

## Removing and Replacing Hard Disk Drives and Removeable Media

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**Note** – When removing a hot-swappable component, allow several seconds before inserting it or another component in that slot. Rapidly removing and inserting any hot-swappable component might panic or hang the system.

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This chapter gives procedures for the installation, removal, and replacement of hard disk drives and removeable media. It is organized as follows:

- “Hard Disk Drive” on page 7-1
- “CD-ROM/DVD or DAT Drive (Netra ct 800 Server Only)” on page 7-8

Consult the *Netra ct Server Safety and Compliance Manual* for safety information prior to performing the procedures in this chapter.

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**Note** – Read Chapter 3 “Handling Cards and Assemblies” before performing the procedures in this chapter.

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### 7.1 Hard Disk Drive

This section tells you how to remove and replace an internal hard disk drive. An internal hard disk drive is one that fits in a bay within a server. It is distinguished from an external hard disk drive, which is attached by a cable that connects to an I/O card in the server.

A hard disk drive is a hot-swappable component only if the hard disk drive is not being used by the server. For example, if a hard disk drive is being used as the primary boot drive, then that hard disk drive is not hot-swappable unless disk

management software is used to mirror the boot drive to a second hard disk drive installed in the server. For that reason, a hard disk drive in a Netra ct 400 server is a hot-swappable disk drive only if the Netra ct 400 server is running on the Solaris operating environment over the network, and not off of the hard disk drive.

The remove and replace instructions for hot-swappable drives are covered here; the remove and replace instructions for cold-swappable drives are covered in Chapter 11 “Removing and Replacing Cold-Swappable Subassemblies” in the section “Hard Disk Drive” on page 11-1.

- If you are removing and replacing a *faulty* hard disk drive in the server, first to go “Removing a Hard Disk Drive” on page 7-2, then go to “Installing a Hard Disk Drive” on page 7-7.
- If you are installing a *new* hard disk drive in the server, go to “Installing a Hard Disk Drive” on page 7-7.

## 7.1.1 Removing a Hard Disk Drive

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**Note** – The instructions in this section do *not* cover unconfiguration procedures that might be necessary if you are removing a hard disk drive that is under the control of any disk management software, such as Volume Manager or Solstice DiskSuite. If you are running disk management software on your system, refer to the documentation that came with the disk management software for instructions on releasing a hard disk drive from the control of the software before proceeding with these instructions.

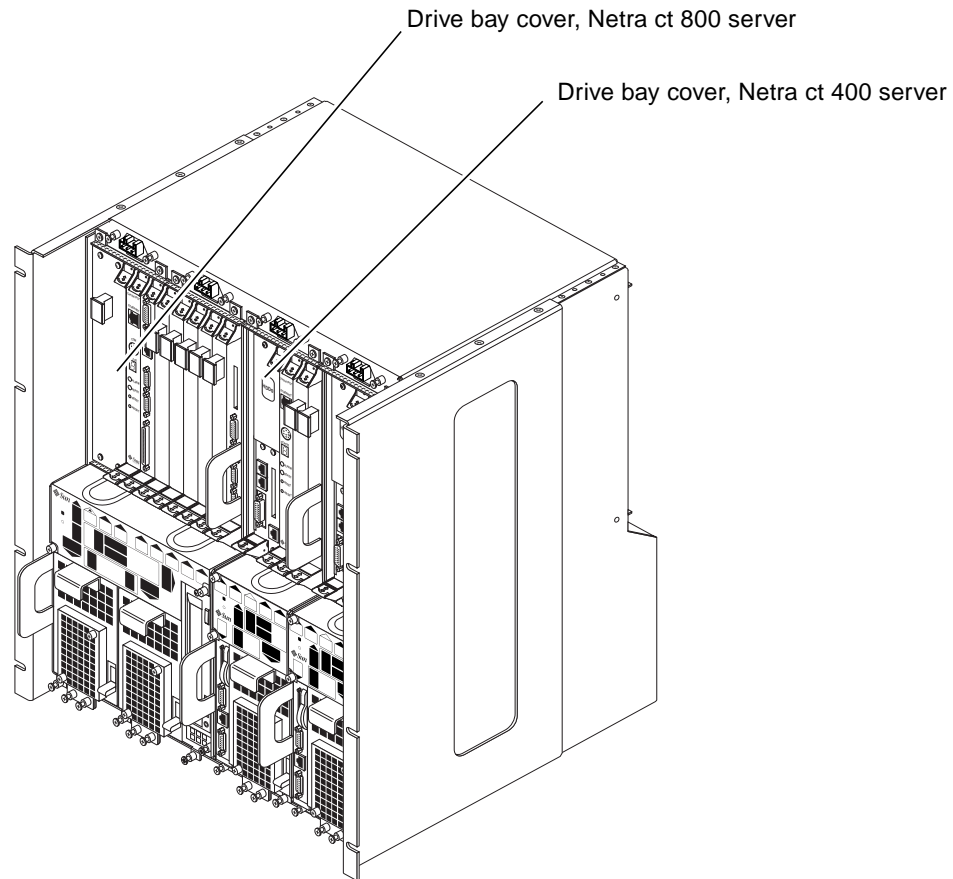
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### 1. Attach the antistatic wrist strap.

