



DCR / ECR Number:

HR-SP-RAL-ECR-010

Spacecraft / Project	Herschel-Planck	Originator's Name	JD
System / Experiment / Model	SPIRE	Signature	John Delderfield. <i>ESamp</i>
Sub-System	Instrument level I/F	Date	19th November 2001
Assembly		Classification	Urgent
Sub-Assembly		Ref. Doc. / Drwg No.	Spire IID-B 2/0
Item		Reference	SCI-PT-IIDB/SPIRE-02124

ECR Title	SPIRE IID-B UPDATE, #6 based on Jean Bruston's list. Largely a re-submission of information collated on 26 th September under points JD1-31, from even earlier information
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ECR Description	
Section 1	Add paragraph; "Drawings shown in the body of this document are for context and are not definitive. All definitive signed-off drawings are attached as Annex 1, best printed in larger format"
At end	Append Annex entitled: "Controlled Spire I/F drawings"
Need /Justification For Change	
Agreed global way of handling IID-B drawings	
Affected Items / Work package (Title, Number, Issue, Para)	
Add in updated non-definitive IID-B illustrations into the document's text as follows:	



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Spacecraft / Project	Herschel-Planck	Originator's Name	JD
System / Experiment / Model	SPIRE	Signature	<i>John Delderfield.</i>
Sub-System	Instrument level I/F	Date	19th November 2001
Assembly		Classification	Urgent
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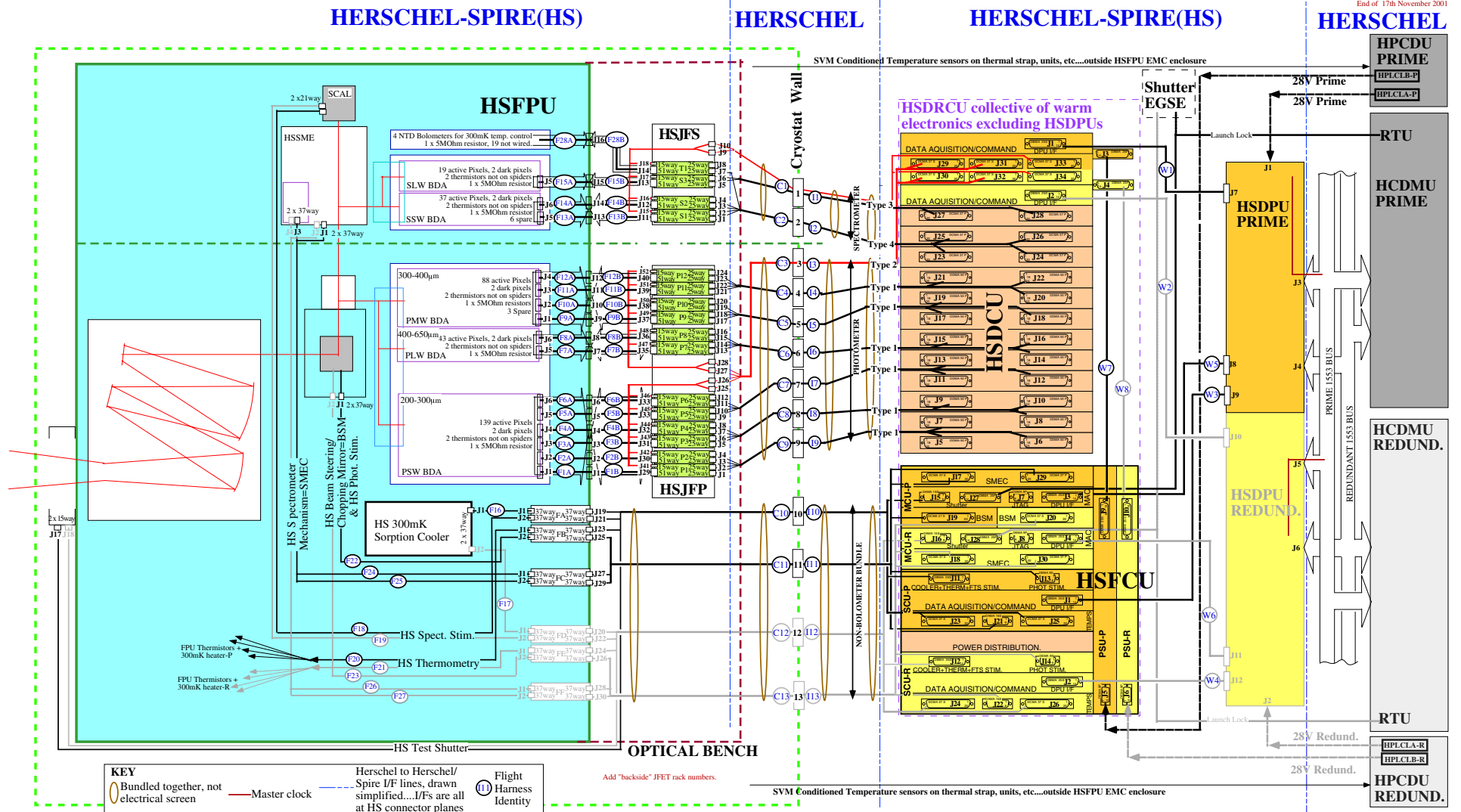
ECR Description	
Section 1	Add paragraph; "Drawings shown in the body of this document are for context and are not definitive. All definitive signed-off drawings are attached as Annex 1 , best printed in larger format"
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Figure
5.2.1

