StorageTek Automated Cartridge System Library Software

Product Information

Version 8.0.1

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StorageTek Automated Cartridge System Library Software Product Information Guide
Part Number: 316139401

Revision History

EC	Date	Revision	Description
001631	May 2010	AA	Supports StorageTek ACSLS 8.0.1. In this release software enforcement of the right-to-use license is no longer employed in ACSLS, and no longer checks for a valid license key.

Preface

StorageTek Automated Cartridge System Library Software (ACSLS) 8.0.1 is Oracle's StorageTek's UNIX server software that controls a StorageTek Automated Cartridge System (ACS). The StorageTek ACS family of products consists of fully automated, tape cartridge-based data storage and retrieval systems. StorageTek ACSLS supports network access to different client systems that can range from workstations to mainframes to supercomputers running on a variety of operating systems.

This guide is for the individual responsible for administering StorageTek ACSLS. It is expected that you already have a working knowledge of the following:

- UNIX file and directory structure
- How to use UNIX commands and utilities for your platform
- UNIX system files
- How to do typical UNIX system administrator tasks, such as logging on as root and setting up user accesses to a UNIX application

Related Documentation

The following list contains the names and order numbers of publications that provide additional information about *the product.*

Function	Title	Part Number
Administrators	StorageTek ACSLS 8.0.1 Administrator's Guide	316139101
Administrators	StorageTek ACSLS 8.0.1 8.0.1 Messages Guide	316139201
Installation	StorageTek ACSLS 8.0.1 Installation	316139301

Function	Title	Part Number
Marketing	StorageTek ACSLS 8.0.1 Product Information	316139401
Administrators	StorageTek ACSLS 8.0.1 Quick Reference	316139501
Administrators	StorageTek ACSLS 8.0.1 Release Notes	316139601

Conventions for Reader Usability

Conventions are used to shorten and clarify explanations and examples within this book.

Typographic

The following typographical conventions are used in this book:

- **Bold** is used to introduce new or unfamiliar terminology, or it's used in steps to indicate either an action or a decision the user has to make.
- `Letter Gothic` is used to indicate command names, filenames, and literal output by the computer.
- `Letter Gothic Bold` is used to indicate literal input to the computer.
- `Letter Gothic Italic` is used to indicate that you must substitute the actual value for a command parameter. In the following example, you would substitute your name for the "username" parameter.

  `Logon username`

- A bar (|) is used to separate alternative parameter values. In the example shown below either username or system name must be entered.

  `Logon username | systemname`

- Brackets [ ] are used to indicate that a command parameter is optional.
- Ellipses (...) are used to indicate that a command may be repeated multiple times.
- This guide shows all ACSLS commands in lowercase. You can, however, enter these commands in all lowercase, all uppercase, or any combination of uppercase and lowercase. Single underlines show minimum command abbreviations. For example, aud and au are valid forms of the audit command.

Keys

Single keystrokes are represented by double brackets [[ ]] surrounding the key name. For example, press [[ESC]] indicates that you should press only the escape key.

Combined keystrokes use double brackets and the plus sign (+). The double brackets surround the key name and the plus sign is used to add the second keystroke. For example, press [[ALT]]+C indicates that you should press the alternate key and the C key simultaneously.

Enter Command

The instruction to "press the <Enter> key" is omitted from most examples, definitions, and explanations in this book.

For example, if the instructions asked you to "enter" `Logon pat`, you would type in `Logon pat` *and* press <Enter>.

However, if the instructions asked you to "type" `Logon pat`, you would type in `Logon pat` and you would *not* press <Enter>.

Symbols

The following symbols are used to highlight text in this book.

Caution – Information necessary to keep you from corrupting your data.

Note – Information that may be of special interest to you. Notes are also used to point out exceptions to rules or procedures.

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Function	URL
Documentation	
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ACSLS 8.0.1 Messages, part number

Overview

ACSLS 8.0.1 offers an easy extensible and maintainable library server that supports StorageTek automated tape libraries.

Software Requirements

- ACSLS 8.0.1 has been fully tested and verified on Oracle's Sun SPARC and X86 platforms running Solaris-10 (U6 10/2008 or U7 05/2009). Other operating systems, including AIX and virtual environments, are not tested or supported.

