

SunPCi™ 1.1 Installation Guide

SunPCi™ 1.1 インストールガイド

SunPCi™ 1.1 설치 설명서

SunPCi™ 1.1 安装指南

SunPCi™ 1.1 安装手册



THE NETWORK IS THE COMPUTER™

Sun Microsystems, Inc.
901 San Antonio Road
Palo Alto, CA 94303-4900 USA
650 960-1300 Fax 650 969-9131

Part No.: 806-0375-11
Revision A, September 1999

Send comments about this document to: docfeedback@sun.com

Copyright 1999 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, California 94303-4900 U.S.A. All rights reserved.

This product or document is protected by copyright and 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. OpenDOS is a trademark of Caldera, Inc.

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, AnswerBook, SunDocs, Solaris, OpenWindows, PC-NFS, PC-NFSpro, SunLink, 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.

RESTRICTED RIGHTS: Use, duplication, or disclosure by the U.S. Government is subject to restrictions of FAR 52.227-14(g)(2)(6/87) and FAR 52.227-19(6/87), or DFAR 252.227-7015(b)(6/95) and DFAR 227.7202-3(a).

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 1999 Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, California 94303-4900 Etats-Unis. Tous droits réservés.

Ce produit ou document est protégé par un copyright et 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. OpenDOS est une marque déposée par Caldera, Inc.

Sun, Sun Microsystems, le logo Sun, AnswerBook, SunDocs, Solaris, OpenWindows, PC-NFS, PC-NFSpro, SunLink, et SunPC 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.

CETTE PUBLICATION EST FOURNIE "EN L'ETAT" ET AUCUNE GARANTIE, EXPRESSE OU IMPLICITE, N'EST ACCORDEE, Y COMPRIS DES GARANTIES CONCERNANT LA VALEUR MARCHANDE, L'APTITUDE DE LA PUBLICATION A REpondre A UNE UTILISATION PARTICULIERE, OU LE FAIT QU'ELLE NE SOIT PAS CONTREFAISANTE DE PRODUIT DE TIERS. CE DENI DE GARANTIE NE S'APPLIQUERAIT PAS, DANS LA MESURE OU IL SERAIT TENU JURIDIQUEMENT NUL ET NON AVENU.



Contents

SunPCi™ 1.1	Hardware and Software Installation	en-1
SunPCi™ 1.1	ハードウェアとソフトウェアのインストール	ja-1
SunPCi™ 1.1	하드웨어 및 소프트웨어 설치	ko-1
SunPCi™ 1.1	硬件和软件的安装	zh-1
SunPCi™ 1.1	的硬體與軟體安裝程序	zh-TW-1

SunPCi Hardware and Software Installation

The instructions in this booklet will help you to configure and install the SunPCi™ hardware and software and to install the CD-based SunPCi documentation.

What's On This CD?

This SunPCi CD contains the following files:

- the SunPCi software
- the Solaris patches required for use with SunPCi
- the User's Guide for the SunPCi software in AnswerBook™ format (English and European languages) and HTML (Asian languages)

This document contains the instructions for installing the SunPCi card into your workstation.

You can install the SunPCi software on any PCI-based system running Solaris™ 2.5.1, 2.6, or Solaris 7 software. To install the AnswerBook on Solaris 2.6 and Solaris 7 systems, refer to “Installing the SunPCi AnswerBook” on page en-12.

Note – The *SunPCi User's Guide* on the CD is in AnswerBook2 format for Solaris 2.6 and Solaris 7. If you are running Solaris 2.5.1, you will not be able to install and run this AnswerBook. Instead, you can view the document online at <http://docs.sun.com>, or print out the PostScript file that has been included. The PostScript files are available for English and the European languages only; the Asian languages have a User's Guide in HTML format. To view the HTML files, refer to the instructions in “Viewing the HTML Files” on page en-13.

After the AnswerBook package is installed, you can view the documentation on the screen and print selected pages.

Getting Started

To get started, you need to perform the following steps:

- Install the Solaris patches
- Install the SunPCi card
- Install the SunPCi AnswerBook (Solaris 2.6 and Solaris 7) or view the HTML files (Asian languages)
- Install the SunPCi software

The sections that follow describe each of these steps in detail. Once you have completed these steps, SunPCi will be ready for you to install Windows 95 or Windows NT Workstation 4.0.