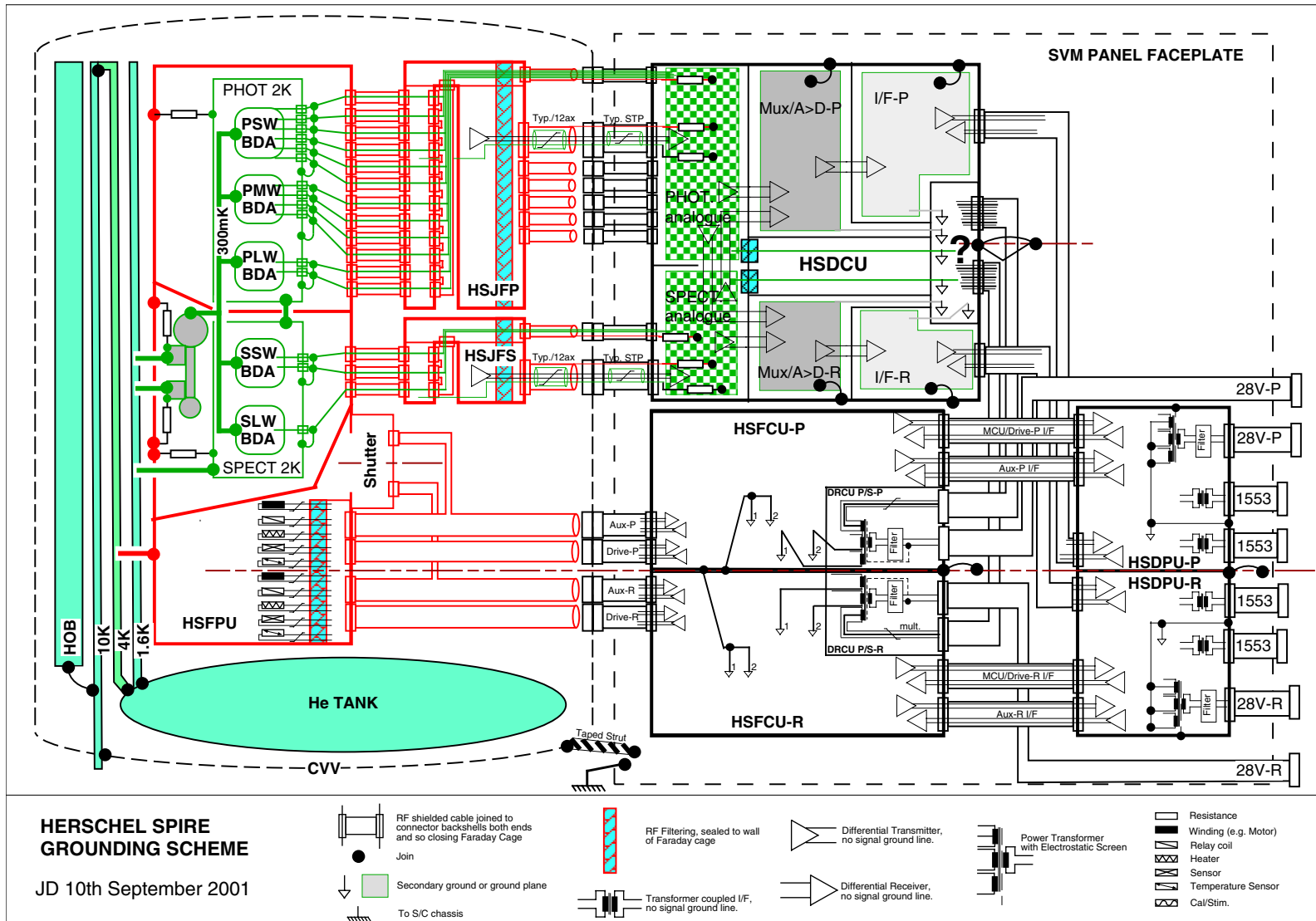




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In
Section 5.10.2



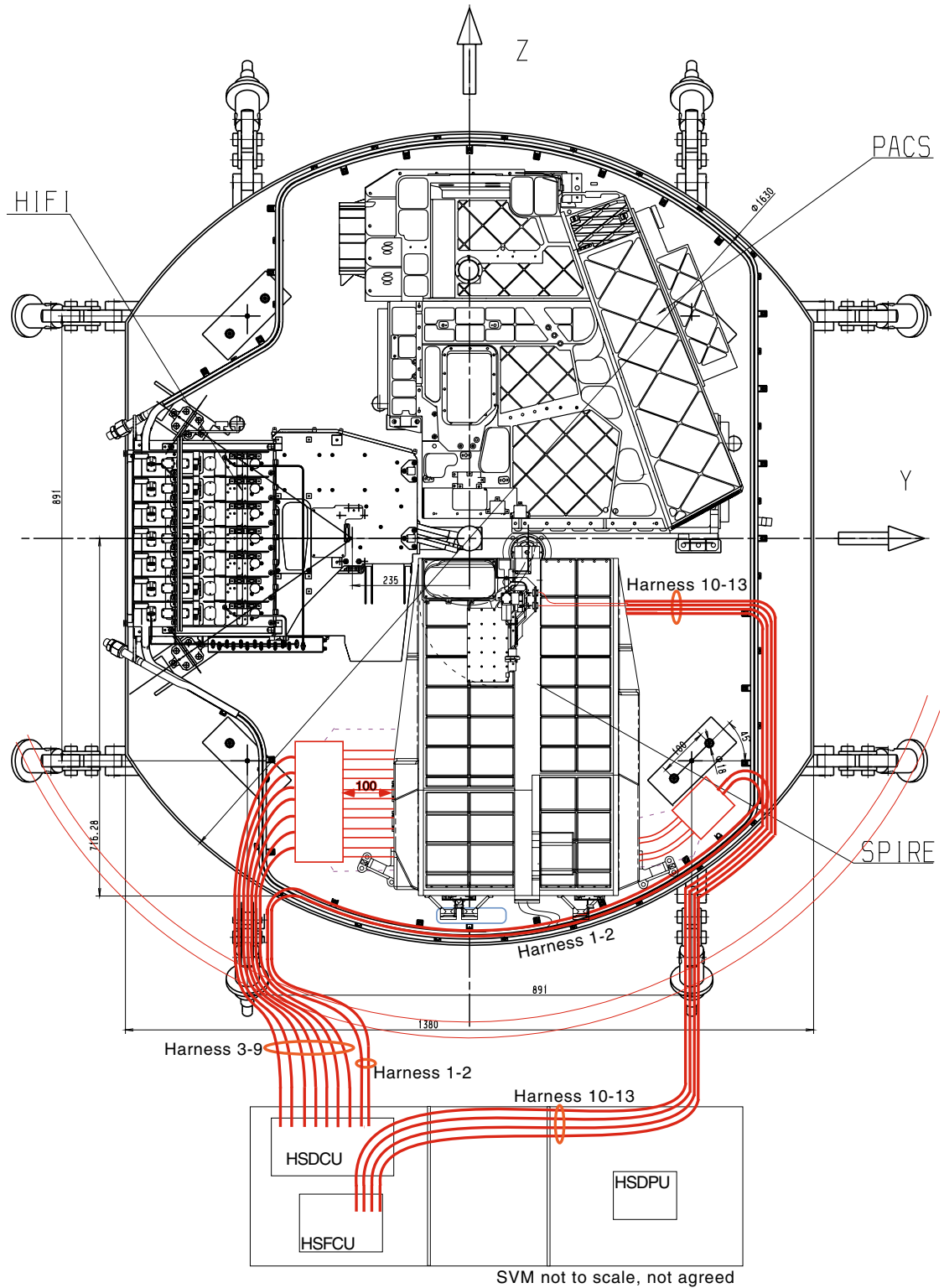


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Figure 5.3.1

Put in latest drawing available showing a view like:





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Figure 5.3.2

Put in latest drawing available showing a view like:

