



SunPCi™ II 2.3 Installation Guide

Sun Microsystems, Inc.
901 San Antonio Road
Palo Alto, CA 94303-4900 U.S.A.
650-960-1300

Part No. 806-4788-15
January 2002, [Revision A](#)

[Send comments about this document to: docfeedback@sun.com](mailto:docfeedback@sun.com)

Copyright 2002 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, CA 94303-4900 U.S.A. All rights reserved.

This product or document is distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any. Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and other countries, exclusively licensed through X/Open Company, Ltd.

Sun, Sun Microsystems, the Sun logo, AnswerBook2, docs.sun.com, Sun Blade, Sun Ray, Sun Fire, Netra, Solaris, Ultra, Sunsolve, and SunPCi are trademarks, registered trademarks, or service marks of Sun Microsystems, Inc. in the U.S. and other countries. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

Federal Acquisitions: Commercial Software—Government Users Subject to Standard License Terms and Conditions.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2002 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, CA 94303-4900 Etats-Unis. Tous droits réservés.

Ce produit ou document est distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a. Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées des systèmes Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd.

Sun, Sun Microsystems, le logo Sun, AnswerBook2, docs.sun.com, Sun Blade, Sun Ray, Sun Fire, Netra, Solaris, Ultra, Sunsolve, et SunPCi sont des marques de fabrique ou des marques déposées, ou marques de service, de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays. Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux Etats-Unis et dans d'autres pays. Les produits portant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une licence non exclusive de Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciés de Sun qui mettent en place l'interface d'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

LA DOCUMENTATION EST FOURNIE "EN L'ETAT" ET TOUTES AUTRES CONDITIONS, DECLARATIONS ET GARANTIES EXPRESSES OU TACITES SONT FORMELLEMENT EXCLUES, DANS LA MESURE AUTORISEE PAR LA LOI APPLICABLE, Y COMPRIS NOTAMMENT TOUTE GARANTIE IMPLICITE RELATIVE A LA QUALITE MARCHANDE, A L'APTITUDE A UNE UTILISATION PARTICULIERE OU A L'ABSENCE DE CONTREFAÇON.



Contents

1. SunPCi II Hardware Installation	1
What's On This CD?	1
Viewing the PDF Files	2
Before You Install SunPCi II Cards	3
System Hardware and Solaris Requirements	3
Supported Systems and Power Requirements	3
Installing Multiple SunPCi II Cards	4
Installation Equipment	4
Getting Started	5
▼ How to Remove a Previous Version of SunPCi Software	5
Removing SunPCi I Cards	6
Installing the SunPCi II Hardware	6
▼ How to Shut Down the System	7
▼ How to Remove the System Cover	7
▼ How to Install SODIMMs and Record MAC Addresses	8
Identifying the PCI Slots	9
▼ How to Prepare the PCI Slots	21
▼ How to Install the SunPCi II Card(s)	21
▼ How to Complete the Installation	22

How to Proceed 22

2. SunPCi II Software Installation 23

Supported Solaris Operating Environments 23

Supported Microsoft Windows Operating Systems 24

Installing the Solaris Patches 24

Obtaining Patches From Sun 26

▼ How to Determine the Solaris Frame Buffer Type 26

▼ How to Determine the Solaris Version 26

▼ How to Install the Solaris Patches 27

About SunPCi II Software Packages 29

▼ How to Install the SunPCi II Software 29

How to Proceed 32

Obtaining Warranty Service 32

▼ How to Replace a Defective Card 33

Figures

FIGURE 1-1	Attaching the Add-on Backplate	9
FIGURE 1-2	Ultra 5 System PCI Slots	10
FIGURE 1-3	Ultra 10 System PCI Slots	11
FIGURE 1-4	Ultra 60 System PCI Slots	12
FIGURE 1-5	Ultra 80 System PCI Slots	13
FIGURE 1-6	Sun Blade 1000 System PCI Slots	14
FIGURE 1-7	Sun Blade 100 System PCI Slots	15
FIGURE 1-8	Sun Enterprise 450 System PCI Slots	16
FIGURE 1-9	Sun Enterprise 250 System PCI Slots	17
FIGURE 1-10	Sun Enterprise 220R System PCI Slots	18
FIGURE 1-11	Sun Enterprise 420R System PCI Slots	19
FIGURE 1-12	Sun Fire 280R System PCI Slots	20

SunPCi II Hardware Installation

The instructions in this guide will help you install one or more SunPCi™ IIpro Coprocessor Version 2 cards, hereafter referred to as the SunPCi II cards, and the SunPCi II 2.3 software into your system. This guide also explains how to locate and view the SunPCi II documentation on the software CD. This chapter includes the following topics:

- “What’s On This CD?” on page 1
- “Viewing the PDF Files” on page 2
- “Before You Install SunPCi II Cards” on page 3
- “Getting Started” on page 5
- “Installing the SunPCi II Hardware” on page 6

What’s On This CD?

Version 2.3 of the SunPCi II product supports installation of multiple SunPCi II cards into the UltraSPARC™ processor-based systems listed in the section “Supported Systems and Power Requirements” on page 3. After you install and configure the SunPCi II product, you will be ready to configure and install your Microsoft Windows operating system software. You must purchase operating system software separately. See “Supported Microsoft Windows Operating Systems” on page 24 for the list of supported Microsoft Windows operating systems.

The SunPCi II CD contains the following software and documentation:

- SunPCi II Version 2.3 software
- *SunPCi II 2.3 Installation Guide* in PDF (Adobe Acrobat) format
- *SunPCi II 2.3 User’s Guide* in PDF format
- *SunPCi II 2.3 Product Notes* in PDF format

- Localized versions of the *SunPCi II 2.3 Installation Guide* and the *SunPCi II 2.3 User's Guide* in PDF format

The *SunPCi II 2.3 Installation Guide* (this guide) describes how to install one or more SunPCi II cards and the SunPCi II software in supported UltraSPARC systems.

The *SunPCi II 2.3 User's Guide* describes how to configure the SunPCi II software to use one or more SunPCi II cards, and how to install Microsoft Windows operating system software on your UltraSPARC system for use with SunPCi II cards.

SunPCi II 2.3 Product Notes describe late-breaking product news and issues, including available workarounds in this release of the software.

To view these guides online, refer to "Viewing the PDF Files" on page 2.

Viewing the PDF Files

The English and localized versions of the *SunPCi II 2.3 Installation Guide* and the *SunPCi II 2.3 User's Guide* are stored on the SunPCi II product CD in PDF (Adobe Acrobat) format. To view these files, perform the following steps:

1. **Use the `cd` command to go to the `DOC` subdirectory where the PDF files for your locale are stored on your SunPCi II product CD.**

Refer to the *SunPCi II 2.3 Product Notes* for information about the paths for each country locale.

2. **In a terminal window, type the following command:**

```
% acroread &
```

After a few seconds, the Adobe Acrobat splash screen is displayed, followed by the main program window.

3. **From the File menu, choose Open.**
4. **Double-click on the document file name to open the document.**

You can now use the Page Up and Page Down keys, as well as the commands in Adobe Acrobat, to navigate and print the PDF files.

Before You Install SunPCi II Cards

This section describes prerequisite system hardware requirements, supported Microsoft Windows software, guidelines for installing multiple SunPCi II cards, and the equipment and software you need for the installation.

System Hardware and Solaris Requirements

You can install the software on a supported UltraSPARC system, with a Peripheral Component Interconnect (PCI) bus, running the Solaris™ 2.6, Solaris 7, or Solaris 8 operating environment software.

Supported Systems and Power Requirements

The SunPCi II card is a 33/66-MHz PCI card that draws 25 Watts (DC) of power. You can install the card into any standard 33- or 66-MHz PCI slot on one of the UltraSPARC systems listed in the next table.

