



HP

SureStore DAT

Internal Tape Drive

Installation Guide



Tape 5000i, DAT8i
DAT24i, DAT40i

Internal Drives—Installation Overview

	Refer to:
Before you start: Check the packing list inside this guide. Check system prerequisites.	page 1-2
Step 1: Check the Drive's SCSI ID Check the tape drive's SCSI ID. If necessary change it from the default of 3 by setting jumpers on the back of the drive.	page 1-6
Step 2: Set the Configuration Switches (UNIX Systems Only) Check the UNIX configuration switches on the bottom of the drive. Change the switch settings, if necessary.	page 1-10
Step 3: Prepare the Mounting Bay Switch off the computer and remove its outer casing. Remove the cover plate from an empty, 5¼-inch, half-height bays. (Keep the screws.) If your computer has 3½ inch bays, fit the supplied 5¼ to 3½ conversion kit to the drive.	page 1-11
Step 4: Attach Mounting Rails Attach any mounting hardware (rails or tray) necessary for your computer. In the box you will find mounting rails for use with HP Kayak/Vectra/Brio/NetServer E-series, a tray for use with HP NetServer L-series and mounting rails for non-HP systems.	page 1-14
Step 5: Install the Drive Fit the power cable extension and slide the tape drive into the bay. To aid fitting cables, do not secure the drive with screws yet.	page 1-16
Step 6: Attach Power and SCSI Cables Attach a spare power cable from the computer's internal power supply. Attach the drive to a spare connector on the SCSI ribbon cable.	page 1-17
Step 7: Secure the Drive Secure the drive in place with the provided screws. Replace the computer's cover and reconnect cables.	page 1-19
On Completion Power on the system and check the tape drive is operational. Insert the <i>HP SureStore Tape</i> CD-ROM. It contains drivers, backup software and many useful utilities. Register your tape drive.	page 1-20

Copyright © 1998-1999 by Hewlett-Packard Limited.

The information contained in this document is subject to change without notice.

This document contains proprietary information which is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced or translated to another language without the prior written consent of Hewlett-Packard Limited.

Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages (including lost profits) in connection with the furnishing, performance, or use of this material whether based on warranty, contract, or other legal theory.

November 1999

Part Number: C1555-90909

Printed in the UK.

Windows is a U.S. registered trademark of Microsoft Corp.

UNIX is a registered trademark of X/Open Company in the U.S. and other countries.

Product Details

Write your tape drive details here so you can find them easily if you need them. You will find the model number and serial number on the bottom of the drive.

Model (type of drive):	
Model (number):	
Serial (number):	
Date purchased/installed:	
SCSI ID:	

Contents

Internal Drives—Installation Overview inside front cover

1 Installing an “i” Model Drive (internal)

Before You Start: Check the Contents of the Box 1-2

Before You Start: Check System Prerequisites 1-3

SCSI Host Adapter 1-3

SCSI Ribbon Cable 1-3

Half-Height Bay 1-4

Mounting Rails 1-4

Backup Software 1-5

Step 1: Check the Drive’s SCSI ID 1-6

Installing and Using HP TapeAssure 1-8

Step 2: Set the Configuration Switches
(UNIX Systems Only) 1-10

Step 3: Prepare the Mounting Bay 1-11

Using the Conversion Kit 1-12

Step 4: Attach Mounting Rails 1-14

Step 5: Install the Drive 1-16

Step 6: Attach Power and SCSI Cables 1-17

Step 7: Secure the Drive 1-19

On Completion 1-20

Use Correct Media 1-20

Check Drive Operation 1-21

Insert the *HP SureStore Tape* CD-ROM 1-22

Register Your Tape Drive 1-25

Limited Warranty Statement for USA, Canada, Australia and New
Zealand 1-25

2 Installation Troubleshooting

Save Yourself a Call 2-2

Problems with Your Computer 2-2

Problems with Your Internal Tape Drive 2-3

Other Sources of Information 2-4

HP Tape Tools 2-4

HP SureStore Tape CD-ROM 2-4

HP Web Site 2-4

Index

Regulatory Information

1

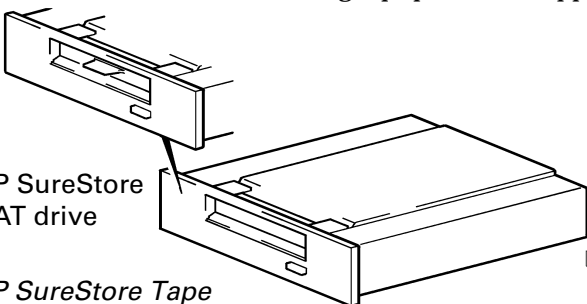
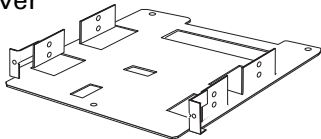

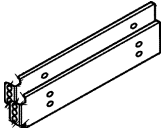
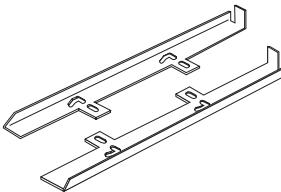

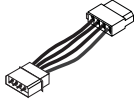



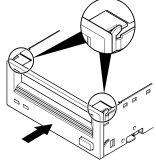


Installing an “i” Model Drive (internal)

HP SureStore models covered:

- Tape 5000i
- DAT8i
- DAT24i
- DAT40i

Before You Start: Check the Contents of the Box

The following equipment is supplied with your HP SureStore DAT drive.

- HP SureStore DAT drive 
- HP NetServer L-series tray 
- HP SureStore Tape CD-ROM containing:
 - HP TapeAssure software
 - TapeAlert utility
 - Drivers
 - Backup software
 - HP Tape Tools
 - Electronic *User's Guide*
 - Media and accessories information
- HP Vectra/Kayak/Brio/NetServer E-series rails 
- Compaq rails (with DAT8i, DAT24i and DAT40i models only) 
- Set of four screws (+ one spare) 
- Power extension cable 
- Installation Guide (Please discard unneeded languages in recycling bin.) 
- Warranty Registration Card and label 
- DDS-format data cartridge 
- 5¼ to 3½-inch conversion kit 
- Cleaning cartridge 
- 50-to-68-pin adapter (not for use with DAT40 drives) 

If anything is damaged or missing, contact the delivery company or your supplier. Spare jumpers for the drives' SCSI ID switch may also be supplied.

Before You Start: Check System Prerequisites

To install and use your new tape drive, you will need the following:

- SCSI host adapter
- SCSI ribbon cable
- Available 5¼-inch (or 3½-inch), half-height bay
- Mounting hardware, if required
- Backup software that supports the tape drive

SCSI Host Adapter

You need a properly installed and configured SCSI host adapter or a built-in SCSI controller on your computer's motherboard (SCSI-2 or SCSI-3 compliant). Consult your supplier for details.

If you are installing on a Windows® 95, Windows 98, Windows NT or Novell NetWare system, you can use HP TapeAssure to check your computer's SCSI configuration, as directed on page 1-6.

HP SureStore DAT Drives and SCSI

All HP SureStore DAT drives, apart from the HP SureStore DAT40 are fast narrow SCSI devices and should be connected to a single-ended (SE) host bus adapter.

The HP SureStore DAT40 drive is an ultra wide SCSI device. For optimum performance it should be connected to a low voltage differential (LVD) SCSI host adapter. HP SureStore DAT40 drives may also be connected to SE (single-ended) SCSI host adapters, but cable length will be restricted to the SE rather than the LVD specification.

If you would like more information on SCSI specifications and configuring your SCSI bus, read the "SCSI Background" topic in the "Before You Start" section of the electronic *User's Guide* on the *HP SureStore Tape* CD-ROM.

SCSI Ribbon Cable

You need a SCSI ribbon cable with the correct termination.

