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## Change Record

ISSUE	DATE	
0.1	September 2001	New document
1.0	November 2001	Issued with updated drawing numbers


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## Glossary

BSM	Beam Steering Mechanism
BSBR	Thermal BuSBaR between cooler and detectors
CBFL1	Common BaFfLe 1
CDR	Critical Design Review
CEA	Commissariat à l'Énergie Atomique
CFIL1	Common FILter 1 (entry 4 K enclosure)
CM3-5	Common Mirror 3-5
CNES	Centre National des Etudes Spatiales
CoG	Centre of Gravity
CSTR1	Cold STRap 1 (level 0, Cryostat to base evaporator heat switch)
CSTR2	Cold STRap 2 (level 0, Cryostat to base sorption pump heat switch)
CSTR3	Cold STRap 3 (level 0, Cryostat to photometer detector box)
CSTR4	Cold STRap 4 (level 1, Vent line to optical bench)
FTS	Fourier Transform Spectrometer
GSFC	Goddard Space Flight Centre
HOB	Herschel Optical Bench
HOR	Herschel Optical Reference
<sup>3</sup> He Cooler	<sup>3</sup> He cooler (located in photometer side of the instrument)
JFBX	JFET box
JFET	Junction Field Effect Transistor
JPL	Jet Propulsion Laboratory
LAM	Laboratoire d'Astronomie Marseille
MGSE	Mechanical Ground Support Equipment
MSSL	Mullard Space Science Laboratory
MoI	Moments of inertia
NA	Not Applicable
OGSE	Optical Ground Support Equipment
PBFL2	Photometer BaFfLe 2
PDBX	Photometer Detector Box
PCAL	Photometer CALibration source
PDBX	Photometer Detector BoX
PDIC1	Photometer DIChroic 1
PDIC2	Photometer DIChroic 2
PFIL2	Photometer FILter (entrance PDBX)
PFIL3	Photometer FILter 2 (4 K-2 K enclosure)
PFIL4L/5L	Photometer FILter 4 and 5 at nose PLW
PFIL4M/5M	Photometer FILter 4 and 5 at nose PMW
PFIL4S/5S	Photometer FILter 4 and 5 at nose PSW
PLW	Photometer Long Wave detector
PM6-11	Photometer Mirror 6 to 11
PMW	Photometer Medium Wave detector

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RAL	Rutherford Appleton Laboratory
SBFL1	Spectrometer BaFfLe 1
SBFL2	Spectrometer BaFfLe 2
SBS1	Spectrometer Beam Splitter 1
SBS2	Spectrometer Beam Splitter 2
SCAL	Spectrometer CALibration source
SCCA	Spectrometer Corner Cube +X
SCCB	Spectrometer Corner Cube -X
SDBX	Spectrometer Detector BoX
SFIL2	Spectrometer FILter 2 (4 K - 2 K enclosure)
SFIL3L	Spectrometer FILter 3 (long wave)
SFIL3S	Spectrometer FILter 3 (short wave)
SFIL4L/5L	Spectrometer FILter at nose SLW
SFIL4S/5S	Spectrometer FILter at nose SSW
SHUT	Shutter mechanism
SM8A-12A	Spectrometer Mirror 8-12 +X chain
SM8B-12B	Spectrometer Mirror 8-12 -X chain
SM6-7	Spectrometer Mirror6-7
SMEC	Spectrometer MEChanism
SOB	SPIRE Optical Bench
SOR	Spire Optical Reference
SPIRE	Spectral and Photometric Imaging REceiver
TBC	To Be Confirmed
TBD	To Be Defined
TBI	To Be Issued

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## 1. Scope of Document


This document lists all the necessary documentation required to perform manufacturing, assembly, integration and test of the SPIRE Structure for the STM.

## 2. Documents

All documents are listed in the Figure 3.2 of the CIDL.

## 3. Document Tree

The Structure Hardware Tree and associated Drawings are presented in the figures below.

