

# **TOST: Handoff**

## **024TI (T14)**

Segment: 2006-139T19:56:00 – 2006-141T19:56:00

Titan C/A: 2006-140T12:18:12, Altitude = 1879 km

Epoch: GMB\_E024\_Titan14

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Candy Hansen, Trina Ray, Doug Equils, and Dave Mohr

## T14 Science Objectives

UVIS - probe haze optical properties, atmospheric nitrogen emissions and hydrocarbon absorption, and absorption by methane of the Lyman-alpha interplanetary background which helps us understand the distribution of methane in the thermosphere of Titan.

RSS - A T14 ingress/egress occultation of Titan will provide high-spatial-resolution electron number density profile of the ionosphere, temperature-pressure and absorption profiles of the neutral atmosphere, as well as information about the small-scale structure of the atmosphere (gravity waves, turbulence, layers). An inbound and outbound RSS bistatic scattering observations of Titan's surface will provide information about the dielectric constant, nature, and roughness of the region probed.

CIRS - will perform high spectral resolution studies of Titan's limb in the far-infrared regime unseen by Voyager, to search for new species and to map the vertical distribution of CO, CH<sub>4</sub>, HCN and H<sub>2</sub>O. CIRS will also continue existing campaigns of global temperature and composition mapping, extending spatial and temporal coverage.

## C/A 2006-140T12:18:12

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
139T19:56	139T20:26	SP turn to waypoint		DFPW Norm	S_N_ER_3	NAC to Titan, -X to SUN
139T20:26	139T20:41	OD Uncertainty Dead Time		DFPW Norm	S_N_ER_3	
-15:30	-9:00	CIRS	Long Integration with FP1; 60deg emission angle; co-aligned ORS boresights on Titan, may choose orientation to optimize pointing	DFPW Norm	S_N_ER_3	
-9:00	-7:30	CIRS	Limb obs. For vertical profile of trace hydrocarbons	DFPW Norm	S_N_ER_3	
-7:30	-3:22	UVIS	Limb to limb slow scan	DFPW Norm	S_N_ER_3	
-3:22	-3:00	Transition to RCS		ORS/RCS	S_N_ER_3	(0.5,2,0.5)
-3:00	-2:30	UVIS		RSS WU	S_N_ER_3	
-2:30		Begin Custom Period				
-2:30	-1:05	CIRS	FP1 limb integration	RSS WU	S_N_ER_3	
-1:05	-0:55	tum (RSS)	Pick up at CIRS LAT_VIEW	RSS/RCS	S_N_ER_3	secondary +Y to NSP
-0:55	+0:55	RSS	Bistat(In) / Occ(-15:02) / Bistat(Out)	RSS/RCS	S_N_ER_2	(0.5,0.5,20) at -0:55
+0:55	+1:03	tum (RSS)	Leave at CIRS LAT_VIEW	RSS/RCS	S_N_ER_3	NAC to Titan, -X to SUN
+1:03	+1:27	Transition to RWA		DFPW Norm	S_N_ER_3	
+1:27	+2:15	CIRS	Far IR Limb integration	DFPW Norm	S_N_ER_3	
+2:15		End Custom Period				
+2:15	+10:00	CIRS	Limb integration followed by nadir temperature map; meteorology campaign	DFPW Norm	S_N_ER_3	
+10:00	+13:00	CDA	Eccentricity Scan	DFPW Norm	S_N_ER_3	CDA can not heat CIRS
+13:00	+15:00	CIRS		DFPW Norm	S_N_ER_3	
+15:00	+18:00	CDA	Eccentricity Scan	DFPW Norm	S_N_ER_3	CDA can not heat CIRS
+18:00	+20:58	CIRS		DFPW Norm	S_N_ER_3	
141T09:11	141T09:26	OD Uncertainty Dead Time		DFPW Norm	S_N_ER_3	
141T09:26	141T09:56	SP turn to downlink		DFPW Norm	S_N_ER_3	
141T09:56	141T19:56	D/L over Madrid Array	NON-ROLLING agreement	DFPW Norm		POS_X to NEP

