VMIACC-0559
CompactPCI® Rear Transition Utility Board

INSTALLATION GUIDE

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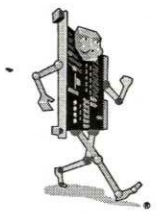

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(Instant OPC wizard logo)

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VMIC

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CHAPTER 1

INSTALLATION

Contents

Introduction

The VMIACC-0559 is a passive backplane adapter board designed to be used with VMIC's family of CPUs on CompactPCI® CPCI. The VMIACC-0559 provides IDE hard drive, floppy drive headers, two serial ports, and a parallel port for external connection to the CPU through the CPCI 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 RJ45 connectors, and the parallel port is the standard DB25 pin connector. See Figure 1 on page 6 for an illustration of the board and connector layout.

The CPCI J3 connector carries all associated signals from the 6U front installed CPU through the backplane to the VMIACC-0559 J3 connector. See Figure 1 on page 6 for an illustration of the board and connector layout. Figure 2 on page 7 is an illustration of the VMIACC-0559 installed in the CPCI rear I/O.

The following is a list of compatible boards:

VMICPCI-7593

VMICPCI-7594

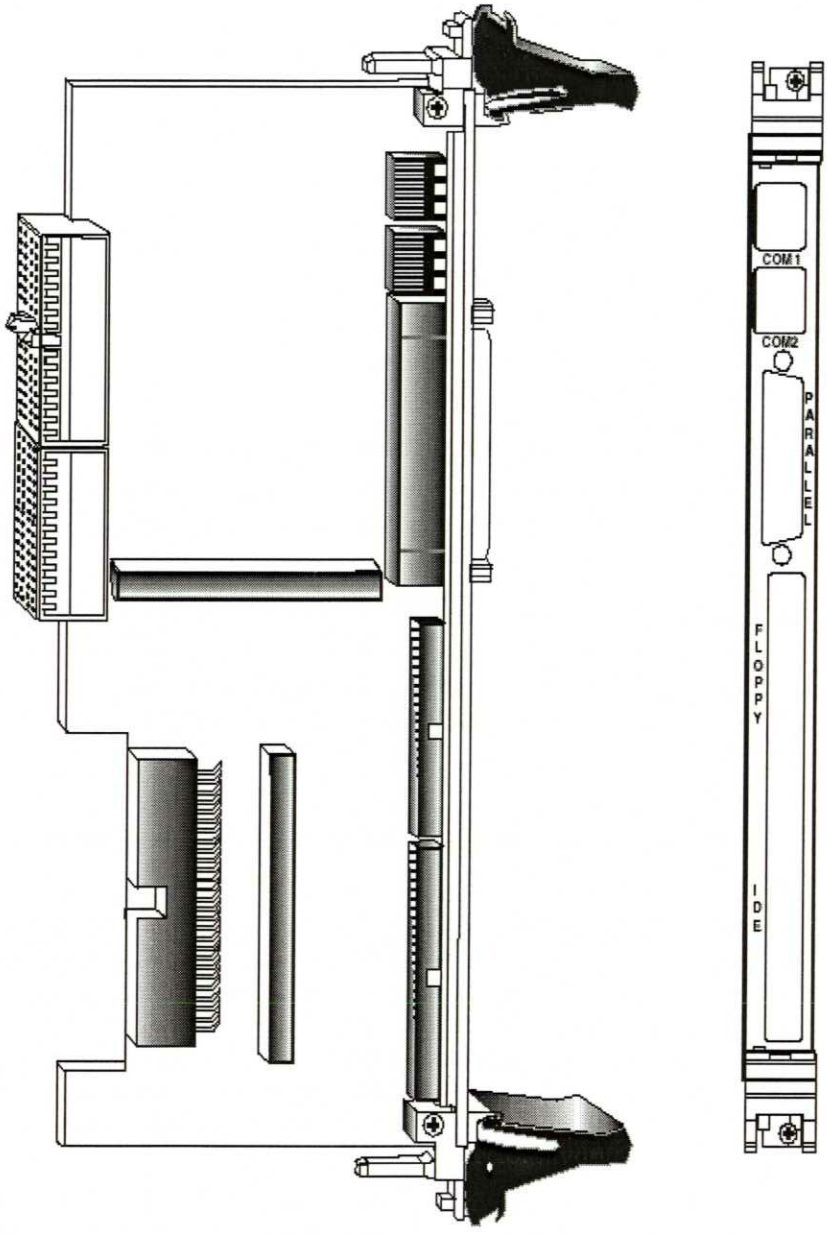


Figure 1 VMIACC-0559 CompactPCI Rear Transition Utility Board

Installation of the VMIACC-0559

The VMIACC-0559 adapter board installs onto the rear I/O of the CompactPCI chassis using the J3 and J4 connectors. The board is designed for installation in CPCI chassis that have rear panel I/O connectors. See Figure 2 for an illustration of the installation. J4 on the VMIACC-0559 is used for keying purposes only, and is not electrically connected to the CPU board in the front of the chassis.