Refer to “Attaching the Antistatic Wrist Strap” on page 1-1.

### 2. Locate the drive bay cover on your system.

The hard disk drives will be behind the drive bay cover on your system. There would be a maximum of two hard disk drives behind the drive bay cover in a Netra ct 800 server and one behind the drive bay cover in a Netra ct 400 server.



**FIGURE 7-1** Drive Bay Cover Locations

**3. Loosen the captive screws that hold the drive bay cover in place.**

- For the Netra ct 800 server, use a No. 1 Phillips screwdriver to loosen the four captive screws (two on top and two on the bottom).
- For the Netra ct 400 server, use a No. 2 Phillips screwdriver to loosen the one captive screw on top.

**4. Remove the drive bay cover.**

**5. Locate the hard disk drive that you want to replace.**

In a Netra ct 800 server, HDD0 is the upper hard disk drive and HDD1 is the lower hard disk drive.

**6. Log in to the server and get the attachment-point IDs for the hard disk drives installed in your server.**

As root, enter:

```
# cfgadm -a c0
```

You should get feedback similar to the following:

Ap_Id	Type	Receptacle	Occupant	Condition
c0	scsi-bus	connected	configured	unknown
c0::dsk/c0t0d0	disk	connected	configured	unknown
c0::dsk/c0t1d0	disk	connected	configured	unknown
c0::dsk/c0t6d0	CD-ROM	connected	configured	unknown

In the sample feedback above, the attachment-point ID for the upper hard disk drive (HDD 0) is `c0::dsk/c0t0d0` and attachment-point ID for the lower hard disk drive (HDD 1) is `c0::dsk/c0t1d0`.

**7. List all mounted partitions on the disk that you want to remove.**

As root, enter:

```
# cfgadm -c unconfigure ap_id
```

where *ap\_id* is the attachment-point ID for the hard disk drive that you want to remove. For example, to list the mounted partitions on the lower hard disk drive (HDD 1), as root, enter:

```
# cfgadm -c unconfigure c0::dsk/c0t1d0
```

You should get feedback similar to the following:

```
cfgadm: Component system is busy, try again: failed to offline:
/devices/pci@1f,0/pci@1,1/scsi@2/sd@1,0

      Resource                Information
-----
/dev/dsk/c0t1d0s7  mounted filesystem "/mnt"
```

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**Note** – If you didn't get any feedback after entering the command, then you do not have any partitions mounted and the hard disk drive was successfully deactivated. Go to Step 10 on page 7-5.

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### 8. Unmount the mounted partition(s).

For every filesystem that was listed in the previous step, as root, enter:

```
# unmount filesystem
```

For example, using the feedback from the previous step, you would enter:

```
# unmount /mnt
```

### 9. Deactivate the hard disk drive.

As root, enter:

```
# cfgadm -c unconfigure ap_id
```

where *ap\_id* is the attachment-point ID for the hard disk drive that you want to remove. For example, to deactivate the lower hard disk drive (HDD 1), as root, enter:

```
# cfgadm -c unconfigure c0::dsk/c0t1d0
```

### 10. Verify that the hard disk drive has been deactivated.


As root, enter:

