

Lenovo LTO Generation 6 (LTO6) Internal SAS Tape Drive

Product Guide

The Half-High LTO Generation 6 (LTO6) SAS Tape Drive is a high-performance, high-capacity data-storage device that is designed to back up and restore open-systems applications. It offers native storage capacity of 2.5 TB per cartridge (6.2 TB at 2.5:1 compression) and a maximum native data transfer rate of up to 160 Mbps (400 Mbps compressed). This enterprise data protection offering has a 5.25" half-height internal form factor for integration into Lenovo tower servers.

Figure 1 shows the internal Half High LTO Ultrium Gen 6 Internal SAS Tape Drive.



Figure 1. Half High LTO Ultrium Gen 6 Internal SAS Tape Drive

Did you know?

LTO Generation 6 tape drives feature hardware-based data encryption capabilities and support write once, read many (WORM) cartridges to help protect your data. With WORM cartridges you can store vital data in a non-erasable, non-rewritable format, while AES256 hardware encryption can securely store data to help ensure compliancy with data security, information disclosure, and privacy regulations for data at rest.

This drive is compatible with the cartridges of its predecessor, the Half-High LTO Ultrium 5 Tape Drive. It can also read generation 4 cartridges.

Part number information

The following table lists the ordering part numbers and feature codes for ThinkSystem servers.

Table 1. Ordering information - ThinkSystem

| Part number | Feature code | Description |
|-----------------------------|--------------|--|
| Tape drives - ThinkSystem | | |
| 4T27A10726 | B3YK | ThinkSystem Internal Half High LTO Gen6 SAS Tape Drive |
| Media options - ThinkSystem | | |
| 7TP7A01604 | AVF4 | ThinkSystem LTO Gen6 2.5TB Tape |

The ThinkSystem tape drive option part number includes these items:

- 5.25-inch tape drive
- 12Gb SAS cable for internal tape connectivity
- Power cable
- Cleaning cartridge
- Documentation

Features

Features of the LTO Gen 6 Internal SAS Tape Drives are as follows:

- Compatibility with LTO 5 (read and write) and LTO 4 (read) media
- Speed matching and channel calibration for improved performance
- Media partitioning for faster access to stored data
- Support for host Application Managed Encryption (AME)
- Support for 6 Gbps SAS adapters for improved performance and reliability
- Support for leading operating systems and popular backup software

Specifications

Specifications for the LTO Gen 6 Internal SAS Tape Drives are as follows:

- 6 Gbps SAS host interface
- Native storage capacity of 2.5 TB per cartridge (6.2 TB at 2.5:1 compression)
- Maximum native data transfer rate of up to 160 Mbps, 400 Mbps compressed
- Burst data transfer rate of up to 600 MB per second
- 512 MB read-and-write cache
- Support for encryption on Ultrium 6 and Ultrium 5 tape cartridges
- Single-character display (SCD) operator panel

Key prerequisites

The LTO Gen 6 Internal SAS Tape Drives have the following prerequisites:

- 6Gb or 12Gb SAS controller
- One or more LTO Generation 6 or LTO Generation 5 data cartridges (not supplied with drive option)
- An available half-height drive bay in the server

Server support - ThinkSystem

The following tables list the ThinkSystem servers that are compatible.

Table 3. ThinkSystem server support (Part 1)

| Part number | Description | Intel 2S | | | | | | | | AMD | | | |
|-------------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-------------------|-------------------|
| | | ST550 (7X09/7X10) | SR530 (7X07/7X08) | SR550 (7X03/7X04) | SR570 (7Y02/7Y03) | SR590 (7X98/7X99) | SR630 (7X01/7X02) | SR650 (7X05/7X06) | SR670 (7Y36/37/38) | SR635 (7Y98/7Y99) | SR655 (7Y00/7Z01) | SR645 (7D2Y/7D2X) | SR665 (7D2W/7D2V) |
| 4T27A10726 | ThinkSystem Internal Half High LTO Gen6 SAS Tape Drive | Y | N | N | N | N | N | N | N | N | N | N | N |

