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Spacecraft / Project	Herschel / SPIRE	Meeting Place	CDF
Instrument / Model	SPIRE / PFM Phase 2	Subsystem	

Participants		Agenda	
<i>Print Name & Company</i>	<i>Signature Required</i>		
Ken King		<ol style="list-style-type: none"> 1. Equipment Description 2. Design vs. Build Reconciliation 3. Mandatory Inspection Points (MIP) References & Closure 4. Review of Actions from Test Readiness Review (TRR) & any Previous Meetings 5. Non-Conformances / open Items & Actions 6. Test Procedure & Changes since TRR 7. Request for Waiver (RFW) 8. Hardware Inspection 9. Preliminary Summary of Test Results <ul style="list-style-type: none"> - Overview of test campaign - Test facility status - Functional Tests - Instrument Operations - Performance Tests 10. EGSE Configuration Control 11. Planning for PFM-3 Campaign 12. Any Other relevant Business 	
Eric Sawyer			
Eric Clark			
Dave Smith			
Doug Griffin			
Tanya Lim			
Steve Guest			
Sunil Sidher			
Alan Pearce			
Locke Spencer			
Tim Weskett			Additional Distribution Judy Long Spire Project Office
Edd Polehampton			

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Equipment Description	
Spacecraft / Project	Herschel / SPIRE
Instrument / Model	PFM 2
Sub System / Serial No.	N/A
As Built Status <i>List of all items /Parts</i>	SPIRE-RAL-DOC-002326 Issue 2.2

Test Documentation	
Type of Test	Cold Functional and Performance test
AIV Facility Test No.	N/A
Location & Date(s) of Testing	SPIRE Calibration Facility
Applicable Test Specification (Document No. & Issue)	SPIRE-RAL-NOT-001652 Iss 1.4 – functional test spec SPIRE-RAL-DOC-002435 Draft A2 - Thermal Test Spec SPIRE-RAL-NOT-002211 PFM-1 Performance Test Details SPIRE-RAL-NOT-001850 CQM Performance Test Details
Applicable Test Procedure (Document No. & Issue)	SPIRE-RAL-PRC-002468 Draft A
AIV Facility Test Plan (if applicable?)	NA
TRR MoM	SPIRE-RAL-MoM-002497 phase 2

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OPEN NCRS

HR-SP-RAL NCR 126	JFET Labeling – open
HR-SP-RAL NCR 125	Back Harness - open – fix carried out
HR-SP-RAL NCR 123	Phot box Black tiles Foul on Dichroics – Open – new tiles being manufactured.
HR-SP-RAL NCR 121	L0 straps fouls on integration due to Slight distortion – N/A for PFM2 test as GSE straps used
HR-SP-JPL-NCR 006	Yield Degradation of JFET Module ? – N/A for PFM2 test
HR-SP-RAL NCR 108	Autonomous Shut Down of LIAs Can be closed – additional information required
HR-SP-RAL NCR 103, 100, 93 & 67	To be closed – awaiting additional information
HR-SP-RAL NCR 114	Air Leak GSE Open additional information needed
HR-SP-RAL NCR 112	Faulty Regulator GSE Open
HR-SP-RAL NCR 111	Vacuum Gauge failure GSE Open
HR-SP-RAL NCR 086v1	Temp sensor failure During cool down GSE Open
HR-SP-RAL NCR 084v1	Facility Heater failure on L0 Thermal Straps during cool down GSE Open
HR-SP-RAL NCR 119	The CDMS Simulator clock drifts with respect to system time of computer. NCR needs filling in - can be closed not a problem.
HR-SP-RAL NCR 105	Simultaneous generation of BSM and SMEC frames leads to Frame ID error reports SS to update – occurred during PFM2 tests – details to be added
HR-SP-RAL NCR 115	The TFTS rejected all commands from SCOS during PFM1 testing close SS to update and close
HR-SP-RAL NCR 117	Anomalous HK Parameter Values are observed during DCU science generation at some bias and sampling frequencies SS to update – has been reported to CEA and has been investigated
HR-SP-RAL NCR 118	Separate Switch on commands for DRCU, MCU, SPEC & PHOT LIA's rejected Further discussion needed

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NCR'S FROM CEA DRCU QM2 DATA PACK

NCR 368 DCU QM2 RAL, Noise at LIA input exceeds budget.
NCR 369 DCU & FCU QM2 RAL, not compliant with FM type MICD use as is,
NCR 360 Reset Bias.

