



# New IBM TotalStorage Enterprise Tape Drive 3592 and new models of the IBM TotalStorage Enterprise Automated Tape Library 3494 enhance performance and capacity

## Overview

The **IBM TotalStorage™ Enterprise Automated Tape Library 3494** is designed to provide cost effective, reliable, and space-efficient tape automation for a broad range of computing environments, including selected IBM **@server zSeries®**, **S/390®**, **IBM @server iSeries™**, **AS/400®**, **IBM @server pSeries™**, **RS/6000®**, **IBM @server xSeries®**, Sun, and Hewlett Packard servers, as well as Intel®-compatible servers running Microsoft™ Windows® and Linux. The new **IBM TotalStorage Enterprise Tape Drive 3592**

**Model J1A** can be installed in new models of the 3494. The 3592 Model J1A is designed to provide improved performance and higher capacity than the IBM TotalStorage Enterprise Tape Drive 3590. The 3592 Model J1A Tape Drive has a dual-ported switched fabric 2-Gbps Fibre Channel attachment with a native data rate of up to 40 MB/sec, over 2.5 times the 14 MB/sec data rate of the 3590 E or H Models. It also has a native cartridge capacity of up to 300 GB (900 GB with 3:1 compression), five times more than the 60 GB maximum native capacity of a 3590 H Model.

Three new 3494 frames are being introduced that can contain the new Enterprise Tape Drive 3592 Model J1A. Since the 3592 Tape Drive is smaller, these new frames will hold twice the number of tape drives than the corresponding frame with 3590 Tape Drives.

- 3494 Model L22: Up to four 3592 Tape Drives
- 3494 Model D22: Up to twelve 3592 Tape Drives
- 3494 Model D24: Up to eight 3592 Tape Drives and an IBM TotalStorage Enterprise Tape Controller 3592 Model J70 or TotalStorage Enterprise Tape Controller 3590 Model A60

These advancements in performance, capacity, and footprint may help reduce the number of tape drives, cartridges, and automation frames required as well as the associated floor space required. The 3592 Tape Drive and its associated media can co-exist in the same Enterprise Tape Library 3494 as 3590 Tape Drives and their media, and 3490 Tape Drives and their media, helping to protect your automation investment and ease migration to the new tape drive.

## Key prerequisites

The Enterprise Tape Drive 3592 Model J1A is supported in an Enterprise Tape Library 3494 Model L22, D22, or D24 on selected Fibre Channel, ESCON®, or FICON™ servers. Refer to the **Technical information** section for details.

## Planned availability dates

- February 6, 2004: Feature numbers 8802 and 8820
- October 31, 2003: All models and other features

## At a glance

The new IBM TotalStorage Enterprise Automated Tape Library 3494 Models L22, D22, and D24 with the IBM TotalStorage Enterprise Tape Drive 3592 Model J1A offers a dramatic improvement in performance and capacity for Enterprise Class tape customers who currently use the IBM TotalStorage Enterprise Tape Drive 3590. These enhancements include:

- Up to 40 MB/sec native data rate, over 2.5 times the 14 MB/sec for the 3590 E or H Models
- 300 GB native cartridge capacity, a 5 times increase over the 60 GB capacity of the 3590 H Models
- Dual-ported switched fabric 2-Gbps Fibre Channel attachment
- Small form factor that allows double the drives in a single 3494 frame, as compared to the 3590 Tape Drive
- Intermix of 3592, 3590, and 3490 Tape Drives and media in the same 3494 library for added flexibility

### For ordering, contact:

Your IBM representative, an IBM Business Partner, or the Americas Call Centers at

800-IBM-CALL

Reference: YE001

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## Description

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The Enterprise Tape Drive 3592 Model J1A is a follow-on to the highly successful Enterprise Tape Drive 3590. It is designed for high-performance tape applications, including:

- High-speed data save operations where backup windows are critical, and large amounts of data are archived to tape.
- Large-scale automated tape environments where performance and reliability are required. These are primarily half-inch tape drive environments.
- Large-scale mass data archive applications where massive amounts of data need to be quickly saved to tape for storage and later recall (examples include the seismic industry, data warehousing, and record management applications).

The 3592 Model J1A is the first model of a new family of tape products that are designed to meet the growing needs of both new and existing IBM tape customers across a wide range of environments. Advantages of the Enterprise Tape Drive 3592 Model J1A with the Enterprise Tape Library 3494 include:

- Higher performance, which help can reduce the number of tape drives required
- Larger capacity, to help you reduce the number of cartridges required and the amount of floor space needed
- Smaller form factor, which can help you reduce the automation foot print
- Dual-ported native switched fabric interface, designed to enhance attachment flexibility
- High reliability, to help you improve operations

Three new 3494 Frames are being introduced that can contain the new Enterprise Tape Drive 3592 Model J1A. Due to the smaller size of the 3592 Tape Drive, these new frames can hold twice the number of drives than the corresponding frame with 3590 Tape Drives:

- 3494 Model L22: Up to four 3592 tape drives
- 3494 Model D22: Up to twelve 3592 tape drives
- 3494 Model D24: Up to eight 3592 tape drives and an IBM TotalStorage Enterprise Tape Controller 3592 Model J70 or TotalStorage Enterprise Tape Controller 3590 Model A60

In addition, field upgrades are available that enable conversion of an installed 3494 Frame that contains 3490 or 3590 Tape Drives to one of the new frames for 3592 drives. For more details on the Enterprise Tape Drive 3592 Model J1A, refer to Hardware Announcement 103-235, dated September 9, 2003.

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## Product positioning

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The Enterprise Tape Drive 3592 Model J1A is the follow-on to the highly successful Enterprise Tape Drive 3590. The Enterprise Tape Library 3494 with the 3592 Model J1A is supported in a wide range of environments including selected zSeries, S/390, iSeries, AS/400, pSeries, RS/6000, xSeries, Sun, and Hewlett Packard servers, as well as Intel-compatible servers running Linux and Microsoft Windows NT®, Windows 2000, or Windows Server 2003. It offers significant performance and capacity benefits over the IBM 3590, and over other

half-inch tape drives such as the IBM 3480, 3490, or 3490E.

The 3592 Model J1A is designed for high-performance computing environments where reliability, capacity, and performance are important. You should consider it in 3494 environments where:

- Space allocated to tape cartridges needs to be reduced within automation solutions or offline storage
- Backup windows are growing and there is a need for high-performance tape drives to backup larger amounts of data in less time
- A Fibre Channel attached drive with native switched fabric capability is required

The Enterprise Tape Library 3494, with the 3592 Model J1A, should also be considered in other large scale tape environments, such as:

- High-speed data save operations where backup windows are critical, and large amounts of data are archived to tape
- Large-scale automated tape installations where performance, capacity, and reliability are needed
- Large-scale mass data archive applications where massive amounts of data need to be quickly saved to tape for storage and later recall (examples include the seismic industry, data warehousing, and record management applications)

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## Statement of general direction

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IBM intends to support the new IBM TotalStorage Enterprise Tape Drive 3592 Model J1A in the IBM TotalStorage Virtual Tape Server Models B10 and B20. This is intended to provide additional storage efficiency by allowing more capacity in the same library footprint. All information being released represents IBM's current intent, is subject to change or withdrawal, and represents only goals and objectives.