Request	Start Time	Epoch	Duration	End Time	Rate	Mb	SPASS Type	Primary Pointing	Secondary Pointing	Pointing Agreement
CAPS_024SA_SURVEY001_RIDER	2006-137T03:42:00		003T06:36:12	2006-140T10:18:12	1000	283.0	Non-SPASS			
CAPS_024SA_SURVEY002_RIDER	2006-140T14:18:12	GMB_E024_Titan14+000T02:00:00	004T06:06:55	2006-144T20:25:07	1000	367.6	Non-SPASS			
CAPS_024TI_T14CLOSE001_PRIME	2006-140T11:18:12	GMB_E024_Titan14-000T01:00:00	000T02:00:00	2006-140T13:18:12	16000	115.2	SPASS Rider			
CAPS_024TI_T14INBD001_PRIME	2006-140T10:13:05		000T01:05:07	2006-140T11:18:12	4000	15.7	SPASS Rider			
CAPS_024TI_T14OUTBD001_PRIME	2006-140T13:18:12	GMB_E024_Titan14+000T01:00:00	000T01:00:00	2006-140T14:18:12	4000	14.4	SPASS Rider			
CDA_024DR_0900DUST186_RIDER	2006-141T19:33:43		000T01:00:16	2006-141T20:33:59	524	1.9	Non-SPASS			
CDA_024DR_1000DUST185_RIDER	2006-141T17:03:12		000T01:38:30	2006-141T18:41:42	524	3.1	Non-SPASS			
CDA_024DR_1100DUST184_RIDER	2006-141T12:33:36		000T03:37:35	2006-141T16:11:11	524	6.8	Non-SPASS			
CDA_024DR_1300DUST183_RIDER	2006-141T07:20:25		000T03:11:11	2006-141T10:31:36	524	6.0	Non-SPASS			
CDA_024DR_1500DUST182_RIDER	2006-141T01:53:33		000T03:24:51	2006-141T05:18:24	524	6.4	Non-SPASS			
CDA_024DR_1700DUST131_RIDER	2006-140T00:14:12		000T23:37:21	2006-140T23:51:33	149.9	12.7	Non-SPASS			
CDA_024DR_SURVEY001_RIDER	2006-139T19:56:00		000T02:17:00	2006-139T22:13:00	149.9	1.2	Non-SPASS			
CDA_024HY_2400HYORX024_RIDER	2006-139T22:13:12		000T01:59:59	2006-140T00:13:11	524	3.8	Non-SPASS			
CDA_024OT_ECCSCAN011_PRIME	2006-140T22:18:12	GMB_E024_Titan14+000T10:00:00	000T03:00:00	2006-141T01:18:12	4192	45.3	Prime	NEG_Z to NSP	NEG_X to 300.8/1.1	
CDA_024OT_ECCSCAN013_PRIME	2006-141T03:18:12	GMB_E024_Titan14+000T15:00:00	000T03:00:00	2006-141T06:18:12	4192	45.3	Prime	NEG_Z to NSP	NEG_X to 304.7/0.7	
CDA_024RI_0900RINGM025_RIDER	2006-141T18:42:43		000T00:49:59	2006-141T19:32:42	524	1.6	Non-SPASS			
CDA_024RI_1000RINGM025_RIDER	2006-141T16:12:12		000T00:49:59	2006-141T17:02:11	524	1.6	Non-SPASS			
CDA_024RI_1200RINGM025_RIDER	2006-141T10:32:37		000T01:59:59	2006-141T12:32:36	524	3.8	Non-SPASS			
CDA_024RI_1400RINGM025_RIDER	2006-141T05:19:25		000T01:59:59	2006-141T07:19:24	524	3.8	Non-SPASS			
CDA_024RI_1600RINGM027_RIDER	2006-140T23:52:34		000T01:59:59	2006-141T01:52:33	524	3.8	Non-SPASS			
CIRS_024IC_DSCAL1366_RIDER	2006-141T10:00:00		000T06:00:00	2006-141T16:00:00	4000	86.4	SPASS Rider			
CIRS_024IC_DSCALSHRT001_RIDER	2006-139T20:48:12	GMB_E024_Titan14-000T15:30:00	000T00:30:00	2006-139T21:18:12	4000	7.2	SPASS Rider			
CIRS_024IC_DSCALSHRT002_RIDER	2006-140T11:13:12	GMB_E024_Titan14-000T01:05:00	000T00:10:00	2006-140T11:23:12	4000	2.4	SPASS Rider			
CIRS_024IC_DSCALSHRT003_RIDER	2006-140T13:13:12	GMB_E024_Titan14+000T00:55:00	000T00:32:00	2006-140T13:45:12	4000	7.7	SPASS Rider			
CIRS_024TI_FIRLMBINT002_PRIME	2006-140T09:48:12	GMB_E024_Titan14-000T02:30:00	000T01:25:00	2006-140T11:13:12	4000	20.4	Prime	CIRS_FP1 to Titan	PIC	hand-off to RSS at CIRS_FP1 to LAT_VIEW(50N,90,25 km,LHS); +/- Z perp to limb
CIRS_024TI_FIRLMBINT002_SI	2006-140T09:48:12	GMB_E024_Titan14+000T02:30:00	000T01:25:00	2006-140T11:13:12	0	2.0	SPASS Rider			
CIRS_024TI_FIRLMBINT003_PRIME	2006-140T13:45:12	GMB_E024_Titan14+000T01:27:00	000T00:48:00	2006-140T14:33:12	4000	11.5	Prime	CIRS_FP1 to Titan	PIC	pick-up from RSS at CIRS_FP1 to LAT_VIEW(50S,90,125km,RHS); +/- Z perp to limb