ACTIONS FROM TRR

#01 - Report/log from Sunil to be referenced in this MoM's (Ref NCR 115) – action deleted since it is not understood

#02 - Add corrective note to DRCU ICD, DPU ICD, DATA ICD regarding ECR 076 swapping of commands for codes for Cooler HS Heaters. Documentation does not reflect Hardware. – closed see new actions

New action – ECS to request that CEA update DRCU ICDs to reflect ECR-076 due by 01-Nov-2005.

New action – SS to update MIB and data ICD to reflect ECR-076 due by 01-Dec-2005

OPEN WORK

PTC control procedure not done

Work around for generating SPIRE command list - not needed

AOT test procedures to be written – not done for PFM-2, needed for PFM-3

Performance Test Procedures – partially complete

No cleanliness check performed before moving into cryolab – procedure was not followed due to staff absences – For future test campaigns the Test Director must ensure that the test procedure is being followed.

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All other open work was completed prior to test campaign.

TEST PROCEDURE AND DEVIATIONS

Hand written red-lined copy of master procedure in test lab

Action – DS to incorporate hand written comments into electronic procedure

Action – DS produce pdf of test logs

Action – TL to update the functional and performance test log

Functional test procedures need to be reviewed before PFM-3 – to be done as part of planning for next test campaign.

Changes to test scripts and procedures contained in configuration test log

Action – SS to produce listing from configuration test log to attach to MoM

REQUEST FOR WAIVER

None affecting this test

HARDWARE INSPECTION

In Progress

Grounding came and went – cause not identified though most likely in test harness

Harness routing and isolation to be worked on in preparation for next test – will be done whilst FPU at CSL.

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PRELIMINARY SUMMARY OF TEST RESULTS

Test History

26-Aug-05	Pump Down Started	
26-Aug-05	Short Functional Test performed	
28-Aug-05	Cooldown Started	
01-Sep-05	Cool functional test performed	
02-Sep-05	Started transferring liquid helium	
03-Sep-05	FPU at 4K – Cooldown nominal	
05-Sep-05	Cold functional tests started	
06-Sep-05	Cold functional tests continued – shutdown of warm electronics occurred	due to incorrect command sequence
07-Sep-05	Thermometer Checkout	
08-Sep-05	Recycled cooler	
	Warm electronics soak test – ok	
	Detectors on	
	Performance Testing Started	
19 & 23-Sep-05	Thermal Tests	
30-Sep-05	Performance Testing Finished	
02-Oct-05	Warm Up Started	
07-Oct-05	Instrument at Ambient	
	Warm Functional Test Performed	
08-Oct-05	Chamber Vented	
11-Oct-05	FPU Removed from Chamber	

FUNCTIONAL TESTS

All DCU and SCU functional tests ran without problems

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Problems occurred with MCU tests - switch on of BSM & SMEC and open loop tests passed. SMEC closed loop tests failed because the loop could not be closed – scripts that worked for PFM1 did not work for PFM-2. LAM are writing procedures to operate MCU. Functional test procedures to be reviewed in preparation for PFM-3.

THERMAL TESTS

Overview

Most thermal tests planned were carried out during the test campaign. The only exception is the characterisation of the L0 detector strap as the EGSE heater on the phot box was open circuit. An alternative way around has been found during the campaign to measure the load going through the L0 detector box (outcome of this test yet to be confirmed)

Successes

Previous issues with EGSE temperature sensors have been successfully corrected – all sensors at L0 were consistent within 10mK!!!!