Table 4. ThinkSystem server support (Part 2)

| Part number | Description | E | 1S Intel | | | | 4S Intel | | | | Dense/ Blade | | |
|-------------|--|-------------------|------------------|-------------------|--------------|-------------------|-------------------|--------------------|-------------------|--------------------|--------------|--------------|--------------|
| | | SE350 (7Z46/7D1X) | ST50 (7Y48/7Y50) | ST250 (7Y45/7Y46) | SR150 (7Y54) | SR250 (7Y51/7Y52) | SR850 (7X18/7X19) | SR850P (7D2F/2D2G) | SR860 (7X69/7X70) | SR950 (7X11/12/13) | SD530 (7X21) | SD650 (7X58) | SN550 (7X16) |
| 4T27A10726 | ThinkSystem Internal Half High LTO Gen6 SAS Tape Drive | N | N | N | N | N | N | N | N | N | N | N | N |

Supported HBAs

The following table lists the ThinkSystem host bus adapters that are supported with the tape drives

Table 5. Supported ThinkSystem HBAs

| Part number | Feature code | Description |
|-------------|--------------|---------------------------------------|
| 7Y37A01088 | AUNL | ThinkSystem 430-8i SAS/SATA 12Gb HBA |
| 7Y37A01089 | AUNM | ThinkSystem 430-16i SAS/SATA 12Gb HBA |

Front panel

The following figure shows the front panel of the tape drive.

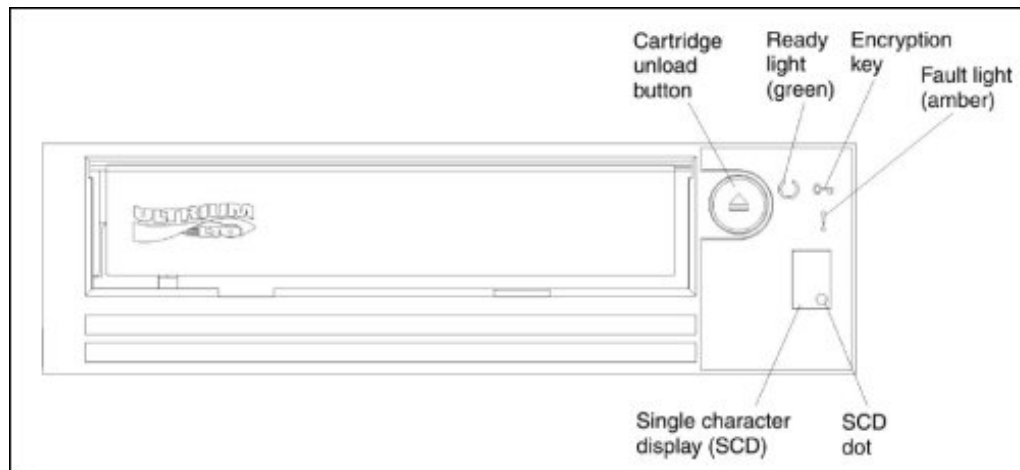


Figure 2. Front panel

The single-character display presents a single-character code for error conditions and informational messages. When the drive is in maintenance mode, the display shows diagnostic or maintenance functions. The SCD dot is off during normal operations; it is used only while the drive is in maintenance mode.

Supported software products

The tape drive supports the following software products:

- NetVault Backup
- ARCServe Backup
- Networker Backup and Recovery (Does not support removable disk)
- Backup Exec
- Tivoli Storage Manager
- Yosemite Server Backup
- Built-in backup functionality of supported operating system (native backup)

Supported operating systems

The following tables list the supported operating systems for the drives:

- [ThinkSystem Internal Half High LTO Gen6 SAS Tape Drive, 4T27A10726](#)

Tip: These tables are automatically generated based on data from [Lenovo ServerProven](#).

Not supported in guest OSes: The LTO tape drives are supported when attached and run from host operating systems, however, in virtualization environments (for example, Hyper-V, Xen), the tape drives are not supported in the guest operating systems.

Table 6. Operating system support for ThinkSystem Internal Half High LTO Gen6-N SAS Tape Drive , 4T27A10726