CIRS_024TI_FIRLMBINT003_SI	2006-140T13:45:12	GMB_E024_Titan14+000T01:27:00	000T00:48:00	2006-140T14:33:12	0	2.0	SPASS Rider			
CIRS_024TI_FIRNADCOMP002_SI	2006-140T21:18:12	GMB_E024_Titan14+000T09:00:00	000T05:00:00	2006-141T02:18:12	0	5.0	SPASS Rider			
CIRS_024TI_FIRNADCOMP003_PRIME	2006-139T20:48:12	GMB_E024_Titan14-000T15:30:00	000T06:30:00	2006-140T03:18:12	4000	93.6	Prime	CIRS_FP1 to Titan	PIC	
CIRS_024TI_FIRNADCOMP003_SI	2006-139T20:48:12	GMB_E024_Titan14-000T15:30:00	000T06:30:00	2006-140T03:18:12	0	6.0	SPASS Rider			
CIRS_024TI_FIRNADMAP002_UVIS	2006-140T04:48:12	GMB_E024_Titan14-000T07:30:00	000T05:00:00	2006-140T09:48:12	4000	72.0	SPASS Rider			
CIRS_024TI_FIRNADMAP003_PRIME	2006-140T14:33:12	GMB_E024_Titan14+000T02:15:00	000T02:45:00	2006-140T17:18:12	2000	19.8	Prime	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_024TI_FIRNADMAP003_SI	2006-140T14:33:12	GMB_E024_Titan14+000T02:15:00	000T02:45:00	2006-140T17:18:12	0	3.0	SPASS Rider			
CIRS_024TI_MIDIRTMAP001_PRIME	2006-141T01:18:12	GMB_E024_Titan14+000T13:00:00	000T02:00:00	2006-141T03:18:12	4000	28.8	Prime	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
CIRS_024TI_MIDIRTMAP001_SI	2006-141T01:18:12	GMB_E024_Titan14+000T13:00:00	000T02:00:00	2006-141T03:18:12	0	3.0	SPASS Rider			
CIRS_024TI_MIDIRTMAP002_PRIME	2006-141T06:18:12	GMB_E024_Titan14+000T18:00:00	000T02:58:00	2006-141T09:16:12	4000	42.7	Prime	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
CIRS_024TI_MIDIRTMAP002_SI	2006-141T06:18:12	GMB_E024_Titan14+000T18:00:00	000T02:58:00	2006-141T09:16:12	0	4.0	SPASS Rider			
CIRS_024TI_MIRLMBINT003_PRIME	2006-140T17:18:12	GMB_E024_Titan14+000T05:00:00	000T05:00:00	2006-140T22:18:12	4000	72.0	Prime	CIRS_FPB to Titan	PIC	
CIRS_024TI_MIRLMBINT003_SI	2006-140T17:18:12	GMB_E024_Titan14+000T05:00:00	000T05:00:00	2006-140T22:18:12	0	5.0	SPASS Rider			
CIRS_024TI_MIRLMBMAP002_PRIME	2006-140T03:18:12	GMB_E024_Titan14-000T09:00:00	000T01:30:00	2006-140T04:48:12	4000	21.6	Prime	CIRS_FPB to Titan	PIC	
CIRS_024TI_MIRLMBMAP002_SI	2006-140T03:18:12	GMB_E024_Titan14-000T09:00:00	000T01:30:00	2006-140T04:48:12	0	6.0	SPASS Rider			
ENGR_024SC_DEADBAND141_AACS	2006-140T11:23:12	GMB_E024_Titan14-000T00:55:00	000T00:00:01	2006-140T11:23:13	0	0.0	SPASS Note			
ENGR_024SC_DFPWBIAS140_PPS	2006-140T13:21:12	GMB_E024_Titan14+000T01:03:00	000T00:21:07	2006-140T13:42:19	0	0.0	Prime	ISS_NAC to Titan	NEG_X to Sun	
ENGR_024SC_ORSRC140_PPS	2006-140T08:56:12	GMB_E024_Titan14-000T03:22:00	000T00:20:51	2006-140T09:17:03	0	0.0	Prime	ISS_NAC to Titan	NEG_X to Sun	Deadband = (0.5,0.5,0.5)
ENGR_024SC_ROUTEREU001_CDS	2006-140T10:48:12	GMB_E024_Titan14-000T01:30:00	000T03:00:00	2006-140T13:48:12	0	0.0	Non-SPASS			
ENGR_024SC_RSS3RCS140_PPS	2006-140T09:17:12	GMB_E024_Titan14-000T03:01:00	000T00:05:08	2006-140T09:22:20	0	0.0	Non-SPASS			
INMS_024SA_SURVEY002_RIDER	2006-139T03:41:00		000T20:52:41	2006-140T00:33:41	50	3.8	Non-SPASS			
INMS_024SA_SURVEY003_RIDER	2006-141T00:18:12	GMB_E024_Titan14+000T12:00:00	000T12:00:19	2006-141T12:18:31	50	2.2	Non-SPASS			
INMS_024SA_SURVEY004_RIDER	2006-141T12:18:31		000T10:15:29	2006-141T22:34:00	50	1.8	Non-SPASS			
INMS_024TI_T14CLOSE001_RSS	2006-140T11:18:12	GMB_E024_Titan14-000T01:00:00	000T02:00:00	2006-140T13:18:12	1498	10.8	Non-SPASS			
INMS_024TI_T14INBD001_RSS	2006-140T00:33:41		000T10:44:31	2006-140T11:18:12	100	3.9	Non-SPASS			
INMS_024TI_T14OUTBD001_RSS	2006-140T13:18:12	GMB_E024_Titan14+000T01:00:00	000T11:00:00	2006-141T00:18:12	100	4.0	Non-SPASS			