All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice.

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## Reference information

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Refer to:

- The IBM TotalStorage Enterprise Tape Drive 3592 Model J1A in Hardware Announcement 103-235, dated September 9, 2003
- The IBM TotalStorage Enterprise Tape Drive 3592 attachment in the IBM TotalStorage Silo Compatible Tape Drive Frame 3592 Model C20 in Hardware Announcement 103-233, dated September 9, 2003
- The IBM TotalStorage Enterprise Tape Drive 3592 attachment to ESCON/FICON channels through the IBM TotalStorage Enterprise Tape Controller 3590 Model A60 in Hardware Announcement 103-237, dated September 9, 2003
- The IBM TotalStorage Enterprise Tape Drive 3592 attachment to ESCON/FICON channels through the IBM TotalStorage Enterprise Tape Controller 3592 Model J70 in Hardware Announcement 103-236, dated September 9, 2003
- The IBM TotalStorage Enterprise Tape Cartridge 3592 available with new models of the 3599 in Hardware Announcement 103-238, dated September 9, 2003

### **Trademarks**

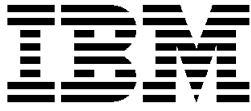
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# IBM US Announcement Supplemental Information

September 9, 2003

## Publications

A revised copy of the *IBM TotalStorage™ Enterprise Automated Tape Library (3494) Introduction and Planning Guide (GA32-0448)* is available now by selecting "Tape Publications" from this Web site:

<http://www.storage.ibm.com/tape/pubs>

A revised copy of the *IBM TotalStorage Enterprise Automated Tape Library (3494) Operator Guide (GA32-0449)* will be available concurrent with planned availability.

The Publication Notification System (PNS) is available by order number/ product number. Customers currently subscribing to PNS will automatically receive notifications by e-mail. Customers who wish to subscribe, can visit the PNS Web site location at:

<http://service5.boulder.ibm.com/pnsrege.nsf/messages/welcome>

The publications listed on the notification can be ordered by calling the Pubs Support Group in Raleigh at 800-879-2755, option 1.

The IBM Publications Center Portal:

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The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided, as well as payment options via credit card. Furthermore, a large number of publications are available online in various file formats, which can currently be downloaded free of charge.

Note that PNS subscribers most often order their publications via the Publications Center.

## Technical information

### Specified operating environment

#### Physical specifications

3494 Model L22:

- Width: 750 mm (29.3 in)
- Depth: 1,525 mm (60.04 in)
- Height: 1,800 mm (70.9 in)
- Weight: 501.4 kg (1,105 lb) without cartridges
- Weight: 558.8 kg (1,232 lb) with cartridges

3494 Model D22:

- Width: 750 mm (29.3 in)
- Depth: 1,525 mm (60.04 in)
- Height: 1,800 mm (70.9 in)
- Weight: 320 kg (704 lb) without drives and cartridges
- Weight: 552 kg (1,217 lb) with 12 drives and cartridges

3494 Model D24:

- Width: 750 mm (29.3 in)
- Depth: 1,525 mm (60.04 in)
- Height: 1,800 mm (70.9 in)
- Weight: 320 kg (704 lb) without drives, controller, and cartridges
- Weight: 582.7 kg (1,119 lb) maximum with 8 drives, controller and cartridges

#### Operating environment

- Temperature: 10° to 32° C (50° to 90° F)
- Relative humidity: 20% to 80%
- Wet bulb temperature: 23.0° C (73.4° F)
- Caloric value:
  - 2730 Btu/Hour (Model L22)
  - 4100 Btu/Hour (Model D22)
  - 4100 Btu/Hour (Model D24)
- Electrical power:
  - 1.0 kVA (Model L22 with 4 drives)
  - 1.4 kVA (Model D22 with 12 drives)
  - 1.4 kVA (Model D24 with controller and 8 drives)
- Capacity of exhaust:
  - 6.5 Cubic meter/min (Model L22)
  - 16.9 Cubic meter/min (Model D22)
  - 14.1 Cubic meter/min (Model D24)
- Noise level: 7.4 bels operating, 6.9 bels idle
- Operating current: 8.0 amps
- Leakage current: 3.0 milliamps
- Starting inrush current: 200 amps for 4 milliseconds

**Hardware requirements:** The 3592 Model J1A Tape Drive is for installation in an Enterprise Tape Library 3494 with the appropriate features. The 3494 with the 3592 Model J1A is supported on selected RS/6000®, IBM @server pSeries™, AS/400®, IBM @server iSeries™, Hewlett Packard, and Sun servers, as well as selected Intel®-based servers with Microsoft™ Windows® or Linux. The appropriate Fibre Channel host bus adapter and software are required. For more details on specific hardware, software, and Fibre Channel adapter support for the 3592, refer to the following Web site:

<http://www.storage.ibm.com/tape/drives/3592/3592opn.pdf>

The 3494 with the 3592 Model J1A is also supported on selected IBM @server zSeries® servers with Linux. The appropriate FICON™ adapter (with Fibre Channel protocol support) and software are required. For more details on

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specific hardware, software, and Fibre Channel adapter support for the 3592, refer to the following Web site:

<http://www.storage.ibm.com/tape/drives/3592/3592open.pdf>

The 3592 Model J1A Tape Drive in an Enterprise Tape Library 3494 is supported with a variety of best-of-breed Fibre Channel switch offerings. For more details on the exact switch support for the 3592, refer to the appropriate switch interoperability matrix located at the following Web site:

<http://ssddom02.storage.ibm.com/techsup/webnav.nsf/support/san>

The 3592 is also supported on selected S/390® and z/Series servers with ESCON® and FICON attachment through the Enterprise Tape Controller 3592 Model J70 or Enterprise Tape Controller 3590 Model A60. Refer to Hardware Announcement 103-236, dated September 9, 2003, Hardware Announcement 103-237, dated September 9, 2003, the 3592 Model J70 Sales Manual, or the 3590 Model A60 Sales Manual for more details on the prerequisites for this support.