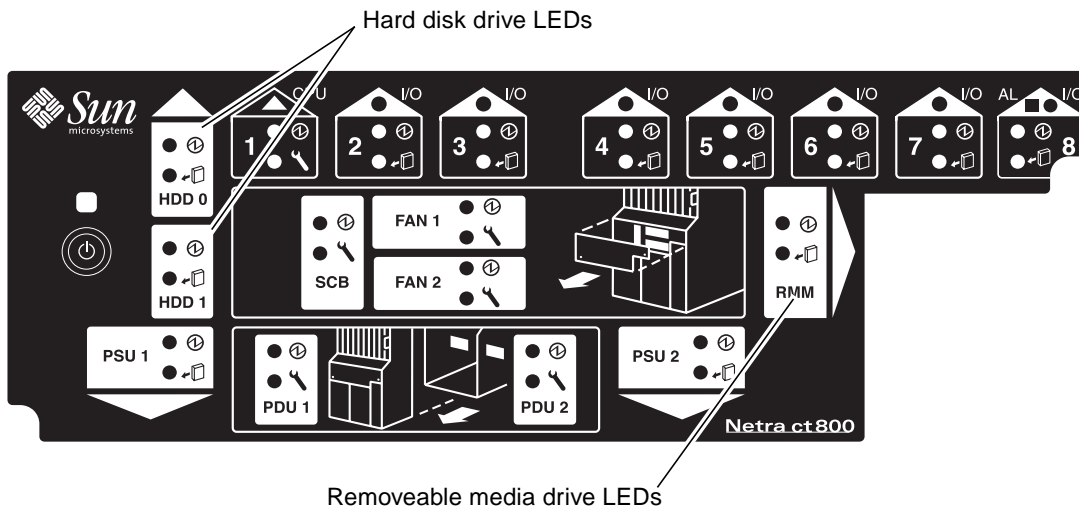
```
# cfgadm -a c0
```

You should get feedback similar to the following:

Ap_Id	Type	Receptacle	Occupant	Condition
c0	scsi-bus	connected	configured	unknown
c0::dsk/c0t0d0	disk	connected	configured	unknown
c0::dsk/c0t1d0	unavailable	connected	unconfigured	unknown
c0::dsk/c0t6d0	CD-ROM	connected	configured	unknown

Note that in the sample feedback above, the Type column for the lower hard disk drive (c0::disk/c0t1d0) is now unavailable, and the Occupant column now shows it as unconfigured.

You can also use the hard disk drive (HDD) LEDs on the system status panel to verify that the hard disk drive has been deactivated (FIGURE 7-2). The Okay to Remove LED (  ) on the system status panel for the hard disk drive should go ON, indicating that you can remove the hard disk drive from the slot.



**FIGURE 7-2** Locating the Hard Disk Drive LEDs on the System Status Panel (Netra ct 800 Server)

- 11. Unlatch the disk drive handle to release it.**  
Push down in the direction of the arrow to release the bracket handle latch.
- 12. Pull the bracket handle out and swing it open.**
- 13. Continue to pivot the disk drive bracket handle against the chassis, applying mild pressure until the drive disconnects.**
- 14. Slide the drive out of the chassis and place it on the electrostatic discharge mat.**
- 15. Secure the drive bay cover over the drive bays (FIGURE 7-1 on page 7-3).**  
You must install the drive bay cover over the drive bays to ensure proper airflow in the system.

## 7.1.2 Installing a Hard Disk Drive

1. **Attach the antistatic wrist strap.**  
Refer to “Attaching the Antistatic Wrist Strap” on page 1-1.
2. **Remove the drive bay cover (FIGURE 7-1 on page 7-3).**
3. **Hold the bracket handle on the disk drive open.**
4. **Slide the replacement disk drive into the drive slot.**
5. **Gently push the drive until the locking handle engages.**
6. **Close the locking handle completely, using gentle downward pressure.**
7. **Replace the drive bay cover.**
8. **Log in to the server and, as root, activate the replacement hard disk drive:**

```
# cfgadm -c configure ap_id
```

where *ap\_id* is the attachment-point ID for the hard disk drive that you just installed. For example, to activate the lower hard disk drive (HDD 1), as root, enter:

```
# cfgadm -c configure c0::dsk/c0t1d0
```

9. **Verify that the hard disk drive has been activated.**


As root, enter:

```
# cfgadm -a c0
```

You should get feedback similar to the following:

Ap_Id	Type	Receptacle	Occupant	Condition
c0	scsi-bus	connected	configured	unknown
c0::dsk/c0t0d0	disk	connected	configured	unknown
c0::dsk/c0t1d0	disk	connected	configured	unknown
c0::dsk/c0t6d0	CD-ROM	connected	configured	unknown

Note that in the sample feedback above, the Type column for the lower hard disk drive (c0::disk/c0t1d0) is now `disk`, and the Occupant column now shows it as configured.

