AT8400

AdvancedTCA Carrier Board with 4 AMC Slots

kontron

Board Rev. 1

QUICK REFERENCE

Document version 1.1

CONNECTORS

J20	ATCA Base & Fabric Interface (Zone 2)
J23	ATCA Base & Fabric Interface (Zone 2)
J30	ATCA RTM Connector (Zone 3)
J31	ATCA RTM Connector (Zone 3)
J32	ATCA RTM Connector (Zone 3)
P10	ATCA Power (Zone 1)
J_B1	AMC B1
J_B2	AMC B2
J_B3	AMC B3
J_B4	AMC B4

JUMPER SETTINGS

(● Default Setting)

○ FWPD - Flash Write Enable	
Write Enable	in
● Write Protect	out

○ IPMC0 - Front Board IPMI Override	
ShMC Bypass	in
● Normal Operation	out

○ IPMC1 - AMC IPMI Override	
ShMC Bypass	in
● Normal Operation	out

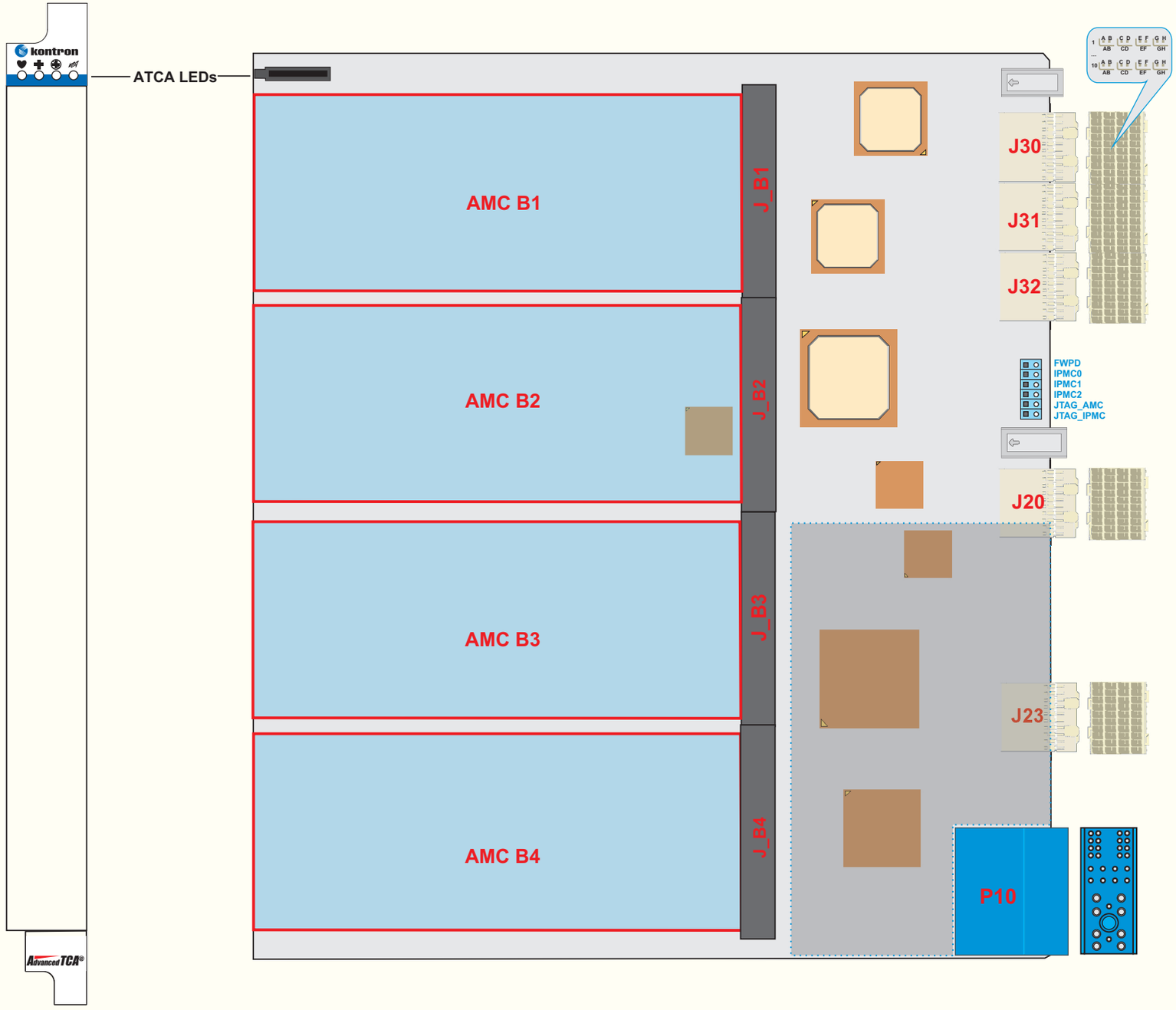
○ IPMC2 - PCIe E-Keying Override	
ShMC Bypass	in
● Normal Operation	out