- Because of special device driver requirements to enable virtual libraries, ACSLS 8.0.1 cannot run in a Solaris Zoned environment.   However, ACSLS 8.0.1 can run in a logical domain on a SPARC system with Chip Multithreading (CMT) technology. ACSLS 8.0.1 HA systems must be installed on their own dedicated platform pair.

- The graphical user interface and SMCE service in ACSLS 8.0.1 requires Java 1.6 U14 and is included on the ACSLS 8.0.1 CD for easy installation. You cannot install ACSLS unless this requirement is met. Please note that:

  - Should you choose to install Java in a different directory, a soft link must be provided that points to the java binaries located in: /usr/java/bin/java

  - To verify the version, enter the command: java -version.

    The system should reply with"java version 1.6.0_14"

System Requirements

- Memory: 2GB minimum
- Swap: Configure swap to be no less than the configured amount of physical memory.
- File systems:

  Installation fails if the following filesystems do not exist as separate filesystems.

  - /export/home - 5GB or greater
  - /export/backup - 5GB or greater
- Optional Fibre card.

A Fibre card is optional. However, a contemporary QLogic Fibre HBA (4GB or higher) is required if:

- A dedicated Fibre port is required to operate in target mode for client communication to logical libraries.

- Another port is required to act as an initiator for communication with SCSI-attached libraries, such as the SL500 or SL700.

- Note: If neither of these is required, you do not need a Fibre card. However, during normal GUI operations a critical error icon shows up in the Web Console. Ignore this error.

Browser Requirements:

ACSLS 8.0.1 has been tested and fully verified on the following browsers:

- Internet Explorer 8.x
- FireFox 2.x, 3.0.x
- Chrome 4.x

There are known issues with the following browsers:

- Internet Explorer 7.x mis-interprets line breaks in drop-down menus as legitimate selections.

- Firefox 3.5.x and 3.6.x are unable to auto refresh the ACSLS Tree menu (left frame). The frame can be manually refreshed as follows: Right-click in the left frame, select This-Frame -> Reload Frame.

  This issue can be resolved by installing the FireBug Add-on to FireFox.

Co-Hosting

Co-hosting other applications with ACSLS 8.0.1 is supported on machines that support logical domains (LDOMs). Because ACSLS drivers are attached to hardware devices, ACSLS must be installed in the primary domain. Co-hosting is otherwise not supported with ACSLS.

What's New in this Release

ACSLS 8.0.1 supports the following new features and enhancements

No Longer Requires Software Licenses

Beginning with StorageTek ACSLS versions 7.3.1 and 8.0.1, the right-to-use license is no longer enforced in StorageTek ACSLS, and ACSLS no longer checks for a valid license key. Messages regarding a soon-to-be-expired license key or library capacity license no longer appear on the system console or in the `acsss_event.log`.

The following utilities no longer function in their capacity to set and check for a valid license key:

- licensekey.sh
- get_license_info.sh

To view your library slot usage use the free_cells.sh utility.

Oracle Branding Changes

ACSLS 8.0.1 has been re-branded as an Oracle product.

New testports Utility

A new testports utility tests the connection to TCP/IP libraries and whether the ACS and port connection is online or offline.

Overview of ACSLS 8.0.1

Library Management

ACSLS 8.0.1 is automated library management software. It facilitates automated tape operations for multiple clients, providing services and support to enhance library ease-of-use, performance, and availability. One ACSLS 8.0.1 server can control libraries connected into a library complex, individual libraries, or a mix of both.

ACSLS 8.0.1 includes all library management capabilities available in the legacy ACSLS product at the ACSLS 7.3, PUT0801 level. Support is provided for ACSAPI clients, cmd_proc and ACSLS utilities (startup and shutdown have changed).

Graphical User Interface

The GUI is a browser-based web application which runs within the Java Web Console. This new interface provides an alternative to the traditional `cmd_proc` interface from ACSLS.

- Runs as an application with the Java Web Console.

- Provides an alternative to the `cmd_proc` for library administration and operation. It provides the ability to perform most legacy `cmd_proc` operations, along with new operations related to logical library management.
- Provides real-time monitoring of tape library components.
- Provides a tree browser to navigate physical and logical configuration.
- Real time alerts are visible from each screen.
- Allows for customizable filtering capabilities and the ability to download query results to a flat file.

