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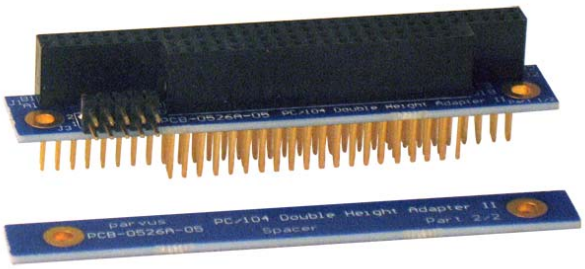
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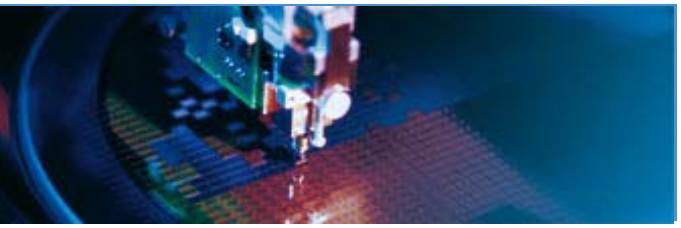
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USER MANUAL



# PRV-0414

## PCB Double Height Adaptor
## (Adaptor for Tall PCB Components)

MNL-0337-01 Rev H3 REF. ECO-3163 01 Feb 10

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# Chapter 1 Introduction

This section provides a functional description of the PRV-0414.

## Functional Description

The PRV-0414 PC/104 Double Height Adapter is a low-cost interconnection board that gives embedded PC/104 computer systems a method for connecting circuit board modules taller than the prescribed PC/104 specification height. The adapter is especially useful for high-profile PC/104 CPU, power supply and hard drive modules that incorporate onboard fans or heatsinks for thermal management, as these types of boards commonly exceed the PC/104 form factor height of 0.60” and take up two card slots. Overcoming PC/104 height infringement can also be especially useful during prototype development when placing a prototype card at the end of a card stack becomes impractical.

Measuring only 3.550" x 0.550" in size, the PC/104 Double Height Adapter provides clearance for tall board components in a card stack, while offering a 16-bit pass-through header for all standard PC/104 bus signals and a 10-pin power connector for power/grounding through the PC/104 bus. The adapter also has standard PC/104 board mounting holes and can be placed on top or bottom of any PC/104 module with its 104-pin and socket connector.

Included with the adapter is also a set of nylon stand-off spacers for board mounting and a second, smaller (3.550" x 0.40") circuit board used to maintain proper spacing on the other side of the PC/104 slot. Stand-offs can be inserted into mounting holes for the adapter and adjacent PC/104 modules, or alternatively, the PC/104 card stack can be securely mounted in a PC/104 railed card cage without any standoffs required.

## Features

- 16-Bit PC/104 (ISA) bus
- Set of 8 Plastic Board Stand-offs (with Nuts and Screws)
- Standard PC/104 Mounting Holes
- 10-Pin Power Header (Dual Row 0.100 inch)

### About PC/104

The PC/104 specification is characterized by its small form-factor (3.550" x 3.775"), stackable 104-pin/socket ISA bus connector, and reduced bus signal drive, making PC/104's size, durability, expandability, reliability, quality, and power consumption ideal for embedded computing. PC/104 technology leverages the same readily available development tools used with personal desktop computers to dramatically improve time-to-market for embedded systems development. The full PC/104 specification can be found at the PC/104 Consortium Web site: http://www.pc104.org/technology/pc104_tech.html

