IV. SOLAR RADIO NOISE DATA

The publication of solar radio-noise data in the "Quarterly Bulletin of Solar Activity" was commenced in January, 1947. The information submitted was tabulated almost without alteration, and it was left to the Conferences of the I.A.U. and U.R.S.I. in 1948 to devise methods of tabulation suitable for the uniform and progressive presentation of results. Both of the Unions have formed Commissions on radio-astronomy, and tentative arrangements for continuing the solar radio-noise publication have been made between the former Bulletin editor, Dr. L. d'Azambuja, and the Presidents of the respective Commissions, Dr. R.v.d.R. Woolley and Dr. D.F. Martyn. From the commencement of 1949 the Commonwealth Observatory, Canberra, in collaboration with the Radiophysics Laboratory, Sydney, is to assemble the data for the bulletin. Correspondence may be addressed to Dr. C.W. Allen, Editor "Solar Radio-Noise", Commonwealth Observatory, Mount Stromlo, Canberra, Australia.

CO-OPERATING OBSERVATORIES

Details relating to the contributors to the first quarter of 1949 are as follows:

OBSERVING STATION	ABBREVIATION	FREQUENCIES USED Mc/s	NORMAL OBSERVING PERIOD (Hours U.T.)
Commonwealth Observatory, Canberra, Australia	Can	200	00 - 06
Cavendish Laboratory, Cambridge, England	Cav'	45	10 - 14
		80	
		175	
		500	
Radiophysics Laboratory, Sydney, Australia	Syd	60 or 62	20 - 08
		85 or 97	20 - 08
		3000	irregular
Meudon Observatory, Paris, France	Meu	550	08 - 16

Tabulation is made in two parts.

a) Regular Daily Values. Later a more comprehensive tabulation of hourly or 3-hourly values may be possible but there is not sufficient continuity to justify such elaboration at present.

b) Lists of Outstanding Occurences. This is at present restricted to the more spectacular occurences, but should eventually include all important phenomena that are not adequately catered for in the regular values of the tabulations (a).

REGULAR TABULATIONS

As far as possible median values are used; i.e. the tabulated value is exceeded for half the period of the observation. The observations from Sydney usually extend through U.T. 0^h, and hence there are observing periods at the beginning and end of the Greenwich day. When the observations differ appreciably both are tabulated and separated by a small space (the beginning of the Greenwich day on the left).

1. FLUX

The unit for this tabulation is 10^{-22} watts metre^{-2}(c/s)$^{-1}$. The values can readely be converted into an equivalent temperature T of the sun's visible disc by the relation

$$\text{Flux} = 2.09 \times 10^{-44} \nu^2 T,$$

where ν is the frequency in cycles per second. There ist at present a very considerable discrepancy between the absolute values of the steady flux as measured by various observatories. When these are understood it may be necessary to publish correction constants for past data.

2. POLARISATION

The radio-electric (not optical) convention is adopted so that for R polarisation the vector in a fixed plane perpendicular to the ray rotates clockwise when viewed in the direction of propagation. The values quoted are percentage polarisation, i.e.

$$100 \frac{I_R - I_L}{I_R + I_L}$$

where I_R and I_L are the R and L power densities. The sense is denoted by R and L, not by + and -.

3. VARIABILITY

At many wave lengths solar noise activity is characterised by rapid intensity variations. It is not possible at this stage to adopt an objective measurement of this variation which would suit all wavelengths, and hence the variability is described by indices on a scale 0 to 3 as follows:

0	no observable variability
1	slight variability
2	moderate variability
3	violent variability

4. OUTSTANDING OCCURRENCES

The important occurrences are mainly transient increases of intensity, but the list also contains other occurrences (such as sudden polarisation changes) which the observer thinks to be important. The following terminology is used to describe the types of occurrences.

(i) S Simple rise and rall of intensity
C Complex variation of intensity

(ii) A Appears to be part of the general activity
D Distinct from (i.e. apparently superimposed upon) the general activity
P Sudden or significant change of polarisation

Two maximum intensity columns are given. The first gives the maximum instantaneous value. This will frequently come from a sharp burst and will give no indication of the intensity of the occurence as a whole. We therefore give also the maximum smoothed intensity which gives a better representation of the intensity for comparative purposes. The unit of intensity for these columns is 10^{-21} watts metre^{-2}(c/s)$^{-1}$.

If an occurrence is observed almost simultaneously on two frequencies, only one is tabulated in detail, and the other is briefly indicated by the station, frequency and starting time. The frequency chosen for complete tabulation is that which appears to be the most significant; i.e. having the greatest intensity, or in some cases, the fullest information.

1. Flux

Daily medians of radio-noise flux received from the sun in units of 10^{-22} Watts metre^{-2} (c/s)$^{-1}$

	January 1949						February 1949								March 1949							
	Canberra	Cavendish		Sydney			Canberra	Cavendish				Sydney			Canberra	Cavendish			Sydney			
Mc/s	200	80	175	60	85/97	3000	200	45	80	175	500	62	97	3000	200	80	175	500	62/60	97	3000	
Date																						
1	12	-	1.8	G	G	-	15	-	10.3	7.8	23	-	23 G	-	19	-	8.9	25	G	G	132	
2	15	-	1.0	G	G	109	27	9.1	850	28	23	-	G 130	151	8	1.0	4.3	25	G	G	-	
3	9	-	1.0	G	G	-	120	7.5	3800	109	33	-	250 G	-	11	-	2.6	-	G	G	-	
4	12	-	1.2	G	G	115	130	6.3	79	-	44	-	40 400	-	11	-	2.6	24	G	G	119	
5	11	-	1.8	G	G	126	370	1.7	21	45	26	-	380 G	-	-	-	2.0	23	G	G	-	
6	13	-	1.3	G	G	-	15	3.2	30	54	22	-	70 G	-	-	-	2.0	18	G	G	-	
7	15	-	5.6	G	G	-	21	0.8	3.6	2.6	23	-	G	166	8	-	2.0	18	G	G	-	
8	14	-	1.8	G	G	-	13	-	2.3	2.5	23	-	G	153	-	1.2	2.1	22	G	G	-	
9	11	-	1.6	G	G	-	13	-	2.7	4.0	22	-	11	149	10	-	2.0	23	G	G	-	
10	10	2.1	-	G	G	-	30	0.5	2.1	9.2	22	-	14 G	160	-	-	2.6	21	G	G	-	
11	11	-	1.2	G	G	123	11	-	2.5	3.6	22	-	G	150	-	-	3.6	19	G	G	-	
12	12	1.4	1.1	G	-	128	11	0.5	1.7	4.9	26	-	G	-	-	-	4.3	19	G	G	-	
13	11	1.2	1.7	G	-	125	11	0.4	1.6	2.6	22	-	G	-	14	1.2	4.0	20	G	G	-	
14	12	0.4	1.6	G	G	-	12	1.0	3.1	3.3	29	-	G	-	11	-	2.6	21	G	G	-	
15	15	2.6	2.7	-	G	-	18	0.4	3.1	2.6	22	G	10 G	177	15	-	3.5	20	G	G	-	
16	17	1.9	7.0	-	G	-	11	20	515	51	31	G	G	-	29	1.7	3.5	20	G	G	153	
17	17	1.4	8.2	G	G	150	47	29	240	56	30	40 G	43	-	9	1.2	4.2	19	G	G	-	
18	51	-	-	G		174	24	3.0	99	24	25	10	10 350	173	19	1.7	6.3	20	G	G 16	-	
19	77	1.4	4.3	G	G	-	130	0.4	3.8	13.5	25	12 G	70 G	-	39	1.8	11.1	48	-	G 48	-	
20	58	3.4	3.9	-	6	-	32	0.4	2.1	5.0	24	G	G	-	51	-	18.7	20	G	12 G	-	
21	64	5.5	48	-	G 465	183	11	2.0	-	6.9	22	G	G	-	23	1.1	5.3	18	G	G	-	
22	92	16.4	36	-	18 G	-	31	0.5	2.7	4.3	23	G	G 5	151	14	-	3.0	14	G	G	-	
23	260	75	77	-	12 210	-	33	-	4.4	16	29	8 G	G 40	-	17	1.3	4.3	16	G	G	-	
24	20	5.3	2.4	-	18 G	-	87	-	1.2	4.0	24	20 G	90 G	-	20	3.5	5.5	15	-	G	-	
25	13	3.1	2.3	-	G	162	20	-	-	7.5	22	G	G 18	138	22	-	3.0	19	G	G	126	
26	9	2.7	1.8	-	G	-	56	-	7.5	16	22	-	G	-	9	-	2.1	19	G	G	-	
27	11	1.9	1.8	-	G	138	27	-	-	6.9	24	G	10 G	-	11	-	2.1	16	G	G	-	
28	11	1.5	1.8	-	G	130	13	-	3.1	10.5	22	G	G	-	11	-	3.4	17	G	G	-	
29	12	-	17.1	-	G	-									9	-	1.8	18	G	G	-	
30	12	-	2.7	-	G	120									11	0.8	1.5	21	G	G	-	
31	25	22	34	-	G	-									7	-	0.8	19	G	G	-	

G ≡ median level below 4×10^{-22} w m^{-2} (c/s)$^{-1}$ and not observable.

2. Polarisation

Daily medians or means of polarisation sense and percentage

	January 1949			February 1949							March 1949						
	Canberra	Cavendish		Canberra	Cavendish				Sydney		Canberra	Cavendish				Sydney	
Mc/s	200	80	175	200	45	80	175	500	97	3000	200	45	80	175	500	97	3000
Date																	
1	-	-	-	-	-	0	L20	-	-	-	R30	-	0	R 20	0	-	R1½
2	-	0	0	-	L100	L100	L100	0	-	-	R10	-	R20	0	R20	-	-
3	-	-	0	L	L50	L50	L100	L50	-	-	-	R50	-	0	-	-	-
4	-	-	0	L	L100	L50	-	L50	-	-	-	-	-	0	-	-	-
5	-	0	0	L	-	-	L100	L20	-	-	-	0	-	0	0	-	-
6	-	0	0	-	L100	0	L50	0	-	-	-	-	-	0	0	-	-
7	-	0	L50	L	-	L100	-	0	-	R1	-	0	-	0	0	-	-
8	-	0	0	L	-	0	0	0	-	-	-	-	-	0	L10	-	-
9	-	-	-	-	-	0	L20	-	-	-	-	-	-	0	0	-	-
10	-	0	0	L	-	0	L50	0	-	-	-	-	-	R20	0	-	-
11	-	0	0	-	-	0	0	-	-	-	-	-	-	0	-	L15	-
12	L	0	0	-	-	0	R100	0	-	-	-	-	-	L20	-	-	-
13	-	0	0	R	-	0	0	0	-	-	-	0	R50	0	0	-	-
14	R	0	0	L	-	-	L50	R20	-	-	R25	-	-	0	-	-	-
15	-	R20	0	L	-	L20	L20	0	-	R2	R25	-	-	0	-	-	-
16	-	0	0	L	-	R100	R100	R50	-	-	R40	-	R50	R50	0	-	0
17	-	0	0	R	R100	R100	R100	R50	L40	-	R30	0	0	L20	0	-	-
18	R	-	-	R	L50	0	0	-	L50	R½	L30	-	L20	L50	0	R50	
19	R	L20	0	L	0	0	0	0	R50 0	/	-	-	R20	L50	R35	V L75	
20	R	0	R20	-	-	0	L20	-	-	-	R60	R20	-	L50	L10	L75	-
21	R	0	R20	L	R20	-	0	0	-	-	L35	-	R50	0	0	-	-
22	0	0	L20	L	0	0	L20	0	0 L50	R½	L17	-	-	0	0	-	-
23	0	L50	L20	L	-	L50	L50	L50	L40	-	L20	-	0	L20	0	-	-
24	R	0	0	L	-	L50	L50	0	R60	-	L12	-	-	0	0	-	-
25	-	0	0	L	-	0	0	-	0 R30	-	0	-	-	0	0	-	R1
26	-	0	0	R	-	R20	R50	0	-	-	-	-	-	0	0	-	-
27	-	0	0	L	-	-	0	-	R30 0	-	-	-	-	0	0	-	-
28	-	L20	0	R	-	0	R20	-	-	-	R30	-	-	0	0	-	-
29	-	0	0								-	-	-	0	0	-	-
30	-	-	-								-	-	0	0	0	-	-
31	-	L100	L100								-	-	-	-	0	-	-

