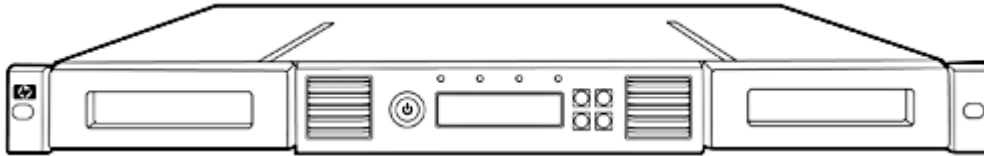


Overview

The HP StorageWorks DAT 72x10 Tape Autoloader is an ideal backup solution for the small to medium size company with limited IT support or a remote site of larger organizations. By reducing administrative tasks, the DAT 72x10 Tape Autoloader not only simplifies the backup process, but reduces the risk of error as well. The autoloader includes a single tape drive inside a 1U rack-mount enclosure that holds up to ten data cartridges in two removable magazines. Also included is HP StorageWorks Data Protector Express Single Server Edition for Windows/Linux/NetWare. With the ability to store up to 72 GB of compressed data per DAT 72 data cartridge, the DAT 72x10 Tape Autoloader provides a quick, efficient means for reducing workload. Simply load the magazines with the data cartridges and the autoloader takes care of the backup for weeks. The backup schedule can be customized by the backup application to suit the organizations requirements.

The DAT 72x10 Tape Autoloader comes with HP One-Button Disaster Recovery, providing the ability to restore the system quickly and effortlessly with the touch of a single button, eliminating the need for operating system and software CDs. 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

- Reduce installation time with rack-ready DAT 72x10 Tape Autoloader units. A separate rack kit must be utilized to complete the rack installation. The tape autoloader can also be used on a table or desktop with the purchase of a separate rack-to-tabletop conversion kit.
- Factory integrate the DAT 72x10 Tape Autoloader with other HP products such as HP ProLiant Servers by way of the HP Factory Express program.
- Bulk load media or store media offsite with the use of separate DAT 72x10 Tape Autoloader magazine kits.

Features and Benefits	Value	
		<ul style="list-style-type: none">• Need for human intervention is reduced from daily to weekly or even less often. Backups can be scheduled to occur automatically at any time of day.• The DAT 72x10 Tape Autoloader is shipped with HP StorageWorks Data Protector Express Single Server Edition Software.• Least expensive tape media cost, lowering the cost of ownership.
	Agility	<ul style="list-style-type: none">• Reduces the number of manual administrative tasks, and therefore the risk of error, in the backup process.• The most popular server backup technology, DAT offers a proven track record of reliability and assured investment protection.
	Simplicity	<ul style="list-style-type: none">• HP StorageWorks One Button Disaster Recovery (OBDR) restores your entire system at the touch of a button without the need for system disks or software CDs.• Reads and writes industry-standard DDS-3, DDS-4 and DAT 72 media.

Overview

Broad compatibility with servers, operating systems, and backup software applications

