IBM TS1140 tape drive

Deliver robust data protection and long-term retention in multiplatform environments

Highlights

- High-performance, high-capacity tape processing for storage consolidation
- Support Write Once Read Many (WORM) cartridges
- Help satisfy compliance requirements
- Improve information retention
- Support for existing IBM tape automation
- Enhance information security
- Support for encryption and key management

Business demands require applications that rely on high capacity and fast access to data as well as long-term data retention. The IBM TS1140 tape drive features storage capabilities to help you establish easy, rapid access to data, improve security, provide long-term retention, and help maintain data governance and regulatory compliance. TS1140 offers high-performance, flexible data storage with support for data encryption. The 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 TS1130 tape drives. For flexible storage in heterogeneous server infrastructures, TS1140 offers multiplatform support and can scale from midrange to enterprise environments.

TS1140 supports IBM TS3500 and IBM TS4500 tape libraries as well as IBM racks that enable stand-alone installation. TS1140 features three options for Type C media. The IBM 3592 Advanced data tape cartridge, JC, provides up to 4 TB native capacity, and up to 4 TB are provided by the IBM 3592 Advanced WORM cartridge, JY. A limited capacity of up to 500 GB IBM 3592 Economy cartridge, JK, offers fast access to data. TS1140 can also read and write on previous media, type B (JB and JX), and read only on type A (JA, JW, JJ and JR).

To help optimize drive utilization and reduce infrastructure requirements, TS1140 can be shared among supported open-system hosts on a storage area network (SAN) or between IBM FICON mainframe hosts when attached to the IBM Tape Controller Model C07 for IBM System z.

Access information at the speed of business

TS1140 can leverage performance designed to meet the requirements of your business. The drive supports a native data transfer rate of up to 250 MBps to deliver information at the speed your business demands. TS1140 also helps reduce backup and recovery times (or requires fewer resources to support the environment) while transferring data at up to 650 MBps with data compression.

Address your needs in one tape storage solution

Help lower your cost of ownership with the flexibility of TS1140. Reduce the need to purchase two different tape drives by choosing a tape storage solution that addresses the need for both high capacity and fast access to data. Support data retention needs with 3592 WORM cartridges and support for media partitioning for more flexible data management. Also, promote data interchange with the ability to read tapes in all formats, including J1A, TS1120 and TS1130 formats, as well as the ability to downward write TS1130 formats on JB/JX media.

TS1140 tape media provides partitioning support, which, in conjunction with IBM Linear Tape File System (LTFS) technology via IBM Spectrum Archive, provides organizations with the ability to have file-level access to tape data. This support helps quickly locate and update information on the tape media.

Encryption to help protect sensitive data

Security is an important issue when storing, accessing and managing your data. Encryption can help your organization protect data against theft or accidental loss, particularly data that contains the personal or sensitive information of individual 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 TS1140. This capability is intended to protect information if tape cartridges are lost or stolen by supporting the storage of the data in an encrypted form.

Your organization can generate and manage encryption keys for TS1140 tape drives across a distributed environment with IBM Security Key Lifecycle Manager. This solution provides the interface between IBM encrypting tape drives and external keystores.

To further protect mission-critical data, TS1140 delivers 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 a virtual backhitch and a high-resolution directory help improve small file-write performance and improve recall access to data respectively.

Simplify storage management with multiplatform support

TS1140 offers multiplatform support for IBM Power Systems and other open system servers. It is also supported on System z servers with the TS1120 Tape Controller Model C06 and the Tape Controller Model C07 for System z. By supporting such a wide range of servers, TS1140 helps simplify your storage environment.

The Tape Controller for System z offers FICON attachments for the TS1140 tape drives used in TS3500 tape libraries or in a stand-alone rack.

Organizations can help reduce hardware and infrastructure requirements by sharing tape drives with FICON hosts. The Tape Controller for System z also offers the ability to perform the nondisruptive addition of tape drives, which helps enhance configuration flexibility and availability.

Media capacity cartridge options

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

IBM TS1140 tape drive at a glance

Characteristics	
Recording technique	Linear serpentine
Number of tracks	2,560
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	• 13 speeds, from 76 MBps to 251 MBps, for 3592 JC/JK/JY cartridges initialized in Gen 4 format • 13 speeds, from 74 MBps to 203 MBps, for 3592 JB/JX cartridges initialized in Gen 4 format • 13 speeds, from 41 MBps to 163 MBps, for 3592 JB/JX cartridges initialized in Gen 3 format • 13 speeds, from 39 MBps to 151 MBps, for 3592 JB/JX cartridges initialized in Gen 2 format • 13 speeds, from 36 MBps to 144 MBps, for 3592 JA/JJ/JR/JW cartridges initialized in Gen 3 or Gen 2 format • 13 speeds, from 18 MBps to 72 MBps, for 3592 JA/JJ/JR/JW cartridges initialized in Gen 1 format
Burst data rate	800 MBps
High-speed search (maximum)	12.4 mps
Physical characteristics	Dimensions • 3592-E07: 95 mm H x 198 mm W x 467 mm D (3.8 in. H x 7.8 in. W x 18.4 in. D) • 3592-EH7: 95 mm Hx 150 mm W x 374 mm D (3.8 in. H x 5.9 in. W x 14.7 in D) Weight 3592-E07: 5.7 kg (12 lb 7 oz) 3592-EH7: 3.97 kb (8 lb 9 oz)
Operating environment	• Temperature with media: 16°C to 32°C (60°F 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	
Operating system: IBM	• IBM Power Systems: IBM AIX, IBM i, Linux • IBM System p: AIX and Linux IBM System i: • IBM i and IBM OS/400 • IBM System x: See open system support • IBM 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:	z/OS, z/VM, z/VSE IBM i, AIX, HP, Sun, Linux and Windows
Warranty	One year

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For more information

To learn more about the IBM TS1140 tape drive, contact your IBM representative or IBM Business Partner, or visit: **ibm.com**/systems/storage/tape/ts1140

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