

Check HIFI DPU EEPROM memory area (checksum calculation)
 File: H_FCP_OBS_3160.xls
 Author: lstefanov-hp



Procedure Summary

Objectives

This Herschel OBSM nominal procedure is used to perform a memory check of one or several HIFI DPU EEPROM memory areas. The memory check is commanded using TC(6,9) and the checksum calculated on-board is received on ground in TM(6,10) packets.

The procedure assumes that the command stack has already been generated using the OBSM system and is ready for loading on the Manual Stack. The command stack generation activity is not covered by this procedure.

Summary of Constraints

CDMU in Operational Mode
 - HIFI in Intermediate mode (ASW running)

Memory areas are Checked through TC(6,9); this TC will be delayed when there is an ongoing:

- TC(6,2) Load Memory Using Absolute Addresses
- TC(6,5) Dump Memory Using Absolute Addresses
- TC(6,9) Check Memory Using Absolute Addresses
- TC(8,4,1,1) Copy Memory

Spacecraft Configuration

Start of Procedure

CDMU in Operational Mode
 - HIFI in Intermediate mode (ASW running)

End of Procedure

Same as start

Reference File(s)

Input Command Sequences

Output Command Sequences

OFCP3160

Referenced Displays

ANDs **GRDs** **SLDs**
 HA070289

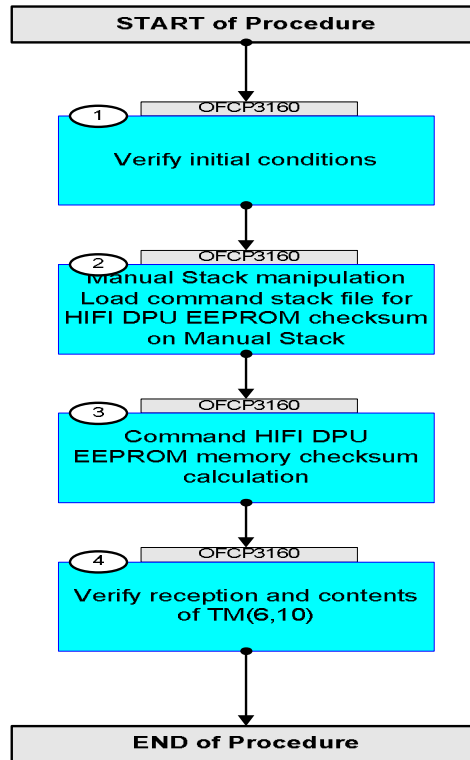
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
27/08/08	2	1	Created	lstefanov-hp	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
Beginning of Procedure					
OFCP3160 TC Seq. Name : OFCP3160 () HIFI DPU EEPROM checksum TimeTag Type: B Sub Schedule ID: □					
1		Verify initial conditions		Next Step: 2	
		Check HIFI instrument in Intermediate mode (ASW running)			
		Instrument SOE to confirm HIFI instrument mode			
2		Manual Stack manipulation Load command stack file for HIFI DPU EEPROM checksum on Manual Stack		Next Step: 3	
		Select the File -> LoadStack option from the main menu of the Manual Stack window			
2.1		IF HIFI Nominal			
		Select file HIDPEEPG_CI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine from directory /home/pmcsopts/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/HIDPEEPG as indicated by the OBSM engineer			
		IMPORTANT: XXXXYYY = Image ID(X) and Version(Y) - depend on image used for stack generation YYYY_DDD hhmmss - depend on stack generation time machine - depends on the name of the machine used for stack generation			
		File name examples - No model associated to the memory image: HIDPEEPG_CI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT HIDPEEPG1, ID 0003, Version 001 associated to the memory image: HIDPEEPG_CI_0002001_C_HIDPEEPG1_0003001_2007_337T093320.sun043			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
2.2		ELSE HIFI Redundant			
		Select file HIDPEEPG_CI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine from directory /home/pmcops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/HIDPEEPG as indicated by the OBSM engineer			
		IMPORTANT: XXXXYYY = Image ID(X) and Version(Y) - depend on image used for stack generation YYYY_DDD hhmmss - depend on stack generation time machine - depends on the name of the machine used for stack generation			
		File name examples - No model associated to the memory image: HIDPEEPG_CI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT HIDPEEPG1, ID 0003, Version 001 associated to the memory image: HIDPEEPG_CI_0002001_C_HIDPEEPG1_0003001_2007_337T093320.sun043			
2.3		Check command stack loaded			
		Check that loaded stack contains one or several TCs XC006998			
		Display the Manual Stack in 'Full mode' and check that the Memory ID parameter in the XC006998 commands is set to 03 hex : Memory ID = 03 hex Note: The Memory ID of the target memory device is stored in the MSB of the 16-bit long Mem ID TC parameter. The LSB of the same parameter carries the most significant 8 bits of the Start Address.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand HIFI Memory Check Command Parameter(s) : Memory ID XH008998 Start Address XH009998 Length XH010998 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 70 Det. descr. : Check HIFI Memory Using Absolute Addresses This Telecommand will not be included in the export	XC006998	TC	
3		Command HIFI DPU EEPROM memory checksum calculation		Next Step: 4	
		Uplink the XC006998 memory check command(s) with ARM-GO			
		For each command, a TM(6,10) packet must be received on ground.			
4		Verify reception and contents of TM(6,10)		Next Step: END	
		Note: A TM(6,10) packet will be received for each memory check command uplinked.			
4.1		IF HIFI Prime			
		Verify Packet Reception HIFI_memory_check Packet Mnemonic : H_mem_check APID : 1024 Type : 6 Subtype : 10 PI1 : PI2 :			
		Verify Telemetry HI_check_mem_id HM072190 = EEPROM		AND=HA070289	
		Verify Telemetry HI_check_start HM073190		AND=HA070289	
		Verify Telemetry HI_check_length HM074190		AND=HA070289	
		Verify Telemetry HI_data_crc HM075190		AND=HA070289	
4.2		ELSE HIFI Redundant			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Verify Packet Reception HIFI_R_memory_check Packet Mnemonic : H_mem_check APID : 1025 Type : 6 Subtype : 10 PI1 : PI2 :			
		Verify Telemetry HI_check_mem_id HM072190	= EEPROM	AND=HA070289	
		Verify Telemetry HI_check_start HM073190		AND=HA070289	
		Verify Telemetry HI_check_length HM074190		AND=HA070289	
		Verify Telemetry HI_data_crc HM075190		AND=HA070289	
4.3		Verify checksum value(s)			
		Check the received checksum(s) against the expected value(s)			
		Verify Telemetry HI_data_crc HM075190	= expected value	AND=HA070289	
End of Sequence					
End of Procedure					