Tape 5000, DAT8 and DAT24 drives have a 50-pin narrow SCSI connector. If your computer uses wide SCSI, use the supplied 50-to-68-pin adapter to connect the drive (50 pins) into the wide SCSI bus (68 pins).

The DAT 40 drive has a 68-pin wide, high-density SCSI connector. If your computer uses narrow SCSI, use a 68-to-50-pin adapter to connect the DAT40 drive (68 pins) into the narrow SCSI bus (50 pins). This adapter must be purchased separately (part number C7423A). See the electronic *DAT Media and Orderable Accessories Guide* on the *HP SureStore Tape CD-ROM* for ordering information.

Half-Height Bay

You need a 5¼-inch, half-height bay in which to install the tape drive. If you have 3½-inch bays, use the supplied 5¼ to 3½-inch conversion kit.

Mounting Rails

For many servers, no tray or rails are required. Devices simply slide into the computer's chassis and are fixed with screws.

Some servers require special mounting tray or rails to fix the drive into the empty bay. The drive comes with mounting hardware for HP NetServer L-series, E-series, Kayak, Brio and Vectra computers and, for DAT8i, DAT24i and DAT40i drives only, Compaq servers. (Not all HP NetServer E-series and Compaq servers require rails.)

Rails for Dell servers may be ordered separately. Different models of server require different rail kits.

- Order HP accessory C5731A for Dell 2100/2200 servers
- Order HP accessory C5732A for Dell 2300/4100/6100 servers
- Order Dell accessory 86194 for Dell 4300/6300 servers

Other computers use non-standard mounting rails and do not include spares. *If this is the case with your system, you will have to order these accessories from the computer manufacturer before you can install the tape drive.*

Backup Software

You need backup software that supports the drive.

Applications usually recognize tape drives by their manufacturers' internal identifiers rather than their model numbers, so check the table below for the appropriate reference for your model.

Drive Model	Internal Identifier
HP SureStore Tape 5000	HP 35480A
HP SureStore DAT8	HP C1533A
HP SureStore DAT24	HP C1537A
HP SureStore DAT40	HP C5683A

The *HP SureStore Tape* CD-ROM contains backup software, as well as drivers, useful utilities and information about using your tape drive. See page 1-22 for more information about using the *HP SureStore Tape* CD-ROM.

Step 1: Check the Drive's SCSI ID

Note Your HP SureStore DAT drive is shipped with a default SCSI ID of 3, but it can be assigned any *unused* ID between 0 and 6. Do not use SCSI ID 7, which is reserved for the SCSI controller, or SCSI ID 0, which is typically assigned to the boot disk.

HP SureStore DAT40 drives can be assigned any *unused* ID between 0 and 15. Do not use SCSI ID 7 or SCSI ID 0.



1 Determine whether you need to change the SCSI ID from the default of 3.

If you are installing on a Windows 95/98, Windows NT or NetWare system, install HP TapeAssure from the Software page on the *HP SureStore Tape* CD-ROM and run it to check your computer's current SCSI configuration. See "Installing and Using HP TapeAssure" on page 1-8 for more information about installing and running HP TapeAssure.

If you are installing on a UNIX® system, check the electronic *User's Guide* on the *HP SureStore Tape* CD-ROM, for instructions on how to determine the SCSI IDs of existing devices. See page 1-22 for instructions on using the *HP SureStore Tape* CD-ROM.

2 Change the tape drive's SCSI ID, if necessary.

The SCSI ID is set using jumpers on a set of pins at the rear of the drive. Use your fingers to move the jumpers to the pattern corresponding to the ID you want. Do **not** remove the TERM PWR jumper. It should always be set.

Spare jumpers will either be on switch itself (but only attached to a single pin) or in the accessories box.

- For HP SureStore Tape 5000i, HP SureStore DAT 8i and DAT24i models, see figure 1.1.
- For HP SureStore DAT40i models, see figure 1.2.

Caution Static electricity can damage electronic components. To equalize the electromagnetic charges, touch a bare metal part of the computer (such as the back plate) before you remove the tape drive from its bag.

Figure 1.1 SCSI ID settings on back of HP SureStore Tape 5000i, DAT8i and DAT24i

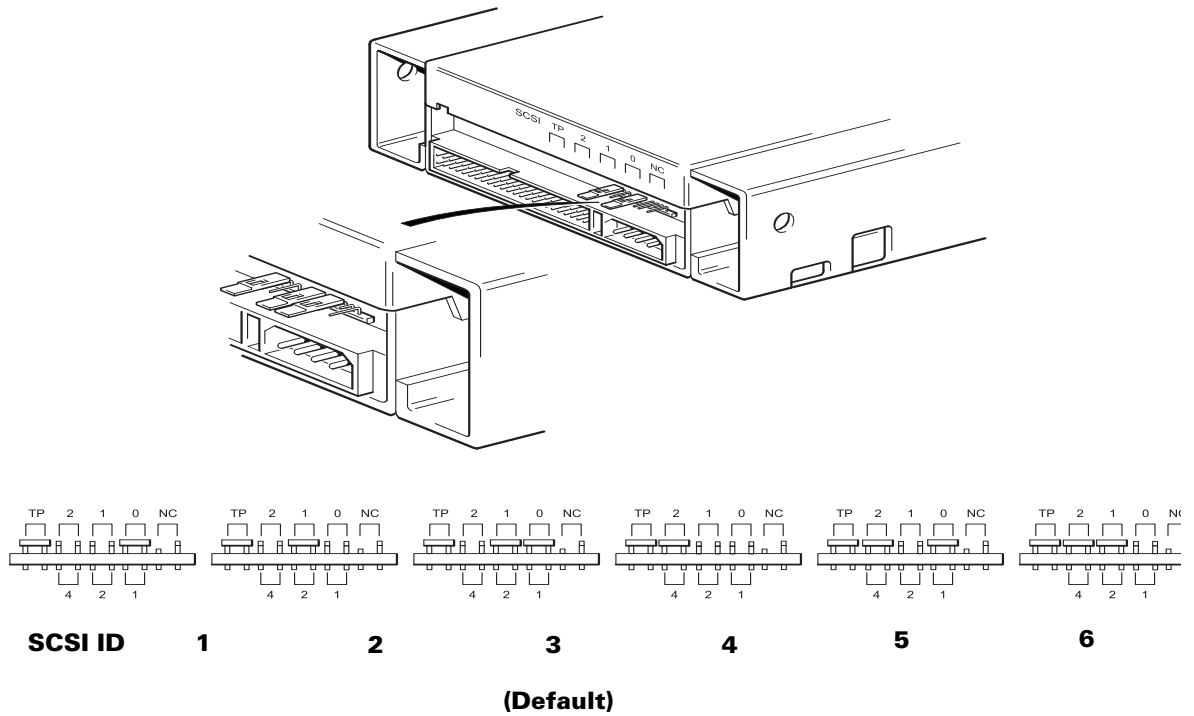
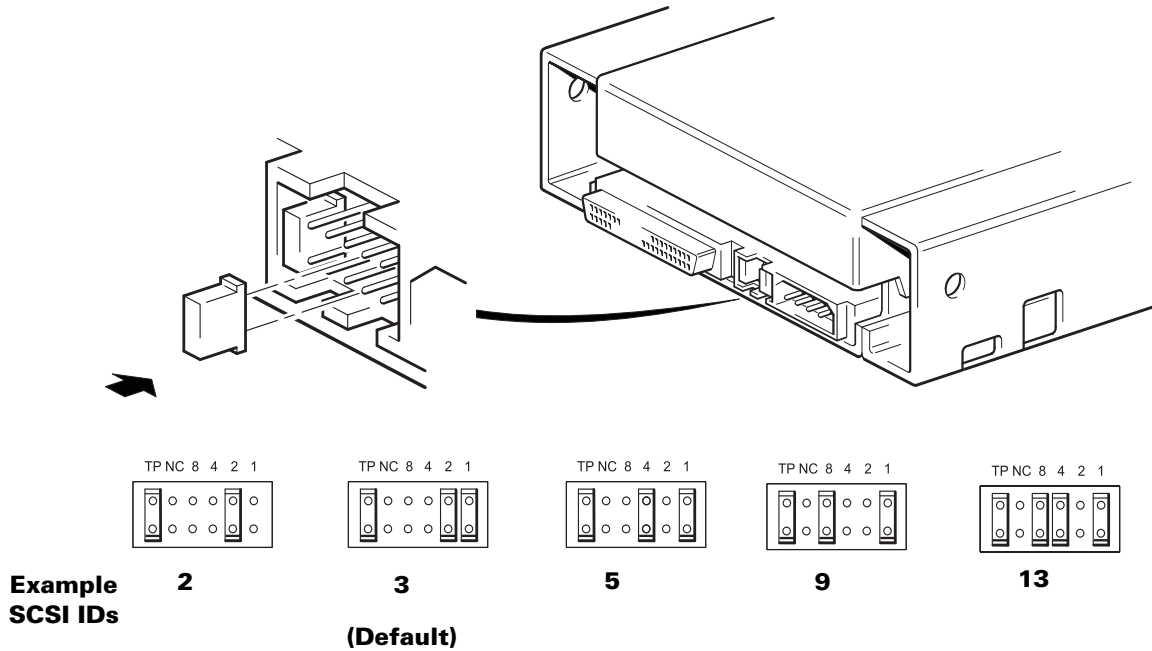


