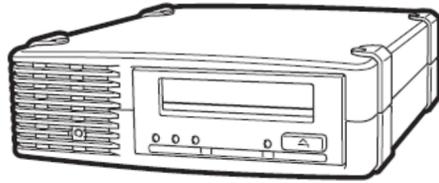


# External Tape Drive Quick Start Guide



Start Here

## Important Information About Your New Tape Drive

Installation decisions require a clear understanding of your server's current SAS configuration.

- With some servers you can connect to a spare SAS connector on the SAS controller. This is a straightforward installation, and it is recommended.
- With servers that do not have a spare internal connector, you will need to rewire the hard disk drive bays. In a few instances, you might also lose the use of one of the hard disk drive bays. Caution is advised for this installation. Do NOT use this cabling option if the hard disk drive bay is already occupied or will be required for future use.

The simplest way to connect the tape drive to your SAS server is to purchase and install one of the supported HBAs. You might also need to purchase an additional cable.

For the most up-to-date information about supported SAS HBAs, refer to [www.quantum.com/support](http://www.quantum.com/support).

For detailed operating instructions, see the User's Guide on the Product Documentation CD.

**Warning:** To avoid personal injury or damage to the server or tape drive, disconnect your server from the main power source before installing the tape drive.

To avoid damage to the server or tape drive, observe all recommended anti-static and power-grounding precautions, as specified in your server and tape drive manuals.

## Part 1 Getting Started

Before installing your tape drive, always determine:

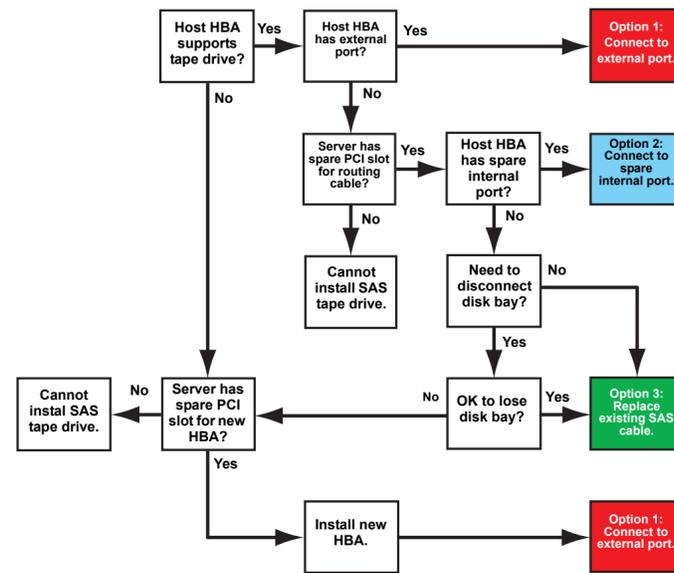
- Is connection to your SAS server supported?
- Can you connect to the host SAS controller or do you need to purchase an additional HBA?
- If you connect to the host SAS controller, does it have a spare SAS port to which you can attach the split cable, or must you use the split cable to replace one of the existing cables? If so, will you lose the use of a hard disk drive bay, and which one will it be?
- If you connect to a new HBA, must you also purchase an additional cable?

**Note:** The split cable can be purchased as a separate item, as required.

## Part 2 Determining Your Installation Model

This guide describes how to connect an external Quantum DAT 160 SAS tape drive to an internal or external port on a SAS server.

**Caution:** You can damage your server configuration if you follow the wrong cabling instructions. Use the following diagram to determine which instructions in this guide are appropriate for your server.

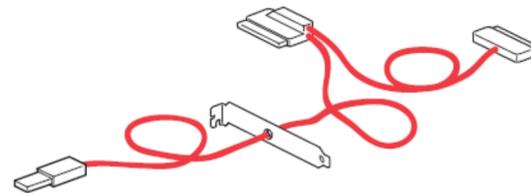


Option 1 requires a spare PCI slot for the new HBA, and you must also purchase a new cable.

Options 2 and 3 require a spare PCI slot because the cable and SAS connector to the tape drive are threaded through a PCI slot on the server's back panel.

**Note:** A fourth option would be to connect to an internal port on a new HBA. This would allow you to use the split cable but would require PCI slots for the new HBA and the cable routing. Installation would be very similar to Option 2 after you have installed the new HBA.

