.1	3.2	4.5	4.5	b	b	
7	5.0	5.0	6.0	4.7	4.0	4.0	b	g	2.2	b	b	b	b	b	b	4.0	4.4	3.0	3.4	5.9	4.5	4.5	4.5	5.0	
8	4.5	4.5	b	3.0	b	b	b	b	2.5	3.2	b	b	b	b	b	3.0	4.5	2.7	3.3	4.5	5.5	3.5	3.6	b	
9	4.5	4.0	4.4	4.2	4.5	b	b	b	3.0	b	b	b	b	b	b	b	b	e	e	e	e	3.1	4.5	3.0	
10	3.2	1.8	3.5	b	e	b	3.0	2.2	2.1	2.2	g	g	g	2.2	2.7	g	5.8	g	e	e	e	b	4.5	5.0	
11	e	e	3.3	2.1	b	b	b	e	2.1	g	b	b	b	g	2.2	2.2	3.0	g	e	e	e	2.2	2.6	3.6	6.0
12	4.8	e	b	b	b	b	b	3.0	4.0	2.2	2.2	3.3	2.2	g	g	2.8	3.0	3.5	2.1	e	e	e	e	4.4	4.5
13	2.2	2.2	3.5	3.0	b	b	b	3.0	2.2	b	b	g	b	b	b	2.9	3.0	2.2	e	3.0	e	e	3.2	e	e
14	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	3.3	2.2	2.9	5.5	3.4	5.5	4.5	4.0	4.0	
15	4.7	2.7	3.2	b	b	b	b	e	2.2	2.3	3.0	g	3.1	3.0	2.6	g	2.2	e	b	b	4.5	4.5	b	b	
16	3.5	b	b	b	4.0	b	b	e	2.4	b	2.4	3.2	g	2.2	g	2.1	2.5	3.0	3.2	3.5	3.5	3.6	3.5	4.5	
17	4.0	3.0	2.5	1.6	3.0	b	b	3.0	3.0	2.1	g	g	g	2.3	g	g	g	e	e	e	e	e	2.1	4.5	
18	4.0	b	b	b	b	b	b	g	2.2	3.0	3.0	3.1	3.1	3.0	3.1	3.0	2.2	g	e	e	e	e	e	3.2	e
19	2.5	e	e	e	b	b	3.5	3.5	2.2	2.5	2.5	3.2	3.2	4.0	3.1	2.2	1.7	2.3	e	3.4	e	e	e	e	
20	3.0	e	3.5	e	e	b	4.5	3.5	2.4	2.6	3.0	2.9	2.8	3.1	3.0	3.5	3.0	g	e	e	e	3.0	3.5	e	e
21	3.5	4.5	e	e	e	e	e	e	e	e	e	e	e	e	e	2.2	e	e	e	e	e	e	e	e	e
22	e	e	2.2	3.6	3.5	e	3.5	e	e	2.2	2.5	2.9	3.2	3.0	2.7	3.0	3.5	3.0	3.3	e	3.0	e	3.5	e	e
23	e	e	e	e	e	b	3.2	3.1	3.2	3.6	g	3.3	g	3.2	g	2.1	2.5	e	e	e	e	e	3.2	e	e
24	e	2.8	4.5	3.2	1.5	4.0	3.0	3.0	2.2	2.2	2.5	g	g	3.0	g	2.0	g	g	e	e	e	e	e	e	4.0
25	3.5	3.2	3.5	3.2	3.0	e	e	g	g	3.0	2.9	g	3.0	3.1	3.0	g	g	g	e	e	e	b	e	e	e
26	3.0	e	e	e	e	e	b	g	3.0	g	3.3	5.2	4.5	7.0	5.5	6.0	5.0	4.5	4.2	b	b	b	5.0	4.6	
27	5.0	5.0	4.5	4.5	2.4	3.5	2.5	b	2.6	4.0	g	3.0	3.2	g	g	2.3	2.2	2.6	2.2	4.5	3.5	3.5	3.4	3.0	
28	b	3.5	4.0	b	4.0	4.0	b	b	b	b	b	b	b	b	b	g	g	4.6	5.6	5.6	b	b	b	b	b
29	5.0	3.1	4.0	4.5	3.0	2.9	1.8	g	2.2	2.5	b	b	g	b	2.5	g	3.2	2.1	3.5	3.8	e	3.2	4.5	e	
30	4.0	4.5	b	4.0	2.5	b	2.2	g	2.2	g	2.2	2.2	g	g	g	g	g	g	e	e	e	e	4.0	4.0	
31	4.5	4.0	3.7	3.0	b	b	e	g	2.2	2.2	2.2	2.2	g	g	2.2	2.2	2.2	g	e	2.2	3.5	3.0	3.0	3.7	
Median	3.5	3.0	3.5	3.0	3.0	2.0	2.4	**	2.2	2.2	2.5	2.2	3.0	2.2	2.6	2.2	2.2	2.4	1.8	1.7	2.8	2.8	3.2	4.0	
No.	29	28	23	22	21	13	16	24	26	24	22	22	21	22	21	28	28	30	30	29	27	28	27	25	

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h'F_2$  OBSERVED DURING MAY 1955 AT MACQUARIE ISLAND

Sweep: 100 - 1300 Mc/s in 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	100	90	100	110	100	100	e	b	b	g	b	b	b	b	b	g	b	130	130	150	120	140	150	130	
2	130	100	e	100	e	100	100	100	140	110	g	g	100	g	90	100	110	120	110	100	110	e	e	e	
3	100	100	100	100	e	e	e	e	100	120	g	100	100	100	b	g	g	110	e	e	e	150	120	110	
4	100	100	e	90	100	110	110	e	e	g	120	120	120	g	g	100	100	100	100	100	100	110	e	110	
5	100	100	90	90	100	e	90	90	110	g	100	110	g	b	100	b	b	100	160	100	140	140	110	100	
6	100	110	b	b	e	e	e	100	90	140	g	g	g	g	120	100	150	110	140	140	100	100	b	b	
7	100	90	90	100	100	110	b	g	100	b	b	b	b	b	b	100	110	130	110	100	100	100	100	100	
8	90	100	b	110	b	b	b	b	100	100	b	b	b	b	b	110	100	160	110	100	100	100	100	b	
9	90	90	90	90	100	b	b	b	100	b	b	b	b	b	b	b	b	e	e	e	e	100	100	110	
10	100	110	90	b	e	b	100	100	100	120	g	g	g	90	120	g	120	g	e	e	e	b	90	100	
11	e	e	100	100	b	b	b	e	100	g	b	b	b	g	100	100	100	g	e	e	e	160	150	100	100
12	100	e	b	b	b	b	b	100	100	100	100	90	100	g	g	90	90	90	100	e	e	e	100	100	
13	110	110	110	100	b	b	b	100	100	b	b	g	b	b	b	100	100	100	e	100	e	100	e	e	
14	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	110	100	100	100	140	100	100	100	110	
15	100	100	100	b	b	b	b	e	110	100	100	g	110	100	120	g	100	e	b	b	110	110	b	b	
16	130	b	b	b	120	b	b	e	110	b	130	100	g	100	g	110	110	110	110	110	100	140	110	90	
17	90	100	100	110	90	b	b	100	100	100	g	g	g	g	120	g	g	g	e	e	e	e	110	100	
18	100	b	b	b	b	b	b	g	100	100	110	100	100	100	90	100	g	e	e	e	e	e	110	e	
19	140	e	e	e	b	b	110	100	100	100	100	110	90	90	120	100	100	e	110	e	e	e	e	e	
20	100	e	90	e	e	b	100	110	100	100	120	100	140	100	100	90	90	g	e	e	e	150	140	e	e
21	110	100	e	e	e	e	e	e	e	e	e	e	e	e	e	100	e	e	e	e	e	e	e	e	
22	e	e	100	140	110	e	100	e	e	100	110	100	100	100	g	100	g	120	100	e	e	e	120	e	e
23	e	e	e	e	e	b	b	130	100	100	100	g	100	g	100	g	120	100	e	e	e	e	120	e	e
24	e	100	100	100	100	100	110	100	100	100	g	g	130	g	130	g	g	g	e	e	e	e	e	150	
25	110	90	90	90	90	e	e	g	g	110	120	g	90	130	90	g	g	e	e	e	b	e	e	e	
26	100	e	e	e	e	e	b	g	120	g	140	110	110	110	100	100	100	100	110	b	b	b	90	90	
27	100	100	100	90	110	100	110	b	100	100	g	100	110	g	g	120	160	110	110	100	100	100	100	90	
28	b	100	80	b	100	100	b	b	b	b	b	b	b	b	b	g	g	100	100	100	100	b	b	b	
29	100	90	100	100	100	100	150	g	110	130	b	b	g	b	100	g	130	180	160	110	e	110	100	100	
30	100	90	b	90	100	b	100	g	100	g	100	100	g	g	g	g	g	e	e	e	e	e	140	110	
31	100	120	100	100	b	b	e	g	100	100	100	100	g	g	100	100	100	g	e	110	110	100	120	160	
Median	100	100	100	100	100	100	100	100	100	105	100	100	100	100	100	100	105	110	100	110	110	110	110	100	
No.	25	21	18	18	14	8	11	11	23	18	16	13	13	11	15	20	20	18	15	15	17	17	19	18	

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING JUNE 1955 AT MACQUARIE ISLAND

Sweep 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	o	a	2.6	f	2.6	b	f	f	3.1	4.1	4.5	4.7	5.2	5.3	5.3	5.0	4.8	4.4	3.1	2.6	2.1	1.9	f	a
2	f	f	(2.6f)	a	a	2.7	2.8	2.3	3.1	4.2	4.3	4.9	4.9	5.3	5.4	5.3	4.8	(4.0f)	f	a	f	a	a	b
3	a	2.8	2.7	2.3	2.1	f	f	b	3.0	3.8	4.4	4.8	4.5	5.2	4.7	5.4	5.1	4.4	3.1	f	f	f	f	f
4	f	f	2.0	1.9	1.8	f	o	o	o	o	o	o	o	o	o	o	o	o	a	a	a	a	a	a
5	a	a	f	f	b	b	b	f	2.8	3.7	4.3	4.3	4.8	4.5	4.2	4.3	4.2	3.6	2.8	f	f	f	f	f
6	a	a	1.9	f	f	f	f	a	2.6	3.7	4.2	4.4	4.5	5.0	4.8	4.8	5.0	(4.0f)	2.7	2.3	f	b	a	a
7	a	a	a	1.8	1.8	f	b	b	2.7	3.5	b	b	b	b	4.1	b	b	b	b	a	a	a	a	a
8	a	f	b	a	a	a	a	a	2.5	3.5	4.1	4.5	5.0	4.5	5.1	a	a	f	a	a	f	a	b	b
9	b	a	b	b	b	f	2.3	b	2.5	3.5	o	o	5.0	5.5	5.4	4.9	5.0	3.8	f	1.9	2.1f	2.0	f	a
10	c	c	c	c	o	o	o	o	o	o	o	4.8	5.3	5.2	4.9	#	#	4.5	3.3	2.7	f	f	f	f
11	f	f	f	b	f	f	f	f	2.8	4.3	5.1	5.2	b	#	5.4	6.0	5.0	4.7	3.2	2.1	f	f	f	f
12	2.9	f	a	2.8	2.9	f	f	1.8	3.3	4.6	5.1	5.5	5.5	5.7	a	5.5	5.0	b	f	a	a	a	a	a
13	a	2.0	1.8	f	1.6	f	a	a	2.9	4.1	4.5	5.0	5.0	5.3	5.4	5.8	5.2	4.5	2.6	1.9	f	f	f	f
14	f	a	a	f	f	f	f	b	3.0	4.1	4.5	5.0	5.2	5.5	5.6	#	5.2	4.8	f	a	a	a	a	a
15	a	a	b	a	a	a	a	a	2.9	4.3	5.0	5.5	#	#	#	b	a	b	f	3.0	a	a	a	3.0
16	a	o	o	o	o	o	b	f	2.8	4.0	4.4	5.5	5.1	b	5.9	b	(5.2f)	f	f	2.0	b	b	b	a
17	b	f	a	f	f	f	f	3.1	4.3	5.0	5.2	5.3	5.4	5.6	5.5	5.5	2.7	f	f	f	f	a	a	f
18	f	f	a	f	a	2.2	2.0	1.8	3.0	4.7	5.2	5.5	5.5	6.2	5.5	#	#	4.0	b	f	3.1	f	f	2.3
19	2.3	2.1	2.1	f	2.0	2.0	1.9	1.8	3.0	4.9	5.3	6.0	o	o	b	#	#	f	f	f	3.5	f	2.7	f
20	2.4	2.1	2.0	2.0	1.9	1.8	1.8	f	3.1	4.5	4.9	5.5	5.5	5.8	6.0	5.5	o	4.9	3.5	2.6	2.0	1.8	f	f
21	f	f	f	f	f	o	f	f	3.0	4.5	#	6.0	6.4	6.0	6.2	b	#	4.9	4.0	3.0	2.5	2.0	2.0	f
22	f	f	f	f	f	f	f	f	2.8	4.5	5.2	5.5	5.5	5.4	5.1	5.2	5.0	4.4	3.6	2.7	2.4	f	1.8	f
23	f	f	f	f	f	f	f	f	2.9	4.5	4.6	o	s	s	s	3.5	f	2.1	f	f	f	f	f	b
24	f	f	f	f	f	f	f	a	b	4.0	f	f	f	b	f	a	f	2.6	a	a	a	a	b	a
25	a	a	a	a	a	a	a	b	2.3	3.3	3.4	4.2	3.9	4.2	4.7	4.3	4.0	2.7	a	f	a	a	a	a
26	f	a	a	a	a	f	a	b	2.6	3.5	3.9	4.3	4.4	4.7	4.5	5.0	4.6	4.0	2.8	2.3	2.0	f	b	b
27	b	a	a	a	f	f	f	b	2.8	4.0	4.5	4.7	4.7	#	#	5.0	3.8	2.7	f	a	a	a	a	f
28	f	f	2.3	2.0	1.8	1.6	f	f	2.1	3.7	4.3	4.5	4.9	#	4.7	4.6	3.7	f	f	f	f	a	f	f
29	f	f	f	f	f	b	b	b	2.6	4.0	4.9	5.6	5.8	5.1	5.5	5.0	4.2	4.2	f	f	1.8	f	f	f
30	a	a	a	f	1.7	f	f	a	f	3.8	4.4	5.0	4.8	f	4.5	5.5	4.0	4.1	o	o	o	o	o	o
31																								
Median	*	*	(2.1)	(2.0)	1.8	(2.0)	(2.0)	*	2.8	4.0	4.5	5.0	5.0	5.3	5.4	5.0	4.8	4.2	3.1	2.4	(2.1)	*	*	*
No.	3	4	9	6	10	5	5	4	26	28	24	25	23	19	22	19	20	20	12	12	9	4	3	2

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Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h'F_2$  OBSERVED DURING JUNE 1955 AT MACQUARIE ISLAND

Sweep 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	o	a	320	f	e250	b	f	f	220	230	220	1	240	240	240	220	220	220	e220	e220	e250	e270	f	a
2	f	f	270	a	a	300	250	e250	230	210	200	250	230	240	230	220	210	e200	f	a	f	a	a	b
3	a	300	e250	e250	e250	f	b	240	220	230	200	230	200	230	210	230	200	e200	e220	f	f	f	f	f
4	f	f	e290	e260	260	f	o	o	o	o	o	o	o	o	o	o	o	o	a	a	a	a	a	a
5	a	a	f	f	b	b	b	f	240	240	230	220	250	250	1	220	210	210	210	f	f	f	f	f
6	a	a	a	f	f	f	f	a	250	220	210	200	210	210	220	220	190	e200	e220	e250	f	b	a	a
7	a	a	a	e300	e290	f	b	b	250	210	b	b	b	b	b	b	b	b	b	a	a	a	a	a
8	a	f	b	a	a	a	a	a	240	200	250	250	220	250	240	a	a	f	a	a	f	a	b	b
9	b	a	b	b	b	f	a	b	250	240	o	o	240	250	220	230	220	e200	f	s	e	s	f	a
10	o	o	c	c	o	o	o	o	o	o	o	o	220	200	230	200	200	200	e210	b	250	f	f	f
11	f	f	f	b	f	f	f	f	220	220	220	220	230	230	210	220	e200	200	210	e250	f	f	f	f
12	f	f	a	250	200	f	f	e	220	220	210	200	240	220	240	220	220	e250	f	a	a	a	a	a
13	a	e350	#	f	e260	f	a	a	230	240	240	240	250	230	220	210	210	e200	e250	e300	f	f	f	f
14	f	a	a	f	f	f	f	f	220	220	220	220	240	220	240	220	240	220	220	f	a	a	a	a
15	a	a	b	a	a	a	a	a	260	220	220	220	240	240	240	240	b	a	b	f	a	a	a	a
16	a	o	c	c	o	o	b	f	240	240	220	240	220	b	220	220	200	f	f	#	b	b	b	a
17	b	f	a	260	f	f	f	f	240	230	220	240	210	220	250	220	250	f	f	f	e260	a	a	f
18	f	f	a	f	a	a	e250	e250	240	220	210	230	220	240	240	240	220	e250	b	f	300	f	f	e250
19	e300	e300	e300	f	e300	a	250	250	250	240	220	220	c	c	c	220	220	e210	f	f	300	f	e300	f
20	260	260	260	280	260	e260	e250	f	220	220	220	230	220	220	230	220	e	e200	e200	e250	e250	e250	f	f
21	f	f	f	f	f	o	f	f	220	200	200	210	230	220	230	200	200	e200	e200	e200	e250	e250	e	e260
22	f	f	f	f	f	f	f	f	230	220	220	230	200	200	210	210	200	200	e220	e250	e250	f	e300	f
23	f	f	f	f	f	f	f	f	220	210	200	240	210	220	240	200	250	f	e300	f	f	f	f	b
24	f	f	f	f	f	f	a	b	240	f	f	f	b	260	a	360	300	a	a	a	a	a	b	a
25	a	a	a	a	a	a	a	b	250	240	160	270	220	1	260	220	240	e250	a	f	a	a	a	a
26	f	a	a	a	a	f	a	b	a	240	220	230	220	250	210	220	210	220	e250	e250	e300	f	b	b
27	b	a	a	a	f	f	f	b	230	220	220	250	260	210	240	220	190	e240	f	a	a	a	a	f
28	f	f	e300	e	270	290	f	f	230	200	210	230	250	240	240	230	240	220	f	f	f	a	f	f
29	f	f	f	f	f	b	b	b	230	220	210	220	220	210	230	210	200	200	f	f	e300	f	f	f
30	a	a	a	f	250	f	f	a	240	210	200	230	260	220	180	220	190	210	o	o	o	o	o	o
31																								
Median	*	*	e290	(260)	260	*	*	*	235	220	220	230	220	230	230	220	210	e210	e220	e250	e280	*	*	*
No.	2	4	7	7	10	3	4	3	26	28	25	25	26	24	26	25	25	23	11	9	10	2	3	1

21b

HOURLY VALUES OF  $f_p F_2$  OBSERVED DURING JUNE 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s 157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	e	a	330	f	280	b	f	f	250	250	230	260	250	250	260	250	250	260	270	250	250	270	f	a
2	f	f	(280)	a	a	310	260	260	260	240	250	260	250	250	270	250	260	(250)	f	a	f	a	a	b
3	a	310	290	260	280	f	f	b	260	240	250	260	240	250	260	250	270	250	290	f	f	f	f	f
4	f	f	300	280	300	f	e	e	e	e	e	e	e	e	e	e	e	e	e	a	a	a	a	a
5	a	a	f	f	b	b	b	f	260	250	270	260	u	u	250	250	260	270	250	f	f	f	f	f
6	a	a	a	f	f	f	f	a	260	250	250	260	260	240	240	250	250	(250)	250	280	f	b	a	a
7	a	a	a	300	300	f	b	b	260	270	b	b	b	b	310	b	b	b	b	a	a	a	a	a
8	a	f	b	a	a	a	a	a	250	240	260	260	230	260	300	a	a	f	a	a	f	a	b	b
9	b	a	b	b	b	f	290	b	270	280	e	e	250	260	250	260	270	260	f	s	270	f	f	a
10	e	e	e	e	e	e	e	e	e	e	e	250	260	240	250	s	s	250	280	270	f	f	f	f
11	f	f	f	b	f	f	f	f	250	240	230	250	b	s	240	250	260	250	260	250	f	f	f	f
12	300	f	a	260	260	f	f	260	250	240	240	260	260	250	s	260	290	b	f	a	a	a	a	a
13	a	350	320	f	270	f	a	a	260	250	250	250	260	250	250	270	260	300	300	300	f	f	f	f
14	f	a	a	f	f	f	f	b	280	250	260	260	250	250	260	s	300	260	f	a	a	a	a	a
15	a	a	b	a	a	a	a	a	270	260	250	250	s	s	s	b	a	b	f	a	a	a	a	350
16	a	e	e	e	e	e	b	f	260	250	260	250	270	b	270	b	(240)	f	f	s	b	b	b	a
17	b	f	a	f	f	f	f	f	260	260	240	250	260	250	270	250	260	f	f	f	f	a	a	f
18	f	f	a	f	a	250	250	250	270	250	240	250	250	270	s	s	300	b	f	f	310	f	f	250
19	300	300	300	f	300	a	260	260	270	260	240	240	e	e	e	b	s	f	f	f	310	f	f	300
20	270	290	300	310	300	280	250	f	260	240	250	260	240	250	250	e	270	260	270	250	250	f	f	f
21	f	f	f	f	f	e	f	f	250	220	s	230	250	250	260	b	s	250	260	280	300	e	270	f
22	f	f	f	f	f	f	f	f	250	230	240	250	250	240	240	250	250	250	260	290	270	f	300	f
23	f	f	f	f	f	f	f	f	250	230	220	e	s	s	s	s	270	f	300	f	f	f	f	b
24	f	f	f	f	f	f	f	a	b	260	f	f	b	f	a	f	340	a	a	a	a	b	a	a
25	a	a	a	a	a	a	a	b	260	260	170	u	260	260	270	240	260	290	a	f	a	a	a	a
26	f	a	a	a	a	f	a	b	a	250	250	260	240	260	260	250	260	260	290	290	e	f	b	b
27	b	a	a	a	f	f	f	b	270	230	250	260	270	s	s	250	240	270	f	a	a	a	a	f
28	f	f	300	e	290	300	f	f	250	230	260	240	260	s	250	250	260	f	f	f	f	a	f	f
29	f	f	f	f	f	b	b	b	250	230	220	240	240	220	240	240	240	270	f	f	f	f	f	f
30	a	a	a	f	260	f	f	a	f	240	220	240	300	f	250	250	260	e	e	e	e	e	e	e
31																								
Median	*	*	(300)	(280)	285	*	(260)	*	260	250	250	250	250	250	255	250	260	260	265	(280)	(285)	*	*	*
No.	3	4	8	6	10	4	5	4	25	28	24	24	22	18	22	19	20	20	12	9	8	2	3	2

