

Timeline for Cassini Rev 56 RSS Rings and Atmospheric Occultations on January 15, 2008 (DOY 015)

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	ERT UTC OWLT = 1:10:54	SCET	PST ERT-8hrs 8:00:00	Comments
DSS-34: Start Precal	18:15:00	17:04:06	10:15:00	
DSS-43: Start Precal	19:00:00	17:49:06	11:00:00	
DSS-55: Start Precal	19:35:00	18:24:06	11:35:00	
TWNC ON/ RNG OFF/ TLM OFF	19:42:47	18:31:53	11:42:47	
Start Live Moveable Block (LMB)	19:42:54	18:32:00	11:42:54	Cassini HGA is Earth pointed
DSS-34 & 43 Begin of Track	20:00:00	18:49:06	12:00:00	Detectable S/X/Ka once stations are on points
DSS-34: Enable Monopulse	20:01:00	18:50:06	12:01:00	Enable monopulse once receiver is locked
DSS-34: Disable Monopulse	20:10:00	18:59:06	12:10:00	Real-Time decision to leave or remove the offset
DSS-63: Start Precal	20:20:00	19:09:06	12:20:00	
Start Free-Space Baseline	20:54:08	19:43:14	12:54:08	PC/N0 (X70, X&Ka34, S70) = ~56, 49, 49, and 42 dB
DSS-55 & 63 Begin of Track	21:20:00	20:09:06	13:20:00	
DSS-55: Enable Monopulse	21:20:10	20:09:16	13:20:10	Enable monopulse once receiver is locked
DSS-55: Disable Monopulse	21:22:00	20:11:06	13:22:00	Quick real-time decision to leave or remove the offset
Ring F	21:24:45	20:13:51	13:24:45	Rings F may not be detectable in real-time
Ring A in	21:24:28	20:13:34	13:24:28	Detectable signals over most of Ring A
Enke Gap	21:26:05	20:15:11	13:26:05	Signals are back very briefly to full strength
Ring A out	21:28:21	20:17:27	13:28:21	Relatively strong signals in the Cassini Division
Ring B in	21:29:16	20:18:22	13:29:16	Signals will be small or absent over most of Ring B
Ring C in	21:35:08	20:24:14	13:35:08	Signals detectable but briefly blocked by dense ringlets
Ring C out	21:42:38	20:31:44	13:42:38	PC/N0 (X70, X&Ka34, S70) = ~56, 49, 49, and 42 dB
Ring C in	21:45:07	20:34:13	13:45:07	All ring features occultes again in reverse order
Ionosphere in (~68,000 km)	21:51:54	20:41:00	13:51:54	The upper ionosphere will be mixed with the rings

Ring B in	21:52:37	20:41:43	13:52:37	Signals will be small or absent over most of Ring B
Ring B out	21:58:29	20:47:35	13:58:29	Relatively strong signals in the Cassini Division
Ring A in	21:59:24	20:48:30	13:59:24	Detectable signals over most of Ring A
Encke gap	22:01:40	20:50:46	14:01:40	Signals are back very briefly to full strength
Ring A out	22:02:17	20:51:23	14:02:17	PC/N0 (X70, X&Ka34, S70) = ~56, 49, 49, and 42 dB
Ring F	22:03:02	20:52:08	14:03:02	Rings F may not be detectable in real-time
DSS-34 & 43: End of Track	22:05:00	20:54:06	14:05:00	
Troposphere in (~0.1° BA)	22:06:47	20:55:53	14:06:47	S/X/Ka signal intensities start to drop and scintillate
Likely Loss of Ka-band signal (~1.15° BA)	22:19:25	21:08:31	14:19:25	Approximate time
DSS-34 & 43: Postcal	22:20:00	21:09:06	14:20:00	
Cassini is Behind Saturn				The S-band, & perhaps the X-band signals, will remain detectable throughout the whole period Cassini is geometrically hidden behind Saturn!
Weak Ka-band signal (~1.15° BA)	22:35:21	21:24:27	14:35:21	Weak but increasing and scintillating Ka-band signal
Troposphere Out (~0.1° BA)	22:48:20	21:37:26	14:48:20	PC/N0 (X70, X&Ka34, S70) = ~56, 49, 49, and 42 dB
Ionosphere Out (~68,000 km)	23:13:35	22:02:41	15:13:35	Ionosphere primarily affects signal frequency
End of Free-Space Baseline	23:27:08	22:16:14	15:27:08	"Official" end of the rev 56 RSS experiments
DSS-55: Enable Monopulse	23:40:00	22:29:06	15:40:00	Monopulse enabled to check blind pointing performance
End of Live Moveable Block (LMB)	23:41:54	22:31:00	15:41:54	HGA Continues to be Earth pointed till this time
TLM ON/ TWNC OFF/ RNG ON	23:41:55	22:31:01	15:41:55	
DSS-63: End of Track	0:00:00	22:49:06	16:00:00	
DSS-63: Postcal	0:15:00	23:04:06	16:15:00	
DSS-55 End of Track	8:30:00	7:19:06	0:30:00	
DSS-55 Postcal	8:45:00	7:34:06	0:45:00	

Indicates DSS-34 & 43 Related Activities

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All times are based on Rev 56 Live Update OD on 1/9/08

Some Ring Edges are known to be noncircular, which will affect ring event times above