V ≡ too variable to quote a median value

3. Variability

Daily indices on a scale 0-3 of the variability or activity of the solar noise

	January 1949					February 1949								March 1949							
	Can-berra	Cavendish		Sydney		Can-berra	Cavendish				Sydney		Meu-don	Can-berra	Cavendish				Sydney		Meudon
Mc/s	200	80	175	60	85/97	200	45	80	175	500	62	97	550	200	45	80	175	500	62/60	97	550
Date																					
1	0	-	0	0 1	0 1	1	1	1	1	1	-	1 0	-	1	-	-	2	0	1	1	-
2	1	-	0	1	1	2	1	1	1	0	-	0 1	-	0	-	-	1	0	1	1	0
3	0	-	0	1	1	1	1	1	1	-	-	1	-	1	0	-	0	0	1	1	-
4	0	-	0	1 0	1 0	2	1	1	1	1	-	1	-	1	-	-	0	0	1 0	1 0	-
5	0	0	0	1 0	1 0	2	2	-	1	0	-	1	0	-	1	-	0	0	1	1	-
6	0	0	0	1	1	1	1	1	1	0	-	1	-	-	0	-	0	0	1 0	1	-
7	1	-	1	1 0	1 0	1	1	1	0	0	-	1	0	1	0	-	0	0	0	1	-
8	0	-	0	0 1	0 1	0	-	1	0	0	-	1 0	-	-	0	-	0	0	1	1	-
9	0	-	-	1	1	1	-	1	1	0	-	1	-	1	0	-	0	0	1	1	-
10	0	-	0	1 0	0	1	1	0	2	1	-	1 0	0	-	0	-	0	0	1	1	-
11	0	-	0	0 1	0	1	-	1	0	0	-	1 0	1	-	1	-	1	0	1	1	0
12	0	-	0	0 1	-	1	-	0	1	0	-	0 1	0	-	0	-	1	0	1	1 0	0
13	0	1	0	1	-	0	1	0	1	0	-	1 0	-	1	0	1	1	0	1	1	-
14	0	0	0	1	-	0	1	1	1	1	-	1	-	1	0	-	1	0	1	1	-
15	1	0	0	-	1	1	1	1	1	0	0 1	1	-	1	-	-	1	0	1	1	-
16	0	1	1	-	1 0	0	1	1	1	2	1	1	2	1	0	1	1	0	1	1	0
17	1	0	1	1	0	1	-	1	1	2	1	2 1	0	1	-	1	1	0	1	1	0
18	2	1	1	1		1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	0
19	2	0	1	0 1	1	1	0	1	1	0	1	1	-	1	1	2	1	1	-	1 2	1
20	2	1	1	1	1	1	-	1	1	0	1	1	-	2	1	-	2	0	1	1	0
21	3	1	2		1	0	-	-	1	0	1	1	-	1	-	1	1	0	1	1	0
22	1	1	2		1	1	0	1	1	0	1	1	-	1	-	-	0	-	1 0	1	-
23	2	1	1		1	1	-	1	1	0	1	1	-	1	-	0	1	-	0	1	0
24	0	1	0		1	2	0	0	1	0	2 1	2 0	-	1	-	1	1	-	-	1	0
25	0	0	0		1 0	1	1	-	1	0	1	1	0	1	-	-	0	-	1	1	0
26	0	1	0		1 0	2	-	1	2	0	-	1	0	0	-	-	0	-	1	1	0
27	1	0	0		0	1	0	-	1	0	1	1	-	1	-	-	0	-	1	1 0	-
28	1	0	0		1 0	1	-	2	2	-	1	1	-	1	-	-	0	-	1	1	-
29	0	-	2		0 1									0	-	-	0	-	1 0	1 0	-
30	1	-	1		1									0	-	0	0	-	1 0	1 0	-
31	2	1	2		1									0	-	-	0	-	0	0	-

4. Outstanding occurrences

Station and frequency Mc/s	Date	Starting time U.T.	Duration Minutes	Type	Maximum intensity Inst. 10^{-21} w $m^{-2}(c/s)^{-1}$	Maximum intensity Smooth 10^{-21} w $m^{-2}(c/s)^{-1}$	Polarisation	Obs. on other frequencies	Remarks
Syd 60	Jan 1	2354	2.1	CD	200	130	-	Syd 85 2354	
Syd 60	3	0212	0.3	CD	>90	90	-	Syd 85 0210	Preceded by smaller bursts
Syd 85	3	2305	0.6	SD	660		-	Syd 60 2305	
Can 200	5	0508	1.0	SD	34	11	-	Syd 60 0510	
								Syd 3000 0509	
Syd 60	6	2341	1.3	CD	>90	72	-		Preceded by smaller bursts
Syd 60	7	0009	0.2	SD	81		-	Syd 85 0008	
Syd 60	8	2349	1.0	CD	100	100	-		
Syd 60	13	2347	46	CD	14	4	-		
Can 200	15	0209	0.3	SD	14	8	-	Syd 85 0211	
Syd 85	15	0422	5.6	CD	140	110	-		Fade 0430
Syd 85	15	0439	10	CD	44	27	-		Fade 0430
Syd 85	15	2211	15	CD	100	50	-		Fade 2150-2220
Syd 85	16	0253	1.8	CD	47	28	-		Fade 0250-0330
Syd 85	16	0508	1.0	CD	100	100	-		Fade 0510-0550
Syd 60	17	0534	1.4	CD	60	43	-	Can 200 0532	
Can 200	18	0015	3	CD	168	69	-		Fade 0020-0050
Can 200	18	0116	0.5	SD	95		-	Syd 60 0116	
Can 200	18	0213	2	CD	47	17	-		
Can 200	18	0454	4	CD	116	33	-		
Can 200	18	0509	2	SD	88	63	-		
Can 200	18	0553	1	SD	69	33	-		
Can 200	19	0100	80	CA	52	20	-		
Can 200	19	0320	20	CA	69	8	-		
Can 200	19	0505	25	CA	69	17	-		
Syd 60	19	2358	0.4	CD	180	160	-	Syd 97 2359	
Can 200	20	0033	25	CD	88	11	-		
Syd 97	20	0055	3.8	CD	>60	60	-		
Can 200	20	0544	4	CD	75	17	-		
Can 200	21	0150	50	CA	69	11	-		

Can	200	21	0345	40	CA	68	17	-				
Syd	97	21	2346	2.9	CD	110	98	-				
Can	200	23	0108	100	CD	69	58	O,R	Syd	97	0110	Fade 0100-0410
Can	200	23	0345	90	CA	33	30	R	Syd	97	0345	
Syd	97	23	2146	1.6	CD	83	65	-				
Syd	97	24	0202	0.2	CD	130	83	-				Fade 0200-0300
Syd	97	24	0209	0.2	SD	130	130	-				Fade 0200-0300
Syd	97	24	1950	1.2	CD	>80	80	-				
Syd	97	24	2042	1.3	CD	>100	80	-				
Syd	97	25	0308	0.7	CD	>90	76	-				Fade 0300-0410
Syd	97	25	0317	0.5	CD	44	37	-	Can	200	0315	Fade 0300-0410
Can	200	25	0410	1.0	CD	17	8	-				
Syd	97	25	0444	0.8	CD	102	100	-				
Syd	97	26	0423	1.3	CD	>100	90	-				
Can	200	27	2353	1.5	CD	160	11	-				
Can	200	28	0013	3	CD	100	17	-	Syd	97	0011	
Syd	97	28	0450	0.1	SD	150		-				
Syd	97	28	0522	0.2	SD	200		-				
Syd	97	29	2244	6.5	CD	650	25	-				
Can	200	30	0043	1.5	CD	33	11	-				
Can	200	30	0113	0.5	SD	116		-				
Syd	97	31	0024?	2.2	CD	170	100	-	Can	200	0016	
Syd	97	31	0040?	2.4	CD	>130	130	-	Can	200	0031	
Syd	97	31	0351?	0.5	CD	190	140	-				
Can	200	Feb 1	0359	4	CD	52	8	-				
Cav	500	1	1220	13	SD		15	-	Cav	175	1221	
									Cav	80	1221	
									Cav	45	1221	
Can	200	2	0143	2.0	CD	37	8	-				
Can	200	3	0015	"	CD	17	11	-				
Cav	80	3	1103	1.0	SD	10000		-				
Can	200	4	0112	18	CD	17	11	-				
Can	200	4	0250	20	CA	52	17	-				
Can	200	4	0405	1.0	SD	42	20	-				
Can	200	4	0503	10	CD	20	8	-				
Meu	550	5	1346	0.3	SD	7		-				
Can	200	6	0020	0.5	SD	52		-				
Can	200	6	2351	2.0	CD	203	160	-	Syd	97	2352	Fade 2340-2410
Syd	97	6	2357	4	SD	450		-				Fade 2340-2410
Syd	97	7	0051	0.2	SD	165		-	Can	200	0053	
Syd	97	7	0202	0.8	CD	>110	90	-	Can	200	0201	Fade 0200-0300
Meu	550	7	1418	0.2	SD	3		-				
Meu	550	7	1433	0.3	SD	9		-				
Meu	550	7	1444	0.2	SD	4		-				
Meu	550	7	1522	0.5	SD	10		-				
Meu	550	7	1527	1.3	CD	15		-				Two bursts
Cav	80	8	1216	2		8	1	-	Cav	175	1217	
Syd	97	10	0235	6	CD	870	660	-	Can	200	0234	Fade 0230-0315
Meu	550	10	1011	3	CD	3		-				
Cav	80	10	1139	5	SD	2	2	-	Cav	175	1138	
Cav	80	10	1231	4	SD	1	1	-	Cav	175	1230	
Cav	80	10	1332	3	SD	2	2	-	Cav	175	1332	
Cav	175	10	1417	10	CA	3	2	-	Cav	80	1417	
Can	200	11	0150	1	SD	42	17	-				
Can	200	11	0210	2	CD	33	8	-				
Meu	550	12	1426	2.3	CD	10	4	-				
Meu	550	12	1446	0.2	SD	15		-				
Can	200	14	0125	7	CD	203	132	-	Syd	97	0125	Fade 0130-0150
Cav	80	14	1209	30	SD		10	-	Cav	175	1209	
Cav	80	14	1257	90	SA	15	10	-	Cav	45	1255	
Syd	3000	15	0233		SD	9		R				
Cav	80	15	1352	14	CA	1	1	-				
Syd	97	15	2042	1.0	CD	120	50	-	Syd	62	2042	
Syd	97	15	2134	1.7	CD	140	120	-	Syd	62	2134	
Syd	97	16	0320	3.5	CD	220	120	-	Can	200	0321	
									Syd	62	0320	
Meu	550	16	1144	0.2	SD	5		-				
Meu	550	16	1244	0.3	SD	8		-				
Meu	550	16	1311	2.0	CD	3		-				
Meu	550	16	1330	18	CA	5	5	-				
Meu	550	16	1348	2.5	CA	10		-				Followed by smaller bursts
Meu	550	16	1414	0.2	SA	10		-				Last burst
Meu	550	16	1433	0.2	SA	10		-				
Meu	550	16	1512	15	CA	9	2	-				Five bursts
Syd	97	17	0240	0.8	CD	>50	50	0	Syd	97	0240	
Syd	97	17	0343	0.1	CD	>50	50	0	Can	200	0340	Flare 0340-0351
Syd	97	17	0600	2.6	CD	>40	>40	-				
Syd	3000	18	0217	10	C	2	1	-				Three bursts
Syd	97	18	2258	9.5	CI	>50	50	0	Syd	62	2256	Fade 2300-2400
Syd	97	18	2310		P			R→L				Fade 2300-2400
Syd	97	19	0005		P			L→R				
Syd	97	20	0000	0.3	CD	60	60	0	Can	200	0000	
Can	200	20	0052	10	CD	33	11	-				
Cav	80	20	1141	3	SA	2	2	-	Cav	175	1142	
Cav	80	20	1423	30	CA	4	4	-				
Syd	97	21	2324	1.2	CD	>470	470	0	Syd	62	2324	
Can	200	23	0032	12	CD	33	8	-				
Can	200	24	0200	80	CD	33	17	-				
Syd	97	25	0115	0.6	CD	>110	110	0				
Syd	97	25	0346	0.6	CD	45	42	0	Syd	62	0346	
Meu	550	25	1252	1.0	CD	8		-				
Meu	550	26	1309	0.1	SD	>10		-				
Meu	550	26	1448	0.2	SD	>10		-				
Syd	97	27	2126	0.8	CD	>65	60	0	Syd	62	2125	
Syd	62	28	2047	1.0	CD	>40	>40	-				
Syd	97	28	2116	0.1	CD	63	55	-	Syd	62	2115	
Syd	97	28	2142	0.6	CD	55	48	0	Syd	62	2142	
Syd	97	28	2218?	0.2	CD	>130	130	0	Syd	62	2218?	

