

Client:	Occuity
Project:	PM1 Pachymeter Automated System Level Test Platform
Document:	Interface PCBA Cable and Wiring Schedule

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Cable:	PM1 Pachymeter Debug Connector (X6) to Interface PCBA Debug Connector (J3)
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Connector A:	MOLEX	51021-0900	<a href="#">Molex Picoblade Female Connector Housing, 1.25mm Pitch, 9 Way, 1 Row</a>
Connector B:	MOLEX	51021-0900	<a href="#">Molex Picoblade Female Connector Housing, 1.25mm Pitch, 9 Way, 1 Row</a>
Pre-Crimped Leads:	MOLEX	21492-1213	<a href="#">Molex Picoblade Crimp Terminals to Picoblade Crimp Terminals, 26AWG, 225mm</a>

X6-1	<->	J3-1	GND
X6-2	<->	J3-2	DUT_X6_DBG_EFH_RX
X6-3	<->	J3-3	DUT_X6_DBG_EFH_TX
X6-4	<->	J3-4	DUT_X6_DBG_DAR_RX
X6-5	<->	J3-5	DUT_X6_DBG_DAR_TX
X6-6	<->	J3-6	DUT_X6_DBG_DSPIC_RX
X6-7	<->	J3-7	DUT_X6_DBG_DSPIC_TX
X6-8	<->	J3-8	DUT_X6_DBG_P24_RX
X6-9	<->	J3-9	DUT_X6_DBG_P24_TX

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Cable:	PM1 Pachymeter Display Connector (K1) to Interface PCBA Display Connector (J4)
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FFC Jumper:	MULTICOMP PRO	MP-FFCA05402002B	<a href="#">FFC Cable, 40 Way, 200mm, Type 2, Style B (Opposite Sides)</a>
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K1-1	<->	J4-1	DUT_K1_TP_PT1
K1-2	<->	J4-2	DUT_K1_TP_INT
K1-3	<->	J4-3	DUT_K1_TP_SDA
K1-4	<->	J4-4	DUT_K1_TP_SCL
K1-5	<->	J4-5	DUT_K1_LCD_PT5
K1-6	<->	J4-6	GND
K1-7	<->	J4-7	N/C
K1-8	<->	J4-8	N/C
K1-9	<->	J4-9	DUT_K1_LCD_PT9
K1-10	<->	J4-10	DUT_K1_LCD_PT10
K1-11	<->	J4-11	DUT_K1_LCD_PT11
K1-12	<->	J4-12	DUT_K1_LCD_PT12
K1-13	<->	J4-13	DUT_K1_LCD_PT13
K1-14	<->	J4-14	DUT_K1_LCD_PT14
K1-15	<->	J4-15	DUT_K1_LCD_PT15
K1-16	<->	J4-16	DUT_K1_LCD_PT16
K1-17	<->	J4-17	DUT_K1_LCD_PT17
K1-18	<->	J4-18	DUT_K1_LCD_PT18
K1-19	<->	J4-19	DUT_K1_LCD_PT19
K1-20	<->	J4-20	GND
K1-21	<->	J4-21	DUT_K1_LCD_PT21
K1-22	<->	J4-22	DUT_K1_LCD_PT22
K1-23	<->	J4-23	DUT_K1_LCD_PT23
K1-24	<->	J4-24	DUT_K1_LCD_PT24
K1-25	<->	J4-25	DUT_K1_LCD_PT25
K1-26	<->	J4-26	GND
K1-27	<->	J4-27	DUT_K1_LCD_PT27
K1-28	<->	J4-28	DUT_K1_LCD_PT28
K1-29	<->	J4-29	DUT_K1_LCD_PT29
K1-30	<->	J4-30	DUT_K1_LCD_PT30
K1-31	<->	J4-31	DUT_K1_LCD_PT31

K1-32	<->	J4-32	DUT_K1_LCD_PT32
K1-33	<->	J4-33	DUT_K1_LCD_PT33
K1-34	<->	J4-34	DUT_K1_LCD_PT34
K1-35	<->	J4-35	DUT_K1_LCD_PT35
K1-36	<->	J4-36	DUT_K1_LCD_PT36
K1-37	<->	J4-37	DUT_K1_LCD_PT37
K1-38	<->	J4-38	GND
K1-39	<->	J4-39	DUT_K1_LCD_PT39
K1-40	<->	J4-40	GND

