

S/C Mode transition from Sun Acquisition to Nominal
 File: H_FCP_DHS_4001.xls
 Author: S. Manganelli



Procedure Summary

Objectives

This procedure describes the steps needed to perform the S/C transition from Sun 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".

Transition from Sun Acquisition mode to Nominal mode has to be triggered by Ground starting from a D/L rate set to 5 Kbps and with the filtering disabled.

Spacecraft Configuration

Start of Procedure

n/a

End of Procedure

n/a

Reference File(s)

Input Command Sequences

Output Command Sequences

HFD4001A
 HFD4001C

Referenced Displays

ANDs	GRDs	SLDs
ZAZAI999		
ZAZAF999		
ZAZAB999		
ZAZAO999		

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
01/02/08		1	Created	cmevi-hp	
24/04/08		2	Step to set the default TRA/STO flags added.	cmevi-hp	
12/06/08		3	Added HK TM check	S. Manganelli	
20/06/08		4	DB check	S. Manganelli	
26/06/08	1	5	Mode after transition is AFO automatically	S. Manganelli	
27/10/08		6	Procedure restructured following TAS inputs, plus some final TM checks added	S. Manganelli	

Status : Version 8 - Unchanged
 Last Checkin: 21/04/09

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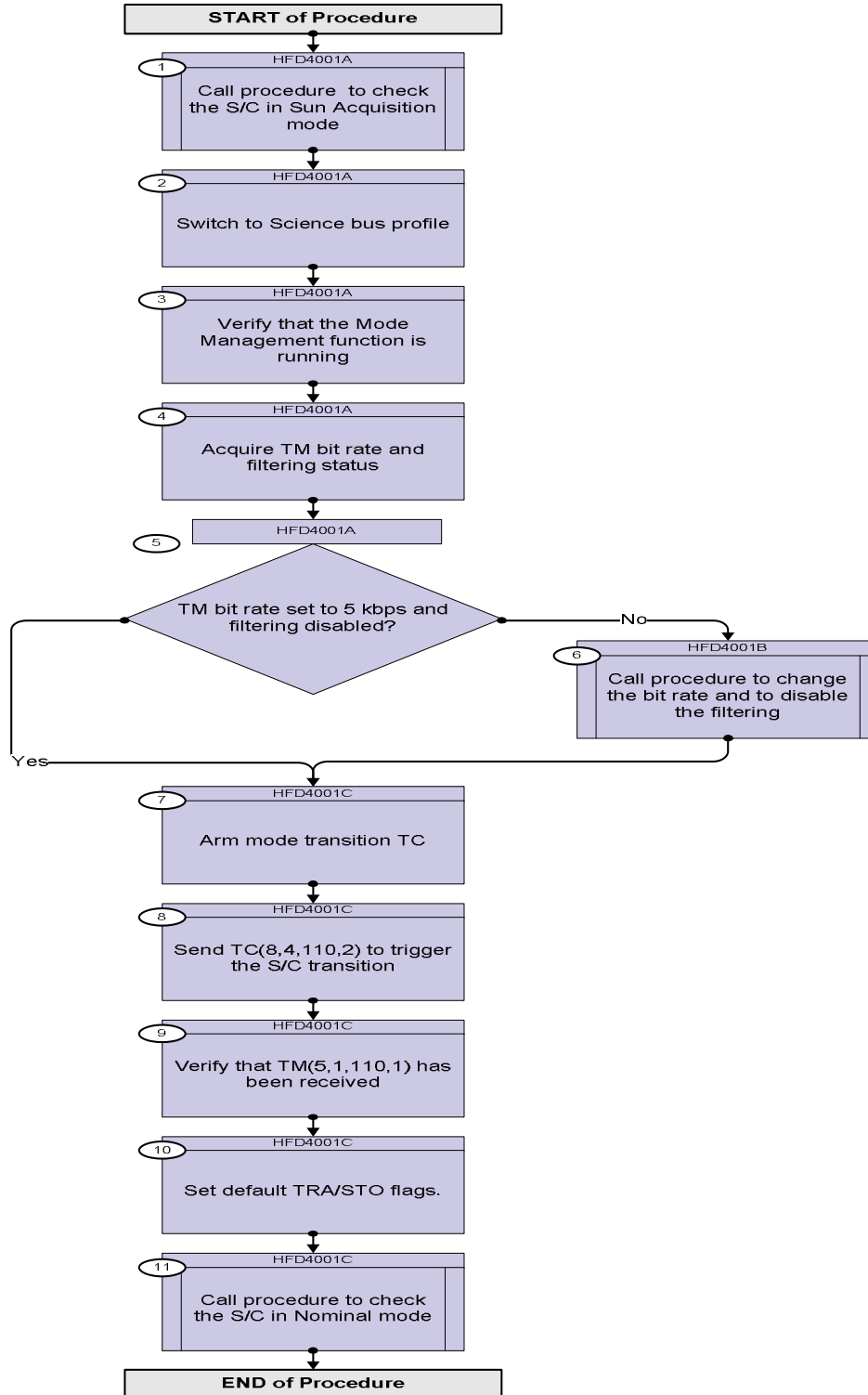