TABLE 1-1 Supported Systems

UltraSPARC System	SunPCi II Cards
Ultra 5 Workstation	1
Ultra 10 Workstation	1
Ultra 60 Workstation	2
Ultra 80 Workstation	2
Sun Blade 100 System	2
Sun Blade 1000 System	4
Sun Enterprise 450 System	6
Sun Enterprise 250 System	2
Sun Enterprise 220R Server	2
Sun Enterprise 420R Server	2

TABLE 1-1 Supported Systems (Continued)

UltraSPARC System	SunPCi II Cards
Sun Fire 280R Server	2
Sun Netra E1 PCI System Expander and Netra Server ¹	2 ²
Sun Ray 1 Appliance with a Sun Ray Server	Variable ³

1. The Netra E1 PCI System Expander can be used with these servers: Netra t1 Model 100/105, Netra t1 AC 200, Netra t1 DC 200, Netra t1 1120/1125, and Netra t1 1400/1405.

2. For PCI card installation instructions, consult the *Netra E1 PCI System Expander Installation and Maintenance Manual* (806-6325-10).

3. The number of cards depends on the supported system. SunPCi II supports the Sun Ray 1 appliance and server software correctly configured and installed on a supported UltraSPARC system.

Installing Multiple SunPCi II Cards

Follow these guidelines if you are installing more than one SunPCi II card in your system:

- When you install each card, write down both the card's machine (MAC) Ethernet address (on the yellow label attached to the card, for example, 08:0F:20:F0:7F:16) and the PCI slot number on the system back panel into which you will install the card. You will need this information after you configure the SunPCi II software.
- Before installing any SunPCi II card into the system, remove any existing SunPCi software version from the system. See "How to Remove a Previous Version of SunPCi Software" on page 5.
- Install all your SunPCi II cards before you install the SunPCi II software.
- Configure physical Ethernet networking if you have installed multiple cards; virtual networking is disabled with multiple cards. You can use either type of networking if you have only one SunPCi II card installed in your system.
- Each card draws 25 watts (DC). Consult the documentation that came with your system for additional DC power calculation information.

Installation Equipment

To install your SunPCi II hardware, you need the following equipment and software:

- SunPCi II card or cards
- UltraSPARC system with available PCI slots (two available slots per card if you plan to use the add-on backplate with parallel and serial ports)

- Grounding wrist strap (included in the SunPCi II package)
- Phillips screwdriver (not included)

Note – Make sure that you keep the box and all packing materials in case you need to return the card for service.

Getting Started

If you have installed a previous version of SunPCi hardware and software, you need to perform the following five steps before you can configure and install Microsoft Windows operating system software:

1. Remove the previous SunPCi software version.
2. Remove any installed SunPCi cards that are not SunPCi II cards.
3. Install the SunPCi II hardware.
4. View the documentation files.
5. Install and configure the SunPCi II 2.3 software.

The first four sections that follow in this chapter describe the first four steps in detail. The sections in Chapter 2 describe Step 5 in detail.

▼ How to Remove a Previous Version of SunPCi Software

This section provides instructions for completely removing a previous version of SunPCi software from your system. Skip this section if you are not removing old software.

To remove SunPCi software, follow these steps:

1. **Become superuser on your system by typing the following command:**

```
% su
```

2. In response to the password prompt, type the root password.

If you do not know the password, see your system administrator.

3. Type the following command to remove the software package for SunPCi II:

```
# /usr/sbin/pkgrm SUNWspci2
```

If you are removing the package for SunPCi I, substitute `SUNWspci` for `SUNWspci2` in the command above. With either command, you will see many file names scroll by as the files are removed.

4. Exit superuser status by typing:

```
# exit
```

Removing SunPCi I Cards

If you have any SunPCi cards installed in your system that are not SunPCi II cards, you need to remove them as well as the existing SunPCi software package before installing the SunPCi II card. For instructions about removing the PCI card, refer to the documentation that accompanied your UltraSPARC system.

Note – You cannot use an emulated C: drive created for SunPCi I as a SunPCi II boot drive. If you have data on your old C: drive that you want to use with the new SunPCi II card, attach the old C: drive as a D: drive *after* you install the SunPCi II card and software. You will have to reinstall your applications on your new C: drive.

Installing the SunPCi II Hardware

This section explains how to install a SunPCi II card and its optional add-on backplate into your system. You only need to install the backplate if you plan to connect an external serial or parallel device, such as a modem or a local printer, directly to the SunPCi II card.

Note – Make sure that you install all the SunPCi II cards before you install the SunPCi II software. You only need to install the software once for a system, no matter how many cards you install.

▼ How to Shut Down the System

1. **Become superuser on your system by typing the following command:**

```
% su
```

2. **In response to the password prompt, type the root password.**
If you do not know the password, see your system administrator.
3. **Type the following command:**

```
# uadmin 2 6
```

Make sure that you type a space between the `uadmin` command and the 2, and a space between the 2 and the 6. Your system unit powers off.

4. **Turn off the power to any peripherals that are connected to your system.**
5. **Remove all cables, *except the power cord*, from the back of the system.**

Leaving the power cord plugged in ensures that you have a path to ground; this reduces the possibility of damage to static-sensitive devices.

If you are installing the SunPCi II card into a new system, make sure that you plug the power cord into the power inlet on the system and into the wall outlet. This ensures that static electricity is properly discharged and does not damage the card or your system.

▼ How to Remove the System Cover

1. **Remove the system cover or unit top.**

Refer to the instructions included with your particular system.

2. Attach the grounding wrist strap.

Attach the copper end of the wrist strap to the metal frame of the system or the casing of the power supply. Be sure to attach the copper to bare metal; do not attach it to any painted surface or to any of the labels on the power supply. Attach the other end of the strap around your wrist.

▼ How to Install SODIMMs and Record MAC Addresses

1. Remove the SunPCi II card from its antistatic bag.

Hold the card by the edges. Place it on the antistatic bag, or on an antistatic mat (if you have one available).

2. If you purchased the optional additional RAM SODIMMs, install them now. If you did not purchase the additional RAM, skip this step.

The SunPCi II card ships in a standard configuration with one SODIMM installed. If desired, you can add a second SODIMM as described in the *SunPCi II SODIMM Installation Guide* (accompanying the optional SODIMM).



Caution – The SunPCi II card is designed to operate only with the SODIMMs supplied by Sun for the card. If you install a SODIMM not supplied by Sun, you will invalidate the warranty for your SunPCi II card.

3. In the table after this step, write down the machine or MAC (Ethernet) address found on the card's sticker, together with the card's PCI slot number into which you will install the card. Do this for all cards you plan to install.

The SunPCi II card bears a yellow sticker with the card's machine or MAC (Ethernet) address (for example, 08:0F:20:F0:7F:16). This label is located on the center of the card, above the connectors. Consult your system back panel or documentation for the PCI slot number.

Machine or MAC (Ethernet) Address	PCI Slot Number	Computer Name	IP Address

Note – You provide a Microsoft Windows computer name for the PC or server when installing Microsoft Windows software, and you need a corresponding Internet Protocol (IP) address later from your system administrator (if you plan on using the network). The *SunPCi II 2.3 User's Guide* describes these configuration procedures.

4. If you are using the optional add-on backplate, attach it to each SunPCi II card as shown in the following figure; if you are not using the backplate, skip this step.

Attach the connectors before installing the backplate. You can use the add-on backplate to install external PC peripherals to each SunPCi II card, such as local printers and modems.

This figure shows the proper orientation of the SunPCi II card and the backplate. You can see the location of the ports that show through the back of the system after the card is installed.

