

**Timeline for Cassini Rev 194: 2-Way RSS Saturn Rings Occultation**

**July 06, 2013 UTC (DOY-187)**

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	ERT UTC OWLT = 1:18:32	SCET	PDT ERT-7hrs 7:00:00	Comments
Ka-Band ON (DOY-186)	15:00:28	13:41:56	8:00:28	
Spacecraft is NOT Earth Pointed				
RSSG: Load 1-W, 2-W, and 3-W Frequency Predicts	TBD			
DSS-14: Begin Pre-Cal (DOY 187)	00:25:00	23:06:28	17:25:00	
DSS-14: Begin of Track	01:25:00	00:06:28	18:25:00	Spacecraft is not Earth pointed
<b>DSS-14 Transmitter ON, 18 kW, LCP, RAMP, SWEEP</b>	<b>02:19:00</b>	01:00:28	19:19:00	Start transmitter time = start of 2- & 3-way baseline - RTLT
DSS-34: Begin Pre-Cal	02:20:00	01:01:28	19:20:00	
DSS-43: Begin Pre-Cal	02:30:00	01:11:28	19:30:00	
RSSG: Begin DSS-14 Open-Loop Recordings	02:30:00	01:11:28	19:30:00	
RSSG: Begin DSS-34 and -43 Open-Loop Recordings	03:00:00	01:41:28	20:00:00	
Spacecraft is Earth Pointed	03:02:31	01:43:59	20:02:31	
DSS-14: Begin X-band 1-Way Acquisition	03:02:31	01:43:59	20:02:31	PC/N0 (X-70m tlm ON) = 45 dB-Hz
S-Band ON	03:03:14	01:44:42	20:03:14	
DSS-14: Begin S-band 1-Way Acquisition	03:03:14	01:44:42	20:03:14	PC/N0 (S-70m) = 42 dB-Hz
DSS-43: Begin of Track	03:30:00	02:11:28	20:30:00	
DSS-43: Begin X- & S-band 1-Way Acquisition	03:30:00	02:11:28	20:30:00	PC/N0 (X-70m tlm ON, S-70m) = 45 dB-Hz, 42 dB-Hz
DSS-34: Begin of Track	03:50:00	02:31:28	20:50:00	
DSS-34: Begin X- & Ka-band 1-Way Acquisition	03:50:00	02:31:28	20:50:00	PC/N0 (X-34m tlm ON, Ka-34m) = 39 dB-Hz, 48 dB-Hz
Start of Rev194 Observations	04:28:03	03:09:31	21:28:03	Downlink signals detectable shortly before 05:24:03
RNG OFF/TLM OFF	04:28:07	03:09:35	21:28:07	PC/N0 (X-70m, X34-m) = 54, 48 dB-Hz
Start 1-way baseline	04:28:07	03:09:35	21:28:07	About 28 m long 1-way baseline; FRO RSR if needed
DSS-34: Enable Monopulse	TBD			Enable monopulse only when requested by RS Operations
DSS-14: Begin X- & S-band 2-Way Acquisition	04:56:04	03:37:32	21:56:04	PC/N0 (X-70m, S-70m) = 54, 42 dB-Hz
DSS-43: Begin X- & S-band 3-Way Acquisition (w/ DSS-14)	04:56:04	03:37:32	21:56:04	PC/N0 (X-70m, S-70m) = 54, 42 dB-Hz
DSS-34: Begin X- & Ka-band 3-Way Acquisition (w/ DSS-14)	04:56:04	03:37:32	21:56:04	PC/N0 (X-34m, Ka-34m) = 48, 48 dB-Hz
Begin 2- & 3-Way Free-Space Baseline	04:58:04	03:39:32	21:58:04	
Ring F	05:58:30	04:39:58	22:58:30	Approx. time; Ring F is usually not detectable in real-time
Ring A In	06:01:37	04:43:05	23:01:37	Approximate time

Middle of Encke Gap	06:04:33	04:46:01	23:04:33	Increase in signal levels for a short period
Ring A Out	06:15:34	04:57:02	23:15:34	Approximate time
DSS-34: Disable Monopulse	TBD			Disable monopulse only when requested by RS Operations
Ring B In	06:20:05	05:01:33	23:20:05	Signals will likely be blocked over parts of Ring B
Ring C In	06:50:33	05:32:01	23:50:33	Approximate time
DSS-34: Enable Monopulse	TBD			Enable monopulse only when requested by RS Operations
<b>DSS-14: Transmitter OFF</b>	<b>07:00:00</b>	05:41:28	00:00:00	End of 3-Way baseline - RTLT
DSS-14: End of Track	07:00:00	05:41:28	00:00:00	
DSS-14: End of Post Cal	07:15:00	05:56:28	00:15:00	
RSSG: End DSS-14 Open-Loop Recordings	07:20:00	06:01:28	00:20:00	
DSS-34: Disable Monopulse	TBD			Disable monopulse only when requested by RS Operations
Ring B In	07:55:28	06:36:56	00:55:28	Signals will likely be blocked over parts of Ring B
Ring B Out	08:25:55	07:07:23	01:25:55	Approximate time; Strong signals in the Cassini Division
DSS-34: Enable Monopulse	TBD			Enable monopulse only when requested by RS Operations
Ring A In	08:30:27	07:11:55	01:30:27	Detectable signals over most of Ring A
Middle of the Encke Gap	08:41:27	07:22:55	01:41:27	Strong signals over brief time period
Ring A out	08:44:24	07:25:52	01:44:24	All signals back to full strength (free-space) levels
Ring F	08:47:31	07:28:59	01:47:31	Approx. time; Ring F is usually not detectable in real-time
End of 3-Way free-space baseline	09:37:04	08:18:32	02:37:04	EOT of DSS-14 + RTLT
DSS-34: Begin X- & Ka-band 1-Way Acquisition	09:37:05	08:18:33	02:37:05	PC/N0 (X-34m, Ka-34m) = 48, 48 dB-Hz
DSS-43: Begin X- & S-band 1-Way Acquisition	09:37:05	08:18:33	02:37:05	PC/N0 (X-70m, S-70m) = 54, 42 dB-Hz
Start 1-way baseline	09:37:05	08:18:33	02:37:05	about 39 m 1-way baseline
S-Band OFF	10:16:30	08:57:58	03:16:30	
Ka-Band OFF	10:16:36	08:58:04	03:16:36	
TLM ON/RNG ON	10:17:06	08:58:34	03:17:06	End of Rev194 RSS Experiment
End of Rev194 RSS S/C Activities	10:17:08	08:58:36	03:17:08	
Spacecraft turn from Earth point	10:17:33	08:59:01	03:17:33	
RSSG: End DSS-34 and DSS-43 Open-Loop Recordings	10:40:00	09:21:28	03:40:00	
DSS-34 & DSS-43: End of Track	10:45:00	09:26:28	03:45:00	
DSS-34 & DSS-43: End of Post Cal	11:00:00	09:41:28	04:00:00	

Canberra DSS-43 & DSS-34 related activities

Goldstone DSS-14 related activities

Predicted rings event times are approximate and are based on **NAV OD on 07 June 2013**

DSS-34 Monopulse strategy is preliminary at this time. Final strategy is decided in real-time