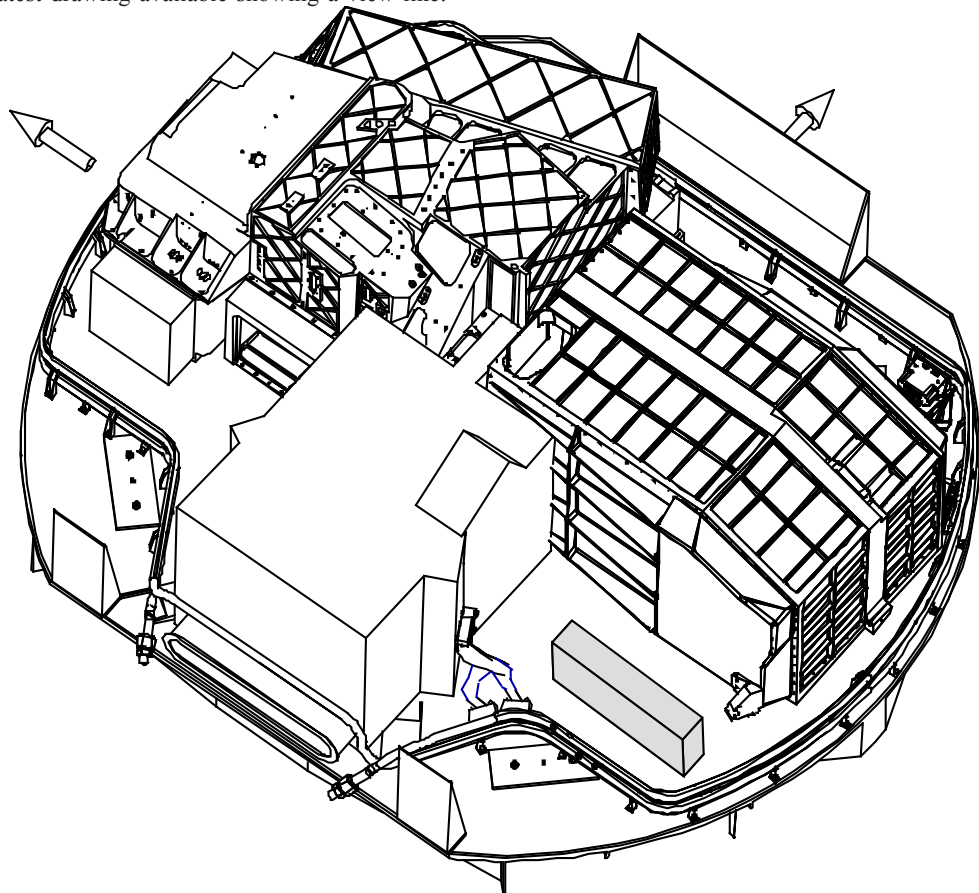


Figure 5.3-2: The HERSCHEL Focal Plane, isometric view

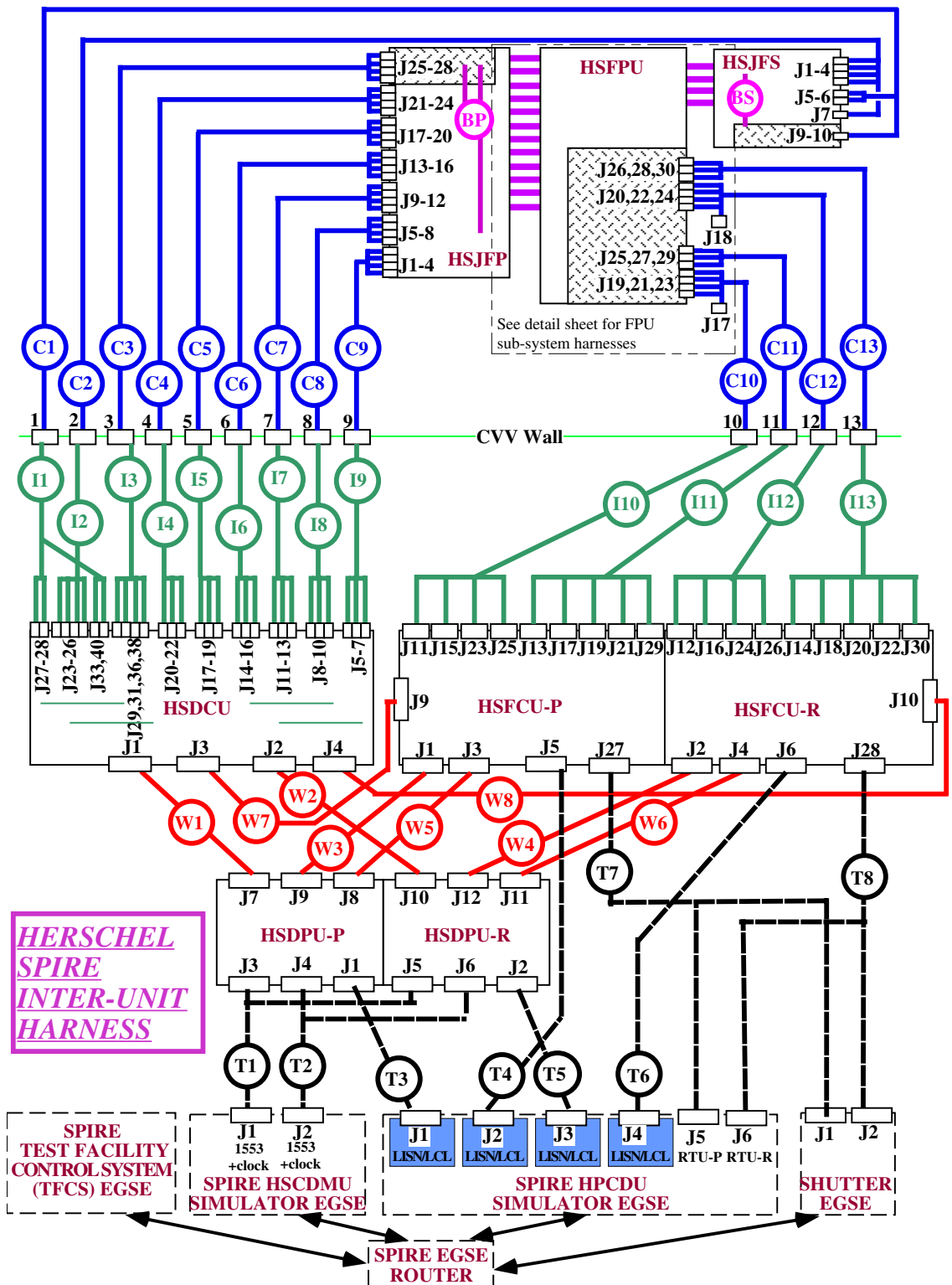


DCR / ECR Number:

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Section 5.10.1

Include latest harness layout as follows:





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Insert the following tables into IID as summary of the cryo-harness harness specification.

