HP Series 6000
Mass Storage System
Hardware Installation Manual

HEWLETT PACKARD

Printing History

New editions are complete revisions of the manual. Update packages, which are
issued between editions, contain additional and replacement pages to be merged
into the manual by the customer. The dates on the title page change only when
a new edition or a new update is published. No information is incorporated into
a reprinting unless it appears as a prior update; the edition does not change
when an update is incorporated.

Many product updates do not require manual changes and, conversely, manual
corrections may be done without accompanying product changes. Therefore, do
not expect a one-to-one correspondence between product updates and manual
updates.

July 1991   First Edition

Safety Symbols and Conventions

The following conventions are used throughout this manual:

■ *Italic* is used for emphasis or manual titles.

Note	Notes contain important information set off from the text.

Caution	Caution messages indicate procedures which, if not observed, could result in damage to equipment. Do not proceed beyond a CAUTION sign until the indicated conditions are fully understood and met.

Warning	**Warning messages indicate procedures or practices which, if not observed, could result in personal injury. Do not proceed beyond a WARNING sign until the indicated conditions are fully understood and met.**

Contents

Figures

Tables

1

Mass Storage System

This manual describes installation of the mass storage system. Details of the host computer control functions are described in the computer's documentation.

Note	This installation manual is written for personal computer dealers, technicians, and others who are familiar with setting up mass storage devices. If you are not experienced with such tasks, please find an experienced person to help you, or contact your local Hewlett-Packard Sales and Support Office.

Installing Your Mass Storage System

This section describes how to install your mass storage system. These instructions include unpacking instructions, a check of equipment supplied, and how to connect the mass storage system to a power source and the Small Computer System Interface (SCSI) bus.

Unpacking

The mass storage system is shipped in a reusable shipping container as shown in Figure 1-1. Remove the mass storage system from this container and inspect it for any damage that may have occurred during shipment. If any damage is observed, immediately notify your dealer or a Hewlett-Packard Sales and Support Office.

Handling

Although the mass storage system has been designed to withstand a certain shock level, it is still a delicate device. Observe the following precautions when handling or transporting the mass storage system. Failure to observe these handling precautions could result in loss of data or damage to the product.

- Avoid sudden shocks to the mass storage system.

- Always package the mass storage system in approved containers when transporting the product from one area to another. Use the original packaging material or a similar substitute.

Electrostatic Discharge

Caution	■ A static charge of 39,000 volts can be generated on a carpeted floor. If you do not protect against electrostatic discharge, you may damage your product and void your warranty.
	■ Handle the devices with care. Devices are susceptible to mechanical shock and vibration until they are secured into the mass storage system chassis.

To ensure continuously successful operation of this product in a carpeted office environment, Hewlett-Packard recommends the use of anti-static mats and anti-static carpets with this product. Refer to the *Hewlett-Packard Computer Users Catalog*, part number 5953-2450D, for a complete list of static-control equipment, including anti-static mats and carpets.
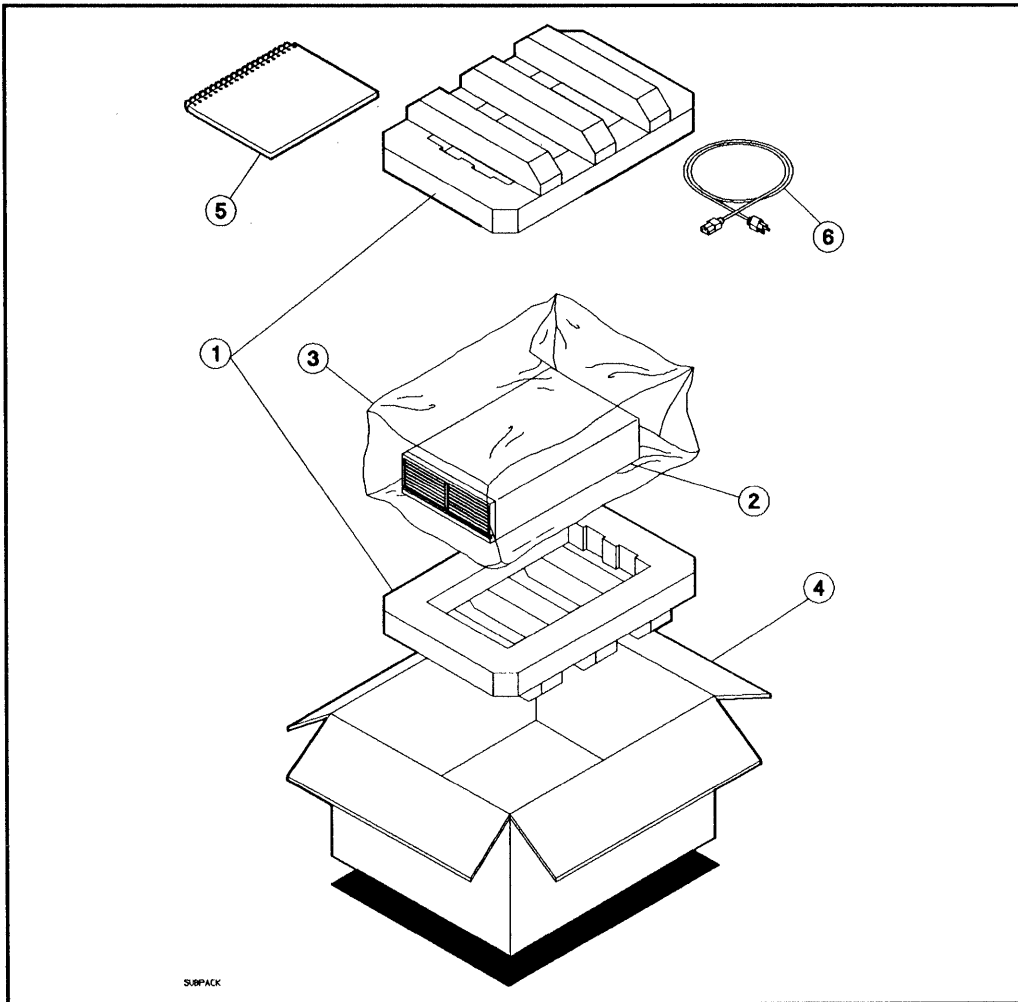
Figure 1-1. Packaging Details

1—Foam Cushions (C2200-80016)   4—Shipping Carton (C2200-80017)

2—Mass Storage System   5—Manuals

3—Antistatic Bag (9222-1030)   6—Power Cord (part number
                                 depends upon location)

Connecting the Power Cord

The various power cords available are shown in the *Disk Product Specifications and Site Environmental Requirements Handbook,* part number 5955-3456. Each mass storage system is shipped with an appropriate power cord.

Warning	■ **The ac branch service must be properly current-protected by either a fuse or a circuit breaker.**
	■ **Use only a UL/CSA approved power cord, SVT type, rated for suitable voltage and current. These power cords have two conductors plus a ground. Failure to use the proper power cord could result in a shock or fire hazard.**
	■ **Do not open the power supply. The power supply contains no customer-serviceable parts.**

Note	Your mass storage system has an automatic ranging power supply. This means that a voltage selector switch and external fuse are unnecessary. Automatic ranging power supplies have internal fuses that only fail if the power supply malfunctions.

To attach the power cord:

1. Set the (LINE⁻) switch to the 0 (out) position.

2. Connect the female end of the power cord to the ⁻AC LINE connector at the rear of the mass storage system.
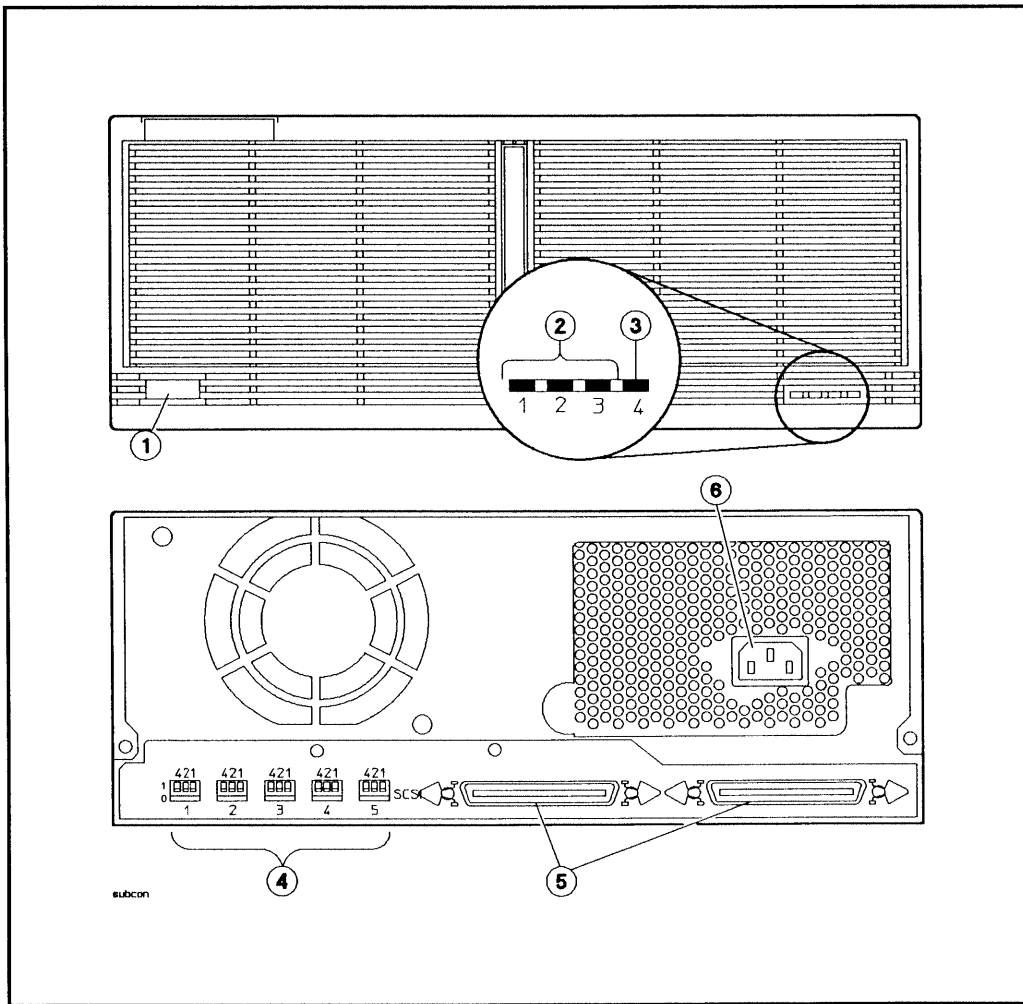
Figure 1-2. Controls and Connectors

1—(LINE˜) Switch   4—SCSI Address Switches

2—5.25-inch Hard Disk Drive Status   5—SCSI Connectors
Indicators (amber)

3—Power-On Indicator (green)   6—˜AC LINE Connector

Host Computer System Connection

Caution

- Switch off power from all units of your host computer before connecting (or disconnecting) the mass storage system.

- Use only cables listed under "Accessories Available" in the *Quick Reference Guide* to connect the mass storage system to the SCSI bus. Failure to use these shielded cables may cause noncompliance with Radio Frequency Interference (RFI) specifications.

- When you are ready to return power to your system, *first* apply power to the mass storage system, then to the host computer.

Note

For host computer system configuration information, please refer to the *Quick Reference Card* included with your mass storage system. The Quick Reference Card shows the title of the configuration manual(s) for the various operating systems.

Connecting the SCSI Cable

One or more mass storage systems can be connected to the host computer. Before connecting to the host computer, ensure that the cabling conforms with the following SCSI cabling standards.

Caution	Your mass storage system is a single-ended SCSI device. Do not mix differential-ended SCSI hosts with single-ended mass storage systems. Connecting a differential host to a single-ended mass storage system could damage both the host and the mass storage system.

- The SCSI bus allows a maximum of eight devices, including the host computer system. Since your mass storage system can contain from one to five SCSI devices, you must make sure you know the number of SCSI devices within your mass storage system before connecting it to the system bus. It is possible that two fully loaded mass storage systems could exceed the SCSI device limit.

- The total length of the SCSI cables must not exceed six meters. In addition to external cables, each mass storage system contains 1.75 meters of internal SCSI cabling. This dimension must be included in cable length calculations.

- The last mass storage system on the bus must have a SCSI terminator (part number K2291) fitted on its unused SCSI connector.

1. Disconnect power to the host computer and the mass storage system.

2. Connect the host computer SCSI cable to either of the two SCSI connectors on the rear panel of the mass storage system. Ensure that the connector retaining clips are locked in place.

3. Connect the next SCSI device or the SCSI terminator to the other SCSI connector on the mass storage system.

Setting the SCSI Address Switches

Note	For optimum system performance, your *system* disk SCSI address should always be set to the highest SCSI address available (usually address number 6).

Each device on a SCSI bus requires a unique SCSI address (0-6). (The SCSI interface card in the host computer is normally set to 7.) The SCSI address switches on the mass storage system rear panel of the (see Figure 1-2) allow an address to be selected for each SCSI device in your mass storage system. Set each three-position DIP switch for each device as desired. Table 1-1 shows one the settings and resultant address for one of the switches. Set a different address for each installed device. Make sure that no two devices have the same SCSI address. You must cycle power for new address switch settings to be recognized.

Table 1-1. Mass Storage System Address Switches

SCSI Address	Switch 4	Switch 2	Switch 1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7[1]	1	1	1

1 Address 7 is normally reserved for the Host Bus Adapter.

Adding Devices

Your mass storage system may come with devices pre-installed, or you may install them at a later time as upgrade kits . The following instructions should be followed when adding a new device.

Warning	After a SCSI device is installed in the mass storage system, the mass storage system must be carefully reassembled to ensure compliance with RFI emission requirements, and to provide adequate protection against electrical shock and fire hazards.

Caution	The mass storage system has been designed for optimum performance when using the mass storage devices from Hewlett-Packard. To ensure that the mass storage system meets its published performance, regulatory, and safety specifications, we recommend you use only Hewlett-Packard accessory mass storage devices.

Preparing to Install a SCSI Device

1. Shut down (halt) the host computer.

2. Turn off power to both the host computer and the mass storage system.

3. Disconnect the power cord from the mass storage system.

4. Disconnect the SCSI cable from the mass storage system.

5. If necessary, remove the mass storage system from its rack or cabinet (see Figure 1-8).

Removing the Front Panel

1. Slide the front of the mass storage system beyond the edge of the table top until the front panel locking tabs are exposed. The tabs are located on the underside of the chassis. See Figure 1-3.

2. Press up on the front panel locking tabs until the front panel releases from the mass storage system chassis.

3. Pull the bottom of the front panel forward, rotate the front panel up, and lift the front panel off the mass storage system.

