



SPIRE
HDD 1.1 Deltas

Doc #: SPIRE-RAL-NOT-001819
Issue: 3.0
Date: 23/10/03
Page 1 of 29

Issue 2.0 of this document includes comments on the EADS 2.6 Harness Database.

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DN: cn=Douglas Griffin, o=RAL-SSTD, ou=SET, c=GB
Date: 2003.09.25 20:53:12 Z

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Issue 3.0 of this document incorporates the decision reached on the polarity of the pins on the 128-way for the "SMEC Position Sensor Power Sply"

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Date: 2003.10.29 15:39:07 Z

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Subject: **HDD 1.1 DELTAS**

The sheets that follow show the pinout & wire name changes compared to the Spire Harness Definition Document version 1.1 that are needed to build the PFM harness. They will be issued within HDD version 1.2.

PREPARED BY:

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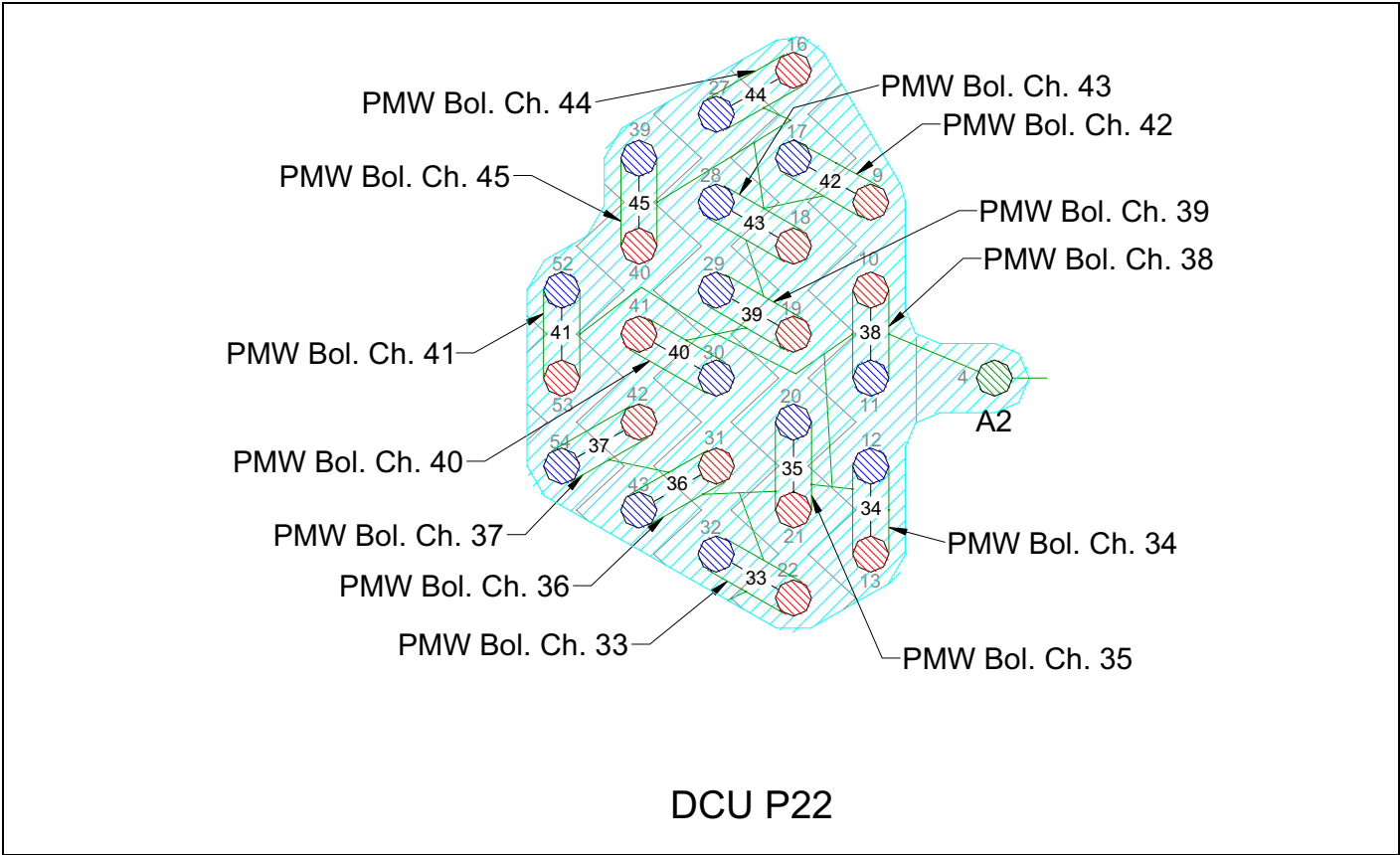
J. DELDERFIELD.....



John Delderfield

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Number	Pages and section from HDD 1.1	Description of correction	Notes	Comparison with EICD, Issue 2.6
1	Page 58-60, S4	Corrected assignment of Channel numbers in column 2 to pixels column 3	No hardware implications. Nomenclature only	
2		Pixels PMW-F8, PMW-E9 corrected 128-way pin assignments		Compliant (See Page 22, 23 and 24 of this doc)
3	Pages 67-69, S6	Corrected sequence of Pixel names.	No hardware implications. Nomenclature only	
4	Page 172, C11	Polarity error on 128-way "SMEC Position Sensor Power Supply and Return"	<u>Swapped 4 and 11. After telecon clarification - Pin 11 on the 128-way is to be positive and Pin 4 is to be negative as per Astrium EICD Issue 2.6</u>	The polarity of the signals on the 12-way connectors in the HDD 1.2 is opposite to that adopted in EADS 2.6. This is not a S/C problem as the interfaces to the FCU and the FPU are correct in the EADS doc - See pages 25, 26, 27 and 28 of this document
5	Page 118, 120, C1	"Channel 1 gnd shld" should be Channel 14 gnd shld" in column 2, row 2, page 119		
6	Page 119, C1	"SLW_JFETV_A2_shld" should go to pin 26 not 6	Pins 26 and 6 are both on a busbar and therefore this is an academic correction	Compliant- See page 29 of this document.
7	Page 131, C3	Reference to D2 and D4 removed. Changed to B2 / B4		EADS implementation not as SPIRE intended – however the EADS design is compliant with SPIRE requirements
8	Page 132, C3	Reference to D2 changed to B2		idem
9	Page 134, C3	References to D4 changed to B4		Idem
10	Page 146, C6	"Channel 1 gnd shld" should be Channel 14 gnd shld" in column 2, row 24, page 146		
11	Page 151, C8	Colum headers should be P05, P06, P07 and P08 not J05, J06, J07 and J08		
12	Page 152, C8	"Channel 1 gnd shld" should be Channel 14 gnd shld" in column 2, row 19, page 152		
13	Page 155, C9	"Channel 1 gnd shld" should be Channel 14 gnd shld" in column 2, row 27, page 155		
14	Page 95	Second table should be labelled with FCU P29 not FCU P27	This page was in Issue 1.0 of this doc, but no mention of it was made in this table	



Contact Details

Notes:

- The shields of the STP cables carrying, the ground wires (GND_WIRE) and Pins 36(A1), 4(A2), 128(A3) and 47(A4) of the 128-way connector are all joined to form a ground reference plane. Pin numbers for connector PE assume the use of a DEMA 9 connector.
- Refer to Annex 7 - PTC Cryo-harnessing that indicates graphically the means by which these signals are wired.

Cable ID	Signal Ground	Pixel	128 Way #4	DCU P20	DCU P21	DCU P22	PE J22 Link (I/F S2/S4)
	Signal Ground		47 (A4)				
S4-STP-A1	Channel 1+	PMW-F10	26	1			
	Channel 1-		37	18			
	Channel 1 GND		36 (A1)	34			
S4-STP-A2	Channel 2+	PMW-E11	38	2			
	Channel 2-		49	19			
	Channel 2 GND		36 (A1)	35			
S4-STP-A3	Channel 3+	PMW-G11	48	3			
	Channel 3-		60	20			
	Channel 3 GND		36 (A1)	36			
S4-STP-A4	Channel 4+	PMW-F11	59	4			
	Channel 4-		71	21			
	Channel 4 GND		36 (A1)	37			
S4-STP-B1	Channel 5+	PMW-E12	50	5			
	Channel 5-		61	22			
	Channel 5 GND		36 (A1)	38			
S4-STP-B2	Channel 6+	PMW-G12	62	6			
	Channel 6-		51	23			
	Channel 6 GND		36 (A1)	39			
S4-STP-B3	Channel 7+	PMW-F12	63	7			
	Channel 7-		75	24			
	Channel 7 GND		36 (A1)	40			
S4-STP-B4	Channel 8+	PMW-G13	74	8			
	Channel 8-		73	25			



SPIRE HARNESS DEFINITION DOCUMENT (deltas)

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Cable ID		Pixel	128 Way #4	DCU P20	DCU P21	DCU P22	PE J22 Link (I/F S2/S4)
	Channel 8 GND		36 (A1)	41			
	Signal Ground		36 (A1)	9			
S4-STP-C1	Channel 9+	PMW-DK2	83	26			
	Channel 9-		72	10			
	Channel 9 GND		36 (A1)	43			
S4-STP-D1	Channel 13+	PMW-E7	86	27			
	Channel 13-		87	11			
	Channel 13 GND		36 (A1)	44			
S4-STP-D2	Channel 14+	PMW-D7	97	28			
	Channel 14-		98	12			
	Channel 14 GND		36 (A1)	45			
S4-STP-D3	Channel 15+	PMW-F7	108	29			
	Channel 15-		109	13			
	Channel 15 GND		36 (A1)	46			
S4-STP-D4	Channel 16+	PMW-E8	116	30			
	Channel 16-		117	14			
	Channel 16 GND		36 (A1)	47			
S4-STP-E1	Channel 17+	PMW-G8	55	31			
	Channel 17-		66	15			
	Channel 17 GND		128 (A3)	48			
S4-STP-E2	Channel 18+	PMW-F8	67	32			
	Channel 18-		78	16			
	Channel 18 GND		128 (A3)	49			
S4-STP-E3	Channel 19+	PMW-E9	76	33			
	Channel 19-		77	17			
	Channel 19 GND		128 (A3)	50			
S4-STP-E4	Channel 20+	PMW-G9	88		1		
	Channel 20-		89		18		
	Channel 20 GND		128 (A3)		34		
S4-STP-F1	Channel 21+	PMW-D9	99		2		
	Channel 21-		100		19		
	Channel 21 GND		128 (A3)		35		
S4-STP-F2	Channel 22+	PMW-F9	110		3		
	Channel 22-		111		20		
	Channel 22 GND		128 (A3)		36		
S4-STP-F3	Channel 23+	PMW-E10	118		4		
	Channel 23-		119		21		
	Channel 23 GND		128 (A3)		37		
S4-STP-F4	Channel 24+	PMW-G10	112		5		
	Channel 24-		120		22		
	Channel 24 GND		128 (A3)		38		
S4-STP-G1	Channel 25+	PMW-C4	90		6		
	Channel 25		79		23		
	Channel 25 GND		128 (A3)		39		
S4-STP-G2	Channel 26+	PMW-B3	102		7		
	Channel 26-		101		24		
	Channel 26 GND		128 (A3)		40		
S4-STP-G3	Channel 27+	PMW-C3	92		8		
	Channel 27-		91		25		
	Channel 27 GND		128 (A3)		41		
	Signal Ground		128 (A3)		9		
S4-STP-G4	Channel 28+	PMW-B2	103		26		
	Channel 28-		113		10		
	Channel 28 GND		128 (A3)		43		
S4-STP-H1	Channel 29+	PMW-D2	58		27		
	Channel 29-		46		11		
	Channel 29 GND		128 (A3)		44		
S4-STP-H2	Channel 30+	PMW-A3	68		28		
	Channel 30-		57		12		
	Channel 30 GND		128 (A3)		45		
S4-STP-H3	Channel 31+	PMW-A2	69		29		
	Channel 31-		80		13		
	Channel 31 GND		128 (A3)		46		
S4-STP-H4	Channel 32+	PMW-C2	70		30		
	Channel 32-		81		14		
	Channel 32 GND		128 (A3)		47		
S4-STP-I1	Channel 33+	PMW-B1	23		31		
	Channel 33-		34		15		
	Channel 33 GND		4 (A2)		48		