Name	100 Way Connector	FPU/JFS/JFP Connector	C Harness Connector Type	Description	Number of Conductors excl. shlds	Number of inner Shields	Wire Format	Max. Impedance Requirements			Max. Current per Conductor/A	Average Current (see note 9)	Duty Cycle			Max. Volts	Peak Dissipation	Average Dissipation		
C1 Type 3	CVV 1	HSJFS J5	MDM 25 S	Bolometer signals from JFS (SLW 1-12)	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16		
				Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	0%	0%	0.1	0.00E+00	0.00E+00		
				MDM 25S	Bolometer signals from JFS (SLW 13-24)	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16	
					Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	0%	0%	0.1	0.00E+00	0.00E+00	
			MDM 37P		300-mK TC Bias	2	1	STP	200	1000pF	0.08	3.2E-08	8.0E-09	50%	33%	17%	10	4.10E-13	4.27E-15	
					300-mK Ground wire	1	0	S	50	1000pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00	
				300-mK JFET Bias	2	1	STP	100	1000pF	0.08uH	5.0E-03	2.0E-04	50%	33%	17%	10	5.00E-03	1.33E-06		
				SLW Bolometer Bias	4	2	STP	200	1000pF	0.08uH	9.6E-08	2.4E-08	50%	33%	17%	10	7.37E-12	7.68E-14		
				SLW JFET Bias	4	2	STP	100	1000pF	0.08uH	2.5E-03	6.0E-04	50%	33%	17%	10	2.50E-03	2.40E-05		
				SLW Ground wire	1	0	S	50	1000pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00		
				SSW Bolometer Bias	4	2	STP	200	1000pF	0.08uH	1.2E-03	4.8E-08	50%	33%	17%	10	1.15E-03	3.07E-13		
				SSW JFET Bias	4	2	STP	100	1000pF	0.08uH	5.0E-03	1.2E-03	50%	33%	17%	10	1.00E-02	9.60E-05		
				SSW Ground Wire	1	0	S	50	1000pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00		
				300-mK TC JFET Heater	2	1	STP	200	1000pF	0.08uH	1.9E-03	4.8E-04	0.2%	33%	0%	10	1.48E-03	5.35E-08		
				SLW JFET Heater	2	1	STP	200	1000pF	0.08uH	3.3E-03	8.3E-04	0.2%	33%	0%	10	4.44E-03	1.61E-07		
			SSW JFET Heater	2	1	STP	200	1000pF	0.08uH	6.7E-03	1.7E-03	0.2%	33%	0%	10	1.78E-02	6.43E-07			
			MDM 37P	300-mK TC Bias	2	1	STP	200	1000pF	0.08	3.2E-08	8.0E-09	50%	33%	17%	10	4.10E-13	4.27E-15		
				300-mK Ground wire	1	0	S	50	1000pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00		
				300-mK JFET Bias	2	1	STP	100	1000pF	0.08uH	5.0E-03	2.0E-04	50%	33%	17%	10	5.00E-03	1.33E-06		
				SLW Bolometer Bias	4	2	STP	200	1000pF	0.08uH	9.6E-08	2.4E-08	50%	33%	17%	10	7.37E-12	7.68E-14		
				SLW JFET Bias	4	2	STP	100	1000pF	0.08uH	2.5E-03	6.0E-04	50%	33%	17%	10	2.50E-03	2.40E-05		
				SLW Ground wire	1	0	S	50	1000pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00		
				SSW Bolometer Bias	4	2	STP	200	1000pF	0.08uH	1.2E-03	4.8E-08	50%	33%	17%	10	1.15E-03	3.07E-13		
				SSW JFET Bias	4	2	STP	100	1000pF	0.08uH	5.0E-03	1.2E-03	50%	33%	17%	10	1.00E-02	9.60E-05		
				SSW Ground Wire	1	0	S	50	1000pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00		
				300-mK TC JFET Heater	2	1	STP	200	1000pF	0.08uH	1.9E-03	4.8E-04	0.2%	33%	0%	10	1.48E-03	5.35E-08		
				SLW JFET Heater	2	1	STP	200	1000pF	0.08uH	3.3E-03	8.3E-04	0.2%	33%	0%	10	4.44E-03	1.61E-07		
			SSW JFET Heater	2	1	STP	200	1000pF	0.08uH	6.7E-03	1.7E-03	0.2%	33%	0%	10	1.78E-02	6.43E-07			
			Shield	RF Overshield sealed to both backshells		Outer	>93%			0.01						no				
C2 Type4	CVV 2	JFS J1	MDM 25S	Bolometer signals from JFS (300-mK TC 1-3)	8	1	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	1.60E-15	6.67E-17		
				Anti-cross talk ground wires.	4	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00		
				Bolometer signals from JFS (SSW 1-8)	16	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16		
			MDM 25S	Anti-cross talk ground wires.	8	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00		
				Bolometer signals from JFS (SSW 9-20)	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16		
				Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00		
			MDM 25S	Bolometer signals from JFS (SSW 21-32)	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16		
				Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00		
				Bolometer signals from JFS (SSW 33-44)	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16		
			MDM 25S	Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00		
				Shield	RF Overshield sealed to both backshells		Outer	>93%			0.01					no				
C3	JFP PF1 J2	MDM 37P		PSW JFET Bias	12	6	STP	100	1000pF	0.08uH	5.0E-03	1.2E-03	50%	33%	17%	10	3.00E-02	2.88E-04		
				PSW Ground	1	0	S	50	1000pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00		
				PSW Bolometer Bias	6	3	STP	200	1000pF	0.08uH	3.8E-07	9.6E-08	50%	33%	17%	10	1.77E-10	1.84E-12		
				PSW Heater	6	3	STP	200	1000pF	0.08uH	3.8E-03	9.6E-04	0.2%	33%	0%	10	1.78E-02	6.42E-07		
				PMW JFET Bias	8	4	STP	100	1000pF	0.08uH	5.0E-03	1.2E-03	50%	33%	17%	10	2.00E-02	1.92E-04		
				PMW Bolometer Bias	4	2	STP	200	1000pF	0.08uH	3.8E-07	9.6E-08	50%	33%	17%	10	1.18E-10	1.23E-12		
				PMW Ground	1	0	S	50	1000pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00		
				PMW JFET Heater	4	2	STP	200	1000pF	0.08uH	3.8E-03	9.6E-04	0.2%	33%	0%	10	1.18E-02	4.28E-07		
				PLW JFET Heater	2	1	STP	200	1000pF	0.08uH	3.8E-03	9.6E-04	0.2%	33%	0%	10	5.92E-03	2.14E-07		
				PLW JFET Bias	4	2	STP	100	1000pF	0.08uH	5.0E-03	1.2E-03	50%	33%	17%	10	1.00E-02	9.60E-05		
				PLW Bolometer Bias	4	2	STP	200	1000pF	0.08uH	1.9E-07	4.8E-08	50%	33%	17%	10	2.95E-11	3.07E-13		
				PLW Ground	1	0	S	50	1000pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00		
				PSW JFET Bias	12	6	STP	100	1000pF	0.08uH	5.0E-03	1.2E-03	50%	33%	17%	10	3.00E-02	2.88E-04		
				PSW Ground	1	0	S	50	1000pF	0.08uH	0	0.0E+00	50%	33%	17%	10	0.00E+00	0.00E+00		
				PSW Bolometer Bias	6	3	STP	200	1000pF	0.08uH	3.8E-07	9.6E-08	50%	33%	17%	10	1.77E-10	1.84E-12		
			JFP PF2 J2	MDM 37P		PSW Heater	6	3	STP	200	1000pF	0.08uH	3.8E-03	9.6E-04	0.2%	33%	0%	10	1.78E-02	6.42E-07
						PMW JFET Bias	8	4	STP	100	1000pF	0.08uH	5.0E-03	1.2E-03	50%	33%	17%	10	2.00E-02	1.92E-04
						PMW Bolometer Bias	4	2	STP	200	1000pF	0.08uH	3.8E-07	9.6E-08	50%	33%	17%	10	1.18E-10	1.23E-12
						PMW Ground	1	0	S	50	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	10	0.00E+00	0.00E+00
						PMW JFET Heater	4	2	STP	200	1000pF	0.08uH	3.8E-03	9.6E-04	0%	33%	0%	10	1.18E-02	4.28E-07
						PLW JFET Heater	2	1	STP	200	1000pF	0.08uH	3.8E-03	9.6E-04	0%	33%	0%	10	5.92E-03	2.14E-07
						PLW JFET Bias	4	2	STP	100	1000pF	0.08uH	5.0E-03	1.2E-03	50%	33%	17%	10	1.00E-02	9.60E-05
						PLW Bolometer Bias	4	2	STP	200	1000pF	0.08uH	1.9E-07	4.8E-08	50%	33%	17%	10	2.95E-11	3.07E-13
						PLW Ground	1	0	S	50	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	10	0.00E+00	0.00E+00
						PSW JFET Bias	12	6	STP	100	1000pF	0.08uH	5.0E-03	1.2E-03	50%	33%	17%	10	3.00E-02	2.88E-04
						PSW Ground	1	0	S	50	1000pF	0.08uH	0	0.0E+00	50%	33%	17%	10	0.00E+00	0.00E+00
						PSW Bolometer Bias	6	3												

DCR / ECR Number:	HR-SP-RAL-ECR-010
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Name	100 Way Connector	FPU/JFS/JFP Connector Shield	C Harness Connector Type	Description	Number of Conductors excl. shlds	Number of Inner Shields	Wire Format	Max. Impedance Requirements			Max. Current per Conductor/A	Average Current (see note 9)	Duty Cycle			Max. Volts	Peak Dissipation	Average Dissipation
								R (W)	C(pF)	L(uH)			t	T	(t x T)			
						Outer	>93%			0.01						no		
C4	CVV 4	JFP11 J21	MDM 25S	RF Overshield sealed to both backshells	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PMW 1-12)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PMW 13-24)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
Type1		JFP11 J22	MDM 25S	Bolometer signals from JFP (PMW 25-36)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PMW 37-48)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
C5	CVV 5	Shield JFP9 J17	MDM 25S	RF Overshield sealed to both backshells	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PMW 49-60)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PMW 61-72)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
Type1		JFP9 J18	MDM 25S	Bolometer signals from JFP (PMW 73-84)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PMW 85-96)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
C6	CVV 6	Shield JFP7 J13	MDM 25S	RF Overshield sealed to both backshells	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PLW 1-12)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PLW 13-24)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
Type1		JFP7 J14	MDM 25S	Bolometer signals from JFP (PLW 25-36)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PLW 37-48)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
C7	CVV 7	Shield JFP5 J9	MDM 25S	RF Overshield sealed to both backshells	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PSW 1-12)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PSW 13-24)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
Type1		JFP5 J10	MDM 25S	Bolometer signals from JFP (PSW 25-36)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PSW 37-48)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
C8	CVV 8	Shield JFP3 J5	MDM 25S	RF Overshield sealed to both backshells	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PSW 49-60)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PSW 61-72)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
Type1		JFP3 J6	MDM 25S	Bolometer signals from JFP (PSW 73-84)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PSW 85-96)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
C9	CVV 9	Shield JFP1 J1	MDM 25S	RF Overshield sealed to both backshells	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PSW 97-108)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PSW 109-120)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
Type1		JFP1 J2	MDM 25S	Bolometer signals from JFP (PSW 121-132)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Bolometer signals from JFP (PSW 133-144)	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
				Anti-cross talk ground wires.	24	3	12-ax	200	1000pF	0.08uH	1.0E-09	5.0E-10	50%	33%	17%	0.1	4.80E-15	2.00E-16
				Anti-cross talk ground wires.	12	NA		200	1000pF	0.08uH	0.0E+00	0.0E+00	50%	33%	17%	0.1	0.00E+00	0.00E+00
C10 Aux-P	CVV 10	Shield FPU J19	MDM 37P	RF Overshield sealed to both backshells	4	0	TQ	10			2.5E-02	6.3E-03	2%	33%	1%		2.50E-02	1.09E-05