Management and diagnostics software support

Ten-cartridge capacity in a 1U form factor

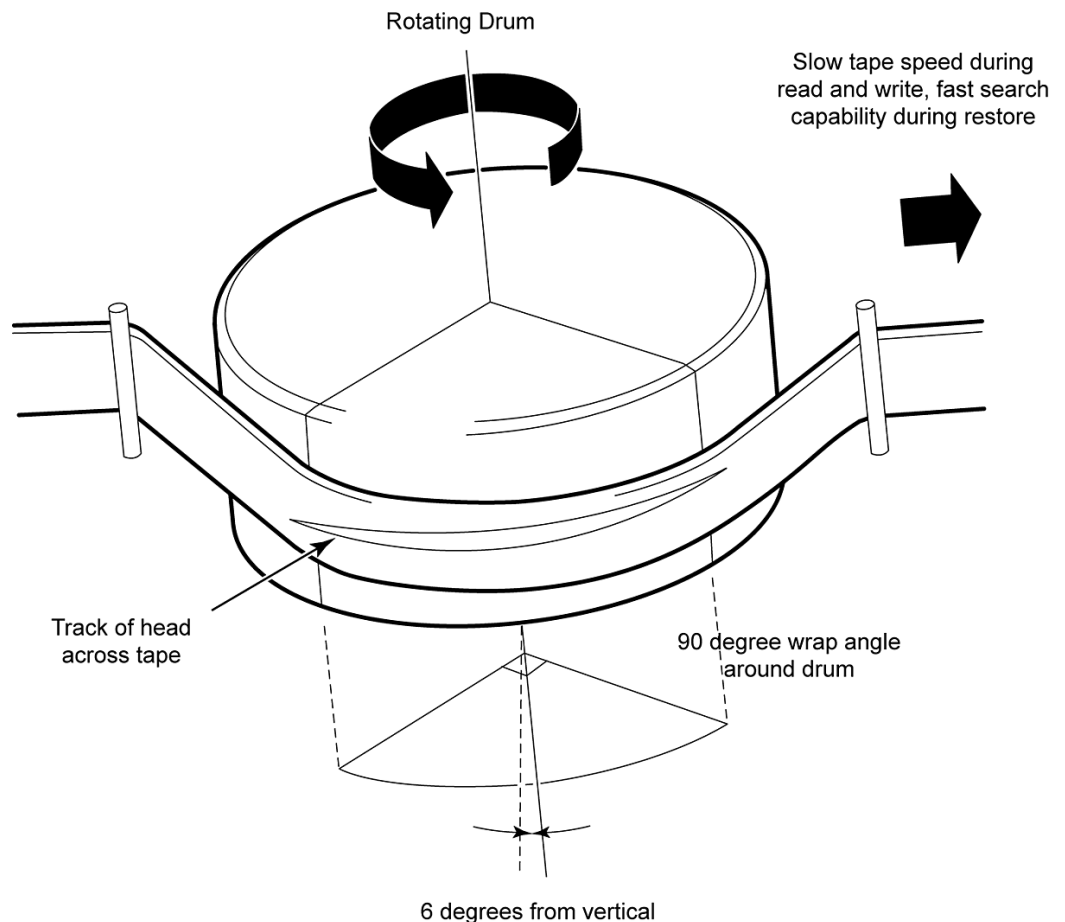
- Suits almost every operating environment. (Visit <http://www.hp.com/go/connect>)
- Tape drive management, performance optimization, and troubleshooting are made simple using HP StorageWorks Library and Tape Tools. (Visit <http://www.hp.com/support/tapetools>)
- Taking minimum space in the rack offering flexibility in a 1U form factor.

Product Highlights

DDS Technology

Since its introduction in 1989, Digital Data Storage (DDS) has become the single highest volume tape technology for the PC server market. Of the 2.5 million backup tape drives shipped in 2001, Gartner Dataquest estimates that approximately half were DDS drives. With the introduction of the fifth generation of the format, a format development in which Sony was not involved, Hewlett-Packard and other members of the DDS manufacturer's group have now adopted the nomenclature and naming style DAT xxx, where xxx refers to the compressed capacity of the format. Hence the fifth generation format is known as DAT 72, as it is a DAT-format drive holding 72 GB of compressed data.

DDS/DAT is a helical scan format where data is written diagonally across the width of the tape. The advantage is that, by allowing subsequent tracks to have different writing angles and to overlap, a much greater capacity can be achieved for a given length of tape because no guard bands are necessary. DDS uses built-in hardware data compression using the 'DCLZ' compression algorithm. Data compression is host-selectable with the default that compression is turned on. The DDS format also allows for fast location of tracks and data. To achieve this, the rotating drum is tilted at a slight angle (6°) from the vertical. The drum has four heads (two write heads and two read heads), located at 90° intervals. For each rotation of the drum, two tracks are written. The read heads verify the data that has been written (recorded) and the drive rewrites if necessary. The straightness with which the track is written to tape is referred to as the linearity of the track and is critical in ensuring the data is always recoverable.



