

	Xray class	Observers	John Cook (23.4kHz/22.1kHz)				Roberto Battaiola 20.3kHz				Paul Hyde (22.1kHz/24kHz)				Mark Edwards (24.0/19.6/37.5kHz)				Colin Clements (23.4kHz/21.75kHz)			
			Tuned radio frequency receiver, 0.58m frame aerial.				Modified AAVSO receiver.				Spectrum Lab / PC 1.5m frame aerial.				Spectrum Lab / PC 2m loop aerial.				Tuned Radio Frequency receivers, 0.76m screened loop aerial.			
DAY			START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)	
1	M5.6	4	06:41	06:48	07:13	1+	06:40	06:45	06:50	1-	06:42	06:47	07:26	2	06:37	06:48	07:15	2				
1	*	1																				
1	C5.3	3					07:47	07:56	08:19	1+	07:32	07:35	07:44	1-	07:51	07:58	08:12	1				
1	C5.8	9	10:39	10:43	11:24	2					10:39	10:44	10:59	1	10:39	10:44	10:58	1				
1	C2.1	1													15:02	15:05	15:13	1-				
1	C3.5	3									16:48	16:53	17:01	1-	16:49	16:54	17:06	1-				
2	C2.0	1													10:17	10:23	10:35	1-				
2	C8.0	9	10:48	10:55	?	-	10:49	10:56	11:14	1	10:44	10:56	?	-	10:48	11:03	?	-	10:50	11:01	11:22	1+
2	C6.2	6	11:20	11:25	11:45	1	11:17	11:27	11:46	1+	11:21	11:29	12:13	2+	11:13	11:31	12:00	2+	11:22	11:29	11:37	1-
2	C2.2	4	14:30	14:31	14:40	1-	14:26	14:32	14:37	1-					14:30	14:32	14:47	1-				
3	C2.3	1					08:20	08:24	08:29	1-												
3	C3.4	2	09:13	09:14	09:18	1-	09:11	09:15	09:18	1-												
3	C2.0	1													10:24	10:30	10:33	1-				
4	C3.3	2	10:23	10:27	10:33	1-	10:06	10:25	10:51	2												
4	C2.2	2									13:26	13:30	13:39	1-	13:27	13:29	13:36	1-				
4	C4.4	7	14:42	14:44	14:58	1-	14:36	14:46	15:01	1	14:40	14:48	15:05	1	14:42	14:47	15:09	1+	14:38	14:45	15:07	1+
5	C2.9	1					07:07	07:13	07:17	1-												
6	C2.9	1													15:52	15:56	16:12	1				
7	C2.7	1					06:42	06:47	06:55	1-												
7	C3.0	2									15:00	15:05	15:20	1	15:00	15:08	?	-				
7	C3.4	1									15:12	15:15	?	-	15:12	15:15	?	-				
7	C5.3	3					15:29	15:34	15:43	1-	15:31	15:36	16:09	2	15:30	15:37	15:55	1				
9	C2.7	2													12:24	12:34	12:51	1+				
9	C2.1	2													15:04	15:09	15:19	1-				
9	C9.0	3									17:28	17:34	18:04	2	17:27	17:33	17:53	1+				
10	C5.3	3	07:51	07:56	08:05	1-					07:50	07:54	08:05	1-	07:49	07:58	08:04	1-				
10	C2.7	1									08:16	08:21	08:31	1-								
10	C3.7	3	16:45	16:49	17:04	1					16:42	16:54	17:19	2	16:44	16:50	17:14	1+				
11	C4.4	3					07:03	07:13	07:37	2					07:11	07:17	07:24	1-				
11	C3.7	8	08:23	08:32	08:55	1+	08:21	08:29	08:48	1+	08:22	08:33	08:54	1+	08:28	08:32	08:53	1	07:53	08:20	08:32	2
11	C2.4	4					09:43	09:57	10:13	1+	09:51	09:58	10:07	1-	09:51	09:58	10:09	1-				
11	C7.2	10	11:57	12:18	?	-	11:41	12:13	12:58	2+	11:58	12:19	12:49	2+	11:57	12:20	12:49	2+	11:59	12:19	12:51	2+
