

3592 Enterprise Tape Cartridges

Enterprise-class data storage systems require the use of media that offers both high capacity and extremely high reliability. Featuring Fujifilm's proprietary NANOCUBIC technology, the 3592 Tape Cartridge Series offers up to 1000 GB native capacity (3 TB 3:1 data compressed) and a native transfer rate of 160 MB per second. The Fujifilm world-class magnetic coating technology powers expanded storage capacities, faster transfer rates, longer archival lifetimes and superior reliability.

3592 Data Cartridge Tape – Name	Media ID	Native Capacity: Drive Model 3592 J1A <small>(Gen 1 drive) (E1 Format)</small>	Native Capacity: Drive Model 3592 E05 <small>(Gen 2 drive) (E2 Format)</small>	Native Capacity: Drive Model 3592 E06 <small>(Gen 3 drive) (Gen 3 Format)</small>	Cartridge Shell Case Color	Label, Door & Write-Protect Switch Color
DATA <small>(Gen 1 media)</small>	JA	300 GB	500 GB	640 GB	BLACK	DARK BLUE
ECONOMY <small>(Gen 1 media)</small>	JJ	60 GB	100 GB	128 GB		LIGHT BLUE
DATA WORM <small>(Gen 1 media)</small>	JW	300 GB	500 GB	640 GB	PLATINUM <small>(silvery gray)</small>	DARK BLUE
ECONOMY WORM <small>(Gen 1 media)</small>	JR	60 GB	100 GB	128 GB		LIGHT BLUE
EXTENDED* DATA <small>(Gen 2 media)</small>	JB*	Not Compatible	700 GB*	1000 GB*	BLACK	GREEN
EXTENDED* WORM <small>(Gen 2 media)</small>	JX*	Not Compatible	700 GB*	1000 GB*	PLATINUM	
CLEANING	CLN + JA	Compatible 50 cleanings	Compatible 50 cleanings	Compatible 50 cleanings	BLACK	WHITE

Note: JA, JJ, JW, JR, JB and JX are Media Identifier, 7th and 8th characters following a six-character Volume ID for typical 3592 Bar Code Labels.

* IBM brand 3592 Extended Capacity Cartridges (Gen 2 media) available January 2007 – Fujifilm brand is not currently available. Previously existing installed base of 3592 Model E05 Drives (also known as the Model TS1120) may require a firmware upgrade to use Extended Capacity Cartridges.

The Fujifilm 3592 JA Data Cartridge now boasts a 640 GB native capacity (1.9 TB 3:1 compressed / 1.2 TB 2:1 compressed).

The "300 GB" 3592 JA Data Cartridges, which have been available since September 2003, now have a data capacity of 640 GB (native) when used in IBM's 3592 Model E06 TS1130 Tape Drive.

The 3rd generation IBM 3592 E06 TS1130 tape drive (available **Sept 2008**) uses the existing generation 1 and generation 2 media, same as used by the 2nd Gen 3592 drive E05 TS1120. The original Gen 1 3592 drive Model J1A use Gen 1 media only. 1000 GB native capacity can be achieved by using the Extended Capacity Gen 2 media in the new 3592 E06 TS1130 drive.

3592 E06 TS1130 drive stores 640 GB at up to 160 MB/s (native) on 3592 JA media, compared to 500 or 300 GB (at up to 104 or 40 MB/s native) when used on previous G2 & G1 drives, respectively:

3592 Generation 1, 2, and 3 Drives
Native CAPACITY and Native TRANSFER RATE :

<u>3592 Model J1A Drive:</u>	<u>TS1120 (3592 Model E05) Drive:</u>	<u>TS1130 (3592 Model E06) Drive:</u>
300 GB at 40 MB/s on 3592 JA	500 GB at 104 MB/s on 3592 JA	640 GB at 160 MB/s on 3592 JA
60 GB at 40 MB/s on 3592 JJ	100 GB at 104 MB/s on 3592 JJ	128 GB at 160 MB/s on 3592 JJ
300 GB at 40 MB/s on 3592 JW	500 GB at 104 MB/s on 3592 JW	640 GB at 160 MB/s on 3592 JW
60 GB at 40 MB/s on 3592 JR	100 GB at 104 MB/s on 3592 JR	128 GB at 160 MB/s on 3592 JR

Fujifilm has the 640/500/300 GB native capacity 3592 JA cartridge, as well as the 640/500/300 GB native capacity 3592 JW (WORM) cartridge... and the JJ, JR and Drive-cleaning cartridges too; see chart below.

