

Memory dump for STR redundant
File: H_FCP_AOC_4S52.xls
Author: dsalt-hp



Procedure Summary

Objectives

The objective of this Herschel ACMS procedure is to dump any area of the STRred memory (both RAM and EEPROM).

The procedure involves the following activities:

- upload DTM (SA10)
- verify STRred mode is not INI
- command STRred memory dump
- collect TM(6,6) dump packets
- remove DTM (SA10)

The ACMS ASW provides a dedicated function for executing STR memory dumps. This function manages both the collection of data from the STR and the transmission to the ground through standard service 6 memory dump packets.

No dedicated diagnostic packets are required.

Separate procedures have been developed for the main and redundant STR, because of different availability of data in TM.

Summary of Constraints

1. Spacecraft in ground contact to allow immediate processing of the dump.
2. STR not in INI mode
3. The maximum duration of the dump is 42 minutes

Spacecraft Configuration

Start of Procedure

n/a

End of Procedure

n/a

Reference File(s)

Input Command Sequences

Output Command Sequences

HFAS52A
HFAS52B
HFAS52C

Referenced Displays

ANDs	GRDs	SLDs
ZAA01999		
ZAAA999		
ZAAA0999		

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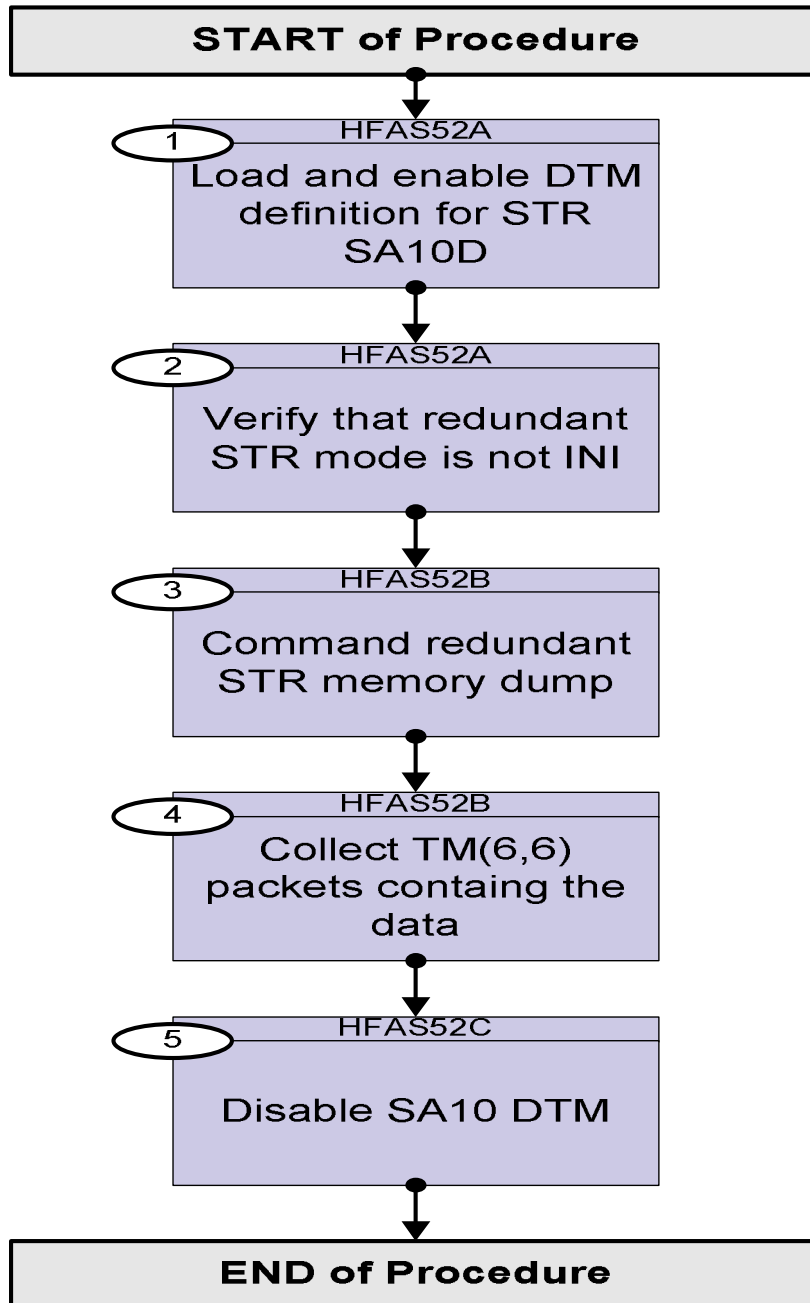
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
03/08/2008	1	1	Created	dsalt-hp	
22/07/2010	3.1	2	Warning about number of words having to be in multiples of 12 added in Step 3	dsalt-hp	