Figure 1.2 SCSI ID settings on back of **HP SureStore DAT40i**



Installing and Using HP TapeAssure

HP TapeAssure allows you to check your computer's current SCSI configuration on a Windows or NetWare system. You cannot install HP TapeAssure on Unix systems.

Installing HP TapeAssure

- 1 Select `home.htm` on the *HP SureStore Tape* CD-ROM and the required language.
- 2 Select the "HP TapeAssure" topic and follow the instructions on the screen to install HP TapeAssure.

In Windows 95/98 or Windows NT, you can install HP TapeAssure directly on the system to which the tape drive is connected. In NetWare, you will need to install HP TapeAssure on the server from a client workstation running Windows 95/98 or Windows NT, and then run HP TapeAssure from the NetWare server console.

Using HP TapeAssure

Note If the program does not work correctly or hangs during processing, there may be a compatibility problem with the SCSI card. The current version of HP TapeAssure may not support Adaptec 1510 cards (6360 chip set) and Symbios cards.

- 1** Once it is installed, run TapeAssure from the Programs menu in the Windows Start menu. HP TapeAssure will check for the presence of a SCSI controller and its driver software and identify the SCSI IDs of existing SCSI devices.
- 2** View the current configuration and determine whether you need to change the SCSI ID from the default of 3.
- 3** Exit TapeAssure after you view the SCSI configuration information.

Step 2: Set the Configuration Switches (UNIX Systems Only)



- 1 Check the “UNIX Configuration Instructions” in the electronic *User’s Guide* on the *HP SureStore Tape CD-ROM* for specific advice for your operating system. You will need web browser software to access the electronic *User’s Guide*. See page 1-22 for more information about using the *HP SureStore Tape CD-ROM*.

The following table summarizes the *typical* switch settings for different types of computer, but further details are provided in the electronic *User’s Guide*.

System Type	Switch Number							
	1	2	3	4	5	6	7	8
Default and most PC systems	On	On	Off	On	On	On	On	On
DEC systems	On	On	Off	On	On	On	On	Off
HP systems (Series 700)	On	On	Off	On	On	On	On	On
IBM RS/6000 systems	On	On	Off	On	On	Off	Off	On
SCO/PC UNIX systems	On	On	Off	On	On	On	On	On
Silicon Graphics systems	On	On	Off	On	On	Off	Off	On
Sun systems	On	On	On	On	On	Off	Off	On

- 2 If your UNIX configuration requires it, change the configuration switches located on the underside of the drive from the default settings shown in figure 1.3.

Figure 1.3 Configuration switches (shown in default positions)



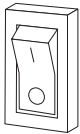
Step 3: Prepare the Mounting Bay

Caution To avoid damaging the computer or tape drive, ensure that the computer is powered off while you install the drive.

Static electricity can damage electronic components. After you have disconnected power from the computer and removed the cover, touch a bare metal part of the chassis. Similarly, touch a bare metal part of the drive before installing it.

1 Assemble the necessary tools and materials:

- Phillips screwdriver
- Flat-bladed screwdriver (if your computer uses slotted screws)
- Torx screwdriver (if your computer uses torx screws)
- Your computer manuals (for reference during installation)



2 Perform a normal system shutdown and turn off the computer and any connected peripherals.

3 Remove the cover from the computer.

As you work inside the computer, you may have to disconnect the SCSI cable or power cable from other devices to maneuver the new drive into place. If you have to do this, make a note of their position and connections so you can put them back correctly later.

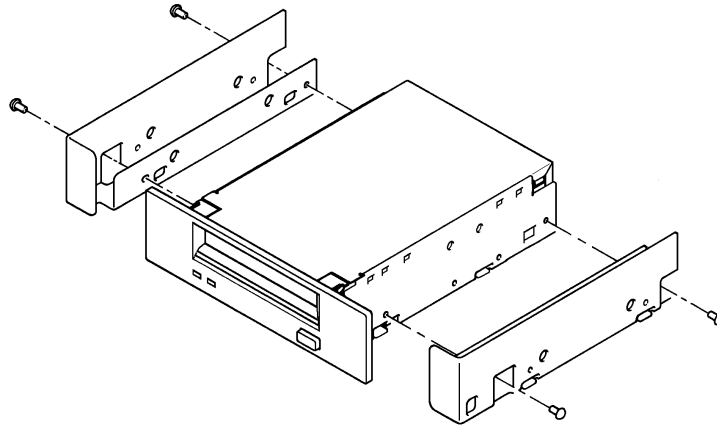
4 Remove the front cover plate from a spare 5¼-inch (or 3½-inch) bay of your computer. Keep any screws for use in step 7 on page 1-19.

5 If you will be installing the tape drive in a 3½-inch bay, you need to use the conversion kit as described below, so that the drive will fit into your computer. *If your computer has 5¼-inch bays, proceed to step 4 on page 1-14 now.*

Using the Conversion Kit

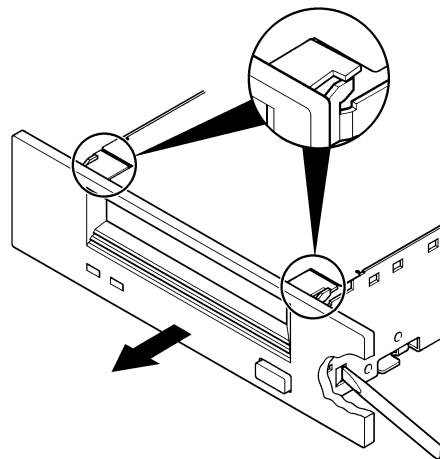
- 1 Unscrew the four screws and remove the rails from the tape drive.

Figure 1.4 Removing the drive rails prior to installation in a 3½-inch bay



- 2 Use a screwdriver to release the 5¼-inch front panel from the tape drive and remove it. Fit the 3½-inch front panel and push firmly until the panel clicks into place.

