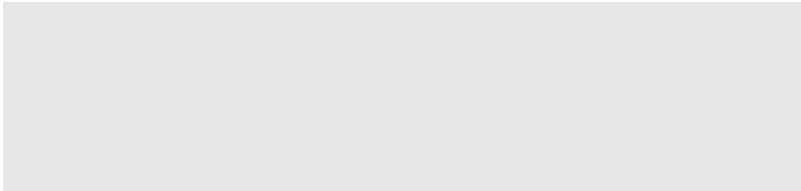




Opening a New Chapter in Library Automation (L700 / L180)

A white paper provided by StorageTek
www.storageitek.com



FEATURED HIGHLIGHTS OF THE L700

L700 Family	L700-700	L700-400	L700-300
# of Drives			
StorageTek 9840	12 max	12 max	12 max
DLT	20 max	20 max	20 max
Cartridge Capacity			
# of Data Cartridges	678	384	216
Plus 12 User Reserved Slots for Cleaning and Diagnostics	(690)	(396)	(228)
Max Data Capacity			
StorageTek 9840 (3:1 Compressed)	40.7 TB	23.0 TB	13.0 TB
DLT8000 (2:1 Compressed)	54.2 TB	30.7 TB	17.3 TB
Aggregate Transfer Rate			
StorageTek 9840 (2:1 Compressed)	864 GB/Hr	864 GB/Hr	864 GB/Hr
DLT8000 (2:1 Compressed)	864 GB/Hr	864 GB/Hr	864 GB/Hr
Average Time to First Data Byte			
StorageTek 9840	12 sec	12 sec	12 sec
DLT8000	97 sec	97 sec	97 sec
Cartridge Access Ports (CAP) (20 Cartridges Each)	1 or 2	1 or 2	1 or 2
Integrated Rack Space for VAR/Customer (1 unit = 1.75")	13 units	13 units	13 units
Cartridge Exchange Rate	450/hr	450/hr	450/hr
Cartridge Fetch rate	900/hr	900/hr	900/hr



The total cost of ownership in the backup process involves 30-40 % for hardware and software and 60-70% for the management of the process. An effective architecture, such as the Aegis Tape Libraries, gives one choices in the control of this management process. Choices in the areas listed below enable users to cost-effectively manage the mass storage environment:

- Tape Technology
- Drives and Cartridge Cells
- Physical Connections
- High Availability
- Remote Monitoring
- Support of Enterprise Frameworks
- Native interfaces
- Network Attach
- SNMP Agent support
- Performance
- Library control path separation
- Scalability

INTERMIX OF DRIVES IN THE L700 LIBRARY FAMILY (sample configurations)

Number of 9840 Drives	12	11	10	9	8	7	6	5
Number of DLT Drives	2	3	5	6	8	9	11	12
Number of 9840 Drives	4	3	2	1	0	0	0	5
Number of DLT Drives	14	15	17	18	18	19	20	11

These capabilities define the uniqueness of the Aegis Tape libraries ... with the initial introduction of the L700 and L180 Performance Leadership Series of libraries from StorageTek.

AEGIS TAPE LIBRARY	
DLT	DLT
STK 9840	STK 9840
STK 9840	DLT
DLT	DLT
DLT	DLT
DLT	DLT
DLT	DLT
STK 9840	STK 9840



Opening a new chapter in library automation, the Aegis Tape Library-based L700 and L180 product families set new standards in

- Hardware Innovation
- Investment Protection
- Information Management

... bringing tomorrow's technology to automation ... today!

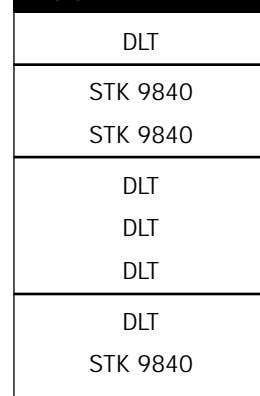
FEATURED HIGHLIGHTS OF THE L180

L180 Family	L180-180	L180-140	L180-080
# of Drives			
StorageTek 9840	6 max	6 max	6 max
DLT	10 max	10 max	10 max
Cartridge Capacity			
# of Data Cartridges	174	140	84
Plus 12 User Reserved Slots for Cleaning and Diagnostics	(180)	(146)	(90)
Max Data Capacity			
StorageTek 9840 (3:1 Compressed)	10.4 TB	8.4 TB	5.0 TB
DLT8000 (2:1 Compressed)	13.9 TB	11.2 TB	6.7 TB
Aggregate Transfer Rate			
StorageTek 9840 (2:1 Compressed)	432 GB/Hr	432 GB/Hr	432 GB/Hr
DLT8000 (2:1 Compressed)	432 GB/Hr	432 GB/Hr	432 GB/Hr
Average Time to First Data Byte			
StorageTek 9840	12 sec	12 sec	12 sec
DLT8000	97 sec	97 sec	97 sec
Cartridge Access Ports (CAP) (10 Cartridges Each)			
	1	1	1
Integrated Rack Space for VAR/Customer (1 unit = 1.75")			
	6 units	6 units	6 units
Cartridge Exchange Rate			
	450/hr	450/hr	450/hr
Cartridge Fetch rate			
	900/hr	900/hr	900/hr

