# STORAGETEK®

# POWDERHORN®

## 9310 TAPE LIBRARY

## Key benefits

### Expand with ease

Grow into — not out of — your storage solution with a scalable 28 petabytes of native storage capacity per library.

### Centralize your data

Share business-critical information across multiple environments including supercomputers, mainframes, UNIX and Windows NT, all from a single centralized resource.

### Simplify your life

Control up to 144,000 tape cartridges per library using ACSLS Manager software or up to 96,000 cartridges using nearline control solution software. With one tape library to manage, you can free up resources for other business challenges.

### Back up with confidence

Consolidate up to 960 tape drives in one system for native throughput of over 100 terabytes per hour per library.

### Use resources completely

Add StorageTek's Virtual Storage Manager system and fill your tapes from end to end. You use 100 percent of tape capacity, so you make the most of existing storage resources — and IT dollars.

### Configure as needed

Choose the right drive and interface for each application, including the access-centric T9840 tape drive or the capacity-centric T9940 tape drive with native ESCON, Fibre Channel and SCSI interfaces.



## PowderHorn® 9310 tape library

Companies worldwide are searching for ways to reduce headaches for IT staff and get more done with fewer resources. That's why StorageTek® designed the PowderHorn® 9310 tape library to meet the demands of the world's largest data centers. This tape library accommodates up to 144,000 tape cartridges for 28.8 petabytes of native storage capacity. You can consolidate enterprise storage in a single location and simplify the way you manage, protect, share and store data across the enterprise.

### 24 x 7 x forever storage

The PowderHorn 9310 tape library is the enterprise library of choice for many of the world's largest companies and organizations. It's especially popular in high-performance open systems and mainframe environments that demand extreme levels of reliability, capacity and scalability at the lowest possible cost per slot. When combined with high-performance T-Series™ tape drives from StorageTek, the PowderHorn tape library provides the foundation for a solid storage strategy, with the throughput and capacity required for on-demand data delivery and massive data storage applications.

### Infinite capacity for insatiable environments

You can't outgrow the PowderHorn 9310 tape library. Each of its silos can accommodate up to 1,200 terabytes of native storage, which translates into approximately 2,400 terabytes for typical open systems applications and 3,600 terabytes for mainframe applications. When combined with the Virtual Storage Manager® (VSM®) system, the 9310 tape library provides efficient information stacking on cartridges, dramatically increasing the effective storage capacity of each tape cartridge. You'll have more storage for new applications that may have otherwise been put on hold.

### Intelligent storage for years to come

The PowderHorn 9310 tape library's unique non-linear, 360-degree rotational robotics provide density and scalability. Unlike linear designs that degrade in performance as capacity is added, PowderHorn architecture includes a robot with redundant hands in each library storage module (LSM). The result: performance scales upward as capacity is added, so your storage system continues to meet the demands of your ever-increasing workload.

## Baseline Implementation Services

StorageTek's Implementation Services helps you achieve the full benefits of your storage solution investments — right from the start. Baseline Implementation for the enterprise tape library provides services to deliver and enable full functionality and utilization of your storage asset. enterprise tape library base service applies to the following:

- StorageTek enterprise-class tape libraries (StreamLine™ SL8500 modular library systems, PowderHorn® 9310 and L5500 tape libraries)
  - OS/390 environments requiring Host Software Component (HSC) software
  - Open systems environments requiring ACSLS Manager™ software
- Existing library environments requiring the reconfiguration of HSC software or ACSLS Manager software in order to implement an additional library

This service includes the installation and configuration or reconfiguration of library software, testing of library software utilities, as well as configuration of the library in your environment. If applicable, Backup Resource Monitor™ software is installed and set up to report on your backup operation. In addition, the service includes design validation, testing, documentation, project management and knowledge transfer.

In addition to Baseline Implementation Services, StorageTek offers two tiers of higher-level consulting services for organizations whose implementation needs go beyond the baseline level.

## Custom Implementation Services

StorageTek's Implementation Services helps you achieve the full benefits of your storage solution investments — right from the start. Custom Implementation Services for enterprise tape library migration provides the services you need for a complete migration solution. This service is designed to enable seamless migration of your existing tape environment to a StorageTek enterprise-class automated tape library (StreamLine™ SL8500 modular library systems, PowderHorn® 9310 and L5500 tape libraries). StorageTek Services provides a custom designed migration service that is specific to your environment and migration requirements and helps enable interoperability, functionality and availability of new and existing storage assets.

In addition to Custom Implementation Services, StorageTek offers higher-level consulting services for organizations whose implementation needs go beyond this level.

## To learn more

To learn more about the PowderHorn tape library and how it can help you calm the chaos in your storage environment, talk to your StorageTek representative or visit www.storagetek.com.

# PowderHorn® 9310 tape library specifications

| Performance | PowderHorn (single LSM) library | PowderHorn (24 LSM) library |
|---|---|---|
| Throughput per hour, native (uncompressed) | T9840A (10 MB/sec) – 2.9 TB/hr; T9840B (19 MB/sec) – 5.5 TB/hr; T9840C (30 MB/sec) – 8.6 TB/hr; T9940A (10 MB/sec) – 2.9 TB/hr; T9940B (30 MB/sec) – 8.6 TB/hr; TimberLine 9490 (6 MB/sec) – .035 TB/hr | T9840A (10 MB/sec) – 34.6 TB/hr; T9840B (19 MB/sec) – 65.7 TB/hr; T9840C (30 MB/sec) – 103 TB/hr; T9940A (10 MB/sec) – 34.6 TB/hr; T9940B (30 MB/sec) – 103.7 TB/hr; TimberLine 9490 (6 MB/sec) – 4.1 TB/hr |
| Audit time | Variable depending on configuration. | Variable depending on configuration. |
| Average cell to drive time | 4 sec | 4 sec |