The temperature sensors at the cryostat interfaces were all working but are out of calibration as previously suspected.

The DC offset error on the flight sensors has also been characterised and ranges between 0 to 15 ohms which depending on the calibration curves can introduce error in temperature reading up to 0.08K

Instrument Overall thermal performances were as expected

Overall performances:

Cooler cold tip was running at 288mK for 1.7K at L0 enclosures and ~4.2K at L1

Detector temperatures ~310 mK

Hold time ~ 48hr for the 1.7K/4K case (Goal I/Fs)

Delta T between L0 boxes is ~10mK at 4K and 20mK at 5.5K

Positive Aspects of the PFM2 Campaign [3/3]

Hold time has also been measured for a 2K/5.5K thermal environment (Reqt I/Fs) but data still need to be post-processed.

Issues Raised

Undermanned

Clash with EQM

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Planning of tests made quite difficult because of changing deadline for end of campaign

Flight Temperature sensors Data extraction is lengthy. This is a problem as we cannot easily check that thermal tests ran overnight or during the week-end have been successfully completed. This also means that we have warmed-up without knowing for sure that all thermal tests have been done successfully.

Need to be able to look at temperature trends for overnight/weekend tests – QLA cannot be relied on to run continuously for more than few hours before memory runs out. Could be done in SCOS.

Action: SCR to be raised to request this function.

The following tests would be required to check instrument operation after vibration:

L0 Detector strap load measurement - For next test it will not be possible to perform L0 strap test as phot-box heater will not be present.

1.7K/4K test

2K/5.5K test

Pump Characterisation test (1 point only)

If the L0 and 300-mK strap assemblies are being removed before the next test campaign, we will not know if a change in thermal performance occurs whether it is because of a slight change in integration procedure or due to vibrations.

L0 box and 300mK straps will be disconnected before vibration due to essential rework.

PERFORMANCE TESTS

Noise test at 55Hz not done

Optical load curves at 9.7K, 13K and 20K

Peak up on several pixels using BB and laser at 237 μ m, 309 μ m and 604 μ m (using photomixer)

Full beam scans on same pixels as for peak-up

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TFTS scans performed

Results suggest that band edges are in speck – SDAG action to identify band edges.

Beam attenuation and polarisation not done

BSM tests – partially complete

7 point jiggle not performed – needs look-up table

64 point jiggle not performed – needs look-up table

Recommendation that BSM tests be reviewed to make sure that these are appropriate and identify software requirements for data processing

No Polarisation tests performed due to unavailability of polarisation filter

No Observation tests performed.

Spectrometer Tests performed

SMEC scans on cryostat background

SMEC scans on CBB at 14.2K

SMEC scans on room

SMEC scans using photonic mixer 509.1 and 601 (GHz)

NOTE: Pixel maps on QLA were not correct during tests – tables have since been corrected but need to be fed into QLA

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EGSE Configuration

See Asier's viewgraphs for main issues

The SW configuration for SPIRE at the start of PFM2 was as follows:

- SCOS v2.3P5
- HCSS v0.3 (build 664) (SPIRE build 188)
- OBS v2.0.C
- DPU Boot Software v June 2003
- CDMS Sim v2.5
- Test Control Server v0.5
- CUS software suite/bundle CVS Tag PFM2_Test_1_0
- QLA v2.2.2 **Action:** TL to produce test plan for QLA to be incorporated into HCSS acceptance tests.
- TFCS v2.1 – Not compiled version - software run from Labview development window

Action: SG Create single property file on operational HCSS machine incorporating user preferences

To be ready for PFM-3 test campaign at end of January – EGSE testing needs to begin at beginning of December – all updates to EGSE, test scripts, MIB....
Need to be in place by beginning of December.