HOURLY VALUES OF  $(M3000)F_2$  OBSERVED DURING JUNE 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s 157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	o	a	3.0	f	3.0	b	f	f	3.4	3.5	3.6	3.4	3.6	3.5	3.4	3.5	3.4	3.1	3.1	3.2	3.2	3.2	f	a
2	f	f	(3.0)	a	a	3.0	3.2	3.2	3.4	3.4	3.5	3.4	3.4	3.4	3.2	3.4	3.3	(3.3)	f	a	f	a	a	b
3	a	3.1	2.8	3.0	3.1	f	f	b	3.3	3.5	3.5	3.5	3.5	3.4	3.4	3.4	3.3	3.4	3.3	3.4	f	f	f	f
4	f	f	3.2	3.3	3.1	f	e	e	e	e	e	e	e	e	e	e	e	e	e	a	a	a	a	a
5	a	a	f	f	b	b	b	f	3.3	3.3	3.3	3.4	3.3	3.5	3.5	3.3	3.3	3.4	3.4	f	f	f	f	f
6	a	a	a	f	f	f	f	a	3.3	3.5	3.5	3.3	3.3	3.5	3.6	3.5	3.4	(3.4)	3.3	3.1	f	b	a	a
7	a	a	a	3.1	3.1	f	b	b	3.2	3.2	b	b	b	b	b	3.0	b	b	b	a	a	a	a	a
8	a	f	b	a	a	a	a	a	3.3	3.6	3.4	3.5	3.6	3.5	3.1	a	a	f	a	a	f	a	b	b
9	b	a	b	b	b	f	3.0	b	3.3	3.3	e	e	3.5	3.6	3.4	3.3	3.1	3.3	f	s	f	f	f	a
10	e	e	e	e	e	e	e	e	e	e	e	3.3	3.4	3.5	3.2	s	s	3.2	3.1	3.2	f	f	f	f
11	f	f	f	b	f	f	f	f	3.5	3.6	3.6	3.6	b	s	2.5	3.4	3.2	3.3	3.3	3.2	f	f	f	f
12	3.1	f	a	3.1	3.2	f	f	3.3	3.4	3.4	3.6	3.3	3.4	3.4	s	3.3	3.2	b	f	a	a	a	a	a
13	a	2.7	3.0	f	3.2	f	a	a	3.2	3.4	3.5	3.5	3.4	3.5	3.5	3.3	3.4	3.5	3.0	3.2	f	f	f	f
14	f	a	a	f	f	f	b	3.2	3.6	3.2	3.3	3.4	3.4	3.4	3.4	s	3.0	3.3	f	a	a	a	a	a
15	a	a	b	a	a	a	a	a	3.2	3.3	3.4	3.5	s	s	s	b	a	b	f	2.8	a	a	a	2.8
16	a	e	e	e	e	e	b	f	3.3	3.3	3.3	3.5	3.2	b	3.2	b	(3.0)	f	f	2.9	b	b	b	a
17	b	f	a	f	f	f	f	f	3.3	3.3	3.6	3.5	3.3	3.5	3.3	3.3	3.0	f	f	f	f	a	a	f
18	f	f	a	f	a	3.2	3.3	3.2	3.2	3.5	3.5	3.4	3.4	3.4	3.3	s	s	3.1	b	f	2.8	f	f	2.9
19	2.9	3.0	3.1	f	3.0	a	3.2	3.2	3.2	3.5	3.5	3.5	e	e	e	b	s	f	f	f	3.0	f	2.8	f
20	2.9	3.0	3.0	3.0	3.0	3.1	3.2	f	3.2	3.5	3.4	3.4	3.6	3.3	3.3	3.5	e	3.2	3.1	3.1	3.2	3.2	f	f
21	f	f	f	f	f	e	f	f	3.4	3.4	s	3.6	3.4	3.5	3.2	b	s	3.3	3.1	3.2	3.1	3.2	3.2	f
22	f	f	f	f	f	f	f	f	3.3	3.6	3.6	3.6	3.5	3.6	3.5	3.5	3.3	3.5	3.2	3.0	3.1	f	3.3	f
23	f	f	f	f	f	f	f	f	3.4	3.6	3.3	e	s	s	s	s	3.1	f	3.0	f	f	f	f	b
24	f	f	f	f	f	f	a	b	3.2	f	f	f	b	f	a	f	2.7	a	a	a	a	b	a	a
25	a	a	a	a	a	a	a	b	3.2	3.2	3.5	3.4	3.2	3.2	3.1	3.5	3.1	3.0	a	f	a	a	a	a
26	f	a	a	a	a	f	a	b	a	3.5	3.5	3.4	3.6	3.5	3.2	3.6	3.2	3.4	3.1	3.2	3.1	f	b	b
27	b	a	a	a	f	f	f	b	3.2	3.5	2.5	3.5	3.4	s	s	3.4	3.5	3.1	f	a	a	a	a	f
28	f	f	3.2	e	3.1	3.3	f	f	3.3	3.5	3.2	3.7	3.4	s	3.4	3.4	3.2	f	f	f	f	a	f	f
29	f	f	f	f	f	b	b	b	3.3	3.5	3.6	3.7	3.5	3.7	3.6	3.5	3.2	3.2	f	f	3.3	f	f	f
30	a	a	a	f	3.4	f	f	a	f	3.5	3.5	3.6	3.3	f	3.2	3.5	3.1	3.3	e	e	e	e	e	e
31																								
Median	*	*	(3.0)	(3.1)	3.1	*	(3.2)	*	3.2	3.5	3.5	3.5	3.4	3.5	3.4	3.4	3.2	3.3	3.1	3.2	(3.1)	*	*	*
No.	3	4	8	5	10	4	5	4	25	28	24	25	23	19	22	19	20	20	12	11	8	3	3	2

HOURLY VALUES OF f<sub>o</sub>F1 OBSERVED DURING JUNE 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									q	q	3.1	3.0	3.4	3.1	2.7	q								
2									q	q	q	3.3	q	(3.1)	q	q								
3									q	q	q	1	1	(3.1)	1	q								
4									e	e	e	e	e	e	e	e								
5									q	q	q	q	(3.3)	3.3	(2.8)	q								
6									q	q	q	q	q	q	q	q								
7									q	q	b	b	b	b	b	b								
8									q	q	2.9	3.2	3.4	3.4	1	a								
9									q	q	e	e	3.2	3.1	q	q								
10									e	e	e	q	q	(3.1)	q	q								
11									q	q	(3.0)	3.1	3.1	3.2	q	q								
12									q	q	1	1	(3.5)	a	a	q								
13									q	q	q	q	(3.1)	q	q	q								
14									q	q	q	q	q	q	b	q								
15									q	q	q	q	1	3.2	2.7	b								
16									q	q	q	q	b	q	q	q								
17									q	q	q	3.2	1	q	(3.2)	q								
18									q	q	q	q	q	(3.5)	q	q								
19									q	q	q	1	e	e	e	b								
20									q	q	q	q	1	1	q	q								
21									q	q	q	q	q	q	q	q								
22									q	q	q	q	1	b	q	q								
23									q	q	q	q	q	(3.5)	1	q								
24									b	q	b	b	b	b	q	a								
25									q	q	q	3.2	q	3.2	(3.2)	q								
26									q	q	q	q	1	(3.2)	q	q								
27									q	q	b	b	(3.5)	q	b	b								
28									q	q	1	3.0	3.4	1	3.0	q								
29									q	q	q	q	1	q	q	q								
30									q	q	q	3.1	1	3.0	q	q								
31																								
Median									*	*	*	3.2	3.4	3.2	2.9	*								
No.									0	0	3	8	9	14	6	0								

23a

HOURLY VALUES OF h'F1 OBSERVED DURING JUNE 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									q	q	200	200	210	220	210	q								
2									q	q	q	200	q	210	q	q								
3									q	q	q	1	1	220	1	q								
4									e	e	e	e	e	e	e	e								
5									q	q	q	q	200	220	200	q								
6									q	q	q	q	q	q	q	q								
7									q	q	b	b	b	b	b	b								
8									q	q	200	b	200	210	1	a								
9									q	q	e	e	220	200	q	q								
10									e	e	e	q	q	220	q	q								
11									q	q	210	200	200	200	q	q								
12									q	q	1	1	190	a	a	q								
13									q	q	q	q	(220)	q	q	q								
14									q	q	q	q	q	q	b	q								
15									q	q	q	q	1	220	220	b								
16									q	q	q	b	q	b	q	q								
17									q	q	q	210	1	q	220	q								
18									q	q	q	q	q	210	q	q								
19									q	q	q	1	e	e	e	b								
20									q	q	q	q	1	1	q	q								
21									q	q	q	q	q	q	q	q								
22									q	q	q	q	1	b	q	q								
23									q	q	q	q	q	200	1	q								
24									b	q	b	b	b	b	q	a								
25									q	q	q	220	q	200	200	q								
26									q	q	q	q	1	220	q	q								
27									q	q	b	b	200	q	b	b								
28									q	q	1	200	200	1	210	q								
29									q	q	q	q	1	q	q	q								
30									q	q	q	200	1	200	q	q								
31																								
Median									*	*	*	200	200	210	210	*								
No.									0	0	3	7	9	14	6	0								

23b

HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING JUNE 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									q	1.9	2.1	b	2.1	2.1	2.0	b								
2									q	1.8	2.1	2.1	2.1	2.1	2.0	1.7								
3									q	1.7	2.0	2.1	2.2	2.2	2.0	1.6								
4									e	e	e	e	e	e	e									
5									q	2.0	2.1	b	2.1	2.1	1.9	e								
6									q	1.8	2.0	2.1	2.1	2.0	2.0	q								
7									1.7	1.8	b	b	b	b	b	b								
8									f	1.8	2.1	b	b	2.0	2.0	q								
9									1.5	1.9	e	e	2.2	2.2	2.0	1.8								
10									e	e	e	2.2	2.2	2.1	1.8	1.7								
11									q	1.8	1.9	2.0	2.1	2.2	2.0	1.7								
12									q	1.9	2.1	2.1	2.1	2.1	a	1.7								
13									1.5	1.8	(2.1)	2.1	2.0	2.2	2.0	1.7								
14									q	2.0	2.1	2.1	2.2	2.1	b	1.7								
15									2.2	1.9	2.1	2.2	2.0	2.2	2.0	b								
16									q	1.8	2.0	b	2.1	b	2.0	b								
17									q	1.9	2.0	2.1	2.1	2.2	2.0	1.7								
18									q	1.9	a	2.2	2.2	2.1	2.1	a					2.1			
19									1.6	1.7	1.8	1.8	e	e	e	b								
20									q	1.9	2.1	2.2	2.2	2.4	2.0	1.8								
21									q	(1.8)	2.1	2.1	2.4	2.2	2.2	1.8								
22									1.6	f	2.2	2.2	2.1	b	2.0	1.9								
23									q	1.8	2.0	2.1	2.1	2.1	2.0	1.7								
24									b	1.8	b	b	b	b	3.0	b	f							
25									q	1.7	2.0	2.1	2.1	2.1	1.8	1.7								
26									q	b	2.0	2.1	2.0	2.1	2.0	b								
27									b	b	b	b	2.2	2.0	b	b								
28									e	1.7	2.0	2.1	2.1	2.1	1.9	f								
29									q	b	2.0	2.0	2.1	2.1	1.9	q								
30									1.6	1.8	2.0	2.1	2.0	f	1.8	1.8								
31																								
Median									1.6	1.8	2.0	2.1	2.1	2.1	2.0	1.7	*				*			
No.									8	24	23	21	25	22	24	15	0					1		

24a

HOURLY VALUES OF  $h^*F_2$  OBSERVED DURING JUNE 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									q	b	110	110	120	110	110	b								
2									q	b	100	100	110	110	110	120								
3									q	140	a	120	120	100	120	100								
4									e	e	e	e	e	e	e	e								
5									q	f	100	100	100	100	120	e								
6									q	s	100	100	100	100	120	q								
7									100	100	b	b	b	b	b	b								
8									f	130	130	b	b	100	110	q								
9									100	110	e	e	110	120	100	100								
10									e	e	e	120	120	120	120	100								
11									q	100	120	120	110	110	110	100								
12									q	a	100	100	180	a	a	140								
13									100	100	120	110	110	100	100	e								
14									q	100	100	100	100	100	b	110								
15									190	100	100	110	110	100	b	b								
16									q	100	110	b	110	b	110	b								
17									q	90	100	100	100	120	100	e								
18									q	100	a	100	90	90	a	a						100		
19									200	100	100	100	e	e	e	b								
20									q	a	100	100	100	100	100	e								
21									q	b	100	100	110	100	b	b								
22									e	f	100	110	b	110	110	b								
23									q	100	100	110	100	110	100	120								
24									b	b	b	b	b	b	110	b	100							
25									q	100	100	100	100	110	110	110								
26									q	b	100	100	100	110	b	b								
27									b	b	b	b	110	b	b	b								
28									e	100	100	110	110	110	120	f								
29									q	b	b	f	110	110	110	q								
30									110	f	110	110	110	110	110	b								
31																								
Median									105	100	100	100	110	110	110	100	*				*			
No.									6	15	21	22	24	23	20	12	1					1		

24b

HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING JULY 1955 AT MAGQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	f	f	a	a	b	b	b	b	2.7	3.6	4.4	f	5.0	5.5	4.9	5.0	4.6	3.8	f	f	a	f	f	f
2	f	f	f	b	f	b	a	a	2.6	4.0	4.6	4.6	5.4	5.0	(4.8)	5.1	4.7	3.8	2.8	2.3	f	f	f	f
3	f	f	f	f	f	f	a	b	f	3.2	4.1	4.1	4.3	4.6	a	f	2.4	a	a	f	f	a	f	a
4	a	1.8	f	1.7	1.7	f	b	b	2.6	3.8	4.1	4.6	4.6	5.2	4.9	4.5	4.8	4.0	2.6	f	f	f	b	b
5	a	a	a	b	b	f	b	b	2.7	4.1	4.8	5.6	4.6	5.5	f	f	4.5	3.9	2.7	2.6	1.9	f	f	a
6	f	f	f	f	2.4	f	f	f	2.9	4.2	4.7	5.2	c	c	f	5.3	5.0	4.5	3.3	f	f	f	f	a
7	b	b	b	a	a	b	a	a	3.0	4.6	5.3	5.3	5.9	6.0	6.1	a	2.7	f	f	2.9	2.5	f	2.7	2.1
8	2.0	f	f	a	1.8	f	f	f	2.8	4.1	5.4	5.5	5.9	b	6.0	a	4.9	4.2	3.7	f	a	f	2.4	2.9
9	a	2.7	3.0	2.3	f	1.9	f	1.7	3.2	4.9	(5.3)	5.8	5.3	5.9	b	5.9	5.3	4.5	4.0	2.8	f	a	a	a
10	f	f	2.0	2.0	1.6	f	f	f	3.5	4.7	5.0	5.6	5.9	b	b	b	b	3.9	3.4	1.9	f	2.8	2.6	a
11	f	a	a	a	a	a	a	b	3.1	4.9	5.5	6.1	6.5	6.2	b	b	f	2.9	f	a	a	a	f	a
12	b	a	a	a	f	1.7	f	f	3.5	4.2	c	(6.2)	b	b	b	5.6	b	5.6	a	b	a	b	a	a
13	a	a	a	a	a	a	a	a	b	b	b	b	b	b	b	5.3	f	f	4.1	3.2	2.3	f	a	f
14	f	a	a	a	2.0	1.8	1.7	f	f	4.6	f	5.5	b	b	b	c	c	c	c	c	c	c	c	c
15																								
16																								
17																								
18																								
19																								
20																								
21																								
22									NO	DATA	AVAILABLE	15th	JULY	TO	31st	JULY	INCLUSIVE							
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median	*	*	*	*	(1.8)	*	*	*	2.9	4.2	4.8	5.5	5.4	(5.5)	(4.9)	(5.3)	(4.7)	4.0	(3.3)	(2.7)	*	*	*	*
No.	1	2	2	3	6	2	1	1	11	13	11	12	10	8	5	7	9	10	9	6	3	1	3	2

26a

HOURLY VALUES OF  $h'F_2$  OBSERVED DURING JULY 1955 AT MAGQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	f	f	a	a	b	b	b	b	210	200	210	260	200	180	210	200	200	e210	e250	f	a	f	f	f	
2	f	f	f	b	f	b	a	a	220	210	210	220	240	240	220	220	200	220	e240	e250	f	f	f	f	
3	f	f	f	f	f	f	a	b	f	250	220	210	210	200	a	f	340	a	a	f	f	a	f	a	
4	a	e350	f	e300	340	f	b	b	230	220	200	200	200	230	220	210	200	e220	e250	f	f	f	b	b	
5	a	a	a	b	b	f	b	b	220	210	210	220	200	210	230	220	200	200	e250	e250	e300	f	f	a	
6	f	f	f	f	280	f	f	f	230	220	210	240	c	c	200	210	200	e200	210	f	f	f	f	a	
7	b	b	b	a	a	b	a	a	220	220	220	250	210	260	260	240	240	260	290	e290	e300	f	e300	e300	
8	e260	e250	f	a	e300	f	f	f	210	220	210	210	210	240	240	220	200	e220	250	f	a	f	280	e300	
9	a	270	250	250	f	250	f	e	220	220	200	210	240	210	220	220	210	e200	e220	e240	f	a	a	a	
10	f	f	e340	e250	e250	f	f	f	200	220	200	220	220	240	200	240	200	200	e240	e250	f	300	260	a	
11	f	a	a	a	a	a	a	b	230	220	210	220	240	210	b	240	200	e250	f	a	a	a	f	a	
12	b	a	a	a	f	e300	f	f	f	230	240	c	300	b	b	230	220	220	210	260	a	b	a	b	a
13	a	a	a	a	a	a	a	a	b	b	b	b	b	b	b	240	220	230	240	250	e280	f	a	f	
14	f	a	a	a	280	250	e240	f	220	220	220	240	250	240	210	c	c	c	c	c	c	c	c	c	
15																									
16																									
17																									
18																									
19																									
20																									
21																									
22									NO	DATA	AVAILABLE	15th	JULY	TO	31st	JULY	INCLUSIVE								
23																									
24																									
25																									
26																									
27																									
28																									
29																									
30																									
31																									
Median	*	*	*	*	(3.1)	*	*	*	220	220	210	220	220	220	220	220	220	210	220	(250)	(250)	*	*	*	*

HOURLY VALUES OF  $f^oF_2$  OBSERVED DURING JUNE 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 = 13.0 \text{ Mc/s } 2m \text{ in } 55s$

157.5<sup>00</sup> Mean Time

Hour/Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	e	3.0	4.0	1.9	e	b	2.2	3.5	2.2	3.0	2.2	e	2.2	2.2	e	b	2.2	2.5	2.2	e	e	e	2.2	3.5		
2	4.0	3.0	2.2	4.5	4.5	3.5	3.5	3.2	2.5	2.2	3.5	2.2	3.1	e	e	2.1	e	e	3.0	5.0	4.6	4.5	4.4	b		
3	4.0	3.0	e	e	e	3.2	e	b	3.2	2.1	2.5	3.0	2.2	2.9	2.9	2.4	e	e	e	e	e	e	e	e		
4	e	2.7	e	3.5	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	5.5	5.0	4.3	4.5	3.0	
5	4.1	3.0	2.0	e	b	b	b	3.0	2.7	4.5	3.0	3.2	3.0	2.9	2.2	3.5	2.2	e	e	e	e	e	e	e		
6	4.5	4.3	2.3	2.9	e	e	e	3.2	2.5	2.2	2.7	3.2	3.2	3.4	3.2	2.2	3.5	e	e	e	e	e	b	3.2	4.0	
7	4.0	3.3	3.1	1.6	e	1.6	b	b	3.5	2.5	b	b	b	b	b	b	b	b	b	b	3.0	4.0	3.5	3.4		
8	3.0	e	b	5.0	4.0	3.0	3.3	3.5	e	e	e	3.2	b	e	3.2	4.5	6.0	3.5	5.0	5.0	4.5	5.0	b	b		
9	b	4.5	b	b	b	4.1	4.0	b	e	2.2	e	e	2.6	2.1	2.1	3.2	e	e	3.2	3.1	2.7	e	2.2	4.5		
10	e	e	e	e	e	e	e	e	e	e	e	e	2.2	2.2	3.3	e	2.2	1.5	e	e	e	e	e	e	2.8	
11	e	4.6	3.2	b	4.5	3.0	e	3.5	3.5	2.2	e	e	e	e	e	e	1.8	e	e	e	e	e	e	4.0	3.2	
12	4.5	4.5	4.5	1.5	3.2	3.8	3.5	3.3	3.5	2.2	2.2	e	2.7	4.5	4.2	e	e	3.0	3.2	6.0	4.5	5.0	5.0	4.5		
13	4.5	2.2	3.0	e	e	e	3.0	3.1	4.5	2.7	e	e	e	3.5	3.0	1.8	2.2	e	e	e	e	e	e	1.8	e	
14	3.9	5.0	4.5	e	2.6	1.8	e	b	2.1	2.5	2.6	3.1	3.0	e	b	2.0	2.2	2.2	3.5	6.0	5.5	5.0	4.5	4.6		
15	5.0	4.6	b	4.0	3.2	2.2	4.0	3.1	2.8	2.5	3.0	2.2	1.6	2.2	2.2	b	4.5	b	e	3.2	5.0	4.5	5.7	2.2		
16	3.8	e	e	e	e	e	e	e	2.2	3.0	2.2	b	3.1	b	2.5	b	1.8	3.0	e	e	3.1	b	b	b	5.0	
17	b	4.5	4.5	4.0	2.5	2.3	3.0	2.5	2.5	2.5	2.3	2.7	4.6	3.0	3.5	2.4	2.0	2.1	e	e	e	e	e	4.5	4.0	
18	3.2	3.3	3.2	3.5	3.5	2.3	e	e	e	3.1	2.2	3.0	3.2	3.3	2.2	3.0	e	e	b	3.5	4.5	3.0	4.0	e		
19	3.2	2.2	4.0	3.0	4.0	4.0	1.8	e	2.2	2.1	e	e	e	e	e	b	e	e	e	3.0	4.0	2.8	3.5	3.1		
20	3.0	e	3.1	e	e	e	3.0	2.6	e	2.2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	2.5	
21	e	e	e	e	e	e	e	3.1	2.1	1.8	2.2	2.3	3.0	3.4	3.9	2.2	e	e	4.5	3.0	3.0	e	e	5.0	4.2	
22	4.0	3.5	e	e	4.0	4.0	3.2	3.0	e	2.7	3.1	3.5	3.2	4.5	4.5	3.3	5.0	5.5	3.6	3.4	3.0	4.5	2.2	2.1		
23	e	2.2	3.5	e	e	3.1	3.4	3.0	1.6	2.5	3.5	3.2	2.6	e	2.6	e	1.9	e	e	e	3.5	5.0	4.3	b		
24	3.2	3.2	e	3.0	4.0	e	4.0	3.6	b	3.4	b	b	b	b	3.3	4.2	3.7	2.2	6.5	6.0	6.0	4.5	b	4.9		
25	4.5	4.5	4.5	4.5	3.7	3.5	3.2	b	2.2	2.1	2.9	2.2	e	e	e	2.2	e	e	5.0	4.0	4.5	4.5	5.0	3.8		
26	3.2	3.5	5.0	4.0	3.0	e	3.3	b	3.2	2.6	3.2	3.2	3.1	e	2.2	1.8	2.2	e	3.0	e	e	e	b	b		
27	b	4.5	4.0	3.5	1.8	e	e	b	b	b	b	b	e	2.2	e	2.2	e	3.0	e	e	4.0	5.0	5.0	4.7	3.5	
28	3.6	4.6	3.6	2.5	e	e	3.2	e	1.9	2.2	2.5	4.6	2.5	e	2.2	1.6	1.6	e	e	e	4.5	3.1	e	4.0		
29	3.5	3.9	3.2	e	e	b	b	b	4.0	2.2	3.0	2.6	3.9	e	e	2.1	e	e	e	e	2.2	3.1	4.0	3.5		
30	5.5	5.2	5.0	4.0	3.2	e	3.0	3.2	e	2.2	3.0	2.5	2.5	2.3	2.2	1.8	e	e	e	e	e	e	e	e		
31																										
Median	3.8	3.4	3.2	2.7	2.6	2.3	3.1	3.0	2.2	2.2	2.5	2.8	2.6	2.2	2.2	2.2	1.8	**	**	3.0	3.0	4.0	4.0	3.5		
No.	25	28	25	26	25	22	23	20	26	27	24	24	25	25	25	23	27	27	26	28	27	27	25	25		

HOURLY VALUES OF  $h'F_2$  OBSERVED DURING JUNE 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 = 13.0 \text{ Mc/s } 2m \text{ in } 55s$

157.5<sup>00</sup> Mean Time

Hour/Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	e	100	100	150	e	b	140	100	100	100	100	e	90	100	e	b	120	110	100	e	e	e	120	110		
2	100	110	140	100	90	100	100	100	100	100	100	100	100	e	e	110	e	e	110	100	100	100	100	b		
3	90	100	e	e	e	100	e	b	100	100	100	90	100	120	100	100	e	e	e	e	e	e	e	e		
4	e	100	e	120	100	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e		
5	90	110	120	e	b	b	b	110	90	100	90	90	90	100	100	90	90	e	e	e	100	100	100	100		
6	100	100	110	100	e	e	e	100	100	100	100	100	100	90	90	90	90	e	e	e	e	e	e	e		
7	100	100	100	110	e	150	b	b	110	110	b	b	b	b	b	b	b	b	b	b	100	100	110	100		
8	110	e	b	100	100	100	90	90	e	e	140	b	e	120	90	100	100	100	100	100	100	100	b	b		
9	b	90	b	b	b	100	100	b	e	100	e	e	90	90	90	90	e	e	90	160	150	e	120	100		
10	e	e	e	e	e	e	e	e	e	e	e	e	100	90	90	e	120	110	e	e	e	e	e	120		
11	e	90	100	b	100	120	e	100	100	100	e	e	e	e	e	e	e	e	e	e	e	e	e	120		
12	110	100	100	100	100	100	100	100	100	100	100	e	100	100	100	e	100	e	e	e	e	e	e	140	120	
13	100	100	100	e	e	e	100	100	90	100	e	e	e	130	100	110	100	e	e	e	e	e	e	160	e	
14	110	100	100	e	130	120	e	b	100	110	110	110	100	e	b	100	150	170	110	100	100	100	100	90		
15	100	100	b	100	90	100	100	100	100	90	100	90	90	100	130	b	100	b	e	100	100	100	100	120		
16	100	e	e	e	e	e	e	e	100	100	110	b	90	90	b	90	b	140	100	e	110	b	b	100		
17	b	100	90	90	100	100	100	100	100	90	120	110	100	130	100	100	110	100	e	e	e	100	100	100		
18	100	100	100	90	100	100	e	e	e	100	100	100	100	100	100	90	e	e	b	110	120	100	110	e		
19	110	140	100	100	100	100	e	100	100	e	e	e	e	e	e	b	e	e	e	e	140	110	140	130	110	
20	110	e	100	e	e	e	100	140	e	100	e	e	e	e	e	100	e	e	e	e	e	e	e	e	140	
21	e	e	e	e	e	e	140	110	100	100	100	100	120	100	130	e	120	110	100	e	110	110	110	120		
22	130	130	e	e	100	100	100	100	e	120	150	130	120	100	100	100	100	100	100	100	100	100	100	150		
23	e	140	190	e	e	100	100	100	150	100	110	110	140	e	150	e	180	e	e	e	140	110	110	b		
24	100	100	e	110	100	e	100	90	b	110	b	b	b	b	120	110	100	130	100	100	100	100	b	100		
25	90	100	100	90	100	100	100	b	110	100	120	90	e	e	e	100	e	e	100	100	100	100	90	100		
26	100	90	90	100	110	e	90	b	100	100	100	120	120	e	100	100	120	e	100	e	e	e	b	b		
27	b	110	100	100	100	e	e	b	b	b	b	b	e	110	b	b	e	e	180	140	100	100	100	110		
28	100	100	100	100	e	e	90	e	e	100	130	110	130	e	110	100	140	e	e	e	e	110	110	e	130	
29	100	110	90	e	e	b	b	b	100	130	110	100	110	e	e	120	e	e	e	e	150	140	140	110		
30	100	100	100	90	100	e	100	100	e	100	100	140	140	110	100	100	e	e	e	e	e	e	e	e		
31																										
Median	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	105	110	100	100	100	100	100	100	100	
No.																										