### Model L22

The 3592 Model J1A Tape Drive is supported within the Model L22 for Fibre-Channel attachment to host systems. The tape drives can alternatively be attached to a 3590 Model A60 Controller in an adjacent Model D24 frame for ESCON or FICON attachment to host systems. The Model L22 can have zero to four tape drives installed. The following models are supported for attachment to the Model L22:

- Model B10
- Model B16
- Model B18
- Model B20
- Model CX0
- Model CX1
- Model D10
- Model D12
- Model D22
- Model D14
- Model D24
- Model HA1
- Model S10

Adjacent Fibre Channel attachment for up to twelve 3592 Model J1A Tape Drives attached to a 3592 Model J70 or 3590 Model A60 Controller in an adjacent 3494 Model D24 Frame is allowed as follows:

- Model D24:
  - There must be eight 3592 Tape Drives in the Model D24.
  - Feature number 3464 (SC Fibre Drive Attached Controller) for attachment using a 2109 Model S16 Switch must be specified on new Model D24 orders, or on an MES for an existing Model D24, when the Fibre Drive Attached SC Switch feature (#3483) is installed on the contained 3592 Model J70 Controller, or the Fibre Drive Attachment feature (#3463) is installed on the contained 3590 Model A60 Controller.
  - Feature number 3474 (LC Fibre Drive Attached Controller) for attachment using a 2109 Model F16 Switch must be specified on new Model D24 orders, or on an MES for an existing Model D24, when the Fibre Drive Attached LC Switch feature (#3484) is installed on the contained 3592 Model J70

Controller, or the LC Fibre Drive Attachment feature (#3473) is installed on the contained 3590 Model A60 Controller.

- Model D22 or L22:
  - There can be up to four drives in an adjacent Model L22 or D22.
  - Feature number 4065 (Adjacent Frame 3592 Tape Drives with SC Attachment) must be specified on a new or MES Model D22 or L22 when feature number 3464 (SC Fibre Drive Attached Controller) is installed on the adjacent Model D24.
  - Feature number 4075 (Adjacent Frame 3592 Tape Drives with LC Attachment) must be specified on a new or MES Model D22 or L22 when feature number 3474 (LC Fibre Drive Attached Controller) is installed on the adjacent Model D24.

One feature number 9002 must be applied to the Model L22 for each Model S10 that is attached in the first eight frames. One feature number 9003 must be applied to the Model L22 for each Model D10, D12, D22, D14, or D24 that is attached in the first eight frames. One feature number 9004 must be applied to the Model L22 and also each Model S10 that is attached in a 3494 beyond the first eight frames. One feature number 9005 must be applied to the Model L22 and also each Model D10, D12, D22, D14, or D24 that is attached in a 3494 beyond the first eight frames. One feature number 9006 must be applied to the Model L22 for each Model B16 VTS that is attached in the first eight frames. One feature number 9007 must be applied to the Model L22 and to the Model B16 VTS that is attached in a 3494 beyond the first eight frames. This is required to assure that proper cables are shipped and configuration records are correct. One feature number 5228 (Tape Control Unit Expansion) and feature number 5229 (Expansion Attachment Card) are also required on the Model L22 when a Model B16 VTS is attached. To enable both accessors with attached Model HA1 Frames to operate simultaneously, the Dual Active Accessor (DAA) feature number 5050 must be specified. When a Model B10, B18, or B20 VTS is attached, feature number 5232 (Attachment Concentrator) and feature number 9020 (Model B20, B10, or B18 VTS Attachment) are required on the Model L22.

When a Model B18 VTS is attached, feature number 5232 (Attachment Concentrator), and feature number 9020 (Model B18 VTS Attachment) are required on the Model L22.

The standard 3494 allows four RS232 host connections and four tape control unit connections. The Expansion Attachment Card feature number 5229 provides an additional four RS232 host connections and four tape control unit connections. The Tape Control Unit Expansion feature number 5228 can convert the four host connections to four tape control unit connections on either the standard 3494 or the Expansion Attachment Card, providing a total of up to 16 tape control unit connections. The 32-Port Attachment feature number 5227 provides an additional 16 tape control unit connections. Up to 32 SCSI or Fibre-Channel attached tape drives can be installed in a single library. A Model B16 VTS requires one host connection and two control unit connections, plus from three to six additional control unit connections for the drives in the associated Model D12. Thus, a 3494 that contains a Model B16 VTS can have up to ten other tape control units installed, depending on the number of associated 3590 drives and the quantity of feature number 5228 installed (or up to 26 with feature number 5227 installed), with the actual maximum number as shown below:

**Maximum number of Tape Control Units  
(When Model B16 VTS installed)**

	<b>One feature number 5228</b>	<b>Two feature numbers 5228</b>
<b>3494-B16 Configuration</b>		
Three 3590 drives in associated D12	7	10
Four 3590 drives in associated D12	6	9
Five 3590 drives in associated D12	5	8
Six 3590 drives in associated D12	4	7

Feature number 5227 adds 16 to each of the above numbers.

**Note:** Feature number 5228 is not required if Model HA1 Frames are attached to the 3494 Model L10, L12, L14, or L22. A Tape Control Unit is one Fibre Channel attached 3592-J1A, 3490-C1A/C2A, 3490-F1A, a SCSI-attached 3590-H1A/E1A/B1A, Fibre Channel attached 3590-H1A/E1A, or 3590-A50 or A00 in any combination. The 3490E Model F1A Control Unit (feature #3000 or #3500) requires one host RS-232 connection. The Model B16 VTS uses two tape control unit connections and one host processor connection. The 3592 Model J70 Controller or 3590 Model A60 Controller utilizes one tape control unit connection for each feature number 9061 specified. If the Model J70 or the Model A60 attaches to the Attachment Concentrator (#5232), then one feature number 9060 should be specified on the Model Lxx for each attached Model J70 or Model A60 and no tape control unit connection on the library manager is used.

If the configuration of frames in an installed 3494 needs to be changed, for example, if frames must be moved to install a Model B16 VTS, or if frames must be moved from one 3494 to another, then an RPQ request must be processed before the library can be reconfigured. An RPQ is required for moving feature numbers 5300, 5302, 5304, and 5400, or Models B16 VTS, D10, D12, D14, D24, and S10 which will ensure that the proper cables are available.

The Enterprise Tape Library 3494 Model L22 will contain the new PCI library manager. The enhanced PCI Library Manager feature (#9046) must be added to each new order for a Model L22 or HA1 to indicate its presence. When upgrading to a Model L22, you can take advantage of the improved technology and performance of this library manager, by ordering the enhanced PCI Library Manager feature (#5046) with the model conversion to a Model L22. This may be required to support the 3592 Model J1A Tape Drive. Any 3494 Model L1x with feature number 9020, or one that has a library manager (LM) installed since May 15, 2000, should have a "compatible" LM that will work with the 3592 Model J1A. Any prior LM is not "compatible" and must be replaced. If the LM microcode level is at 527.xx, or later, then the LM hardware prerequisites are already satisfied. The LM microcode level can be checked by selecting "About" from the "Help" pull-down menu on the LM Operator Menu. You may need the assistance of a customer engineer to determine if the enhanced PCI Library Manager feature (#5046) must be ordered.

**Model conversions to Model L22**

When converting to a Model L22, the controller (if present) and drive features are removed as a part of the model conversion. One feature number 4674 must be ordered for each 3592 Model J1A Tape Drive that will be installed in that frame. As noted above, the enhanced PCI Library Manager feature (#5046) may be required to support the 3592 Model J1A Tape Drive.

