



IBM System Storage TS1140 Tape Drive

Addresses data protection and long term retention

Highlights

- Offers best-in-class high performance and high capacity tape processing for storage consolidation
 - Provides information security with support for encryption and key management
 - Optimizes information retention with support for existing IBM tape automation
 - Supports Write Once Read Many (WORM) cartridges to help satisfy compliance requirements
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Marketplace and customer demands require applications that rely on high capacity, fast access to data and/or long-term data retention. The IBM System Storage® TS1140 Tape Drive (TS1140 tape drive) features storage capabilities to help you establish easy, rapid access to data, better security, long-term retention and data governance and regulatory compliance. The TS1140 tape drive offers high-performance flexible data storage with support for data encryption. The TS1140 tape drive can help you protect your investments in tape automation by offering compatibility with existing automation. To further protect your investment, an upgrade model is available for your existing IBM System Storage TS1130 Tape Drives. For support of heterogeneous server environment, the TS1140 offers multiplatform support and can scale from midrange to enterprise environments.

The TS1140 tape drive supports the IBM System Storage TS3500 Tape Library and IBM racks that enable stand-alone installation. The TS1140 features three options for media. The 3592 Advanced data tape cartridge, type C, provides up to 4.0 TB native capacity and up to 4.0 TB on the 3592 Advanced WORM cartridge, type Y. A limited capacity of up to 500 GB Economy cartridge, type K, offers fast access to data.



To help optimize drive utilization and reduce infrastructure requirements, the TS1140 tape drives can be shared among supported open system hosts on a Storage Area Network (SAN) or between IBM FICON® and ESCON® mainframe hosts when attached to an IBM System Storage Tape Controller for System z

Access information at the speed of business

Leverage performance to handle the requirements of your business needs. The TS1140 tape drive supports a native data transfer rate of up to 250 MBps to deliver information at the speed your business demands. Help reduce backup and recovery times or require fewer resources to support the environment with the TS1140 tape drive transferring data up to 650 MBps with data compression.

Address your needs in one tape storage solution

Lower your cost of ownership with the flexibility of the TS1140 tape drive. Reduce the need to purchase two different tape drives with a tape storage solution that address both the need for high capacity, as well as fast access to data. Support data retention needs with 3592 WORM cartridges and media partitioning for more flexible data management. Also, promote data interchange with the ability to read and write data in the same format as the previous IBM System Storage TS1130 Tape Drive.



Encryption to protect sensitive data

Security is an important issue when storing, accessing and managing your data. Encryption is a potent technology to help protect data against theft or accidental loss, particularly data that contain the personal or sensitive information of your company's customers.

Reduce the need for host-based encryption—and the concurrent drain on performance—or reduce the use of specialized encryption appliances with the built-in data encryption capabilities of the TS1140 tape drive. This capability is intended to provide customers with greater ability to protect information if tape cartridges are lost or stolen by supporting the storage of the data in an encrypted form.

Generate and manage encryption keys for TS1140 tape drives across the enterprise with the IBM Tivoli® Key Lifecycle Manager component. TKLM provides the interface between the IBM encrypting tape drive products and external keystores.

To further protect mission-critical data, the TS1140 tape drive provides advanced technology—such as error correction code and factory-written servo tracks on the tape cartridge—to provide precise head positioning. In addition, unique functions such as virtual backhitch and a high-resolution directory help improve small file write performance and improve recall access to data, respectively.

Simplify and better manage with multiplatform support

A heterogeneous server environment can simplify your storage environment. The TS1140 tape drive offers multiplatform support for IBM Power Systems™, IBM System p®, System i® and System x® and is supported on System z® servers by the Tape Controller for System z.

The IBM System Storage Tape Controller for System z offers FICON attachments of TS1140 tape drives in a TS3500 tape library or rack to support drives.

