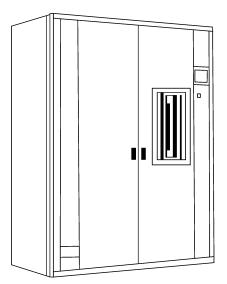
QuickSpecs

Overview

At A Glance

- The Ultimate in High-Capacity Unattended Backup and Restore:
 - The HP StorageWorks tape library ESL9595S2 provides the ultimate in high-capacity unattended backup and restore for customers with large server pools serviced by network attached storage devices or storage area networks. The consolidation of the enterprise's data into a single shared storage device requires that these devices provide both high capacity and high performance. With the consolidation of backup data into a single device also comes the increased need for redundancy and high availability. The ESL9595S2 can provide years of fully automated operation for backup, save and restore, and hierarchical storage management of critical data when coupled with a variety of qualified industry standard backup application solutions. With 400/500/595 slots and up to 16 Hewlett-Packard SDLT 160/320GB drives, the ESL9595S2 offers up to 95.2 TB of native data storage and native transfer rates up to 921.6 GB/hr.



HP StorageWorks ESL9595S2 Tape Library





Standard Features

ΗP	S	torageV	Vorks	ESL9595S2
Tap	эe	Library	/ Mod	els

The HP StorageWorks ESL9595S2 Tape Library comes with up to 16 SDLT 160/320 GB tape drives (number of drives determined by SKU chosen) and has three models with 400, 500 and 595 slots respectively.

ESL9595S2, 400 slot, 2 SDLT 160/320 Drive, Enterprise Library	293411-B22
ESL9595S2, 400 slot, 16 SDLT 160/320 Drive, Enterprise Library	293411-B28
ESL9595S2, 500 slot, 2 SDLT 160/320 Drive, Enterprise Library	293412-B22
ESL9595S2, 500 slot, 16 SDLT 160/320 Drive, Enterprise Library	293412-B28
ESL9595S2, 595 slot, 2 SDLT 160/320 Drive, Enterprise Library	293413-B22
ESL9595S2, 595 slot, 16 SDLT 160/320 Drive, Enterprise Library	293413-B28

The ESL9595S2 comes as either a 400, 500 or 595 slot library system configured with the associated number of drives, installation and user's manual, one-piece SDLT media, a copy of the Hewlett-Packard Storage Management Solutions CD. Customers are required to also purchase the necessary number of host bus adapters, SCSI cables, SDLT media, country specific power cords (pair), and applications software licenses in order to complete the library solution.

Due to the size and weight of the unit, a pre-sales site survey is required. The pre-sales site survey document is on http://www.compaq.com/support/techpubs/installation_quides/146587-001.html.

NOTE: The ESL9595S2 is three inches wider than the ESL9326.

Installation services can be ordered separately on Hewlett-Packard Services as part of each library order (requires scheduling with local Hewlett-Packard Services provider).

NOTE: Does not include special site work, which may be required as a result of not meeting minimum site survey requirements.

The ESL9000 Enterprise Library Family

The tape libraryESL9595S2 is part of the Hewlett-Packard ESL9000 class enterprise library family. With its high availability feature set, the ESL9000 family provides for maximum uptime. Based on PCI backplane architecture, the ESL9000 series libraries also provide a simple upgrade path for future "plug-in" feature upgrades.

High Availability

As data becomes more and more mission critical and downtime becomes more costly to the enterprise, customers are requiring high availability consolidated storage solutions which offer hot swappable components and redundancies of key operating sub-systems (tape drives, controllers, power supplies). With redundant power distribution, power supplies, and cooling fans, coupled with hot pluggable drive carriers, hot swap power supplies and cooling fan modules, the ESL9595S2 offers the best in high availability for continuous operation.

Hot Pluggable Drives

The ESL9595S2 uses hot pluggable drive carriers, allowing drives replacement and additional drives to be added for capacity expansion without interrupting backup and restore functions. These hot pluggable drive trays allow for easy scalability of performance, as well as provide an easy upgrade path towards future drive technologies.

NOTE: The ESL9595S2 accepts only library ready drives specifically modified for use in the ESL9000 series libraries.

Proven Reliability

Using SDLT 160/320 GB tape drives, and proven library robotics with a rating of 2,000,000 load/unload cycles, the ESL9595S2 provides the necessary high reliability.