Features

- Create, edit and delete logical library resources
- View physical and logical resources
- Audit physical and logical libraries
- Perform enters and ejects
- Perform mounts and dismounts
- Set clean and set owner for one or more volumes
- User-customized displays and custom filtering for volume and drive listings.
- Set the CAP mode and priority
- Vary operations for physical and logical components
- System Operations, including ability to cancel selected operations
- Log viewer for event logs

Logical Libraries

The ACSLS 8.0.1 GUI enables you to create logical libraries which include a sub-set of the volumes and drives in a specific physical library. This allows you to define logical subsets of your physical libraries, which can be managed and utilized by client applications as if they were separate logical libraries. You can dedicate a portion (or all) of the volumes and drives in a given physical library to a logical library for use by a specific client application.

- A logical library can not span more than one physical ACS (or physical partition).
- Logical libraries are accessible to clients using the ACSLS 8.0.1 SCSI Interface. They **are not** available to clients that use the legacy ACSAPI.
- Physical drives and cartridges that are allocated to logical libraries become inaccessible to ACSAPI clients. The physical libraries, along with any drives and volumes that are not allocated to logical libraries, remain accessible to ACSAPI clients.
- Drives and volumes that are allocated to logical libraries are allocated exclusively - there is no support for sharing of either drives or volumes across logical libraries.

Open Format (Volser)

Before ACSLS 8.0.1, support for longer volume labels in physical libraries relied on library firmware and configuration.

Now, the ACSLS 8.0.1 SCSI Media Changer Interface allows ACSLS to support longer volume labels. You have visibility to the longer volume labels through the GUI, the CLI (`cmd_proc`), and utilities.

Longer volume labels are viewed by clients using the SCSI Medium Changer interface to access logical libraries. They are not accessible to ACSAPI clients.

SCSI Media Changer over Fibre Client Interface

ACSLS 8.0.1 provides a SCSI Media Changer over Fibre Channel Interface for allowing access to logical libraries. ACSLS can service multiple SCSI clients simultaneously. Each client has exclusive access to its assigned logical library.

This allows client software, such as NetBackup, to utilize the logical libraries as if they were separate physical libraries. Each logical library can be assigned to only one client, but a given client can access multiple logical libraries if desired. ACSLS 8.0.1 does not allow direct SCSI client access to the backing physical libraries - only the volumes and drives assigned to the logical libraries are accessible.

SCSI client access can be established when creating or modifying logical libraries.

ACSAPI Client Interface

ACSLS 8.0 provides an ACSAPI client interface which is compatible with existing client applications. The ACSAPI interface is identical to that provided in the legacy ACSLS 7.3 product.

Access and Visibility

ACSAPI clients have neither visibility nor access to logical libraries.

Physical Drives and Cartridges

Physical drives and cartridges that are allocated to logical libraries become inaccessible to ACSAPI clients. The physical libraries, along with any drives and volumes that are NOT allocated to logical libraries, remain accessible to ACSAPI clients.

Command Line Interface

ACSLS 8.0.1 provides a command-line interface in the form of the legacy `cmd_proc` from ACSLS. This interface provides the same functionality as ACSLS 7.3 for managing physical library resources.

The `cmd_proc` interface does not provide access to logical libraries. But the physical resources which have been allocated to logical libraries do remain fully accessible through the `cmd_proc` administrative CLI (although they are not accessible to ACSAPI clients).

Utilities

ACSLS provides a set of utilities which can be executed from a shell running on the ACSLS server. This includes most of the traditional utilities provided in the legacy ACSLS 7.3 PUT0801 product.

These utilities include the following:

- backup and restore operations for database tables
- import and export operations for database tables
- startup and shutdown operations
- dynamic configuration for physical libraries
- `volrpt`, `moving.sh`, and `ejecting.sh`

Differences and exceptions

- A new utility (`getHba.sh`) manages Fibre Channel (FC) ports. Ports can be configured to operate in target mode (supporting FC clients) or in initiator mode (managing FC-attached physical libraries).
- ACSLS provides a new command (`acsss`) for starting and stopping the library management application. This command is available from the shell prompt only, and is not accessible from the GUI.

