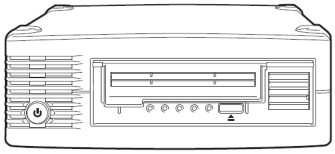
LTO Half-Height SAS External Tape Drive

Quick Start Guide



Overview

This document describes how to unpack and install an Overland LTO Half-Height SAS External Tape Drive to an external port using a purchased cable.

WARNING: To reduce the risk of electric shock or damage to equipment, always remove any power cords while working with the unit.

AVERTISSEMENT: pour réduire le risque de choc électrique ou endommagement de l'équipement, retirez toujours les cordons électriques en travaillant avec l'appareil.

CAUTION: While working with the unit, observe standard Electrostatic Discharge (ESD) precautions to prevent damage to micro-circuitry or static-sensitive devices.

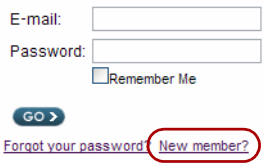
NOTE: Cables are not supplied in the External Tape Drive product kits. These cables must be purchased separately.

Register First

Before starting, it is **essential** that you activate your Overland warranty. Technical and warranty support are **not available** until this is done:

1. Go to the **Overland Storage** web site (http://www.overlandstorage.com/).
2. Select **Service & Support > My Products**.
3. At the Site Login, enter your **e-mail address** and **password**, and click **GO**.

   NOTE: If you are not yet a member, click "New member?" and follow the instructions given. It's free and easy!



4. Click the **Register New Product** button.
5. Fill in the information and click **Submit**.

IMPORTANT: Within three business days, you will receive an e-mail from Overland with your warranty certificate. Follow the instructions included to complete the process.

Introduction

Before you install your tape drive, make sure:

- That the connection to your SAS server is supported.
- You are able to connect to the host SAS controller via an installed host bus adaptor (HBA).
- You have the correct cable (available separately) to attach the tape drive to the HBA.

Preparing The Host

SAS HBA Card

The following instructions are valid ONLY for servers with an HBA that supports external SAS ports.

If you do not already have a SAS HBA card installed, you must purchase a supported HBA card along with a matching cable. You need a spare PCI slot for the card.

Drivers

For Windows systems, download the latest drivers from the HP tape drive drivers web site. For other operating systems, patch to the latest version of the operating system, following the instructions in the patch documentation.

Backup software

It is recommended to **upgrade** your backup software application to ensure it works correctly with the new external 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 may cause performance problems.

NOTE: Some backup applications require you to use their own drivers. Refer to the documentation of your software application to ensure you are using the recommended driver.

Connecting the Tape Drive

CAUTION: Turn off and remove the power cords from the server.

1. Connect the SAS cable to the server HBA card.

   The cable connector may be different than the one pictured depending on the HBA card used.

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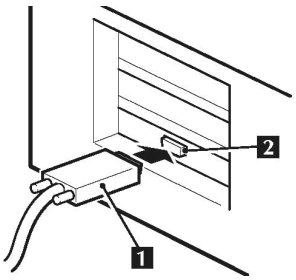
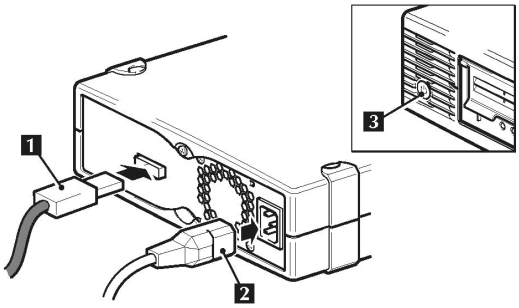


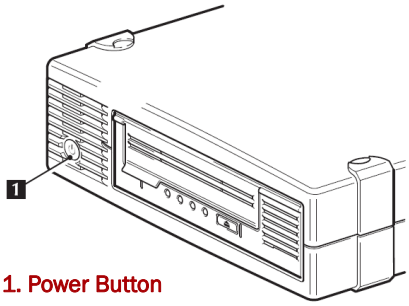
1. SAS Cable 2. SAS Connector

2. Connect the SAS cable (1) and power cord (2) to the tape drive.



1. SAS Cable 2. Power Cord 3. Power Switch

3. Power up the tape drive and server.



1. Power Button

   a. Power on the tape drive using the power button located at the front of the tape drive.

   b. Check the Ready LED on the front panel to make sure the tape drive is ready for use.

   c. Plug in and turn on the host server.

