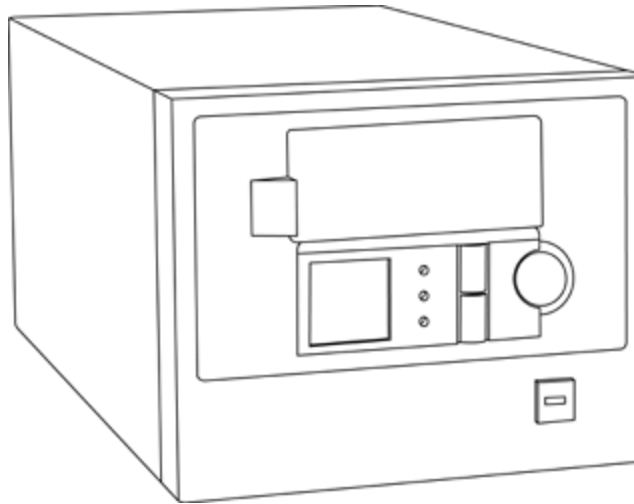


### Overview



The HP StorageWorks DAT 40x6 Tape Autoloader is an ideal solution for IT professionals of small to medium ranged networks as well as enterprise systems for data backup. By lowering administrative tasks, it not only eases the backup process but reduces the risk of error as well. The autoloader is a tape drive inside an enclosure which holds several cassettes. With the ability to store up to 40 GB per cassette and with six holders, this DAT tape autoloader provides a quick, efficient mechanism for storing information and reducing the administrator's workload. The DAT 40x6 Tape Autoloader has the unique HP One-Button Disaster Recovery (OBDR) which ensures a system's restoration without having to look for numerous backup disks and software applications. Tape Autoloaders are designed for low-end users where an administrator loads the tape into the drive, and then the autoloader backs up all of the information for up to an entire week. The first day all of the data is stored, and throughout the rest of the week the autoloader does backup for the system, and a cleaning on the last day. The software can be customized to each customer's satisfaction for what works best for their network. Additional reliability features include HP StorageWorks Library and Tape Tools (L&TT) for troubleshooting and TapeAlert for monitoring the drive and media.

### What's New

- New Brand: HP StorageWorks
- ProLiant & AlphaServer Model Numbers (see below)

### Models

HP StorageWorks DAT 40x6 Autoloader for ProLiant and AlphaServer Systems	DAT 40x6 Autoloader (Internal)	Q1550A
	DAT 40x6 Autoloader (External)	Q1551A
	DAT 40x6 Autoloader (External)	Q1552A

HP StorageWorks DAT 40x6 Autoloader for Open Connect	DAT 40x6 Autoloader for Open Connect (Internal)	C5716A
	DAT 40x6 Autoloader for Open Connect (External)	C5717C
	DAT 40x6 Autoloader for Open Connect (Trade Ready)	C5715A

**NOTE:** The HP StorageWorks DAT 40x6 Tape Autoloader includes an integrated DDS-4 drive and changer mechanism with convenient access to an six cassette magazine, allowing you to develop a media management tape rotation scheme for scheduled backups of servers 40 GB or less.

### Key Features

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**Industry Standard  
DDS-4**

The DDS-4 technology has a drum rotation speed of 8,503 rpm while the tape moves at 11.6 mm/s. Features of the format allow a linear bit density greater than DDS-3, which increases transfer rate and capacity.

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**Investment Protection**

The HP StorageWorks DAT 40x6 Tape Autoloader uses a compatibility mode to read and write DDS-1, DDS-2, DDS-3 and DDS-4 tapes. This offers investment protection for users who have standardized with the DAT technology. Users will also have the ability to restore archived media from previous backups and interchange with previously shipping DDS-3 six and eight cassette tape autoloader drives.

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**Lowers TCO with  
Automation**

Automated DAT backup systems offer lower total cost of ownership with a higher storage capacity and performance than a stand alone tape backup drive and is targeted at the price sensitive environments.

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**HP One Button Disaster  
Recovery (OBDR)**

The HP StorageWorks DAT 40x6 Tape Autoloader has been improved with the added feature of OBDR. OBDR ensures that in case of a system failure, you will be able to restore your system with a single button.

This feature puts the tape drive into a special disaster recovery mode that enables it to act as a bootable CD to restore the operating system and reboot the server or workstation.

What is One Button Disaster Recovery? A tape autoloader that can:

- Under Disaster Recovery situations, ID itself as a boot device
  - Hold enough information to bring the system up for an OBDR restore from tape
  - Reduce the risk of a user error during recovery, and therefore subsequent recovery failure
  - Is completely self contained in that it needs no other software or CD's to restore the system
- 

**Software Support**

For the latest version of compatibility information for this product please refer to the following Web site:  
<http://www.hp.com/go/connect>.