**Model D22**

The Model D22 Tape Drive Expansion Frame must be attached to a Tape Library Base Frame Model L10, L12, L14, or L22. Each 3592 Tape Drive installed in a Model D22 utilizes one tape control unit connection of the attached Model Lxx except when these drives are attached to a 3592 Model J70 or 3590 Model A60 using Adjacent Frame Support.

One feature number 9003 must be applied to the Model L10, L12, L14, or L22 for each Model D22 that is attached in the first eight frames. One feature number 9005 must be applied to the Model L10, L12, L14, and L22 and also each Model D22 that is attached in 3494s with greater than eight frames. This is required to assure that proper cables are shipped and configuration records are correct. As noted above, the enhanced PCI Library Manager feature (#5046) may be required on the 3494 Model Lxx to support the 3592 Model J1A Tape Drive.

If the configuration of frames in an installed 3494 needs to be changed, for example, if frames must be moved to install a VTS, or if frames must be moved from one 3494 to another, then an RPQ request must be processed before the library can be reconfigured. An RPQ is required for moving feature numbers 5300, 5302, 5304, and 5400, or Models B16 VTS, D10, D12, D14, D22, D24, and S10 which will ensure that the proper cables are available.

**Model conversions to Model D22**

When converting to a Model D22, the controller (if present) and drive features are removed as a part of the model conversion. One feature number 4674 must be ordered for each 3592 Model J1A Tape Drive that will be installed in that frame. As noted above, the enhanced PCI Library Manager feature (#5046) may be required on the 3494 Model Lxx to support the 3592 Model J1A Tape Drive.

**Model D24**

The Model D24 Tape Drive Expansion Frame must be attached to a Tape Library Base Frame Model L10, L12, L14, or L22. Each 3592 Model J70 Controller or 3590 Model A60 Controller installed in a Model D24 utilizes one tape control unit connection of the attached Model Lxx when using an RS422 connection. The 3592 Model J70 Controller or 3590 Model A60 Controller can alternatively attach to the Attachment Concentrator feature number 5232 by specifying feature number 9060 (Attach Controller to 3494 Concentrator) which does not require a tape control unit connection on the Lxx library manager. The 3592 J1A Tape Drives are attached to the 3592 Model J70 or 3590 Model A60 Controller and so does not require any additional tape control unit connections on the library manager. This includes 3592 Tape Drives attached to the 3592 Model J70 or 3590 Model A60 with Adjacent Frame Support.

One feature number 9003 must be applied to the Model L10, L12, L14, or L22 for each Model D24 that is attached in the first eight frames. One feature number 9005 must be applied to the Model L10, L12, L14, and L22 and also each Model D24 that is attached in 3494s with greater than eight frames. This is required to assure that proper cables are shipped and configuration records are correct. As noted above, the enhanced PCI Library Manager feature (#5046) may be required on the 3494 Model Lxx to support the 3592 Model J1A Tape Drive.

If the configuration of frames in an installed 3494 needs to be changed, for example, if frames must be moved to install a VTS, or if frames must be moved from one 3494

to another, then an RPQ request must be processed before the library can be reconfigured. An RPQ is required for moving feature numbers 5300, 5302, 5304, and 5400, or Models B16 VTS, D10, D12, D14, D22, D24, and S10 which will ensure that the proper cables are available.

#### Model conversions to Model D24

When converting to a Model D24, controller features other than the 3590 Model A60 Controller are removed as a part of the model conversion, and the 3590 Model A60 (if not present) must be added by specifying feature number 4665. One feature number 4674 must be ordered for each 3592 Model J1A Tape Drive that will be installed in that frame. As noted above, the enhanced PCI Library Manager feature (#5046) may be required on the 3494 Model Lxx to support the 3592 Model J1A Tape Drive.

**Software requirements:** The 3494 with the 3592 Model J1A Tape Drive is supported on selected servers with OS/400®, AIX®, HP-UX, Linux, Sun, and Windows NT®, Windows 2000, or Windows Server 2003. Support for the z/OS®, OS/390®, z/VM®, and VSE/ESA™ operating system environments is available through the 3592 Model J70 Controller or 3590 Model A60 Controller.

The installation of a 3592 Tape Drive may require code updates for S/390, AS/400, and supported open systems device drivers or storage management software. Per the *Solutions Assurance Product Review (SAPR) Guide*, the account team or Business Partner should ensure that the customer checks the appropriate PSP buckets for S/390 or zSeries environments for the equivalent support levels required for their particular software environment prior to the installation of the 3592 Model J1A. A Solutions Assurance call is required at a minimum for the installation of the first new 3592 model in an account.

For the most recent information on supported software versions and release levels for the 3592, as well as hardware support information, refer to the following Web site:

<http://www.storage.ibm.com/tape/drives/3592/3592opn.pdf>

#### Open Systems Device Drivers

The Open Systems Device Drivers feature (#9200) includes tape library and tape device drivers and documentation for attachment of tape drives in the 3494 to supported open systems environments. An update of the open systems device drivers should be obtained to ensure support for the attachment of the 3592 Model J1A to various servers. New 3494 customers should order feature number 9200 (Open System Device Drivers). Installed customers with feature number 9200 may download these new device drivers via anonymous FTP from:

<ftp://ftp.software.ibm.com/storage/devdvr>

Look under the directory storage/devdvr.

Further information can be found in the *IBM TotalStorage Tape Device Driver Installation and User's Guide* (GC35-0154), also available at the above FTP site.

#### Minimum levels of software support

Software support for the 3592 Model J1A Tape Drive in the 3494 is provided by the minimum levels of the software listed below:

#### iSeries and AS/400

- OS/400 V5.1, or later (PTFs may be required)
- OS/400 V5.2 plus PTFs, or later, is required for the PCI-X Fibre Channel Tape Controller (#5704)

For required PTF information, refer to informational APAR II13609 at:

<http://www.ibm.com/eServer/iseries/support>

#### zSeries or S/390

Support under z/OS, OS/390, z/VM, and VSE/ESA operating system environments is available through the 3592 Model J70 Controller or the 3590 Model A60 Controller. Refer to Hardware Announcement 103-236, dated September 9, 2003 or Hardware Announcement 103-237, dated September 9, 2003.

#### pSeries and RS/6000

Device drivers are provided with 3494 specify feature number 9200 (Open System Device Drivers).

Support for the 3592 Model J1A is provided in:

- AIX V4.3.3, and later
- AIX 5L V5.1, and later, for Power-based servers

Device support of the 3592 Model J1A is also provided on pSeries servers with the following Linux distribution:

- SuSE Linux Enterprise Server 8.0

#### Sun

Device drivers are provided with 3494 specify feature number 9200 (Open System Device Drivers).