Removing the Top Cover

1. Remove the two T15 top cover screws from the rear of the top cover as shown in Figure 1-3.

2. Slide the top cover one-half inch beyond the back of the mass storage system chassis, then lift the front of the top cover up and off of the mass storage system chassis.
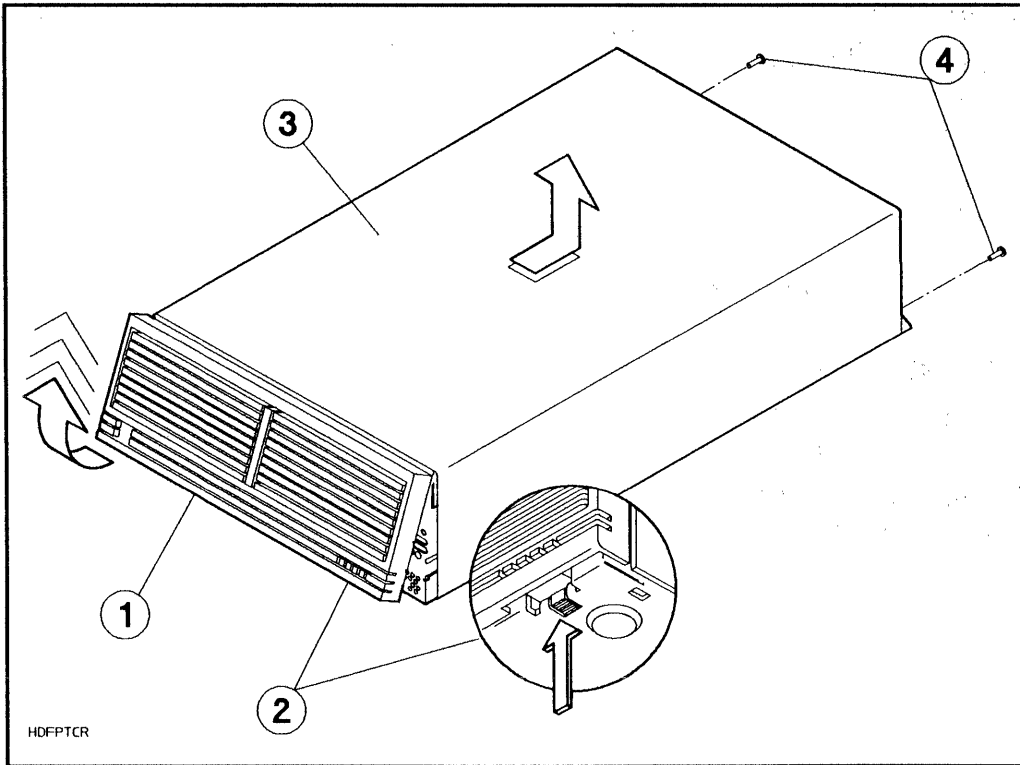
Figure 1-3. Removing the Front Panel and Top Cover

1—Front Panel   3—Top Cover

2—Front Panel Locking Tabs   4—T15 Top Cover Screws
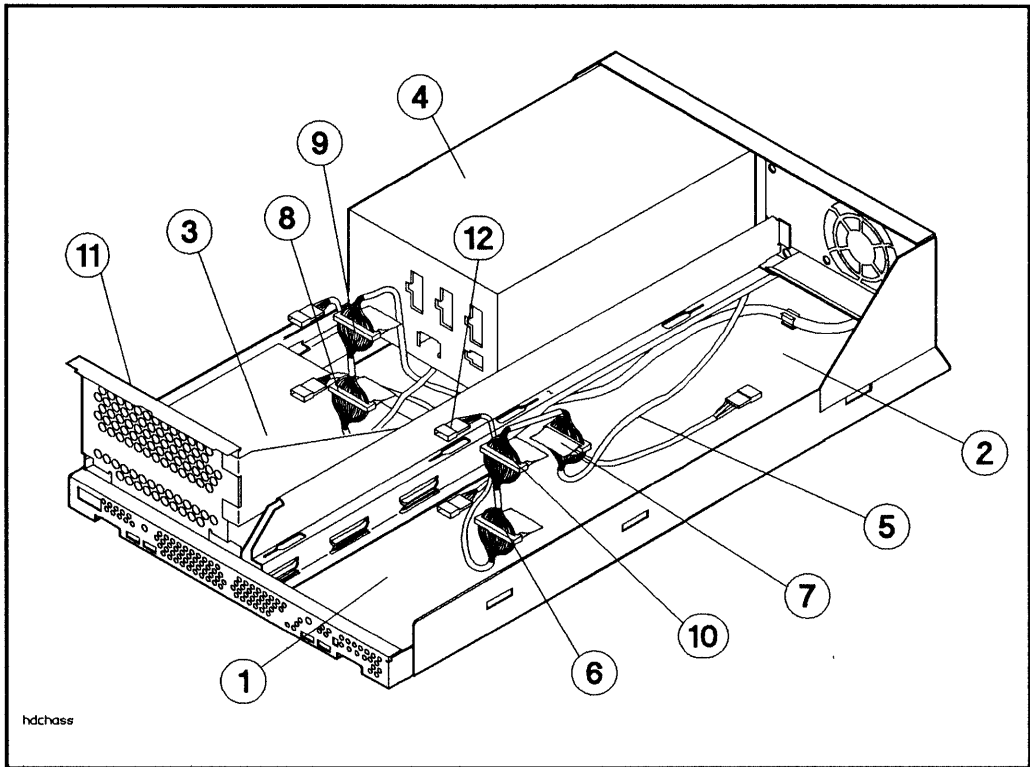
Figure 1-4. Mass Storage System Chassis

1—Slot 1	7—Slot 2 SCSI Connector
2—Slot 2	8—Slot 3 SCSI Connector
3—Slot 3	9—Slot 4 SCSI Connector (above slot 3)
4—Power Supply	10—Slot 5 SCSI Connector (above slot 1)
5—Internal SCSI Cable	11—RFI Bracket
6—Slot 1 SCSI Connector	12—SCSI Address Cables (slot numbers printed on each cable)

Removing the RFI Bracket

The mass storage system chassis is shipped with a radio frequency interference (RFI) bracket in empty front slots. The RFI bracket ensures the compliance of your mass storage system with RFI emission requirements whenever there is no device in the front slots.

If you are installing a device in either of the front slots, you must first remove the RFI bracket as follows (see Figure 1-5):

1. Remove the T25 screw from the front of the chassis.

2. Use a flat-bladed screwdriver to pry the RFI bracket toward the rear of the chassis.

3. Slide the RFI bracket toward the center of the chassis until the mounting tabs stop against the ends of the mounting slots.

4. Lift the RFI bracket out of the chassis.

5. Discard the RFI bracket.

Installing the SCSI Devices

Refer to the appropriate chapter in this manual for device installation. When the device is installed, return here and complete the procedures in this chapter for removing the front panel bezels, connecting the dc power cable, and reinstalling the top cover and front panel.
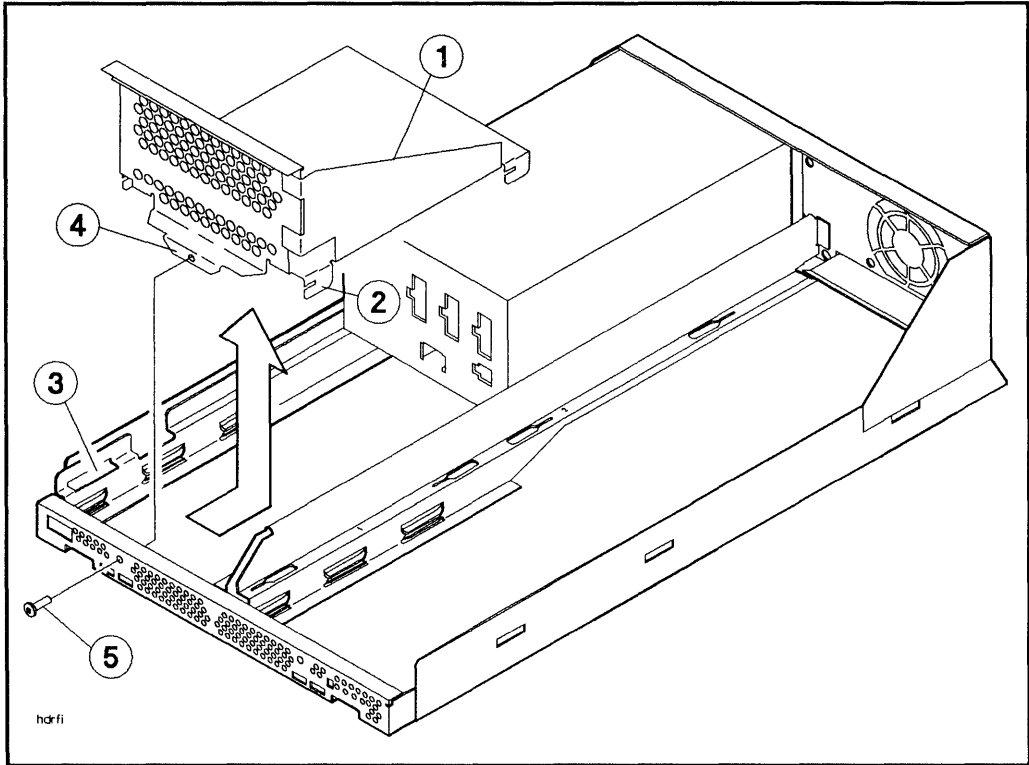
Figure 1-5. Removing the RFI Bracket

1—RFI Bracket   4—Bracket Securing Tab

2—Mounting Tab (1 of 4)   5—T25 Screw

3—Mounting Slot

DDSBEZ
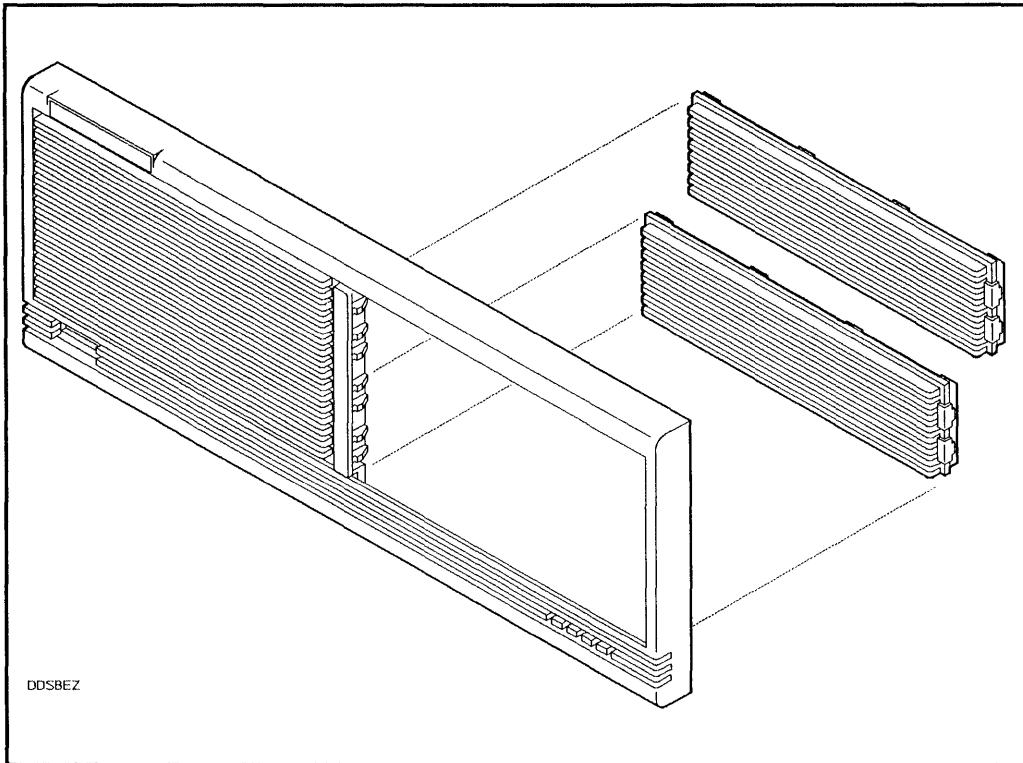
Figure 1-6. Removing the Front Panel Bezels

HDPS1
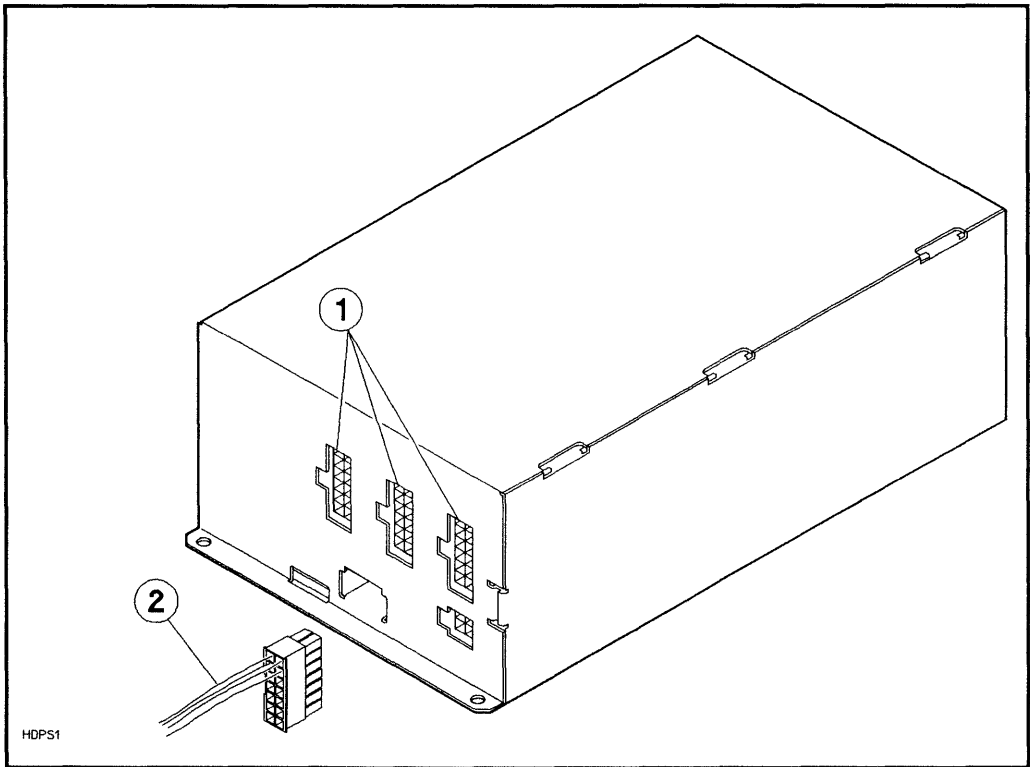
Figure 1-7. Connecting the DC Power Cable

1—DC Power Connectors   2—DC Power Cable

Reinstalling the Top Cover

1. Slide the top cover down over the mass storage system chassis so that the back of the top cover extends one-half inch beyond the rear of the mass storage system chassis (see Figure 1-3), then slide the top cover forward into place.

2. Install and tighten the T15 top cover screws.

Reinstalling the Front Panel

1. Insert the front panel mounting tabs into the slots in the top cover and swing the front panel down until the (LINE⁻) switch comes through the opening in the front panel (see Figure 1-3).

2. Push the bottom edge of the front panel into the front of the chassis until the front panel locking tabs engage.

3. Reconnect the SCSI cable and the power cord to the mass storage system rear panel.

Mounting the Mass Storage System in a Cabinet

The mass storage system may be shipped with additional parts necessary to install it into a 19-inch cabinet. Figure 1-8 shows the parts for installing the mass storage system into the HP C2785A/86A cabinets. Assemble the parts as described below.

1. First loosen several turns (but do not remove) the two screws on the front clamp and the two screws on the rear clamp.

2. Slide the rack adapter assembly into the C2785A/86A cabinet and install the four front screws.

Note	If the locking tabs on the cabinet rails do not allow the rack adapter to seat fully against the front columns, remove the locking tab screws and move the tabs further toward the rear.

3. Slide the locking tabs on the rails in your C2785A/86A cabinet forward until they engage into the slots in the rear of the rack adapter. Tighten the screws while pressing forward on the locking tabs.

4. Slide the mass storage system into the rack adapter assembly until it stops.

5. Swing the front clamp up so that the four tabs of the front clamp engage into the four slots in the front of the mass storage system, and then tighten the two screws of the front clamp.

6. Swing the rear clamp up so that the three tabs on the top of the clamp engage over the edge of the lip on the back of the mass storage system.

7. Attach the external front panel assembly by snapping it into place.

Figure 1-8. Installing the Mass Storage System into C2785A/86A Cabinets

1—Mass Storage System	5—Front Clamp
2—Rack Adapter	6—Rear Clamp
3—External Front Panel	7—Clamp Screws
4—Front Panel Snaps	8—Front Mounting Screws

Configuration Record

For your convenience, a sheet is included at the end of this chapter to record SCSI ID addresses for all storage devices on your system. Refer to Table 1-2.

Device Serial Numbers

Each kit includes a serial number label for the SCSI device, which should be attached to the back of the mass storage system cabinet. This label will help identify exactly which devices are installed in your mass storage system.

Table 1-2. SCSI Device Configuration Record

SCSI Devices	SCSI ID Numbers
Internal SCSI Devices[1]	
• Host Bus Adapter (Normally SCSI ID = 7)	_____
• Hard Disk Drive 1 (Normally SCSI ID = 6)	_____
• Hard Disk Drive 2 (Normally SCSI ID = 5)	_____
• Hard Disk Drive 3 (Normally SCSI ID = 4)	_____
• DDS-format Tape Drive	_____
External SCSI Devices[2]	
HP Series 6000 Mass Storage Systems:	
• Hard Disk Drive 1	_____
• Hard Disk Drive 2	_____
• Hard Disk Drive 3	_____
• Rewritable Optical Disk Drive	_____
• CD-ROM Drive 1	_____
• CD-ROM Drive 2	_____
• DDS-format Tape Drive	_____
Stand-alone Devices:	
• 660-Mbyte Hard Disk Drive	_____
• 5.25-inch Floppy Diskette Drive	_____
• Rewritable Optical Disk Drive	_____
• 8 mm Tape Drive (SCSI ID = 1 or 2)	_____
• Quarter-inch Cartridge Tape Drive	_____

1 Devices internal to your host computer system.

2 Devices external to your host computer system.

2

5.25-inch Hard Disk Drive Installation

The following paragraphs describe how to install a 5.25-inch hard disk drive into your mass storage system. Your mass storage system can contain up to three 5.25-inch hard disk drives.

Note	5.25-inch hard disk drives can be installed into any slot. The first 5.25-inch hard disk drive should be installed in slot 2 (rear slot) if it is empty. This leaves the front slots open for devices that might require front panel access.