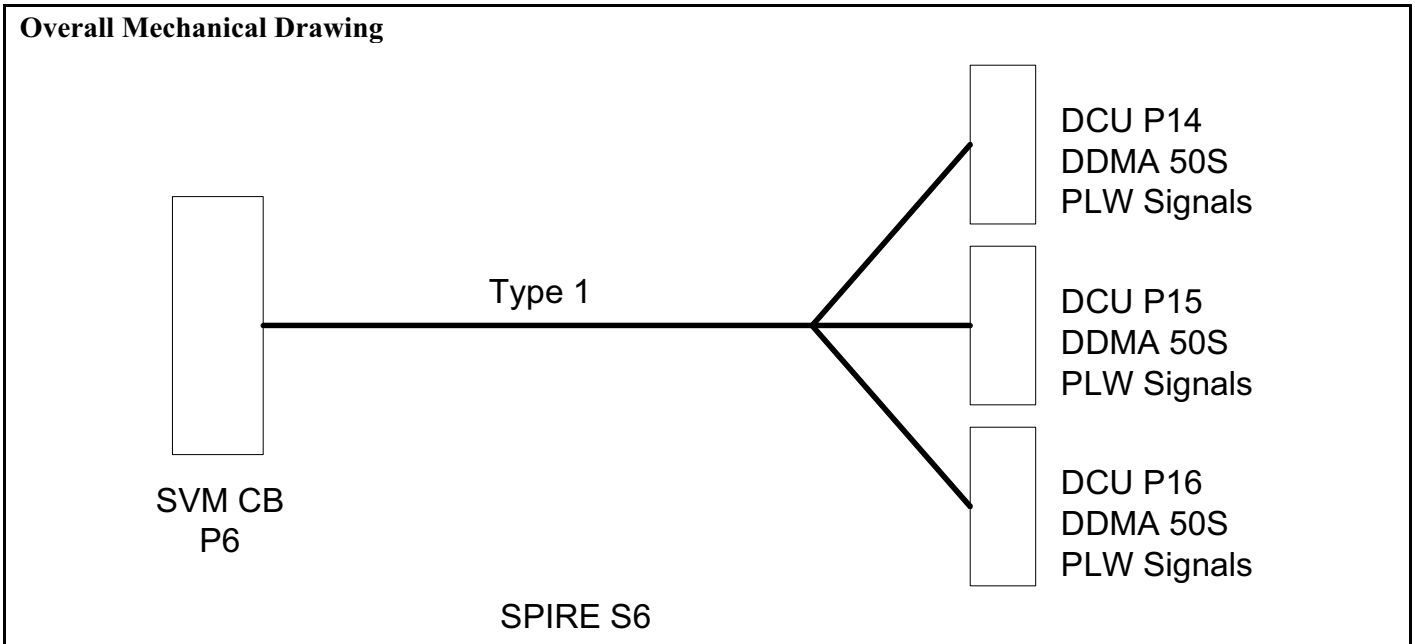
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Cable ID		Pixel	128 Way #4	DCU P20	DCU P21	DCU P22	PE J22 Link (I/F S2/S4)
S4-STP-I2	Channel 34+	PMW-A1	33		32		
	Channel 34-		45		16		
	Channel 34 GND		4 (A2)		49		
S4-STP-I3	Channel 35+	PMW-DK1	44		33		
	Channel 35-		56		17		
	Channel 35 GND		4 (A2)		50		
S4-STP-I4	Channel 36+	PMW-C1	22			1	
	Channel 36-		32			18	
	Channel 36 GND		4 (A2)			34	
S4-STP-J1	Channel 37+	PMW-A7	13			2	
	Channel 37-		12			19	
	Channel 37 GND		4 (A2)			35	
S4-STP-J2	Channel 38+	PMW-A6	21			3	
	Channel 38-		20			20	
	Channel 38 GND		4 (A2)			36	
S4-STP-J3	Channel 39+	PMW-B6	31			4	
	Channel 39-		43			21	
	Channel 39 GND		4 (A2)			37	
S4-STP-J4	Channel 40+	PMW-C7	42			5	
	Channel 40-		54			22	
	Channel 40 GND		4 (A2)			38	
S4-STP-K1	Channel 41+	PMW-A5	10			6	
	Channel 41-		11			23	
	Channel 41 GND		4 (A2)			39	
S4-STP-K2	Channel 42+	PMW-B5	19			7	
	Channel 42-		29			24	
	Channel 42 GND		4 (A2)			40	
S4-STP-K3	Channel 43+	PMW-C6	41			8	
	Channel 43-		30			25	
	Channel 43 GND		4 (A2)			41	
	Signal Ground		4 (A2)			9	
S4-STP-K4	Channel 44+	PMW-D6	53			26	
	Channel 44-		52			10	
	Channel 44 GND		4 (A2)			43	
S4-STP-L1	Channel 45+	PMW-B4	9			27	
	Channel 45-		17			11	
	Channel 45 GND		4 (A2)			44	
S4-STP-L2	Channel 46+	PMW-C5	18			28	
	Channel 46-		28			12	
	Channel 46 GND		4 (A2)			45	
S4-STP-L3	Channel 47+	PMW-D4	16			29	
	Channel 47-		27			13	
	Channel 47 GND		4 (A2)			46	
S4-STP-L4	Channel 48+	PMW-A4	40			30	
	Channel 48-		39			14	
	Channel 48 GND		4 (A2)			47	
S4-STP-PTC1	PTC Channel 1 +	PTC-1	N.C.			31	1
	PTC Channel 1 -		N.C.			15	6
	PTC Channel 1gnd		N.C.			48	2 (A)
S4-STP-PTC2	PTC Channel 2 +	PTC-2	N.C.			32	3
	PTC Channel 2 -		N.C.			16	7
	PTC Channel 2gnd		N.C.			49	8(A)
S4-STP-PTC3	PTC Channel 3 +	PTC-3	N.C.			33	4
	PTC Channel 3 -		N.C.			17	5
	PTC Channel 3gnd		N.C.			50	8(A)
			EMC Backshell	EMC Backshell	EMC Backshell	EMC Backshell	EMC Backshell

FPU Faraday Shield Link Pins												
1	2	3	5	6	7	8	14	15	24	25	35	82
93	94	104	105	114	115	121	122	123	124	125	126	127

4.2.6 S6 SVM-CB 6 – DRCU (Type 1) PLW



Connector/Backshell Details

DDMA50S+Glenair557-B-357-M-5- TBD toDCUJ14 DCU-JFP
 DDMA50S+Glenair557-E-359-M-5- TBD toDCUJ15 DCU-JFP
 DDMA50S+Glenair557-B-357-M-5- TBD toDCUJ16 DCU-JFP

Harness Layup

As S5 except
 Tail A = HSDCU P14
 Tail B = HSDCU P15
 Tail C = HSDCU P16

Contact details

	Name	Pixel	128Way #6	DCU J14	DCU J15	DCU J16
	Ground Pin		47 (A4)			
S6-STP-A1	Channel 1 +	PLW-R1	26	1		
	Channel 1 -		37	18		
	Channel 1gnd shld		36 (A1)	34		
S6-STP-A2	Channel 2 +	PLW-A8	38	2		
	Channel 2 -		49	19		
	Channel 2gnd shld		36 (A1)	35		
S6-STP-A3	Channel 3 +	PLW-A7	48	3		
	Channel 3 -		60	20		
	Channel 3gnd shld		36 (A1)	36		
S6-STP-A4	Channel 4 +	PLW-A6	59	4		
	Channel 4 -		71	21		
	Channel 4gnd shld		36 (A1)	37		
S6-STP-B1	Channel 5 +	PLW-A9	50	5		
	Channel 5 -		61	22		
	Channel 5gnd shld		36 (A1)	38		
S6-STP-B2	Channel 6 +	PLW-C9	62	6		
	Channel 6 -		51	23		
	Channel 6gnd shld		36 (A1)	39		



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	Name	Pixel	128Way #6	DCU J14	DCU J15	DCU J16
S6-STP-B3	Channel 7 +	PLW-B8	63	7		
	Channel 7 -		75	24		
	Channel 7gnd shld		36 (A1)	40		
S6-STP-B4	Channel 8 +	PLW-B7	74	8		
	Channel 8 -		73	25		
	Channel 8gnd shld		36 (A1)	41		
	GND WIRE		36 (A1)	9		
S6-STP-C1	Channel 9 +	PLW-C7	83	26		
	Channel 9 -		72	10		
	Channel 9gnd shld		36 (A1)	43		
S6-STP-C2	Channel 10 +	PLW-B5	95	27		
	Channel 10 -		84	11		
	Channel 10gnd shld		36 (A1)	44		
S6-STP-C3	Channel 11 +	PLW-B6	96	28		
	Channel 11 -		85	12		
	Channel 11gnd shld		36 (A1)	45		
S6-STP-C4	Channel 12 +	PLW-A5	106	29		
	Channel 12 -		107	13		
	Channel 12gnd shld		36 (A1)	46		
S6-STP-D1	Channel 13 +	PLW-T1	86	30		
	Channel 13 -		87	14		
	Channel 13gnd shld		36 (A1)	47		
S6-STP-D2	Channel 14 +	PLW-B4	97	31		
	Channel 14 -		98	15		
	Channel 14gnd shld		36 (A1)	48		
S6-STP-D3	Channel 15 +	PLW-C4	108	32		
	Channel 15 -		109	16		
	Channel 15gnd shld		36 (A1)	49		
S6-STP-D4	Channel 16 +	PLW-B3	116	33		
	Channel 16 -		117	17		
	Channel 16gnd shld		36 (A1)	50		
S6-STP-E1	Channel 17 +	PLW-C2	55		1	
	Channel 17 -		66		18	
	Channel 17gnd shld		128 (A2)		34	
S6-STP-E2	Channel 18 +	PLW-B2	67		2	
	Channel 18 -		78		19	
	Channel 18gnd shld		128 (A2)		35	
S6-STP-E3	Channel 19 +	PLW-B1	76		3	
	Channel 19 -		77		20	
	Channel 19gnd shld		128 (A2)		36	
S6-STP-E4	Channel 20 +	PLW-A3	88		4	
	Channel 20 -		89		21	
	Channel 20gnd shld		128 (A2)		37	
S6-STP-F1	Channel 21 +	PLW-A4	99		5	
	Channel 21 -		100		22	
	Channel 21gnd shld		128 (A2)		38	
S6-STP-F2	Channel 22 +	PLW-A1	110		6	
	Channel 22 -		111		23	
	Channel 22gnd shld		128 (A2)		39	
S6-STP-F3	Channel 23 +	PLW-DK1	118		7	
	Channel 23 -		119		24	
	Channel 23gnd shld		128 (A2)		40	
S6-STP-F4	Channel 24 +	PLW-A2	112		8	
	Channel 24 -		120		25	
	Channel 24gnd shld		128 (A2)		41	
	GND WIRE		128 (A2)	9		
S6-STP-G1	Channel 25 +	PLW-E1	90		26	
	Channel 25 -		79		10	
	Channel 25gnd shld		128 (A2)		43	
S6-STP-G2	Channel 26 +	PLW-E2	102		27	
	Channel 26 -		101		11	
	Channel 26gnd shld		128 (A2)		44	
S6-STP-G3	Channel 27 +	PLW-E3	92		28	
	Channel 27 -		91		12	
	Channel 27gnd shld		128 (A2)		45	
S6-STP-G4	Channel 28 +	PLW-E4	103		29	
	Channel 28 -		113		13	
	Channel 28gnd shld		128 (A2)		46	
S6-STP-H1	Channel 29 +	PLW-D1	58		30	
	Channel 29 -		46		14	
	Channel 29gnd shld		128 (A2)		47	



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	Name	Pixel	128Way #6	DCU J14	DCU J15	DCU J16
S6-STP-H2	Channel 30 +	PLW-D2	68		31	
	Channel 30 -		57		15	
	Channel 30gnd shld		128 (A2)		48	
S6-STP-H3	Channel 31 +	PLW-D3	69		32	
	Channel 31 -		80		16	
	Channel 31gnd shld		128 (A2)		49	
S6-STP-H4	Channel 32 +	PLW-D4	70		33	
	Channel 32 -		81		17	
	Channel 32gnd shld		128 (A2)		50	
S6-STP-I1	Channel 33 +	PLW-C1	23			1
	Channel 33 -		34			18
	Channel 33gnd shld		4 (A3)			34
S6-STP-I2	Channel 34 +	PLW-C3	33			2
	Channel 34 -		45			19
	Channel 34gnd shld		4 (A3)			35
S6-STP-I3	Channel 35 +	PLW-C5	44			3
	Channel 35 -		56			20
	Channel 35gnd shld		4 (A3)			36
S6-STP-I4	Channel 36 +	PLW-T2	22			4
	Channel 36 -		32			21
	Channel 36gnd shld		4 (A3)			37
S6-STP-J1	Channel 37 +	PLW-E5	13			5
	Channel 37 -		12			22
	Channel 37gnd shld		4 (A3)			38
S6-STP-J2	Channel 38 +	PLW-C6	21			6
	Channel 38 -		20			23
	Channel 38gnd shld		4 (A3)			39
S6-STP-J3	Channel 39 +	PLW-C8	31			7
	Channel 39 -		43			24
	Channel 39gnd shld		4 (A3)			40
S6-STP-J4	Channel 40 +	PLW-D5	42			8
	Channel 40 -		54			25
	Channel 40gnd shld		4 (A3)			41
	GND WIRE		4 (A3)			9
S6-STP-K1	Channel 41 +	PLW-D6	10			26
	Channel 41 -		11			10
	Channel 41gnd shld		4 (A3)			43
S6-STP-K2	Channel 42 +	PLW-D7	19			27
	Channel 42 -		29			11
	Channel 42gnd shld		4 (A3)			44
S6-STP-K3	Channel 43 +	PLW-D8	41			28
	Channel 43 -		30			12
	Channel 43gnd shld		4 (A3)			45
S6-STP-K4	Channel 44 +	PLW-E7	53			29
	Channel 44 -		52			13
	Channel 44gnd shld		4 (A3)			46
S6-STP-L1	Channel 45 +	PLW-E6	9			30
	Channel 45 -		17			14
	Channel 45gnd shld		4 (A3)			47
S6-STP-L2	Channel 46 +	PLW-E8	18			31
	Channel 46 -		28			15
	Channel 46gnd shld		4 (A3)			48
S6-STP-L3	Channel 47 +	PLW-DK2	16			32
	Channel 47 -		27			16
	Channel 47gnd shld		4 (A3)			49
S6-STP-L4	Channel 48 +	PLW-E9	40			33
	Channel 48 -		39			17
	Channel 48gnd shld		4 (A3)			50
	Harness Overshield		EMC Backshell	EMC Backshell	EMC Backshell	EMC Backshell

