

PACS_GeGa_SFT_Init_Cold_He2_OBS
 File: H_COP_PAC_X001.xls
 Author: R. Biggins



Procedure Summary

Objectives

The objective of this procedure is to execute a short functional test on the Ge:Ga detector arrays.

Based on procedure:
 PACS_GeGa_SFT_Init_Cold_He2_OBS (v1)

Summary of Constraints

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

Spacecraft Configuration

Start of Procedure

PACS is in NO_PRIME or SAFE Mode
 - ALL PACS units powered on and connected

End of Procedure

PACS is in NO_PRIME or SAFE Mode
 - ALL PACS units powered on and connected

Reference File(s)

Input Command Sequences

Output Command Sequences

HCPX001

Referenced Displays

ANDs GRDs SLDs
 PA022420

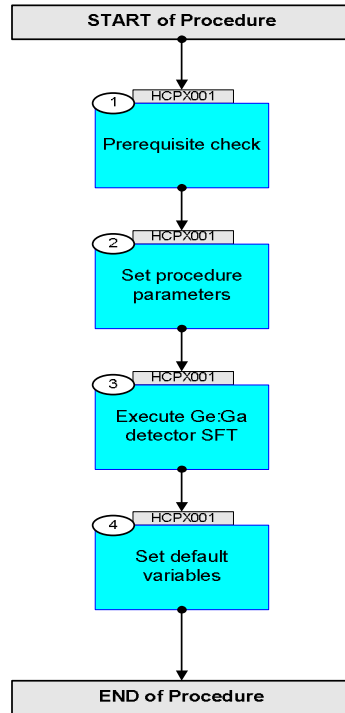
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
24/07/08	1	1	Created	R. Biggins	
13/11/08	2	2	Updates due to initial testing - New step (1) added for prerequisite check - Initial OBSID value changed to FP	R. Biggins	
02/04/09	2.3	3	Final updates before flight - Summary updated - TC flags updated - Procedure description/title updated	R. Biggins	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.01 UT=+00.00.01	DMC_WRT_BOL_REC_OPT DMC_WRT_BOL_REC_OPT Command Parameter(s) : DMC_4_BYTES_WORDS_DATA PP067420 DMC_CHECKSUM PP066420 Subsch. ID : 90 Det. descr. : WRITE THE BOL RECEIVER OPTIONS	PC169420 4 <hex> c444 <hex>	
	ET=+00.00.01 UT=+00.00.01	DMC_WRT_B_DEC_REC_OPT DMC_WRT_B_DEC_REC_OPT Command Parameter(s) : DMC_4_BYTES_WORDS_DATA PP067420 DMC_CHECKSUM PP066420 Subsch. ID : 90 Det. descr. : WRITE THE BLUE DEC RECEIVER OPTIONS	PC170420 4 <hex> c444 <hex>	
	ET=+00.00.01 UT=+00.00.01	DMC_WRT_R_DEC_REC_OPT DMC_WRT_R_DEC_REC_OPT Command Parameter(s) : DMC_4_BYTES_WORDS_DATA PP067420 DMC_CHECKSUM PP066420 Subsch. ID : 90 Det. descr. : WRITE THE RED DEC RECEIVER OPTIONS	PC171420 4 <hex> c444 <hex>	
	ET=+00.00.01 UT=+00.00.01	Execute Telecommand DMC_WRT_TIMING_FPGA_PAR Command Parameter(s) : DMC_4_BYTES_WORDS_DATA PP067420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_4_BYTES_WORDS_DATA PP067420 DMC_CHECKSUM PP066420 Subsch. ID : 90 Det. descr. : WRITE THE PARAMETERS TO CONFIGURE THE TIMING FPGA	PC176420 0 <hex> 0 <hex> 0 <hex> 1A <hex> 95217CB <hex> B <hex> 3C78 <hex>	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_TIMING_FPGA_PAR DMC_SET_TIMING_FPGA_PAR Subsch. ID : 90 Det. descr. : SET THE PARAMETERS OF THE FPGA REGISTER	PC081420	
		The following TCs switch on and setup the Blue and Red DEC		
	ET=+00.00.00 UT=+00.00.00	DMC_SWON_B_DEC DMC_SWON_B_DEC Subsch. ID : 90 Det. descr. : SWITCH ON THE BLUE DEC POWER	PC082420	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.08 UT=+00.00.08	DMC_SWON_R_DEC DMC_SWON_R_DEC Subsch. ID : 90 Det. descr. : SWITCH ON RED DEC POWER	PC089420	
	ET=+00.00.13 UT=+00.00.13	DMC_WRT_B_SPEC_PAR_RAW DMC_WRT_B_SPEC_PAR Command Parameter(s) : DMC_CLOCKS PP095420 32 <dec> DMC_READOUTS PP096420 8 <dec> DMC_CRE_CTRL_REG PP097420 396 <dec> DMC_BIAS_R PP098420 0 <dec> DMC_BIAS_D PP099420 0 <dec> DMC_SIMUL_REG PP100420 60000 <dec> DMC_CHECKSUM PP066420 36C8 <hex> Subsch. ID : 90 Det. descr. : WRITE THE BLUE SPECTROMETER PARAMETERS	PC174420	