HOURLY VALUES OF  $h_p F_2$  OBSERVED DURING JULY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/# in 1m55s

157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	f	f	a	a	h	h	h	h	240	220	260	f	230	200	250	220	250	270	f	f	a	f	f	f
2	f	f	f	b	f	b	a	a	230	220	230	240	250	250	(230)	250	250	250	260	290	f	f	f	f
3	f	f	f	f	f	f	a	b	f	260	250	230	250	290	a	f	u	a	a	f	f	a	f	a
4	a	e	f	300	u	f	b	b	260	250	240	260	250	240	250	260	250	260	270	f	f	f	b	b
5	a	a	a	b	b	f	b	b	250	240	220	240	230	240	f	f	250	250	270	270	300	f	f	a
6	f	f	f	f	320	f	f	f	260	250	240	250	c	c	f	230	250	270	250	f	f	f	f	a
7	b	b	b	a	a	b	a	a	250	230	240	260	260	280	300	a	250	f	f	320	300	f	f	300
8	260	f	f	a	300	f	f	f	250	240	250	240	240	b	250	a	240	290	300	f	a	f	300	300
9	a	280	270	260	f	270	f	e	250	240	(260)	260	250	260	b	260	300	250	270	270	f	a	a	a
10	f	f	340	270	250	f	f	f	260	250	250	230	250	b	b	b	b	260	290	250	f	310	270	a
11	f	a	a	a	a	a	a	b	260	250	230	270	250	260	b	b	f	270	f	a	a	a	f	a
12	b	a	a	f	300	f	f	f	260	280	c	320	b	b	b	260	b	280	290	a	b	a	b	a
13	a	a	a	a	a	a	a	a	b	b	b	b	b	b	b	250	f	f	280	290	300	f	a	f
14	f	a	a	a	290	270	240	f	f	260	f	270	b	b	b	c	c	c	c	c	c	c	c	c
15																								
16																								
17																								
18																								
19																								
20																								
21																								
22					NO	DATA	AVAILABLE		15th	JULY	TO	31st	JULY	INCLUSIVE										
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median	*	*	*	*	(300)	*	*	*	250	250	240	255	250	(255)	(250)	(250)	265	(270)	280	*	*	*	*	*
No.	1	2	2	3	5	2	1	1	11	13	11	12	10	8	5	7	8	10	9	6	3	1	3	2

27a

HOURLY VALUES OF  $(M3000)F_2$  OBSERVED DURING JULY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/# in 1m55s

157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	f	f	a	a	h	h	h	h	3.5	3.7	3.3	f	3.6	3.7	3.5	3.6	3.4	3.2	f	f	a	f	f	f
2	f	f	f	b	f	h	a	a	3.4	3.7	3.6	3.4	3.5	3.4	(3.6)	3.3	3.4	3.2	3.2	3.3	f	f	f	f
3	f	f	f	f	f	f	a	h	f	3.3	3.3	3.6	3.4	3.2	a	f	3.0	a	a	f	f	a	f	a
4	a	3.2	f	3.0	2.9	f	h	h	3.2	3.5	3.4	3.3	3.4	3.5	3.5	3.5	3.2	3.2	3.2	f	f	f	b	b
5	a	a	a	b	h	f	h	h	3.5	3.6	3.7	3.5	3.5	3.5	f	f	3.2	3.3	3.3	3.2	3.2	f	f	a
6	f	f	f	f	2.9	f	f	f	3.3	3.5	3.5	3.4	c	c	f	3.7	3.4	3.0	3.3	f	f	f	f	a
7	b	b	b	a	a	b	a	a	3.4	3.6	3.6	3.5	3.3	3.3	3.1	a	3.2	f	f	2.9	3.1	f	3.0	3.2
8	3.2	f	f	a	3.1	f	f	f	3.3	3.5	3.3	3.6	3.5	b	3.2	a	3.3	3.2	3.1	f	a	f	3.1	2.9
9	a	3.1	2.9	3.1	f	3.1	f	e	3.3	3.6	(3.6)	3.4	3.6	3.3	b	3.5	3.1	3.2	3.3	3.2	f	a	a	a
10	f	f	3.0	3.2	3.1	f	f	f	3.4	3.5	3.5	3.6	3.5	b	b	b	3.2	3.0	3.1	f	3.0	3.1	a	
11	f	a	a	a	a	a	a	h	3.3	3.5	3.6	3.2	3.6	3.3	b	b	f	3.0	f	a	a	a	f	a
12	h	a	a	f	3.1	f	f	f	3.3	3.2	a	(2.9)	b	b	b	3.4	b	3.3	3.4	a	b	a	b	a
13	a	a	a	a	a	a	a	a	b	b	b	b	b	b	3.5	f	f	3.1	3.0	3.0	f	a	f	
14	f	a	a	a	3.1	3.2	3.4	f	f	3.4	f	3.2	b	b	b	c	c	c	c	c	c	c	c	c
15																								
16																								
17																								
18																								
19																								
20																								
21																								
22					NO	DATA	AVAILABLE		15th	JULY	TO	31st	JULY	INCLUSIVE										
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median	*	*	*	*	(3.1)	*	*	*	3.3	3.5	3.5	3.4	3.5	(3.4)	(3.4)	(3.5)	(3.2)	3.2	(3.2)	(3.2)	*	*	*	*
No.	1	2	2	3	6	2	1	1	11	13	11	12	10	8	5	7	9	10	9	6	3	1	3	2

27b

HOURLY VALUES OF  $f_oF_1$  OBSERVED DURING JULY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									q	q	q	3.5	1	(3.3)	q	q								
2									q	q	q	q	(3.3)	1	1	q								
3									q	q	1	q	q	1	m	1								
4									q	q	q	1	1	3.2	1	q								
5									q	q	q	q	q	1	q	q								
6									q	q	q	(3.5)	e	e	q	1								
7									q	q	1	(3.6)	1	(3.2)	(3.1)	q								
8									q	q	q	q	1	3.5	(3.2)	q								
9									q	q	q	1	(3.4)	q	q	q								
10									q	q	q	q	q	(3.5)	q	q								
11									q	q	q	q	(3.5)	1	b	b								
12									q	q	e	f	b	b	(3.0)	q								
13									b	b	b	b	b	b	b	b								
14									q	q	q	q	3.5	(3.4)	1	e								
15																								
16																								
17																								
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median									*	*	*	*	*	(3.4)	*	*								
No.									0	0	0	3	4	6	3	0								

28a

HOURLY VALUES OF  $h'F_1$  OBSERVED DURING JULY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									q	q	q	200	1	140	q	q								
2									q	q	q	q	200	1	1	q								
3									q	q	1	q	q	1	m	1								
4									q	q	q	1	1	190	1	q								
5									q	q	q	q	q	q	q	q								
6									q	q	q	190	e	e	q	1								
7									q	q	1	200	1	200	220	q								
8									q	q	q	q	1	200	190	q								
9									q	q	q	1	200	q	q	q								
10									q	q	q	q	q	200	q	q								
11									q	q	q	q	230	1	b	b								
12									q	q	e	f	b	b	210	q								
13									b	b	b	b	b	b	b	b								
14									q	q	q	q	200	220	1	e								
15																								
16																								
17																								
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median									*	*	*	*	*	200	*	*								
No.									0	0	0	3	4	6	3	0								

28b

HOURLY VALUES OF f<sub>o</sub>F<sub>2</sub> OBSERVED DURING JULY 1955 AT MACQUARIE ISLAND

Sweep: 1.0-13.0 Mc/s in 1m55s 157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									q	1.5	1.9	2.0	2.1	2.1	1.9	1.6								
2									e	f	2.0	2.1	2.0	2.1	2.0	1.7								
3									q	b	f	2.1	2.2	2.0	a	1.7								
4									e	f	2.1	2.1	2.1	2.1	2.1	1.8								
5									e	2.0	2.1	2.1	2.2	2.2	2.1	1.6								
6									q	1.8	2.1	2.0	e	e	2.0	1.7								
7									q	1.8	2.0	2.1	2.1	2.1	2.0	b								
8									e	1.9	2.1	2.0	2.1	2.2	2.0	1.8								
9									e	1.9	2.1	2.1	2.1	2.1	2.0	1.7								
10									1.4	1.9	2.1	2.1	2.0	2.3	2.1	(1.8)†								
11									1.6	1.9	2.1	2.4	2.2	2.1	b	b								
12									b	1.9	e	f	b	b	2.1	1.7								
13									b	b	b	b	b	b	b	b								
14					1.4				e	1.8	2.1	2.3	2.2	2.4	2.2	e								
15																								
16																								
17																								
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median					*				e	1.9	2.1	2.1	2.1	2.1	2.0	1.7								
No.					1				8	10	11	12	11	11	11	10								

29a

HOURLY VALUES OF h'F OBSERVED DURING JULY 1955 AT MACQUARIE ISLAND

Sweep: 1.0-13.0 Mc/s in 1m55s 157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									q	110	100	100	110	110	100	120								
2									e	100	140	100	170	100	100	110								
3									q	b	120	100	100	110	a	150								
4									e	f	100	100	100	100	100	100								
5									e	a	100	100	110	110	110	100								
6									q	100	100	110	e	e	110	100								
7									q	110	100	100	100	100	110	b								
8									e	100	100	100	100	100	100	100								
9									e	100	100	100	100	100	100	100								
10									110	110	100	100	100	100	110	100								
11									e	a	100	110	110	100	b	b								
12									b	b	c	f	b	b	100	100								
13									b	b	b	b	b	b	b	b								
14					e				e	110	100	120	110	110	100	e								
15																								
16																								
17																								
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median					*				e	105	100	100	100	100	100	100								
No.					1				8	8	12	12	11	11	11	10								

29b

HOURLY VALUES OF  $f^oF_2$  OBSERVED DURING JULY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m55s - 157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	e	e	3.0	3.1	b	b	b	b	e	2.2	2.5	2.6	4.4	3.1	g	1.7	e	e	e	e	3.5	e	e	e	
2	3.2	3.2	3.5	b	3.1	b	3.2	3.0	4.0	3.2	2.2	5.5	4.0	4.5	4.5	3.5	3.2	4.4	2.2	3.0	3.2	3.2	e	2.2	
3	5.5	4.0	5.0	4.5	4.5	4.0	4.5	b	b	b	3.1	2.7	2.7	g	5.7	2.1	3.5	5.5	5.0	4.5	4.4	4.0	3.0	3.1	
4	3.2	3.1	2.1	3.4	4.0	e	b	b	2.2	2.2	3.0	3.4	2.5	2.4	g	g	1.7	e	1.8	e	e	3.2	b	b	
5	5.0	5.0	3.2	b	b	e	b	b	2.1	2.2	3.1	g	g	g	2.2	g	3.0	e	e	e	e	e	e	3.1	
6	3.1	3.0	2.3	e	e	3.2	2.6	3.5	g	3.0	3.2	2.7	c	c	g	2.2	4.0	e	e	e	e	e	4.5	3.1	
7	b	b	b	4.5	3.5	b	3.2	4.0	g	g	2.8	2.7	g	g	g	2.2	2.2	3.0	3.0	3.6	4.0	5.0	4.5	5.0	
8	3.1	e	3.1	3.5	3.0	e	4.0	e	3.1	2.2	2.5	3.0	2.8	2.2	g	2.2	2.0	e	e	e	5.0	4.4	2.1	4.0	
9	4.4	4.0	1.9	2.2	2.5	e	3.5	2.2	3.3	2.2	2.6	2.9	3.2	g	3.0	2.5	2.2	e	e	e	3.5	e	4.0	4.5	
10	4.5	3.5	2.7	1.6	e	e	e	3.5	g	g	g	3.3	2.8	g	g	2.3	e	e	e	e	4.4	3.2	3.5	4.0	
11	4.5	4.0	4.9	4.5	4.5	3.0	2.8	b	1.8	3.0	2.7	2.8	2.9	2.5	b	3.0	2.1	e	e	5.5	6.1	4.4	4.0	4.5	
12	b	4.4	3.2	2.2	e	e	e	3.3	g	b	c	f	b	b	g	g	1.9	2.1	2.2	5.5	b	4.3	b	4.0	
13	4.5	4.9	4.5	4.6	4.5	4.5	4.5	3.2	b	b	b	b	b	b	b	b	e	e	e	e	e	e	3.0	e	
14	f	4.0	4.5	3.2	1.9	e	4.0	3.5	2.0	g	g	g	2.2	g	3.5	c	c	c	c	c	c	c	c	c	
15																									
16																									
17																									
18																									
19																									
20																									
21																									
22						NO	DATA			AVAILABLE			15th JULY	TO	31st JULY				INCLUSIVE						
23																									
24																									
25																									
26																									
27																									
28																									
29																									
30																									
31																									
Median	4.4	4.0	3.2	3.3	3.0	**	3.2	3.3	1.9	2.2	2.6	2.8	2.8	**	**	2.2	2.1	**	**	**	3.4	3.2	3.0	3.6	
No.	11	13	13	12	12	11	11	9	12	11	12	12	11	11	12	12	13	13	13	13	13	12	13	11	12

HOURLY VALUES OF  $h^oF_2$  OBSERVED DURING JULY 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m55s - 157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	e	e	100	140	b	b	b	b	e	120	130	120	110	100	g	100	e	e	e	e	110	e	e	e
2	100	90	100	b	100	b	90	100	100	110	100	110	100	100	100	100	100	100	160	140	110	e	140	
3	100	100	100	100	100	100	100	b	b	b	110	110	120	g	100	120	100	100	100	100	110	100	110	110
4	100	100	100	90	90	e	b	b	100	100	100	120	110	120	g	120	e	170	e	e	110	b	b	b
5	100	100	100	b	b	e	b	b	100	100	90	g	g	g	100	g	100	e	e	e	e	e	e	100
6	100	160	90	e	e	100	100	100	g	100	100	120	e	e	g	100	100	e	e	e	e	e	110	110
7	b	b	b	90	100	b	100	100	g	g	100	130	g	g	g	120	140	120	120	110	110	110	100	100
8	90	e	100	100	100	e	110	e	100	100	140	120	140	100	g	100	100	e	e	e	100	100	100	100
9	90	100	100	110	100	e	100	100	100	100	110	100	110	g	120	100	150	e	e	100	e	100	100	100
10	100	90	100	110	e	e	e	90	g	g	g	90	110	g	g	110	e	e	e	e	110	110	120	100
11	100	100	100	100	90	100	100	b	110	100	110	100	110	110	b	110	100	e	e	100	100	100	100	100
12	b	90	100	100	e	e	e	100	g	b	c	f	b	b	g	g	150	140	130	100	b	100	b	100
13	90	90	90	100	100	90	90	100	b	b	b	b	b	b	b	b	e	e	e	e	e	e	120	e
14	f	100	100	100	110	e	100	160	110	g	g	g	100	g	100	c	c	c	c	c	c	c	c	c
15																								
16																								
17																								
18																								
19																								
20																								
21																								
22						NO	DATA			AVAILABLE			15th JULY	TO	31st JULY				INCLUSIVE					
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
Median	100	100	100	100	100	*	100	100	100	100	105	115	110	100	100	100	100	*	120	100	110	100	105	100
No.	10	11	13	11	9	4	9	8	7	8	10	10	9	5	5	9	10	4	5	6	7	9	8	10

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.  
 HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING AUGUST 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s 157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3																								
4									NO DATA	AVAILABLE	1st to 5th	AUGUST	INCLUSIVE.											
5																								
6	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	a	b	a	b	b	
7	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	b	b	a	a	a	a	b	b	b
8	b	b	b	b	a	a	b	b	b	b	b	f	4.3	e	e	e	e	e	e	e	e	e	e	e
9	e	e	e	e	e	e	e	e	e	e	e	4.9	5.3	5.3	5.3	5.6	5.5	4.9	f	b	(3.2f)	f	a	a
10	a	a	a	f	f	b	b	2.5	3.9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b
11	a	a	a	2.0	b	f	b	2.6	4.2	5.2	5.2	5.0	5.5	5.1	5.8	5.4	5.2	f	4.0	3.2	2.8	f	f	f
12	f	f	f	f	f	b	b	2.8	4.4	4.6	5.2	5.5	5.3	5.7	6.1	5.8	5.4	5.7	4.5	3.5	f	f	f	a
13	a	f	f	f	a	a	1.7	2.7	4.5	4.9	5.0	5.3	4.9	5.5	5.2	6.2	5.6	5.4	3.7	f	f	f	f	f
14	a	a	b	b	f	b	b	2.6	4.1	4.8	5.0	5.4	5.4	5.9	6.2	6.1	5.3	f	2.1	f	a	a	a	a
15	f	f	a	a	a	a	a	2.6	b	f	f	e	e	5.4	5.5	5.4	5.9	f	4.0	3.5	a	a	a	a
16	a	b	b	f	b	b	b	2.6	3.7	e	4.6	5.1	5.3	5.5	5.7	5.5	4.9	f	(3.0f)	f	f	f	a	b
17	a	a	a	a	b	a	b	2.7	4.3	4.9	5.5	5.9	5.2	6.0	6.0	6.1	5.6	5.8	4.7	3.8	3.1	2.5	f	b
18	a	b	f	a	a	f	b	2.8	4.5	5.0	b	5.3	n	6.0	5.9	5.8	5.5	5.7	b	f	f	a	e	e
19	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
20	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
21	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
22	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
23	e	e	e	e	e	e	e	e	e	e	e	e	e	e	5.0f	5.2	(5.5)	4.4f	4.4	2.8f	s	s	s	s
24	s	s	s	s	a	b	b	3.0	4.2	4.5f	4.6	s	(5.0f)	5.2f	5.3	5.0	4.4	(4.8f)	4.2	f	(2.3f)	s	a	a
25	f	f	f	s	b	b	b	3.0	4.0	4.0	4.3	(4.7f)	f	f	e	e	e	e	e	e	e	e	e	e
26																								
27																								
28									NO DATA	AVAILABLE	26th to 31st	AUGUST	INCLUSIVE.											
29																								
30																								
31																								
Median	*	*	*	*	*	*	*	2.7	4.2	(4.8)	(5.0)	(5.3)	(5.3)	5.5	5.8	5.6	5.5	(5.0)	(4.0)	(3.5)	*	*	*	*
No.	0	0	0	1	0	0	1	11	10	8	8	9	8	11	11	11	11	7	9	5	4	1	0	0

31a

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.  
 HOURLY VALUES OF  $h'F_2$  OBSERVED DURING AUGUST 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s 157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3																								
4									NO DATA	AVAILABLE	1st to 5th	AUGUST	INCLUSIVE.											
5																								
6	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	a	b	a	b	b
7	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	b	b	a	a	a	a	b	b	b
8	b	b	b	b	a	a	b	b	b	b	b	f	3.80	e	e	e	e	e	e	e	e	e	e	e
9	e	e	e	e	e	e	e	e	e	e	e	300	290	320	240	250	250	250	f	b	300	f	a	a
10	a	a	a	f	f	b	b	2.50	240	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b
11	a	a	a	e200	b	f	b	250	250	260	290	280	280	290	270	250	240	240	e320	250	270	f	f	f
12	f	f	f	f	f	b	b	240	250	240	230	250	250	270	270	250	240	230	e240	250	f	f	f	a
13	a	f	f	f	a	a	e	250	240	240	210	270	s	270	250	280	240	220	250	f	f	f	e280	f
14	a	a	b	b	f	b	b	250	240	240	1	270	e	280	250	280	260	240	e220	280	f	a	a	a
15	f	f	a	a	a	a	a	e320	b	f	f	e	e	300	310	310	270	f	310	e350	a	a	a	a
16	a	b	b	f	b	b	b	260	230	e	1	300	300	280	270	280	220	300	e280	f	f	f	a	b
17	a	a	a	a	b	a	b	250	230	240	240	270	240	250	250	260	230	210	240	240	250	e260	f	b
18	a	b	f	a	a	f	b	250	240	210	240	230	n	260	250	240	240	230	b	f	f	a	e	e
19	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
20	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
21	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
22	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
23	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	220	250	240	220	230	240	s	s	s
24	s	s	s	s	a	b	b	230	240	1	1	f	280	270	290	250	240	230	230	s	s	s	a	a
25	f	f	f	s	b	b	b	250	230	220	1	300	f	f	e	e	e	e	e	e	e	e	e	e
26																								
27																								
28																								
29									NO DATA	AVAILABLE	26th to 31st	AUGUST	INCLUSIVE.											
30																								
31																								
Median	*	*	*	*	*	*	*	250	240	(240)	(240)	(270)	(280)	270	270	250	240	230	(250)	(250)	*	*	*	*
No.	0	0	0	1	0	0	1	11	10	7	5	9	7	11	11	11	11	10	9	5	3	1	1	0

31b

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h_p f_2$  OBSERVED DURING AUGUST 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^{\circ}$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3																								
4																								
5																								
6	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	a	b	a	b	b
7	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	b	b	a	a	a	a	a	b	b
8	b	b	b	b	a	a	b	b	b	b	b	b	f	u	e	a	c	c	c	c	c	c	c	c
9	c	c	c	c	c	c	c	c	c	c	e	310	u	u	270	270	270	300	f	b	(330)	f	a	a
10	a	a	a	f	f	b	b	290	260	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b
11	a	a	a	200	b	f	b	280	270	270	u	u	290	u	280	270	260	f	320	310	330	f	f	f
12	f	f	f	f	f	b	b	280	270	250	270	260	u	280	280	270	260	280	300	300	f	f	f	a
13	a	f	f	f	a	a	e	260	250	250	260	u	s	280	270	300	260	260	320	f	f	f	f	f
14	a	a	b	b	f	b	b	280	250	270	300	280	290	300	290	270	260	f	300	f	a	a	a	a
15	f	f	a	a	a	a	a	330	b	f	f	e	e	310	320	390	340	f	360	350	a	a	a	a
16	a	b	b	f	b	b	b	290	270	e	300	u	u	300	280	300	300	f	320	f	f	f	a	b
17	a	a	a	a	b	a	b	280	240	300	250	280	250	260	270	270	250	270	310	300	300	280	f	b
18	a	b	f	a	a	f	b	290	260	250	b	240	n	270	260	260	270	280	b	f	f	a	c	c
19	c	c	c	c	c	c	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
20	c	c	c	c	c	c	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
21	c	c	c	c	c	c	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
22	c	c	c	c	c	c	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
23	e	e	c	c	c	e	e	e	e	e	e	e	e	e	e	300	260	(250)	250f	270	300	s	s	s
24	s	s	s	s	a	b	b	250	250	u	260	f	u	u	u	u	250	250	260	f	s	s	s	a
25	f	f	f	s	b	b	b	260	240	250	u	u	f	f	e	e	e	e	e	e	e	e	e	e
26																								
27																								
28																								
29																								
30																								
31																								
Median	*	*	*	*	*	*	*	280	255	(250)	(265)	(280)	*	(280)	280	270	260	270	(310)	(300)	*	*	*	*
No.	0	0	0	1	0	0	1	11	10	7	6	5	3	7	10	10	11	7	9	5	3	1	0	0

32a

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $(13000) f_2$  OBSERVED DURING AUGUST 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^{\circ}$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3																								
4																								
5																								
6	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	a	b	a	b	b
7	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	b	b	a	a	a	a	a	b	b
8	b	b	b	b	a	a	b	b	b	b	b	b	f	3.0	e	e	e	e	e	e	e	e	e	e
9	c	c	c	c	c	c	c	c	c	c	c	3.2	3.2	3.1	3.2	3.6	3.2	3.1	f	b	(3.0)	f	a	a
10	a	a	a	f	f	b	b	3.0	3.2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b
11	a	a	a	3.0	b	f	b	3.3	3.5	3.5	3.3	3.4	3.2	3.2	3.6	3.3	3.4	f	3.1	3.1	2.8	f	f	f
12	f	f	f	f	f	b	b	3.2	2.4	2.5	3.2	3.5	3.6	3.1	3.2	3.3	3.2	3.2	3.2	3.0	f	f	f	a
13	a	f	f	f	a	a	e	3.2	3.5	3.6	3.3	3.4	s	3.3	3.2	3.1	3.2	3.1	3.0	f	f	f	f	f
14	a	a	b	b	f	b	b	3.2	3.2	3.2	3.1	3.2	3.2	3.1	3.2	3.3	3.2	f	3.0	f	a	a	a	a
15	f	f	a	a	a	a	a	3.0	b	f	f	e	e	3.1	3.1	2.9	2.9	f	2.9	2.9	a	a	a	a
16	a	b	b	f	b	b	b	3.1	3.2	e	3.3	3.2	3.3	3.2	3.4	3.1	3.2	f	(3.0)	f	f	f	a	b
17	a	a	a	a	b	a	b	3.3	3.5	3.3	3.5	3.4	3.5	3.3	3.2	3.2	3.3	3.2	2.9	3.2	3.1	3.2	f	b
18	a	b	f	a	a	f	b	3.4	3.5	3.3	b	3.5	n	3.4	3.3	3.3	3.2	3.2	b	f	f	a	c	c
19	c	c	c	c	c	c	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
20	c	c	c	c	c	c	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
21	c	c	c	c	c	c	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
22	e	e	c	c	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
23	e	e	e	e	c	e	e	e	e	e	e	e	e	e	e	3.2f	3.5	(3.5)	3.5f	3.2	3.2f	s	s	s
24	s	s	s	s	a	b	b	3.6	3.7	3.4f	3.4	f	f	3.6	3.3	3.4	3.5	(3.2)	3.4	f	s	s	a	a
25	f	f	f	s	b	b	b	3.5	3.5	3.4	3.2	f	f	f	e	e	e	e	e	e	e	e	e	e
26																								
27																								
28																								
29																								
30																								
31																								
Median	*	*	*	*	*	*	*	3.3	3.5	(3.4)	(3.2)	(3.4)	(3.2)	3.3	3.2	3.3	3.3	(3.2)	(3.0)	(3.1)	*	*	*	*
No.	0	0	0	1	0	0	1	11	10	8	8	8	6	11	11	11	11	7	9	5	3	1	0	0

