

AT8901M

AdvancedTCA Hub Board with
Base Interface and 2 mid-size AMC Slots



Board Rev. 0

QUICK REFERENCE

Document version 1.1

CONNECTORS

J5	AMC B1	J20	ATCA Zone 2
J12	AMC B2	J21	ATCA Zone 2
J42	Ethernet Management	J22	ATCA Zone 2
J42	Serial Port	J23	ATCA Zone 2
J38-J41	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)	J14, J34, J35	Reserved

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

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

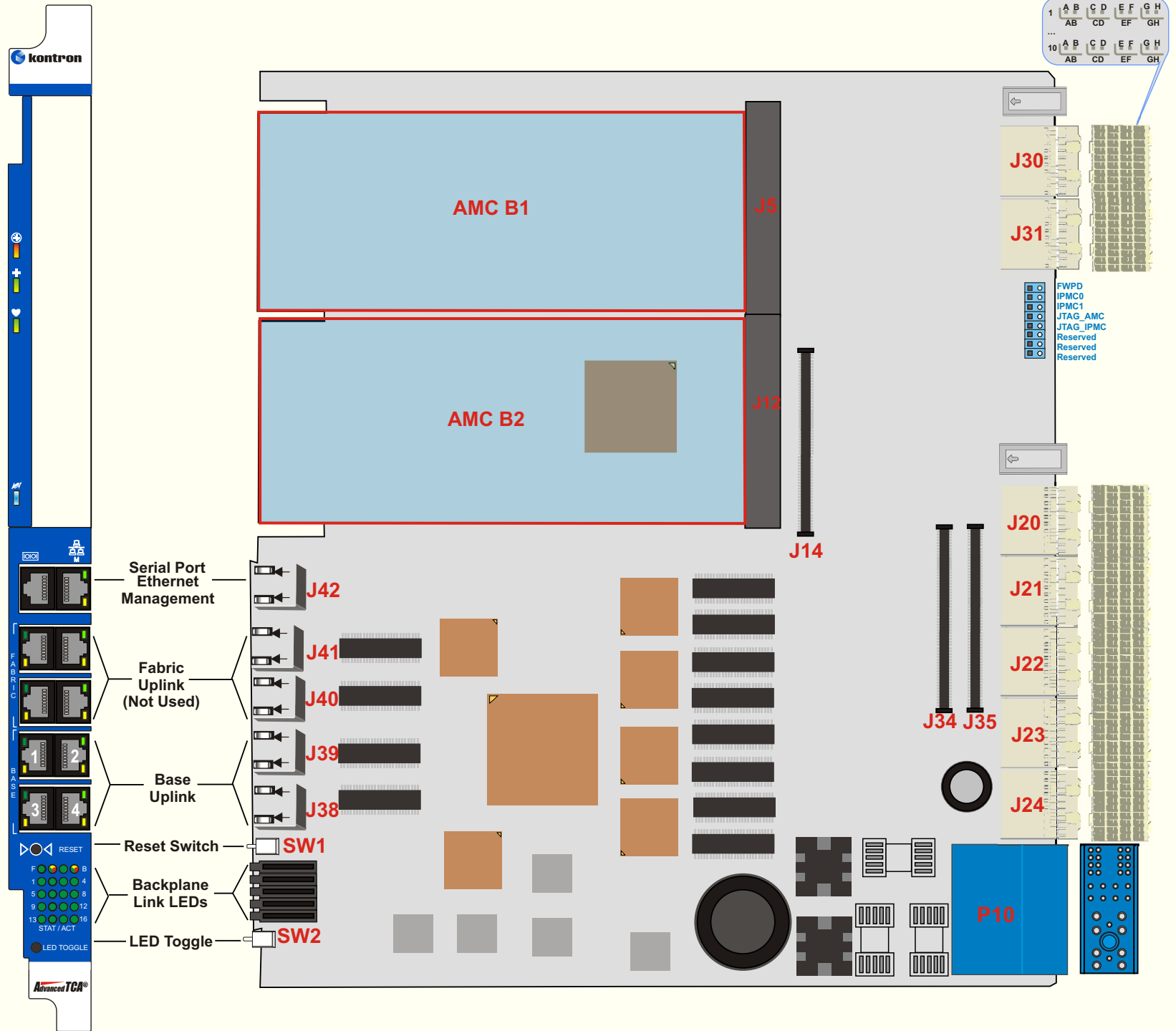
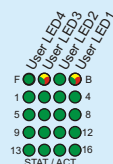
User LEDs

User LED4
● Not Used

User LED3
● Not Used

User LED2
● Base Switch LEDs selected

User LED1
● Operational
● Initiation
● Base Switch Error



Connector Pinouts

AT8901M

Board Rev. 0

Document version 1.1

J42 - 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.