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**HP StorageWorks Library  
and Tape Tools (L&TT)**

The DAT 40x6 Autoloader 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

<http://www.hp.com/support/tapetools>.

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**Rackmount Tape Options**

Supported on HP StorageWorks 3U Rackmount Kit. Allows customer to install up to 2 internal DAT Tape Autoloaders in a 3U rackmount space. Standard configuration provides two internal SCSI buses (channels) supporting 1 DAT Autoloader per bus. Please refer to the HP StorageWorks Rackmount Tape Drive Kits for HP ProLiant and AlphaServer QuickSpecs for further information at: [http://h18000.www1.hp.com/products/quickspecs/10854\\_div/10854\\_div.html](http://h18000.www1.hp.com/products/quickspecs/10854_div/10854_div.html).

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

**Warranty** Hewlett-Packard provides a three-year, limited warranty, together with phone support for the duration of the warranty.

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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
  - Duration – Select duration of coverage for a minimum period of 1 year or multiple years
- 

**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 <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/cp\\_storage.html](http://h18005.www1.hp.com/services/carepaq/us/install/cp_storage.html)  
[http://h18005.www1.hp.com/services/carepaq/us/hardware/cp\\_storage.html](http://h18005.www1.hp.com/services/carepaq/us/hardware/cp_storage.html)

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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 toll-free 7 x 24 hardware technical phone support during the warranty period. In addition, available service offerings include a full range of HP Care Pack 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

### Compatibility

**HP Server Compatibility** The HP StorageWorks DAT 40x6 Tape Autoloader is supported on the following classes of HP systems:

- HP ProLiant DL servers
- HP ProLiant ML servers
- HP AlphaServers
- HP 9000 servers

**NOTE:** 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.

### Options

#### Related Options

**NOTE:** This is a list of related options. Some may be discontinued.

<b>Host Bus Adapters and Controllers for Intel® Based Servers</b>	64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter	268351-B21
	64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS	284688-B21

<b>Host Bus Adapters and Controllers for AlphaServers</b>	32-bit Single Channel UltraWide HBA	KZPBA-CA
	32-bit Single Channel LVD LSI SYM 8952Uia HBA	SN-KZPCA-AA
	32-bit Single Channel LVD SCSI LSI SYM 8952Uia HBA	3X-KZPCA-AA
	32-bit Single Channel LSI SYM 8951Uia	30-56041-01
	Comb SCSI/Ether Dual Channel	KZPCM-DA
	64-bit Dual Channel Ultra 3 LVD HBA	3X-KZPEA-DB
	Combo Ultra2 SCSI/2D Video/10-100 Ethernet	3X-DEPVZ-AA

<b>Media</b>	HP DDS-4 Data Cartridge, 40 GB	C5718A
	DAT Cleaning Cassette	C5709A
	6 Cassette Magazine W/5 Data Cassette and 1 Cleaning Cassette	C1571A

<b>Rackmount Options</b>	HP StorageWorks 3U Rackmount Kit <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>	274338-B21
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<b>Cable Kits</b>	LVD Cable Kit, 68-Pin HD/VHDCI <b>NOTE:</b> Internal & external cables.	168048-B21
	LVD Cable Kit, 68-Pin HD/68-Pin HD <b>NOTE:</b> Internal & external cables.	242381-B21
	68-pin HD/VHDCI, 12 ft/3.66 m <b>NOTE:</b> External cables only.	341177-B21
	68-pin HD/68-Pin HD, 16.40 ft/ 5 m <b>NOTE:</b> External cables only.	328215-001
	68-pin HD/68-Pin HD, 32.81 ft/10 m <b>NOTE:</b> External cables only.	328215-002

<b>HP Care Pack Options</b>	<b>NOTE:</b> In order to provide ease of installation, maximize uptime and ROI, HP provides a range of upgradeable service options.	
	Tape Installation <b>NOTE:</b> HP recommends that customers take advantage of the Installation service (U2090A/E) when incorporating this product into their system. This service will ensure that the product is configured, and usable for back up, in the minimum possible time.	U2090A/E
	HW, "3-year", "next-day", "9 x 5", "on-site"	H3155A/E
	HW, "3-year", "4-hour", "13 x 5", "on-site"	H4616A/E
	HW, "3-year", "4-hour", "24 x 7", "on-site"	U2068A/E
	<b>NOTE:</b> In order to maximize ROI and product uptime, and minimize the cost of ownership, HP recommends the 3-year, 24 x 7 service options. This offering will ensure that any product issue can be tackled when they occur (most back up issues will occur outside standard business hours) and that the service coverage regarding period, covers the minimum expected life of the host system. <b>NOTE:</b> 'A' signifies a physical HP Care Pack, 'E' signifies an electronic HP Care Pack.	