Syd	97	Mar 1	0459	0.1	SD	110		-	Syd	62 0459	
Syd	62	2	0430	0.7	CD	> 65	50	-			Two bursts
Syd	97	2	0620	0.5	CD	120	107	0	Syd	62 0620	
Meu	550	2	0847	0.5	SD	11		-			
Meu	550	2	0938	2.5	CD	12		-			
Syd	62	3	0055	5	CD	>90	30	-			Four bursts
Can	200	3	0455	8	CD	14	8	-			
Syd	97	4	0137	0.3	CD	52	50	0	Syd	62 0137	
Syd	97	4	0357	9	CD	>> 60	60	0	Syd	62 0356	
									Can	200 0356	
Syd	97	5	0746	2.6	CD	40	24	0	Syd	62 0750	
Syd	97	7	2355	3	CD	200	80	0			
Syd	97	8	0050	6	CD	>> 70	80	0	Syd	62 0050	Fade 0050-0106
Can	200	8	0304	3	CD	58	8	-	Syd	97 0304	
									Syd	62 0306	
Syd	97	8	2348	0.4	CD	> 70	70	0	Syd	62 2348	Fade 2350
Syd	62	9	0310	1.0	CD	>49	49	-			Beginning of activity
Syd	97	9	2146	8	CD	> 90	50	0	Syd	62 2146	Fade 2152
Syd	97	10	0345	1.8	CD	66	58	0	Syd	62 0344	
Syd	97	10	0350	3.4	CD	190	190	0	Syd	62 0354	
Syd	97	11	0122	0.1	SD	44		-	Syd	62 0122	
Syd	97	11	0135	0.2	SD	110		-	Syd	62 0135	
Syd	62	11	0601	1.3	CD	44	26	-			
Meu	550	11	1005	1.0	CD	5		-			
Meu	550	11	1201	0.2	SD	5		-			
Syd	97	12	0227	0.3	CD	46	40	0	Syd	62 0227	
Can	200	13	0130	16	CD	18	12	-			Fade 0120-0140.
Syd	97	13	2309	5	CD	>50	30	0			
Can	200	14	0036	1.5	CD	265	77	-	Syd	97 0038	Flare 0037-0042
									Syd	62 0030	
Syd	60	15	0116	0.5	CD	160	160	-			
Syd	60	15	2157	0.1	SD	250		-			
Syd	60	15	2323	0.2	CD	200	200	-	Syd	97 2323	
Syd	97	16	0221	2.1	CD	>75	40	-	Syd	60 0221	
									Can	200 0222	
Meu	550	16	1340	3.0	CD	5	4	-			
Meu	550	16	1404	0.6	CD	6		-			Two bursts
Can	200	17	0107	3	CD	69	16	-			
Syd	97	17	0240	0.4	CD	>70	65	0	Syd	60 0240	
Syd	97	17	0410	0.4	CD	>70	70	0			
Can	200	19	0005	5	CD	95	77	-			
Syd	97	19	0330		P			R			End of regular R
Syd	97	19	0530		P			L			Beginning of regular L
Syd	97	19	0639	1.5	CD	58	49	0			
Meu	550	19	1131	0.3	SA	6		-			
Cav	175	19	1155	60	SD		220	-	Cav	80 1157	
									Cav	45 1157	
Meu	550	19	1249	0.1	SA	3		-			
Can	200	21	0242	2	CD	530	8	-	Syd	97 0243	
Syd	97	21	0454	0.2	CD	62	54	0	Syd	60 0457	
Can	200	21	0518	0.7	SD	65		-			
Meu	550	21	0921	1.0	CD	2		-			
Syd	97	21	2301	0.4	CD	100	30	0	Syd	60 2301	
Syd	97	21	2316	3.0	CD	78	60	0			
Meu	550	23	1007	0.7	CD	2		-			Two bursts
Meu	550	23	1515	11	CD	10	9	-			
Syd	60	25	0636	6	CD	>100	60	-			
Syd	97	25	2052	0.8	CD	> 90	>90	0	Syd	60 2052	
Syd	60	25	2323	0.5	CD	50	10	-	Syd	97 2323	
Syd	97	26	0102	0.4	CD	>90	90	0	Syd	60 0102	
Meu	550	26	1419	13	CD	11	5	-			Flare
Syd	97	29	0020	1.6	CD	170	130	0			

Canberra, September 1950

R.v.d.R. Woolley

IV. SOLAR RADIO NOISE DATA

CO-OPERATING OBSERVATORIES

Details relating to the contributors to the second quarter of 1949 are as follows:-

OBSERVING STATION	ABBREVIATION	FREQUENCIES USED Mc/s	NORMAL OBSERVING PERIOD (Hours U.T.).
Commonwealth Observatory, Canberra, Australia	Can	200	00 - 06
Cavendish Laboratory, Cambridge, England	Cav	80 175 500	10 - 14
Radiophysics Laboratory, Sydney, Australia	Syd	62 97	20 - 08
Meudon Observatory, Paris, France	Meu	545	08 - 16
National Research Council Ottawa, Canada	Ott	2800	16
National Bureau of Standards, Washington, U.S.A.	NBS	480	14 - 21

TABULATED QUANTITIES

1. FLUX The unit for this tabulation is 10^{-22} watts metre $^{-2}$(c/s)$^{-1}$. The values can readily be converted into equivalent temperature T of the sun's visible disc by the relation

$$\text{Flux} = 2.09 \times 10^{-44} \nu^2 T,$$

where ν is the frequency in cycles per second. The observations from Sydney usually extend through U.T. 0h, and hence there are observing periods at the beginning and end of the Greenwich day. When the observations differ appreciably both are tabulated and separated by a small space (the beginning of the Greenwich day on the left).

2. POLARISATION The radio-electric (not optical) convention is adopted so that for R polarisation the vector in a fixed plane perpendicular to the ray rotates clockwise when viewed in the direction of propagation. The values quoted are percentage polarisation, i.e.

$$100 \frac{I_R - I_L}{I_R + I_L}$$

where I_R and I_L are the intensities.

3. VARIABILITY The variability is described by indices on a scale 0 to 3 as follows:-

0	no observable variability
1	slight variability
2	moderate variability
3	violent variability

4. OUTSTANDING OCCURRENCES

S Simple rise and fall of intensity
C Complex variation of intensity
A Appears to be part of general activity.
D Distinct from (i.e. apparently superimposed upon) the general activity.
P Sudden or significant change of polarisation.

The two maximum intensity columns contain, firstly, the maximum instantaneous value, and, secondly, the maximum smoothed value which is more suitable for comparative purposes. The unit of intensity in these columns is 10^{-21} watts metre^{-2}(c/s)$^{-1}$. If an occurrence is observed almost simultaneously on two frequencies, only one is tabulated in detail and the other briefly indicated by the station, frequency and starting time.

CONSTANTS AND CORRECTIONS

It should be noticed that in order to reduce tabulation space we have used the unit 10^{-22} watts metre^{-2}(c/s)$^{-1}$ in the flux tabulation, and 10^{-21} watts metre^{-2}(c/s)$^{-1}$ for special occurrences.

It may be necessary to make corrections to original tabulations from time to time. The following corrections to the values published in the 1949 1st quarter Bulletin have been authorised by the observers:-

Cavendish	45 Mc/s:	Multiply flux by	2
	80 Mc/s:	" " "	2
	175 Mc/s:	" " "	4
	500 Mc/s:	" " "	2
Sydney	97 Mc/s:	Reverse sense of polarisation.	
	97 Mc/s:	Multiply flux by	2

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1. Flux.

Daily medians of radio-noise flux received from the sun in units of 10^{-22} watts metre^{-2}(c/s)$^{-1}$

	APRIL 1949								MAY 1949								JUNE 1949							
	Canberra	Cavendish			Sydney		Ottawa	NBS	Canberra	Cavendish			Sydney		Ottawa	NBS	Canberra	Cavendish			Sydney		Ottawa	NBS
Mc/s	200	80	175	500	62	97	2800	480	200	80	175	500	62	97	2800	480	200	80	175	500	62	97	2800	480
Date																								
1	7	-	3	37	G	G	133	200	9	-	-	35	G	-	-	180	22	-	18	-	G	G	142	70
2	9	-	5	40	G	G	118	-	8	-	-	38	G	G	142	140	11	2.2	16	-	G	G	135	110
3	8	-	-	37	G	G	168	-	9	-	-	-	G	G	153	190	12	-	16	-	G	G	138	-
4	9	-	8	35	G	G	161	200	12	-	23	-	G	G	151	-	11	-	12	-	G	G	129	-
5	8	3	8	43	G	G	168	220	13	2.2	24	-	G	G	157	-	10	-	-	-	G	G	127	-
6	13	-	10	44	G	G	176	220	14	1.6	30	-	G	G	144	-	9	-	9	-	G	G	131	-
7	16	-	15	-	8	6	170	180	12	1.6	16	-	G	G	142	-	9	-	10	-	G	G	125	-
8	12	-	10	-	G	G	146	210	12	-	32	-	G 13	G 10	-	-	9	-	-	-	G	G	127	110
9	13	-	8	-	G	G	153	-	16	-	-	-	G	24 G	142	180	10	-	-	-	G	G	125	110
10	15	-	15	-	G 10	G 16	-	-	30	3.4	-	-	27 14	042 440	131	160	9	-	-	36	G	G	118	120
11	11	-	8	-	33 G	14 20	155	200	31	4.2	95	-	7 24	28	116	180	8	-	11	-	G	G	125	-
12	12	46	25	-	45 13	44 20	159	190	26	27	145	49	9 10	32	116	180	8	-	-	34	G	G	127	140
13	13	-	77	-	G 9	12 120	159	200	19	5.6	53	-	8 36	14 40	110	170	9	-	-	39	G	G	129	110
14	57	42	87	-	45 110	90 210	151	180	15	-	-	-	G	G	120	150	9	-	19	39	G	G	123	100
15	41	70	102	-	52	124 52	-	170	5	1.7	-	-	G	G	-	140	10	-	11	43	G	G	123	100
16	36	30	61	-	26	66 24	148	-	7	3.4	27	-	G	G	127	160	10	-	-	42	G	G 16	131	110
17	21	18	32	-	-	18 56	-	-	7	2.8	19	-	G	G	129	180	11	-	-	45	G	G	125	120
18	26	52	58	42	-	40 44	-	180	11	2.2	23	-	G	G	133	170	9	1.5	-	43	G	G	118	100
19	16	4	26	39	5	26 10	155	220	11	-	14	-	G	G	131	160	9	-	-	39	G	G	-	120
20	17	-	16	-	G	G	166	180	12	-	19	-	G	G	133	170	11	1.7	-	37	G	G	120	110
21	13	-	8	43	G	G	159	200	11	1.8	15	-	G	G	127	170	11	-	14	-	G	G	127	110
22	10	-	8	53	G	G	170	170	8	-	11	-	G	G	-	-	11	-	14	38	G	G	129	110
23	9	-	9	53	G 30	G 80	153	-	10	2.2	12	-	G	G	123	130	11	1.8	-	42	G	G	131	100
24	13	-	23	47	20 70	78	-	-	10	-	24	-	G	G	-	110	13	1.8	-	38	G	G	138	110
25	11	-	28	-	23 6	86 12	148	190	10	-	23	-	G	G	131	130	19	3.8	13	36	G	G	138	-
26	10	-	24	-	G	10 78	166	-	9	-	11	-	G	G	123	150	18	3.7	12	37	G 9	G 14	-	-
27	14	-	23	-	G	28 G	161	150	13	-	22	-	G	G	127	130	37	4.0	20	41	4 G	G	166	130
28	9	-	16	-	G	G	159	160	10	-	20	-	G	-	127	110	19	3.0	10	43	G	G	181	150
29	9	-	6	-	G	G	155	160	10	-	20	-	G	-	-	130	24	3.2	11	59	G	G	174	170
30	10	-	-	37	G	-	135	160	13	-	37	-	G	G	138	140	20	-	22	43	G	8 G	181	150
31									52	2.8	50	-	G	G	142	190								

G = median level below sensitivity of recorder, 4 x 10^{22}w m^{-2}(c/s)$^{-1}$at 62 Mc/s and 8 x 10^{-22}(c/s)$^{-1}$ at 97 Mc/s.

2. Polarisation.

Daily medians or means of polarisation sense and percentage.

	APRIL 1949					MAY 1949					JUNE 1949				
	Canberra	Cavendish			Sydney	Canberra	Cavendish			Sydney	Canberra	Cavendish			Sydney
Mc/s	200	80	175	500	97	200	80	175	500	97	200	80	175	500	97
Date															
1	-	-	0	0	-	-	-	-	0	-	R15	-	0	-	-
2	-	-	0	R20	-	L7	-	-	0	-	L7	L20	0	-	R50
3	-	-	-	0	-	L12	L50	L20	-	-	V	-	0	-	R40
4	-	-	-	0	-	L25	-	0	-	-	-	-	0	-	-
5	0	R20	0	0	-	R10	L20	L50	-	-	-	-	-	-	-
6	V	-	0	0	-	R15	0	0	-	-	-	-	0	-	-
7	R60	-	R20	-	R40	-	0	0	-	-	-	-	0	-	-
8	R20	-	0	-	-	-	-	R100	-	R40	0	-	-	-	-
9	-	0	0	-	-	0	0	-	-	R55	R10	-	0	-	-
10	-	-	0	-	V	R40	R50	-	-	R70	0	-	0	0	-
11	R20	-	0	-	R50	R70	-	-	-	R50	-	-	-	-	-
12	R20	R50	R100	-	R45	R75	R100	R100	0	R35	-	-	-	0	-
13	R45	R100	R100	-	R60	R60	0	-	-	R40	-	0	-	0	-
14	R80	R100	R100	-	R70	-	0	-	-	R60	R7	-	-	0	-
15	-	-	-	-	R60	-	0	-	-	-	-	-	-	0	-
16	-	-	R100	-	V	0	-	-	-	-	V	-	-	0	R35
17	L50	L100	L100	-	L50	-	0	0	-	-	0	-	-	0	L35
18	L50	L100	L100	0	L50	0	0	L20	-	-	-	0	-	0	-
19	L55	0	L100	0	L40	R6	-	R20	-	-	-	-	-	0	-
20	L45	-	-	-	-	L7	-	0	-	-	0	0	-	0	-
21	-	-	L20	0	-	-	0	0	-	-	L15	-	-	-	-
22	L14	-	0	0	-	-	-	R50	-	-	L8	-	-	0	-
23	-	-	R20	0	L70	L12	0	0	-	-	R5	L50	-	0	-
24	-	-	0	0	L55	L22	0	-	-	-	R10	L50	-	0	-
25	-	-	0	-	L60	L20	-	0	-	-	-	L50	-	0	-
26	L5	0	0	-	L40	L10	-	-	-	-	R10	L50	R50	0	L40
27	L40	-	0	-	L50	L10	-	-	-	-	L30	L20	L100	0	R30
28	L10	-	-	-	-	-	0	0	-	-	L45	L20	0	0	L50
29	0	-	L20	-	-	-	-	0	-	-	L65	L50	L50	0	R30
30	-	-	-	0	-	R25	-	-	-	-	L50	-	-	0	R35
31						R50	L20	R100	-	-					

