Sun Cobalt™ Control Station

Maintaining and Upgrading the Hardware



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Maintaining and Upgrading the Hardware

Maintenance

Air flow

Sun Microsystems recommends that you check the air-intake and air-exhaust ports each month. If debris has accumulated on either the front panel or the rear fans, vacuum the debris out with a powerful vacuum cleaner.

Upgrading

There are two ways to upgrade your Sun Cobalt Control Station:

- add a PCI expansion card (see “Adding a PCI card” on page 4)
- replace a failed hard disk drive (see “Replacing a hard disk drive” on page 7)

Opening the Sun Cobalt Control Station



Warning: You must power down the Sun Cobalt Control Station before opening the unit.

1. Power down the control station. See “Powering Down” in the PDF *Using the LCD Console*.
2. Unplug the control station from the power supply.
3. Remove the power cord from the rear of the control station. The cable is located beside the power switch. See Figure 1.

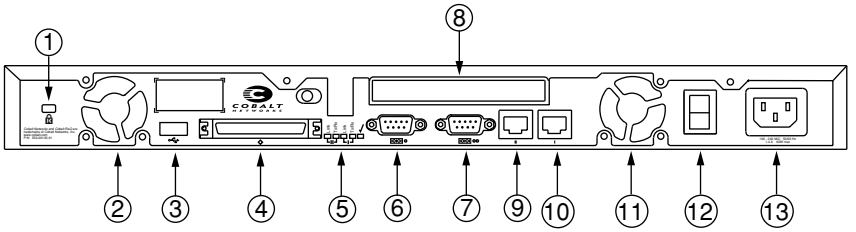


Note: If the Sun Cobalt Control Station is mounted in an equipment rack, remove the control station from the rack and take it to a service area. Do not attempt this upgrade while the Sun Cobalt Control Station is still in the equipment rack.

4. Using a #2 Phillips screwdriver, unscrew the top cover of the control station. Ten screws hold the top cover in place. The screws are labeled 1 through 10 in Figure 2.

Figure 1 shows the rear view of the Sun Cobalt Control Station. Figure 2 shows how to remove the top cover of the Sun Cobalt Control Station.

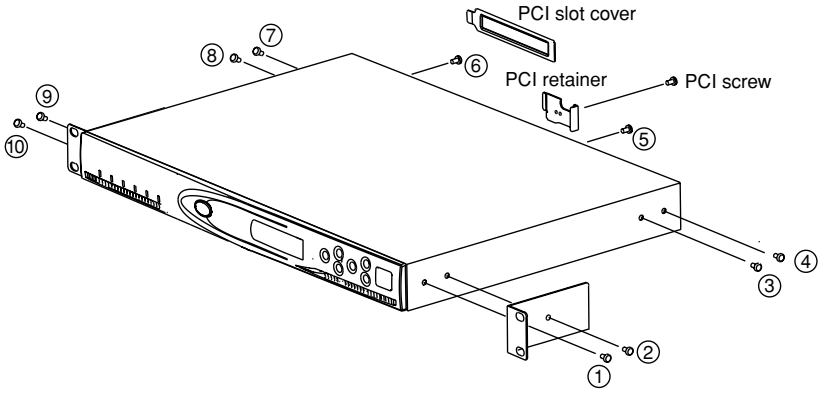
Figure 1. Rear view of the Sun Cobalt Control Station



1. The **Security lock hole** is used to lock the unit to a secure location.
2. The **Cooling fans** maintain proper operating temperature. Ensure that the ventilation holes are not blocked.
3. The **USB port** provides a Universal Serial Bus (USB) connection.
4. The **SCSI connector** enables a Small Computer System Interface (SCSI) connection for connecting such devices as hard disk drives.
5. The **Network status indicators/OK to Power Off** signal network activity and information. The **OK to Power Off light** flashes when it is safe to turn the power off.
6. The **Serial console port** allows you to connect serial devices.
7. The **Serial connector** allows you to connect a UPS to the serial port for Smart UPS support.
8. The **PCI expansion slot** provides space for adding a PCI card.