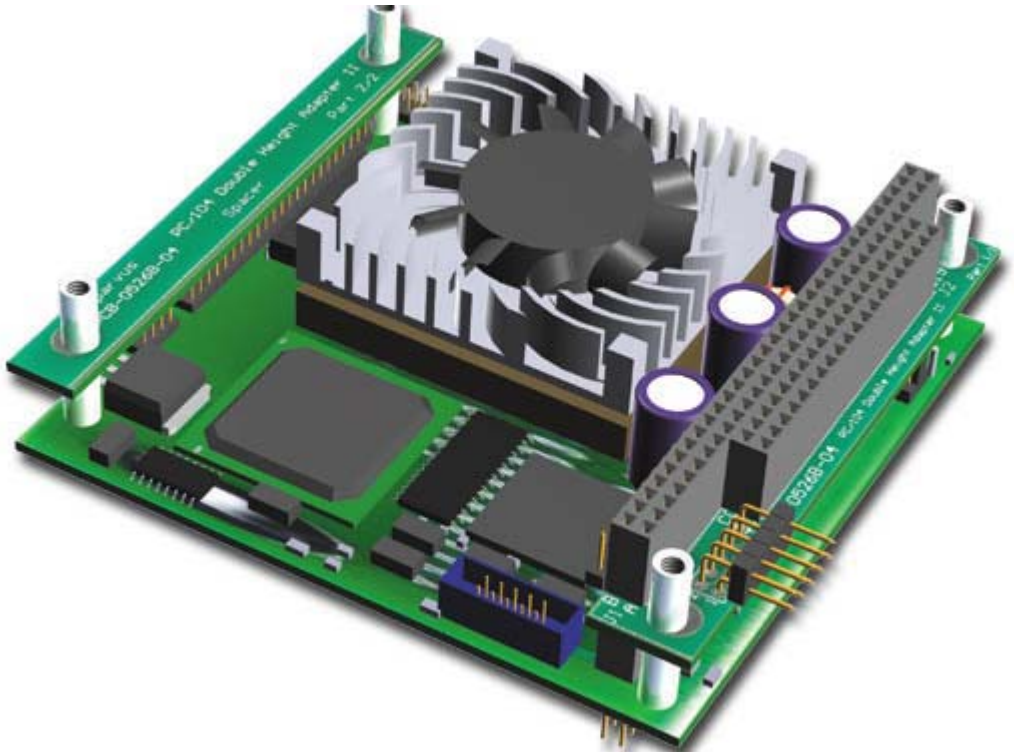
# Chapter 2 Quick Start-up

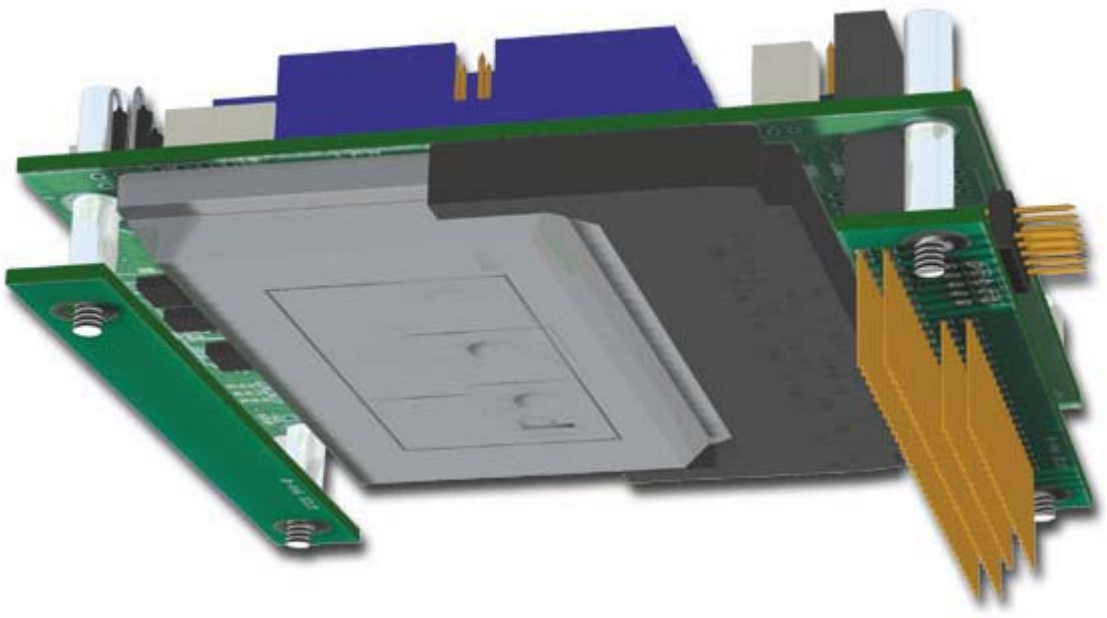
This section describes the installation of the PRV-0414. It then describes power-up of the assembly.

## Installation

### Installing the PC/104 Double Height Adapter

Remove the PC/104 Double Height Adapter from the anti-static bag. There are two pieces; One piece (PART 1), contains the stack-through connector(s) for the PC/104 bus. The other piece (PART 2) acts as a spacer for the other side of the stack to maintain PC/104 card spacing requirements. Install the section containing the PC/104 connector(s) onto the top or bottom side of the board requiring extra height, and install two spacers, if they are to be used, to secure the adapter. Place PART 2 onto the remaining spacers, and install two spacers to secure PART 2 to the stack. Assemble the next card on top of the stack adapter using standard mounting hardware.