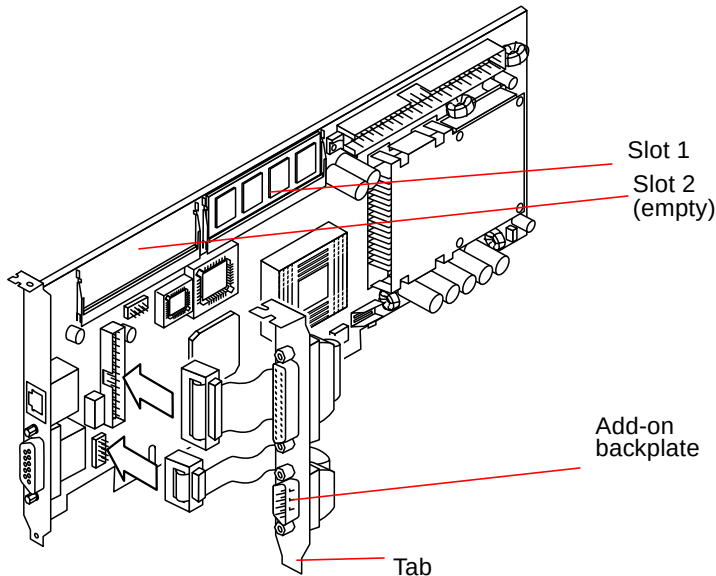


FIGURE 1-1 Attaching the Add-on Backplate

Identifying the PCI Slots

To locate the PCI slots in your system, refer to the following figure that corresponds to your system, or to the system documentation. *Do not install the cards at this time.* After identifying the PCI slots, follow the instructions beginning in “How to Prepare the PCI Slots” on page 21.

Note – The SunPCi II card operates in either 32-bit or 64-bit PCI slots.

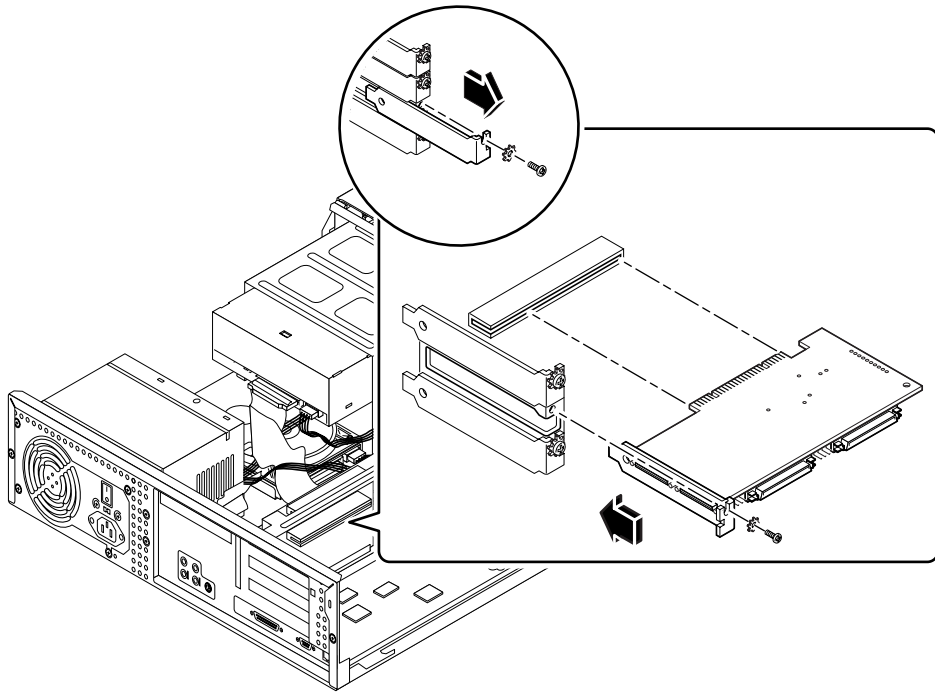


FIGURE 1-2 Ultra 5 System PCI Slots

For more information about the PCI slots, see the *Sun Ultra 5 Service Manual*.

Tip – When installing the SunPCi II card into the Ultra 10 system, it is necessary to turn the system unit upside down and lift the cover upward.

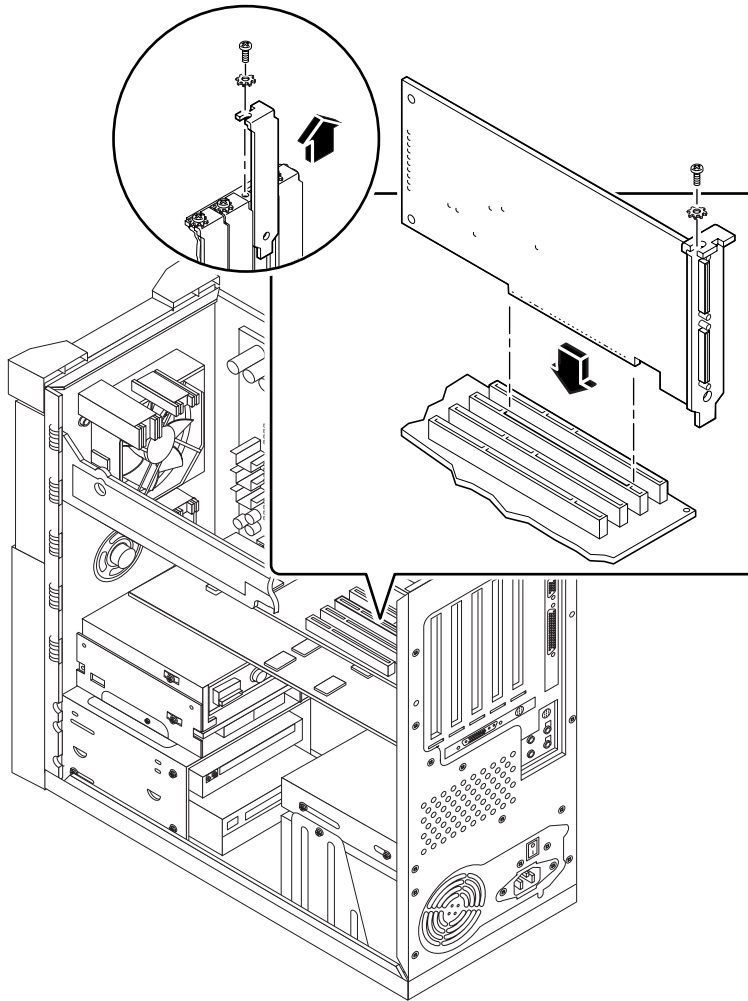


FIGURE 1-3 Ultra 10 System PCI Slots

If your Ultra 10 system also has a Fast Frame Buffer (FFB) card (or any other auxiliary card) installed, be careful not to dislodge the FFB card as you insert the SunPCi II card into its PCI slot. If you ordered the FFB card with your system, it will come pre-installed. If you did not order the FFB card, you will not have one installed. For more information about the PCI slots, see the *Sun Ultra 10 Service Manual*.

Tip – When installing the SunPCi II card into the Ultra 60 system, make sure to push down on the cable. This helps move the cable out of the way of the card while you are inserting it into the PCI slot.