32b

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $f_oF_1$  OBSERVED DURING AUGUST 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3									NO	DATA	AVAILABLE	1st	to	5th	AUGUST	INCLUSIVE.								
4																								
5																								
6								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
7								b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
8								b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e
9								e	e	e	e	3.8	4.2	(4.0)	3.5	1	q							
10								q	q	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
11								q	q	b	3.9	4.0	4.0	4.0	3.7	(3.1)	q							
12								q	q	3.0	q	3.9	3.7	4.0	1	e	q							
13								q	q	1	1	4.0	e	3.8	3.6	3.3	q							
14								q	q	1	1	4.0	4.0	1	1	q	q							
15								q	b	q	b	e	e	4.0	3.8	3.5	q							
16								q	q	e	n	3.6	3.8	3.8	3.7	3.5	q							
17								q	q	1	(3.6)	(4.0)	b	4.0	3.6	(3.2)	q							
18								q	q	1	3.6	1	n	3.6	3.6	3.3	q							
19								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
20								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
21								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
22								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
23								e	e	e	e	e	e	e	q	1	q							
24								q	1	1	(3.4)	3.9	3.9f	3.9	f	1	1	q						
25								q	q	2.8	1	4.0	1	1	e	e	e	e	e	e	e	e	e	e
26																								
27																								
28									NO	DATA	AVAILABLE	26th	to	31st	AUGUST	INCLUSIVE.								
29																								
30																								
31																								
Median								*	*	*	*	4.0	4.0	4.0	3.6	3.3	*	*						
No.								0	0	2	4	9	6	9	7	6	0	0						

33a

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h^*F_1$  OBSERVED DURING AUGUST 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3									NO	DATA	AVAILABLE	1st	to	5th	AUGUST	INCLUSIVE.								
4																								
5																								
6								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
7								b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
8								b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e
9								e	e	e	e	230	230	b	230	1	q							
10								q	q	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
11								q	q	b	220	220	240	230	250	220	q							
12								q	q	210	q	220	240	220	1	e	q							
13								q	q	1	1	200	e	220	230	240	q							
14								q	q	1	220	230	220	1	1	q	q							
15								q	b	q	b	e	e	b	240	240	q							
16								q	q	e	n	220	220	220	240	230	q							
17								q	q	1	230	250	b	230	220	210	q							
18								q	q	1	220	1	n	b	220	230	q							
19								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
20								q	e	e	e	q	e	e	e	e	e	e	e	e	e	e	e	e
21								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
22								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
23								e	e	e	e	e	e	e	q	1	q							
24								q	1	1	200	220	200f	200	f	1	1	q						
25								q	q	210	1	220	1	1	e	e	e	e	e	e	e	e	e	e
26																								
27									NO	DATA	AVAILABLE	26th	to	31st	AUGUST	INCLUSIVE.								
28																								
29																								
30																								
31																								
Median								*	*	*	220	220	225	220	230	230	*	*						
No.								0	0	2	5	9	6	6	7	6	0	0						

33b

HOURLY VALUES OF  $f_oE$  OBSERVED DURING AUGUST 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5<sup>00</sup> Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3									NO DATA		1st to 5th													
4																								
5																								
6								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
7								b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
8								b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e
9								e	e	e	e	b	b	b	b	2.1	q							
10								q	2.9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
11								q	1.7	b	b	b	b	2.7	2.6	2.1	1.8							
12								q	f	2.1	2.5	2.5	2.8	2.6	b	a	s							
13								e	s	2.0	2.0	2.0	2.0	2.0	2.2	2.1	s							
14								q	1.7	2.1	2.5	2.6	2.6	2.5	2.5	e	1.9							
15								q	b	q	b	e	e	b	2.4	2.1	s	s						
16								q	1.9	e	2.2	2.6	a	2.7	2.5	2.6	s							
17								e	s	2.1	2.1	b	2.2	b	b	2.2	s							
18								2.2	s	2.0	b	b	2.7	b	2.5	2.0	f	e						
19								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
20								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
21								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
22								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
23								e	e	e	e	e	e	e	(2.3)	2.3	(1.9)							
24								q	(1.8)	2.2	2.5	2.8f	3.0f	2.7	2.6f	(2.4)	(1.9)	s						
25								q	(1.9)	2.3	2.5	2.9	2.8	2.8	e	e	e	e	e	e	e	e	e	e
26																								
27									NO DATA		AVAILABLE		26th to 31st											
28																								
29																								
30																								
31																								
Median								*	1.8	2.1	2.5	2.6	2.7	2.7	2.5	2.1	*	*						
No.								2	6	7	7	6	7	7	8	10	4	1						

HOURLY VALUES OF  $h^pE$  OBSERVED DURING AUGUST 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5<sup>00</sup> Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3																								
4									NO DATA		AVAILABLE				1st to 5th									
5																								
6								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
7								b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
8								b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e
9								e	e	e	e	110	110	b	120	120	q							
10								q	120	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
11								q	140	b	b	b	b	120	120	120	140							
12								q	s	110	120	110	120	120	120	a	150							
13								e	140	120	110	110	110	120	130	120	150							
14								q	110	110	120	110	110	110	110	s	120							
15								q	b	q	b	e	e	120	130	110	s	s						
16								q	110	e	110	110	a	110	120	110	s							
17								e	e	120	110	110	120	110	110	130	s							
18								120	s	110	110	110	110	110	120	120	f	e						
19								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
20								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
21								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
22								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
23								e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
24								q	s	110	110	110	110	110	110	120	130	b						
25								q	s	120	110	110	110	120	e	e	e	e	e	e	e	e	e	e
26																								
27																								
28									NO DATA		AVAILABLE		26th to 31st											
29																								
30																								
31																								
Median								*	130	110	110	110	110	115	120	120	140	*	*					
No.								2	6	7	8	9	8	10	11	9	5	1						

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $fE_s$  OBSERVED DURING AUGUST 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in  $1m$  55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1																									
2																									
3									NO DATA		AVAILABLE		1st to 8th August	INCLUSIVE.											
4																									
5																									
6	e	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	5.0	b	6.0	b	b	
7	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	2.2	5.7	5.7	5.3	b	b	b	
8	b	b	b	b	2.2	5.2	b	b	b	b	b	b	b	c	c	c	c	c	c	c	c	c	c	c	
9	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	e	e	b	e	2.2	5.0	3.2	
10	4.0	2.9	5.4	e	e	b	b	e	g	e	c	c	c	c	c	c	c	c	c	c	c	c	c	b	
11	4.1	5.4	1.8	e	b	e	b	g	g	b	g	3.3	g	g	g	g	g	e	4.0	e	e	e	e	2.6	
12	e	6.0	4.4	3.0	3.0	b	b	g	g	g	g	g	g	g	g	4.5	2.2	2.2	e	e	e	e	e	3.4	
13	4.5	e	3.2	5.4	3.6	3.6	e	g	g	g	2.8	g	2.7	2.7	2.5	g	g	e	e	e	e	e	e	3.4	
14	3.5	2.1	b	b	e	b	b	1.7	2.2	2.2	g	g	g	g	g	b	2.2	e	2.9	3.5	6.2	5.7	5.5	3.5	
15	3.2	4.5	6.0	4.6	4.5	4.3	2.1	2.1	b	g	b	e	e	g	g	g	3.5	2.1	2.2	4.5	5.0	5.0	5.5	5.7	
16	3.5	b	b	e	b	b	b	1.7	2.2	e	g	2.7	3.0	4.4	g	g	1.7	e	e	e	e	2.2	4.5	6.0	b
17	2.9	5.7	5.0	4.6	b	3.5	b	g	g	g	g	g	b	g	c	2.2	2.2	e	e	e	e	e	e	e	b
18	3.3	b	f	3.5	4.5	2.1	b	g	2.2	g	g	g	g	3.1	g	g	g	g	b	e	e	e	4.4	e	e
19	e	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
20	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
21	e	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
22	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
23	e	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
24	3.0	s	s	s	3.5	b	b	g	2.2	2.8	g	g	g	g	g	2.7	2.2	g	e	e	e	e	s	s	s
25	3.0	c	e	e	b	b	b	g	g	g	g	g	g	3.0	e	c	c	c	c	c	c	c	c	c	c
26																									
27																									
28									NO DATA		AVAILABLE		26th to 31st	INCLUSIVE.											
29																									
30																									
31																									
Median	3.5	4.5	4.4	3.0	3.2	3.5	*	**	**	**	**	**	**	**	**	**	1.7	**	**	**	**	**	4.4	5.0	3.4
No.	11	7	7	9	8	6	2	11	10	8	9	10	9	10	10	10	11	12	11	12	10	11	9	7	

35a

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h^*E_s$  OBSERVED DURING AUGUST 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in  $1m$  55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1																									
2																									
3									NO DATA		AVAILABLE		1st to 5th	INCLUSIVE.											
4																									
5																									
6	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	c	c	c	110	b	110	b	b
7	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	110	110	110	110	b	b	b
8	b	b	b	b	110	110	b	b	b	b	b	b	b	b	b	b	b	c	c	c	c	c	c	c	c
9	c	c	c	c	e	e	e	e	e	c	e	g	g	b	g	g	g	e	e	b	e	120	130	130	
10	130	120	120	e	e	b	b	e	g	e	c	e	e	e	e	e	e	e	e	e	e	e	e	e	b
11	120	110	110	e	b	e	b	g	g	b	g	140	g	g	g	g	g	e	110	e	e	e	e	150	
12	e	130	120	120	120	b	b	g	g	g	g	g	g	g	g	g	120	120	130	e	e	e	e	120	
13	120	e	120	120	110	110	e	g	g	g	140	g	130	120	130	g	g	e	e	e	f	140	140	e	
14	120	120	b	b	e	b	b	120	110	110	g	g	g	g	g	b	130	e	150	120	120	120	120	120	
15	140	140	130	120	110	100	110	110	b	g	b	e	e	g	g	g	150	150	160	130	120	110	110	100	
16	110	b	b	e	b	b	b	110	110	e	g	130	120	130	g	g	120	e	e	e	130	120	120	b	
17	120	110	110	110	b	100	b	g	g	g	g	g	b	g	g	100	100	e	e	e	e	e	e	b	
18	120	b	f	120	100	120	b	g	120	g	g	g	g	130	g	g	g	b	e	e	160	e	e	c	
19	e	e	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	c	c	c	c	c	c	c	c
20	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	c	c	c	c	c	c	c	c
21	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	c	c	c	c	c	c	c	c
22	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	c	c	c	c	c	c	c	c
23	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	c	c	c	c	c	c	c	c
24	150	s	s	s	130	b	b	g	120	130	g	g	g	g	g	140	140	g	e	e	e	e	140	130	120
25	140	e	e	e	b	b	b	g	g	g	g	g	g	130	e	c	c	c	c	c	c	c	c	c	c
26																									
27																									
28									NO DATA		AVAILABLE		26th to 31st	AUGUST	INCLUSIVE.										
29																									
30																									
31																									
Median	120	120	120	120	110	110	*	*	*	*	*	*	*	*	*	*	125	*	*	*	*	*	120	125	120
No.	10	6	6	5	6	5	1	3	4	2	1	2	2	3	1	3	6	3	4	4	4	4	8	6	6

35b

HOURLY VALUES OF foF2 OBSERVED DURING SEPTEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3									NO DATA AVAILABLE	1st to 4th	SEPTEMBER	INCLUSIVE												
4																								
5	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	f	f	a	a	b	b	b	b
6	b	b	a	a	a	a	2.1	3.6	4.2	4.7	b	5.5	4.8	5.0	5.1	5.4	5.5	b	a	f	b	b	b	a
7	a	a	3.0	f	f	f	a	b	4.6	f	5.5	5.9	5.5	b	b	5.7	6.2	5.7	5.5	f	f	a	f	3.2
8	f	f	f	a	f	f	2.3	4.0	4.7	5.5	5.5	5.8	6.0	5.8	6.2	6.1	6.1	6.1	5.0	4.3	3.2	f	f	e
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	r	r	a	f	3.2	f	b	a
11	f	f	f	2.1	e	e	e	e	e	e	e	e	e	e	e	6.2	6.0	5.6	f	f	f	f	f	f
12	f	a	f	2.6	2.5	2.1	3.1	4.6	5.0	b	6.1	6.2	6.7	6.7	6.5	a	(5.9)	a	b	f	4.2	f	a	a
13	b	b	b	a	a	f	3.2	4.0	4.8	5.0	5.1	5.3	5.5	5.7	b	3.7	a	a	a	a	a	a	a	b
14	b	b	b	b	b	b	4.0	4.5	4.6	4.7	b	b	b	b	b	e	e	4.8	a	a	a	b	b	a
15	a	f	a	f	f	f	3.1	b	b	b	b	5.5	5.5	5.5	b	b	5.5	5.2	5.0	5.0	b	f	f	f
16	f	f	f	f	f	f	e	e	e	b	5.7	5.5	6.0	6.0	6.7	6.6	6.4	f	f	f	f	a	b	a
17	a	b	a	b	f	b	3.0	e	e	e	e	e	e	e	e	e	e	a	b	b	b	b	b	b
18	b	a	f	f	f	f	b	b	b	b	b	b	b	5.3	b	5.4	b	b	a	a	a	a	a	b
19	b	b	a	b	b	b	3.1	4.0	4.5	b	b	b	b	b	b	b	b	b	4.5	b	f	f	b	b
20	a	b	a	a	b	b	b	4.0	4.4	b	5.0	5.2	b	5.5	5.6	5.1	5.6	5.5	5.5	f	a	f	a	f
21	b	b	b	b	b	b	b	b	b	5.4	5.3	b	b	b	b	b	b	f	r	5.2	f	f	b	a
22	a	a	a	b	a	b	b	4.7	5.2	5.9	6.0	5.7	b	n	b	b	b	b	5.5	r	4.7	f	f	b
23	b	b	b	b	b	b	b	b	5.0	5.1	b	b	b	b	b	b	b	b	b	b	b	b	b	b
24	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	n	b	b	b	b	b	b	b
28	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	a	b	b	b	b	b	b
29	a	b	a	f	b	a	b	b	b	a	b	b	b	b	b	b	b	r	a	b	b	f	b	
30	a	a	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
31																								
Median	*	*	*	*	*	*	(3.1)	(4.0)	4.6	(5.1)	(5.5)	(5.5)	(5.6)	(6.2)	(5.6)	(6.0)	(5.6)	(5.2)	*	*	*	*	*	*
No.	0	0	1	2	1	1	7	8	10	7	9	9	7	8	5	8	8	6	6	3	4	0	0	1

36a

HOURLY VALUES OF h'F2 OBSERVED DURING SEPTEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3									NO DATA AVAILABLE	1st to 4th	SEPTEMBER	INCLUSIVE												
4																								
5	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	f	f	a	a	b	b	b	b
6	b	b	a	a	a	a	300	250	250	1	320	370	400	370	350	330	340	b	a	f	b	b	b	a
7	a	a	320	f	f	f	a	b	260	f	340	300	320	b	b	290	240	250	220	f	f	a	f	280
8	f	320	f	a	f	f	250	240	230	290	290	320	300	270	280	270	240	260	230	230	e250	f	f	e
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	250	240	a	f	e320	f	b	a
11	f	300	f	300	e	e	e	e	e	e	e	e	e	e	e	290	260	240	250	e260	f	e260	e270	f
12	f	a	f	300	e280	250	260	240	220	b	300	300	320	290	300	220	290	a	b	f	270	f	a	a
13	b	b	b	a	a	f	250	240	250	1	370	380	320	380	b	b	a	a	a	a	a	a	a	b
14	b	b	b	b	b	b	270	240	370	380	b	b	b	b	b	e	250	a	a	a	a	b	b	a
15	a	f	a	290	f	f	250	b	b	b	340	330	340	300	290	230	250	240	240	b	f	f	f	f
16	f	f	f	300	e250	f	e	e	e	b	320	340	340	300	300	270	250	f	240	f	f	a	b	a
17	a	b	a	b	f	b	250	e	e	e	e	e	e	e	e	e	e	a	b	b	b	b	b	b
18	b	a	f	f	f	f	b	b	b	b	b	b	320	b	300	b	240	a	a	a	a	a	a	b
19	b	b	a	b	b	b	270	b	210	b	b	b	b	b	b	b	b	240	b	f	e300	b	b	b
20	a	b	a	a	b	b	b	1	370	380	350	b	320	300	280	290	250	240	f	a	e320	a	f	
21	b	b	b	b	b	b	b	b	b	300	b	290	b	b	b	b	f	230	e230	f	e280	b	a	
22	a	a	a	b	a	b	b	b	b	280	300	320	b	n	b	b	b	b	240	240	f	f	b	
23	b	b	b	b	b	b	b	b	260	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
24	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	n	b	b	b	b	b	b	b
28	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	a	b	b	b	b	b	b
29	a	b	a	f	b	a	b	b	b	a	b	b	b	b	b	b	b	290	a	b	b	f	b	
30	a	a	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
31																								
Median	*	*	*	*	*	*	(250)	(240)	(245)	*	320	(340)	(320)	(320)	(300)	(290)	(250)	(250)	(240)	(240)	*	*	*	*
No.	0	2	1	4	2	1	7	5	8	4	10	9	8	8	6	9	9	8	9	5	4	4	1	1

36b

HOURLY VALUES OF h<sub>p</sub>F<sub>2</sub> OBSERVED DURING SEPTEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5<sup>9E</sup> Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3										NO	DATA	AVAILABLE	1st to 4th	SEPTEMBER	INCLUSIVE									
4																								
5	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	f	f	a	a	b	b	b	b
6	b	b	a	a	a	a	310	260	300	u	b	375	u	u	u	340	360	b	a	f	b	b	b	a
7	a	a	340	f	f	f	a	b	270	f	u	u	u	b	b	300	290	300	300	f	f	a	f	330
8	f	f	f	a	f	f	260	290	260	300	300	u	u	u	290	280	290	310	270	270	330	f	f	e
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	r	r	a	f	380	f	b	a
11	f	f	f	320	e	e	e	e	e	e	e	e	e	e	e	300	280	270	f	f	f	f	f	f
12	f	a	f	310	310	290	290	270	290	b	310	310	330	300	310	a	320	a	b	f	320	f	a	a
13	b	b	b	a	a	f	270	300	300	u	u	u	u	u	b	b	a	a	a	a	a	a	a	b
14	b	b	b	b	b	b	300	330	u	u	b	b	b	b	b	e	e	300	a	a	a	b	b	a
15	a	f	a	f	f	f	300	b	b	b	b	u	u	u	b	b	280	300	300	320	b	f	f	f
16	f	f	f	f	f	f	e	e	e	b	u	u	u	u	310	280	270	f	f	f	f	a	b	a
17	a	b	a	b	f	f	270	e	e	e	e	e	e	e	e	e	e	a	b	b	b	b	b	b
18	b	a	f	f	f	f	b	b	b	b	b	b	u	b	310	b	b	a	a	a	a	a	a	b
19	b	b	a	b	b	b	300	270	300	b	b	b	b	b	b	b	b	b	300	b	f	f	b	b
20	a	b	a	a	b	b	290	310	b	u	u	b	u	310	290	300	280	280	f	a	f	a	f	
21	b	b	b	b	b	b	b	b	b	u	b	b	b	b	b	b	b	f	r	300	f	f	b	a
22	a	a	a	b	a	b	270	280	290	310	330	b	n	b	b	b	b	b	280	r	280	f	f	b
23	b	b	b	b	b	b	270	280	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
24	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	n	b	b	b	b	b	b	b
28	b	b	b	f	b	b	b	b	b	b	b	b	b	b	b	b	b	a	b	b	b	b	b	b
29	a	b	a	f	b	a	b	b	b	a	b	b	b	b	b	b	b	r	a	b	b	f	b	
30	a	a	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
31																								
Median	*	*	*	*	*	*	(290)	(270)	295	*	*	*	*	*	*	(300)	(290)	(300)	(290)	*	*	*	*	*
No.	0	0	1	2	1	1	7	8	10	3	3	3	1	1	4	7	8	6	6	3	4	0	0	1

37a

HOURLY VALUES OF (M3000)F<sub>2</sub> OBSERVED DURING SEPTEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5<sup>9E</sup> Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3										NO	DATA	AVAILABLE	1st to 4th	SEPTEMBER	INCLUSIVE									
4																								
5	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	f	f	a	a	b	b	b	b
6	b	b	a	a	a	a	3.1	3.4	3.2	3.1	b	2.8	3.0	3.0	3.1	3.0	2.9	b	a	f	b	b	b	a
7	a	a	2.9	f	f	f	a	b	3.3	f	3.1	3.1	3.3	b	b	3.2	3.2	3.1	3.1	f	f	a	f	3.0
8	f	f	f	a	f	f	3.3	3.6	3.3	3.2	3.3	3.2	3.2	3.1	3.3	3.3	3.2	3.1	3.3	3.3	3.0	f	f	e
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	r	r	a	f	2.7	f	b	a
11	f	f	f	3.0	e	e	e	e	e	e	e	e	e	e	e	3.1	3.2	3.3	f	f	f	f	f	f
12	f	a	f	3.0	2.9	3.1	3.2	3.2	3.3	b	3.1	3.1	3.1	3.2	3.1	e	3.1	a	b	f	3.0	f	a	a
13	b	b	b	a	a	f	3.3	3.3	3.2	3.0	3.0	2.9	3.1	3.1	b	b	a	a	a	a	a	a	a	b
14	b	b	b	b	b	b	3.2	3.0	3.0	3.0	b	b	b	b	e	e	3.1	a	a	a	b	b	a	a
15	a	f	a	f	f	f	3.2	b	b	b	b	3.1	3.2	3.2	b	b	3.3	3.1	3.1	3.0	b	f	f	f
16	f	f	f	f	f	f	e	e	e	b	3.2	3.2	3.0	3.1	3.1	3.2	3.3	f	f	f	f	a	b	a
17	a	b	a	b	f	b	3.3	e	e	e	e	e	e	e	e	e	e	a	b	b	b	b	b	b
18	b	a	f	f	f	f	b	b	b	b	b	b	3.1	b	3.1	b	b	a	a	a	a	a	a	b
19	b	b	a	b	b	b	3.2	3.5	3.1	b	b	b	b	b	b	b	b	b	3.2	b	f	f	b	b
20	a	b	a	a	b	b	3.3	3.2	b	2.9	3.0	b	3.1	3.2	3.2	3.1	3.1	3.3	f	a	f	a	f	
21	b	b	b	b	b	b	b	b	b	3.2	b	b	b	b	b	b	f	r	3.1	f	f	b	a	
22	a	a	a	b	a	b	3.5	3.2	3.3	3.2	3.1	b	n	b	b	b	b	3.3	r	3.2	f	f	b	
23	b	b	b	b	b	b	b	3.4	3.2	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
24	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	n	b	b	b	b	b	b	b
28	b	b	b	f	b	b	b	b	b	b	b	b	b	b	b	b	b	a	b	b	b	b	b	b
29	a	b	a	f	b	a	b	b	b	a	b	b	b	b	b	b	b	r	a	b	b	f	b	
30	a	a	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
31																								
Median	*	*	*	*	*	*	(3.2)	(3.4)	3.2	(3.2)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.2)	(3.2)	(3.1)	(3.2)	*	*	*	*	*
No.	0	0	1	2	1	1	7	8	10	6	9	9	7	8	5	7	8	6	6	3	4	0	0	1

37b

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $f_oF_1$  OBSERVED DURING SEPTEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s Mean Time 157.5°E

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3									NO DATA AVAILABLE				1st to 4th SEPTEMBER				INCLUSIVE.							
4																								
5								c	e	e	e	e	b	b	b	b	f	q						
6								q	b	l	4.0	4.2	4.3	4.2	b	3.9	3.5	b						
7								b	b	b	4.2	4.3	4.4	b	b	(4.0)	l	q						
8								q	l	4.0	4.2	4.4	4.3	4.3	4.2	4.0	l	q						
9								e	e	e	e	e	e	e	e	e	e	e						
10								e	e	e	e	e	e	e	e	e	q	q						
11								e	e	e	e	e	e	e	e	4.0	3.3	l						
12								l	l	b	4.5	4.4	4.3	4.2	4.2	l	(3.6)							
13								q	l	l	4.2	4.3	4.2	4.1	b	b	a	a						
14								q	l	b	4.2	b	b	b	b	e	e	q						
15								b	b	b	b	4.2	4.2	4.2	b	b	q	q						
16								e	e	b	4.3	4.4	4.4	4.2	4.2	b	(3.4)	f						
17								e	e	e	e	e	e	e	e	e	e	a						
18								b	b	b	b	b	b	4.1	b	3.8	b	q						
19								b	l	b	b	b	b	b	b	b	b	b						
20								b	b	b	4.2	4.2	b	4.2	4.0	b	b	q						
21								b	b	b	b	b	b	b	b	b	b	b						
22								b	b	b	4.2	b	b	n	b	b	b	b						
23								b	b	b	b	b	b	b	b	b	b	b						
24								b	b	b	e	e	e	e	e	e	e	e						
25								e	e	e	e	e	e	e	e	e	e	e						
26								e	e	e	e	e	e	e	e	e	e	e						
27								e	e	e	e	e	e	e	e	e	n	b						
28								b	b	b	b	b	b	b	b	b	b	a						
29								b	b	b	b	b	b	b	b	b	b	b						
30								e	e	e	e	e	e	e	e	e	e	e						
31																								
Median								*	*	*	4.2	4.3	4.3	4.2	*	4.0	*	*						
No.								0	0	1	9	8	7	8	4	5	4	0						

38a

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h'F_1$  OBSERVED DURING SEPTEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s Mean Time 157.5°E

