

AT8010

ATCA SHB, single Intel Xeon, Dual AMC
with Front Panel Gigabit Ethernet



Board Rev. 2

QUICK REFERENCE

Document version 1.0

CONNECTORS

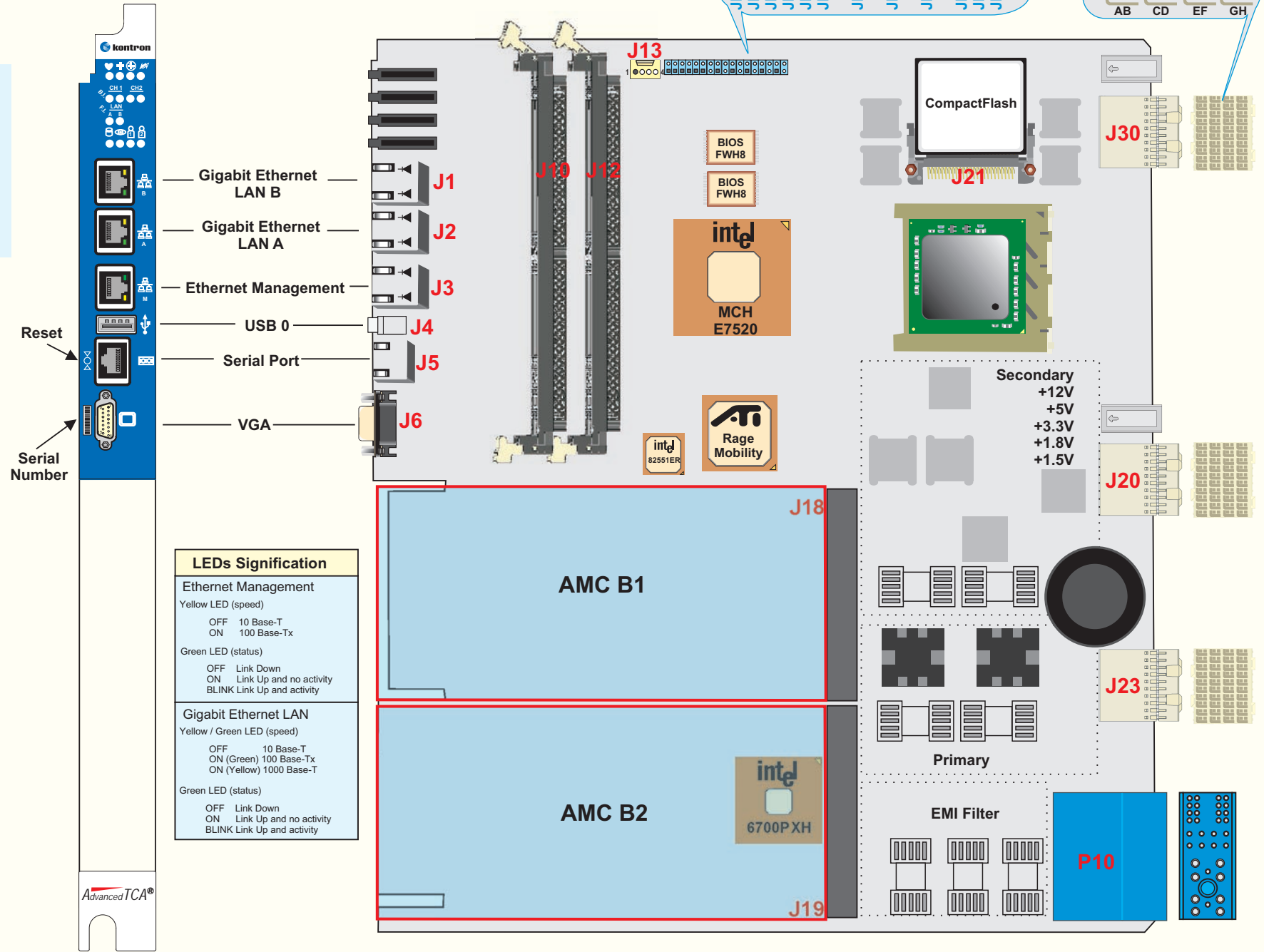
| | | | |
|-----|------------------------------|-----|------------------------------|
| J1 | Gigabit Ethernet LAN B | J13 | POST Code Connector |
| J2 | Gigabit Ethernet LAN A | J18 | AMC B1 |
| J3 | Ethernet Management | J19 | AMC B2 |
| J4 | USB 0 | J20 | ATCA Telco Clock |
| J5 | Serial Port 0 (COM1) (RJ-45) | J21 | CompactFlash |
| J6 | VGA | J23 | ATCA Base & Fabric Interface |
| J10 | Memory Socket DDRII-400 | J30 | ATCA RTM Connector |
| J12 | Memory Socket DDRII-400 | P10 | ATCA Power |