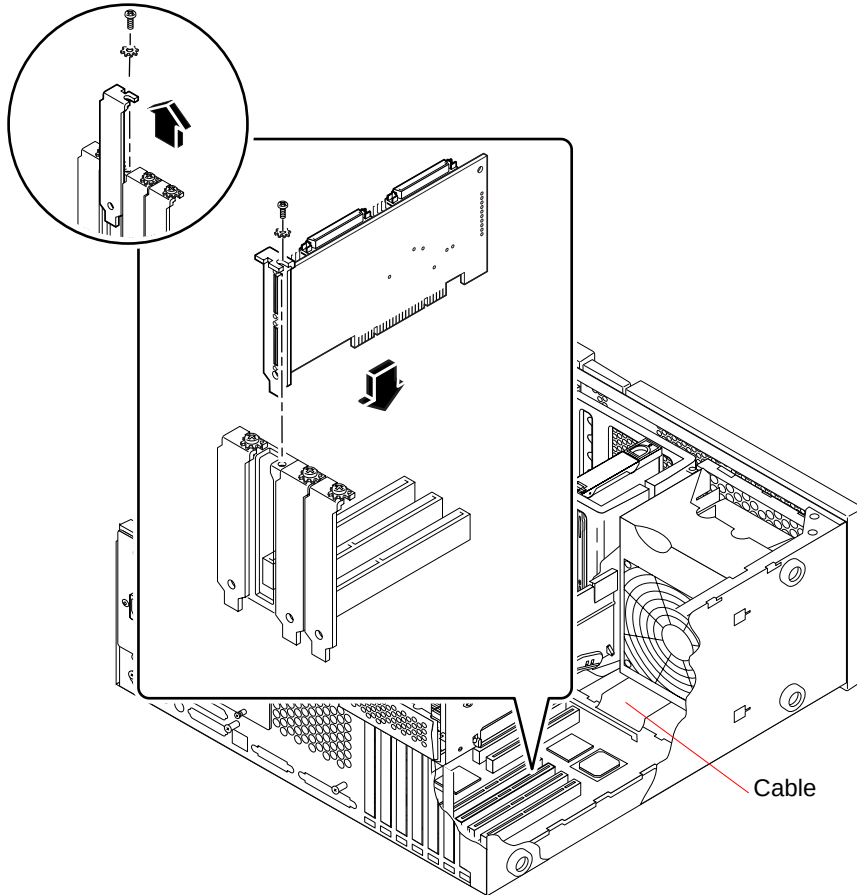


FIGURE 1-4 Ultra 60 System PCI Slots

If your Ultra 60 system also has a Fast Frame Buffer (FFB) card (or any other auxiliary card) installed, be careful not to dislodge the FFB card as you insert the SunPCi II card into its PCI slot. If you ordered the FFB card with your system, it will come pre-installed. If you did not order the FFB card, you will not have one installed.

For more information about the PCI slots, see the *Sun Ultra 60 Service Manual*.

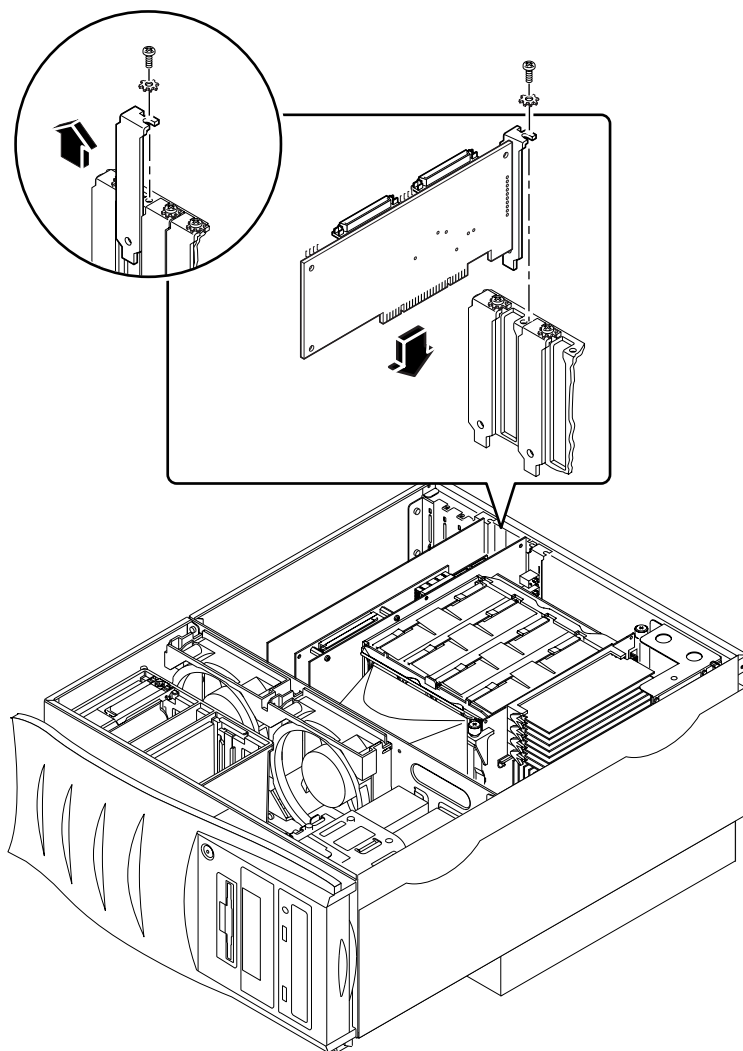


FIGURE 1-5 Ultra 80 System PCI Slots

For more information about the PCI slots, see the *Sun Ultra 80 Service Manual*.

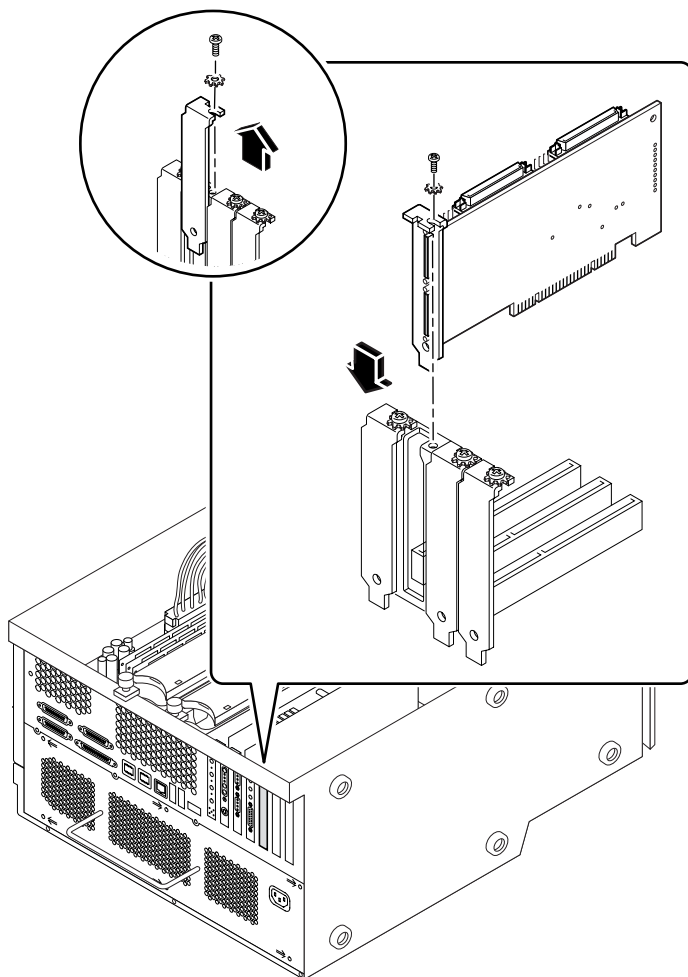


FIGURE 1-6 Sun Blade 1000 System PCI Slots

For more information about the PCI slots, see the *Sun Blade 1000 Service Manual*.

