# ePCI-102

Half Size SHB Based on VIA Eden

kontron ... always a Jump ahead!

Board Rev. 1

## QUICK REFERENCE

Document version 1.2

### Ethernet Connector

**AMBER: Activity** Lights ON while transferring

**Green : Integrity** Lights ON when the link is established

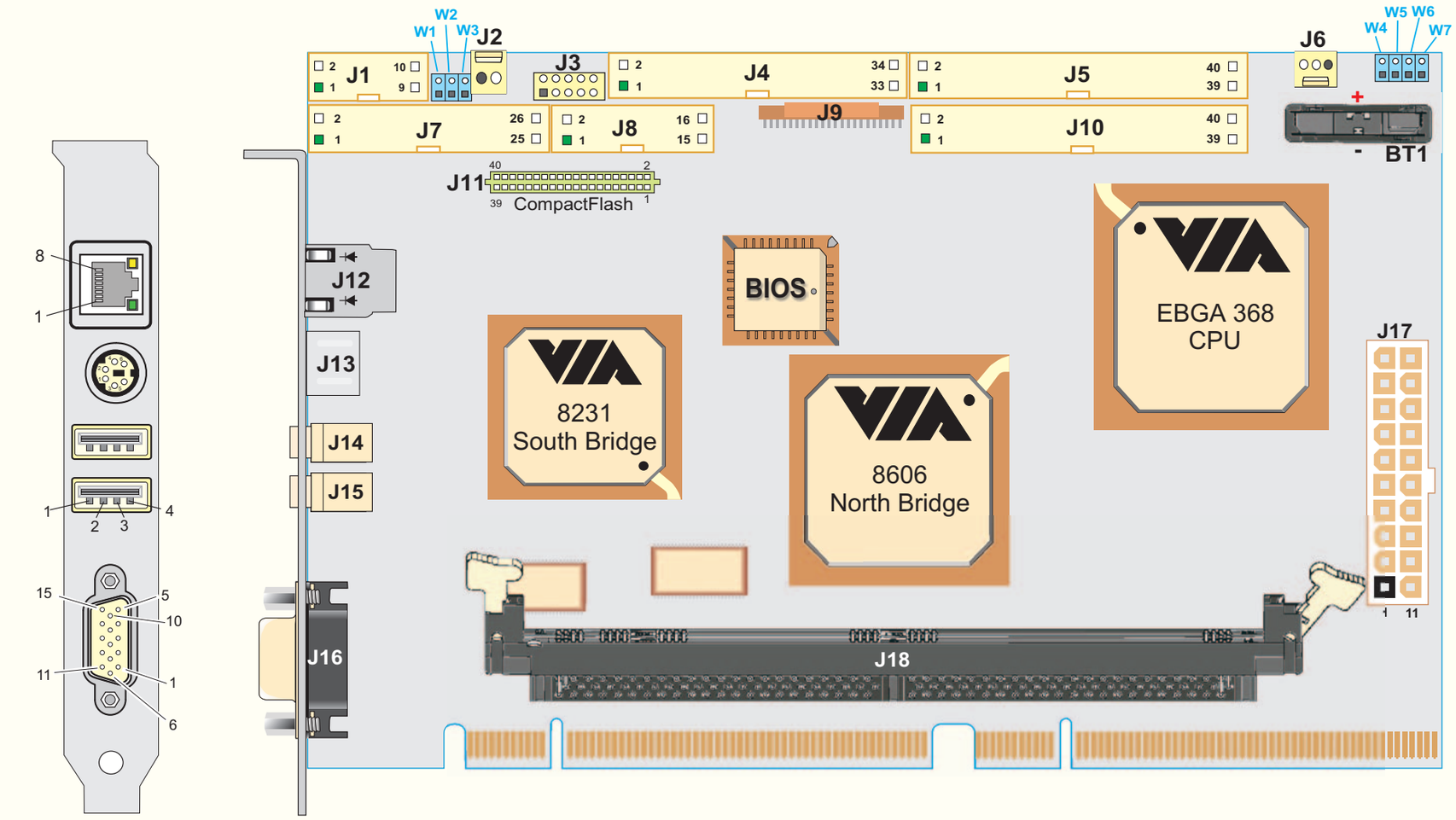
## Connectors

| | | | |
|---|---|---|---|
| J1 | Serial Port 1 | J10 | EIDE - Secondary |
| J2 | Power Button | J11 | CompactFlash Disk |
| J3 | USB 2 & 3 Header | J12 | Ethernet 1 |
| J4 | Floppy | J13 | PS2 Keyboard/Mouse |
| J5 | EIDE - Primary | J14 | USB 1 |
| J6 | CPU Fan (Monitored) | J15 | USB 0 |
| J7 | Parallel Port | J16 | VGA |
| J8 | Multifunction | J17 | External ATX Power |
| J9 | JILI | J18 | PC 133 Memory socket |

There is a danger of explosion if the battery is incorrectly replaced.
Replace only with the same or equivalent type.
Dispose of used batteries according to the manufacturer's instructions.