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Cable:	Interface PCBA Display Connector (J5) to Display Assembly
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FFC Jumper:		FFC Jumper Cable Bonded to Display Assembly
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K1-1	<->	J5-1	DUT_K1_TP_PT1
K1-2	<->	J5-2	TP_INT
K1-3	<->	J5-3	TP_SDA
K1-4	<->	J5-4	TP_SCL
K1-5	<->	J5-5	DUT_K1_LCD_PT5
K1-6	<->	J5-6	GND
K1-7	<->	J5-7	N/C
K1-8	<->	J5-8	N/C
K1-9	<->	J5-9	DUT_K1_LCD_PT9
K1-10	<->	J5-10	DUT_K1_LCD_PT10
K1-11	<->	J5-11	DUT_K1_LCD_PT11
K1-12	<->	J5-12	DUT_K1_LCD_PT12
K1-13	<->	J5-13	DUT_K1_LCD_PT13
K1-14	<->	J5-14	DUT_K1_LCD_PT14
K1-15	<->	J5-15	DUT_K1_LCD_PT15
K1-16	<->	J5-16	DUT_K1_LCD_PT16
K1-17	<->	J5-17	DUT_K1_LCD_PT17
K1-18	<->	J5-18	DUT_K1_LCD_PT18
K1-19	<->	J5-19	DUT_K1_LCD_PT19
K1-20	<->	J5-20	GND
K1-21	<->	J5-21	DUT_K1_LCD_PT21
K1-22	<->	J5-22	DUT_K1_LCD_PT22
K1-23	<->	J5-23	DUT_K1_LCD_PT23
K1-24	<->	J5-24	DUT_K1_LCD_PT24
K1-25	<->	J5-25	DUT_K1_LCD_PT25
K1-26	<->	J5-26	GND
K1-27	<->	J5-27	DUT_K1_LCD_PT27
K1-28	<->	J5-28	DUT_K1_LCD_PT28
K1-29	<->	J5-29	DUT_K1_LCD_PT29
K1-30	<->	J5-30	DUT_K1_LCD_PT30
K1-31	<->	J5-31	DUT_K1_LCD_PT31

K1-32	<->	J5-32	DUT_K1_LCD_PT32
K1-33	<->	J5-33	DUT_K1_LCD_PT33
K1-34	<->	J5-34	DUT_K1_LCD_PT34
K1-35	<->	J5-35	DUT_K1_LCD_PT35
K1-36	<->	J5-36	DUT_K1_LCD_PT36
K1-37	<->	J5-37	DUT_K1_LCD_PT37
K1-38	<->	J5-38	GND
K1-39	<->	J5-39	DUT_K1_LCD_PT39
K1-40	<->	J5-40	GND

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Cable:	PM1 Pachymeter Encoder Connector (X7) to Interface PCBA Encoder Connector (J12)
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FFC Jumper:	MOLEX	98266-0106	Molex 0.50mm Premo-Flex FFC Jumper Cable Type A (Same Wide), 10 Way, 1 Row
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X7-1	<->	J12-1	N/C
X7-2	<->	J12-2	GND
X7-3	<->	J12-3	DUT_X7_ENC_M+
X7-4	<->	J12-4	DUT_X7_ENC_M-
X7-5	<->	J12-5	NI_DOUT_ENC_A
X7-6	<->	J12-6	NI_DOUT_ENC_B
X7-7	<->	J12-7	N/C
X7-8	<->	J12-8	N/C
X7-9	<->	J12-9	NI_DOUT_ENC_Z
X7-10	<->	J12-10	N/C

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Cable:	USB-6363 Screw Terminals to Interface PCBA NI DAQ AO Connector (J13)
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Connector A:		Screw Terminals	Screw Terminals 0.2047mm <sup>2</sup> to 1.3087mm <sup>2</sup> (16AWG to 24AWG)
Connector B:		Screw Terminals	Wurth 2-pin PCB Terminal Block 5mm Pitch