FPU Faraday Shield Link Pins

1	2	3	5	6	7	8	14	15	24	25	35	82
93	94	104	105	114	115	121	122	123	124	125	126	127

SMEC Control Tail Listing (FPU J29)

Function	37way J29	Max. current	Wire lay-up	Max Ohms	128Way #11
SMEC Drive Coil I+	1	100mA	Insulated screened twisted pair	5	12
SMEC Drive Coil I-	2	100mA		5	5
SMEC Drive Coil shld	20	N/A		N/A	A (13)
SMEC Drive Coil (Rob) I+	21	100mA	Insulated screened twisted pair	5	22
SMEC Drive Coil (Rob) I-	22	100mA		5	7
SMEC Drive Coil (Rob) shld	3	N/A		N/A	A (13)
SMEC Drive Coil Sense+	4	10 μ A	Insulated screened twisted pair	500	14
SMEC Drive Coil Sense-	5	10 μ A		500	24
SMEC Drive Coil shld	23	N/A		N/A	23
SMEC position sensor Led power supply	7	1mA	Insulated screened twisted pair	100	9
SMEC position sensor Led power return	8	1mA		100	2
SMEC position sensor Led power Shield	26	N/A		N/A	3
SMEC position sensor power supply	27	1mA	Insulated screened twisted pair	100	11
SMEC position sensor power return	28	1mA		100	4
SMEC position sensor power Shield	9	N/A		N/A	10
SMEC position sensor photodiode #1 I+	10	20 μ A	Insulated screened twisted pair	1000	18
SMEC position sensor photodiode #1 I-	11	20 μ A		1000	19
SMEC position sensor photodiode Shield	29	N/A		N/A	B (29)
SMEC pos. sensor photodiode #1 feedback +	30	10 μ A	Insulated screened twisted pair	1000	56
SMEC pos. sensor photodiode #1 feedback -	31	10 μ A		1000	55
SMEC pos. sensor photodiode feedback Shld	12	N/A		N/A	C (44)
SMEC position sensor photodiode #2 I+	13	20 μ A	Insulated screened twisted pair	1000	42
SMEC position sensor photodiode #2 I-	14	20 μ A		1000	41
SMEC position sensor photodiode Shield	32	N/A		N/A	B (30)
SMEC pos. sensor photodiode #2 feedback +	33	10 μ A	Insulated screened twisted pair	1000	34
SMEC pos. sensor photodiode #2 feedback -	34	10 μ A		1000	33
SMEC pos. sensor photodiode feedback Shld	15	N/A		N/A	C (45)
SMEC position sensor photodiode #3 I+	16	20 μ A	Insulated screened twisted pair	1000	20
SMEC position sensor photodiode #3 I-	17	20 μ A		1000	21
SMEC position sensor photodiode Shield	35	N/A		N/A	B (31)
SMEC pos. sensor photodiode #3 feedback +	36	10 μ A	Insulated screened twisted pair	1000	58
SMEC pos. sensor photodiode #3 feedback -	37	10 μ A		1000	57
SMEC pos. sensor photodiode feedback Shld	18	N/A		N/A	C (46)

29 contacts used.

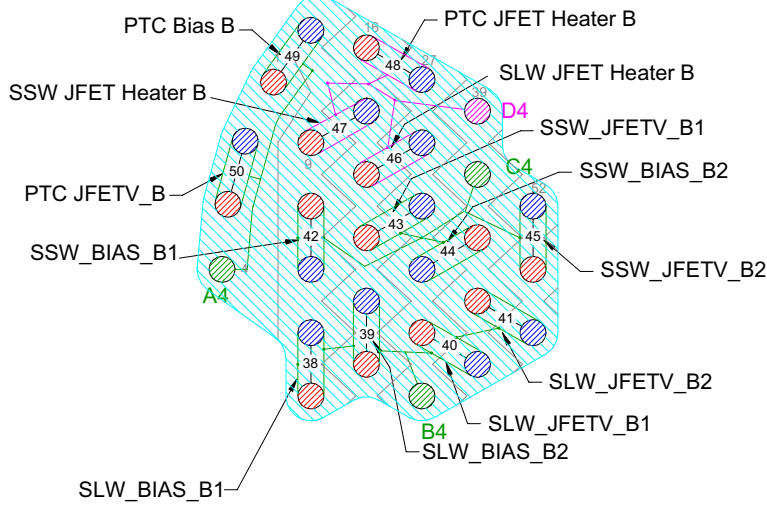
SMEC above based on "Cryo_harness_010906.doc".

FPU Faraday Shield Link Pins (C11, I11 and S11)								
1	6	8	35	47	70	82	94	104
107	109	110	122	123	124	125	126	X



SPIRE HARNESS DEFINITION DOCUMENT (Deltas)

Doc: SPIRE-RAL-PRJ-001819



**Bias Tail B
(JFS P10)**

Contact details

	Name	Pixel	JFS P05	JFS P06	37-Way C JFS P09	37-Way D JFS P10	CVV 128-Way #1
C1-12ax-A	Channel 1 +	SLW-R1	1				26
	Channel 1 -		14				37
	Channel 1gnd shld		13 (A)				115 (A1)
	Channel 2 +	SLW-T1	2				38
	Channel 2 -		15				49
	Channel 2gnd shld		13 (A)				115 (A1)
	Channel 3 +	SLW-C1	3				48
	Channel 3 -		16				60
	Channel 3gnd shld		13 (A)				115 (A1)
	Channel 4 +	SLW-DK1	4				59
	Channel 4 -		17				71
	Channel 4gnd shld		13 (A)				115 (A1)
C1-12ax-B	Channel 5 +	SLW-B1	5				50
	Channel 5 -		18				61
	Channel 5gnd shld		13 (A)				115 (A1)
	Channel 6 +	SLW-D1	6				62
	Channel 6 -		19				51
	Channel 6gnd shld		13 (A)				115 (A1)
	Channel 7 +	SLW-E1	20				63
	Channel 7 -		7				75
	Channel 7gnd shld		13 (A)				115 (A1)
	Channel 8 +	SLW-A1	21				74
	Channel 8 -		8				73
	Channel 8gnd shld		13 (A)				115 (A1)
Channel 9 +	SLW-C2	22				83	
Channel 9 -		9				72	
Channel 9gnd shld		13 (A)				115 (A1)	
Channel 10 +	SLW-D2	23				95	
Channel 10 -		10				84	
Channel 10gnd shld		13 (A)				115 (A1)	
Channel 11 +	SLW-B2	24				96	
Channel 11 -		11				85	
Channel 11gnd shld		13 (A)				115 (A1)	
Channel 12 +	SLW-E2	25				106	
Channel 12 -		12				107	
Channel 12gnd shld		13 (A)				115 (A1)	
C1-12ax-D	Channel 13 +	SLW-A2		1			86
	Channel 13 -			14			87
	Channel 1gnd shld			13 (A)			122 (A2)
	Channel 14 +	SLW-C3		2			97
Channel 14 -			15			98	



SPIRE HARNESS DEFINITION DOCUMENT (Deltas)

Doc: SPIRE-RAL-PRJ-001819

	Name	Pixel	JFS P05	JFS P06	37-Way C JFS P09	37-Way D JFS P10	CVV 128-Way #1	
	Channel 14gnd shld	SLW-D3		13 (A)			122 (A2)	
	Channel 15 +			3			108	
	Channel 15 -			16			109	
	Channel 15gnd shld	SLW-B3		13 (A)			122 (A2)	
	Channel 16 +			4			116	
	Channel 16 -			17			117	
Channel 16gnd shld			13 (A)			122 (A2)		
C1-12ax-E	Channel 17 +	SLW-E3		5			55	
	Channel 17 -			18			66	
	Channel 17gnd shld			13 (A)			122 (A2)	
	Channel 18 +	SLW-C4		6			67	
	Channel 18 -			19			78	
	Channel 18gnd shld			13 (A)			122 (A2)	
	Channel 19 +	SLW-DK2		20			76	
	Channel 19 -			7			77	
	Channel 19 gnd shld			13 (A)			122 (A2)	
	Channel 20 +	SLW-D4		21			88	
	Channel 20 -			8			89	
	Channel 20 gnd shld			13 (A)			122 (A2)	
	C1-12ax-F	Channel 21 +	SLW-C5		22			99
		Channel 21 -			9			100
Channel 21gnd shld				13 (A)			122 (A2)	
Channel 22 +		SLW-B4		23			110	
Channel 22 -				10			111	
Channel 22gnd shld				13 (A)			122 (A2)	
Channel 23 +		SLW-A3		24			118	
Channel 23 -				11			119	
Channel 23gnd shld				13 (A)			122 (A2)	
Channel 24 +		SLW-T2		25			112	
Channel 24 -				12			120	
Channel 24gnd shld				13 (A)			122 (A2)	
STP		PTC Bias A +ve				1		7
		PTC Bias A -ve				20		14
	PTC Bias A Shield				2 (A3)		46 (A3)	
⊘	PTC Ground A				2 (A3)		46 (A3)	
STP	PTC JFETV Bias A +ve				21		24	
	PTC JFETV Bias A -ve				3		35	
	PTC JFETV Bias A Shield				2 (A3)		46 (A3)	
STP	SLW BIAS A1+ve				22		121	
	SLW BIAS A1-ve				4		114	
	SLW BIAS A1 shld				6(B3)		104(B3)	
STP	SLW BIAS A2 +ve				5		102	
	SLW BIAS A2 -ve				24		101	
	SLW BIAS A2 shld				23(B3)		104(B3)	
STP	SLW JFETV A1 +ve				25		92	
	SLW JFETV A1 -ve				7		91	
	SLW JFETV A1 shld				6(B3)		104(B3)	
STP	SLW JFETV A2 +ve				8		103	
	SLW JFETV A2 -ve				27		113	
	SLW JFETV A2 shld				26(B3)		104(B3)	
⊘	SLW GND WIRE A				6(B3)		104(B3)	
STP	SSW BIAS1 A +ve				28		90	
	SSW BIAS1 A -ve				10		79	
	SSW BIAS1 A shld				9(C3)		93(C3)	
STP	SSW JFETV1 A +ve				11		68	
	SSW JFETV1 A -ve				30		57	
	SSW JFETV1 A shld				29(C3)		93(C3)	
⊘	SSW GND WIRE A				12(C3)		93(C3)	
STP	SSW BIAS2 A +ve				13		69	
	SSW BIAS2 A -ve				32		80	
	SSW BIAS2 A shld				31(C3)		93(C3)	
STP	SSW JFETV2 A +ve				33		70	
	SSW JFETV2 A -ve				15		81	
	SSW JFETV2 A shld				14(C3)		93(C3)	
S	S HEATER GROUND A				NC		22(D3)	
STP	SLW JFET HEATER A +ve				17		23	
	SLW JFET HEATER A -ve				36		34	
	SLW JFET HEATER A shld				18(D3)		22(D3)	
STP	SSW JFET HEATER A +ve				37		33	
	SSW JFET HEATER A -ve				19		45	