### First Level Debugging

1 . Remove all peripheral boards and keep only the SHB.
2 . Remove all cables from the SHB except the video cable.
3 . Make sure the memory is working well and is properly inserted.




## JUMPER SETTINGS

(* : Default Setting)

| W1, W2 - COM1 Terminations | | |
|---|---|---|
| RS-422/485 modes only | W1 | W2 |
| * Without termination resistors | Off | Off |
| With termination resistors | On | On |

| W3 - Serial IRQ to ePCI | |
|---|---|
| * Not connected | Off |
| Link serial IRQ to P1-B16 | On |

| W4 - Battery Source | |
|---|---|
| * Battery Disconnected | Off |
| Battery Connected | On |

| W5 - Reserved | |
|---|---|
| * Reserved | Off |

| W6 - VT-100 | |
|---|---|
| * Disabled | Off |
| Enabled | On |

| W7 - Compact Flash Disk | |
|---|---|
| Slave | Off |
| Master | On |

| W4 pin 2 & W5 pin 2 - Clear CMOS | | |
|---|---|---|
| Normal | Pin 2 W4 W5 | Off |
| * Clear CMOS | Pin 2 W4 W5 | On |

**NOTE:**
**Before powering up the board, the Clear CMOS Jumper must be removed and use this jumper to set the Battery Source jumper (W4) to ON.**

# Connector Pinouts

## EPCI-102 QR Rev. 1.2 Board Rev. 1

### J1 - Serial Port 1 - RS-232

| | | | |
|---|---|---|---|
| DCD | 1 | 2 | DSR |
| RXD | 3 | 4 | RTS |
| TXD | 5 | 6 | CTS |
| DTR | 7 | 8 | RI |
| GND | 9 | 10 | N.C. |

### J2 - Power-Button

| | |
|---|---|
| 1 | Power on# |
| 2 | GND |

### J3 - USB 2, 3

| | | | |
|---|---|---|---|
| USB2:VCC | 1 | 2 | USB3:VCC |
| USB2:DATA- | 3 | 4 | USB3:DATA- |
| USB2:DATA+ | 5 | 6 | USB3:DATA+ |
| USB2:GND | 7 | 8 | USB3:GND |
| GND | 9 | 10 | GND |

### J4 - Floppy Disk

| | | | |
|---|---|---|---|
| 1 | GND | 2 | DENSEL# |
| 3 | GND | 4 | N.C. |
| 5 | GND | 6 | N.C. |
| 7 | GND | 8 | INDEX# |
| 9 | GND | 10 | MTR0# |
| 11 | GND | 12 | DSEL1# |
| 13 | GND | 14 | DSEL0# |
| 15 | GND | 16 | MTR1# |
| 17 | N.C. | 18 | DIR# |
| 19 | GND | 20 | STEP# |
| 21 | GND | 22 | WDATA# |
| 23 | GND | 24 | WGATE# |
| 25 | GND | 26 | TRK0# |
| 27 | N.C. | 28 | WRPROT# |
| 29 | GND | 30 | RDATA# |
| 31 | GND | 32 | HDSEL# |
| 33 | N.C. | 34 | DSKCHG# |

### J8 - Multifunction

| | | | |
|---|---|---|---|
| KB:CLK | 1 | 2 | GND |
| KB:DATA | 3 | 4 | GND |
| VCC | 5 | 6 | VCC |
| SPEAKER | 7 | 8 | VCC |
| MOUSE:CLK | 9 | 10 | GND |
| MOUSE:DATA | 11 | 12 | GND |
| PBRES# | 13 | 14 | GND |
| IDE:ACT# | 15 | 16 | VCC |

### J1 - Serial Port 1 - RS-422/485

| | | | |
|---|---|---|---|
| RSV | 1 | 2 | RSV |
| RXB | 3 | 4 | RXA |
| TXB | 5 | 6 | TXA |
| RSV | 7 | 8 | RSV |
| GND | 9 | 10 | N.C. |

