

Herschel SREM Accumulation
 File: H_FCP_RM_ACC.xls
 Author: S. Manganelli



Procedure Summary

Objectives

To start and stop SREM accumulations.
 After starting the SREM accumulation pprocess, the BSW will collect and packetize the SREM TM. The TM will be stored in the SSMM (Packet Store 1) and must be dumped during DTCsPs.

Summary of Constraints

0

Spacecraft Configuration

Start of Procedure

SREM ON

End of Procedure

SREM ON

Reference File(s)

Input Command Sequences

Output Command Sequences

HFM0030A
 HFM0030B

Referenced Displays

ANDs **GRDs** **SLDs**
 (None)

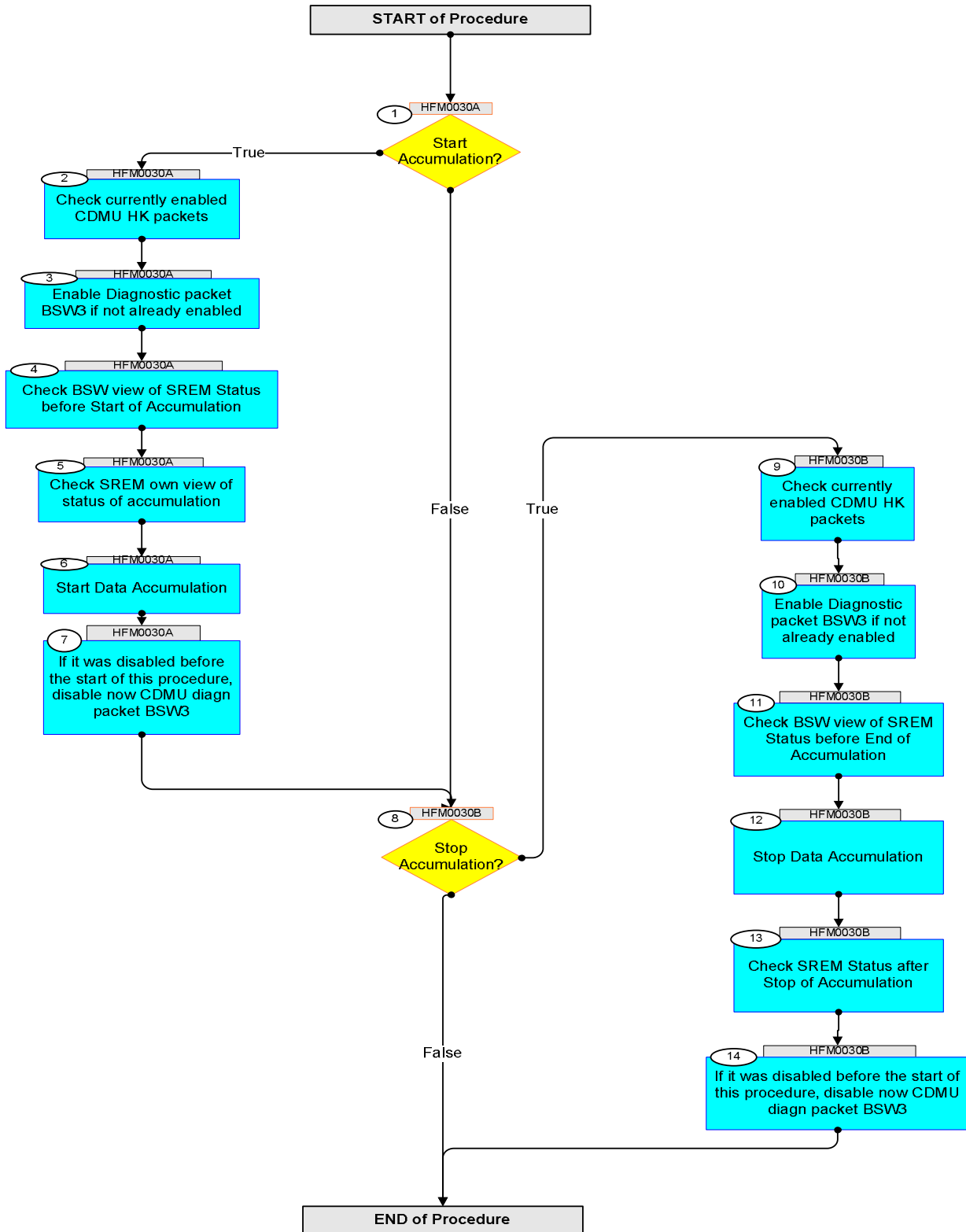
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
23/11/07		1	Created	F. Keck	
20/12/07		2	Database update	F. Keck	
28/01/08		3	Database Update	F. Keck	
11/03/08		3.01	Validation : Database update	F. Keck	
08/07/08		3.02	Validation : Database update	F. Keck	
28/07/08		4	Update after clarification of TM routing/storing	F. Keck	
28/07/08	1	5		F. Keck	
28/10/08		5.01	Validation : Update after Status Register clarification	F. Keck	
11/11/08		6	Added BSW3 ena / dis diagnostic packet TCs	S. Manganelli	
11/11/08		7	Resized flowchart	S. Manganelli	
11/11/08		8	Constraints modified	S. Manganelli	
