

AT8902

Advanced TCA Hub Board with Base & Fabric Interface and 2 AMC Slots



Board Rev. 3

QUICK REFERENCE

Document version 1.3

CONNECTORS

J5	AMC B1	J20	ATCA Zone 2
J12	AMC B2	J21	ATCA Zone 2
J36	Ethernet Management	J22	ATCA Zone 2
J37	Serial Port	J23	ATCA Zone 2
J27	Base/Fabric Uplink	J24	ATCA Zone 2
SW1	Reset	J30	ATCA Zone 3 (RTM Connector)
SW2	LED Toggle	J31	ATCA Zone 3 (RTM Connector)
P10	ATCA Power (Zone 1)		

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
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

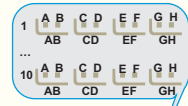
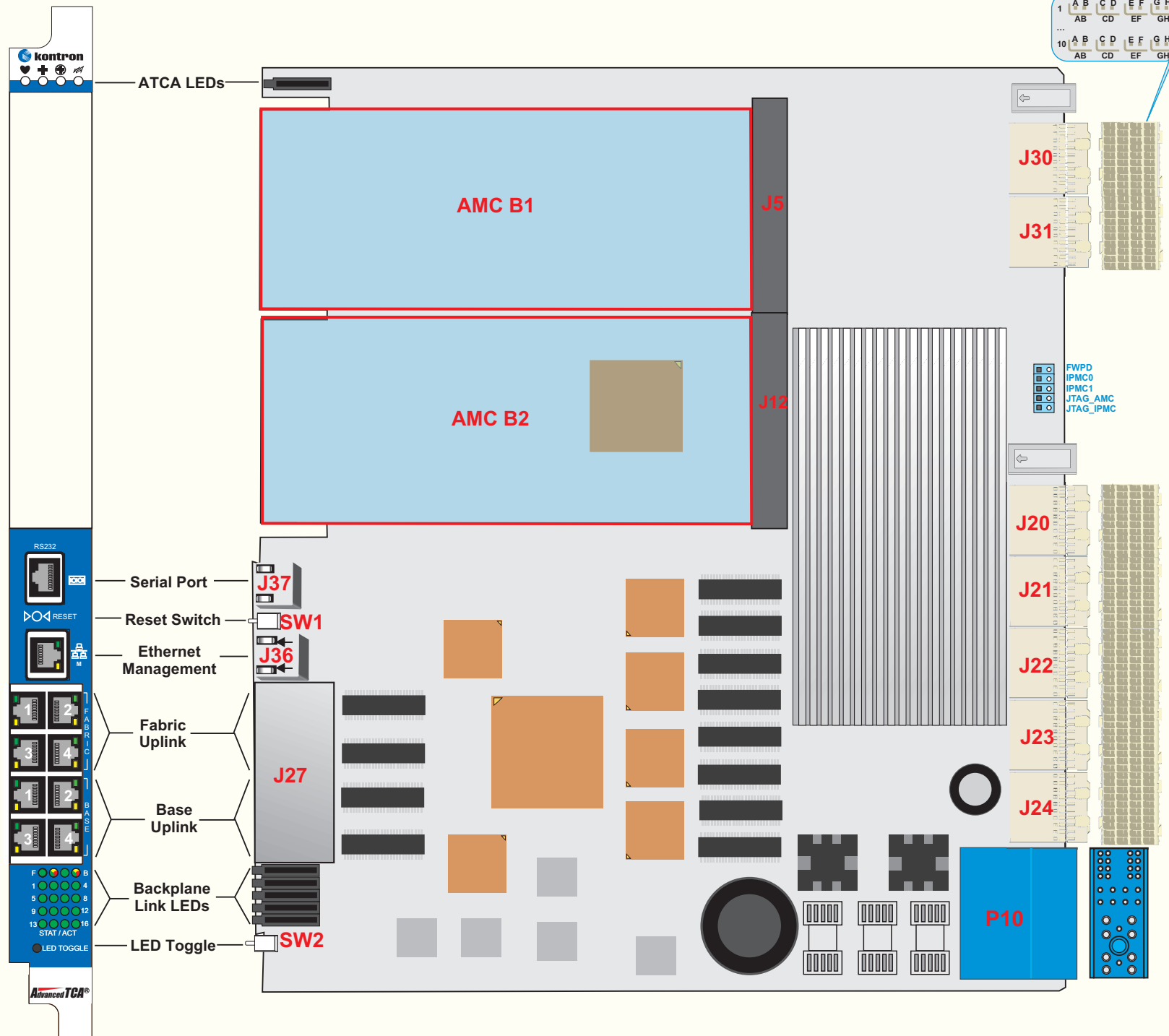
- Out Of Service
- Hot Swap
- Ethernet
- Heart Beat
- Healthy
- Serial Port