Support for the 3592 Model J1A under Sun systems is provided in:

- Solaris 7, 8, or 9

#### HP Systems

Device drivers are provided with 3494 specify feature number 9200 (Open System Device Drivers).

Support under HP systems is provided in:

- HP-UX 11.0 and 11.i (64-bit, PCI)

#### Linux

Device support of the 3592 Model J1A is provided on 32-bit Intel based servers with the following Linux distributions:

- Red Hat Enterprise Linux
- United Linux 1.0, which includes the following distributions:
  - SuSE Linux Enterprise Server 8 (SLES 8)
  - Turbolinux Enterprise Server 8 (TLES 8)
  - Conectiva Linux Enterprise Edition Powered by United Linux

Device support of the 3592 Model J1A is provided on zSeries servers with the following Linux distribution:

- SuSE Linux Enterprise Server 8.0

## Microsoft Windows

Device drivers are provided with 3494 specify feature number 9200 (Open System Device Drivers). Support under Windows is provided in:

- Microsoft Windows NT V4.0 (with Service Pack 6A, or later)
- Microsoft Windows 2000 (build 2195, or greater)
- Microsoft Windows Server 2003 (build 3790, or greater)

## Application software

Tivoli® Storage Manager and other industry-leading compatible software offerings provide storage and tape management software for the 3494 and tape drives in the 3494. Supporting software and applications must be obtained separately from IBM, IBM Business Partners, or independent software vendors (ISV). For a list of compatible software and additional information, refer to the ISV Compatibility Matrix for the 3592 Model J1A Tape Drive and the 3494 at the following Web site:

<http://www.storage.ibm.com/tape/conntrix/>

**Compatibility:** The 3592 Model J1A tape drives cannot read cartridges written by the 3590 or 3490. Cartridges written by the 3592 Model J1A cannot be read by the 3590 or 3490. Even though the cartridges are similar in size, they contain different media, and thus are not interchangeable.

**Limitations:** Configurations of 1 to 16 frames are allowed when the 3494 configuration does not contain a Model HA1. When Model HA1 Frames are attached, configurations of 3, 4, 6, 8, 10, 12, and 16 frames are allowed (not counting the two service bay frames). If more than eight frames are attached to a 3494, one Tape Drive Expansion Frame (Model D10, D12, D22, D14, or D24 or feature number 5300, 5302, or 5304) must be located in the first eight frames. There must be a minimum of four frames if the Dual Active Accessor (DAA) feature is installed.

With Multiframe Support, all the 3592 Tape Drives in the Model L22 must be attached to a 3592 Model J70 or 3590 Model A60 Controller in an adjacent Model D24 frame.

## Planning information

**Customer responsibilities:** Physical planning is a customer responsibility. Current levels of the open systems device drivers should be obtained to ensure the 3592 Model J1A is supported. The 3590 Model A60 Controller and Enterprise Tape Library 3494 may require subsystem microcode updates by the IBM service representative for the proper installation and operation of the attached 3592 Model J1A Tape Drive. Inform your IBM representative to refer to 3494 and 3592 Model J1A maintenance information for information on these requirements so they may be incorporated into your installation planning. Detailed physical planning information is in the *IBM TotalStorage Enterprise Automated Tape Library Introduction and Planning Guide* (GA32-0448).

**Cable orders:** Appropriate Fibre Channel cable(s) should be ordered for each tape drive or controller. Refer to the Fibre Channel Cables section of the **Special Feature Numbers** in the 3592 Model J1A Sales Manual for Fibre Channel cable information.

**Direct customer support:** Eligible customers can obtain installation and usage assistance through ASK Support using the search word 3494.

## Supplies: For end users and remarketers:

IBM data media supplies can be ordered directly through AAS using feature numbers on the Enterprise Tape Library 3494 Frames. These features provide unlabeled data cartridges. Labeled, initialized, or bulk IBM 3592 Model J1A data media can be ordered directly through AAS using machine type 3599. Refer to the 3599 Sales Manual. IBM data media supplies are also available through media distributors.

For information about IBM branded media call 888-IBM-MEDIA (426-6334) in the U.S. and Canada or refer to:

<http://www.storage.ibm.com/media>

The part numbers for additional supplies are:

IBM part number	Supply item
18P7534	IBM TotalStorage Enterprise Tape Cartridge 3592 (Data)
18P7535	IBM TotalStorage Enterprise Tape Cartridge 3592 (Cleaning)

**Note:** The Enterprise Tape Cartridge 3592 has servo tracks written on it. These tracks enable the 3592 Model J1A tape drive to accurately position the read/write head with respect to the media while the tape is in motion. If these servo tracks are damaged or removed (such as by Degausing), the cartridge is no longer useable.

## Security, auditability, and control

This product uses the security and auditability features of host hardware, host software, and/or application software to which it is attached.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

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## Terms and conditions

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This product is available for purchase under the terms of the IBM Customer Agreement (ICA).

IBM hardware products are manufactured from new parts, or new and used parts. In some cases, the hardware product may have been previously installed.

Regardless, IBM warranty terms apply.

**Volume orders:** Contact your IBM representative.

**IBM Global Financing:** Yes

**Warranty period:** One year

**Warranty service:** If required, IBM provides repair or exchange service depending on the type of warranty service specified for your machine below. An IBM technician will attempt to resolve your problem over the telephone; you must follow IBM's problem determination and resolution procedures. Scheduling of service will depend upon the time of your call and is subject to parts



availability. Service levels are response time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area, contact your local IBM representative or your reseller for country and location specific information.

**On-site Service** — IBM On-site Repair (IOR), 24 hours per day, 7 days a week, same-day response. IBM will repair the failing machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

**ServiceSuite™ and ServiceElect (formerly ESA) maintenance:** For ServiceElect (Z125-5510) and ServiceSuite (Z125-5745) Statements of Work

If required, IBM provides repair or exchange service upgrades depending on the type of service specified for your machine below. An IBM technician will attempt to resolve your problem over the telephone; you must follow IBM's problem determination and resolution procedures. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed. The specified level of service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area, contact your local IBM representative or your reseller for country and location specific information.

**On-site Service** — IOR, 24 hours per day, 7 days a week, same-day response. IBM will repair the failing machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

**Maintenance service:** The preferred go-to-market offerings are ServiceElect and ServiceSuite. However, ICA legacy contracts will still be available for current customers until they are withdrawn.

If required, IBM provides repair or exchange service upgrades depending on the type of service specified for your machine below. An IBM technician will attempt to resolve your problem over the telephone; you must follow IBM's problem determination and resolution procedures. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed. The specified level of service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area, contact your local IBM representative or your reseller for country and location specific information.

**On-site Service** — IOR, 24 hours per day, 7 days a week, same-day response. IBM will repair the failing machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

**Usage plan machine:** No

**IBM hourly service rate classification:** Two

When a type of service involves the exchange of a machine part, the replacement may not be new, but will be in good working order.