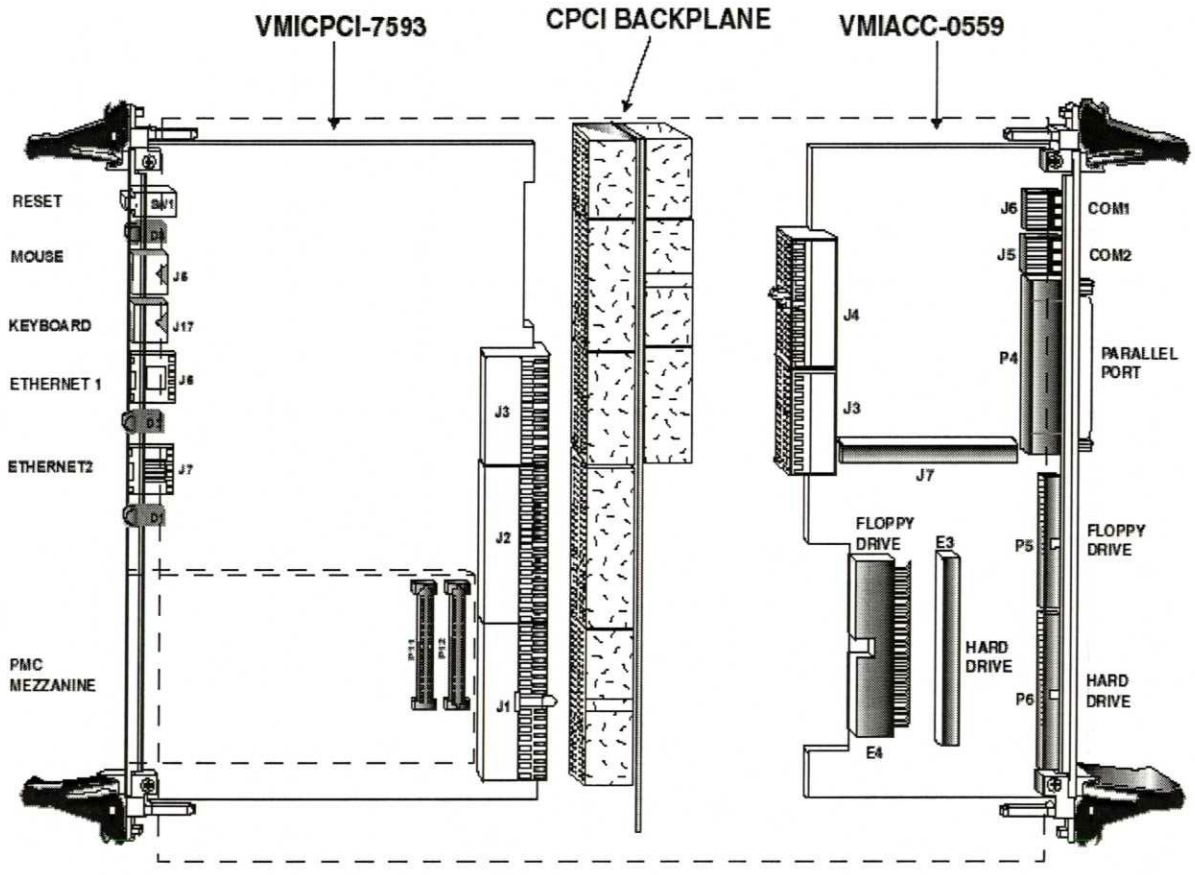


Figure 2 Installation of the VMIACC-0559 Adapter Board with a Typical CPU Board

Note

The VMIACC-0559 adapter board is designed to be installed on backplanes with rear I/O connectors, backplanes without the rear I/O cannot be used.