	ET=+00.00.01 UT=+00.00.01	DMC_WRT_R_SPEC_PAR_RAW DMC_WRT_R_SPEC_PAR Command Parameter(s) : DMC_CLOCKS PP095420 32 <dec> DMC_READOUTS PP096420 8 <dec> DMC_CRE_CTRL_REG PP097420 396 <dec> DMC_BIAS_R PP098420 0 <dec> DMC_BIAS_D PP099420 0 <dec> DMC_SIMUL_REG PP100420 60000 <dec> DMC_CHECKSUM PP066420 36C8 <hex> Subsch. ID : 90 Det. descr. : WRITE THE RED SPECTROMETER PARAMETERS	PC173420	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_PAR_B_SPEC DMC_SET_PAR_B_SPEC Subsch. ID : 90 Det. descr. : SEND COMPLETE PARAMETERS TABLE TO BLUE DEC	PC086420	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_PAR_R_SPEC DMC_SET_PAR_R_SPEC Subsch. ID : 90 Det. descr. : SEND COMPLETE PARAMETERS TABLE TO RED DEC	PC093420	
		The following TCs switch on the red and blue detector array power supply		
	ET=+00.00.01 UT=+00.00.01	DMC_SWON_B_SPEC DMC_SWON_B_SPEC Subsch. ID : 90 Det. descr. : SWITCH ON BLUE SPECTROMETER ARRAY POWER	PC084420	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.01 UT=+00.00.01	DMC_SWON_R_SPEC DMC_SWON_R_SPEC Subsch. ID : 90 Det. descr. : SWITCH ON RED SPECTROMETER ARRAY POWER	PC091420	
	ET=+00.00.16 UT=+00.00.16	DMC_WRT_B_SPEC_PAR_RAW DMC_WRT_B_SPEC_PAR Command Parameter(s) : DMC_CLOCKS PP095420 32 <dec> DMC_READOUTS PP096420 8 <dec> DMC_CRE_CTRL_REG PP097420 398 <dec> DMC_BIAS_R PP098420 0 <dec> DMC_BIAS_D PP099420 0 <dec> DMC_SIMUL_REG PP100420 60000 <dec> DMC_CHECKSUM PP066420 BC0E <hex> Subsch. ID : 90 Det. descr. : WRITE THE BLUE SPECTROMETER PARAMETERS	PC174420	
	ET=+00.00.01 UT=+00.00.01	DMC_WRT_R_SPEC_PAR_RAW DMC_WRT_R_SPEC_PAR Command Parameter(s) : DMC_CLOCKS PP095420 32 <dec> DMC_READOUTS PP096420 8 <dec> DMC_CRE_CTRL_REG PP097420 398 <dec> DMC_BIAS_R PP098420 0 <dec> DMC_BIAS_D PP099420 0 <dec> DMC_SIMUL_REG PP100420 60000 <dec> DMC_CHECKSUM PP066420 bc0e <hex> Subsch. ID : 90 Det. descr. : WRITE THE RED SPECTROMETER PARAMETERS	PC173420	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_PAR_B_SPEC DMC_SET_PAR_B_SPEC Subsch. ID : 90 Det. descr. : SEND COMPLETE PARAMETERS TABLE TO BLUE DEC	PC086420	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_PAR_R_SPEC DMC_SET_PAR_R_SPEC Subsch. ID : 90 Det. descr. : SEND COMPLETE PARAMETERS TABLE TO RED DEC	PC093420	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.01 UT=+00.00.01	DMC_WRT_B_SPEC_PAR_RAW DMC_WRT_B_SPEC_PAR Command Parameter(s) : DMC_CLOCKS PP095420 DMC_READOUTS PP096420 DMC_CRE_CTRL_REG PP097420 DMC_BIAS_R PP098420 DMC_BIAS_D PP099420 DMC_SIMUL_REG PP100420 DMC_CHECKSUM PP066420 Subsch. ID : 90 Det. descr. : WRITE THE BLUE SPECTROMETER PARAMETERS	PC174420 32 <dec> 64 <dec> 398 <dec> 41 <dec> 860 <dec> 60000 <dec> 76c3 <hex>	