**Field-installable features:** Yes

**Model conversions:** Yes

**Machine installation:** Installation is performed by IBM. IBM will install the machine in accordance with the IBM installation procedures for the machine. In the United States, contact IBM at 800-IBM-SERV (426-7878), in other countries contact the local IBM office.

Detailed physical planning information is in the *IBM TotalStorage Enterprise Automated Tape Library Introduction and Planning Guide (GA32-0448)*. Customer requests for installation of items not covered in this guide may be performed at IBM's hourly service rate designated for the machine.

**Graduated charges:** No

**Licensed internal code:** IBM Licensed Internal Code (LIC) is licensed for use by a customer on a Specific Machine, designated by serial number, under the terms and conditions of the IBM Agreement for Licensed Internal Code, to enable a specific machine to function in accordance with its Specifications, and only for the capacity authorized by IBM and for which the customer has paid.

**Educational allowance:** A reduced charge is available to qualified education customers. The educational allowance may not be added to any other discount or allowance.

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## Prices

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### Product charges

Description	Machine type	Model	Feature number	Purchase price	MMC	Field install only	Plant install only
Tape Library Base Frame	3494	L22		\$86,900	\$737		
Remote Support Facility			2710 <sup>1</sup>	0	NC	N	N

Description	Machine type	Model	Feature number	Purchase price	MMC	Field install only	Plant install only
Remote Support Switch			2711 <sup>1</sup>	2,450	NC	N	N
Remote Support Attachment			2712 <sup>1</sup>	\$ 0	NC	N	N
English Nomenclature			2924 <sup>1</sup>	NC	NC	N	Y
French Nomenclature			2928 <sup>1</sup>	NC	NC	N	Y
Japanese Nomenclature			2930 <sup>1</sup>	NC	NC	N	Y
Spanish Nomenclature			2931 <sup>1</sup>	NC	NC	N	Y
Italian Nomenclature			2932 <sup>1</sup>	NC	NC	N	Y
French Canadian Nomenclature			2935 <sup>1</sup>	NC	NC	N	Y
Adjacent Frame 3592 — SC			4065	3,000	NC	N	N
Adjacent Frame 3592 — LC			4075	3,000	NC	N	N
Field Install J1A Drive			4674	700	NC	Y	N
Remove J1A from 3494			4772	350	NC	Y	N
Install Cradle Pair			4800	6,000	NC	N	N
Remove Cradle Pair			4801	1,400	NC	Y	N
Reinstall Cradle Pair			4803	3,500	NC	Y	N
PCI Library Manager — Field			5046 <sup>1</sup>	17,000	NC	Y	N
Dual Active Accessor			5050 <sup>1</sup>	25,000	NC	N	N
Input/Output Station			5210 <sup>1</sup>	3,630	NC	N	N
Dual Gripper			5215 <sup>1</sup>	10,000	\$ 18	N	N
Remote Power			5216 <sup>1</sup>	1,600	NC	N	N
RS-232 Cable 50 ft			5217 <sup>1</sup>	275	NC	N	N
Token Ring LAN Adaptor			5219 <sup>1</sup>	2,250	NC	N	N
Ethernet LAN Adaptor			5220 <sup>1</sup>	2,250	NC	N	N
Remote Console 32 Port			5226 <sup>1</sup>	1,000	NC	N	N
Attachment			5227 <sup>1</sup>	12,000	NC	N	N
Tape Control Unit Expansion			5228 <sup>1</sup>	2,000	NC	N	N
Tape Control Unit			5229 <sup>1</sup>	6,000	NC	N	N
Attachment 30 Cartridge I/O Station			5230 <sup>1</sup>	8,710	NC	N	N
Attachment Concentrator			5232 <sup>1</sup>	3,750	NC	N	N
Dual Path Concentrator			5246 <sup>1</sup>	25,000	NC	N	N
Upgrade 5300 to 5302			5302 <sup>1</sup>	3,500	31	Y	N
Upgrade 5300 to 5304			5304 <sup>1</sup>	3,500	31	Y	N
Additional Storage Unit			5500 <sup>1</sup>	0	31	Y	N
Drive Unit For B18			5502 <sup>1</sup>	0	31	Y	N

Description	Machine type	Model	Feature number	Purchase price	MMC	Field install only	Plant install only
SCSI Drive Unit			5503 <sup>1</sup>	\$ 3,500	\$ 31	Y	N
ESCON Drive Unit			5504 <sup>1</sup>	3,500	31	Y	N
3592 Cleaning Cartridge			8802	140	NC	N	N
20-3592 Data Cartridges			8820	4,400	NC	N	Y
Storage Unit Attach			9002 <sup>1</sup>	0	NC	N	N
Drive Unit Attach			9003 <sup>1</sup>	0	NC	N	N
Storage Unit Attach Greater Than 8 Frames			9004 <sup>1</sup>	0	NC	N	N
Drive Unit Attach 8 Frames			9005 <sup>1</sup>	0	NC	N	N
Virtual Tape Server Attachment			9006 <sup>1</sup>	0	NC	N	N
VTS Attach Greater Than 8 Frames			9007 <sup>1</sup>	0	NC	N	N
Additional Drives Support			9011 <sup>1</sup>	0	NC	N	N
B20, B10, B18 VTS Attachment			9020 <sup>1</sup>	0	NC	N	N
Virtual Drives Enhancement			9021 <sup>1</sup>	0	NC	N	N
High Availability Attachment			9040 <sup>1</sup> 9040 <sup>1</sup>	0 0	NC NC	N N	N N
PCI Library Manager — Plant			9046 <sup>1</sup>	0	NC	N	Y
Attach Ctlr to 3494 Conc			9060 <sup>1</sup>	0	NC	N	N
Attach Ctlr to 3494 RS422			9061 <sup>1</sup>	0	NC	N	N
AS/400, iSeries Attachment			9104 <sup>2</sup>	0	NC	N	N
RS/6000, pSeries Attachment			9106 <sup>2</sup>	0	NC	N	N
S/390, zSeries Attachment			9109 <sup>2</sup>	0	NC	N	N
Open System Device Drivers			9200 <sup>1</sup>	0	NC	N	N
HP-UX Attachment			9210 <sup>1</sup>	0	NC	N	N
Sun Attachment			9211 <sup>1</sup>	0	NC	N	N
Windows Attachment			9212 <sup>2</sup>	0	NC	N	N
Other Linux Attachment			9215	0	NC	N	N
zSeries Linux Attachment			9216	0	NC	N	N
No Data Cartridges			9540 <sup>1</sup>	0	NC	N	Y
Factory Install			9673	0	NC	N	Y
J1A Drive Field Merge			9674	0	NC	N	Y
J1A Drive							
6-Foot Chicago Power Cord			9986 <sup>1</sup>	NC	NC	N	N
Tape Drive Expansion Frame	3494	D22		35,000	58		