   The **Network connectors** enable ethernet network connections and accept the 10/100 BaseT network cables.
9. **Network connection 2**.
10. **Network connection 1**.
11. **Cooling fan**.
12. The **Power switch** toggles the power on or off.
13. The **Power socket** receives the AC cord that is provided.

Figure 2. Top cover on the Sun Cobalt Control Station



Adding a PCI card

The Sun Cobalt Control Station unit is a single rack-unit (1RU) enclosure. Before you purchase a component to add to the Sun Cobalt Control Station, ensure that the component fits into the allocated space.

Specifications for a PCI card

The PCI expansion slot has been designed to accommodate the PCI standard short card form factor, with some additional space for longer cards. The PCI card must be less than 10.5 inches (267 mm) long.

The current loads for a PCI card must not exceed the following limits:

- 5V @ 1A
- +12V @ 0.5A
- -12V @ 0.1A

Be careful not to damage components during the upgrade.



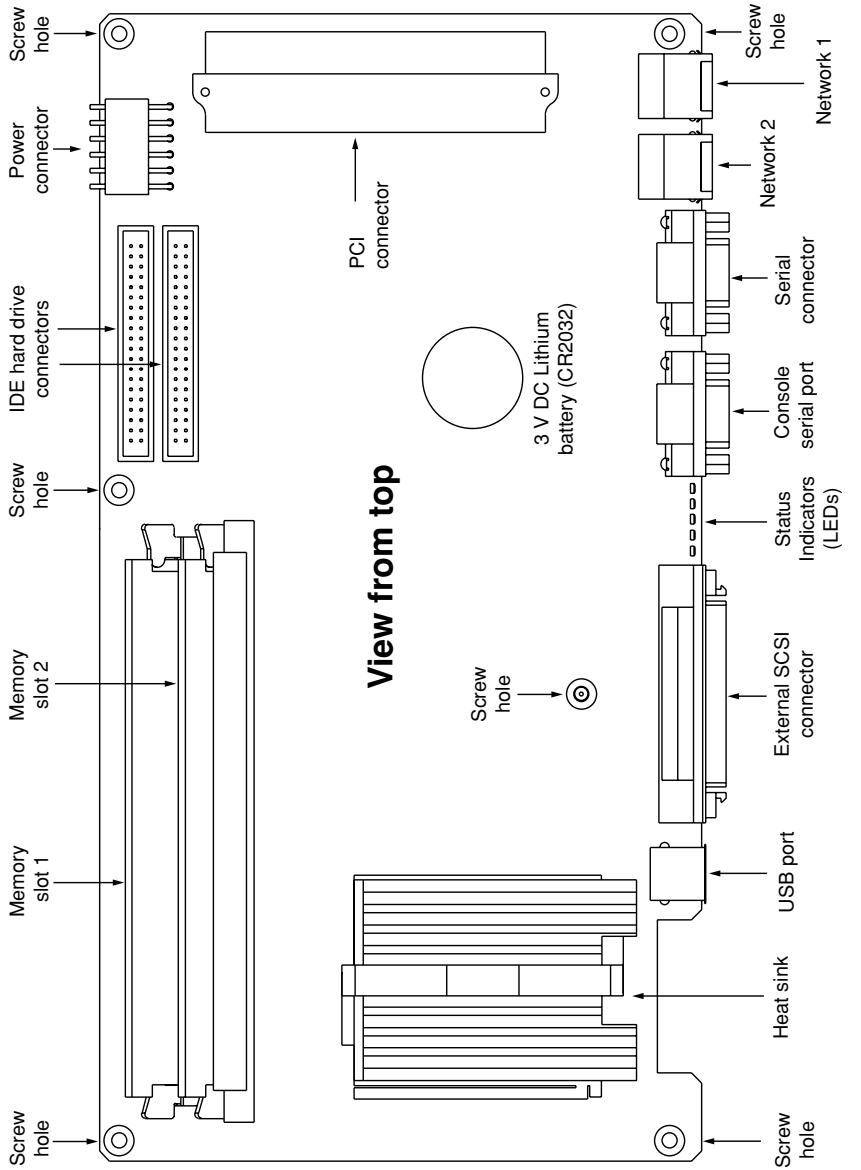
Caution: Wear an electrostatic discharge (ESD) grounding wrist strap.