JUMPER SETTINGS (● Default Setting)

| | | | |
|--------------------------------|-----|---------------------------------|-----|
| JP1 - Spare Jumper | | JP7(3-4) - IPMI Override | |
| ● Spare Jumper | in | Always On | in |
| JP2 - Clear CMOS | | ● Normal Mode | out |
| Clear CMOS | in | JP8 - FPGA Config | |
| ● Normal | out | ● User PROM | 1-2 |
| JP3 - VT100 Mode | | Factory PROM | 3-4 |
| Enabled | in | JP9 - Reserved | |
| ● Disabled | out | ● Reserved | out |
| JP4 - Video | | JP10 - Test Mode | |
| Disable Video | in | Test Mode | in |
| ● Normal | out | ● Normal Mode | out |
| JP5 - Video Position | | JP11 - Reserved | |
| ● Front | in | Reserved | in |
| Rear | out | ● Reserved | out |
| JP6 - Override Function | | JP12 - Reserved | |
| ShMC Activation Override | 1-2 | ● Reserved | out |
| AMC Activation Override | 3-4 | | |
| JP7(1-2) - Postcode | | | |
| Postcode to IPMC | in | | |
| ● Postcode to BIOS | out | | |

Symbols Chart

| | |
|-------------------------|--------------|
| ⊕ Out Of Service | ⊕ Healthy |
| 🔥 Hot Swap | ♥ Heart Beat |
| 💾 Hard Disk Activity | 👤 User Led |
| 👁 Management Led (IPMC) | 🔌 USB |
| 📺 VGA | 🌐 Ethernet |
| 🖨 Serial Port | |



LEDs Signification

| | |
|-----------------------------|---|
| Ethernet Management | |
| Yellow LED (speed) | OFF 10 Base-T ON 100 Base-Tx |
| Green LED (status) | OFF Link Down ON Link Up and no activity BLINK Link Up and activity |
| Gigabit Ethernet LAN | |
| Yellow / Green LED (speed) | OFF 10 Base-T ON (Green) 100 Base-Tx ON (Yellow) 1000 Base-T |
| Green LED (status) | OFF Link Down ON Link Up and no activity BLINK Link Up and activity |



Connector Pinouts

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J1, J2 - Ethernet

| 10/100/1000 LAN B, LAN A | | | |
|--------------------------|-----|---|-----|
| 1 | DA+ | 5 | DC- |
| 2 | DA- | 6 | DB- |
| 3 | DB+ | 7 | DD+ |
| 4 | DC+ | 8 | DD- |

J3 - Ethernet

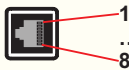
| 10/100 Management LAN M | | | |
|-------------------------|------|---|------|
| 1 | TX+ | 5 | N.C. |
| 2 | TX- | 6 | RX- |
| 3 | RX+ | 7 | N.C. |
| 4 | N.C. | 8 | N.C. |

J4 - USB PORT

| | |
|---|--------|
| 1 | VCC |
| 2 | DATA - |
| 3 | DATA+ |
| 4 | GND |

J5 - RS-232

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



J13 - POST CODE

| | |
|---|-------|
| 1 | VCC3 |
| 2 | DATA |
| 3 | CLOCK |
| 4 | GND |

J6 - Video (SVGA)

| Row 1 (1-8) | | Row 2 (9-15) | |
|-------------|-------|--------------|-------|
| 1 | RED | 9 | N.C. |
| 2 | GREEN | 10 | GND |
| 3 | BLUE | 11 | N.C. |
| 4 | N.C. | 12 | SDATA |
| 5-8 | GND | 13 | HSYNC |
| | | 14 | VSYNC |
| | | 15 | SCLK |

P10 - Power

| | | | |
|----|----------------|----|----------------|
| 1 | N.P. | 2 | N.P. |
| 3 | N.P. | 4 | N.P. |
| 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 |