LEDs Signification

Ethernet Management	
Speed LED (yellow)	OFF 10 Base-T ON 100 Base-Tx
Status LED (green)	OFF Link Down ON Link Up and no activity BLINK Link Up and activity
Fabric and Base Uplink	
Speed LED (yellow)	OFF 10 Base-T BLINK 100 Base-Tx ON 1000 Base-T
Status LED (green)	OFF Link Down ON Link Up and no activity BLINK Link Up and activity
User LEDs	
User LED4	● Fabric Switch LEDs selected
User LED3	● Operational ● Initiation ● Fabric Switch Error
User LED2	● Base Switch LEDs selected
User LED1	● Operational ● Initiation ● Base Switch Error

LED Toggle Push Button Usage

Changes display status between base and fabric ports



Connector Pinouts

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J36 - Ethernet (RJ-45)

10/100 Management LAN

1 TX+	5 N.C.
2 TX-	6 RX-
3 RX+	7 N.C.
4 N.C.	8 N.C.

J27 - Base/Fabric Uplink (RJ-45)

1 DB+	5 DD-
2 DB-	6 DA-
3 DA+	7 DC+
4 DD+	8 DC-

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	Local Base Switch 0/21
1	GbE	Remote Base Switch 0/22
2	SATA/FC	AMC B2, channel 2
3	SATA/FC	RTM, STOR0
4	Fabric	10GbE Uplink 0/27[0]
5	Fabric	10GbE Uplink 0/27[1]
6	Fabric	10GbE Uplink 0/27[2]
7	Fabric	10GbE Uplink 0/27[3]
8	Fabric	10GbE Uplink 0/28[0]
9	Fabric	10GbE Uplink 0/28[1]
10	Fabric	10GbE Uplink 0/28[2]
11	Fabric	10GbE Uplink 0/28[3]
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

AMC B2 Channel Assignment

Channel	Region	Connection
0	GbE	Local Base Switch 0/23
1	GbE	-
2	SATA/FC	AMC B1, channel 2
3	SATA/FC	RTM, STOR1
4	Fabric	10GbE Uplink 0/25[0]
5	Fabric	10GbE Uplink 0/25[1]
6	Fabric	10GbE Uplink 0/25[2]
7	Fabric	10GbE Uplink 0/25[3]
8	Fabric	10GbE Uplink 0/26[0]
9	Fabric	10GbE Uplink 0/26[1]
10	Fabric	10GbE Uplink 0/26[2]
11	Fabric	10GbE Uplink 0/26[3]
12	-	-
13	Extended	-
14	Extended	-
15	Extended	-
16	Extended	-
17	Extended	RTM, AMC_B2_P17
18	Extended	RTM, AMC_B2_P18
19	Extended	RTM, AMC_B2_P19
20	Extended	RTM, AMC_B2_P20

Base Interface Port Mapping

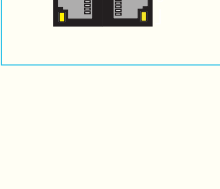
CLI ID	Channel	LED
0/1	Uplink 1	-
0/2	Uplink 2	-
0/3	Uplink 3	-
0/4	Uplink 4	-
0/5	16	16
0/6	15	15
0/7	14	14
0/8	13	13
0/9	12	12
0/10	11	11
0/11	10	10
0/12	9	9
0/13	8	8
0/14	7	7
0/15	6	6
0/16	5	5
0/17	4	4
0/18	3	3
0/19	2	2
0/20	SMCA	1
0/21	Local AMC B1, channel 0	-
0/22	Remote AMC B1, channel 1	-
0/23	Local AMC B2, channel 0	-
0/24	SMCB	1