1. Remove the PCI slot cover, and its retainer and screw. See Figure 2.
2. Remove the protective cover from the PCI connector.
3. Plug the PCI card into the PCI connector. See Figure 3.
4. Replace the PCI retainer and screw to hold the PCI card in place.
5. Save the PCI slot cover in case you want to remove the PCI card later.
6. Replace the top cover of the control station.
7. Secure the top cover properly and replace the ten screws that hold the top cover in place. See Figure 2.

Printed circuit board

Figure 3 shows the layout of the printed circuit board (PCB) in the Sun Cobalt Control Station.

Figure 3. Layout of the printed circuit board



Replacing a hard disk drive

If a hard disk drive fails in your Sun Cobalt Control Station, you can replace the drive.

Specifications for a hard disk drive

Sun Microsystems™ recommends that the hard disk drive you select meet the specifications listed in Table 1. A hard disk drive that does not meet these specifications can cause reliability problems in your server.

Table 1. Specifications for the hard disk drive

Specification	Value
Peak current draw	Must not exceed: 1.8 amperes max (at 12 volts) 0.7 amperes max (at 5 volts)
Rotational speed	5400 rpm
Interface	Ultra ATA-33 EIDE or faster
Operating temperature	Must be able to operate in environments up to 55° C
Operating humidity	10% to 90% (non-condensing)

Requirements

If the Sun Cobalt Control Station is mounted on an equipment rack, remove the control station from the rack and take it to a service area. Do not attempt this upgrade while the Sun Cobalt Control Station is still in the equipment rack.

Before replacing the hard disk drive, make sure that you have the following:

- a hard disk drive that meets the specifications in Table 1.
- a #2 Phillips screwdriver



Caution: Ensure that you are installing a hard disk drive of the same capacity as the one you are replacing.



Caution: Wear an electrostatic discharge (ESD) grounding wrist strap.

Overview



Warning: Do not swap hard disk drives from one Sun Cobalt Control Station to another. Also, do not install a drive, that was previously partitioned for RAID, in a Sun Cobalt Control Station as an additional (non-RAIDed) drive.



Note: If you have to replace an original hard disk drive (meaning a hard disk drive that Sun Microsystems installed in the server), please notify Technical Support and arrange to return the hard disk drive.

Refer to the PDF *Contacting Sun Microsystems, Inc*.

To replace a failed hard disk drive, there are a number of steps involved. These steps are explained in the following sections.

1. Power down the control station. See “Powering down” in the PDF *Using the LCD Console*.
2. Open the case of the control station.
3. Remove the failed hard disk drive.
4. Install a new hard disk drive.
5. Close the case of the control station.
6. Reboot the control station. When rebooting, the system automatically detects the new hard disk drive.

   The control station automatically synchronizes the new hard disk drive to the existing hard disk drive so that the server will be able to provide disk mirroring (RAID-1).



Note: During the synchronization process, the Sun Cobalt Control Station cannot provide disk mirroring.

Removing a hard disk drive

First, remove the top cover of the control station; see “Opening the Sun Cobalt Control Station” on page 2.

To remove a hard disk drive:

1. Unplug the IDE cable from the hard disk drive (see Figure 4).
2. Unplug the power cable from the hard disk drive (see Figure 5).
3. Remove the screw that attaches the hard-disk-drive bracket to the chassis.
4. Slide the bracket off the metal tabs on the chassis and lift the bracket and hard disk drive off.
5. On the underside of the bracket, remove the four screws that attach the hard disk drive to the bracket.
6. Remove the hard disk drive from the bracket.

Figure 4 shows the layout of the IDE cables in the Sun Cobalt Control Station.