	<h1>SPIRE</h1>	<b>Project Document</b>	<b>Ref:</b> MSSL/SPIRE/CF001.1
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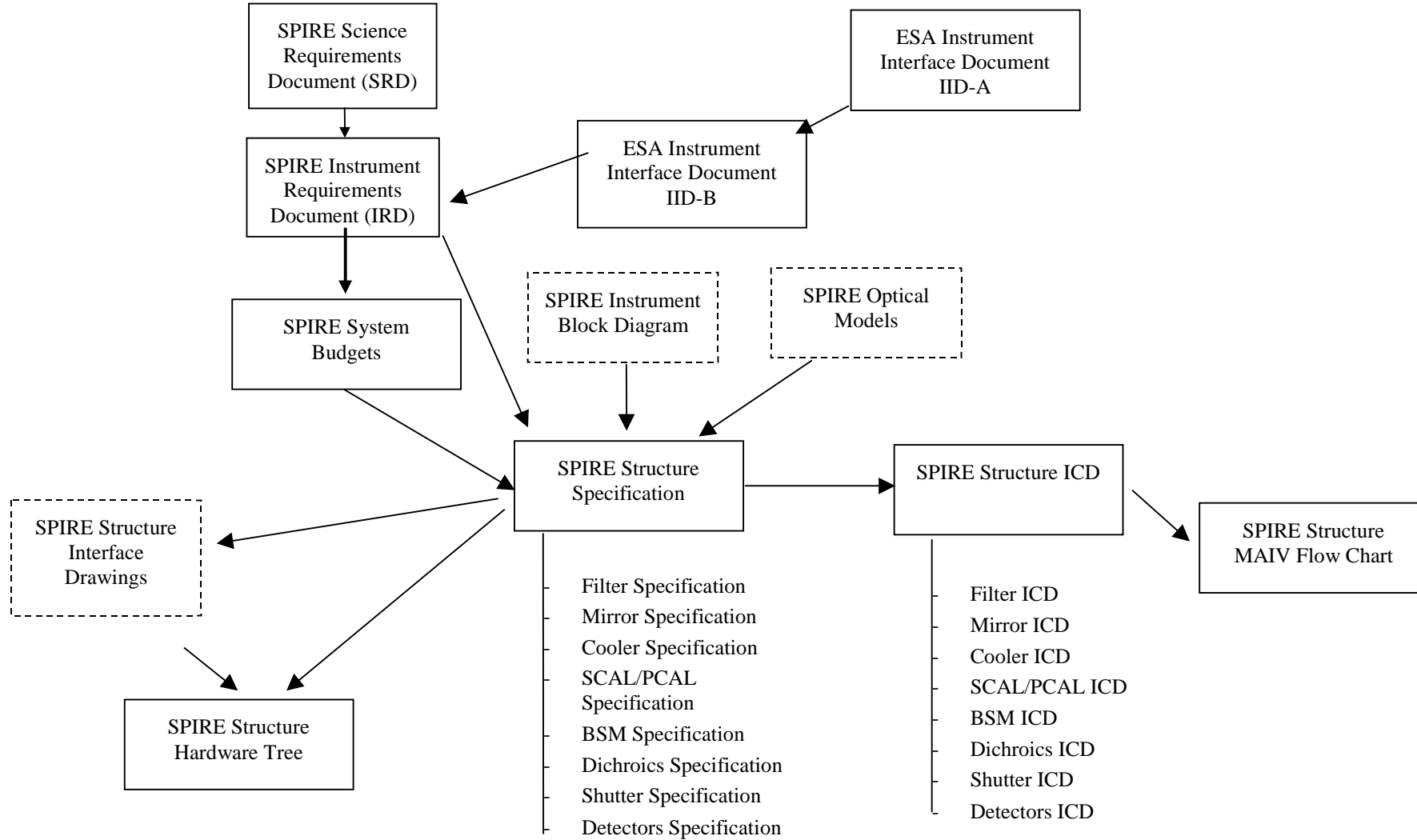


Figure 3-1 Document Tree





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Figure 3-2 Document List

Document Type	Document Name	Reference	Issue	Date
ESA				
AD01	ESA Instrument Interface Document Part A IID-A	PT-IID-A-04624	2	31-Jul-01
AD02	Instrument Interface Document Part B IID-B	PT-SPIRE-02124	2	31-Jul-01
SPIRE				
AD03	Instrumentation Requirements	SPIRE-RAL-PRJ-000034	1	23-Nov-00
AD04	Systems Budgets		3.4	24-Jul-01
AD05	SPIRE Mirrors:Mass Estimate	LAM.PJT.SPI.OPT990001 ind 3	0	20-May-00
AD06	SPIRE Filters - Subsystem Specification	SPIRE-PRJ-000454	1	14-Jul-00
AD07	BSM Systems Specification	SPIRE-ATC-PRJ-000460	1	14-Jun-00
AD08	Email:Cable Routing J Bock			16-Nov-00
AD09	Email:Re: Cable Routing T Cafferty			18-Nov-00
AD10	Fax:ESA B Guillaume	SCI-PT/IFI/07222	0	05-Nov-99
AD11	Instrument Development Plan	SPIRE-RAL-PRJ-000035	1.1	12-Apr-01
AD12	HERSCHEL SPIRE Optical Alignment Plan	LOOM.KD.SPIRE.2000.001-3		03-Jan-00
AD13	SPIRE Major Milestones List	SPIRE-RAL-PRJ-000455	1.2	12-Apr-01
AD14	SPIRE Spectrometer Mirror Mechanism Subsystem Spec	LAS.PJT.SPI.SPT.200002	4	09-May-00
AD15	SPIRE Product Tree	SPIRE-RAL-PRJ-00030	2	12-Apr-01
AD16	Conceptual Design for the 300 mK thermal strap	Technote 000421	1	26-May-00
AD17	A stray light baffle design for thermal strap entry ports	SPIRE-RAL-NOT-000344	1	02-Mar-00
AD18	SPIRE Instrument CQM Requirements	SPIRE-RAL-NOT-000389	1	19-Jun-01
AD19	SPIRE Subsystem Block Diagram	SPIRE-RAL-NOT-000391	1	18-May-01
AD20	SPIRE Structure/Optics ICD	SPIRE-MSS-PRJ-0000294	1	13-Jun-00




