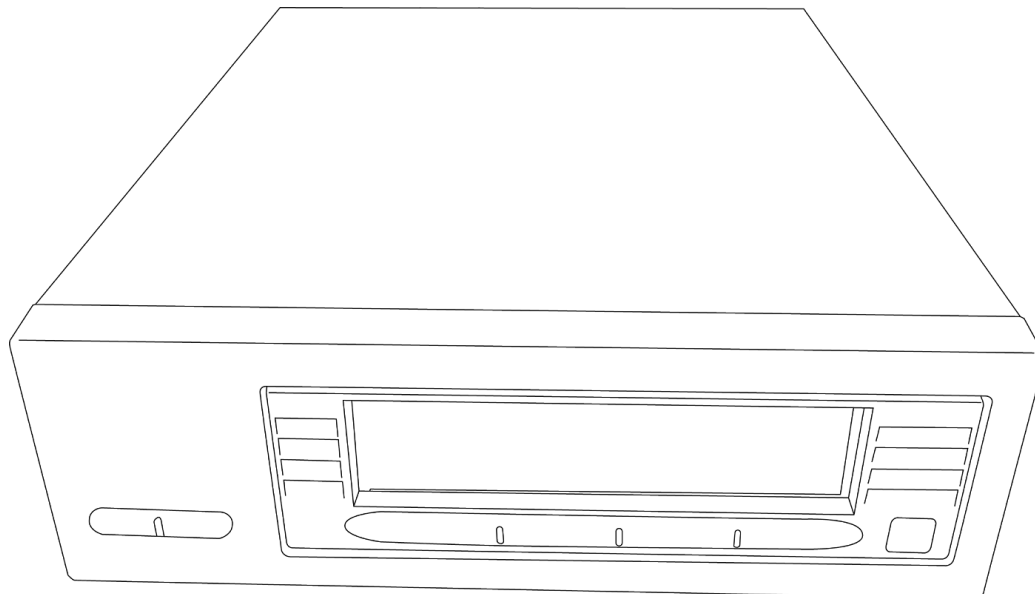


### Overview



### Introduction

The HP StorageWorks DLT 80 Tape Drive is a high-end DLT tape drive that provides up to a maximum 43.2 GB/hour backup data transfer rate and protects departmental and enterprise servers up to a maximum of 80 GB with a single data cartridge.

Fast, reliable 80 GB backup for departmental and enterprise servers offering advances in reliability, an improved native transfer rate, and flexible LVDS connectivity.

### Models

<b>HP StorageWorks DLT 80 Tape Drive</b>	DLT 80 Tape Drive, Internal, Worldwide (Carbon)	146196-B22
	DLT 80 Tape Drive, Internal, StorageWorks SBB	DS-TZ90N-VW
	DLT 80 Tape Drive, External, International (Carbon)	146197-B23
	DLT 80 Tape Drive, External, Japan (Carbon)	146197-293
	DLT 80 Tape Drive, 3U Rackmount, Worldwide (Carbon)	274332-B21
	<b>NOTE: Single drive installed in 3U Rackmount Kit.</b>	
	DLT 80, Dual-Drive, 3U Rackmount, Worldwide (Carbon)	274335-B21
	<b>NOTE: Two drives installed in 3U Rackmount Kit.</b>	
DLT 80 Tape Array III, 5U Rackmount, Worldwide (Carbon)	274337-B21	
<b>NOTE: Four drives installed in 5U Rackmount Kit.</b>		

### Key Features

- 40-GB native capacity, 80 GB with 2:1 compression
- 6 MB/s native transfer rate, up to 12 MB/s with 2:1 compression
- Internal and external models, with multiple options for rackmount configurations
- Standard industry SCSI interface, SE/LVD auto sense
- Support with HP Data Protector, VERITAS Backup Exec, Computer Associates ARCserve, Yosemite Tapeware, and Dantz Retrospect Backup
- Qualified behind Windows® NT® 4.0, Windows 2000, Novell NetWare, OpenVMS, HP Tru64 UNIX® , Caldera UnixWare, Caldera OpenServer, Caldera OpenUnix, Red Hat Linux, and SuSE Linux