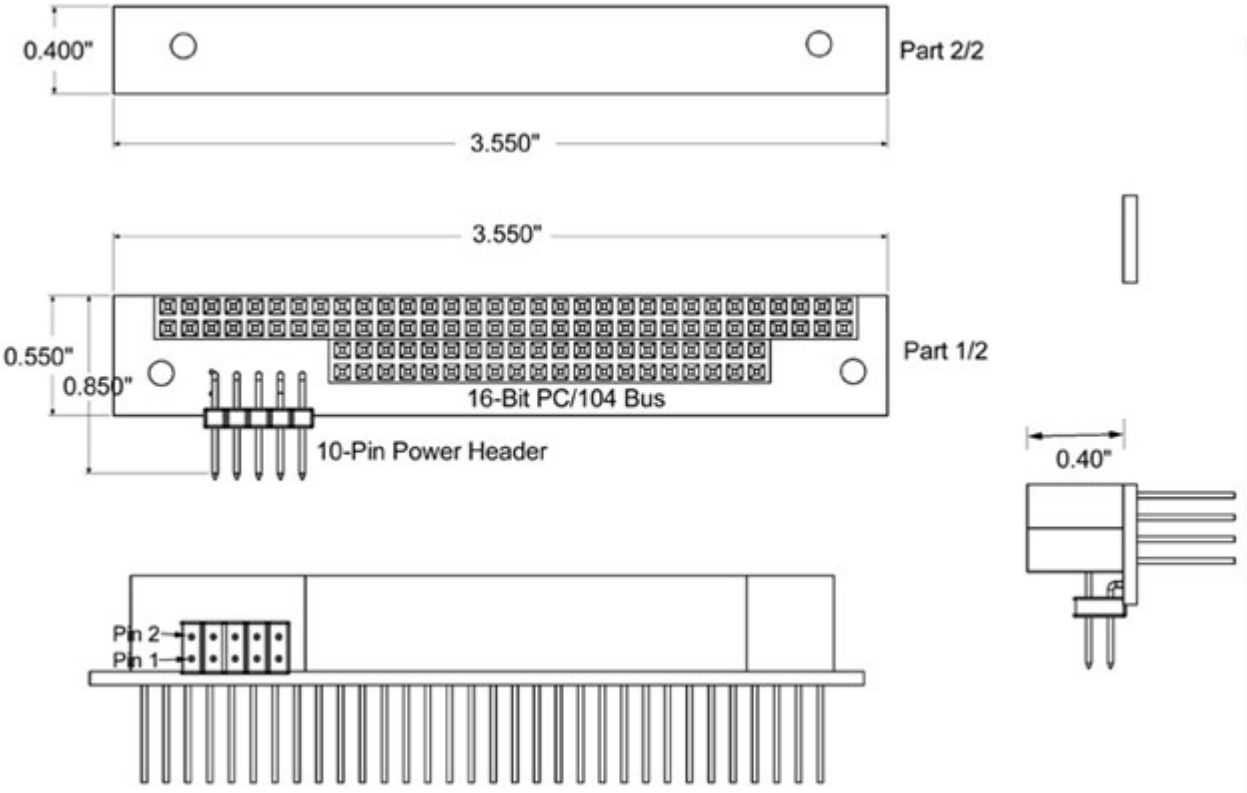
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# Chapter 3 Connector Description

This chapter includes the pinouts, signal descriptions for the PRV-0414.

## Connector Identification

**RoHS PCB (PCB-0526-05) with 10-pin Power Connector:**




| Connector | Function |
|---|---|
| J1,J2 | PC/104 Bus |
| 10-pin Power Header | Used to supply power to or take power from PC/104 Bus |

# Connector Pinouts

## J1/J2: PC/104 Bus

| Pin | Row A | Row B | Row C | Row D |
|---|---|---|---|---|
| 0 | -- | -- | GND | GND |
| 1 | /IOck | GND | /SBHE | /MCS16 |
| 2 | SD7 | Rstdrv | LA23 | /IOCS16 |
| 3 | SD6 | +5v | LA22 | IRQ10 |
| 4 | SD5 | IRQ9 | LA21 | IRQ11 |
| 5 | SD4 | -5v | LA20 | IRQ12 |
| 6 | SD3 | DRQ2 | LA19 | IRQ15 |
| 7 | SD2 | -12v | LA18 | IRQ14 |
| 8 | SD1 | /Exfer | LA17 | /DA0 |
| 9 | SD0 | +12v | /MR | DRQ0 |
| 10 | IOrdy | (key) | /MW | /DA5 |
| 11 | AEN | /SMW | SD8 | DRQ5 |
| 12 | SA19 | /SMR | SD9 | /DA6 |
| 13 | SA18 | /IOW | SD10 | DRQ6 |
| 14 | SA17 | /IOR | SD11 | /DA7 |
| 15 | SA16 | /DA3 | SD12 | DRQ7 |
| 16 | SA15 | DRQ3 | SD13 | +5v |
| 17 | SA14 | /DA1 | SD14 | /MSTR |
| 18 | SA13 | DRQ1 | SD15 | GND |
| 19 | SA12 | /Rfrsh | (key) | GND |
| 20 | SA11 | SCLK | -- | -- |
| 21 | SA10 | IRQ7 | -- | -- |
| 22 | SA9 | IRQ6 | -- | -- |
| 23 | SA8 | IRQ5 | -- | -- |
| 24 | SA7 | IRQ4 | -- | -- |
| 25 | SA6 | IRQ3 | -- | -- |
| 26 | SA5 | /DA2 | -- | -- |
| 27 | SA4 | TC | -- | -- |
| 28 | SA3 | BALE | -- | -- |
| 29 | SA2 | +5v | -- | -- |
| 30 | SA1 | OSC | -- | -- |
| 31 | SA0 | GND | -- | -- |
| 32 | GND | GND | -- | -- |