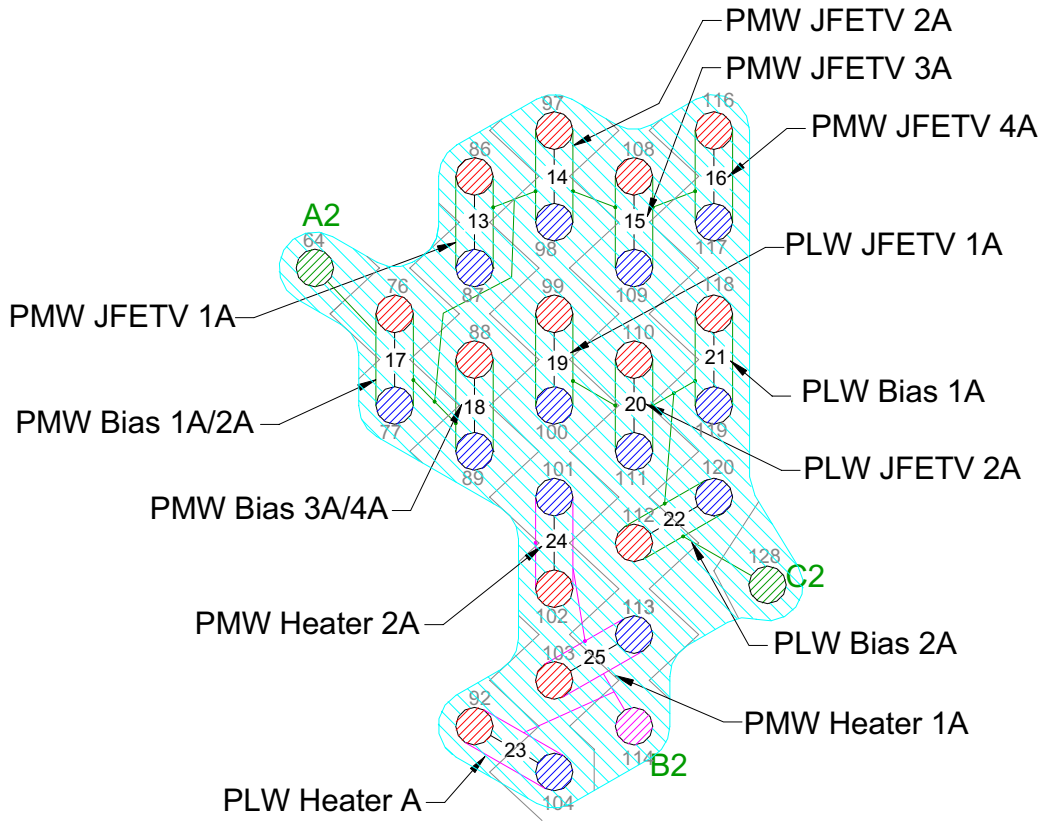
	Name	Pixel	JFS P05	JFS P06	37-Way C JFS P09	37-Way D JFS P10	CVV 128-Way #1
	SSW JFET HEATER A shld				18(D3)		22(D3)
STP	PTC JFET HEATER A +ve				16		44
	PTC JFET HEATER A -ve				35		56
	PTC JFET HEATER A shld				NC		22 (D3)
	PTC Bias B +ve					1	1
STP	PTC Bias B -ve					20	8
	PTC Bias B Shield					2 (A4)	4(A4)
	PTC Ground B					2 (A4)	4(A4)
S	PTC JFETV Bias B +ve				21	3	
STP	PTC JFETV Bias B -ve				3	2	
	PTC JFETV Bias B Shield				2 (A4)	4(A4)	
	SLW BIAS B1+ve				22	13	
STP	SLW BIAS B1-ve				4	12	
	SLW BIAS B1 shld				6(B4)	32(B4)	
	SLW BIAS B2+ve				5	21	
STP	SLW BIAS B2 -ve				24	20	
	SLW BIAS B2 shld				23(B4)	32(B4)	
	SLW JFETV B1 +ve				25	31	
STP	SLW JFETV B1 -ve				7	43	
	SLW JFETV B1 shld				6(B4)	32(B4)	
	SLW JFETV B2 +ve				8	42	
STP	SLW JFETV B2 -ve				27	54	
	SLW JFETV B2 shld				6(B4)	32(B4)	
	S	SLW GND WIRE B				6(B4)	32(B4)
S	SSW GND WIRE B				12(C4)	40(C4)	
STP	SSW BIAS1 B +ve				28	10	
	SSW BIAS1 B -ve				10	11	
	SSW BIAS1 B shld				9(C4)	40(C4)	
STP	SSW JFETV1 B +ve				11	19	
	SSW JFETV1 B -ve				30	29	
	SSW JFETV1 B shld				29(C4)	40(C4)	
STP	SSW BIAS2 B +ve				13	41	
	SSW BIAS2 B -ve				32	30	
	SSW BIAS2 B shld				31(C4)	40(C4)	
STP	SSW JFETV2 B +ve				33	53	
	SSW JFETV2 B -ve				15	52	
	SSW JFETV2 B shld				14(C4)	40 (C4)	
S	S HEATER GROUND B				NC	39(D4)	
STP	SLW HEATER B +ve				17	18	
	SLW HEATER B -ve				36	28	
	SLW HEATER B shld				18(D4)	39(D4)	
STP	SSW HEATER B +ve				37	9	
	SSW HEATER B -ve				19	17	
	SSW HEATER B shld				18(D4)	39(D4)	
STP	PTC JFET HEATER A +ve				16	16	
	PTC JFET HEATER A -ve				35	27	
	PTC JFET HEATER A shld				NC	39(D4)	
	Harness Overshield		EMC Backshell	EMC Backshell	EMC Backshell	EMC Backshell	

FPU Faraday Shield Link Pins S1/I1/C1								
5	6	15	22	25	36	39	47	58
82	94	105	123	124	125	126	127	128

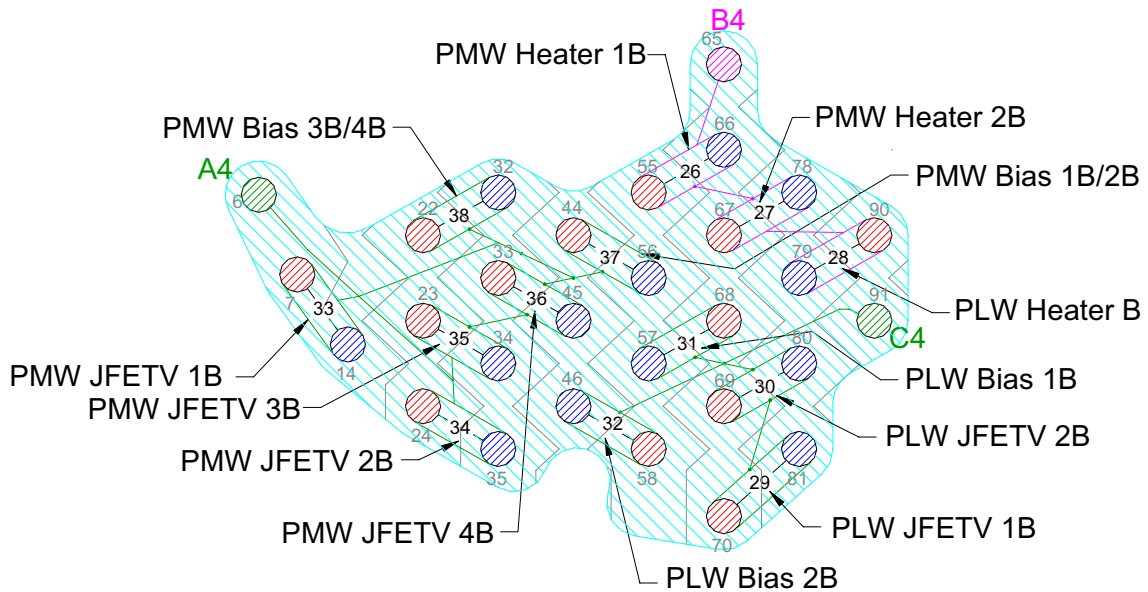


SPIRE HARNESS DEFINITION DOCUMENT (Deltas)

Doc: SPIRE-RAL-PRJ-001819



**PMW/PLW Biases A (JFP P27)
Prime**



**PMW/PLW Biases B (JFP P28)
Redundant**



SPIRE HARNESS DEFINITION DOCUMENT (Deltas)

Doc: SPIRE-RAL-PRJ-001819

Contact Details

Name	37-way P25 (PSW Bias A)	37-way P27 (PMW/PLW Bias A)	37-Way P26 (PSW Bias B)	37-Way P28 (PMW/PLW Bias B)	128-Way #3
PSW JFETV1 A +	20				26
PSW JFETV1 A -	2				37
PSW JFETV1 A shld	1 (A1)				36 (A1)
PSW JFETV2 A +	3				38
PSW JFETV2 A -	22				49
PSW JFETV2 A shld	21 (A1)				36 (A1)
PSW JFETV3 A +	23				48
PSW JFETV3 A -	5				60
PSW JFETV3 A shld	4 (A1)				36 (A1)
PSW JFETV4 A +	6				59
PSW JFETV4 A -	25				71
PSW JFETV4 A shld	24 (A1)				36 (A1)
PSW JFETV5 A +	26				50
PSW JFETV5 A -	8				61
PSW JFETV5 A shld	7 (A1)				36 (A1)
PSW JFETV6 A +	9				62
PSW JFETV6 A -	28				51
PSW JFETV6 A shld	27 (A1)				36 (A1)
PSW GRND A	10 (A1)				36 (A1)
PSW BIAS1/2 A +	11				63
PSW BIAS1/2 A -	29				75
PSW BIAS1/2 A shld	30 (A1)				36 (A1)
PSW BIAS3/4 A +	31				74
PSW BIAS3/4 A -	12				73
PSW BIAS3/4 A shld	13 (A1)				36 (A1)
PSW BIAS5/6 A +	14				83
PSW BIAS5/6 A -	32				72
PSW BIAS5/6 A shld	33 (A1)				36 (A1)
PSW HEATER A1 +	34				95
PSW HEATER A1 -	15				84
PSW HEATER A1 shld	16 (B1)				105 (B1)
PSW HEATER A2 +	17				96
PSW HEATER A2 -	35				85
PSW HEATER A2 shld	36 (B1)				105 (B1)
PSW HEATER A3 +	37				106
PSW HEATER A3 -	18				107
PSW HEATER A3 shld	36 (B1)				105 (B1)
PMW JFETV1 A +		20			86
PMW JFETV1 A -		2			87
PMW JFETV1 A shld		1 (A2)			64 (A2)
PMW JFETV2 A +		3			97
PMW JFETV2 A -		22			98
PMW JFETV2 A shld		21 (A2)			64 (A2)
PMW JFETV3 A +		23			108
PMW JFETV3 A -		5			109
PMW JFETV3 A shld		4 (A2)			64 (A2)
PMW JFETV4 A +		6			116
PMW JFETV4 A -		25			117
PMW JFETV4 A shld		24 (A2)			64 (A2)
PMW BIAS1/2 A +		26			76
PMW BIAS1/2 A -		8			77
PMW BIAS1/2 A shld		7 (A2)			64 (A2)
PMW BIAS3/4 A +		27			88
PMW BIAS3/4 A -		9			89
PMW BIAS3/4 A shld		28 (A2)			64(A2)
PMW GND WIRE A		28 (A2)			64 (A2)
PMW HEATER A1 +		29			103
PMW HEATER A1 -		10			113
PMW HEATER A1 shld		11(B2)			114 (B2)
PMW HEATER A2 +		12			102
PMW HEATER A2 -		30			101
PMW HEATER A2 shld		11(B2)			114 (B2)
PLW HEATER A +		13			92
PLW HEATER A -		31			104
PLW HEATER A shld		11(B2)			93 (B2)



SPIRE HARNESS DEFINITION DOCUMENT (Deltas)

Doc: SPIRE-RAL-PRJ-001819

Name	37-way P25 (PSW Bias A)	37-way P27 (PMW/PLW Bias A)	37-Way P26 (PSW Bias B)	37-Way P28 (PMW/PLW Bias B)	128-Way #3
PLW JFETV1 A +		14			99
PLW JFETV1 A -		32			100
PLW JFETV1 A shld		33 (C2)			128 (C2)
PLW JFETV2 A +		34			110
PLW JFETV2 A -		15			111
PLW JFETV2 A shld		16 (C2)			128 (C2)
PLW BIAS1 A +		17			118
PLW BIAS1 A -		35			119
PLW BIAS1 A shld		36 (C2)			128 (C2)
PLW BIAS2 A +		37			112
PLW BIAS2 A -		18			120
PLW BIAS2 A shld		19 (C2)			128 (C2)
PLW GROUND WIRE A		19 (C2)			128 (C2)
PSW JFETV1 B +			20		42
PSW JFETV1 B -			2		54
PSW JFETV1 B shld			1 (A3)		1 (A3)
PSW JFETV2 B +			3		53
PSW JFETV2 B -			22		52
PSW JFETV2 B shld			21 (A3)		1 (A3)
PSW JFETV3 B +			23		41
PSW JFETV3 B -			5		30
PSW JFETV3 B shld			4 (A3)		1 (A3)
PSW JFETV4 B +			6		10
PSW JFETV4 B -			25		11
PSW JFETV4 B shld			24 (A3)		1 (A3)
PSW JFETV5 B +			26		19
PSW JFETV5 B -			8		29
PSW JFETV5 B shld			7 (A3)		1 (A3)
PSW JFETV6 B +			9		16
PSW JFETV6 B -			28		27
PSW JFETV6 B shld			27 (A3)		1 (A3)
PSW GRND B			10 (A3)		1 (A3)
PSW BIAS1/2 B +			11		40
PSW BIAS1/2 B -			29		39
PSW BIAS1/2 B shld			30 (A3)		1 (A3)
PSW BIAS3/4 B +			31		18
PSW BIAS3/4 B -			12		28
PSW BIAS3/4 B shld			13 (A3)		1 (A3)
PSW BIAS5/6 B +			14		9
PSW BIAS5/6 B -			32		17
PSW BIAS5/6 B shld			33 (A3)		1 (A3)
PSW HEATER B1 +			34		13
PSW HEATER B1 -			15		12
PSW HEATER B1 shld			16 (B3)		5 (B3)
PSW HEATER B2 +			17		21
PSW HEATER B2 -			35		20
PSW HEATER B2 shld			36 (B3)		5 (B3)
PSW HEATER B3 +			37		31
PSW HEATER B3 -			18		43
PSW HEATER B3 shld			36 (B3)		5 (B3)
PMW JFETV1 B +				20	7
PMW JFETV1 B -				2	14
PMW JFETV1 B shld				1 (A4)	6 (A4)
PMW JFETV2 B +				3	24
PMW JFETV2 B -				22	35
PMW JFETV2 B shld				21 (A4)	6 (A4)
PMW JFETV3 B +				23	23
PMW JFETV3 B -				5	34
PMW JFETV3 B shld				4 (A4)	6 (A4)
PMW JFETV4 B +				6	33
PMW JFETV4 B -				25	45
PMW JFETV4 B shld				24 (A4)	6 (A4)
PMW BIAS1/2 B +				26	44
PMW BIAS1/2 B -				8	56
PMW BIAS1/2 B shld				7 (A4)	6 (A4)
PMW BIAS3/4 B +				27	22
PMW BIAS3/4 B -				9	32
PMW BIAS3/4 B shld				28 (A4)	6 (A4)
PMW GND WIRE B				28 (A4)	6 (A4)
PMW HEATER B1 +				29	55



SPIRE HARNESS DEFINITION DOCUMENT (Deltas)