J21 - COMPACT FLASH

| | | | |
|----|---------------|----|---------------|
| 1 | GND | 2 | DD3 |
| 3 | DD4 | 4 | DD5 |
| 5 | DD6 | 6 | DD7 |
| 7 | CS0# | 8 | GND |
| 9 | ATA_SEL#(GND) | 10 | GND |
| 11 | GND | 12 | GND |
| 13 | VCC3 | 14 | GND |
| 15 | GND | 16 | GND |
| 17 | GND | 18 | DA2 |
| 19 | DA1 | 20 | DA0 |
| 21 | DD0 | 22 | DD1 |
| 23 | DD2 | 24 | IOCS16#(N.C.) |
| 25 | CD2#(N.C.) | 26 | CD1#(N.C.) |
| 27 | DD11 | 28 | DD12 |
| 29 | DD13 | 30 | DD14 |
| 31 | DD15 | 32 | CS1# |
| 33 | VS1#(N.C.) | 34 | DIOR# |
| 35 | DIOW# | 36 | WE#(VCC3) |
| 37 | INTRQ | 38 | VCC3 |
| 39 | CSEL#(GND) | 40 | VS2#(N.C.) |
| 41 | RESET# | 42 | IORDY |
| 43 | DMARQ | 44 | DMACK# |
| 45 | DASP# | 46 | PDIAG# |
| 47 | DD8 | 48 | DD9 |
| 49 | DD10 | 50 | GND |

J30 - ATCA I/O

| | ROW A | AB | ROW B | ROW C | CD | ROW D | ROW E | EF | ROW F | ROW G | GH | ROW H |
|----|----------------|-----|------------------|------------|-----|------------|---------------|-----|---------------|-----------------|-----|-----------------|
| 1 | USB1_VCC(N.C.) | GND | USB0_VCC | PS2_CLK | GND | PS2_DAT | LAN_DA- | GND | LAN_DA+ | SATA0_RX-(N.C.) | GND | SATA0_RX+(N.C.) |
| 2 | BRD_RESET# | GND | TEST_SPKR# | KBD_CLK | GND | KBD_DAT | LAN_DB- | GND | LAN_DB+ | SATA0_TX-(N.C.) | GND | SATA0_TX+(N.C.) |
| 3 | +5V | GND | 3.3V_SUS | SMB_SCL | GND | SMB_SDA | LAN_DC-(N.C.) | GND | LAN_DC+(N.C.) | SATA1_RX-(N.C.) | GND | SATA1_RX+(N.C.) |
| 4 | JTAG_CFG(N.C.) | GND | TEST_ON# | POST_CLK | GND | POST_DAT | LAN_DD-(N.C.) | GND | LAN_DD+(N.C.) | SATA1_TX-(N.C.) | GND | SATA1_TX+(N.C.) |
| 5 | JTAG_TDO | GND | TEST_JIG# | LPC_CLK | GND | LPC_HINIT# | LAN_SPD | GND | LAN_ACTL# | SATA2_RX-(N.C.) | GND | SATA2_RX+(N.C.) |
| 6 | JTAG_TDI | GND | 3.3V | LPC_FRAME# | GND | LPC_RESET# | LAN_CT (GND) | GND | +12V | SATA2_TX-(N.C.) | GND | SATA2_TX+(N.C.) |
| 7 | JTAG_TCK | GND | TEST_FWH | LPC_AD2 | GND | LCP_AD3 | VGA_SCL | GND | VGA_SDA | SATA3_RX-(N.C.) | GND | SATA3_RX+(N.C.) |
| 8 | JTAG_TMS | GND | JTAG_TRST#(N.C.) | LPC_AD0 | GND | LPC_AD1 | VGA_BLUE | GND | SMB_ALERT# | SATA3_TX-(N.C.) | GND | SATA3_TX+(N.C.) |
| 9 | SP0_RI | GND | SP0_DTR | SP0_CTS | GND | SP0_TX# | VGA_GREEN | GND | VGA_VSYNC | USB0_D- | GND | USB0_D+ |
| 10 | SP0_RTS | GND | SP0_RX# | SP0_DSR | GND | SP0_DCD | VGA_RED | GND | VGA_HSYNC | USB1_D-(N.C.) | GND | USB1_D+(N.C.) |