V= too variable to quote a median value

3. Variability

Daily indices on a scale 0-3 of the variability or activity of the solar noise

	APRIL 1949						MAY 1949						JUNE 1949					
	Canberra	Cavendish			Sydney		Canberra	Cavendish			Sydney		Canberra	Cavendish			Sydney	
Mc/s	200	80	175	500	62	97	200	80	175	500	62	97	200	80	175	500	62	97
Date																		
1	0	-	0	0	1	1	0	-	-	0	1	-	1	-	1	-	1	1
2	1	-	0	0	1	1	0	-	-	0	1 0	1 0	0	0	1	-	1	0 1
3	1	-	-	0	1 0	1 0	0	-	-	-	1 0	1 0	0	-	0	-	1 0	1 0
4	0	-	0	0	1	1	0	-	-	-	1	1	0	-	0	-	0	0 1
5	0	1	0	0	1	1	0	0	0	-	1	1	0	-	-	-	1 0	1 0
6	1	-	0	0	1	1	1	0	1	-	1	1	0	-	0	-	1 0	1 0
7	1	-	1	-	1	1	1	0	0	-	1	1	0	-	0	-	1	1
8	1	-	0	0	1	1	0	-	1	-	1	1	0	-	-	-	1	1
9	1	-	0	-	1	1	1	-	-	-	1	1	0	-	0	-	1	1
10	1	-	1	-	1	1	1	1	-	-	1	1	0	-	0	-	1	1
11	1	-	0	-	1	1	1	2	3	-	1	1	0	-	0	-	1	1
12	0	2	1	-	1	1	1	2	2	0	1	1	0	-	-	0	1 0	1
13	1	2	2	-	1	1	1	1	2	-	1	1	0	-	-	0	1 0	1 0
14	1	2	2	-	1	1	1	-	-	-	1	1	0	-	-	0	1 0	1 0
15	1	1	1	-	1	1	0	0	-	-	1	1 0	0	-	-	0	1	1
16	1	2	1	-	1	1	0	0	0	-	1	1 0	1	-	-	0	1	1
17	1	1	2	-	1	1	0	0	0	-	1	1	0	-	-	0	1	1
18	1	2	2	0	-	1	0	0	0	-	1	1	0	-	-	0	1 0	1
19	1	1	2	0	1	1	1	-	0	-	1 0	1 0	0	-	-	0	1	1
20	1	-	1	-	0	1	0	-	0	-	1 0	1 0	0	-	-	0	1	1
21	1	-	0	0	1	1	0	0	0	-	1 0	1 0	0	-	-	0	1	1
22	0	-	0	0	1	0 1	0	0	0	-	1 0	1 0	0	-	-	0	1	1 0
23	1	-	0	0	1	1	0	0	0	-	1 0	0	1	-	0	0	1	1
24	1	-	1	0	1 2	1	0	-	0	-	1	1	1	-	0	0	1	1
25	1	-	1	-	1	1	0	-	0	-	1 0	1 0	1	-	1	0	1	1 0
26	0	-	1	-	1	1	0	-	0	-	1 0	1 0	1	-	1	0	1	1
27	0	-	1	-	1	1	1	-	0	-	1	1	2	-	1	0	1	1
28	1	-	0	-	1	1	0	-	0	-	1	-	1	-	1	0	1	1
29	0	-	0	-	1	1	1	-	1	-	1	-	1	-	1	0	1	1
30	0	-	-	0	1 0	-	1	-	1	-	1	1	2	-	2	0	1	1
							2	1	1	-	1	1						

4. Outstanding Occurrences.

Station and frequency Mc/s	Date 1949	Starting time U.T.	Duration Minutes	Type	Maximum intensity Inst.	Maximum intensity Smooth	Polarisation	Obs. on other frequencies	Remarks
					10^{-21} w. m^{-2}(c/s)$^{-1}$				
Meu 545	Apr 2	1015	0.3	SD	3		-		
Can 200	3	0024	2	GD	26	12	-	Syd 62 0023	
								Syd 97 0023	
Can 200	3	0140	0.3	SD	77	77	-		
Can 200	4	0103	0.2	SD	180	180	-		
Syd 62	5	0240	0.3	SD	>55		-		
Syd 62	6	0119?	1.6	GD	62	57	-		
Syd 62	6	0213?	0.6	GD	65	55	-		
Syd 62	6	0506	8.3	GD	55	32	-	Syd 97 0506	
								Can 200 0502	
Syd 97	7	0000	1.2	GD	84	74	0		
Syd 62	7	0315	2.2	GD	74	31	-		
Syd 62	7	0334	0.3	GD	54	50	-		
Syd 62	9	0308	0.4	GD	>55	>55	-		
Meu 545	9	1326	1.5	GD	12		-		
Syd 97	9	2335	1.3	GD	>150	150	0	Syd 62 2335	
Syd 62	10	0126	1.2	GD	> 55	42	-	Syd 97 0126	
Syd 62	10	0151	0.9	GD	> 55	55			
Syd 97	10	0309	0.3	GD	98	88	0	Syd 62 0309	
Syd 97	10	0732	0.4	GD	>140	126	0	Syd 62 0732	
Meu 545	10	1534	0.2	GD	4				
Syd 97	10	2100	3	GD	>140	>140	0	Syd 62 2100	
Syd 62	10	2124	3.7	GD	> 55	> 55		Syd 97 2122	
Syd 97	11	0529	0.2	GD	>140	140	0	Syd 62 0529	
								Can 200 0528	
Cav 175	13	1158	150	SD		25			
Meu 545	13	1310	0.3	SD	2				
Meu 545	13	1358	0.2	SD	2				
Syd 97	16	0554	0.2	SD	>130		0		
Syd 97	18	0625	0.5	GD	>130	80	0		
Syd 62	19	0001	0.4	GD	> 55	>55	-		
Cav 175	19	1041	3	SD	8	8		Cav 80 1042	
Syd 97	19	2340?	1.2	GD	>130	>130	0	Syd 62 2340?	
Syd 97	21	0433	0.4	GD	110	100	0		
Syd 62	23	0000	1.5	GD	> 35	35			
Meu 545	24	1035	3.0	SD	1	1			
Meu 545	24	1043	4.0	GD	7	4			
Syd 97	27	2145	1.6	GD	>150	>150	0	Syd 62 2147	
Can 200	28	0139	3	GD	21	7			
Syd 62	28	0240	0.6	GD	60	55			
Syd 62	28	0432	10	GD	>55	55			
Meu 545	28	0647	5	GD	>12	5		Syd 62 0650?	
								Syd 97 0650?	
Syd 62	29	0310	0.2	SD	>55				
Syd 62	29	0348	0.4	GD	>55	>55		Syd 97 0348	
Meu 545	May 4	0907	1.0	SD	5				
Meu 545	4	1351	1	SD	11				
Meu 545	5	1127	24	GD	3	2			
Cav 175	5	1150	15	SD	8	5		Cav 80 1145	
Can 200	6	0309	3	GD	24	8			
Syd 97	7	0604	0.3	GD	>160	160			
Syd 97	7	0621	0.4	SD	>160		0	Syd 62 0621	
Syd 97	7	0627	1.1	GD	>160	160	0		
Syd 62	8	0443	2.5	GD	54	11			
Meu 545	8	1206	0.5	SD	2				
Meu 545	8	1212	0.5	SD	4				
Meu 545	8	1520	0.3	SD	14				
Meu 545	8	1528	71	GD		>15			
Syd 62	9	2216?	0.3	GD	55	53			
Syd 62	9	2332	0.7	GD	>75	>75			
Syd 62	10	0005	1.4	GD	>75	75		Can 200 0005	
Can 200	10	0114	8	GD	22	5			Flare.
Syd 62	10	0313	0.2	SD	49				Flare.
Can 200	10	0333	30	GD	43	32			
NBS 480	10	2007	4.9	GD	>14000	>8000		NBS 160 2009	Fade, Flare.
NBS 480	10	2024	12.9	GD	200	170		NBS 160 2028	
NBS 480	10	2043	11	GD	290	150			
Can 200	12	0012	4	GD	20	8			
Can 200	12	0101	6	GA	15	3			
Cav 175	12	1306	20	SA		22		Cav 80 1306	
Cav 80	13	1146	30	SA		17			
Syd 97	13	2301	2.5	GA	94	24	L	Syd 62 2302	
Meu 545	15	1539	0.3	SD	3				
Syd 62	17	0349	0.4	GD	>75	>75			
Meu 545	17	1151	0.5	SD	>15				
Syd 97	18	2346	1.5	GD	>150	>150	0		
Syd 97	25	0225	5.0	GD	100	40	0	Syd 62 0225	
								Can 200 0226	
Syd 62	29	2216	2.6	GD	>70	>70			
Syd 62	30	0004	3.3	GD	60	29		Syd 97 0004	
								Can 200 0009	
Can 200	30	0111	9	GD	32	4		Syd 97 0111	
								Syd 62 0111	
Can 200	30	0230	2	GD	27	13			Flare
Syd 97	30	0555	0.4	GD	120	110		Can 200 0555	
NBS 480	30	1625	0.7	GD	530	29		Meu 545 1624	
NBS 480	30	1841	3.1	GD	63	44		NBS 160 1844	Fade
NBS 480	30	2047	1.3	GD	740	140			
NBS 480	30	2112	2.7	GD	870	190		NBS 160 2113	Fade
Syd 97	30	2220?	0.7	GD	80	60		Syd 62 2220?	
NBS 480	30	2247	1.2	GD	46	32		NBS 160 2244	
Syd 62	31	0039	1.2	GD	90	75			
Syd 62	31	0505	0.2	GD	90	84			
Syd 62	31	0603	4.9	GD	43	5			
Meu 545	31	0649	0.7	SD	11				
Meu 545	31	1053	0.2	SD	6				
Meu 545	31	1238	1.5	GD	17	2			
NBS 480	31	1856	1.2	GD	120	51			Fade

Can	200	June 1	0200	50	CD	25	3					
Meu	545	1	0934	1.7	CD	2	1					
Syd	62	2	2235?	0.4	CD	50	34					
Syd	97	7	0452	0.6	CD	150	110	0	Syd	62	0454	
Meu	545	7	1424	0.3	SD	8						
Syd	97	8	0216	6.3	CD	>150	> 150	0	Syd	62	0216	
Syd	97	8	0517	0.2	CD	90	80	0				
Syd	62	10	2338	1.9	CD	77	50		Syd	97	2338	
Syd	97	15	0347	0.3	CD	160	150					
Syd	62	15	2241	0.6	CD	75	75					
Syd	62	16	0101	0.3	CD	> 90	90					
Can	200	16	0352	18	CD	113	31		Syd	62	0351	
									Syd	97	0355	
Syd	97	16	0402	1.4	CD	>160	160	0	Syd	62	0402	
Syd	97	16	0410	0.6	CD	100	80	0				
Meu	545	16	1100	0.3	SD	> 15						
Meu	545	16	1458	1.5	CD	3	1					
Syd	97	17	0557	2.1	CD	>160	>160	0	Meu	545	0557	
Syd	97	17	2210	0.8	CD	120	100	0				
Syd	97	17	2323	0.3	CD	160	150					
Syd	62	18	0252	0.3	CD	> 70	70		Syd	97	0252	
Can	200	21	0118	8	CA	5	2					Flare
Syd	97	21	0506	0.2	CD	90	80					
Syd	97	26	0616	0.7	CD	80	60	0	Syd	62	0616	
Can	200	26	2440	5	CD	26	7					
Can	200	27	0212	3	CD	36	16					
Syd	62	27	0227	0.2	CD	84	71					
Syd	97	27	0241	5.8	CD	160	90	0	Syd	62	0242	
									Can	200	0236	Flare
Syd	62	27	0315	0.2	CD	>90	77					
Can	200	27	0350	2	CD	24	7					
Syd	62	27	2158	0.3	CD	76	76					
Can	200	28	0505	5	CD	26	3					
Meu	545	28	0516	1.0	SD	6						
Can	200	28	0605	1	SD	23	19		Syd	97	0606	
Syd	97	28	0614	0.2	CD	120	100					
Meu	545	28	0909	0.5	SD	6						
Meu	545	28	0915	0.2	SD	6						
Can	200	29	0234	4	CD	24	4					
Can	200	30	0221	1	SD	49	49					
Can	200	30	0503	27	CD	33	23					
Syd	97	30	0522	1.9	CD	>180	200	0	Syd	62	0522	
Syd	62	30	0529	0.2	CD	> 90	90					
Syd	62	30	0536	3.7	CD	> 90	>90					

Canberra, September 1950

R.v.d.R. Woolley

IV. SOLAR RADIO NOISE DATA

CO-OPERATING OBSERVATORIES

Details relating to the contributors to the third quarter of 1949 are as follows:

OBSERVING STATION	ABBREVIATION	FREQUENCIES USED Mc/s	NORMAL OBSERVING PERIOD (Hours U.T.)
Commonwealth Observatory Canberra, Australia	Can	200	00 - 06
Cavendish Laboratory Cambridge, England	Cav	80	10 - 14
		175	10 - 14
		500	10 - 14
Radiophysics Laboratory Sydney, Australia	Syd	62	21 - 06
		97	21 - 06
		600	0 - 06
		1200	0 - 06
Meudon Observatory Paris, France	Meu	545	04 - 17
National Research Council Ottawa, Canada	Ott	2800	14 - 20
National Bureau of Standards Washington, U.S.A.	NBS	480	13 - 24
		51	13 - 24

TABULATED QUANTITIES

For definitions of the tabulated quantities refer to No.86 of the Quarterly Bulletin.