○ JTAG_AMC - AMC JTAG Integration	
Included in JTAG Chain	in
● Excluded from JTAG Chain	out

○ JTAG_IPMC - IPMC JTAG	
Restrict JTAG to IPMC	in
● Normal JTAG Operation	out

Symbols Chart

- Heart Beat
- Healthy
- Out Of Service
- Hot Swap



Connector Pinouts

AT8400

Board Rev. 1

Document version 1.1

J20 - ATCA Base & Fabric Interface (Zone 2)

	ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1	CLK1A+	GND	CLK1A-	CLK1B+	GND	CLK1B-	CLK2A+	GND	CLK2A-	CLK2B+	GND	CLK2B-
2	Tx4(UP)+	GND	Tx4(UP)-	Rx4(UP)+	GND	Rx4(UP)-	CLK3A+	GND	CLK3A-	CLK3B+	GND	CLK3B-
3	Tx2(UP)+	GND	Tx2(UP)-	Rx2(UP)+	GND	Rx2(UP)-	Tx3(UP)+	GND	Tx3(UP)-	Rx3(UP)+	GND	Rx3(UP)-
4	Tx0(UP)+	GND	Tx0(UP)-	Rx0(UP)+	GND	Rx0(UP)-	Tx1(UP)+	GND	Tx1(UP)-	Rx1(UP)+	GND	Rx1(UP)-
5	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
6	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
7	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
8	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
9	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
10	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.

J23 - ATCA Base & Fabric Interface (Zone 2)

	ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1	Tx2[2]+	GND	Tx2[2]-	Rx2[2]+	GND	Rx2[2]-	Tx3[2]+	GND	Tx3[2]-	Rx3[2]+	GND	Rx3[2]-
2	Tx0[2]+	GND	Tx0[2]-	Rx0[2]+	GND	Rx0[2]-	Tx1[2]+	GND	Tx1[2]-	Rx1[2]+	GND	Rx1[2]-
3	Tx2[1]+	GND	Tx2[1]-	Rx2[1]+	GND	Rx2[1]-	Tx3[1]+	GND	Tx3[1]-	Rx3[1]+	GND	Rx3[1]-
4	Tx0[1]+	GND	Tx0[1]-	Rx0[1]+	GND	Rx0[1]-	Tx1[1]+	GND	Tx1[1]-	Rx1[1]+	GND	Rx1[1]-
5	BI_DA1+	GND	BI_DA1-	BI_DB1+	GND	BI_DB1-	BI_DC1+	GND	BI_DC1-	BI_DD1+	GND	BI_DD1-
6	BI_DA2+	GND	BI_DA2-	BI_DB2+	GND	BI_DB2-	BI_DC2+	GND	BI_DC2-	BI_DD2+	GND	BI_DD2-
7	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
8	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
9	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C	GND	N.C.
10	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.

J30 - ATCA RTM Connector (Zone3)

	ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1	N.C.	GND	N.C.	N.C.	GND	N.C.	MNG_LAN_DA-	GND	MNG_LAN_DA+	STOR0_RX-	GND	STOR0_RX+
2	PROD_IO0	GND	PROD_IO1	N.C.	GND	N.C.	MNG_LAN_DB-	GND	MNG_LAN_DB+	STOR0_TX-	GND	STOR0_TX+
3	12V	GND	3V3_SUS	SMB_SCL	GND	SMB_SDA	N.C.	GND	N.C.	STOR1_RX-	GND	STOR1_RX+
4	PROD_IO2	GND	PLD_DOUT	PLD_CLOCK	GND	PLD_DIN	N.C.	GND	N.C.	STOR1_TX-	GND	STOR1_TX+
5	JTAG_TDO	GND	TEST_JIG#	N.C.	GND	PROD_IO3	N.C.	GND	GLAN_AB_CT	STOR2_RX-	GND	STOR2_RX+
6	JTAG_TDI	GND	12V	N.C.	GND	N.C.	MNG_LAN_CT	GND	12V	STOR2_TX-	GND	STOR2_TX+
7	JTAG_TCK	GND	PROD_IO4	N.C.	GND	N.C.	N.C.	GND	N.C.	STOR3_RX-	GND	STOR3_RX+
8	JTAG_TMS	GND	JTAG_TRST#	N.C.	GND	N.C.	N.C.	GND	SMB_ALRT#	STOR3_TX-	GND	STOR3_TX+
9	SP_RI	GND	SP_DTR	SP_CTS	GND	SP_TX#	N.C.	GND	N.C.	N.C.	GND	N.C.
10	SP_RTS	GND	SP_RX#	SP_DSR	GND	SP_DCD	N.C.	GND	N.C.	N.C.	GND	N.C.