J38-J41 - 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

J42 - 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.)	GND	Rx4(UP)+	(N.C.)	GND	Rx4(UP)+	(N.C.)	GND
3 Tx2(UP)+	(N.C.)	GND	Tx2(UP)+	(N.C.)	GND	Rx2(UP)+	(N.C.)	GND	Rx2(UP)+	(N.C.)	GND
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.	STOR1_RX-	GND	STOR1_RX+
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	PLD_CLK	GND	PLD_DIN	N.C.	GND	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.

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	-
5	Fabric	-
6	Fabric	-
7	Fabric	-
8	Fabric	-
9	Fabric	-
10	Fabric	-
11	Fabric	-
12	Extended	-
13	Extended	RTM, AMC B1_P13
14	Extended	RTM, AMC B1_P14
15	Extended	RTM, AMC B1_P15
17	Extended	RTM, AMC B1_P17
18	Extended	RTM, AMC B1_P18
19	Extended	RTM, AMC B1_P19
20	Extended	RTM, AMC B1_P20
TCLKA	Clock	From Backplane CLK3A
TCLKB	Clock	To Backplane CLK2A or CLK3B
TCLKC	Clock	From Backplane CLK3B
TCLKD	Clock	To Backplane CLK1A or CLK1B
FCLKA	Clock	Fabric Mezzanine Ref. Clock

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	-
5	Fabric	-
6	Fabric	-
7	Fabric	-
8	Fabric	-
9	Fabric	-
10	Fabric	-
11	Fabric	-
12	Extended	-
13	Extended	-
14	Extended	-
15	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
TCLKA	Clock	From Backplane CLK3A
TCLKB	Clock	To Backplane CLK2A or CLK3B
TCLKC	Clock	From Backplane CLK3B
TCLKD	Clock	To Backplane CLK1A or CLK1B
FCLKA	Clock	Fabric Mezzanine Ref. Clock

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

J5, J12 - AMC B1 & AMC B2

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 TLKC-
B8 RSV	B50 RxD5+	B93 TxD9-	B136 TLKC+
B9 12V	B51 RxD5-	B94 TxD9+	B137 GND
B10 GND	B52 GND	B95 GND	B138 TLCKD-
B11 RxD0+	B53 TxD5+	B96 RxD9-	B139 TLCKD+
B12 RxD0-	B54 TxD5-	B97 TxD9+	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-(N.C.)	B157 RxD19+
B30 RxD2-	B72 12V	B115 RxD12+(N.C.)	B158 GND
B31 GND	B73 GND	B116 GND	B159 TxD20-
B32 TxD2+	B74 TCLKA+	B117 TxD13-	B160 TxD20+
B33 TxD2-	B75 TCLKA-	B118 TxD13+	B161 GND
B34 GND	B76 GND	B119 GND	B162 RxD20-
B35 RxD3+	B77 TCLKB+	B120 RxD13-	B163 RxD20+
B36 RxD3-	B78 TCLKB-	B121 RxD13+	B164 GND
B37 GND	B79 GND	B122 GND	B165 TCK
B38 TxD3+	B80 FCLKA+	B123 TxD14-	B166 TMS
B39 TxD3-	B81 FCLKA-	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	

The Technical Reference Manual and the Quick Reference can be downloaded from Kontron Web site at: <http://www.kontron.com>

For Technical Support please contact:

North America / Asia - Pacific

- E-Mail : support@ca.kontron.com
- Tel : (800) 354-4223
- Fax : (450) 437-8053

EMEA

- E-Mail : support-kom@kontron.com
- Tel : +49-8341-803-333
- Fax : +49-8341-803-339

1016-5359