PLANNING FOR PFM-3

PFM-3 pumpdown starts at end of January

FPU will be as for PFM-2 but with flight SMEC

W/E will be as for PFM-2 but with modified resistors for SCAL

Set up weekly test team meetings – Monday PM

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Staffing – main issues AVM-3

- possible additional support from ESTEC
- CEA for warm electronics testing
- Davide will be around for 50% of time

Estimated 3 months cold testing

- possible to partially warm up to LN2 temps mid test for short periods.
- If warm for longer then warm up to ambient may be necessary

Test team to notify DLS of periods of unavailability during SPIRE campaign.

AOB

Problem with FPGAs in DPU – it is possible to sink 6A when switching off depending on the order of switching on the 2.5V and 5V supply, and the length of time since switching off – to prevent this it is important to allow 5 minutes before switching on again.

EEPROMs have faults where 1's in memory are not being erased – this problem gets worse with age. The number of writes needs to be logged.

PROBLEMS/ANOMALIES DURING TEST

Harness ground short on cool-down – **Action** – Dave to raise NCR

W/E shutdown during start-up procedure due to incorrect command sequence or incorrect current limit **Action** – SS to raise an NCR on this shutdown

Note - Running time of warm electronics has been recorded – but was basically on throughout the test campaign

MCU crashed on shutdown – **Action** Asier to raise NCR

Non response of MCU during startup – **Action** Asier to raise an NCR

BSM and SMEC tuning – The procedure for setting these up should be contained in the LAM operating manual

Failure of photometer box heater – **Action** Doug to raise NCR

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Anomalous JFET behaviour – This may not be a non-conformance as the behaviour may be due to not having the full population of LIAs **Action – Bruce to write short TN describing effects**

Blocked filter in helium transfer line – unable to complete fill of 4K vessel – a replacement filter is being sought– **Action Dave to raise NCR**

Laser – to be serviced before next test campaign – gas manifold to be replaced

Scripts for focus test only has range from ± 50 mm – test script to be updated before next test campaign

Polarizer not available during test

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Action			Title & Description
No	Responsibility	Due Date	
1	Dave Smith	31-Oct-05	Raise NCR on blocked filter in helium transfer line
2	Eric Sawyer	01-Nov-05	Request that CEA update DRCU ICDs to reflect ECR-076 due by 01-Nov-2005.
3	Sunil Sider	01-Dec-05	Update MIB and data ICD to reflect ECR-076 due by 01-Dec-2005
4	Dave Smith	31-Oct-05	Incorporate hand written comments from master procedure into electronic version
5	Dave Smith	31-Oct-05	Produce pdf of test logs
6	Tanya Lim	31-Oct-05	Update the functional and performance test log

Action			Action
No	Responsibility	Due Date	
7	Sunil Sidher	31-Oct-05	Produce listing from configuration test log to attach to MoM
8	Annso Goizel	31-Oct-05	Raise an SCR to be raised to request function to be able to look at temperature trends for overnight/weekend tests.
9	Tanya Lim	31-Oct-05	Produce test plan for QLA to be incorporated into HCSS acceptance tests.
10	Steve Guest	31-Oct-05	Create single property file on operational HCSS machine incorporating user preferences
11	Dave Smith	31-Oct-05	Raise NCR on harness ground short on cool-down
12	Sunil Sidher	31-Oct-05	Raise an NCR on W/E shutdown during start-up procedure
13	Asier Aramburu	31-Oct-05	Raise NCR on MCU crash during shutdown
14	Asier Aramburu	31-Oct-05	Raise an NCR on non response of MCU during start-up
15	Doug Griffin	31-Oct-05	Raise NCR on failure of photometer box heater
16	Bruce Swinyard	31-Oct-05	Write TN on anomalous JFET behaviour