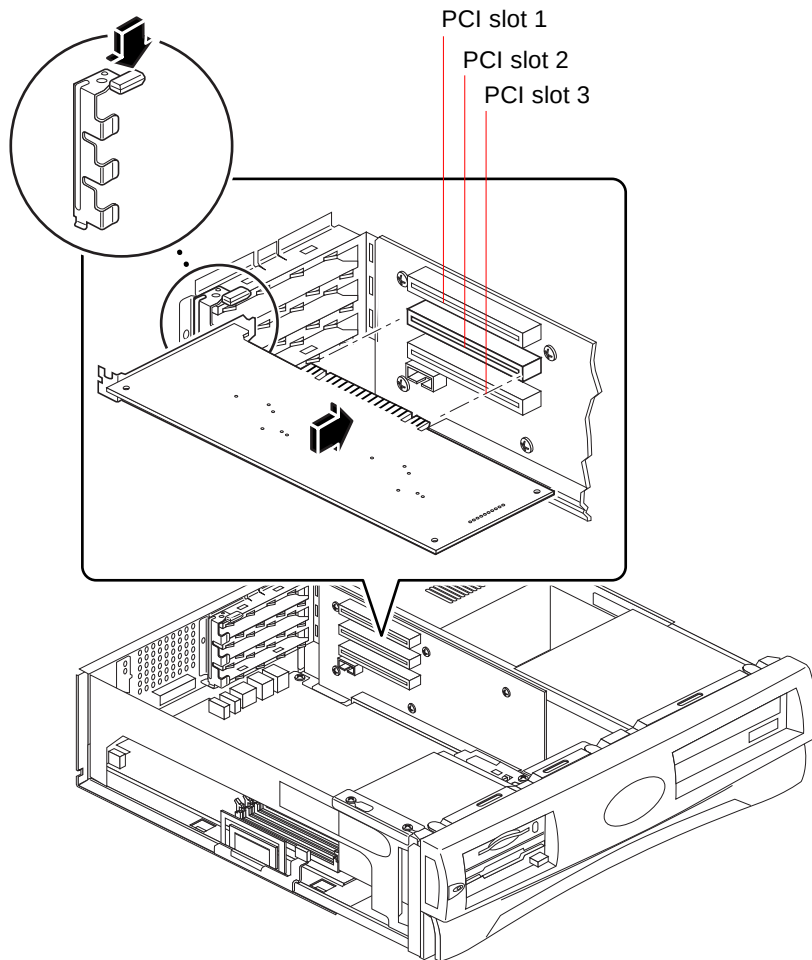


FIGURE 1-7 Sun Blade 100 System PCI Slots

See the *Sun Blade 100 Service Manual* for more PCI slot information.

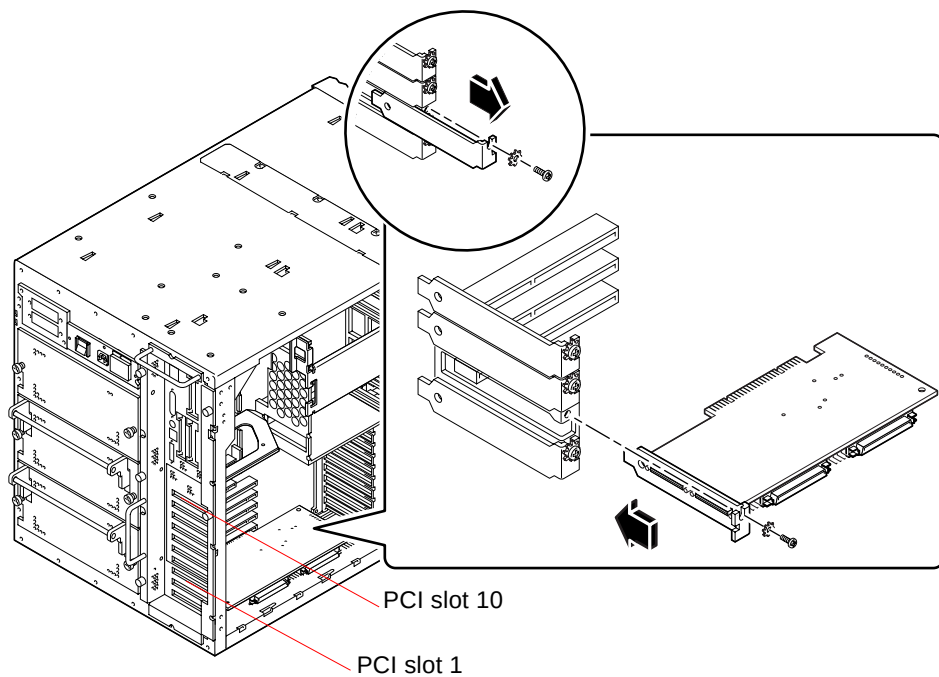


FIGURE 1-8 Sun Enterprise 450 System PCI Slots

Consult the *Ultra Enterprise 450 Server Owner's Guide* for more PCI information.

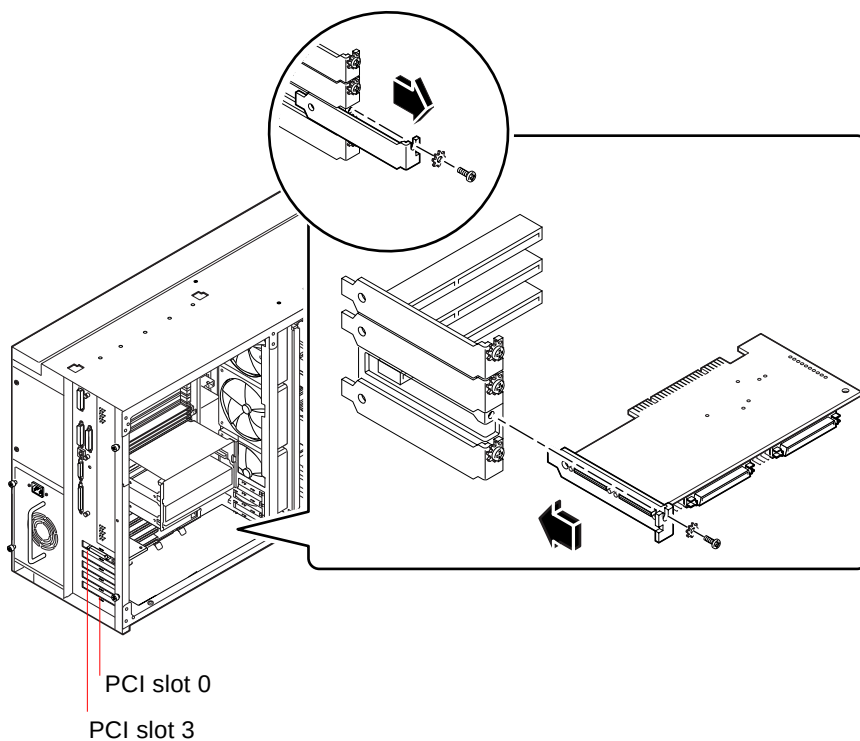


FIGURE 1-9 Sun Enterprise 250 System PCI Slots

Consult the *Sun Enterprise 250 Server Owner's Guide* for more PCI information.