Note – Windows 3.x is not supported in this release of SunPCi.

Installing the Solaris Patches

You will need to install Solaris patches before you install the SunPCi hardware and software. The patch that you install depends on your operating system version. (Note that the CD-ROM may contain additional patches in addition to the ones listed here.)

- Solaris 7: patch 106541-01
- Solaris 2.6: patch 105486-04
- Solaris 2.5.1: 104560-05

To find out the version of your operating system, type the following command. Do not type in the %; that is your system prompt. Press Return when you have finished typing the command.

```
% uname -a
```

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

```
SunOS myworkstn 5.6 Generic sun4u sparc SUNW, Ultra-30
```

Note the SunOS version number that appears. For example, SunOS 5.5.1 is Solaris 2.5.1 and SunOS 5.6 is Solaris 2.6.

These patches are located in the `/cdrom/cdrom0/Patches` directory on your SunPCi CD-ROM.

To install the patches, insert the SunPCi CD-ROM in your workstation's CD-ROM drive and follow these steps:

1. Become superuser on your system.

Enter the following command:

```
% su
```

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

2. Type the following command to go to the `/Patches` directory:

```
# cd /cdrom/cdrom0/Patches
```

This directory contains three subdirectories, one for each of the operating system patches. The following list shows the patch directories for each operating system.

- Solaris 7: use directory 106541-01
- Solaris 2.6: use directory 105486-04
- Solaris 2.5.1: use directory 104560-05

3. Use the `cd` command to go to the directory for the patch that corresponds to your operating system.

For example, if you are running Solaris 2.7, type this command:

```
# cd 106541-01
```

4. If you are running Solaris 2.6 or 2.5.1, type the following command:

```
# ./installpatch .
```

If you are running Solaris 7, 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 filesystem 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 `xxxx`):

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

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

Installing the SunPCi Card

This section explains how to install the SunPCi card in your system. Included in this section are a list of system requirements for using the SunPCi card, and step-by-step instructions for performing the installation procedures.

Note – The SunPCi card is designed for use in PCI-based SPARCstations only (Ultra 5, 10, 30, 60, 450, and Enterprise and Workgroup Servers). It will not work in an SBus-based workstation.

System Requirements

To install your SunPCi card, you need to have the following equipment available:

- SunPCi card
- UltraSPARC computer with two available PCI slots
- Grounding wrist strap (included in the SunPCi package) and antistatic mat (not included)
- Phillips screwdriver (not included)
- SunPCi software (included on the SunPCi CD)

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

Installing the SunPCi Hardware

This section explains how to install the SunPCi card and the optional add-on backplate. You only need to install the backplate if you plan to connect an external monitor or local printer directly to SunPCi.

Note – Make sure you install the SunPCi card before you install the SunPCi software.

Shutting Down the System

1. **If you have not done so already, become superuser on the system in which you want to install the SunPCi card.**

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

2. **Type the following command:**

```
# /usr/sbin/shutdown -i0 -y -g0
```

Make sure you type the number 0 (zero), not the letter O.

The `ok` prompt is displayed.

3. **Type the following command (do not type the `ok` prompt):**

```
ok power-off
```

4. **Your system unit powers off. 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 static damage.**

If you are installing the SunPCi card into a new system, make sure that you plug the power cord into the power outlet 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.

Removing 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 workstation or the casing of the power supply. *Be sure to attach the copper to metal; do not attach it to any of the labels on the power supply.*

Identifying the PCI Slots

To locate the PCI slots in your workstation, refer to the picture that corresponds with the model of your workstation. You can use any pair of adjacent slots.