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Document Type	Document Name	Reference	Issue	Date
AD21	SPIRE Structure/FTS mechanism	SPIRE-MSS-PRJ-0000298	1	14-Jun-00
AD22	SPIRE Structure/Filters	SPIRE-MSS-PRJ-	1	13-Jun-00
AD23	SPIRE Structure/Cooler	SPIRE-MSS-PRJ-0000331	1	13-Jun-00
AD24	SPIRE Optical Error Budgets	LOOM.KD.SPIRE.2000.002-2	1.0	5-Dec-00
AD25	SPIRE Mirrors Specification	LAM.PJT.SPI.SPT.200007 IND 9	9	
AD26	Thermal Configuration Control Document			
AD30	SPIRE AIV Plan	SPIRE-RAL-PRJ-00410	2.1	29-Mar-01
MSSL				
AD27	SPIRE Structure Subsystem Specification	SPIRE-MSS-PRJ-0000427	1.2	29-Nov-01
AD28	Structure Design and Development Plan	SPIRE-MSS-PRJ-0000426	1.3	29-Nov-01
AD29	SPIRE Structure Mechanical ICD	MSSL/SPIRE/SP004.11 (formerly SPIRE-MSS-PRJ-00617)	1.1	29-Nov-01
AD31	SPIRE Structure FMECA	MSSL/SPIRE/PS005.1	1.0	29-Nov-01
AD32	Technote 1 - Cooler	MSSL-technote-SPIRE-01	1	June - 00
AD33	Technote 2 – Thermal Strap Support Level 0	MSSL-technote-SPIRE-02	1	June - 00
AD34	Technote 3 – Detector Box Support	MSSL-technote-SPIRE-03	1	July - 01
AD35	Technote 4 - Random Vibration Specification for the SPIRE instrument	MSSL-technote-SPIRE-04	1	July - 01
AD36	Technote 5 – Hareness Routing Detector to JFET	MSSL-technote-SPIRE-05	1	July - 01
AD37	Technote 6 - Interface Force Analysis correlation with accelerations	MSSL-technote-SPIRE-06	1	Sept -01
AD38	Technote 7 - Mirror beam footprint	MSSL-technote-SPIRE-07	3	Sept - 01

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Dwg Level	Drawing Number	Issue	Sheets	System	Title	Material
X	A1/5264/300	13	6	SPIRE Interface	SPIRE Interface	-
X	A2/5264/904	1	1	SPIRE Interface	Beam Splitter Mounts (Spectrometer)	-
X	A3/5264/905	1	1	SPIRE Interface	Dichroic Mounts (Photometer)	-
X	A3/5264/906			SPIRE Interface	Optical Bench Dimension WRT Focal Plane	-
X	A2/5264/907	6	1	SPIRE Interface	Bean Steering Mechanism Interface	-
X	A2/5264/908	3	1	SPIRE Interface	Cooler Interface	-
X	A1/5264/909	3	2	SPIRE Interface	SMEC Interface	-
X	A2/5264/910	3	1	SPIRE Interface	Spectrometer Calibrator Interface	-
X	A3/5264/911	2	1	SPIRE Interface	Detector Interface Adapter Plate	Alum Alloy BS1470 6082 T6
X	A1/5264/912			SPIRE Interface	Wiring Harness Spectrometer Side/Photometer Side	
X	A3/5264/913			SPIRE Interface	Detector Focal Plane Definition Check	
X	A1/5264/914	1	1	SPIRE Interface	Shutter Interface	-
X	A3/5264/915			SPIRE Interface	4K Cooler Strap Joint & Light Baffles	
X	A1/5264/916	1	1	SPIRE Interface	Mirror Fixing Envelope	-
X	A1/5264/917	1	1	SPIRE Interface	RFI Filter Interface	-
X	A1/5264/301			General Assembly	General Assembly	
X	A1/5264/302			Common Structure	Common Structure Assembly	
X	A2/5264/302-1			Common Structure	Blade Mount	
X	A3/5264/302-2			Common Structure	Insulating Bush	
X	A3/5264/302-3			Common Structure	Special Washer	
X	A1/5264/302-4			Common Structure	Optical Bench	
X	A1/5264/303			Spectrometer Cover	Spectrometer Cover Assembly	
X	A1/5264/304			Photometer Cover	Photometer Cover Assembly	
X	A1/5264/304-1			Photometer Cover	Top Plate	


