Update HIFI LCU ground image from memory dump
File: H_FCP_OBS_3241.xls
Author: lstefanov-hp

Procedure Summary

Objectives

This Herschel OBSM nominal procedure is used to perform a HIFI
LCU ground image update from memory dump of one or several HIFI
LCU memory areas. The memory dump is commanded using TC(6,5) and
the memory locations content is received on ground in TM(6,6)
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 Stand-by I mode
- HIFI LCU in Stand-by (waiting for Nominal Mode) or Nominal Mode

Memory areas are dumped through TC(6,5); 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 Stand-by I mode
- HIFI LCU in Stand-by (waiting for Nominal Mode) or Nominal Mode

End of Procedure

Same as start except:
-HIFI LCU memory dump executed

Reference File(s)

Input Command Sequences

Output Command Sequences

OFCP3241

Referenced Displays

ANDs   GRDs   SLDs

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
13/01/09		1	Created	lstefanov-hp	

Status   : Version 2 - Unchanged
Last Checkin: 19/01/09

Update HIFI LCU ground image from memory dump
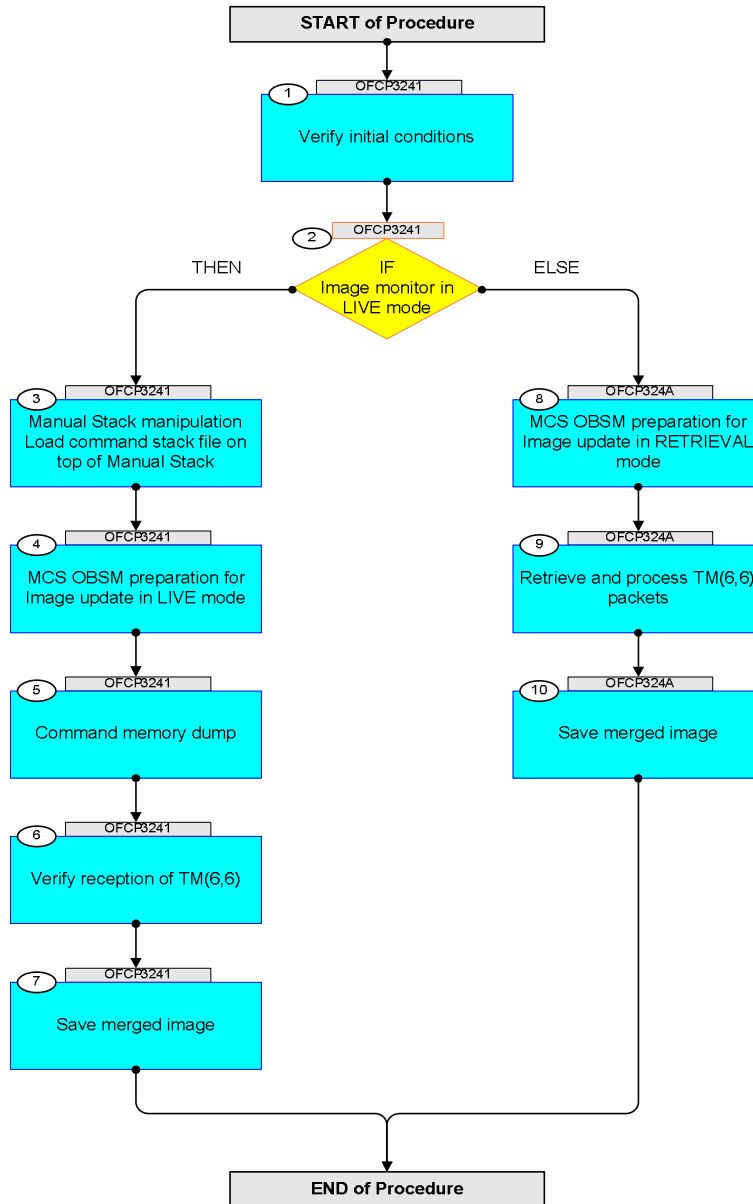File: H_FCP_OBS_3241.xls
Author: lstefanov-hp

| 19/01/09 | 2 | 2 | 1. step 3.3 updated: addresses and length updated for HIFI LCU-FM program v.2917 | lstefanov-hp | |