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3									NO DATA AVAILABLE				1st to 4th SEPTEMBER				INCLUSIVE.							
4																								
5								e	e	e	e	e	b	b	b	b	f	q						
6								q	b	230	b	b	b	b	b	b	260	b						
7								b	b	b	220	250	b	b	b	b	l	q						
8								q	l	240	b	240	210	230	230	230	l	q						
9								e	e	e	e	e	e	e	e	e	e	e						
10								e	e	e	e	e	e	e	e	e	q	q						
11								e	e	e	e	e	e	e	e	220	220	l						
12								l	l	b	250	230	210	220	220	l	250							
13								q	l	230	b	b	210	b	b	b	a	a						
14								q	l	b	b	b	b	b	b	e	e	q						
15								b	b	b	b	b	200	b	b	b	q	q						
16								e	e	b	b	220	e	b	b	b	230	f						
17								e	e	e	e	e	e	e	e	e	e	a						
18								b	b	b	b	b	b	b	b	b	b	q						
19								b	l	b	b	b	b	b	b	b	b	b						
20								b	b	b	b	b	b	b	b	b	b	q						
21								b	b	b	b	b	b	b	b	b	b	b						
22								b	b	b	b	b	b	n	b	b	b	b						
23								b	b	b	b	b	b	b	b	b	b	b						
24								b	b	b	e	e	e	e	e	e	e	e						
25								e	e	e	e	e	e	e	e	e	e	e						
26								e	e	e	e	e	e	e	e	e	e	e						
27								e	e	e	e	e	e	e	e	e	n	b						
28								b	b	b	b	b	b	b	b	b	b	a						
29								b	b	b	b	b	b	b	b	b	b	b						
30								e	e	e	e	e	e	e	e	e	e	e						
31																								
Median								*	*	*	*	*	210	*	*	*	*	*						
No.								0	0	3	2	4	5	2	2	2	4	0						

38b

HOURLY VALUES OF  $f_oE$  OBSERVED DURING SEPTEMBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^{\circ}E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3									NO	DATA	AVAILABLE	1st	to 4th	INCLUSIVE.										
4																								
5								e	e	e	e	a	b	b	b	b	b	q						
6								1.8	b	b	b	b	b	b	b	b	b	b						
7								b	b	b	3.0	b	b	b	b	b	b	1.8						
8								1.8	2.2	2.7	b	b	3.0	3.0	b	r	2.2	f						
9								e	e	e	e	e	e	e	e	e	e	e						
10								e	e	e	e	e	e	e	e	e	e	2.1	1.7					
11								e	e	e	e	e	e	e	e	r	2.0	1.7						
12								1.9	2.1	b	2.8	3.0	3.0	3.1	2.9	2.6	2.0	q	b					
13								1.9	r	2.5	r	b	3.0	b	b	b	a	q						
14								2.1	2.5	b	b	b	b	b	b	c	e	1.8						
15								2.0	2.2	b	b	b	3.1	r	r	b	2.1	1.9						
16								e	e	b	b	b	r	r	r	b	2.1	f						
17								e	e	e	e	e	e	e	e	e	e	a	b					
18								2.1	b	b	b	b	b	b	b	b	b	1.9						
19								b	2.3	b	b	b	b	b	b	b	b	b						
20								1.9	b	r	r	r	b	r	r	b	b	1.9						
21								b	b	b	b	b	b	b	b	b	b	b						
22								2.0	r	r	r	b	b	r	b	b	b	b						
23								b	r	r	r	b	b	b	b	b	2.1	1.8						
24								b	b	b	c	c	e	e	e	e	e	e						
25								e	e	e	e	e	e	e	e	e	e	e						
26								e	e	e	e	e	e	e	e	e	e	e						
27								e	e	e	e	e	e	e	e	e	e	n	b					
28								b	b	b	b	b	b	b	b	r	r	a						
29								b	b	b	b	b	b	b	b	b	b	b						
30								e	e	e	e	e	e	e	e	e	e	e						
31																								
Median								1.9	2.2	*	*	*	*	*	*	*	2.1	1.8	*					
No.								9	5	2	2	1	4	2	1	1	7	8	0					

39a

HOURLY VALUES OF  $h^*E$  OBSERVED DURING SEPTEMBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^{\circ}E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3									NO	DATA	AVAILABLE	1st	to 4th	SEPTEMBER	INCLUSIVE.									
4																								
5								e	e	e	e	e	b	b	b	b	120	q						
6								210	b	110	b	b	b	b	130	b	b	b						
7								b	b	b	120	b	b	b	b	120	b	e						
8								110	110	110	110	110	110	110	b	120	120	160						
9								e	e	e	e	e	e	e	e	e	e	e						
10								e	e	e	e	e	e	e	e	e	e	120	e140					
11								e	e	e	e	e	e	e	e	e	120	120	150					
12								120	120	b	100	110	110	110	120	110	120	q						
13								110	100	110	110	b	110	b	b	120	a	q						
14								100	100	110	110	b	b	b	b	e	e	140						
15								120	100	110	110	110	100	110	110	120	130	b						
16								e	e	110	110	110	110	110	120	b	120	f						
17								e	e	e	e	e	e	e	e	e	e	a						
18								b	b	b	b	b	b	100	b	100	b	160						
19								110	110	120	110	b	b	b	b	b	b	b						
20								110	b	120	120	120	b	120	120	b	b	b						
21								b	b	b	b	b	b	b	b	b	b	b						
22								b	120	110	110	b	b	110	b	b	b	b						
23								b	110	110	110	b	b	b	b	b	120	b						
24								b	b	b	e	e	e	e	e	e	e	e						
25								e	e	e	e	e	e	e	e	e	e	e						
26								e	e	e	e	e	e	e	e	e	e	e						
27								e	e	e	e	e	e	e	e	e	e	n	b					
28								b	b	b	b	b	b	b	b	120	110	a						
29								b	b	b	b	b	b	b	b	b	b	b						
30								e	e	e	e	e	e	e	e	e	e	e						
31																								
Median								110	110	110	110	110	110	110	120	120	120	155						
No.								8	8	10	11	5	5	7	5	8	9	6						

39b

HOURLY VALUES OF  $f^oF_2$  OBSERVED DURING SEPTEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1																									
2																									
3									NO	DATA	AVAILABLE	1st	to	4th	SEPTEMBER										
4																									
5	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	g	e	4.0	3.6	b	b	b	b	
6	b	b	4.5	4.7	4.5	4.5	e	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	b	b	5.0	3.2	b	b	b	2.2	
7	4.5	3.8	4.0	2.0	2.2	2.2	2.3	b	b	2.2	g	b	3.0	b	b	b	2.2	g	3.5	f	4.5	3.3	4.5	2.5	
8	e	2.0	e	2.2	1.8	e	e	2.2	g	g	2.6	2.7	g	g	b	g	g	e	e	e	e	2.2	e	e	
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	g	g	2.2	e	2.1	3.2	b	3.0
11	2.5	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	g	g	g	2.3	2.2	2.1	e	e	f
12	2.2	3.5	2.6	1.6	e	e	e	g	g	b	g	g	g	g	g	g	g	g	2.7	b	2.2	2.1	3.3	4.2	5.5
13	b	b	b	3.2	2.2	e	1.6	2.1	g	g	b	b	g	b	b	b	4.5	5.4	5.0	4.5	7.0	5.0	4.5	b	
14	b	b	b	b	b	b	b	g	g	b	b	b	b	b	b	c	e	g	4.0	4.3	4.5	b	b	3.5	
15	3.2	3.0	2.5	e	e	e	e	e	e	b	b	b	b	g	g	b	g	g	e	e	b	e	e	e	
16	3.2	3.0	2.5	e	e	e	e	e	e	b	b	b	b	g	g	g	b	g	f	e	e	2.2	5.0	b	4.5
17	6.0	b	4.0	b	2.5	b	e	e	e	e	e	e	e	e	e	e	e	5.0	b	b	b	b	b	b	
18	b	2.2	2.2	2.1	2.1	e	b	b	b	b	b	b	b	g	b	b	b	g	2.6	2.6	2.2	2.2	5.0	b	
19	b	b	2.7	b	b	b	b	b	g	b	b	b	b	b	b	b	b	e	b	2.2	2.2	b	b	b	
20	2.2	b	2.1	2.2	b	b	b	g	b	b	b	b	b	b	b	b	g	e	5.0	5.5	2.2	5.5	2.2	e	
21	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	2.2	
22	4.2	3.5	2.2	b	1.8	b	b	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	b	
23	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
24	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	n	b	b	b	b	b	b	
28	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	5.2	5.2	b	b	b	b	b	b	
29	2.2	b	4.0	f	b	2.2	b	b	b	2.2	2.2	b	b	b	b	b	b	b	2.2	4.0	b	b	e	b	
30	5.0	2.2	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
31																									
Median	3.0	3.0	2.5	2.2	2.0	**	**	2.1	**	2.2	2.2	*	**	**	*	*	**	**	2.2	2.2	2.2	2.2	**	2.5	
No.	11	9	13	10	10	9	7	7	6	5	5	3	7	6	3	4	10	13	16	15	13	13	10	9	

HOURLY VALUES OF  $h^oF_2$  OBSERVED DURING SEPTEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1																									
2																									
3									NO	DATA	AVAILABLE	1st	to	4th	SEPTEMBER										
4																									
5	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	g	e	120	120	b	b	b	b	
6	b	b	100	100	110	110	e	110	110	110	110	110	110	110	110	120	b	b	110	130	b	b	b	110	
7	120	120	120	130	160	120	120	b	b	120	g	b	120	b	b	b	120	g	140	f	140	120	120	130	
8	e	130	e	140	160	e	e	110	g	g	120	120	g	g	b	g	g	e	e	e	150	e	e	e	
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	g	g	110	e	150	120	b	130
11	110	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	g	g	g	150	160	160	e	e	f
12	140	110	110	110	e	e	e	g	g	b	g	g	g	g	g	g	g	110	b	140	160	140	110	100	
13	b	b	b	100	110	e	120	120	g	g	b	b	g	b	b	b	120	110	100	110	110	100	100	b	
14	b	b	b	b	b	b	b	g	g	b	b	b	b	b	b	b	e	e	g	120	110	110	b	110	
15	100	120	100	130	e	e	e	120	b	b	b	b	g	g	b	b	g	g	e	e	b	e	e	e	
16	100	120	120	e	e	e	e	e	e	b	b	b	g	g	g	b	g	f	e	e	150	110	b	110	
17	110	b	100	b	100	b	e	e	e	e	e	e	e	e	e	e	e	110	b	b	b	b	b	b	
18	b	110	130	100	100	e	b	b	b	b	b	b	b	g	b	b	b	g	130	110	100	120	120	b	
19	b	b	110	b	b	b	b	b	g	b	b	b	b	b	b	b	b	b	e	b	160	150	b	b	
20	100	b	100	100	b	b	b	g	b	b	b	b	b	b	b	b	b	g	e	120	110	150	110	110	
21	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	100	
22	100	100	100	b	100	b	b	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	b	
23	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
24	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	n	b	b	b	b	b	b	
28	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	120	110	b	b	b	b	b	b	
29	140	b	110	f	b	100	b	b	b	110	110	b	b	b	b	b	b	b	160	110	b	b	e	b	
30	110	150	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
31																									
Median	110	120	110	105	110	*	*	*	*	*	*	*	*	*	*	*	*	*	120	120	145	120	110	110	
No.	10	8	11	8	7	3	2	4	1	3	3	2	2	1	1	1	3	4	9	9	10	9	5	8	

HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING OCTOBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^\circ E$  Mean Time

Hour/Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	b	b	b	b	a	b	b	b	b	
2	b	b	b	b	f	f	b	b	5.0	b	b	b	b	b	b	b	b	b	r	a	a	f	b	b	
3	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	a	a	a	b	b	
4	b	f	f	a	b	b	b	b	b	b	r	b	b	b	b	b	b	b	5.5	4.8	f	b	b	a	
5	f	f	f	b	b	b	5.2	b	b	b	b	b	b	b	b	b	b	b	b	b	f	f	f	b	
6	a	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	a	b	b	b	b	
7	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	5.5	f	b	a	b	b	
8	b	a	a	f	f	b	b	5.0	b	b	b	b	b	r	b	b	b	b	b	b	b	a	a	a	
9	b	f	f	b	1.9	f	4.7	5.3	b	b	b	b	a	b	b	b	b	b	b	b	b	b	b	b	
10	c	c	c	c	c	c	c	c	c	c	c	c	c	c	f	f	b	b	b	b	b	b	b	b	
11	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
12	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
13	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
14	b	b	b	b	b	b	b	5.0	b	b	b	b	b	b	a	e	e	e	e	e	e	e	e	e	
15	b	b	b	b	b	b	b	b	5.0	b	b	e	b	b	b	b	b	b	b	b	b	b	b	b	
16	b	b	f	b	b	b	b	5.0	b	b	b	b	b	b	b	b	b	6.3	r	b	r	b	a	f	
17	b	b	2.1	b	2.0	3.4	b	b	b	e	e	b	b	b	b	b	b	b	r	r	r	r	b	f	
18	b	b	b	b	b	4.0	b	b	b	5.5	r	6.0	r	b	b	f	b	r	r	r	r	r	r	r	
19	f	f	f	1.9	f	f	b	b	b	b	b	b	b	b	b	b	b	b	r	r	b	b	b	b	
20	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	5.5	f	b	b	b	b	
21	b	b	b	b	b	b	4.9	b	b	b	b	b	b	b	b	b	b	b	r	b	b	a	b	b	
22	b	b	b	f	f	b	4.8	b	b	b	e	b	b	b	b	b	b	5.7	b	r	r	b	b	b	
23	b	b	b	b	b	b	4.4	b	b	b	b	b	b	b	b	b	b	b	5.5	r	b	b	b	b	
24	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	r	r	r	f	f	a	a	
25	b	f	f	f	f	r	b	5.0	b	b	b	b	b	b	b	b	a	a	a	a	a	a	a	a	
26	b	b	b	b	b	b	b	b	b	c	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	7.8	f	r	f	b	a	
28	a	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	7.5	7.6	f	e	e	e	e	
29	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	6.5	7.2	s	f	f	f	f	b	
30	f	f	a	a	f	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	
31	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	8.0	b	b	b	b	a	a	a	
Median	*	*	*	*	*	*	(4.7)	(5.0)	*	*	*	*	*	*	*	*	*	*	*	(5.5)	*	*	*	*	*
No.	0	0	1	1	2	1	5	6	2	0	1	0	1	0	0	1	3	3	5	1	0	0	0	0	

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HOURLY VALUES OF  $h'F_2$  OBSERVED DURING OCTOBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^\circ E$  Mean Time

Hour/Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	c	c	c	c	c	c	e	e	e	e	e	e	e	e	e	b	b	b	b	a	b	b	b	b	
2	b	b	b	b	f	f	b	b	320	b	b	b	b	b	b	b	b	b	280	a	a	f	b	b	
3	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	260	a	a	a	b	b	
4	b	280	280	a	b	b	b	b	b	b	b	320	b	b	b	b	b	b	250	250	f	b	b	a	
5	f	f	f	260	b	b	b	b	b	b	b	b	b	b	b	b	b	b	260	250	250	e240	250	260	
6	a	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	a	b	b	b	b	
7	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	250	270	b	a	b	b	
8	b	a	a	f	280	b	b	1	b	b	b	b	b	b	310	b	b	b	b	b	b	a	a	a	
9	b	f	f	b	e350	270	250	b	b	b	210	b	a	b	b	b	b	b	b	b	b	b	b	b	
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	f	310	b	270	b	b	b	b	b	
11	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	280	300	b	b	b	b	
12	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	250	250	b	b	b	
13	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	250	b	b	b	b	
14	b	b	b	b	b	b	b	250	280	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	
15	b	b	b	b	b	b	b	b	b	b	b	e	b	b	b	b	b	b	250	250	250	250	250	b	b
16	b	b	f	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	270	250	b	250	a	f	
17	b	b	b	b	b	250	b	b	b	e	b	b	b	b	b	b	b	b	250	250	240	b	f	f	
18	b	b	b	b	b	b	b	b	b	b	350	300	330	320	b	b	f	b	250	250	250	250	e250	e250	
19	270	f	f	e	f	240	b	b	b	b	b	b	b	b	b	b	b	b	280	270	250	b	b	b	
20	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	220	f	b	b	b	b	
21	b	b	b	b	b	b	1	b	b	b	b	b	b	b	b	b	b	b	240	b	b	a	b	b	
22	b	b	b	f	f	b	b	380	b	b	b	b	b	b	b	b	b	340	300	250	260	b	b	b	
23	b	b	b	b	b	b	1	b	b	b	b	b	b	b	b	b	b	300	260	250	b	b	b	b	
24	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	250	240	f	f	250	a	
25	b	f	f	f	270	240	b	310	b	b	b	b	b	b	b	b	b	a	a	a	a	a	a	a	
26	b	b	b	b	b	b	b	b	b	b	c	e	e	e	e	e	e	e	e	e	e	e	e	e	
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	270	f	300	f	b	a
28	a	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	290	270	270	e	e	e	e	
29	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	350	320	b	f	f	f	e280	b	
30	f	f	a	a	f	b	b	b	b	b	b	b	340	b	b	e	e	e	e	e	e	e	e	e	
31	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	320	b	b	b	b	a	a	a	
Median	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	(280)	250	250	(250)	*	*	*
No.	1	1	1	2	3	4	1	3	2	0	2	2	2	1	2	1	4	9	18	13	8	3	4	1	

41b

ITS Form 16

HOURLY VALUES OF  $f_{oF2}$  OBSERVED DURING OCTOBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s 157.5<sup>0E</sup> Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	e	e	e	e	a	a	a	a	e	e	e	e	e	e	b	b	b	b	a	b	b	b	b	
2	b	b	b	b	f	f	b	b	u	b	b	b	b	b	b	b	b	r	a	a	f	b	b	
3	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	a	a	a	b	b	
4	b	f	f	a	b	b	b	b	b	b	r	b	b	b	b	b	b	270	320	f	b	b	a	
5	f	f	f	b	b	b	280	b	b	b	b	b	b	b	b	b	b	b	b	f	f	f	f	
6	a	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	a	b	b	b	b	
7	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	340	f	b	a	b	b	
8	b	a	a	f	f	b	b	330	b	b	b	b	b	b	r	b	b	b	b	b	b	a	a	
9	b	f	f	b	f	f	270	300	b	b	b	b	a	b	b	b	b	b	b	b	b	b	b	
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	f	f	b	b	b	b	b	b	
11	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
12	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
13	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
14	b	b	b	b	b	b	b	290	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	
15	b	b	b	b	b	b	b	b	350	b	b	e	b	b	b	b	b	b	b	b	b	b	b	
16	b	b	f	b	b	b	b	310	b	b	b	b	b	b	b	b	b	310	r	b	r	b	a	f
17	b	b	b	b	300	270	b	b	b	e	e	b	b	b	b	b	b	b	r	r	r	b	f	f
18	b	b	b	b	b	b	280	b	b	b	u	r	u	r	b	b	f	b	r	r	r	r	r	r
19	f	f	f	e	f	f	b	b	b	b	b	b	b	b	b	b	b	r	r	b	b	b	b	
20	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	300	f	b	b	b	b	b
21	b	b	b	b	b	b	320	b	b	b	b	b	b	b	b	b	b	r	b	b	a	b	b	
22	b	b	b	f	f	b	u	b	b	b	b	b	b	b	b	u	b	r	r	b	b	b	b	
23	b	b	b	b	b	b	u	b	b	b	b	b	b	b	b	b	b	b	310	r	b	b	b	b
24	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	r	r	r	f	f	a	
25	b	f	f	f	f	r	b	u	b	b	b	b	b	b	b	b	a	a	a	a	a	a	a	
26	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	320	f	r	f	b	a	
28	a	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	320	310	f	e	e	e	e
29	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	u	340	b	f	f	f	f	b	
30	f	f	a	a	f	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	
31	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	320	b	b	b	b	a	a	
Median	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	(310)	*	*	*	*	*
No.	0	0	0	0	1	1	4	4	1	0	0	0	0	0	0	0	2	3	5	1	0	0	0	0

IPF Form 16

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HOURLY VALUES OF  $(M3000)F_2$  OBSERVED DURING OCTOBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s 157.5<sup>0E</sup> Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	e	e	e	e	a	a	a	a	e	e	e	e	e	e	e	b	b	b	b	a	b	b	b	b
2	b	b	b	b	f	f	b	b	3.1	b	b	b	b	b	b	b	b	r	a	a	f	b	b	
3	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	a	a	a	b	b	
4	b	f	f	a	b	b	b	b	b	b	r	b	b	b	b	b	b	3.1	3.0	f	b	b	a	
5	f	f	f	b	b	b	3.2	b	b	b	b	b	b	b	b	b	b	b	b	b	f	f	f	
6	a	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	f	a	b	b	b	b	
7	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	3.0	f	b	a	b	b	
8	b	a	a	f	f	b	b	3.0	b	b	b	b	b	b	r	b	b	b	b	b	b	a	a	
9	b	f	f	b	f	f	3.4	3.1	b	b	b	b	a	b	b	b	b	b	b	b	b	b	b	
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	f	f	b	b	b	b	b	b	
11	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
12	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
13	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
14	b	b	b	b	b	b	b	3.2	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	
15	b	b	b	b	b	b	b	b	3.0	b	b	e	b	b	b	b	b	b	b	b	b	b	b	
16	b	b	f	b	b	b	b	3.2	b	b	b	b	b	b	b	b	b	3.1	r	b	r	b	a	f
17	b	b	b	b	2.9	3.2	b	b	b	e	e	b	b	b	b	b	b	b	r	r	r	b	f	f
18	b	b	b	b	b	b	3.3	b	b	b	3.1	r	3.1	r	b	b	f	b	r	r	r	r	r	r
19	f	f	f	e	f	f	b	b	b	b	b	b	b	b	b	b	b	r	r	b	b	b	b	
20	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	3.1	f	b	b	b	b	b
21	b	b	b	b	b	b	3.1	b	b	b	b	b	b	b	b	b	b	r	b	b	a	b	b	
22	b	b	b	f	f	b	3.1	b	b	b	b	b	b	b	b	b	3.0	b	r	r	b	b	b	b
23	b	b	b	b	b	b	3.0	b	b	b	b	b	b	b	b	b	b	3.1	r	b	b	b	b	b
24	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	r	r	r	f	f	a	
25	b	f	f	f	f	r	b	3.2	b	b	b	b	b	b	b	b	a	a	a	a	a	a	a	a
26	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	3.1	f	r	f	b	a	
28	a	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	3.0	3.1	f	e	e	e	e
29	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	3.1	3.0	b	f	f	f	f	b
30	f	f	a	a	f	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e
31	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	2.8	b	b	b	b	a	a	a
Median	*	*	*	*	*	*	(3.2)	(3.2)	*	*	*	*	*	*	*	*	*	*	(3.1)	*	*	*	*	*
No.	0	0	0	0	1	1	5	6	2	0	1	0	1	0	0	1	3	3	5	1	0	0	0	0

IPF Form 16

42b

HOURLY VALUES OF  $f_oF_1$  OBSERVED DURING OCTOBER 1955 AT MAGQUARIE ISLAND

Sweep:  $1 \times 0 - 13 \times 0$  Mc/s in  $1 \text{ m } 55 \text{ s}$

$157 \times 5 \text{ }^\circ \text{E}$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						a	a	a	a	a	a	a	a	a	b	b	b	b						
2								b	4*1	b	b	b	b	b	b	b	b	b						
3						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
4						b	b	b	b	b	b	4*7	b	b	b	b	b	b	b	q				
5						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
6						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
7							b	b	b	b	b	b	b	b	b	b	b	b	b	q				
8						b	b	b	b	b	b	b	b	b	4*7	b	b	b	b	b				
9						q	q	b	b	b	4*7	b	a	4*7	b	b	b	b	b	b				
10						e	e	e	e	e	e	e	e	e	e	b	b	b	q					
11						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
12						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
13						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
14						b	b	q	b	b	b	b	b	b	b	e	e	e	e					
15						b	b	b	b	b	b	e	b	b	b	b	b	b	b					
16						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
17						q	b	b	b	b	e	e	b	b	b	b	b	b	b	q				
18						b	b	b	b	b	b	4*5	r	b	b	b	b	b	b	q				
19						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
20						b	b	b	b	b	b	b	b	b	b	b	b	b	b	f				
21						q	3*6	b	b	b	b	b	b	b	b	b	b	b	b	b				
22						b	b	4*1	b	b	b	e	b	b	b	b	4*0	b	q					
23						b	1	b	b	b	b	b	b	b	b	b	b	b	b	q				
24						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
25						q	b	4*2	b	b	b	4*7	b	4*6	b	4*5	b	a	a					
26						b	b	b	b	b	e	e	e	e	e	e	e	e	e					
27						e	e	e	e	e	e	e	e	e	e	e	e	e	e	b				
28						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
29						e	e	e	e	e	e	e	e	e	e	b	b	b	b	b				
30						b	b	b	b	b	b	b	5*0	b	b	e	e	e	e					
31						e	e	e	e	e	e	e	e	b	b	b	b	b	b					
Median						*	*	*	*	*	*	*	*	*	*	*	*	*	*	*				
No.						0	1	2	1	0	1	3	1	2	1	1	1	0	0					