Doc SPIRE-RAL-PRJ-001819

Name	37-way P25 (PSW Bias A)	37-way P27 (PMW/PLW Bias A)	37-Way P26 (PSW Bias B)	37-Way P28 (PMW/PLW Bias B)	128-Way #3
PMW HEATER B1 -				10	66
PMW HEATER B1 shld				11 (B4)	65 (B4)
PMW HEATER B2 +				12	67
PMW HEATER B2 -				30	78
PMW HEATER B2 shld				11 (B4)	65 (B4)
PLW HEATER B +				13	90
PLW HEATER B -				31	79
PLW HEATER B shld				11 (B4)	65 (B4)
PLW JFETV1 B +				14	70
PLW JFETV1 B -				32	81
PLW JFETV1 B shld				33 (C4)	91 (C4)
PLW JFETV2 B +				34	69
PLW JFETV2 B -				15	80
PLW JFETV2 B shld				16 (C4)	91 (C4)
PLW BIAS1 B +				17	68
PLW BIAS1 B -				35	57
PLW BIAS1 B shld				36 (C4)	91 (C4)
PLW BIAS2 B +				37	58
PLW BIAS2 B -				18	46
PLW BIAS2 B shld				19 (C4)	91 (C4)
PLW GROUND WIRE B				19 (C4)	91 (C4)
Harness Over-shield	EMC Backshell	EMC Backshell	EMC Backshell	EMC Backshell	EMC Backshell

FPU Faraday Shield Link Pins

2	3	4	5	7	8	15	25	47	65	82	93	94
105	114	115	121	122	123	124	125	126	127	X	X	X

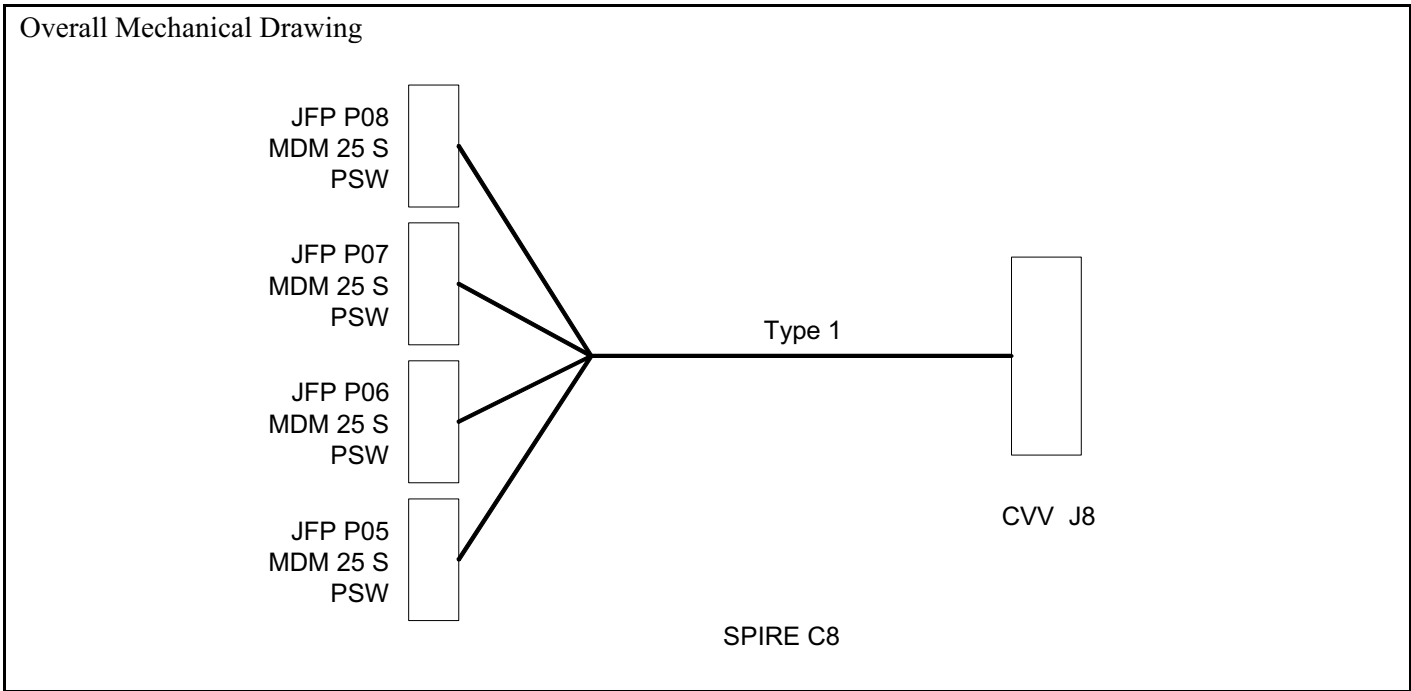


SPIRE HARNESS DEFINITION DOCUMENT (Deltas)

Doc: SPIRE-RAL-PRJ-001819

	Name	Pixel	JFP P13	JFP P14	JFP P15	JFP P16	128Way #6	
	Channel 7 -	PLW-B7	7				75	
	Channel 7gnd		13 (A1)				36 (A1)	
	Channel 8 +		21				74	
	Channel 8 -		8				73	
	Channel 8gnd		13 (A1)				36 (A1)	
C6-12ax-C	Channel 9 +	PLW-C7	22				83	
	Channel 9 -		9				72	
	Channel 9gnd		13 (A1)				36 (A1)	
	Channel 10 +	PLW-B5	23				95	
	Channel 10 -		10				84	
	Channel 10gnd		13 (A1)				36 (A1)	
	Channel 11 +	PLW-B6	24				96	
	Channel 11 -		11				85	
	Channel 11gnd		13 (A1)				36 (A1)	
	Channel 12 +	PLW-A5	25				106	
	Channel 12 -		12				107	
	Channel 12gnd		13 (A1)				36 (A1)	
	C6-12ax-D	Channel 13 +	PLW-T1		1			86
		Channel 13 -			14			87
Channel 13gnd				13 (A2)			128 (A2)	
Channel 14 +		PLW-B4		2			97	
Channel 14 -				15			98	
Channel 14gnd				13 (A2)			128 (A2)	
Channel 15 +		PLW-C4		3			108	
Channel 15 -				16			109	
Channel 15gnd				13 (A2)			128 (A2)	
Channel 16 +		PLW-B3		4			116	
Channel 16 -				17			117	
Channel 16gnd				13 (A2)			128 (A2)	
C6-12ax-E		Channel 17 +	PLW-C2		5			55
		Channel 17 -			18			66
	Channel 17gnd			13 (A2)			128 (A2)	
	Channel 18 +	PLW-B2		6			67	
	Channel 18 -			19			78	
	Channel 18gnd			13 (A2)			128 (A2)	
	Channel 19 +	PLW-B1		20			76	
	Channel 19 -			7			77	
	Channel 19gnd			13 (A2)			128 (A2)	
	Channel 20 +	PLW-A3		21			88	
	Channel 20 -			8			89	
	Channel 20gnd			13 (A2)			128 (A2)	
	C6-12ax-F	Channel 21 +	PLW-A4		22			99
		Channel 21 -			9			100
Channel 21gnd				13 (A2)			128 (A2)	
Channel 22 +		PLW-A1		23			110	
Channel 22 -				10			111	
Channel 22gnd				13 (A2)			128 (A2)	
Channel 23 +		PLW-DK1		24			118	
Channel 23 -				11			119	
Channel 23gnd				13 (A2)			128 (A2)	
Channel 24 +		PLW-A2		25			112	
Channel 24 -				12			120	
Channel 24gnd				13 (A2)			128 (A2)	
C6-12ax-G		Channel 25 +	PLW-E1			1		90
		Channel 25 -				14		79
	Channel 25gnd				13 (A3)		47 (A3)	
	Channel 26 +	PLW-E2			2		102	
	Channel 26 -				15		101	
	Channel 26gnd				13 (A3)		47 (A3)	
	Channel 27 +	PLW-E3			3		92	
	Channel 27 -				16		91	
	Channel 27gnd				13 (A3)		47 (A3)	
	Channel 28 +	PLW-E4			4		103	
	Channel 28 -				17		113	
	Channel 28gnd				13 (A3)		47 (A3)	
	C6-12ax-H	Channel 29 +	PLW-D1			5		58
		Channel 29 -				18		46
Channel 29gnd					13 (A3)		47 (A3)	
Channel 30 +		PLW-D2			6		68	
Channel 30 -					19		57	
	Channel 30gnd			13 (A3)		47 (A3)		

4.4.8 C8 CVV8 to HSJFP Type1



Connector/Backshell Details

MDM25S+Glenair507-T-139-M-37 to	JFP J5	PSW Signals
MDM25S+Glenair507-T-139-M-37 to	JFP J6	PSW Signals
MDM25S+Glenair507-T-139-M-37 to	JFP J7	PSW Signals
MDM25S+Glenair507-T-139-M-37 to	JFP J8	PSW Signals

Harness Layup

As C4.

	Name		JFP P05	JFP P06	JFP P07	JFP P08	128Way #8
C8-12ax-A	Channel 1 +	PSW-D6	1				26
	Channel 1 -		14				37
	Channel 1gnd		13 (A1)				36 (A1)
	Channel 2 +	PSW-B6	2				38
	Channel 2 -		15				49
	Channel 2gnd		13 (A1)				36 (A1)
	Channel 3 +	PSW-C5	3				48
	Channel 3 -		16				60
	Channel 3gnd		13 (A1)				36 (A1)
	Channel 4 +	PSW-A5	4				59
	Channel 4 -		17				71
	Channel 4gnd		13 (A1)				36 (A1)
C8-12ax-B	Channel 5 +	PSW-E5	5				50
	Channel 5 -		18				61
	Channel 5gnd		13 (A1)				36 (A1)
	Channel 6 +	PSW-B5	6				62
	Channel 6 -		19				51
	Channel 6gnd		13 (A1)				36 (A1)
	Channel 7 +	PSW-D5	20				63
	Channel 7 -		7				75
	Channel 7gnd		13 (A1)				36 (A1)
	Channel 8 +	PSW-C4	21				74
	Channel 8 -		8				73
	Channel 8gnd		13 (A1)				36 (A1)



SPIRE HARNESS DEFINITION DOCUMENT (Deltas)

Doc: SPIRE-RAL-PRJ-001819

	Name		JFP P05	JFP P06	JFP P07	JFP P08	128Way #8
C8-12ax-C	Channel 9 +	PSW-A4	22				83
	Channel 9 -		9				72
	Channel 9gnd		13 (A1)				36 (A1)
	Channel 10 +	PSW-D4	23				95
	Channel 10 -		10				84
	Channel 10gnd		13 (A1)				36 (A1)
	Channel 11 +	PSW-B4	24				96
	Channel 11 -		11				85
	Channel 11gnd		13 (A1)				36 (A1)
	Channel 12 +	PSW-C3	25				106
Channel 12 -	12					107	
Channel 12gnd	13 (A1)					36 (A1)	
C8-12ax-D	Channel 13 +	PSW-B3		1			86
	Channel 13 -			14			87
	Channel 13gnd			13 (A2)			128 (A2)
	Channel 14 +	PSW-A3		2			97
	Channel 14 -			15			98
	Channel 14gnd			13 (A2)			128 (A2)
	Channel 15 +	PSW-A2		3			108
	Channel 15 -			16			109
	Channel 15gnd			13 (A2)			128 (A2)
	Channel 16 +	PSW-D3		4			116
Channel 16 -			17			117	
Channel 16gnd			13 (A2)			128 (A2)	
C8-12ax-E	Channel 17 +	PSW-C2		5			55
	Channel 17 -			18			66
	Channel 17gnd			13 (A2)			128 (A2)
	Channel 18 +	PSW-B2		6			67
	Channel 18 -			19			78
	Channel 18gnd			13 (A2)			128 (A2)
	Channel 19 +	PSW-D2		20			76
	Channel 19 -			7			77
	Channel 19gnd			13 (A2)			128 (A2)
	Channel 20 +	PSW-A1		21			88
Channel 20 -			8			89	
Channel 20gnd			13 (A2)			128 (A2)	
C8-12ax-F	Channel 21 +	PSW-C1		22			99
	Channel 21 -			9			100
	Channel 21gnd			13 (A2)			128 (A2)
	Channel 22 +	PSW-B1		23			110
	Channel 22 -			10			111
	Channel 22gnd			13 (A2)			128 (A2)
	Channel 23 +	PSW-DK1		24			118
	Channel 23 -			11			119
	Channel 23gnd			13 (A2)			128 (A2)
	Channel 24 +	PSW-D1		25			112
Channel 24 -			12			120	
Channel 24gnd			13 (A2)			128 (A2)	
C8-12ax-G	Channel 25 +	PSW-F12			1		90
	Channel 25 -				14		79
	Channel 25gnd				13 (A3)		47 (A3)
	Channel 26 +	PSW-J11			2		102
	Channel 26 -				15		101
	Channel 26gnd				13 (A3)		47 (A3)
	Channel 27 +	PSW-E12			3		92
	Channel 27 -				16		91
	Channel 27gnd				13 (A3)		47 (A3)
	Channel 28 +	PSW-H12			4		103
Channel 28 -				17		113	
Channel 28gnd				13 (A3)		47 (A3)	
C8-12ax-H	Channel 29 +	PSW-G12			5		58
	Channel 29 -				18		46
	Channel 29gnd				13 (A3)		47 (A3)
	Channel 30 +	PSW-F13			6		68
	Channel 30 -				19		57
	Channel 30gnd				13 (A3)		47 (A3)
	Channel 31 +	PSW-E13			20		69
	Channel 31 -				7		80
Channel 31gnd				13 (A3)		47 (A3)	
Channel 32 +	PSW-J12			21		70	