The split cable can only be used to connect to an internal port on the host SAS controller or SAS HBA. It has three connectors, as shown below.



Separately Purchased Split Cable

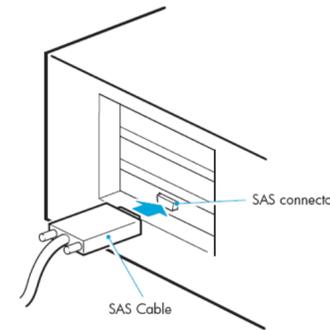
- If you are connecting to a spare connector on the host HBA (Option 2), you will use only two of the connectors. This will leave unused cabling within the server, which should be neatly coiled and secured.
- If you are connecting to the host controller by replacing an existing SAS cable (Option 3), you will use all three connectors. Depending on server model, this could affect your hard disk drive configuration.

## Part 3 Installing the Tape Drive/Option 1

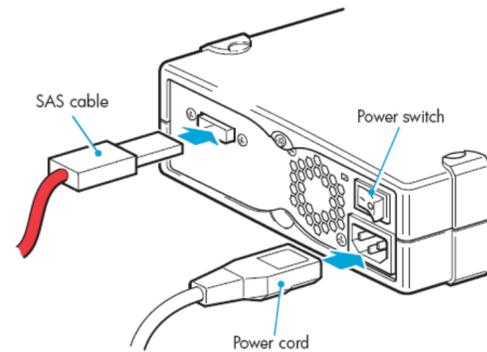
### Connect to an External SAS Port

The following instructions are valid ONLY for servers with an HBA that supports external SAS ports. You need a spare PCI slot for the new HBA.

1. Connect the SAS cable to the server.



2. Connect the SAS cable and power cord to the tape drive.



3. Power up the tape drive and server.

Switch on the tape drive and power up the server.

Watch the boot screen carefully, and verify that the new SAS tape drive is listed in the boot sequence.

If there are any errors or unexpected messages, go back and check the SAS cabling carefully.

4. Install the driver.

If you have not already installed the driver, do it now.

- For Windows, the driver is available at [www.quantum.com/support](http://www.quantum.com/support).
- For Linux, refer to [www.quantum.com/support](http://www.quantum.com/support) for configuration information.

5. Upgrade your backup application software.

Always upgrade your backup application software to make sure it works correctly with the tape drive. We do NOT recommend native backup applications, such as Windows Backup, because they do not support the full features of the tape drive and can cause performance problems.

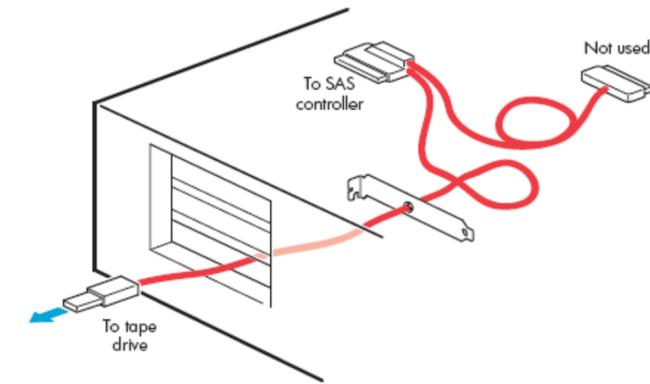
## Part 3 Installing the Tape Drive/Option 2

### Connect to a Spare Internal Port on the Host Bus Adapter

The following instructions are valid ONLY IF the host SAS controller or new HBA on your server has a spare internal SAS connector. You need a spare PCI slot to accommodate the cable bracket and SAS connector to the tape drive.