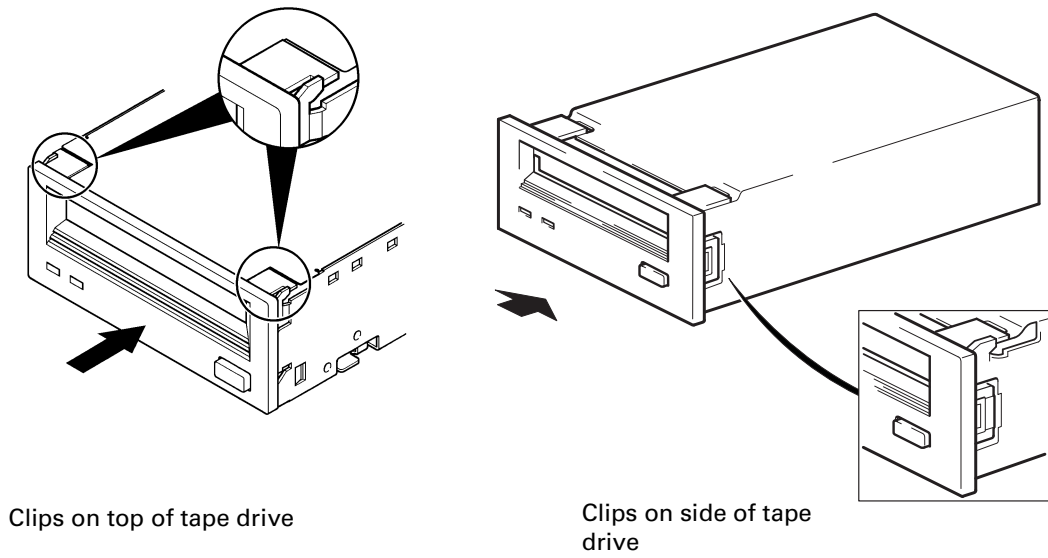
Figure 1.5 Removing the 5¼-inch panel



Note: Some drives have clips on the sides of the unit.

- 3 Fit the 3½-inch front panel and push firmly until the panel clicks into place.

Figure 1.6 Fitting the 3½-inch panel



Step 4: Attach Mounting Rails

If your computer requires special rails or other hardware to install the tape drive, mount them on the tape drive in this step.

If your computer does not require special mounting hardware, proceed to step 5 on page 1-16 now.

1 Attach the appropriate rails.

- If you are installing in an HP NetServer L-series, place the tape drive in the mounting tray supplied, as shown in figure 1.7.
- If you are installing in an HP NetServer E-series that requires mounting rails, Vectra, Kayak or Brio, fasten the rails to the tape drive using the four screws supplied, as shown in figure 1.8.
- If you are installing in a Compaq computer that requires mounting rails, fasten the rails to the tape drive using the four screws supplied, as shown in figure 1.9. Compaq rails are provided with DAT8i, DAT24i and DAT40i models only.
- If you are installing in a IBM or Dell computer, refer to our World Wide Web site for further instructions: <http://www.hp.com/go/connect>.
- If your computer uses other mounting hardware, attach it to the tape drive as directed in your computer documentation.

2 Secure the tape drive in the mounting tray using the four screws supplied with the rail kit.

Figure 1.7 Attaching the tape drive to the **HP NetServer L-series** mounting tray

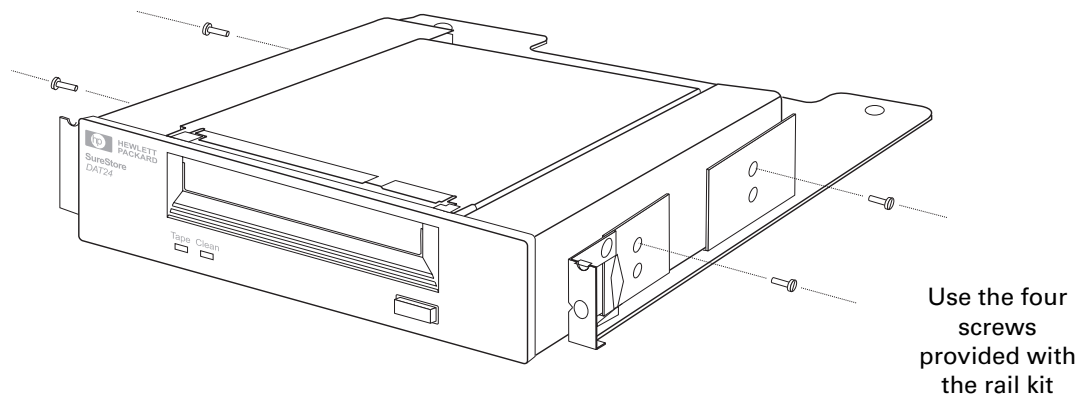
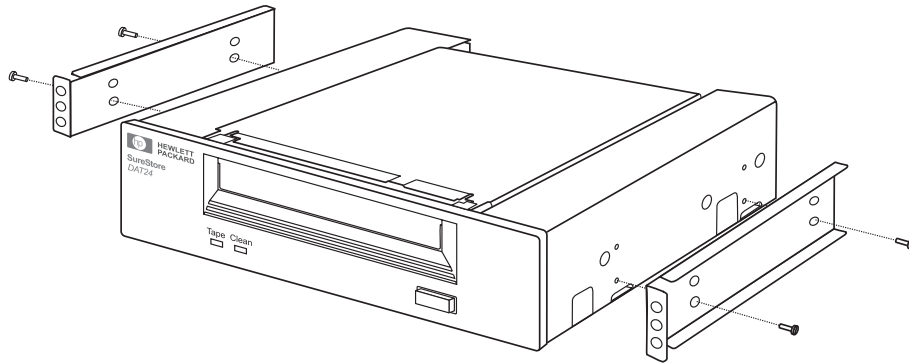
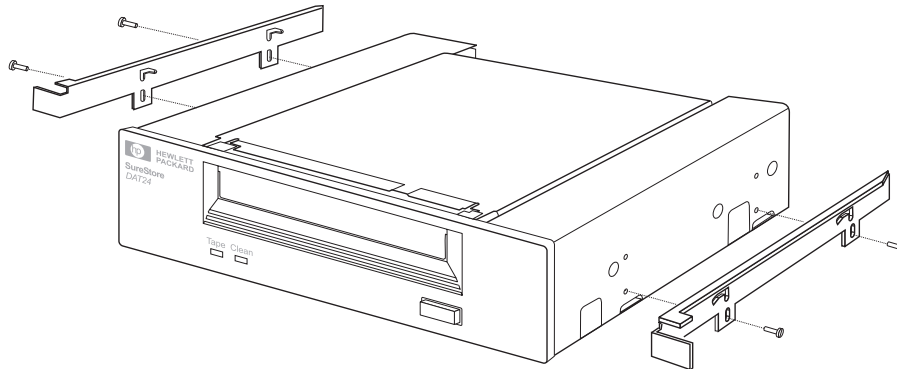


Figure 1.8 Attaching the **HP NetServer E-series, Vectra, Kayak or Brio** rails to the tape drive



Use the four screws provided with the rail kit

Figure 1.9 Attaching **Compaq** rails to the tape drive



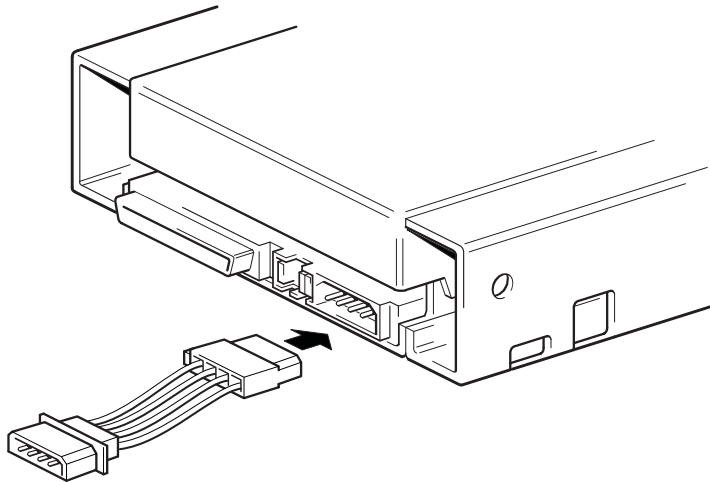
Use the four screws provided with the rail kit

Step 5: Install the Drive

Note Write the model name, product number, serial number, and SCSI ID of your drive in the front of this guide for future reference. The model name is on the front of the drive and the product and serial numbers are on a label on the bottom of the drive.