  The `acsss` command replaces the `db_command`, `rc.acsss`, `kill.acsss`, and `fix_rc.sh` commands used in ACSLS. The `acsss` command also provides the ability to monitor application status.

CHAPTER **2**

Library, Tape Drive and Media Support

This chapter provides you with a list of:

Libraries and Library Features Supported

The following table provides the list of libraries supported by ACSLS. The second column in this table shows support for a library and its features added after ACSLS 7.0

TABLE 2-1   Library and Library Features Supported.

Library and Library Feature	Support and Maintenance Level after 7.0
StorageTek 4410	
StorageTek 9310	
StorageTek 9360	
StorageTek 9740 SCSI-Attached	
StorageTek 9740 HLI-Attached	
StorageTek 9710	
StorageTek 9714	
StorageTek 9730	
StorageTek 9738	
StorageTek L20, L40, L80	
StorageTek L180	
StorageTek L700	
StorageTek L700e PTP	
StorageTek L5500	
StorageTek SL8500	ACSLS 7.1

Library and Library Feature	Support and Maintenance Level after 7.0
StorageTek SL8500, Dual TCP/IP Connections	ACSLS 7.1 with PUT0602
StorageTek SL8500, Connections to Multiple Libraries	ACSLS 7.1 with PUT0701
StorageTek SL8500 Partitioning	ACSLS 7.1 with PUT0701
StorageTek SL500	ACSLS 7.1 with PUT0402
StorageTek SL500 Cartridge Expansion Module (CEM)	ACSLS 7.1 with PUT0502
StorageTek SL3000	ACSLS 7.3
StorageTek SL3000 AEM	ACSLS 7.3 with PUT0801 (ejecting only 42 cartridges at a time) ACSLS 8.0 (eject full AEM using the GUI)
StorageTek Virtual Tape Library (VTL)	ACSLS 7.3 with PUT0801
Drive & Media Statistics from Library	ACSLS 7.3. An improved display is provided with PUT0801.

Tape Drives Supported

The following table is used to translate drive types between applications. The Drive Type Name represents the drive type in cmd_proc and event log messages. The ACSAPI Drive Type Number is used in ACSLS software operations and ACSAPI client communications.

The last column in the Tape Drives table identifies support for a tape drive and associated media added after ACSLS 7.0.

TABLE 2-2 Tape Drives Supported.

ACSAPI Drive Type Number	Drive Domain -hex and character, if applicable	Drive Type Reported by Library (decimal)	Drive Type Name	Tape Drive Description	ACSLS Support after 7.0
0	00h	64	4480	StorageTek 18-track	
1	00h	08	4490	StorageTek Silverton 36-track	
2	00h	32	9490	StorageTek TimberLine 36-track high performance	
3	00h	16	SD3	StorageTek Redwood Helical	
4	00h	04	4890	StorageTek Twin Peaks 36-track	
5	01h	01 (65)*	DLT2000	Quantum DLT2000	
6	01h	02 (66)*	DLT2000XT	Quantum DLT2000XT	
7	01h	03 (67)*	DLT4000	Quantum DLT4000	

