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PENT/IOBP-CPCI-731
Installation Guide

P/N 211872 Edition 2.0
July 2000

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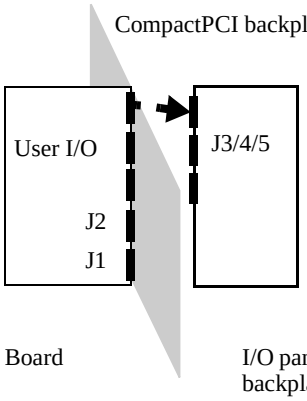
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How to Install the PENT/IOBP-CPCI-731

This manual describes the PENT/IOBP-CPCI-731. It provides access to the I/O signals of a PENT/CPCI-731 board from the rear of the Compact-PCI backplane.

I/O Panel Overview

The PENT/IOBP-CPCI-731 rear I/O panel is plugged into the CompactPCI backplane from its rear, facing a PENT-CPCI-731 CPU board assembled on the front of the same slot. The panel enables easy connection to the backplane I/O signals provided by the J3, J4, J5 connectors of the CPU board.



I/O panel in same slot of CompactPCI backplane as the board

The rear I/O panel variants may also be delivered as part of accessory kits compiled for CPU boards and as part of a system design:

…/AccKit…

- If delivered as part of an accessory kit, the accessory kit typically also contains cables to be used with the rear I/O panel or with connectors on the CPU board's front panel.

Systems

- If delivered as part of a system design, the rear I/O panel is already installed in the system. For information on the system connectors available for user-defined system configuration, refer to the respective *System's Guide*. The cabling of all other connectors of the rear I/O panel must remain as configured at system delivery.

Installation

1. Read the safety information section (see page 5).
2. Refer to section 2 "PENT/IOBP-CPCI-731 Features" on page 9 for general information on the rear I/O panel, for a location diagram and for connector pinouts.

Table 1 History of Manual Publication

Edition	Date	Description
1.0	December 1999	First print
2.0	July 2000	Corrected figure 5 “MS - PS/2 Keyboard/Mouse Connector Pinout” on page 11: Changed pinout 1 to keyboard data, pinout 2 to mouse data, pinout 5 to keyboard clock and pinout 6 to mouse clock; corrected cable length value from 1 km to 100 m in RJ-45 safety note; added FCC Compliance to Safety Notes section; editorial changes

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1 Safety Notes

This section provides safety precautions to follow when installing, operating, and maintaining the PENT/IOBP-CPCI-731. For your protection, follow all warnings and instructions found in the following text.

General

This *Installation Guide* provides the necessary information to install and handle the PENT/IOBP-CPCI-731. As the product is complex and its usage manifold, we do not guarantee that the given information is complete. If you need additional information, ask your Force Computers representative.

The PENT/IOBP-CPCI-731 has been designed to meet the standard industrial safety requirements. It must not be used except in its specific area of office telecommunication industry and industrial control.

Only personnel trained by Force Computers or persons qualified in electronics or electrical engineering are authorized to install,maintain or remove the PENT/IOBP-CPCI-731. The information given in this manual is meant to complete the knowledge of a specialist and must not be taken as replacement for qualified personnel.

Make sure that contacts and cables of the board cannot be touched while the board is operating.

FCC Compliance

The board has been tested in a Standard Force Computers System and found to comply with the limits for a Class A digital device in this system, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the system is operated in a commercial environment.

The board generates, uses and can radiate radio frequency energy and, if not installed properly and used in accordance with this Installation Guide, may cause harmful interference to radio communications. Operating the system in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.



Installation

Electrostatic discharge and incorrect board or module installation and removal can damage circuits or shorten their lifetime. Therefore:

- **Before installing or removing a rear I/O panel, read this *Installation Guide*.**
- **Verify, that the Installation Guide of the CPU board under consideration states that the I/O panel under consideration is designed for use with the CPU board.**
- **Only use the rear I/O panel connectors indicated by the Installation Guide of the CPU board under consideration. Note that in general the connectors differ:**
  - **– Between CPU boards**
  - **– Between main PCBs of the same CPU board installed in different I/O boards)**

  Therefore, in case of CPU boards using several PCBs, check the Installation Guide of the respective CPU board for information which connectors of the I/O panel are to be used together with which PCB.
- **In case of delivery as part of a system, never change the cabling of the rear I/O panel unless explicitely stated otherwise in the system's documentation.**
- **Before installing or removing the CPU board, read the respective Installation Guide and ensure to apply all safety notes given by that guide.**
- **Before touching integrated circuits, ensure that you are working in an ESD safe environment.**
- **Before installing the CPU board in or removing it from a CompactPCI rack:**
  - **– Check all installed boards for steps that have to be taken before turning off the power.**
  - **– Take those steps.**
  - **– Finally, turn off the power.**

Operation

When operating the board in areas of strong electromagnetic radiation ensure that the board is bolted on the CompactPCI rack and shielded by enclosure.