# TOL (con't)

024TI (T14)

ISS_024TI_EUVFUV001_UVIS	2006-140T04:48:12	GMB_E024_Titan14-000T07:30:00	000T05:00:00	2006-140T09:48:12	0	510.0	SPASS Rider			
ISS_024TI_EUVFUV002_UVIS	2006-140T09:18:12	GMB_E024_Titan14-000T03:00:00	000T00:30:00	2006-140T09:48:12	0	30.0	SPASS Rider			
ISS_024TI_FIRLMBINT002_CIRS	2006-140T09:48:12	GMB_E024_Titan14-000T02:30:00	000T01:25:00	2006-140T11:13:12	0	186.0	SPASS Rider			
ISS_024TI_FIRLMBINT003_CIRS	2006-140T13:45:12	GMB_E024_Titan14+000T01:27:00	000T01:00:00	2006-140T14:45:12	0	22.0	SPASS Rider			
ISS_024TI_FIRNADCMP002_CIRS	2006-140T21:18:12	GMB_E024_Titan14+000T09:00:00	000T05:00:00	2006-141T02:18:12	0	20.0	SPASS Rider			
ISS_024TI_FIRNADCMP003_CIRS	2006-139T20:48:12	GMB_E024_Titan14-000T15:30:00	000T06:30:00	2006-140T03:18:12	0	20.0	SPASS Rider			
ISS_024TI_FIRNADMAP003_CIRS	2006-140T14:33:12	GMB_E024_Titan14+000T02:15:00	000T02:45:00	2006-140T17:18:12	0	20.0	SPASS Rider			
ISS_024TI_MIDIRTMAP002_CIRS	2006-141T02:18:12	GMB_E024_Titan14+000T14:00:00	000T06:58:00	2006-141T09:16:12	0	20.0	SPASS Rider			
ISS_024TI_MIRLMBINT003_CIRS	2006-140T17:18:12	GMB_E024_Titan14+000T05:00:00	000T04:00:00	2006-140T21:18:12	0	30.0	SPASS Rider			
ISS_024TI_MIRLMBMAP002_CIRS	2006-140T03:18:12	GMB_E024_Titan14-000T09:00:00	000T01:30:00	2006-140T04:48:12	0	20.0	SPASS Rider			
MAG_024OT_SURVEY001_PRIME	2006-139T19:56:00		000T12:22:12	2006-140T08:18:12	600	26.7	Non-SPASS			
MAG_024OT_SURVEY005_PRIME	2006-140T16:18:12	GMB_E024_Titan14+000T04:00:00	001T03:37:48	2006-141T19:56:00	600	59.7	Non-SPASS			
MAG_024TI_MAGTITAN001_PRIME	2006-140T08:18:12	GMB_E024_Titan14+000T04:00:00	000T08:00:00	2006-140T16:18:12	1976	56.9	Non-SPASS			
MIMI_024CO_SURVEY002_RIDER	2006-140T14:18:12	GMB_E024_Titan14+000T02:00:00	000T22:20:55	2006-141T12:39:07	900	72.4	Non-SPASS			
MIMI_024CO_SURVEY004_RIDER	2006-139T12:34:01		000T21:44:11	2006-140T10:18:12	900	70.2	Non-SPASS			
MIMI_024CO_SURVEY005_RIDER	2006-141T12:34:01		000T10:21:00	2006-141T22:55:01	900	33.5	Non-SPASS			
MIMI_024TI_T14CLOSE001_CAPS	2006-140T11:18:12	GMB_E024_Titan14-000T01:00:00	000T02:00:00	2006-140T13:18:12	2000	14.4	SPASS Rider			
MIMI_024TI_T14INBND001_CAPS	2006-140T10:18:12	GMB_E024_Titan14-000T02:00:00	000T01:00:00	2006-140T11:18:12	2000	7.2	SPASS Rider			
MIMI_024TI_T14OUTBND001_CAPS	2006-140T13:18:12	GMB_E024_Titan14+000T01:00:00	000T01:00:00	2006-140T14:18:12	2000	7.2	SPASS Rider			
MP_023NA_SEQUENCE020_NA	2006-112T05:15:00	E023_SEQUENCE_020+000T00	041T21:24:00	2006-154T02:39:00	0	0.0	SPASS Note			
MP_024EA_OCCTITAN024_NA	2006-140T12:11:58		000T00:13:45	2006-140T12:25:43	0	0.0	Non-SPASS			
MP_024SA_REV024_NA	2006-130T16:31:00		031T06:35:00	2006-161T23:06:00	0	0.0	Non-SPASS			
MP_024SA_RPXDESCEND024_NA	2006-140T05:30:48		000T00:00:01	2006-140T05:30:49	0	0.0	Non-SPASS			
MP_024SU_OCCTITAN024_NA	2006-140T12:10:42		000T00:14:00	2006-140T12:24:42	0	0.0	Non-SPASS			
MP_024TI_FLYBYT014_NA	2006-140T12:18:11		000T00:00:01	2006-140T12:18:12	0	0.0	Non-SPASS			
RPWS_024SA_INSURVEY001_PRIME	2006-141T05:00:00		000T14:56:00	2006-141T19:56:00	1310	70.4	Non-SPASS			
RPWS_024SA_OUTSURVEY003_PRIME	2006-140T14:18:12	GMB_E024_Titan14+000T02:00:00	000T14:46:55	2006-141T05:05:07	1310	69.7	Non-SPASS			
RPWS_024SA_OUTSURVEY004_PRIME	2006-139T19:56:00		000T14:22:12	2006-140T10:18:12	1310	67.8	Non-SPASS			
RPWS_024TI_TICA001_PRIME	2006-140T11:48:12	GMB_E024_Titan14-000T00:30:00	000T01:00:00	2006-140T12:48:12	100001.1	360.0	Non-SPASS			
RPWS_024TI_TIINTRMED001_PRIME	2006-140T10:18:12	GMB_E024_Titan14-000T02:00:00	000T01:30:00	2006-140T11:48:12	12499.4	67.5	Non-SPASS			
