

Check PACS DMC PRAM memory area (checksum calculation)
 File: H_FCP_OBS_4362.xls
 Author: Liviu Stefanov



Procedure Summary

Objectives

This Herschel OBSM nominal procedure is used to perform a memory check of one or several PACS DMC PRAM 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
 - PACS in INIT mode (DPU 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
 - PACS in INIT mode (DPU ASW running)

End of Procedure

Same as start

Reference File(s)

Input Command Sequences

Output Command Sequences

OFCP4362

Referenced Displays

ANDs GRDs SLDs
 PA029380

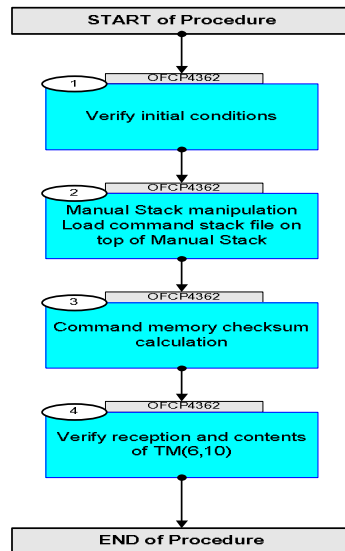
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
30/01/08	1	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					
OFCP4362		TC Seq. Name :OFCP4362 () PACS DMC PRAM checksum TimeTag Type: B Sub Schedule ID: <input type="checkbox"/>			
1		Verify initial conditions		Next Step: 2	
		Check PACS instrument in INIT mode (DPU ASW running)			
		Instrument SOE to confirm PACS instrument mode			
2		Manual Stack manipulation Load command stack file on top of Manual Stack		Next Step: 3	
		Select the File -> LoadStack option from the main menu of the Manual Stack window			
		Select file PADMRPRG_CI_XXXXYYY_N_NoModel_NoModel_YYYY_DDDThhmmss.machine from directory /home/pmcops/HPMCS/SESSION/current/data/CMD/STACKS/OBSM/PADMRPRG 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: PADMRPRG_CI_0002001_N_NoModel_NoModel_2007_254T123300.sun043 - CT PADMRPRG1, ID 0003, Version 001 associated to the memory image: PADMRPRG_CI_0002001_C_PADMRPRG1_0003001_2007_337T093320.sun043			
2.1		Check command stack loaded			
		Check that loaded stack contains one or several TCs PC029380			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Display the Manual Stack in 'Full mode' and check that the Memory ID parameter in the PC029380 command(s) is set to 21 hex : Memory ID = 21 hex Note: The Memory ID of the target memory device is stored in the MSB of the 16-bit long Mem ID TM parameter. The LSB of the same parameter carries the most significant 8 bits of the Start Address.			
		Execute Telecommand <p style="text-align: center;">DPU_MEMORY_CHECK</p> Command Parameter(s) : DPU_MEMORY_BLOCK_ID PP009380 DPU_MEMORY_ADDR PP003380 DPU_DATA_LENGTH PP008380 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 90 Det. descr. : REQUEST FOR A CHECKSUM OF A SPECIFIED MEMORY AREA This Telecommand will not be included in the export	PC029380	TC	
3		Command memory checksum calculation		Next Step: 4	
		Uplink the PC029380 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 PACS Prime			
		Verify Packet Reception MEMORY_CRC Packet Mnemonic : MEMORY_CRC APID : 1152 Type : 6 Subtype : 10 PI1 : PI2 :			
		Note: The Memory ID of the target memory device is stored in the MSB of the 16-bit long Mem ID TM parameter. The LSB of the same parameter carries the most significant 8 bits of the Start Address.			
		Verify Telemetry <p style="text-align: center;">MEMORY_ID PM129380</p>		AND=PA029380	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Verify Telemetry START_ADDRESS PM130380		AND=PA029380	
		Verify Telemetry LENGTH PM131380		AND=PA029380	
		Verify Telemetry CHECKSUM PM132380		AND=PA029380	
4.2		ELSE PACS Redundant			
		Verify Packet Reception MEMORY_CRC Packet Mnemonic : MEMORY_CRC APID : 1153 Type : 6 Subtype : 10 PI1 : PI2 :			
		Note: The Memory ID of the target memory device is stored in the MSB of the 16-bit long Mem ID TM parameter. The LSB of the same parameter carries the most significant 8 bits of the Start Address.			
		Verify Telemetry MEMORY_ID PM129380		AND=PA029380	
		Verify Telemetry START_ADDRESS PM130380		AND=PA029380	
		Verify Telemetry LENGTH PM131380		AND=PA029380	
		Verify Telemetry CHECKSUM PM132380		AND=PA029380	
4.3		Verify checksum value(s)			
		Check the received checksum(s) against the expected value(s)			
		Verify Telemetry CHECKSUM PM132380	= expected value	AND=PA029380	
End of Sequence					
End of Procedure					