DCR / ECR Number:	HR-SP-RAL-ECR-010
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Name	100 Way Connector	FPU/JFS/JFP Connector	C Harness Connector Type	Description	Number of Conductors excl. shlds	Number of inner Shields	Wire Format	Max. Impedance Requirements			Max. Current per Conductor/A	Average Current (see note 9)	Duty Cycle			Max. Volts	Peak Dissipation	Average Dissipation
								R (W)	C(pF)	L(uH)			t	T	(t x T)			
				Latch+solenoid drives and vane heater	4	1	STQ	10			1.0E-01	0	0%	0%	0%	10	4.00E-01	0.00E+00
				Vane thermistor bias and readout	4	1	STQ	1000			1.0E-05	0	0%	0%	0%		4.00E-07	0.00E+00
				Current Return	1	0	S	10			1.5E-01	0						
	Shield			RF Overshield sealed to both backshells		Outer	>93%			0.01						no		
C11	CVV 11	FPU J25	MDM 37P	BSM Chopper Sensors	3	1	STT	1000			1.0E-06	1.0E-06	40%	33%	13%	0.4	3.00E-09	3.96E-10
Drive-P					2	1	STP	1000			1.0E-06	1.0E-06	40%	33%	13%		2.00E-09	2.64E-10
				BSM Jiggle Sensors	3	1	STT	1000			1.0E-06	1.0E-06	40%	33%	13%		3.00E-09	3.96E-10
					2	1	STP	1000			1.0E-06	1.0E-06	40%	33%	13%		2.00E-09	2.64E-10
				BSM Temperature	4	1	STQ	1000			1.0E-06	1.0E-06	100%	33%	33%		4.00E-09	1.32E-09
				Photometer Stimulus Heater	4	1	STQ	10			7.0E-03	1.8E-03	5%	33%	2%		1.96E-03	2.02E-06
				BSM Launch latch sense	2	1	STP	1000			1.00E-03	0	0%	0%	0%		2.00E-03	0.00E+00
				BSM Launch latch solenoid	3	1	STT	10			3.5E-02	0	0%	0%	0%		3.68E-02	0.00E+00
				BSM Chop motor drive	4	1	STQ	10			4.0E-02	2.0E-02	40%	33%	13%		6.40E-02	2.11E-03
				BSM Jiggle motor drive	4	1	STQ	10			4.0E-02	5.0E-03	40%	33%	13%		6.40E-02	1.32E-04
		FPU J27	MDM 37P	SMEC Thermometry	8	2	STQ	1000			1.0E-06	1.0E-06	100%	33%	33%		8.00E-09	2.64E-09
			SMEC LVDT Primary	2	1	STP	5			5.0E-03	2.5E-03	50%	33%	17%	5	2.50E-04	1.03E-05	
			SMEC LVDT Secondary	4	2	STP	5			5.0E-05	5.0E-02	50%	33%	17%	15	5.00E-08	8.25E-03	
			SMEC Launch Latch	4	2	STP	5			4.0E-01	0.0E+00	0%	0%	0%	15	3.20E+00	0.00E+00	
			SMEC Launch Latch Confirm	2	1	STP	5			1.0E-03	0.0E+00	0%	0%	0%	15	1.00E-05	0.00E+00	
	FPU J29	MDM 37P	SMEC Drive Coil	4	2	STP	5			1.0E-01	8.0E-02	50%	33%	17%	15	2.00E-01	2.11E-02	
			SMEC Drive coil voltage sensor	2	1	STP	500			1.0E-05	1.0E-05	50%	33%	17%	15	1.00E-07	1.65E-08	
			SMEC Position sensor supplies	4	2	STP	100			1.0E-03		50%	33%	17%	5	4.00E-04	0.00E+00	
			SMEC Position sensor photodiodes	6	3	STP	1000			2.0E-02		50%	33%	17%	5	2.40E+00	0.00E+00	
			SMEC Position sensor photodiodes FB	6	3	STP	1000			1.0E-02		50%	33%	17%	5	6.00E-01	0.00E+00	
	Shield			RF Overshield sealed to both backshells		Outer	>93%			0.01						no		
C12	CVV 12	FPU J20	MDM 37P	Sorption Pump Heater	4	0	TQ	10			2.5E-02	6.3E-03	0%	33%	0%		2.50E-02	0.00E+00
Aux-R				Heat switch heaters	8	0	TQ	50			1.5E-03	3.8E-04	0%	33%	0%		9.00E-04	0.00E+00
				Various cooler thermistors	20	5	STQ	1000			1.0E-06	1.0E-06	0%	33%	0%		2.00E-08	0.00E+00
		FPU J22	MDM 37P	Spectrometer Stimulus Thermistors	12	3	STQ	1000			1.0E-06	1.0E-06	0%	33%	0%		1.20E-08	0.00E+00
				Spectrometer Stimulus Heater 4%	4	0	TQ	30			9.0E-03	2.3E-03	0%	33%	0		9.72E-03	0.00E+00
				Spectrometer Stimulus Heater 2%	4	0	TQ	30			7.0E-03	1.8E-03	0%	33%	0%		5.88E-03	0.00E+00
		FPU J24	MDM 37P	FPU Thermometry	24	6	STQ	1000			1.0E-06	1.0E-06	0%	33%	0%		2.40E-08	0.00E+00
				300mK Thermal Control Heater	4	1	STQ	30			2.0E-03	5.0E-04	0%	33%	0%		4.80E-04	0.00E+00
		FPU J18	MDM21P	Actuator position sense + Latch Confirm	4	1	STQ	1000			1.0E-03	0	0%	0%	0%		4.00E-03	0.00E+00
				Latch+solenoid drives and vane heater	4	1	STQ	10			1.0E-01	0	0%	0%	0%	10	4.00E-01	0.00E+00
				Vane thermistor bias and readout	4	1	STQ	1000			1.0E-05	0	0%	0%	0%		4.00E-07	0.00E+00
			Current Return	1	0	S	10			1.5E-01	0	0%						
	Shield			RF Overshield sealed to both backshells		Outer	>93%			0.01						no		
C13	CVV13	FPU J26	MDM 37P	BSM Chopper Sensors	3	1	STT	1000			1.0E-06	1.0E-06	0%	33%	0%	0.4	3.00E-09	0.00E+00
Drive-R					2	1	STP	1000			1.0E-06	1.0E-06	0%	33%	0%		2.00E-09	0.00E+00
				BSM Jiggle Sensors	3	1	STT	1000			1.0E-06	1.0E-06	0%	33%	0%		3.00E-09	0.00E+00
					2	1	STP	1000			1.0E-06	1.0E-06	0%	33%	0%		2.00E-09	0.00E+00
				BSM Temperature	4	1	STQ	1000			1.0E-06	1.0E-06	0%	33%	0%		4.00E-09	0.00E+00
				Photometer Stimulus Heater	4	1	STQ	10			7.0E-03	1.8E-03	0%	33%	0%		1.96E-03	0.00E+00
				BSM Launch latch sense	2	1	STP	1000			1.00E-03	0	0%	0%	0%		2.00E-03	0.00E+00
				BSM Launch latch solenoid	3	1	STT	10			3.5E-02	0	0%	0%	0%		3.68E-02	0.00E+00
				BSM Chop motor drive	4	1	STQ	10			4.0E-02	2.0E-02	0%	33%	0%		6.40E-02	0.00E+00
				BSM Jiggle motor drive	4	1	STQ	10			4.0E-02	5.0E-03	0%	33%	0%		6.40E-02	0.00E+00
		FPU J28	MDM 37P	SMEC Thermometry	8	2	STQ	1000			1.0E-06	1.0E-06	0%	33%	0%		8.00E-09	0.00E+00
			SMEC LVDT Primary	2	1	STP	5			5.0E-03	2.5E-03	0%	33%	0%	5	2.50E-04	0.00E+00	
			SMEC LVDT Secondary	4	2	STP	5			5.0E-05	0.0E+00	0%	33%	0%	15	5.00E-08	0.00E+00	
			SMEC Launch Latch	4	2	STP	5			4.0E-01	0.0E+00	0%	0%	0%	15	3.20E+00	0.00E+00	
			SMEC Launch Latch Confirm	2	1	STP	5			1.0E-03	0.0E+00	0%	0%	0%	15	1.00E-05	0.00E+00	
	FPU J30	MDM 37P	SMEC Drive Coil	4	2	STP	5			1.0E-01	8.0E-02	0%	33%	0%	15	2.00E-01	0.00E+00	
			SMEC Drive coil voltage sensor	2	1	STP	500			1.0E-05	1.0E-05	0%	33%	0%	15	1.00E-07	0.00E+00	
			SMEC Position sensor supplies	4	2	STP	100			1.0E-03		0%	33%	0%	5	4.00E-04	0.00E+00	
			SMEC Position sensor photodiodes	6	3	STP	1000			2.0E-02		0%	33%	0%	5	2.40E+00	0.00E+00	
			SMEC Position sensor photodiodes FB	6	3	STP	1000			1.0E-02		0%	33%	0%	5	6.00E-01	0.00E+00	
				RF Overshield sealed to both backshells		Outer	>93%			0.01						no		
																	1.43E+01	3.32E-02
																	14306.41 mW	33.20 mW