The worldwide Annual Failure Rate (AFR) across all DDS/DAT manufacturers is around 2.2% -- quite an

Product Highlights

achievement for a low-cost tape drive. HP's ongoing reliability improvements continue to make a solid technology like DDS/DAT even better. HP has been involved in the design and development of DDS/DAT drives since the beginning and applies these many years of experience to its current line of DDS/DAT products. All HP DDS/DAT drives benefit from an automatic 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.

Not only does an investment in DDS/DAT technology provide the security of a format with a history of outstanding reliability. The legacy of backward compatibility ensures the possibility of future expansion, without compromising your investment in the technology. DDS/DAT technology provides the capacity and performance needed in a tape backup solution for workstations and entry-level network servers.

Easy Installation

The DAT 72x10 Tape Autoloader ships as a rack-ready unit. A separate rack kit must be purchased to allow installation in a variety of HP racks which include the 10000 series, 9000 series, 5000 series and System/E racks.

If you choose to use the unit on a tabletop or desk, HP recommends the purchase of the 1U Rack-to-Tabletop conversion kit which has a maximum load of 33 pounds (15 kilograms) and fully encloses the unit.

Software in the Box

The DAT 72x10 Tape Autoloader includes HP StorageWorks Data Protector Express, Single Server Edition for Windows/Linux/NetWare. This application allows you to securely back up, and if necessary recover, a single Windows/Linux/NetWare machine to/from your HP StorageWorks tape drive or tape autoloader.

NOTE: HP StorageWorks Data Protector Express, Single Server Edition and HP OpenView Storage Data Protector, Single Server Edition are NOT compatible. Tape cartridges should NOT be shared between autoloaders and libraries running Data Protector and Data Protector Express.

Backwards Compatibility

HP DAT tape drives are backwards read and write compatible with the two previous DDS generations of tape media. Thus, the DAT 72x10 Tape Autoloader will read and write onto DDS-3 and DDS-4 data cartridges.

Product Highlights

HP One-Button Disaster Recovery (OBDR)

With HP One-Button Disaster Recovery (OBDR), you can quickly, reliably and simply restore your entire HP ProLiant server just by inserting the most recent backup tape and pushing one button on the tape drive. Your HP StorageWorks DAT 72x10 Tape Autoloader will restore your operating system, configuration, applications, drivers and data files. There's no longer a need to search for software disks and manuals, plus with downtime reduced, the costs of recovery are minimized. There's no need to make a new set of disaster recovery disks each time the network configuration is altered or a peripheral is added. Recovering from a disaster manually at a stressful time makes for an error-prone process. The sheer simplicity of HP One-Button Disaster Recovery means less human error. Backup and disaster recovery preparation -- previously two separate tasks -- become one process. OBDR is simply the best disaster recovery product for small to medium systems. For a current list of servers, workstations, and software that support OBDR, check the tape backup compatibility pages on our Web site at: <http://www.hp.com/go/connect>.

NOTES:

- HP One-Button Disaster Recovery is a standard feature on all HP StorageWorks DAT Autoloaders. However, it can only be used with HP ProLiant servers and specific configurations, and will only recover the server to which the autoloader is directly connected.
- HP OBDR does not work with HP-UX and other non-Intel UNIX operating systems. To check whether your system (hardware, operating and backup software) is OBDR-compatible, please refer to our tape compatibility web site: <http://www.hp.com/go/connect>.

HP StorageWorks Library and Tape Tools (L&TT)

The DAT autoloader family 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>.

HP Storage Media

HP recommends that you use HP-branded cartridges in the DAT 72x10 Tape Autoloader to assure the highest level of protection for your valuable data. The test program for HP media is the most thorough and comprehensive in the industry.

All HP cartridges must satisfy an exhaustive battery of additional tests that relate directly to real life situations, where real data and real businesses are at stake. The benefit of the HP brand specification for media is consistent quality. Through the testing of thousands of HP drives and HP cartridges, the ideal formulation for backup performance is defined and then continuously monitored. This hugely resource-intensive process is unique to HP and affords deep insight into the HP+HP backup solution for a wide range of environments and duty cycles. Your best choice for ease of support and maximum dependability is to use HP-branded Ultrium cartridges at all times.