Unpacking the Upgrade Kit

Unpack and identify the contents of the upgrade kit. Figure 2-1 shows the contents of the 5.25-inch hard disk drive upgrade kit.
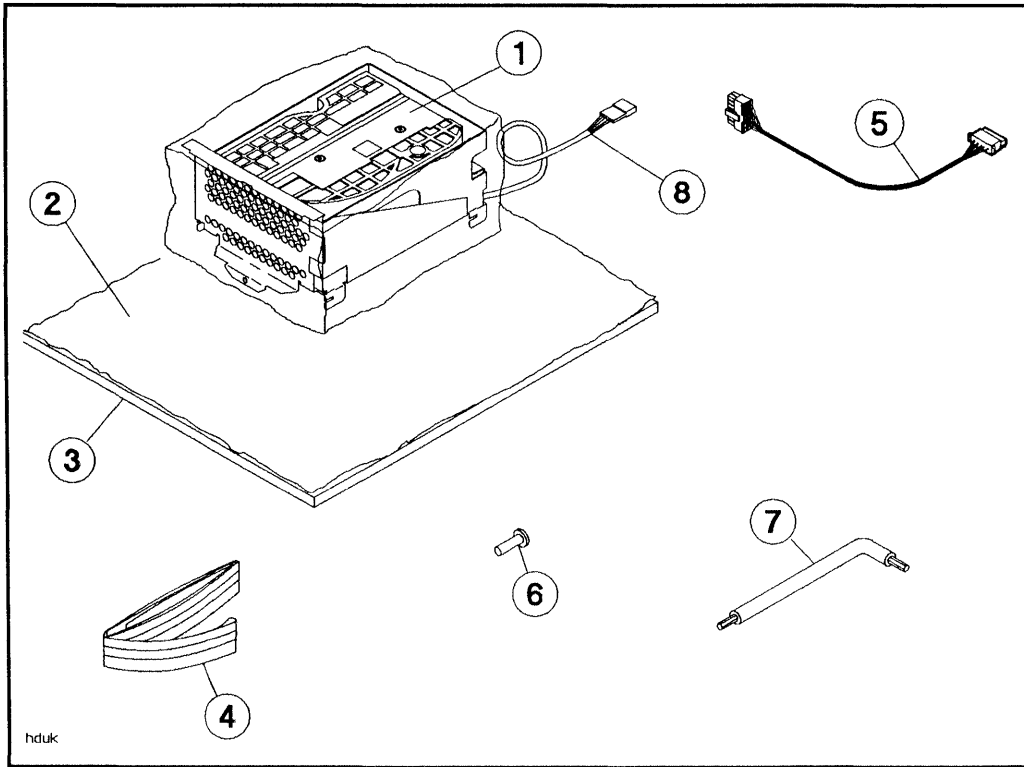
Figure 2-1. 5.25-inch Hard Disk Drive Upgrade Kit Contents

1—Hard Disk Drive and Bracket	5—Power Cable
2—Conductive Sheet	6—T25, 10 mm Screw
3—Foam Pad	7—TORX Tools
4—Wrist Ground Strap	8—Address Cable

Options/Address Jumpers

The options/address jumpers on the drive (see Figure 2-2) enable you to select options and set a unique SCSI address for your 5.25-inch hard disk drive. The address is set with the rear panel SCSI address switches (refer to Figure 1-2 and Table 1-1).

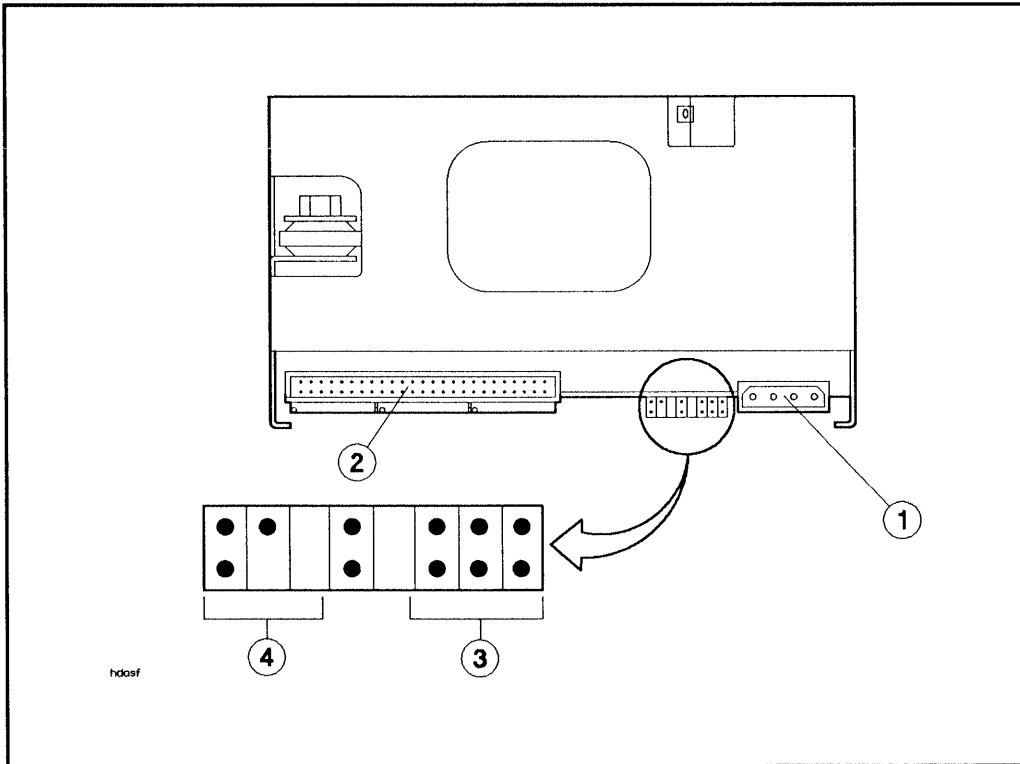| Caution	The options jumpers *must* be left in the factory-set positions. These settings are shown in Figure 2-2. Make sure the address switch on the mass storage system rear panel is set to a unique SCSI address relative to the other devices on the SCSI bus. The mass storage system will not function properly if two devices have the same SCSI address.

Figure 2-2. 5.25-inch Hard Disk Drive Connectors

1—DC Power Connector   3—Address Connector

2—SCSI Connector   4—Options Pinsets

Installing the 5.25-inch Hard Disk Drive

■ If you are installing the drive into slot 1 or slot 3 (the front slots), push down on the drive and slide it on the chassis rails toward the front of the mass storage system chassis until the mounting tabs lock into the mounting slots (see Figure 2-3 or Figure 2-5). Tighten the T25 bracket screw through the hole in the front of the mass storage system chassis and into the drive bracket.

■ If you are installing the drive into slot 2 (the rear slot), push down on the drive and slide it toward the rear of the mass storage system chassis until the mounting tabs lock into the mounting slots (see Figure 2-4). Tighten the bracket screw through the hole in the rear of the mass storage system chassis into the drive bracket.
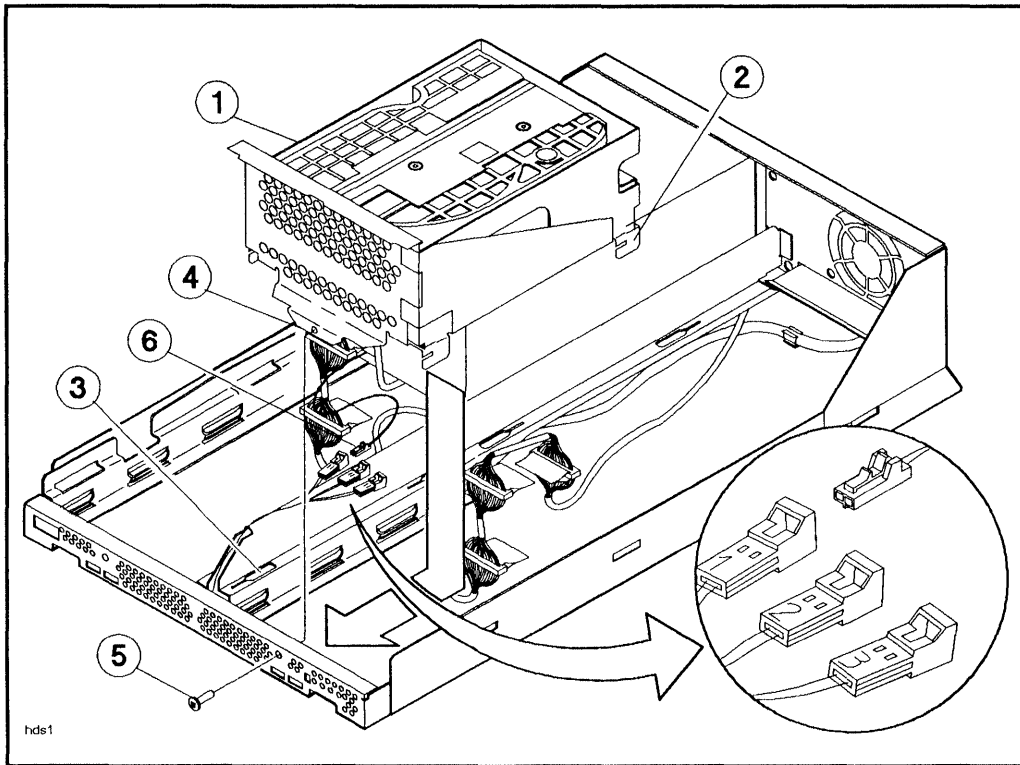
Figure 2-3. Installing the 5.25-inch Hard Disk Drive into Slot 1

1—Hard Disk Drive   4—Securing Tab

2—Mounting Tab (1 of 4)   5—T25 Screw

3—Mounting Slot (1 of 4)   6—Status Cable
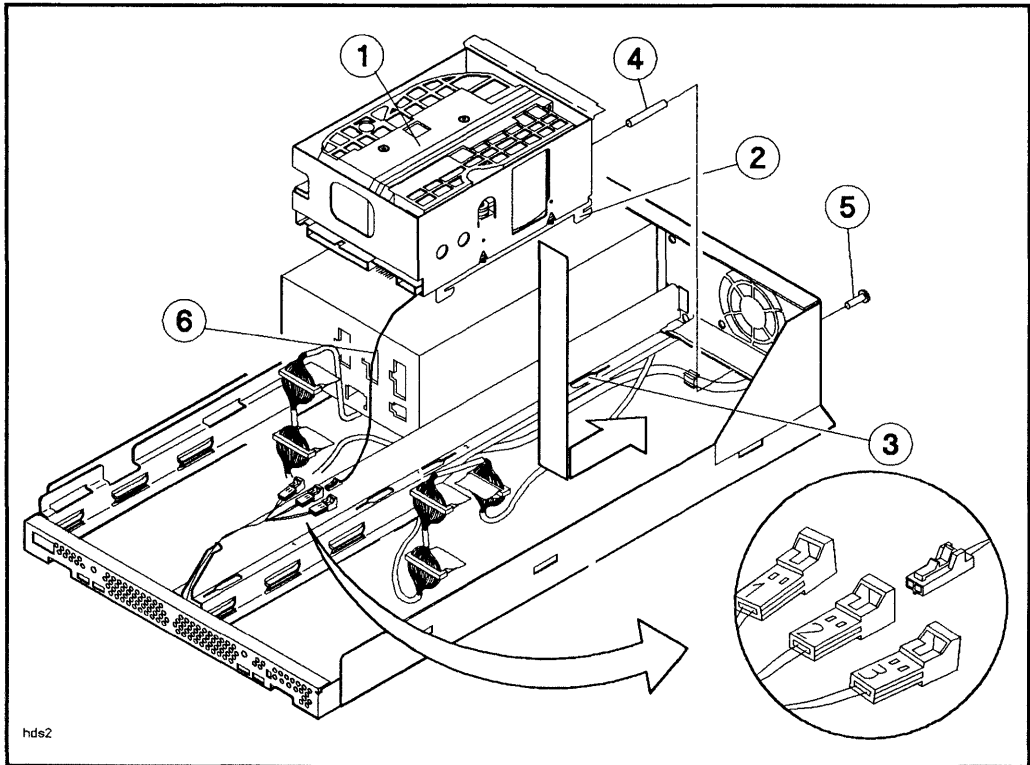
Figure 2-4. Installing the 5.25-inch Hard Disk Drive into Slot 2

1—Hard Disk Drive   4—Bracket Sleeve

2—Mounting Tab (1 of 4)   5—T25 Screw

3—Mounting Slot (1 of 4)   6—Status Cable

Figure 2-5. Installing the 5.25-inch Hard Disk Drive into Slot 3

1—Hard Disk Drive   4—Securing Tab

2—Securing Tab (1 of 4)   5—T25 Screw
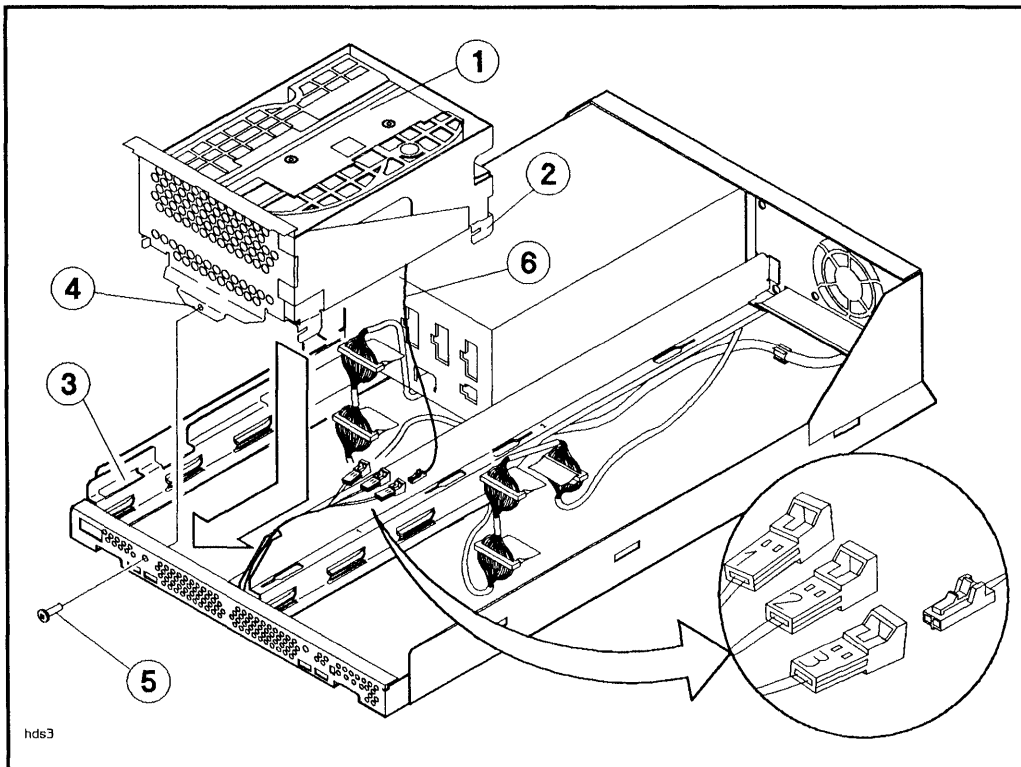
3—Securing Slot (1 of 4)   6—Status Cable

Connecting the Cables

Note	Do not alter any jumpers on the option pins that have been installed and preset by the factory.

1. Connect the appropriate address cable to the SCSI address cable on the drive (see Figure 2-6). The address cables in the mass storage system are numbered according to slot number.

2. Connect the disk status cable to the corresponding SCSI status connector for the proper slot number (see inset on appropriate figure).

3. Connect the internal SCSI cable to the drive (see Figure 2-6).

4. Connect one end of the dc power cable to the drive.

5. Connect the other end of the dc power cable to any of the unused dc power connectors on the power supply (see Figure 1-7).
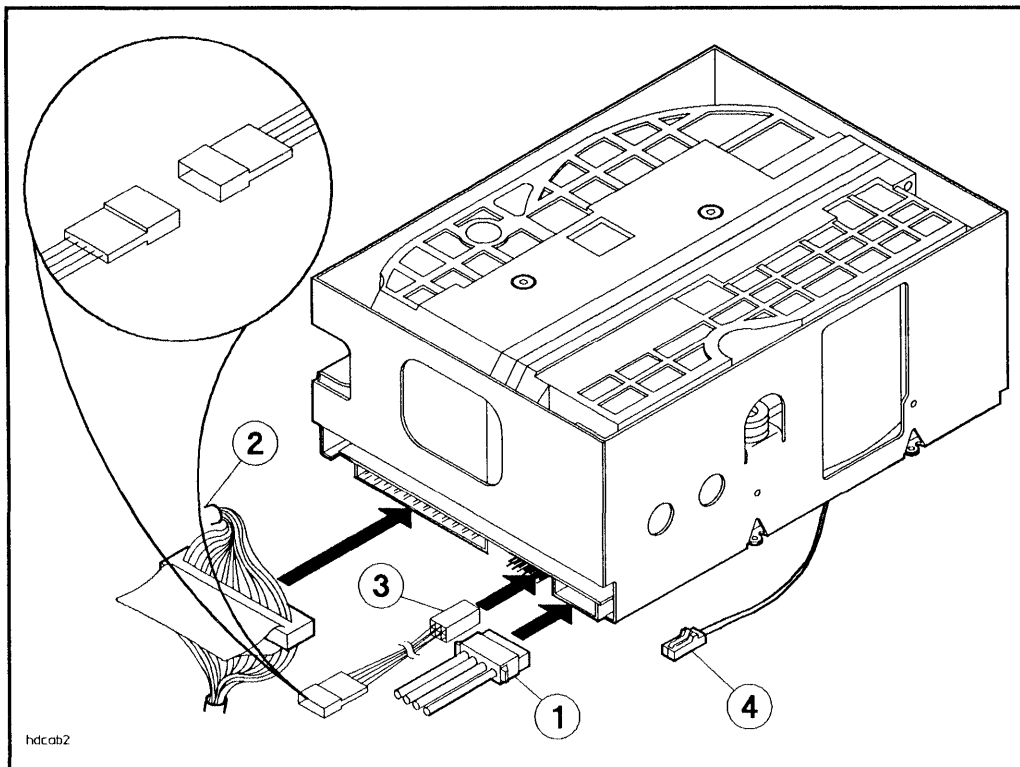
Figure 2-6. Connecting Cables to the 5.25-inch Hard Disk Drive

1—DC Power Cable   3—Address Cable

2—SCSI Cable   4—Status Cable

3

3.5-inch Hard Disk Drive Installation

The following paragraphs describe how to install a 3.5-inch hard disk drive into your mass storage system. Your mass storage system can contain up to five 3.5-inch hard disk drives.