You can also use the hard disk drive (HDD) LEDs on the system status panel to verify that the hard disk drive has been activated (FIGURE 7-2 on page 7-6). The Okay to Remove LED (  ) on the system status panel for the hard disk drive should go OFF, indicating that the hard disk drive has been activated.

10. **If your hard disk(s) are under the control of RAID software, perform the necessary steps to bring the disks online.**
11. **Perform any other necessary software procedures on the hard disk drive to bring it online, including mounting the partitions and creating filesystems.**

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## 7.2 CD-ROM/DVD or DAT Drive (Netra ct 800 Server Only)

This section tells you how to replace a CD-ROM/DVD or Digital Audio Tape (DAT) drive in a Netra ct 800 server. CD-ROM/DVD and DAT drives are referred to as *removeable media* drives. The removeable media drives are hot-swappable components. Note that internal removeable media drives are not available for the Netra ct 400 server.

Following are the SCSI IDs for the devices used in the removeable media module:

- CD-ROM/DVD—SCSI ID 6
- DAT—SCSI ID 5
- If you are removing and replacing a *faulty* removeable media drive in the server, first to go “Removing a CD-ROM/DVD or DAT Drive” on page 7-9, then go to “Installing a CD-ROM/DVD or DAT Drive” on page 7-11.
- If you are installing a *new* removeable media drive in the server, go to “Installing a CD-ROM/DVD or DAT Drive” on page 7-11.

## 7.2.1 Removing a CD-ROM/DVD or DAT Drive

### 1. Attach the antistatic wrist strap.

Refer to “Attaching the Antistatic Wrist Strap” on page 1-1.

### 2. Log in to the server and get the attachment-point IDs for the removeable media drive installed in your server.

As root, enter:

```
# cfgadm -a c0
```

You should get feedback similar to the following:

Ap_Id	Type	Receptacle	Occupant	Condition
c0	scsi-bus	connected	configured	unknown
c0::dsk/c0t0d0	disk	connected	configured	unknown
c0::dsk/c0t1d0	disk	connected	configured	unknown
c0::dsk/c0t6d0	CD-ROM	connected	configured	unknown

In the sample feedback above, the attachment-point ID for the removeable media drive is `c0::dsk/c0t6d0`. Note that a different entry would appear under the Type column for a DAT drive.

### 3. Kill the Volume Manager daemon.

As root, enter:

```
# /etc/init.d/volmgt stop
```

### 4. Deactivate the removeable media drive.

As root, enter:

```
# cfgadm -c unconfigure ap_id
```

where *ap\_id* is the attachment-point ID for the removeable media drive that you want to remove. For example, to deactivate the removeable media drive using the feedback given above, as root, enter:

```
# cfgadm -c unconfigure c0::dsk/c0t6d0
```

**5. Verify that the removable media drive has been deactivated.**


As root, enter:

```
# cfgadm -a c0
```

You should get feedback similar to the following:

Ap_Id	Type	Receptacle	Occupant	Condition
c0	scsi-bus	connected	configured	unknown
c0::dsk/c0t0d0	disk	connected	configured	unknown
c0::dsk/c0t1d0	disk	connected	configured	unknown
c0::dsk/c0t6d0	unavailable	connected	unconfigured	unknown

Note that in the sample feedback above, the Type column for the removable media drive (c0::dsk/c0t6d0) is now unavailable, and the Occupant column now shows it as unconfigured.

You can also use the removable media module (RMM) LEDs on the system status panel to verify that the removable media drive has been deactivated (FIGURE 7-2 on page 7-6). The Okay to Remove LED (  ) on the system status panel for the removable media module should go ON, indicating that you can remove the removable media drive from the slot.

