Silicon Graphics® O2®
R5000® Class CPU Upgrade
Installation Instructions

This flier describes upgrading your O2 R5000 system with a newer CPU. The instructions for installing the processor module upgrade are different depending on which version of the operating system you are using. After checking your shipment, begin on one of these pages:

- "Installing the Upgrade on IRIX 6.3 Systems" on page 2

- "Installing the Upgrade on IRIX 6.5 Systems" on page 9

Follow the installation instructions provided in this flier in the order in which they are given. First install the operating system software if needed, then install the software patches, and finally, the hardware.

Checking Your Shipment

The following items are included in this shipment:

- IRIX 6.3 for O2 Including R10000 CD
- IRIX 6.3 Recommended/Required Patches 6/99 CD
- IRIX 6.5.x[1] Overlay CDs
- Wrist strap
- Reversible screwdriver
- R5000 class CPU processor module
- Upgrade label

Installing the Upgrade on IRIX 6.3 Systems

Follow the upgrade instructions in this section if your system is running IRIX 6.3.

To upgrade your CPU, verify that you are running correct version of IRIX 6.3 and if not, upgrade to the required version. Then install the IRIX 6.3 Recommended/Required Patches 6/99 CD and install the processor module upgrade.

Procedures for locating and installing relevant documentation begin on page 7.

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[1] Overlay software is labeled "IRIX 6.5.x, "x" referring to the current numbered version of the software, for example 6.5.3. Base software is referred to as IRIX 6.5.

Verifying and Installing the Operating System

Install the software before installing the hardware.

For the O2 R5000 class CPU upgrade, you need the version of the IRIX operating system software called "IRIX 6.3 for O2 Including R10000." Follow the steps below to make sure your system is running the correct version before installing the patches and beginning the hardware upgrade.

1. Check your workstation's IRIX version. In a shell window, enter:

   `uname -R`

   - If you see `6.3 O2 R10000`, you have the correct IRIX version. Go to "Installing the IRIX 6.3 Recommended/Required Patches 6/99 CD" on page 4.

   - If you see `6.3 O2`, you must upgrade your workstation to the correct operating system before installing the patches and the hardware. The IRIX 6.3 for O2 Including R10000 CD is included in this shipment. Read the Caution below, and then go to step 2. Otherwise go to "Installing the IRIX 6.3 Recommended/Required Patches 6/99 CD" on page 4.

   Caution: Do not install the patch CD that contains the recommended patches now. You do this later, after the IRIX and Applications CDs are installed and you have rebooted the workstation. If you install the patches without rebooting, the flash PROM environment variables may become corrupt.

2. Install IRIX 6.3 for O2 Including R10000

   Read any letters or instructions that came with the CD. The CD booklet explains how to read the release notes.

3. When IRIX 6.3 for O2 Including R10000 has been installed, you must reboot the system before installing the patches CD. From the toolchest, choose Restart System. Log in as usual when you see the Login screen.

You are ready to install the patches.

Note: Now that the system is running the correct version of IRIX, if you ever need to boot from a CD (the miniroot), you must use the "IRIX 6.3 Recommended/Required Patches CD", not an operating system CD. The new hardware (CPU) is not compatible with the original IRIX 6.3 operating system CD.

3

Installing the IRIX 6.3 Recommended/Required Patches 6/99 CD

Caution: If you just installed "IRIX 6.3 for O2 Including R10000" and have not rebooted your system, do so before installing the "6.3 Recommended/Required Patches 6/99" CD.

1. Insert the "6.3 Recommended/Required Patches 6/99" CD in the CD-ROM drive and double-click the CD-ROM drive icon on the desktop. If you have a root password set, you are prompted to enter it.

2. Read the Installation Startup message that displays and click *Dismiss*.

3. Choose `/CDROM/dist/` in the Software Manager window, and click *Open.*

4. Read the Installation Startup script and follow the instructions.

5. In the Software Manager window, follow the instructions to install the patches. Click *Start* to begin installation. When you are asked in the Open Additional Distribution window if you want to install additional software, click *Done*.

6. Follow the installation instructions that are displayed in Software Manager. When the installation is complete, from the File menu choose Exit.

7. From the Toolchest, choose System > Restart System.

Installing the Processor Module

To install the processor module upgrade in your workstation, refer to the installation instructions in the *O2 Workstation Owner's Guide* (printed) that came with your O2 workstation, or the online *O2 Hardware Reference Guide*. In the printed guide, find the section "Replacing the R5000 CPU Module" and follow the instructions. Instructions for locating the online *O2 Workstation Hardware Reference Guide* are in "Locating Online Processor Module Upgrade Instructions" on page 7. Instructions for installing the guide from the CD are on page 7.