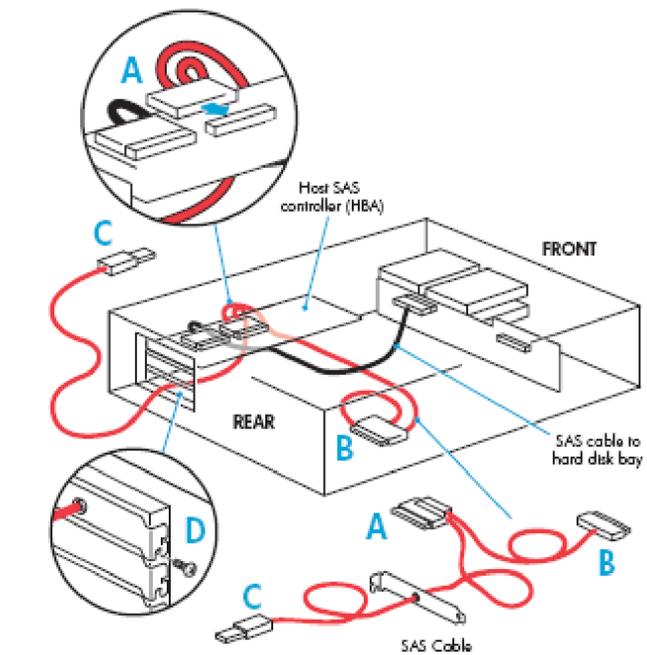
1. Feed the split SAS cable through the server rear panel.

- Remove a blanking plate from a spare PCI slot on the rear panel of the server. The PCI slot must be wide enough to accommodate the external tape drive connector.
- Feed the external tape drive connector and cable through the empty slot from inside the server.



2. Connect the SAS cable inside the server and replace the cover.

**Important:** On some servers, even those with latch-mounted arrangements, you must use the self-tapping screw to secure the blanking plate before you replace the cover.

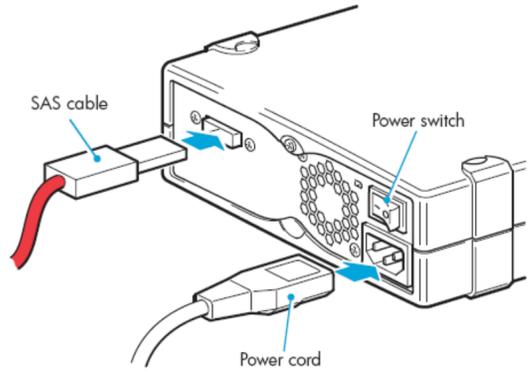


- A = connector on host SAS controller
- B = not used in this installation
- C = connector for tape drive
- D = self-tapping screw to secure blanking plate

**Note:** This will leave unused cabling within the server because the 'B' connector is not required in this configuration. Neatly coil and secure the unused cabling so that it does not interfere with other components inside the server.



**3. Connect the SAS cable and power cord to the tape drive.**



**4. Power up the tape drive and server.**

Switch on the tape drive and power up the server. Watch the boot screen carefully, and verify that the new SAS tape drive is listed in the boot sequence. If there are any errors or unexpected messages, go back and check the SAS cabling carefully.

**5. Install the driver.**

If you have not already installed the driver, do it now.

- For Windows, the driver is available at [www.quantum.com/support](http://www.quantum.com/support).
- For Linux, refer to [www.quantum.com/support](http://www.quantum.com/support) for configuration information.

**6. Upgrade your backup application software.**

Always upgrade your backup application software to make sure it works correctly with the tape drive. We do NOT recommend native backup applications, such as Windows Backup, because they do not support the full features of the tape drive and could cause performance problems.

**Part 3**  
Installing the Tape Drive/Option 3

**Replace the Existing Cable and Connect to a Port on the Host Bus Adapter**

The following instructions apply ONLY IF the host SAS controller on your server does not have a spare SAS connector and [www.quantum.com/support](http://www.quantum.com/support) advises that connection is supported. You will need a spare PCI slot to accommodate the cable bracket and SAS connector to the tape drive.

**Caution:** Be aware that this option might also disconnect one of your hard disk drive bays. You should always determine whether this is the case with your server, and which hard disk drive bay is disconnected. Caution is advised for this installation. Do not use this cabling option if the hard disk drive bay is already occupied or will be required for future use.

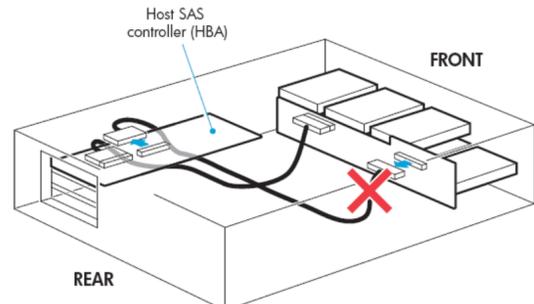
You might need to remove components, such as fan banks, while you work with the cable. Cable routing varies from one server to another. Always refer to your server documentation to identify the location and orientation of SAS connectors and for specific advice on cable routing.

