

# Sun StorageTek™ T9840 Tape Drive Family

The fast-access alternative to disk



## Highlights

### • Boost efficiency

- Access-centric drives provide fast access combined with increased capacity
- Choose FICON, and Fibre Channel interfaces to provide a cost-effective alternative to disk for applications such as check imaging and hierarchical storage management

### • Protect investments

- The StorageTek T9840D is backward compatible with the three prior generations of T9840 tape drives
- Mix and match tape drives in StorageTek tape libraries to achieve the optimum balance of access and capacity

### • Protect sensitive data

- Ensure that only authorized people are granted access to encrypted data with the crypto-ready T9840D tape drive
- Use StorageTek VolSafe™ secure media technology for Write-Once Read-Many (WORM) protection

### • Maintain 24x7 data availability

- Designed to support 24x7 operations with enterprise-class high duty cycles and high reliability with features such as a 16-channel tape head, internal tape path and robust motors and cartridge loading mechanism



In transaction-intensive IT environments, speed, reliability, security, and predictability are core data protection requirements. The newest member of Sun's access-centric tape drive family, the industry-leading, crypto-ready Sun StorageTek™ T9840D tape drive provides fast data access, fast recall, and high throughput. As a result, you can improve response times, shrink backup windows, accelerate batch processing, reduce data recovery times, and improve system and application availability.

The Sun StorageTek T9840D tape drive, with its access-centric two-reel design, supports fast access to data and offers exceptional data protection advantages:

- Reduce total cost of ownership with four generations of T9840 tape drives able to utilize the same media cartridge
- Store 75 GB native capacity on a single cartridge — nearly two times more than the StorageTek T9840C
- Use encryption technology to secure data onsite, offsite, and in transit

The StorageTek T9840D tape drives use the same Sun StorageTek™ 9840 data cartridge as the T9840A, T9840B, and T9840C tape drives. If you currently use StorageTek T9840 drives, you can leverage your existing media assets with the StorageTek T9840D to meet changing storage requirements. For example, simply reuse existing cartridges to store higher capacities and apply your media budget to the purchase of capital assets.

### Improve efficiency in mainframe environments

The StorageTek T9840D tape drive provides direct-attach FICON, which help enable remote storage applications and increase business continuance options. Support distances of up to 100 kilometers with FICON without channel extensions or significant throughput reduction. With direct connection, you decrease cost, complexity, and points of failure.

In mainframe environments, you can use StorageTek T9840D tape drives with the StorageTek Virtual Storage Manager® (VSM®) system for speedy retrieval of active data or with Hierarchical Storage Management (HSM) software to centralize storage management.

### Enable high performing SANs in open systems environments

The StorageTek T9840D tape drive offers a native two-gigabit, fabric-aware Fibre Channel interface, enabling high-powered connectivity. Implement a high-speed Storage Area Network (SAN) with confidence. With a 200 MB/s burst data rate and a 30 MB/s sustained data transfer rate, the StorageTek T9840D helps reduce network congestion and gives you the performance you need to place more and more data on cost-effective tape. You gain the speed you need for backup/recovery or disaster recovery.

In open systems environments, you can use StorageTek T9840D tape drives with Sun StorageTek ACSLS Manager™ software to implement a centralized library management solution that allows you to dynamically allocate library resources without hard partitioning tape slots.

### Take advantage of ultra-reliability to boost availability

The industry-leading StorageTek T9840D's enterprise-class engineering and performance minimize the risk of downtime and help you maintain 24x7 operations. With the ultra-reliable T9840D in your infrastructure, you can improve efficiency and worry less with these unique features:

- Heated tape heads contribute to consistent operational temperature and reduce condensation to extended head life
  - Sixteen-channel heads reduce the required number of tape passes and increase data reliability
  - Tape path remains inside the media cartridge, which improves data integrity, and accelerates access times
  - Removal of tape from heads during high speed operations, such as search and rewind, extends the life of the head and reduces the need for head cleaning
- Data buffer management allows drive back hitching to be accomplished more quickly than the data buffer can be filled, resolving the issue of data interruption from the server at slow throughput speeds
  - Robust cartridge loader mechanism is designed to operate in the industry's leading library, the Sun StorageTek™ SL8500 modular library system and other StorageTek libraries

### Protect sensitive data with encryption and WORM

Choose one or both—encryption and Write-Once Read-Many (WORM) technology—to help manage and protect growing amounts of sensitive data on- or off-premises and to reduce financial and legal risk associated with lost data.