Photometer Stimulus Heater P13

Function	P13	Max. Current	Wire Lay-up	MaxOhms	128Way #11
Photometer Point Stim. Heater I+ _A	2	7 mA	Screened twisted quad	10	48
Photometer Point Stim.Heater I+ _B	3	7 mA		10	71
Photometer Point Stim.Heater I- _A	7	7 mA		10	60
Photometer Point Stim.Heater I- _B	8	7 mA		10	59
Screen	4				36
Harness Overshield		EMC Backshell			

4 pins used

SMEC Launch Tail Listing (FCU P29)

Function	Signal Name	37-Way P29	Max. Current	Wire lay-up	Max Ohms	128Way #11
SMEC launch latch #1 power supply A	S_LL#1_Coil_P	1	400 mA / 50ms	Insulated screened twisted pair	5	67
SMEC launch latch #1 power return A	S_LL#1_Coil_N	2	400 mA / 50ms		5	66
SMEC launch latch #1 power Shield A	S_LL#1_Coil_Shld	20	N/A		N/A	78
SMEC launch latch #1 power supply B		21	400 mA / 50ms	Insulated screened twisted pair	5	69
SMEC launch latch #1 power return B		22	400 mA / 50ms		5	68
SMEC launch latch #1 power Shield B		3	N/A		N/A	80
SMEC launch latch #2 power supply A		4	400 mA / 50ms	Insulated screened twisted pair	5	90
SMEC launch latch #2 power return A		5	400 mA / 50ms		5	91
SMEC launch latch #2 power Shield A		23	N/A		N/A	79
SMEC launch latch #2 power supply B	S_LL#2_Coil_P	24	400 mA / 50ms	Insulated screened twisted pair	5	92
SMEC launch latch #2 power return B	S_LL#2_Coil_N	25	400 mA / 50ms		5	93
SMEC launch latch #2 power Shield B	S_LL#2_Coil_Shld	6	N/A		N/A	81
SMEC LVDT primary coil power supply (P)	LVDT_PRIM_P	13	5 mA	Insulated screened twisted pair	5	101
SMEC LVDT primary coil power supply (N)	LVDT_PRIM_N	14	5 mA		5	102
SMEC LVDT primary coil power supply Shld	LVDT_PRIM_Shld	32	N/A		N/A	112
SMEC LVDT secondary coil # 1 signal (P)	LVDT_SECA_P	15	50 μ A	Insulated screened twisted pair	5	127
SMEC LVDT secondary coil # 1 signal (N)	LVDT_SECA_N	16	50 μ A		5	120
SMEC LVDT secondary coil # 1 signal Shield	LVDT_SECA_Shld	34	N/A		N/A	128
SMEC LVDT secondary coil # 2 signal (P)	LVDT_SECB_P	17	50 μ A	Insulated screened twisted pair	5	114
SMEC LVDT secondary coil # 2 signal (N)	LVDT_SECB_N	18	50 μ A		5	113
SMEC LVDT secondary coil # 2 signal Shield	LVDT_SECB_Shld	36	N/A		N/A	121
Harness Overshield		EMC Backshell				



SPIRE HARNESS DEFINITION DOCUMENT (Deltas)

Doc: SPIRE-RAL-PRJ-001819

	Name	Pixel	JFP P01	JFP P02	JFP P03	JFP P04	128Way #9	
	Channel 6 -	PSW-D15	19				51	
	Channel 6gnd		13 (A1)				36 (A1)	
	Channel 7 +		20				63	
	Channel 7 -		7				75	
	Channel 7gnd		13 (A1)				36 (A1)	
	Channel 8 +		PSW-B15	21				74
	Channel 8 -			8				73
Channel 8gnd	13 (A1)					36 (A1)		
C9-12ax-C	Channel 9 +	PSW-C14	22				83	
	Channel 9 -		9				72	
	Channel 9gnd		13 (A1)				36 (A1)	
	Channel 10 +	PSW-D14	23				95	
	Channel 10 -		10				84	
	Channel 10gnd	PSW-A14	13 (A1)				36 (A1)	
	Channel 11 +		24				96	
	Channel 11 -		11				85	
	Channel 11gnd		13 (A1)				36 (A1)	
	Channel 12 +	PSW-A13	25				106	
Channel 12 -	12					107		
Channel 12gnd	13 (A1)					36 (A1)		
C9-12ax-D	Channel 13 +	PSW-B14		1			86	
	Channel 13 -			14			87	
	Channel 13gnd			13 (A2)			128 (A2)	
	Channel 14 +	PSW-C13		2			97	
	Channel 14 -			15			98	
	Channel 14gnd			13 (A2)			128 (A2)	
	Channel 15 +	PSW-B13		3			108	
	Channel 15 -			16			109	
	Channel 15gnd			13 (A2)			128 (A2)	
	Channel 16 +	PSW-D13		4			116	
Channel 16 -			17			117		
Channel 16gnd			13 (A2)			128 (A2)		
C9-12ax-E	Channel 17 +	PSW-A12		5			55	
	Channel 17 -			18			66	
	Channel 17gnd			13 (A2)			128 (A2)	
	Channel 18 +	PSW-C12		6			67	
	Channel 18 -			19			78	
	Channel 18gnd			13 (A2)			128 (A2)	
	Channel 19 +	PSW-D12		20			76	
	Channel 19 -			7			77	
	Channel 19gnd			13 (A2)			128 (A2)	
	Channel 20 +			21			88	
Channel 20 -	PSW-B12		8			89		
Channel 20gnd			13 (A2)			128 (A2)		
Channel 21 +			22			99		
Channel 21 -	PSW-E11		9			100		
Channel 21gnd			13 (A2)			128 (A2)		
Channel 22 +	PSW-A11		23			110		
Channel 22 -			10			111		
Channel 22gnd			13 (A2)			128 (A2)		
Channel 23 +	PSW-C11		24			118		
Channel 23 -			11			119		
Channel 23gnd			13 (A2)			128 (A2)		
Channel 24 +	PSW-B11		25			112		
Channel 24 -			12			120		
Channel 24gnd			13 (A2)			128 (A2)		
C9-12ax-G	Channel 25 +	PSW-E1			1		90	
	Channel 25 -				14		79	
	Channel 25gnd				13 (A3)		47 (A3)	
	Channel 26 +	PSW-F1			2		102	
	Channel 26 -				15		101	
	Channel 26gnd				13 (A3)		47 (A3)	
	Channel 27 +	PSW-T2			3		92	
	Channel 27 -				16		91	
	Channel 27gnd				13 (A3)		47 (A3)	
	Channel 28 +	PSW-H1			4		103	
Channel 28 -				17		113		
Channel 28gnd				13 (A3)		47 (A3)		
C9-12ax-H	Channel 29 +	PSW-G1			5		58	
	Channel 29 -				18		46	

Pin Allocation List (Harness)

Connector: 312100 P03

Function: SPIRE SVM CB1 (SPIRE Bundle 04)

Conn.-Type: MS27484T24F-35S (PI+ShI)

Item: HSSVMCB1

Location: 27 / I/F CB ab. SVM Panel 7 (SPI/CCU CB)

Backshell: 380 FS 007 M24 05

EMC-Category: 2S/Sig H fr SVMCB to W. Units

Pin	Signal Designation	Interface-Code			Ch. ID	Wiring	Grouping:			Comment	Target-Item	Location	Connector	Pin	New
		Circuit	Signal	Pos.			Shd	Cable	Twist						
078	SPIRE PMW Ch17 to 19 . 18-		SPB.5	-	S073	021CC-28	5				HSDCU	17	122300 P20	016	
128	SPIRE PMW Ch17 to 19 . 18gnd		SPB.5	-	S073	021CC-28	5			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P20	049	
076	SPIRE PMW Ch17 to 19 . 19+		SPB.5	-	S073	021CC-28	5			PMW-E9	HSDCU	17	122300 P20	033	
077	SPIRE PMW Ch17 to 19 . 19-		SPB.5	-	S073	021CC-28	5				HSDCU	17	122300 P20	017	
128	SPIRE PMW Ch17 to 19 . 19gnd		SPB.5	-	S073	021CC-28	5			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P20	050	
-	P20 Cable Faraday shd									Cable P20 Faraday Shd con to Busbar					
-	P20 Insulating Jacket									Cable P20 Insulating Jacket tbd					
-	P20 Cable Overall Shd									Cable P20 Overall Shd not forseen, may be added later					
088	SPIRE PMW Ch 20 . 20+		SPB.3	-	S73A	021CC-28	5			PMW-G9	HSDCU	17	122300 P21	001	
089	SPIRE PMW Ch 20 . 20-		SPB.3	-	S73A	021CC-28	5				HSDCU	17	122300 P21	018	
128	SPIRE PMW Ch 20 . 20gnd		SPB.3	-	S73A	021CC-28	5			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P21	034	
099	SPIRE PMW Ch21 to 24 . 21+		SPB.S	-	S074	021CC-28	6			PMW-D9	HSDCU	17	122300 P21	002	
100	SPIRE PMW Ch21 to 24 . 21-		SPB.S	-	S074	021CC-28	6				HSDCU	17	122300 P21	019	
128	SPIRE PMW Ch21 to 24 . 21gnd		SPB.S	-	S074	021CC-28	6			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P21	035	
110	SPIRE PMW Ch21 to 24 . 22+		SPB.S	-	S074	021CC-28	6			PMW-F9	HSDCU	17	122300 P21	003	
111	SPIRE PMW Ch21 to 24 . 22-		SPB.S	-	S074	021CC-28	6				HSDCU	17	122300 P21	020	
128	SPIRE PMW Ch21 to 24 . 22gnd		SPB.S	-	S074	021CC-28	6			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P21	036	
118	SPIRE PMW Ch21 to 24 . 23+		SPB.S	-	S074	021CC-28	6			PMW-E10	HSDCU	17	122300 P21	004	
119	SPIRE PMW Ch21 to 24 . 23-		SPB.S	-	S074	021CC-28	6				HSDCU	17	122300 P21	021	
128	SPIRE PMW Ch21 to 24 . 23gnd		SPB.S	-	S074	021CC-28	6			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P21	037	
112	SPIRE PMW Ch21 to 24 . 24+		SPB.S	-	S074	021CC-28	6			PMW-G10	HSDCU	17	122300 P21	005	
120	SPIRE PMW Ch21 to 24 . 24-		SPB.S	-	S074	021CC-28	6				HSDCU	17	122300 P21	022	
128	SPIRE PMW Ch21 to 24 . 24gnd		SPB.S	-	S074	021CC-28	6			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P21	038	
090	SPIRE PMW Ch25 to 28 . 25+		SPB.S	-	S076	021CC-28	8			PMW-C4	HSDCU	17	122300 P21	006	

These two corrections are as per SPIRE HDD 1.2

Pin Allocation List (Harness)

Connector: 312100 P03

Function: SPIRE SVM CB1 (SPIRE Bundle 04)

Conn.-Type: MS27484T24F-35S (PI+ShI)

Item: HSSVMCB1

Location: 27 / I/F CB ab. SVM Panel 7 (SPI/CCU CB)

Backshell: 380 FS 007 M24 05

EMC-Category: 2S/Sig H fr SVMCB to W. Units

Pin	Signal Designation	Interface-Code			Ch. ID	Wiring	Grouping:			Comment	Target-Item	Location	Connector	Pin	New
		Circuit	Signal	Pos.			Shd	Cable	Twist						
078	SPIRE PMW Ch17 to 19 . 18-		SPB.5 -		S073	021CC-28	5				HSDCU	17	122300 P20	016	
128	SPIRE PMW Ch17 to 19 . 18gnd		SPB.5 -		S073	021CC-28	5			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P20	049	
076	SPIRE PMW Ch17 to 19 . 19+		SPB.5 -		S073	021CC-28	5			PMW-E9	HSDCU	17	122300 P20	033	
077	SPIRE PMW Ch17 to 19 . 19-		SPB.5 -		S073	021CC-28	5				HSDCU	17	122300 P20	017	
128	SPIRE PMW Ch17 to 19 . 19gnd		SPB.5 -		S073	021CC-28	5			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P20	050	
-	P20 Cable Faraday shd									Cable P20 Faraday Shd con to Busbar					
-	P20 Insulating Jacket									Cable P20 Insulating Jacket tbd					
-	P20 Cable Overall Shd									Cable P20 Overall Shd not forseen, may be added later					
088	SPIRE PMW Ch 20 . 20+		SPB.3 -		S73A	021CC-28	5			PMW-G9	HSDCU	17	122300 P21	001	
089	SPIRE PMW Ch 20 . 20-		SPB.3 -		S73A	021CC-28	5				HSDCU	17	122300 P21	018	
128	SPIRE PMW Ch 20 . 20gnd		SPB.3 -		S73A	021CC-28	5			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P21	034	
099	SPIRE PMW Ch21 to 24 . 21+		SPB.S -		S074	021CC-28	6			PMW-D9	HSDCU	17	122300 P21	002	
100	SPIRE PMW Ch21 to 24 . 21-		SPB.S -		S074	021CC-28	6				HSDCU	17	122300 P21	019	
128	SPIRE PMW Ch21 to 24 . 21gnd		SPB.S -		S074	021CC-28	6			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P21	035	
110	SPIRE PMW Ch21 to 24 . 22+		SPB.S -		S074	021CC-28	6			PMW-F9	HSDCU	17	122300 P21	003	
111	SPIRE PMW Ch21 to 24 . 22-		SPB.S -		S074	021CC-28	6				HSDCU	17	122300 P21	020	
128	SPIRE PMW Ch21 to 24 . 22gnd		SPB.S -		S074	021CC-28	6			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P21	036	
118	SPIRE PMW Ch21 to 24 . 23+		SPB.S -		S074	021CC-28	6			PMW-E10	HSDCU	17	122300 P21	004	
119	SPIRE PMW Ch21 to 24 . 23-		SPB.S -		S074	021CC-28	6				HSDCU	17	122300 P21	021	
128	SPIRE PMW Ch21 to 24 . 23gnd		SPB.S -		S074	021CC-28	6			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P21	037	
112	SPIRE PMW Ch21 to 24 . 24+		SPB.S -		S074	021CC-28	6			PMW-G10	HSDCU	17	122300 P21	005	
120	SPIRE PMW Ch21 to 24 . 24-		SPB.S -		S074	021CC-28	6				HSDCU	17	122300 P21	022	
128	SPIRE PMW Ch21 to 24 . 24gnd		SPB.S -		S074	021CC-28	6			Daisy ch to Pin 128 (A3)	HSDCU	17	122300 P21	038	
090	SPIRE PMW Ch25 to 28 . 25+		SPB.S -		S076	021CC-28	8			PMW-C4	HSDCU	17	122300 P21	006	