43a

HOURLY VALUES OF  $h'F_1$  OBSERVED DURING OCTOBER 1955 AT MAGQUARIE ISLAND

Sweep:  $1 \times 0 - 13 \times 0$  Mc/s in  $1 \text{ m } 55 \text{ s}$

$157 \times 5 \text{ }^\circ \text{E}$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						e	e	e	e	e	e	e	e	e	e	b	b	b	b					
2								b	b	b	b	b	b	b	b	b	b	b						
3						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
4						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
5						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
6						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
7						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
8						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
9						q	q	b	b	b	220	b	a	b	b	b	b	b	b	b				
10						e	e	e	e	e	e	e	e	e	e	b	b	b	q					
11						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
12						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
13						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
14						b	b	q	b	b	b	b	b	b	b	e	e	e	e					
15						b	b	b	b	b	b	e	b	b	b	b	b	b	b					
16						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
17						q	b	b	b	e	e	b	b	b	b	b	b	b	b	q				
18						b	b	b	b	b	b	200	b	b	b	b	b	b	b	q				
19						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
20						b	b	b	b	b	b	b	b	b	b	b	b	b	b	f				
21						q	b	b	b	b	b	b	b	b	b	b	b	b	b					
22						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
23						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
24						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
25						q	b	170	b	b	b	b	b	b	b	b	b	a	a					
26						b	b	b	b	b	e	e	e	e	e	e	e	e	e					
27						e	e	e	e	e	e	e	e	e	e	e	e	e	e	b				
28						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
29						e	e	e	e	e	e	e	e	e	e	b	b	b	b	b				
30						b	b	b	b	b	b	b	b	b	b	e	e	e	e					
31						e	e	e	e	e	e	e	e	e	b	b	b	b	b	b				
Median						*	*	*	*	*	*	*	*	*	*	*	*	*	*	*				
No.						0	0	1	0	0	1	0	1	0	0	0	0	0	0					

43b

HOURLY VALUES OF  $f_oE$  OBSERVED DURING OCTOBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mo/s in 1m 55s

157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						e	e	e	e	e	e	e	e	e	e	b	b	b	b					
2						e	b	b	x	b	b	b	b	b	b	b	b	b	b	q				
3						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
4						b	b	b	b	b	b	x	b	b	b	b	b	2.1	q					
5						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
6						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
7						b	b	b	b	b	b	b	b	b	b	b	b	b	b	1.7				
8						b	b	b	b	b	b	b	b	b	b	b	b	b	2.0	b				
9						q	2.0	b	b	b	b	b	b	b	b	b	b	2.1	b					
10						e	e	e	e	e	e	e	e	e	e	b	b	2.1	1.9					
11						b	b	b	b	b	b	b	b	b	b	b	b	1.9	1.8					
12						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
13						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
14						b	b	2.0	b	b	b	b	b	b	b	e	e	e	e					
15						b	b	b	1.9	b	b	e	b	b	b	b	b	b	b					
16						b	2.0	b	b	b	b	b	b	b	b	b	b	b	b					
17						b	b	b	b	e	e	b	b	b	b	b	b	b	q					
18						b	2.0	b	b	b	b	b	b	b	b	b	b	2.1	1.8					
19						q	2.0	2.0	b	b	b	b	b	b	b	b	b	b	b	q				
20						b	b	b	b	b	b	b	b	b	b	b	b	2.0	f					
21						2.0	1.9	b	b	b	b	b	b	b	b	f	b	1.9	b					
22					1.7	2.0	b	b	b	b	b	e	b	b	b	b	b	1.9	s					
23						b	b	b	b	b	b	b	b	b	b	b	b	2.1	1.7					
24						b	b	b	b	b	b	b	b	b	b	b	b	b	b	1.9				
25						1.7	2.1	1.9	b	b	b	b	b	b	b	b	b	a	a					
26						b	b	b	b	b	e	e	e	e	e	e	e	e	e					
27						e	e	e	e	e	e	e	e	e	e	e	e	e	b					
28						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
29						e	e	e	e	e	e	e	e	e	e	b	b	b	b					
30						b	b	b	b	b	b	b	b	b	b	e	e	e	e					
31						e	e	e	e	e	e	e	e	b	b	b	b	b	b					
Median					*	*	2.0	*	*	*	*	*	*	*	*	*	*	2.0	1.8					
No.					1	3	6	3	1	0	0	0	0	0	0	0	0	10	6					

44a

HOURLY VALUES OF  $h'E$  OBSERVED DURING OCTOBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mo/s in 1m 55s

157.5% Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						e	e	e	e	e	e	e	e	e	e	b	b	b	b					
2						q	b	b	110	b	b	b	b	b	b	b	b	b	b	q				
3						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
4						b	b	b	b	b	b	120	b	b	b	b	b	b	b	q				
5						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
6						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
7						b	b	b	b	b	b	b	b	b	b	b	b	b	b	140				
8						b	b	110	b	b	b	b	b	b	110	b	b	b	120	b				
9						q	b	b	b	120	b	b	b	110	b	120	b	b	b					
10						e	e	e	e	e	e	e	e	e	e	110	120	130	130					
11						b	b	b	b	b	b	b	b	b	b	b	b	120	140					
12						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
13						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
14						b	b	130	b	b	b	b	b	b	b	e	e	e	e					
15						b	b	b	120	b	b	e	b	b	b	b	b	b	b					
16						b	130	b	b	b	b	b	b	b	b	b	b	b	b					
17						b	b	b	b	e	e	b	b	b	b	b	b	b	q					
18						b	140	b	b	b	b	b	b	b	b	b	b	120	b					
19						q	120	110	b	b	b	b	b	b	b	b	b	120	q					
20						b	b	110	b	b	b	b	b	b	b	b	b	b	110	f				
21						120	120	b	b	b	b	b	b	b	b	110	b	b	b					
22					e	120	b	b	b	b	b	e	b	b	b	b	b	120	s					
23						b	b	b	b	b	b	b	b	b	b	b	b	120	e					
24						b	b	110	b	b	b	b	b	b	b	b	b	b	1.50					
25						e	120	110	b	b	b	b	b	b	b	b	b	b	a	a				
26						b	b	b	b	b	e	e	e	e	e	e	e	e	e					
27						e	e	e	e	e	e	e	e	e	e	e	e	e	e	b				
28						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
29						e	e	e	e	e	e	e	e	e	e	b	b	b	b					
30						b	b	b	b	b	b	b	b	b	b	e	e	e	e					
31						e	e	e	e	e	e	e	e	b	b	b	b	b	b					
Median					*	*	120	110	*	*	*	*	*	*	*	*	*	120	140					
No.					1	3	5	6	2	1	0	1	0	1	1	3	1	8	5					

44b

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $f^oF_2$  OBSERVED DURING OCTOBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	2.2	b	b	b	b
2	b	b	b	b	e	e	b	b	b	b	b	b	b	b	b	b	b	b	2.0	5.0	5.2	e	b	b
3	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	e	3.6	2.2	2.2	b	b
4	b	e	e	3.8	b	b	b	b	b	b	b	b	b	b	b	b	b	b	e	e	2.2	b	b	2.2
5	2.2	2.2	2.2	e	b	b	b	b	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	b
6	5.2	5.0	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	2.2	4.6	b	b	b	b
7	2.2	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	g	e	b	2.2	b	b
8	b	2.2	2.2	2.2	e	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	4.2	3.6
9	b	2.2	f	b	e	e	2.1	2.1	b	b	b	b	5.0	b	b	b	b	b	b	b	b	b	b	b
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	g	b	b	b	b	b
11	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	g	b	b	b	b	b
12	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
13	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
14	b	b	b	b	b	b	b	g	2.2	2.2	b	b	b	b	b	e	e	e	e	e	e	e	e	e
15	b	b	b	b	b	b	b	b	2.2	b	b	e	b	b	b	b	b	b	b	b	b	b	b	b
16	b	b	b	b	b	b	2.2	b	b	b	b	b	b	b	b	b	b	b	2.0	b	e	b	4.4	2.2
17	b	b	b	b	e	e	b	b	b	e	e	b	b	b	b	b	b	b	e	e	e	e	e	e
18	b	b	b	b	b	b	g	b	b	b	b	b	b	b	b	b	b	g	g	e	e	e	e	e
19	e	e	e	e	e	e	g	b	b	b	b	b	b	b	b	b	b	g	e	e	b	b	b	b
20	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	g	f	b	b	b	b	b
21	b	b	b	b	b	b	2.2	b	b	b	b	b	b	b	b	b	b	b	b	b	b	2.2	b	b
22	b	b	b	e	g	b	b	b	b	b	b	e	b	b	b	b	b	b	2.1	e	b	b	b	b
23	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	2.1	2.1	b	b	b	b
24	b	b	b	b	b	b	b	2.2	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	2.2
25	b	e	e	e	e	g	b	2.2	b	b	b	b	b	b	b	b	b	6.0	5.4	5.0	5.2	6.0	5.3	2.2
26	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	2.2	2.2	b	2.2
28	2.2	5.2	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	e	e	e	e
29	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	b	b	2.2	e	e	e
30	2.2	2.2	5.5	5.0	2.2	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e
31	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	b	b	b	2.3	2.2	2.2
Median	2.2	2.2	2.2	**	**	**	2.1	*	*	*	*	*	*	*	*	*	*	*	**	**	2.2	2.2	**	2.2
No.	6	9	6	7	8	5	5	4	2	1	0	0	1	0	0	0	0	1	16	14	11	11	9	9

45a

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h^oF_2$  OBSERVED DURING OCTOBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	110	b	b	b	b	
2	b	b	b	b	e	e	b	b	b	b	b	b	b	b	b	b	b	b	160	120	120	e	b	b	
3	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	e	110	120	110	b	
4	b	e	e	120	b	b	b	b	b	b	b	b	b	b	b	b	b	b	e	e	e	140	b	b	
5	140	140	120	e	b	b	b	b	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	
6	100	100	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	110	110	b	b	b	b	
7	110	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	g	e	b	100	b	b	
8	b	110	110	110	e	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	120	120	
9	b	160	f	b	e	e	120	100	b	b	b	b	110	b	b	b	b	b	b	b	b	b	b	b	
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	g	b	b	b	b	b	
11	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	g	b	b	b	b	b	
12	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
13	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
14	b	b	b	b	b	b	b	g	120	120	b	b	b	b	b	e	e	e	e	e	e	e	e	e	
15	b	b	b	b	b	b	b	b	120	b	b	e	b	b	b	b	b	b	b	b	b	b	b	b	
16	b	b	b	b	b	b	120	b	b	b	b	b	b	b	b	b	b	b	150	b	e	b	(110)	120	
17	b	b	b	b	e	e	b	b	e	e	b	b	b	b	b	b	b	b	e	e	e	e	e	e	
18	b	b	b	b	b	b	g	b	b	b	b	b	b	b	b	b	b	g	g	e	e	e	e	e	
19	e	e	e	e	e	e	g	b	b	b	b	b	b	b	b	b	b	b	g	e	b	b	b	b	
20	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	g	f	b	b	b	b	b	
21	b	b	b	b	b	b	130	b	b	b	b	b	b	b	b	b	b	b	b	b	b	110	b	b	
22	b	b	b	e	g	b	b	b	b	b	b	e	b	b	b	b	b	b	140	e	b	b	b	b	
23	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	130	120	b	b	b	b	
24	b	b	b	b	b	b	b	120	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	110	
25	b	e	e	e	e	g	b	120	b	b	b	b	b	b	b	b	b	100	110	110	110	120	100	100	
26	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	130	110	b	110	
28	110	110	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	e	e	e	e	
29	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	b	b	130	e	e	e	
30	110	110	110	110	130	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	
31	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	b	b	b	b	b	120	130	120	
Median	110	110	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	135	110	125	110	*	110
No.	5	6	3	3	1	0	3	3	2	1	0	0	1	0	0	0	0	1	6	6	6	6	4	7	

45b

HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING NOVEMBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 12.0$  Mc/s in 1m 55s

$157.5^{\circ}E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	b	b	b	b	a	b	b	b	b	b	b	b	b	b	b	b	6.0	b	f	f	a	a	a	a
2	f	f	f	f	b	b	b	b	b	c	b	b	b	6.2	b	b	6.8	f	d8.0	7.5	6.0	f	a	b
3	a	b	b	a	b	b	5.0	b	5.7	b	6.4	b	b	6.5	b	b	6.4	6.4	6.3	6.1	6.0	f	f	a
4	f	f	f	f	4.1	4.7	5.2	b	b	e	b	b	b	b	7.8	b	b	a	f	a	a	a	a	a
5	f	f	f	f	f	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	a	b
6	a	a	f	e	e	e	e	e	e	b	e	b	b	b	b	b	b	b	b	b	b	a	f	b
7	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	b	f	c	f	f	f	f	f
8	f	f	f	f	f	b	e	e	e	c	e	e	e	e	e	c	e	e	e	e	e	e	e	e
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
11	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	f	b
12	b	b	b	b	b	e	5.2	5.8	e	e	e	e	6.3	6.4	6.4	6.5	e	e	e	e	e	e	e	e
13	e	e	e	a	a	b	b	e	e	e	e	e	6.0	6.1	6.2	6.5	6.8	b	f	f	f	f	e	e
14	e	e	e	e	e	e	e	e	r	7.0	n	7.2	s	7.7	e	7.5	7.2	s	d7.5	d7.5	d7.0	f	f	e
15	s	s	b	b	f	s	f	r	6.0	6.3	6.4	6.6	6.9	6.8	b	6.8	6.2	s	s	s	b	b	b	e
16	b	e	e	e	e	b	b	b	b	b	b	b	b	b	b	6.5	b	b	b	b	b	b	a	a
17	s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	6.8	f	s	s	s	s	s	s	s
18	s	a	a	s	s	s	5.1	5.2	5.4	5.9	s	e	6.6	7.0	(6.8)	7.2	f	b	s	s	b	b	a	a
19	b	a	a	a	b	b	b	e	e	b	b	e	e	e	5.9f	s	s	f	s	e	e	b	b	
20	a	b	e	a	b	b	e	e	e	e	e	e	e	e	b	r	a	b	a	s	b	b	a	a
21	b	e	b	b	b	b	b	b	b	b	b	b	e	b	b	5.8f	b	s	s	(4.7)	s	s	s	s
22	f	f	f	f	r	r	5.0	5.2	5.7	6.0	6.2	6.3	r	6.0	e	5.8	5.9	(6.2)	e	e	f	f	b	e
23	a	a	f	f	e	e	r	5.9	6.2	e	6.5	(6.7)	r	r	e	(6.5)	6.8	7.0	d7.5	d7.5	d7.5	s	s	s
24	s	(5.8)	s	s	s	s	s	n	f	(6.7)	6.7	7.0	7.0	7.1	7.0	7.0	7.2	s	d6.5	b	f	f	s	s
25	a	a	a	a	a	a	a	a	5.8	s	6.5	r	7.0	7.1	s	7.3	7.1	r	d7.0	d7.0	s	s	s	s
26	s	s	s	s	s	(4.8f)	(5.2f)	f	r	6.0	r	6.0	(6.1)	r	(6.3)	6.5	e	e	e	e	e	e	e	e
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
28	s	s	s	f	(4.8f)	s	(6.0)	s	s	(6.6f)	e	7.2	s	7.2	7.0	7.5	7.5	d7.0	d7.5	d7.5	d7.5	s	s	a
29	s	s	(5.0f)	b	r	r	r	5.9	6.2	b	e	e	e	e	6.8	7.5	d7.5	d7.0	d7.0	d7.5	f	s	s	s
30	f	s	s	(3.3f)	f	e	5.5	6.0	6.4	6.8	7.0	7.2	r	r	r	7.8	7.8	e	d8.0	d8.0	s	s	s	s
31																								
Median	*	*	*	*	*	*	(5.2)	(5.8)	(5.9)	(6.4)	(6.5)	(6.8)	(6.6)	6.5	(6.8)	6.6	6.8	(7.0)	d7.5	d7.5	d7.0	*	*	*
No.	0	1	1	1	2	2	8	6	8	8	7	8	7	13	7	16	15	5	9	9	6	1	0	0

HOURLY VALUES OF  $h'F_2$  OBSERVED DURING NOVEMBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^{\circ}E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	b	b	b	b	a	b	b	b	b	b	b	b	b	b	b	b	b	b	f	f	a	a	a	a
2	320	290	f	200	b	b	b	b	b	e	b	b	b	370	b	b	b	f	260	250	250	f	a	b
3	a	b	b	b	b	b	b	b	370	b	350	b	b	350	b	b	l	b	270	260	270	f	f	s
4	f	e280	e260	e250	250	250	220	b	b	e	b	b	b	b	360	b	b	a	f	a	a	a	a	a
5	f	f	f	f	f	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	a	b
6	a	a	f	270	270	e	e	e	e	380	e	b	b	b	b	b	b	b	b	b	250	e250	280	280
7	e300	e300	e300	e290	280	e	e	e	e	e	e	e	e	e	e	e	330	f	e	f	f	f	f	f
8	f	f	f	f	280	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
11	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	270	b	f	b
12	b	b	b	b	b	e	l	340	e	e	e	e	e	350	e	340	e	e	e	e	e	e	e	e
13	s	s	s	a	a	b	b	e	e	e	e	430	420	400	390	380	370	b	f	e	e	e	e	e
14	e	e	e	e	e	e	e	e	300	e	n	330	e	310	e	l	320	s	270	260	250	270	250	270
15	s	300	b	b	f	s	f	320	350	e	e	330	320	350	b	350	320	s	300	s	b	b	b	e
16	b	e	e	e	e	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	a	a
17	s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	360	f	s	s	s	s	s	e300
18	310	a	a	280	e	270	l	e	400	350	s	e	350	340	340	280	f	b	s	s	b	b	a	a
19	b	a	a	a	b	b	b	e	e	b	b	b	e	e	e	350	s	s	f	s	e	e	b	b
20	a	b	e	a	b	b	b	e	e	e	e	b	b	b	b	e	a	b	a	s	b	b	a	e
21	b	e	b	b	b	b	b	b	b	b	b	b	b	b	b	400	b	s	s	330	s	330	s	e340
22	e350	e320	300	e300	280	e	r	370	370	e	e	e	e	400	e	410	380	e	e	e	270	320	b	e
23	a	a	f	260	e	e	e	350	350	e	e	e	e	e	e	e	e	e	280	250	250	250	250	e250
24	e250	e280	s	s	s	s	s	360	n	350	e	e330	e320	e	340	340	l	300	320	s	b	f	f	s
25	s	s	s	s	a	a	s	a	a	s	350	e	e350	350	s	340	e330	e300	e300	300	e330	300	f	s
26	s	s	s	s	s	e	e	f	e	370	e	e	s	e	e	410	b	e	e	e	e	e	e	e
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	250	260	a	a
28	f	a	a	250	260	a	l	e	e	350	e	320	s	340	340	e	e	e	e	a	250	a	e	a
29	e	260	260	b	e	250	e	e	e	b	e	e	e	e	e	350	b	300	300	280	f	s	s	s
30	f	e280	270	270	e	e	e	350	l	370	330	330	340	350	350	340	370	e	250	250	s	280	300	300
31																								
Median	e310	e285	(270)	(270)	275	*	*	(350)	(350)	(370)	*	(330)	(350)	350	345	350	(330)	*	(275)	(260)	(250)	(275)	*	(290)
No.	5	8	5	9	6	3	2	5	7	5	4	6	5	12	6	11	9	3	8	9	9	8	4	6

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h_p f_2$  OBSERVED DURING NOVEMBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 12.0$  Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	b	b	b	b	a	b	b	b	b	b	b	b	b	b	b	b	360	b	f	f	a	a	a	a
2	f	f	f	f	b	b	b	b	b	o	b	b	b	u	b	b	310	f	d	340	340	f	a	b
3	a	b	b	b	b	b	b	u	b	u	b	b	u	b	b	360	350	350	330	350	f	f	a	
4	f	f	f	f	310	300	300	b	b	o	b	b	b	b	b	380	b	b	a	f	a	a	a	a
5	f	f	f	f	f	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	a	b
6	a	a	f	o	o	c	c	o	o	b	e	b	b	b	b	b	b	b	b	b	a	a	f	b
7	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	b	f	o	f	f	f	f
8	f	f	f	f	f	b	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
9	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
10	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
11	e	o	o	o	e	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
12	b	b	b	b	b	o	320	o	o	o	o	o	o	u	o	350	o	o	o	o	o	o	o	o
13	s	s	s	a	a	b	b	o	o	o	o	o	u	u	u	400	390	b	f	f	f	f	o	o
14	e	o	o	o	o	o	o	o	r	o	n	350	s	330	o	340	340	s	s	s	s	f	s	s
15	s	s	b	b	f	s	f	r	u	o	o	u	330	u	b	360	340	s	s	s	s	b	b	b
16	b	o	o	o	o	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	a	s
17	s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	370	f	s	s	s	s	s	s
18	s	a	a	a	s	s	u	o	u	360	s	o	u	u	u	300	f	b	s	s	b	b	a	a
19	b	a	a	a	b	b	b	o	o	b	b	b	e	o	o	u	s	s	f	s	o	o	b	b
20	a	b	o	a	b	b	b	o	o	o	o	b	b	b	r	a	b	b	a	s	b	s	o	o
21	b	o	b	b	b	b	b	b	b	b	b	b	b	b	b	u	b	s	s	(350)	s	s	s	s
22	s	s	f	s	r	r	u	u	u	u	o	o	r	u	o	u	400	o	o	c	f	f	b	o
23	a	a	f	f	o	o	r	u	u	o	o	e	r	r	o	e	360	350	s	s	s	s	s	s
24	s	350	s	s	s	s	n	f	o	350	350	e	350	350	350	330	s	s	b	f	f	s	s	s
25	a	a	a	a	a	a	s	a	a	s	u	r	u	360	s	360	350	r	s	s	f	s	s	s
26	s	s	s	s	(330)	o	f	o	u	o	o	s	e	o	u	b	o	o	o	o	o	o	o	o
27	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
28	s	s	s	f	f	s	s	s	s	u	o	330	s	350	350	360	350	s	s	o	f	f	a	a
29	s	s	(330)	b	r	r	r	330	o	b	o	o	o	o	400	380	r	s	330	s	f	s	s	s
30	f	s	s	(330)	f	o	330	u	u	u	350	350	r	r	r	350	390	o	o	o	s	s	s	s
31																								
Median	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	355	360	*	*	*	*	*	*
No.	0	1	1	1	1	2	3	1	0	1	2	4	1	4	4	10	13	2	2	3	2	0	0	0

47a

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $(M3000)f_2$  OBSERVED DURING NOVEMBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	b	b	b	b	a	b	b	b	b	b	b	b	b	b	b	b	2.9	b	f	f	a	a	a	a
2	f	f	f	f	b	b	b	b	b	o	b	b	b	2.9	b	b	2.9	f	d	3.0	2.9	f	a	b
3	a	b	b	b	b	b	b	2.9	b	2.9	b	b	b	2.9	b	b	2.8	2.9	2.9	3.0	2.9	f	f	s
4	f	f	f	f	3.1	3.2	3.2	b	b	o	b	b	b	b	2.7	b	b	a	f	a	a	a	a	a
5	f	f	f	f	f	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	a	b
6	a	a	f	o	o	c	o	o	o	b	e	b	b	b	b	b	b	b	b	b	b	s	s	f
7	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	b	f	o	f	f	f	f
8	f	f	f	f	f	b	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
9	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
10	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
11	e	o	o	o	o	o	o	e	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
12	b	b	b	b	b	o	3.1	3.0	o	o	o	o	o	2.9	o	3.0	o	o	o	o	o	o	o	o
13	s	s	s	a	a	b	b	o	o	o	o	o	2.7	2.8	2.8	2.7	2.7	b	f	f	f	f	o	o
14	o	o	o	o	o	o	o	r	o	n	3.0	s	3.2	o	3.1	3.1	s	s	s	s	f	s	s	
15	s	s	b	b	f	s	f	r	3.0	o	o	3.0	3.0	3.0	b	2.9	3.1	s	s	s	b	b	b	o
16	b	o	o	o	o	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	a	s
17	s	s	s	s	s	b	b	b	b	b	b	b	b	b	b	b	3.0	f	s	s	s	s	s	s
18	s	a	a	a	s	s	3.0	o	2.8	3.0	s	o	2.9	2.9	(3.0)	3.0	f	b	s	s	b	b	a	a
19	b	a	a	a	b	b	b	o	o	b	b	b	o	o	o	3.1	s	s	f	s	o	o	b	b
20	a	b	o	a	b	b	b	o	o	o	o	b	b	b	r	a	b	b	a	s	b	s	o	o
21	b	o	b	b	b	b	b	b	b	b	b	b	b	b	b	2.8	b	s	s	(2.9)	s	s	s	s
22	s	s	f	s	r	r	r	3.0	3.0	o	o	o	r	2.8	o	2.7	2.8	(2.9)	o	o	f	f	b	o
23	a	a	f	f	o	o	r	3.0	3.0	e	2.9	o	r	r	o	o	2.9	3.0	s	s	s	s	s	s
24	s	3.0	s	s	s	s	n	f	o	3.1	3.1	o	2.9	2.9	3.0	3.0	s	s	b	f	f	s	s	s
25	a	a	a	a	a	a	s	a	a	s	2.9	r	2.9	2.8	s	2.9	2.8	r	s	s	f	s	s	s
26	s	s	s	s	s	(3.0)	o	f	o	2.9	o	o	s	o	o	2.7	b	o	o	o	o	o	o	o
27	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
28	s	s	s	f	f	s	s	s	s	(2.8)	o	3.0	s	3.0	3.0	2.8	2.9	s	s	o	f	f	a	a
29	s	s	(3.0)	b	r	r	r	2.9	2.9	b	o	o	o	o	2.8	2.8	r	s	3.0	s	f	s	s	s
30	f	s	s	(3.0)	f	o	3.1	2.9	3.0	2.9	3.0	3.0	r	r	r	2.9	2.7	o	o	o	s	s	s	s
31																								
Median	*	*	*	*	*	*	*	(3.0)	(3.0)	*	(2.9)	(3.0)	*	2.9	(2.8)	2.9	2.9	*	*	*	*	*	*	*
No.	0	1	1	1	1	2	4	5	7	4	5	5	4	11	6	14	13	3	2	3	2	0	0	0