- 1** Attach the power cable extension to the rear of the tape drive, as shown in figure 1.10.

Figure 1.10 Attaching the power cable extension

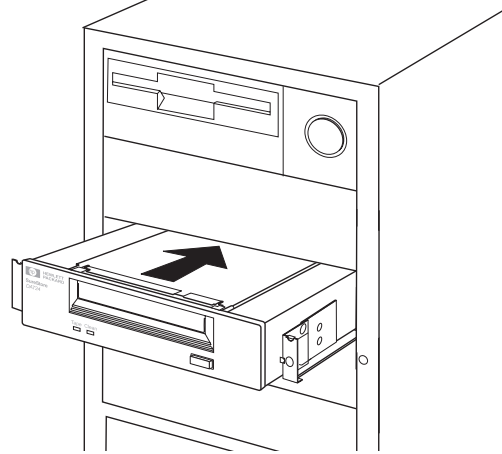


- 2** Slide the tape drive into the open bay, aligning the tray or rails with the slots in the bay, as shown in figure 1.11.

If your computer does not use mounting hardware, check that the holes in the chassis are aligned with the holes in the side of the tape drive.

Do not secure the drive with screws at this point because you may have to move the drive to get the cables into place.

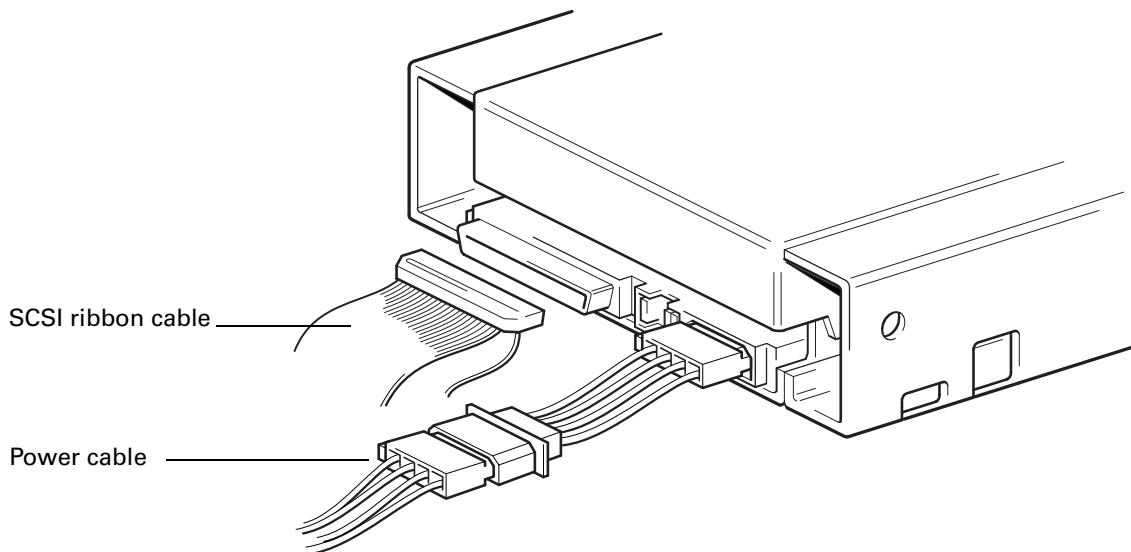
Figure 1.11 Sliding the tape drive into the empty bay



Step 6: Attach Power and SCSI Cables

- 1 Attach a spare power cable from the computer's internal power supply to the power extension cable, as shown in figure 1.12.

Figure 1.12 Attaching the power cable and SCSI cable



2 Attach a spare SCSI cable to the SCSI connector.

If you are using an existing SCSI cable, simply attach the drive to a spare connector on the computer's SCSI ribbon cable, as shown in figure 1.12.

DAT8i and DAT24i drives only: If your computer has wide SCSI, use the supplied 50-to-68-pin adapter to connect the tape drive to the SCSI bus. Plug the adapter into the 68-pin SCSI connector on the computer and then connect the SCSI cable from the adapter to the 50-pin SCSI connector on the tape drive.

If you are using a new SCSI cable, attach the end farthest from the terminator block to the computer's internal SCSI connector, as shown in figure 1.13, and attach one of the connectors to the tape drive.

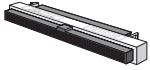
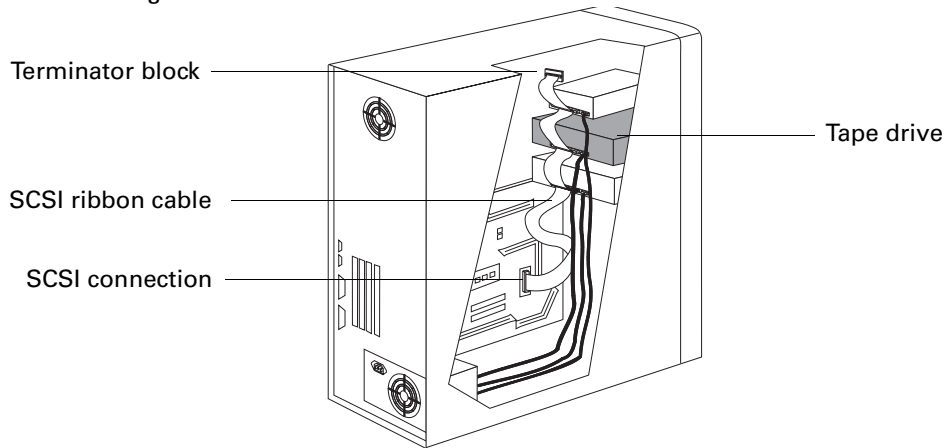


Figure 1.13 Attaching the SCSI ribbon cable



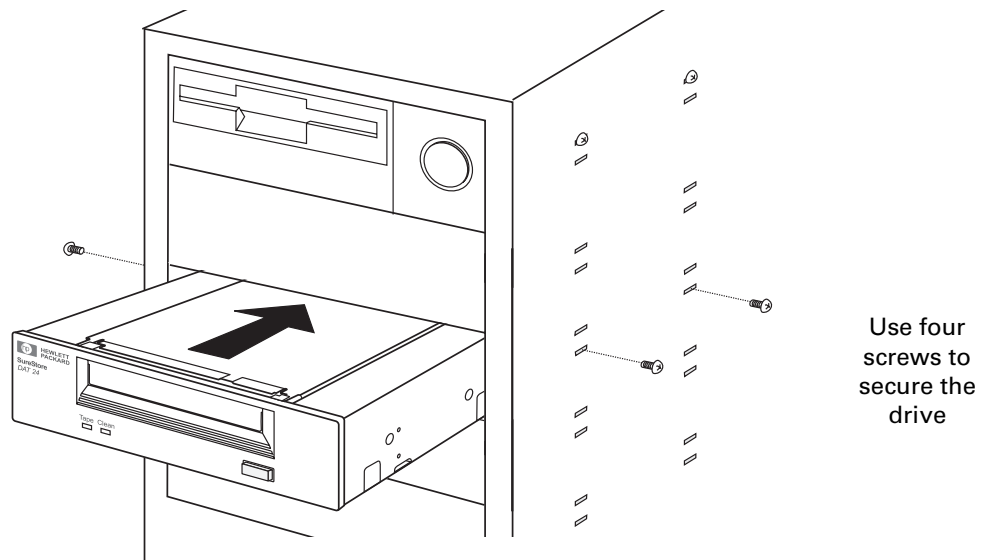
Step 7: Secure the Drive

1 Secure the tape drive into place with screws.

If you used mounting hardware that screws to the front of the computer, use the screws you removed in step 3 to fix the drive in place.