### J5 - Primary IDE. J10 - Secondary IDE

| | | | |
|---|---|---|---|
| 1 | RST# | 2 | GND |
| 3 | D7 | 4 | D8 |
| 5 | D6 | 6 | D9 |
| 7 | D5 | 8 | D10 |
| 9 | D4 | 10 | D11 |
| 11 | D3 | 12 | D12 |
| 13 | D2 | 14 | D13 |
| 15 | D1 | 16 | D14 |
| 17 | D0 | 18 | D15 |
| 19 | GND | 20 | N.C. |
| 21 | REQ | 22 | GND |
| 23 | IOW# | 24 | GND |
| 25 | IOR# | 26 | GND |
| 27 | IORDY | 28 | PRIMPDI |
| 29 | DACK# | 30 | GND |
| 31 | IRQ | 32 | N.C. |
| 33 | A1 | 34 | DIAG# |
| 35 | A0 | 36 | A2 |
| 37 | CS0# | 38 | CS1# |
| 39 | ACT# | 40 | GND |

### J7 - Parallel Port / Standard

| | | | |
|---|---|---|---|
| 1 | STB# | 2 | ALF# |
| 3 | D0 | 4 | ERR# |
| 5 | D1 | 6 | INIT# |
| 7 | D2 | 8 | SLCTIN# |
| 9 | D3 | 10 | GND |
| 11 | D4 | 12 | GND |
| 13 | D5 | 14 | GND |
| 15 | D6 | 16 | GND |
| 17 | D7 | 18 | GND |
| 19 | ACK# | 20 | GND |
| 21 | BUSY | 22 | GND |
| 23 | PE | 24 | GND |
| 25 | SELECT. | 26 | GND |

### J12 - Ethernet 1

| | | | |
|---|---|---|---|
| 1 | TX+ | 5 | NU [1] |
| 2 | TX- | 6 | RX- |
| 3 | RX+ | 7 | NU [1] |
| 4 | NU [1] | 8 | NU [1] |

[1] Lines terminated with 75 ohm resistors

### J9 - Jumptec Intelligent LVDS Interface

| | | | |
|---|---|---|---|
| 1 | LCDFLM | 21 | LVD1+ (even) |
| 2 | LVD0- (odd) | 22 | N.C. |
| 3 | LVD0+ (odd) | 23 | LVD2- (even) |
| 4 | ENAVDD | 24 | LVD2+ (even) |
| 5 | LVD1- (odd) | 25 | GND |
| 5 | LVD1+ (odd) | 26 | LVDC- (even) |
| 7 | N.C. | 27 | LVDC+ (even) |
| 8 | LVD2- (odd) | 28 | GND |
| 9 | LVD2+ (odd) | 29 | LVD3- (even) |
| 10 | GND | 30 | LVD3+ (even) |
| 11 | LVC- (odd) | 31 | VCC |
| 12 | LVC+ (odd) | 32 | VCC |
| 13 | GND | 33 | VCC |
| 14 | LVD3+ (odd) | 34 | VCC |
| 15 | LVD3- (odd) | 35 | EnableBacklight |
| 16 | DDC_Data | 36 | GND |
| 17 | LVD0- (even) | 37 | GND |
| 18 | LVD0+ (even) | 38 | +12V |
| 19 | DDC_Clock | 39 | +12V |
| 20 | LVD1- (even) | 40 | +12V |