Standard Features

SDLT Technology	Digital Linear Tape uses a proven linear recording technology, a highly accurate tape guide system, and a read after write correction system to provide high-capacity, high reliability data backup and restoration. DLT has fast become the industry standard secondary storage tape format for departmental and enterprise backup. The new generation SDLT tape drive, in addition to enhanced capacity and backup performance provides advantages several new features such as Laser Guided Magnetic Recording (LGMR TM) technology, Pivoting Optical Servo (POS), Magneto-Resistive Cluster Heads (MRC), Partial Response Maximum Likelihood (PRML) channel technology and Backward Read Compatible with earlier generation of DLT drives, to be able to read media written in DLT IV format.					
Manageability	The ESL9595S2 configurations are fully supported through Insight Manager, providing information to administrators for both robotic, tape status changes, and fault status of redundant components (high availability fault status requires use of Insight Manager v7.0. HP TSMC (tape storage management console) software provides diagnostics and easy firmware upgrade capabilities. Other data and automation manageability features, including multi-host direct connectivity, are provided via specific third-party applications software packages.					
Warranty	One year parts exchange, one year on-site next day service					
•	Additional Warranty protection can be purchased for all ESL9595 library products.					
	NOTE: Certain restrictions and details.	exclusions apply. Consult the Hewlett-Packard Custome	er Support Center for			
Server Support	High-End ProLiant Servers	ProLiant DL760				
	-	ProLiant ML750				
	Departmental ProLiant	ProLiant DL580G2				
	Servers	ProLiant ML570G2				
	AlphaServer Systems	AlphaServer GS320, GS160, GS 80				
	,	AlphaServer ES45				
		AlphaServer ES40				
		AlphaServer DS20E				
	SCSI controller supported	66 MHz Ultra3 LVD, dual channel controller	129803-B21			
	ProLiant servers	Ultra3 LVD, single channel controller	154457-B21			
	AlphaServer systems	Ultra2 LVD, single channel	3X-KZPCA-AA			
	FC Routers Supported	Network Storage Router m2402				
		Network Storage Router e2400 (FC embedded router	for the ESL9000 libraries)			



Standard Features

Application Support

For the latest updated compatibility matrix for ISV backup software supported go to:

 $\underline{\text{http://www.compaq.com/products/storageworks/ebs/EBScompatmatrix.html}}$

Automation and Network Utilities

Insight Manager v7.0

HP Tape Storage Management Console v2.3

MRU (media robot utility) v1.4

Device/ISV/OS ESL SDLT160/320 Models	Windows [®] NT [®] 4.0 SP6a	Windows 2000 SP2	Tru64 UNIX [®] 4.0g	HP-UX 11i, 11.0, 10.2,	NetWare 5.1 SP3	NetWare 6.0	Linux RH 7.1 7.2 Linux SuSe [®]	Solaris™ 2.6,	AIX 4.3.3
			5.1a				7.0		
Direct Attach									
VERITAS NetBackup 4.5	✓	✓							
VERITAS NetBackup 3.4.3	✓	✓							
Legato NetWorker 6.1.2	✓	✓					✓		
VERITAS Backup Exec 8.6	✓	✓			✓	✓			
CA BrightStor ARCServe 2000	✓	✓							
CA BrightStor ARCServe 7									
HP/EBS SAN									
HP Omniback 4.x	✓	✓		✓	✓				✓
HP Data Protector	✓	✓		✓	✓				✓
VERITAS NetBackup 4.5	✓	✓	✓	✓				✓	✓
VERITAS NetBackup 3.4.3	✓	✓	✓	✓				✓	✓
Legato NetWorker 6.1.2	✓	✓	✓	✓			✓	✓	
VERITAS Backup Exec 8.6	✓	✓			✓	✓			
VERITAS Backup Exec 9.0					✓				
CA BrightStor ARCServe 2000	✓	✓							



HP Service & Support, CarePaq and Warranty Information

Hewlett-Packard Installation and CarePaq Information

Hewlett-Packard Global Services provides a three-year, limited warranty, fully supported by a worldwide network of resellers and service providers toll-free 7 x 24 hardware technical phone support for the duration of the warranty. In addition, available service offerings include a full range of CarePaq packaged hardware and software services:

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

Additional Warranty protection and/or Hewlett-Packard Installation packages can be purchased for the ESL9595S2 Library products:

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

For additional hardware installation and maintenance information please refer to the URLs listed below: http://www.compaq.com/services/CarePaq/us/install/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 1year or multiple years

Additional Warranty protection and/or Hewlett-Packard Installation packages can be purchased for the ESL9595S2 library products:

Installation Services

24x7, 4-Hour Response On-Site Coverage -1 Year Hardware Installation

ESL 9000 Enterprise Library 0-8 Drives	163460-002 163463-002 FM-T6INS-IN
ESL 9000 Enterprise Library 9-16 Drives	163470-002 163473-002 FM-T7INS-IN

NOTE: Certain restrictions and exclusions apply. Consult the Hewlett-Packard Customer Support Center for details

CarePaq is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.