11	C4.1	8	13:37	13:40	15:02	2+	13:33	13:38	13:54	1	13:36	13:40	13:57	1	13:37	13:41	13:54	1-	13:35	13:41	14:11	2
11	C7.4	5									16:21	16:28	?	-	16:21	16:28	?	-	16:21	16:28	16:35	1-
11	M1.0	6									16:35	16:52	?	-	16:35	16:47	17:28	2+	16:35	16:44	16:52	1-
11	C6.8	1													18:45	18:51	19:05	1				
12	M1.2	1					05:36	05:45	05:49	1-												
12	M1.0	6					07:11	07:19	07:30	1	07:17	07:22	?	-	07:17	07:21	?	-	07:13	07:22	07:32	1
12	C8.4	3									07:36	07:53	08:28	2+	07:35	07:51	08:27	2+	07:32	07:42	07:52	1
12	C7.6	3													07:56	08:04	?	-				
12	?	3									08:40	08:44	09:00	1	08:41	08:44	08:56	1-				
12	C4.8	3	09:58	10:07	?	-									09:57	10:07	?	-				
12	C5.8	1													10:10	10:19	?	-				
12	C9.2	8	10:22	10:31	11:02	2	10:18	10:26	10:54	2	10:21	10:28	10:57	2	10:21	10:31	10:47	1+	10:23	10:30	11:05	2
12	M2.0	10	11:12	11:18	?	-	11:07	11:14	11:26	1	11:12	11:18	11:38	1+	11:07	11:19	11:40	2	11:05	11:19	11:40	2
12	M2.7	6	11:34	11:46	?	-					11:42	11:45	11:58	1-	11:42	11:44	?	-	11:40	11:44	11:59	1
12	?	1													11:58	12:06	12:29	1+				
12	M2.3	9	12:36	12:42	?	-					12:36	12:45	14:29	3	12:35	12:44	13:35	2+	12:35	12:47	14:24	3
12	C4.6	3									14:29	14:36	14:51	1	14:32	14:35	14:46	1-				
12	M1.3	6									14:52	15:18	15:31	2	14:58	15:13	15:26	1+	14:53	15:19	16:11	2+
12	?	1													15:28	15:29	16:14	2+				
12	?	3									17:06	17:10	17:29	1	17:05	17:14	17:29	1				
13	M1.0	5	06:42	06:50	07:37	2+	06:39	06:53	07:29	2+	06:40	06:47	06:55	1-	06:46	06:56	07:04	1-	06:23	06:43	07:00	2
13	C7.6	5	08:13	08:18	08:58	2	08:10	08:17	08:43	2	08:14	08:20	08:50	2	08:14	08:27	08:46	1+				
13	M1.4	11	09:47	09:58	10:40	2+	09:39	09:50	10:40	2+	09:46	09:55	10:38	2+	09:47	09:57	?	-	09:49	09:57	10:37	2+
13	M1.2	2													10:05	10:09	?	-				
13	?	1													10:20	10:25	10:34	1-				
13	?	1													10:36	10:42	?	-				
13	?	5	11:11	11:30	13:01	3					10:59	11:34	?	-	10:59	11:34	?	-	11:00	11:32	13:14	3+
13	?	2									12:34	12:40	13:02	1+	13:17	13:24	13:41	1				
13	?	2													13:17	13:24	13:41	1				
13	C8.5	10	13:53	14:06	14:56	2+	13:47	14:00	14:55	2+	13:53	14:04	15:04	2+	13:53	14:04	14:33	2	13:52	14:05	15:13	2+
13	C6.3	1													15:02	15:10	?	-				
13	M1.2	9	15																			

	X-ray class	Steve Parkinson (Various)				Andrew Thomas (19.6kHz)				Phil Rourke (23.4kHz)				Mark Prescott (21.75kHz/22.1kHz)				John Elliott (19.6kHz)			
		Tuned radio frequency receiver, frame aerals.				Tuned radio frequency receiver, 0.6m frame aerial.				Spectrum Lab, 0.6m frame aerial.				SpetrumLab/Starbase, Active mini-whip aerial.				Tuned radio frequency receiver, 0.5m frame aerial.			
