MULLARD SPACE SCIENCE LABORATORY
UNIVERSITY COLLEGE LONDON

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MSSL *XMM* OM Internal Harness Design Document

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2.Junction Box (JB) Connectors

Junction Box connectors or specified in th XMM OM External Harness Design document

3.TMPSU Main Power and Instrument Control Bus

3.1 Main power (MNPWR-1/2)

Harness:		MNPWR_1/2	
Connector Identification Chassis:		TMPSU 1/2-J01_male; JB-J05/8_Female	
Connector Identification Harness:		TMPSU 1/2-P01-Female; JB-P05/8_male	
Connector Type:		37 way sub-miniture	
Pin	Line Name		Notes
	TMPSU 1 JB	TMPSU 2 JB	
1	MNPWR_PriPWR_goA	MNPWR_RdtPWR_goA	SPL21-20
2	MNPWR_PriPWR_retA	MNPWR_RdtPWR_retA	
3	SCN_PWRA	SCN_PWRA	26
4	MNPWR_PriPWR_goB	MNPWR_RdtPWR_goB	SPL21-20
5	MNPWR_PriPWR_retB	MNPWR_RdtPWR_retB	
6	SCN_PWRB	SCN_PWRB	26
7	MNPWR_SYNC1_pos	MNPWR_SYNC2_pos	SPL21-28
8	MNPWR_SYNC1_neg	MNPWR_SYNC2_neg	
9	SCN_SYNC	SCN_SYNC	26
10			20
11	ICB1_Clock_true	ICB2_Clock_true	SPL21-28
12	ICB1_Clock_inv	ICB2_Clock_inv	
13	SCN_ICB_Clock	SCN_ICB_Clock	26
14	ICB1_Data_true	ICB2_Data_true	SPL21-28
15	ICB1_Data_inv	ICB2_Data_inv	
16	SCN_ICB_Data	SCN_ICB_Data	26
17			20
18	0v	0v	SPL10-26
19	0V	0V	SPL10-26
20			20
21	PriHTR1_go	RtdHTR1_go	SPL20-26
22	PriHTR1_ret	RtdHTR1_ret	
23	PriHTR2_ go	RtdHTR2_ go	SPL20-26
24	PriHTR2_ret	RtdHTR2_ret	
25	PriHTR3_ go	RtdHTR3_ go	SPL20-26
26	PriHTR3_ret	RtdHTR3_ret	
27	PriHTR4_ go	RtdHTR4_ go	SPL20-26
28	PriHTR4_ret	RtdHTR4_ret	
29	PriHTR5_ go	RtdHTR5_ go	SPL20-26
30	PriHTR5_ret	RtdHTR5_ret	
31	PriHTR6_ go	RtdHTR6_ go	SPL20-26
32	PriHTR6_ret	RtdHTR6_ret	
33	PriHTR7_ go	RtdHTR7_ go	SPL20-26
34	PriHTR7_ret	RtdHTR7_ret	
35	PriHTR8_ go	RtdHTR8_ go	SPL20-26
36	PriHTR8_ ret	RtdHTR8_ ret	
37	SCN_HTR	SCN_HTR	SPL10-26

3.2 Conditioned Power Filters and Heaters for BL1 and BL2

Harness:	CONPWR_1/2
Connector Identification Chassis:	TMPSU 1/2-J02_Female; BL1/2-J04a/b_male
Connector Identification Harness:	TMPSU 1/2-P01-male; BL1/2-P04a/b_Female
Connector Type:	50 way Sub-miniture D