**Note: The PC/104 bus always uses Row A and B, while Row C and D are for 16 bit systems. B10 and C19 are keyed locations.**

## 10-Pin Power Connector –

Used in supplying power or taking power from the PC/104 bus
Pins 1 & 2 are designated on applicable drawing above for current PCB version (**PCB-0526-04).**

| Pin | Function | Pin | Function |
|---|---|---|---|
| 1 | Ground | 6 | N/C |
| 2 | +5V | 7 | Key |
| 3 | Ground | 8 | +5V |
| 4 | +12V | 9 | Ground |
| 5 | Ground | 10 | +5V |

# Specifications

This chapter provides the specifications for the PRV-0414.

## Technical Specification

Optional Auxiliary Input
- Power Requirements
- +5V &/or +12V

## Environmental Specifications

Operating Temperature
-40C to +85C

Storage Temperature
-40C to +85C

## Mechanical

This section provides details related to the mechanical construction of the PRV-0414.

### Dimensions

Dimensions 3.510" x 0.550" (part 1), 3.510" x 0.40" (part 2).

# Chapter 4 Troubleshooting

## Technical Assistance

If you have a technical question or if you cannot isolate a problem with your product, please call or e-mail the Parvus Technical Support team:

- Email: tsupport@parvus.com
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Before returning any Parvus product, please fill out a Returned Material Authorization (**RMA**) request form available for download from the following website under the support section:

www.parvus.com

Email this form to the email address listed above to receive authorization for shipment. An RMA number will be emailed back to you as soon as possible.

**Note. You must have the RMA number in order to return any product for any reason.**

Pack the module in an anti-static material and ship it in a sturdy cardboard box with enough packing material to adequately cushion it.

**Warning! Any product returned to Parvus improperly packed will immediately void the warranty for that particular product!**

# Chapter 5 Contact Info

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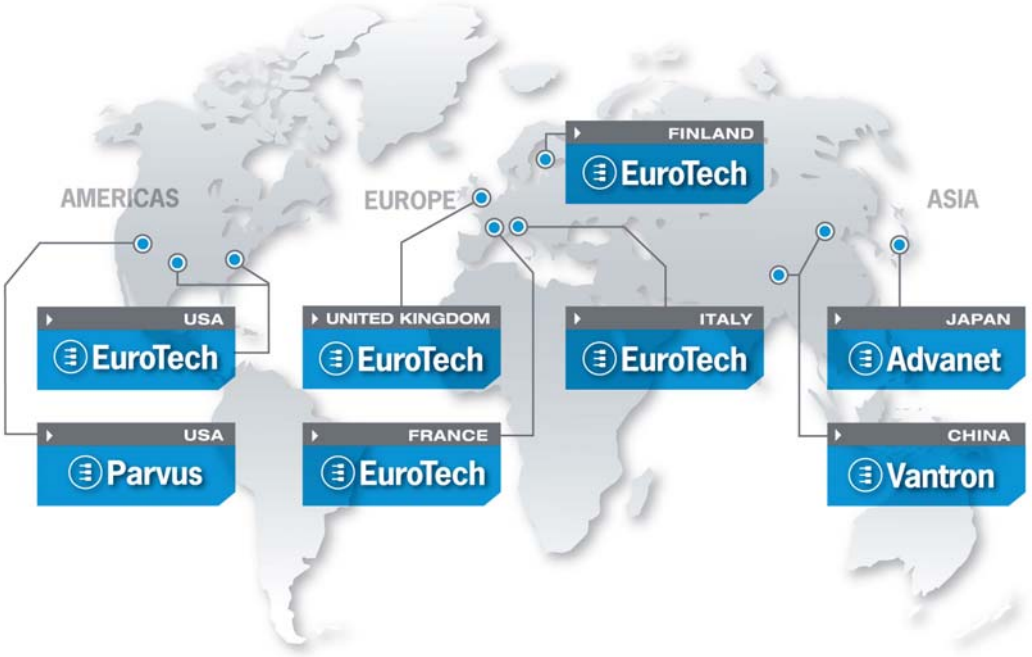
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