Fabric Interface Port Mapping

CLI ID	Channel	Port	LED
0/1	Uplink 1	-	-
0/2	Uplink 2	-	-
0/3	Uplink 3	-	-
0/4	Uplink 4	-	-
0/5	1	0	2
0/6	1	1	2
0/7	2	0	3
0/8	2	1	3
0/9	3	0	4
0/10	3	1	4
0/11	4	0	5
0/12	4	1	5
0/13	5	0	6
0/14	5	1	6
0/15	6	0	7
0/16	7	0	8
0/17	8	0	9
0/18	9	0	10
0/19	10	0	11
0/20	11	0	12
0/21	12	0	13
0/22	13	0	14
0/23	14	0	15
0/24	15	0	16
0/25	10 GbE Uplink (optional)	-	-
0/26	10 GbE Uplink (optional)	-	-
0/27	10 GbE Uplink (optional)	-	-
0/28	10 GbE Uplink (optional)	-	-

J37 - Serial Port (RJ-45)

1 RTS	5 GND
2 DTR	6 RXD
3 TXD	7 DSR
4 GND	8 CTS



J20 - ATCA 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)+(N.C.)	GND	Tx4(UP)-(N.C.)	Rx4(UP)+(N.C.)	GND	Rx4(UP)-(N.C.)	CLK3A+	GND	CLK3A-	CLK3B+	GND	CLK3B-
3 Tx2(UP)+(N.C.)	GND	Tx2(UP)-(N.C.)	Rx2(UP)+	GND	Rx2(UP)-	Tx3(UP)+	GND	Tx3(UP)-	Rx3(UP)+(N.C.)	GND	Rx3(UP)-(N.C.)
4 Tx0(UP)+	GND	Tx0(UP)-	Rx0(UP)+	GND	Rx0(UP)-	Tx1(UP)+	GND	Tx1(UP)-	Rx1(UP)+	GND	Rx1(UP)-
5 Tx2[15]+	GND	Tx2[15]-	Rx2[15]+	GND	Rx2[15]-	Tx3[15]+	GND	Tx3[15]-	Rx3[15]+	GND	Rx3[15]-
6 Tx0[15]+	GND	Tx0[15]-	Rx0[15]+	GND	Rx0[15]-	Tx1[15]+	GND	Tx1[15]-	Rx1[15]+	GND	Rx1[15]-
7 Tx2[14]+	GND	Tx2[14]-	Rx2[14]+	GND	Rx2[14]-	Tx3[14]+	GND	Tx3[14]-	Rx3[14]+	GND	Rx3[14]-
8 Tx0[14]+	GND	Tx0[14]-	Rx0[14]+	GND	Rx0[14]-	Tx1[14]+	GND	Tx1[14]-	Rx1[14]+	GND	Rx1[14]-
9 Tx2[13]+	GND	Tx2[13]-	Rx2[13]+	GND	Rx2[13]-	Tx3[13]+	GND	Tx3[13]-	Rx3[13]+	GND	Rx3[13]-
10 Tx0[13]+	GND	Tx0[13]-	Rx0[13]+	GND	Rx0[13]-	Tx1[13]+	GND	Tx1[13]-	Rx1[13]+	GND	Rx1[13]-