# QuickSpecs

## HP StorageWorks DLT 80 Tape Drive

### Overview

#### Customer Benefits

- Performance 6 MB/s (native) provides the extra bandwidth needed to manage shrinking backup windows
- Investment protection Backup read/write compatible with previously written DLT media
- Industry Interface Fast-Wide LVD for easy connectivity to ProLiant Servers and AlphaServer Systems
- Rackmount-ready models for quick installation into ProLiant and AlphaServer racks
- SDLT 220 and 320 have read compatibility with media written in the DLT80 format

#### Family Comparison

	DLT 40	DLT 80	SDLT 220
Announce Date	Transfer Rate	2000	March 2001
Capacity (native)	20 GB	40 GB	110 GB
SCSI Interface	Fast SE	Fast-Wide SE/LVD	Ultra2, LVD
Buffer	4 MB	8 MB	32 MB
Firmware Upgradeable	Yes, with LTT	Yes, with LTT	Yes, with LTT
Maximum Drives per bus	2	2	2
MTBF	200,000 @ 80%	250,000 @ 100%	250,000 @ 100%
Transfer Rate	1.5 MB/s	6 MB/s	11 MB/s

# QuickSpecs

## HP StorageWorks DLT 80 Tape Drive

### Product Highlights

<b>Improved Speed and Capacity</b>	Performance and capacity enhancements of 6 MB/sec and 40-GB native capacity provides customers with the extra bandwidth and capacity needed to manage ever-shrinking backup windows without giving up the superior reliability that DLT technology has historically provided at high duty cycles.
<b>Tape Format</b>	Utilizes industry-standard DLT tape format.
<b>Compression</b>	Built-in LZ hardware compression for improved performance (2:1 compression typical).
<b>Compatibility and Integration Testing</b>	Fully tested on a variety of ProLiant Servers and AlphaServer systems from the new HP.
<b>Rackmount Tape Options</b>	Supported in 3U and 5U Rackmount Kits, allowing customer to install up to 2 internal DLT or SDLT drives in a 3U rackmount space or up to 4 internal DLT or SDLT drives in a 5U rackmount space, respectively. Standard configuration for 3U Rackmount Kit provides two internal SCSI buses (channels) supporting one DLT or SDLT drive per bus. Standard configuration for 5U Rackmount Kit provides two internal SCSI buses (channels) supporting up to 2 DLT or SDLT drives per bus. Optional cable kit permits user to extend from two to four internal SCSI buses in 5U Rackmount Kit, increasing the performance (data transfer rate) by allowing the customer to stream data to all four drives simultaneously. Please refer to "Rackmount Tape Drive Kits" QuickSpec for further information.
<b>HP Data Protection Tools</b>	Each HP tape drive is supported with multiple software applications and utilities that allow users to easily integrate and maintain their HP backup solutions. Software tools such as Library Tape Tools (LTT) and Insight Manager are available via web download from the HP.com Web site. Additional product information tools such as technology White Papers and Service Advisories can also be accessed through the HP.com Web site.
<b>DRTape Disaster Recovery Utility</b>	HP DRTape Disaster Recovery Utility is a data recovery tool which replaces the traditional recovery methods associated with manual downloads from floppy or CD-ROM. DRTape is a firmware driven software utility that provides a disaster recovery solution for ProLiant servers. Embedded in the firmware of each supported tape device, DRTape uses HP tape drives to emulate bootable drive devices, similar to floppy and CD-ROM drives. When implemented, DRTape can provide for the complete recovery of server software and data. The recovery process requires the use of only one tape cartridge, in conjunction with the SmartStart CD, and can typically be completed in less than an hour. <b>**NOTE: DRTape does not support HP Smart Array Controllers. Please see "HP DRTape Compatibility Matrix" at: <a href="http://h18006.www1.hp.com/products/storageworks/drtape/compatibility.html">http://h18006.www1.hp.com/products/storageworks/drtape/compatibility.html</a>.</b>
<b>HP StorageWorks Library and Tape Tools (L&amp;TT)</b>	The HP StorageWorks DLT 80 Tape Drive is supported on HP's industry-leading diagnostic tool - HP StorageWorks Library and Tape Tools (L&TT). L&TT is a single, convenient program that's a snap to install and simple to operate. L&TT's intuitive user interface eliminates the need for training and deploys in less than five minutes. This robust diagnostic tool is designed for both the experienced professional and the untrained administrator. It ensures product integrity through self-diagnostics and fast resolution to device concerns. Additional information on L&TT plus download information can be found at <a href="http://www.hp.com/support/tapetools">http://www.hp.com/support/tapetools</a>