03/12/08	2	9	Modified step to stop generation of BSW3 packet	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 :HFM0030A (SREM Start Acc) TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
1		Start Accumulation?		Next Step: False 8 True 2
2		Check currently enabled CDMU HK packets		Next Step: 3
		Execute Telecommand <div style="text-align: right;">ReportEnabledTm</div> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- --</div> Subsch. ID : 10 Det. descr. : Report Enabled Telemetry Packets	DC904180	
		If Packet ID 98 is not listed in the report, BSW3 is not enabled		
		Verify Packet Reception <div style="text-align: right;">TM Packet Generation Status Report</div> Packet Details: <div style="text-align: right;">APID: 16 Type: 14 Subtype: 4 PI1: PI2:</div>	TMpktGenRep	
		Verify Packet Telemetry (Pkt = TmpktGenRep) <div style="text-align: right;">N DE140180</div>		
		Verify Packet Telemetry (Pkt = TmpktGenRep) <div style="text-align: right;">Type DE141180</div>		
		Verify Packet Telemetry (Pkt = TmpktGenRep) <div style="text-align: right;">Sub-Type DE142180</div>		
		Verify Packet Telemetry (Pkt = TmpktGenRep) <div style="text-align: right;">Packet-ID DE143180</div>		
3		Enable Diagnostic packet BSW3 if not already enabled		Next Step: 4

