

Overview

DAT tape drive that utilizes DDS-3 technology to perform up to 1.2 MB/sec or 4.2GB/hr (native); a new automatic head cleaning system reduces the need for cleaning; protects servers up to 24GB in capacity.

12/24-GB DAT Drive Models	12/24-GB DAT Drive, Internal	
	12/24-GB DAT Drive, Internal (Opal)	295513-B22
	12/24-GB DAT Drive, SBB	295513-B22
	12/24GB DAT Drive, Internal (Top Gun Blue)	TLZ10-LB
	12/24GB DAT Drive, Internal (Frost White)	TLZ10-LK
	12/24GB DAT Drive, Internal (Frost White, Alpha Workstations)	SN-TLZ10-LK
	12/24-GB DAT Drive, External	
	12/24-GB DAT Drive, External	DS-TLZ10-DB
	3U Rackmount Kit	
	3U Rackmount Kit, Worldwide (for internal drive models only)	274338-B21

Models Feature List

- Automatic Head Cleaning
 - Transfer rate up to 1.2 MB/sec or 4.2GB/hr (native)
 - Industry Standard DDS-3 Technology
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Customer Benefits

DAT tape drive that utilizes DDS-3 technology to perform up to 1.2 MB/sec or 4.2GB/hr (native); a new automatic head cleaning system reduces the need for cleaning; protects servers up to 24GB in capacity.

12/24GB DAT Drive Customer benefits include:

- Easy Installation and Servicing with 24 hour exchange
 - 1.2 MB/sec or 4.2 GB/hr data transfer (native)
 - Backward compatibility with DDS-1 and DDS-2 media
 - Supported under Windows® NT®, Windows 2000, NetWare, Tru64 UNIX®, OpenVMS, Linux, SCO Unix, and Sun Solaris
 - Compatible with VERITAS, Computer Associates Software and Dantz Retrospect software
 - Supported in StorageWorks 3U Rackmount Kit capable of accommodating up to four DAT drives in a 3U rackmount space
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Key Features

- 12GB Native Capacity, 24GB with 2:1 Compression
- 1.2 MB/sec native data transfer speed
- Internal, External and SBB configurations available
- Small form-factor, half-height built out to 5 1/4 inches
- Disaster Recovery Supported

Product Highlights

Improved Reliability	New advancements in tape technology have produced a tape drive, which requires less cleaning and provides improved backup/restore operations.
Automated Head Cleaning	Some of the improvements include an automatic rotating head cleaning sweeper that can be used during the write or read recovery procedure to dislodge debris from the tape path and recording heads and drive.
Performance	This version of the industry standard DDS-3 DAT drive provides up to 1.2 MB/sec or 4.2 GB/hr data native transfer rate.
Industry-Standard DDS-3	DDS-3 format has a drum rotation speed of 4251 rpm while the tape moves at 11.6 mm/sec. Features of the format and implementation of it allow a linear bit density, which is double that of DDS-2, achieving a greater transfer rate and capacity.
Compression	Built-in hardware compression
Rackmount Tape Options	Supported on StorageWorks 3U Rackmount Kit. Allows customer to install up to 4 internal DAT drives in a 3U rackmount space. Standard configuration provides two internal SCSI buses (channels) supporting up to 2 internal DAT drives per bus. Optional cable kit permits user to extend from two to four internal SCSI buses, 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.
Operating Environment Support	Windows NT/2000, NetWare v5.x, Tru64 Unix v4.0x and v5.1, OpenVMS v7.1-2 and v7.2-1, Linux Red Hat v6.2 and v7.0, SCO Open Server 5.0x, Sun Solaris v8.0
Disaster Recovery - DRTape	<p>The 12/24-GB DAT tape drive has been improved with the added feature of DRTape**. DRTape insures that in case of a system failure, you will be able to restore your system from a single tape.</p> <p>What is Disaster Recovery: A 12/24-GB DAT Tape Drive that can:</p> <ul style="list-style-type: none">● Under Disaster Recovery (DR) situations, ID itself as a boot device● Hold enough information to bring the system up for a DR restore from tape● Is completely self-contained in that it needs no other software or CDs to restore the system. <p>**NOTE: DRTape does not support Smart Array Controllers. Please see "DRTape Compatibility Matrix" at: http://h18000.www1.hp.com/products/StorageWorks/drtape/compatibility.html for further information regarding the minimum requirements for operating DRTape.</p> <p>NOTE: This Web site is available in English only.</p>
Manageability	<p>Supported through HP Insight Manager, alerting the administrator when tape status changes or when rewrite/reread thresholds are exceeded.</p> <p>This utility allows customers to monitor their tape drives for pre-failure analysis and allows customers to upgrade their tape drive firmware when necessary.</p>
Qualified with SANworks Data Protection Suite for Tape Utilities	Complete set of Data Protection Tools focused on simplifying the process of configuring, implementing, and maintaining a data protection strategy. Includes software applications such as Tape Storage Management Console and Insight Manager, as well as product information tools including technology White Papers, Service Advisories, and the Storage Products CD. For information on the Data Protection Software Suite, please check the "Related Options" section of this QuickSpec or visit the Web site at: http://h18000.www1.hp.com/storage/software.html .