Pin Number	TMPSU1-BL1	TMPSU2-BL2	
	Line Name	Line Name	
1	PWR_pos25-go	PWR_pos25_go	SPL20-26
2	PWR_pos25_ret	PWR_pos25_ret	
3	PWR_pos15_go	PWR_pos15_go	SPL20-24
4	PWR_pos15_ret	PWR_pos15_ret	
5	PWR_pos11_go	PWR_pos11_go	SPL20-24
6	PWR_pos11_ret	PWR_pos11_ret	
7	PWR_pos5.3-go	PWR_pos5.3_go	SPL20-22
8	PWR_pos5.3_ret	PWR_pos5.3_ret	
9	PWR_neg5.3-go	PWR_neg5.3_go	SPL20-24
10	PWR_neg5.3_ret	PWR_neg5.3_ret	
11	PWR_neg15-go	PWR_neg15_go	SPL20-24
12	PWR_neg15_ret	PWR_neg15_ret	
13	CONPWR_SCN	CONPWR_SCN	SPL10-26
14			22
15	FWMTR_ph1	FWMTR_ph1	SPL30-26
16	FWMTR_ph3	FWMTR_ph3	
17	FWMTR_13ret	FWMTR_13ret	
18	FWMTR_ph2	FWMTR_ph2	SPL30-26
19	FWMTR_ph4	FWMTR_ph4	
20	FWMTR_24ret	FWMTR_24ret	
21	FWPK_tx	FWPK_tx	SPL30-28
22	FWPK_rx	FWPK_rx	
23	FWPk_ret	FWPk_ret	
24	DMTR_ph1	DMTR_ph1	SPL30-26
25	DMTR_ph3	DMTR_ph3	
26	DMTR_13ret	DMTR_13ret	
27	DMTR_ph2	DMTR_ph2	SPL30-26
28	DMTR_ph4	DMTR_ph4	
29	DMTR_24ret	DMTR_24ret	
30			22
31	PriHTR9_ go	RtdHTR9_ go	SPL20-26
32	PriHTR9_ ret	RdtHTR9_ ret	
33	PriHTR10_ go	RtdHTR10_ go	SPL20-26
34	PriHTR10_ ret	RdtHTR10_ ret	
35	PriHTR11_ go	RtdHTR11_ go	SPL20-26
36	PriHTR11_ ret	RdtHTR11_ ret	
37	PriHTR12_ go	RtdHTR12_ go	SPL20-26
38	PriHTR12_ ret	RdtHTR12_ ret	
39	PriHTR13_ go	RtdHTR13_ go	SPL20-26

40	PriHTR13_ ret	RdtHTR13_ ret	
41	PriHTR14_ go	RtdHTR14_ go	SPL20-26
42	PriHTR14_ ret	RdtHTR14_ ret	
43	PriHTR15_ go	RtdHTR15_ go	SPL20-26
44	PriHTR15_ ret	RdtHTR15_ ret	
45	PriHTR16_ go	RtdHTR16_ go	SPL20-26
46	PriHTR16_ ret	RdtHTR16_ ret	
47	SCN_HTR	SCN_HTR	SPL10-26
48			22
49			22
50			22

4.Blue Processing

4.1 Blue 1/2 DC and ICB

Harness:	DCICB_1/2
Connector Identification Chassis:	BL1/2-J03a/b_Female; JB-J07a/b_male
Connector Identification Harness:	BL1/2-J03a/b_male; JB-P07a/b_Female
Connector Type:	50 way sub-miniture D

Pin Number	BL1-JB	BL2-JB	
	Line Name	Line Name	
1			26
2			26
3			26
4			26
5	DC1-Blue1_Clock_inv	DC2-Blue2_Clock_inv	SPL21-28
6	DC1-Blue1_Clock_true	DC2-Blue2_Clock_true	
7	DC1-Blue1_Frame_inv	DC2-Blue2_Frame_inv	
8	DC1-Blue1_Frame_tru.	DC2-Blue2_Frame_tru.	SPL21-28
9	DC1-Blue1_Data_inv	DC2-Blue2_Data_inv	
10	DC1-Blue1_Data_true	DC2-Blue2_Data_true	
11			26
12	SCN_DC_Clock	SCN_DC_Clock	SPL21-28
13	SCN_DC_Frame	SCN_DC_Frame	
14	SCN_DC_Data	SCN_DC_Data	
15			26
16			26
17			26
18			26
19			26
20	ICB1_Clock_true	ICB2_Clock_true	SPL21-28
21	ICB1_Clock_inv	ICB2_Clock_inv	
22	SCN_ICB_Clock	SCN_ICB_Clock	
23			26
24	ICB1_Data_true	ICB2_Data_true	SPL21-28
25	ICB1_Data_inv	ICB2_Data_inv	
26	SCN_ICB_Data	SCN_ICB_Data	
27			26
28	PriTHRM1_pos	RdtTHRM1_pos	SPL21-28
29	PriTHRM1_neg	RdtTHRM1_neg	
30	SCN_PriTHRM1	SCN_RdtTHRM1	
31	PriTHRM2_pos	RdtTHRM2_pos	SPL21-28
32	PriTHRM2_neg	RdtTHRM2_neg	
33	SCN_PriTHRM2	SCN_RdtTHRM2	
34	PriTHRM3_pos	RdtTHRM3_pos	SPL21-28
35	PriTHRM3_neg	RdtTHRM3_neg	
36	SCN_PriTHRM3	SCN_RdtTHRM3	
37	PriTHRM4_pos	RdtTHRM4_pos	SPL21-28
38	PriTHRM4_neg	RdtTHRM4_neg	
39	SCN_PriTHRM4	SCN_RdtTHRM4	
40	PriTHRM5_pos	RdtTHRM5_pos	SPL21-28
41	PriTHRM5_neg	RdtTHRM5_neg	