Note	3.5-inch hard disk drives can be installed into any slot. Although it is a half-height device, only one 3.5-inch hard disk drive can be installed in slot 2 (the rear slot). The first 3.5-inch hard disk drive should be installed in slot 2 (rear slot) if it is empty. This leaves the front slots open for devices that might require front panel access.

Unpacking the Upgrade Kit

Unpack and identify the contents of the upgrade kit. Figure 3-1 shows the contents of the 3.5-inch hard disk drive upgrade kit.

Note	If you are installing a second (or two) 3.5-inch hard disk drives, you will have an extra mounting bracket.

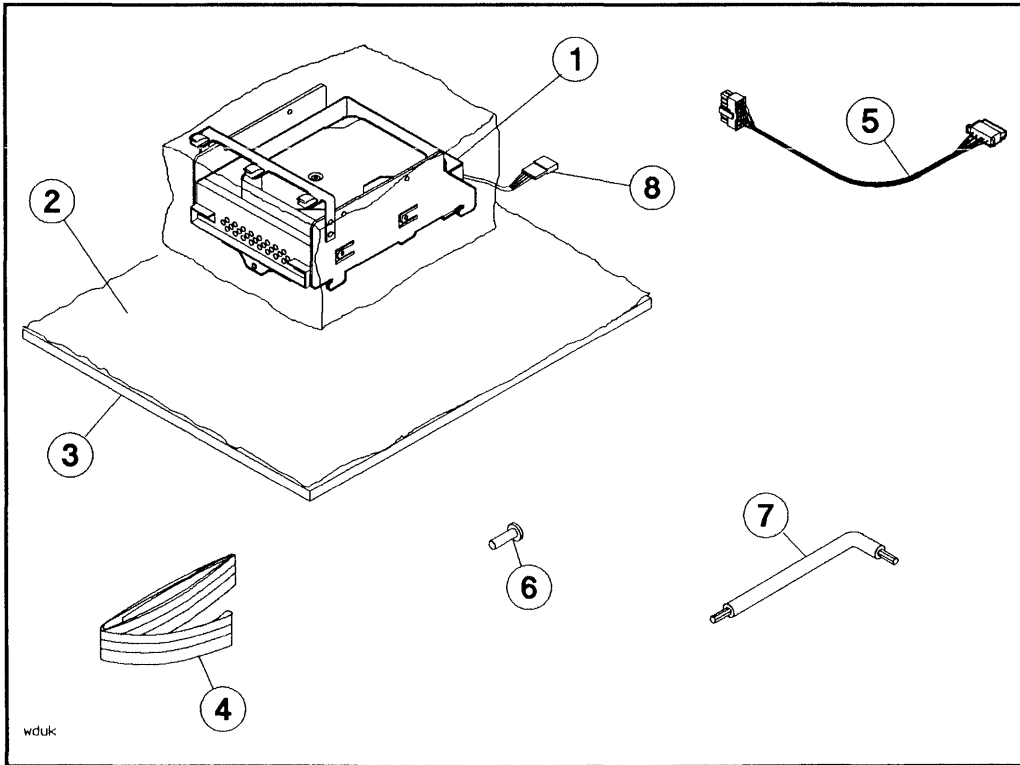**Figure 3-1. 3.5-inch Hard Disk Drive Upgrade Kit Contents**

1—Hard Disk Drive and Bracket   5—Power Cable

2—Conductive Sheet   6—T25, 10 mm Screw

3—Foam Pad   7—TORX Tools

4—Wrist Ground Strap   8—Address Cable

Options/Address Jumpers

The options/address jumpers on the drive (see Figure 3-2) enable you to select options and set a unique SCSI address for your 3.5-inch hard disk drive. The address is set with the rear panel SCSI address switches (refer to Figure 1-2 and Table 1-1).

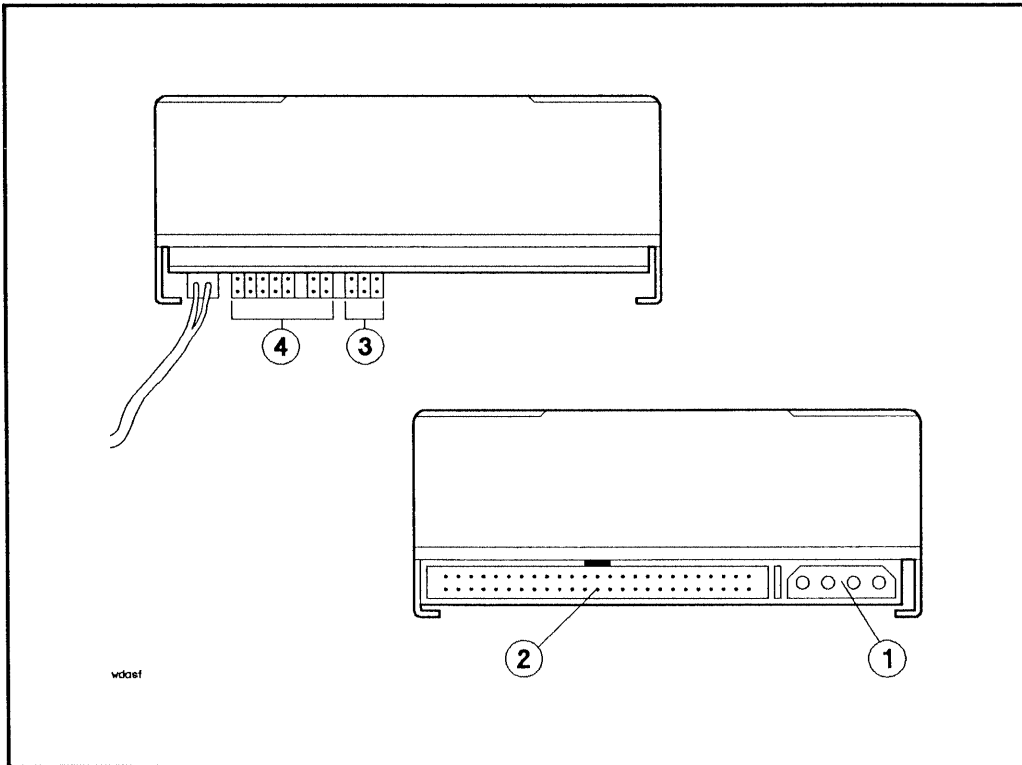| Caution	The options jumpers *must* be left in the factory-set positions. These settings are shown in Figure 3-2. Make sure the address switch on the mass storage system rear panel is set to a unique SCSI address relative to the other devices on the SCSI bus. The mass storage system will not function properly if two devices have the same SCSI address.

Figure 3-2. 3.5-inch Hard Disk Drive Connectors

1—DC Power Connector   3—Address Connector

2—SCSI Connector   4—Options Pinsets

Adding a Second 3.5-inch Hard Disk Drive

Note	Only the front slots can contain two 3.5-inch hard disk drives. Since the rear slot (slot 2) has only one SCSI connector, only one device can be installed in this slot.

If you are adding a second 3.5-inch hard disk drive into an existing bracket, first remove the existing hard disk drive and bracket as follows:

1. Disconnect the dc power cable.

2. Disconnect the address cable from the drive.

3. Disconnect the SCSI cable.

4. Remove the T25 bracket screw from the chassis front panel, then remove the drive and bracket from the mass storage system.

Now add the new drive to the existing bracket:

1. Remove the T10 bracket screws from the new drive and bracket you received in the new upgrade kit.

2. Remove the new drive from the mounting bracket.

3. Remove th RFI baffle from the mounting bracket.

4. Install the new drive into the open slot of the mounting bracket.

5. Secure the drive in the mounting bracket with the T10 bracket screws (see Figure 3-3).

If you are installing two drives at the same time (from two upgrade kits), perform the following steps:

1. Remove the T10 bracket screws from one of the drives, and remove the drive from the mounting bracket.

2. Remove th RFI baffle from the mounting bracket.

3. Install the drive that was just removed into the open slot of the mounting bracket you received in the other upgrade kit.

4. Secure the drive in the mounting bracket with the T10 bracket screws (see Figure 3-3).
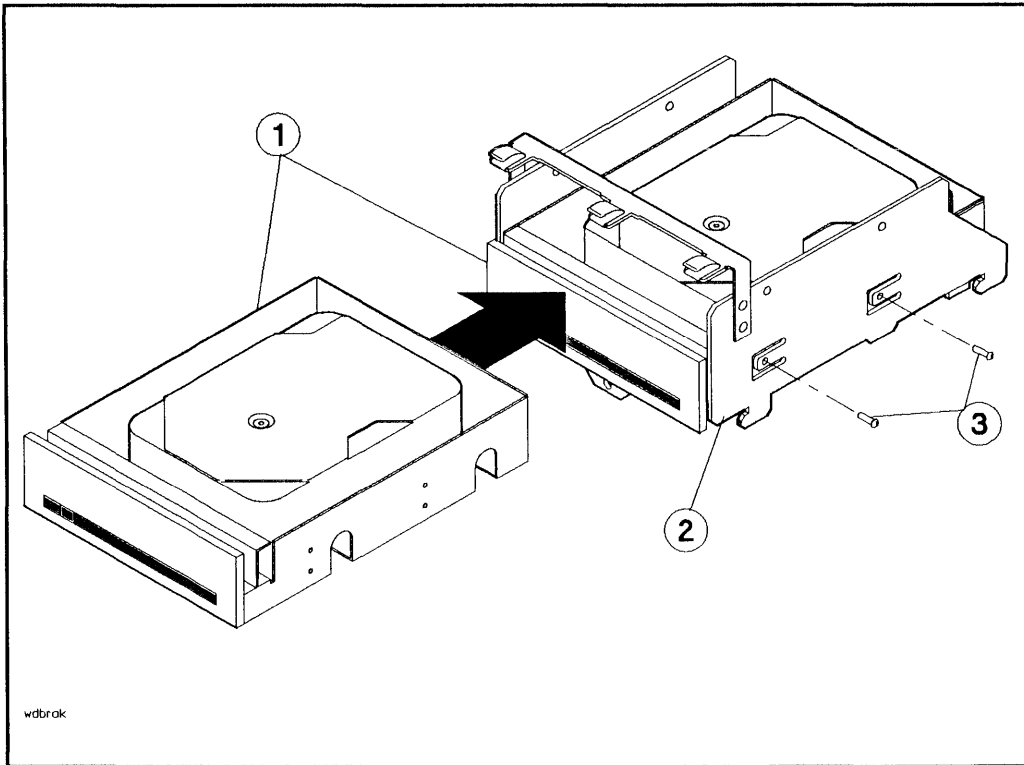
Figure 3-3. Installing a 3.5-inch Hard Disk Drive into a Mounting Bracket

1—Hard Disk Drives   3—T10 Screws
2—Mounting Bracket

Installing the 3.5-inch Hard Disk Drive

- If you are installing a drive into slot 1 or slot 3 (the front slots), push down on the drive and slide it on the chassis rails toward the front of the mass storage system chassis until the mounting tabs lock into the mounting slots (see Figure 3-4 or Figure 3-6). Tighten the T25 bracket screw through the hole in the front of the mass storage system chassis and into the drive bracket.

- If you are installing a drive into slot 2 (the rear slot), push down on the drive and slide it toward the rear of the mass storage system chassis until the mounting tabs lock into the mounting slots (see Figure 3-5). Tighten the T25 bracket screw through the hole in the rear of the mass storage system chassis into the drive bracket.
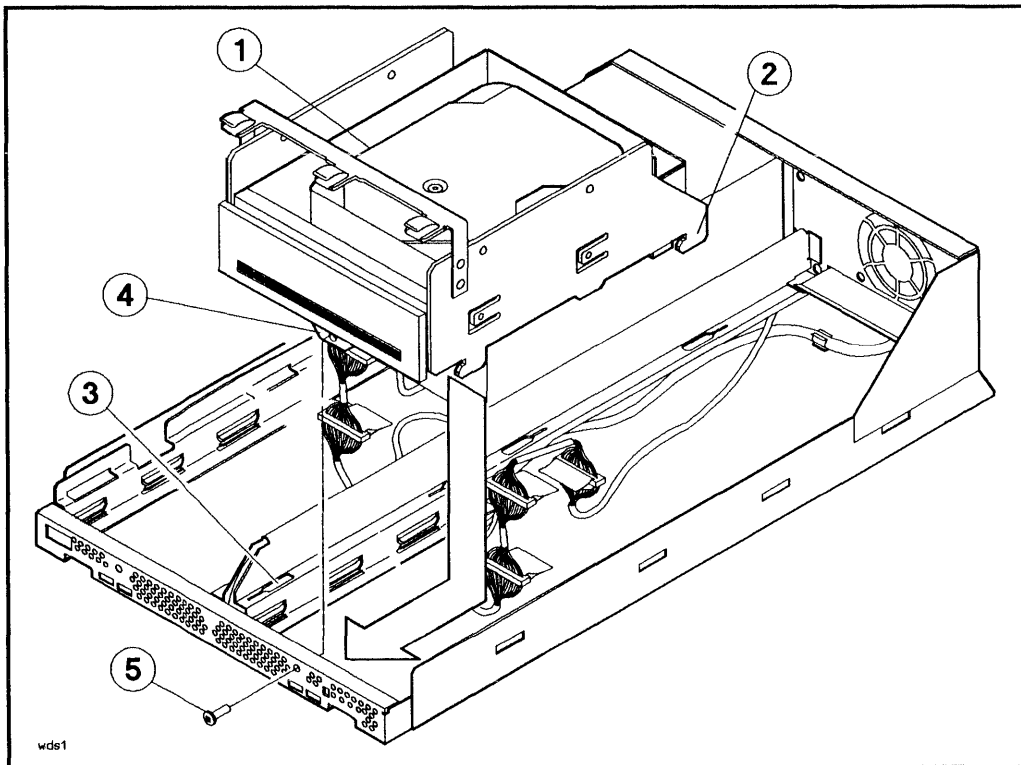
Figure 3-4. Installing the 3.5-inch Hard Disk Drive into Slot 1

1—Hard Disk Drive   4—Securing Tab

2—Mounting Tab (1 of 4)   5—T25 Bracket Screw
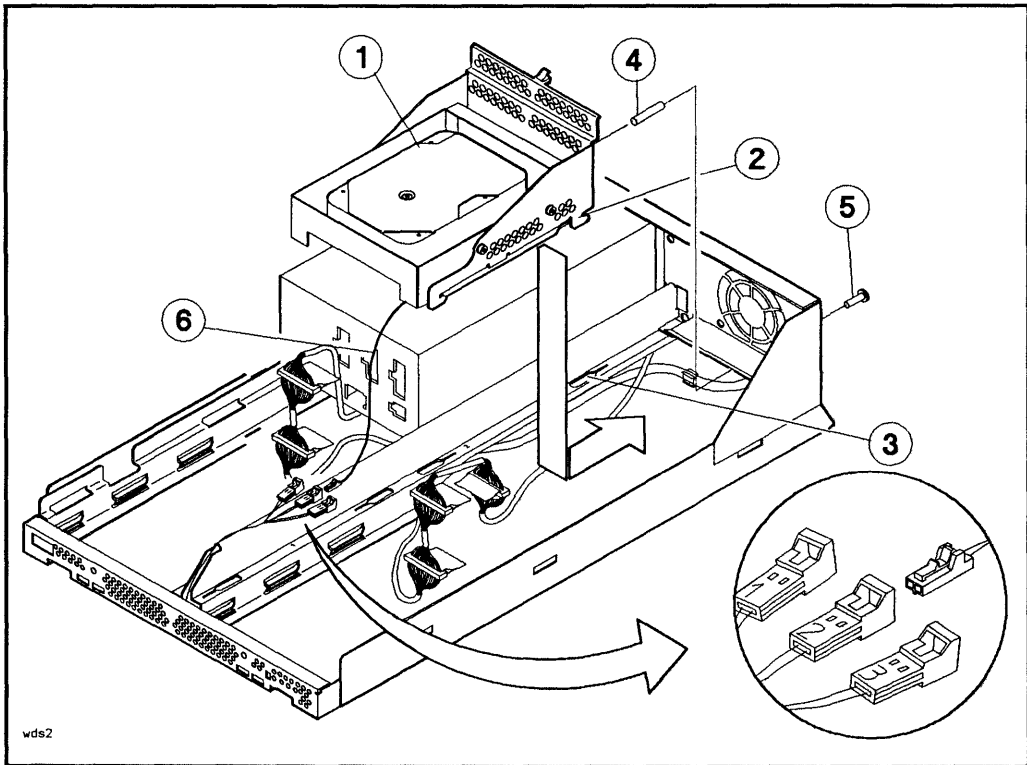
3—Mounting Slot (1 of 4)