RPWS_024TI_TIINTRMED002_PRIME	2006-140T12:48:12	GMB_E024_Titan14+000T00:30:00	000T01:30:00	2006-140T14:18:12	12499.4	67.5	Non-SPASS			
RSS_024TI_BISTATIN001_PRIME	2006-140T11:13:12	GMB_E024_Titan14-000T01:05:00	000T00:50:00	2006-140T12:03:12	0	0.0	Prime	XBAND to Titan	NEG_X to NEP	Custom hand-off turn from CIRS at start.
RSS_024TI_BISTATOUT001_PRIME	2006-140T12:34:11	GMB_E024_Titan14+000T00:15:59	000T00:47:01	2006-140T13:21:12	0	0.0	Prime	XBAND to Titan	POS_Y to NSP	Custom Hand-off turn to CIRS at end of observation.
RSS_024TI_KADOWN002_RSS	2006-141T07:51:00		000T12:05:00	2006-141T19:56:00	0	0.0	SPASS Rider			
RSS_024TI_OCC001_PRIME	2006-140T12:03:12	GMB_E024_Titan14-000T00:15:00	000T00:30:59	2006-140T12:34:11	0	0.0	Prime	XBAND to Earth	NEG_X to NEP	
RSS_024TI_THERMAL001_RSS	2006-140T09:28:12	GMB_E024_Titan14-000T02:50:00	000T02:00:00	2006-140T11:28:12	0	0.0	SPASS Rider			
SP_024EA_DLTURN141_PRIME	2006-141T09:26:00		000T00:30:00	2006-141T09:56:00	0	0.0	Prime	XBAND to Earth	POS_X to NEP	
SP_024EA_M70ARRNON141_PRIME	2006-141T09:56:00		000T10:00:00	2006-141T19:56:00	0	0.0	Prime	XBAND to Earth	Rolling/SRU	
SP_024NA_DEADTIME139_PRIME	2006-139T20:26:00		000T00:22:12	2006-139T20:48:12	0	0.0	Prime	ISS_NAC to Titan	NEG_X to Sun	
SP_024NA_DEADTIME141_PRIME	2006-141T09:16:12	GMB_E024_Titan14+000T20:58:00	000T00:14:55	2006-141T09:31:07	0	0.0	Prime	ISS_NAC to Titan	NEG_X to Sun	
SP_024NA_M34BWGRSS140_SP	2006-140T09:55:00		000T04:15:00	2006-140T14:10:00	0	0.0	Non-SPASS			
SP_024NA_M70ARR2ND141_SP	2006-141T09:56:00		000T10:00:00	2006-141T19:56:00	0	0.0	Non-SPASS			
SP_024NA_M70ARRNON141_SP	2006-141T09:56:00		000T10:00:00	2006-141T19:56:00	0	0.0	Non-SPASS			
SP_024NA_M70METRSS140_SP	2006-140T09:55:00		000T04:15:00	2006-140T14:10:00	0	0.0	Non-SPASS			
SP_024NA_M70OBSNON141_NA	2006-139T19:56:00		001T14:00:00	2006-141T09:56:00	0	0.0	Non-SPASS			
SP_024NA_TOSTSEG139_NA	2006-139T19:56:00		002T00:00:00	2006-141T19:56:00	0	0.0	SPASS Note			
SP_024TI_BEGCUSTOM140_PRIME	2006-140T09:48:12	GMB_E024_Titan14-000T02:30:00	000T00:01:00	2006-140T09:49:12	0	0.0	SPASS Note			
SP_024TI_ENDCUSTOM140_PRIME	2006-140T14:33:12	GMB_E024_Titan14+000T02:15:00	000T00:01:00	2006-140T14:34:12	0	0.0	SPASS Note			
SP_024TI_WAYPTTURN139_PRIME	2006-139T19:56:00		000T00:30:00	2006-139T20:26:00	0	0.0	New Waypoint	ISS_NAC to Titan	NEG_X to Sun	
UVIS_024SW_IPHSURVEY031_RIDER	2006-141T09:56:00		000T10:00:00	2006-141T19:56:00	76	2.7	Non-SPASS			
UVIS_024TI_EUVFUV001_ENGR	2006-140T08:56:12	GMB_E024_Titan14-000T03:22:00	000T00:22:00	2006-140T09:18:12	5032	6.6	SPASS Rider			
UVIS_024TI_EUVFUV001_PRIME	2006-140T04:48:12	GMB_E024_Titan14-000T07:30:00	000T04:08:00	2006-140T08:56:12	5032	74.9	Prime	ISS_NAC to Titan	NEG_X to Sun	
UVIS_024TI_EUVFUV002_PRIME	2006-140T09:18:12	GMB_E024_Titan14-000T03:00:00	000T00:30:00	2006-140T09:48:12	5032	9.1	Prime	UVIS_FUV to Titan	NEG_X to Sun	
VIMS_024TI_COMPMAP002_CIRS	2006-139T23:03:12	GMB_E024_Titan14-000T13:15:00	000T03:45:00	2006-140T02:48:12	10074.1	136.0	SPASS Rider			
VIMS_024TI_LIMB002_CIRS	2006-140T03:18:12	GMB_E024_Titan14+000T09:00:00	000T01:30:00	2006-140T04:48:12	4814.8	26.0	SPASS Rider			
VIMS_024TI_LIMB003_CIRS	2006-140T09:48:12	GMB_E024_Titan14-000T02:30:00	000T01:00:00	2006-140T10:48:12	9444.4	34.0	SPASS Rider			
VIMS_024TI_LIMB004_CIRS	2006-140T13:45:12	GMB_E024_Titan14+000T01:27:00	000T18:45:00	2006-141T08:30:12	4444.4	300.0	SPASS Rider			
VIMS_024TI_LIMB005_UVIS	2006-140T04:48:12	GMB_E024_Titan14-000T07:30:00	000T05:00:00	2006-140T09:48:12	5555.6	100.0	SPASS Rider			