ACSAPI Drive Type Number	Drive Domain -hex and character, if applicable	Drive Type Reported by Library (decimal)	Drive Type Name	Tape Drive Description	ACSLS Support after 7.0
8	01h	04 (68)*	DLT7000	Quantum DLT7000	
9	00h	02	9840	StorageTek T9840A	
10	00h	33	9491	StorageTek TimberLine EE 36-track	
11	01h	07 (71)*	DLT8000	Quantum DLT8000	
12	00h	03	9840-3590	T9840A with IBM 3590 emulation	
13	00h	05	T9940A	T9940A with SCSI/Fibre or VSM3490	
14	00h	06	9940--3590	T9940A with 3590 emulation	
15	01h	20 (84)*	SDLT	Super DLT 220	
16	00h	01	T9840B	High Performance 9840 with SCSI/Fibre or VSM3490	
17	00h	07	T9840B35	T9840B with 3590 emulation	
18	4Ch ("L")	48	HP-LTO	HP LTO Generation 1	
19	4Ch ("L")	49	IBM-LTO	IBM LTO Generation 1	
20	4Ch ("L")	50	CER-LTO	Certance LTO Generation 1	
21	00h	09	T9940B	T9940B with SCSI/Fibre or VSM3490	
22	00h	10	T9940B35	T9940B with 3590 emulation	
23				*reserved*	
24	01h	21 (85)*	SDLT-320	Super DLT 320	
25	00h	11	T9840C	T9840C with Fibre or VSM3490	
26	00h	12	T9840C35	T9840C with 3590 emulation	
27	4Ch ("L")	51	HP-LTO-2	HP LTO Generation 2	
28	4Ch ("L")	52	IBM-LTO-2	IBM LTO Generation 2	
29	4Ch ("L")	53	CER-LTO-2	Certance LTO Generation 2	
30	01h	23 (87)*	SDLT-600	Super DLT-600	ACSLS 7.1
31	54h ("T")	13	T1A	T10000A with Fibre or VSM3490	ACSLS 7.1 with PUT0501
32	54h ("T")	14	T1A35	T10000A with IBM 3592 emulation	ACSLS 7.1 with PUT0501

ACSAPI Drive Type Number	Drive Domain -hex and character, if applicable	Drive Type Reported by Library (decimal)	Drive Type Name	Tape Drive Description	ACSLS Support after 7.0
33	4Ch ("L")	54	HP-LTO-3	HP LTO Generation 3	ACSLS 7.1 with PUT0501
34	4Ch ("L")	55	IBM-LTO-3	IBM LTO Generation 3	ACSLS 7.1 with PUT0501
35	4Ch ("L")	56	CER-LTO-3	Certance LTO Generation 3	ACSLS 7.1 with PUT0501
36				reserved	
37	54h ("T")	24	T1AE	T10000A, fibre or VSM3490, with encryption enabled	ACSLS 7.1 with PUT0602
38	54h ("T")	25	T1AE35	T10000A - IBM 3592 emulation with encryption enabled	ACSLS 7.1 with PUT0602
39				reserved	
40				reserved	
41	00h	18	T9840D	T9840D, fibre or VSM3490	ACSLS 7.1 with PUT0602
42	00h	19	T9840D35	T9840D - IBM 3592 emulation (MVS attach)	ACSLS 7.1 with PUT0602
43	00h	20	T9840DE	T9840D, fibre or VSM3490, with encryption enabled	ACSLS 7.1 with PUT0602
44	00h	21	T9840DE5	T9840D- IBM 3592 emulation (MVS attach) with encryption enabled	ACSLS 7.1 with PUT0602
45	01h	24 (88)*	DLT-S4	Quantum DLT-S4	ACSLS 7.1 with PUT0602
46	4Ch ("L")	57	HP-LTO4	HP LTO Generation 4	ACSLS 7.1 with PUT0701
47	4Ch ("L")	58	IBM-LTO4	IBM LTO Generation 4	ACSLS 7.1 with PUT0701
48				reserved	
49	54h ("T")	26	T1B	T10000B with Fibre or VSM3490	ACSLS 7.1 with PUT0701 and PTF or ACSLS 7.2 with PUT0702
50	54h ("T")	27	T1B35	T10000B with IBM 3592 emulation	ACSLS 7.1 with PUT0701 and PTF or 7.2 with PUT0702
51	54h ("T")	28	T1BE	T10000B with Fibre or VSM3490 and encryption	ACSLS 7.1 with PUT0701 and PTF or ACSLS 7.2 with PUT0702

ACSAPI Drive Type Number	Drive Domain -hex and character, if applicable	Drive Type Reported by Library (decimal)	Drive Type Name	Tape Drive Description	ACSLS Support after 7.0
52	54h ("T")	29	T1BE35	T10000B with encryption and IBM 3592 emulation	ACSLS 7.1 with PUT0701 and PTF or ACSLS 7.2 with PUT0702

Tape Media Supported

The following table lists the compatible tape media supported for each transport type.