CarePag is not available for less than the products warranty duration.

CarePaq 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.

CarePag services are prepaid

For additional CarePaq (hardware & software) information, as well as orderable part numbers, please refer to the URL listed below:

http://www.compaq.com/services/CarePaq/index.html.



HP Service & Support, CarePaq and Warranty Information

CarePaq Information for EMEA

Additional CarePaq services are being developed to cover a broader range of HP StorageWorks hardware and software. Ask your local CarePaq Business Manager for the latest details.

CarePaq PS Information for EMEA

CarePaq Priority Services brings a totally new approach that removes the complexity from evaluating, planning and purchasing services on Hewlett-Packard Alpha and Storage platforms.

CarePaq Priority Services are easy to purchase and easy to use and cover all external storage products not covered under Server based CarePaq services.

Standard Offerings:

- CarePaq Priority Services provide an integrated hardware and software support that ensure consistent coverage across storage configurations.
- CarePaq Priority Service offers a rapid four-hour response with guaranteed work-through to completion for three years.
- CarePaq Priority Services have a standard call window of Monday to Friday 08:00 17:00 with uplifts
 to full 24x7 over three years with four-hour response time and work through to completion.
- CarePaq Priority Services also provide software support, with a two-hour response time for telephone
 access to highly trained support personnel.

For more information on how to order CarePaq Priority Services in EMEA please contact you local Certified Integration Partner or Authorized Reseller.

- CarePaq is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.
- CarePaq is not available for less than the product's warranty duration.
- CarePaq 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.
- CarePag services are prepaid.

Customized Services are also available. Contact your local Global Services Department.



		UPC Code	Part Number
ESL9322S2 Library System	ESL9595S2 400 slot 2 SDLT 160/320 Drive Enterprise Library	613326517598	293411-B22
	ESL9595S2 400 slot 16 SDLT 160/320 Drive Enterprise Library	613326584873	293411- B28
	ESL9595S2 500 slot 2 SDLT 160/320 Drive Enterprise Library	613326517604	293412-B22
	ESL9595S2 500 slot 16 SDLT 160/320 Drive Enterprise Library	613326584897	293412-B28
	ESL9595S2 595 slot 2 SDLT 160/320 Drive Enterprise Library	613326517635	293413-B22
	ESL9595S2 595 slot 16 SDLT 160/320 Drive Enterprise Library	613326584910	293413-B28
	Supplied with each Library Unit		
	Library unit (pre-configured with drives)		
	Documentation kit		
	SODL Translation CD		
	Users Guide		
	Unpacking and Installation Guide		
	Pre-Installation Site Survey		
	Diagnostic CD		
	Diagnostic Software Guide		
	Warranty Card		
	Safety Card		
	Quality Insert		
	Software Applications CD		
	(1) SDLT 160/320 Media Cartridge		
	Bar Code Labels		
	Cleaning Labels		
	(2) Keys		
	SCSI terminators (1 per drive, less those installed)		
	Diagnostic cable (for PC attach)		
	Supplied with each library		
	2 Line Cords (IEC 320 C19), US/Canada		
Power Cord (Pair Required)	ESL9000 POWER CORDS 2X, US/CANADA/MEX*	743172935649	146210-001
, , ,	ESL9000 POWER CORDS 2X, SE ASIA/INDIA	743172935625	146210-AR1
	ESL9000 POWER CORDS 2X, CENTRAL EUROPE	743172935632	146210-021
	ESL9000 POWER CORDS 2X, AUS/CHINA/NZL	743172935670	146210-01
	ESL9000 POWER CORDS 2X, SWITZERLAND	743172935656	146210-111
	ESL9000 POWER CORDS 2X, UK/HONG KONG	743172935663	146210-03
	ESL9000 POWER CORDS 2X, ITALY	743172935687	146210-06
	ESL9000 POWER CORDS 2X, DENMARK	743172935694	146210-08
	ESL9000 POWER CORDS 2X, JAPAN	743172935700	146210-291
	NOTE: Shipped with all units. Order Local power cords.		



