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VMIACC-0576
CompactPCI® Rear Transition Utility Board for VMICPCI-7696 and VMICPCI-7697

Installation Guide

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Huntsville, Alabama 35803-3308, USA
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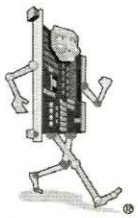
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Installation

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Introduction

The VMIACC-0576 is a passive backplane adapter board, designed to be used with VMIC's family of Pentium II based CPUs on CompactPCI®. The VMIACC-0576 provides an IDE hard drive header, floppy drive header, and two PMC I/O connectors. There are two serial ports, a USB port, and a parallel port for external connection to the CPU through the CompactPCI rear I/O. The adapter board uses a standard 40-pin header for the hard drive connector and a 34-pin header for the floppy drive connector. The serial ports are RJ-45 connectors; the parallel port is a Micro DB-25 connector. The USB port uses a standard USB connector and the PMC I/O uses two 34-pin right angle headers. See Figure 1 on page 6 for an illustration of the board and connector layout.

The CompactPCI J3 and J5 connectors carry all associated signals. All signals are routed from the CPU (installed in the front of the chassis) through the backplane to the VMIACC-0576 J3 and J5 connectors. Figure 2 on page 13 is an illustration of the VMIACC-0576 installed in the CompactPCI rear I/O.

The following is a list of compatible boards:

VMICPCI-7696

VMICPCI-7697

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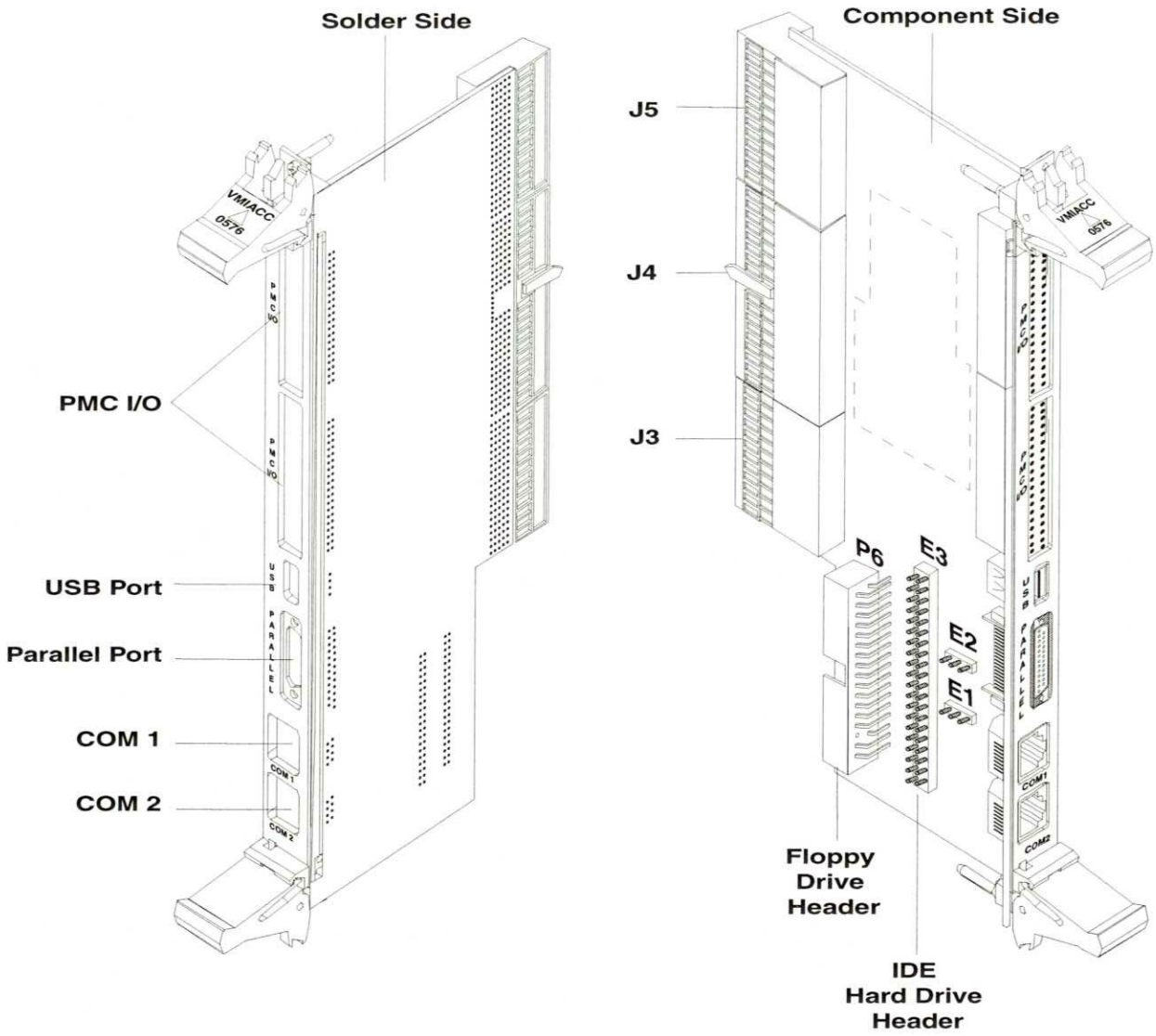