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand EnableTmGen Command Parameter(s) : N DH017180 Sub-Type DH019180 Packet-ID DH020180 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Enable Generation of Telemetry Packets	DC900180 1 <dec> (Def) Diag Report 98 <dec>	
4		Check BSW view of SREM Status before Start of Accumulation		Next Step: 5
		Verify Telemetry BSW_SREM_HndlSt DEF40160	= Idle	(None)
5		Check SREM own view of status of accumulation		Next Step: 6
		Send TC(8,4,4,7) to get SREM Status Register.		
		Execute Telecommand GetsSREMReg Command Parameter(s) : N DH047160 REG DH045160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 50 Det. descr. : Get SREM Register	DC816160 1 <dec> (Def) IREM_STATUS	
		Check TM(8,7,4,7) on TMPH.		
		Verify Packet Reception SREM Register Contents Packet Details: APID: 16 Type: 8 Subtype: 7 PI1: 1031 PI2: 28	SREM_RegCont 16 8 7 1031 28	
		Verify Packet Telemetry (Pkt = SREM_RegCont) N DE035160	= 1 <dec>	(None)
		Verify Packet Telemetry (Pkt = SREM_RegCont) REG DE036160	= IREM_STATUS	(None)
		Verify Packet Telemetry (Pkt = SREM_RegCont) DAT DE037160	= 0480 <hex>	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch															
		A value of 0x2480 would indicate that accumulation is already running (and accumulation packets should arrive in real/time TM as well).																	
6		<i>Start Data Accumulation</i>		Next Step: 7															
		Send TC(8,4,4,1) to start cyclical SREM data acquisition and accumulation. Command parameters: DH038160 = accumulation file DH039160 = accumulation time in seconds (nominally 50 seconds) DH040160 = number of accumulations prior to perform a total dose data acquisition																	
		Execute Telecommand StartCycSREMAcq Command Parameter(s) : <table style="margin-left: 40px;"> <tr><td>FIL</td><td>DH038160</td><td>1 <dec></td></tr> <tr><td>TIM</td><td>DH039160</td><td>50 <dec></td></tr> <tr><td>TDF</td><td>DH040160</td><td>10 <dec></td></tr> </table> TC Control Flags : <table style="margin-left: 40px;"> <tr><td>GBM</td><td>IL</td><td>DSE</td></tr> <tr><td>--</td><td>Y</td><td>--</td></tr> </table> Subsch. ID : 50 Det. descr. : Start Cyclic SREM Acquisition	FIL	DH038160	1 <dec>	TIM	DH039160	50 <dec>	TDF	DH040160	10 <dec>	GBM	IL	DSE	--	Y	--	DC811160	
FIL	DH038160	1 <dec>																	
TIM	DH039160	50 <dec>																	
TDF	DH040160	10 <dec>																	
GBM	IL	DSE																	
--	Y	--																	
		Verify Telemetry BSW_SREM_HndlSt DEF40160	= Acquisition	(None)															
		The created accumulation packets are stored by BSW in the SSMM (in PacketStore 1). During DTCPS the packets shall be dumped (DHS procedure). Then the dumped packets can be observed on TMPH: SREM Accumulation Packets: SPID=40810160, T=8, ST=7 SREM Total Dose Packets: SPID=40811160, T=8, ST=7																	
7		<i>If it was disabled before the start of this procedure, disable now CDMU diagn packet BSW3</i>		Next Step: 8															
		Execute Telecommand DisableTmGen Command Parameter(s) : <table style="margin-left: 40px;"> <tr><td>N</td><td>DH017180</td><td>1 <dec> (Def)</td></tr> <tr><td>Sub-Type</td><td>DH019180</td><td>Diag Report</td></tr> <tr><td>Packet-ID</td><td>DH020180</td><td>98 <dec></td></tr> </table> TC Control Flags : <table style="margin-left: 40px;"> <tr><td>GBM</td><td>IL</td><td>DSE</td></tr> <tr><td>--</td><td>Y</td><td>--</td></tr> </table> Subsch. ID : 10 Det. descr. : Disable Generation of Telemetry Packets	N	DH017180	1 <dec> (Def)	Sub-Type	DH019180	Diag Report	Packet-ID	DH020180	98 <dec>	GBM	IL	DSE	--	Y	--	DC902180	
N	DH017180	1 <dec> (Def)																	
Sub-Type	DH019180	Diag Report																	
Packet-ID	DH020180	98 <dec>																	
GBM	IL	DSE																	
--	Y	--																	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<p><i>TC Seq. Name :HFM0030B (SREM Stop Acc)</i></p> <p><i>TimeTag Type: N</i> <i>Sub Schedule ID:</i></p> <p>□</p>				
8		Stop Accumulation?		Next Step: False END True 9
9		Check currently enabled CDMU HK packets		Next Step: 10
		Execute Telecommand <p style="text-align: right;">ReportEnabledTm</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. : Report Enabled Telemetry Packets</i></p>	DC904180	
		If Packet ID 98 is not listed in the report, BSW3 is not enabled		
		Verify Packet Reception <p style="text-align: center;">TM Packet Generation Status Report</p> <p><i>Packet Details:</i></p> <p style="text-align: right;">APID: 16 Type: 14 Subtype: 4 PI1: PI2:</p>	TMpktGenRep	
		Verify Packet Telemetry (Pkt = TmpktGenRep) <p style="text-align: center;">N DE140180</p>		
		Verify Packet Telemetry (Pkt = TmpktGenRep) <p style="text-align: center;">Type DE141180</p>		
		Verify Packet Telemetry (Pkt = TmpktGenRep) <p style="text-align: center;">Sub-Type DE142180</p>		
		Verify Packet Telemetry (Pkt = TmpktGenRep) <p style="text-align: center;">Packet-ID DE143180</p>		
10		Enable Diagnostic packet BSW3 if not already enabled		Next Step: 11