Product Highlights

Compatibility and Integration Testing

HP's 12/24-GB DAT tape drives are fully supported and compatible with HP Servers and controllers. HP thoroughly tests products with leading software and operating systems, including VERITAS Backup Exec, CA ARCserve and Dantz Retrospect.

Software Supported

Veritas Backup Exec v8.6 for Windows NT/2000
Veritas Backup Exec v8.5 for NetWare
Computer Associates ARCserve v7.0 for Windows NT
Computer Associates ARCserve v7.0 for NetWare
Computer Associates ARCserve 2000 for Windows 2000
Dantz Retrospect Backup v5.6 (Server and Workgroup versions) for Windows NT/2000

Media Support

60 Meter Tape (DDS) 1.3GB native capacity, 2.6GB with 2:1 data compression
90 Meter Tape (DDS-1) 2.0GB native capacity, 4GB with 2:1 data compression
120 Meter Tape (DDS-2) 4GB native capacity, 8GB with 2:1 data compression
125 Meter Tape (DDS-3) 12GB native capacity, 24GB with 2:1 data compression

Software Components

SmartStart

The server configuration and software integration tool from HP.

CS Support

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

Warranty

3-0-0 (Three year parts)
The remaining warranty of the HP Server product in which it is installed (to a maximum three-year warranty)

Service and Support, HP Care Pack and Warranty Information

Software Product Services

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

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/hardware/cp_storage.html

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

Sample part numbers:

3 year, uplift to 5 x 9, Next Day Response

FM-**XHW-36

3 year, uplift to 5 x 9, 4-hour Response

FM-**4HR-36

3 year, uplift to 7 x 24, 4-hour Response

FM-**724-36

** Represents a two-digit, product-specific code

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>

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

Server and Tape Compatibility

ProLiant Servers	Internal	External
DL360		X
DL380	X	X
DL380 G2		X
DL580	X	X
PL8500		X
ML 330	X	X
ML350	X	X
ML370	X	X
ML530	X	X
ML570	X	X
PL8000	X	X
CL380	X	X
CL1850	X	X
Deskpro AP250, 300	X	X
Professional WS AP550, SP750	X	X

Host Bus Adapters and Controllers for Intel Based Servers	64-bit Dual Channel	348757-B21
	Dual Channel Ultra III	129803-B21
	Dual Channel 64-bit Wide Ultra3	127693-001
	Single Channel 64-bit Wide Ultra3	154457-B21

AlphaServer and Tape Compatibility

AlphaServers	Internal	External
Alpha Server 4100	X	X
AlphaServer DS10	X	X
AlphaStation DS10	X	X
XP900	X	X
XP1000	X	X
PWS 500a/au	X	X
DS10L		X
AlphaServer DS20E	X	X
Alphastation DS20E	X	X
AlphaServer ES40	X	X
Alphastation ES40	X	X
GS60E	X*	
GS140	X*	

* NOTE: SBB's only (DS-TLZ10-VA).

Host Bus Adapters and Controllers for AlphaServers	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
	Comb SCSI/Ether Dual Channel	KZPCM-DA
	Combo Ultra2 SCSI/2D Video/10-100 Ethernet	3X-DEPVZ-AA

Configuration Information

Step 1 - Base Configuration

Select one:

	Model Description	Part Number
12/24GB DAT, Internal	12/24GB DAT drive, 1 data cassette, 1 cleaning cassette, mounting bracket, warranty card, English documentation, internal cables.	295513-B22 TLZ10-LB TLZ10-LK SN-TLZ10-LK
12/24GB DAT, Table Top	12/24GB DAT drive enclosed in an external housing, 1 data cassette, 1 cleaning cassette, warranty card, English documentation, external cables, US power cord.	DS-TLZ10-DB
12/24GB DAT, SBB	12/24GB DAT drive enclosed in an SBB housing, 1 data cassette, 1 cleaning cassette, warranty card, English documentation.	DS-TLZ10-VA