### Compatibility

HP's extensive compatibility testing program assures that your HP StorageWorks DLT 80 tape drive works with leading servers, operating systems, and backup applications - and not just those sold by HP. HP DLT tape drives work seamlessly in many environments, making them especially suitable if you have a mixed system environment. For the latest list of servers, workstations, operating systems, and backup software that support HP DLT tape drives, check the tape backup compatibility pages on our web site at: <http://www.hp.com/go/connect>.

**HP Server Compatibility** The HP StorageWorks DLT 80 tape drives are supported on the following classes of HP systems:

- HP ProLiant DL servers
- HP ProLiant ML servers
- HP AlphaServers

For details of which tape drive models work with which systems, including third-party systems, visit <http://www.hp.com/go/connect> for the latest hardware compatibility information.

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### OS Support

Native Operating System Backup Applications:

- Microsoft Windows NT 4.0 & Windows 2000
- Novell NetWare
- HP Tru64 UNIX
- OpenVMS
- Linux - Red Hat, SuSE
- Caldera OpenUnix, OpenServer, UnixWare

**NOTE:** Please visit <http://www.hp.com/products1/storage/compatibility/tapebackup/software/index.html> for the latest compatibility information.

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### Backup Software Support ISV Backup Software Platforms

- VERITAS Backup Exec v8.5-9.0 for Windows NT/2000
- VERITAS Backup Exec v8.5-9.0 for NetWare
- Computer Associates ARCserve v2000- 9.0 for Windows NT/2000
- Computer Associates ARCserveIT v6.6-7.0 for NetWare
- Dantz Retrospect Backup v5.6-6.0 for Windows NT/2000 (Server & Workgroup version)
- HP Data Protector 5.0
- Yosemite Tapeware 7.0

**NOTE:** Please visit <http://www.hp.com/go/connect> for the latest compatibility information

# QuickSpecs

## HP StorageWorks DLT 80 Tape Drive

### Service and Support, HP Care Pack and Warranty Information

**Warranty** The warranty for this product consists of 3 years parts, 0 year labor, 0 year on-site.

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**Warranty Upgrade Options**

- Response – Upgrade on-site response from next business day to same day 4-hours
- Coverage – Extend hours of coverage from 5 days x 9 hours to 7 days x 24 hours

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**HP Care Pack Information** HP Care Pack is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage

- HP Care Pack is not available for less than the product's warranty duration
- HP Care Pack is available for sale anytime during the warranty period for most products, but the commencement date will be the same as the Warranty Start Date (delivery date to end user customer). Proof of purchase may be required
- HP Care Pack services are prepaid
- For additional HP Care Pack (hardware & software) information, as well as orderable part numbers, please refer to the URL listed below:

<http://h18005.www1.hp.com/services/carepaq/index.html>

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**Software Product Services**

- Stand-alone telephone support
- Rights to a new license
- Media and documentation updates

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**Hardware Product Services**

- Installation services
- On-site Maintenance (includes warranty support)
- Response time upgrades during the warranty period
- Post-warranty coverage
- RAID setup and performance consulting via statement of work

For additional hardware installation and maintenance information please refer to the URLs listed below:

<http://h18005.www1.hp.com/services/carepaq/us/install/>

<http://h18005.www1.hp.com/services/carepaq/us/hardware/>

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**Support Services** HP Services provides a three-year, limited warranty, fully supported by a worldwide network of resellers and service providers and 9x5 hardware technical phone support during the warranty period. In addition, available service offerings include a full range of optional packaged hardware and software services:

- Installation and start up
  - Extended coverage hours and enhanced response times
  - System management and performance services
  - Availability and recovery services
- 

**Components** The following brick level options/components do not have individual HP Care Pack Services. These items will be included in product HP Care Pack Services into which they are installed.