**Herschel SPIRE
SOFTWARE CONFIGURATION RECORD**



Date/Time UT	Software Application	Previous Version	Current Version	Reason for Change	Signature
08 Sep 2005/12:39	FUNC-DCU-08-PHOT (Test Control script)	1.3	1.4	Incorrect input parameter setting init_phase (psw init phase was being used for the three arrays), now corrected.	Asier Abreu
08 Sep 2005/13:50	ILT-PERF-DAB-S- SinglePhase (Test Control script)	1.1	1.2	Incorrect input parameters to CUS ObsMode mclkdiv and biasdiv, prompted params should be converted (Hz)	Asier Abreu
08 Sep 2005/14:40	ILT_PERF_CPT_P (CUS mode)	1.5	1.9	Wrong call to the nominal master clock divider parameter Plus fixes for period parameter call to BBs	Asier Abreu
08 Sep 2005/14:40	ILT_PERF_CPS_P (CUS mode)	1.7	1.8	Wrong call to the nominal master clock divider parameter	Asier Abreu
08 Sep 2005/14:57	PLWNominalSettings (calibration table)	1.7	1.8	Updated for 70 Hz biasfreq 17.5 Hz sampfreq, phase 168	Asier Abreu
08 Sep 2005/14:57	PMWNominalSettings (calibration table)	1.4	1.5	Updated for 70 Hz biasfreq 17.5 Hz sampfreq, phase 166.59	Asier Abreu
08 Sep 2005/14:57	PSWNominalSettings (calibration table)	1.4	1.5	Updated for 70 Hz biasfreq 17.5 Hz sampfreq, phase 166.59	Asier Abreu
08 Sep 2005/15:24	Mode_ILT_PERF_CPT_P (CUS mode)	1.10	1.11	Updated to correct bug in period calculation	Asier Abreu
08 Sep 2005/15:24	Mode_ILT_PERF_CPS_P (CUS mode)	1.8	1.9	Updated to correct bug in period calculation	
08 Sep 2005/16:55	Proc_PCALFlashCalc (CUS procedure)	1.8	1.9	Changed SCU samples to continuous (0x0)	TW SDS
08 Sep 2005/19:42	Mode_DcuFunc07_Phot (CUS mode)	1.2	1.3	Changed the input parameters to RAW	TW
08 Sep 2005/19:50	PJFET_Vss_Test (CUS BBs)	1.6	1.7	Changed the input parameters to RAW	TW
08 Sep 2005/19:50	PSWJFET_Vss_Test PMWJFET_Vss_Test PLWJFET_Vss_Test (CUS BBs)	1.4	1.5	Changed the input parameters to RAW	TW
08 Sep 2005/20:05	Mode_DcuFunc07_Spec	1.2	1.3	Changed the input parameters to RAW	TW

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**Herschel SPIRE
SOFTWARE CONFIGURATION RECORD**



Date/Time UT	Software Application	Previous Version	Current Version	Reason for Change	Signature
	(CUS mode)				
08 Sep 2005/20:05	SJFET_Vss_Test (CUS BBs)	1.5	1.6	Changed the input parameters to RAW	TW
08 Sep 2005/20:05	SSWJFET_Vss_Test (CUS BBs)	1.5	1.6	Changed the input parameters to RAW	TW
08 Sep 2005/20:05	SLWJFET_Vss_Test (CUS BBs)	1.4	1.5	Changed the input parameters to RAW	TW
09 Sep 2005/08:25	Mode_ILT_PERF_CPS_P (CUS mode)	1.10	1.11	Removed any alteration to the bias settings after PCAL flash	AAA
09 Sep 2005/8:40	ILT_PERF_CPS_P (Test control script)	1.3	1.4	Clarified input parameter comments	AAA
09 Sep 2005/8:40	Mode_ILT_PERF_DAB_P_SinglePhase (CUS Obsmode)	1.3	1.4	Removed resetting to nominal bias freq,samp freq and phase, Left nominal bias amplitude reset.	AAA
12 Sep 2005/9:04	Proc_Start_DCU_Data.tcl (Test Control)	0	1.1	Created Start DCU frame generation procedure	AAA
12 Sep 2005/9:25	LIAP-ON.tcl (Test Control)	0	1.1	Switch on photometer LIAs	AAA
12 Sep 2005/9:25	LIAS-ON.tcl (Test Control)	0	1.1	Switch on spectrometer LIAs	AAA
12 Sep 2005/9:25	PSW_JFET_ON.tcl (Test Control)	1..1	1,,2	Bug fix	
12 Sep 2005/9:25	PMW_JFET_ON.tcl (Test Control)	1..1	1,,2	Bug fix	
12 Sep 2005/9:25	PLW_JFET_ON.tcl (Test Control)	1..1	1,,2	Bug fix	
12 Sep 2005/11:13	Mode_ILT_PERF_PKL_P.txt (CUS ObsMode)	1.4	1.5	Deleted data setup	AAA
12 Sep 2005/11:13	Mode_ILT_PERF_OSL_P.txt (CUS ObsMode)	1.3	1.4	Deleted data setup	AAA
12 Sep 2005/11:13	Mode_ILT_PERF_PKB_P.txt	1.5	1.6	Deleted data setup	AAA