Figure 4. Layout of the IDE cables

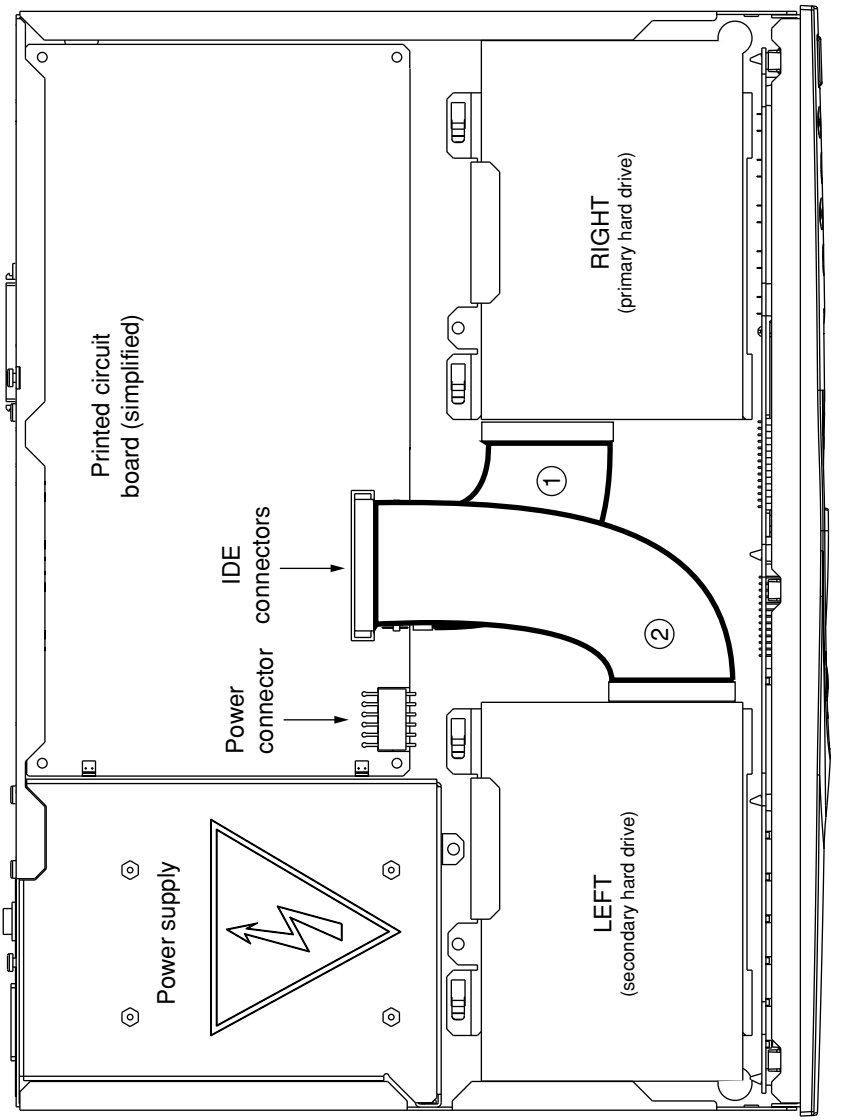
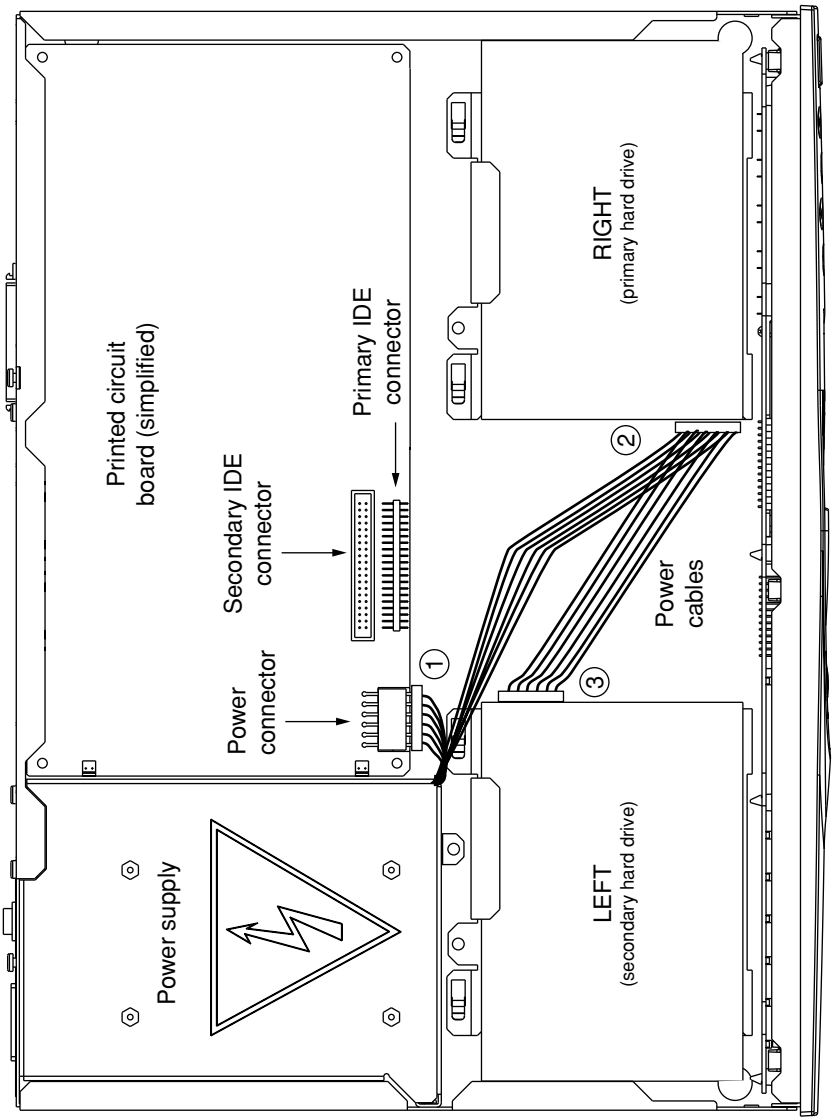