J21 - ATCA Zone 2

ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1 Tx2[12]+	GND	Tx2[12]-	Rx2[12]+	GND	Rx2[12]-	Tx3[12]+	GND	Tx3[12]-	Rx3[12]+	GND	Rx3[12]-
2 Tx0[12]+	GND	Tx0[12]-	Rx0[12]+	GND	Rx0[12]-	Tx1[12]+	GND	Tx1[12]-	Rx1[12]+	GND	Rx1[12]-
3 Tx2[11]+	GND	Tx2[11]-	Rx2[11]+	GND	Rx2[11]-	Tx3[11]+	GND	Tx3[11]-	Rx3[11]+	GND	Rx3[11]-
4 Tx0[11]+	GND	Tx0[11]-	Rx0[11]+	GND	Rx0[11]-	Tx1[11]+	GND	Tx1[11]-	Rx1[11]+	GND	Rx1[11]-
5 Tx2[10]+	GND	Tx2[10]-	Rx2[10]+	GND	Rx2[10]-	Tx3[10]+	GND	Tx3[10]-	Rx3[10]+	GND	Rx3[10]-
6 Tx0[10]+	GND	Tx0[10]-	Rx0[10]+	GND	Rx0[10]-	Tx1[10]+	GND	Tx1[10]-	Rx1[10]+	GND	Rx1[10]-
7 Tx2[9]+	GND	Tx2[9]-	Rx2[9]+	GND	Rx2[9]-	Tx3[9]+	GND	Tx3[9]-	Rx3[9]+	GND	Rx3[9]-
8 Tx0[9]+	GND	Tx0[9]-	Rx0[9]+	GND	Rx0[9]-	Tx1[9]+	GND	Tx1[9]-	Rx1[9]+	GND	Rx1[9]-
9 Tx2[8]+	GND	Tx2[8]-	Rx2[8]+	GND	Rx2[8]-	Tx3[8]+	GND	Tx3[8]-	Rx3[8]+	GND	Rx3[8]-
10 Tx0[8]+	GND	Tx0[8]-	Rx0[8]+	GND	Rx0[8]-	Tx1[8]+	GND	Tx1[8]-	Rx1[8]+	GND	Rx1[8]-

J23 - ATCA 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_SMCA_Tx1+	GND	BI_SMCA_Tx1-	BI_SMCA_Rx1+	GND	BI_SMCA_Rx1-	BI_SMCB_Tx2+	GND	BI_SMCB_Tx2-	BI_SMCB_Rx2+	GND	BI_SMCB_Rx2-
6 BI_DA2+	GND	BI_DA2-	BI_DB2+	GND	BI_DB2-	BI_DC2+	GND	BI_DC2-	BI_DD2+	GND	BI_DD2-
7 BI_DA3+	GND	BI_DA3-	BI_DB3+	GND	BI_DB3-	BI_DC3+	GND	BI_DC3-	BI_DD3+	GND	BI_DD3-
8 BI_DA4+	GND	BI_DA4-	BI_DB4+	GND	BI_DB4-	BI_DC4+	GND	BI_DC4-	BI_DD4+	GND	BI_DD4-
9 BI_DA5+	GND	BI_DA5-	BI_DB5+	GND	BI_DB5-	BI_DC5+	GND	BI_DC5-	BI_DD5+	GND	BI_DD5-
10 BI_DA6+	GND	BI_DA6-	BI_DB6+	GND	BI_DB6-	BI_DC6+	GND	BI_DC6-	BI_DD6+	GND	BI_DD6-

J30 - ATCA Zone 3 (RTM Connector)

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.	N.C.	GND	N.C.	STOR0_RX-	GND	STOR0_RX+
2 PROD_I00	GND	PROD_I01	N.C.	GND	N.C.	N.C.	GND	N.C.	STOR0_TX-	GND	STOR0_TX+
3 12V	GND	3.3V_SUS	SMB_SCL	GND	SMB_SDA	N.C.	GND	N.C.	STOR1_RX-	GND	STOR1_RX+
4 PROD_I02	GND	PLD_DOUT	GND	PLD_DIN	N.C.	GND	N.C.	N.C.	STOR1_TX-	GND	STOR1_TX+
5 JTAG_TDO	GND	TEST_JIG#	N.C.	GND	PROD_I03	N.C.	GND	N.C.	N.C.	GND	N.C.
6 JTAG_TDI	GND	12V	N.C.	GND	N.C.	N.C.	GND	+12V	N.C.	GND	N.C.
7 JTAG_TCK	GND	PROD_I04	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
8 JTAG_TMS	GND	JTAG_TRST#	N.C.	GND	N.C.	N.C.	GND	SMB_ALERT#	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.