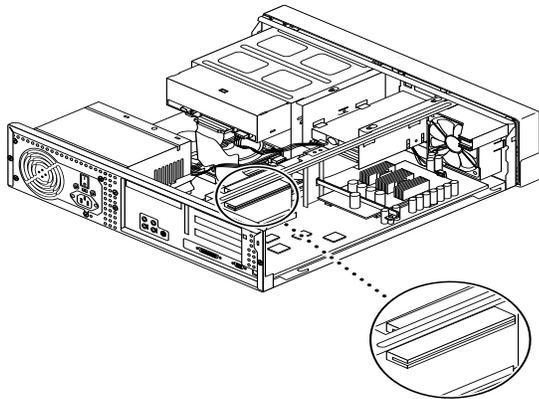


FIGURE 1 Ultra 5 PCI Slots

Note – When installing the SunPCi card in the Ultra 10, you might find it helpful to turn the system unit upside down and lift the cover upward.

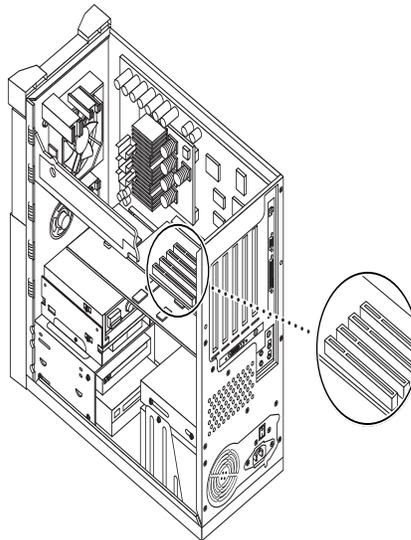


FIGURE 2 Ultra 10 PCI Slots

Note – If your Ultra 10 workstation also has an FFB (Fast Frame Buffer) frame buffer card installed in one of the PCI slots, be careful not to dislodge the FFB as you insert the SunPCi card into its PCI slot. If you ordered the FFB card with your workstation, it will come pre-installed in one of the PCI slots. If you did not order the FFB card, you will not have one installed.

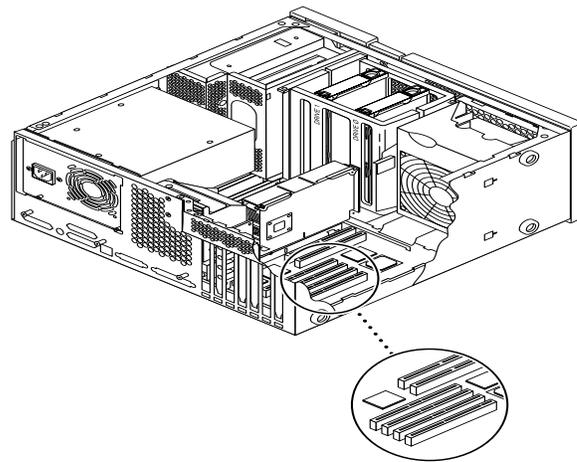


FIGURE 3 Ultra 30/Ultra 60 PCI Slots

Note – When installing the SunPCi card in the Ultra 30 and Ultra 60, 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.

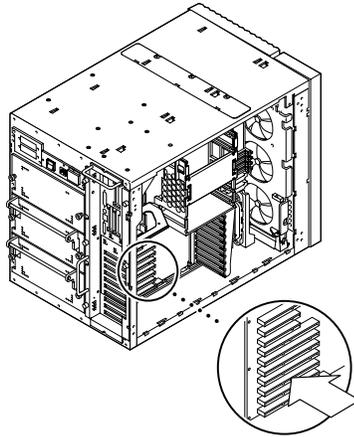


FIGURE 4 Enterprise Server 450 PCI Slots

Preparing the Slots

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

Note – If you plan to use the optional add-on backplate, you will need to use a pair of adjacent slots.

- **Use your Phillips screwdriver to remove the filler panels from two adjacent empty slots, or remove the installed card(s).**

The filler panel is the removable metal strip that is installed inside your system enclosure at the back panel, next to the PCI slots. From the back of the workstation, you can see that they are marked PCI1 through PCI4.

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

Installing the SunPCi Card

1. Remove the SunPCi 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. Attach the add-on backplate to the SunPCi card as shown in the following figure.

You can use the add-on backplate to install external PC peripherals to your SunPCi card, such as external monitors, local printers, and modems.