DAY		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)		START	PEAK	END (UT)	
1	M5.6																				
1	*																				
1	C5.3																				
1	C5.8	10:39	10:43	11:10	1+	10:38	10:44	11:14	2	10:31	10:46	11:34	2+	10:43	10:46	11:20	2	10:38	10:43	11:20	2
1	C2.1																				
1	C3.5																				
2	C2.0																				
2	C8.0	10:47	10:54	12:40	3	10:47	10:57	12:23	3					10:52	11:00	?	-	10:50	10:57	?	-
2	C6.2													11:23	11:31	12:05	2				
2	C2.2	14:29	14:31	14:40	1-																
3	C2.3																				
3	C3.4																				
3	C2.0																				
4	C3.3																				
4	C2.2																				
4	C4.4	14:42	14:48	15:05	1									14:45	14:53	15:04	1				
5	C2.9																				
6	C2.9																				
7	C2.7																				
7	C3.0																				
7	C3.4																				
7	C5.3																				
9	C2.7													12:24	12:38	13:17	2+				
9	C2.1																				
9	C9.0																				
10	C5.3																				
10	C2.7																				
10	C3.7																				
11	C4.4									08:20	08:29	09:30	2+								
11	C3.7																				
11	C2.4																				
11	C7.2	11:58	12:14	12:45	2+	11:57	12:18	13:36	3	12:03	12:17	13:07	2+	12:00	12:20	13:30	3				
11	C4.1	13:37	13:41	14:00	1	13:36	13:41	13:56	1												
11	C7.4																				
11	M1.0	16:21	16:52	17:40	2+									16:25	16:30	?	-				
11	C6.8													?	16:52	17:17	-				
12	M1.2									07:14	07:20	07:34	1								
12	M1.0																				
12	C8.4																				
12	C7.6													07:47	08:07	08:30	2				
12	?																				
12	C4.8																				
12	C5.8																				
12	C9.2					10:23	10:29	10:59	2					10:21	10:34	11:04	2				
12	M2.0	11:13	11:20	?	-	11:11	11:19	12:36	2+	11:10	11:19	12:59	3	11:15	11:21	?	-				
12	M2.7													11:46	11:47	?	-				
12	?																				
12	M2.3	12:36	12:46	14:10	3	12:36	12:47	14:29	3	12:34	12:44	13:42	2+	12:40	12:50	14:25	3				
12	C4.6																				
12	M1.3					15:02	15:16	16:06	2+					15:08	15:21	16:10	2+				
12	?																				
12	?																				
13	M1.0																				
13	C7.6	08:14	08:22	08:56	2																
13	M1.4	09:46	09:57	10:38	2+	09:46	09:57	13:53	3+	09:48	09:57	10:49	2+	09:50	10:01	10:40	2+	09:45	09:57	10:35	2+
13	M1.2																				
13	?																				
13	?																				
13	?									11:01	11:29	12:39	3	11:06	11:35	13:05	3				
13	?																				
13	?																				
13	C8.5	13:53	14:05	14:30	2	13:53	14:04	14:49	2+	13:56	14:04	14:57	2+	13:57	14:07	14:27	1+				
13	C6.3																				
13	M1.2	15:31	15:44	16:20	2+	15:32	15:45	16:24	2+					15:35	15:45	16:40	2+				
13	C6.8																				
13	M3.2																				
14	M1.4																				
14	M4.2																				
14	C3.9																				
14	C5.5	12:27	12:33	13:15	2+	12:26	12:34	13:18	2+	12:28	12:32	13:13	2	12:30	12:38	13:50	2+	12:25	12:38	13:40	2+
14	C3.2	14:48	14:54	15:10	1					14:48	15:34	15:50	2+	14:52	14:58	15:30	2				
14	C4.9	15:37	15:43	16:10	2	15:38	15:44	16:19	2					15:42	15:46	16:20	2				
15	*																				
15	C4.4	08:42	08:47	09:10	1+	08:43	08:46	09:16	2					09:26	09:38	10:01	2				
15	M1.5	09:21	09:35	?	-	09:22	09:36	10:04	2					10:13	10:25	11:36	2+	10:08	10:28	12:00	3
15	C3.2	10:09	10:22	11:45	3	10:10	10:23	11:43	3	10:11	10:21	11:44	3								
15	?																				
15	M1.3																				
16	C2.4													12:15	12:39	13:00	2				
17	C2.8																				
17	?																				
17	C2.5																				
17	C4.6	14:04	14:23	14:50	2+									14:17	14:27	15:24	2+				
19	C4.3																				
20	C2.2																				
20	M1.0	11:41	12:12	13:20	3	11:40	12:12	14:08	3+	11:42	12:09	14:23	3+	11:44	12:13	13:33	3	12:15	12:15	13:10	2+
20	?																				
20	*																				
20	C4.3																				
20	??																				
21	M1.9					10:06	10:48	12:28	3+	10:24	10:47	11:198	3+	10:10	10:53	13:50	3+	10:05	10:45	12:30	3+
22	M1.3																				
23	C3.9																				
24	C2.4																				
24	C2.0																				
27	C2.1																				
29	M1.7																				
29	M1.3	09:47	10:07	?	-	09:47	10:07	10:53	2+	09:55	10:06	10:40	2	09:51	10:11	?	-	09:48	10:08	?	-