47b

HOURLY VALUES OF  $f_oF_1$  OBSERVED DURING NOVEMBER 1955 AT MAQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^\circ E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
2						b	b	b	b	e	b	b	b	4.8	b	b	b	b	b					
3						b	b	b	b	b	4.9	b	b	4.9	b	b	b	b	b	q				
4						q	q	b	b	e	b	b	4.9	b	4.7	b	b	a	q					
5						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
6						e	e	e	e	e	e	4.8	e	e	e	e	e	e	e					
7						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
8						b	e	e	e	e	e	e	e	e	e	e	e	e	e					
9						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
10						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
11						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
12						e	3.8	4.3	e	e	e	e	e	4.8	e	e	e	e	e					
13						e	e	e	e	e	e	e	e	e	e	e	e	e	b	b				
14						e	e	e	e	e	e	5.0	e	e	e	e	4.7	4.5	3.8	q				
15						(2.8)	e	4.3	e	e	e	e	e	e	b	4.7	e	e	e	e				
16						b	b	b	b	b	b	b	e	e	e	e	e	e	e	e				
17						b	b	b	b	b	b	e	e	e	e	a	e	e	e	e				
18							4.1	e	e	e	e	e	4.9	e	e	e	e	b	e	e				
19						b	b	e	e	b	b	b	e	e	e	b	4.0	e	e	e				
20						b	b	e	e	e	e	b	b	b	b	b	b	b	e	e				
21						b	b	b	b	b	b	b	e	e	e	e	a	b	b	a				
22						e	(4.0)	e	r	e	e	e	e	e	e	e	e	e	e	e				
23						e	e	e	e	e	e	e	e	e	e	e	e	e	e	l	q			
24						e	4.2	e	(4.7)	e	e	e	e	e	e	(5.0)	(4.5)	(4.3)	e	b				
25						a	e	a	a	a	e	e	e	e	e	e	e	e	e	q				
26						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
27						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
28						a	(4.0)	e	e	5.2	e	5.0	e	e	e	e	e	e	e	a				
29						e	e	e	e	b	e	e	e	e	e	4.9	b	4.5	l					
30						e	e	4.8	5.0	e	5.1	5.1	e	e	e	e	l	e	e	e				
31																								
Median						*	4.0	*	*	*	*	*	*	*	*	*	*	*	*	*				
No.						1	5	3	2	1	2	4	2	3	1	4	3	3	0	0				

48a

HOURLY VALUES OF  $h^*F_1$  OBSERVED DURING NOVEMBER 1955 AT MAQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

$157.5^\circ E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b				
2						b	b	b	b	e	b	b	b	b	b	b	b	b	b					
3						b	b	b	b	b	b	b	b	b	b	b	b	b	b	q				
4						q	q	b	b	e	b	b	b	b	b	b	b	a	q					
5						b	b	b	b	b	b	b	b	b	b	b	b	b	b					
6						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
7						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
8						b	e	e	e	e	e	e	e	e	e	e	e	e	e					
9						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
10						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
11						e	e	e	e	e	e	e	e	e	e	e	e	e	e					
12						e	230	e	e	e	e	e	e	e	e	e	e	e	e					
13						e	e	e	e	e	e	e	e	e	e	e	e	e	b	b				
14						e	e	e	e	e	e	e	e	e	e	e	230	230	e	q				
15						e	e	e	e	e	e	e	e	e	e	b	220	220	e	e	e			
16						b	b	b	b	b	b	b	e	e	e	e	e	e	e	e				
17						b	b	b	b	b	b	e	e	e	e	a	e	e	e	e				
18							e	e	e	e	e	e	e	e	e	e	e	e	b	e	e			
19						b	b	e	e	b	b	b	e	e	e	b	200	e	e	e				
20						b	b	e	e	e	e	b	b	b	b	e	a	b	b	a				
21						b	b	b	b	b	b	b	e	e	e	b	b	b	e	e				
22						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
23						e	e	e	e	e	e	e	e	e	e	e	e	e	e	l	q			
24						e	e	e	e	e	e	e	e	e	e	e	230	220	e	e	b			
25						a	e	a	a	a	e	e	e	e	e	e	e	e	e	q				
26						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
27						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e				
28						a	250	e	e	e	e	e	e	e	e	e	e	e	e	a				
29						e	e	e	e	b	e	e	e	e	e	e	b	e	l					
30						e	e	e	e	e	b	e	e	e	e	e	e	e	e	e				
31																								
Median						*	*	*	*	*	*	*	*	*	*	*	*	*	*	*				
No.						0	1	0	0	0	0	0	0	0	0	3	4	0	0	0				

48b

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $f_oE$  OBSERVED DURING NOVEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b					1.9
2						b	b	b	b	e	b	b	b	b	b	b	b	b	b	b					
3						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b					
4						1.9	2.0	2.0	2.0	e	b	b	b	b	b	b	b	b	b	b					
5						1.9	b	b	b	b	b	b	b	b	b	b	b	b	b	b					
6						2.0	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
7						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
8						b	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
9						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
10						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
11						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
12						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
13						e	1.9	e	e	e	e	e	e	e	e	e	e	e	e	e					
14						b	b	e	e	e	e	e	e	e	e	e	e	e	e	e					
15					1.9	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
16						2.1	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
17						b	b	b	b	b	b	b	e	e	b	e	b	b	b	b					
18						b	b	b	b	b	b	e	e	e	e	e	b	b	2.1	1.9					
19						2.1f	2.2	e	e	e	e	e	e	e	e	b	e	b	a	e					
20						b	b	e	e	e	b	b	b	e	e	e	e	e	e	e					
21						b	b	e	e	e	b	b	b	b	b	b	b	b	e	e					
22						2.2	e	e	e	e	e	e	e	e	e	e	e	e	e	e					1.8
23						1.9	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
24						1.9	2.0	e	e	e	e	e	e	e	e	e	e	e	2.0	1.9	1.9				
25						a	1.9	a	e	e	e	e	e	e	e	e	e	e	e	e					
26						e	e	e	e	e	e	e	e	e	e	e	2.2	e	e	e	(2.1f)	f			
27						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
28						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
29						f	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
30						r	2.0	e	e	b	e	e	e	e	e	e	b	e	e	e					
31					1.9	e	e	e	e	e	b	e	e	e	e	e	e	e	e	e					
Median					*	2.0	2.0	*	*	*	*	*	*	*	*	*	*	*	*	2.0	2.0	*	*		*
No.					3	8	5	1	1	0	0	0	0	0	0	1	0	1	5	5	3	1			1

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF  $h'E$  OBSERVED DURING NOVEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b					130
2						b	b	b	b	e	b	b	b	b	b	b	b	b	b	b					
3						b	b	b	b	b	b	b	b	b	b	b	b	b	b	b					
4						b	120	120	120	e	b	b	b	b	b	b	b	b	b	a	e				
5						130	120	110	b	b	b	b	b	b	b	b	120	120	130						
6						110	110	110	120	120	120	120	120	b	b	120	120	130	130	140					
7						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
8						b	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
9						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
10						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
11						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
12						120	110	110	e	e	e	110	110	110	110	110	120	120	130						
13						b	b	110	e	e	e	e	e	e	e	e	e	b	b						
14						b	120	120	110	110	110	110	110	110	110	120	120	120	b						
15						b	110	110	110	110	110	110	110	110	b	110	110	120	130	b					
16						b	b	b	b	b	b	b	110	110	b	120	b	b	b	b					
17						b	b	b	b	b	b	120	120	120	120	120	b	b	130	130					
18						e120	120	110	110	110	110	e	110	110	110	b	110	b	a	140					
19						b	b	100	110	110	b	b	e	110	e	120	120	130	130	140					
20						b	b	120	120	110	110	110	b	b	b	120	130	b	b	a					
21						b	b	b	b	b	b	b	e	b	b	b	120	130	b	b	a				
22						120	110	120	110	110	110	110	110	110	110	120	120	130	140	150					
23						120	110	110	110	110	110	110	110	110	110	110	120	120	140	e					
24						e110	110	110	110	110	110	110	110	110	110	110	120	130	140	e					
25						a	110	a	110	110	110	110	110	110	110	110	120	130	130	e140	f				
26						120	120	110	110	110	110	110	110	110	110	110	120	130	130	e140	f				
27						e	e	e	e	e	e	e	e	e	e	e	e	e	e	e					
28						100	120	110	110	110	110	110	110	110	110	110	110	120	120	140					
29						120	120	110	110	b	e	e	e	e	e	110	110	b	120	130	130				
30						e150	e	120	110	110	110	110	110	110	110	110	120	e	130	140					
31																									
Median					*	120	110	110	110	110	110	110	110	110	110	110	120	120	130	140	*	*		*	
No.					2	10	15	17	15	12	12	12	14	14	12	16	14	13	16	12	3	0			1

HOURLY VALUES OF  $f^oF_2$  OBSERVED DURING NOVEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mo/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	b	b	b	b	2.1	b	b	b	b	b	b	b	b	b	b	b	5.5	b	2.2	2.2	5.7	6.0	2.2	2.2	
2	e	e	e	2.0	b	b	b	b	b	e	b	b	b	b	b	b	b	b	2.2	1.8	e	e	e	e	
3	2.2	b	b	2.2	b	b	b	b	b	b	b	b	b	b	b	b	b	b	2.2	1.8	e	e	e	e	
4	e	e	e	e	e	g	g	2.2	2.2	e	b	b	b	b	b	b	b	7.6	5.7	5.5	5.7	5.7	5.2	5.1	
5	2.2	2.0	2.2	2.2	2.2	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	2.2	b	
6	2.2	2.2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	2.2	e	e	2.2	e	
7	2.2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
8	2.2	e	e	e	2.2	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	
11	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	2.0	b	e	e	b	
12	b	b	b	b	b	e	2.2	e	e	e	e	e	e	e	e	e	e	2.2	e	2.2	e	e	e	2.2	
13	2.3	2.0	2.2	2.2	2.2	b	b	e	e	e	e	e	e	e	e	e	e	b	b	2.2	2.2	2.2	2.2	2.2	
14	2.2	2.2	2.2	2.2	e	b	e	e	e	e	e	e	e	e	e	e	e	e	e	2.0	e	e	e	2.1	
15	2.2	e	b	b	e	g	e	e	e	e	e	e	e	e	e	e	e	e	e	4.0	b	b	b	2.2	
16	b	2.2	2.2	2.2	e	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	2.2	3.3	e	
17	e	e	e	e	e	b	b	b	b	b	b	e	e	e	e	e	3.2	e	e	2.2	2.0	2.0	2.0	2.0	
18	3.8	2.2	2.5	e	g	g	e	e	e	e	e	e	e	e	e	e	3.5	b	2.6	e	b	b	3.6	4.0	
19	b	2.5	2.4	2.4	b	b	b	e	e	e	b	b	e	e	e	e	g	e	e	e	2.2	2.2	b	b	
20	4.0	b	2.2	4.0	b	b	b	e	e	e	e	b	b	b	b	e	8.0	b	b	6.2	2.2	b	e	2.2	
21	b	2.2	b	b	b	b	b	b	b	b	b	e	b	b	b	b	3.7	e	e	2.2	2.2	2.2	2.2	2.2	
22	2.1	e	e	e	e	g	g	e	e	e	g	g	e	e	e	e	e	e	e	e	e	2.2	b	2.2	
23	3.3	6.0	2.2	e	2.2	3.5	e	e	e	e	e	e	e	e	e	e	e	e	e	2.2	1.8	e	2.2	e	
24	e	e	e	e	2.2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	e	2.2	2.2	
25	4.0	4.0	3.5	4.0	3.0	3.0	5.0	7.0	5.0	3.8	e	e	e	e	e	4.0	e	e	e	g	g	f	2.2	e	
26	e	2.2	2.2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	e	e	e	e	e	e	
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	2.1	8.0	6.0
28	2.2	2.4	3.0	2.2	2.2	4.0	e	3.5	3.6	e	e	e	e	e	e	e	e	e	4.0	2.2	e	4.0	2.2	6.0	
29	2.3	2.2	e	b	2.2	e	2.2	e	3.8	b	e	e	e	e	e	e	b	e	e	5.0	2.2	2.2	2.2	2.2	
30	2.2	e	e	(3.9f)	g	e	e	e	g	e	b	e	e	e	e	e	e	e	e	e	2.2	e	2.2	e	
31																									
Median	2.2	2.2	2.2	2.2	2.1	**	2.2	*	3.6	*	*	*	*	*	*	*	*	*	2.6	2.2	2.1	2.2	2.2	2.2	
No.	19	21	19	18	17	7	5	3	5	1	1	1	0	0	1	2	4	3	5	16	18	18	18	18	

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HOURLY VALUES OF  $h^oF_2$  OBSERVED DURING NOVEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mo/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	b	b	b	b	230	b	b	b	b	b	b	b	b	b	b	b	140	b	120	120	120	110	110	150
2	e	e	e	140	b	b	b	b	b	e	b	b	b	b	b	b	b	b	b	e	150	120	110	b
3	110	b	b	110	b	b	b	b	b	b	b	b	b	b	b	b	b	b	150	140	e	e	e	e
4	e	e	e	e	e	g	g	110	120	e	b	b	b	b	b	b	b	140	120	120	120	120	110	110
5	110	140	110	110	120	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	110	b
6	110	120	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	130	e	e	120	e
7	130	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	e	e	e	e	e	e
8	110	e	e	e	130	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
10	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
11	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	130	b	e	e	b
12	b	b	b	b	b	e	110	e	e	e	e	e	e	e	e	e	e	e	130	e	130	e	e	150
13	120	120	160	130	110	b	b	e	e	e	e	e	e	e	e	e	e	e	b	b	140	130	130	130
14	110	110	110	110	e	b	e	e	e	e	e	e	e	e	e	e	e	e	e	130	e	e	e	120
15	110	e	b	b	e	g	e	e	e	e	e	e	e	e	e	e	e	e	e	150	b	b	b	120
16	b	110	110	110	e	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	e	150	120	e
17	e	e	e	e	e	b	b	b	b	b	b	e	e	e	e	e	e	e	e	e	140	130	130	130
18	120	110	120	e	g	g	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	b	120	120
19	b	110	110	110	b	b	b	e	e	b	b	e	e	e	e	e	g	e	e	e	110	100	b	b
20	110	b	120	110	b	b	b	e	e	e	e	b	b	b	b	e	150	b	b	110	110	b	e	100
21	b	110	b	b	b	b	b	b	b	b	b	e	b	b	b	b	140	e	e	140	140	130	140	140
22	150	e	e	e	e	g	g	e	e	e	g	g	e	e	e	e	e	e	e	e	e	140	b	110
23	110	110	120	e	110	150	e	e	e	e	e	e	e	e	e	e	e	e	e	130	130	e	110	e
24	e	e	e	e	130	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	e	110	100
25	100	110	110	110	110	110	130	120	140	130	e	e	e	e	e	120	e	e	e	g	g	f	120	e
26	e	120	120	e	e	e	e	e	e	e	e	e	e	e	e	e	e	b	e	e	e	e	e	e
27	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	150	110
28	120	120	110	110	100	140	e	140	140	e	e	e	e	e	e	e	e	e	e	130	130	e	130	100
29	110	110	e	b	130	e	120	e	120	b	e	e	e	e	e	e	b	e	e	130	120	120	100	100
30	120	e	e	270	g	e	e	e	g	e	b	e	e	e	e	e	e	e	e	e	130	e	160	e
31																								
Median	110	110	110	110	120	*	*	*	*	*	*	*	*	*	*	*	*	*	130	130	130	130	110	120
No.	16	13	11	11	9	3	3	3	4	1	0	0	0	0	1	1	3	3	5	14	11	13	17	15

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HOURLY VALUES OF  $f_oF_2$  OBSERVED DURING DECEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	■	■	■	■	■	■	6.0	6.4	6.6	r	6.8	7.0	6.8	7.0	6.8	7.0	■	■	c	c	c	c	c	c
2	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
3	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
4	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
5	■	■	■	■	■	■	■	■	■	■	■	■	7.4	7.2	7.7	7.7	7.7	8.0	d8.0	d7.5	d7.5	■	■	■
6	c	f	5.0f	f	(5.2f)	b	f	(6.5)	r	7.2	b	7.5	f	7.6	7.9	d8.0	d8.0	c	c	c	c	c	c	c
7	c	c	c	f	c	c	c	c	c	c	c	c	c	c	6.4	b	b	■	■	d8.0	■	■	■	(5.7)
8	■	5.2	■	■	■	■	■	6.3	■	■	■	7.3	7.4	7.6	7.5	7.7	7.7	d8.0	8.1	7.6	■	■	■	■
9	5.8	■	b	■	b	■	■	■	■	■	■	■	7.1	c	7.1	c	6.9	■	■	c	c	c	c	c
10	■	■	b	b	■	■	■	■	6.5	■	■	■	■	■	■	■	7.1	■	■	7.6	(7.8)	■	■	■
11	c	c	c	c	c	c	c	b	b	b	b	b	b	b	c	7.3	7.4	b	c	c	■	■	■	■
12	■	■	b	b	c	c	c	c	c	c	b	b	b	7.1	6.9	6.9	7.2	7.3	7.4	7.7	■	b	f	■
13	■	■	f	■	■	■	■	■	■	■	■	7.2	7.4	7.3	7.6	7.6	7.3	7.4	7.6	7.6	7.7	■	■	■
14	■	■	■	■	■	(6.2)	■	■	7.0	7.6	7.7	7.8	7.6	7.8	7.5	7.5	7.6	7.6	7.8	8.0	■	■	d7.6	■
15	■	■	(6.2)	■	■	■	■	7.5	(7.4f)	7.5	7.8	7.8	7.7	7.7	7.5	7.5	7.9	8.0	7.8	d8.0	■	■	■	■
16	■	■	■	■	5.1	■	b	■	7.2f	■	7.5	7.6	7.7	7.9	8.0	7.8	7.8	d8.0	■	f	■	c	c	c
17	c	c	c	c	c	c	c	c	c	c	7.3	c	c	c	c	c	c	c	c	c	c	c	c	c
18	c	c	c	c	c	c	c	c	c	c	6.5	c	6.5	6.7	■	6.8	6.7	6.8	6.9	7.2	■	c	c	c
19	c	c	c	c	c	c	c	c	c	c	7.0	7.1	7.5	b	7.7	7.1	7.5	(7.5)	■	■	■	■	■	■
20	■	■	b	b	■	■	b	b	(7.2)	■	c	b	b	6.4	c	7.1	7.3	6.0f	f	(5.1f)	■	■	■	■
21	■	■	■	■	■	(5.4)	b	b	b	6.1	b	b	b	7.0	b	6.8	(7.0f)	6.8	(6.0f)	(5.5f)	f	■	■	■
22	■	■	■	■	■	(6.2f)	(5.2f)	f	6.0	c	6.6	b	b	e	(6.6)	c	c	c	c	c	c	c	c	■
23	■	5.0	■	5.1	(5.2)	■	5.4	6.0	6.6	(6.4)	f	b	■	7.1	b	7.0	6.8	c	c	c	c	c	c	c
24	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	6.3	6.5	6.7	■	■	■	■	■	■
25	c	c	c	c	c	c	c	c	c	c	7.0	7.0	7.5	7.8	7.6	(7.2)	c	f	■	■	■	■	■	■
26	c	c	c	c	c	c	c	c	c	c	c	c	c	5.6	c	6.0	c	f	f	(6.3)	c	c	c	c
27	c	c	c	c	c	5.0f	5.0f	5.0f	b	b	c	6.1	(6.3)	c	c	c	f	5.1f	f	f	c	c	c	c
28	■	■	■	■	■	■	5.0	5.2	5.8	c	6.0	c	c	c	6.4	6.4	(6.2)	■	■	■	■	■	■	■
29	■	■	■	■	■	5.1f	■	(6.1f)	(6.9)	c	7.0	c	7.0	7.0	c	7.0	7.0	7.0	7.3	■	■	■	■	■
30	■	5.3	■	■	5.3	■	■	■	c	c	7.3	7.5	7.2	b	b	b	b	7.1	■	■	(7.7)	■	■	■
31	■	■	■	■	■	■	■	■	7.0	7.3	7.4	7.3	7.2	7.4	7.5	7.4	7.5	f	f	■	■	■	■	■
Median	*	*	*	*	*	(5.4)	(5.2)	(6.2)	6.9	(7.2)	7.0	7.3	7.3	7.3	7.3	7.2	7.4	7.4	7.6	7.7	*	*	*	*
No.	1	3	2	1	4	5	5	8	11	8	11	13	14	17	16	20	21	14	12	10	4	0	1	1

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HOURLY VALUES OF  $h'F_2$  OBSERVED DURING DECEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	■	■	■	260	■	1	1	320	330	320	350	350	370	350	390	400	330	320	c	c	c	c	c	c	
2	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
3	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
4	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	
5	c	c	c	c	c	c	c	c	c	c	c	c	370	360	350	340	320	c	c	c	250	e250	e250	250	
6	c	280	260	f	c	b	f	c	c	320	b	380	f	370	350	350	b	c	c	c	c	c	c	c	
7	c	c	c	(300f)	c	c	c	c	c	c	c	c	c	c	e	b	b	b	c	c	240	f	300	310	
8	■	■	■	■	■	■	■	■	■	■	■	■	350	c	e	380	e	c	c	c	c	c	280	■	■
9	■	■	■	■	■	■	■	■	■	■	■	■	380	c	330	e	c	c	c	c	c	c	c	c	c
10	c	c	b	b	■	■	■	■	■	■	■	■	■	■	■	330	c	c	c	c	c	c	c	280	c
11	c	c	c	c	c	c	c	b	b	b	b	b	b	b	e	380	c	b	c	c	270	■	■	■	
12	■	■	b	b	c	c	c	c	c	c	b	b	b	b	360	360	370	c	c	c	300	290	b	c	c
13	c	f	f	■	■	■	c	c	c	c	c	340	360	400	350	e	340	300	e300	e280	e290	■	■	■	
14	270	260	260	e270	250	f	f	300	e250	330	340	350	330	340	e350	340	330	e300	c	c	250	250	250	c	
15	260	260	260	250	250	■	c	320	c	320	340	340	320	350	360	370	340	320	290	e280	■	■	280	■	
16	c	c	270	b	250	■	b	300	350	■	310	350	350	350	340	e	330	c	c	c	c	c	c	c	
17	c	c	c	c	c	c	c	c	c	c	c	360	c	c	e	c	c	c	c	c	c	c	c	c	
18	c	c	c	c	c	c	c	c	c	c	c	c	390	440	■	360	350	c	c	c	250	c	c	c	
19	c	c	c	c	c	c	c	c	c	c	c	330	c	370	b	320	300	310	300	■	■	■	■	■	
20	■	f	b	b	■	■	b	b	c	c	b	b	b	b	380	e	380	360	e	f	c	■	■	■	
21	■	■	■	■	■	■	c	b	b	b	c	b	b	b	360	320	c	c	c	c	f	■	■	■	
22	■	■	■	■	■	c	c	f	c	c	430	b	b	e	370	c	c	c	c	c	c	c	■	■	
23	■	■	■	c	c	■	c	360	300	330	f	b	■	c	b	c	c	c	c	c	c	c	c	c	
24	■	■	260	■	c	■	■	■	■	■	c	c	c	c	c	c	310	340	■	300	■	■	■	■	
25	c	c	c	c	c	c	c	c	c	c	350	360	360	360	330	350	c	f	c	c	c	c	c	c	
26	c	c	c	c	c	c	c	c	c	c	c	c	c	c	400	c	350	e	f	f	250	c	c	c	
27	c	c	c	c	c	c	c	c	b	b	e	360	350	c	c	c	■	■	f	f	c	c	c	c	
28	■	■	■	■	■	■	c	c	340	c	400	e	c	c	450	420	400	390	330	■	■	■	■	■	
29	■	■	■	■	■	c	■	f	320	c	330	c	370	370	e	350	350	340	300	■	■	■	■	■	
30	270	280	■	■	250	■	c	c	c	330	340	340	b	b	b	b	340	■	■	330	■	■	■	■	
31	■	■	■	■	■	■	■	■	■	310	340	300	320	350	350	360	320	350	f	f	■	■	■	■	
Median	*	*	(260)	*	*	*	*	(320)	(320)	(330)	(340)	350	360	360	360	350	340	325	(300)	(300)	(250)	*	(280)	*	
No.	3	4	5	4	4	0	0	5	7	8	9	13	12	15	16	16	15	10	5	5	8	3	5	2	

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Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF hPP2 OBSERVED DURING DECEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	s	s	s	s	s	s	330	330	340	r	u	u	u	u	u	410	s	s	s	s	s	s	s	s
2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
3	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	s	s	s	s	s	s	s
4	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
5	e	e	e	e	e	e	e	e	e	e	e	e	u	u	360	360	340	s	s	s	s	s	s	s
6	e	f	e	f	f	b	f	(330)	r	u	b	390	f	380	370	d	d	e	e	e	e	e	e	e
7	e	e	e	f	e	e	e	e	e	e	e	e	e	e	b	b	s	s	e	e	e	e	e	400
8	a	400	a	a	e	e	e	e	e	e	e	360	e	e	390	370	370	e	350	370	s	s	s	s
9	420	s	b	a	b	e	e	e	b	b	e	e	u	e	u	e	330	s	s	e	e	e	e	e
10	e	e	b	b	a	e	e	e	e	e	e	e	e	e	e	340	e	e	350	s	e	e	s	e
11	e	e	e	e	e	e	e	b	b	b	b	b	b	b	e	400	360	b	e	e	s	s	s	s
12	s	s	b	b	e	e	e	e	e	e	b	b	b	u	u	u	u	350	350	350	s	b	f	f
13	f	f	f	s	s	e	e	e	e	e	e	e	360	370	u	360	370	360	330	350	330	350	s	s
14	s	s	s	s	s	f	f	f	330	340	350	360	340	350	370	350	350	350	340	330	s	s	s	s
15	s	s	s	f	s	s	s	350	340	350	350	350	340	360	370	380	370	350	340	e	s	s	s	s
16	s	s	s	s	320	s	b	s	u	s	s	330	360	370	370	360	360	e	s	f	s	e	e	e
17	e	e	e	e	e	e	e	e	e	e	e	370	e	e	e	e	e	e	e	e	e	e	e	e
18	e	e	e	e	e	e	e	e	e	e	e	e	u	u	s	370	360	350	340	340	s	e	e	e
19	e	e	e	e	e	e	e	e	e	e	e	340	e	380	b	330	320	350	340	a	s	s	s	s
20	s	f	b	b	s	s	b	b	s	e	e	b	b	b	u	e	390	380	360	f	f	s	s	s
21	s	s	s	s	s	e	b	b	b	e	b	b	b	u	b	370	330	350	350	350	f	s	s	s
22	s	s	s	s	s	f	e	f	e	e	u	b	b	e	u	e	e	e	e	e	e	e	s	s
23	s	s	s	e	e	s	e	u	u	u	f	b	s	370	b	380	360	e	e	e	e	e	e	e
24	s	s	s	s	s	s	s	s	s	e	e	e	e	e	e	e	320	350	s	s	a	a	e	e
25	e	e	e	e	e	e	e	e	e	360	u	370	370	350	370	e	e	f	e	e	e	e	e	e
26	e	e	e	e	e	e	e	e	e	e	e	e	e	u	e	e	u	e	f	f	(270)	e	e	e
27	e	e	e	e	e	e	e	e	b	b	e	u	u	e	e	e	f	e	f	f	e	e	e	e
28	s	s	s	s	s	s	e	u	e	u	e	e	e	u	u	u	s	s	s	s	s	s	s	s
29	s	s	s	s	s	e	f	330	e	350	e	380	u	e	360	360	350	350	s	s	s	s	s	s
30	s	s	s	s	s	e	e	e	350	350	350	b	b	b	b	350	s	s	(350)	s	s	s	s	s
31	s	s	s	s	s	s	s	320	350	310	330	u	360	370	330	370	f	f	s	s	s	s	s	s
Median	*	*	*	*	*	*	*	*	(330)	(350)	(350)	360	(365)	(365)	(370)	370	360	350	350	(350)	*	*	*	*
No.	1	1	0	0	1	0	1	3	5	5	5	11	6	8	9	15	17	10	11	7	2	0	0	1

52a

Commonwealth of Australia. Ionospheric Prediction Service of the Commonwealth Observatory.