Disk Drives	Tape Drives	CD/DVD ROM	SCSI Hubs in SBBs	Adapters
Bus Converters	Backplane RAID Controllers	Power Supplies	Cabling	Fans

# QuickSpecs

## HP StorageWorks DLT 80 Tape Drive

### Options

#### Related Options

<b>Media</b>	HP DLT IV data cartridge (single cartridge)	C5141F
	HP DLT IV data cartridge (single cartridge – Europe only)	C5141L
	HP DLT cleaning cartridge (single cartridge)	C5142A

#### Host Bus Adapters and Controllers for ProLiant Servers

	<b>NOTE:</b> This is a list of supported controllers and adapters. Some may be discontinued.	
	Integrated Smart Array 5i Controller	N/A
	<b>NOTE:</b> This controller ships standard on the HP ProLiant DL380 G2 and DL380 G3 servers.	
	Smart Array 5i Controller	226593-B21
	Smart Array 5i Controller (Japan)	226593-291
	Smart Array 5i Plus Controller	264030-B21
	Smart Array 5i Plus Controller (Japan)	264030-291
	64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter	268351-B21
	64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter	154457-B21
	64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter	129803-B21
	64-Bit Dual Channel Wide Ultra2 SCSI Adapter	348757-B21

#### Host Bus Adapters and Controllers for Alpha Servers

	32-bit Single Channel	KZPBA-CA
	32-bit to LVD Single Channel SCSI LSI SYM 8952Uia	SN-KZPCA-AA
	32-bit to LVD Single Channel SCSI LSI SYM 8952Uia	3X-KZPCA-AA
	32-bit Single Channel LSI SYM 8951Uia	30-56041-01
	Comb SCSI/Ether Dual Channel	KZPCM-DA
	64-bit Dual Channel	3X-KZPEA-DB
	Combo SCSI/Video/Ethernet	3X-DEPVZ-AA

#### Rackmount Options

	3U Rackmount Kit, Worldwide	274338-B21
	<b>NOTE:</b> Please refer to web page for further information: <a href="http://h18006.www1.hp.com/products/storageworks/3urackmount/index.html">http://h18006.www1.hp.com/products/storageworks/3urackmount/index.html</a>	
	5U Rackmount Kit, Worldwide	274339-B21
	<b>NOTE:</b> Please refer to web page for further information: <a href="http://h18006.www1.hp.com/products/storageworks/5urackmount/index.html">http://h18006.www1.hp.com/products/storageworks/5urackmount/index.html</a>	
	Alpha Rail Kit	254795-001
	<b>NOTE:</b> Rail Kit is required for installation of 5U Rackmount Kit or DLT 80 Tape Array III into AlphaServer rack.	
	3U Alpha Rail Kit (6-3)	280571-001
	<b>NOTE:</b> Rail Kit is required for installation of 3U Rackmount Kit, single-drive rackmount, or dual-drive rackmount configuration into AlphaServer rack.	
	3U Alpha Rail Kit (2-5-2)	3R-A3804-AA
	<b>NOTE:</b> Rail Kit is required for installation of 3U Rackmount Kit, single-drive rackmount, or dual-drive rackmount configuration into AlphaServer rack.	

# QuickSpecs

## HP StorageWorks DLT 80 Tape Drive

### Options

<b>Cable Kits</b>	LVD Cable Kit, 68-pin HD/VHDCI <b>NOTE: Internal and external cables.</b>	168048-B21
	LVD Cable Kit, 68-pin HD/68-pin HD <b>NOTE: Internal and external cables.</b>	242381-B21
	68-pin HD/VHDCI, 12 ft/3.66 m <b>NOTE: External Cable only.</b>	341177-B21
	68-pin HD/VHDCI, 16.40 ft/5 m <b>NOTE: External Cable only.</b>	328215-001
	68-pin HD/VHDCI, 12 ft/3.66 m <b>NOTE: External Cable only.</b>	328215-002