Notes:

- ■ * Legacy StorageTek media do not have a media domain on the label. They are reported as media domain **0** (zero).
- ■ ** 3480 cartridges do not have a media type label. They are reported as media type**1**.
- ■ *** DLT cartridges do not have a media domain on the label. They are reported as media domain **1**. SDLT cartridges with 7 character barcodes are also reported as media domain **1**.
- ■ **** When a media type is reported as cleaning cartridge "maybe", both data or cleaning cartridges can have this media type.

TABLE 2-3   Tape Media Supported

ACSAPI Media Type Number	Media Type Name	Media Description	Media Domain (on label)	Media Type (on label)	Cleaning Cartridge ****
0	3480	3480 18 or 6-track	0*	1**	maybe
1	3490E	3490E 36-track	0*	E	no
2	DD3A	StorageTek Redwood (Helical) 10GB	0*	A	no
3	DD3B	StorageTek Redwood (Helical) 25GB	0*	B	no
4	DD3C	StorageTek Redwood (Helical) 40GB	0*	C	no
5	DD3D	StorageTek Redwood Cleaning Cartridge	0*	D	yes
6	DLTIII	Quantum DLT III -10GB	1***	C	maybe
7	DLTIV	Quantum DLT IV - 20GB or 35GB	1***	D	no
8	DLTIIIXT	Quantum DLT IIIxt - 15GB	1***	E	no
9	STK1R	T9840A, T9840B, T9840C or T9840D data cartridge	0*	R	no
10	STK1U	T9840A, T9840B, 9840C cleaning cartridge	0*	U	yes

ACSAPI Media Type Number	Media Type Name	Media Description	Media Domain (on label)	Media Type (on label)	Cleaning Cartridge ****
11	EECART	9490EE 36-track	0*	Z	no
12		reserved			
13	STK2P	9940 data cartridge	0*	P	no
14	STK2W	9940 cleaning cartridge	0*	W	yes
15		reserved			
16	LTO-100G	LTO Generation 1 data cartridge	L	1	no
17	LTO-50GB	LTO Generation 1 data cartridge	L	A	no
18	LTO-35GB	LTO Generation 1 data cartridge	L	B	no
19	LTO-10GB	LTO Generation 1 data cartridge	L	C	no
20	LTO-CLN2	IBM cleaning cartridge	C	2	yes
21	LTO-CLN3	Certance cleaning cartridge	C	3	yes
22	LTO-CLN1	HP cleaning cartridge	C	1	yes
23	SDLT	Super DLT Generation I cartridge	1***	S	maybe
24		reserved			
25	LTO-CLNU	LTO universal cleaning cartridge	C	U	yes
26	LTO-200G	LTO Generation 2 data cartridge	L	2	no
1. 27	2. SDLT-2	3. Super DLT Generation II data cartridge	4. 1***	5. 2	6. no
28	T10000T1	T10000 data cartridge	T	1	no
29	T10000TS	T10000 "sport" data cartridge	T	S	no
30	T10000CT	T10000 cleaning cartridge	C	T	yes
31	LTO-400G	LTO Generation 3 data cartridge	L	3	no
32	LTO-400W	LTO Generation 3 WORM data cartridge	L	T	no
33		reserved			
34	SDLT-S1	Super DLT Generation I data cartridge in SDLT-220 format	S	1	maybe
35	SDLT-S2	Super DLT Generation I data cartridge in SDLT-320 format	S	2	no
36	SDLT-S3	Super DLT Generation II data cartridge	S	3	no
37	SDLT-S4	Super DLT Generation 4 data cartridge	S	4	no
38	SDLT-4	Super DLT Generation 4 data cartridge	1***	4	no
39	STK1Y	T9840D cleaning cartridge	0*	Y	yes
40	LTO-800G	LTO Generation 4 data cartridge	L	4	no

ACSAPI Media Type Number	Media Type Name	Media Description	Media Domain (on label)	Media Type (on label)	Cleaning Cartridge ****
41	LTO-800W	LTO Generation 4 WORM data cartridge	L	U	no

Tape Drive and Media Compatibility Supported

The following table lists the compatible media for each drive type. Use these values as input to the media *media_type* and drive *drive_type* parameters on ACSLS commands.