Connectors

There are eight connectors and two headers on the utility board. J3 and J4 connectors are standard CPCI connectors. E4 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 and COM2 serial ports. The front panel parallel port is a standard DB25 connector. P5 is the front panel floppy drive connector, and P6 is the front panel IDE hard drive connector. J7 the 50-pin connector on the board, is used for ***future expansion***. Each connector along with its pinout is shown on the following pages.

40-pin IDE Header (E3)

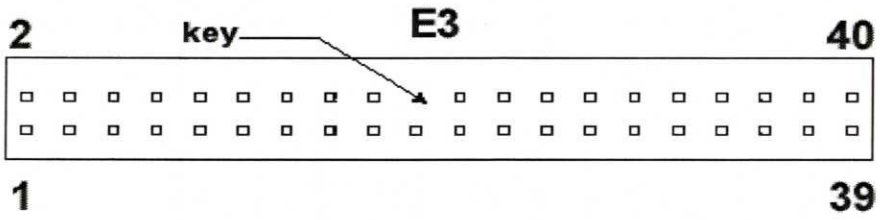


Figure 3 E3 40-pin IDE Header

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

34-pin Floppy Drive Header (E4)

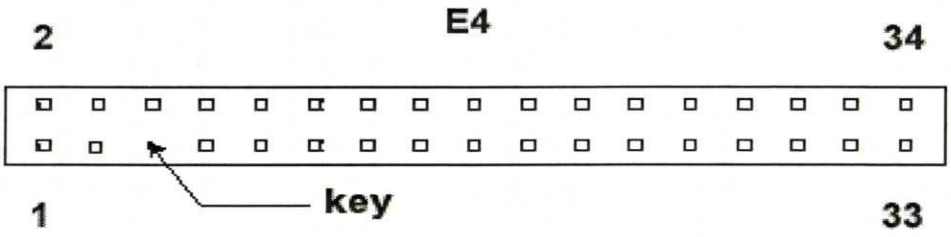


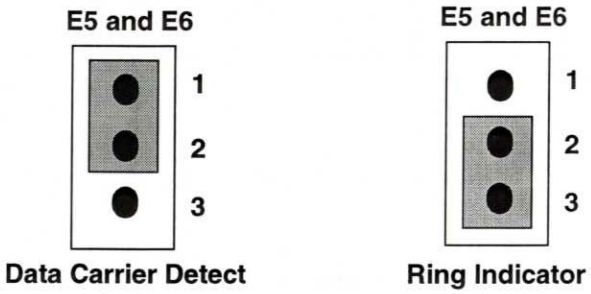
Figure 4 E4 34-pin Floppy Drive Header

Table 2 E4 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

Jumpers E5 and E6 (Ring Indicator and Data Carrier Detect)

Jumpers E5 and E6 control the Ring Indicator and Data Carrier Detect signals for COM1 and COM2. E5 controls COM1, and E6 controls COM2. The following figure illustrates the jumper configuration for E5 and E6.



J4 Connector

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

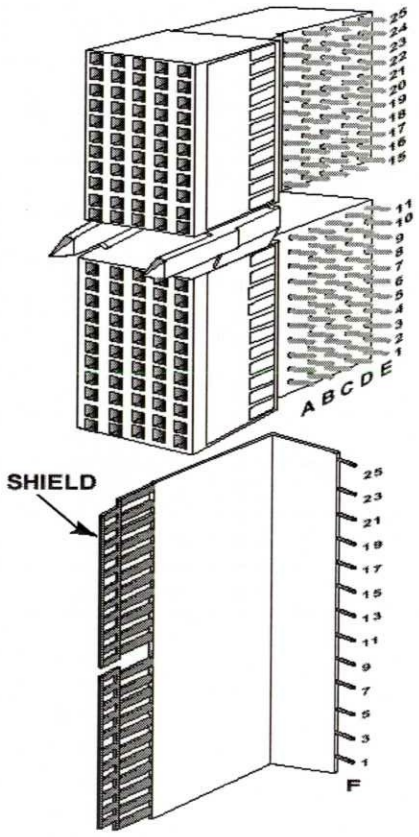


Figure 5 J4 Connector

J3 Connector Pinout

The J3 connector is 19 rows of 5 pins each, 2 mm *Hard Metric* CPCI connector. An additional external metal shield is also used, labeled row F. This connector is used to route the serial, floppy, and hard drive signals to the rear I/O. The following figure illustrates the J3 connector; the table is the connector pinout.