**1. Locate the existing SAS cable and determine whether a hard disk drive bay will be lost.**

Look at the front of the server to establish how the hard disk drive bays are numbered.

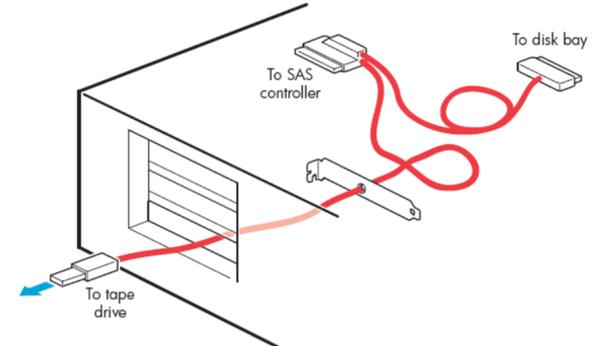
**Important:** If the hard disk drive bay is in use, STOP. Even if other hard disk drive bays are empty, the installation will not work. (Do not move a hard disk to create an empty bay because you might damage your server configuration.) You must purchase and install a new HBA.

Locate the cable that connects the hard disk drive bay to the SAS controller (HBA) and remove it completely. (The existing cable will be replaced by the split cable.)



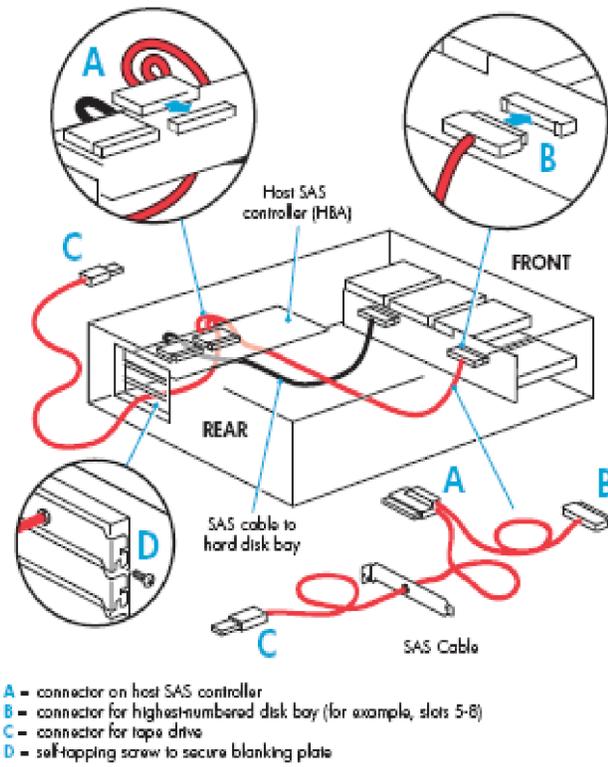
**2. Feed the split cable through the server rear panel.**

- Remove a blanking plate from a spare PCI slot on the rear panel of the server. The PCI slot must be wide enough to accommodate the external tape drive connector.
- Feed the external tape drive connector and cable through the empty slot, from inside the server.



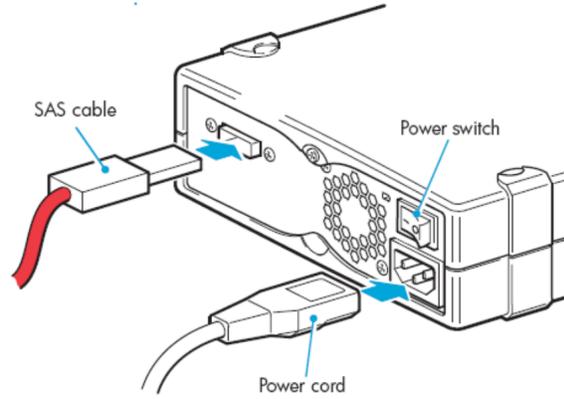
**3. Connect the SAS cable inside the server and replace the cover.**

**Important:** On some servers, even those with latch-mounted arrangements, you must use the self-tapping screw to secure the blanking plate before you replace the cover.