Figure 1 VMIACC-0576 CompactPCI Rear Transition Utility Board

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Installation of the VMIACC-0576

The VMIACC-0576 adapter board installs into the rear I/O of the CompactPCI chassis using the J3, J4 and J5 connectors. The board is designed for installation in a CompactPCI chassis that has rear panel I/O connectors. See Figure 2 for an illustration of the installation. J4 on the VMIACC-0576 is used for keying purposes only, and is not electrically connected to the CPU board in the front of the chassis.

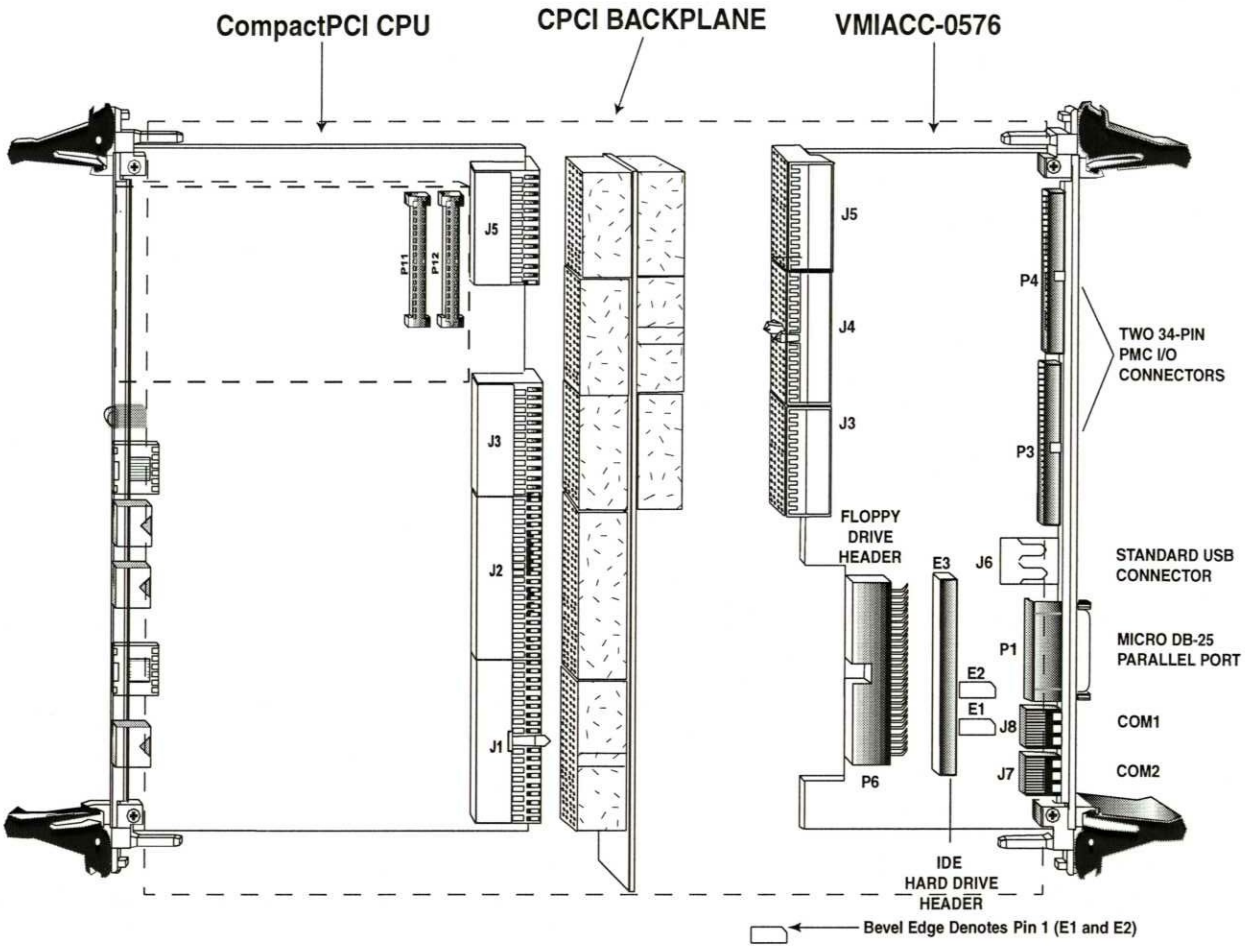


Figure 2 Installation of the VMIACC-0576 Adapter Board with a Typical CPU Board

NOTE: The VMIACC-0576 adapter board is designed to be installed on backplanes with rear I/O connectors. Backplanes without the rear I/O connectors cannot be used.

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Connectors

There are eight connectors and two headers on the utility board. J3, J4 and J5 connectors are standard CompactPCI connectors. P6 is the 34-pin floppy drive header, and E3 is the 40-pin IDE hard drive header. There are two RJ-45 connectors on the front panel that are used for COM1 (J8) and COM2 (J7) serial ports. The front panel parallel port (P1) is a micro DB-25 connector. P3 and P4 are front panel PMC I/O connectors.