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Date/Time UT	Software Application	Previous Version	Current Version	Reason for Change	Signature
	(CUS ObsMode)				
12 Sep 2005/11:13	Mode_ILT_PERF_OSB_P.txt (CUS ObsMode)	1.3	1.4	Deleted data setup	AAA
12 Sep 2005/11:13	Mode_ILT_PERF_OSL_S.txt (CUS ObsMode)	1.2	1.3	Deleted data setup	AAA
12 Sep 2005/11:13	Mode_ILT_PERF_PKL_S.txt (CUS ObsMode)	1.4	1.5	Deleted data setup	AAA
12 Sep 2005/11:13	Mode_ILT_PERF_OSB_S_S MECScan.txt (CUS ObsMode)	1.2	1.3	Deleted data setup	AAA
12 Sep 2005/11:13	Mode_ILT_PERF_OSL_S_S MECScan.txt (CUS ObsMode)	1.1	1.2	Deleted data setup	AAA
12 Sep 2005/11:13	Mode_ILT_PERF_PKB_S_S MECScan.txt (CUS ObsMode)	1.3	1.4	Deleted data setup	AAA
12 Sep 2005/11:13	Mode_ILT_PERF_PKL_SME CScan.txt (CUS ObsMode)	1.5	1.6	Deleted data setup	AAA
13 Sep 2005/09:23	TFTS_INIT (Test control)	0	1.1	Created TFTS initialisation procedure	AAA
14 Sep 2005/10:05	BSM_CLOSE_LOOP	0	1.1	Created BSM close loop procedure	AAA
16 Sep 2005/11:00	BSM-FUNC-03c (Test Control)	1.8	1.9	Removed irrelevant input parameters from test control script	AAA
16 Sep 2005/11:00	BSM-FUNC-03j (Test Control)	1.9	1.10	Removed irrelevant input parameters from test control script	AAA
16 Sep 2005/11:00	CHOP-AXIS-RASTER (Test Control)	0	1.1	Created CHOP axis raster procedure	AAA
16 Sep 2005/11:00	JIGGLE-AXIS-RASTER (Test Control)	0	1.1	Created JIGGLE axis raster procedure	AAA