- A = connector on host SAS controller
- B = connector for highest-numbered disk bay (for example, slots 5-8)
- C = connector for tape drive
- D = self-tapping screw to secure blanking plate

**4. Connect the SAS cable and power cord to the tape drive.**



**5. If required, attach a bay-disconnected note to the empty hard disk drive bay.**

If this option disconnects one of your hard disk drive bays, you will not be able to use the disk bay after installation. If you install a hard disk in this bay, the disk will not work. This does not mean there is a fault with either the hard disk or the server.

As a future reminder, attach a note indicating that the bay has been disconnected to the blanking plate of the hard disk drive bay.

**6. Power up the tape drive and server.**

Switch on the tape drive and power up the server. Watch the boot screen carefully, and verify that the new SAS tape drive is listed in the boot sequence.

If there are any errors or unexpected messages, go back and check the SAS cabling carefully.

**7. Install the driver.**

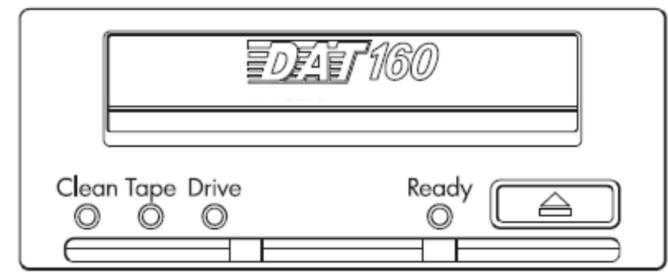
If you have not already installed the driver, do it now.

- For Windows, the driver is available at [www.quantum.com/support](http://www.quantum.com/support).
- For Linux, refer to [www.quantum.com/support](http://www.quantum.com/support) for configuration information.

**8. Upgrade your backup application software.**

Always upgrade your backup application software to make sure it works correctly with the tape drive. We do NOT recommend native backup applications, such as Windows Backup, because they do not support the full features of the tape drive and can cause performance problems.

**Part 4**  
Understanding the Front Panel LEDs



<b>Clean - amber</b>	<ul style="list-style-type: none"> <li>On: cleaning cartridge in use.</li> <li>Off: the drive does not require cleaning.</li> <li>Flashing: the drive needs cleaning.</li> </ul>
<b>Tape - amber</b>	<ul style="list-style-type: none"> <li>Off: no fault has been detected.</li> <li>Flashing: the cartridge currently in the drive is faulty (damaged or unsupported). Discard the cartridge.</li> </ul>
<b>Drive - amber</b>	<ul style="list-style-type: none"> <li>Off: no fault has been detected.</li> <li>Flashing: the drive mechanism has detected a hardware error.</li> </ul>
<b>Ready - green</b>	<ul style="list-style-type: none"> <li>On: the drive is ready for use.</li> <li>Off: the drive power is off or there was a failure during self-test.</li> <li>Flashing: the drive is busy.</li> </ul>

**Part 5**  
Selecting and Handling Media

For optimum performance and storage capacity, always use DAT 160 cartridges with your tape drive, and normally use only one cartridge per day.

**Note:** Quantum DAT 160 data and cleaning can only be used with DAT 160 tape drives; they are wider than earlier formats and will not fit into earlier model tape drives.

Table 1 Ultrium Data Cartridge Compatibility

	DDS/DAT cleaning cartridge II	DDS-2	DDS-3	DDS-4	DAT 72	DAT 160
DAT 160	cleaning cartridge	not supported	not supported	read/write	read/write	160 GB* read/write

\* Capacity assumes 2:1 compression.

It pays to look after your media. Many tape drive and backup failures are caused by damaged or badly handled tape media.

- Keep media in the case provided.
- Follow the temperature, humidity and acclimitization guidelines on the media packaging.
- Avoid dropping it or rough handling, as this is likely to damage the cartridge.
- Inspect it regularly for damage.
- Do not exceed normal cartridge life (100 full volume backup or restore operations).

**Part 6**  
Getting Additional Information

- See [www.quantum.com/support](http://www.quantum.com/support) for product documentation, updates and compatibility information, and up-to-date product information.
- If necessary, technical help can be obtained from Quantum Global Services. Contact details are available at [www.quantum.com](http://www.quantum.com).