Update HIFI LCU ground image from memory dump
File: H_FCP_OBS_3241.xls
Author: lstefanov-hp

Procedure Flowchart Overview

Update HIFI LCU ground image from memory dump
File: H_FCP_OBS_3241.xls
Author: lstefanov-hp

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Beginning of Procedure			
OFCP3241		*TC Seq. Name :*OFCP3241 (HIFI LCU Mem Dmp) HIFI LCU memory Gnd image update in Live mode *TimeTag Type: B* *Sub Schedule ID:*			
1		Verify initial conditions		Next Step: 2	
		Check: - HIFI in Stand-by I mode - HIFI LCU in Stand-by (waiting for Nominal Mode) or Nominal Mode			
		Instrument SOE to confirm HIFI instrument mode			
2		IF Image monitor in LIVE mode type: [If]		Next Step: THEN 3 ELSE 8	
3		Manual Stack manipulation Load command stack file on top of Manual Stack		Next Step: 4	
		NOTE: The current procedure assumes that the memory dump in Live mode is performed using commands with immediate execution.			
		Select the File -> **LoadStack** option from the main menu of the Manual Stack window			
3.1		IF HIFI Prime			
		Select file **HILCUMEM_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDD**T**hhmmss. machine** from directory /home/pmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/HILCUMEM 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			

Update HIFI LCU ground image from memory dump
File: H_FCP_OBS_3241.xls
Author: lstefanov-hp

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		File name **examples**			
		- No model associated to the memory image:			
		HILCUMEM_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043			
		- CT HILCUMEM1, ID 0003, Version 001 associated to the memory image:			
		HILCUMEM_DI_0002001_C_HILCUMEM1_0003001_2007_337T093320.sun043			
3.2		ELSE HIFI Redundant			
		Select file			
		HILCUMER_DI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine			
		from directory			
		/home/pmcsops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/HILCUMER			
		as indicated by the OBSM engineer			
		IMPORTANT:			
		XXXXYYYY = 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:			
		HILCUMER_DI_0002001_N_NoModel_NoModel_2007_254T123300.sun043			
		- CT HILCUMER1, ID 0003, Version 001 associated to the memory image:			
		HILCUMER_DI_0002001_C_HILCUMER1_0003001_2007_337T093320.sun043			
3.3		Check command stack loaded			
		IMPORTANT: Following addresses are applicable to **LCU-FM** program **v.2917** (from Jan 2007)			
		Note: for the **HIFI LCU program memory area**: **MemID** = **04** hex **Start Address** = **00.0000** hex **End Address** = **00.2791** hex **Length** = **2792** hex			

Update HIFI LCU ground image from memory dump
File: H_FCP_OBS_3241.xls
Author: lstefanov-hp

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Note: for the **HIFI LCU tables memory area**: **MemID** = **04** hex **Start Address** = **00.2792** hex **End Address** = **00.6B29** hex **Length** = **4398** hex			
		Note: for the **HIFI LCU patch area memory buffer**: **MemID** = **04** hex **Start Address** = **00.6B2A** hex **End Address** = **00.79F7** hex **Length** = **ECE** hex			
		Note: for the **HIFI LCU operational memory buffer**: **MemID** = **04** hex **Start Address** = **00.79F8** hex **End Address** = **00.7AFF** hex **Length** = **108** hex			
		Check that loaded stack contains one or several TCs **XC005998**			
		Display the Manual Stack in 'Full mode' and check that the **Memory ID** parameter in the XC005998 command(s) is set to **04 hex**: **Memory ID = 04 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.			