# Data Volume Summary

DATA VOLUME SUMMARY --- TRANSFER FRAME OVERHEAD INCLUDED (80 BITS PER 8800-BIT FRAME)

DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	OBSERVATION_PERIOD							DOWNLINK_PASS							
			P4				P5			RECORDED		PLAYBACK					
			START (Mb)	SCI (Mb)	HK+E (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	NET_MARGN (Mb)	CAROVR (%)	CAROVR (Mb)
SP_024EA_M70ARRNON141_PRIME	141 09:56	141 19:56	0	3364	129	3493	3532	39	0	249	59	3802	4254	453	453	11%	0

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	139 19:56	141 09:56	267.6	127.2	400.2	21.2	878.0	121.7	139.0	0.0	655.7	90.6	596.0	0.0	0.0	3297.2
OBSERVATION_SI	139 19:56	141 09:56	0.0	0.0	36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0
SP_024EA_M70ARRNON141_PRIME	141 09:56	141 19:56	36.0	18.7	86.4	1.8	0.0	21.6	32.7	0.0	47.2	2.7	0.0	0.0	0.0	247.0
DAILY TOTAL SCIENCE	139 19:56	141 19:56	303.6	145.8	522.6	23.0	878.0	143.3	171.6	0.0	702.9	93.3	596.0	0.0		