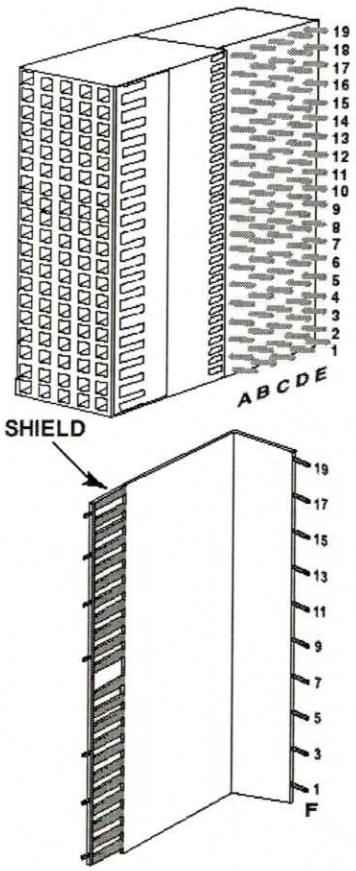


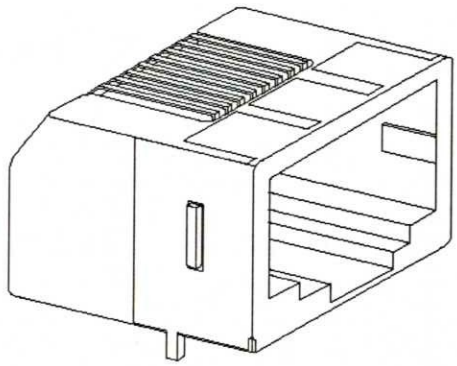
Figure 6 J3 Connector

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	N/C	N/C	N/C	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	+12 V	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

COM1 (J6) and COM2 (J5) Connector Pinouts

The pinout and diagram for the two RJ-45 connectors that are used for COM1 and COM2 (serial ports) is 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
* The signals on this pin are jumper (E5) selectable.	

Figure 7 COM1/COM2 Connector and Pinout

50-pin IDE Connector (E7)

This connector is currently not in use, and is for future expansion.

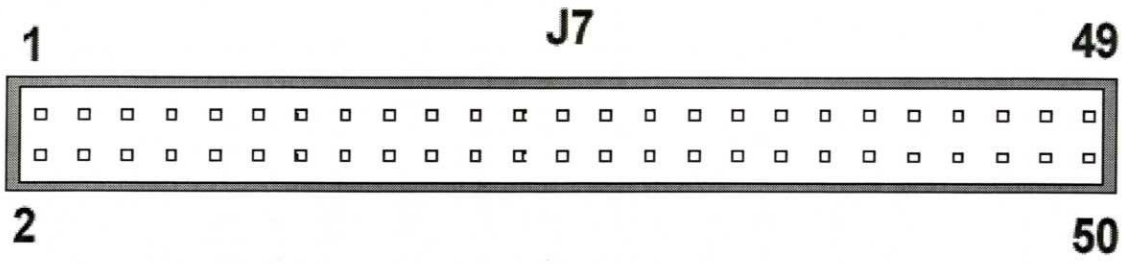


Figure 8 E7 50-pin IDE Connector

Table 4 E7 50-pin IDE Connector Pinout

Pin	Signal	Pin	Signal
2	Vendor Specific (1)	1	Vendor Specific (1)
4	Vendor Specific (1)	3	Vendor Specific (1)
6	N/C (1)	5	N/C (1)
8	GND	7	Reset-
10	DD8	9	DD7
12	DD9	11	DD6
14	DD10	13	DD5
16	DD11	15	DD4
18	DD12	17	DD3
20	DD13	19	DD2
22	DD14	21	DD1
24	DD15	23	DD0
26	N/C	25	GND
28	GND	27	DMARQ
30	GND	29	DIOW-
32	GND	31	DIOR-
34	CSEL	33	DIORDY
36	GND	35	DMACK-
38	Reserved	37	INTRQ
40	PDIAG-	39	DA1
42	DA2	41	DA0
44	CS1	43	CS0-
46	GND	45	DASP-
48	+5 V (Motor) (1)	47	+5 V (Logic) (1)
50	TYPE- (0=ATA) (1)	49	GND (Return) (1)
Note (1): Pins which are additional to those of the 40-pin cable.			

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.**

Maintenance Prints

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