Product Highlights

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. Customization must comply with all relevant product specifications and factory supported configurations.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, and HP 9000 servers as well as MSA, VA7xxx, EVA, and XP disk arrays, rackable tape libraries and configurable network switches.

Type of service support varies by platform and product family. For more information on Factory Express services for your specific server model or storage device please contact your sales representative or go to <http://www.hp.com/go/factory-express>.

Compatibility Information

HP's extensive compatibility testing program assures that your HP StorageWorks DAT 72x10 Tape Autoloader works with leading servers, operating systems, and backup applications -- and not just those sold by HP. The DAT 72x10 Tape Autoloader 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 the DAT 72x10 Tape Autoloader, check the tape backup compatibility pages at: <http://www.hp.com/go/connect>.

Server Compatibility

The HP StorageWorks DAT autoloaders are tested and compatible with HP ProLiant servers, HP-UX servers, as well as many third-party servers. HP StorageWorks DAT autoloaders are supported on the following classes of HP systems:

- HP ProLiant DL servers
- HP ProLiant ML servers
- HP Alpha Servers
- HP 9000 Servers
- HP Integrity 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.

OS Support

- Microsoft® Windows®
- Linux
- HP-UX
- TRU 64
- Open VMS
- Solaris

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

Software Support

- HP Data Protector Express
- HP Data Protector
- Symantec BackupExec
- CA Brighstor ARCserve
- Commvault Galaxy

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

Service and Support, HP Care Pack, and Warranty Information

Warranty Includes 1-year, next business day, parts exchange, limited warranty plus 9x5 phone support for the duration of the warranty.

For more information about HP's Global Limited Warranty and Technical Support, visit:
ftp://ftp.compaq.com/pub/products/storageworks/warranty/EN_321708-008.pdf

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 products 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://www.hp.com/hps/carepack/>.

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 URL listed below:
<http://www.hp.com/hps/hardware/>

eSupport HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal

The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit <http://www.hp.com/support>

Service and Support, HP Care Pack, and Warranty Information

Support Services

HP Services provides up to 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

Configuration Information

NOTE: The HP StorageWorks DAT 72x10 Tape Autoloader comes standard as a one drive, 10-slot unit which is shipped rack-ready. The separate 1U Tape Autoloader Rack Kit must be purchased to complete the rack installation. For specific regional power cord requirements, a separate power cord option must be selected at the time of purchase.

Step 1 - Base Configuration

Select one:

Model Name	Model Description	Part Number
HP StorageWorks DAT 72x10 Tape Autoloader	HP DAT 72x10 Tape Autoloader Kit Contents (for each autoloader):	AE313B
	<ul style="list-style-type: none"> • (1) 2.5M VHDCI to HDTS68 SCSI cable • (1) HDTS68 SCSI terminator • HP StorageWorks Data Protector Express CD (for use in downloading the Single Server Edition for Windows/Linux/NetWare) • Documentation kit including User's Guide (CD) and Getting Started Poster 	

Step 2 - Required Options

Select each required option with quantities specified:

Power Cord	Description	Quantity	Part Number
	Asia Pacific (US cord) - English localization	1 each	#A2S
	China - Chinese localization	1 each	#AB2
	U.S. - English localization	1 each	#ABA
	Europe - English localization	1 each	#ABB
	Australia - English localization	1 each	#ABG
	Japan - Japanese localization	1 each	#ABJ
	United Kingdom - English localization	1 each	#ABU
	No power cord	1 each	#AC3
	Switzerland - English localization	1 each	#ACD
	Denmark - English localization	1 each	#ACE
	India - English localization	1 each	#ACJ
	Latin America - English localization	1 each	#AKY
	Asia Pacific (Euro cord) - English localization	1 each	#ARR
	Asia Pacific (UK cord) - English localization	1 each	#ARS

NOTE: One power cord is required; there is no power cord included in the box with the HP DAT 72x10 Tape Autoloader. Please select the correct power cord for your geographical location.