J31 - ATCA RTM Connector (Zone3)

	ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1	RTM_GE1_DA+	GND	RTM_GE1_DA-	RTM_GE1_DB+	GND	RTM_GE1_DB-	RTM_GE1_DC+	GND	RTM_GE1_DC-	RTM_GE1_DD+	GND	RTM_GE1_DD-
2	RTM_GE2_DA+	GND	RTM_GE2_DA-	RTM_GE2_DB+	GND	RTM_GE2_DB-	RTM_GE2_DC+	GND	RTM_GE2_DC-	RTM_GE2_DD+	GND	RTM_GE2_DD-
3	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
4	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
5	AMC_B1_P13_TX+	GND	AMC_B1_P13_TX-	AMC_B1_P13_RX+	GND	AMC_B1_P13_RX-	AMC_B1_P14_TX+	GND	AMC_B1_P14_TX-	AMC_B1_P14_RX+	GND	AMC_B1_P14_RX-
6	AMC_B1_P15_TX+	GND	AMC_B1_P15_TX-	AMC_B1_P15_RX+	GND	AMC_B1_P15_RX-	AMC_B1_P16_TX+	GND	AMC_B1_P16_TX-	AMC_B1_P16_RX+	GND	AMC_B1_P16_RX-
7	AMC_B1_P17_TX+	GND	AMC_B1_P17_TX-	AMC_B1_P17_RX+	GND	AMC_B1_P17_RX-	AMC_B1_P18_TX+	GND	AMC_B1_P18_TX-	AMC_B1_P18_RX+	GND	AMC_B1_P18_RX-
8	AMC_B1_P19_TX+	GND	AMC_B1_P19_TX-	AMC_B1_P19_RX+	GND	AMC_B1_P19_RX-	AMC_B1_P20_TX+	GND	AMC_B1_P20_TX-	AMC_B1_P20_RX+	GND	AMC_B1_P20_RX-
9	AMC_B2_P17_TX+	GND	AMC_B2_P17_TX-	AMC_B2_P17_RX+	GND	AMC_B2_P17_RX-	AMC_B2_P18_TX+	GND	AMC_B2_P18_TX-	AMC_B2_P18_RX+	GND	AMC_B2_P18_RX-
10	AMC_B2_P19_TX+	GND	AMC_B2_P19_TX-	AMC_B2_P19_RX+	GND	AMC_B2_P19_RX-	AMC_B2_P20_TX+	GND	AMC_B2_P20_TX-	AMC_B2_P20_RX+	GND	AMC_B2_P20_RX-

J32 - ATCA RTM Connector (Zone3)

	ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1	AMC_B2_P13_TX+	GND	AMC_B2_P13_TX-	AMC_B2_P13_RX+	GND	AMC_B2_P13_RX-	AMC_B2_P14_TX+	GND	AMC_B2_P14_TX-	AMC_B2_P14_RX+	GND	AMC_B2_P14_RX-
2	AMC_B2_P15_TX+	GND	AMC_B2_P15_TX-	AMC_B2_P15_RX+	GND	AMC_B2_P15_RX-	AMC_B2_P16_TX+	GND	AMC_B2_P16_TX-	AMC_B2_P16_RX+	GND	AMC_B2_P16_RX-
3	AMC_B3_P13_TX+	GND	AMC_B3_P13_TX-	AMC_B3_P13_RX+	GND	AMC_B3_P13_RX-	AMC_B3_P14_TX+	GND	AMC_B3_P14_TX-	AMC_B3_P14_RX+	GND	AMC_B3_P14_RX-
4	AMC_B3_P15_TX+	GND	AMC_B3_P15_TX-	AMC_B3_P15_RX+	GND	AMC_B3_P15_RX-	AMC_B3_P16_TX+	GND	AMC_B3_P16_TX-	AMC_B3_P16_RX+	GND	AMC_B3_P16_RX-
5	AMC_B3_P17_TX+	GND	AMC_B3_P17_TX-	AMC_B3_P17_RX+	GND	AMC_B3_P17_RX-	AMC_B3_P18_TX+	GND	AMC_B3_P18_TX-	AMC_B3_P18_RX+	GND	AMC_B3_P18_RX-
6	AMC_B3_P19_TX+	GND	AMC_B3_P19_TX-	AMC_B3_P19_RX+	GND	AMC_B3_P19_RX-	AMC_B3_P20_TX+	GND	AMC_B3_P20_TX-	AMC_B3_P20_RX+	GND	AMC_B3_P20_RX-
7	AMC_B4_P13_TX+	GND	AMC_B4_P13_TX-	AMC_B4_P13_RX+	GND	AMC_B4_P13_RX-	AMC_B4_P14_TX+	GND	AMC_B4_P14_TX-	AMC_B4_P14_RX+	GND	AMC_B4_P14_RX-
8	AMC_B4_P15_TX+	GND	AMC_B4_P15_TX-	AMC_B4_P15_RX+	GND	AMC_B4_P15_RX-	AMC_B4_P16_TX+	GND	AMC_B4_P16_TX-	AMC_B4_P16_RX+	GND	AMC_B4_P16_RX-
9	AMC_B4_P17_TX+	GND	AMC_B4_P17_TX-	AMC_B4_P17_RX+	GND	AMC_B4_P17_RX-	AMC_B4_P18_TX+	GND	AMC_B4_P18_TX-	AMC_B4_P18_RX+	GND	AMC_B4_P18_RX-
10	AMC_B4_P19_TX+	GND	AMC_B4_P19_TX-	AMC_B4_P19_RX+	GND	AMC_B4_P19_RX-	AMC_B4_P20_TX+	GND	AMC_B4_P20_TX-	AMC_B4_P20_RX+	GND	AMC_B4_P20_RX-

P10 - Power (Zone 1)

1	N.C.	2	N.C.
3	N.C.	4	N.C.
5	HA0	6	HA1
7	HA2	8	HA3
9	HA4	10	HA5
11	HA6	12	HA7/P
13	SCL_A	14	SDA_A
15	SCL_B	16	SDA_B
17	MT1_TIP(N.C.)	18	MT2_TIP(N.C.)
19	RING_A(N.C.)	20	RING_B(N.C.)
21	MT1_RING(N.C.)	22	MT2_RING(N.C.)
23	RRTN_A(N.C.)	24	RRTN_B(N.C.)
25	**SHELF_GND**	26	**LOGIC_GND**
27	ENABLE_B	28	VRTN_A
29	VRTN_B	30	EARLY_A
31	EARLY_B	32	ENABLE_A
33	-48V_A	34	-48V_B

AMC B1 Channel Assignment

Channel	Region	Connection
0	GbE	GbE Switch 0/15
1	GbE	GbE Switch 0/16
2	SAS/SATA	SAS Expander Port 10
3	SAS/SATA	-* / AMC B3 channel 2**
4	Fabric	PCI Express Switch Port 9, lane 0
5	Fabric	PCI Express Switch Port 9, lane 1
6	Fabric	PCI Express Switch Port 9, lane 2
7	Fabric	PCI Express Switch Port 9, lane 3
8	Fabric	-
9	Fabric	-
10	Fabric	-
11	Fabric	-
12	-	-
13	Extended	RTM, AMC_B1_P13
14	Extended	RTM, AMC_B1_P14
15	Extended	RTM, AMC_B1_P15
16	Extended	RTM, AMC_B1_P16
17	Extended	RTM, AMC_B1_P17
18	Extended	RTM, AMC_B1_P18
19	Extended	RTM, AMC_B1_P19
20	Extended	RTM, AMC_B1_P20

