

PACS\_Spec\_Heat\_SFT  
File: H\_COP\_PAC\_D002.xls  
Author: R. Biggins



## Procedure Summary

### Objectives

The objective of this procedure is to execute a short functional test on the detector heaters by changing the input current.

- set the red and blue heater currents to 0.1 mA
- set the red and blue heater currents to 1.0 mA
- set the red and blue heater currents to 0.0 mA

Based on procedure:  
PACS\_Spec\_Heat\_SFT (v1)

### Summary of Constraints

Procedure H\_COP\_PAC\_D001 must have been successfully completed directly before the execution of this procedure

This procedure should be executed as part of the Short Functional Test (HeII conditions)  
This procedure may also be executed on PACS request

RT Science must be enabled to receive the Diagnostic HK packets

### Spacecraft Configuration

#### Start of Procedure

- PACS in NO\_PRIME (SAFE) mode
- PACS is generating Spectroscopy HK
  - PACS is generating Diagnostic HK
  - The heaters are switched ON

#### End of Procedure

- PACS in NO\_PRIME (SAFE) mode
- PACS is generating Spectroscopy HK
  - PACS is generating Diagnostic HK
  - The heaters are switched ON

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

HCPD002

### Referenced Displays

ANDs	GRDs	SLDs
ZAZ98999		
PA021420		

### Configuration Control Information

Status : Version 2 - Unchanged  
Last Checkin: 14/11/08

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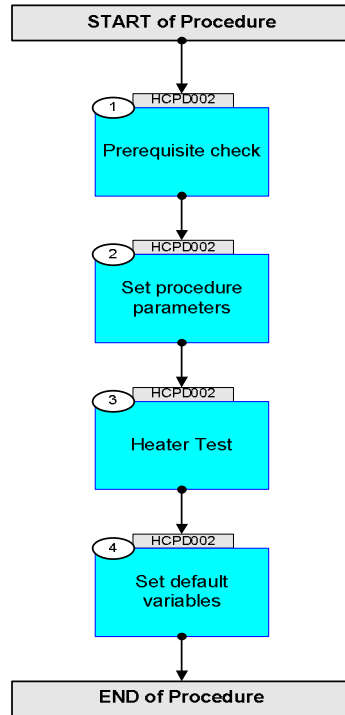


DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
14/08/08		1	Created	R. Biggins	
14/11/08	2	2	Updates due to initial testing <input type="checkbox"/> - New step (1) added for prerequisite check <input type="checkbox"/> - Initial OBSID value changed to FP	R. Biggins	
15/04/09	2.3	2.01	Validation : Final updates before flight <input type="checkbox"/> - Summary updated <input type="checkbox"/> - TC flags updated	R. Biggins	