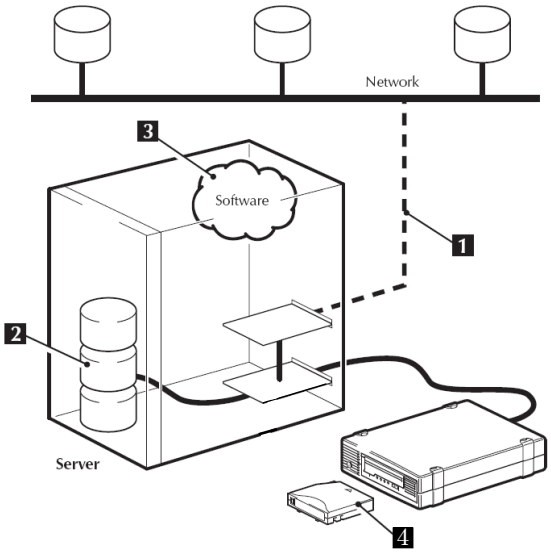
      Watch the boot screen carefully during the boot process. Check to see that the new tape drive is listed in the boot sequence.

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

Checking Product Performance

If performance is not meeting expectations and you are not meeting your backup window, check for bottlenecks in your system architecture.

What causes bottlenecks? Review the numbered items that follow which match the graphic numbering below.



1. We recommend direct connection for LTO-4 and LTO-3 tape drives. If you back up over a network, anything less than Gigabit Ethernet may limit performance.
2. A single disk may limit backup performance. Have disks in parallel (for example, RAID 5) if possible or, if your backup application supports interleaving of data, back up streams from multiple sources.
3. Use the latest version of your backup application. Native backup applications, such as Windows backup, may limit performance.
4. For optimum performance, use LTO-4 R/W and WORM cartridges with LTO-4 tape drives, LTO-3 R/W and WORM cartridges with LTO-3 tape drives, and LTO-2 R/W cartridges with LTO-2 tape drives.

Hardware Encryption

An LTO-5 external SAS tape drive provides the ability to hardware encrypt your data, applying the strongest level of AES industry-standard encryption and protecting the data from unauthorized access and use. Encryption is supported on LTO-5 (3 TB) and LTO-4 (1.6 TB) media; media encrypted on a LTO drive can only be read on a compatible Ultrium tape drive that supports hardware encryption.

Hardware encryption can be used with or without compression and without speed or capacity penalties.

IMPORTANT: Hardware encryption is a powerful feature, but should be used with care. If you need to import your media onto another machine or to recover after disaster you will be required to enter an encryption key.

- Hardware encryption is turned off by default and is switched on by settings in your backup application, where you also generate and supply the encryption key.
- Your backup application must support hardware encryption for it to work.

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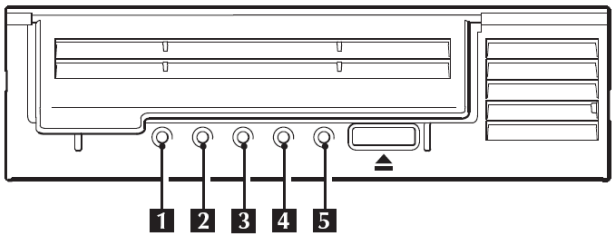
- You should keep a record or backup of your encryption keys and store them in a secure place separate from the computer running the backup software.
- If you are unable to supply the key when requested to do so, neither you nor Overland Storage will be able to access the encrypted data.

Understanding LEDs



1. Encryption – blue/amber
- On (blue or amber): at power on.
- Off: drive is idle with no encryption key.
- Off with Ready LED flashing: drive is reading/writing unencrypted data or unloading cartridge.
- On (blue): drive is idle with encryption key.
- On (blue) with Ready LED flashing: drive is reading/ writing encrypted data.
- Blue and Amber flashing alternately: encryption or decryption error.

2. Clean – amber
- On: cleaning cartridge in use.
- Off: the drive does not require cleaning.
- Flashing: the drive needs cleaning.

3. Tape – amber
- Off: no fault has been detected.
- Flashing: the cartridge currently in the drive is faulty (damaged / unsupported). Discard the cartridge.

4. Drive – amber
- Off: no fault has been detected.
- Flashing: the drive mechanism has detected a hardware error.

5. Ready – green
- On: the drive is ready for use.
- Off: the drive power is off or there was a failure during self-test.
- Flashing: the drive is busy.