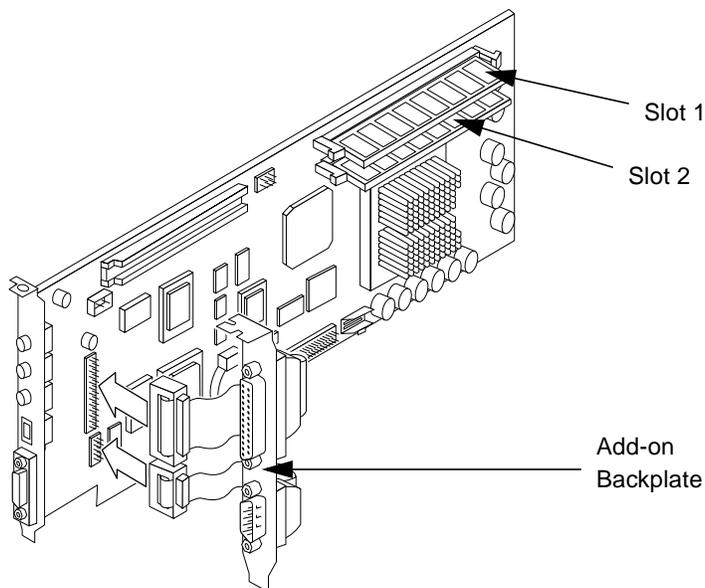


FIGURE 5 Attaching the Add-on Backplate

This figure shows the proper orientation of the SunPCi 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.

3. If you have purchased the optional additional RAM DIMMs, install them now. If you did not purchase the additional RAM, skip this step.

The SunPCi card comes standard with one 64-Mbyte RAM DIMM. If desired, you may add a second DIMM in the second RAM slot as described in the *SunPCi DIMM Installation Guide* (included with the optional RAM DIMM).



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

- 4. Insert the SunPCi card into the PCI slot. Remember that if you are using the add-on backplate, you will need to use two slots. Slide the tab on the bottom of the panel (where the ports are located) into the clips at the bottom of the slot in the back panel of your system.**

Be careful not to dislodge any other cards that may be installed in other slots. Make sure the ports face out through the back panel of the system, through the hole created when you removed the filler panel. If you are using the add-on backplate, make sure the ports on the backplate also face out through the back of your workstation.

- 5. Tighten the screw on the SunPCi card to secure it in place.**

Use the screw you removed from the filler panel.

- 6. If you are using the optional add-on backplate, tighten the screw to secure it in place beside the SunPCi card.**

Finishing the Installation

- 1. Remove the wrist strap from your wrist and the workstation.**
- 2. Replace the cover or unit top, following the instructions appropriate to your system.**

Refer to the instructions included with your system.

- 3. Reconnect all cables to the back of the system.**



Caution – Do not turn on the power to your system without replacing and securing the system unit cover.

- 4. Press the power on/off switch to turn your system back on.**

The system automatically reboots when you turn on the power to the system unit.

- 5. Turn on the power to your system peripherals.**
- 6. Log in again, become superuser, and continue with the SunPCi software installation instructions in the following section.**

Note – If you have other PCI cards installed in your workstation in addition to the SunPCi card, type `halt` at the superuser prompt and then type `boot -r` to start up your system. This allows your workstation to recognize the old and new PCI cards. If you do not have any additional PCI cards installed, just start up normally.

Note – If your workstation does not recognize the SunPCi card or does not restart after you turn on the power, the SunPCi card may not be seated correctly in the PCI slot. Open the system cover again, reseal the SunPCi card, and repeat this procedure.

Installing the SunPCi AnswerBook

Note – Use this procedure if you want to install the AnswerBook separately from the SunPCi software. If you want to install both at once, skip this procedure and proceed to the next section. Choose the `all` option when the package installation script asks which packages to install.

1. **Log in as superuser and use the `cd` command to go to the subdirectory where the AnswerBook is located on your SunPCi software CD.**
2. **Type the following command:**

```
# /usr/sbin/pkgadd -d pathname
```

where *pathname* is the path to the appropriate SunPCi AnswerBook for your locale. The path is typically `/cdrom/cdrom0/Product/pkgname`, where *pkgname* is the package for your locale.

3. **Type the number of the installation option you want (`nil` or `heavy`).**
4. **Type the directory where you want the AnswerBook installed.**
`/opt` is the default home directory for AnswerBook.
The installation process takes a few minutes.

