

SPIRE

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PREPARED BY: K.J. King

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APPROVED BY: See next page **Date:**

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Approved By		Date
PI	M. J. Griffin	
Co-PI	L. Vigroux	
DESPA	E. Lellouch	
GSFC	H. Moseley	
IAC	I. Perez-Fournon	
IAS	P. Cox	
ICSTM	M. Rowan-Robinson	
IFSI	P. Saraceno	
JPL	J. Bock	
LAS	J-P Baluteau	
MSSL	W. Gear	
Padova	A. Franceschini	
QMW	P.A.R. Ade	
RAL	R.J. Emery	
ROE	G. Wright	
SAP	P. André	
Saskatchewan	G. Davis	
Stockholm	G. Olofsson	

Distribution

Project Team

M. J. Griffin
L. Vigroux
K.J. King

QMW
SAP
RAL

Co-Is

E. Lellouch
H. Moseley
I. Perez-Fournon
P. Cox
M. Rowan-Robinson
P. Saraceno
J. Bock
J-P Baluteau
W. Gear
A. Franceschini
P.A.R. Ade
R.J. Emery
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P. André
G. Olofsson

DESPA
GSFC
IAC
IAS
ICSTM
IFSI
JPL
LAS
MSSL
Padova
QMW
RAL
ROE
SAP
Stockholm

Project Managers

G. Michel
L. Duband
J. Roman
J.M. Herreros
F. Pajot
T. Sumner
R. Cerulli
W. Gray
D. Pouliquen
M. Carter
P. Andreani
P. Hargrave
K.J. King
F. Morrison
J-L. Augueres
H.G Floren

DESPA
Grenoble
GSFC
IAC
IAS
ICSTM
IFSI
JPL
LAS
MSSL
Padova
QMW
RAL
ROE
SAP
Stockholm

G. Davis

Saskatchewan

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TABLE OF CONTENTS

1. SCOPE8
2. DOCUMENTS8
 2.1 APPLICABLE DOCUMENTS 8
 2.2 REFERENCE DOCUMENTS..... 8
3. PRODUCT TREE9
 3.1 INSTRUMENT ITEMS..... 9
 3.2 SUPPORT ITEMS..... 11
 3.3 ICC ITEMS..... 13

FIGURES

TABLES

Glossary

DAPSAS	Data Analysis and Science Analysis Software
ESA	European Space Agency
FIRST	Far Infra-Red Space Telescope
FSC	FIRST Science Centre
ICC	Instrument Control Centre
MOC	Mission Operations Centre
PI	Principle Investigator
SPIRE	Spectral and Photometric Imaging REceiver

1. SCOPE

This Product Tree is produced as part of the response to the FIRST/PLANCK Instrument Interface Document Part A (AD1) as part of the SPIRE Management Plan (AD2). It covers all items to be produced during the instrument design and manufacturing phases, plus those produced during the ICC Development phase.

The intention is to identify ALL items that shall be delivered from one institute in the SPIRE consortium, to another institute or to ESA.

2. DOCUMENTS

2.1 Applicable Documents

- AD1 FIRST/PLANCK Instrument Interface Document, Part A (PT-IID-A-04624)
- AD2 FIRST Science Management Plan (ESA/SPC(97)22)

2.2 Reference Documents

3. PRODUCT TREE

3.1 Instrument Items

ID	Product Item	No. Units	AVM	CQM	PFM	FS	Description
AA	Cold FPU (SPIRE1)						
AA0_11	Structure			x	x	TBC	'15K', '4K' and '2K' boxes; Thermal Straps ; Structure Thermistors; MGSE required to mount the structure on the satellite and AIV facilities; Transport Container
AA0_21	Optics			x	x	TBC	Photometer mirrors and their mounts; Spectrometer mirrors and their mounts; Optical baffling; Baffle mounts; MGSE to install mirrors, baffles onto the structure
AA0_22	Filters			x	x	TBC	Passband filters; Fore-optics filters; Dichroics; Polarising Grids; Filter, Grids and Dichroics mounts (excluding detector filters); MGSE to install Filters, Grids and Dichroics
AA0_41	Photometer Arrays			x	x	x	Photometer Bolometer arrays (3); Feed Optics; Cold readout electronics; Focal plane structure (including filter mounts and thermal strap); Cold harness and connector(s); MGSE to install Arrays; EGSE to test Arrays
AA0_42	Spectrometer Arrays			x	x	x	Spectrometer Bolometer arrays (2); Feed Optics; Cold readout electronics; Focal plane structure (including filter mounts and thermal strap); Cold harness and connector(s); MGSE to install Arrays;