Description	Machine type	Model	Feature number	Purchase price	MMC	Field install only	Plant install only
Adjacent Frame 3592 — SC			4065	\$ 3,000	NC	N	N
Adjacent Frame 3592 — LC			4075	3,000	NC	N	N
Field Install J1A Drive			4674	700	NC	Y	N
Remove J1A from 3494			4772	350	NC	Y	N
Install Cradle Pair			4800	6,000	NC	N	N
Remove Cradle Pair			4801	1,400	NC	Y	N
Reinstall Cradle Pair			4803	3,500	NC	Y	N
3592 Cleaning Cartridge			8802	140	NC	N	N
20-3592 Data Cartridges			8820	4,400	NC	N	Y
Drive Unit Attach 8 Frames			9005 <sup>1</sup>	0	NC	N	N
High Availability Attachment			9040 <sup>1</sup>	0	NC	N	N
AS/400, iSeries Attachment			9104 <sup>2</sup>	0	NC	N	N
RS/6000, pSeries Attachment			9106 <sup>2</sup>	0	NC	N	N
S/390, zSeries Attachment			9109 <sup>2</sup>	0	NC	N	N
HP-UX Attachment			9210 <sup>1</sup>	0	NC	N	N
Sun Attachment			9211 <sup>1</sup>	0	NC	N	N
Windows Attachment			9212 <sup>2</sup>	0	NC	N	N
Other Linux Attachment			9215	0	NC	N	N
zSeries Linux Attachment			9216	0	NC	N	N
No Data Cartridges			9540 <sup>1</sup>	0	NC	N	Y
Factory Install J1A Drive			9673	0	NC	N	Y
Factory Install J1A Drive			9673	0	NC	N	Y
Field Merge J1A Drive			9674	0	NC	N	Y
6-Foot Chicago Power Cord			9986 <sup>1</sup>	NC	NC	N	N
Tape Drive Expansion Frame	3494	D24		35,000	\$ 58		
SC Fibre Drive Attach Ctlr			3464 <sup>2</sup>	3,000	20	N	N
LC Fibre Drive Attach Ctlr			3474 <sup>2</sup>	3,000	20	N	N
Replace A00/A50 with A60			4660 <sup>1</sup>	1,500	NC	Y	N
Field Install A60 in 3494			4665 <sup>1</sup>	1,500	NC	Y	N
Field Install J1A Drive			4674	700	NC	Y	N
Remove A60 from 3494			4765 <sup>1</sup>	350	NC	Y	N
Remove J1A from 3494			4772	350	NC	Y	N
Install Cradle Pair			4800	6,000	NC	N	N
Remove Cradle Pair			4801	1,400	NC	Y	N

Description	Machine type	Model	Feature number	Purchase price	MMC	Field install only	Plant install only
Reinstall Cradle Pair			4803	\$ 3,500	NC	Y	N
Field Install J70 in 3494			4855	1,500	NC	N	N
Replace Ctlr with J70			4860	1,500	NC	N	N
Remove J70 from 3494			4865	350	NC	N	N
3592 Cleaning Cartridge			8802	140	NC	N	N
20-3592 Data Cartridges			8820	4,400	NC	N	Y
Drive Unit Attach 8 Frames			9005 <sup>1</sup>	0	NC	N	N
High Availability Attachment			9040 <sup>1</sup>	0	NC	N	N
Attach Ctlr to 3494 Conc			9060 <sup>1</sup>	0	NC	N	N
Attach Ctlr to 3494 RS422			9061 <sup>1</sup>	0	NC	N	N
S/390, zSeries Attachment			9109 <sup>2</sup>	0	NC	N	N
No Data Cartridges			9540 <sup>1</sup>	0	NC	N	Y
Field Merge A60 in 3494			9665 <sup>1</sup>	0	NC	N	Y
Plant Install A60 in 3494			9666 <sup>1</sup>	0	NC	N	Y
Factory Install J1A Drive			9673	0	NC	N	Y
Field Merge J1A Drive			9674	0	NC	N	Y
Field Merge J70 in 3494			9865	0	NC	N	N
Plant Install J70 in 3494			9866	0	NC	N	N
6-Foot Chicago Power Cord			9986 <sup>1</sup>	NC	NC	N	N
Tape Library Base Frame	3494	L12					
Other Linux Attachment			9215	0	NC	N	N
zSeries Linux Attachment			9216	0	NC	N	N
Tape Drive Expansion Frame	3494	D12					
Other Linux Attachment			9215	0	NC	N	N
zSeries Linux Attachment			9216	0	NC	N	N

<sup>1</sup> These features have been announced previously on other models.

<sup>2</sup> These features have been announced previously but their description has changed.

MMMC = Monthly Maintenance Charge

NC = No Charge

N = No

Y = Yes

Description	Machine type	Model	Feature number	Monthly rental charge	MES removal	MES removal charge
Tape Library Base Frame	3494	L22		\$5,082		
Remote Support Facility			2710	0	Y	NC

Description	Machine type	Model	Feature number	Monthly rental charge	MES removal	MES removal charge
Remote Support Switch			2711	\$ 123	Y	NC
Remote Support Attachment			2712	0	Y	NC
English Nomenclature			2924	0	Y	NC
French Nomenclature			2928	0	Y	NC
Japanese Nomenclature			2930	0	Y	NC
Spanish Nomenclature			2931	0	Y	NC
Italian Nomenclature			2932	0	Y	NC
French Canadian Nomenclature			2935	0	Y	NC
Adjacent Frame 3592 —SC			4065	150	Y	NC
Adjacent Frame 3592 —LC			4075	150	Y	NC
Field Install J1A Drive			4674	0	Y	NC
Remove J1A from 3494			4772	0	Y	NC
Install Cradle Pair			4800	0	Y	NC
Remove Cradle Pair			4801	0	Y	NC
Reinstall Cradle Pair			4803	0	Y	NC
PCI Library Manager — Field			5046	850	Y	NC
Dual Active Accessor			5050	1,250	Y	NC
Input/Output Station			5210	182	Y	NC
Dual Gripper			5215	515	Y	NC
Remote Power			5216	80	Y	NC
RS-232 Cable 50 ft			5217	14	Y	NC
Token Ring LAN Adaptor			5219	113	Y	NC
Ethernet LAN Adaptor			5220	113	Y	NC
Remote Console 32 Port			5226	50	Y	NC
Attachment			5227	600	Y	NC
Tape Control Unit Expansion			5228	100	Y	NC
Tape Control Unit Attachment			5229	300	Y	NC
30 Cartridge I/O Station			5230	435	Y	NC
Attachment Concentrator			5232	188	Y	NC
Dual Path Concentrator			5246	1,250	Y	NC
Upgrade 5300 to 5302			5302	1,775	Y	NC
Upgrade 5300 to 5304			5304	1,775	Y	NC
Additional Storage Unit			5500	0	Y	NC
Drive Unit For B18			5502	0	Y	NC
SCSI Drive Unit			5503	204	Y	NC
ESCON Drive Unit			5504	204	Y	NC