		UPC Code	Part Number			
Drive, capacity, and memory	ESL9000 field upgrade SDLT 160/320 LVD drive in hot plug canister	613326517642	293414-B21			
upgrade kits	ESL9595S2 400 to 500 Slot Upgrade	613326380222	274674-B21			
	ESL9595S2 500 to 595 Slot Upgrade	613326380239	274674-B22			
	ESL9595S2 400 to 595 Slot Upgrade	613326408926	274674-B23			
	ESL9000 5 MB Memory Module for ESL9198 & ESL9326 libraries, (required to support firmware versions 3.00 and later)	613326380215	274673-B21			
	NOTE: *Serial number of your existing library is required when ordering these capacity upgrade SKUs, please enter the serial number in the comments section of the purchase order, and inform your Secondary Storage Product Manager.					
Media and Bar Code Labels	SDLT Media 5-Pack	720591390273	188527-B21			
	SDLT Media 10-Pack	720591390587	188527-B22			
	SDLT Media 20-Pack	720591433208	188527-B26			
	Supplied with each Power Cord					
	Additional media					
	Additional magazines					
	Bar Code Labels					
SCSI Cables	Wide/Wide SCSI cable, 5 m	743172633910	328215-001			
	Wide/Wide SCSI cable, 10 m	743172633927	328215-002			
	Wide/Wide SCSI cable, 15 m	743172633934	328215-003			
	Wide/Wide SCSI cable, 20 m*	743172633941	328215-004			
	SCSI Cable, VHDCI/Wide, 6 ft	743172660831	341176-B21			
	SCSI Cable, VHDCI/Wide, 12 ft	743172660848	341177-B21			
	SCSI Cable, VHDCI/Wide, 10 m	720591469108	201160-B21			



		UPC Code	Part Number
SCSI Host Bus Adapter/Hewlett- Packard Fibre Channel to SCSI	Host Bus adapter for SCSI connectivity from server to tape library in direct SCSI environment		
Router (optional)	Network Storage Router, Embedded FC Router to connect SCSI Library to Fibre Channel Hub/Switch		
	ProLiant Controllers		
	64-bit/66 MHz PCI dual channel Wide Ultra3 SCSI adapter	743172876379	129803-B21
	Alpha Controllers		
	Single Channel Ultra LVD Controller		3X-KZPCA-AA
	Network Storage Router (required for SAN configuration)		
	Network Storage Router m2402 (2FC X 4 LVD SCSI)	613326254516	262653-B21
	Embedded Data Router, ESL 9000embedded fibre option e2400 – Base 2 FC X 4 LVD SCSI ports (Includes card cage for installation of embedded router which is required for configuration) (Includes two router cards each with 1 FC X 2 LVD SCSI ports, 4 VHDCI-WIDE SCSI cable, user guide CD, and the ESL9000 cPCI card cage).	613326254752	262665-B21
	It is recommended that the installation CarePaq be ordered with this SKU.		
	Embedded Data Router, ESL 9000embedded fibre option e2400 – Upgrade 2 FC X 4 LVD SCSI ports (Includes: two 1FC x 2LVD SCSI router cards, four VHDCI-WIDE SCSI cables, User Guide CD.) This SKU does not include a card cage; it is an upgrade SKU and requires 262665-B21 to be configured first, when configured it increases the number of SCSI ports available to connect drives in an ESL9000 library to the SAN, to a total of eight).	613326254998	262664-B21
	It is recommended that the installation CarePaq be ordered with this SKU.		
LVD Extender Kit	LVD Extender kit (Required for HBA to Library SCSI cable lengths exceeding 10 m)	720591597658	221249-B21
ESL9000 magazine	ESL9000 UNIVERSAL LOAD PORT (2x4 slot fixed)	613326572603	302254-B21