CONSTANTS AND CORRECTIONS

No further corrections to earlier tabulations have been made. It es found, however, that the quiet day values for different frequencies do not fall on a smooth curve, and that therefore further corrections are needed. The outstanding occurence intensities vary so greatly that they are not in the least comparable on different frequencies. This will be investigated in the next quarter.

1. Flux

Daily medians of radio-noise flux received from the sun in units of 10^{-22} Watts metre^{-2} (c/s)$^{-1}$

	JULY 1949								AUGUST 1949										SEPTEMBER 1949									
	Canberra	Cavendish			Sydney		Ottawa	NBS	Canberra	Cavendish			Sydney				Ottawa	NBS	Canberra	Cavendish			Sydney				Ottawa	NBS
Mc/s	200	80	175	500	62	97	2800	480	200	80	175	500	62	97	600	1200	2800	480	200	80	175	500	62	97	600	1200	2800	480
Date																												
1	34	-	32	41	G	G	157	118	17	-	40	40	20	27	35	-	196	-	14	2	3	44	G	G	44	73	140	-
2	16	-	9	35	-	-	146	-	49	200	140	40	43	98	42	102	168	-	12	10	6	36	12	30	44	84	153	-
3	20	-	18	30	-	-	138	124	72	40	58	39	138	242	50	92	161	58	16	2	5	34	G	G	-	-	153	-
4	20	-	9	32	G	G	129	131	15	20	10	32	5	35	39	73	144	90	15	2	4	26	G	G	-	-	-	-
5	10	-	5	36	G	G	114	96	10	75	28	30	10	G	39	75	142	79	18	6	11	34	13	21	-	-	146	-
6	10	-	10	31	G	G	114	82	13	-	10	29	-	-	-	-	120	-	19	6	5	48	G	15	39	73	146	66
7	9	-	6	30	G	G	114	112	-	-	10	30	-	-	-	-	112	-	14	4	6	46	G	G	36	73	142	-
8	10	3	-	28	G	G	112	85	-	-	6	29	G	G	43	67	101	57	14	3	10	44	G	G	38	84	144	88
9	8	3	7	28	-	-	103	116	6	-	8	25	G	G	34	-	95	84	17	4	10	46	G	G	37	73	148	104
10	7	2	7	18	-	-	-	99	7	-	5	-	G	G	36	54	99	85	17	3	8	36	G	G	-	-	146	-
11	9	-	5	22	G	G	99	98	6	-	6	28	G	G	35	54	95	86	17	3	-	-	G	G	-	-	-	-
12	11	-	5	18	G	9	101	85	-	-	8	24	G	G	36	58	110	61	23	3	4	50	G	G	51	90	159	156
13	13	-	12	25	G	7	105	106	-	-	8	28	-	-	-	-	118	122	11	2	3	38	G	G	43	80	159	108
14	13	12	13	23	G	G	114	111	-	-	-	34	-	-	-	-	-	61	9	3	3	38	G	G	48	84	176	94
15	25	10	14	25	G	8	123	120	10	-	14	26	G	G	39	67	138	101	10	2	-	33	G	G	52	94	168	82
16	15	-	5	30	8	18	129	103	8	-	-	36	G	G	-	-	142	71	18	2	-	-	G	G	53	-	181	-
17	7	-	20	28	-	-	123	106	7	2	-	42	G	G	40	69	157	-	14	2	4	39	G	G	-	-	168	-
18	13	2	4	35	G	G	122	109	10	35	4	46	G	G	40	75	161	94	13	10	5	42	G	G	-	-	168	-
19	8	2	10	35	G	G	127	117	8	-	-	44	G	G	44	88	176	-	13	2	-	40	G	G	52	90	163	-
20	8	1	4	30	G	G	142	-	6	2	3	45	G	G	-	-	185	-	10	2	3	46	G	G	50	75	153	153
21	8	-	5	30	G	G	140	-	7	2	10	-	G	G	-	-	183	-	8	3	-	46	G	G	-	-	151	135
22	9	3	6	29	G	G	125	-	6	2	8	46	G	G	44	79	189	-	9	3	-	42	G	G	-	-	157	115
23	8	5	8	24	-	-	140	-	10	4	6	42	G	G	48	88	178	106	13	4	8	42	G	G	-	-	146	116
24	8	-	10	30	-	-	-	-	8	2	4	45	G	G	46	73	185	102	12	3	3	40	G	-	-	-	142	94
25	8	-	7	26	G	G	155	-	9	3	5	44	G	G	-	-	189	90	12	-	3	30	G	G	-	-	-	-
26	10	-	8	30	G	G	163	-	9	3	4	42	G	G	-	-	178	85	8	2	-	34	G	G	51	-	127	-
27	9	-	30	30	G	G	176	-	8	2	5	40	G	G	-	-	168	98	11	2	-	34	G	G	-	-	125	115
28	12	-	6	30	G	G	185	-	9	4	6	36	G	G	-	-	-	81	7	-	-	36	G	G	-	-	114	112
29	7	-	8	43	15	G	198	-	8	3	5	28	G	G	42	65	159	94	11	3	-	-	G	G	-	-	110	99
30	16	-	12	42	G	G	189	-	9	4	4	42	G	G	47	71	159	96	11	3	-	-	G	G	-	-	110	145
31	12	-	85	45	-	-	200	-	7	4	3	36	G	G	46	84	157	62										

G = median level below 4 x 10^{-22} w m^{-2} (c/s)$^{-1}$ and not observable.

2. Polarisation

Daily medians of means of polarisation sense and percentage

	JULY 1949					AUGUST 1949					SEPTEMBER 1949				
	Canberra	Cavendish			Sydney	Canberra	Cavendish			Sydney	Canberra	Cavendish			Sydney
Mc/s	200	80	175	500	97	200	80	175	500	97	200	80	175	500	97
Date															
1	L70	-	0	-	-	R45	-	R100	-	R20	0	0	0	0	-
2	L48	-	0	0	-	R25	R100	R100	0	R60	R12	-	0	0	R30
3	-	-	L20	0	-	R70	R100	R100	0	R65	R30	-	0	0	-
4	L60	-	0	0	-	R35	R50	R20	0	R85	-	0	-	-	0
5	L5	-	-	0	-	0	R100	R100	0	-	R60	0	0	R10	V
6	R10	-	0	0	-	-	-	0	0	-	R82	R20	0	0	L70
7	R23	0	0	-	-	-	-	0	-	-	0	-	-	0	L35
8	0	0	-	0	-	-	-	0	0	-	R18	-	0	0	-
9	0	0	0	-	-	-	-	L20	0	-	R60	-	-	0	-
10	-	0	0	-	-	R10	-	0	-	-	0	-	R20	0	-
11	0	-	0	-	-	0	-	-	-	-	-	-	-	-	-
12	0	-	0	0	L35	-	-	0	-	-	L25	-	-	0	-
13	L10	-	R50	0	L35	-	-	0	0	-	R8	-	-	0	-
14	R15	0	0	0	-	-	-	R100	-	-	R18	-	-	L20	-
15	V	L100	L100	0	R40	R20	-	R50	0	-	0	-	-	0	-
16	L30	-	0	0	R60	R4	-	-	0	-	0	-	-	-	-
17	-	-	0	-	-	R6	L20	-	0	-	-	-	-	0	-
18	R25	0	-	-	-	L20	0	-	0	-	-	-	-	-	-
19	0	-	-	0	-	-	-	-	0	-	R4	-	-	L10	-
20	-	-	0	0	-	-	0	0	-	-	L20	-	-	-	-
21	R12	-	0	0	-	-	0	0	-	-	L15	0	-	-	-
22	L10	-	0	0	-	-	0	0	0	-	L10	0	-	0	-
23	-	-	-	0	-	R8	0	-	0	-	L25	0	-	-	-
24	0	-	-	-	-	0	0	0	0	-	-	0	-	L10	-
25	R25	-	0	0	-	0	0	0	0	-	-	-	-	0	-
26	0	-	-	0	-	R15	0	0	0	-	L25	-	-	0	-
27	0	-	R50	0	-	-	0	0	0	-	0	0	-	0	-
28	0	-	0	0	R35	-	0	0	0	-	0	-	-	0	-
29	L15	-	0	0	-	R20	0	0	-	-	L15	-	-	-	-
30	R8	-	0	0	-	-	0	-	-	-	0	-	-	-	-
31	-	-	R100	0	-	R8	0	0	-	-					

V = too variable to quote a median value

3. Variability

Daily indices on a scale 0-3 of the variability or activity of the solar noise

	JULY 1949							AUGUST 1949									SEPTEMBER 1949								
	Canberra	Cavendish			Sydney		NBS	Canberra	Cavendish			Sydney				NBS	Canberra	Cavendish			Sydney				NBS
Mc/s	200	80	175	500	62	97	480	200	80	175	500	62	97	600	1200	480	200	80	175	500	62	97	600	1200	480
Date																									
1	3	-	1	0	0	0	0	1	-	2	0	2	1	3	-	-	1	0	0	1	0	0	1	0	-
2	1	-	0	0	-	-	-	1	2	1	0	1	2	3	3	-	1	1	0	1	1 0	1 0	1	0	-
3	1	-	1	0	-	-	0	1	2	1	0	2	2	3	3	0	2	0	0	0	0	0	-	-	-
4	1	-	1	0	0	0	0	1	2	1	0	1	1	1	1	0	1	0	1	1	0 1	1	-	-	-
5	0	-	0	0	0	0	0	1	2	1	0	1	1	1	1	0	2	1	1	0	1 0	1	-	-	-
6	0	-	1	0	0	0	0	1	-	1	0	-	-	-	-	-	3	2	1	1	0 1	0 2	1	0	0
7	0	-	0	0	0	0	0	-	-	1	0	-	-	-	-	-	1	0	0	1	0	0 1	1	1	-
8	1	0	-	0	0	0	0	-	-	0	0	1	1	0	0	0	1	0	0	1	1 0	1	0	0	1
9	0	0	0	0	-	-	0	0	-	1	0	0	0	0	-	1	2	1	1	1	0	0	0	0	2
10	0	0	0	0	-	-	0	0	-	0	0	0	0	0	0	0	1	1	0	0	1 0	1 0	-	-	-
11	0	-	0	0	1	0	0	0	-	0	0	0	0	0	0	0	1	0	-	-	1 0	0	-	-	-
12	1	-	0	0	1	1	0	0	-	0	0	1	1	0	0	0	2	0	1	1	2 1	2 1	2	1	1
13	1	-	1	0	1	1	0	0	-	1	0	-	-	-	-	0	1	0	0	1	1	1	2	1	1
14	1	1	1	0	1	1	1	0	-	1	0	-	-	-	-	0	1	0	0	2	1 0	1 0	1	0	1
15	2	1	1	0	1	1	1	1	-	1	0	1 0	0	1	0	0	1	0	-	2	0 1	0	1	0	1
16	1	-	0	0	2	1	1	1	-	-	0	1 0	0	-	-	0	1	0	-	-	1 0	1 0	2	-	-
17	1	-	1	0	-	-	1	1	0	-	1	1	1 0	1	0	-	1	0	0	1	1 0	0	-	-	-
18	1	0	0	0	1	0	1	2	2	0	1	1 0	1	0	1	0	1	1	0	1	1 0	1 0	-	-	-
19	0	0	1	0	1	1	1	1	-	-	1	0 1	0	1	0	-	1	0	-	2	0	0	1	0	-
20	0	0	0	0	1	1	-	0	0	0	-	0	0	1	-	-	1	0	0	1	0	0	1	0	0
21	0	0	0	0	1	0	-	0	0	0	-	0	0	-	-	-	1	0	-	1	0	0	-	-	0
22	0	0	0	0	0	0	-	1	0	0	1	1 0	1 0	1	0	-	1	0	-	1	1 0	1 0	-	-	0
23	0	1	0	0	-	-	-	1	0	0	0	1 0	1 0	0	0	1	1	0	1	1	1	1	-	-	1
24	1	-	1	0	-	-	-	0	0	0	1	1 0	1 0	1	0	1	1	0	0	1	1	-	-	-	0
25	1	-	0	0	1	1	-	1	0	0	1	0	0	-	-	1	1	-	0	0	2 0	0	-	-	-
26	0	-	0	0	0	0	-	1	0	0	1	1 0	1 0	-	-	1	1	0	-	1	1 0	1 0	1	-	-
27	0	-	1	0	1	1	-	0	0	0	1	0	0	-	-	1	1	0	-	0	1	1	-	-	0
28	1	-	0	0	1	1	-	1	1	1	1	0 1	0 1	-	-	1	0	-	-	0	1 0	1 0	-	-	1
29	0	-	1	0	0	0	-	1	0	0	0	1	1	0	0	0	1	0	-	-	0	0	-	-	1
30	1	-	1	0	1	0	-	1	1	0	1	1	1	3	3	1	1	0	-	-	0	0	-	-	1
31	1	-	2	0	-	-	-	0	1	0	1	1 0	1 0	2	1	1									

The observations from Sydney usually extend through U.T. 0h, and hence there are observing periods at the beginning and end of the Greenwich day. When the indices differ both are tabulated, the beginning of the Greenwich day being on the left.