5. Type `y` at the following prompt to continue the installation:

```
Do you want to continue with the installation of
<SUNWspcab> [y,n]
```

6. Press Return when you see the following prompt:

```
Installation of <SUNWspcab> was successful. Press
Return to continue.
```

7. Exit superuser status. To start the AnswerBook Navigator, start the Navigator from your CDE desktop or type the following command at the `%` prompt:

```
% /usr/dt/bin/answerbook2
```

The AnswerBook Navigator window is displayed.

Viewing the HTML Files

If you want to use the Asian language version of the *SunPCi User's Guide*, you need to view the HTML files on the SunPCi CD. Follow this procedure to view the files:

1. Use the `cd` command to go to the subdirectory where the HTML files for your locale are stored on your SunPCi software CD.

The following list shows the directories for each language:

Japanese: `/cdrom/sunpci_1_1_2/Docs/ja/userguide.html`

Korean: `/cdrom/sunpci_1_1_2/Docs/ko/userguide.html`

Simplified Chinese: `/cdrom/sunpci_1_1_2/Docs/zh/userguide.html`

Traditional Chinese: `/cdrom/sunpci_1_1_2/Docs/zh_TW_Big5/`
`userguide.html`

2. In a separate console window on your workstation, start your Web browser.

For example, to start Netscape, type `netscape &` at the prompt. The Web browser window is displayed.

3. From the File menu, choose Open Page.

The Open Page window is displayed.

4. Click on **Choose File** and browse the CD until you select `README.htm`. Open the file in your Web browser.

The `README.htm` file is displayed in your browser.

5. Use the **Next**, **Previous**, and **Contents** buttons to navigate through the pages of the *SunPCi User's Guide*.

Installing the SunPCi Software

If you already have SunPCi 1.0 software installed, you will need to remove the older package and any patches that you may have installed. The procedure involves the following steps:

1. Determine the version of Solaris installed on your system (if you do not already know it).
2. Find out the version of SunPCi software installed on your system.
3. Remove the patch (if you have any installed). The command you use to remove the patch depends on your Solaris version.
4. Remove the SunPCi 1.0 package.
5. Install the SunPCi 1.1 package.

If you are installing SunPCi software for the first time, just install the SunPCi 1.1 package. Proceed to “Installing the SunPCi 1.1 Package” on page en-18.

Finding Out Your SunPCi Software Version

If you are installing SunPCi software for the first time, skip this section and proceed directly to “Installing the SunPCi 1.1 Package” on page en-18.

If you are not sure which version of SunPCi you are running, type the following command:

```
% pkginfo -l SUNWspci
```

Your system should return information similar to the following:

```
PKGINST: SUNWspci
  NAME: SunPCi
  CATEGORY: system
  ARCH: sparc
  VERSION: 1.0
  BASEDIR: /opt
  VENDOR: Sun Microsystems, Inc.
  DESC: This package contains the SunPCi software for Solaris
2, Sparc PCI Platforms
  PSTAMP: quarklab17m04072332
  INSTDATE: Jun 04 1999 07:47
  HOTLINE: Please contact your local service provider
  STATUS: completely installed
  FILES: 440 installed pathnames
         62 directories
         15 executables
         30317 blocks used (approx)
```

Note the information in the VERSION: line. If VERSION is 1.0, then you have SunPCi 1.0 installed.

Now that you know the version of SunPCi that you have installed, follow the appropriate procedures to remove the old SunPCi package and the upgrade patch(if any).

Removing the Patch (Solaris 2.5.1)

If you have a SunPCi upgrade patch installed and you are running Solaris 2.5.1, follow this procedure to remove the patch. If you are running Solaris 2.6 or Solaris 7, skip this section and proceed to “Removing the Patch (Solaris 2.6 and Solaris 7)” on page en-17.

1. **Open a command (terminal) window on the Solaris desktop.**

2. Enter the following command:

```
% showrev -p | grep SUNWspci
```

This command shows the version number of the patch, the version number of the patch that it replaced, and the name of the patch. If you do not have a patch installed, the `showrev` command will produce no result; it simply returns the system prompt. This means you do not have to remove the patch; proceed directly to “Installing the SunPCi 1.1 Package” on page en-18.

