

<b>SPIRE</b>	<b>Monthly Report January 99 (SAP)</b>		<b>Subsystem:</b> Warm Electronics  <b>Date:</b> 29/1/99
<b>WPs Covered:</b>		Warm electronics management Warm electronics system design.	
<b>1. Subsystem Performance</b> 1. The response to AO is the baseline.			
<b>2. Problem Areas</b> 1. Lack of system view, baseline parameter & reliable instrument development schedule. 2. QA activity not started. 3. Warm electronics design widely depends on detector technology. 4. DPU & SPU design work carried out so far with very preliminary specific SPIRE requirement.		<b>Remedial Action</b> 1. System team & Management to work on. 2. Start it. 3. No remedy till final detector selection. Detector specific electronics design performed both at CEA, Goddard & Caltech. 4. Work on requirements (system issue at first). Establish a close collaboration with IFSI & IAC.	
<b>3. Subsystem Management Issues</b> 1. High level warm electronics development schedule available as a preliminary draft (see problem area).			
<b>4. Engineering Activities</b> 1. A preliminary issue of the overall warm electronics design is available. 2. Prototype simulation under way. 3. Preparation of critical component list			
<b>5. Design Changes</b> 1. The response to AO is the baseline.			
<b>6. PA/QA Activities</b> None			
<b>7. Budgets</b> 1. The response to AO is the baseline.			
<b>8. Milestones</b> Jan. 2000      SPIRE detector selection		<b>Status</b> On schedule	
<b>9. Schedule Changes</b> None			

<b>SPIRE</b>	<b>Monthly Report January 99 (SAp)</b>		<b>Subsystem:</b> CEA detectors  <b>Date:</b> 29/1/99
<b>WPs Covered:</b>		CEA Detector Evaluation	
<b>1. Subsystem Performance</b> 1. 32 channels system.			
<b>2. Problem Areas</b> 1. None		<b>Remedial Action</b> 1.	
<b>3. Subsystem Management Issues</b> 1. CEA detector evaluation schedule available. 2. Acquisition and control system design and development schedule available.			
<b>4. Engineering Activities</b> 1. Design of electronics started 2. Procurement of long delay items.			
<b>5. Design Changes</b> Original design.			
<b>6. PA/QA Activities</b> None			
<b>7. Budgets</b> Not relevant			
<b>8. Milestones</b> March 99      Delivery of a manual switchbox to QMW June 99        Delivery of the complete system to QMW		<b>Status</b> On schedule On schedule	
<b>9. Schedule Changes</b> None			

<b>SPIRE</b>	<b>Monthly Report January 99 (IFSI)</b>		<b>Subsystem:</b> DPU
			<b>Date:</b> 29/1/99
<b>WPs Covered:</b>	FS1A0X1000 FS242X4000 FSOBSA1000	Parts Procurement for DPU DPU Design On Board Software	
<b>1. Subsystem Performance</b> Actual baseline is based on the DSP TSC21020E with EDAC circuitry for a foreseen speed of 10 MIPS			
<b>2. Problem Areas</b> 1. Instrument /OBDH protocol not yet defined. 2. We proposed to the Italian Space Agency (ASI) to have a contract with industry for procurement of some DPU boards.		<b>Remedial Action</b> 1. None 2. In mid Feb there will be a meeting with ASI.	
<b>3. Subsystem Management Issues</b> None			
<b>4. Engineering Activities</b> 1. Prepared a proposal for DPU-subsystems interfaces. I/F meeting scheduled for Feb. 2. Simulation program for telecommand management structure completed.			
<b>5. Design Changes</b> None			
<b>6. PA/QA Activities</b> None			
<b>7. Budgets</b> We have been funded for 1999. See point two.			
<b>8. Milestones</b> 01/04/99 Draft Instrument Specifications from Project 01/04/99 Draft S/C interfaces from ESA			<b>Status</b>
<b>9. Schedule Changes</b> None			

<b>SPIRE</b>	<b>Monthly Report January 99 (IAC)</b>		<b>Subsystem:</b> SPU  <b>Date:</b> 29/1/99
<b>WPs Covered:</b>		SPU Prototype development	
<b>1. Subsystem Performance</b>			
<b>2. Problem Areas</b>		<b>Remedial Action</b>	
1. 2. 3.		1. 2. 3.	
<b>3. Subsystem Management Issues</b>			
<b>4. Engineering Activities</b> In conjunction with PACS-SPU and LFI-REBA projects the following activities were performed: <ol style="list-style-type: none"> <li>1. Preliminary definition of SPU prototype to evaluate the EONIC Virtuoso O.S., the proposed DSP 21020, the IEEE1355 standard, the SMCS332 chip and the test support equipment.</li> <li>2. Funding request has been made to carry out the project.</li> </ol>			
<b>5. Design Changes</b>			
<b>6. PA/QA Activities</b>			
<b>7. Budgets</b>			
<b>8. Milestones</b>		<b>Status</b>	
<b>9. Schedule Changes</b> Planned start date: 1/2//99. Planned finish date: 31/12/99			