J20 - Telco Clock

| | 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)+(N.C.) | GND | Rx2(UP)-(N.C.) | Tx3(UP)+(N.C.) | GND | Tx3(UP)-(N.C.) | Rx3(UP)+(N.C.) | GND | Rx3(UP)-(N.C.) |
| 4 | Tx0(UP)+(N.C.) | GND | Tx0(UP)-(N.C.) | Rx0(UP)+(N.C.) | GND | Rx0(UP)-(N.C.) | Tx1(UP)+(N.C.) | GND | Tx1(UP)-(N.C.) | Rx1(UP)+(N.C.) | GND | Rx1(UP)-(N.C.) |
| 5 | Tx2[15]+(N.C.) | GND | Tx2[15]-(N.C.) | Rx2[15]+(N.C.) | GND | Rx2[15]-(N.C.) | Tx3[15]+(N.C.) | GND | Tx3[15]-(N.C.) | Rx3[15]+(N.C.) | GND | Rx3[15]-(N.C.) |
| 6 | Tx0[15]+(N.C.) | GND | Tx0[15]-(N.C.) | Rx0[15]+(N.C.) | GND | Rx0[15]-(N.C.) | Tx1[15]+(N.C.) | GND | Tx1[15]-(N.C.) | Rx1[15]+(N.C.) | GND | Rx1[15]-(N.C.) |
| 7 | Tx2[14]+(N.C.) | GND | Tx2[14]-(N.C.) | Rx2[14]+(N.C.) | GND | Rx2[14]-(N.C.) | Tx3[14]+(N.C.) | GND | Tx3[14]-(N.C.) | Rx3[14]+(N.C.) | GND | Rx3[14]-(N.C.) |
| 8 | Tx0[14]+(N.C.) | GND | Tx0[14]-(N.C.) | Rx0[14]+(N.C.) | GND | Rx0[14]-(N.C.) | Tx1[14]+(N.C.) | GND | Tx1[14]-(N.C.) | Rx1[14]+(N.C.) | GND | Rx1[14]-(N.C.) |
| 9 | Tx2[13]+(N.C.) | GND | Tx2[13]-(N.C.) | Rx2[13]+(N.C.) | GND | Rx2[13]-(N.C.) | Tx3[13]+(N.C.) | GND | Tx3[13]-(N.C.) | Rx3[13]+(N.C.) | GND | Rx3[13]-(N.C.) |
| 10 | Tx0[13]+(N.C.) | GND | Tx0[13]-(N.C.) | Rx0[13]+(N.C.) | GND | Rx0[13]-(N.C.) | Tx1[13]+(N.C.) | GND | Tx1[13]-(N.C.) | Rx1[13]+(N.C.) | GND | Rx1[13]-(N.C.) |

J23 - ATCA I/O ATCA 3.1

| | ROW A | AB | ROW B | ROW C | CD | ROW D | ROW E | EF | ROW F | ROW G | GH | ROW H |
|----|---------------|-----|---------------|---------------|-----|---------------|---------|-----|---------|---------|-----|---------|
| 1 | Tx2[2]+(N.C.) | GND | Tx2[2]-(N.C.) | Rx2[2]+(N.U.) | GND | Rx2[2]-(N.U.) | 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]+(N.C.) | GND | Tx2[1]-(N.C.) | Rx2[1]+(N.U.) | GND | Rx2[1]-(N.U.) | 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 | RSV | GND | RSV | RSV | GND | RSV | RSV | GND | RSV | RSV | GND | RSV |
| 8 | RSV | GND | RSV | RSV | GND | RSV | RSV | GND | RSV | RSV | GND | RSV |
| 9 | RSV | GND | RSV | RSV | GND | RSV | RSV | GND | RSV | RSV | GND | RSV |
| 10 | RSV | GND | RSV | RSV | GND | RSV | RSV | GND | RSV | RSV | GND | RSV |

N.C. = Not Connected
 N.P. = Not Populated
 N.U. = Not Used
 RSV = Reserved
 # = Active Low

LAN LED Speed:
 Off: 10Mb
 Green: 100Mb
 Amber: 1000Mb

For Technical Support please contact:
 1. Internet : www.kontron.com
 2. E-Mail : support@ca.kontron.com
 3. Fax : (450) 437-8053
 4. Tel : (800) 354-4223