40-pin IDE Header (E3)

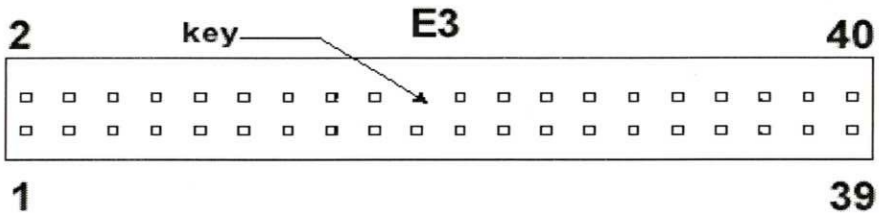


Figure 3 E3 40-pin IDE Header

Table 1 E3 40-pin IDE Header Pinout

Pin	Signal	Pin	Signal
1	Reset Drive	2	Signal Ground
3	Bidirectional Data [7]	4	Bidirectional Data [8]
5	Bidirectional Data [6]	6	Bidirectional Data [9]
7	Bidirectional Data [5]	8	Bidirectional Data [10]
9	Bidirectional Data [4]	10	Bidirectional Data [11]
11	Bidirectional Data [3]	12	Bidirectional Data [12]
13	Bidirectional Data [2]	14	Bidirectional Data [13]
15	Bidirectional Data [1]	16	Bidirectional Data [14]
17	Bidirectional Data [0]	18	Bidirectional Data [15]
19	Signal Ground	20	Key
21	Reserved	22	Signal Ground
23	Write Strobe	24	Signal Ground
25	Read Strobe	26	Signal Ground
27	Reserved	28	Address Latch Enable
29	Reserved	30	Signal Ground
31	Interrupt Request [14]	32	16-bit Data Word Size
33	Address Line [1]	34	Diagnostic Test Passed
35	Address Line [0]	36	Address Line [2]
37	Chip Select [0]	38	Chip Select [1]
39	Store/Activity Status	40	Signal Ground

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34-pin Floppy Drive Header (P6)