You may be removing a processor module that has one of two form factors, L-shaped or rectangular shaped. The processor module you receive with this upgrade is L-shaped.

Figures 1 through 3 provide additional information to the instructions found in the *O2 Workstation Owner's Guide* and the *O2 Hardware Reference Guide*.

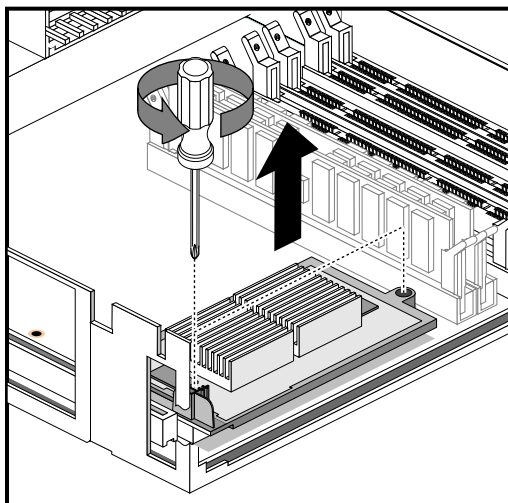**Note:** Attach the O2 upgrade label near the system label on the bottom of the workstation.

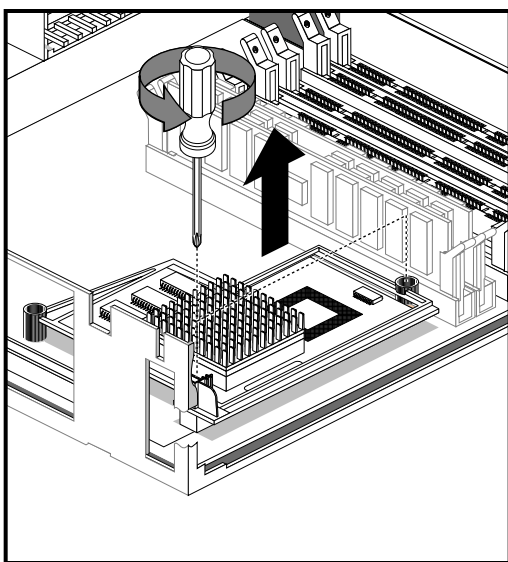**Figure 1**   Removing the Rectangular-Shaped Processor Module

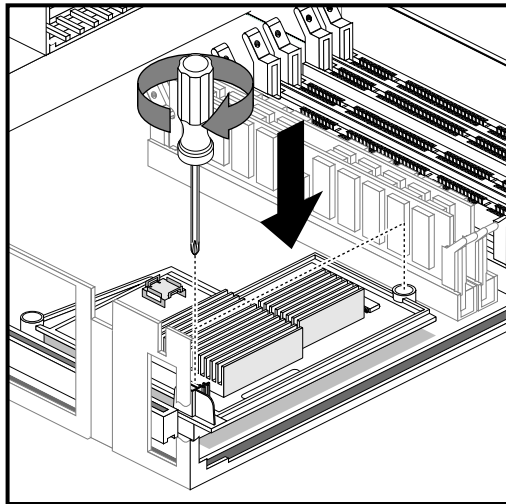**Figure 2**   Removing the L-Shaped Processor Module

Figure 3   Installing the L-Shaped Processor Module Upgrade

Troubleshooting

If your workstation does not boot after installing the processor module, read the processor module installation instructions carefully to make sure the new processor module is correctly seated. Be sure you installed the software before installing the hardware.

Check that the system is running the correct version of IRIX. See "Verifying and Installing the Operating System" on page 3.

If necessary, remove the new hardware, reinstall the old hardware, install the operating system software, remove the old hardware, and install the new hardware.

Locating Online Processor Module Upgrade Instructions

If you installed "IRIX 6.3 for O2 Including R10000," the *O2 Workstation Hardware Reference Guide* was installed by default on your system disk. See "Viewing the Book From the IRIS InSight Library" below. If the book was removed from the system disk, see "Installing the O2 Workstation Hardware Reference Guide From a CD" on page 7.

Viewing the Guide From the IRIS InSight Library

To locate the online book:

1. From the Toolchest on your desktop, choose Help > Online Books > SGI End User > *O2 Workstation Hardware Reference Guide*.

2. Choose Ordering, Removing, and Installing Replacement Parts.

3. Search for "Replacing the R5000 CPU Module".

You can view the book online, or print the information you need. To print, from the Books menu in IRIS InSight, choose Print.