4. Outstanding Occurrences.

Station and frequency	Date 1949	Starting time	Duration	Type	Maximum intensity		Polarisation	Obs. on other frequencies	Remarks
					Inst.	Smooth			
Mc/s		U.T.	Minutes		10^{-21} w $m^{-2}(c/s)^{-1}$				
Mcu 545	Jul 1	1537	2	SD	6				
Mcu 545	2	1540	0.2	SD	6				
Mcu 545	11	1508	0.3	SD	6				
Syd 62	12	0049?	0.6	CD	>75	75	-		
Can 200	12	0058	1	CD	25	10			
Mcu 545	13	0906	0.3	SD	6				
Can 200	14	0340	1	SD	20	14		Syd 62 0340	
Ott 2800	14	2043	5	CD	76			NBS 480 2045	Fade, Crochet.
Can 200	15	0004	5	CD	14	4		Syd 62 0008	
Cav 80	15	0830	120	CA	60	50	-		
Ott 2800	15	1731	4	SD	10				
Ott 2800	17	2340	5	SD	2				
Syd 97	20	0041	2.0	CD	115	30	0	Syd 62 0041	
Mcu 545	20	1206	0.2	SD	6				
Syd 62	25	0155	2.7	CD	80	40	-	Syd 97 0155	
Can 200	25	0540	1.3	CD	25	16			
Mcu 545	25	0950	0.3	SD	6				
Syd 97	27	0354	1.6	CD	>160	>160	0	Syd 62 0354	
Mcu 545	27	1348	0.3						
Syd 97	28	0256	13	CD	>140	140	0	Can 200 0255	Fade.
								Syd 62 0256	
Can 200	28	0310	1	CD	25	7		Syd 62 0311	
Can 200	30	0506	80	CD	80	45			
Ott 2800	30	1707	38	SD	2				
Ott 2800	31	1421	145	CD	101				
Ott 2800	31	1852	61	CD	2				
Syd 600	Aug 1	0030	0.1	CD	5	1			
Syd 600	1	0048	0.1	SD	6	2			
Syd 600	1	0059	0.2	CD	6	3		Syd 62 0051	
								Syd 97 0051	
Syd 62	1	0123	0.6	CD	95	75	-	Syd 600 0120	
								Syd 97 0123	
Can 200	1	0214	3	CD	24	13		Syd 600 0213	
								Syd 62 0213	

Syd 600	1	0222	1.0	CD	5	1						
Syd 600	1	0400	1.4	CD	7	2						
Syd 600	1	0452	1.0	CD	5	1						
NBS 51	1	1325	1.1	CD	174	60						Flare
NBS 51	1	1400	0.1	SA	382							
NBS 51	1	1404	0.1	SA	>640							
Ott 2800	1	1944	75	SD	172							
NBS 51	1	1957	23	CD	>572	102						Fade
NBS 51	1	2039	0.9	CD	>523	179						
Syd 1200	2	0313	69	CD	30	12			Syd 600	0315		Several outbursts. Flare, fade.
Syd 1200	2	0539	0.4	SD	13	2						
Ott 2800	2	1518	2	SD	1							
Ott 2800	2	1803	22	SD	1							
Can 200	3	0046	34	CA	35	13						
Syd 1200	3	0100	55	CD	46	36			Syd 600	0105		
Syd 97	3	0212	0.7	CD	>170	>170	0		Syd 62	0212		
Syd 97	3	0231	0.5	CD	165	100	0					
Syd 97	3	0238	3.3	CD	110	75	0		Syd 62	0238		
									Syd 600	0239		
									Syd 1200	0239		
Syd 1200	3	0344	50	CD	18	9			Syd 600	0346		
									Can 200	0348		
Syd 97	3	0518	0.5	CD	160	120	0		Syd 600	0517		
NBS 51	3	1631	0.6	CD	>582	319						
Ott 2800	3	1929	14	SD	1							
Ott 2800	4	1654	5	SD	1							
Ott 2800	4	1802	2	SD	2							
Ott 2800	4	2222	16	CD	7							
Syd 97	5	0039	2.4	CD	150	50	0		Syd 62	0039		Flare.
									Syd 600	0039		
									Syd 1200	0040		
Can 200	5	0138	7	CD	21	3						
Syd 62	5	0334	0.7	CD	>80	>80	-					
NBS 51	5	1938	0.1	SD	605							
Ott 2800	5	2042	3	SD	1							
Ott 2800	Aug 6	2248	20	SD	7							
Syd 62	8	0059	3.0	CD	85	30	-		Syd 97	0059		
Syd 62	8	0149	0.6	CD	>80	>80	-					
Syd 97	8	0446	6.2	CD	130	45	0		Syd 62	0446		
NBS 480	11	1520	3.4	CD	739	455						
NBS 51	15	1543	1.7	CD	280	156						
Syd 97	17	0639	10.8	CD	>180	65	0		Syd 62	0638		
NBS 51	17	1423	1.1	CD	>700	452						
NBS 51	17	1832	1.4	CD	188	38						
Can 200	18	0020	2	CD	21	9						
Syd 600	19	0457	2	CD	6	2						Two main bursts.
NBS 51	19	1638	0.1	SD	381							
NBS 51	19	1842	1.3	CD	37	3						Flare, fade.
NBS 51	19	1929	0.1	SA	580							
Ott 2800	19	2103	12	CD	8							
Can 200	21	0051	2	CD	288	22						
Syd 600	22	0217	1.0	CD	6	1						
Can 200	22	0501	4	CD	18	7						
NBS 51	22	1458	1.2	CD	43	3						
NBS 51	22	1534	1.4	CD	194	92						
Syd 600	23	0032	2.0	CD	> 7	2						
Can 200	23	0241	1	CD	186	18						
NBS 51	23	1531	0.1	SD	>558							
NBS 51	23	2048	0.1	SD	>548							
NBS 480	24	1545	2.7	CD	2123	1053						
Syd 62	26	0229	1.1	CD	90	85						
Syd 62	26	0638	2.0	CD	35	33	-					
Mou 545	27	0845	0.3	SD	12							
Mou 545	27	0904	0.8	SD	11							
Mou 545	27	0912	1	SD	9							
Mou 545	27	0938	1	SD	12							
Syd 97	28	2325	0.4	CD	150	140	-					
Syd 62	29	0349	0.7	CD	85	70	-		Syd 97	0349		
Syd 97	29	0625	13	CD	85	75	0					
NBS 51	29	1722	2.9	CD	>810							
NBS 51	29	2046	0.3	CD	>810							
Syd 62	29	2208	2.6	CD	60	40	-					
Syd 1200	30	0035	36	CD	38	30			Can 200	0042		
Syd 600	30	0103	45	CD	40	9			Syd 62	0109		Fade.
									Syd 97	0109		
Syd 97	30	0125	8.0	CD	40	30	R					
Syd 600	30	0207	6	SD	7	2			Syd 1200	0207		Fade.
Syd 600	30	0234	20	CD	8	2						
Syd 97	30	2349	0.5	CD	160	90	-					
Syd 62	30	2359	5.0	CD	55	35	-					
Syd 600	31	0205	3	CD	> 9	3						
Syd 600	31	0303	2	CD	> 9	3						
NBS 51	31	1748	1	CD	>845							Two bursts.
Syd 600	Sep 1	0352	1	CD	6	1						
Syd 600	2	0321	0.5	CD	7	-						Two short bursts.
NBS 51	2	1516	4	CD	32	1						Three bursts.
NBS 480	2	1833	3.7	CD	430	220						Fade, Crochet.
Syd 62	5	0211	18	CD	>100	46	-		Can 200	0213		Fade.
									Syd 97	0214		
Syd 97	5	2245	0.7	CD	110	100	0					
Syd 600	6	0146	1	CD	4							
Syd 1200	7	0343	0.2	SD	9	2						
NBS 51	7	1852	0.3	CD	231	106						
NBS 51	7	1856	1.5	CD	305	199						
Can 200	7	2042	22	CA	13	5						
NBS 51	8	1834	0.9	CA	22	11						
NBS 51	8	2229	0.9	CD	54	10						
Syd 97	9	0012	11.5	CD	>110	9	0		Can 200	0007		Fade.
NBS 51	9	1830	1.6	CD	162	36						
NBS 51	9	1855	0.1	SD	118							
Syd 97	10	0717	0.4	CD	115	110	-					
Mou 545	Sep11	0710	0.5	SD	11							
Mou 545	11	0820	0.8	SD	9							
Mou 545	11	1125	1	CD	6							Two bursts.

Mou 545	11	1401	0.5	SD	7				
Mou 545	11	1413	1.2	SD	9				
NBS 51	11	1526	0.5	SD	728				
NBS 51	11	1619	0.6	CD	287	112			
NBS 480	11	1844	0.1	SD	1009				
NBS 51	11	1926	1.3	CD	119	21			
NBS 480	11	1942	0.4	CD	738	304			
NBS 480	11	1946	0.1	SD	915				
NBS 51	11	1949	0.7	CD	118	66			
NBS 51	11	1952	11	CD	677	214			
Syd 62	12	0135	20	CD	>110	7	-	Syd 97 0146	
Syd 97	12	0308	10	CD	>120	33	0	Syd 62 0306	
								Syd 600 0308	
								Syd 1200 0308	
Syd 97	12	0402	8.0	CD	>120	20	0	Syd 62 0402	
								Syd 1200 0402	
								Syd 600 0403	
Syd 97	12	0608	20	CD	>120	50	0	Syd 62 0619	Fade.
NBS 480	12	1315	4.4	CD	198	82		NBS 51 1316	Flare, Fade, Crochet.
Ott 2800	12	1519	15	SD	30			NBS 51 1513	Flare, Fade.
								NBS 480 1520	
NBS 51	12	1541	5.8	CD					
NBS 51	12	1711	4.6	CD					
NBS 51	12	1803	1.8	CD					
Can 200	12	2009	5	CD	-	22		Ott 2800 2008	Fade, Crochet.
								Syd 62 2009	
								Syd 97 2009	
								NBS 51 2010	
								NBS 480 2010	
Syd 1200	13	0144	1	CD	9	1			
Syd 1200	13	0206	2	CD	11	1		Syd 600 0206	
Syd 600	13	0352	4	CD	10	5		Can 200 0352	
								Syd 62 0353	
								Syd 97 0353	
Syd 1200	13	0353	2	CD	11	1			
Syd 600	13	0448	3	CD	10	4		Syd 1200 0448	
Cav 80	13	1302	45	SD	-	40	-	Mou 545 1303	Fade, Crochet.
								NBS 51 1318	
NBS 51	13	1755	4	CA	56	10			Two bursts, Fade.
NBS 51	13	2214	1.0	CD	96	26			
NBS 51	13	2239	0.4	SD	120	53			
Syd 62	13	2355	7.5	CD	>100	60	-		
Syd 62	14	0151	7.8	CD	>100	10	-		
Syd 97	14	0158	0.7	CD	>115	70	0		
Syd 97	14	0246	12.5	CD	115	13	0	Syd 62 0246	
Syd 62	14	0359	0.5	CD	>100	100	-		
Mou 545	14	0737	0.3	SD	9				
NBS 51	14	1314	1.0	CD	203	146			Flare.
Mou 545	14	1541	0.5	SD	6				
NBS 51	14	1815	0.1	SD	137				
Ott 2800	15	1509	15	CD	4				Two outbursts.
Ott 2800	15	1619	18	SD	8				
NBS 51	15	1829	1.3	CD	766	486			
Ott 2800	15	2117	9	CD	32			NBS 51 2121	
								Syd 62 2121	Fade.
Syd 62	15	2331	2.6	CD	>85	>85	-		
Can 200	15	2355	6	CD	-	16			
Syd 62	16	0050	1.0	CD	75	55	-		
Syd 97	16	0156	0.9	CD	>115	80	0	Syd 62 0156	
								Syd 600 0157	
Syd 600	16	0200	2	CD	6	2			
Syd 97	16	0213	9.8	CD	>115	11	0	Syd 62 0212	
Syd 600	16	0346	1	CD	10	3			
Syd 600	16	0416	3	CD	>10	-			
Syd 62	16	0600	0.7	CD	>100	100	-		
Syd 97	Sep16	0643	0.7	CD	115	110	0		
Mou 545	16	0844	4	CD	9				
NBS 51	16	1356	0.9	CD	27	6			
NBS 51	16	1359	0.1	SD	158				
NBS 51	16	1450	3.4	CD	12	1		Mou 545 1455	
Mou 545	16	1458	0.5	SD	9				
Mou 545	16	1503	0.3	SD	12				
Mou 545	16	1509	1	SD	12				
Ott 2800	16	1712	4	SD	3			NBS 51 1713	
NBS 480	16	1734	3.4	CD	367	66			
NBS 51	16	2026	0.2	SD	40	9			
Ott 2800	17	1414	5	SD	1				
Mou 545	17	1515	16	CD	15				Several short bursts.
Mou 545	17	1550	4	CD	12				Two bursts.
Syd 97	18	0209	7.5	CD	>100	18	0	Syd 62 0209	Fade.
Mou 545	18	0944	7	SD	14				Two bursts.
Mou 545	18	1544	0.5	SD	6				
Mou 545	18	1551	7	CD	16				Three bursts.
Ott 2800	19	1652	17	CD	5				
Ott 2800	20	1453	6	SD	1				
Ott 2800	20	1527	2	SD	1				
Syd 97	21	0134	6.2	CD	115	12	0		
Syd 97	22	0711	31	CD	45	10	L	Syd 62 0713	
Ott 2800	23	2211	3	SD	1				
Syd 62	24	0020	8	CD	>90	>90	-		
NBS 51	24	1725	0.7	CD	53	15			
NBS 51	24	1842	0.4	SD	38	7			
NBS 51	24	1902	0.1	SD	>697				
Ott 2800	24	1939	31	CD	11				
NBS 480	24	2006	1.0	CD	1789	375		NBS 51 2005	Fade.
								Can 200 2006	
								Syd 62 2007	
Can 200	25	0031	3	CD	-	4		Syd 62 0031	
Can 200	25	0206	3	CD	-	9		Syd 62 0206	
Syd 62	25	0336	3.3	CD	>95	>95	-	Can 200 0337	Fade.
Mou 545	25	1548	0.3	SD	6				
Syd 600	26	0440	4	CD	7	1		Can 200 0439	
								Syd 62 0440	
								Syd 97 0441	
Syd 97	27	0609	3.0	CD	>120	52	0	Syd 62 0609	
								Can 200 0609	
Mou 545	27	1542	0.5	SD	8				
Mou 545	27	1552	1	SD	6				
Syd 97	27	2300	6.3	CD	>120	12	0	Syd 62 2258	
NBS 51	28	1713	1.6	CD					
Can 200	29	0705	1	CD	20	7		Syd 97 0705	
NBS 51	30	1716	0.8	SD	272	209			Fade.
Ott 2800	30	1845	180	CD	3				
NBS 51	30	1854	6.0	CD	259	102			Fade.