Reduce hardware and infrastructure requirements by sharing tape drives with FICON hosts. The Tape Controller for System z also offers the ability to perform non-disruptive addition of tape drives, which helps enhance configuration flexibility and availability. Further information on supported environments can be found in the specifications in this document or at the following URL: ibm.com/systems/storage/tape/ts1140

Support applications with storage management software

IBM Tivoli Storage Manager and other compatible software offerings provide storage and tape management software for the TS1140 tape drive. Supported software and applications should be obtained separately from IBM, IBM Business Partners, or independent software vendors (ISVs).

Media capacity cartridge options

The IBM 3592 cartridges used in the TS1140 tape drive are available in short and advanced lengths and in rewritable and WORM formats. Cartridges can be ordered in packs of 20 and can be labeled and initialized, initialized only, or unlabeled and uninitialized. An RFID label option is also available. For more information, contact your IBM representative or IBM Business Partner or visit: ibm.com/systems/storage/media

TS1140 tape drive at a glance

Characteristics

Recording technique	Linear Serpentine
Number of tracks	2560
Native capacity (uncompressed)	4 TB (using JC/JY media), 1.6 TB (using JB/JX media), or 500 GB (using JK media)
Native sustained data rate (uncompressed)	250 MBps
Adaptive instantaneous data rates	12 speeds, from 85 MBps to 203 MBps for 3592 JB/JX cartridges initialized in Gen 4 format 12 speeds, from 90 MBps to 251 MBps for 3592 JC/JK/JY cartridges initialized in Gen 4 format 12 speeds, from 51 MBps to 163 MBps for 3592 JB/JX cartridges initialized in Gen 3 format 12 speeds, from 48 MBps to 151 MBps for 3592 JB/JX cartridges initialized in Gen 2 format
Burst data rate	800 MBps
High-speed search (max)	12.4 mps
Warranty	One year

Physical characteristics

Dimensions	95 mm H x 198 mm W x 467 mm D (3.8 in x 7.8 in x 18.4 in)
Weight	5.7 kg (12 lbs 7 oz)

Operating environment

Temperature with media	16° to 32° C (60° to 90° F)
Relative humidity	20% to 80% non-condensing (limited by media)
Wet bulb maximum	26° C (78.8° F)
Maximum continuous operating power dissipation (drive and integrated blower)	51 Watts

Platform Support

	Platform	Operating System
IBM	Power Systems	IBM AIX®, IBM i®, Linux®
	System p	IBM AIX and Linux
	System i	IBM i® and IBM OS/400® ¹
	System x	see open system support
	System z	IBM z/OS®, IBM z/VM®, IBM z/VSE® and Linux
Open Systems	Hewlett-Packard	HP-UX
	Oracle	Solaris
	Servers with Intel® or AMD processors	SUSE Linux Red Hat Microsoft® Windows®
Encryption support		IBM z/OS, z/VM, z/VSE IBM i, AIX, HP, Sun, Linux and Windows

Tape Controller for System z at a glance

Characteristics

Number of FICON interfaces	up to 4
FICON maximum channel link speed	400 MBps
FICON long wavelength maximum distance (unrepeated, single link to controller)	100 km
FICON short wavelength maximum distance (unrepeated, single link to controller)	150 m
Warranty	1 year

Physical characteristics

Dimensions	172 mm H x 442 mm W x 573 mm D (6.8 in H x 17.4 in W x 22.6 in D)
Weight	35 kg (78 lb)

Operating environment

Temperature with media	16° to 32° C (60° to 90° F)
Relative humidity	20% to 80% non-condensing (limited by media)
Wet bulb maximum	23° C (73.4° F)
Heat output	2.05 BTU/hr
Power requirements	600 Watts

For more information

To learn more about the IBM System Storage TS1140 Tape Drive, please contact your IBM marketing representative or IBM Business Partner, or visit the following website:

ibm.com/systems/storage/tape/

For a list of compatible software and additional information, refer to the TS1140 tape drive ISV Matrix at the following website: ibm.com/systems/storage/tape/ts1140

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* Assumes 3:1 compression.

¹ WORM support not available.



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