42	SCN_PriTHRM5	SCN_RdtTHRM5	
43	PriTHRM6_pos	RdtTHRM6_pos	SPL21-28
44	PriTHRM6_neg	RdtTHRM6_neg	
45	SCN_PriTHRM6	SCN_RdtTHRM6	
46			26
47			26
48			26
49			26
50			26

5. Blue Flange

5.1 Blue Detectors

Harness:	DET_1/2		
Connector Identification Chassis:	BL1/2-J01a/b_Female; Det1/2-J01a/b_Male		
Connector Identification Harness:	BL1/2-P01a/b_Male; Det1/2-P01a/b_Female		
Connector Type:	50 way sub-miniture		
Pin Number	DET1-BL1	DET2-BL2	
	Line Name		
1	CLKOUT_go	CLKOUT_go	SPL20-28
18	CLKOUT_ret	CLKOUT_ret	
2	NOTDOI_go	NOTDOI_go	SPL20-28
19	NOTDOI_ret	NOTDOI_ret	
3	NOTDOS_go	NOTDOS_go	SPL20-28
20	NOTDOS_ret	NOTDOS_ret	
4	NOTDOH_go	NOTDOH_go	SPL20-28
21	NOTDOH_ret	NOTDOH_ret	
5	NOTRESET_go	NOTRESET_go	SPL20-28
22	NOTRESET_ret	NOTRESET_ret	
6	DVALID_go	DVALID_go	SPL20-28
23	DVALID_ret	DVALID_ret	
7	D0_go	D0_go	SPL20-28
24	D0_ret	D0_ret	
8	D1_go	D1_go	SPL20-28
25	D1_ret	D1_ret	
9	D2_go	D2_go	SPL20-28
26	D2_ret	D2_ret	
10	D3_go	D3_go	SPL20-28
27	D3_ret	D3_ret	
11	D4_go	D4_go	SPL20-28
28	D4_ret	D4_ret	
12	D5_go	D5_go	SPL20-28
29	D5_ret	D5_ret	
13	D6_go	D6_go	SPL20-28
30	D6_ret	D6_ret	
14	D7-go	D7-go	SPL20-28
31	D7_ret	D7_ret	
15	D8_go	D8_go	SPL20-28
32	D8_ret	D8_ret	
16	PWR_25Vpos_go	PWR_25Vpos_go	SPL20-24
33	PWR_25Vpos_ret	PWR_25Vpos_ret	
34	PWR_11Vpos_go	PWR_11Vpos_go	SPL20-24
35	PWR_11Vpos_ret	PWR_11Vpos_ret	
36	PWR_11Vpos_go	PWR_11Vpos_go	SPL20-24
37	PWR_11Vpos_ret	PWR_11Vpos_ret	
38	PWR_15Vpos_go	PWR_15Vpos_go	SPL20-24
39	PWR_15Vpos_ret	PWR_15Vpos_ret	
40	PWR_11Vneg_go	PWR_11Vneg_go	SPL20-24

41	PWR_11Vneg_ret	PWR_11Vneg_ret	
42	PWR_5.3Vpos_go	PWR_5.3Vpos_go	SPL20-24
43	PWR_5.3Vpos_ret	PWR_5.3Vpos_ret	
44	PWR_5.3Vpos_go	PWR_5.3Vpos_go	SPL20-24
45	PWR_5.3Vpos_ret	PWR_5.3Vpos_ret	
46	PWR_5.3Vneg_go	PWR_5.3Vneg_go	SPL20-24
47	PWR_5.3neg_ret	PWR_5.3neg_ret	
48	PWR_5.3neg_go	PWR_5.3neg_go	SPL20-24
49	PWR_5.3neg_ret	PWR_5.3neg_ret	
17	SCN	SCN	SPL10-26
50	SCN	SCN	SPL10-26