J22 - ATCA Zone 2

ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1 Tx2[7]+	GND	Tx2[7]-	Rx2[7]+	GND	Rx2[7]-	Tx3[7]+	GND	Tx3[7]-	Rx3[7]+	GND	Rx3[7]-
2 Tx0[7]+	GND	Tx0[7]-	Rx0[7]+	GND	Rx0[7]-	Tx1[7]+	GND	Tx1[7]-	Rx1[7]+	GND	Rx1[7]-
3 Tx2[6]+	GND	Tx2[6]-	Rx2[6]+	GND	Rx2[6]-	Tx3[6]+	GND	Tx3[6]-	Rx3[6]+	GND	Rx3[6]-
4 Tx0[6]+	GND	Tx0[6]-	Rx0[6]+	GND	Rx0[6]-	Tx1[6]+	GND	Tx1[6]-	Rx1[6]+	GND	Rx1[6]-
5 Tx2[5]+	GND	Tx2[5]-	Rx2[5]+	GND	Rx2[5]-	Tx3[5]+	GND	Tx3[5]-	Rx3[5]+	GND	Rx3[5]-
6 Tx0[5]+	GND	Tx0[5]-	Rx0[5]+	GND	Rx0[5]-	Tx1[5]+	GND	Tx1[5]-	Rx1[5]+	GND	Rx1[5]-
7 Tx2[4]+	GND	Tx2[4]-	Rx2[4]+	GND	Rx2[4]-	Tx3[4]+	GND	Tx3[4]-	Rx3[4]+	GND	Rx3[4]-
8 Tx0[4]+	GND	Tx0[4]-	Rx0[4]+	GND	Rx0[4]-	Tx1[4]+	GND	Tx1[4]-	Rx1[4]+	GND	Rx1[4]-
9 Tx2[3]+	GND	Tx2[3]-	Rx2[3]+	GND	Rx2[3]-	Tx3[3]+	GND	Tx3[3]-	Rx3[3]+	GND	Rx3[3]-
10 Tx0[3]+	GND	Tx0[3]-	Rx0[3]+	GND	Rx0[3]-	Tx1[3]+	GND	Tx1[3]-	Rx1[3]+	GND	Rx1[3]-

J24 - ATCA Zone 2

ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1 BI_DA7+	GND	BI_DA7-	BI_DB7+	GND	BI_DB7-	BI_DC7+	GND	BI_DC7-	BI_DD7+	GND	BI_DD7-
2 BI_DA8+	GND	BI_DA8-	BI_DB8+	GND	BI_DB8-	BI_DC8+	GND	BI_DC8-	BI_DD8+	GND	BI_DD8-
3 BI_DA9+	GND	BI_DA9-	BI_DB9+	GND	BI_DB9-	BI_DC9+	GND	BI_DC9-	BI_DD9+	GND	BI_DD9-
4 BI_DA10+	GND	BI_DA10-	BI_DB10+	GND	BI_DB10-	BI_DC10+	GND	BI_DC10-	BI_DD10+	GND	BI_DD10-
5 BI_DA11+	GND	BI_DA11-	BI_DB11+	GND	BI_DB11-	BI_DC11+	GND	BI_DC11-	BI_DD11+	GND	BI_DD11-
6 BI_DA12+	GND	BI_DA12-	BI_DB12+	GND	BI_DB12-	BI_DC12+	GND	BI_DC12-	BI_DD12+	GND	BI_DD12-
7 BI_DA13+	GND	BI_DA13-	BI_DB13+	GND	BI_DB13-	BI_DC13+	GND	BI_DC13-	BI_DD13+	GND	BI_DD13-
8 BI_DA14+	GND	BI_DA14-	BI_DB14+	GND	BI_DB14-	BI_DC14+	GND	BI_DC14-	BI_DD14+	GND	BI_DD14-
9 BI_DA15+	GND	BI_DA15-	BI_DB15+	GND	BI_DB15-	BI_DC15+	GND	BI_DC15-	BI_DD15+	GND	BI_DD15-
10 BI_DA16+	GND	BI_DA16-	BI_DB16+	GND	BI_DB16-	BI_DC16+	GND	BI_DC16-	BI_DD16+	GND	BI_DD16-

J31 - ATCA Zone 3 (RTM Connector)

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.	N.C.	GND	N.C.	N.C.	GND	N.C.
2 N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
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+		