Bidirectional Re-format Support: 3592 Gen 1 <—> 3592 Gen 2 <—> 3592 Gen3

The 3rd generation 3592 E06 TS1130 drive is both read & write compatible with its higher capacity and faster transfer rate Gen 3 format and the second generation drive's E2 format, and read only for 1st generation drive E1 format. Existing cartridges used by 3592 J1A and 3592 E05 TS1120 drives can be used in their respective formats (E1 is read only) or reformatted by the 3592 E06 TS1130 drive for higher capacity and faster transfer rate enabled by the new drive.

The 2nd generation 3592 E05 TS1120 drive is both read & write compatible with its higher capacity and faster transfer rate E2 format and the 1st generation drive's E1 format. Existing cartridges used by 3592 J1A drives can be used in their existing E1 format or reformatted by the 3592 E05 TS1120 drive for higher capacity and faster transfer rate enabled by the TS1120 drive.

The 1st generation 3592-J1A drives only have E1 format capability; a 3592-J1A drive can reformat Gen 1 data cartridges having an existing E2 or E3 format to its E1 format.

1st generation 3592 Media

3592 Cartridge System Tape Media	3592 J1A Drive E1 Format	3592 E05 Drive		3592 E06 Drive		
		E1 Format	E2 Format	E1 Format	E2 Format	Gen 3 Format
3592 JA Data & JW Data Worm (1998')	300 GB	300 GB	500 GB	300 GB (read only)	500 GB	640 GB
3592 JJ Economy & JR Economy Worm (807')	60 GB	60 GB	100 GB	60 GB (read only)	100 GB	128 GB

Note: Backward compatibility, the reformat process and WORM functionality can vary by OS, ISV program and drive controller.
Note: 1 GB equals 1,000,000,000 bytes; 1 MB equals 1,000,000 bytes. Native = Without Compression. Data compression is estimated at 3:1 for IBM zSeries mainframe environment attachments and 2:1 for all open system environment attachments.

Enterprise Tape Family 3592:

3592 Enterprise Tape Cartridges	<u>Fujifilm 3592 Cartridge Product Codes</u> (Gen 1 media)		
Media Products & Length	STANDARD	Bar Code LAELED	LAELED & INITIALIZED
3592 "JA" Data Cartridge 1998 '	15528423	600003328	600003329
3592 "JJ" Economy Cartridge 807 '	15528875	600003330	600003331
3592 "JW" WORM Data 1998 '	15533399	600003332	600003333
3592 "JR" WORM Economy 807 '	15533313	600003334	600003335
3592 "JB" Extended Data 2706 '	Gen 2 media Fujifilm brand JB & JX cartridges not currently available * IBM brand JB & JX cartridges available January 2007		
3592 "JX" Extended WORM 2706 '			
3592 CL "CLN + JA" 50 cleanings	600003336	600003337	-----

Note: JA, JJ, JW, JR, JB & JX are the Media Identifier, 7th and 8th characters following the six character Volume ID of 3592 Bar Code Labels.

Typical 3592 cartridge bar code label format: nnnnnnJx.

The typical label format for cleaning cartridges is CLNnnnJA.

Exceptions: e.g., 3592 cartridges inside a StorageTek 9310 Powderhorn Tape Library require a different bar code label schema.

3592 Drive notes:

- Both the TS1120 and TS1130 drives offer optional Data Encryption at the drive/media level. (Sept 2006, all TS1120 drives have shipped with optional Data Encryption feature).
- Existing Gen 2 EO5 TS1120 drives can be upgraded to the Gen 3 TS1130 model (EU6).
- TS1130 drive introduces Giant Magnetoresistive (GMR) head technology for tape drives: offering improved SNR for less read errors, and paving the way for future higher tape capacities
- All drive models feature capacity scaling option where only the 1st 20% of a cartridge is used in order to provide fast access
- The 3592 J1A drive is discontinued.
- The 3592 cleaning cartridge (available from Fujifilm) is compatible with all 3 generation IBM 3592 drives. Up to 50 cleanings.