Canberra, November 1950

R.v.d. R.Woolley

IV. SOLAR RADIO NOISE DATA

CO-OPERATING OBSERVATORIES

Details relating to contributors to the fourth quarter of 1949 are as follows:

OBSERVING STATION	ABBREVIATION	FREQUENCIES USED Mc/s	NORMAL OBSERVING PERIOD (Hours U.T.)
Commonwealth Observatory Canberra, Australia	Can	200	20 - 08
Cavendish Laboratory Cambridge, England	Cav	80	10 - 14
		175	10 - 14
Radiophysics Laboratory Sydney, Australia	Syd	62	19 - 08
		97	19 - 08
		600	0 - 07
		1200	0 - 07
Meudon Observatory Paris, France	Meu	545	04 - 17
National Research Council Ottawa, Canada	Ott	2800	14 - 20
Laboratoire de Physique Marcoussis, France	Mar	158	11 - 13
Army Operational Research Group, Byfleet, Surrey	Byf	73	07 - 17

TABULATED QUANTITIES

For definitions of the tabulated quantities refer to No. 86 of the Quarterly Bulletin. Under "Outstanding Occurences" a new abbreviation M has been introduced:

M = Two or more peaks separated by relatively long periods of quietness.

CONSTANTS AND CORRECTIONS

Corrections for the whole of 1949 are as follows:

1. FLUX

STATION AND FREQUENCY		CORRECTION FACTORS SUBMITTED BY AUTHORS	FURTHER FACTORS REQUIRED TO BRING QUIET NOISE TO A SMOOTH CURVE
Cav	45	1949 Jan - Mar: x 2	
	80	1949 Jan - Mar: x 2	
	175	1949 Jan - Mar: x 4	1949 Aug - Dec: x 1.7
	500	1949 Jan - Mar: x 2	
Syd	97	1949 Jan - Mar: x 2	
NBS	480		1949 Apr - May x 0.3
			Jun - Sep: x 0.4

2. POLARISATION

Reverse sense of polarisation for Syd 97, 1949 Jan - Mar:

3. VARIABILITY

For most wavelengths the scale of variability is not yet rigidly defined. The higher indices 2 and 3 have been used more frequently in the later part of the year, and hence the scale has not remained constant.

4. OUTSTANDING OCCURENCES

The outburst intensities quoted in 1949 differ so greatly that it is evident there are some differences in measuring practice. In order to make the quoted intensities approximately comparable with other observatories at similar wave lengths the following factors might be applied:

STATION AND FREQUENCY		FACTOR
Cav	80	x 10
	175	x 10
NBS	480	x 0.1

4. Flux

Daily medians of radio-noise flux received from the sun in units of 10^{-22} watts metre^{-2}(c/s)$^{-1}$

	OCTOBER 1949									NOVEMBER 1949									DECEMBER 1949								
	Canberra	Cavendish		Sydney				Ottawa	Marcoussis	Canberra	Cavendish		Sydney				Ottawa	Marcoussis	Canberra	Cavendish		Sydney				Ottawa	Marcoussis
Mc/s	200	80	175	62	97	600	1200	2800	158	200	80	175	62	97	600	1200	2800	158	200	80	175	62	97	600	1200	2800	158
Date																											
1	26	5	-	G	7	-	-	127	-	12	-	-	G	G	-	-	129	8	15	3	4	G	G	40	80	157	15
2	30	7	-	10	23	-	-	140	17	12	3	-	G	G	-	-	131	6	11	-	-	G	G	49	77	151	8
3	34	800	-	152	190	-	-	142	40	12	2	-	G	G	-	-	144	-	10	-	-	G	G	-	-	151	4
4	36	22	3	84	50	-	-	166	45	13	4	-	G	G	-	-	144	8	11	3	3	G	G	-	62	-	7
5	27	3	-	G	24	-	-	187	27	13	5	-	G	G	-	-	148	10	11	3	-	G	G	58	72	147	7
6	15	2	2	G	G	-	-	206	7	37	5	-	G	19	-	82	-	15	13	4	4	G	G	53	77	153	6
7	20	6	5	16	27	-	-	191	17	19	-	-	8	47	-	81	176	46	10	3	5	G	G	-	68	148	-
8	20	2	-	G	G	-	-	198	18	16	-	-	12	41	-	83	191	62	11	3	3	G	G	44	83	155	6
9	14	4	-	G	G	-	-	204	9	9	4	3	G	G	-	-	183	-	9	-	3	G	G	48	81	144	11
10	9	3	-	G	G	-	-	196	12	9	3	4	G	G	-	91	157	-	10	3	3	G	G	-	-	146	8
11	22	20	-	G	8	-	-	196	19	6	3	3	G	G	-	90	161	9	8	-	3	G	G	-	-	153	8
12	-	4	-	G	G	-	-	-	8	9	2	-	G	G	-	-	146	6	10	2	3	G	G	49	63	-	6
13	10	300	16	G	G	-	-	185	-	7	2	-	G	G	-	-	-	6	8	2	3	G	G	50	68	166	9
14	8	4	-	G	G	-	-	172	4	8	-	-	G	G	-	79	153	8	9	3	-	G	G	-	-	142	9
15	5	5	-	G	G	-	-	163	4	6	20	5	G	G	45	81	170	12	10	-	-	G	G	-	-	140	6
16	7	-	-	G	-	-	-	163	4	8	4	3	G	G	44	79	172	9	14	-	-	10	40	-	-	131	11
17	7	-	-	G	G	-	-	148	4	13	24	15	G	19	44	-	187	15	8	3	3	G	G	-	-	133	-
18	7	2	-	G	G	-	-	131	4	16	5	4	7	12	45	95	174	9	8	4	-	G	G	-	-	-	14
19	-	2	-	G	G	45	70	127	7	7	50	5	G	G	-	-	161	14	10	3	-	G	G	-	-	127	12
20	-	2	-	G	G	47	66	123	-	6	4	-	G	G	-	-	-	8	10	2	-	G	G	-	-	116	12
21	9	-	10	G	G	48	67	125	9	7	3	3	7	G	43	70	133	7	11	4	-	G	G	-	-	118	12
22	10	13	5	G	G	45	72	129	7	14	30	14	37	85	46	73	131	28	9	4	-	G	G	-	-	129	12
23	8	-	-	G	G	44	73	-	5	31	10	8	60	270	41	-	133	15	9	3	3	G	8	-	-	125	-
24	9	3	7	G	G	-	-	140	8	39	150	28	35	115	46	73	144	54	19	14	4	-	30	-	-	-	-
25	9	4	-	G	G	-	-	114	5	37	80	17	G	20	50	88	146	34	22	2	8	-	G	-	-	-	-
26	8	4	6	G	G	-	-	112	6	35	20	8	G	12	-	-	146	17	9	2	3	G	G	-	-	-	-
27	8	2	-	G	G	-	-	123	-	66	800	22	65	-	-	-	135	70	10	3	-	G	G	-	-	135	-
28	25	4	7	G	16	-	-	125	4	134	150	80	98	700	53	86	146	170	9	3	4	-	-	-	-	140	-
29	9	3	3	G	G	-	-	127	9	60	40	30	21	200	46	80	-	40	10	3	-	G	G	-	-	140	-
30	9	-	4	G	G	-	-	-	6	40	6	18	8	74	57	-	159	34	9	2	-	G	G	-	-	135	-
31	9	-	-	G	G	-	-	129	8	-	-	-	-	-	-	-	-	-	8	-	-	G	G	-	-	-	-

G = medium level below threshold (6 units at 62 Mc/s and 8 units at 97 Mc/s).

2. Polarisation.

Daily medians or means of polarisation sense and percentage.

	OCTOBER 1949				NOVEMBER 1949				DECEMBER 1949			
	Canberra	Cavendish		Sydney	Canberra	Cavendish		Sydney	Canberra	Cavendish		Sydney
Mc/s	200	80	175	97	200	80	175	97	200	80	175	97
Date												
1	R20	0	-	-	R 8	-	-	-	R 7	0	0	-
2	R 8	0	-	R70	R16	0	-	-	R 7	0	0	-
3	-	R G	-	R65	R 8	L20	-	R50	0	-	0	-
4	R48	R G	R20	R68	-	0	-	-	-	L20	-	-
5	R38	0	-	R48	0	0	-	-	0	-	-	-
6	R32	0	0	-	-	L20	-	L60	0	0	0	-
7	R48	0	0	R60	L15	L50	-	L50	0	-	R20	-
8	R 6	0	-	-	L22	R G	-	L68	0	-	0	-
9	-	0	-	-	R25	0	-	-	0	-	L20	-
10	L 7	0	-	-	0	0	0	-	0	-	0	-
11	L20	0	-	L70	0	0	0	-	-	-	0	-
12	L15	0	-	-	-	0	0	-	0	0	0	-
13	-	0	L20	-	-	-	-	-	0	0	0	-
14	0	0	-	-	0	0	0	-	0	0	0	-
15	-	0	-	-	-	R20	0	-	0	0	0	-
16	-	-	-	-	0	0	-	-	0	-	0	L35
17	0	0	0	-	0	L50	-	L65	-	0	0	-
18	R17	0	-	-	L22	0	-	L35	-	-	-	-
19	-	0	-	-	R15	L20	0	-	0	0	-	-
20	-	0	-	-	-	-	-	-	0	0	-	-
21	-	0	0	-	0	-	0	R45	0	0	-	-
22	-	0	0	-	R 5	R G	R20	R50	0	-	-	-
23	-	-	-	-	R46	-	R20	V	0	-	-	R
24	-	-	-	-	0	-	-	L50	-	-	-	R50
25	R10	L20	-	-	R20	L50	-	V	-	-	-	R
26	R 5	0	R20	-	R 8	0	-	R60	-	-	-	-
27	-	0	-	-	R29	R G	-	-	L 6	-	-	-
28	-	0	0	R80	R60	-	-	R70	-	-	-	-
29	R15	-	0	-	R66	R20	R20	R55	0	-	-	-
30	-	0	0	-	R48	0	R20	R50	0	-	-	-
31	R10	-	-	-	-	-	-	-	-	-	-	-

