

S/C Mode transition from Earth Acquisition to Nominal
 File: H_FCP_DHS_4008.xls
 Author: S. Manganelli



Procedure Summary

Objectives

This procedure describes the steps needed to perform the S/C transition from Earth Acquisition mode to Nominal mode.

Summary of Constraints

The S/C mode is changed through ASW TCs(8,4,110,1/2) thus the status of the ASW function "Mode Management" has to be "running".

Spacecraft Configuration

Start of Procedure

CDMS in EAM

End of Procedure

CDMS in NM

Reference File(s)

Input Command Sequences

Output Command Sequences

HFD4008

Referenced Displays

ANDs	GRDs	SLDs
ZAZAI999		
ZAZAF999		
ZAZ28999		
ZAZ24999		

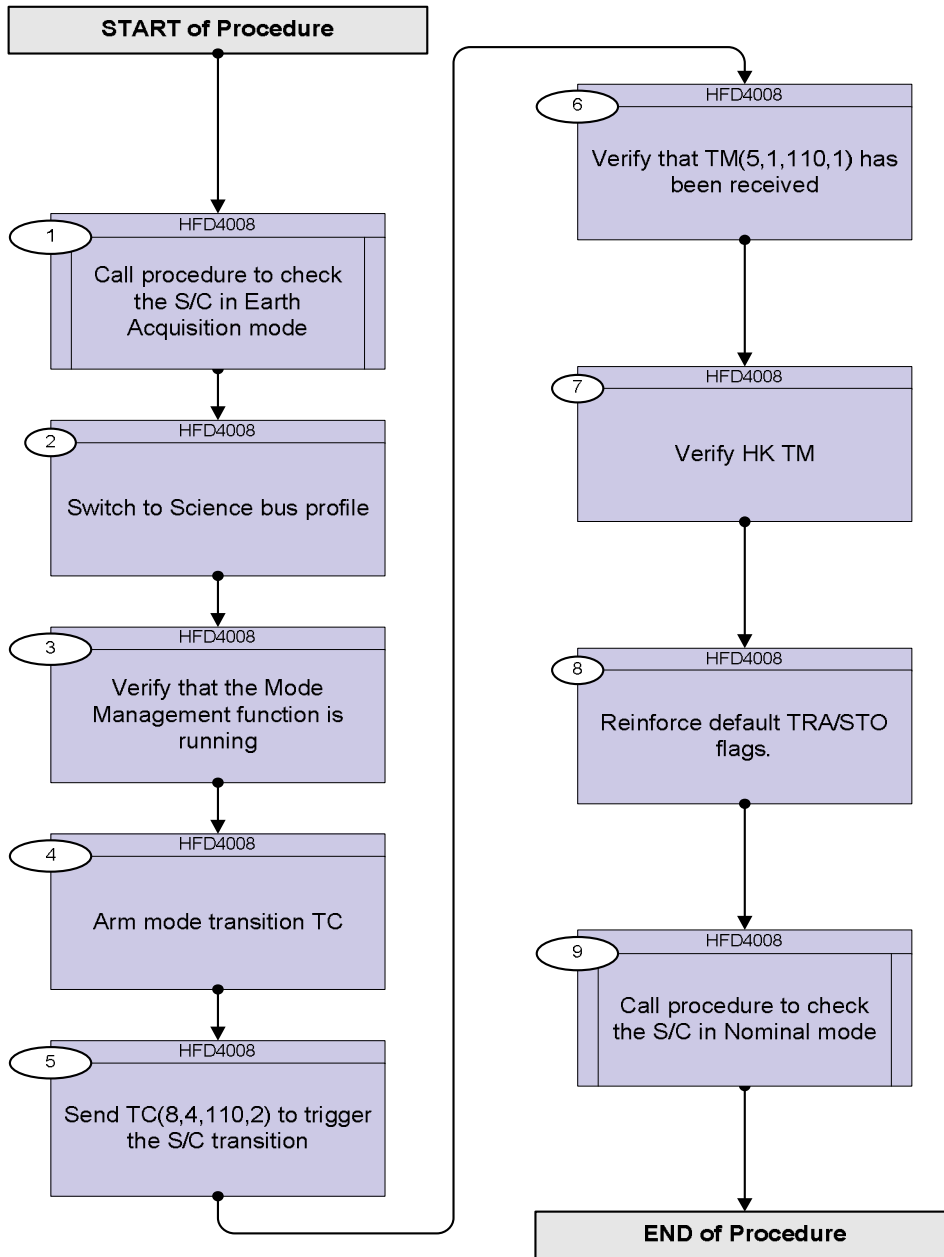
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
12/11/08		1	Created	cmevi-hp	
11/12/08	2	2	editorial	S. Manganelli	
23/03/09	2.2	3	Some checks added selection of SCBP, reinforcement of Xmit / Stor matrix added	S. Manganelli	