AO 0 #15	<->	J13-1	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair.</a>
AO GND #16	<->	J13-2	



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Cable:	USB-6363 Screw Terminals to Interface PCBA NI DAQ AI Connector (J14)
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Connector A:		Screw Terminals	Screw Terminals 0.2047mm <sup>2</sup> to 1.3087mm <sup>2</sup> (16AWG to 24AWG)
Connector B:	MOLEX	90142-0016	Molex C-Grid III Female Connector Housing, 2.54mm Pitch, 16 Way, 2 Row
Crimp Terminal:	MOLEX	90119-2110	Molex C-Grid III Female Crimp Terminal 22AWG

AI 0+ #1	<->	J14-1	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair.</a>
AI 0- #2	<->	J14-2	
AI 1+ #4	<->	J14-3	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair.</a>
AI 1- #5	<->	J14-4	
AI 2+ #7	<->	J14-5	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair.</a>
AI 2- #8	<->	J14-6	
AI 3+ #10	<->	J14-7	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair.</a>
AI 3- #11	<->	J14-8	
AI 4+ #17	<->	J14-9	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair.</a>
AI 4- #18	<->	J14-10	
AI 5+ #20	<->	J14-11	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair.</a>
AI 5- #21	<->	J14-12	
AI 6+ #23	<->	J14-13	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair.</a>
AI 6- #24	<->	J14-14	
AI 7+ #26	<->	J14-15	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair.</a>
AI 7- #27	<->	J14-16	

Note:

- Connect positive AI screw terminal to signal conductor.
- Connect negative AI screw terminal to ground conductor and shield.
- Polarization notch is on the odd pin side.

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Cable:	USB-6363 Screw Terminals to Interface PCBA NI DAQ DIO Connector (J15)
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Connector A:		Screw Terminals	Screw Terminals 0.2047mm <sup>2</sup> to 1.3087mm <sup>2</sup> (16AWG to 24AWG)
Connector B:	MOLEX	90142-0024	Molex C-Grid III Female Connector Housing, 2.54mm Pitch, 24 Way, 2 Row
Crimp Terminal:	MOLEX	90119-2110	Molex C-Grid III Female Crimp Terminal 22AWG

P0.0 #65	<->	J15-1	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair. Shrink wrapped 100R series inline with signal pin at screw terminal.</a>
D GND #82	<->	J15-2	
P0.1 #66	<->	J15-3	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair. Shrink wrapped 100R series inline with signal pin at screw terminal.</a>
D GND #84	<->	J15-4	
P0.2 #67	<->	J15-5	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair. Shrink wrapped 100R series inline with signal pin at screw terminal.</a>
D GND #86	<->	J15-6	
P0.3 #68	<->	J15-7	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair. Shrink wrapped 100R series inline with signal pin at screw terminal.</a>
D GND #88	<->	J15-8	
P1.0 #73	<->	J15-9	24 AWG Single Core.
N/C		J15-10	
P1.1 #74	<->	J15-11	24 AWG Single Core.
N/C		J15-12	
P1.2 #75	<->	J15-13	24 AWG Single Core.
N/C		J15-14	
P1.3 #76	<->	J15-15	24 AWG Single Core.
N/C		J15-16	
P0.4 #69	<->	J15-17	24 AWG Single Core.
N/C		J15-18	
P0.5 #70	<->	J15-19	24 AWG Single Core.
N/C		J15-20	
P0.6 #71	<->	J15-21	24 AWG Single Core.
N/C		J15-22	
P0.7 #72	<->	J15-23	24 AWG Single Core.
N/C	<->	J15-24	

Note: Polarization notch is on the odd pin side



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Cable:	Interface PCBA VSIG Connector (J22) to Laser Board Assembly
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Connector A:		Screw Terminals	Würth 2-pin PCB Terminal Block 5mm Pitch
Connector B:		Soldered	IC2A (AD8651ARMZ) Pin 2 via a 5.1M Resistor

J22-1	<->	VSIG	<a href="#">Evolution XPC 301-031 Professional Audio Analogue Cable 1-Pair. Directly solder VSIG signal to the OA input (IC2A-2) via a 5.1M resistor.</a>
J22-2	<->	GND	