DCR / ECR Number:	HR-SP-RAL-ECR-010
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Name	100 Way Connector	SVM Connector	I Harness Connector Type	Description	Number of Conductors excl. shlds	Number of inner Shields	Wire Format	Max. Impedance Requirements			Max. Current per Conductor/A	Average Current per Conductor/A	Duty Cycle			Max. Volts	Peak Dissipation/W	Average Dissipation/W
								R (W)	C(pF)	L(uH)			t	T	(t x T)			
I1	CVV 1	DCU J27	DCMA37 S	Bolometer signals from JFS (SLW 1-12)	24	12	STP	100	1500pF	0.08uH	1.00E-09	5.00E-10	50%	33%	17%	0.1	2.40E-15	1.00E-16
Type3				SLW Ground	1	0	S	50	1500pF	0.08uH	0	0	50%	0%	0%	0.1	0.00E+00	0.00E+00
		DCU J28	DCMA37 S	Bolometer signals from JFS (SLW 13-24)	24	12	STP	100	1500pF	0.08uH	1.00E-09	5.00E-10	50%	33%	17%	0.1	2.40E-15	1.00E-16
				SLW Ground	1	0	S	50	1500pF	0.08uH	0	0	0%	0%	0%	0.1	0.00E+00	0.00E+00
		DCU J33	DCMA37P	300-mK TC Bias	2	1	STP	100	1500pF	0.08uH	3.20E-08	8.00E-09	50%	33%	17%	10	2.05E-13	2.13E-15
				300-mK Ground wire	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0	0
				300-mK JFET Bias	2	1	STP	1000	1500pF	0.08uH	5.00E-03	2.00E-04	50%	33%	17%	10	5.00E-02	1.33E-05
				SLW Bolometer Bias	4	2	STP	100	1500pF	0.08uH	9.60E-08	2.40E-08	50%	33%	17%	10	3.69E-12	3.84E-14
				SLW JFET Bias	4	2	STP	1000	1500pF	0.08uH	2.50E-03	6.00E-04	50%	33%	17%	10	2.50E-02	2.40E-04
				SLW Ground wire	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0	0
				SSW Bolometer Bias	4	2	STP	100	1500pF	0.08uH	1.20E-03	4.80E-08	50%	33%	17%	10	5.76E-04	1.54E-13
				SSW JFET Bias	4	2	STP	1000	1500pF	0.08uH	5.00E-03	1.20E-03	50%	33%	17%	10	1.00E-01	9.60E-04
				SSW Ground Wire	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0	0
				FPU Faraday Shield Link	1	9	S	50	1500pF	0.08uH	0	0	0.2%	33%	0%	10	0	0
				300-mK TC JFET Heater	2	1	STP	200	1500pF	0.08uH	1.92E-03	4.81E-04	0.2%	33%	0%	10	1.48E-03	5.35E-08
				SLW JFET Heater	2	1	STP	200	1500pF	0.08uH	3.33E-03	8.33E-04	0.2%	33%	0%	10	4.44E-03	1.61E-07
				SSW JFET Heater	2	1	STP	200	1500pF	0.08uH	6.67E-03	1.67E-03	0.2%	33%	0%	10	1.78E-02	6.43E-07
		DCU J34	DCMA37P	300-mK TC Bias	2	1	STP	100	1500pF	0.08uH	3.20E-08	8.00E-09	50%	33%	17%	10	2.05E-13	2.13E-15
				300-mK Ground wire	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0	0
				300-mK JFET Bias	2	1	STP	1000	1500pF	0.08uH	5.00E-03	2.00E-04	50%	33%	17%	10	5.00E-02	1.33E-05
				SLW Bolometer Bias	4	2	STP	100	1500pF	0.08uH	9.60E-08	2.40E-08	50%	33%	17%	10	3.69E-12	3.84E-14
				SLW JFET Bias	4	2	STP	1000	1500pF	0.08uH	2.50E-03	6.00E-04	50%	33%	17%	10	2.50E-02	2.40E-04
				SLW Ground wire	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0	0
				SSW Bolometer Bias	4	2	STP	100	1500pF	0.08uH	1.20E-03	4.80E-08	50%	33%	17%	10	5.76E-04	1.54E-13
				SSW JFET Bias	4	2	STP	1000	1500pF	0.08uH	5.00E-03	1.20E-03	50%	33%	17%	10	1.00E-01	9.60E-04
				SSW Ground Wire	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0	0
				FPU Faraday Shield Link	1	9	S	50	1500pF	0.08uH	0	0	0.2%	33%	0%	10	0	0
				300-mK TC JFET Heater	2	1	STP	200	1500pF	0.08uH	1.92E-03	4.81E-04	0.2%	33%	0%	10	1.48E-03	5.35E-08
				SLW JFET Heater	2	1	STP	200	1500pF	0.08uH	3.33E-03	8.33E-04	0.2%	33%	0%	10	4.44E-03	1.61E-07
			SSW JFET Heater	2	1	STP	200	1500pF	0.08uH	6.67E-03	1.67E-03	0.2%	33%	0%	10	1.78E-02	6.43E-07	
		Shield	RF Overshield insulated from CVV wall				>93%	0.01							0.00E+00			
I2 Type4	CVV 2	DCU J23	DCMA37 S	Bolometer signals from JFS (300-mK TC	24	12	STP	100	1500pF	0.08uH	1.00E-09	5.00E-10	50%	33%	17%	0.1	2.40E-15	1.00E-16
				FPU Faraday Shield Link	1	0	Single	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00
		DCU J24	DCMA37 S	Bolometer signals from JFS (SSW 9-20)	24	12	STP	100	1500pF	0.08uH	1.00E-09	5.00E-10	50%	33%	17%	0.1	2.40E-15	1.00E-16
				FPU Faraday Shield Link	1	0	Single	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00
		DCU J25	DCMA37 S	Bolometer signals from JFS (SSW 21-32)	24	12	STP	100	1500pF	0.08uH	1.00E-09	5.00E-10	50%	33%	17%	0.1	2.40E-15	1.00E-16
				FPU Faraday Shield Link	1	0	Single	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00
		DCU J26	DCMA37 S	Bolometer signals from JFS (SSW 33-44)	24	12	STP	100	1500pF	0.08uH	1.00E-09	5.00E-10	50%	33%	17%	0.1	2.40E-15	1.00E-16
		Shield	RF Overshield insulated from CVV wall				>93%	0.01							0.00E+00			
I3 Type2	CVV 3	DCU J29	DCMA37P	PSW JFET Bias	12	6	STP	1000	1500pF	0.08uH	5.00E-03	1.20E-03	50%	33%	17%	10	3.00E-01	2.88E-03
				PSW Ground	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00
				PSW Bolometer Bias	6	3	STP	100	1500pF	0.08uH	3.84E-07	9.60E-08	50%	33%	17%	10	8.85E-11	9.22E-13
				PSW Heater	6	3	STP	200	1500pF	0.08uH	3.85E-03	9.62E-04	0.2%	33%	0%	10	1.78E-02	6.42E-07
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00
		DCU J31	DCMA37P	PMW JFET Bias	8	4	STP	1000	1500pF	0.08uH	5.00E-03	1.20E-03	50%	33%	17%	10	2.00E-01	1.92E-03
				PMW Bolometer Bias	4	2	STP	100	1500pF	0.08uH	3.84E-07	9.60E-08	50%	33%	17%	10	5.90E-11	6.14E-13
				PMW Ground	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00
				PMW JFET Heater	4	2	STP	200	1500pF	0.08uH	3.85E-03	9.62E-04	0.2%	33%	0%	10	1.18E-02	4.28E-07
				PLW JFET Heater	2	1	STP	200	1500pF	0.08uH	3.85E-03	9.62E-04	0.2%	33%	0%	10	5.92E-03	2.14E-07
				PLW JFET Bias	4	2	STP	1000	1500pF	0.08uH	5.00E-03	1.20E-03	50%	33%	17%	10	1.00E-01	9.60E-04
				PLW Bolometer Bias	4	2	STP	100	1500pF	0.08uH	1.92E-07	4.80E-08	50%	33%	17%	10	1.47E-11	1.54E-13
				PLW Ground	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00
		DCU J30	DCMA37P	PSW JFET Bias	12	6	STP	1000	1500pF	0.08uH	5.00E-03	1.20E-03	50%	33%	17%	10	3.00E-01	2.88E-03
				PSW Ground	1	0	S	50	1500pF	0.08uH	0.00E+00	0.00E+00	50%	33%	17%	10	0.00E+00	0.00E+00
				PSW Bolometer Bias	6	3	STP	100	1500pF	0.08uH	0	0	50%	33%	17%	10	8.85E-11	9.22E-13
				PSW Heater	6	3	STP	200	1500pF	0.08uH	3.85E-03	9.62E-04	0%	33%	0%	10	1.78E-02	6.42E-07
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00
		DCU J32	DCMA37P	PMW JFET Bias	8	4	STP	1000	1500pF	0.08uH	5.00E-03	1.20E-03	50%	33%	17%	10	2.00E-01	1.92E-03
				PMW Bolometer Bias	4	2	STP	100	1500pF	0.08uH	3.84E-07	9.60E-08	50%	33%	17%	10	5.90E-11	6.14E-13
				PMW Ground	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00
				PMW JFET Heater	4	2	STP	200	1500pF	0.08uH	3.85E-03	9.62E-04	0%	33%	0%	10	1.18E-02	4.28E-07
				PLW JFET Heater	2	1	STP	200	1500pF	0.08uH	3.85E-03	9.62E-04	0%	33%	0%	10	5.92E-03	2.14E-07
				PLW JFET Bias	4	2	STP	1000	1500pF	0.08uH	5.00E-03	1.20E-03	50%	33%	17%	10	1.00E-01	9.60E-04
			PLW Bolometer Bias	4	2	STP	100	1500pF	0.08uH	1.92E-07	4.80E-08	50%	33%	17%	10	1.47E-11	1.54E-13	
			PLW Ground	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	10	0.00E+00	0.00E+00	