Figure 3-5. Installing the 3.5-inch Hard Disk Drive into Slot 2

1—Hard Disk Drive

2—Mounting Tab (1 of 4)

3—Mounting Slot (1 of 4)

4—Bracket Sleeve

5—T25 Bracket Screw

6—Status Cable
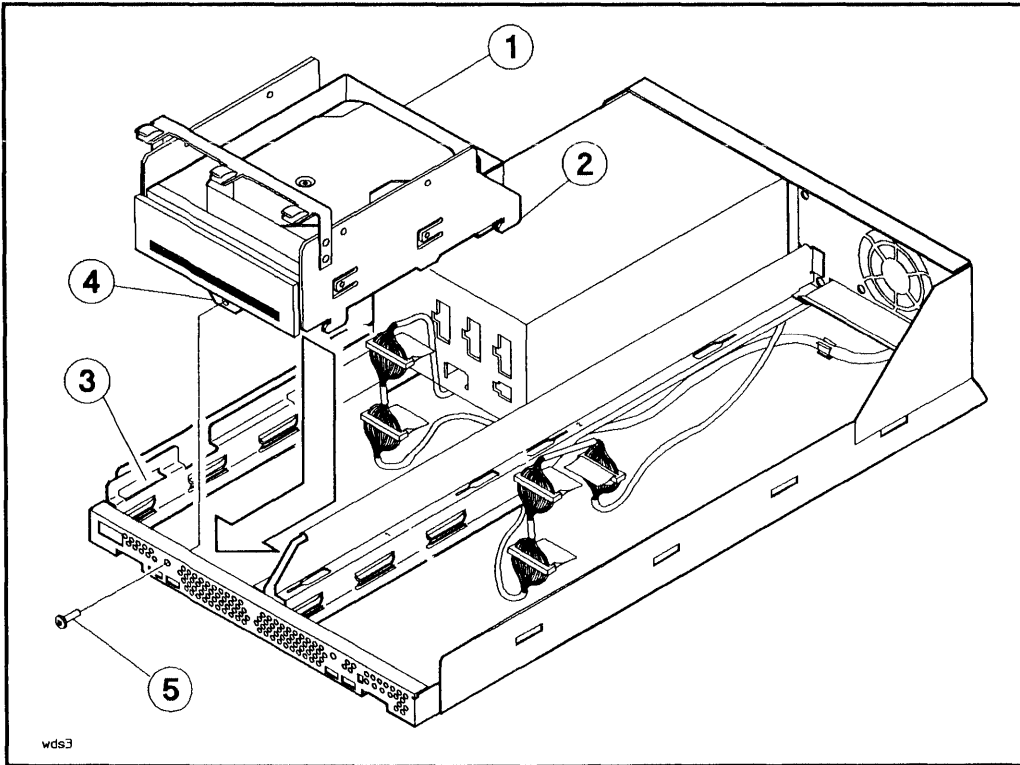
Figure 3-6. Installing the 3.5-inch Hard Disk Drive into Slot 3

1—Hard Disk Drive   4—Securing Tab

2—Securing Tab (1 of 4)   5—T25 Bracket Screw

3—Securing Slot (1 of 4)

Connecting the Cables

Note	Do not alter any jumpers on the option pins that have been installed and preset by the factory.

1. Connect the appropriate address cable to the SCSI address cable on the drive (see Figure 3-7). The address cables in the mass storage system are numbered according to slot number.

2. If you are installing the drive in slot 2 (right rear), connect the disk status cable (see Figure 3-5) to the SCSI status connector number 2.

3. Connect the internal SCSI cable to the drive (see Figure 3-7).

4. Connect one end of the dc power cable to the drive.

5. Connect the other end of the dc power cable to any of the unused dc power connectors on the power supply (see Figure 1-7).
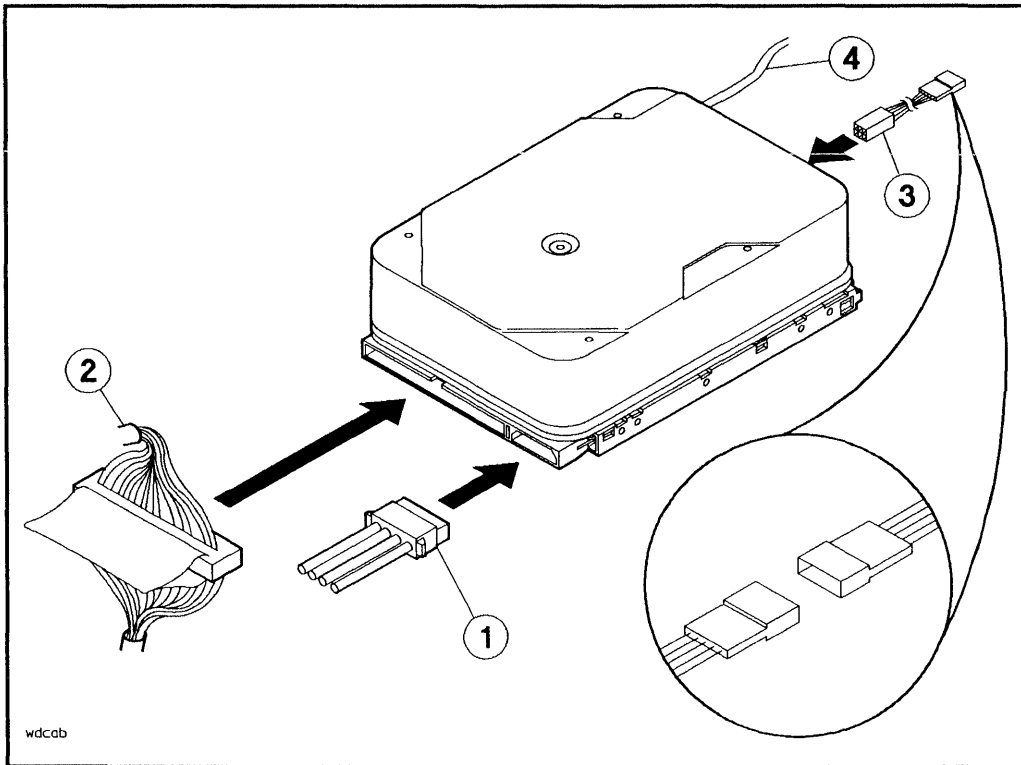
Figure 3-7. Connecting Cables to the 3.5-inch Hard Disk Drive

1—DC Power Cable   3—Address Cable

2—SCSI Cable   4—Status Cable

4

DDS-format DAT Drive Installation

The following paragraphs describe how to install a DDS-format DAT drive into your mass storage system. Your mass storage system can contain up to two DDS-format DAT drives. This chapter often refers to the DDS-format DAT drive as the tape drive.

Note	DDS-format DAT drives can be installed into slot 1 or slot 3 (the front slots). The first DDS-format DAT drive should be installed in slot 3 (left slot) if it is empty.

Unpacking the Upgrade Kit

Unpack and identify the contents of the upgrade kit. Figure 4-1 shows the contents of the DDS-format DAT drive upgrade kit.
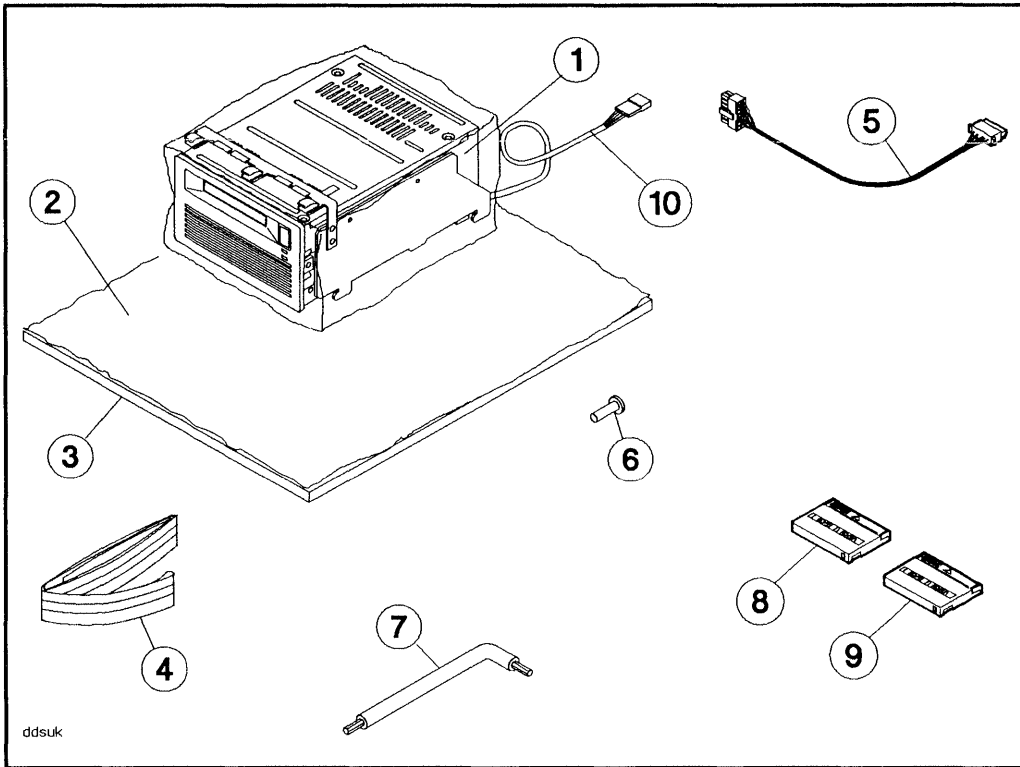
Figure 4-1. DDS-format DAT Drive Upgrade Kit Contents

1—DDS-format DAT Drive and Bracket

2—Conductive Sheet

3—Foam Pad

4—Wrist Ground Strap

5—DC Power Cable

6—Screw, T25, 10 mm

7—TORX Tools

8—DDS-format Cassette, 1.3-gigabyte

9—Cleaning Cassette

10—Address Cable

Options/Address Jumpers

The options/address jumpers on the drive (see Figure 4-2) enable you to select options and set a unique SCSI address for your DDS-format DAT drive. The address is set with the rear panel SCSI address switches (refer to Figure 1-2 and Table 1-1).

Note	On some older mass storage systems (Models 330D/S and 660D/S), the rear panel SCSI address switches are for hard disk drives only. For this reason, the device in your upgrade kit is shipped with necessary address jumpers or DIP switches installed. If you do not have a Model 330D/S or 660D/S mass storage system, these device address jumpers or DIP switches are not needed and can be removed. Connect the address cable in their place as shown in Figure 4-5.

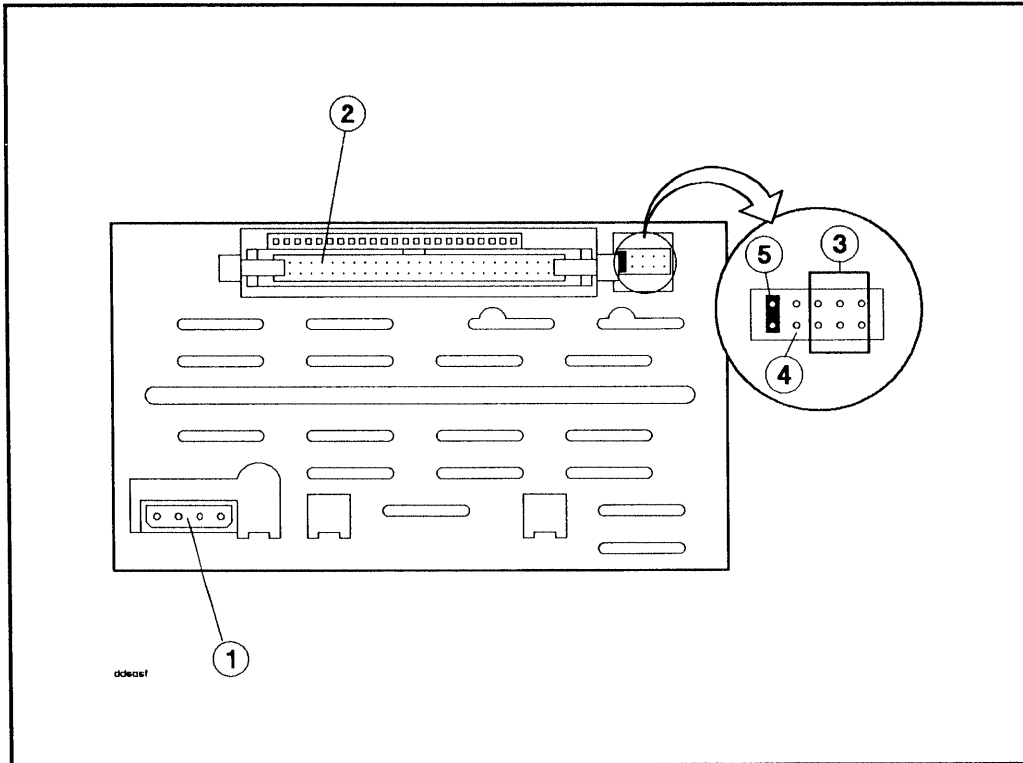| Caution	The options jumpers *must* be left in the factory-set positions. These settings are shown in Figure 4-2. Make sure the address switch on the mass storage system rear panel is set to a unique SCSI address relative to the other devices on the SCSI bus. The mass storage system will not function properly if two devices have the same SCSI address.

Figure 4-2. DDS-format DAT Drive Connectors

1—DC Power Connector   4—Power Termination (no jumper)

2—SCSI Connector   5—Parity (jumper)

3—Address Connector

Installing the DDS-format DAT Drive

1. Position the mounting tabs into the mounting slots (see Figure 4-3 or Figure 4-4).

2. Push down on the drive and slide it toward the front of the chassis until the mounting tabs lock into the mounting slots.

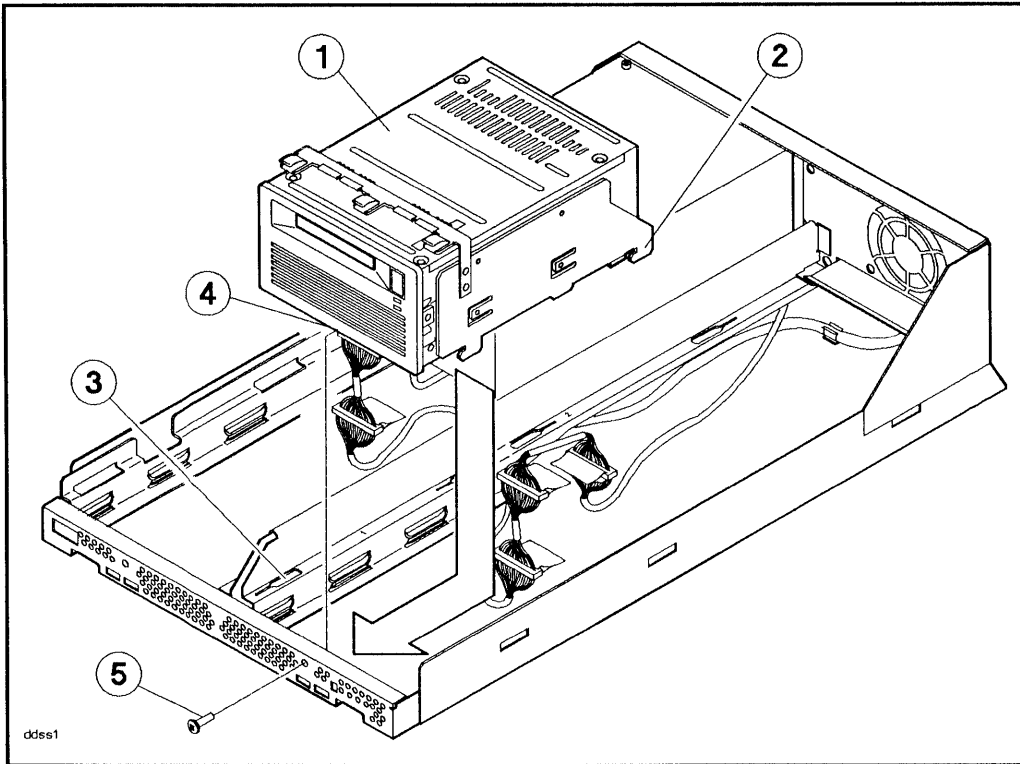3. Tighten the T25 bracket screw into the drive bracket.