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Dwg Level	Drawing Number	Issue	Sheets	System	Title	Material
X	A1/5264/304-2			Photometer Cover	Top Rear Plate	
X	A1/5264/304-3			Photometer Cover	Front Plate	
X	A1/5264/304-4			Photometer Cover	Back Plate	
X	A1/5264/304-5			Photometer Cover	Outer Plate	
X	A1/5264/305			Optical Bench	Optical Bench Assembly	
X	A1/5264/305-1	1	1	Optical Bench	Optical Bench	
X	A1/5264/305-2	1	1	Optical Bench	SM06 Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-3	2	1	Optical Bench	SM07 Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-4	1	1	Optical Bench	SM08A Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-5	1	1	Optical Bench	SM08B Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-6	1	1	Optical Bench	SM09A & SM10A Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-7	1	1	Optical Bench	SM09B & SM10B Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-8	1	1	Optical Bench	SM11A Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-9	1	1	Optical Bench	SM11B Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-10	1	1	Optical Bench	SM12A Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-11	1	1	Optical Bench	SM12B Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-12	1	1	Optical Bench	Secondary Optical Bench (CM3/SPMOT)	Alum Alloy BS1470 6082 T6
X	A1/5264/305-13	1	1	Optical Bench	PM06 Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-14	1	1	Optical Bench	PM08 Mirror Mount	Alum Alloy BS1470 6082 T6
X	A1/5264/305-15	1	1	Optical Bench	PM06 & SM06 Bulkhead	Alum Alloy BS1470 6082 T6
X	A3/5264/305-16	1	1	Optical Bench	Optical Reference Cube	Alum Alloy BS1470 6082 T6
X	A2/5264/305-17	1	1	Optical Bench	PM10 Mirror mount	Alum Alloy BS1470 6082 T6
X	A1/5264/306			Photometer 2K Box	Photometer 2K Box Assembly	
X	A1/5264/306-1			Photometer 2K Box	Back Cover	
X	A1/5264/306-2			Photometer 2K Box	Spine	
X	A1/5264/306-3			Photometer 2K Box	Front Cover	

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X	A1/5264/307			Spectrometer 2K Box	Spectrometer 2K Box Assembly	
X	A3/5264/309			Level 0 Feed Thorough	Strap/Light Baffle Assembly	
	X	A3/5264/309-1		Level 0 Feed Thorough	Baffle Inner	
	X	A3/5264/309-2		Level 0 Feed Thorough	Baffle Outer	
	X	A3/5264/309-3		Level 0 Feed Thorough	Junction Plate Inner	
	X	A3/5264/309-4		Level 0 Feed Thorough	Junction Plate Outer	
	X	A3/5264/309-5		Level 0 Feed Thorough	Anti Torque Plate	
	X	A3/5264/309-6		Level 0 Feed Thorough	Special Washer	
	X	A3/5264/309-7		Level 0 Feed Thorough	Stop Screw	
X	A2/5264/310	1	1	Dichroics	PDIC-1 Assy	-
	X	A2/5264/310-1	1	Dichroics	PDIC-1 Mount	Alum Alloy BS1470 6082 T6
	X	A2/5264/310-2	1	Dichroics	PDIC-1 Clamp Ring	Alum Alloy BS1470 6082 T6
	X	A2/5264/310-3	1	Dichroics	Dowel Bolt 6-32 UNC	Stainless Steel BS970 303/S31
	X	A2/5264/311	1	Dichroics	PDIC-2 Assy	-
	X	A2/5264/311-1	1	Dichroics	PDIC-2 Mount	Alum Alloy BS1470 6082 T6
	X	A2/5264/311-2	1	Dichroics	PDIC-2 Clamp Ring	Alum Alloy BS1470 6082 T6
X	A1/5264/401			Test Gear	'A' Frame Dynamic Test Rig	
	X	A1/5264/401-1		Test Gear	Dead Weight	
	X	A1/5264/401-2		Test Gear	Support Plate	
	X	A1/5264/401-3		Test Gear	Cover Plate	
X	A2/5264/402			Test Gear	Busbar Test Rig Assembly	
	X	A1/5264/402-1		Test Gear	Base Plate	
	X	A3/5264/402-2		Test Gear	Mounting Plate	
	X	A3/5264/402-3		Test Gear	Anchor Capstan	
	X	A3/5264/402-4		Test Gear	Tensioning Capstan	



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