Media Choice and Care

Your high-performance tape drive works best with high-performance LTO media. For optimum performance always use a data cartridge that matches the specification of your tape drive (see table).

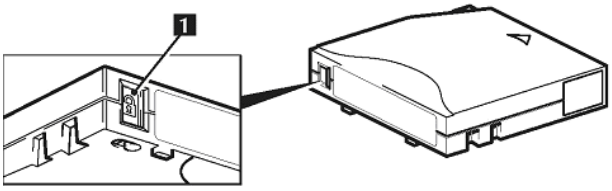
Table 1: LTO SAS Data Cartridge Compatibility

	LTO-5
LTO-5 3 TB*	Read/Write (Recommended)
LTO-5 3 TB* WORM	Write Once Read Many (Recommended)
LTO-4 1.6 TB*	Read/Write
LEO-4 1.6 TB* WORM	Write Once Read Many
LTO-3 800 GB*	Read only
LTO-3 800 GB* WORM	Read only
LTO-2 400 GB*	No
LTO-1 200 GB*	No

* Capacity assumes 2:1 compression.

The recommended cleaning cartridge is the LTO universal cleaning cartridge. This cartridge is designed to work with any Ultrium drive and may be used for up to 50 cleans.

It Pays to Look After Your Media



1. Write-Protect Switch

Many tape drive and backup failures are caused by damaged or badly handled tape media. Follow these steps:

- Keep media in the case provided.
- Follow the temperature, humidity, and acclimatization 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 (260 full volume backup or restore operations).

For detailed information on media care and best practice and to order online, refer to Overland's web site.

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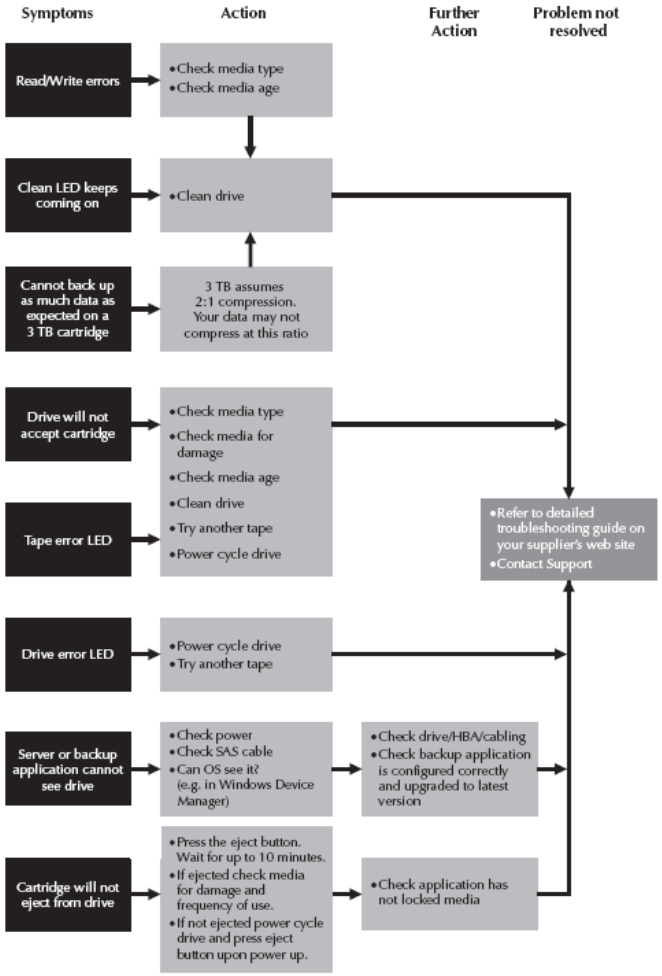
Troubleshooting



More Information

Access Product Information

For detailed information about your products including entitlement, click the Service & Support tab and select **My Products > View Products**. Log in if you haven't already done so.

For the answers to the most commonly asked questions, select the appropriate product family page under **Downloads and FAQ's** tab.

To search our extensive knowledge base for more answers, select **Get Help > Search Knowledgebase**.

NOTE: *If you want to be notified whenever a change is made, click Watch Category in the Tools box on the upper right on the Knowledgebase sub-category pages.*

Detailed Warranty Information

To view detailed warranty information for Overland products, click **Service > Warranty** or follow this link:

- http://support.overlandstorage.com/support/service-coverage.html

You can get additional technical support on the Internet at http://support.overlandstorage.com, or by contacting Overland Storage using the information found on the Contact Us page on our web site.

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