Figure 4-3. Installing the DDS-format DAT Drive into Slot 1

1—DDS-format DAT Drive	4—Securing Tab
2—Mounting Tab (1 of 4)	5—T25 Bracket Screw
3—Mounting Slot (1 of 4)	

Figure 4-4. Installing the DDS-format DAT Drive into Slot 3

1—DDS-format DAT Drive   4—Securing Tab

2—Mounting Tab (1 of 4)   5—T25 Bracket Screw
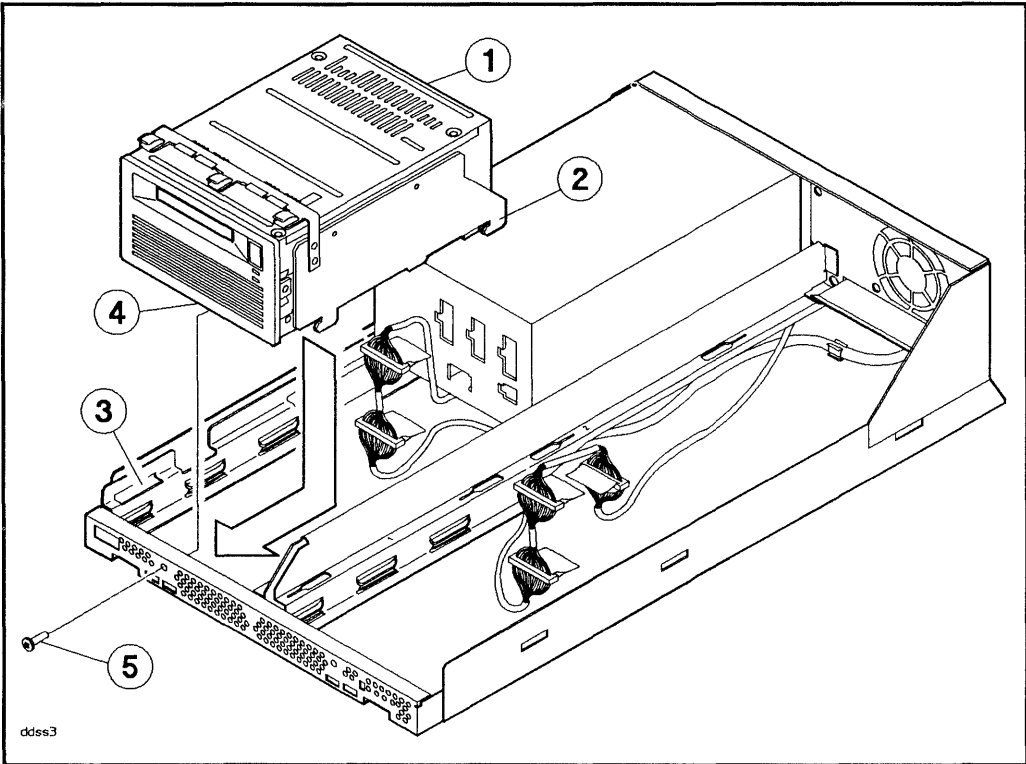
3—Mounting Slot (1 of 4)

Connecting the Cables

Note	Do not alter any jumpers on the option pins that have been installed and preset by the factory.

1. Connect the appropriate address cable to the SCSI address cable on the drive (see Figure 4-5). The address cables in the mass storage system are numbered according to slot number.

2. Connect the internal SCSI cable to the drive (see Figure 4-5).

3. Connect one end of the dc power cable to the drive.

4. Connect the other end of the dc power cable to any of the unused dc power connectors on the power supply (see Figure 1-7).
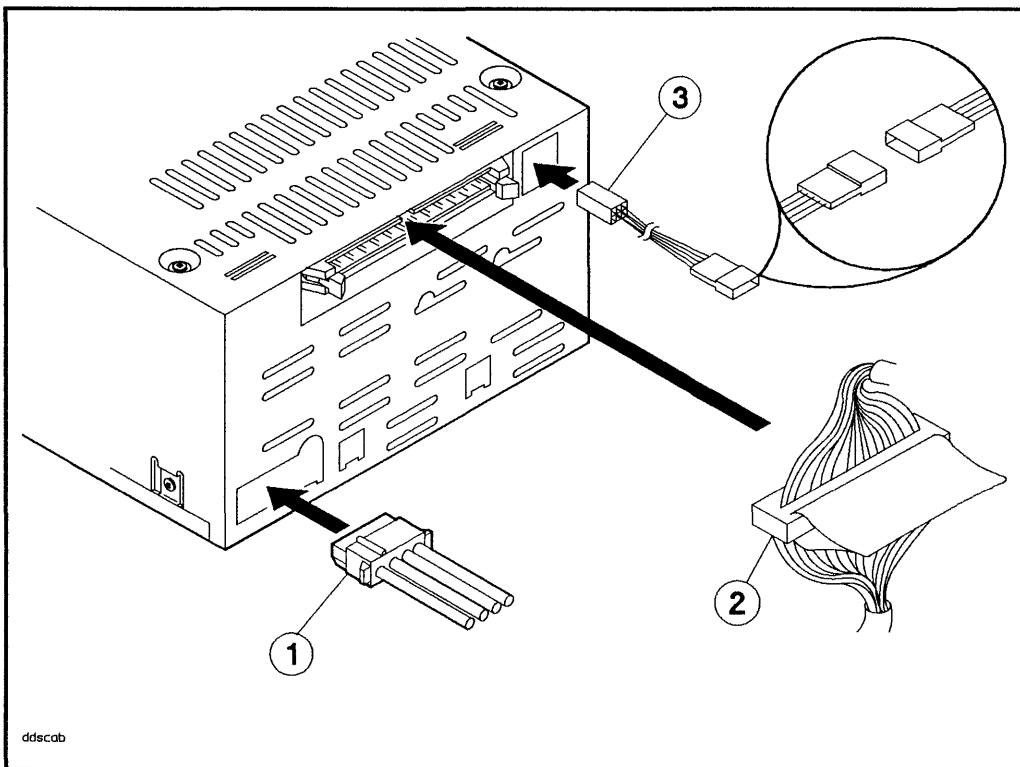
ddscab

Figure 4-5. Connecting Cables to the DDS-format DAT Drive

1—DC Power Cable   3—Address Cable
2—SCSI Cable

5

Rewritable Optical Disk Drive Installation

The following paragraphs describe how to install a rewritable optical disk drive into your mass storage system.

Caution ✋	A rewritable optical disk drive and a rewritable optical controller PCA can only be installed into slot 1 (right front corner). If you try to install a rewritable optical controller PCA into slot 3, you may damage the rewritable optical controller PCA.

Unpacking the Upgrade Kit

Unpack and identify the contents of the upgrade kit. Figure 5-1 shows the contents of the rewritable optical disk drive upgrade kit.
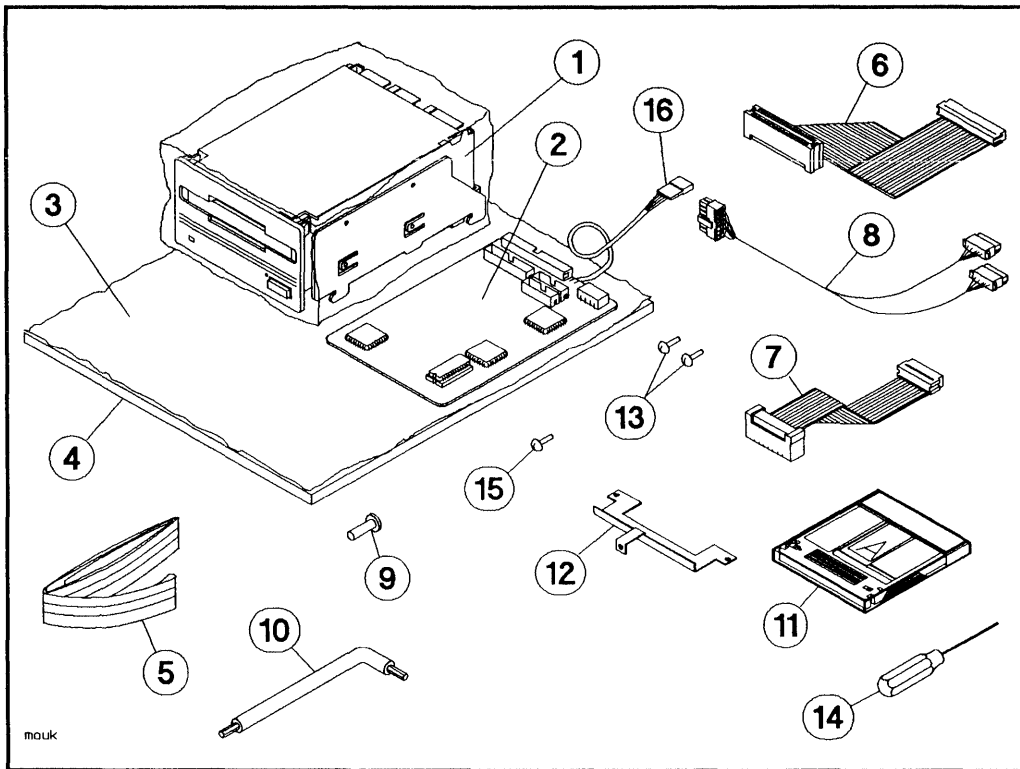
Figure 5-1. Rewritable Optical Disk Drive Upgrade Kit Contents

1—Rewritable Optical
Disk Drive, 650-Mbyte

2—Rewritable Optical
Controller PCA

3—Conductive Sheet

4—Foam Pad

5—Wrist Ground Strap

6—Control Cable

7—Data Cable

8—Dual DC Power Cable

9—T25, 10 mm Screw

10—TORX Tools

11—Rewritable Optical
Disk Media

12—PCA Mounting
Bracket

13—Bracket-to-PCA
Screws

14—Emergency Media
Eject Tool

15—Bracket-to-Chassis
Screw

16—Address Cable and
Adapter

Options/Address Jumpers

The options/address jumpers on the drive (see Figure 5-2) enable you to select options and set a unique SCSI address for your rewritable optical disk drive. The address is set with the rear panel SCSI address switches (refer to Figure 1-2 and Table 1-1).

Note	On some older mass storage systems (Models 330D/S and 660D/S), the rear panel SCSI address switches are for hard disk drives only. For this reason, the device in your upgrade kit is shipped with necessary address jumpers or DIP switches installed. If you do not have a Model 330D/S or 660D/S mass storage system, these device address jumpers or DIP switches are not needed and can be removed. Connect the address cable in their place as shown in Figure 5-7.

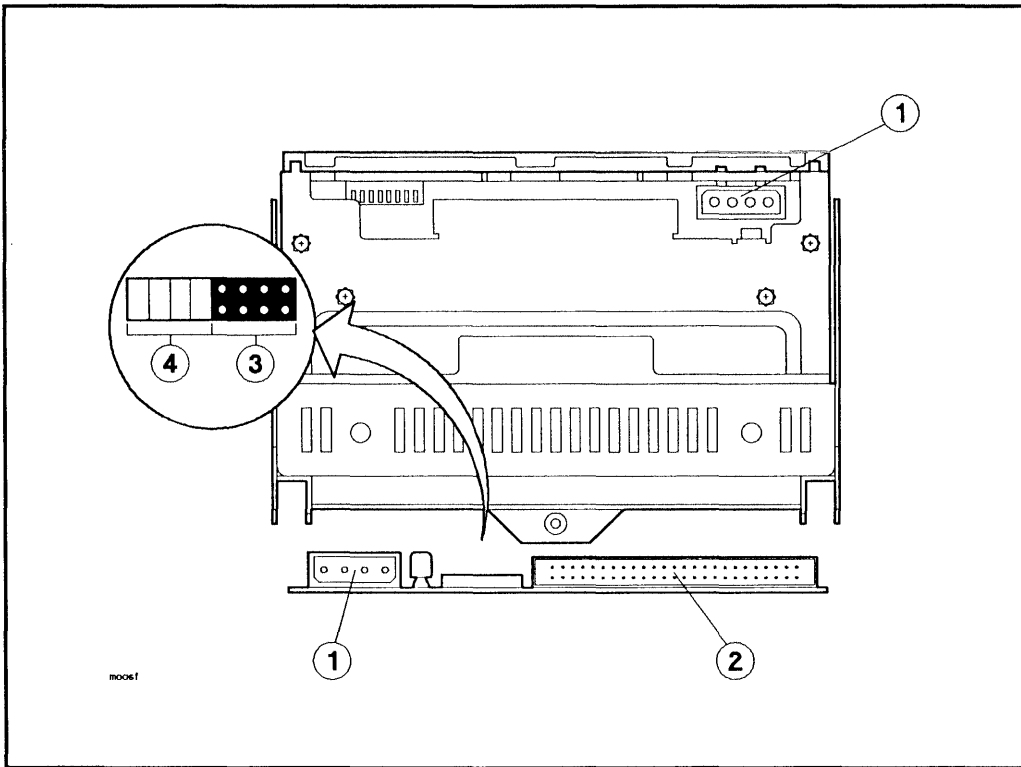|	
Caution	The options jumpers *must* be left in the factory-set positions. These settings are shown in Figure 5-2. Make sure the address switch on the mass storage system rear panel is set to a unique SCSI address relative to the other devices on the SCSI bus. The mass storage system will not function properly if two devices have the same SCSI address.

Figure 5-2. Rewritable Optical Disk Drive Connectors

1—DC Power Connector   3—Address Connector

2—SCSI Connector   4—Options Pinsets

Installing the Rewritable Optical Controller PCA

Note	In order to install the controller PCA, the device (if any) in slot 2 (the right rear slot), must be temporarily removed, so that the controller PCA can slide into place.

1. Install the PCA mounting bracket into the chassis with the bracket-to-chassis screw as shown in Figure 5-3.

2. Slide the controller PCA into the PCA guides in slot 1 (see Figure 5-3 and Figure 5-4). Ensure that the two holes in the controller PCA near the front of the mass storage system align with the holes in the mounting bracket beneath the controller PCA.

3. Install the two bracket-to-PCA screws (see Figure 5-4) through the controller PCA into the mounting bracket. Do not over-tighten these screws.

After the rewritable optical disk drive is installed, reinstall the device (if any) that was removed from slot 2 (refer to the note above). Refer to the installation instructions in the appropriate section of this manual.
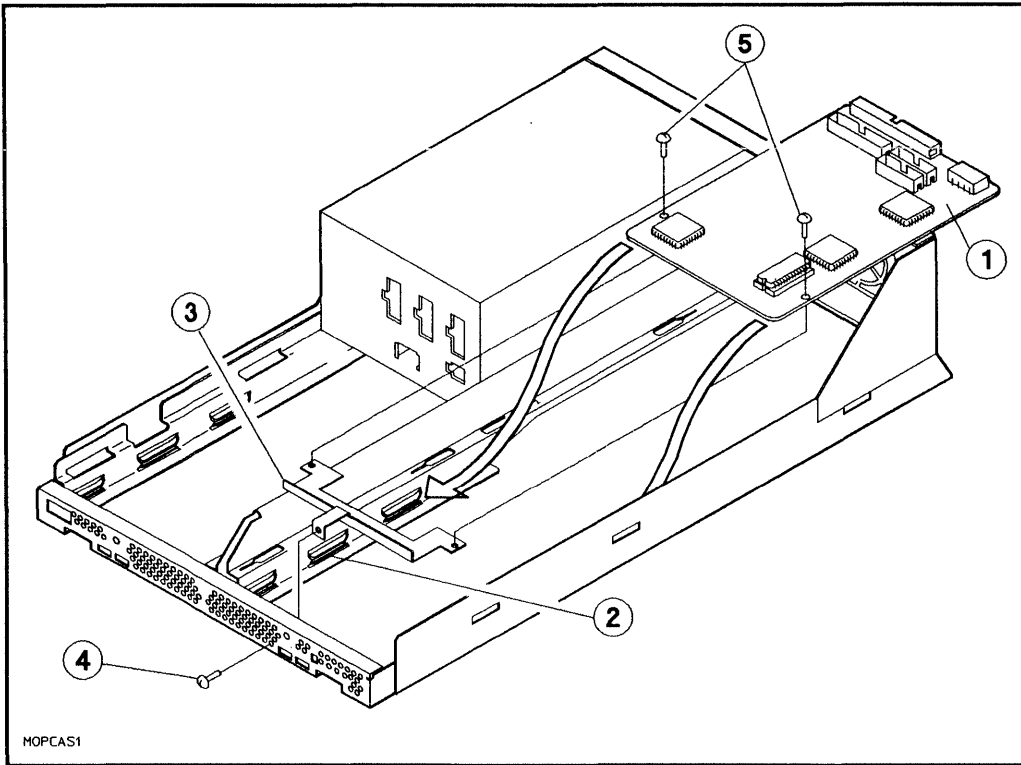
MOPCAS1