**6. Using a No. 2 Phillips screwdriver, loosen the captive screw that holds the removable media module in place.**

**7. Pull the module from the system and place it on the electrostatic discharge mat.**

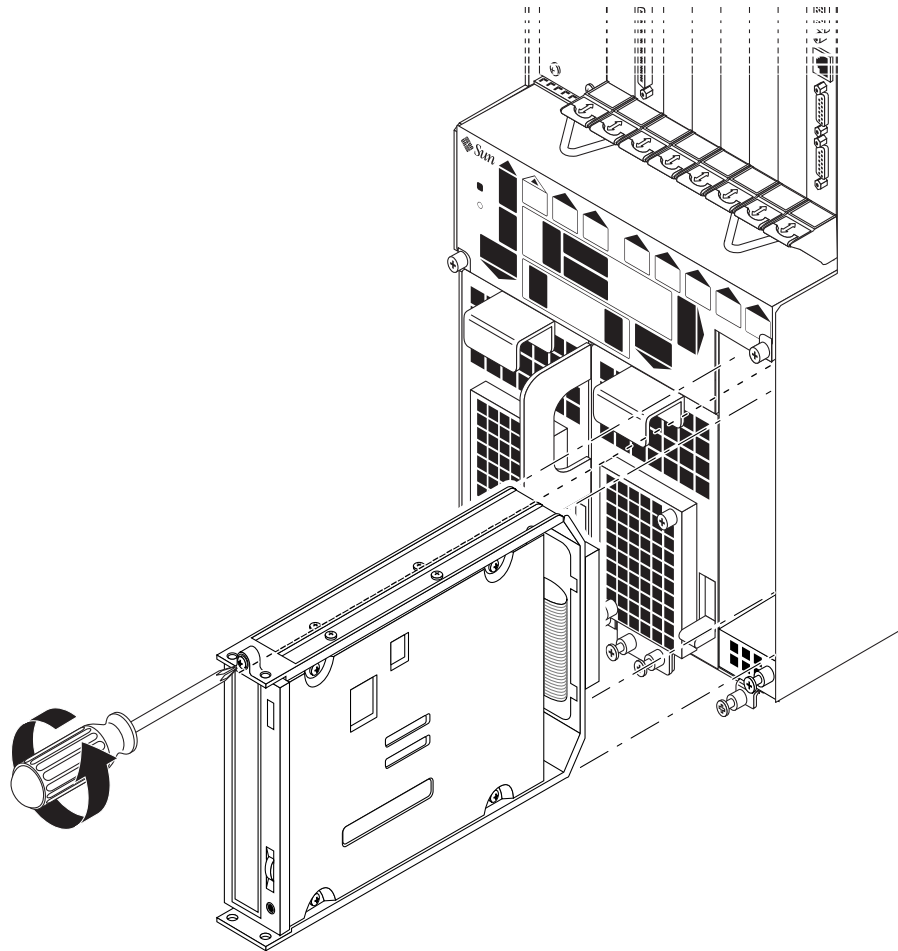


FIGURE 7-3 Removing the Removeable Media Module from a Netra ct 800 Server

## 7.2.2 Installing a CD-ROM/DVD or DAT Drive

- 1. Attach the antistatic wrist strap.**  
Refer to “Attaching the Antistatic Wrist Strap” on page 1-1.
- 2. Insert the removable media module into the server.**
- 3. Using a No. 2 Phillips screwdriver, tighten the screw on the removable media module to secure it to the server.**

**4. Log in to the server and, as root, activate the replacement removeable media drive:**

```
# cfgadm -c configure ap_id
```

where *ap\_id* is the attachment-point ID for the removeable media drive that you just installed. For example, to activate the removeable media drive, as root, enter:

```
# cfgadm -c configure c0::dsk/c0t6d0
```

**5. Verify that the removeable media drive has been activated.**


As root, enter:

```
# cfgadm -a c0
```

You should get feedback similar to the following:

Ap_Id	Type	Receptacle	Occupant	Condition
c0	scsi-bus	connected	configured	unknown
c0::dsk/c0t0d0	disk	connected	configured	unknown
c0::dsk/c0t1d0	disk	connected	configured	unknown
c0::dsk/c0t6d0	CD-ROM	connected	configured	unknown

Note that in the sample feedback above, the Type column for the removeable media drive (c0::dsk/c0t6d0) is now CD-ROM, and the Occupant column now shows it as configured. Note that a different entry would appear under the Type column for a DAT drive.

You can also use the removeable media module (RMM) LEDs on the system status panel to verify that the removeable media drive has been activated (FIGURE 7-2 on page 7-6). The Okay to Remove LED (  ) on the system status panel for the removeable media drive should go OFF, indicating that the removeable media drive has been activated.

**6. Start the Volume Manager daemon.**

As root, enter:

```
# /etc/init.d/volmgt start
```