HOURLY VALUES OF (M3000)F2 OBSERVED DURING DECEMBER 1955 AT MACQUARIE ISLAND

Sweep: 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	s	s	s	s	s	s	3.1	3.0	2.9	r	2.9	2.9	2.8	3.0	2.8	2.7	s	s	e	e	e	e	e	e
2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
3	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	s	s	s	s	s	s	s
4	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
5	e	e	e	e	e	e	e	e	e	e	e	e	e	2.8	2.8	2.8	2.9	2.9	s	s	s	s	s	s
6	e	f	e	f	f	b	f	(3.0)	r	3.1	b	2.7	f	2.7	2.7	d	d	e	e	e	e	e	e	e
7	e	e	e	f	e	e	e	e	e	e	e	e	e	e	e	2.8	b	b	s	e	e	e	e	(2.8)
8	a	2.8	a	a	e	e	e	e	e	e	e	2.9	e	e	2.8	2.8	2.8	e	2.9	2.8	s	s	s	s
9	2.7	s	b	a	b	e	e	e	b	b	e	e	2.8	e	3.0	e	3.0	s	s	e	e	e	e	e
10	e	e	b	b	a	e	e	e	2.8	e	e	e	e	e	e	2.9	e	e	2.8	s	e	e	s	e
11	e	e	e	e	e	e	e	b	b	b	b	b	b	b	e	2.7	2.8	b	e	e	s	s	s	s
12	s	s	b	b	e	e	e	e	e	e	b	b	b	2.9	2.9	2.8	2.8	3.0	2.9	2.8	s	b	f	f
13	s	s	f	s	s	s	e	e	e	e	e	2.9	2.8	2.7	3.0	2.8	2.8	3.1	2.9	3.0	2.9	s	s	s
14	s	s	s	s	s	f	s	s	2.9	3.1	2.9	2.9	3.0	2.9	2.8	2.8	2.9	3.0	2.9	e	s	s	s	s
15	s	s	s	s	s	s	s	3.0	(2.9f)	3.0	3.0	2.9	3.0	2.9	2.8	2.8	2.8	2.9	2.9	e	s	s	s	s
16	s	s	s	s	3.1	s	b	s	3.0	s	s	3.0	2.9	2.8	2.7	2.8	2.8	e	s	f	s	e	e	e
17	e	e	e	e	e	e	e	e	e	e	e	2.8	e	e	e	e	e	e	e	e	e	e	e	e
18	e	e	e	e	e	e	e	e	e	e	2.8	e	2.8	2.7	s	2.9	2.9	2.9	2.8	2.9	s	e	e	e
19	e	e	e	e	e	e	e	e	e	e	3.0	e	2.8	b	2.9	3.0	2.9	(3.0)	s	s	s	s	s	s
20	s	s	b	b	s	s	b	b	s	e	e	b	b	b	2.8	e	2.8	2.8	2.8	f	f	s	s	s
21	s	s	s	s	s	(3.0)	b	b	b	e	b	b	b	2.9	b	2.8	(3.0f)	2.9	(3.0f)	(2.9f)	f	s	s	s
22	s	s	s	s	s	f	(2.9f)	f	e	e	2.6	b	b	e	3.0	e	e	e	e	e	e	e	s	s
23	s	s	s	e	s	s	2.9	3.0	3.1	(3.1)	f	b	s	2.8	b	2.7	2.8	e	e	e	e	e	e	e
24	s	s	s	s	s	s	s	s	e	e	e	e	e	e	e	e	e	e	s	s	a	a	e	e
25	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	f	e	e	e	e	e	e
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	f	f	e	e	e	e
27	e	e	e	e	e	e	e	e	b	b	e	e	e	e	e	e	f	e	f	f	e	e	e	e
28	s	s	s	s	s	s	e	e	e	e	e	e	e	e	e	e	e	s	s	s	s	s	s	s
29	s	s	s	s	s	e	f	e	e	e	e	e	e	e	e	e	e	e	e	s	s	s	s	s
30	s	s	s	s	s	e	e	e	e	e	e	e	b	b	b	b	e	s	s	e	s	s	s	s
31	s	s	s	s	s	s	s	e	e	e	e	e	e	e	e	e	e	f	f	s	s	s	s	s
Median	*	*	*	*	*	*	*	*	(2.9)	*	(2.9)	(2.9)	(2.8)	2.8	2.8	2.8	2.8	(2.9)	2.9	(2.9)	*	*	*	*
No.	1	1	0	0	1	1	3	4	6	4	5	9	8	12	13	14	14	8	10	5	1	0	0	1

52b

HOURLY VALUES OF  $f_oF_1$  OBSERVED DURING DECEMBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1					1	1	1	4.6	4.7	4.9	c	4.9	5.1	5.0	c	4.9	b	b	c	c				
2					c	e	e	c	c	c	c	c	c	c	c	c	e	e	c	c				
3					c	e	e	c	c	c	c	c	c	c	c	c	e	e	e	e				
4					c	e	e	c	c	c	c	c	c	c	c	c	e	e	e	e				
5					c	e	c	c	c	c	c	c	c	c	c	c	e	e	e	e				
6					c	b	b	c	c	b	c	e	b	b	b	b	b	b	e	e	c			
7					c	c	c	c	c	c	c	c	c	c	c	c	e	e	c	c				
8					c	e	e	c	c	c	c	c	c	c	c	c	e	e	c	c				
9					c	e	c	c	b	b	c	c	c	c	c	c	c	c	c	c	c	q		
10					c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
11					c	c	b	b	b	b	b	b	b	b	b	e	e	b	e	e	c	e	e	e
12					c	c	c	c	c	e	b	b	b	b	b	b	b	b	c	c	b	b	b	b
13					e	e	c	c	c	e	e	b	c	b	b	e	c	e	c	e	e			
14					c	c	c	c	c	c	c	c	c	c	c	c	1	e	e	e				
15					q	c	c	5.0	c	c	c	c	c	c	c	c	c	c	c	c				
16					c	c	b	c	c	e	c	c	c	c	c	c	c	c	c	c	e			
17					c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	e		
18					c	c	c	c	c	c	c	c	c	c	c	c	5.0	4.8	e	c				
19					c	c	c	c	c	c	c	c	c	c	b	c	c	c	c	c				
20									c	c	c	b	b	b	e	c	c	c	c					
21					c	b	b	b	c	b	b	b	c	b	c	c	c	c	c					
22					c	e	e	e	c	c	5.0	b	b	e	c	c	c	c	c					
23					c	c	4.9	c	4.8	c	b	e	e	b	c	c	c	c	c					
24					1	e	e	e	c	c	c	c	c	c	c	c	c	c	c					
25									c	5.0	5.0	5.1	5.0	5.0	5.0	5.0	c	c	c					
26					c	c	c	c	c	c	c	c	c	4.0	c	c	4.7	c	c	q				
27								c	b	b	b	5.0	5.0	c	c	c	a	c	c					
28					e	e	c	4.5	c	5.0	5.2	c	c	5.0	5.0	4.7	1	c	e					
29					c	e	c	4.9	5.0	5.1	c	5.3	5.5	c	1	1	1	q						
30					e	e	c	c	5.0	5.1	5.3	b	b	b	b	e	e	e						
31					e	e	e	1	5.1	5.2	5.3	5.5	5.5	5.2	5.0	4.8	1	c	e	e	e	e	e	e
Median					*	*	*	*	*	5.0	5.0	5.2	5.1	5.0	*	5.0	4.8	*	*	*	*	*	*	*
No.					0	0	0	3	3	6	6	6	5	5	3	5	5	0	0	0	0	0	0	0

53a

HOURLY VALUES OF  $h'F_1$  OBSERVED DURING DECEMBER 1955 AT MACQUARIE ISLAND

Sweep:  $1.0 - 13.0$  Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1					1	1	1	230	230	c	c	c	c	c	c	e	b	b	e	c				
2					c	e	e	c	c	c	c	c	c	c	c	c	c	c	c	c				
3					c	e	e	c	c	c	c	c	c	c	c	c	e	e	e	e				
4					c	e	c	c	c	c	c	c	c	c	c	c	c	c	c	c				
5					c	c	c	c	c	c	c	c	c	c	c	c	c	e	b	b	c			
6					c	b	b	c	c	b	b	c	b	b	b	b	b	b	e	c	c			
7					c	c	e	c	c	c	c	c	c	c	e	b	b	b	c	c				
8					c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	q			
9					c	c	c	b	b	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
10					c	e	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
11					c	c	b	b	b	b	b	b	b	b	b	e	e	b	e	e	c	e	e	e
12					c	e	c	c	c	e	b	b	b	b	b	b	b	b	e	e	b	b	b	b
13					e	e	c	c	c	e	b	c	b	b	c	c	e	e	e	e				
14					c	c	c	c	c	c	c	c	c	c	c	c	1	c	c	c				
15					q	c	c	c	c	c	c	c	c	c	c	c	c	c	c					
16					c	c	b	c	c	e	c	c	c	c	c	c	c	c	c	c	e			
17					c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	e		
18					c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c				
19					c	c	c	c	c	c	c	c	c	c	e	b	c	c	c	c				
20									c	c	c	b	b	b	c	c	c	c	c					
21					c	b	b	b	c	b	b	b	c	b	c	c	c	c	c					
22					c	e	c	c	c	e	b	b	c	c	c	c	c	c	c					
23					c	c	e	c	c	e	b	e	c	b	c	c	c	c	c					
24					1	e	e	e	c	c	c	c	c	c	c	c	c	c	c					
25									c	c	c	c	c	c	c	c	c	c	c					
26					c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	q			
27								c	b	b	b	c	c	c	c	c	a	c	c					
28					e	e	c	c	c	c	c	c	c	c	c	c	c	c	c					
29					c	e	c	c	c	c	c	c	c	c	c	1	1	1	q					
30					e	e	c	c	c	c	c	b	b	b	b	e	e	e	e					
31					e	e	e	1	c	c	c	c	e	e	c	c	1	c	e	e	e	e	e	e
Median					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
No.					0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

53b

HOURLY VALUES OF  $f_oE$  OBSERVED DURING DECEMBER 1955 AT MACQUARIE ISLAND

Sweep :  $1.0 - 13.0$  Mc/s in 1m 55s

$-157.5^{\circ}E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1					1.9	2.2	2.0	c	c	c	c	c	c	c	c	c	b	b	a	a				
2					c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c			
3					c	c	c	c	c	c	c	c	c	c	c	c	c	s	s	s				
4					c	c	c	a	a	a	a	a	a	a	a	a	a	a	a	a				
5					c	c	a	a	a	a	a	a	a	b	a	a	c	b	b	r				
6					1.9f	b	b	a	e	b	e	b	e	b	b	a	b	a	a					
7					1.9	c	c	c	c	c	c	c	c	b	b	b	b	b	a	2.0	(1.7f)			
8					c	c	D2.2	D2.2	D2.0	b	c	c	D2.2	c	b	a	D2.2	2.0	a	1.9				
9					2.0	2.0	D2.2	b	b	a	e	D2.2	c	c	c	c	c	c	c					
10					c	c	D2.0	c	c	a	a	a	a	a	a	a	a	a	a					
11					c	c	b	b	b	b	b	b	b	b	b	D2.2	a	b	c	1.9f	s	s	s	s
12					c	a	a	c	a	b	b	b	b	b	b	b	b	b	c	b	b	b	b	b
13					s	c	a	c	a	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b
14					1.9	b	a	b	b	b	b	b	b	b	b	a	e	c	e	b	2.0	1.9		
15					2.0	c	a	a	a	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b
16					b	c	b	b	b	s	b	b	b	b	b	b	a	a	a	a	a	s		
17					c	a	a	c	e	a	c	e	a	a	a	a	c	e	e	e	e	c		
18					c	c	c	c	c	c	c	c	e	b	b	s	b	b	b	b	b			
19					c	e	c	c	e	a	a	c	c	c	a	b	a	a	c	c	2.0	a		
20					1.9	a	b	b	a	a	a	b	b	b	a	a	c	b	2.0	b	b	s	s	s
21					2.2	W	b	b	c	b	b	b	b	a	b	a	a	b	a	2.2	1.9			
22					2.0	c	c	c	a	a	b	b	a	c	c	c	c	c	c	c	c	c	c	c
23					1.8	1.9	a	a	c	c	c	b	s	a	b	a	a	a	a	a	a	a	a	a
24					2.0	a	s	s	s	c	a	c	a	c	a	c	a	a	a	s	a	2.0	a	a
25											c	c	c	c	c	c	c	c	c	c	c	c	c	c
26					a	a	a	c	c	c	c	c	a	a	a	a	a	a	a	1.9	1.8	1.8	c	c
27					1.9	D2.2	a	b	b	b	b	b	b	a	a	a	a	a	a	a	c	c	c	c
28					s	s	a	c	c	c	c	b	c	c	c	b	a	a	a	2.0	s	s	s	s
29					a	s	c	c	c	c	c	c	b	b	c	b	b	c	2.0	s	s	s	s	s
30					1.9	s	c	c	c	c	b	b	b	b	b	b	a	s	s	2.0	s	s	s	s
31					s	s	s	s	c	c	b	b	b	c	c	c	c	a	a	2.1	s	s	s	s
Median				*	1.9	2.0	*	*	*	*	*	*	*	*	*	*	*	*	2.0	2.0	1.9	*	*	*
No.				1	9	5	3	3	1	1	0	0	1	1	0	1	0	1	5	7	7	0	0	0

54a

HOURLY VALUES OF  $h'E$  OBSERVED DURING DECEMBER 1955 AT MACQUARIE ISLAND

Sweep :  $1.0 - 13.0$  Mc/s in 1m 55s

$-157.5^{\circ}E$  Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1					r	120	120	110	110	110	110	110	110	110	110	110	b	b	c	e				
2					c	c	c	c	c	c	a	c	c	c	a	a	c	a	a	e				
3					c	c	c	e	c	a	a	c	c	c	c	c	c	s	s	s				
4					c	c	c	c	c	a	a	e	a	a	a	a	c	c	c	e				
5					c	c	c	c	c	c	c	c	110	b	110	110	120	b	b	130				
6					140	b	b	120	110	b	b	110	b	b	b	b	b	a	a					
7					130	c	c	c	c	a	a	a	a	a	b	b	b	b	b	130	b	b		
8					100	110	120	110	110	b	110	c	110	120	b	110	110	130	a	b				
9					100	110	110	b	b	110	a	110	e	a	a	a	110	120	e					
10					c	c	110	110	c	a	a	a	a	a	a	110	a	a	b	b				
11					c	c	b	b	b	b	b	b	b	b	b	110	110	b	a	a	b	s	s	s
12					c	e	c	c	e	b	b	b	b	b	b	b	b	b	120	b	b	b	b	b
13					s	a	c	c	c	a	b	b	b	b	b	b	b	b	b	b	s			
14					E140	b	120	b	b	b	b	b	b	b	110	110	120	130	b	130	e			
15					140	120	120	110	110	c	b	b	b	b	b	b	b	b	b	b	s			
16					b	110	b	b	b	s	b	b	b	b	b	b	110	120	120	e	s			
17					c	c	c	c	c	c	c	c	c	c	c	a	a	e	e	e				
18					c	c	c	c	c	c	110	a	b	b	s	b	b	b	b	b				
19					a	c	c	c	c	c	c	a	110	c	b	c	a	120	130	120	a			
20					120	b	b	b	110	e	e	b	b	b	110	a	e	b	120	b	b	s	s	s
21					130	b	b	b	110	b	b	b	110	b	110	110	b	120	120	130				
22					120	110	110	110	c	110	b	b	a	110	c	c	c	c	c	e	c	c	c	c
23					120	120	110	110	110	110	110	b	s	110	b	c	120	c	c	c	c	c	c	c
24					b	120	s	s	s	a	c	c	c	c	a	120	110	110	s	110	120	c	c	c
25										110	c	c	c	c	a	c	c	c	c	c	c	c	c	c
26					c	c	c	c	c	c	c	c	c	c	110	c	c	110	c	120	130	e	c	c
27					120	110	a	b	b	b	b	b	b	b	a	c	120	120	130	130	a	c	c	c
28					s	s	110	110	110	c	110	b	c	c	110	b	110	110	130	s	s	s	s	s
29					110	s	110	110	110	110	c	b	b	c	b	b	110	110	110	s	s	s	s	s
30					140	s	c	c	c	110	b	b	b	b	b	b	110	s	s	130	s	s	s	s
31					s	s	s	s	110	110	b	b	b	110	110	110	110	120	120	130	s	s	s	s
Median				*	140	120	110	110	110	110	110	*	*	110	110	110	110	115	120	130	*	*	*	*
No.				1	7	11	9	10	11	8	7	3	4	6	8	8	13	10	13	9	2	0	0	0

54b

HOURLY VALUES OF  $f^oF_2$  OBSERVED DURING DECEMBER 1955 AT MACQUARIE ISLAND

Sweep : 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	s	s	2.2	e	g	g	2.2	g	g	e	e	e	e	e	e	e	b	e	e	e	e	e	e	e
2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
3	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
4	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
5	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
6	e	e	e	e	e	b	b	e	e	b	b	e	b	b	b	b	b	e	e	e	e	e	e	e
7	e	e	e	e	2.2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
8	d2.2	d2.2	5.5	d2.2	e	e	e	e	e	e	e	b	e	e	e	b	e	e	e	e	g	e	d2.2	4.5
9	d2.2	d2.2	b	d2.2	b	e	e	e	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e
10	e	e	b	b	d2.2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
11	e	e	e	e	e	e	e	b	b	b	b	b	b	b	b	b	b	e	e	e	e	e	e	e
12	s	s	b	b	e	e	e	e	e	e	b	b	b	b	b	b	b	b	e	e	e	e	e	e
13	e	e	e	s	s	s	e	e	e	e	e	b	b	b	b	b	b	b	b	b	b	b	b	e
14	d2.2	e	d2.2	b	e	b	b	b	b	b	b	b	b	b	e	e	e	e	5.2	d2.2	e	e	e	5.0
15	s	e	e	2.2	g	e	e	e	e	e	b	b	b	b	b	b	b	b	b	b	b	b	b	5.5
16	e	e	e	e	b	e	b	b	b	s	b	b	b	b	b	b	e	e	e	e	e	e	e	e
17	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
18	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
19	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	1.9	e	e
20	d2.2	d2.2	b	b	d2.2	e	b	b	e	e	e	b	b	b	e	e	e	b	d2.2	d2.2	d2.2	s	s	s
21	s	s	s	s	s	e	b	b	b	e	b	b	b	e	b	e	e	e	e	e	e	e	d2.2	s
22	s	s	s	s	s	e	e	e	e	e	e	b	b	e	e	e	e	e	e	e	e	e	e	d2.2
23	s	d2.2	d2.2	e	e	e	e	e	e	e	e	b	s	e	e	e	e	e	e	e	e	e	e	e
24	s	s	e	s	e	s	e	s	s	e	e	e	e	e	e	e	6.0	6.0	s	e	e	6.0	7.0	e
25	e	e	e	e	e	e	e	e	e	5.5	e	e	e	e	e	e	e	e	e	e	e	e	e	e
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	d2.2	d2.2	d2.2	e	e	e
27	e	e	e	e	e	d2.2	e	e	b	b	b	b	b	e	e	7.0	5.0	5.0	5.0	e	e	e	e	e
28	s	s	s	s	s	e	e	e	e	e	e	b	e	e	e	b	e	e	d2.2	s	s	s	s	s
29	5.0	s	s	s	s	e	s	e	e	e	e	e	b	b	e	e	5.5	s	s	s	s	s	s	s
30	e	e	s	s	g	s	e	e	e	e	e	b	b	b	b	e	5.5	d2.2	s	s	s	s	s	s
31	s	s	s	s	s	s	s	s	e	e	b	b	b	e	e	e	e	e	e	5.0	s	s	s	s
Median	d2.2	2.2	**	**	**	*	*	*	*	*	*	*	*	*	*	*	*	*	3.6	2.2	1.9	**	2.2	2.2
No.	7	10	9	7	7	2	1	1	1	1	0	0	0	0	0	0	2	2	6	8	7	6	6	5

HOURLY VALUES OF  $h'F_2$  OBSERVED DURING DECEMBER 1955 AT MACQUARIE ISLAND

Sweep : 1.0 - 13.0 Mc/s in 1m 55s

157.5°E Mean Time

Hour Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	s	s	120	e	g	g	120	g	g	e	e	e	e	e	e	e	b	e	e	e	e	e	e	e
2	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
3	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
4	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
5	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
6	e	e	e	e	e	b	b	e	e	b	b	e	b	b	b	b	b	e	e	e	e	e	e	e
7	e	e	e	e	130	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
8	110	110	110	110	e	e	e	e	e	e	b	e	e	e	e	e	e	e	e	e	g	e	120	120
9	110	110	b	100	b	e	e	e	b	b	e	e	e	e	e	e	e	e	e	e	e	e	e	e
10	e	e	b	b	110	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
11	e	e	e	e	e	e	e	b	b	b	b	b	b	b	b	e	e	b	e	e	e	e	s	s
12	s	s	b	b	e	e	e	e	e	e	e	b	b	b	b	b	b	b	e	e	e	e	e	e
13	e	e	e	s	s	s	e	e	e	e	e	b	b	b	b	b	b	b	e	e	e	e	e	e
14	140	e	130	b	e	b	b	b	b	b	b	b	b	b	e	e	e	e	130	e	e	e	e	120
15	s	e	e	140	g	130	e	e	e	e	b	b	b	b	b	b	b	b	b	b	s	s	120	s
16	e	e	e	e	b	e	b	b	b	s	b	b	b	b	b	b	e	e	e	e	e	e	e	e
17	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
18	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	130	e	e
19	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	s	120
20	120	150	b	b	120	e	b	b	e	e	e	b	b	b	e	e	e	b	e	150	130	s	s	s
21	s	s	s	s	s	e	b	b	b	e	b	b	b	e	b	e	e	e	e	e	e	120	s	s
22	s	s	s	s	s	e	e	e	e	e	e	b	b	e	e	e	e	e	e	e	e	e	e	130
23	s	120	120	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
24	s	s	e	s	e	s	e	s	s	e	e	e	e	e	e	e	130	130	s	e	130	130	e	e
25	e	e	e	e	e	e	e	e	e	130	e	e	e	e	e	e	e	e	e	e	e	e	e	e
26	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	120	120	130	e	e	e
27	e	e	e	e	e	120	e	e	b	b	b	b	b	e	e	130	140	140	140	e	e	e	e	e
28	s	s	s	s	s	s	e	e	e	e	e	e	e	e	e	e	e	e	120	s	s	s	s	s
29	100	s	s	s	s	e	s	e	e	e	e	e	b	b	e	b	e	e	120	s	s	s	s	s
30	e	e	s	s	g	s	e	e	e	e	e	b	b	b	b	b	e	s	s	140	s	s	s	s
31	s	s	s	s	s	s	s	s	e	e	b	b	b	e	e	e	e	e	140	s	s	s	s	s
Median	110	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	120	140	*	*	*	*
No.	5	4	4	3	3	2	1	0	0	1	0	0	0	0	0	0	2	2	5	6	4	2	3	3