TABLE 2-4   Drive and Media Compatibility

Drive Type (*drive_type*)	Compatible Media (*media_type*)	
	Data Cartridge	Cleaning Cartridge
4480	3480,	3480
4490	3480, 3490E	3480
4890	3480, 3490E	3480
9490	3480, 3490E	3480
9490EE	3480 (read only), 3490E, EECART	3480
SD3	DD3A, DD3B, DD3C	DD3D
9840	STK1R	STK1U
9840-3590	STK1R	STK1U
T9840B	STK1R	STK1U
T9840B35	STK1R	STK1U
T9840C	STK1R	STK1U
T9840C35	STK1R	STK1U
T9840D	STK1R	STK1Y
T9840D35	STK1R	STK1Y
T9840DE	STK1R	STK1Y
T9840DE5	STK1R	STK1Y
T9940A	STK2P	STK2W
9940A-3590	STK2P	STK2W
T9940B	STK2P	STK2W
T9940B35	STK2P	STK2W
DLT2000	DLTIII	DLTIII

Drive Type (*drive_type*)	Compatible Media (*media_type*)	
	Data Cartridge	Cleaning Cartridge
DLT2000XT	DLTIII, DLTIIIXT	DLTIII
DLT4000	DLTIII, DLTIIIXT, DLTIV	DLTIII
DLT7000	DLTIII, DLTIIIXT, DLTIV	DLTIII
DLT8000	DLTIII, DLTIIIXT, DLTIV	DLTIII
SDLT	SDLT, SDLT-S1, DLTIV	SDLT, SDLT-S1
SDLT-320	SDLT, SDLT-S1, SDLT-S2, DLTIV	SDLT, SDLT-S1
SDLT-600	SDLT, SDLT-2, SDLT-S1, SDLT-S2, SDLT-S3	SDLT, SDLT-S1
DLT-S4	SDLT-2, SDLT-4, SDLT-S2, SDLT-S3, SDLT-S4	SDLT,
HP-LTO	LTO-100G, LTO-50GB, LTO-35GB, LTO-10GB	LTO-CLN1, LTO-CLNU
IBM-LTO	LTO-100G, LTO-50GB, LTO-35GB, LTO-10GB	LTO-CLN2, LTO-CLNU
CER-LTO	LTO-100G, LTO-50GB, LTO-35GB, LTO-10GB	LTO-CLN3, LTO-CLNU
HP-LTO-2	LTO-200G, LTO-100G, LTO-50GB, LTO-35GB, LTO-10GB	LTO-CLN1, LTO-CLNU
IBM-LTO-2	LTO-200G, LTO-100G, LTO-50GB, LTO-35GB, LTO-10GB	LTO-CLN2, LTO-CLNU
CER-LTO-2	LTO-200G, LTO-100G, LTO-50GB, LTO-35GB, LTO-10GB	LTO-CLN3, LTO-CLNU
HP-LTO-3	LTO-400G, LTO-400W, LTO-200G, LTO-100G, LTO-50GB, LTO-35GB, LTO-10GB	LTO-CLN1, LTO-CLNU
IBM-LTO-3	LTO-400G, LTO-400W, LTO-200G, LTO-100G, LTO-50GB, LTO-35GB, LTO-10GB	LTO-CLN2, LTO-CLNU
CER-LTO-3	LTO-400G, LTO-400W, LTO-200G, LTO-100G, LTO-50G, LTO-35GB, LTO-10G	LTO-CLN3, LTO-CLNU
HP-LTO4	LTO-800G, LTO-800W, LTO-400G, LTO-400W, LTO-200G	LTO-CLNU
IBM-LTO4	LTO-800G, LTO-800W, LTO-400G, LTO-400W, LTO-200G	LTO-CLNU
T1A	T10000T1, T10000TS	T10000CT
T1A35	T10000T1, T10000TS	T10000CT
T1AE	T10000T1, T10000TS	T10000CT
T1AE35	T10000T1, T10000TS	T10000CT
T1B	T10000T1, T10000TS	T10000CT

Drive Type (*drive_type*)	Compatible Media (*media_type*)	
	Data Cartridge	**Cleaning Cartridge**
T1B35	T10000T1, T10000TS	T10000CT
T1BE	T10000T1, T10000TS	T10000CT
T1BE35	T10000T1, T10000TS	T10000CT