ID	Product Item	No. Units	AVM	CQM	PFM	FS	Description
							EGSE to test Arrays
AA0_51	Cooler			X	X	X	³ He Cooler Unit; Cooler cold harness and connectors; Mechanical interface structure; Cold finger interface structure; MGSE to install Cooler; EGSE to test Cooler
AA0_61	Chopper			X	X	X	Chopper unit; Mechanical interface structure; Cold harness and connector; MGSE to install Chopper EGSE to test Chopper
AA0_71	Spectrometer			X	X	X	Moving mirror support structure; Spectrometer motor; Mirror movement measurement system; Mechanical interface structure; Cold harness and connector; MGSE to install Spectrometer; EGSE to test Spectrometer
AA0_81	Photometer calibration source			X	X	X	Temperature controlled radiation source; Mechanical interface structure; Cold harness and connector; MGSE to install Calibration Source EGSE to test Calibration Source
AA0_82	Spectrometer calibration source			X	X	X	Temperature controlled radiation source; Mechanical interface structure; Cold harness and connector; MGSE to install Calibration Source; EGSE to test Calibration Source
	Shutter			X	X	X	Shutter unit; Mechanical interface structure; Cold harness and connector; MGSE to install Shutter EGSE to test Shutter
AA0_91	JFET Module			X	X	X	JFETs and associated components; RF Filters and associated components; Box and mechanical interface structure; Cold harness and connectors;

ID	Product Item	No. Units	AVM	CQM	PFM	FS	Description
							MGSE to install JFET Module EGSE to test JFET Module
AB0_10	Buffer Amplifier Unit (SPIRE2)			x	x	x	Buffer Amplifier Unit; Savers; MGSE to install BAU; EGSE to test BAU
AC0_10	Detector Read-out and Control Unit (SPIRE3)			x	x	Parts	Detector Read-out and Control Unit; Savers;
BA0_10	Digital Processing Unit (SPIRE5)		x	x	x	Parts	Digital Processing Unit (including Power Supply); Savers;
CA0_10	Signal Processing Unit (SPIRE4)		x	x	x	Parts	Signal Processing Unit; Savers;
DA0_10	Warm Interconnect Harness (SPIRE6)		x	x	x	x	DPU to SPU harness; SPU to DRCU harness; Savers; Breakout Box(es)
EA0_10	SPU On Board Software		x	x	x	x	SPU On Board Software
EB0_10	DPU On Board Software		x	x	x	x	DPU On Board Software

3.2 Support Items

ID	Product Item	No. Units	AVM	CQM	PFM	FS	Description
ZY0_10	EGSE	4					Simulates S/C interface to allow testing of DPU; includes: S/C Interface Hardware; EGSE Software;
ZY0_20	Quick Look Facility	4					QLF Hardware; Documentation
ZY0_30	Digital Instrument Simulator	3					Simulates SPIRE 1, 2, 3 and 4 for testing operation of DPU; includes: DIS Hardware; DIS Software;
ZY0_40	Analogue Instrument Simulator	3					Simulates SPIRE 1, 2 and 3 for testing operation of SPU; includes: AIS Hardware; AIS Software;
ZY0_50	FPU Simulator	3					Simulates SPIRE 1 and 2 for testing operation of DRCU; includes: FPUS Hardware; FPUS Software;

ID	Product Item	No. Units	AVM	CQM	PFM	FS	Description
zw0_10	AIV Facility	1					Instrument Cryostat; Facility Electronics; Clean Room; Infrastructure;
zw0_20	Test Harness	1					Test Harness
zw0_30	Calibration Facility	1					Calibration Optics; Calibration Sources; Facility Electronics
zw0_40	Thermal Vacuum Facility	1					
zw0_50	EMC Test Facility	1					
zw0_60	Cold Vibration Facility	1					
zw0_70	Warm Vibration Facility	1					

3.3 ICC Items

ID	Product Item	No. Units	AVM	CQM	PFM	FS	Description
S12_10	Instrument Users Manual	1					
S12_20	Instrument Database		x	x	x	x	
S12_30	Calibration Database				x	x	
S22_40	Instrument Simulator	2					Instrument Simulation Software; Instrument Simulator Hardware; Documentation
S22_50	DPU On Board Software Maintenance System	1					DPU Software Maintenance Software; DPU Software Maintenance Hardware; Documentation
S22_60	SPU On Board Software Maintenance System	1					SPU Software Maintenance Software; SPU Software Maintenance Hardware; Documentation
S13_10	Instrument Time Estimator	2					
S13_20	Instrument Command Translator	1					
S13_30	RTA/QLA Software						
S13_40	Trend Analysis Software	1					
S13_50	Calibration Analysis Software	1					
S13_60	Interactive Analysis Software	1					
S13_70	Science Processing Software	1					
S13_80	Science Analysis Software	1					
S13_90	Diagnostic Tools	1					
S22_11	ICC Operations Centre Infrastructure	1					
S22_12	DAPSAS (UK) Centre Infrastructure	1					
S22_13	DAPSAS (Fr) Centre Infrastructure	1					
S22_21	ICC Operations Centre Computing Hardware	1					
S22_22	DAPSAS (UK) Centre Computing Hardware	1					
S22_23	DAPSAS (Fr) Centre	1					

SPIRE

Project Document

SPIRE Product Tree

Ref: SPIRE/RAL/D/0030
Issue: .02
Date: 3 November 1998
Page: 14 of 14

ID	Product Item	No. Units	AVM	CQM	PFM	FS	Description
	Computing Hardware						