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EMC

If boards are integrated into open systems, always cover empty slots.

Environment

Always dispose of used batteries and/or old boards according to your country's legislation.

RJ-45 Connector

If an RJ-45 connector is available on the board, take into account that the RJ-45 connector type could be used for telephone connectors and for twisted pair Ethernet (TPE) connectors or others. Note that mismatching connectors may destroy your equipment as well as your PENT/IOBP-CPCI-731. Therefore:

- **Make sure that TPE connectors near your working area are clearly marked as network connectors.**
- **Make sure that TPE bushing of the system is connected only to safety extra low voltage (SELV) circuits.**
- **Verify that the length of the electric cable connected to a TPE bushing does not exceed 100m.**
- **If in doubt, ask your system administrator.**

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2 PENT/IOBP-CPCI-731 Features

The PENT/IOBP-CPCI-731 is a rear I/O panel with:

- On-board flat cable connectors for the following interfaces:
  - Primary and secondary IDE (for the connector pinout see figure 2 “PENT/IOBP-CPCI-731 prim. and sec. IDE Connector Pinout” on page 10) for information on the connectors that are actually used refer to the CPU board’s *Installation Guide*
  - Floppy (for the connector pinout see figure 3 “PENT/IOBP-CPCI-731 Floppy Connector Pinout” on page 11)
- Front-panel industry standard connectors for the following interfaces:
  - Ethernet 1 and 2 (for the connector pinout see figure 4 “ETH - Ethernet Connector Pinout” on page 11)
  - LPT (for the connector pinout see figure 7 “LPT Connector Pinout” on page 12)
  - COM1 and COM2 (connector pinout same as in figure 8 “COM Connector Pinout” on page 12)
  - USB 1 and USB 2 (for the connector pinout see figure 6 “USB Connector Pinout” on page 11)
  - Keyboard/mouse port (for the connector pinout see figure 5 “MS - PS/2 Keyboard/Mouse Connector Pinout” on page 11)
- Front-panel key for reset:

  The reset key on the PENT/IOBP-CPCI-731 has the same function as the reset key available on the base board front panel. For information on the reset key, refer to the CPU board’s *Installation Guide*.

Figure 1 **PENT/IOBP-CPCI-731 (Schematic)**

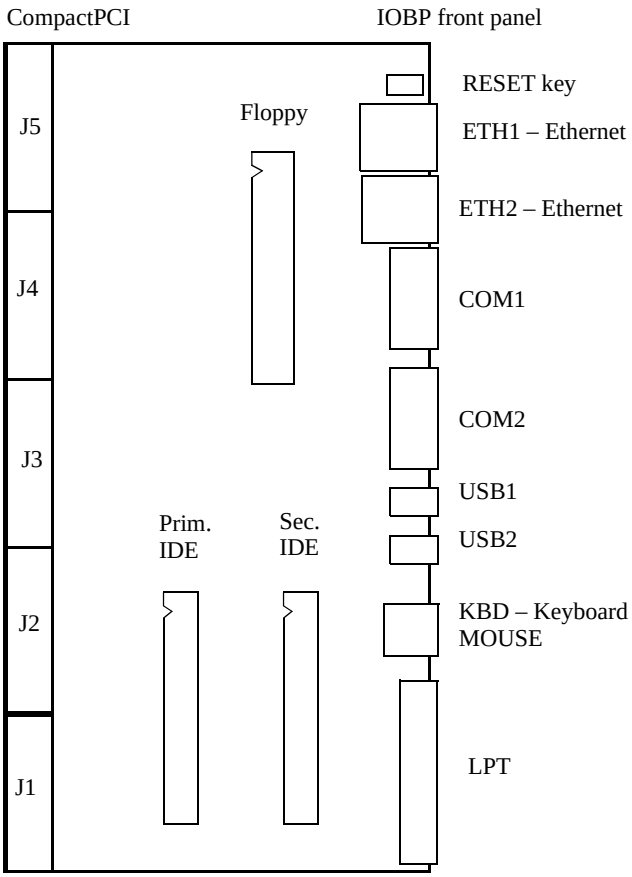
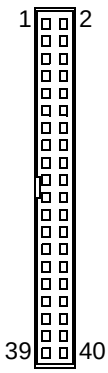