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16 Sep 2005/11:00	JIGGLE-AXIS-RASTER (Test Control)	1.1	1.2	Corrected CUS obsmode input parameter (from delay to delay_j)	AAA
16 Sep 2005/11:00	FUNC-BSM-03j (Test Control)	1.10	1.11	Corrected CUS obsmode input parameter (from delay to delay_j)	AAA
16 Sep 2005/11:42	TFTS-RESET	0	1.1	Created TFTS reset procedure	AAA
19 Sep 2005/13:32	BSMNominalSettings (CalTable)	1.1	1.2	Updated 0 current chop settings	AAA
19 Sep 2005/13:35	BSM_ON (Test Control)	1.2	1.3	Changed default to use BSMNominalSettings caltable	AAA
19 Sep 2005/15:37	MCU_Boot	1.3	1.4	Increased delays between commands	AAA
19 Sep 2005/16:19	TUNE_FFGAIN (Test Control)	0	1.1	Created tcl procedure for FF gain tuning.	A ³
19 Sep 2005/19:18	PSW_JFET_ON	1.3	1.4	Removed comments from commands to switch on JFET 2 membranes.	SDS
20 Sep 2005/09:24	BSM_SwitchOn	1.1	1.2	Corrected call to caltable jiggle parameters	A ³
20 Sep 2005 13:57	LOAD-COMMAND-LIST (Test Control)	0	1.0	Created command list test control script	A ³
	LoadCommandList			Created command list obsmode	A ³
21 Sep 2005 9:03	SDET-ON	1.2	1.3	Corrected typos	A ³
21 Sep 2005 9:10	Proc_Start_DCU_Data	1.1	1.2	Added parameter to choose between PF and SF data	A ³
21 Sep 2005 9:22	Mode_ILT_PERF_CPT_S	1.5	1.6	Various corrections	A ³
21 Sep 2005 9:28	SLWNominalSettings	1.3	1.4	Corrected settings	A ³
21 Sep 2005 9:28	SSWNominalSettings	1.3	1.4	Corrected settings	A ³
21 Sep 2005 9:36	Mode_ILT_PERF_CPS_S	1.9	1.10	Adapted to perform same actions as photometer but with spec parameters.	A ³
21 Sep 2005 10:36	RESET-SPEC-OFFSETS	1.2	1.3	Proc_ResetSpecOffsets → ResetSpecOffsets	DR
21 Sep 2005 12:03	Mode_ILR_PERF_CPS_S	1.10	1.11	Bugfix (it was still called CPS_P)	DR
21 Sep 2005 17:35	Mode_DcuFunc08_Spec	1.1	1.2	Corrected the parameter list to the SF_Phase BB	SDS
21 Sep 2005 20:00	Mode_DcuFunc13_Phot	1.6	1.7		
21 Sep 2005 20:00	Mode_DcuFunc13_Spec	1.8	1.9		

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22 Sep 2005 10:03	LoadCommandList	0	1.1	Commented out loading of chop functions	A ³
22 Sep 2005 11:00	BSMNominalSettings	1.2	1.3	Updated PID parameters	A ³
22 Sep 2005 11:00	BSM_SwitchOn	1.2	1.3	Included Chop Integral limit command	A ³
22 Sep 2005 15:50	ILT_PERF_DAB_S_SinglePhase	1.1	1.2	Test Control script now uses converted input parameters	SDS
22 Sep 2005 17:30	Mode_DcuFunc12_Spec	1.3	1.4	Changed to PFM2 bias amplitude setting	SDS
22 Sep 2005 19:??	SSWNominalSettings and SLWNominalSettings		Committed to CVS but got no output	biasdiv changed from 1 to 3 for latest row	SDS
22 Sep 2005 19:??	Mode_ILT_PERF_DAL_S_SinglePhase	1.2	1.3	SSWNominalSettings and SLWNominalSettings column references in the ilookup entries corrected. Also changed the default phases from 0 to 0x0	SDS
23 Sep 2005 ??:??	SMEC_ON.txt	1.1	1.2	Removed input parameters to SMEC_ON procedure. Hardcoded input values	A ³
23 Sep 2005 ??:??	SMEC_INIT.txt	1.1	1.2	Removed input parameters to SMEC_ON procedure. Hardcoded input values	A ³
23 Sep 2005 ??:??	Initialise_FTS	1.4	1.5	Included encoder signals 1/2 offset setting.	A ³
23 Sep 2005 ??:??	PF_BDA_On	1.14	1.15	Included switch on of only connected membranes on PSW	A ³
26 Sep 2005 9:10	PF_BDA_On	1.15	1.16	Fixed wrong # comment character	DR
26 Sep 2005 9:10	Initialise_FTS	1.5	1.6	Initialised smec_encsig[1/2]_offset variables	DR
26 Sep 2005 10:34	ILT_PERF_CREC.tcl	1.2	1.3	bellow → below	DR
27 Sep 2005 9:15	Mode_ILT_PERF_OPI_P	1.3	1.4	Various minor bugfixes	DR
27 Sep 2005 9:15	Pupil_Scan.txt	1.2	1.3	Made compatible with pupil scan tables: from act_0...act_3 to act1...act4	DR
27 Sep 2005 10:25	SF_BDA_On.txt	1.12	1.13	Updated for PFM2 configuration (Only switch on connected JFET membranes).	DR
30 Sep 2005 10:25	SF_BDA_On.txt	1.13	1.14	Only switch ON SSW jfet1 and SLW jfet	AAA