| | ST550 (Gen 2) | ST550 (Gen 1) |
|--|---------------|---------------|
| Operating systems | | |
| Microsoft Windows Server 2012 R2 | N | Y |
| Microsoft Windows Server 2016 | Y | Y |
| Microsoft Windows Server 2019 | Y | Y |
| Microsoft Windows Server version 1709 | N | Y |
| Red Hat Enterprise Linux 6.10 | N | Y |
| Red Hat Enterprise Linux 6.9 | N | Y |
| Red Hat Enterprise Linux 7.3 | N | Y |
| Red Hat Enterprise Linux 7.4 | N | Y |
| Red Hat Enterprise Linux 7.5 | N | Y |
| Red Hat Enterprise Linux 7.6 | Y | Y |
| Red Hat Enterprise Linux 7.7 | Y | Y |
| Red Hat Enterprise Linux 7.8 | Y | Y |
| Red Hat Enterprise Linux 7.9 | Y | Y |
| Red Hat Enterprise Linux 8.0 | Y | Y |
| Red Hat Enterprise Linux 8.1 | Y | Y |
| Red Hat Enterprise Linux 8.2 | Y | Y |
| SUSE Linux Enterprise Server 11 SP4 | N | Y |
| SUSE Linux Enterprise Server 11 SP4 with Xen | N | Y |
| SUSE Linux Enterprise Server 12 SP2 | N | Y |
| SUSE Linux Enterprise Server 12 SP2 with Xen | N | Y |
| SUSE Linux Enterprise Server 12 SP3 | N | Y |
| SUSE Linux Enterprise Server 12 SP4 | Y | Y |
| SUSE Linux Enterprise Server 12 SP4 with Xen | Y | Y |
| SUSE Linux Enterprise Server 12 SP5 | Y | Y |
| SUSE Linux Enterprise Server 12 SP5 with Xen | Y | Y |
| SUSE Linux Enterprise Server 15 | Y | Y |
| SUSE Linux Enterprise Server 15 SP1 | Y | Y |
| SUSE Linux Enterprise Server 15 SP2 | Y | Y |
| SUSE Linux Enterprise Server 15 SP2 with Xen | Y | Y |
| SUSE Linux Enterprise Server 15 with Xen | Y | Y |
| VMware vSphere Hypervisor (ESXi) 6.0 U3 | N | Y |
| VMware vSphere Hypervisor (ESXi) 6.5 | N | Y |
| VMware vSphere Hypervisor (ESXi) 6.5 U1 | N | Y |
| VMware vSphere Hypervisor (ESXi) 6.5 U2 | Y | Y |
| VMware vSphere Hypervisor (ESXi) 6.5 U3 | Y | Y |

| | ST550 (Gen 2) | ST550 (Gen 1) |
|---|---------------|---------------|
| Operating systems | | |
| VMware vSphere Hypervisor (ESXi) 6.7 | N | Y |
| VMware vSphere Hypervisor (ESXi) 6.7 U1 | Y | Y |
| VMware vSphere Hypervisor (ESXi) 6.7 U2 | Y | Y |
| VMware vSphere Hypervisor (ESXi) 6.7 U3 | Y | Y |
| VMware vSphere Hypervisor (ESXi) 7.0 | Y | Y |

Physical specifications

Physical specifications of the tape drive are as follows:

- Height: 39 mm (1.5 in.)
- Width: 146 mm (5.8 in.)
- Depth: 210 mm (8.3 in.)
- Weight: 3.2 kg (7.0 lb)

Shipping dimensions (approximate) are as follows:

- Height: 69 mm (2.7 in)
- Width: 176 mm (6.9 in)
- Depth: 240 mm (9.5 in)
- Weight: 3.8 kg (8.3 lb)

Operating environment

The tape drive is supported in the following environment:

- Temperature:
 - 10° to 40°C (50° to 104°F) at 0 to 914 m (0 to 3,000 ft)
 - 10° to 40°C (50° to 104°F) at 3048 m (10,000 ft)
- Relative humidity: 20% to 80% (noncondensing)
- Maximum altitude: 12,192 m (40,000 ft)

Warranty

The LTO Gen 6 Internal SAS Tape Drives have a one-year limited warranty. When installed in a supported server, the tape drive inherits the server's base warranty and any warranty upgrade.

The LTO cartridges are considered consumable media and are not covered by the product warranty.

Related publications

For more information, see the following resources:

- Lenovo product page for LTO tape drives:
<https://www3.lenovo.com/us/en/data-center/servers/server-options/system-x-options/server-storage/backup-and-archive-storage/lto-tape-drives/c/lto-drives>
- ServerProven pages for the Half High LTO Ultrium Gen 6 Internal SAS Tape Drive
<http://static.lenovo.com/us/en/serverproven/xseries/storage/tmatrix.shtml>
- Half High LTO Ultrium Gen 6 Internal SAS Tape Drive Installation and User Guide
<https://support.lenovo.com/docs/UM103464>

Related product families

Product families related to this document are the following:

- [Backup Units](#)

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This document, TIPS0978, was created or updated on May 5, 2020.

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