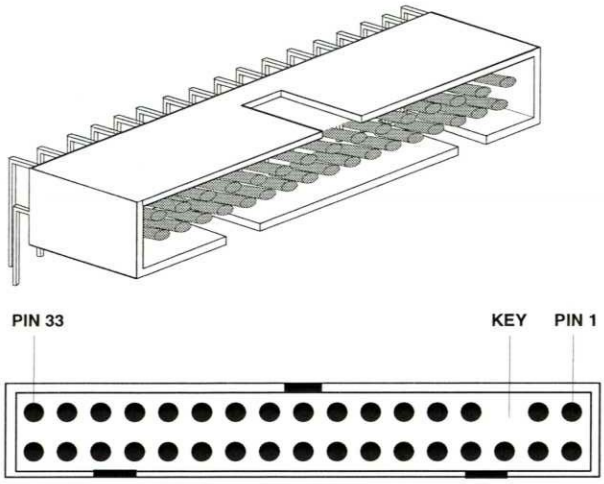


Figure 4 P6 34-pin Floppy Drive Header

Table 2 P6 34-pin Floppy Drive Pinout

Pin	Signal	Pin	Signal
1	GND	2	Drive Density 0
3	GND	4	N/C
5	Key	6	Drive Density 1
7	GND	8	Index
9	GND	10	Floppy Motor Enable [A]
11	GND	12	Floppy Drive Select [B]
13	GND	14	Floppy Drive Select [A]
15	GND	16	Floppy Motor Enable [B]
17	GND	18	Floppy Step Motor Direction
19	GND	20	Floppy Step Pulse
21	GND	22	Floppy Write Data
23	GND	24	Floppy Write Enable
25	GND	26	Floppy Track [0]
27	GND	28	Floppy Write Protect
29	GND	30	Floppy Read Data
31	GND	32	Floppy Select Head [1]
33	GND	34	Floppy Disk Change

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J4 Connector

Connector J4 is a standard CompactPCI connector with keying. Currently J4 is not electrically connected and is used for keying and to support the board in the CompactPCI rear I/O.

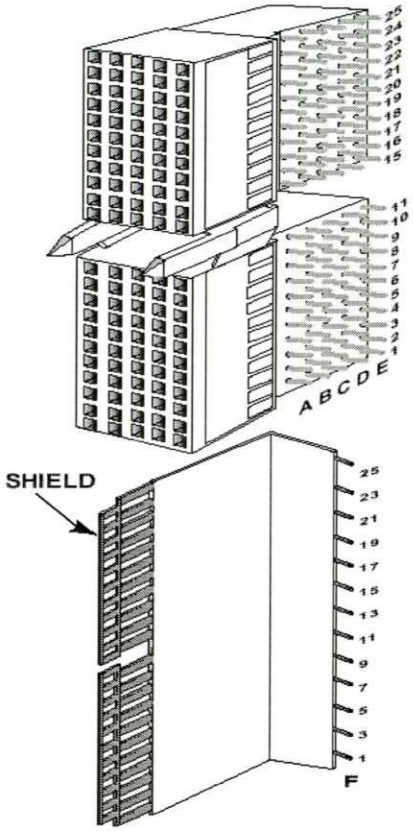


Figure 5 J4 Connector

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J3 Connector Pinout

The J3 connector is a 2mm "Hard Metric" CompactPCI connector, with 5 rows of 19 pins each. An additional external metal shield labeled row F is also used. This connector is used to route the serial, parallel, USB, floppy, and hard drive signals to the rear I/O. Figure 6 illustrates the J3 connector; the table is the connector pinout.

