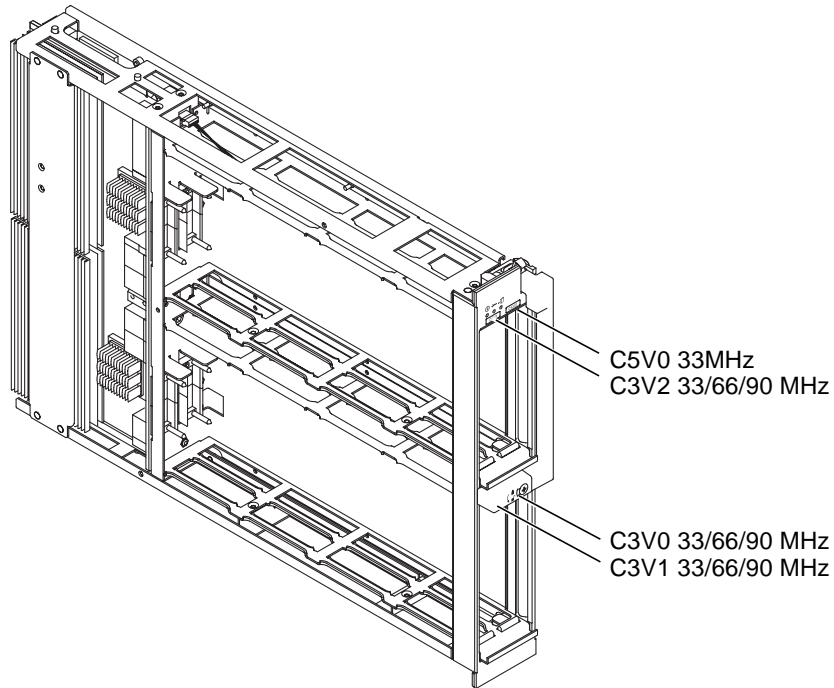


Sun Fire™ E25K/E20K/15K/12K Systems hsPCI-X I/O Assembly Installation Guide



Firmware and OS Minimum Requirements for hsPCI-X Assemblies

Note – If your system requires a software upgrade and a firmware upgrade, upgrade the firmware first. Install new PCI-X I/O assemblies only after you have upgraded the firmware and software.

Sun Fire™ E25K/E20K systems and upgraded Sun Fire 15K/12K systems require the following software versions:

- Firmware level 5.20.0 or subsequent compatible versions
- Releases beginning with the Solaris™ 8 2/04 Operating System with patches
- Releases beginning with the Solaris 9 9/05 Operating System
- Releases beginning with the Solaris 10 3/05 Operating System or Solaris 10 1/06 Operating System and higher
- System Management Services 1.6
- Sun™ Management Center 3.5 software

hsPCI-X Assembly Installation

Device nodes for cards installed in the C5V0 slot have changed from previous assemblies. Scripts that have been created by an administrator that use PCI application IDs must be updated.

Check with your Sun Service representative for compatibility of your existing PCI adapters in your new assembly.

Powering Off the I/O Assembly

1. Check the state of the board to be removed by typing:

```
sc% showboards | grep IOx
```

where *x* is I/O assembly 0-17.

- If the board is powered off, go to “Removing the I/O Assembly”.
- If the board is powered on, but not part of a domain, go to “Board is Not Part of a Domain”.
- If the board is the single board in the domain, go to “Board is the Single Board in the Domain”.
- If the board is one of many in the domain, go to “Board is One of Multiple Boards in the Domain”.

Board is Not Part of a Domain

- ♦ Power off the I/O assembly through Sun Management Center or by typing the following SMS command:

```
sc% poweroff IOx
```

where *x* is assembly 0-17. Then go to, “Removing the I/O Assembly”.

Board is the Single Board in the Domain

1. Log into the domain as the domain administrator and shut down the operating system by typing the following sequence:

```
domain_name# shutdown -y -g seconds -i 0
```

where *seconds* is the amount of time before shutdown.