| Capacity | | |
|---|---|---|
| Capacity, native (uncompressed) | T9840A (6,000 carts, 20 GB/cart) – 120 TB; T9840B (6,000 carts, 20 GB/cart) – 120 TB; T9840C (6,000 carts, 40 GB/cart) – 240 TB; T9940A (6,000 carts, 60 GB/cart) – 360 TB, T9940B (6,000 carts, 200 GB/cart) – 1.20 PB; TimberLine EE (6,000 carts, 1.6 GB/cart) – 9.6 TB | T9840A (144,000 carts, 20 GB/cart) – 2.880 PB; T9840B (144,000 carts, 20 GB/cart) – 2.880 PB; T9840C (144,000 carts, 40 GB/cart) – 5.760 PB; T9940A (144,000 carts, 60 GB/cart) – 8.640 PB; T9940B (144,000 carts, 200 GB/cart) – 28.800 PB; TimberLine EE (144,000 carts. 1.6 GB/cart) – 230 TB |
| Number of cartridge slots | 2,000, 3,000, 4,000, 5,000 or 6,000 per library storage module (LSM) | 2,000, 3,000, 4,000, 5,000 or 6,000 per library storage module (LSM); up to 24 LSMs (144,000 cartridges) under ACSLS Manager control; up to 16 LSMs (96,000 cartridges) under NCS/HSC control |
| Number of tape drives/types | Up to 4 stand-alone drive frames per LSM (20 drives/frame); 1–20 T9x40 drives per frame; 2–4 TimberLine 9490 drives per frame | 1–4 drive frames per LSM (stand-alone); up to 2 drive frames per LSM in a dense pack configuration; 1–20 T9x40 drives per frame; 2–4 TimberLine 9490 drives per frame |
| Cartridge access port (CAP) | Standard 21-cartridge capacity; optional 80-cartridge capacity | Standard 21-cartridge capacity; Optional 80-cartridge capacity |
| Pass-through-port (PTP): | No PTP required for single LSM | Up to 4 PTPs per LSM |

| Availability | Applies to single LSM library and 24 LSM library | |
|---|---|---|
| Mean exchanges/swaps between failure (MEBF/MSBF) | 2,000,000 | |
| Mean time to repair (MTTR) | <30 min | |
| Non-disruptive serviceability | Redundant robotic hands, redundant AC input (optional), redundant library management units (optional) | |

| Compatibility | | |
|---|---|---|
| Supported host platforms | All major operating systems | |
| Robotics control interfaces | TCP/IP (IEEE 802.3, 10 baseT, half-duplex) or RS423 ACSLS Manager host software control | |

| Management | | |
|---|---|---|
| Digital vision system | Unique digital vision camera system performs continuous calibration and reads bar codes | |
| Operator panel | User-friendly configuration and diagnostic controls, status display and large viewing window (optional) | |
| Automatic clean | Dedicated cleaning cartridge slot for tape drive cleaning by library or software command | |
| Automatic self discovery | Self-configures the drives, slots and CAP; also identifies drive and media types | |
| Continuous automation calibration | No periodic maintenance or alignment required | |

| Mechanical | | | |
|---|---|---|---|
| Library | Height | Diameter | Weight |
| | 92.5 in (234.9 cm) | 128 in (325 cm) | Empty: 5,200 lb (2,249 kg); loaded: 8,200 lb (3,610 kg) |

| Environmental | | |
|---|---|---|
| Temperature | | |
| Operating | +60° to +90° F (+16° to +32° C) | |
| Non-operating | +40° to +90° F (+4.4° to +32° C) | |
| Relative humidity | | |
| Operating | 20% to 80% | |
| Non-operating | 10% to 90% | |

| Power | | |
|---|---|---|
| Voltage | 220–240 VAC @ 50–60 Hz single phase (auto-ranging) | |
| Library (operating maximum continuous – not peak) | 1.75 A @ 120 V, 0.88 A @ 240 V, 716 BTU/hr | |
| Drives | Drive power consumption varies — refer to individual drive specifications | |
| Power consumption/dissipation | Max 12 amps per single phase @ 180X VAC (200 VAC nominal); 1.1 KW (single LSM),  1.2 KW (24 LSM), 1.5 kVA, 3.75 Btu/hr, 950 kCAL/hr | |

| Regulatory compliance | | |
|---|---|---|
| Safety | UL 1950; CAN/CSA 22.2 No. 950; EN60950 | |
| Electromagnetic compatibility | FCC (47 CFR 15, Subpart B) Class A; CE (EN55022 Class A, EN55024, EN61000-3-2, EN61000-3-3)VCCI (CISPR 22) Class A; Canada (ICES-003) Class A | |
| Immunity | European Union CE immunity standards | |

## ABOUT STORAGETEK®

Storage Technology Corporation (NYSE: STK) is a $2 billion global company that enables businesses, through its information lifecycle management strategy, to align the cost of storage with the value of information. The company's innovative storage solutions manage the complexity and growth of information, lower costs, improve efficiency and protect investments. For more information, visit www.storagetek.com, or call 1.800.275.4785 or 01.303.673.2800.

## WORLD HEADQUARTERS

Storage Technology Corporation
One StorageTek Drive
Louisville, Colorado 80028 USA
1.800.877.9220 or 01.303.673.5151

**STORAGETEK** ®

TC 0016 A  11/04