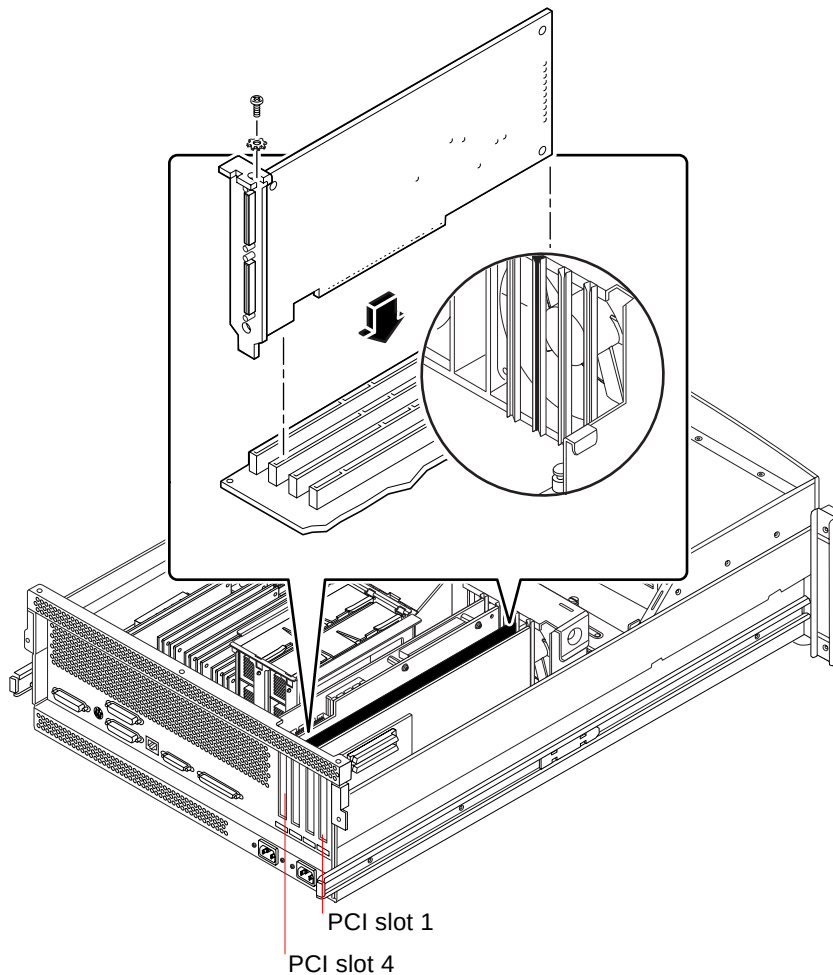


FIGURE 1-10 Sun Enterprise 220R System PCI Slots

Consult the *Sun Enterprise 220R Server Owner's Guide* and the *Sun Enterprise 220R Server Service Manual* for more PCI information.

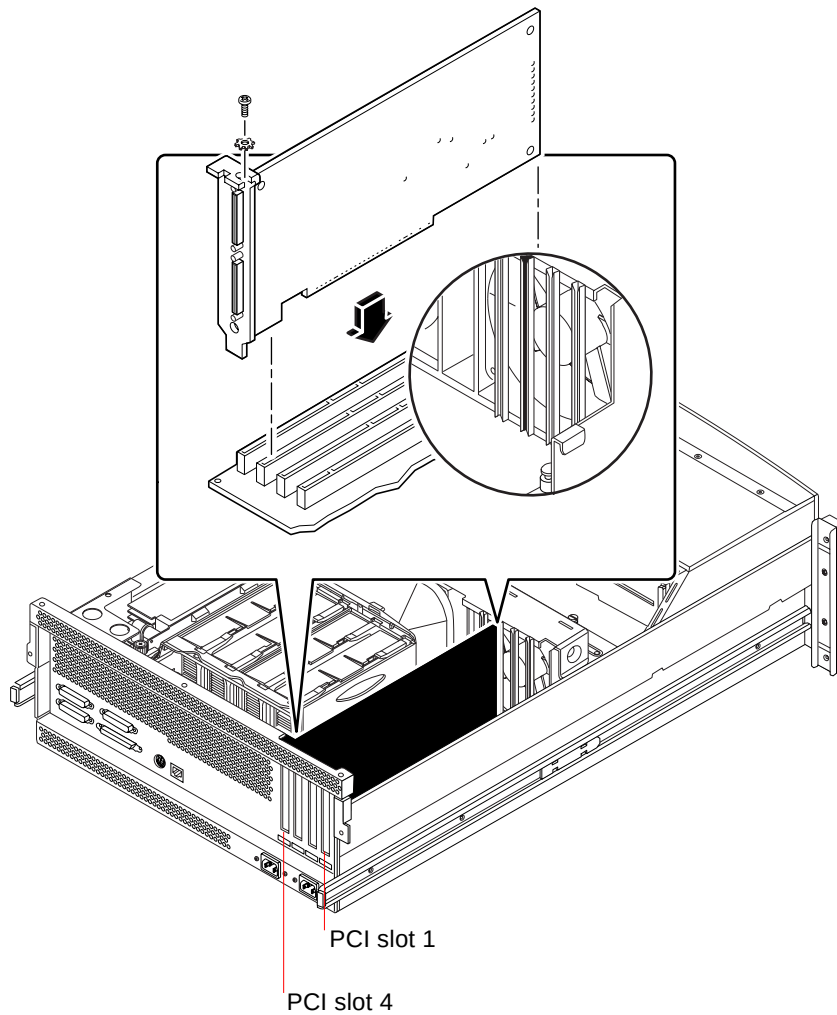


FIGURE 1-11 Sun Enterprise 420R System PCI Slots

Consult the *Sun Enterprise 420R Server Owner's Guide* and the *Sun Enterprise 420R Server Service Manual* for more PCI information.

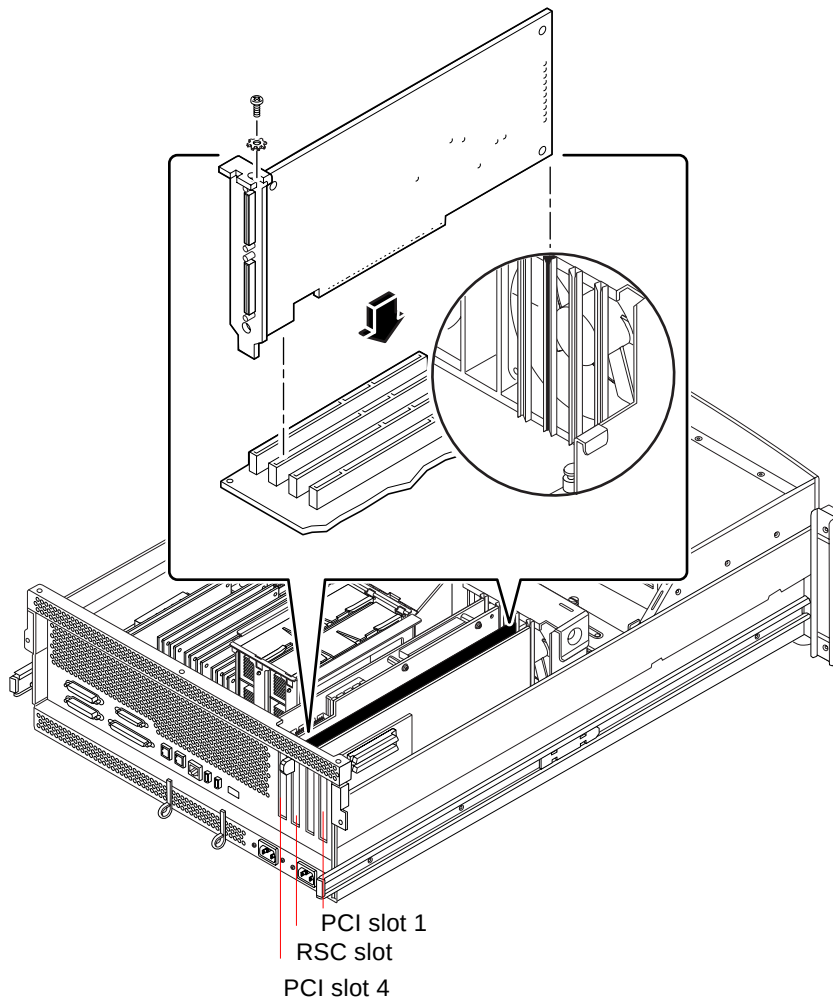


FIGURE 1-12 Sun Fire 280R System PCI Slots

The Sun Remote System Control (RSC) card is installed in the RSC slot. For more information about the PCI slots, see the *Sun Fire 280R Server Service Manual*.

▼ How to Prepare the PCI Slots

Before you can install the SunPCi II hardware, you need to prepare the PCI slot(s) you will use.