<b>SPIRE</b>	<b>Monthly Report January 99 (LAS)</b>		<b>Subsystem:</b> FTS  <b>Date:</b> 29/1/99
<b>WPs Covered:</b>		FTS Control electronics	
<b>1. Subsystem Performance</b> 1.			
<b>2. Problem Areas</b> 1. None		<b>Remedial Action</b> 1.	
<b>3. Subsystem Management Issues</b> 1.			
<b>4. Engineering Activities</b> 1. Nothing to report			
<b>5. Design Changes</b>			
<b>6. PA/QA Activities</b> None			
<b>7. Budgets</b>			
<b>8. Milestones</b>		<b>Status</b>	
<b>9. Schedule Changes</b> None			

<b>SPIRE</b>	<b>Monthly Report January 99 (QMW)</b>		<b>Subsystem:</b> BACUS <b>Date:</b> 3/2/99
<b>WPs Covered:</b>		BACUS Array evaluation unit	
<b>1. Subsystem Performance / Progress</b> 1. QMW mirrors received, mirrors for other 2 calibration units expected 2 <sup>nd</sup> February 2. All hermetic connectors received and distributed to array groups. 3. Fold mirror housing and illuminator mount designed and sent to QMW workshop for manufacture. 4. Blanking plates and drive motors complete. 5. He-3 Fridge shields complete. 6. InSb chips being tested for potential use as illumination sources. 7. Stray light analysis in progress at RAL 8. Cryostat parts sent back to Precision Cryogenics after gold plating at CALTECH. Delivery expected mid-February. 9. Filtration scheme defined (see Jan. QMW meeting minutes). Filters will be shipped with the BACUS modules. 10. Cryostat wiring scheme has been defined.			
<b>2. Problem Areas</b> 3. He-3 fridge has problems – taking longer than expected to cool from 300K to 4.2K. After this, it performs well, but this problem will greatly increase the turnaround time. 4. Parts sent to RAL for manufacture have finally been sent to a sub-contractor for fabrication. This could have an impact on the schedule (estimate of 5 weeks for manufacture).		<b>Remedial Action</b> 3. Simon Chase is investigating the other 2 fridges for faults should have more information by WK2 Feb. He has replacement parts manufactured if necessary. 4. None.	
<b>3. Subsystem Management Issues</b> A scheme for weekly reporting on both BACUS progress, and the array test program is being developed, and should be in place by WK2 February.			
<b>4. Engineering Activities</b> 3. Structural components in manufacture by RAL sub-contractor. Expected completion around 19 <sup>th</sup> February. 4. Final BACUS components in manufacture at QMW. Estimated completion 14 <sup>th</sup> February. 5. Illumination sources being investigated/developed. 6.			
<b>5. Design Changes</b>			
<b>6. PA/QA Activities</b>			
<b>7. Budgets</b>			
<b>8. Milestones</b>		<b>Status</b>	
<b>9. Schedule Changes</b> None			

<b>SPIRE</b>	<b>Monthly Report January 99 (QMW/SAp)</b>		<b>Subsystem:</b> CEA Detectors <b>Date:</b> 03/02/99
<b>WPs Covered:</b>		CEA Array Test Status	
<b>1. Subsystem Performance</b> Initial tests performed on CEA array #1 – Calibration of output PMOS and system VI Will now obtain individual VIs for the bolometer and load resistor at different temperatures. Next run scheduled for 8 <sup>th</sup> February. We will also perform optical tests using an IR Labs TRS device with 350 micron bandpass & 180 micron edge filters.			
<b>2. Problem Areas</b> 1. Long time to get He-3 fridge to 4.2K causes increased cycling time.		<b>Remedial Action</b> Simon Chase is investigating problem. Should have resolution by WK2 Feb.	
<b>3. Subsystem Management Issues</b>			
<b>4. Engineering Activities</b> 7. Array control and interface box has been constructed at QMW 8. Control software has been adapted by SAp for use with QMW system			
<b>5. Design Changes</b> Illuminator holder and 300mK filter holder designed and constructed for above tests.			
<b>6. PA/QA Activities</b>			
<b>7. Budgets</b>			
<b>8. Milestones</b>		<b>Status</b>	
<b>9. Schedule Changes</b> None			