* Configured for SAS Connect
** Configured for Direct AMC Connect

AMC B2 Channel Assignment

Channel	Region	Connection
0	GbE	GbE Switch 0/13
1	GbE	GbE Switch 0/14
2	SAS/SATA	SAS Expander Port 11
3	SAS/SATA	-* / AMC B4 channel 2**
4	Fabric	PCI Express Switch Port 8, lane 0
5	Fabric	PCI Express Switch Port 8, lane 1
6	Fabric	PCI Express Switch Port 8, lane 2
7	Fabric	PCI Express Switch Port 8, lane 3
8	Fabric	PCI Express Switch Port 8, lane 4
9	Fabric	PCI Express Switch Port 8, lane 5
10	Fabric	PCI Express Switch Port 8, lane 6
11	Fabric	PCI Express Switch Port 8, lane 7
12	-	-
13	Extended	RTM, AMC_B2_P13
14	Extended	RTM, AMC_B2_P14
15	Extended	RTM, AMC_B2_P15
16	Extended	RTM, AMC_B2_P16
17	Extended	RTM, AMC_B2_P17
18	Extended	RTM, AMC_B2_P18
19	Extended	RTM, AMC_B2_P19
20	Extended	RTM, AMC_B2_P20

* Configured for SAS Connect
** Configured for Direct AMC Connect

AMC B3 Channel Assignment

Channel	Region	Connection
0	GbE	GbE Switch 0/11
1	GbE	GbE Switch 0/12
2	SAS/SATA	SAS Expander Port 0* /AMC B1 ch3**
3	SAS/SATA	-
4	Fabric	PCI Express Switch Port 1, lane 0
5	Fabric	PCI Express Switch Port 1, lane 1
6	Fabric	PCI Express Switch Port 1, lane 2
7	Fabric	PCI Express Switch Port 1, lane 3
8	Fabric	-
9	Fabric	-
10	Fabric	-
11	Fabric	-
12	-	-
13	Extended	RTM, AMC_B3_P13
14	Extended	RTM, AMC_B3_P14
15	Extended	RTM, AMC_B3_P15
16	Extended	RTM, AMC_B3_P16
17	Extended	RTM, AMC_B3_P17
18	Extended	RTM, AMC_B3_P18
19	Extended	RTM, AMC_B3_P19
20	Extended	RTM, AMC_B3_P20

* Configured for SAS Connect
** Configured for Direct AMC Connect

AMC B4 Channel Assignment

Channel	Region	Connection
0	GbE	GbE Switch 0/9
1	GbE	GbE Switch 0/10
2	SAS/SATA	SAS Expander Port 1* /AMC B2 ch3**
3	SAS/SATA	-
4	Fabric	PCI Express Switch Port 0, lane 0
5	Fabric	PCI Express Switch Port 0, lane 1
6	Fabric	PCI Express Switch Port 0, lane 2
7	Fabric	PCI Express Switch Port 0, lane 3
8	Fabric	PCI Express Switch Port 0, lane 4
9	Fabric	PCI Express Switch Port 0, lane 5
10	Fabric	PCI Express Switch Port 0, lane 6
11	Fabric	PCI Express Switch Port 0, lane 7
12	-	-
13	Extended	RTM, AMC_B4_P13
14	Extended	RTM, AMC_B4_P14
15	Extended	RTM, AMC_B4_P15
16	Extended	RTM, AMC_B4_P16
17	Extended	RTM, AMC_B4_P17
18	Extended	RTM, AMC_B4_P18
19	Extended	RTM, AMC_B4_P19
20	Extended	RTM, AMC_B4_P20

* Configured for SAS Connect
** Configured for Direct AMC Connect

GbE Switch Port Assignment

CLI ID	Connection
0/1	RTM GE1
0/2	RTM GE2
0/3	Base Channel 1
0/4	Base Channel 2
0/5	Fabric Channel 2, Port 3
0/6	Fabric Channel 2, Port 2
0/7	Fabric Channel 2, Port 1
0/8	Fabric Channel 2, Port 0
0/9	AMC B4, Channel 0
0/10	AMC B4, Channel 1
0/11	AMC B3, Channel 0
0/12	AMC B3, Channel 1
0/13	AMC B2, Channel 0
0/14	AMC B2, Channel 1
0/15	AMC B1, Channel 0
0/16	AMC B1, Channel 1
0/17	Fabric Channel 1, Port 3
0/18	Fabric Channel 1, Port 2
0/19	Fabric Channel 1, Port 1
0/20	Fabric Channel 1, Port 0