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Procedure Flowchart Overview

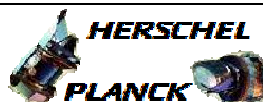


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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name :HFD4008 (S/C from EAM to NOM)				
TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
1		Call procedure to check the S/C in Earth Acquisition mode		Next Step: 2
		Execute procedure H_FCP_DHS_EACK		
2		Switch to Science bus profile		Next Step: 3
		Verify that the Mode Management Function is running ModeSts DEH21170	= Running	AND=ZAZAI999
2.1		Select the proper Bus profile.		<input type="checkbox"/>
2.1.1		Acquire the index of current active bus profile		<input type="checkbox"/>
		Verify Telemetry BSW_SDB_ActProf DEF5F160	= Earth Acq	AND=ZAZAF999
2.1.2		Choose the bus profile and send TC(8,4,6,4) to set it as new active bus profile		<input type="checkbox"/>
		The proper Bus profile must be chosen according to the instrument which is PRIME.		
		Execute Telecommand SelectActiveSCBP Command Parameter(s) : SCBP DH049160 TC Control Flags : GBM IL DSE --Y -- YYY Subsch. ID : 10 Det. descr. : Select Active SCBP from SCBP Table This Telecommand will not be included in the export	DC819160 Desired bus profile	
2.1.3		Verify new active bus profile		<input type="checkbox"/>
		Verify Telemetry BSW_SDB_ActProf DEF5F160	as commanded	AND=ZAZAF999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
3		Verify that the Mode Management function is running		Next Step: 4
		Verify Telemetry ModeSts DEH21170	= Running	AND=ZAZAI999
4		Arm mode transition TC		Next Step: 5
		Execute Telecommand ModeManArmTrans_Nom TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Mode Manag. Arm Transition to Nominal Mode TC(8,4,110,1)	DC03G170	
5		Send TC(8,4,110,2) to trigger the S/C transition		Next Step: 6
		Execute Telecommand ModeManFireTrans_Nom TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Mode Manag. Fire Transition to Nominal Mode TC(8,4,110,2)	DC08G170	
6		Verify that TM(5,1,110,1) has been received		Next Step: 7
		WARNING: downlink of TM(5,1) is disable by default, thus the following packet can be acquired only if it previously enabled.		
		This event will be sent when the new S/C mode has been reached.		
		Verify Packet Reception CdmuAsw Event 5-1 New Mode Reached Packet Details: APID: 16 Type: 5 Subtype: 1 PI1: 28161 PI2: 0	D_EvRp_080	
		Verify Packet Telemetry (Pkt = D_EvRp_080) TM5xEventID DEZSJ170	= NewModeReached	(None)
		Verify Packet Telemetry (Pkt = D_EvRp_080) SID DE010170	= 0 <dec>	(None)
		Verify Packet Telemetry (Pkt = D_EvRp_080) ModeId DE142170	= Nominal	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Telemetry (Pkt = D_EvRp_080) EventSeqCounter DE069170		(None)
7		Verify HK TM		Next Step: 8
		Verify Telemetry CurrentMode DEL34170	= Nominal	AND=ZAZ28999
		Verify Telemetry PrevMode DEL35170	= EarthAcquistn	AND=ZAZ28999
		Verify Telemetry FdirMode DE81D170	= AFS	AND=ZAZ28999
		Verify Telemetry BSW_TM_MODE DEMF0160	= AllVc	AND=ZAZ24999
8		Reinforce default TRA/STO flags. Execute procedure H_FCP_DHS_1003		Next Step: 9
9		Call procedure to check the S/C in Nominal mode Execute procedure H_FCP_DHS_NMCK		Next Step: END
End of Procedure				

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HERSCHEL: 9 Operative Bus Profiles

- Launch : index 0 and defined by TC(8,4,6,1) identified by C001 to C064.
- Earth Acquisition : index 1 and defined by TC(8,4,6,1) identified by C101 to C164.
- HIFI Prime : index 2 and defined by TC(8,4,6,1) identified by C201 to C264.
- SPIRE Prime : index 3 and defined by TC(8,4,6,1) identified by C301 to C364.
- PACS Prime : index 4 and defined by TC(8,4,6,1) identified by C401 to C464.
- Sun Acquisition : index 5 and defined by TC(8,4,6,1) identified by C501 to C564.
- Survival : index 6 and defined by TC(8,4,6,1) identified by C601 to C664.
- Burst : index 7 and defined by TC(8,4,6,1) identified by C701 to C764.
- Parallel Mode : index 8 and defined by TC(8,4,6,1) identified by C801 to C864.