Figure 5 shows the layout of the power cables in the Sun Cobalt Control Station.

Figure 5. Layout of the power cables



Installing a hard disk drive



Warning: Do not swap hard disk drives from one Sun Cobalt Control Station to another. Also, do not install a drive, that was previously partitioned for RAID, in a Sun Cobalt Control Station as an additional (non-RAIDed) drive.



Caution: Be careful not to damage components during the upgrade.



Caution: Wear an electrostatic discharge (ESD) grounding wrist strap.

To install a hard disk drive:

1. Place the new hard disk drive in the bracket that you removed in the previous procedure.
2. On the underside, attach the hard disk drive to the bracket with the four screws.



Caution: Be careful not to pinch the cables under the bracket when you replace the bracket on the chassis.

3. Set the bracket with the attached hard disk drive on the chassis and slide it onto the metal tabs. The connectors on the hard disk drive must face in to the center of the chassis, with the foam pad located next to the power supply.
4. Re-attach the bracket to the chassis with the correct screw.

Connecting the hard disk drive

To connect the hard disk drive:

1. Plug the Y-connector power cable into the hard disk drive, see Figure 5. The connector is keyed to fit into the hard disk drive one way only.
2. Plug the IDE cable into the hard disk drive; see Figure 4. The connector is keyed to fit into the hard disk drive one way only.

Replacing the top cover and rebooting the Sun Cobalt Control Station

To replace the top cover and reboot the Sun Cobalt Control Station:

1. Secure the top cover properly and replace the ten screws that hold the top cover in place. See Figure 2 on page 4.
2. Reconnect the power cord to the rear of the control station.
3. Power up the control station. The control station boots up in the normal manner.



Note: When rebooting, the system automatically detects the new hard disk drive.

The Sun Cobalt Control Station automatically synchronizes the new hard disk drive to the existing hard disk drive so that the server will be able to provide disk mirroring. During the synchronization process, the Sun Cobalt Control Station cannot provide disk mirroring.