J18, J19 - AMC B1 & AMC B2

| | | | | | | | |
|-----|-------------|-----|------------|------|--------------|------|--------------|
| B1 | GND | B43 | GND | B86 | GND | B129 | TxD15-(N.C.) |
| B2 | 12V | B44 | RxD4+ | B87 | TxD8- | B130 | TxD15+(N.C.) |
| B3 | PS1# | B45 | RxD4- | B88 | TxD8+ | B131 | GND |
| B4 | MP_3V3 | B46 | GND | B89 | GND | B132 | RxD15-(N.C.) |
| B5 | GA0 | B47 | TxD4+ | B90 | RxD8- | B133 | RxD15+(N.C.) |
| B6 | RSV | B48 | TxD4- | B91 | RxD8+ | B134 | GND |
| B7 | GND | B49 | GND | B92 | GND | B135 | TxD16-(N.C.) |
| B8 | RSV | B50 | RxD5+ | B93 | TxD9- | B136 | TxD16+(N.C.) |
| B9 | 12V | B51 | RxD5- | B94 | TxD9+ | B137 | GND |
| B10 | GND | B52 | GND | B95 | GND | B138 | RxD16-(N.C.) |
| B11 | RxD0+ | B53 | TxD5+ | B96 | RxD9- | B139 | RxD16+(N.C.) |
| B12 | RxD0- | B54 | TxD5- | B97 | RxD9+ | B140 | GND |
| B13 | GND | B55 | GND | B98 | GND | B141 | TxD17-(N.C.) |
| B14 | TxD0+ | B56 | IPMB-L-SCL | B99 | TxD10- | B142 | TxD17+(N.C.) |
| B15 | TxD0- | B57 | 12V | B100 | TxD10+ | B143 | GND |
| B16 | GND | B58 | GND | B101 | GND | B144 | RxD17-(N.C.) |
| B17 | GA1 | B59 | RxD6+ | B102 | RxD10- | B145 | RxD17+(N.C.) |
| B18 | 12V | B60 | RxD6- | B103 | RxD10+ | B146 | GND |
| B19 | GND | B61 | GND | B104 | GND | B147 | TxD18-(N.C.) |
| B20 | RxD1+ | B62 | TxD6+ | B105 | TxD11- | B148 | TxD18+(N.C.) |
| B21 | RxD1- | B63 | TxD6- | B106 | TxD11+ | B149 | GND |
| B22 | GND | B64 | GND | B107 | GND | B150 | RxD18-(N.C.) |
| B23 | TxD1+ | B65 | RxD7+ | B108 | RxD11- | B151 | RxD18+(N.C.) |
| B24 | TxD1- | B66 | RxD7- | B109 | RxD11+ | B152 | GND |
| B25 | GND | B67 | GND | B110 | GND | B153 | TxD19-(N.C.) |
| B26 | GA2 | B68 | TxD7+ | B111 | TxD12- | B154 | TxD19+(N.C.) |
| B27 | 12V | B69 | TxD7- | B112 | TxD12+ | B155 | GND |
| B28 | GND | B70 | GND | B113 | GND | B156 | RxD19-(N.C.) |
| B29 | RxD2+ | B71 | IPMB_SDA | B114 | RxD12- | B157 | RxD19+(N.C.) |
| B30 | RxD2- | B72 | 12V | B115 | RxD12+ | B158 | GND |
| B31 | GND | B73 | GND | B116 | GND | B159 | TxD20-(N.C.) |
| B32 | TxD2+ | B74 | CLK1+ | B117 | TxD13-(N.C.) | B160 | TxD20+(N.C.) |
| B33 | TxD2- | B75 | CLK1- | B118 | TxD13+(N.C.) | B161 | GND |
| B34 | GND | B76 | GND | B119 | GND | B162 | RxD20-(N.C.) |
| B35 | RxD3+(N.C.) | B77 | CLK2+ | B120 | RxD13-(N.C.) | B163 | RxD20+(N.C.) |
| B36 | RxD3-(N.C.) | B78 | CLK2- | B121 | RxD13+(N.C.) | B164 | GND |
| B37 | GND | B79 | GND | B122 | GND | B165 | TCLK(N.U.) |
| B38 | TxD3+(N.C.) | B80 | CLK3+ | B123 | TxD14-(N.C.) | B166 | TMS(N.U.) |
| B39 | TxD3-(N.C.) | B81 | CLK3- | B124 | TxD14+(N.C.) | B167 | TRST#(N.U.) |
| B40 | GND | B82 | GND | B125 | GND | B168 | TDO(N.U.) |
| B41 | ENABLE# | B83 | PS0#(GND) | B126 | RxD14-(N.C.) | B169 | TDI(N.U.) |
| B42 | 12V | B84 | 12V | B127 | RxD14+(N.C.) | 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>
 Or from Kontron FTP site at:
<ftp://ftp.kontron.ca/Support/>