Related Options

Media	HP DDS-2 8GB 120m Data Cartridge, 1 pack	C5707A
	HP DDS-3 24GB 125m Data Cartridge, 1 pack	C5708A
	HP DDS-4 40GB 150m Data Cartridge, 1 pack	C5718A
	NOTE: The HP DDS-3 Data Cartridge is recommended.	
	HP DDS Cleaning Cartridge, 1pk	C5709A

Tape Storage Software	Data Protection Software Suite	259596-B21
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Rackmount Tape Options & Cable Kits	3U Rackmount Kit, All (Please refer to "Rackmount Tape Drive Kits" QuickSpec for further information)	274338-B21
	LVD Cable Kit, 68-Pin HD/VHDCI (Internal & External Cables)	168048-B21
	LVD Cable Kit, 68-Pin HD/68-Pin HD (Internal & External Cables)	242381-B21
	68-Pin HD/VHDCI, 12ft (External Cable only)	341177-B21

Technical Specifications

	20/40-GB DAT	12/24-GB DAT	4/8-GB DAT
Announce Date	Oct 1999	June 1998	April 1996
Capacity (native)	20 GB	12 GB	4 GB
SCSI Interface	Ultra2, LVD	Fast-Wide/ SE	Single ended
Connector Type	Wide 68-pin	Narrow 50-pin	Narrow 50-pin
Buffer	2 MB non-parity	1 MB non-parity	1 MB non-parity
Firmware Upgradable	Yes with TSMC	Yes with TSMC	Yes with TSMC
Maximum Drives per bus	5	5	5
MTBF	>250,000 @ 30%	>200,000 @ 20%	>200,000 @ 20%
Transfer Rate (native)	2.4 MB/s	1.2 MB/s	750 KB/s

Transfer Rates	Native (maximum)	4.2 GB/hr
	Native (typical)	2.1 GB/hr
	2:1 Compression (maximum)	8.4 GB/hr
	2:1 Compression (typical)	4.2 GB/hr
Data Access Time	Average Load/Unload swap time	<32 seconds
	Search Speed	Average of 45 seconds to any point on a 125 meter tape
Dimensions (HxWxD)	Internal	1.6 x 4.0 x 5.75 in (4.06 x 10.16 x 14.61 cm)
	External (TLZ10-DB)	2.06 x 6.29 x 11.81 in (5.23 x 15.98 x 30 cm)
	SBB (TLZ10-VA)	1.6 x 4.0 x 5.8 in (4.06 x 10.16 x 14.7 cm)
Weight	Internal	1.27 lb (0.58 kg)
	External (TLZ10-DB)	4.85 lb (2.2 kg)
	SBB (TLZ10-VA)	1.30 lb (0.59 kg)
UPC Code	12/24-GB DAT, Internal	743172722072
	12/24-GB DAT, Table Top	
	12/24-GB DAT, SBB	
SCSI Interface	Single Ended with a 50 pin low density connector	
Internal Cable	Narrow (50-Pin) ribbon cable	
External Cables	6ft narrow 50pin to VHDC1	295646-B21
	50 pin low density to 68 pin high density	BN31W-0x
	50 pin low density to 50 pin low density	BC19J-0x
Drive LED	Busy	Flashes when the drive is processing a command
	Tape	On when tape is loaded. Flashes for loading/unloading tape
	Caution	On when tape is write protected. Flashes to request cleaning.
Input Requirements	Range Line Voltage	AC 100 to 200/220 to 240V
	Line Frequency	60 Hz
	Typical Input Current	2.3A at 120 VAC
Maximum Number of Drives	5 drives per SCSI bus	
Media	Compaq Branded DDS-3 (125m)	

Technical Specifications

Power Requirement	+5V±5%/+12V±10%	
Power Consumption	12 Watts (average internal)	
	21 Watts (average external)	
Tape Format	Recording Method	Helical Scan
	Recording Format	ECMA-288, DDS-3
	Data Compression	Lempel-Ziv (DCLZ)
	Error detection/correction	Reed Solomon
Relative Humidity (non-condensing)	Operating	20% to 80%
	Shipping	5% to 95%
Temperature Range	Operating	41° to 104° F (5° to 40° C)
	Shipping	-22° to 140° F (-30° to 60° C)

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