### Kit Contents

Model	Kit Contents Description	Part Number
<b>DLT 80 Internal</b>	Contains one DLT 80 tape drive, one DLT IV data cartridge, one DLT Cleaning Cartridge, one internal 2-Device Ribbon Cable, Terminator, User's Guide on CD, Warranty Card, and Native Drivers on CD.	146196-B22
<b>DLT 80 External (Int'l)</b>	Contains one DLT 80 tape drive enclosed in an external housing, one DLT IV data cartridge, one DLT Cleaning Cartridge, one external 6 Wide to VHDCI cable, one external 6 Wide to 68-pin HD cable, one external 3 Wide to 68-pin HD cable, Terminator, Power Cord, User's Guide on CD, Warranty Card, and Native Drivers on CD.	146197-B23
<b>DLT 80 External (Japan)</b>	Contains one DLT 80 tape drive enclosed in an external housing, one DLT IV data cartridge, one DLT Cleaning Cartridge, one external 6 Wide to VHDCI cable, one external 6 Wide to 68-pin HD cable, one external 3 Wide to 68-pin HD cable, Terminator, Power Cord, User's Guide on CD, Warranty Card, and Native Drivers on CD.	146197-293
<b>DLT 80 SBB</b>	Contains one DLT 80 tape drive enclosed in a StorageWorks SBB Top Gun Blue housing, one DLT IV data cartridge, one DLT Cleaning Cartridge, and SBB User's Guide.	DS-TZ90N-VW
<b>DLT 80, 3U Rackmount</b>	Wide SCSI LVD rack-mountable enclosure (3U) with power supply and fan, one internal DLT 80 tape drive, one DLT IV data cartridge, one DLT cleaning cartridge, Power Cord, Native Drivers on CD, User's Guide on CD, and Documentation.	274332-B21
<b>DLT 80, Dual-Drive, 3U Rackmount</b>	Wide SCSI LVD rack-mountable enclosure (3U) with power supply and fan, two internal DLT 80 tape drives, two DLT IV data cassettes, one DLT cleaning cassette, Power Cord, Native Drivers on CD, User's Guide on CD, and Documentation.	274335-B21
<b>DLT 80 Tape Array III, 5U Rackmount</b>	Wide SCSI LVD rack-mountable enclosure (5U) with power supply and fan, four DLT 80 tape drives, four DLT IV data cassettes, one DLT cleaning cassette, two SCSI cables, Power Cord, Native Drivers on CD, User's Guide on CD, and Documentation.	274337-B21

# QuickSpecs

## HP StorageWorks DLT 80 Tape Drive

### Technical Specifications

<b>Protocol Support</b>	Fast-Wide, SE/LVD, auto sensing interface		
<b>Dimensions</b> (H x W x D)	<b>Physical</b> (HxWxD)	Internal	3.4 x 5.87 x 9.8 in/ 8.64 x 14.91 x 24.89 cm
		External	6.48 x 6.8 x 12.62 in/16.46 x 17.27 x 32.05 cm
	<b>Shipping</b> (LxWxH)	Rackmount (1 and 2-Drive)	5.2 x 16.8 x 23 in/13.2 x 42.7 x 58.4 cm
		Rackmount (4 Drive)	8.75 x 19 x 18.125 in/22.2 x 48.26 x 46 cm
		Internal	15.25 x 13.25 x 12 in/38.7 x 33.6 x 30.5 cm
		External	19.6 x 17.25 x 13.25 in/49.7 x 43.8 x 33.6 cm
		Rackmount (1 and 2-Drive)	15.75 x 23.75 x 33.50 in/40.005 x 60.325 x 85.09 cm
		Rackmount (4 Drive)	32.25 x 15.38 x 31 in/81.92 x 39.07 x 78.74 cm
<b>Weight</b>	<b>Out of box</b>	Internal	6.4 lb (2.9 kg )
		External	14 lb (6.7 kg)
		Rackmount (1 Drive)	33.6 lb (15.3 kg)
		Rackmount (2 Drive)	40 lb (18.2 kg)
	<b>Shipping</b>	Rackmount (4 Drive)	56.6 lb (25.7 kg)
		Internal	12 lb (5.44 kg)
		External	18 lb (8.16 kg)
		Rackmount (1 Drive)	53.6 lb (24.4 kg)
		Rackmount (2 Drive)	60 lb (27.3 kg)
		Rackmount (4 Drive)	85.6 lb (38.82 kg)
<b>Internal Cables</b>	<b>Internal Options contain:</b> 2-Device ribbon cable with LVD/SE terminator.		
<b>External Cables</b>	<b>External Options contain:</b> 6 ft 68-pin HD to VHDCI External Cable, 6 ft 68-pin HD to 68-pin HD External Cable, 3 FT 68-pin HD to 68-pin HD External Cable.		
	<b>Rackmount Models Only</b> - must be ordered separately: LVD Cable Kit, 68-pin HD/VHDCI, LVD Cable Kit, 68-pin HD/68-pin HD, 68-pin HD/VHDCI, 12 ft, 68-pin HD/68-pin HD, 5 m, 68-pin HD/68-pin HD, 10 m		
<b>Transfer Rates</b>	<b>Without Compression</b>	6 MB/s	
	(maximum)		
	<b>Without Compression</b>	4.5 MB/s	
	(typical)		
	<b>2:1 Compression Ratio</b>	43.2 GB/hr	
	(maximum)		
	<b>2:1 Compression Ratio</b>	32.4 GB/hr	
	(typical)		



