



## CM140T™ Storage Security System for Tape

The new standard for scalable, enterprise-class encryption of tape and VTL

### KEY BENEFITS

Protects confidentiality of tape- and VTL-based stored data with 256-bit AES encryption

Comprehensive feature set includes data compression, SAN access control, integrity checking, and centralized key management

LTO-4 key management secures mixed-generation environments and enables easy migration from legacy to encrypting tape drives

16-port connectivity in a compact, 1U chassis minimizes space and power requirements

Flexible network design options allows transparent connectivity to existing SAN fabrics or deployment as a standalone FC switch

Encrypting backup tapes containing personal, proprietary and other confidential information has become a top priority for organizations seeking to comply with government regulations addressing data privacy or prevent an embarrassing, publicly reported data loss. Until recently, solutions that secure tape media and virtual tape have been limited to software applications that dramatically extend backup windows or inline appliances that are complex to manage and expensive to scale. CipherMax's CM140T offers a scalable, easy-to-manage storage security solution for tape and virtual tape backup. With support for 16-port, any-to-any connectivity, storage access control, line-speed data compression, data integrity authentication and automated key management, the CM140T delivers a complete solution for all tape storage security requirements.

### Migrating to LTO-4 Encryption

As a next-generation storage security solution, the CM140T provides innovative features that enable unique solutions like migration from non-encrypting legacy tape drives to LTO-4 encrypting tape drives. As users add LTO-4 drives into their existing libraries equipped with legacy LTO-2/3 drives, the CM140T serves as a single point of management for policies and encryption keys, and enables support for encrypting data onto existing LTO-3 tape media using LTO-4 drives. For users wishing to combine disk-based virtual tape into their backup processes, the CM140T provides a single solution that protects investment in existing infrastructure and avoids changes to predefined backup processes and procedures.

### Scaling Storage Security Across the Enterprise

The CM140T architecture was specifically designed for performance and scalability to address the security and compliance requirements of enterprise storage networks. This

architecture supports critical features required by large, distributed environments including:

**High port count:** The CM140T supports up to 16 ports in a single chassis, or 32 ports in a clustered configuration.

**High performance processing:** High-speed hardware -based processing provides line-speed throughput of compressed and encrypted data for multiple tape drives using standards-compliant, 256-bit AES tape encryption (IEEE P1619.1).

**Centralized management:** CipherMax's innovative "single pane of glass" global management model enables seamless, scalable administration and operational support for any number of CM systems across a distributed SAN through a single, secure user interface.

**Advanced key management:** Automated detection of tape media generation, tape format status, scratch tapes and encryption key associations enables the application of predefined security policies for encryption and key rotation.

**Intelligent configuration:** Automatic zoning detection and optional support for LUN masking and re-mapping significantly reduce setup time and mitigate the possibility of configuration errors.

**Tape media ID-based key management:** Redundant cataloging of encryption key associations with tape media IDs in the CM140T and KeyCruiser ensures the recoverability of data at all times.

**Data integrity authentication:** Digital signature-based integrity confirmation on a block-by-block basis enhances the ability to comply with regulatory requirements affecting data retention controls.

**Integrated SAN fabric:** The CM140T can be installed in controller mode for transparent installation and operation, in discovery mode by trunking onto an existing switch, or full FC switching mode for maximum value. The CM140T supports fully load-balanced traffic

with any-to-any connectivity across multiple trunked lines provides enhanced performance and resiliency against disruptions.

**Energy and space efficiency:** The CM140T's 1U chassis design and ultra low power consumption relative to data throughput provide the industry's lowest operational cost.

### KeyCruiser Key Lifecycle Management

CipherMax's key lifecycle management system provides users with secure, manageable and flexible administration of their data encryption keys and enables the implementation of automated key control processes designed to mitigate the possibility of lost or exposed keys. *KeyCruiser* maintains a database of tape media labels and their associated keys, and can be set

up to share those keys with other trusted CM140Ts. Clustered *KeyCruiser* systems support redundant storage of encryption keys and system configurations with geographic separation, ensuring the ability to recover data or complete systems at all times.

### Complete Storage Security Solutions

A CM140T system can be implemented as a standalone device for tape encryption services or in combination with other CipherMax CM systems to provide complete storage security solutions across distributed storage networks. Tested and approved storage security solutions like Secure LTO-4 Migration, SecureVTL™ and SecureDR™ enable the complete protection and management of sensitive data while “at rest,” or “in flight” to a remote backup location.

## CM140T Series for Tape Specifications

### Recommended Environment

Up to 8 tape drives or virtual tape drives at LTO-3 speed, compressed and encrypted

### Components and Options

System chassis includes two power modules, three hot-swappable fan modules, an integrated switch fabric and system control functions. Systems can be clustered for high availability and scalability.

### I/O Connectivity

- 16 auto-sensing 1-2 Gbps FC ports
- Small Form Factor Pluggable (SFP) transceivers
- Auto-sensing of E\_Port/F\_Port type; configurable as N\_Port device

### Protocols

SCSI FCP; SSL; SSH; Secure FTP; RADIUS

### Security

- Hardware-based, IEEE P16191-compliant, 256-bit AES data encryption
- Block-level integrity checking
- FIPS 140-2 tested at Level 2 (validation pending NIST approval)

### System Monitoring

Temperature, fan, and power supply status monitored by system firmware with SNMP trap and alert notification to *SANCruiser* network management system.

### Management

*SANCruiser* web-based management with discrete storage and security administration roles (Linux/Windows)

Advanced key management features include:

- Tape Media Label Tracking—maintains key-to-tape mapping database
- Automatic Tape Format Detection—identifies blank, plaintext and ciphertext tapes
- Automatic Scratch Tape Detection—applies default key to recycled tapes from scratch pool

- Plaintext Tape Header Support—allows backup applications to read tape header
- Automatic Tape Generation Detection—enables LTO-3 media encryption using LTO-4 drives
- LTO-4 Tape Drive Security Configuration and Key Management

### Software

- Any number of ports can be grouped into an inter-switch trunk
- FSPF trunking software ensures proper frame ordering while offering dynamic load balancing
- SAN access control with optional LUN masking and LUN mapping functions
- Data recovery utility for Linux-based PC

### Key Management

*KeyCruiser* key lifecycle management system provides automated backup of encryption keys and security configurations with up to 16-way clustering. (Linux/Windows)

### Fault Management

Fault detection, notification and automatic recovery

### Form Factor

1U rack mount enclosure, installable into standard 19-inch racks

### Environmental

Operating temperature: 0°C to 40°C

Storage temperature: -25°C to 70°C

Relative humidity: 5% to 95% non-condensing

### Weight and Dimensions

Weight: 32 lbs (14.5 kg)

Dimensions: 1.75 in H 17.25 in W x 28 in L

### Power Supplies

100-240 VAC, 47 to 63 Hz

Max input current: 4A @ 100VAC

### CORPORATE HEADQUARTERS

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