Compliant with
SPIRE HDD 1.2

Pin Allocation List (Harness)

Connector: 211121 J22
Item: CVVUCR
EMC-Category: 2C/Sig H in Cryostat

Function: UFThr 193.0° (SPIRE XS-04JFP21,22,23,24)
Location: 33 / CVV I/F CB Top PFM (CVVUCR)

Conn.-Type: 197-011P24-35P (Junct.)
Backshell: HERSKT 58-0050

Pin	Signal Designation	Interface-Code			Ch. ID	Wiring	Grouping:			Comment	Target-Item	Location	Connector	Pin	New
		Circuit	Signal	Pos.			Shd	Cable	Twist						
108	SPIRE PMW Ch 13 to 16 . 15+		SPB.-	-	S072	12AXD-38	4	D		PMW-F7	75	121210 P23	003		
109	SPIRE PMW Ch 13 to 16 . 15-		SPB.-	-	S072	12AXD-38	4	D			75	121210 P23	016		
128	SPIRE PMW Ch 13 to 16 . 15gnd		SPB.-	-	S072	12AXD-38	4	D		Daisy ch to Pin 128 (A2)	75	121210 P23	013		
-															
116	SPIRE PMW Ch 13 to 16 . 16+		SPB.-	-	S072	12AXD-38	4	D		PMW-E8	75	121210 P23	004		
117	SPIRE PMW Ch 13 to 16 . 16-		SPB.-	-	S072	12AXD-38	4	D			75	121210 P23	017		
128	SPIRE PMW Ch 13 to 16 . 16gnd		SPB.-	-	S072	12AXD-38	4	D		Daisy ch to Pin 128 (A2)	75	121210 P23	013		
128	SPIRE PMW Ch 13 to 16 . SHD01		SPB.-	-	S072	12AXD-38	4	D		Cable S072 inner Shd daisy ch to Pin 128 (A2)	75	121210 P23	013		
-	Cable S072 12 AXD Outer Shield									Cable S072 outer Shd con to Busbar (Faraday)					
-															
-															
055	SPIRE PMW Ch17 to 19 . 17+		SPB.-	-	S073	12AXD-38	5	E		PMW-G8	75	121210 P23	005		
066	SPIRE PMW Ch17 to 19 . 17-		SPB.-	-	S073	12AXD-38	5	E			75	121210 P23	018		
128	SPIRE PMW Ch17 to 19 . 17gnd		SPB.-	-	S073	12AXD-38	5	E		Daisy ch to Pin 128 (A2)	75	121210 P23	013		
067	SPIRE PMW Ch17 to 19 . 18+		SPB.-	-	S073	12AXD-38	5	E		PMW-F8	75	121210 P23	006		
078	SPIRE PMW Ch17 to 19 . 18-		SPB.-	-	S073	12AXD-38	5	E			75	121210 P23	019		
128	SPIRE PMW Ch17 to 19 . 18gnd		SPB.-	-	S073	12AXD-38	5	E		Daisy ch to Pin 128 (A2)	75	121210 P23	013		
-															
076	SPIRE PMW Ch17 to 19 . 19+		SPB.-	-	S073	12AXD-38	5	E		PMW-E9	75	121210 P23	020		
077	SPIRE PMW Ch17 to 19 . 19-		SPB.-	-	S073	12AXD-38	5	E			75	121210 P23	007		
128	SPIRE PMW Ch17 to 19 . 19gnd		SPB.-	-	S073	12AXD-38	5	E		Daisy ch to Pin 128 (A2)	75	121210 P23	013		
-															
088	SPIRE PMW Ch 20 . 20+		SPB.-	-	S73A	12AXD-38	5	E		PMW-G9	75	121210 P23	021		
089	SPIRE PMW Ch 20 . 20-		SPB.-	-	S73A	12AXD-38	5	E			75	121210 P23	008		
128	SPIRE PMW Ch 20 . 20gnd		SPB.-	-	S73A	12AXD-38	5	E		Daisy ch to Pin 128 (A2)	75	121210 P23	013		
128	SPIRE PMW Ch17 to 19 . SHD02		SPB.-	-	S073	12AXD-38	5	E		Cable S073 inner Shd daisy ch to Pin 128 (A2)	75	121210 P23	013		
-	Cable S073 12 AXD Outer Shield									Cable S063 outer Shd con to Busbar (Faraday)					
-															
-															
099	SPIRE PMW Ch21 to 24 . 21+		SPB.-	-	S074	12AXD-38	6	F		PMW-D9	75	121210 P23	022		
100	SPIRE PMW Ch21 to 24 . 21-		SPB.-	-	S074	12AXD-38	6	F			75	121210 P23	009		
128	SPIRE PMW Ch21 to 24 . 21gnd		SPB.-	-	S074	12AXD-38	6	F		Daisy ch to Pin 128 (A2)	75	121210 P23	013		
-															
110	SPIRE PMW Ch21 to 24 . 22+		SPB.-	-	S074	12AXD-38	6	F		PMW-F9	75	121210 P23	023		

No worries - compliant with SPIRE HDD 1.2

Pin Allocation List (Harness)

Connector: 312300 P04

Function: SPIRE SVM CB3 (SPIRE Bundle 11)

Conn.-Type: MS27484T24F-35S (PI+ShI)

Item: HSSVMCB3

Location: 27 / I/F CB ab. SVM Panel 7 (SPI/CCU CB)

Backshell: 380 FS 007 M24 05

EMC-Category: 2S/Sig H fr SVMCB to W. Units

Pin	Signal Designation	Interface-Code			Ch. ID	Wiring	Grouping:			Comment	Target-Item	Location	Connector	Pin	New
		Circuit	Signal	Pos.			Shd	Cable	Twist						
-															
014	SPIRE SMEC Drv Sense (N) . Sen+		SMG.S -		S278	021CC-28	24				HSFCU	17	122200 P17	004	
024	SPIRE SMEC Drv Sense (N) . Sen-		SMG.S -		S278	021CC-28	24				HSFCU	17	122200 P17	005	
023	SPIRE SMEC Drv Sense (N) . SHD03		SMG.S -		S278	021CC-28	24		Cable S278 Shd		HSFCU	17	122200 P17	023	
-															
009	SPIRE SMEC PosSeLEDpwr(N) . S		SMH.S -		S279	021CC-28	25				HSFCU	17	122200 P17	007	
002	SPIRE SMEC PosSeLEDpwr(N) . R		SMH.S -		S279	021CC-28	25				HSFCU	17	122200 P17	008	
003	SPIRE SMEC PosSeLEDpwr(N) . SHD04		SMH.S -		S279	021CC-28	25		Cable S279 Shd		HSFCU	17	122200 P17	026	
-															
011	SPIRE SMEC PosSensPwr(N) . S		SMH.S -		S280	021CC-28	26				HSFCU	17	122200 P17	027	
004	SPIRE SMEC PosSensPwr(N) . R		SMH.S -		S280	021CC-28	26				HSFCU	17	122200 P17	028	
010	SPIRE SMEC PosSensPwr(N) . SHD05		SMH.S -		S280	021CC-28	26		Cable S280 Shd		HSFCU	17	122200 P17	009	
-															
018	SPIRE SMEC PosPhDi#1FB(N) . S		SMJ.S -		S281	021CC-28	27				HSFCU	17	122200 P17	010	
019	SPIRE SMEC PosPhDi#1FB(N) . R		SMJ.S -		S281	021CC-28	27				HSFCU	17	122200 P17	011	
029	SPIRE SMEC PosPhDi#1FB(N) . SHD09		SMJ.S -		S281	021CC-28	27		Cable S281Shd		HSFCU	17	122200 P17	029	
-															
056	SPIRE SMEC PosPhDi#1FB(N) . S		SMK.S -		S282	021CC-28	30				HSFCU	17	122200 P17	030	
055	SPIRE SMEC PosPhDi#1FB(N) . R		SMK.S -		S282	021CC-28	30				HSFCU	17	122200 P17	031	
044	SPIRE SMEC PosPhDi#1FB(N) . SHD09		SMK.S -		S282	021CC-28	30		Cable S282 Shd		HSFCU	17	122200 P17	012	
-															
042	SPIRE SMEC PosPhDi#2(N) . I+		SMJ.S -		S283	021CC-28	28				HSFCU	17	122200 P17	013	
041	SPIRE SMEC PosPhDi#2(N) . I-		SMJ.S -		S283	021CC-28	28				HSFCU	17	122200 P17	014	
030	SPIRE SMEC PosPhDi#2(N) . SHD07		SMJ.S -		S283	021CC-28	28		Cable S283 Shd		HSFCU	17	122200 P17	032	
-															
034	SPIRE SMEC PosPhDi#2FB(N) . S		SMK.S -		S284	021CC-28	31				HSFCU	17	122200 P17	033	
033	SPIRE SMEC PosPhDi#2FB(N) . R		SMK.S -		S284	021CC-28	31				HSFCU	17	122200 P17	034	
045	SPIRE SMEC PosPhDi#2FB(N) . SHD10		SMK.S -		S284	021CC-28	31		Cable S284 Shd		HSFCU	17	122200 P17	015	
-															
020	SPIRE SMEC PosPhDi#3(N) . I+		SMJ.S -		S285	021CC-28	29				HSFCU	17	122200 P17	016	
021	SPIRE SMEC PosPhDi#3(N) . I-		SMJ.S -		S285	021CC-28	29				HSFCU	17	122200 P17	017	
031	SPIRE SMEC PosPhDi#3(N) . SHD08		SMJ.S -		S285	021CC-28	29		Cable S285 Shd		HSFCU	17	122200 P17	035	
-															

This matches the interface to the FPU

The pin allocations on the S/C 128-way connectors all match

Pin Allocation List (Harness)

Connector: 211121 J30
Item: CVVUCR
EMC-Category: 2C/Sig H in Cryostat

Function: UFThr. 283.0° (SPIRE XS-11 FPU 25,27,29)
Location: 33 / CVV I/F CB Top PFM (CVVUCR)

Conn.-Type: 197-011P24-35P (Junct.)
Backshell: HERSKT 58-0050

Pin	Signal Designation	Interface-Code			Ch. ID	Wiring	Grouping:			Comment	Target-Item	Location	Connector	Pin	New
		Circuit	Signal	Pos.			Shd	Cable	Twist						
-	-														
011	SPIRE SMEC PosSensPwr(N) . S		SMH.-	-	S280	021BS-38	26				HSFPU	70	121100 P29	027	
004	SPIRE SMEC PosSensPwr(N) . R		SMH.-	-	S280	021BS-38	26				HSFPU	70	121100 P29	028	
010	SPIRE SMEC PosSensPwr(N) . SHD05		SMH.-	-	S280	021BS-38	26		Cable S280 Shd		HSFPU	70	121100 P29	009	
-	-														
018	SPIRE		SMJ.-	-	S281	021SS-38	27				HSFPU	70	121100 P29	018	
019	SPIRE		SMJ.-	-	S281	021SS-38	27				HSFPU	70	121100 P29	019	
029	SPIRE		SMJ.-	-	S281	021SS-38	27		Cable S281, 283,285 Shd con together (B) (Pin 29, 30,31)		HSFPU	70	121100 P29	029	
-	-														
056	SPIRE SMEC PosPhDi#1FB(N) . S		SMK.-	-	S282	021SS-38	30				HSFPU	70	121100 P29	030	
055	SPIRE SMEC PosPhDi#1FB(N) . R		SMK.-	-	S282	021SS-38	30				HSFPU	70	121100 P29	031	
044	SPIRE SMEC PosPhDi#1FB(N) . SHD09		SMK.-	-	S282	021SS-38	30		Cable S282, 284,286 Shd con together (C) (Pin 44,45,46)		HSFPU	70	121100 P29	012	
-	-														
042	SPIRE SMEC PosPhDi#2(N) . I+		SMJ.-	-	S283	021SS-38	28				HSFPU	70	121100 P29	013	
041	SPIRE SMEC PosPhDi#2(N) . I-		SMJ.-	-	S283	021SS-38	28				HSFPU	70	121100 P29	014	
030	SPIRE SMEC PosPhDi#2(N) . SHD07		SMJ.-	-	S283	021SS-38	28		Cable S281, 283,285 Shd con together (B) (Pin 29,30,31)		HSFPU	70	121100 P29	032	
-	-														
034	SPIRE SMEC PosPhDi#2FB(N) . S		SMK.-	-	S284	021SS-38	31				HSFPU	70	121100 P29	033	
033	SPIRE SMEC PosPhDi#2FB(N) . R		SMK.-	-	S284	021SS-38	31				HSFPU	70	121100 P29	034	
045	SPIRE SMEC PosPhDi#2FB(N) . SHD10		SMK.-	-	S284	021SS-38	31		Cable S282, 284,286 Shd con together (C) (Pin 44,45,46)		HSFPU	70	121100 P29	015	
-	-														
020	SPIRE SMEC PosPhDi#3(N) . I+		SMJ.-	-	S285	021SS-38	29				HSFPU	70	121100 P29	016	
021	SPIRE SMEC PosPhDi#3(N) . I-		SMJ.-	-	S285	021SS-38	29				HSFPU	70	121100 P29	017	
031	SPIRE SMEC PosPhDi#3(N) . SHD08		SMJ.-	-	S285	021SS-38	29		Cable S281, 283,285 Shd con together (B) (Pin 29,30,31)		HSFPU	70	121100 P29	035	
-	-														
058	SPIRE SMEC PosPhDi#3FB(N) . S		SMK.-	-	S286	021SS-38	32				HSFPU	70	121100 P29	036	
057	SPIRE SMEC PosPhDi#3FB(N) . R		SMK.-	-	S286	021SS-38	32				HSFPU	70	121100 P29	037	