If your computer does not require mounting hardware, check that the holes in the chassis are aligned with the holes in the sides of the drive and use the four screws provided with the rail kit to secure the drive, as shown in figure 1.14.

Figure 1.14 Securing the drive into a typical PC chassis without the use of mounting rails



2 Replace the cover on the computer.

On Completion

Once you have completed the installation:

- Make sure you have the correct media.
- Power on and check that your new drive is operational.
- Insert the *HP SureStore Tape* CD-ROM. It contains everything you will need to use your tape drive—drivers, backup software, utilities and user information.
- Register your tape drive to ensure that you benefit from the full 3-year warranty period.

Use Correct Media

For optimum performance and storage capacity, use tape cartridges that match your drive's format, and normally use only one cartridge per day.

- HP SureStore DAT40 drives work best with DDS-4 cartridges.
- HP SureStore DAT24 drives work best with DDS-3 cartridges.
- HP SureStore DAT8 drives work best with DDS-2 cartridges.
- HP SureStore Tape 5000 drives use **only DDS-1 cartridges (60-meter or 90-meter)**.

However, most HP SureStore DAT drives are fully backward compatible (apart from the HP SureStore DAT40). The compatibility between drive models and cartridges is summarized in the following table. Shaded boxes show the recommended media for each tape drive.

	DDS-1 60 meter	DDS-1 90 meter	DDS-2 120 meter	DDS-3 125 meter	DDS-4 150 meter
HP SureStore Tape 5000	2.6 GB*	4 GB*			
HP SureStore DAT8	read/write	read/write	8 GB*		
HP SureStore DAT24	read/write	read/write	read/write	24 GB*	
HP SureStore DAT40		read only	read/write	read/write	40 GB*

* Capacity assumes 2:1 compression.

Check Drive Operation

1 Switch on the computer. The tape drive will run its hardware self-test, which takes about 5 seconds. At the end of the hardware self-test, both front panel lights should be off. Read more about the self-test and front panel lights in the electronic *User's Guide* on the *HP SureStore Tape CD-ROM*.

2 Verify that the tape drive installation was successful.

For Windows and NetWare systems, select HP TapeAssure from the Windows Start menu. (If you did not install HP TapeAssure at the start of the installation process, install it now as described on page 1-8.) No other backup software should be running at the same time.

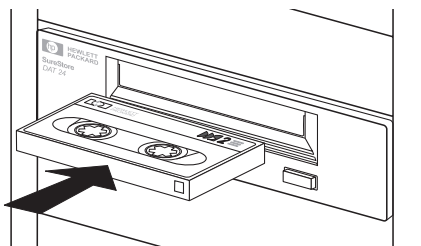
For UNIX systems, the configuration instructions in the electronic *User's Guide* on the *HP SureStore Tape CD-ROM* include a verification procedure.

Note If you encounter a problem during this verification procedure, turn to “Save Yourself a Call” on page 2-2 for help in diagnosing and fixing the problem.

3 Install backup software, as required (see page 1-23). Use a blank cartridge to carry out the backup and restore test, which you should perform to check that the drive can write data to tape.

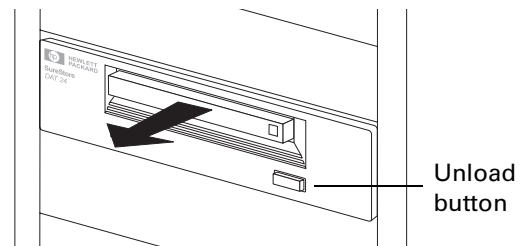
To load a cartridge:

Open the door flap, if fitted. Insert the cartridge into the slot in front of the drive with the label uppermost and apply gentle pressure until the drive takes the cartridge and loads it. The Tape light flashes green while the drive performs its load sequence. When the cartridge is loaded, the Tape light shows steady green.



To unload a cartridge:

Press the Unload button on the front panel. The drive completes any task it is currently performing, winds the tape to the beginning, and ejects the cartridge. The sequence will take about 25 seconds for a write-enabled cartridge and 10 seconds for a write-protected cartridge.



Insert the *HP SureStore Tape* CD-ROM

The *HP SureStore Tape* CD-ROM contains backup software, as well as drivers, useful utilities and information about using your tape drive.

- 1 Load the CD-ROM and select `home.htm`.

Note If you do not have a web browser, see the `Readme.txt` file.

- 2 Select the required language to display the Welcome page. You may like to add this page to your Bookmarks/Favorites for easy, subsequent access to items on the *HP SureStore Tape* CD-ROM.
- 3 Select the appropriate link from the Welcome page. You will find backup software and drivers under the “Software” topic, and electronic *User’s Guides*, frequently asked questions and ordering information under the “User Documentation” topic.

Note for UNIX Users

With some UNIX systems you may have problems reading the HTML files. When you mount the CD-ROM, if the file names have a version number and are all in capitals (for example, `README.TXT;1`), use the `cdcopy.sh` utility that you can find in the UNIX directory on the CD-ROM. This utility ensures that all file names and links work correctly in the HTML pages.

Run the command as follows: `cdcopy.sh /mnt /toplevel`

where `/mnt` is the CD mount point and `/toplevel` is a new directory in which the files will be created.

Drivers

For detailed information about drivers, refer to the appropriate README file in the `DRIVERS` directory on the *HP SureStore Tape* CD-ROM. There is a separate sub-directory for each operating system. The tape drive must be installed before installing the driver.



Backup Software

To use the tape drive, you will need a backup application or utility that supports your tape drive model. The *HP SureStore Tape* CD-ROM contains free backup software for use with Windows 95, Windows 98, Windows NT and Novell NetWare. This software also provides full support for HP One-Button Disaster Recovery, which allows complete system recovery at the touch of a button using only the latest backup cartridge.

Note Not all system configurations and backup software are capable of supporting HP One-Button Disaster Recovery.

- If you are installing the drive on a standalone PC or a client PC that runs Windows 95/98, you can use the HP Colorado Backup II software.
- If you are installing the drive on a PC that runs Windows NT Server or Novell Netware, you can use Replica Single Server for HP SureStore Tape. If using Replica with NetWare, please see the README file on the *HP SureStore Tape* CD-ROM. Replica is not supported on NetWare 5.0.
- The tape drive must be installed before installing the software.

For the latest list of backup packages that support HP SureStore DAT drives and advanced features such as HP One-Button Disaster Recovery and TapeAlert, refer to our World Wide Web site (<http://www.hp.com/go/connect>). The Selection section of this web site lists backup software solutions suitable for your tape drive model and operating system (including Microsoft Windows, Novell NetWare, IBM OS/2, various UNIX systems, and Apple Macintosh).

Note Once you have installed your backup software, remember to carry out a trial backup and restore.

User Documentation

For more information about using your DAT drive, refer to the “User Documentation” topic on the *HP SureStore Tape* CD-ROM. This provides links to frequently asked questions about drivers and operating systems, and, from the “DAT Drive Documentation” link, to three electronic *User’s Guides*:

- HP SureStore DAT User’s Guide
- HP One-Button Disaster Recovery Guide
- Media and Orderable Accessories Guide

Refer to your backup application's documentation for instructions on how to back up and restore data.

Viewing the Electronic User's Guides

You can view the electronic *User's Guides* with most current web browsers on any platform.

To view all the features of the electronic *User's Guide*, including color and animation, your system will need:

- A CD-ROM drive
- A super-VGA monitor configured to display at least 256 colors

HP SureStore DAT User's Guide

This guide contains:

- Features and specifications of HP SureStore DAT drive models
- Operating instructions and how to interpret the front panel lights
- Which tape cartridges to use and how to store them safely
- Tape drive maintenance instructions
- Customer support information, such as warranty details, how to get service, and how to contact technical support
- How to order parts and accessories
- UNIX configuration instructions
- Advice on backup strategies and SCSI bus configuration

HP One-Button Disaster Recovery User's Guide

This guide contains:

- Instructions on using HP One-Button Disaster Recovery
- Compatibility and troubleshooting advice

Media and Orderable Accessories Guide

This guide contains:

- Recommended media for your tape drive
- Details about orderable accessories

Register Your Tape Drive

You must register with HP to ensure that you benefit from the full 3-year Express Exchange¹ warranty period. The second and third years of warranty are subject to registration within 30 days.