Note – If you plan to use the optional add-on backplate with serial and parallel ports, you need to use two adjacent back panel slots per card that you install.

- **Use your Phillips screwdriver to remove the filler panel(s), or to remove the installed card(s).**

The filler panel is the removable metal strip that is installed to cover each empty PCI slot.

- a. **If you are installing the card into a pair of empty slots, remove the filler panels covering the slots in the system.**
- b. **If you are installing the card into an occupied slot, remove the current card. Put your index fingers or thumbs under the corners of the card and lift the card upward. Remove the card from the system.**

▼ How to Install the SunPCi II Card(s)

Note – See the *SunPCi II 2.3 Product Notes* for special instructions for installing SunPCi II cards in a Sun Blade 100 system.

1. **Insert the SunPCi II card into the PCI slot.**

Remove the filler panel. Slide the tab on the bottom of the backplate into the opening in the back panel of your system. Remember that if you are using the add-on backplate, you will need to use adjacent slots.

Be careful not to dislodge any other cards that may be installed in other slots. Make sure the SunPCi II card ports, and the add-on backplate ports (if installed) face out through the back panel of the system.

2. **Tighten the screw on the SunPCi II card to secure it in place.**

Use the screw you removed from the filler panel.

3. **If you are using the optional add-on backplate, insert its tab correctly and tighten the screw to secure the backplate in place beside the SunPCi II card.**

4. If you are installing multiple cards, repeat this procedure until all SunPCi II coprocessor cards are installed.

After each installation, verify that each card and slot is recorded properly in the table in “How to Install SODIMMs and Record MAC Addresses” on page 8.

▼ How to Complete the Installation

1. Remove the wrist strap from your wrist and detach it from the system.
2. Replace the system cover or unit top, following the instructions appropriate to your system.
Refer to the instructions that accompanied your system.
3. Reconnect all cables to the back of the system.



Caution – Do not turn on the power to your system until you have re-installed and secured the system cover or unit top.

4. Turn on the power to your system peripherals.
5. Power on your system.
The system automatically reboots when you turn on the power to the system unit.
6. Log in and become superuser.
7. Type `halt` at the superuser prompt, and then type `boot -r` to start your system.
8. Log in again, become superuser, and continue with the SunPCi II software installation instructions in Chapter 2.

Note – If your system does not recognize the SunPCi II card or cards, or does not restart after you turn on the power, the SunPCi II card(s) may not be seated correctly in the PCI slot. Turn off the power to your system, open the system cover again, reseal each SunPCi II card, and repeat this procedure.

How to Proceed

To install the SunPCi II Version 2.3 software, refer to Chapter 2.

SunPCi II Software Installation

The instructions in this chapter provide the steps to install the Solaris operating environment patches (obtained from Sun), and the SunPCi II Version 2.3 software from the SunPCi II CD. You will also find information about how to obtain warranty service.

The following topics are included in this chapter:

- “Supported Solaris Operating Environments” on page 23
- “Installing the Solaris Patches” on page 24
- “How to Install the SunPCi II Software” on page 29
- “Obtaining Warranty Service” on page 32

Supported Solaris Operating Environments

You can install the SunPCi II Version 2.3 software on a supported UltraSPARC system running:

- Solaris 2.6 operating environment
- Solaris 7 operating environment
- Solaris 8 operating environment

SunPCi 2.3 software depends on the SunOS/BSD Compatibility Package. That package must be installed on your system (which is the default) in order for you to use SunPCi software.

Supported Microsoft Windows Operating Systems

The SunPCi II product supports the following Microsoft Windows operating systems (with indicated Service Packs, if required):

- Microsoft Windows XP Professional (Windows XP Professional)
- Microsoft Windows 2000 Professional (Windows 2000 Professional) Service Pack 2
- Microsoft Windows 2000 Server Edition (Windows 2000 Server) Service Pack 2
- Microsoft Windows NT Workstation 4.0 (Windows NT4 WS) Service Pack 6a
- Microsoft Windows NT 4.0 Server (Windows NT4 Server) Service Pack 6
- Microsoft Windows NT Terminal Server 4.0 (Windows NT4 TS) Service Pack 6
- Microsoft Windows Millennium Edition (Windows ME)
- Microsoft Windows 98 Second Edition (Windows 98 SE)

Note – SunPCi II 2.3 software does not support the Windows 95 operating system or the original release of Microsoft Windows 98.

Installing the Solaris Patches

If you have a Sun Creator3D (called the Fast Frame Buffer or FFB) or Sun Elite3D graphics accelerator card (called the Advanced Frame Buffer or AFB) installed in your workstation, you need to download and install certain software patches so that the frame buffer will be compatible with the SunPCi II software. Without the patches installed, the SunPCi II software may hang during installation and regular operation.

TABLE 2-1 lists the patches required with each version of the Solaris operating environment and card type. If more than one patch is listed for a particular card type, download and follow the patch instructions to install all of the recommended patches.

TABLE 2-1 Graphics Accelerator Card Patches

Solaris Version	Graphics Card Type (Device Name)	Patch Number ¹
Solaris 2.6	Elite3D (afb0@)	105361-11 (or newer)
		105363-30 (or newer)
		106022-09 (or newer)
	Creator3D (ffb0@)	105360-34 (or newer)
		105361-11 (or newer)
		106022-09 (or newer)
Solaris 7	Elite3D (afb0@)	106144-17 (or newer)
		106147-06 (or newer)
		106148-12 (or newer)
	Creator3D (ffb0@)	106145-19 (or newer)
		106147-06 (or newer)
		106148-12 (or newer)
Solaris 8	Elite3D (afb0@)	108604-04 (or newer)
	Creator3D (ffb0@)	108605-05 (or newer)

1. Patches have a base number, but the dash number is constantly updated. Find the patch that is *the most recent version*, unless otherwise instructed.

TABLE 2-2 lists the required font server patches with each version of the Solaris operating environment and other required patches. If more than one patch is listed for a particular Solaris version, download and follow the patch instructions to install all of the recommended patches.

TABLE 2-2 Font Server and Other Patches

Solaris Version	Patch Number ¹
Solaris 2.6	105633-56 (or newer) required for all systems
	105486-04 (or newer) required for all systems
	106362-32 (or newer) required for M64 graphics systems only
Solaris 7	108376-24 (or newer) required for all systems
	106146-18 (or newer) required for M64 graphics systems only
Solaris 8	108652-35 (or newer) required for all systems
	108606-10 (or newer) required for M64 graphics systems only

1. Patches have a base number, but the dash number is constantly updated. Find the patch that is *the most recent version*, unless otherwise instructed.

Obtaining Patches From Sun

If you have a service contract with Sun, you may download these patches from <http://sunsolve.sun.com/pub-cgi/show.pl?target=home>. At the SunSolveSM Web site, click on Patchfinder and search for the patches by number and download them from the site. If you do not have a service contract, contact your sales representative to obtain patch access information.

If you are a member of the Sun Developer community, you may search and download from the Access1 site URL at <http://access1.sun.com/cgi-bin/query.cgi>.

▼ How to Determine the Solaris Frame Buffer Type

To find out the type of graphics accelerator card that is installed in your workstation, follow these steps:

1. **Type the following command at the system prompt:**

```
% cd /dev/fbs
```

2. **Type ls to list the devices installed in your system.**

- If you have an Elite3D card installed, the system returns the following information:

```
afb00@
```

- If you have a Creator3D card installed, the system returns this information:

```
ffb00@
```

▼ How to Determine the Solaris Version

To find out the version of your operating system:

- **Type the following command:**

```
% uname -a
```


Your workstation will return a line of text similar to the following:

```
SunOS myworkstn 5.6 Generic sun4u sparc SUNW,Ultra-60
```

Note the SunOS version number that appears. For example, SunOS 5.6 is Solaris 2.6, SunOS 5.7 is Solaris 7, and SunOS 5.8 is Solaris 8.