# Attitude Strategy Spreadsheet

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S020, length = 42 ... TOST rev 24 Segment		2006-112T05:15:00 2006-139T19:56:00	E023_SEQUENCE_020+000T00:0	041T21:24:00 002T00:00:00	2006-154T02:39:00 2006-141T19:56:00			
SP_024TI_WAYPTTURN139_PRIME		2006-139T19:56:00		000T00:30:00	2006-139T20:26:00	ISS_NAC to Titan	NEG_X to Sun	
<b>NEW WAYPOINT</b>		<b>2006-139T20:26:00</b>		<b>001T23:30:00</b>	<b>2006-141T19:56:00</b>	<b>ISS_NAC to Titan</b>	<b>NEG_X to Sun</b>	
SP_024NA_DEADTIME139_PRIME		2006-139T20:26:00		000T00:22:12	2006-139T20:48:12	ISS_NAC to Titan	NEG_X to Sun	
CIRS_024TI_FIRNADCMP003_PRIME	C, I, V	2006-139T20:48:12	GMB_E024_Titan14-000T15:30:00	000T06:30:00	2006-140T03:18:12	CIRS_FP1 to Titan	PIC	
CIRS_024TI_MIRLMBMAP002_PRIME	C, I, V	2006-140T03:18:12	GMB_E024_Titan14-000T09:00:00	000T01:30:00	2006-140T04:48:12	CIRS_FP1 to Titan	PIC	
UVIS_024TI_EUVFUV001_PRIME	C, I, V	2006-140T04:48:12	GMB_E024_Titan14-000T07:30:00	000T04:08:00	2006-140T08:56:12	ISS_NAC to Titan	NEG_X to Sun	
ENGR_024SC_ORSRCS140_PPS	C, I, U, V	2006-140T08:56:12	GMB_E024_Titan14-000T03:22:00	000T00:20:51	2006-140T09:17:03	ISS_NAC to Titan	NEG_X to Sun	Deadband = (0.5,0.5,0.5)
UVIS_024TI_EUVFUV002_PRIME	C, I, R, V	2006-140T09:18:12	GMB_E024_Titan14-000T03:00:00	000T00:30:00	2006-140T09:48:12	UVIS_FUV to Titan	NEG_X to Sun	
<b>Begin Custom Period</b>		<b>2006-140T09:48:12</b>	<b>GMB_E024_Titan14-000T02:30:00</b>	<b>000T00:01:00</b>	<b>2006-140T09:49:12</b>			
CIRS_024TI_FIRLMBINT002_PRIME	C, I, M, R, V	2006-140T09:48:12	GMB_E024_Titan14-000T02:30:00	000T01:25:00	2006-140T11:13:12	CIRS_FP1 to Titan	PIC	Pick up at ISS_NAC to Titan, NEG_X to Sun; Hand off at CIRS_FP1 to Titan, PIC. hand-off to RSS at CIRS_FP1 to LAT_VIEW(50N,90,225 km,LHS); +/-Z perp to limb
RSS_024TI_BISTATIN001_PRIME	C, M, R	2006-140T11:13:12	GMB_E024_Titan14-000T01:05:00	000T00:50:00	2006-140T12:03:12	XBAND to Titan	NEG_X to NEP	Pick up at unknown, unknown; Hand off at unknown, unknown. Custom hand-off turn from CIRS at start.
Set deadband to (0.5, 0.5, ...)		2006-140T11:23:12	GMB_E024_Titan14-000T00:55:00	000T00:00:01	2006-140T11:23:13			Deadband = (0.5, 0.5, 20)
RSS_024TI_OCC001_PRIME	M	2006-140T12:03:12	GMB_E024_Titan14-000T00:15:00	000T00:30:59	2006-140T12:34:11	XBAND to Earth	NEG_X to NEP	Pick up at unknown, unknown; Hand off at unknown, unknown.
RSS_024TI_BISTATOUT001_PRIME	C, M	2006-140T12:34:11	GMB_E024_Titan14+000T00:15:59	000T00:47:01	2006-140T13:21:12	XBAND to Titan	POS_Y to NSP	Pick up at unknown, unknown; Hand off at unknown, unknown. Custom Hand-off turn to CIRS at end of observation.
ENGR_024SC_DFPWBIAS140_PPS	C, M	2006-140T13:21:12	GMB_E024_Titan14+000T01:03:00	000T00:21:07	2006-140T13:42:19	ISS_NAC to Titan	NEG_X to Sun	Pick up at unknown, unknown; Hand off at unknown, unknown.
CIRS_024TI_FIRLMBINT003_PRIME	C, I, M, V	2006-140T13:45:12	GMB_E024_Titan14+000T01:27:00	000T00:48:00	2006-140T14:33:12	CIRS_FP1 to Titan	PIC	Pick up at CIRS_FP1 to Titan, PIC; Hand off at ISS_NAC to Titan, NEG_X to Sun. pick-up from RSS at CIRS_FP1 to LAT_VIEW(50S,90,125km,RHS); +/-Z perp to limb
<b>End Custom Period</b>		<b>2006-140T14:33:12</b>	<b>GMB_E024_Titan14+000T02:15:00</b>	<b>000T00:01:00</b>	<b>2006-140T14:34:12</b>			
CIRS_024TI_FIRNADMAP003_PRIME	C, I, V	2006-140T14:33:12	GMB_E024_Titan14+000T02:15:00	000T02:45:00	2006-140T17:18:12	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_024TI_MIRLMBINT003_PRIME	C, I, V	2006-140T17:18:12	GMB_E024_Titan14+000T05:00:00	000T05:00:00	2006-140T22:18:12	CIRS_FP1 to Titan	PIC	
CDA_024OT_ECCSCAN011_PRIME	C, I, V	2006-140T22:18:12	GMB_E024_Titan14+000T10:00:00	000T03:00:00	2006-141T01:18:12	NEG_Z to NSP	NEG_X to 300.8/1.1	
CIRS_024TI_MIDIRMAP001_PRIME	C, I, V	2006-141T01:18:12	GMB_E024_Titan14+000T13:00:00	000T02:00:00	2006-141T03:18:12	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CDA_024OT_ECCSCAN013_PRIME	I, V	2006-141T03:18:12	GMB_E024_Titan14+000T15:00:00	000T03:00:00	2006-141T06:18:12	NEG_Z to NSP	NEG_X to 304.7/0.7	
CIRS_024TI_MIDIRMAP002_PRIME	C, I, R, V	2006-141T06:18:12	GMB_E024_Titan14+000T18:00:00	000T02:58:00	2006-141T09:16:12	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
SP_024NA_DEADTIME141_PRIME	R	2006-141T09:16:12	GMB_E024_Titan14+000T20:58:00	000T00:14:55	2006-141T09:31:07	ISS_NAC to Titan	NEG_X to Sun	
SP_024EA_DLTURN141_PRIME	R	2006-141T09:26:00		000T00:30:00	2006-141T09:56:00	XBAND to Earth	POS_X to NEP	
SP_024EA_M7DARRNON141_PRIME	C, R	2006-141T09:56:00		000T10:00:00	2006-141T19:56:00	XBAND to Earth	Rolling/SRU	

