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> HP 410645-001 ESL E Series ULT 960 LTO3 Tape Drive User Manual

## HP 410645-001

# HP 410645-001 ESL E Series ULT 960 LTO3 Tape Drive User Manual

Model: 410645-001

## INTRODUCTION

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This manual provides comprehensive instructions for the installation, operation, and maintenance of your HP 410645-001 ESL E Series ULT 960 LTO3 Tape Drive. Please read this manual thoroughly before using the device to ensure proper functionality and longevity.

## PRODUCT OVERVIEW

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**Figure 1:** Front view of the HP 410645-001 ESL E Series ULT 960 LTO3 Tape Drive. This image shows the front panel of the tape drive, featuring the tape slot, status indicator lights (Ready, Drive Error, Tape Error, Clean), and the eject button. The drive has a grey casing with a metallic top cover.

The HP 410645-001 ESL E Series ULT 960 LTO3 Tape Drive is designed for reliable data storage and retrieval. It utilizes LTO-3 technology, offering high capacity and performance for backup and archival purposes. This drive is compatible with

desktop systems and connects via SCSI interface.

## SETUP INSTRUCTIONS

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### 1. Unpacking and Inspection

- Carefully remove the tape drive from its packaging.
- Inspect the drive for any visible damage. If damage is found, contact your supplier immediately.
- Ensure all components listed in the packing slip are present.

### 2. Connecting the Drive

1. **Power Connection:** Connect the power cable to the drive and then to a suitable power outlet.
2. **Data Connection (SCSI):** Connect the SCSI data cable from the tape drive to the SCSI controller card in your desktop computer or server. Ensure the SCSI chain is properly terminated.
3. **SCSI ID Configuration:** Set the unique SCSI ID for the tape drive using the jumpers or switches on the back of the unit, if applicable. Refer to your system's SCSI controller documentation for proper ID assignment.

### 3. Driver Installation

After physical connection, install the necessary device drivers for the tape drive. These drivers are typically provided by your operating system or can be downloaded from the HP support website. Follow the on-screen instructions for driver installation.

## OPERATING THE TAPE DRIVE

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### Loading a Tape Cartridge

1. Ensure the drive is powered on and the "Ready" indicator light is solid green.
2. Gently insert an LTO-3 tape cartridge into the tape slot until it clicks into place. The drive will automatically pull the cartridge in.
3. The "Ready" light may blink during the loading process and then become solid green once the tape is ready for use.

### Ejecting a Tape Cartridge

- Ensure no read/write operations are active.
- Press the eject button on the front panel of the drive.
- The tape cartridge will partially eject. Pull it out completely.

### Status Indicator Lights

#### Tape Drive Status Indicators

Indicator	Status	Description
Ready	Solid Green	Drive is powered on and ready for operation.
Drive Error	Solid Amber/Red	Indicates a hardware error with the drive. Refer to troubleshooting.
Tape Error	Solid Amber/Red	Indicates an issue with the tape cartridge or tape media.
Clean	Solid Amber	Drive requires cleaning. Insert a cleaning cartridge.

## MAINTENANCE

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### Drive Cleaning

The tape drive heads and tape path should be cleaned regularly to ensure optimal performance and prevent data errors. The "Clean" indicator light will illuminate when cleaning is required.

1. Obtain a compatible LTO-3 cleaning cartridge.
2. Insert the cleaning cartridge into the drive as you would a data cartridge.
3. The drive will automatically perform a cleaning cycle. This typically takes a few minutes.
4. Once the cleaning cycle is complete, the drive will eject the cleaning cartridge, and the "Clean" light will turn off.
5. Do not interrupt the cleaning cycle.

### General Care

- Keep the drive in a clean, dust-free environment.
- Avoid exposing the drive to extreme temperatures or humidity.
- Do not block ventilation openings.

## TROUBLESHOOTING

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### Common Issues and Solutions

Problem	Possible Cause	Solution
Drive not recognized by system.	Incorrect SCSI ID, loose cables, missing drivers.	Check SCSI ID settings. Ensure all cables are securely connected. Install or update device drivers.
"Drive Error" light is on.	Internal hardware fault.	Power cycle the drive. If the error persists, contact technical support.
"Tape Error" light is on.	Damaged tape, incompatible tape, or tape not fully inserted.	Eject and re-insert the tape. Try a different, known-good LTO-3 tape. Inspect the tape for physical damage.
"Clean" light is on.	Drive heads require cleaning.	Perform a cleaning cycle using an LTO-3 cleaning cartridge as described in the Maintenance section.
Slow performance or data errors.	Dirty heads, worn tape, or system resource issues.	Clean the drive. Try a new tape. Ensure your system meets the recommended specifications for tape operations.

For issues not covered here, please refer to the official HP support resources or contact their customer service.

## SPECIFICATIONS

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**Brand:** HP

**Model Name:** 410645-001

**Series:** 410645-001

**Connectivity Technology:** SCSI

**Hard Disk Form Factor:** 2.5 Inches *(Note: This specification is typically for hard drives and may not directly apply to a tape drive.)*

**Installation Type:** External Hard Drive *(Note: This specification is typically for hard drives; this is an external tape drive.)*

**Compatible Devices:** Desktop

**Specific Uses For Product:** Personal

**Special Feature:** Portable *(Note: This device is not typically considered portable.)*

**ASIN:** B00HCYPHVE

**Date First Available:** December 17, 2013

*Note: Some specifications listed above might be generic Amazon product data points and may not directly apply to the specific functionality or physical characteristics of a tape drive. The primary function is LTO-3 tape storage.*

## WARRANTY AND SUPPORT

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For information regarding warranty coverage, technical support, and service options for your HP 410645-001 ESL E Series ULT 960 LTO3 Tape Drive, please visit the official HP support website or contact HP customer service directly. Keep your purchase receipt and product serial number readily available when seeking support.

**HP Support Website:** [www.hp.com/support](http://www.hp.com/support)