		Execute Telecommand
		                      HIFI Memory Dump
		
		 Command Parameter(s) :
		          Memory ID XH008998
		       Start Address XH009998
		            Length XH010998
		
		 TC Control Flags :
		                      GBM IL DSE
		                      --Y -- ---
		
		 Subsch. ID : 70
		 Det. descr. : Dump HIFI Memory Using Absolute Addresses
		 This Telecommand will not be included in the export
			XC005998
			
			 04xx **\<hex>**
			 \<hex> (Def)
			 \<hex> (Def)
				TC	

4		MCS OBSM preparation for Image update in LIVE mode		Next Step: 5	
		Note: It is assumed that the OBSM application is already running and the OBSM Desktop is displayed on the MCS client. Starting the OBSM application is not covered by the current procedure.			
4.1		Select 'Image UPDATE' from the menu			

Update HIFI LCU ground image from memory dump
File: H_FCP_OBS_3241.xls
Author: lstefanov-hp

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Select the **Image** menu of the *OBSM Desktop*. From the Image menu, select **Update**. The 'Image Catalog' window opens.			
4.2		Select image to be updated			
4.2.1		IF HIFI Prime			
		Select the image to be updated for the memory device **HILCUMEM.** The 'Image UPDATE' window opens.			
4.2.2		ELSE HIFI Redundant			
		Select the image to be updated for the memory device **HILCUMER.** The 'Image UPDATE' window opens.			
4.3		Start dump TM processing			
		In **LIVE** mode, processing of incoming real-time telemetry starts automatically after the image selection.			
5		Command memory dump		Next Step: 6	
		Uplink the **XC005998** memory dump command(s) with **ARM-GO**			
		For each command, one or more TM(6,6) packets must be received on ground.			
6		Verify reception of TM(6,6)		Next Step: 7	
		Note: One or more TM(6,6) packets will be received for each memory dump command uplinked.			

Update HIFI LCU ground image from memory dump
File: H_FCP_OBS_3241.xls
Author: lstefanov-hp

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
6.1		IF HIFI Prime			
		Verify Packet Reception HIFI_memory_dump Packet Mnemonic : H_mem_dump APID : 1024 Type : 6 Subtype : 6 PI1 : PI2 :			
6.2		ELSE HIFI Redundant			
		Verify Packet Reception HIFI_R_memory_dump Packet Mnemonic : H_mem_dump APID : 1025 Type : 6 Subtype : 6 PI1 : PI2 :			
6.3		Check OBSM dump packet processing			
		Check that the OBSM is processing the incoming memory dump packets.			
7		Save merged image		Next Step: END	
		Save merged image with **new ID**.			
		End of Sequence			
OFCP324A		*TC Seq. Name :* OFCP324A (HIFI LCU Mem Dmp A) HIFI LCU memory Gnd image update in Retrieval mode *TimeTag Type:* *Sub Schedule ID:*			
8		MCS OBSM preparation for Image update in RETRIEVAL mode		Next Step: 9	
		Note: It is assumed that the OBSM application is already running and the OBSM Desktop is displayed on the MCS client. Starting the OBSM application is not covered by the current procedure.			

Update HIFI LCU ground image from memory dump
File: H_FCP_OBS_3241.xls
Author: lstefanov-hp

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
8.1		Select 'Image UPDATE' from the menu			
		Select the **Image** menu of the *OBSM Desktop*. From the Image menu, select **Update**. The 'Image Catalog' window opens.			
8.2		Select image to be updated			
8.2.1		IF HIFI Nominal			
		Select the image to be updated for the memory device **HILCUMEM.** The 'Image UPDATE' window opens.			
8.2.2		ELSE HIFI Redundant			
		Select the image to be updated for the memory device **HILCUMER.** The 'Image UPDATE' window opens.			
8.3		Start dump TM packets processing			
		Set **retrieval start** and **stop time** and start retrieval of TM packets using the **PLAY buttons**.			
9		Retrieve and process TM(6,6) packets		Next Step: 10	
		Use the **STEP** button to retrieve and process the TM(6,6) packets, packet by packet and starting from the time shown in the packet time field.			
		OR			
		Use the **PLAY** button to retrieve and process the TM(6,6) packets in automated mode. Pressing the PLAY button, the display will start to retrieve and process packets, starting from the time shown in the packet time field. This processing will stop automatically when a packet is received which creation time is greater than the one contained in the end time field.			

Update HIFI LCU ground image from memory dump
File: H_FCP_OBS_3241.xls
Author: lstefanov-hp

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
10		Save merged image		Next Step: END	
		Save merged image with **new ID**.			
		End of Sequence			
End of Procedure				