3. Become superuser on your system.

Enter the following command:

```
% su
```

Enter the root password. The superuser prompt (for example, #) appears. If you do not know the password, see your system administrator.

4. Type the `cd` command at the superuser prompt to change to the patch directory.

```
# cd /var/sadm/patch
```

5. Enter the following command to run the `backoutpatch` script. Substitute the revision number of your previously installed patch for `xxxxxx-xx`.

```
# ./xxxxxx-xx/backoutpatch xxxxxx-xx
```

If the script executes successfully, it displays the following message:

```
Patch xxxxxx-xx has been backed out.
```

If the script returns an error message, refer to the `README` file included with the patch.

Removing the Patch (Solaris 2.6 and Solaris 7)

If you have a SunPCi upgrade patch installed and you are running Solaris 2.6, Solaris 7, or above, follow this procedure to remove the patch. If you do not have a patch installed, proceed directly to “Installing the SunPCi 1.1 Package” on page en-18.

1. Open a command (terminal) window on the Solaris desktop.
2. Enter the following command:

```
% showrev -p | grep SUNWspci
```

This command shows the version number of the patch, the version number of the patch that it replaced, and the name of the patch. If you do not have a patch installed, the `showrev` command will produce no result; it simply returns the system prompt.

3. Become superuser on your system.

Enter the following command:

```
% su
```

Enter the root password. The superuser prompt (for example, #) appears. If you do not know the password, see your system administrator.

4. Type the `cd` command at the superuser prompt to change to the patch directory.

```
# cd /var/sadm/patch
```

5. Enter the following command to run the `backoutpatch` script. Substitute the revision number of your previously installed patch for `xxxxxx-xx`.

```
# ./patchrm xxxxxx-xx
```

If the script executes successfully, it displays the following message:

```
Patch xxxxxx-xx has been removed.
```

If the script returns an error message, refer to the `README` file included with the patch.

Removing the SunPCi 1.0 Package

Note – You only need to perform this procedure if you are upgrading from a previous version of SunPCi (1.0). If you are not upgrading, then skip this procedure and proceed to “Installing the SunPCi 1.1 Package” on page en-18.

The next step in preparing your system for a SunPCi upgrade is to run the `pkgrm` program. This program removes the old SunPCi program files. To run `pkgrm`, perform the following procedure:

- 1. Make certain you are still in a superuser session.**
You must run `pkgrm` with superuser privileges.
- 2. Enter the following command:**

```
# pkgrm SUNWspci
```

You are prompted to confirm the removal process.

- 3. Enter `y` to continue with the removal, and then type `y` again to confirm.**
The SunPCi package is removed from your system. You are notified when the removal is complete. The system responds with the message `Removal of <SUNWspci> was successful.`
- 4. Enter the `exit` command to end the superuser session.**
You are returned to your normal user session.

Installing the SunPCi 1.1 Package

You can install the SunPCi software package on any system running Solaris™ 2.5.1, 2.6, or Solaris 7 software. The command you use depends on the Solaris version.

After you install the package, refer to the *SunPCi 1.1 User's Guide* for instructions on how to install Windows NT Workstation 4.0 and Service Pack 4.

To install the SunPCi 1.1 package, perform the following procedure:

- 1. Open a command (terminal) window on the Solaris desktop.**
- 2. Become superuser on the system on which you want to copy the SunPCi package.**

3. Start the `pkgadd` program. Type the following command:

```
# /usr/sbin/pkgadd -d pathname
```

where *pathname* is the path to the SunPCi package; typically, the path is `/cdrom/cdrom0/Product/pkgname`. *pkgname* is the name of the SunPCi package that corresponds to your locale.