SAS Expander Port Assignment

Channel	Connection
0	AMC B3, Channel 2*
1	AMC B4, Channel 2*
2	SAS Controller Port 0
3	SAS Controller Port 1
4	SAS Controller Port 2
5	SAS Controller Port 3
6	RTM, STOR3
7	RTM, STOR2
8	RTM, STOR1
9	RTM, STOR0
10	AMC B1, Channel 2
11	AMC B2, Channel 2

* Configured for SAS Connect

PCI Express Switch Port Assignment

Port	Lane	Connection
0	0 to 7	AMC B4, Channel 4 to 11
1	8 to 11	AMC B3, Channel 4 to 7
2	12 to 15	ATCA Update Channel
8	16 to 23	AMC B2, Channel 4 to 11
9	24 to 27	AMC B1, Channel 4 to 7
10	28 to 31	LSI SAS1064E

J_B1, J_B2, J_B3 & J_B4 - AMC B1, AMC B2, AMC B3 & AMC B4

B1	GND	B43	GND	B86	GND	B129	TxD15-
B2	12V	B44	RxD4+	B87	TxD8-	B130	TxD15+
B3	PS1#	B45	RxD4-	B88	TxD8+	B131	GND
B4	MP_3V3	B46	GND	B89	GND	B132	RxD15-
B5	GA0	B47	TxD4+	B90	RxD8-	B133	RxD15+
B6	RSV	B48	TxD4-	B91	RxD8+	B134	GND
B7	GND	B49	GND	B92	GND	B135	TxD16-
B8	RSV	B50	RxD5+	B93	TxD9-	B136	TxD16+
B9	12V	B51	RxD5-	B94	TxD9+	B137	GND
B10	GND	B52	GND	B95	GND	B138	RxD16-
B11	RxD0+	B53	TxD5+	B96	RxD9-	B139	RxD16+
B12	RxD0-	B54	TxD5-	B97	RxD9+	B140	GND
B13	GND	B55	GND	B98	GND	B141	TxD17-
B14	TxD0+	B56	IPMI_CLK	B99	TxD10-	B142	TxD17+
B15	TxD0-	B57	12V	B100	TxD10+	B143	GND
B16	GND	B58	GND	B101	GND	B144	RxD17-
B17	GA1	B59	RxD6+	B102	RxD10-	B145	RxD17+
B18	12V	B60	RxD6-	B103	RxD10+	B146	GND
B19	GND	B61	GND	B104	GND	B147	TxD18-
B20	RxD1+	B62	TxD6+	B105	TxD11-	B148	TxD18+
B21	RxD1-	B63	TxD6-	B106	TxD11+	B149	GND
B22	GND	B64	GND	B107	GND	B150	RxD18-
B23	TxD1+	B65	RxD7+	B108	RxD11-	B151	RxD18+
B24	TxD1-	B66	RxD7-	B109	RxD11+	B152	GND
B25	GND	B67	GND	B110	GND	B153	TxD19-
B26	GA2	B68	TxD7+	B111	TxD12-	B154	TxD19+
B27	12V	B69	TxD7-	B112	TxD12+	B155	GND
B28	GND	B70	GND	B113	GND	B156	RxD19-
B29	RxD2+	B71	IPMI_DATA	B114	RxD12-	B157	RxD19+
B30	RxD2-	B72	12V	B115	RxD12+	B158	GND
B31	GND	B73	GND	B116	GND	B159	TxD20-
B32	TxD2+	B74	CLKA+	B117	TxD13-	B160	TxD20+
B33	TxD2-	B75	CLKA-	B118	TxD13+	B161	GND
B34	GND	B76	GND	B119	GND	B162	RxD20-
B35	RxD3+	B77	CLKB+	B120	RxD13-	B163	RxD20+
B36	RxD3-	B78	CLKB-	B121	RxD13+	B164	GND
B37	GND	B79	GND	B122	GND	B165	TCLK
B38	TxD3+	B80	CLKC+	B123	TxD14-	B166	TMS
B39	TxD3-	B81	CLKC-	B124	TxD14+	B167	TRST#
B40	GND	B82	GND	B125	GND	B168	TDO
B41	ENABLE#	B83	PS0#(GND)	B126	RxD14-	B169	TDI
B42	12V	B84	12V	B127	RxD14+	B170	GND
		B85	GND	B128	GND		

For Technical Support please contact:

North America / Asia - Pacific
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The Technical Reference Manual and the Quick Reference can be downloaded from Kontron Web site at: http://www.kontron.com