Please register via the web (<http://www.hp.com/go/tapereg>) or by using the reply card in the box. The first year of warranty is provided automatically.

In order to ensure your registration is complete, there are a number of questions on the registration card and electronic form that are mandatory. Other questions are optional. However, the more you feel able to complete, the better HP can meet your needs. (If you wish, you may register your drive and choose NOT to receive any further information from HP.)

If you have internet access, register electronically as described below.

- 1 Select the “Warranty Registration” topic on the *HP SureStore Tape* CD-ROM.
- 2 Select the “Register on the Web” link. This links you to HP’s Warranty Registration web site.
- 3 Complete the registration form. Mandatory questions are shown in red text.
- 4 Click on the Submit button to forward your registration immediately to HP.

If you do not have internet access:

- 1 Complete the Warranty Registration card supplied with the drive. Mandatory questions are in black, bold text.
- 2 Post or fax the completed form to HP.

Limited Warranty Statement for USA, Canada, Australia and New Zealand

- 1 HP warrants to you, the end-user customer, that HP hardware, accessories and supplies will be free from defects in materials and workmanship after the date of purchase, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products which prove to be defective. Replacement products may be either new or like-new.

1. Express Exchange is available in most countries. In those countries that do not currently support Express Exchange, support is provided through either the Low End Support Program or the local parts center. Years 2 and 3 are subject to Product Registration.

- 2** HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for the period specified above, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the warranty period, HP will replace software media which does not execute its programming instructions due to such defects.
- 3** HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product.
- 4** HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.
- 5** Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.
- 6** HP MAKES NO OTHER EXPRESS WARRANTY OR CONDITION WHETHER WRITTEN OR ORAL. TO THE EXTENT ALLOWED BY LOCAL LAW, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, SATISFACTORY QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY SET FORTH ABOVE. Some countries, states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from country to country, state to state, or province to province.
- 7** TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some countries, states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

FOR CONSUMER TRANSACTIONS IN AUSTRALIA AND NEW ZEALAND: THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Consumer Warranty Sept 16/97

Installation Troubleshooting

Save Yourself a Call

The first step in problem-solving is establishing whether the problem lies with the cartridge, the tape drive, the host computer and its connections, or with the way the system is being operated. If none of the following advice helps you solve the problem, call for service. The HP technical support numbers are listed in the “Customer Support” topic in the electronic *User’s Guide* on the *HP SureStore Tape* CD-ROM.

Problems with Your Computer

Problem	Possible Cause	Potential Solution
The computer does not boot up.	If you have just installed a SCSI host adapter card in your computer and the computer did not boot up when you switched it on, the new adapter is the likely cause of the problem.	Refer to your host adapter documentation to check that the adapter is configured correctly.
	You may have disconnected the power or SCSI cable from the computer’s boot disk during the tape drive installation process.	Check that the cables to all devices are firmly connected.
The computer boots but then hangs.	This might be caused by conflicts in your hardware or software configuration, such as two devices with the same SCSI ID or improper termination of the SCSI bus.	Make sure that each device connected to the SCSI controller has a unique SCSI ID. Check that the SCSI bus is actively terminated. (The electronic <i>User’s Guide</i> on the <i>HP SureStore Tape</i> CD-ROM provides information on configuring your SCSI bus. Also refer to the documentation for your SCSI controller and any other SCSI devices you may have.)
The computer does not recognize the tape drive.	The power cable or SCSI cable may not be connected properly.	Make sure that the power cable and SCSI cable are firmly connected.

Problems with Your Internal Tape Drive

Problem	Possible Cause	Potential Solution
The tape drive does not power up.	The power cable may not be connected to the tape drive properly.	Make sure that the power cable is firmly connected. If it is, the device has probably failed. Call for service.
TapeAssure does not recognize the tape drive.	The power cable or SCSI cable may not be connected properly.	Make sure that the power cable and SCSI cables are firmly connected.
You cannot back up or restore.	The SCSI connection may be loose.	Check that all expansion boards are fully seated and the SCSI cable is connected properly. Run TapeAssure to determine whether the SCSI controller is functioning properly.
	The SCSI bus may not be properly terminated.	Check that the SCSI terminator is installed and secure. The SCSI bus must be terminated at both ends. Most internal cables will have a terminator plug on the end of the cable farthest from the SCSI controller. If there are no external devices, the SCSI bus must be terminated on the SCSI host adapter or motherboard. If there are external devices, the last device in the external chain must be terminated properly.
	The tape drive's SCSI ID may conflict with another device.	Make sure that the tape drive SCSI ID is not the same as that of any other device attached to the same SCSI controller. You can run TapeAssure to check the SCSI IDs of attached devices.
The Media Caution (Clean) light shows steady amber.	This is the error condition signal. There may be a hard error on the tape drive.	Try powering the system off and then on again. If the error condition signal still shows, call for service.

Other Sources of Information

If you experience problems using your tape drive after installation, use HP Tape Tools to help you diagnose the problem. You will also find troubleshooting information on the *HP SureStore Tape* CD-ROM and the HP web site.

HP Tape Tools

HP Tape Tools software provides the following functionality:

- **Drive Information Utilities** that provide you with information about your tape drive and system configuration.
- **Troubleshooting Diagnostics** that allow you to run different tests on your tape drive to identify problems with your tape drive or media.
- **A Firmware Upgrade Utility** that helps you find upgrade files for your tape drive and allows you to perform the upgrade.
- **HP Customer Support** that gives you all the information you will require should you need to contact us.

HP Tape Tools does not work on all operating systems. Refer to the *HP SureStore Tape* CD-ROM for the latest compatibility information.

HP SureStore Tape CD-ROM

The *HP SureStore Tape* CD-ROM contains:

- Troubleshooting information in the electronic *User's Guide* (this is operational rather than installation troubleshooting)
 - Frequently asked questions when using tape drives on Windows NT, NetWare or Unix operating systems
- Select the "User Documentation" topic on the Welcome page and follow the appropriate links. See page 1-22 for more information about using the *HP SureStore Tape* CD-ROM.

HP Web Site

The HP support web site contains two useful links:

- <http://www.hp.com/support/dat> takes you to HP's Customer Care web site for a wide range of up-to-date information about your product
- http://www.hp.com/support/dds_troubleshooting takes you directly to the Customer Care troubleshooting pages

Index

A

- accessories, ordering *See electronic User's Guide*
- anti-static protection **1-6**
- applications, backup **1-5, 1-23**

B

- backup applications
 - drives supported **1-5**
 - installing **1-23**
- backup fails **2-3**
- backup strategies *See electronic User's Guide*
- boot-up fails **2-2**
- browsers **1-10, 1-24**

C

- cables, SCSI
 - See SCSI cables 1-3*
- capacity, tape *See electronic User's Guide*
- cartridge
 - choosing *See electronic User's Guide*
 - forcing ejection *See electronic User's Guide*
 - loading **1-21**
 - ordering *See electronic User's Guide*
 - storing *See electronic User's Guide*
 - unloading **1-21**
 - write-protection *See electronic User's Guide*

CD-ROM

- contents **1-2**
- changing SCSI ID **1-6**
- Clean light **2-3**
 - See also electronic User's Guide*
- cleaning instructions *See electronic User's Guide*
- Colorado Backup **1-23**
- Compaq servers, mounting hardware **1-4**

- computer does not boot up **2-2**
- configuration switches **1-10**
- contacting HP *See electronic User's Guide*
- contents of box **1-2**
- conversion kit, fitting **1-12**
- customer support. *See electronic User's Guide*