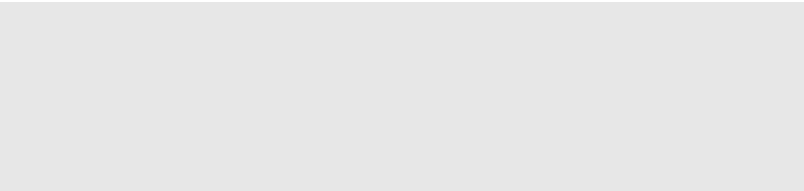
INTERMIX OF DRIVES (max) IN THE L180 LIBRARY FAMILY

Number of 9840 Drives	6	5	4	3	2	1	0
Number of DLT Drives	1	2	4	5	7	8	10

AEGIS TAPE LIBRARY



Information Management Features	Benefits
Web-Based Library Management	Support of the powerful Horizon Library Management System™ for integration into Enterprise-wide frameworks for ... Comprehensive Library Monitoring Application-independent Library Management True Library Sharing Sophisticated Media Management.
IP Addressing	Web connection of the future with IP protocol for library control via an Ethernet port.
Horizon Library Monitor™	Innovative display technology for monitoring information and configuration changes from a web browser ... "AnyTime, AnyPlace."
Auto-Discovery	Automatic configurability with automatic drive configuration determination, automatic mapping of logical addresses and automatic reporting of configuration information • avoiding burdensome manual operations.
Failure Notification to the Network	Instant alert capability providing problem resolution information in real-time.
SNMP Agent	SNMP agent placed within the library providing connectivity to a variety of disparate servers on the network.
Remote Administration	Real-time information provided for command and control from anywhere.



Hardware Innovation Features	Benefits
Flexible Drive-Capacity Configurations	Data bandwidth and capacity configurability. Flexible options for number of drives, drive types and capacity expansion.
Faster Tape Drives	StorageTek 9840 tape drive (Ideal for rapid data transfer at 20 MBS compressed) reduces the backup window. Fast access time to data of 16 seconds is an industry breakthrough allowing many more data accesses per hour than prior tape and library technologies.
Native Fibre Channel Interfaces	The StorageTek 9840 and L700/L180 native Fibre Channel interfaces make Aegis Tape Libraries the industry's first all-native Fibre Channel automated tape solution ... a key component for SAN environments.
Fast Cartridge-Handling Speed	An industry leading 4-second average cartridge fetch time expands the library applications to an HSM (many accesses) environment.
Whisper-Quiet Robotics	Quiet robotics allow the Aegis Tape libraries to be placed in an office environment.
Rapid Audit Time	At less than 4 minutes for a full inventory audit of cartridge, drives and cells, the L180/L700 leads the industry in reducing the time that data is placed off-line.
Independent Cable Paths	Independent data paths for library control and drive data allow for maximum flexibility in cabling attachment and in establishing alternate access paths to data ... reducing potentially serious I/O bottlenecks.
Real-Time Hot-Swappable Drives and Power Supplies	Hot-pluggable technology allows drives, power supplies and fans to be replaced without interrupting other data activity.
Automatic Power Supply Fail-Over	Continuous robotics availability with automatic power supply fail-over using redundant power supplies.
Digital Vision System	Providing pinpoint accuracy for mechanical calibration on a real-time basis between the robot, the cartridge gripper and the cartridge throat on the tape drive. Eliminates cartridge-handling failures and minimizes the effect of cartridge wear and debris generated in the system.

Investment Protection Features	Benefits
Cartridge-Hand Technology	Reliable cartridge-handling for multiple types of cartridge technology . Handles StorageTek 9840, DLT, and the forthcoming LTO Ultrium and SuperDLT. Enables an intermix of technologies within the library.
Intelligent Cell Technology	Allows any of the cartridge technologies to be placed in any cell— avoiding dedicated library cells for each technology type .
Adaptive Media Technology™	Any Cell-Any Technology capability allows a single library to be shared with multiple applications of different tape technologies .
Integrated Rack Space	Integrated rack space for VAR/customer options such as Fibre Channel to SCSI bridges, routers, SAN gateways, RAIT controllers, RAIDs, etc. Protects the overall library investment and creates an easy venue to add options and features .
Scalable Expansion	Configure a number of tape drives in order to match application requirements . Add cartridge capacity as application needs increase .
Future Drive Capability	Add SuperDLT, LTO Ultrium and future versions of the StorageTek 9840 tape drives ... when available ... for increasing application needs.
Data Migration	Move existing data from one technology to another, at a controlled pace of change , due to the capability to intermix cartridge technologies within the library.
Intermixed Fibre Channel and SCSI Interfaces	Intermix Fibre Channel and SCSI physical connections to maximize prior technology investments .

**StorageTek L700 and L180 Tape Libraries—
Opening a New Chapter in Library Automation**

Making a difference with new automation products continues to challenge the technological capability of the industry. StorageTek's Aegis Tape Libraries combine hardware engineering innovation with the unique systems engineering experience of StorageTek in tape drive, tape library, networking and disk products to introduce the L700/L180 family of library products.