	ET=+00.00.01 UT=+00.00.01	DMC_WRT_R_SPEC_PAR_RAW DMC_WRT_R_SPEC_PAR Command Parameter(s) : DMC_CLOCKS PP095420 DMC_READOUTS PP096420 DMC_CRE_CTRL_REG PP097420 DMC_BIAS_R PP098420 DMC_BIAS_D PP099420 DMC_SIMUL_REG PP100420 DMC_CHECKSUM PP066420 Subsch. ID : 90 Det. descr. : WRITE THE RED SPECTROMETER PARAMETERS	PC173420 32 <dec> 64 <dec> 398 <dec> 41 <dec> 287 <dec> 60000 <dec> 239 <hex>	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_PAR_BOTH_SPEC DMC_SET_PAR_BOTH_SPEC Subsch. ID : 90 Det. descr. : SEND COMPLETE PARAMETERS TABLE TO BOTH DECS	PC094420	
		The following TC switches on the Blue DEC heater		
	ET=+00.00.01 UT=+00.00.01	DMC_SWON_BD_HEATER DMC_SWON_BD_HEATER Subsch. ID : 90 Det. descr. : SWITCH ON BLUE DEC HEATER	PC130420	
	ET=+00.00.01 UT=+00.00.01	DMC_SET_B_SPEC_HEAT_C DMC_SET_B_SPEC_HEAT_C Command Parameter(s) : CURRENT PP073420 Subsch. ID : 90 Det. descr. : SET BLUE DEC HEATER CURRENT	PC087420 0.0 mA	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.01 UT=+00.00.01	DMC_SYNCHRONIZE_ON_DET DMC_SYNCHRONIZE_ON_DET Command Parameter(s) : DET_ID PP074420 Subsch. ID : 90 Det. descr. : SET THE SYNCHRONIZATION SOURCE FOR SEQUENCER AND TIMING FPGA	PC080420 1 <hex>	
	ET=+00.00.01 UT=+00.00.01	DMC_WRT_B_DEC_REC_OPT DMC_WRT_B_DEC_REC_OPT Command Parameter(s) : DMC_4_BYTES_WORDS_DATA PP067420 DMC_CHECKSUM PP066420 Subsch. ID : 90 Det. descr. : WRITE THE BLUE DEC RECEIVER OPTIONS	PC170420 0 <hex> 84c0 <hex>	
	ET=+00.00.01 UT=+00.00.01	DMC_WRT_R_DEC_REC_OPT DMC_WRT_R_DEC_REC_OPT Command Parameter(s) : DMC_4_BYTES_WORDS_DATA PP067420 DMC_CHECKSUM PP066420 Subsch. ID : 90 Det. descr. : WRITE THE RED DEC RECEIVER OPTIONS	PC171420 0 <hex> 84c0 <hex>	
		The following TC will set the data from the Blue and Red DEC as being valid		
	ET=+00.00.01 UT=+00.00.01	DMC_VAL_SCI_DATA_BOTH DMC_VAL_SCI_DATA_BOTH Subsch. ID : 90 Det. descr. : VALIDATE SCIENCE DATA FROM BOTH CHANNELS	PC097420	
		Verify Telemetry DM_DEC_B_RO_RA_3 PM094420	= 64 <dec>	AND=PA022420
		Verify Telemetry DM_DEC_B_RO_RA_4 PM128420	= 64 <dec>	AND=PA022420
		Verify Telemetry DM_DEC_B_BR_CM_3 PM096420	= 0.01 V	AND=PA022420
		Verify Telemetry DM_DEC_B_BR_CM_4 PM130420	= 0.01 V	AND=PA022420
		Verify Telemetry DM_DEC_B_ZB_CM_3 PM097420	= 0.21 V	AND=PA022420
		Verify Telemetry DM_DEC_B_ZB_CM_4 PM131420	= 0.21 V	AND=PA022420
		Verify Telemetry DM_DEC_R_RO_RA_1 PM162420	= 64 <dec>	AND=PA022420

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry DM DECR RO RA 2	PM196420	= 64 <dec> AND=PA022420
		Verify Telemetry DM DECR BR CM 1	PM164420	= 0.01 V AND=PA022420
		Verify Telemetry DM DECR BR CM 2	PM198420	= 0.01 V AND=PA022420
		Verify Telemetry DM DECR ZB CM 1	PM165420	= 0.07 V AND=PA022420
		Verify Telemetry DM DECR ZB CM 2	PM199420	= 0.07 V AND=PA022420
4		Set default variables		Next Step: END
	ET=+00.00.01 UT=+00.00.01	DMC_SET_OBSID Command Parameter(s) : OBSERVATION_ID TC Control Flags : Subsch. ID : 90 Det. descr. : SET OBSID IN DMC	DMC_SET_OBSID PP069420	PC078420 00000000 <hex>
	ET=+00.00.00 UT=+00.00.00	DMC_SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID Subsch. ID : 90 Det. descr. : SET BBID IN DMC	DMC_SET_BBID PP070420	PC079420 40000000 <hex>
		NOTE: The TM showing the OBSID/BBID is not downlinked in NO_PRIME Mode		
End of Procedure				