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <div style="text-align: right;">EnableTmGen</div> Command Parameter(s) : <div style="text-align: right;">N DH017180</div> <div style="text-align: right;">Sub-Type DH019180</div> <div style="text-align: right;">Packet-ID DH020180</div> TC Control Flags : <div style="text-align: right;">GBM IL DSE</div> <div style="text-align: right;">--Y -- ---</div> Subsch. ID : 10 Det. descr. : Enable Generation of Telemetry Packets	DC900180 1 <dec> (Def) Diag Report 98 <dec>	
11		Check BSW view of SREM Status before End of Accumulation		Next Step: 12
		Verify Telemetry <div style="text-align: right;">BSW_SREM_HndlSt DEF40160</div>	= Acquisition	(None)
12		Stop Data Accumulation		Next Step: 13
		Send TC(8,4,4,1) to stop cyclical SREM data accumulation.		
		Execute Telecommand <div style="text-align: right;">StopCycSREMAcq</div> TC Control Flags : <div style="text-align: right;">GBM IL DSE</div> <div style="text-align: right;">--Y -- ---</div> Subsch. ID : 50 Det. descr. : Stop Cyclic SREM Acquisition	DC812160	
		The command will take effect when the current accumulation cycle is finished. Wait for the configured accumulation time (usually 50s).		
13		Check SREM Status after Stop of Accumulation		Next Step: 14
		Verify Telemetry <div style="text-align: right;">BSW_SREM_HndlSt DEF40160</div>	= Idle	(None)
		Alternative: Send TC(8,4,4,7) to get SREM Status Register.		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <div style="text-align: right;">GetsSREMReg</div> Command Parameter(s) : <div style="text-align: right;">N DH047160 REG DH045160</div> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 50 Det. descr. : Get SREM Register	DC816160 1 <dec> (Def) IREM_STATUS	
		Check TM(8,7,4,7) on TMPH.		
		Verify Packet Reception <div style="text-align: right;">SREM Register Contents</div> Packet Details: <div style="text-align: right;">APID: 16 Type: 8 Subtype: 7 PI1: 1031 PI2: 28</div>	SREM_RegCont	
		Verify Packet Telemetry (Pkt = SREM_RegCont) <div style="text-align: right;">N DE035160</div>	= 1 <dec>	(None)
		Verify Packet Telemetry (Pkt = SREM_RegCont) <div style="text-align: right;">REG DE036160</div>	= IREM_STATUS	(None)
		Verify Packet Telemetry (Pkt = SREM_RegCont) <div style="text-align: right;">DAT DE037160</div>	= 0480 <hex>	(None)
		A value of 0x2480 would indicate that accumulation is still running (and accumulation packets should arrive in real/time TM as well).		
14		<i>If it was disabled before the start of this procedure, disable now CDMU diagn packet BSW3</i>		Next Step: END
		Execute Telecommand <div style="text-align: right;">DisableTmGen</div> Command Parameter(s) : <div style="text-align: right;">N DH017180 Sub-Type DH019180 Packet-ID DH020180</div> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : Disable Generation of Telemetry Packets	DC902180 1 <dec> (Def) Diag Report 98 <dec>	
End of Procedure				