V = too variable to quote a median value
G = 100% or complete polarisation

3. Variability

Daily indices on a scale 0-4 of the variability or activity of the solar noise

	OCTOBER 1949								NOVEMBER 1949								DECEMBER 1949							
	Canberra	Cavendish		Sydney				Marcoussis	Canberra	Cavendish		Sydney				Marcoussis	Canberra	Cavendish		Sydney				Marcoussis
Mc/s	200	80	175	62	97	600	1200	158	200	80	175	62	97	600	1200	158	200	80	175	62	97	600	1200	158
Date																								
1	3	-	-	2	2	-	-	-	1	-	-	1	1	-	-	0	1	0	1	1	1	0	1	2
2	3	1	-	2	1	-	-	2	1	1	-	0	0	-	-	1	1	-	-	1	1	1	2	1
3	2	2	-	3	2	-	-	2	1	-	-	1	-	-	-	-	1	-	-	0	0	-	-	1
4	2	1	1	2	2	-	-	2	2	1	-	2	2	-	-	2	1	0	0	1	1	-	0	1
5	2	1	-	1	2	-	-	3	1	1	-	1	1	-	-	2	1	1	-	0	0	0	0	1
6	1	0	-	1	1	-	-	-	2	1	-	2	2	-	0	2	1	0	1	0	0	0	0	1
7	2	0	0	1	1	-	-	2	3	-	-	3	3	-	0	2	1	0	1	1	1	0	0	-
8	2	1	-	2	1	-	-	2	2	-	-	2	2	-	1	2	1	1	1	1	1	1	1	1
9	2	1	-	2	2	-	-	2	1	-	-	1	1	-	-	-	1	-	1	1	0	-	0	2
10	1	0	-	1	1	-	-	1	1	0	0	1	1	-	0	-	1	-	0	0	0	-	-	1
11	2	-	-	2	2	-	-	2	0	0	0	1	1	-	1	-	0	-	1	0	0	-	-	1
12	-	1	-	2	2	-	-	-	1	0	-	0	1	-	-	-	1	0	0	0	0	1	0	2
13	1	2	-	2	2	-	-	-	0	-	-	1	1	-	0	1	0	0	1	0	0	0	0	1
14	1	1	-	2	2	-	-	1	1	-	-	1	0	-	0	2	1	1	-	0	0	-	-	1
15	1	3	-	2	1	-	-	1	1	1	0	1	1	0	0	1	1	-	-	0	0	-	-	1
16	0	-	-	1	-	1	-	1	1	1	1	1	1	0	0	1	1	-	-	1	1	-	-	2
17	0	-	-	1	0	0	-	1	2	2	1	3	2	0	-	2	0	0	-	1	1	-	-	-
18	0	0	-	0	0	0	-	1	2	2	1	2	2	0	1	2	0	0	-	-	-	-	-	2
19	-	0	-	-	-	0	0	1	1	2	0	0	1	-	-	1	1	0	-	-	-	1	-	1
20	-	0	-	0	1	0	0	-	1	1	-	1	0	-	-	2	0	-	-	0	0	0	-	2
21	0	-	1	1	0	0	1	2	1	1	1	2	2	0	0	1	0	-	-	0	0	-	-	2
22	1	1	2	2	2	1	0	1	2	3	2	2	2	0	-	2	0	1	-	1	1	-	-	-
23	1	-	-	2	1	0	0	2	2	2	2	2	3	1	0	2	0	1	0	0	1	-	-	-
24	1	-	-	1	0	1	-	2	2	3	2	3	3	0	0	3	2	3	1	-	2	-	-	-
25	1	0	-	2	1	0	-	1	2	3	2	2	2	0	0	2	3	0	-	-	1	-	-	-
26	1	1	1	1	0	-	-	-	2	2	1	1	1	-	-	2	1	0	0	0	0	-	-	-
27	0	0	-	0	1	-	-	-	2	3	3	2	-	1	-	2	2	1	-	0	0	-	-	-
28	1	1	0	1	2	-	-	-	1	2	3	1	1	1	1	2	1	0	1	-	-	-	-	-
29	1	1	1	0	0	-	-	1	2	2	2	0	1	1	0	1	1	2	-	0	0	-	-	-
30	1	1	-	0	0	-	-	2	2	1	1	0	0	1	-	2	1	0	-	1	-	-	-	-
31	1	-	-	1	1	-	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-

4. Outstanding occurrences.

Station and frequency	Date 1949	Starting time	Duration	Type	Maximum intensity		Polarisation	Obs. on other frequencies			Remarks
					Amet.	Smooth					
Mc/s		U.T.	Minutes		10^{-21} w m^{-2} $(c/s)^{-1}$						
Syd 97	Oct 1	0418	5.5	CD	> 130	50	0	Syd	62	0418	Fade
Byf 73	1	0748	4.5			> 15					
Byf 73	1	0858	2.2			> 15					
Byf 73	1	1002	5			> 15					
Byf 73	1	1407	10			> 15					
Byf 73	1	1601	0.8			> 15					
Ott 2800	1	1707	8	CD		5					
Cav 80	2	1105	2	SD		10					
Ott 2800	2	1408?	> 8			> 2					
Byf 73	2	1618	0.5			> 15					
Ott 2800	2	1822	4	SD		1					
Syd 62	2	2000	5	CD	> 105	35					
Syd 62	2	2052	20	CD	> 105	25					
Syd 62	2	2155	6	CD	> 105	20					
Syd 62	2	2233	10	CD	> 106	8					
Syd 62	3	0315	24	CA	> 100	20		Syd	97	0334	Fade
								Can	200	0322	
Byf 73	3	1609	1			> 15					
Byf 73	4	0634	5	M		> 15					
Can 200	5	0407	4	CD		13					Flare
Mcu 545	5	1037	0.7	SD		8					
Mcu 545	5	1047	0.3	SD		9					
Mcu 545	5	1115	1.2	SD		9					
Byf 73	6	1651	5			> 15					
Byf 73	7	1420	0.2			> 15					
Syd 97	8	0336	2.5	CD	> 130	115	0	Syd	62	0336	Fade
								Can	200	0336	
								Byf	73	1312	
Mcu 545	8	1310	2	SD	6						
Ott 2800	8	1646	60	CD		2					
Syd 97	9	0002	15	CD	280	7	0				
Can 200	9	0219	2	CD	17	7					Fade
Can 200	9	0727	3	CD	27	13					
Byf 73	9	1144	1.2			> 15					
Byf 73	9	1302	1			> 15					
Byf 73	9	1628	7	M		> 15					
Ott 2800	9	2014	3	SD		1					
Syd 62	9	2139	8.8	CD	> 120	90					
Syd 62	9	2302	9.2	CD	> 120	10		Syd	97	2302	
								Can	200	2302	
Syd 97	11	0122	5.9	CD	> 120	20	0	Syd	62	0122	Fade
Byf 73	11	0711	1.2			> 15					
Mcu 545	11	1514	15	CD	18	15		Byf	73	1521	
Mcu 545	11	1539	30	CD	16	16		Ott	2800	1528	
Syd 97	12	0644	1.1	CD	> 126	60	0	Byf	73	0645	
								Mcu	545	0647	
Syd 62	12	2030	4	CD	> 120	35		Syd	97	2030	
Cav 80	13	1144	180	SD		90		Mcu	545	1158	
Byf 73	13	1234	0.8			> 15					
Ott 2800	13	1535	3	SD		2					
Ott 2800	13	1930	1.5	SD		1					
Ott 2800	15	1449	4	SD		1					
Ott 2800	15	1631	15	CD		15					
Ott 2800	17	1900	13	SD		8					
Byf 73	18	0602	1	M		> 15					
Byf 73	18	0610	0.2			> 15					
Byf 73	21	1447	1.2			> 15					
Ott 2800	21	1505	2.5	SD		1					
Syd 1200	21	2339	4	CD	> 8	> 1		Syd	600	2337	
Syd 600	22	0003	3	CD	6	1					
Byf 73	22	1046	1			> 15					
Mcu 545	22	1352	5	CD	12	11		Byf	73	1354	
								Ott	2800	1357	
Mcu 545	23	1107	5	CD	10	9		Byf	73	1117	
Byf 73	23	1615	0.8			> 15					
Syd 62	25	0326	2.3	CD	> 90	35					
Mcu 545	26	1006	0.2	SD	9						
Byf 73	28	1049	2.2			> 15					
Syd 97	31	0443	5	CD	420	50	0	Can	200	0445	
Ott 2800	Nov 1	1954	67	CD		5					
Byf 73	4	1455	1			> 15					
Byf 73	4	1515	1.2			> 15					
Syd 97	4	2015	26	CD	46	5	0,L	Syd	62	2015	Polarised from 2025
Ott 2800	5	1828	2.5	SD		15					
Syd 62	6	2129	1.5	CD	> 100	75		Syd	97	2129	
Can 200	6	2339	4	CD	28	11					Fade
Ott 2800	7	1827	3	SD		1					
Syd 1200	8	0204	1	CD	8	0.2					
Syd 1200	11	0101	0.5	CD	12	1					
Syd 1200	11	0142	0.1	SD	12	1					
Ott 2800	11	1517	100	CD		9					
Syd 62	13	1958	5.2	CD	> 100	35					
Syd 62	13	2306	7.2	CD	> 100	14					
Syd 62	16	0435	32	CD	> 90	90					
Syd 62	16	0746	9.3	CD	> 90	14					
Mcu 545	16	1511	0.7	SD	2						
Syd 97	16	2207	3.4	CD	> 110	22	0	Syd	62	2207	
Syd 97	17	0435	31	CD	115	13	0	Can	200	0434	
Can 200	17	0502	4	CD		22					
Syd 97	17	0746	10	CD	> 115	28	0	Can	200	0747	
Mcu 545	17	1010	15	CD							
Mcu 545	17	1120	1.0	SD							
Mcu 545	17	1402	31	SD							

Syd	97	17	2007	22	CD	90	16	0,L					Polarised from 2015
Syd	62	18	0053	6.8	CD	90	13						
Syd	97	18	0223	5.5	CD	>100	35	0	Syd	62	0223		
Syd	97	18	0336	3	CD	>115	35	0	Syd	62	0337		
Syd	1200	18	0419	0.5	CD	13	2						
Syd	1200	18	0533	0.1	CD	13	2						
Syd	62	18	0657	14	CD	> 90	35		Syd	97	0657		
Mau	545	18	1129	0.2	SD								
Cav	80	19	1040	20	SD		25		Mau	545	1031		
									Mar	158	1035		
									Byf	73	1031		
Byf	73	21	1346	1			> 15						
Syd	62	22	0530	3.3	CD	> 90	65						
Syd	97	23	0405	0.3	CD	850	300		Syd	600	0402		
Byf	73	24	0815	4			> 15						
Byf	73	24	1140	1			> 15						
Byf	73	24	1244	3			> 15						
Can	200	25	2108	10	CD		34						
Syd	62	27	0230	19	CD	160	70						Fade
Can	200	27	0410	80	CD		30		Syd	62	0446		Fade
Syd	62	27	0610	62	CA	240	40						
Syd	62	27	0734	1.5	CD	130	58						
Byf	73	27	1246	72			> 15						
Byf	73	27	1328	46			> 15						
Byf	73	27	1422	88			> 15						
Syd	600	28	0050	1	CB	7	1						
Syd	97	28	0230	1.0	CD	> 140	80	0	Syd	1200	0228		Fade
									Syd	600	0232		
Syd	600	28	0636	0.2	SD	> 9							
Syd	1200	28	0741	0.5	SD	16	5						
Byf	73	28	0804	41			> 15						
Byf	73	28	0920	11			> 15						
Mau	545	28	1503	20	SA								
Ott	2800	28	1729	3	SD		15						
Syd	600	29	0002	0.2	SD	24	10						
Syd	600	29	0508	0.5	CD	6	1						
Syd	600	29	0608	0.5	CD	7	1						
Byf	73	29	1002	1			> 15						
Byf	73	29	1248	2.2			> 15						
Byf	73	29	1307	0.8			> 15						
Syd	600	30	0442	1	CB	8	1						
Mau	545	Dec 1	1530		SD								
Syd	1200	1	2054	5.5	CD	11	2		Syd	600	2054		
									Syd	97	2059		
									Syd	62	2059		
Syd	600	2	0430	1	CB	10	3		Syd	1200	0430		
Syd	600	2	0532	2	CD	7	1						
Syd	600	3	0029	1	CD	12	4						
Syd	600	4	0056	< 0.2	SD	5	< 1						Minor burst
Ott	2800	5	1540	60	SD		3						
Syd	62	7	2105	17.5	CD	> 90	20		Syd	97	2105		
									Syd	1200	2104		
Syd	600	8	0246	1	CD	6	1						
Can	200	8	0307	7	CD	45	8						Fade
Syd	97	8	0312	2.0	CD	>100	60		Syd	62	0312		Fade
									Syd	600	0312		
Byf	73	8	1310	4			> 15		Syd	1200	0311		
Ott	2800	9	1901	7	SD		1						
Syd	600	12	0138	< 0.2	SD	6	1						
Syd	600	12	0227	0.5	SD	6	1						
Byf	73	12	1252	19			> 15						
Ott	2800	13	1454	3	SD		5						
Syd	62	22	2333	2.7	CD	>105	65						
Byf	73	24	1356	6			> 15						
Byf	73	27	1530	1.5			> 15						
Byf	73	30	1412	1			> 15						

Canberra, November 1950

R.v.d. R.Woolley