Description	Machine type	Model	Feature number	Monthly rental charge	MES removal	MES removal charge
3592 Cleaning Cartridge			8802	\$ 0	Y	NC
20-3592 Data Cartridges			8820	0	Y	NC
Storage Unit Attach			9002	NC	Y	NC
Drive Unit Attach			9003	NC	Y	NC
Storage Unit Attach >8 Frames			9004	NC	Y	NC
Drive Unit Attach 8 Frames			9005	NC	Y	NC
Virtual Tape Server Attachment			9006	NC	Y	NC
VTS Attach >8 Frames			9007	NC	Y	NC
Additional Drives Support B20, B10, B18			9011	NC	Y	NC
VTS Attachment			9020	NC	Y	NC
Virtual Drives Enhancement High Availability Attachment			9021	NC	Y	NC
PCI Library Manager — Plant			9040	NC	Y	NC
Attach Ctlr to 3494 Conc			9046	NC	Y	NC
Attach Ctlr to 3494 RS422			9060	NC	Y	NC
AS/400, iSeries Attachment			9061	NC	Y	NC
RS/6000, pSeries Attachment			9104	NC	Y	NC
S/390, zSeries Attachment			9106	NC	Y	NC
Open System Device Drivers			9109	NC	Y	NC
HP-UX Attachment			9200	NC	Y	NC
Sun Attachment			9210	NC	Y	NC
Windows Attachment			9211	NC	Y	NC
Other Linux Attachment			9212	NC	Y	NC
zSeries Linux Attachment			9215	NC	Y	NC
No Data Cartridges			9216	NC	Y	NC
Factory Install			9540	NC	Y	NC
J1A Drive			9673	NC	Y	NC
Field Merge J1A Drive			9674	NC	Y	NC
6-Foot Chicago Power Cord			9986	NC	N	NC
Tape Drive Expansion Frame	3494	D22		1,808		
Adjacent Frame 3592 — SC			4065	150	Y	NC
Adjacent Frame 3592 — LC			4075	150	Y	NC

Description	Machine type	Model	Feature number	Monthly rental charge	MES removal	MES removal charge
Field Install J1A Drive			4674	\$ 0	Y	NC
Remove J1A from 3494			4772	0	Y	NC
Install Cradle Pair			4800	0	Y	NC
Remove Cradle Pair			4801	0	Y	NC
Reinstall Cradle Pair			4803	0	Y	NC
3592 Cleaning Cartridge			8802	0	Y	NC
20-3592 Data Cartridges			8820	0	Y	NC
Drive Unit Attach 8 Frames			9005	NC	Y	NC
High Availability Attachment			9040	NC	Y	NC
AS/400, iSeries Attachment			9104	NC	Y	NC
RS/6000, pSeries Attachment			9106	NC	Y	NC
S/390, zSeries Attachment			9109	NC	Y	NC
HP-UX Attachment			9210	NC	Y	NC
Sun Attachment			9211	NC	Y	NC
Windows Attachment			9212	NC	Y	NC
Other Linux Attachment			9215	NC	Y	NC
zSeries Linux Attachment			9216	NC	Y	NC
No Data Cartridges			9540	NC	Y	NC
Factory Install J1A Drive			9673	NC	Y	NC
Field Merge J1A Drive			9674	NC	Y	NC
6-Foot Chicago Power Cord			9986	NC	N	NC
Tape Drive Expansion Frame	3494	D24		1,808		
SC Fibre Drive Attach Ctlr			3464	168	Y	NC
LC Fibre Drive Attach Ctlr			3474	168	Y	NC
Replace A00/A50 with A60			4660	0	Y	NC
Field Install A60 in 3494			4665	0	Y	NC
Field Install J1A Drive			4674	0	Y	NC
Remove A60 from 3494			4765	0	Y	NC
Remove J1A from 3494			4772	0	Y	NC
Install Cradle Pair			4800	0	Y	NC
Remove Cradle Pair			4801	0	Y	NC
Reinstall Cradle Pair			4803	0	Y	NC



Description	Machine type	Model	Feature number	Monthly rental charge	MES removal	MES removal charge
Field Install J70 in 3494			4855	\$ 0	Y	NC
Replace Ctlr with J70			4860	0	Y	NC
Remove J70 from 3494			4865	0	Y	NC
3592 Cleaning Cartridge			8802	0	Y	NC
20-3592 Data Cartridges			8820	0	Y	NC
Drive Unit Attach 8 Frames			9005	NC	Y	NC
High Availability Attachment			9040	NC	Y	NC
Attach Ctlr to 3494 Conc			9060	NC	Y	NC
Attach Ctlr to 3494 RS422			9061	NC	Y	NC
S/390, zSeries Attachment			9109	NC	Y	NC
No Data Cartridges			9540	NC	Y	NC
Field Merge A60 in 3494			9665	NC	Y	NC
Plant Install A60 in 3494			9666	NC	Y	NC
Factory Install J1A Drive			9673	NC	Y	NC
Field Merge J1A Drive			9674	NC	Y	NC
Field Merge J70 in 3494			9865	NC	Y	NC
Plant Install J70 in 3494			9866	NC	Y	NC
6-Foot Chicago Power Cord			9986	NC	N	NC
Tape Library Base Frame	3494	L12				
Other Linux Attachment			9215	NC	Y	NC
zSeries Linux Attachment			9216	NC	Y	NC
Tape Drive Expansion Frame	3494	D12				
Other Linux Attachment			9215	NC	Y	NC
zSeries Linux Attachment			9216	NC	Y	NC

For ServiceElect (ESA) Maintenance Service Charges, contact IBM Global Services at 888-IBM-4343 (426-4343).

**Model conversion purchase prices**

Model From	Model To	Model conversion purchase price
L10	L22	\$4,000
L12	L22	4,000
L14	L22	4,000
D10	D22	4,000
D12	D22	4,000
D14	D22	4,000
D10	D24	4,000
D12	D24	4,000

Model From	Model To	Model Conversion Purchase Price
D14	D24	\$4,000
D22	D24	4,000
D24	D22	4,000

**Specify feature codes:** The following charges apply to features ordered for field installation:

Description	Feature number	Charge
Storage Unit Attach	9002	\$0
Drive Unit Attach	9003	0
Storage Unit Attach	9004	0
Greater Than 8 Frames		
Drive Unit Attach 8 Frames	9005	0
Virtual Tape Server Attachment	9006	0
VTS Attach	9007	0
Greater Than 8 Frames		
Additional Drives Support	9011	0
B20, B10, B18 VTS Attachment	9020	0
Virtual Drives Enhancement	9021	0
High Availability Attachment	9040	0
Attach Ctlr to 3494 Conc	9060	0
Attach Ctlr to 3494 RS422	9061	0
AS/400, iSeries Attachment	9104	0
RS/6000, pSeries Attachment	9106	0
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