Installing the O2 Workstation Hardware Reference Guide From a CD

If the online manual has been removed from your system disk, you can reinstall it from the O2 IRIX operating system CD that came with your upgrade. Follow these steps:

1. Place the "IRIX 6.3 for O2 Including R10000" CD in the CD-ROM drive and double-click the CD-ROM icon on your desktop. The Software Manager window appears. Click the *Dismiss* button.

2. Click *Customize Installation*.

3. When the Open Additional Distribution dialog box appears, click *Done*.

4. From the Selected menu, choose Unmark All.

5. From the Selected menu, choose Find.

6. When the dialog box appears, enter `Hardware Reference Guide`, and click *Search*. Software Manager highlights the *O2 Hardware Reference Guide* in its Software Inventory Window.

7. Click in the Install check box to select the book for installation, and click *Start* to begin the installation. When the installation is complete, you see a message "Installation and removals were successful. You may continue with installation or quit now." Click *OK*.

8. Exit Software Manager by choosing Exit from the File menu.

9. To locate the online books, from the Toolchest choose Help > Online Books > SGI End User > *O2 Workstation Hardware Reference Guide*.

10. If the book does not appear on the End User Bookshelf, you may have to update the InSight database. In a shell window (to become super user) at the prompt, enter:

   ```
   su
   ```

   (Also enter the root password if you are prompted for it.)

11. To update the InSight database, enter:

   ```
   /usr/lib/infosearch/bin/booksAdmin -full -hwdi \
   /usr/share/Insight/library/SGI_bookshelves
   ```

See "Viewing the Guide From the IRIS InSight Library" on page 7 for instructions on viewing the book online.

Viewing the O2 Workstation Hardware Reference Guide on the Internet

If you have access to the Internet, you can view the *O2 Workstation Hardware Reference Guide* in the Technical Publications Library on the Silicon Graphics home page at http://techpubs.sgi.com/library/.

Search by the title and for "Replacing the R5000 CPU Module."

Installing the Upgrade on IRIX 6.5 Systems

Follow the upgrade instructions in this section if your system is running IRIX 6.5.

To upgrade to the R5000 Class CPU, install the IRIX 6.5.x Overlay software and install the processor module.

Verifying and Installing the Software

Install the software before installing the hardware.

For the R5000 class processor module upgrade, you need the IRIX 6.5.x Overlay software that came with this shipment. You must have IRIX 6.5 base software installed.

Note: IRIX 6.5 base operating system software does not ship with the processor module upgrade. Contact your local sales representative to order the base operating system. Install the base operating system software, then the 6.5.x Overlay CDs before installing the processor module.

To check your workstation's IRIX version, from the Toolchest > Desktop, open a UNIX shell.

At the prompt, enter
```
uname -aR
```

Use the *Installation Instructions* booklet that comes with your IRIX 6.5.x Overlay CDs for installing the operating system software.

Installing the Processor Module

Install the software before installing the hardware.

For instructions on installing the processor module upgrade, see the section in the *O2 Workstation Owner's Guide,* Chapter 5, called "Replacing the R5000 CPU Module". This information is also found in the online *O2 Workstation Hardware Reference Guide*. Instructions for locating the online *O2 Workstation Hardware Reference Guide* are in "Locating Online Processor Module Upgrade Instructions" on page 11. Instructions for installing the guide from the CD are on page 10.

Note: Attach the O2 upgrade label near the system label on the bottom of the workstation.

Troubleshooting

If your workstation does not boot after installing the processor module, read the instructions carefully to make sure the new processor module is correctly seated. Be sure you installed the software before installing the hardware.

Check that the system is running IRIX 6.5. To check your workstation's IRIX version, from the Toolchest > Desktop, open a Unix shell.

At the prompt, enter
```
uname -aR
```

If necessary, remove the new hardware, reinstall the old hardware, install the software, remove the old hardware, and install the new hardware.

Locating Online Processor Module Upgrade Instructions

To locate the online *O2 Workstation Hardware Reference Guide*, go to the Toolchest > Help > InfoSearch. Type the title of the guide and it appears in your browser window.

To install the online *O2 Workstation Hardware Reference Guide,* see the *Installation Instructions* booklet that came with your base operating system CDs.

Viewing the O2 Workstation Hardware Reference Guide on the Internet

If you have access to the Internet, you can view the *O2 Workstation Hardware Reference Guide* in the Technical Publications Library on the Silicon Graphics home page at http://techpubs.sgi.com/library/.

Search by the title and for "Replacing the R5000 CPU Module."