

Sun Enterprise™ xx00 Systems Clock Board Upgrade Guide



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

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Send comments about this document to: smcc-docs@sun.com

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Sun Enterprise xx00 System Clock Board Upgrade Guide

This guide contains the following sections:

- “Preparation”
- “Reprogramming the System Flash PROM and Installing Necessary Solaris Patches”
- “Removing the Clock Board”
- “Removing the TOD/NVRAM Chip”
- “Installing the TOD/NVRAM Chip”
- “Installing the Clock Board”
- “Installing CPU Modules or Other Hardware”

Preparation

You need the following to upgrade your clock board:

- Phillips #1 screwdriver
- Grounding wrist strap
- Padded ESD mat

Performing the upgrade requires:

- Reprogramming the system flash PROM and installing other necessary Solaris software patches. Refer to the *Sun Enterprise xx00 Servers CPU Installation* manual, Part Number 806-0960, for this procedure.
- Removing the clock board from the system
- Removing the TOD/NVRAM chip from the original clock board.
- Removing the TOD/NVRAM chip on the upgrade clock board and replacing it with the TOD/NVRAM chip taken from the original clock board.
- Installing the upgrade clock board in the system.
- Installing CPU module(s) and other hardware.

Reprogramming the System Flash PROM and Installing Necessary Solaris Patches

Refer to the *Sun Enterprise xx00 Servers CPU Installation* manual, Part Number 806-0960, for this procedure.

Removing the Clock Board



Caution – The clock board is not hot-pluggable. Do not remove the clock board until the system has been halted and powered off.



Caution – To avoid damaging internal circuits, do not disconnect or connect any cable while power is applied to the system.

1. **Halt the operating system using the appropriate commands and wait for the system-halted message and the boot monitor prompt before turning off the system power.**

For more information see “Powering Off and On” in your system reference manual.



Caution – Use a grounding wrist strap for this procedure.

2. **Attach a wrist strap, and locate the clock board (installed in rear of system):**
3. **16- and 8-slot Sun Enterprise systems: near top of card cage**
4. **4- and 5-slot Sun Enterprise systems: first slot on the right**
5. **Loosen the two captive screws securing the clock board to the system chassis.**
6. **Pull the ends of both extraction levers outward simultaneously to release the board from the centerplane receptacles.**
7. **Place the clock board on a padded ESD mat.**

Removing the TOD/NVRAM Chip



Caution – Use a grounding wrist strap when handling the chip.

1. **Attach a wrist strap and locate the TOD/NVRAM chip on the clock board.**
2. **Use a small, blunt instrument, such as a flat-blade screwdriver, to remove the TOD/NVRAM chip:**
 - a. **Place the instrument between the TOD chip and the board connector, and pry gently on each end of the chip until the chip is released from the connector.**



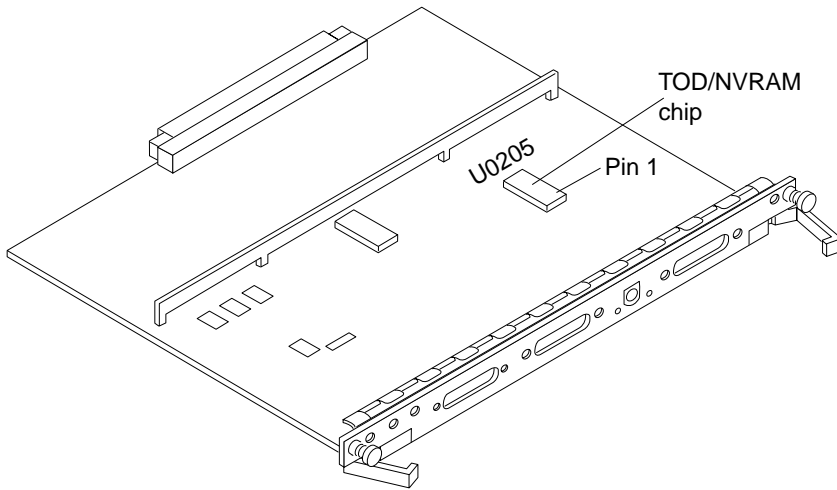
Caution – Use care when inserting the instrument between the chip and the board connector.

3. **Set the chip aside while you remove the new clock board from the upgrade kit package.**
4. **Place the upgrade clock board on the padded ESD mat, and follow steps 1 and 2 to remove that TOD/NVRAM chip.**

Set the chip aside.

Note – *Do not mix up the TOD/NVRAM chips!* You must install the chip from the original clock board on the upgrade clock board.

Place the original clock board and the TOD/NVRAM chip from the upgrade clock board in an antistatic bag. Use the upgrade kit shipping container and the label in the RMA Kit to return the package to Sun Microsystems, Inc.



Installing the TOD/NVRAM Chip



Caution – To avoid system damage, make sure that you plug pin 1 on the TOD chip into pin 1 on the board connector.

1. **With a wrist strap attached, align the TOD/NVRAM chip removed from the original clock board with the connector on the upgrade clock board so that pin 1 on the chip is aligned with pin 1 on the board.**
 - A small crescent-shape indentation on both the chip and the connector denotes the top (mate these areas).
 - A small round indentation on the corner of the chip denotes pin 1.
2. **Ensure that all pins on the TOD/NVRAM chip are aligned with the board connector pins.**
3. **If you press on the chip and pins are not properly aligned, you can bend the pins.**
4. **Gently press on the top of the chip to seat it.**

Installing the Clock Board

1. Carefully insert the board in the clock board slot.

The component side of the board must face up (8- or 16-slot systems) or face to the right (4- or 5-slot systems).

2. Use the open extraction levers to seat the board. Push the board into the card cage, then simultaneously press both extraction levers to seat the board on the centerplane.

Do not press on the board front panel to seat it — doing so will damage the connector pins.

3. Tighten the two captive screws to secure the board to the chassis.

4. Connect any applicable interface cables to the front panel of the board.

5. Turn on the system power and boot the system.

For further information on this procedure, refer to “Powering Off and On” in your system reference manual.

Installing CPU Modules or Other Hardware

To install CPU modules or other hardware, refer to the *Sun Enterprise xx00 CPU Installation Guide* or to your system reference manual for procedures.