D

- data cartridge *See cartridge*
- data compression *See electronic User's Guide*
- DDS formats supported *See electronic User's Guide*
- default SCSI ID **1-6**
- Dell servers, mounting hardware **1-4**
- disaster recovery **1-23**
- drive

- cannot back up or restore **2-3**
- does not power up **2-3**
- maintenance *See electronic User's Guide*

E

- ejecting a cartridge **1-21**
- electrical cable **1-17**
- electrostatic discharge **1-6, 1-11**
- EMC certifications *See back of book*
- equipment supplied **1-2**
- Express Exchange Warranty *See electronic User's Guide*

F

- forcing ejection *See electronic User's Guide*
- front panel lights
 - See also electronic User's Guide*

H

- hang during boot-up **2-2**
- head cleaning *See electronic User's Guide*
- host adapter *See SCSI controller*

- HP NetServer
 - attaching mounting hardware **1-14**
 - mounting hardware **1-4**
- HP One-Button Disaster Recovery **1-23**
- HP part numbers *See electronic User's Guide*
- HP SureStore Tape CD-ROM contents **1-2**
 - TapeAssure **1-6, 1-8, 1-21**
- HP Tape Tools **2-4**

I

- inserting a cartridge **1-21**
- installation
 - fitting conversion kit **1-12**
 - prerequisites **1-3**
 - problems **2-2**

J

- jumpers, SCSI ID **1-6**

L

- LEDs *See lights*
 - See also electronic User's Guide*
 - Clean light **2-3**
 - self-test **1-21**
 - Tape light **1-21**
- loading a cartridge **1-21**
- loose connections **2-3**

M

- maintenance instructions *See electronic User's Guide*
- materials included **1-2**
- mounting hardware
 - attaching **1-14**
 - supplied **1-4**

N

- narrow SCSI **1-3, 1-4**
- NetServer *See HP NetServer*
- non-standard mounting rails **1-4**

Novell NetWare
 backup applications **1-23**
 TapeAssure **1-9**

O

operating instructions *See*
 electronic User's Guide
ordering parts and accessories
 See electronic User's
 Guide

P

parts included **1-2**
power cable, attaching **1-17**
power-up failure **2-3**
precautions against static **1-6, 1-11**
problems
 SCSI termination **2-3**
 with computer **2-2**
 with tape drive **2-3**
putting in a cartridge **1-21**

R

radio interference statements
 See back of book
rails
 attaching **1-14**
 non-standard **1-4**
 supplied **1-4**
read-write test **1-21**
regulatory information *See back*
 of book
removing a cartridge **1-21**
repairs *See electronic User's*
 Guide
resolving problems **2-2**
restore fails **2-3**

S

safety certifications *See back of*
 book
scheduling backups *See*
 electronic User's Guide

SCSI

 checking configuration **1-8**
 configuration *See electronic*
 User's Guide
 connection loose **2-3**
 installation prerequisites **1-3**

SCSI

 internal connector **1-18**
 LVD devices **1-3**
 narrow SCSI **1-3, 1-4**
 SE devices **1-3**
 termination **1-18**
 termination problems **2-2, 2-3**
 wide SCSI **1-3, 1-4**

SCSI bus configuration *See*
 electronic User's Guide

SCSI cable
 required for drive **1-3**

SCSI controller
 problems with **2-2**
 required for installation **1-3**

SCSI ID
 checking existing devices **1-9**
 conflicting **2-3**
 default **1-6**
 devices sharing **2-2**
 setting **1-6**

self-test **1-21**
service *See electronic User's*
 Guide

setting SCSI ID **1-6**

software
 backup **1-5, 1-23**
 installing **1-23**

specifications, drive *See*
 electronic User's Guide

static protection **1-6, 1-11**
support numbers *See electronic*
 User's Guide

T

tape cartridge *See* cartridge
tape drive
 cannot back up or restore **2-3**
 does not power up **2-3**
 maintenance *See electronic*
 User's Guide
tape formats *See electronic User's*
 Guide
tape heads, cleaning *See*
 electronic User's Guide
tape life *See electronic User's*
 Guide

Tape light **1-21**
 See also electronic User's
 Guide

TapeAlert
 See electronic User's Guide

TapeAssure
 checking configuration **1-8, 1-21**
 purpose **1-3, 1-21**
 verifying installation **1-21**

technical support *See electronic*
 User's Guide

telephone numbers *See electronic*
 User's Guide

termination problems **2-3**
termination, SCSI *See electronic*
 User's Guide

terminator block **1-18**
testing installation **1-21**
tray, attaching **1-14**
troubleshooting **2-2**

U

ultra wide SCSI **1-3**
UNIX systems
 See also electronic User's
 Guide
 backup applications **1-23**
 configuration switches **1-10**
Unload button **1-21**
unloading a cartridge **1-21**
unpacking list **1-2**
unpacking precautions **1-6, 1-11**
usage instructions *See electronic*
 User's Guide

V

verifying installation **1-21**

W

Warranty Registration **1-25**
warranty *See electronic User's*
 Guide
web browsers **1-10, 1-24**
wide SCSI **1-3, 1-4**
Windows systems **1-23**
World Wide Web site **1-23**
write-protection *See electronic*
 User's Guide

Regulatory Information

Europe

Declaration of Conformity (according to ISO/IEC Guide 22 and EN 45014)

Manufacturer: Hewlett-Packard Company
Address: Hewlett-Packard Company
Computer Peripherals Bristol
Filton Road
Stoke Gifford
Bristol BS34 8QZ
United Kingdom

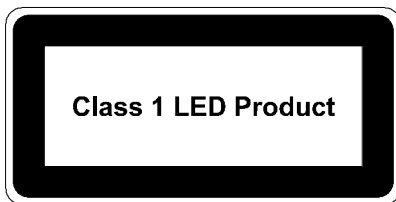
declares that the following products

Product Name: HP SureStore Tape 5000i
HP SureStore DAT8i
HP SureStore DAT24i
HP SureStore DAT40i

conform to the following product specifications

Safety: IEC 950:1991+A1,A2
EN 60950 (1992)+A1,A2
EMC: CISPR 22:1993/EN 55022 (1994)
EN50082-1:1992
IEC 801-2:1991/prEN 55024-2 (1992):
4kV CD, 8kV AD
IEC 801-3:1984/prEN 55024-3 (1991):
3V/m
IEC 801-4:1988/prEN 55024-4 (1992):
0.5 kV signal lines, 1.0kV power lines

LED Emission Level



This equipment has been tested and found to comply with the limits for a Class 1 LED product, set out in the international standard for safety of laser products.

TUV (Internal Tape Drives Only)

This equipment must be supplied by a Safety-Extra-Low-Voltage (secondary circuit in accordance with DIN VDE 0805. During incorporation of the equipment, all requirements of DIN VDE 0805 must be observed and obeyed.

General Approval NS/G/1234/J/100003

This Hewlett-Packard tape drive meets the General Approval NS/G/1234/J/100003 requirements.

U.S.A.

Notice (Internal Tape Drives Only)

For use only in UL® listed personal computers.

Canada

Canadian Standards Association Information Statement (Internal Tape Drives Only)

INSTRUCTION TO USER:

WARNING: This component is only considered to be approved when installed in CSA certified equipment evaluated to the standards C22.2 No. 220-M1986 or C22.2 No. 950-M89. The operator accessibility into the end use enclosure is defined with strict accordance in the operator's manual for the installation of components into the equipment.

INSTRUCTIONS AUX UTILISATEURS:

AVERTISSEMENT : Ce composant n'est considéré agréé que s'il est installé dans un équipement certifié CSA selon les normes C22.2 No. 220-M1986 ou C22.2 No. 950-M89. L'accessibilité de l'opérateur à l'enceinte est définie en stricte conformité avec le manuel de l'opérateur pour l'installation de composants dans l'équipement.