WARNING: This product can ONLY be used with an HP approved power cord for your specific geographic region. Use of a non-HP approved power cord may result in: 1) not meeting individual country specific safety requirements; 2) insufficient conductor amperage that could result in overheating with potential personal injury and/or property damage; and 3) an unapproved power cord could fracture resulting in the internal contacts being exposed, which potentially could subject the user to a shock hazard. HP disclaims all liability in the event a non-HP approved power cord is used.

Related Options

Factory Racking	Factory integrate the DAT 72x10 Tape Autoloader with other HP products such as HP ProLiant Servers. NOTE: #0D1 will appear after the DAT 72x10 Tape Autoloader part number on the sales order if HP factory integration is indicated.	#0D1
	HP Factory Rackmount Shelf Kit NOTE: Required to safely ship the 1/8 G2 Tape Autoloader via the factory integration option (#0D1); shelf can be removed after the rack is received at the customer site.	AB469A
Rack Kit	HP 1U Tape Autoloader Rack Kit NOTE: Required to install the unit in a standard 19-inch rack; includes rails and rackmount instructions.	AH166A
Rack-to-Tabletop Conversion Kit	HP 1U Rack-to-Tabletop Conversion Kit NOTE: For use in converting the rack-ready DAT 72x10 Tape Autoloader into a structurally rigid and fully enclosed tabletop model; maximum load up to 33 pounds (15 kilograms).	AH199A
Magazine Kit	HP DAT 72x10 Left Magazine Kit NOTE: For use only on the left side of the DAT 72x10 Tape Autoloader; additional 5-slot magazine which includes a dust cover.	AG688A
	HP DAT 72x10 Right Magazine Kit NOTE: For use only on the right side of the DAT 72x10 Tape Autoloader; additional 5-slot magazine which includes a dust cover.	AG689A
Rack Cabinets	10622 (22U) Universal Rack Cabinet - Shock Pallet	AF022A
	10636 (36U) Universal Rack Cabinet - Shock Pallet	AF012A
	10636 (36U) Universal Rack Cabinet with extension - Shock Pallet	AF014A
	10642 (42U) Universal Rack Cabinet - Shock Pallet	AF002A
	10642 (42U) Universal Rack Cabinet with extension - Shock Pallet	AF004A
	NOTE: The DAT 72x10 Tape Autoloader is certified to ship in HP 10000 series racks which include a shock pallet. It is mandatory to use a shock pallet in order to ship racks with equipment installed.	
5642 (42U) Rack Cabinet	358254-B21	
	NOTE: This rack ships unassembled and boxed on a standard size pallet. It is an industry standard 19" wide rack with side panels and rear doors; it does not ship with the front door or casters.	
	NOTE: For additional HP ProLiant rack information, visit http://h18004.www1.hp.com/products/servers/proliantstorage/racks/index.html	

Related Options

Media	HP DAT 72 Data Cartridge, 72 GB (1 pack)	C8010A
	HP DDS-4 Data Cartridge, 40 GB (1 pack)	C5718A
	HP DDS-3 Data Cartridge, 24 GB (1 pack)	C5708A
	HP DDS Cleaning Cartridge (1 pack)	C5709A
	HP DAT 72 Storage Media Kit	C8012A

NOTE: Kit includes 14 HP DAT 72 data cartridges, one HP DDS cleaning cartridge, 20 colored labels, a protective carrying case that can be used to securely store or transport data cartridges, one copy of "The Essentials of Successful Tape Backup," and one copy of HP StorageWorks Data Protector Express Evaluation Software (60 day free trial).