### Options

#### Kit Contents

Model Name	Kit Contents Description	Part Number
DAT 40x6 Autoloader, Internal	HP StorageWorks DAT 40x6 Autoloader for ProLiant and AlphaServer Systems, Internal	Q1550A
DAT 40x6 Autoloader for Open Connect, Internal	HP StorageWorks DAT 40x6 Autoloader for Open Connect, Internal	C5716A
DAT 40x6 Autoloader, External	HP StorageWorks DAT 40x6 Autoloader for ProLiant and AlphaServer Systems, External	Q1551A
DAT 40x6 Autoloader, External	HP StorageWorks DAT 40x6 Autoloader for ProLiant and AlphaServer Systems, External	Q1552A
DAT 40x6 Autoloader, External	HP StorageWorks DAT 40x6 Autoloader for Open Connect, External	C5717C
DAT 40x6 Autoloader for, Trade Ready	HP StorageWorks DAT 40x6 Autoloader for Open Connect, Trade Ready	C5715A

#### **Kit Contents (for each autoloader):**

Installation Guide

HP StorageWorks Tape CD-ROM (containing electronic User's Guide, drivers, and HP Tape Tools software diagnostics)

Yosemite Technologies CD (containing HP One-Button Disaster Recovery-capable version of TapeWare desktop and server backup software with autoloader functionality, supporting Windows® 95/98, Windows NT Workstations, Windows NT® Server, Windows 2000, NetWare and Red Hat Linux)

Warranty registration card

DDS autoloader magazine preloaded with five HP DDS-4 data cartridges and one HP DDS cleaning cartridge

SCSI cable (68-pin to 68-pin, LVD/SE Ultra2, 1.5 meter)

LVD/SE SCSI multi-mode terminator

Power cable

### Technical Specifications

**Liquid Crystal Display (LCD)** The dot matrix front panel information display provides user-friendly information on the autoloader's operating status, potential error conditions, current cassette and magazine status.

**Recommended Maximum Server Size** 40 GB

<b>Performance Specification</b>	<b>Native</b>	Maximum	21.6 GB/hour
		Typical	10.8 GB/hour
	<b>2:1 Compression</b>	Maximum	43.2 GB/hour
		Typical	21.6 GB/hour

**NOTE:** Typically, users will be able to compress their data at a 2 to 1 ratio; however, compression ratios will vary based on the type of data being compressed.

**Cartridge Swap Time** 98 seconds/average

**Load Time** 14 seconds/average

**Unload Time** (depending on tape type and position) 43 seconds to 98 seconds

**Search Speed** 40 seconds average file access for any part of a 150 meter tape

**Power Requirement** 5V ±5%, 12V ±10%

**Media** 6-Cassette Magazine

**Maximum Formatted Capacity (unattended)** **Without compression** 120 GB

**Based on typical 2:1 compression ratio** 240 GB

**NOTE:** Typically, users will be able to compress their data at a 2 to 1 ratio; however, compression ratios will vary based on the type of data being compressed.

**Mechanical Measurements** **Tape Width** 0.15 in (0.38 cm)

**Tape Length** 492 ft (150 m)

**Dimensions (HxWxD)**

**Physical**

Internal	3.25 x 5.75 x 8 in (8.3 x 14.6 x 20.3 cm)
External	8.3 x 6.5 x 10.6 in (13.5 x 16.5 x 26.9 cm)
Trade Ready	8.3 x 6.5 x 10.6 in (13.5 x 16.5 x 26.9 cm)

**Shipping**

Internal	10.9 x 12.5 x 18.5 in (27.5 x 31.5 x 46.5 cm)
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External	12.9 x 13.7 x 20.6 in (32.5 x 34.5 x 52 cm)
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Trade Ready	12.9 x 13.7 x 20.6 in (32.5 x 34.5 x 52 cm)
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**Physical**

Internal	4.8 lb (2.1 kg)
External	10.56 lb (4.65 kg)
Trade Ready	10.56 lb (4.65 kg)

**Shipping**

Internal	11 lb (5 kg)
External	17.6 lb (8 kg)
Trade Ready	17.6 lb (8 kg)

**Tape Speed** **Read/Write** 0.46 ips/11.6 mm/s

**Head to Tape Speed** 262 ips/6,670 mm/s

**Rewind/Fast Forward** 130 x Read/Write Speed

### Technical Specifications

<b>Tape Format</b>	<b>Recording Method</b>	Helical Scan
	<b>Bytes/Group</b>	38,4296
	<b>Data Frame/Group</b>	22
	<b>Density/Inch</b>	122,000
	<b>Flux Reversal/Inch</b>	1,524,000
	<b>Track Density/Inch</b>	2,793
	<b>Data Encoding Method</b>	PRML
	<b>Data Transfer Rate</b>	3MB/s
	<b>Error Detection/ Correction</b>	Reed-Solomon-3 levels
	<b>Reliability Cartridge Swaps</b>	> 160,000
	<b>MTBF</b>	100,000 hours at 30% duty cycle

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