2. Power off the board by typing:

```
sc% setkeyswitch -d domain_id off
```

Then go to, “Removing the I/O Assembly”.

Board is One of Multiple Boards in the Domain

- ♦ Using dynamic reconfiguration, deconfigure the I/O assembly from the domain and power it off by using the Sun Management Center or by typing the following SMS command:

```
sc% deleteboard IOx
```

where *x* is assembly 0-17. Then go to, “Removing the I/O Assembly”.

Removing the I/O Assembly



Caution – Be sure you are properly grounded before you begin the hardware removal and installation. There are ground points at top left and top right of the cabinet in both front and rear.

1. Open the cabinet door.



Caution – Before removing an I/O assembly from the system, the Activation indicator LED (green) must be off and the Removal indicator LED (amber or blue) must be on.

2. Label and remove the I/O cables from the I/O assembly.
3. Turn the pawl latches counterclockwise with a Phillips No. 1 screwdriver to release the carrier insert-eject lever.
4. Extend the carrier insert-eject lever.
5. Extract the assembly and place it on a flat, sturdy, ESD-protected surface with the component side up.



Caution – Never place the weight of a board on its connector as it is easily damaged.

Installing the PCI-X I/O Assembly



Caution – Be sure you are properly grounded before you begin the hardware removal and installation. There are ground points at top left and top right of the cabinet in both front and rear.

1. Remove the plastic cover protecting the hsPCI-X I/O assembly connectors.



Caution – Failure to remove the connector cover causes damage to the centerplane connectors when the assembly is inserted into the system.

2. Make sure the insert-eject lever is extended.
3. Firmly grasp the hsPCI-X I/O assembly with one hand, supporting the bottom with the other hand, and position it onto the carrier rail.
4. Slide the board into the slot until it begins to connect with the expander connector.



Caution – DO NOT FORCE any assembly into a slot; this can cause damage to the assembly and system. The assembly should insert and seat smoothly. If it binds, remove the assembly and inspect the card cage slot for any obvious obstructions.

5. Apply firm pressure to the face plate to seat the board.
6. Use the insert-eject lever to fully seat and automatically lock the board into position.

Note – Failure of the Service indicator LED to transition from on to off within 60 seconds after insertion indicates a power-status control fault.

7. Install all I/O cables.
8. Close the cabinet door.

Powering On the hsPCI-X I/O Assembly

- ✦ Power on the hsPCI-X I/O assembly by using the Sun Management Center or by typing the following SMS command:

```
sc% poweron IOx
```

where *x* is the hsPCI-X I/O assembly 0-17.

Verifying the hsPCI-X I/O Assembly

1. Using dynamic reconfiguration, configure the hsPCI-X I/O assembly into the domain by using the Sun Management Center or by typing the following SMS command:

```
sc% addboard -d domain_id IOx
```

where *domain_id* is the letter A-R of the target domain(s) for the board and *x* is the hsPCI-X I/O assembly 0-17.

2. Examine the POST messages reported by the `addboard/setkeyswitch` for any errors.
3. Monitor the message logs on the system controller, specifically `/var/opt/SUNWSMS/adm/platform/messages` and `/var/opt/SUNWSMS/adm/domain_id/messages`.

After the system has been powered on, the Activation indicator LED (green) should be on (lit).

Note – A PCI-X card installed in an 3.3v slot in a hsPCI-X I/O assembly will run in PCI-X mode by default. If a 3rd-party PCI-X card has difficulty working in the hsPCI-X I/O assembly, use the `setpcimode` command to force the card to run in PCI mode.

A PCI card in an hsPCI-X board will run in PCI mode by default, there is no way to force it to run in PCI-X mode. Use the SMS `showpcimode` command to display the PCI modes of the slots in each I/O assembly. Systems with both hsPCI+ I/O assemblies and hsPCI-X I/O assemblies can co-exist.

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