<b>SPIRE</b>	<b>Monthly Report January 99 (ATC)</b>		<b>Subsystem:</b> System Engineering  <b>Date:</b> 28/01/99
<b>WPs Covered:</b>		Systems Engineering	
<b>1. Subsystem Performance</b> N/A			
<b>2. Problem Areas</b> 1. Some problems with iteration to opto-mechanical design of the instrument, which are holding up work on the interface definitions		<b>Remedial Action</b> Additional mechanical engineering resources being supplied by RAL	
<b>3. Subsystem Management Issues</b> Nothing to report			
<b>4. Engineering Activities</b> 1. A new version of the interface matrix has been issued to all subsystem groups. Work continues to define a common internal interface control document (IICD) template. The key data for the identified IICDs, such as responsible people and priorities, have been entered into a database which will be available on the SPIRE Website. 2. Negotiations with the subsystem groups continue, in order to update the IID-B prior to the next ESTEC technical meeting. The recent array meeting was used to emphasise to the array groups the importance of defining the key resource requirements for each option, with a deadline of the end of February set for completion of their interface documents. Particular emphasis was placed on minimising the mass of the focal plane unit and the consequent structural thermal loads, as well as defining practical cold wiring harnesses which again minimise thermal loads on the 2, 4 and 15K stages.			
<b>5. Design Changes</b> Nothing to report			
<b>6. PA/QA Activities</b> ATC SPIRE PA/QA manager has been appointed - David Henry.			
<b>7. Budgets</b> Nothing to Report			
<b>8. Milestones</b>		<b>Status</b>	
<b>9. Schedule Changes</b> None			



<b>SPIRE</b>	<b>Monthly Report January 99 (ATC)</b>		<b>Subsystem:</b> Chopper <b>Date:</b> 28/01/99
<b>WPs Covered:</b>		Chopper Development	
<b>1. Subsystem Performance</b>			
<b>2. Problem Areas</b>		<b>Remedial Action</b>	
<b>3. Subsystem Management Issues</b>			
<b>4. Engineering Activities</b> The design of the chopper is on hold until design of photometer and FTS are chosen and a revised spec. for the chopper written. An adaptation of the current conceptual design is envisaged.			
<b>5. Design Changes</b> Nothing to report			
<b>6. PA/QA Activities</b> Nothing to report			
<b>7. Budgets</b> Nothing to Report			
<b>8. Milestones</b>		<b>Status</b>	
<b>9. Schedule Changes</b> None			

<b>SPIRE</b>	<b>Monthly Report January 99 (Caltech)</b>		<b>Subsystem:</b> JPL Detectors <b>Date:</b> 01/02/99
<b>WPs Covered:</b>		JPL detector development	
<b>1. Subsystem Performance</b>			
<b>2. Problem Areas</b>		<b>Remedial Action</b>	
<b>3. Subsystem Management Issues</b>			
<b>4. Engineering Activities</b> <ol style="list-style-type: none"> <li>1. 8 SPIRE test arrays complete through In deposition (last lithography step).</li> <li>2. Commercial data acquisition system received (here we are ahead of schedule).</li> <li>3. 100 JFET pairs sent to Sunbelt Micro for assembly into 4 25-channel readout modules for the testbed.</li> <li>4. Horn arrays for testbed in manufacture, due end of March.</li> <li>5. NTD Ge chips received for arrays.</li> <li>6. NTD Ge chips attached to 151-element bolocam array. Ready or etch step.</li> <li>7. New hire at MDL starts 2/1/99.</li> <li>8. Masks for prototype JFET module submitted. These are for emonstrating the low-power JFET suspension for the flight system design. As of 12/98, Goddard may not provide JFETs. Discussing purchasing JFETs from Siliconix instead. New JFETS require a redesign of the module, but we can at least address hybridization, thermal isolation, thermal cycling and vibration issues. We have to proceed.</li> <li>9. Testbed preamp breadboarded.</li> </ol>			
<b>5. Design Changes</b> Nothing to report			
<b>6. PA/QA Activities</b> Nothing to report			
<b>7. Budgets</b> Nothing to Report			
<b>8. Milestones</b>		<b>Status</b>	
<b>9. Schedule Changes</b> None			