▼ How to Install the Solaris Patches

To install the patches, follow these steps:

1. **Become superuser on your system using the following command:**

```
% su
```

2. **In response to the password prompt, type the root password.**

If you do not know the password, see your system administrator.

3. **Use the `cd` command to go to the directory where you downloaded the patches.**

4. Type one of the following commands:

- If you are running Solaris 2.6, type the following command:

```
# ./installpatch .
```

- If you are running Solaris 7 or Solaris 8, use this command:

```
# ./patchadd .
```

The installation process takes a few minutes. You will see console messages similar to the following:

```
Checking installed packages and patches...
Generating list of files to be patched...
Verifying sufficient file system capacity (exhaustive
method)...
Installing patch packages...
```

When the patch installation is complete, the console returns the following messages (substituting the patch number you installed for xxxxxx):

```
Patch number xxxxxx has been installed.
Patch packages installed:
SUNWcsr
```

If your system reports any errors when installing the patch, refer to the README file that came with the patch.

If you need to install more than one Solaris patch, repeat this procedure for each patch. Refer to TABLE 2-1 for a list of patches required for each type of graphics card, and to TABLE 2-2 for other required patches.

5. Exit superuser status by typing:

```
# exit
```

About SunPCi II Software Packages

The SunPCi II 2.3 product CD contains two software packages:

- **SUNWspci12**—Core SunPCi software

Install the core SunPCi software package if you want to run SunPCi software on SunPCi II cards in your system.

- **SUNWspvnc**—SunPCi Virtual Network Computing¹ (VNC) server and client software

Install the SunPCi VNC package if you want to configure SunPCi Boot@Boot functionality for the host machine, or if you want to interact with SunPCi via VNC on a remote machine.

Boot@Boot is a new feature in the SunPCi II 2.3 release that can be configured to automatically start the SunPCi 2.3 software on one or more SunPCi cards when the Solaris system in which they are installed boots. Also included in this support is the ability to automatically restart SunPCi sessions if it should fail for any reason, and the ability to gracefully shut down SunPCi sessions, including performing an orderly shutdown of the Microsoft Windows operating system. See Chapter 11 of the *SunPCi II 2.3 User's Guide* for more information about configuring and using Boot@Boot and VNC.

If you are installing SunPCi software on a system and you want to use the Boot@Boot functionality with the SunPCi II cards, you should install the **SUNWspvnc** package. Installing the **SUNWspvnc** package enables you to display the SunPCi application on a customized Virtual Network Computing (VNC) X server (Xvnc).

You can also install the **SUNWspvnc** VNC package on a machine to enable interaction with VNC running on a remote system.

▼ How to Install the SunPCi II Software

1. Insert the SunPCi II 2.3 software CD into the system CD drive.
2. Open a command (terminal) window on the Solaris desktop.

1. Virtual Network Computing (VNC) software is copyright 1993 by X Consortium and copyright 1999 by AT&T Laboratories, Cambridge. All rights reserved. The SunPCi implementation of VNC supports the SunPCi product only. Other versions of VNC will not interoperate with this version of VNC. VNC source code is included on the SunPCi II CD in the directory `/Source`. See legal notices in the source code for information about using, modifying, or redistributing VNC source code.

3. Become superuser on your system by typing the following command:

```
% su
```

4. In response to the password prompt, type the root password.

If you do not know the password, see your system administrator.

5. Start the pkgadd program by typing the following command:

```
# /usr/sbin/pkgadd -d /cdrom/cdrom0/Product
```

The pkgadd program starts, and displays the following message:

```
The following packages are available:
1 SUNWspci2 SunPCi II
    (sparc) 2.3
2 SUNWspvnc SunPCi II VNC
    (sparc) 1.0

Select package(s) you wish to process (or 'all' to process all
packages). (default: all) [?,??,q]:
```

See “About SunPCi II Software Packages” on page 29 for information about the software packages.

6. Press Return to accept the default choice (install both packages), choose 1 to install the SunPCi II package only, or choose 2 to install the SunPCi II VNC package only. Then, type y to confirm your choice.

The pkgadd program copies the SunPCi II files to the /opt directory on your system. The files are listed on your screen as they are copied. When all the SunPCi II files are copied, pkgadd displays the following message:

```
Installation of SUNWspci was successful.
The following packages are available:
1 SUNWspci2 SunPCi II
    (sparc) 2.3
2 SUNWspvnc SunPCi II VNC
    (sparc) 1.0

Select package(s) you wish to process (or 'all' to process all
packages). (default: all) [?,??,q]:
```

7. Type q to exit the pkgadd program.

8. Exit superuser status by typing:

```
# exit
```

You are returned to your normal user session.

9. To verify that your cards have been recognized by the SunPCi II software, type the following command at the prompt.

```
% /opt/SUNWspci2/bin/sunpci -l
```

The system will return a list of installed cards.

Note – If you need to remove the SunPCi II software, refer to “How to Remove a Previous Version of SunPCi Software” on page 5.

How to Proceed

Now that you have successfully installed the SunPCi II card and software, you are ready to configure the SunPCi II 2.3 software and install a supported Microsoft Windows operating system (see “Supported Microsoft Windows Operating Systems” on page 24).

Proceed to Chapter 2 of the *SunPCi II 2.3 User's Guide* to continue the installation process. The *SunPCi II 2.3 User's Guide* contains complete step-by-step instructions for installing and running Microsoft Windows with SunPCi II software.



Caution – Even if you are familiar with Microsoft Windows installation, and the Solaris operating environment software installation, follow the instructions in the *SunPCi II 2.3 User's Guide*. There are certain ways in which the SunPCi II installation behaves differently from a standard Microsoft Windows PC installation. The *SunPCi II 2.3 User's Guide* also contains critical information about the ways in which Solaris software and Microsoft Windows interact. Your installation will fail unless you follow the directions in the User's Guide.

Obtaining Warranty Service

After the warranty period, various service options are available for the SunPCi II card; contact your local service provider or your Sun reseller/sales office for a description of these options and the benefits that each affords you.

The following procedure describes what to do if you believe that your SunPCi II card is defective while under warranty.

Note – The specific procedure you should follow depends on the warranty service available from your service provider or sales representative.



Caution – Performing field upgrades to the processor or adding RAM SODIMMs to the card that are not supplied by Sun will invalidate your warranty.

▼ How to Replace a Defective Card

1. **Make sure that the problem is with your card. Verify that the card is correctly installed, as described in “Installing the SunPCi II Hardware” on page 6.**

Note – The *SunPCi II 2.3 User’s Guide* contains troubleshooting instructions for SunPCi II hardware and software. Refer to the User’s Guide for more information.

2. **If there is a problem, contact your service provider or sales representative.**

To speed service, have your system serial number and SunPCi II card sales order number available. Note that the benefits provided by your service provider may differ from those provided by the standard Sun factory warranty.

3. **Remove the defective card.**

Follow the instructions about removing a PCI card in the documentation that accompanied your UltraSPARC system, or have your service provider remove the card for you.

Note – If you installed additional memory into your SunPCi II card, make sure to remove it before returning the card for service. The card you return should be shipped in its original configuration with its original capacity SODIMM installed, and with the add-on backplate and all accompanying materials. If you require a replacement card, the replacement will not have additional memory installed. Keep your additional memory for installation when the replacement card arrives.

4. **Wait for the replacement card to arrive.**

The specific method used to ship your replacement part to you will vary depending on your service provider.

5. **Install the replacement card and verify that it is working correctly.**

6. **Return the defective card to your service provider.**

Again, specific instructions for returning the defective card will vary depending on your service provider.