11/11/08	2	7	Procedure updated according to latest version received from industry on 09/09/2008	cmevi-hp	
21/04/09	2.3	8	Used instantiated ESOC mode check procedures	S. Manganelli	

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Procedure Flowchart Overview

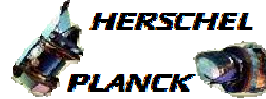


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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name :HFD4001A (Pre-transition check)				
TimeTag Type: Sub Schedule ID: Formal Parameter List : SCBP BUSPROF=2				
2 <dec>				
1		Call procedure to check the S/C in Sun Acquisition mode		Next Step: 2
		Execute Procedure: H_FCP_DHS_SACK CDMU checks in sun acquisition mode after launch		
2		Switch to Science bus profile		Next Step: 3
		Verify Telemetry ModeSts DEH21170	= Running	AND=ZAZAI999
2.1		Select Science 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	= 5 <dec>	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"/>
		See info sheet at end of procedure for the list of Herschel bus profiles. The one to be chosen depends on the planned instrument operations. This TC copies the selected SCBP from the SCBP table to the current active SCBP. The change of current bus-profile will take affect in the next sub-frame zero.		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<p><i>TC Seq. Name :HFD4001C (Transition to Nominal)</i></p> <p><i>TimeTag Type:</i></p> <p><i>Sub Schedule ID:</i></p> <p>□</p>				
7		Arm mode transition TC		Next Step: 8
		Execute Telecommand <p style="text-align: right;">ModeManArmTrans_Nom</p> <p><i>TC Control Flags :</i></p> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <p><i>Subsch. ID : 10</i> <i>Det. descr. : Mode Manag. Arm Transition to Nominal</i> <i>Mode TC(8,4,110,1)</i></p>	DC03G170	
8		Send TC(8,4,110,2) to trigger the S/C transition		Next Step: 9
		Execute Telecommand <p style="text-align: right;">ModeManFireTrans_Nom</p> <p><i>TC Control Flags :</i></p> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <p><i>Subsch. ID : 10</i> <i>Det. descr. : Mode Manag. Fire Transition to Nominal</i> <i>Mode TC(8,4,110,2)</i></p>	DC08G170	
9		Verify that TM(5,1,110,1) has been received		Next Step: 10
		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 <p style="text-align: right;">CdmuAsw Event 5-1 New Mode Reached</p> <p><i>Packet Details:</i></p> <p style="text-align: right;">APID: 16 Type: 5 Subtype: 1 PI1: 28161 PI2: 0</p>	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)
9.1		Verify HK TM		<input type="checkbox"/>
		Verify Telemetry CurrentMode DEL34170	= Nominal	AND=ZAZAI999
		Verify Telemetry PrevMode DEL35170	= SunAcquisition	AND=ZAZAI999
		Verify Telemetry FdirMode DE81D170	= AFO	AND=ZAZAI999
		Verify Telemetry BSW_TM_MODE DEMF0160	= AllVc	AND=ZAZA0999
10		Set default TRA/STO flags. Execute procedure H_FCP_DHS_1003		Next Step: 11
11		Call procedure to check the S/C in Nominal mode Execute Procedure: H_FCP_DHS_NMCK CDMU checks in Nominal Mode after Sun Acquisition Mode		Next Step: END
End of Procedure				

S/C Mode transition from Sun Acquis

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.

PLANCK: 5 Op

- Launch : 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.
- Science : index 2 and defined by TC(8,4,6,1) identified by C201 to C264.
- Sun Acquisition : index 3 and defined by TC(8,4,6,1) identified by C301 to C364.
- Survival : index 4 and defined by TC(8,4,6,1) identified by C401 to C464.

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5 Operative Bus Profiles

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