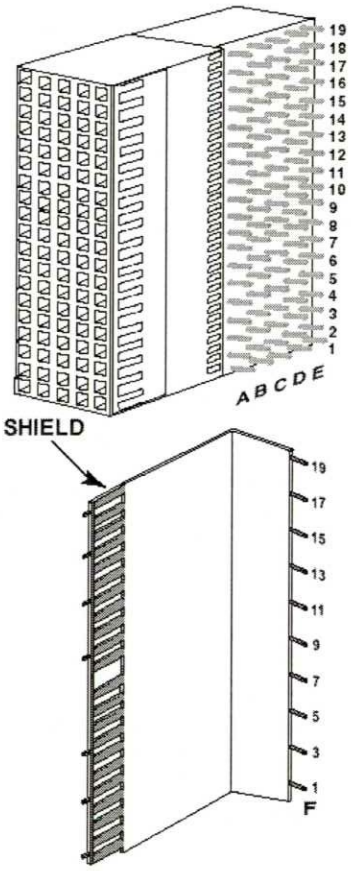


Figure 6 J3 Connector

Table 3 J3 Connector Pinout

Pin No.	Row A	Row B	Row C	Row D	Row E	Row F
19	GND	ACK#	BUSY	PE	SLCT	GND
18	PD4	PD5	PD6	PD7	GND	N/C
17	PD1	INIT#	PD2	SLIN#	PD3	GND
16	N/C	STB#	AFD#	PD0	ERR#	N/C
15	USB+	USB-	USBPWR	N/C	N/C	GND
14	GND	RI COM1	DTR COM1	DCD COM1	TD COM1	N/C
13	RTS COM1	RD COM1	DSR COM1	CTS COM1	N/C	GND
12	RTS COM2	N/C	+5 V	N/C	N/C	N/C
11	GND	RI COM2	DTR COM2	CTS COM2	TD COM2	GND
10	DAP0	RD COM2	DSR COM2	DCD COM2	DAP2PR	N/C
9	DAP1	REDWC#	IDEIORDY	IDESELA	IDEIOW0#	GND
8	DIR#	INDEX#	IDECS01#	DOP[8]	DOP[6]	N/C
7	SIDE1#	IDEIOR0#	HD_ACTA#	DOP[9]	DOP[7]	GND
6	RDATA#	TRK0#	IDECS03#	DOP[10]	DOP[2]	N/C
5	DRATE0#	WDATA#	IDEIRQ0	DOP[11]	DOP[3]	GND
4	DRVSB#	STEP#	IDE0ACK0#	DOP[12]	DOP[4]	N/C
3	DSKCHG#	MOTEB#	IOCS16A#	DOP[13]	DOP[5]	GND
2	WPT#	DRVSA#	IDEDRQ0	DOP[14]	DOP[0]	N/C
1	WGATE#	MOTEA#	IDERST#	DOP[15]	DOP[1]	GND

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J5 Connector and Pinout

The J5 connector is a 2mm "Hard Metric" CompactPCI connector, with 5 rows of 22 pins each. An additional external metal shield labeled row F is also used. This connector is used to route the PMC I/O signals to the front panel P3 and P4 I/O connectors. Figure 7 illustrates the J5 connector and the connector pinout.

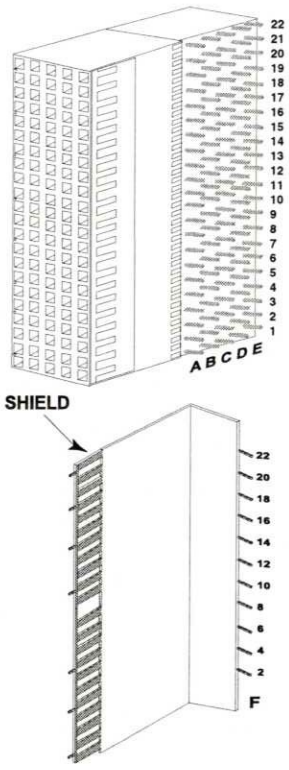


Figure 7 J5 Connector

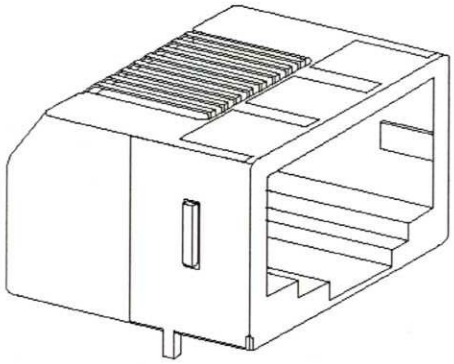
Table 4 J5 Connector Pinout

Pin No.	Row A	Row B	Row C	Row D	Row E	Row F
22	PMC_A22_5	PMC_B22_4	PMC_C22_3	PMC_D22_2	PMC_E22_1	GND
21	PMC_A21_10	PMC_B21_9	PMC_C21_8	PMC_D21_7	PMC_E21_6	N/C
20	PMC_A20_15	PMC_B20_14	PMC_C20_13	PMC_D20_12	PMC_E20_11	GND
19	PMC_A19_20	PMC_B19_19	PMC_C19_18	PMC_D19_17	PMC_E19_16	N/C
18	PMC_A18_25	PMC_B18_24	PMC_C18_23	PMC_D18_22	PMC_E18_21	GND
17	PMC_A17_30	PMC_B17_29	PMC_C17_28	PMC_D17_27	PMC_E17_26	N/C
16	PMC_A16_35	PMC_B16_34	PMC_C16_33	PMC_D16_32	PMC_E16_31	GND
15	PMC_A15_40	PMC_B15_39	PMC_C15_38	PMC_D15_37	PMC_E15_36	N/C
14	PMC_A14_45	PMC_B14_44	PMC_C14_43	PMC_D14_42	PMC_E14_41	GND
13	PMC_A13_50	PMC_B13_49	PMC_C13_48	PMC_D13_47	PMC_E13_46	N/C
12	PMC_A12_55	PMC_B12_54	PMC_C12_53	PMC_D12_52	PMC_E12_51	GND
11	PMC_A11_60	PMC_B11_59	PMC_C11_58	PMC_D11_57	PMC_E11_56	N/C
10	VIO	PMC_B10_64	PMC_C10_63	PMC_D10_62	PMC_E10_61	GND
9	N/C	N/C	N/C	N/C	N/C	N/C
8	N/C	N/C	N/C	N/C	N/C	GND
7	N/C	N/C	N/C	N/C	N/C	N/C
6	N/C	N/C	N/C	N/C	N/C	GND
5	N/C	N/C	N/C	N/C	N/C	N/C
4	N/C	N/C	N/C	N/C	N/C	GND
3	N/C	N/C	N/C	N/C	N/C	N/C
2	N/C	N/C	N/C	N/C	N/C	GND
1	N/C	N/C	N/C	N/C	N/C	N/C