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Herschel SPIRE
SOFTWARE CONFIGURATION RECORD



Date/Time UT	Software Application	Previous Version	Current Version	Reason for Change	Signature
30 Sep 2005 10:25	Scan_FTS.txt (Building block)	1.7	1.8	Included calibration table usage for scan resolution	AAA
30 Sep 2005 10:25	Proc_SMEC_Scan (CUS procedure)	0	1.1	Implementing SMEC scan through procedure	AAA
30 Sep 2005 10:25	Mode_ILT_PERF_SMEC_SCAN.txt (Building block)	0	1.1	Implementing SMEC scan through procedure	AAA
30 Sep 2005 10:25	Scan_FTS.txt (Building block)	1.8	1.9	Removed any reference to wait-untills	AAA
07 Oct 2005 13:55	PSW_BDA_On (Building block)	1.8	1.9	Only JFET Vdd/Vss commands. Removed any other command.	AAA
07 Oct 2005 13:55	PMW_BDA_On (Building block)	1.8	1.9	Only JFET Vdd/Vss commands. Removed any other command.	AAA
07 Oct 2005 13:55	PLW_BDA_On (Building block)	1.8	1.9	Only JFET Vdd/Vss commands. Removed any other command.	AAA
07 Oct 2005 13:55	Phot_LIAs_On (Building block)	1.1	1.2	Removed extra delays	AAA
07 Oct 2005 13:55	Spec_LIAs_On (Building block)	1.1	1.2	Removed extra delays	AAA
07 Oct 2005 13:55	Proc_LIAP_On (Procedure)	0	1.1	Created	AAA
07 Oct 2005 13:55	Proc_LIAS_On (Procedure)	0	1.1	Created	AAA
07 Oct 2005 13:55	Proc_LIAP_Off (Procedure)	0	1.1	Created	AAA
07 Oct 2005 13:55	Proc_LIAS_Off (Procedure)	0	1.1	Created	AAA
07 Oct 2005 13:55	Proc_PSWJFet_On (Procedure)	0	1.1	Created	AAA
07 Oct 2005 13:55	Proc_PSWJFet_Off	0	1.1	Created	AAA

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Herschel SPIRE
SOFTWARE CONFIGURATION RECORD



Date/Time UT	Software Application	Previous Version	Current Version	Reason for Change	Signature
	(Procedure)				
07 Oct 2005 13:55	Proc_PMWJFet_On (Procedure)	0	1.1	Created	AAA
07 Oct 2005 13:55	Proc_PLWJFet_Off (Procedure)	0	1.1	Created	AAA
07 Oct 2005 13:55	Proc_PLWJFet_On (Procedure)	0	1.1	Created	AAA
07 Oct 2005 13:55	PSW_JFet_Membrane_Map (Caltable)	0	1.1	Created	AAA
07 Oct 2005 13:55	PMW_JFet_Membrane_Map (Caltable)	0	1.1	Created	AAA
07 Oct 2005 13:55	PLW_JFet_Membrane_Map (Caltable)	0	1.1	Created	AAA
07 Oct 2005 13:55	SSW_JFet_Membrane_Map (Caltable)	0	1.1	Created	AAA
07 Oct 2005 13:55	SLW_JFet_Membrane_Map (Caltable)	0	1.1	Created	AAA

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