DCR / ECR Number:

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Name	100 Way Connector	SVM Connector	I Harness Connector Type	Description	Number of Conductors excl. shlds	Number of inner Shields	Wire Format	Max. Impedance Requirements			Max.Current per Conductor/A	Average Current per Conductor/A	Duty Cycle			Max. Volts	Peak Dissipation/W	Average Dissipation/W	
								R (W)	C(pF)	L(uH)			t	T	(t x T)				
I4 Type1	CVV 4	DCU J20	DDMA 50S	Shield				>93%			0.01							0.00E+00	
				RF Overshield insulated from CVV wall															
				16 ch. PMW (1-16)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J21	DDMA 50S		Ground Wire	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PMW (17-32)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
				Ground Wire	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PMW (33-48)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J22	DDMA 50S		Ground Wire	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				Shield				self		>93%			0.01						
I5 Type1	CVV 5	DCU J17	DDMA 50S	Shield				>93%			0.01							0.00E+00	
				RF Overshield insulated from CVV wall															
				16 ch. PMW (49-64)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J18	DDMA 50S		Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PMW (65-80)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
				Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PMW (81-96)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J19	DDMA 50S		Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				Shield				self		>93%			0.01						
I6 Type1	CVV 6	DCU J14	DDMA 50S	Shield				>93%			0.01							0.00E+00	
				RF Overshield insulated from CVV wall															
				16 ch. PLW (1-16)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J15	DDMA 50S		Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PLW (17-32)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
				Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PLW (33-48)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J16	DDMA 50S		Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				Shield				self		>93%			0.01						
I7 Type1	CVV 7	DCU J11	DDMA 50S	Shield				>93%			0.01							0.00E+00	
				RF Overshield insulated from CVV wall															
				16 ch. PSW (1-16)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J12	DDMA 50S		Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PSW (17-32)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
				Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PSW (33-48)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J13	DDMA 50S		Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				Shield				self		>93%			0.01						
I8 Type1	CVV 8	DCU J8	DDMA 50S	Shield				>93%			0.01							0.00E+00	
				RF Overshield insulated from CVV wall															
				16 ch. PSW (49-64)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J9	DDMA 50S		Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PSW (65-80)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
				Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PSW (81-96)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J10	DDMA 50S		Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				Shield				self		>93%			0.01						
I9 Type1	CVV 9	DCU 5	DDMA 50S	Shield				>93%			0.01							0.00E+00	
				RF Overshield insulated from CVV wall															
				16 ch. PMW (97-112)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
	DCU J6	DDMA 50S		Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
				16 ch. PMW (113-128)	32	16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16	
				Ground Wire	2	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00	
		DCU J7	DDMA 50S		FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00
16 ch. PMW (129-144)	32				16	STP	100	1500pF	0.08uH	1.00E-09	5E-10	50%	33%	17%	0.1	3.20E-15	1.33E-16		
Ground Wire	2				0	S	50	1500pF	0.08uH	0	0	50%	33%	17%	0.1	0.00E+00	0.00E+00		
I10 Aux-P	FCU J15	DAMA 15P	FPU Faraday Shield Link	1	0	S	50	1500pF	0.08uH	0	0	50%	33%	1%	0	0.00E+00	0.00E+00		
			Shield				self		>93%			0.01							0.00E+00
			RF Overshield insulated from CVV wall																
			Actuator position sense + Latch Confirm	4	1	STQ	1000			0.01	0	0%	0%	0%		4.00E-03	0.00E+00		
	FCU J11	DAMA 15P	Latch+solenoid drives and vane heater	4	1	STQ	10			0.0	0	0%	0%	0%	10	4.00E-01	0.00E+00		
			Vane thermistor bias and readout	4	1	STQ	1000			0.00001	0	0%	0%	0%		4.00E-07	0.00E+00		
			Current Return	1	0	S	10			0.15	0	0%	0%	0%		0.00E+00	0.00E+00		
			Sorption Pump Heater	4	0	TQ	10			25mA	6%	1/3	2%						
			Heat switch heaters	4	0	TQ	50			1.5mA	100%	1/3	33%						