# QuickSpecs

## HP StorageWorks DLT 80 Tape Drive

### Technical Specifications

<b>Data Access Time</b>	<b>Average file access</b>	60 seconds
	<b>Average load time</b>	37 seconds
	<b>Mean Time to Data</b>	97 seconds
<b>Reliability</b>	<b>MTBF</b>	250,000 hours @ 100% duty cycle
	<b>Head Life</b>	30,000 Hours
<b>Tape Format</b>	<b>Recording Method</b>	Serpentine
	<b>Recording Format</b>	ECMA-236, DDS3
	<b>Data Compression</b>	Lempel-Ziv (LZ)
	<b>Error Detection/Correction</b>	Reed Solomon (3 Levels)
<b>Input Requirements</b>	<b>Power-Internal typical/maximum state</b>	28 Watts steady
	<b>Power-External typical/maximum</b>	56 Watts
	<b>Voltage</b>	100 to 240 VAC
	<b>Frequency</b>	50 to 60 Hz
	<b>Power</b>	+5V±5%/+12V±10%
<b>Maximum Number of Drives</b>	For best performance only 2 drives per bus	
<b>Media</b>	DLT Type IV	
<b>Load/Unload Time</b>	40 Sec/12 Sec	
<b>Error Detection/Correction</b>	Reed Solomon	
<b>Maximum Number of Drives</b>	2 Per Server	
<b>Relative Humidity (non-condensing)</b>	<b>Operating</b>	20% to 80%
	<b>Shipping</b>	5% to 95%
<b>Temperature Range</b>	<b>Operating</b>	50° to 104° F (10° to 40° C)
	<b>Shipping</b>	-32° to 150.8° F (-40° to 66° C)

### DLT 80 Rackmount Models Specifications

	Single/Dual-Drive Models	DLT 80 Tape Array III
<b>Protocol Support</b>	Wide SCSI LVD/SE	Wide SCSI LVD/SE
<b>Form Factor</b>	3U, Rackmount	5U, Rackmount
<b>LED Indicators (On Front Panel)</b>	(1) Power Supply LED	(1) Power Supply LED, (1) Service Required LED
<b>Cable Type (External)</b>	Not Included (Please refer to section entitled "Related Options")	(2) 12ft. 68-pin HD-to-VHDCI
<b>External Connector Type/Quantity</b>	68-pin High-Density (HD)/2 Wide SCSI Connectors	68-pin High-Density (HD)/2 Wide SCSI Connectors (Can increase to 4 connectors with Optional LVD Cable Kit)
<b>Maximum Number of Devices/Ports</b>	2 internal SCSI buses (channels) supporting 1 drive per SCSI bus	2 internal SCSI buses with up to 2 drives per SCSI bus; Optional LVD cable kit can increase unit to 4 internal SCSI buses with 1 drive per bus
<b>Maximum Number of Drives</b>	2 Full-Height (DLT & SDLT)	4 Full-Height (DLT & SDLT)
<b>Tape Drive (Installed)</b>	DLT 80 (1 or 2 drives installed)	DLT 80 (4 drives installed)
<b>Capacity</b>	Up to 80 GB Native Capacity	160 GB Native Capacity
<b>Transfer Rate (maximum)</b>	Up to 12 MB/s	24 MB/s

# QuickSpecs

## HP StorageWorks DLT 80 Tape Drive

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### *Technical Specifications*

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