5.2 Blue monitors

Harness:	HV-MON_1/2
Connector Identification Chassis:	BL1/2-J02a/b_male
Connector Identification Harness:	BL1/2-P02a/b_Female
Connector Type:	50 way sub-miniture D

Pin Number	Line Name		
	BL1	BL2	
1	FWMTR_ph1	FWMTR_ph1	SPL30-26
2	FWMTR_ph3	FWMTR_ph3	
3	FWMTR_13ret	FWMTR_13ret	
4	FWMTR_ph2	FWMTR_ph2	SPL30-26
5	FWMTR_ph4	FWMTR_ph4	
6	FWMTR_24ret	FWMTR_24ret	
7	FWPK1_tx	FWPK1_tx	SPL30-28
8	FWPK1_rx	FWPK1_rx	
9	FWPK1_ret	FWPK1_ret	
10	FWPK2_tx	FWPK2_tx	SPL30-28
11	FWPK2_rx	FWPK2_rx	
12	FWPK2_ret	FWPK2_ret	
13			26
14			26
15			26
16	PriTHRM7_pos	RdtTHRM7_pos	SPL21-28
17	PriTHRM7_neg	RdtTHRM7_neg	
18	SCN_PriTHRM7	SCN_RdtTHRM7	
19	PriTHRM8_pos	RdtTHRM8_pos	SPL21-28
20	PriTHRM8_neg	RdtTHRM8_neg	
21	SCN_PriTHRM8	SCN_RdtTHRM8	
22			26
23			26
24			26
25			26
26			26
27			26
28			26
29			26
30			26
31	Shut_down	Shut_down	SPL10-26
32	ConT1_pos	ConT1_pos	SPL20-26
33	ConT1_neg	ConT1_neg	
34	ConT2_pos	ConT2_pos	SPL20-26
35	ConT2_neg	ConT2_neg	
36	ConT3_pos	ConT3_pos	SPL20-26
37	ConT3_neg	ConT3_neg	
38	MonT1	MonT1	SPL10-26
39	MonT2	MonT2	SPL10-26

40	MonT3	MonT3	SPL10-26
41	SCN	SCN	SPL10-26
42	PWR_pos25_go	PWR_pos25_go	SPL20-26
43	PWR_pos25_ret	PWR_pos25_ret	
44	PWR_pos11_go	PWR_pos11_go	SPL20-24
45	PWR_pos11_ret	PWR_pos11_ret	
46	PWR_pos15_go	PWR_pos15_go	SPL30-24
47	PWR_pos15_ret	PWR_pos15_ret	
48	PWR_neg15_go	PWR_neg15_go	
49			26
50	SCN_CONPWR	SCN_CONPWR	SPL20-26

5.3 HVU

Harness:		HV-MON_1/2	
Connector Identification Chassis:		HVU1/2-J02a/b_Male	
Connector Identification Harness:		HVU1/2-P02a/b_Female	
Connector Type:		25 way sub-miniture	
Pin Number	Line Name	Line Name	
	HVU1	HVU2	
1	PWR_pos25_go	PWR_pos25_go	SPL20-26
16	PWR_pos25_ret	PWR_pos25_ret	
			24
2	PWR_pos11_go	PWR_pos11_go	SPL20-24
15	PWR_pos11_ret	PWR_pos11_ret	
			24
13	PWR_neg15_go	PWR_neg15_go	SPL30-24
14	PWR_pos15_go	PWR_pos15_go	
24	PWR_pos15_ret	PWR_pos15_ret	
			24
4	ConT2_pos	ConT2_pos	SPL20-26
5	ConT2_neg	ConT2_neg	
6	ConT1_pos	ConT1_pos	SPL20-26
7	ConT1_neg	ConT1_neg	
8	ConT3_pos	ConT3_pos	SPL20-26
9	ConT3_neg	ConT3_neg	
			24
17	Shut_down	Shut_down	SPL10-26
18	MonT1	MonT1	SPL10-26
19	MonT2	MonT2	SPL10-26
20	MonT3	MonT3	SPL10-26
			24
			24
			24
			24