		Part Numbe
HP Openview Omniback Software	HP OpenView Omniback II 4.1	
	Starter Packs	
	Cell Manager	B6961AA/B6951AA
	Required once as starter pack; includes license-to-use, unlimited number of disk agents and media agents, one drive extension, libraries with up to 60 slots, CD-ROM media, manuals, and more; for Windows NT, 2000, XP/HP-UX	
	Drive Extensions	
	Drive License	B963AA
	License-to-use for one concurrently used backup drive; for Windows NT, 2000, XP/Novell® Netware/Linux	
	Drive License	B6953A
	License-to-use for one concurrently used backup drive; for UNIX®, NAS, SAN	
	For the most up-to-date information, visit: http://openview.hp.com/products/omniback/specifications/	
Data Protection Suites for	CommVault Galaxy	
Backup and Restores	Phan Kit, CommVault Galaxy	281593-B2 ²
	DP Suite, single server	281577-B2
	DP Suite, SAN standard	281585-B2
	DP Suite, SAN advanced	281588-B2
	DP Suite, Network	281582-B2
	Additional CommVault Galaxy Suite Descripitions	
	Phan Kit, CommVault Galaxy – Media Kit that contains live trial software	
	DP Suite, single server — Designed for backing up a single server, with no server clients, using a single internal or external tape drive.	
	DP Suite, SAN standard – Entry level SAN kit that contains:	
	ISV application software for six servers on the SAN	
	Two server clients for backing up over the LAN	
	Each SAN server has a choice of a database agent or open file systems option	
	Support for up to eight shared automated, tape drives	
	DP Suite, SAN advanced – Data center SAN kit that contains:	
	ISV application software for fourteen servers on the SAN	
	Two server clients for backing up over the LAN	
	Each SAN server has a choice of a database agent or open file systems option	
	Support of up to sixteen shared, automated tape drives	
	DP Suite, Network – Designed for backing up a single server and server clients over the	
	network using a tape drive, an autoloader or business class automation. Includes choice	
	of one database agent or open file systems option.	



		Part Numbe
Data Protection Suites for	CA BrightStor ARCserve	
Backup and Restores (continued)	Phan Kit, CA ARCserve	283915-B2
	DP Suite, single server	281576-B2
	DP Suite, SAN standard	281583-B2
	DP Suite, SAN advanced	281586-B2
	DP Suite, Network	281581-B2
	Additional CA BrightStor ARCserve Suite Descripitions	
	Phan Kit, CA ARCserve – Media Kit that contains live trial software	
	DP Suite, single server — Designed for backing up a single server, with no server clients, using a single internal or external tape drive.	
	DP Suite, SAN standard – Entry level SAN kit that contains:	
	ISV application software for six servers on the SAN	
	Two server clients for backing up over the LAN	
	Each SAN server has a choice of a database agent or open file systems option	
	Support for up to eight shared automated, tape drives	
	DP Suite, SAN advanced – Data center SAN kit that contains:	
	ISV application software for fourteen servers on the SAN	
	Two server clients for backing up over the LAN	
	Each SAN server has a choice of a database agent or open file systems option	
	Support of up to sixteen shared, automated tape drives	
	DP Suite, Network – Designed for backing up a single server and server clients over the	
	network using a tape drive, an autoloader or business class automation. Includes choice	
	of one database agent or open file systems option.	
	VERITAS Backup Exec	
	Phan Kit, VERITAS Backup Exec	283914-B2
	DP Suite, single server	281578-B2
	DP Suite, SAN standard	281584-B2
	DP Suite, SAN advanced	281587-B2
	DP Suite, Network	281580-B2
	Additional VERITAS Backup Exec Suite Descripitions	
	Phan Kit, VERITAS Backup Exec – Media Kit that contains live trial software	
	DP Suite, single server — Designed for backing up a single server, with no server clients, using a single internal or external tape drive	
	DP Suite, SAN standard – Entry level SAN kit that contains:	
	ISV application software for six servers on the SAN	
	Two server clients for backing up over the LAN	
	Each SAN server has a choice of a database agent or open file systems option	
	Support for up to eight shared automated, tape drives	
	DP Suite, SAN advanced – Data center SAN kit that contains:	
	ISV application software for fourteen servers on the SAN	
	DP Suite, Network – Designed for backing up a single server and server clients over the	
	network using a tape drive, an autoloader or business class automation. Includes choice	
	of one database agent or open file systems option.	