The crypto-ready StorageTek T9840D tape drive provides device-level security. It works in conjunction with the Sun™ Crypto Key Management System, an appliance that provides a simple, centralized, scalable solution for managing the keys used to encrypt and decrypt data written by the T9840D tape drive.

Sun StorageTek VolSafe™ secure media technology for the T9840D tape drive helps you meet stringent electronic storage regulatory and legal requirements with WORM capability. Securely archive data on non-erasable, non-rewritable tape and recall data within seconds when you need it.

### Protect your investments today and tomorrow

The T9840D tape drive is compatible with most Sun StorageTek automated tape libraries. Through advanced functionality, such as Any Cartridge Any Slot technology, you can easily adopt and mix new technologies, drives and media types, thereby protecting the value of your Sun library investment. Use the T9840D in combination with other drives, such as the capacity-centric Sun StorageTek™ T10000 tape drive, to achieve specific access and capacity objectives, with an attractive total cost of ownership. Media re-usability, which dates back to 1998 for the T9840 family, paves the way for affordable tape drive upgrades. Supported by VSM, the StorageTek T9840D offers even greater optimization of your existing storage management solution.

Performance. Reliability. Investment protection. With the T9840D, you can bolster business continuance or disaster recovery or “business as usual.”

### Engage the storage experts

Sun’s StorageTek service professionals help you address storage challenges by delivering integrated services and solutions that optimize and manage storage performance over the life of your data. Our implementation services address utilization, availability, capability planning and management efficiency, helping you quickly realize the benefits from your investment so you can continue to access the information you need, when you need it. Our consulting and managed services offer clear and simple choices in solutions that address your regulatory concerns, complex storage growth, resource management, and scalability. Sun storage service professionals can help you gain and sustain measurable results with the reliability and flexibility that you require.



Sun™ Crypto Key Management System

## Sun StorageTek T9840D and T9840C tape drive specifications

(specifications apply to both D and C unless otherwise noted)

### Performance

Tape load and thread to ready	8.5 sec
Average file access time (first file)	8 sec
Average access time	16.5 sec
Maximum/average rewind time	16/8 sec
Unload time	12.5 sec
Data transfer rate, native (uncompressed)	30 MB/s
Data transfer rate, native (compressed)	70 MB/s

### Capacity

Capacity, native (uncompressed)	
StorageTek T9840D	75 GB
StorageTek T9840C	40 GB

### Availability

Mean Time Between Failures (MTBF)	
Power on	290,000 hr @ 100 percent duty cycle
Tape load	240,000 hr @ 10 loads/day (100,000 loads)
Tape path motion	216,000 hr @ 70 percent TPM duty cycle
Head life	8.5 yr @ 70 percent TPM duty cycle
Uncorrected bit error rate	1x10 <sup>-18</sup>
Undetected bit error rate	1x10 <sup>-33</sup>

### Compatibility

Interface	2 Gb Fibre Channel*, 2 Gb FICON for VSM and FICON Express Channels
Burst transfer rate	
Channel rate (Fibre Channel)	200 MB/s (maximum instantaneous)
Interface (Fibre Channel)	N & NL port, FC-PLDA (hard and soft AL-PA capability), FC-AL-2 FCP-2, FC-TAPE
Read/write compatibility interface	Proprietary format
Emulation modes	Native, 3490E, 3590H

### Mechanical

Height	5.25 in. (13.3 cm)
Depth	15.0 in. (38.1 cm)

### Environmental

Temperature	
Operating	+59°F to +90°F (+15°C to +32°C)
Non-operating	+50°F to +104°F (+10°C to +40°C)
Relative humidity	
Operating	20% to 80%
Non-operating	10% to 95%
Power	
Voltage	100–240 VAC @ 50–60 Hz
Consumption/dissipation – (operating maximum continuous – not peak)	82 VA/280 BTU/hr

### Encryption

The crypto-ready StorageTek T9840D tape drive works in conjunction with the Sun™ Crypto Key Management System (KMS). The KMS delivers a simple, secure, centralized solution for managing the keys used to encrypt and decrypt data written by the T9840D tape drive. The appliance is based on a Sun Ultra™ 20 Workstation preloaded with Key Management software and a secure version of the Solaris™ 10 operating system. The KMS runs without regard to application, operating platform, or primary storage device. It complies with Federal Information Processing Standard (FIPS) 140-2 certification. Requirements and specifications may change, so check with your Sun representative.

\*Check with sales representative for availability.

### Learn More.

To learn more about Sun StorageTek T9840 drives, talk with your Sun representative or visit [sun.com/storagetek](http://sun.com/storagetek)