The pin allocations on the S/C 128-way connectors all match

This matches the I/F to the FCU

Pin Allocation List

(Harness)

Connector: 211121 P30**Function:** UFThr. 283.0° (SPIRE XS-11 FPU 25,27,29)**Conn.-Type:** 197-012P24-35S (Plug)**Item:** CVVUCR**Location:** 33 / CVV I/F CB Top PFM (CVVUCR)**Backshell:** G 9254 F 24 M**EMC-Category:** 2I/Sig H fr CVVFT to SVMCB

Pin	Signal Designation	Interface-Code			Ch. ID	Wiring	Grouping:			Comment	Target-Item	Location	Connector	Pin	New
		Circuit	Signal	Pos.			Shd	Cable	Twist						
-															
011	SPIRE SMEC PosSensPwr(N) . S		SMH.-	-	S280	021BS-38	26				HSSVMCB3	27	312300 J04	011	
004	SPIRE SMEC PosSensPwr(N) . R		SMH.-	-	S280	021BS-38	26				HSSVMCB3	27	312300 J04	004	
010	SPIRE SMEC PosSensPwr(N) . SHD05		SMH.-	-	S280	021BS-38	26			Cable S280 Shd	HSSVMCB3	27	312300 J04	010	
-															
018	SPIRE SMEC PosPhDi#1(N) . I+		SMJ.-	-	S281	021SS-38	27				HSSVMCB3	27	312300 J04	018	
019	SPIRE SMEC PosPhDi#1(N) . I-		SMJ.-	-	S281	021SS-38	27				HSSVMCB3	27	312300 J04	019	
029	SPIRE SMEC PosPhDi#1(N) . SHD06		SMJ.-	-	S281	021SS-38	27			Cable S281, 283,285 Shd con together (B)	HSSVMCB3	27	312300 J04	029	
-															
056	SPIRE SMEC PosPhDi#1FB(N) . S		SMK.-	-	S282	021SS-38	30				HSSVMCB3	27	312300 J04	056	
055	SPIRE SMEC PosPhDi#1FB(N) . R		SMK.-	-	S282	021SS-38	30				HSSVMCB3	27	312300 J04	055	
044	SPIRE SMEC PosPhDi#1FB(N) . SHD09		SMK.-	-	S282	021SS-38	30			Cable S282, 284,286 Shd con together (C)	HSSVMCB3	27	312300 J04	044	
-															
042	SPIRE SMEC PosPhDi#2(N) . I+		SMJ.-	-	S283	021SS-38	28				HSSVMCB3	27	312300 J04	042	
041	SPIRE SMEC PosPhDi#2(N) . I-		SMJ.-	-	S283	021SS-38	28				HSSVMCB3	27	312300 J04	041	
030	SPIRE SMEC PosPhDi#2(N) . SHD07		SMJ.-	-	S283	021SS-38	28			Cable S281, 283,285 Shd con together (B)	HSSVMCB3	27	312300 J04	030	
-															
034	SPIRE SMEC PosPhDi#2FB(N) . S		SMK.-	-	S284	021SS-38	31				HSSVMCB3	27	312300 J04	034	
033	SPIRE SMEC PosPhDi#2FB(N) . R		SMK.-	-	S284	021SS-38	31				HSSVMCB3	27	312300 J04	033	
045	SPIRE SMEC PosPhDi#2FB(N) . SHD10		SMK.-	-	S284	021SS-38	31			Cable S282, 284,286 Shd con together (C)	HSSVMCB3	27	312300 J04	045	
-															
020	SPIRE SMEC PosPhDi#3(N) . I+		SMJ.-	-	S285	021SS-38	29				HSSVMCB3	27	312300 J04	020	
021	SPIRE SMEC PosPhDi#3(N) . I-		SMJ.-	-	S285	021SS-38	29				HSSVMCB3	27	312300 J04	021	
031	SPIRE SMEC PosPhDi#3(N) . SHD08		SMJ.-	-	S285	021SS-38	29			Cable S281, 283,285 Shd con together (B)	HSSVMCB3	27	312300 J04	031	
-															
058	SPIRE SMEC PosPhDi#3FB(N) . S		SMK.-	-	S286	021SS-38	32				HSSVMCB3	27	312300 J04	058	
057	SPIRE SMEC PosPhDi#3FB(N) . R		SMK.-	-	S286	021SS-38	32				HSSVMCB3	27	312300 J04	057	

Pin Allocation List

(Harness)

Connector: 312300 J04**Function:** SPIRE SVM CB3 (SPIRE Bundle 11)**Conn.-Type:** MS27497T24-35P (Jun.Sh)**Item:** HSSVMCB3**Location:** 27 / I/F CB ab. SVM Panel 7 (SPI/CCU CB)**Backshell:** 440 FS 110 M 24 03**EMC-Category:** 2I/Sig H fr CVVFT to SVMCB

Pin	Signal Designation	Interface-Code			Ch. ID	Wiring	Grouping:			Comment	Target-Item	Location	Connector	Pin	New
		Circuit	Signal	Pos.			Shd	Cable	Twist						
-															
011	SPIRE SMEC PosSensPwr(N) . S		SMH.-	-	S280	021BS-38	26				CVVUCR	33	211121 P30	011	
004	SPIRE SMEC PosSensPwr(N) . R		SMH.-	-	S280	021BS-38	26				CVVUCR	33	211121 P30	004	
010	SPIRE SMEC PosSensPwr(N) . SHD05		SMH.-	-	S280	021BS-38	26		Cable S280 Shd		CVVUCR	33	211121 P30	010	
-															
018	SPIRE SMEC PosPhDi#1(N) . I+		SMJ.-	-	S281	021SS-38	27				CVVUCR	33	211121 P30	018	
019	SPIRE SMEC PosPhDi#1(N) . I-		SMJ.-	-	S281	021SS-38	27				CVVUCR	33	211121 P30	019	
029	SPIRE SMEC PosPhDi#1(N) . SHD06		SMJ.-	-	S281	021SS-38	27		Cable S281, 283,285 Shd con together (B)		CVVUCR	33	211121 P30	029	
-															
056	SPIRE SMEC PosPhDi#1FB(N) . S		SMK.-	-	S282	021SS-38	30				CVVUCR	33	211121 P30	056	
055	SPIRE SMEC PosPhDi#1FB(N) . R		SMK.-	-	S282	021SS-38	30				CVVUCR	33	211121 P30	055	
044	SPIRE SMEC PosPhDi#1FB(N) . SHD09		SMK.-	-	S282	021SS-38	30		Cable S282, 284,286 Shd con together (C)		CVVUCR	33	211121 P30	044	
-															
042	SPIRE SMEC PosPhDi#2(N) . I+		SMJ.-	-	S283	021SS-38	28				CVVUCR	33	211121 P30	042	
041	SPIRE SMEC PosPhDi#2(N) . I-		SMJ.-	-	S283	021SS-38	28				CVVUCR	33	211121 P30	041	
030	SPIRE SMEC PosPhDi#2(N) . SHD07		SMJ.-	-	S283	021SS-38	28		Cable S281, 283,285 Shd con together (B)		CVVUCR	33	211121 P30	030	
-															
034	SPIRE SMEC PosPhDi#2FB(N) . S		SMK.-	-	S284	021SS-38	31				CVVUCR	33	211121 P30	034	
033	SPIRE SMEC PosPhDi#2FB(N) . R		SMK.-	-	S284	021SS-38	31				CVVUCR	33	211121 P30	033	
045	SPIRE SMEC PosPhDi#2FB(N) . SHD10		SMK.-	-	S284	021SS-38	31		Cable S282, 284,286 Shd con together (C)		CVVUCR	33	211121 P30	045	
-															
020	SPIRE SMEC PosPhDi#3(N) . I+		SMJ.-	-	S285	021SS-38	29				CVVUCR	33	211121 P30	020	
021	SPIRE SMEC PosPhDi#3(N) . I-		SMJ.-	-	S285	021SS-38	29				CVVUCR	33	211121 P30	021	
031	SPIRE SMEC PosPhDi#3(N) . SHD08		SMJ.-	-	S285	021SS-38	29		Cable S281, 283,285 Shd con together (B)		CVVUCR	33	211121 P30	031	
-															
058	SPIRE SMEC PosPhDi#3FB(N) . S		SMK.-	-	S286	021SS-38	32				CVVUCR	33	211121 P30	058	
057	SPIRE SMEC PosPhDi#3FB(N) . R		SMK.-	-	S286	021SS-38	32				CVVUCR	33	211121 P30	057	

Pin Allocation List (Harness)

Connector: 211121 J32
Item: CVVUCR
EMC-Category: 2C/Sig H in Cryostat

Function: UFThr. 305.7° (SPIRE XS-01 JFS 5,6,9,10)
Location: 33 / CVV I/F CB Top PFM (CVVUCR)

Conn.-Type: 197-011P24-35P (Junct.)
Backshell: HERSKT 58-0050

Pin	Signal Designation	Interface-Code			Ch. ID	Wiring	Grouping:			Comment	Target-Item	Location	Connector	Pin	New
		Circuit	Signal	Pos.			Shd	Cable	Twist						
104	SPIRE SLW Bias A1 . SHD03		SSD.-	-	S025	022BS-38	25			Cable S025 inner Shd daisy ch to Pin 104 at CVV side (B3)	HSJFS	76	121220 P09	006	
-	Cable S025 outer Shield									Cable S025 outer Shd con to Busbar (Faraday)					
102	SPIRE SLW Bias A2 . +ve		SSD.-	-	S026	022BS-38	26				HSJFS	76	121220 P09	005	
101	SPIRE SLW Bias A2 . -ve		SSD.-	-	S026	022BS-38	26				HSJFS	76	121220 P09	024	
104	SPIRE SLW Bias A2 . SHD04		SSD.-	-	S026	022BS-38	26			Cable S026 inner Shd daisy ch to Pin 104 at CVV side (B3)	HSJFS	76	121220 P09	023	
-	Cable S026 outer Shield									Cable S026 outer Shd con to Busbar (Faraday)					
104	SPIRE SLW GND WIRE B3		SSX.-	-	S405	010B0-38				SLW GND Wire B3 con to cable 25,26,11,12 Shd	HSJFS	76	121220 P09	006	
092	SPIRE SLW JFETV A1 . +ve		SSF.-	-	S011	022BS-38	11				HSJFS				
091	SPIRE SLW JFETV A1 . -ve		SSF.-	-	S011	022BS-38	11				HSJFS				
104	SPIRE SLW JFETV A1 . SHD05		SSF.-	-	S011	022BS-38	11			Cable S011 inner Shd daisy ch to Pin 104 at CVV side (B3)	HSJFS				
-	Cable S011 outer Shield									Cable S011 outer Shd con to Busbar (Faraday)					
103	SPIRE SLW JFETV A2 . +ve		SSF.-	-	S012	022BS-38	12				HSJFS	76	121220 P09	008	
113	SPIRE SLW JFETV A2 . -ve		SSF.-	-	S012	022BS-38	12				HSJFS	76	121220 P09	027	
104	SPIRE SLW JFETV A2 . SHD06		SSF.-	-	S012	022BS-38	12			Cable S012 inner Shd daisy ch to Pin 104 at CVV side (B3)	HSJFS	76	121220 P09	026	
-	Cable S012 outer Shield									Cable S012 outer Shd con to Busbar (Faraday)					
090	SPIRE SSW Bias A1 . +ve		SSC.-	-	S029	022BS-38	29				HSJFS	76	121220 P09	028	
079	SPIRE SSW Bias A1 . -ve		SSC.-	-	S029	022BS-38	29				HSJFS	76	121220 P09	010	
093	SPIRE SSW Bias A1 . SHD07		SSC.-	-	S029	022BS-38	29			Cable S029 inner Shd daisy ch to Pin 093 at CVV side (C3)	HSJFS	76	121220 P09	009	
-	Cable S029 outer Shield									Cable S029 outer Shd con to Busbar (Faraday)					
068	SPIRE SSW JFETV A1 . +ve		SSE.-	-	S016	022BS-38	16				HSJFS	76	121220 P09	011	
057	SPIRE SSW JFETV A1 . -ve		SSE.-	-	S016	022BS-38	16				HSJFS	76	121220 P09	030	

This is compliant with SPIRE HDD 1.2