Host Bus Adapters	Reference the HP tape backup compatibility matrix for the most up-to-date SCSI HBA compatibility information at http://www.hp.com/go/connect
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Cable Kits	6 ft VHDCI/HDT568 SCSI Cable Kit	341176-B21
	12 ft VHDCI/HDT568 SCSI Cable Kit	341177-B21
	5 m HDT568/HDT568 SCSI Cable Kit	328215-001
	10 m HDT568/HDT568 SCSI Cable Kit	328215-002

HP Care Pack Options	Same Day Response	
	Warranty upgrade to 1-year, 13x5, 4 hour response/onsite, electronic	UD846E
	Warranty upgrade to 1-year, 24x7, 4 hour response/onsite, electronic	UD847E
	Post-warranty upgrade to 1-year, 13x5, 4 hour response/onsite, electronic	UE270PE
	Post-warranty upgrade to 1-year, 24x7, 4 hour response/onsite, electronic	UE271PE
	Warranty upgrade to 3-year, 13x5, 4 hour response/onsite, electronic	UD849E
	Warranty upgrade to 3-year, 24x7, 4 hour response/onsite, electronic	UD850E
	Warranty upgrade to 4-year, 13x5, 4 hour response/onsite, electronic	UD851E
	Warranty upgrade to 4-year, 24x7, 4 hour response/onsite, electronic	UD852E
	Warranty upgrade to 5-year, 13x5, 4 hour response/onsite, electronic	UD853E
	Warranty upgrade to 5-year, 24x7, 4 hour response/onsite, electronic	UE268E
	Next Business Day Response	
	Warranty upgrade to 1-year next business day/onsite, electronic	UD845E
	Post-warranty upgrade to 1-year next business day/onsite, electronic	UE269PE
	Warranty upgrade to 3-year next business day/parts exchange, electronic	UE272E
	Warranty upgrade to 3-year next business day/onsite, electronic	UD848E
	Hardware Services	
	Installation services, electronic	U2090E

NOTE: In order to maximize ROI and product uptime, and minimize the cost of ownership, Hewlett-Packard recommends the 3-year, 24 x 7 service options. These offerings 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.

Technical Specifications

DAT 72x10 Tape Autoloader

Drive Technology	DAT 72
Number of Drives	1
Number of Slots	10
Capacity	360 GB native 720 GB compressed
Maximum Transfer Rate	3.2 MB/s (11.52 GB/hr) native 6.4 MB/s (23.04 GB/hr) compressed
Interface	Ultra160 SCSI LVD/SE

Dimensions	Out-of-Box (HxWxD)	1.7 x 17.6 x 31.2 in (4.34 x 45.05 x 79.3 cm)
	Shipping (HxWxD)	10 x 22.9 x 38.8 in (25.4 x 58.1 x 98.6 cm)
Weight	Physical	23.6 lb (10.7 kg)
	Shipping	42.7 lb (19.35 kg)
Reliability	MTBF (mean time between failure)	150,000 hours
	MSBF (mean swaps between failure)	>500,000 robot load/unload cycles
Cartridge Swap Time		15 seconds max (drive to slot, slot to drive)
Initialization Time		108 seconds (with cartridges)
Inventory Time		62 seconds (with cartridges)
Connectors		(2) 68-pin HDTs (located on back of DAT 72x10)
LED Indicators (on front panel)	Ready LED (Green):	shows ready status information
	Clean LED (Amber):	shows fault status information
	Attention LED (Amber):	shows fault status information
	Error LED (Amber):	shows fault status information
Liquid Crystal Display (LCD)		The dot matrix front panel information display provides user-friendly information on the DAT 72x10 operating status, potential error conditions, current cassette and magazine status. The LCD can be set to one of six different languages (English, French, German, Spanish, Portuguese, or Japanese).
Power		70 Watts (max)
Input Requirements		100 to 240 VAC, 50 to 60 Hz
Relative Humidity (non-condensing)	Operating	20% to 80%
	Shipping	5% to 95%
Temperature Range (wet bulb)	Operating	50° to 104° F (10° to 40° C)
	Shipping	-40° to 158° F (-40° to 70° C)
Altitude	Operating	13,000 ft (3,962 m)
	Shipping	35,000 ft (10,668 m)

Technical Specifications

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Windows NT is a US registered trademark of Microsoft Corporation. Intel is a US registered trademark of Intel Corporation.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

For tape drives and media, 1 GB = 1 billion bytes. Actual formatted capacity is less.