Figure 5-3. Installing the Rewritable Optical Controller PCA

1—Controller PCA   4—Bracket-to-Chassis Screw

2—Controller PCA Guides   5—Bracket-to-PCA Screws

3—PCA Mounting Bracket
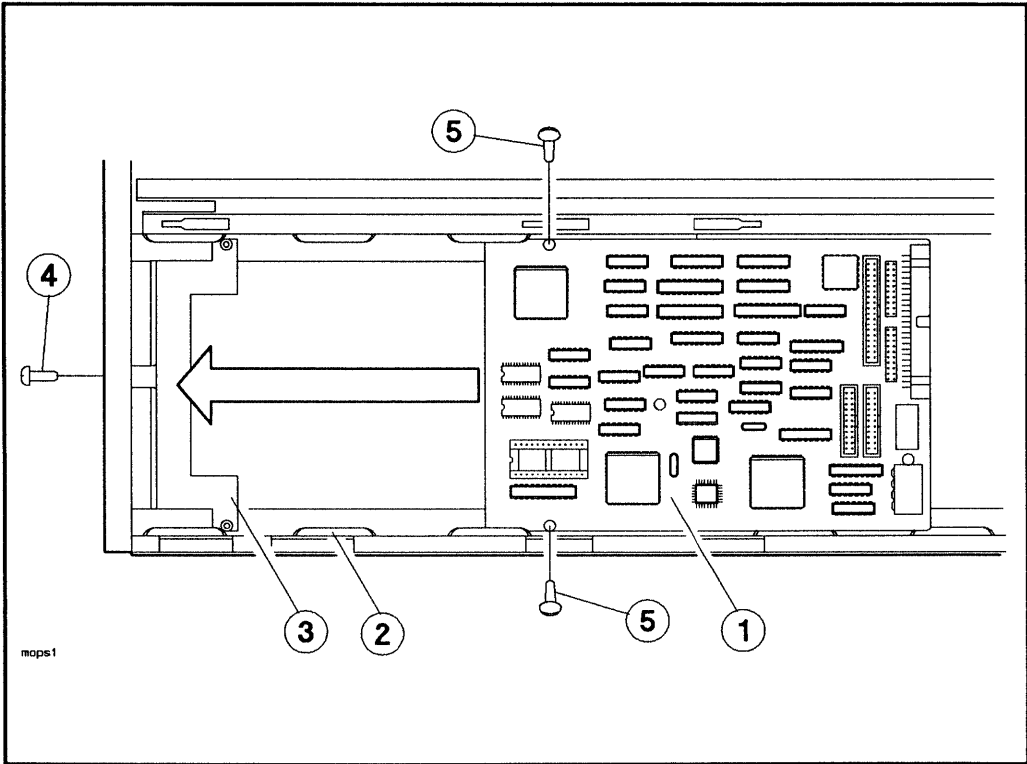
Figure 5-4. Sliding the Controller PCA into the PCA Guides (top view)

1—Controller PCA   4—Bracket-to-Chassis Screw

2—Controller PCA Guides   5—Bracket-to-PCA Screws

3—Mounting Bracket

Connecting the Cables to the Controller PCA

Note	Do not alter any jumpers on the option pins that have been installed and preset by the factory.

1. Connect the appropriate address cable to the SCSI address cable on the drive (see Figure 5-5). The address cables in the mass storage system are numbered according to slot number.

2. Connect the internal SCSI cable to the controller PCA (see Figure 5-5).

3. Connect the control cable to the controller PCA.

4. Connect the data cable to the controller PCA.

5. Connect one of the split ends of the dual dc power cable to the controller PCA.

6. Connect the long end (14-pin connector) of the dc power cable to any of the unused dc power connectors on the power supply (see Figure 1-7).
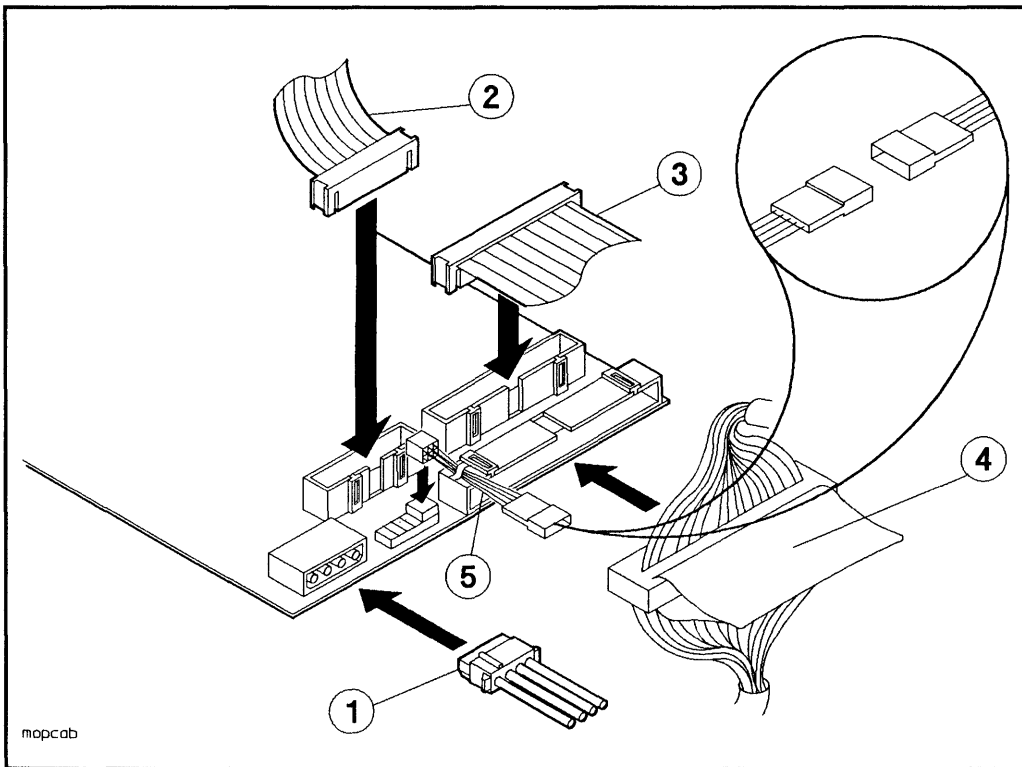
Figure 5-5. Connecting Cables to the Rewritable Optical Controller PCA

1—DC Dual Power Cable   4—SCSI Cable

2—Data Cable   5—Address Cable

3—Control Cable

Installing the Rewritable Optical Disk Drive

1. Position the mounting tabs into the mounting slots (see Figure 5-6).

Caution	Keep the cables which are connected to the controller PCA positioned in the center of the chassis. The cables may be damaged if they are caught between the rewritable optical disk drive and the chassis rails.

2. Push down on the drive and slide it toward the front of the chassis until the mounting tabs lock into the mounting slots.

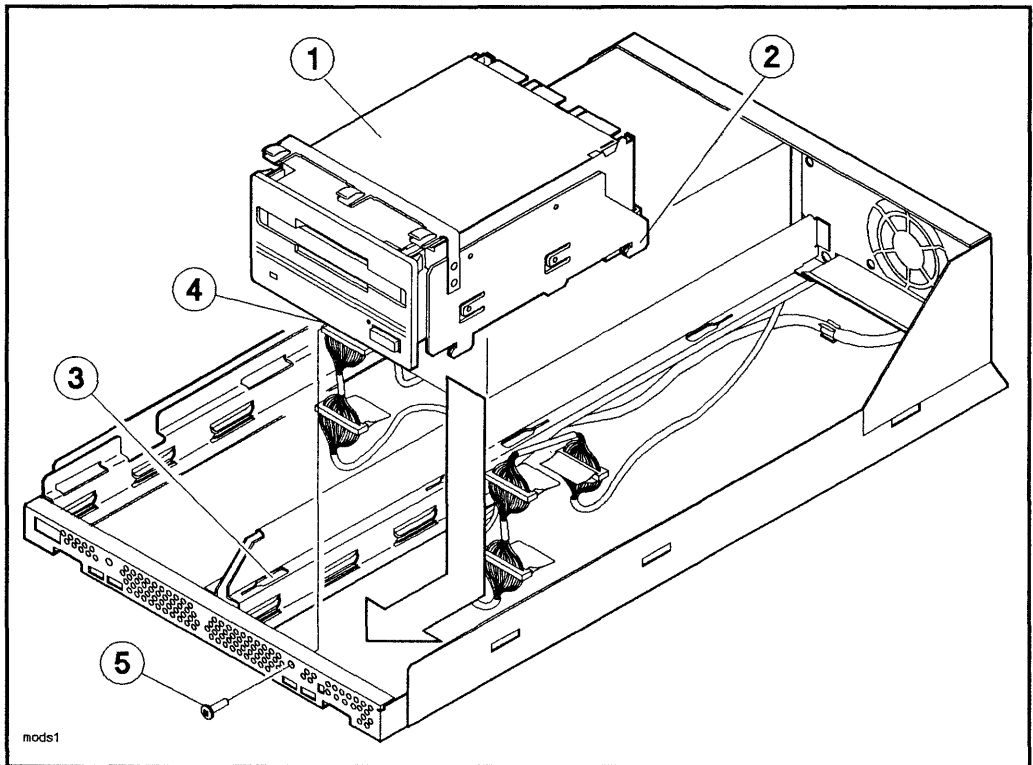3. Tighten the T25 bracket screw into the drive bracket.

Figure 5-6. Installing the Rewritable Optical Disk Drive

1—Rewritable Optical Disk Drive   4—Securing Tab

2—Mounting Tab (1 of 4)   5—T25 Bracket Screw

3—Mounting Slots (1 of 4)

Connecting Cables to the Drive

1. Connect the 20-pin data cable to the drive (see Figure 5-7).

2. Connect the 34-pin control cable to the drive.

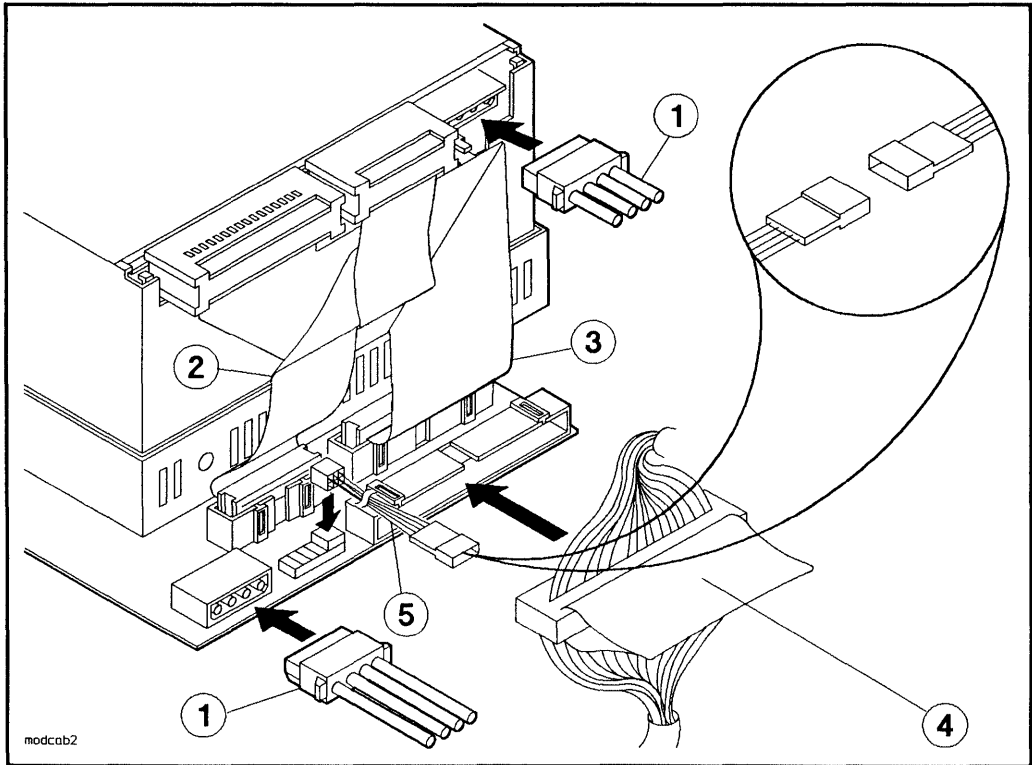3. Connect the other split end of the dc dual power cable to the drive.

Figure 5-7. Connecting Cables to the Rewritable Optical Disk Drive

1—DC Dual Power Cable   4—SCSI Cable

2—Data Cable   5—Address Cable

3—Control Cable

6

CD-ROM Drive Installation

The following paragraphs describe how to install a CD-ROM drive into your mass storage system. Your mass storage system can contain up to four CD-ROM drives.

Note	CD-ROM drives can be installed into slot 1 or slot 3 (the front slots). The first CD-ROM drives should be installed in slot 3 (left slot) if it is empty.

Unpacking the Upgrade Kit

Unpack and identify the contents of the upgrade kit. Figure 6-1 shows the contents of the CD-ROM drive upgrade kit.

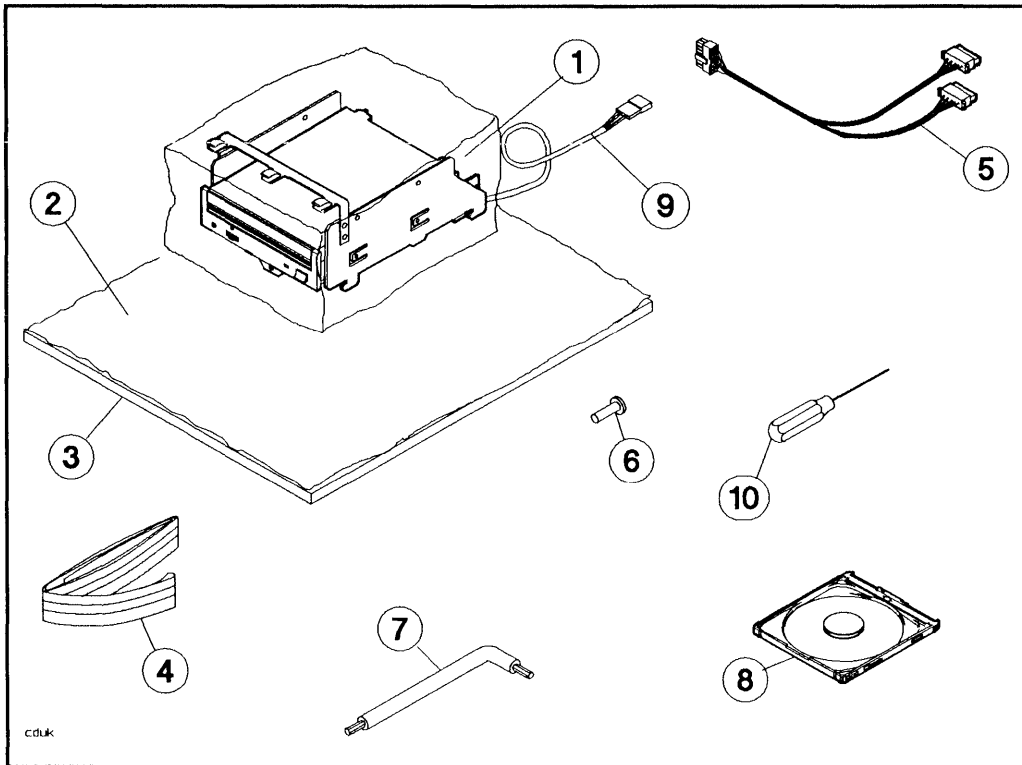| Note	If you are installing a second (or two) CD-ROM drives, you will have an extra mounting bracket.

Figure 6-1. CD-ROM Drive Upgrade Kit Contents

1—CD-ROM Drive and Bracket, 600-Mbyte

2—Conductive Sheet

3—Foam Pad

4—Wrist Ground Strap

5—DC Dual Power Cable

6—T25, 10 mm Screw

7—TORX Tools

8—Disk Caddy

9—Address Cable

10—Emergency Eject Tool

Options/Address Jumpers

The options/address jumpers (see Figure 6-2) enable you to select options and
set a unique SCSI address for your CD-ROM drive. The address is set with the
rear panel SCSI address switches (refer to Figure 1-2 and Table 1-1).

Note	On some older mass storage systems (Models 330D/S and 660D/S), the rear panel SCSI address switches are for hard disk drives only. For this reason, the device in your upgrade kit is shipped with necessary address jumpers or DIP switches installed. If you do not have a Model 330D/S or 660D/S mass storage system, these device address jumpers or DIP switches are not needed and can be removed. Connect the address cable in their place as shown in Figure 6-6.