### J13 - PS/2 Keyb. & Mouse

| | | | |
|---|---|---|---|
| 1 | KB:DATA | 4 | VCC |
| 2 | MOUSE:DATA | 5 | KB:CLK |
| 3 | GND | 6 | MOUSE:CLK |

### J14, J15 - USB 1 & 0

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

### J6 - CPU FAN

| | |
|---|---|
| 1 | Sense |
| 2 | +12V |
| 3 | GND |

### J11 - CompactFlash

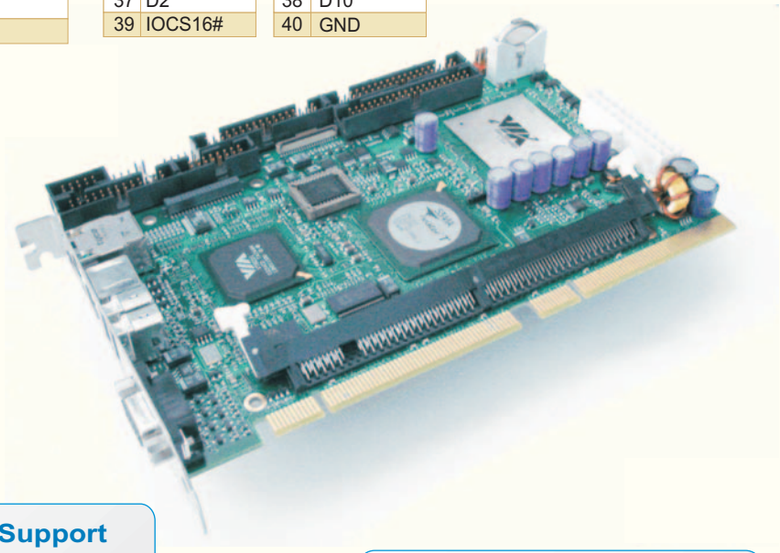
| | | | |
|---|---|---|---|
| 1 | D11 | 2 | GND |
| 3 | D12 | 4 | D3 |
| 5 | D13 | 6 | D4 |
| 7 | D14 | 8 | D5 |
| 9 | D15 | 10 | D6 |
| 11 | CS1# | 12 | D7 |
| 13 | DMACK# | 14 | CS1# |
| 15 | DMARQ | 16 | IOR# |
| 17 | PDIAG# | 18 | IOW# |
| 19 | IRQ15 | 20 | VCC |
| 21 | VCC | 22 | VCC |
| 23 | GND | 24 | GND |
| 25 | RESET# | 26 | GND |
| 27 | CSEL | 28 | A2 |
| 29 | A1 | 30 | DASP# |
| 31 | A0 | 32 | IORDY |
| 33 | D0 | 34 | D8 |
| 35 | D1 | 36 | D9 |
| 37 | D2 | 38 | D10 |
| 39 | IOCS16# | 40 | GND |

### J16 - VGA

| Row 1 (1-5) | | Row 2 (6-10) | | Row 3 (11-15) | |
|---|---|---|---|---|---|
| 1 | RED | 6 | A_GND | 11 | N.C. |
| 2 | GREEN | 7 | A_GND | 12 | SDATA |
| 3 | BLUE | 8 | A_GND | 13 | HSYNC |
| 4 | N.C. | 9 | N.C. | 14 | VSYNC |
| 5 | GND | 10 | GND | 15 | SCLK |

### J17 - External ATX Power

| | | | |
|---|---|---|---|
| 1 | VCC3 | 11 | VCC3 |
| 2 | VCC3 | 12 | -12V |
| 3 | GND | 13 | GND |
| 4 | VCC | 14 | PS_ON# |
| 5 | GND | 15 | GND |
| 6 | VCC | 16 | GND |
| 7 | GND | 17 | GND |
| 8 | PWRQ K | 18 | N.C. |
| 9 | +5VSB | 19 | VCC |
| 10 | +12V | 20 | VCC |



### I/O MAPPING

| | |
|---|---|
| 000-01F | DMA Controller 1 |
| 020-03F | Interrupt controller 1 |
| 040-05F | Timer |
| 060-06F | Keyboard |
| 070-07F | Real Time Clock |
| 080-09F | DMA Page Register |
| 0A0-0BF | Interrupt controller 2 |
| 0C0-0DF | DMA controller 2 |
| 0F0-0FF | Math Coprocessor |
| 170-177, 376 | Secondary IDE |
| 1F0-1F7, 3F6 | Primary IDE |
| 278-27A | Parallel Port (option) |
| 2E8-2EF | Serial Port (option) |
| 2F8-2FF | Serial Port (option) |
| 370-377 | Floppy Disk (option) |
| 378-37A | Parallel Port (LPT1) |
| 3BC-3BE | Parallel Port (option) |
| 3E8-3EF | Serial Port (option) |
| 3F0-3F7 | Floppy Disk |
| 3F8-3FF | Serial Port (COM1) |
| 400-0FFF | Chipset Reserved |
| 3C0-3CF/3D0<br>3DF/3B0-3BB | Graphic Controller |

### MEMORY MAPPING

| | |
|---|---|
| 00000-9FFFF | 0-640KB DRAM |
| A0000-BFFFF | Video DRAM |
| C0000-CDFFF | Video BIOS |
| CE000-DBFFF | Optional BIOS |
| DC000-DFFFF | USB DATA |
| E0000-FFFFF | Main BIOS |
| 100000 to top | 1MB to top of RAM |

**For Technical Support please contact:**

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*The Quick Reference Sheet can be downloaded from the Kontron web site at:*
***http://www.kontron.com***
*or from Kontron FTP site at:*
***ftp://ftp.kontron.ca/Support/***

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