The `pkgadd` program starts, and displays the following message:

```
The following packages are available:
1 SUNWspci SunPCi
2 SUNWspcab
3 SUNWspcde
4 SUNWspces
5 SUNWspcfr
6 SUNWspcit
7 SUNWspcsv
(sparc) 1.1

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

Note that you may see a version number other than 1.1 in your installation.

4. Press Return to accept the default choice (install the SunPCi package), and then press `y` to continue.

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

```
Installation of SUNWspci was successful.
The following packages are available:
1 SUNWspci SunPCi
(sparc) 1.1
Select package(s) you wish to process (or 'all' to process all
packages). (default: all) [?,??,q]:
```

5. Enter `q` to exit the `pkgadd` program.

Note – If the `pkgadd` program issues a `BIOS Mismatch` message, you will need to flash (update) the BIOS on your SunPCi card. Refer to “Updating the BIOS” on page en-20 for information on how to use the `sunpciflash` utility.

6. Type the `exit` command to end your superuser session.

You are returned to your normal user session.

Updating the BIOS

The SunPCi software contains a utility for updating the BIOS on your SunPCi card. This utility is located at `/opt/SUNWspci/bin` and is called `sunpciflash`. When you are installing the SunPCi package and you receive a `BIOS Mismatch` warning, you will need to perform this procedure. If you do not see this warning, you do not need to update your BIOS.

When you start SunPCi, the revision number of the BIOS appears on the screen. For example, you might see the message `SunPCi BIOS Version 0.050`.

Note – Make sure you exit SunPCi before running the `sunpciflash` utility.

If you need to update your BIOS, perform the following steps:

1. Become superuser on your workstation.
2. Type the following command:

```
# cd /opt/SUNWspci/bin
```

This places you in the directory where `sunpciflash` is located.

3. Type this command to flash your BIOS:

```
# ./sunpciflash -f /opt/SUNWspci/bios/sunpci.bin
```

If you want to save a copy of your old BIOS for any reason, you can include the `-s` switch and the file name to which you want to save your old BIOS. For example, to flash your BIOS and save the old file to `/home/joeuser/oldbios`, you would type the following command on one line:

```
# ./sunpciflash -f /opt/SUNWspci/bios/sunpci.bin -s /home/joeuser/oldbios
```

The system replies by showing the following messages:

```
Flashing /opt/SUNWspci/bios/sunpci.bin, Version 0.050 (Current
Version 0.049)
BIOS flashed to version 0.050
```

After the messages appear, you can restart SunPCi. The BIOS shows the latest version number.



Caution – Do not use `sunpciflash` to change your BIOS to a lower revision. “Downgrading” your BIOS can cause the SunPCi software to stop working with your SunPCi card.

How to Proceed

Now that you have successfully installed the SunPCi card and software, you are ready to install Microsoft Windows 95 or Windows NT and your Windows applications. Proceed to the instructions in the *SunPCi 1.1 User's Guide AnswerBook* to continue the installation process. The *SunPCi 1.1 User's Guide AnswerBook* contains complete step-by-step instructions for installing and running Windows with SunPCi 1.1.

Note – Even if you are familiar with Windows 95/NT and Solaris, we recommend that you follow the instructions in the *SunPCi User's Guide*. There are certain ways in which SunPCi behaves differently than a standard Windows PC, and the *SunPCi User's Guide* contains information on the ways in which Solaris and Windows interact.

The sections that follow explain how to perform the following procedures:

- How to remove the SunPCi software
- How to obtain warranty service

These sections appear for future reference. You will not need them to complete the installation process.

Removing SunPCi Software

This section provides instructions for completely removing SunPCi software from your system, should you ever want to do so.

To remove SunPCi software, follow these steps:

1. **Become superuser on your system. Enter `su`, and then enter your superuser password at the prompt.**
2. **Enter the following command to remove the SunPCi installation package:**

```
# pkgrm SUNWspci
```

3. **Enter `exit` to exit your superuser session.**

Obtaining Warranty Service

After the warranty period, various service options are available; 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 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 DIMMS to the card that are not supplied by Sun will invalidate your warranty.

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

To speed service, have your system serial number and SunPCi 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 in “Installing the SunPCi Card” on page en-4 to remove the card, or have your service provider remove it for you.

Note – If you installed additional memory into your SunPCi card, make sure to remove it before returning the card for service. The card you return should be shipped in its original configuration; that is, with one 64-Mbyte RAM DIMM 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 to install 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.

The *SunPCi 1.1 User's Guide AnswerBook* contains troubleshooting tables and instructions for SunPCi hardware and software. Refer to Appendix A, "Troubleshooting," for more information.