Figure 2 **PENT/IOBP-CPCI-731 prim. and sec. IDE Connector Pinout**

/HDRESET	1	2	GND
D7	3	4	D8
D6	5	6	D9
D5	7	8	D10
D4	9	10	D11
D3	11	12	D12
D2	13	14	D13
D1	15	16	D14
D0	17	18	D15
GND	19	20	n.c.
n.c.	21	22	GND
/IOW	23	24	GND
/IOR	25	26	GND
IOCHRDY	27	28	Pull up (4.7K)
/DAK0	29	30	GND
IRQ14	31	32	n.c.
A1	33	34	n.c.
A0	35	36	A2
/CS0	37	38	/CS1
n.c.	39	40	GND

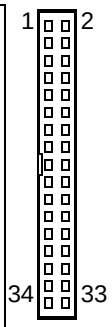


40-pin 2.54 mm pitch connector

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Figure 3 PENT/IOBP-CPCI-731 Floppy Connector Pinout

GND	1	2	DENSEL
GND	3	4	n.c.
GND	5	6	DRATE0
n.c.	7	8	/INDEX
GND	9	10	/MTR0
GND	11	12	/DRV1
n.c.	13	14	/DRV0
GND	15	16	/MTR1
GND	17	18	/DIR
GND	19	20	/STEP
GND	21	22	/WDATA
GND	23	24	/WGATE
GND	25	26	/TRK0
MSN0	27	28	/WP
GND	29	30	/RDATA
GND	31	32	/HDSEL
GND	33	34	/DSKCHG



34-pin 2.54 mm pitch connector

Figure 4 ETH -Ethernet Connector Pinout

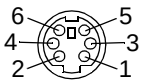
TX+	1
TX–	2
RX+	3
GND	4
GND	5
RX–	6
GND	7
GND	8



RJ-45

Figure 5 MS - PS/2 Keyboard/Mouse Connector Pinout

Keyboard data	1
Mouse data	2
Ground	3
Vcc	4
Keyboard clock	5
Mouse clock	6



6-pin mini DIN

Figure 6 USB Connector Pinout

Vcc	1
Data–	2
Data+	3
GND	4



USB

Figure 7 LPT Connector Pinout

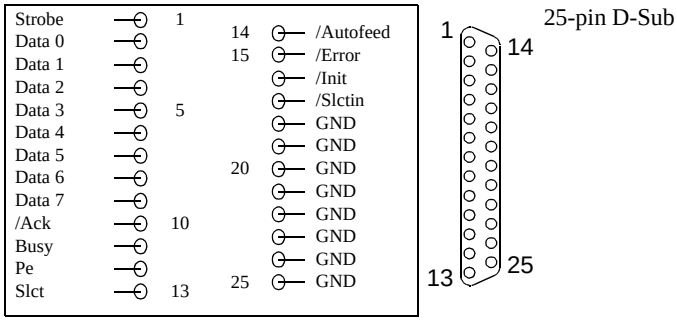
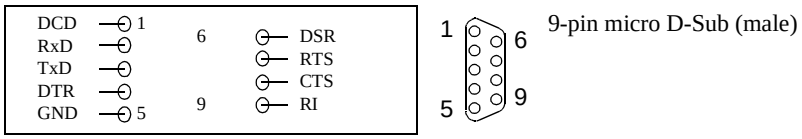


Figure 8 COM Connector Pinout



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Product Error Report

Product:	Serial No.:
Date Of Purchase:	Originator:
Company:	Point Of Contact:
Tel.:	Ext.:
Address:	
Present Date:	
Affected Product: ❑ Hardware ❑ Software ❑ Systems	Affected Documentation: ❑ Hardware ❑ Software ❑ Systems
Error Description:	

This Area to Be Completed by Force Computers:

Date:

PR#:

Responsible Dept.: ❑ Marketing ❑ Production

Engineering ➠ ❑ Board ❑ Systems

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