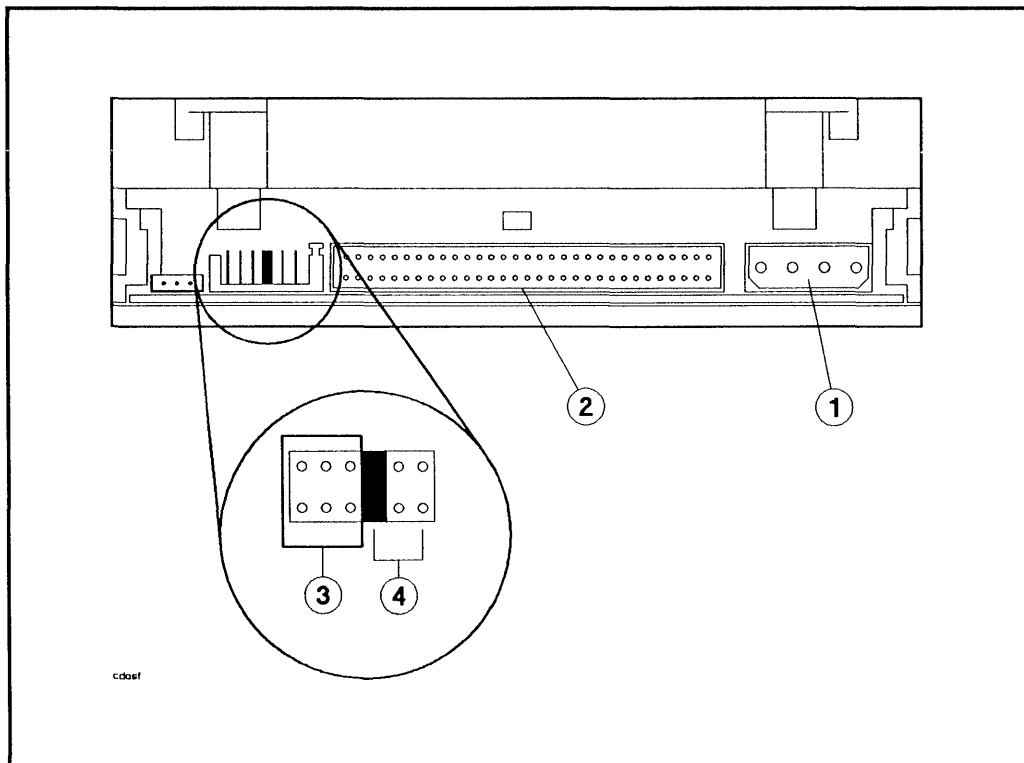|	
Caution	The options jumpers *must* be left in the factory-set positions. These settings are shown in Figure 6-2. Make sure the address switch on the mass storage system rear panel is set to a unique SCSI address relative to the other devices on the SCSI bus. The mass storage system will not function properly if two devices have the same SCSI address.

Figure 6-2. CD-ROM Drive Connectors

1—DC Power Connector   3—Address Connector

2—SCSI Connector   4—Options Pinsets

Adding a Second CD-ROM Drive

If you are adding a second CD-ROM drive into an existing bracket, first remove the existing CD-ROM drive and bracket as follows:

1. Disconnect the dc power cable.

2. Disconnect the address cable from the drive.

3. Disconnect the SCSI cable.

4. Remove the T25 bracket screw from the chassis front panel, then remove the drive and bracket from the mass storage system.

Now add the new drive to the existing bracket:

1. Remove the T10 bracket screws from the new drive and bracket you received in the new upgrade kit.

2. Remove the new drive from the mounting bracket.

3. Install the new drive into the open slot of the mounting bracket.

4. Secure the drive in the mounting bracket with the T10 bracket screws (see Figure 6-3).

If you are installing two CD-ROM drives at the same time (from two upgrade kits), perform the following steps:

1. Remove the T10 bracket screws from one of the drives, and remove the drive from the mounting bracket.

2. Install the drive that was just removed into the open slot of the mounting bracket you received in the other upgrade kit.

3. Secure the drive in the mounting bracket with the T10 bracket screws (see Figure 6-3).
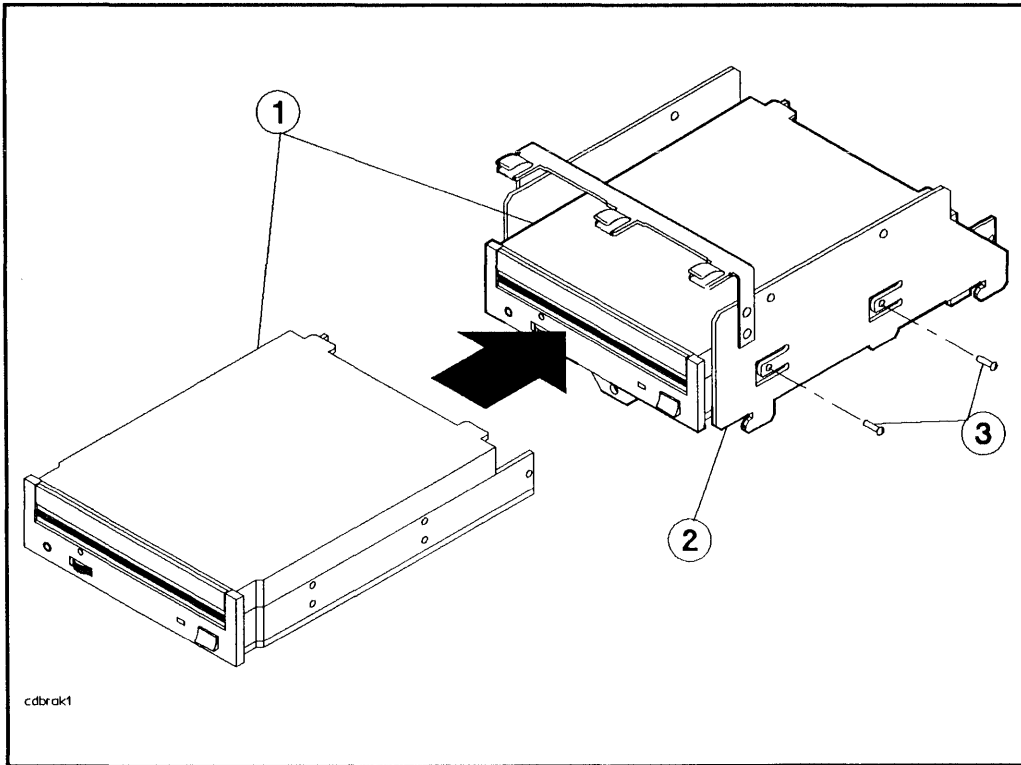
Figure 6-3. Installing a CD-ROM Drive into a Mounting Bracket

1—CD-ROM Drives   3—T10 Bracket Screws
2—Mounting Bracket

Installing the CD-ROM Drive

1. Position the mounting tabs into the mounting slots (see Figure 6-5).

2. Push down on the drive and slide it toward the front of the chassis until the mounting tabs lock into the mounting slots.

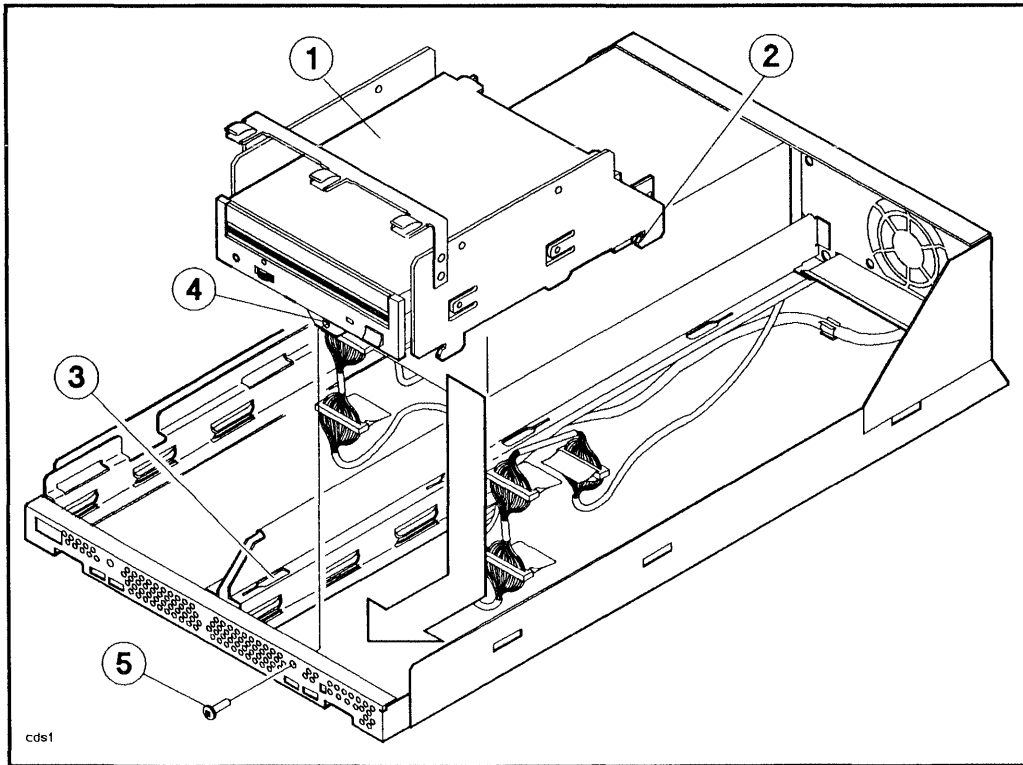3. Tighten the T25 bracket screw into the drive bracket.

Figure 6-4. Installing a CD-ROM Drive into Slot 1

1—CD-ROM Drive   4—Securing Tab

2—Mounting Tab (1 of 4)   5—T25 Bracket Screw

3—Mounting Slot (1 of 4)
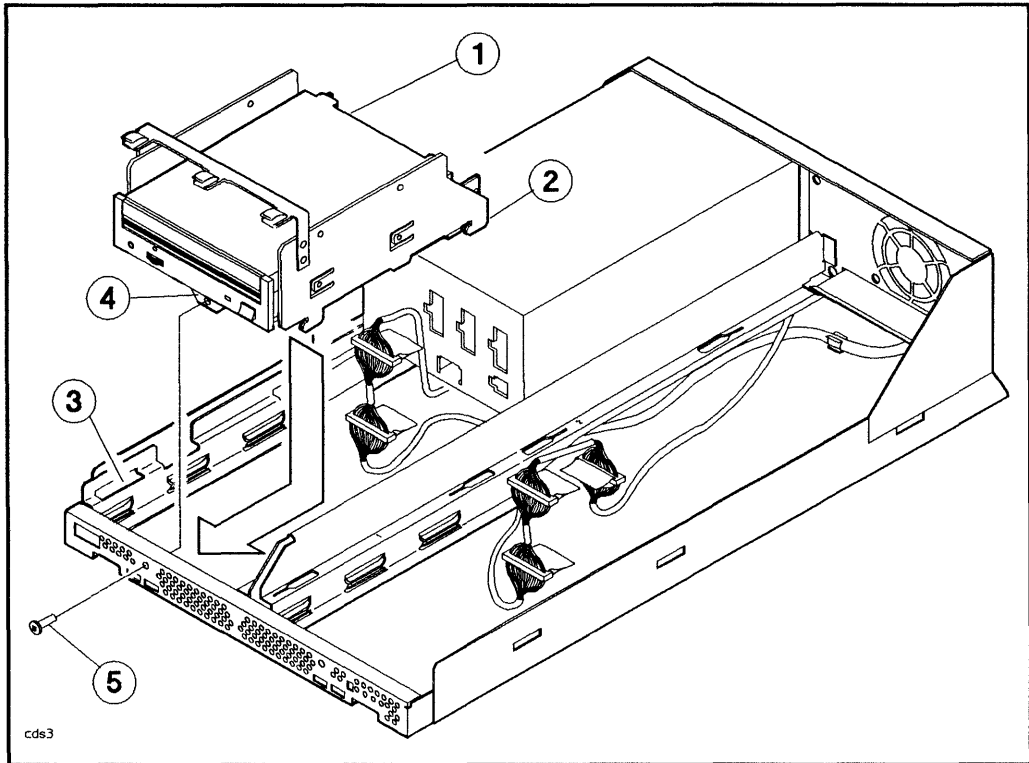
Figure 6-5. Installing a CD-ROM Drive into Slot 3

1—CD-ROM Drive   4—Securing Tab

2—Mounting Tab (1 of 4)   5—T25 Bracket Screw

3—Mounting Slot (1 of 4)

Connecting the Cables

Note	Do not alter any jumpers on the option pins that have been installed and preset by the factory.

1. Connect the appropriate address cable to the SCSI address cable on the drive (see Figure 6-6). The address cables in the mass storage system are numbered according to slot number.

2. Connect the internal SCSI cable to the drive (see Figure 6-6).

3. If you are installing only one CD-ROM drive, connect only one of the split ends of the dc dual power cable to the drive (see Figure 6-6).

4. If you are installing two CD-ROM drives, connect each of the split ends of the dc dual power cable to the drives.

5. Connect the long end of the dc dual power cable to any of the unused dc power connectors on the power supply (see Figure 1-7).
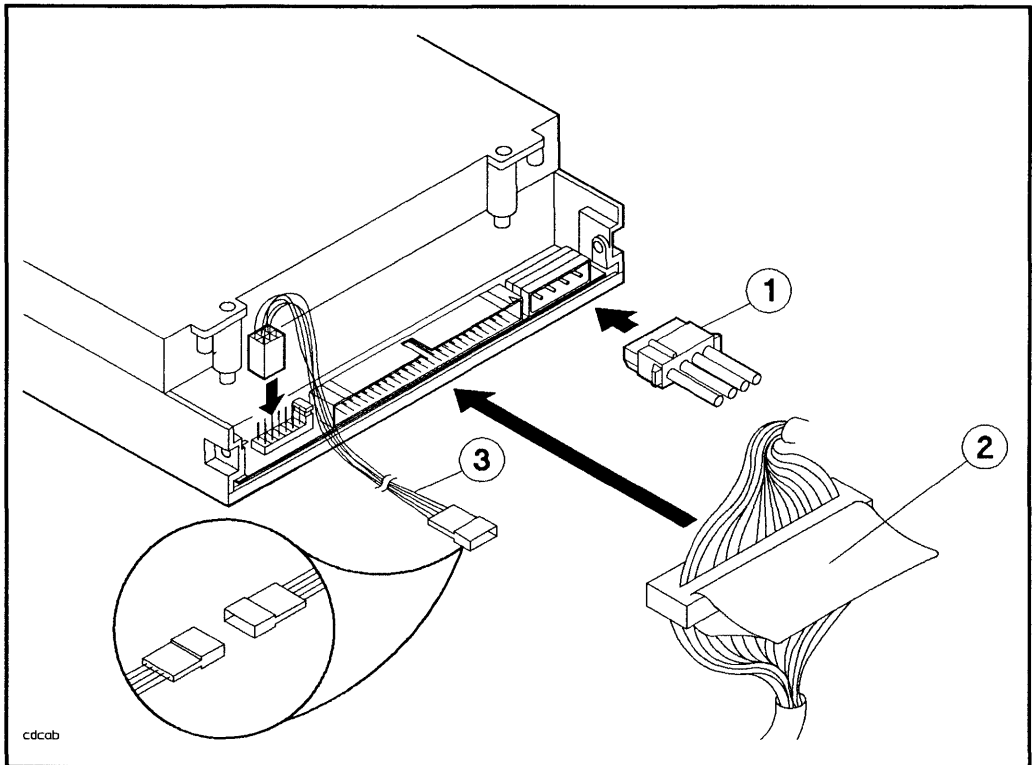
Figure 6-6. Connecting Cables to a CD-ROM Drive

1—DC Power Cable   3—Address Cable

2—SCSI Cable

Index

DDS-format DAT drive, 4-5
front panel, 1-18
mass storage system, 1-2
rewritable optical controller PCA, 5-5
rewritable optical disk drive, 5-10
top cover, 1-18

J

jumpers
   SCSI options/address for 3.5-inch hard disk drive, 3-3
   SCSI options/address for 5.25-inch hard disk drive, 2-3
   SCSI options/address for CD-ROM drive, 6-3
   SCSI options/address for DDS-format DAT drive, 4-3
   SCSI options/address for rewritable optical disk drive, 5-3

M

mass storage system
   installation, 1-2
   unpacking, 1-2

P

power cord, 1-5

R

reinstallation
   front panel, 1-18
   top cover, 1-18
removal
   front panel, 1-11

RFI bracket, 1-14
top cover, 1-11
rewritable optical controller PCA
   cable connections, 5-8
   installation, 5-5
rewritable optical disk drive
   address jumpers, 5-3
   cable connections, 5-12
   installation, 5-10
RFI bracket
   removal, 1-14

S

SCSI address
   3.5-inch hard disk drive, 3-3
   5.25-inch hard disk drive, 2-3
   CD-ROM drive, 6-3
   DDS-format DAT drive, 4-3
   rewritable optical disk drive, 5-3
   setting, 1-9
SCSI cable
   external, 1-7
slot locations, 1-13
static control, 1-3
system
   host computer, 1-7

T

top cover
   reinstallation, 1-18
   removal, 1-11

U

unpacking, 1-2