# Telemetry Mode Report

EPOCH RELATIVE	UTC	DURATION	TELEMETRY MODE	REQUEST
	2006-139T19:56:00.000	15:27:12	S_N_ER_3	SP_024NA_M70OBSNON141_NA
T14-000T00:55:00	2006-140T11:23:12.000	01:50:00	S_N_ER_2	SP_024NA_M70OBSNON141_NA
T14+000T00:55:00	2006-140T13:13:12.000	20:42:48	S_N_ER_3	SP_024NA_M70OBSNON141_NA
	2006-141T09:56:00.000	00:30:00	SPB_110600	SP_024EA_M70ARRNON141_PRIME
	2006-141T10:26:00.000	00:45:00	SPB_124425	SP_024EA_M70ARRNON141_PRIME
	2006-141T11:11:00.000	08:45:00	SPB_142200	SP_024EA_M70ARRNON141_PRIME



# DSN Requests

CASSINI DOWNLINK/DSN COVERAGE SUMMARY for T14.apf on 2005-Dec-02 14:09:50

(+ = pass overlaps with previous pass; \* = conflicts with DSN weekly maintenance; o = overlaps occultation)

DOWNLINK PASS					DSN PASS						
NAME	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	DATA_RATES kbps	ID	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	CALs min	LABEL	CNFG
M34BWGRSS140	-----	-----	----	(no downlink)	55	140T09:55-14:10	140T11:10-15:30	04:20	180/60	TI bista	N750
M70METRSS140	-----	-----	----	(no downlink)	63	140T09:55-14:10	140T11:10-15:30	04:20	180/60	TI bista	N655
M70ARRNON141	141T09:56-19:56	141T11:15-21:15	10:00	110,124,142	55	141T09:56-19:56	141T11:15-21:15	10:00	90/15	TP ARR	N750
				^-- and also -->	63	141T09:56-19:56	141T11:15-21:15	10:00	60/15	TP ARR	N003

# NAV Requests

CASSINI NAVIGATION SUMMARY for T14.apf on 2005-Dec-02 14:10:39

(+ = pass overlaps with previous pass; \* = conflicts with DSN weekly maintenance; o = overlaps occultation)

ON EARTH-LINE FOR DOWNLINK			TRACKING SUPPORT								
NAME	START_TO_END SCET	DUR hh:mm	ID	BOT_TO_EOT UTC	GND_UPLINK UTC	ARRIV_SC SCET	RCV_GND ERT	2-WAY hh:mm	DOP OK?	RNG OK?	
-(missing)--	-----	----	gap in doppler data of 42 hours					-----	----	NO	NO
M70ARRNON141	141T09:56-19:56	10:00	55	141T11:15-21:15	11:25-21:10	12:44-19:56	14:03-21:15	07:12	Y?	YES	
			63	141T11:15-21:15	11:25-20:54	12:44-19:56	14:03-21:15	07:12	YES	YES	

## Open Issues

- CDA has agreed not to heat CIRS during the ECCSCANs and the D/L will be non-rolling.

## TWT/OST Integration Constraint and Guideline Checklist

Below are Target Working Team (TWT) and Orbiter Science Team (OST) constraints that must be followed during segment implementation. Any exceptions to constraint numbers 3, 4, 6, or 7 must be approved by the Science Planning Manager.

Constraint	C=Comply V=Violate N/A=Not Applicable	Comments	Disposition
1. A. SP has checked all waypoints turns to and from waypoints. B. All initial downlink attitudes have been checked as waypo ints.			
2. All turns to and from waypoints checked for violations and margins. <input type="checkbox"/> CAPS <input type="checkbox"/> CDA <input type="checkbox"/> CIRS <input type="checkbox"/> INMS <input type="checkbox"/> ISS <input type="checkbox"/> MIMI <input type="checkbox"/> MAG <input type="checkbox"/> NAV <input type="checkbox"/> RADAR <input type="checkbox"/> RPWS <input type="checkbox"/> RSS <input type="checkbox"/> UVIS <input type="checkbox"/> VIMS Each Prime Instrument agrees to accept a reduction in observation time during implementation if problems arise.			
3. Custom handoffs limited to: A. ±3 hours from targeted Icy Satellite flyby B. ±3 hours from targeted Titan Flyby C. OpNavs preceding/following a downlink			
4. Minimum 30 min SPASS Prime request duration outside ±5 hours from targeted satellite flyby (5 min. integer duration if >30 min.)			
5. Live and Ground Movable Blocks include appropriate time margins.		K. Klaasen's margin for flyby is min. according to memo dated .	
6. Waypoints changes are ≤3 per day A. All turns that accomplish the waypoint strategy are requested by SP or OpNav.			
7. Live Movable Blocks limited to the following orbits: 7, 8, 9, 10, 12, 28, 51, 56, 57, 60, 63, 64			

Guideline	Yes / No	Comments
1. Were repeatable/reusable templates used where possible?		
2. During Pre-Integration: Was 30 min. used for 90° RWA turns and/or 10 min. for RCS turns?		

(DOUBLE-CLICK TO MAKE CHANGES)