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COM1 (J8) and COM2 (J7) Connector Pinouts

The pinout and diagram for the two RJ-45 connectors that are used for COM1 and COM2 (serial ports) are shown in the following figure.



RJ-45 CONNECTOR (COM1 and COM2)	
PIN	**Signal Name**
1	*Data Carrier Detect/Ring Indicator
2	Clear to Send
3	Request to Send
4	Data Set Ready
5	Data Terminal Ready
6	Transmit Data
7	Receive Data
8	GND

Figure 8 COM1/COM2 Connector and Pinout

NOTE: The signals on pin 1 are jumper (E1 and E2) selectable.

Jumpers E1 and E2 (Ring Indicator and Data Carrier Detect)

Jumpers E1 and E2 control the Ring Indicator and Data Carrier Detect signals for COM1 and COM2. E2 controls COM1 and E1 controls COM2. The following figure illustrates the jumper configuration for E1 and E2.

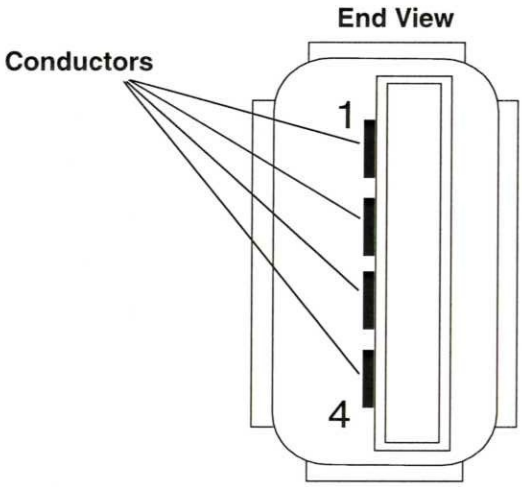


Figure 9 Jumper E1 and E2 Configuration

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USB Connector (J6)

The Universal Serial Bus (USB) port uses an industry standard, four position shielded connector. Figure 9 shows the pinout of the USB connector.



Pin	Signal	Function
1	USBV	USB Power
2	USB-	USB Data -
3	USB+	USB Data +
4	USBG	USB Ground

Figure 10 USB Connector and Pinout

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34-pin PMC I/O Connector (P3)