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## Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<b>Beginning of Procedure</b>				
TC Seq. Name :HCPD002 (Heater SFT)				
TimeTag Type: B Sub Schedule ID:  □				
1		Prerequisite check		Next Step: 2
1.1		HSC/ICC input		□
		Verify that the HSC/ICC has supplied a valid OBSID value:  OBS_ID = 0xnnnn nnnn		
2		Set procedure parameters		Next Step: 3
	ET=+00.00.00 UT=+00.00.00	DMC_SET_OBSID  Command Parameter(s) : OBSERVATION_ID                    PP069420  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 90 Det. descr. : SET OBSID IN DMC	PC078420  OBS_ID	
		Verify Telemetry  DM_OBSID                    PM028420	OBS_ID	AND=ZAZ98999
3		Heater Test		Next Step: 4
		Verify Telemetry  DM_DECB_HEAT_C                    PM085420	= 0.0 mA	AND=PA021420
		Verify Telemetry  DM_DECR_HEAT_C                    PM153420	= 0.0 mA	AND=PA021420
		<b>NOTE:</b> The following tests should be executed with the defined time delay between each TC, therefore any TM checks should be done without additional delay.		
3.1		Test 1		□
		The following test will set the red and blue heater currents to 0.1 mA		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.01 UT=+00.00.01	DMC_SET_BBID  Command Parameter(s) : BUILDING_BLOCK_ID                   PP070420  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 90 Det. descr. : SET BBID IN DMC	PC079420  40A30001 <hex>	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_B_SPEC_HEAT_C_RAW  Command Parameter(s) : CURRENT                   PP073420  Subsch. ID : 90 Det. descr. : SET BLUE DEC HEATER CURRENT	PC087420  0.098 mA	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_R_SPEC_HEAT_C_RAW  Command Parameter(s) : CURRENT                   PP073420  Subsch. ID : 90 Det. descr. : SET THE RED DEC HEATER CURRENT	PC104420  0.098 mA	
		Verify Telemetry  DM_BBID                   PM029420	= 40A30001 <hex>	AND=ZAZ98999
		Verify Telemetry  DM_DECB_HEAT_C                   PM085420	= 0.1 mA	AND=PA021420
		Verify Telemetry  DM_DECR_HEAT_C                   PM153420	= 0.1 mA	AND=PA021420
3.2		Test 2		☐
		The following test will set the red and blue heater currents to 1.0 mA		
	ET=+00.00.31 UT=+00.00.31	DMC_SET_BBID  Command Parameter(s) : BUILDING_BLOCK_ID                   PP070420  Subsch. ID : 90 Det. descr. : SET BBID IN DMC	PC079420  40A30002 <hex>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.01 UT=+00.00.01	DMC_SET_B_SPEC_HEAT_C_RAW DMC_SET_B_SPEC_HEAT_C Command Parameter(s) : CURRENT PP073420 Subsch. ID : 90 Det. descr. : SET BLUE DEC HEATER CURRENT	PC087420 1.001 mA	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_R_SPEC_HEAT_C_RAW DMC_SET_R_SPEC_HEAT_C Command Parameter(s) : CURRENT PP073420 Subsch. ID : 90 Det. descr. : SET THE RED DEC HEATER CURRENT	PC104420 1.001 mA	
		Verify Telemetry DM_BBID PM029420	= 40A30002 <hex>	AND=ZAZ98999
		Verify Telemetry DM_DECB_HEAT_C PM085420	= 1.0 mA	AND=PA021420
		Verify Telemetry DM_DECR_HEAT_C PM153420	= 1.0 mA	AND=PA021420
3.3		Test 3		<input type="checkbox"/>
		The following test will set the red and blue heater currents to 0.0 mA		
	ET=+00.00.31 UT=+00.00.31	DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 Subsch. ID : 90 Det. descr. : SET BBID IN DMC	PC079420 40A30003 <hex>	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_B_SPEC_HEAT_C_RAW DMC_SET_B_SPEC_HEAT_C Command Parameter(s) : CURRENT PP073420 Subsch. ID : 90 Det. descr. : SET BLUE DEC HEATER CURRENT	PC087420 0.000 mA	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_R_SPEC_HEAT_C_RAW DMC_SET_R_SPEC_HEAT_C Command Parameter(s) : CURRENT PP073420 Subsch. ID : 90 Det. descr. : SET THE RED DEC HEATER CURRENT	PC104420 0.000 mA	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry DM_BBID PM029420	= 40A30003 <hex>	AND=ZAZ98999
		Verify Telemetry DM_DECB_HEAT_C PM085420	= 0.0 mA	AND=PA021420
		Verify Telemetry DM_DECR_HEAT_C PM153420	= 0.0 mA	AND=PA021420
4		Set default variables		Next Step: END
	ET=+00.00.01 UT=+00.00.01	DMC_SET_OBSID DMC_SET_OBSID Command Parameter(s) : OBSERVATION_ID PP069420 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 90 Det. descr. : SET OBSID IN DMC	PC078420 00000000 <hex>	
	ET=+00.00.00 UT=+00.00.00	DMC_SET_BBID DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID PP070420 Subsch. ID : 90 Det. descr. : SET BBID IN DMC	PC079420 40000000 <hex>	
		Verify Telemetry DM_OBSID PM028420	= 00000000 <hex>	AND=ZAZ98999
		Verify Telemetry DM_BBID PM029420	= 40000000 <hex>	AND=ZAZ98999

**End of Procedure**