DCR / ECR Number:	HR-SP-RAL-ECR-010
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Name	100 Way Connector	SVM Connector	I Harness Connector Type	Description	Number of Conductors excl. shlds	Number of inner Shields	Wire Format	Max. Impedance Requirements			Max. Current per Conductor/A	Average Current per Conductor/A	Duty Cycle			Max. Volts	Peak Dissipation/W	Average Dissipation/W
								R (W)	C(pF)	L(uH)			t	T	(t x T)			
				Various cooler thermistors	4	0	TQ	50			1.5mA		100%	33.30%	33%			
				300mK Thermal Control Heater	4	1	STQ	30										
				Spectrometer Stimulus Heater 4%	4	0	TQ											
				Spectrometer Stimulus Heater 2%	4	0	TQ											
				Spectrometer Stimulator Heater Drives	8	0	TQ	30			9mA		50%	33%	17%			
				FPU Thermometry A	32	8	STQ	1000			1uA		100%	33%	33%			
				300mK Thermal Control Heater	4	1	STQ	30			100uA		50%	33%	17%			
				FPU Thermometry B	28	7	STQ	1000			1uA		100%	33%	33%			
				Shield		self	>93%		0.01									
				RF Overshield insulated from CVV wall		self	>93%		0.01									
I11 Drive-P	CVV 11	FCU J21	DBMA 25P	FPU Thermometry C	12	3	STQ	1000			1uA		100%	33%	33%			
				Photometer Stimulus Heater	4	0	TQ	10			7mA							
				BSM Chopper Sensors	5	2	STT+P	1000			250nA		100%	33%	33%	0.4		
				BSM Jiggle Sensors	5	2	STT+P	1000			1uA		100%	33%	33%			
				Photometer Stimulus Heater	4	0	STQ	10			7mA		5%	33%	2%			
				BSM Launch latch sense	2	1	STP	1000					0%	0%	0%			
				BSM Launch latch solenoid	3	1	STT	10			35mA		0%	0%	0%			
				BSM Chop motor drive	4	1	STQ	10			40mA		0%	0%	0%			
				BSM Jiggle motor drive	4	1	STQ	10			40mA		0%	0%	0%			
				SMEC LVDT Primary	2	1	STP	500			5mA		50%	33%	17%	0		
				SMEC LVDT Secondary	4	2	STP	500			50uA		50%	33%	17%	0		
				SMEC Launch Latch1	4	2	STP	10			400mA/50mS		0%	0%	0%	0		
				SMEC Launch Latch1 Confirm	2	1	STP	100			1mA		0%	0%	0%	0		
				SMEC Launch Latch2	4	2	STP	10			400mA/50mS		0%	0%	0%	0		
				SMEC Launch Latch2 Confirm	2	1	STP	100			1mA		0%	0%	0%	0		
				SMEC Drive Coil	4	2	STP	5			100mA		50%	33%	17%	0		
				SMEC Drive coil voltage sensor	2	1	STP	500			10uA		0%	33%	0%			
				SMEC Position sensor supplies	4	2	STP	100			1mA		50%	33%	17%			
				SMEC Position sensor photodiodes	6	3	STP	1000			20uA		50%	33%	17%			
				SMEC Position sensor photodiodes FB	6	3	STP	1000			10uA		50%	33%	17%			
				Shield		self	>93%		0.01									
				RF Overshield insulated from CVV wall		self	>93%		0.01									
I12 Aux-R	CVV 12	FCU J16	DAMA 15P	Actuator position sense + Latch Confirm	4	1	STQ	1000			?		0%	0%	0%			
				Latch+solenoid drives and vane heater	4	1	STQ	10			100mA		0%	0%	0%	15		
				Vane thermistor bias and readout	4	1	STQ	1000			1mA		0%	0%	0%			
				Cooler heaters	4	0	TQ	10			25mA		6%	1/3	2%			
				Sorption pump heat switch heaters	4	0	TQ	50			1.5mA		100%	1/3	33%			
				Evaporator heat switch heaters	4	0	TQ	50			1.5mA		100%	33.30%	33%			
				Spectrometer Stimulator Heater Drives	8	0	TQ	30			9mA		50%	33%	17%			
				FPU Thermometry A	32	8	STQ	1000			1uA		100%	33%	33%			
				300mK Thermal Control Heater	4	1	STQ	30			100uA		50%	33%	17%			
				FPU Thermometry B	28	7	STQ	1000			1uA		100%	33%	33%			
				Shield		self	>93%		0.01									
				RF Overshield insulated from CVV wall		self	>93%		0.01									
I13 Drive-R	CVV 13	FCU J22	DBMA 25P	FPU Thermometry C	12	3	STQ	1000			1uA		100%	33%	33%			
				Photometer Stimulus Heater	4	0	TQ	10			7mA							
				BSM Chopper Sensors	5	2	STT+P	1000			250nA		100%	33%	33%	0.4		
				BSM Jiggle Sensors	5	2	STT+P	1000			1uA		100%	33%	33%			
				Photometer Stimulus Heater	4	0	STQ	10			7mA		5%	33%	2%			
				BSM Launch latch sense	2	1	STP	1000					0%	0%	0%			
				BSM Launch latch solenoid	3	1	STT	10			35mA		0%	0%	0%			
				BSM Chop motor drive	4	1	STQ	10			40mA		0%	0%	0%			
				BSM Jiggle motor drive	4	1	STQ	10			40mA		0%	0%	0%			
				SMEC LVDT Primary	2	1	STP	500			5mA		50%	33%	17%	5		
				SMEC LVDT Secondary	4	2	STP	500			50uA		50%	33%	17%	5		
				SMEC Launch Latch1	4	2	STP	10			400mA/50mS		0%	0%	0%	15		
				SMEC Launch Latch1 Confirm	2	1	STP	100			1mA		0%	0%	0%	15		
				SMEC Launch Latch2	4	2	STP	10			400mA/50mS		0%	0%	0%	15		
				SMEC Launch Latch2 Confirm	2	1	STP	100			1mA		0%	0%	0%	15		
				SMEC Drive Coil	4	2	STP	5			100mA		50%	33%	17%	15		
				SMEC Drive coil voltage sensor	2	1	STP	500			10uA		0%	33%	0%	15		
				SMEC Position sensor supplies	4	2	STP	100			1mA		50%	33%	17%	5		
				SMEC Position sensor photodiodes	6	3	STP	1000			20uA		50%	33%	17%	5		
				SMEC Position sensor photodiodes FB	6	3	STP	1000			10uA		50%	33%	17%	5		
				Shield		self	>93%		0.01									
				RF Overshield insulated from CVV wall		self	>93%		0.01									

2.07E+00 1.40E-02
2073.56 mW 13.95 mW



DCR / ECR Number:

HR-SP-RAL-ECR-010

INDUSTRY ASSESSMENT / IMPACT OF CHANGE

System design

Schedule

Cost

Industry Assessor Signature

Related Factors

Spacecraft	Performance	Power	Others (Specify)
Ground Segment	Elect. Interfaces	Weight	I/F.
Launch Vehicle	Mech. Interfaces	Schedule	
Payload	Test/Verification	Cost	

Attachments

None

Distribution

See covering Sheet

Change
Approved

Signature / Date