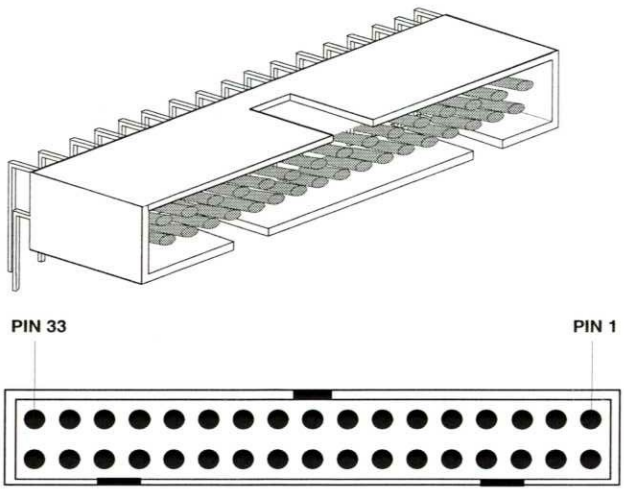


Figure 11 P3 34-pin PMC I/O Connector

Table 5 P3 34-pin PMC I/O Connector Pinout

P3 Connector			
Pin	**Signal**	**Pin**	**Signal**
1	J5_PMC_D16_32	2	J5_PMC_E16_31
3	J5_PMC_A17_30	4	J5_PMC_B17_29
5	J5_PMC_C17_28	6	J5_PMC_D17_27
7	J5_PMC_E17_26	8	J5_PMC_A18_25
9	J5_PMC_B18_24	10	J5_PMC_C18_23
11	J5_PMC_D18_22	12	J5_PMC_E18_21
13	J5_PMC_A19_20	14	J5_PMC_B19_19
15	J5_PMC_C19_18	16	J5_PMC_D19_17
17	J5_PMC_E19_16	18	J5_PMC_A20_15
19	J5_PMC_B20_14	20	J5_PMC_C20_13
21	J5_PMC_D20_12	22	J5_PMC_E20_11
23	J5_PMC_A21_10	24	J5_PMC_B21_9
25	J5_PMC_C21_8	26	J5_PMC_D21_7
27	J5_PMC_E21_6	28	J5_PMC_A22_5
29	J5_PMC_B22_4	30	J5_PMC_C22_3
31	J5_PMC_D22_2	32	J5_PMC_E22_1
33	GND	34	GND

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34-pin PMC I/O Connector (P4)

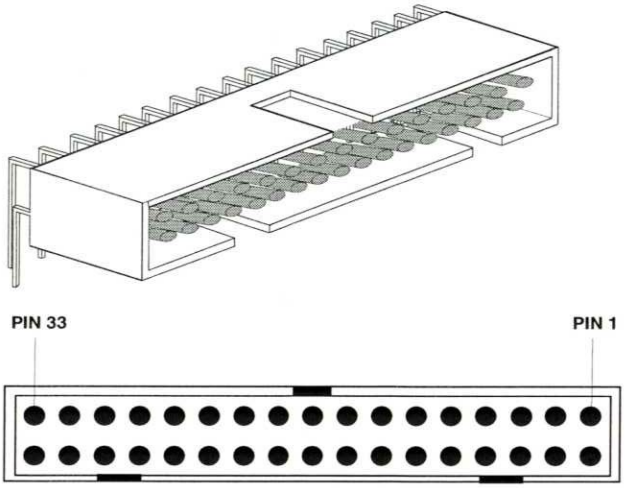


Figure 12 P4 34-pin PMC I/O Connector

Table 6 P4 34-pin PMC I/O Connector Pinout

P4 Connector			
Pin	**Signal**	**Pin**	**Signal**
1	J5_PMC_B10_64	2	J5_PMC_C10_63
3	J5_PMC_D10_62	4	J5_PMC_E10_61
5	J5_PMC_A11_60	6	J5_PMC_B11_59
7	J5_PMC_C11_58	8	J5_PMC_D11_57
9	J5_PMC_E11_56	10	J5_PMC_A12_55
11	J5_PMC_B12_54	12	J5_PMC_C12_53
13	J5_PMC_D12_52	14	J5_PMC_E12_51
15	J5_PMC_A13_50	16	J5_PMC_B13_49
17	J5_PMC_C13_48	18	J5_PMC_D13_47
19	J5_PMC_E13_46	20	J5_PMC_A14_45
21	J5_PMC_B14_44	22	J5_PMC_C14_43
23	J5_PMC_D14_42	24	J5_PMC_E14_41
25	J5_PMC_A15_40	26	J5_PMC_B15_39
27	J5_PMC_C15_38	28	J5_PMC_D15_37
29	J5_PMC_E15_36	30	J5_PMC_A16_35
31	J5_PMC_B16_34	32	J5_PMC_C16_33
33	GND	34	GND

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Maintenance

Maintenance

This section provides information relative to the care and maintenance of VMIC's products. If the products malfunction, verify the following:

- Software
- System configuration
- Electrical connections
- Jumper or configuration options
- Boards are fully inserted into their proper connector location
- Connector pins are clean and free from contamination
- No components of adjacent boards are disturbed when inserting or removing the board from the chassis
- Quality of cables and I/O connections

If products must be returned, contact VMIC for a Return Material Authorization (RMA) Number. **This RMA Number must be obtained prior to any return.**

VMIC Customer Service is available at: 1-800-240-7782.

Or E-mail VMIC at customer.service@vmic.com.

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Maintenance Prints

User level repairs are not recommended. The drawings and diagrams in this manual are for reference purposes only.

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