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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 : HFAS52A (Upload DTM SA10) TimeTag Type: Sub Schedule ID: <input type="checkbox"/>																																					
1		Load and enable DTM definition for STR SA10D		Next Step: 2																																	
		Redundant STR data are not available in default TM and a diagnostic packet is needed to verify STR mode before a memory dump is commanded.																																			
		Execute Telecommand <p style="text-align: center;">TC32H STR SA10D1 Super</p> Command Parameter(s) : <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">HK Packet ID</td> <td style="width: 20%;">AH3PK109</td> <td style="width: 60%;">100 <dec> (Def)</td> </tr> <tr> <td>TC3x_SID</td> <td>AHW04109</td> <td>DTM Str12Sa10s</td> </tr> <tr> <td>Interval</td> <td>AH3SA109</td> <td>(Def)</td> </tr> <tr> <td>DID number</td> <td>AH3PA109</td> <td>4 <dec> (Def)</td> </tr> <tr> <td>DID number</td> <td>AH3PA109</td> <td>16447 <dec> (Def)</td> </tr> <tr> <td>DID number</td> <td>AH3PA109</td> <td>16447 <dec> (Def)</td> </tr> <tr> <td>DID number</td> <td>AH3PA109</td> <td>16447 <dec> (Def)</td> </tr> <tr> <td>DID number</td> <td>AH3PA109</td> <td>16447 <dec> (Def)</td> </tr> <tr> <td>DID number</td> <td>AH3PA109</td> <td>16780 <dec> (Def)</td> </tr> <tr> <td>DID number</td> <td>AH3PA109</td> <td>16780 <dec> (Def)</td> </tr> <tr> <td>DID number</td> <td>AH3PA109</td> <td>16780 <dec> (Def)</td> </tr> </table>	HK Packet ID	AH3PK109	100 <dec> (Def)	TC3x_SID	AHW04109	DTM Str12Sa10s	Interval	AH3SA109	(Def)	DID number	AH3PA109	4 <dec> (Def)	DID number	AH3PA109	16447 <dec> (Def)	DID number	AH3PA109	16447 <dec> (Def)	DID number	AH3PA109	16447 <dec> (Def)	DID number	AH3PA109	16447 <dec> (Def)	DID number	AH3PA109	16780 <dec> (Def)	DID number	AH3PA109	16780 <dec> (Def)	DID number	AH3PA109	16780 <dec> (Def)	ACZYA109	
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		TC Control Flags : <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"></td> <td style="width: 60%; text-align: right;">GBM IL DSE</td> </tr> <tr> <td></td> <td style="text-align: right;">--Y -- ---</td> </tr> </table> Subsch. ID : 20 Det. descr. : TC(3,2) Define H DTM STR 1/2 SA10D1 Supersampled		GBM IL DSE		--Y -- ---																															
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		Request packet definition report to verify correct uplinking																																			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand Report Diag Report Def Command Parameter(s) : Number of pkts AH3NP109 HK Packet ID AH3PK109 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(3,11) Report Diagnostic Parameter Report Definitions	AC311109 1 <dec> (Def) 100 <dec>	
		Execute Telecommand EnableTmGen Command Parameter(s) : N AH017070 Sub-Type AH019070 Packet-ID AH020070 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : Enable Generation of Telemetry Packets	AC900070 1 <dec> (Def) Diag Report 100 <dec>	
2		Verify that redundant STR mode is not INI		Next Step: 3
2.1		Verify designation of redundant STR (STRred)		<input type="checkbox"/>
		Verify Telemetry Curr STR in use AES18002	= STR1 or STR2	AND=ZAA01999
		Imply STRred designation from above TM if "Curr STR in use = STR1", <u>STRred is STR2</u> OR if "Curr STR in use = STR2", <u>STRred is STR1</u>		
2.2		Verify that STR2 mode is not INI		<input type="checkbox"/>
		Verify Telemetry STR2 Mode AMX12075	<> Initialisation	AND=ZAAAA999
2.3		Verify that STR1 mode is not INI		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Operating Mode AMX12074	<> Initialisation	AND=ZAAA0999
<p>TC Seq. Name :HFAS52B (Dump STRred)</p> <p>TimeTag Type: Sub Schedule ID: <input type="checkbox"/></p>				
3		Command redundant STR memory dump		Next Step: 4
		Execute Telecommand Dump STR-red SW Command Parameter(s) : STRSw DF86 Cmd AH8U1001 STRSw DD86 Cmd AH8U2001 STRSw STR Mem AHFXM001 STRSw Nr Words AHFXN001 TC Control Flags : GBM IL DSE --Y -- --- SSID : 20 This Telecommand will not be included in the export	ACZ8P109 Enable 86 Enable 86 <dec> (Def) <dec> (Def)	
		***** WARNING ***** The number of dumped words must be a <u>multiple of 12</u> , otherwise the command will fail.		
4		Collect TM(6,6) packets containing the data		Next Step: 5
		The total duration of the dump can be as large as 42 minutes.		
<p>TC Seq. Name :HFAS52C (Remove DTM SA10)</p> <p>TimeTag Type: Sub Schedule ID: <input type="checkbox"/></p>				
5		Disable SA10 DTM		Next Step: END

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand		
		DisableTmGen	AC902070	
		Command Parameter(s) :		
		N	AH017070	1 <dec> (Def)
		Sub-Type	AH019070	Diag Report
		Packet-ID	AH020070	100 <dec>
		TC Control Flags :		
		GBM IL DSE		
		--Y -- --		
		Subsch. ID : 20		
		Det. descr. : Disable Generation of Telemetry Packets		
End of Procedure				