

INSTALLATION OF PC/104 EXTENSION COVER

Introduction

The extension cover replaces the back cover of PS Series workstations when multiple PC/104 cards are installed. The PC/104 Extension Cover kit, includes an Electrostatic Discharge Kit, an extension cover, 4 screws, 4 spacers, and 4 bolts.

Before You Start

You will need the following items:

- PC/104 Extension Cover Kit Model COV-2000 (for two boards) or Model COV-3000 (for three boards)
- PC/104 card(s)
- Installation instructions for the PC/104 Extension Cover
- Extra spacers (in sets of 4) included with the PC/104 cards, if installing two or three new cards.
- Screwdriver

When adding modules to the PowerStation, keep the following information in mind:

Power

The total combination of modules may not exceed the current limits specified for PC/104 modules in the PowerStation. See **Electrical Specifications** in Appendix A of the *PowerStation PS Series User Manual* for more information about the voltage and current available for expansion cards.

Plug and Play

The PowerStation PS Series supports Plug and Play features. When you select PC/104 modules, choose modules that either contain Plug and Play features or modules that allow you to enable the Plug and Play features.

I/O Addresses and IRQs

As in most ISA-bus computers, port addresses 300 – 31F are available for PC/104 module functions, and addresses 310 through 317 are reserved for the PowerStation. Make sure that any PC/104 modules you install do not conflict with these addresses.

See Chapter 1 of the *PowerStation PS Series User Manual* for more information about I/O addresses and IRQs used by the PowerStation PS Series. Make sure that any adapter cards you install do not conflict with these addresses.

Precautions

Before you start, be sure to read the following precautions:



Warning

For safety reasons, the PowerStation should be opened only by qualified service personnel.



Warning

Be sure to observe electrostatic discharge (ESD) precautions while working inside the unit.

Electrostatic Discharge Precautions Preparation

Important Open the Electrostatic Discharge Kit and follow the directions for attaching the wrist strap and handling sensitive electronic components.

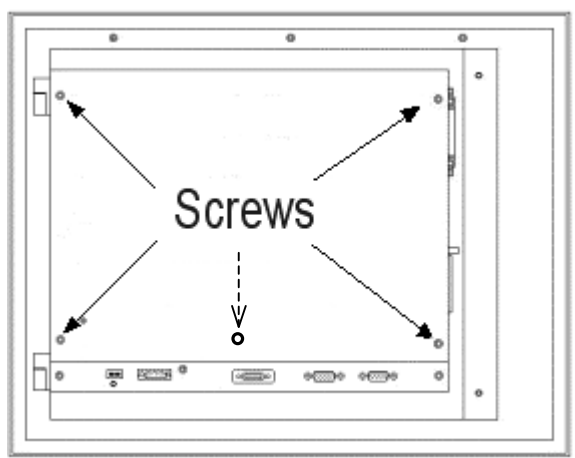
Removing the Existing Back Cover

To open the unit, follow these steps:

1. Turn off the unit.
2. Disconnect the unit from the power source.
3. Disconnect all cables attached to the unit.
4. Copy the PowerStation serial number from the original back cover label onto the label located on the new extension cover.

Caution Before you complete the next step, you must wear an ESD wrist strap connected to a good, known, earth ground to avoid damaging the unit.

5. Remove the fastening screws from the back cover of the unit.



Note The unit illustrated above is a PS15-2. However, the 4 corner screws are located in the same place for all units within the PowerStation PS series regardless of the model number. The PXXX-3 (ISA majority backplate expansion) and PXXX-4 (PCI majority backplate expansion) have an additional fifth screw, indicated below by the dashed arrow.

6. If you have a unit with ISA or PCI cards, you will need to remove the bracket that holds the cards in place.

The back cover is removed. Discard or recycle the old back cover.

Order of PC/104 Cards

Warning If you are installing a PC/104 card on top of a MachineLogic Control Adapter (MLCA), be sure that no metallic parts of the card are touching the relay of the Control Adapter (metallic box on bottom of the card). If metallic parts touch the relay, a short may occur and damage the MLCA.

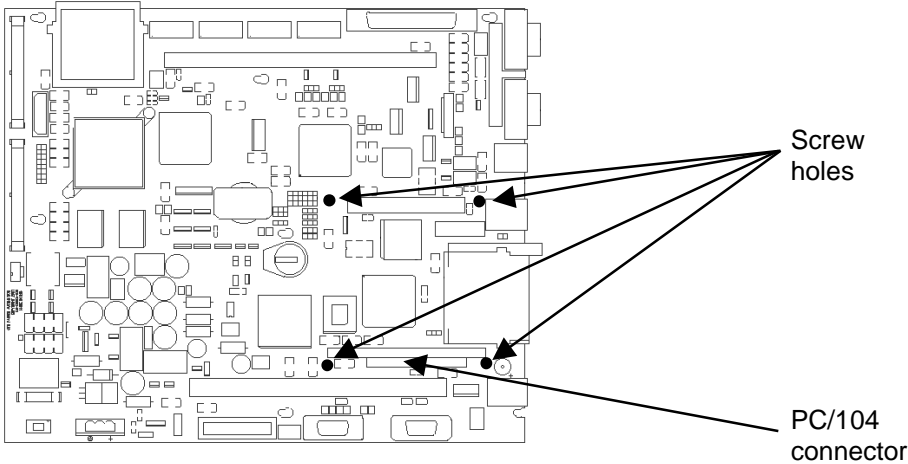
Warning If you are installing a PC/104 MLCA with a UCS adapter, the MLCA card must be installed last (top card) in order for the card to fit properly with the extension cover.

Installing PC/104 Card(s)

- **If you have no PC/104 cards installed**
 1. Install the 4 standoffs included with the Expansion Kit on the screws in the locations indicated in the diagram below.

Important Do not overtighten the standoffs.

2. Align the pins on the first PC/104 card with the connector on the board (see diagram below).



3. Press down until the PC/104 card is firmly seated. The card should rest evenly on the standoffs, and the screw holes on the PC/104 card should align with the tops of the standoffs.
 4. Attach the four nuts onto the standoffs and tighten. If you have a second board to install, go to the next step.
- **To install a card on top of another PC/104 card, follow these steps:**

1. Remove the 4 nuts securing the existing PC/104 board.
2. Install 4 standoffs on the standoffs showing through the card already installed on the board.

Important Do not overtighten the standoffs.

3. Align the pins on the new PC/104 card with the connector on the previously installed PC/104 card.
4. Press down until the PC/104 card is firmly seated. The card should rest evenly on the standoffs, and the screw holes on the second card should align with the tops of the standoffs.
5. Attach the nuts to the top of standoffs.

Installing the Back Cover

To install the back cover, follow these steps:

1. If you have a unit with ISA or PCI cards, you will need to re-install the bracket that holds the cards in place.
2. Snap off the detachable slots of the PC/104 cover side panels, as needed, for any PC/104 card connector(s) to show through the side panel(s).

Note Some PC/104 connectors will be recessed a fair amount into the cover. In these cases, it will be easier to connect the cables to the PC/104 board before attaching the cover.

3. Place the new PC/104 extension cover on the unit and align over the PC/104 card. The solid side of the cover should face the top of the unit.
4. Secure the PC/104 cover to the unit using the four screws provided with the PC/104 Extension Cover kit.
5. Perform any cable connections or further setup required for the PC/104 cards.
6. Reconnect the other cables removed from the unit.
7. Reconnect the unit to the power source.

Your extension cover installation is complete.