



# IBM System Storage TS1140 Tape Drive

*Addresses data protection and long term retention*

---

## Highlights

- Offers high performance and high capacity tape processing for storage consolidation
  - Helps enhance information security with support for encryption and key management
  - Improves information retention with support for existing IBM tape automation
  - Supports Write Once Read Many (WORM) cartridges to help satisfy compliance requirements
- 

Business demands require applications that rely on high capacity and fast access to data as well as 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, improve security, provide long-term retention, and help maintain data governance and regulatory compliance. The TS1140 tape drive 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 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 System Storage TS3500 Tape Library and IBM racks that enable stand-alone installation. The TS1140 features three options for Type C media. The 3592 Advanced data tape cartridge, JC, provides up to 4.0 TB native capacity, and up to 4.0 TB are provided by the 3592 Advanced WORM cartridge, JY. A limited capacity of up to 500 GB Economy cartridge, JK, offers fast access to data. The TS1140 tape drive 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, the TS1140 tape drives can be shared among supported open system hosts on a Storage Area Network (SAN) or between IBM FICON® mainframe hosts when attached to a System Storage Tape Controller Model C07 for IBM System z®.

### Access information at the speed of business

The TS1140 tape drive 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. The 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 the TS1140 tape drive. Reduce the need to purchase two different tape drives by choosing 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 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.



### Encryption to help 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 contains 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 protect information if tape cartridges are lost or stolen by supporting the storage of the data in an encrypted form.

You can generate and manage encryption keys for TS1140 tape drives across the enterprise with the IBM Tivoli® Key Lifecycle Manager (TKLM) 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 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 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**

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 TS1120 Tape Controller Model C06 and the Tape Controller Model 07 for System z. By supporting such a wide range of servers, the TS1140 helps simplify your storage environment.

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

You 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 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](http://ibm.com/systems/storage/tape/ts1140)

### **Support applications with storage management software**

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 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, contact your IBM representative or IBM Business Partner or visit: [ibm.com/systems/storage/media](http://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	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 18 MBps to 72 MBps for 3592 JA/JJ/JR/JW cartridges initialized in Gen 1 format 13 speeds, from 36 MBps to 144 MBps for 3592 JA/JJ/JR/JW cartridges initialized in Gen 2 or Gen 3 format
Burst data rate	800 MBps
High-speed search (maximum)	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**

	<b>Platform</b>	<b>Operating System</b>
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
Encryption support	Servers with Intel® or AMD processors	SUSE Linux Red Hat Microsoft Windows
		z/OS, z/VM, z/VSE IBM i, AIX, HP, Sun, Linux and Windows

---

**Tape Controller Model C07 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: [ibm.com/systems/storage/tape/](http://ibm.com/systems/storage/tape/)

For a list of compatible software and additional information, refer to the TS1140 tape drive ISV Matrix at: [ibm.com/systems/storage/tape/ts1140](http://ibm.com/systems/storage/tape/ts1140)

Additionally, financing solutions from IBM Global Financing can enable effective cash management, protection from technology obsolescence, improved total cost of ownership and return on investment. Also, our Global Asset Recovery Services help address environmental concerns with new, more energy-efficient solutions. For more information on IBM Global Financing, visit: [ibm.com/financing](http://ibm.com/financing)



---

© Copyright IBM Corporation 2011

IBM Systems and Technology Group  
Route 100  
Somers, New York 10589

Produced in the United States of America  
October 2011  
All Rights Reserved

IBM, the IBM logo, ibm.com, System Storage, System z, Tivoli, Power Systems, System p, System i, System x, FICON, AIX, z/OS, z/VM, and z/VSE are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the web at "Copyright and trademark information" at [ibm.com/legal/copytrade.shtml](http://ibm.com/legal/copytrade.shtml)

Intel is a trademark of Intel Corporation in the United States, other countries, or both.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

This document could include technical inaccuracies or typographical errors. IBM may make changes, improvements or alterations to the products, programs and services described in this document, including termination of such products, programs and services, at any time and without notice. Any statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only. The information contained in this document is current as of the initial date of publication only and is subject to change without notice. IBM shall have no responsibility to update such information.

IBM is not responsible for the performance or interoperability of any non-IBM products discussed herein. Performance data for IBM and non-IBM products and services contained in this document was derived under specific operating and environmental conditions. The actual results obtained by any party implementing such products or services will depend on a large number of factors specific to such party's operating environment and may vary significantly. IBM makes no representation that these results can be expected or obtained in any implementation of any such products or services.

<sup>1</sup> WORM support not available.



Please Recycle