		Part Number
Data Protection Suites for	Legato NetWorker	
Backup and Restores (continued)	Phan Kit, VERITAS Backup Exec	293599-B21
	DP Suite, single server edition of Legato NetWorker D1	293600-B21
	DP Suite, EL SAN edition of Legato NetWorker S1	293602-B21
	DP Suite, Corp SAN edition of Legato NetWorker S2	293603-B21
	DP Suite, Network edition of Legato NetWorker D2	293601-B21
	Additional Legato NetWorker Suite Descripitions	
	Phan Kit, Legato NetWorker – Media Kit that contains live trial software	
	DP Suite, single server edition of Legato NetWorker D1 — Designed for backing up a single server, with no server clients, using a single internal or external tape drive	
	DP Suite, EL SAN edition of Legato NetWorker S1 – Entry level SAN kit that contains:	
	ISV application software for six servers on the SAN	
	Two server clients for backing up over the LAN	
	Each SAN server has a choice of a database agent or open file systems option	
	Support for up to eight shared automated, tape drives	
	DP Suite, Corp SAN edition of Legato NetWorker S2— Data center SAN kit that contains:	
	ISV application software for fourteen servers on the SAN	
	DP Suite, Network edition of Legato NetWorker D2— Designed for backing up a single	
	server and server clients over the network using a tape drive, an autoloader or business	
	class automation. Includes choice of one database agent or open file systems option.	



SCSI Identification	Product ID	ESL9000 Series	
	Vendor ID	HP	
Control Panel	Library and Drive Status		
	Move tape cartridges		
	Load/Unload tape drives		
	Maintenance (drive cleaning, or	diagnostics)	
	Library Configuration		
	Statistics		
SCSI Interface	Ultra2 SCSI LVD, 68HD Interc		
	(External cable length between using the LVD extender)	n library and HBA, limited to 10	0 m without LVD extender, extends up to 25 m when
Form Factor	Free Standing		
		Unit	Packaged
Dimensions	Height	75 in/191 cm	80 in/203.2 cm
	Width	60 in/152 cm	71 in/180.3 cm
	Depth	29 in/75 cm	48 in/121.9 cm
Unit Weight	Without data cartridges, 0 driv	es 1444 lb/655 kg	
	SDLT drive in Hot Plug caniste	er 13.5 lb/6.12 kg per drive	
	Without data cartridges, 2 driv	es 1471 lb/667.24 kg	1654 lb/750 kg
	Without data cartridges, 16 drives	1660 lb/752.92 kg	1822 lb/826 kg
Performance (native)	Minimum configuration	2 Hewlett-Packard SDLT 1	60/320 drives, 400/500/595 slots
	Native transfer rates up to 115.2 GB/hr		
	Maximum configuration	16 Hewlett-Packard SDLT	drives, 400/500/595 cartridge slots
		Native backup performance	e up to 921.6 GB/hr
Storage Capacity	Supports 400/500/595 SDLT of	cartridges for native capacity o	f:
	400 slots – 64 TB (128 TB at 2		
	500 slots – 80 TB (160 TB at 2	2:1 compression)	
	595 slots – 95.2 TB (190.4 TB	at 2:1 compression)	
Input/Output Port	Two 4 slot fixed		
Initialization (cartridge inventory) time	< 5 minutes		
Cartridge Swap Time	28 seconds average		
Cartridge Swap Rate	>135 swap/hour		
Cartridge Passthrough time - end to end	78 seconds average		
Electrical Specifications	AC Voltage	Auto-range to domestic and	d international AC voltages
,	-	•	32 VAC or 180 to 264 VAC, single phase
		Nominal: 100 to 120 VAC of	· ·
		Line Frequency Range: 47	
		. , ,	19 Type 100-120V/200-240V, 50/60 Hz, 20A/16A (5-
	Power Consumption	VA Maximum 1,600W 550	



Technical Specifications

Acoustic Noise	Noise Power Emission Level	Idle	7.8 bels
		Operating	8.1 bels
Reliability (Library Only)	MTBF	250,000 hours	
	MSBF	2,000,000 load/unload cycles	
Regulatory Compliance	Safety	UL1950, CSA C22.2 950, EN 60950:1992/A11, IEC 60950:1992/A11, DHHS/FDA (US CFR21 part 1040, Class 1 laser), EN 60825:1994/A11, Nemko	
	Emissions	FCC Part 15 Class A, CE Marking directive (93/68/EEC) (Class A), CISPR Publication 22 Class A, ICES-003 Class A, VCCI Class 1, C-Tick SMA AZ/NZS 3548 Class A BCIQ	
	EN6100-3-2, EN50082-1:1992, EN55022: 1994, EMC Directive [89 Low Voltage Directive [73/23/EEC]		

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