

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.

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|----------------------------------|---|-------------|
| 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

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

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

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| 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>

EMEAHP Care Pack Information

Information on EMEA HP Care Pack is available at

http://h18005.www1.hp.com/services/HP_Care_Pack/global/

Sample part numbers:

Provides 4 hour hardware response 9 x 5

206957-022/021

Provides 4 hour hardware response 24 x 7

206958-022/021

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 |

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| Host Bus Adapters and Controllers for Intel Based Servers | 64-bit Dual Channel | 348757-B21 |
| | Dual Channel Ultra III | 129803-B21, -291 |
| | Dual Channel 64-bit Wide Ultra3 | 127693-001 |
| | Single Channel 64-bit Wide Ultra3 | 154457-B21, -291 |

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).

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| 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 |

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| 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/Jan Code: 4948382077738 |
| | 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

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|---|-----------------------------------|--------------------------------|
| 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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