5.4 FWMTR and Pickoff

Harness:	HV-MON_1/2		
Connector Identification Chassis:	FWMTR1/2-J03a/b_Male		
Connector Identification Harness:	FWMTR1/2-P03a/b_Female		
Connector Type:	15 way sub-miniture		
Pin Number	Line Name	Line Namr	
	FWMTR1	FWMTR2	
1	FWMTR_ph1	FWMTR_ph1	SPL30-26
2	FWMTR_ph3	FWMTR_ph3	
3	FWMTR_13ret	FWMTR_13ret	
4	FWMTR_ph2	FWMTR_ph2	SPL30-26
5	FWMTR_ph4	FWMTR_ph4	
6	FWMTR_24ret	FWMTR_24ret	
7	FWPK1_tx	FWPK1_tx	SPL30-28
8	FWPK1_rx	FWPK1_rx	
9	FWPK1_ret	FWPK1_ret	
10	FWPK2_tx	FWPK2_tx	SPL30-28
11	FWPK2_rx	FWPK2_rx	
12	FWPK2_ret	FWPK2_ret	
13			26
14			26
15			26

5.5 Dichroic Motor

Harness:		HV-MON_1/2	
Connector Identification Chassis:			
Connector Identification Harness:			
Connector Type:		15 way sub-miniture	
Pin Number	Line Name		
	Dicroic Prime	Dicroic Redun	
	DMTR_ph1	DMTR_ph1	SPL30-26
	DMTR_ph3	DMTR_ph3	
	DMTR_13ret	DMTR_13ret	
	DMTR_ph2	DMTR_ph2	SPL30-26
	DMTR_ph4	DMTR_ph4	
	DMTR_24ret	DMTR_24ret	
			26
			26
			26
			26
			26
			26
			26
			26
			26

5.6 Thermistors

Harness:		HV-MON_1/2	
Connector Identification Chassis:		THRM-J04a/b_Female	
Connector Identification Harness:		THRM-P04a/b_Male	
Connector Type:		9 way sub-miniture	
Pin Number	Line Name		
			28
			28
			28
			28
			28
			28
			28
			28
			26

5.7 Heaters

Harness:	HV-MON_1/2
Connector Identification Chassis:	HTRS-J05a/b_Male
Connector Identification Harness:	HTRS-P05a/b_Female
Connector Type:	9 way sub-miniture

Pin Number	Line Name		
			26
			26
			26
			26
			26
			26
			26
			26
			26

6. Harness Kits

Harness kit	Componet	Oty	Comments
MNPWR_1/2	d37f	1	Souriau S/C
	di37m	1	
	di37fss	1	
	di37cc	1	
	di37fss	1	
	d-skt20	7	
	d-skt26	24	
	d-skt28	6	
	di-pin20	7	
	di-pin26	24	
	di-pin28	6	
	di-fsl	1	
	d-msl	2	
	di-msl	2	
CONPWR	d-msl	2	
	d-pin22	7	
	d-pin24	8	
	d-pin26	32	
	d-pin28	3	
	d50m	1	
	di-fsl	2	
	di-msl	2	
	di-skt22	7	
	di-skt24	8	
	di-skt26	32	
	di-skt28	3	
	di50acc	1	
	di50cc	1	
	di50f	1	
	di50mra	1	
DCICB	di-fsl	4	
	di-msl	4	
	di-pin26	17	
	di-pin28	33	
	di-skt26	17	
	di-skt28	33	
	di50cc	1	
	di50f	1	
	di50fra	1	
	di50m	1	
	di50mss	1	
DET	di-fsl	4	
	di-msl	4	
	di-pin24	18	
	di-pin26	2	
	di-pin28	30	
	di-skt24	18	

	di-skt26	2
	di-skt28	30
	di50acc	1
	di50cc	1
	di50f	1
	di50fss	1
	di50m	1
	di50mss	1
HV-MON_1	di-fsl	10
	di-msl	10
	di-pin26	19
	di-pin28	14
	di-skt24	18
	di-skt26	64
	di-skt28	26
	di15acc	1
	di15cc	1
	di15f	1
	di15m	1
	di25cc	1
	di25f	1
	di25mss	1
	di50cc	1
	di50f	1
	di50mss	1
	di9cc	4
	di9f	2
	di9m	2
DICHRO_1	di-fsl	2
	di-msl	2
	di-pin26	15
	di-skt26	15
	di15cc	1
	di15f	1
	di15m	1