

TruCluster Software Products

Hardware Configuration Technical Update for the Compaq ESL9326D Enterprise Library

August 2000

Product Version: TruCluster Production Server Software
Version 1.6 and TruCluster Available
Server Software Version 1.6

Operating System and Version: Tru64 UNIX Version 4.0F

This technical update describes how to configure the ESL9326D
Enterprise Library in a TruCluster™ Software Products environment.

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Contents

About This Technical Update

1 Compaq ESL9326D Enterprise Library

1.1	General Overview	1-1
1.2	ESL9326D Enterprise Library Overview	1-1
1.3	Preparing the ESL9326D Enterprise Library for Shared SCSI Bus Usage	1-2
1.3.1	ESL9326D Enterprise Library Robotic and Tape Drive Required Firmware	1-3
1.3.2	Library Electronics and Tape Drive SCSI IDs	1-3
1.3.3	ESL9326D Enterprise Library Internal Cabling	1-3
1.3.4	Connecting the ESL9326D Enterprise Library to the Shared SCSI Bus	1-5

Figures

1-1	ESL9326D Internal Cabling	1-4
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Tables

1-1	Shared SCSI Bus Cable and Terminator Connections for the ESL9326D Enterprise Library	1-5
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About This Technical Update

No TruCluster™ Software Products release coincides with support for the qualification of the ESL9326D Enterprise Library with Tru64™ UNIX Version 4.0F and TruCluster Software Products Version 1.6. This updates configuration information in the TruCluster Software Products *Hardware Configuration* manual.

Audience

If you plan to use an ESL9326D Enterprise Library in a TruCluster Production Server Software Version 1.6 or TruCluster Available Server Software Version 1.6 configuration, read this update to the TruCluster Software Products *Hardware Configuration* manual.

Compaq ESL9326D Enterprise Library

The topics in this chapter provide an overview and hardware configuration information on preparing the ESL9326D Enterprise Library for use on a shared SCSI bus with the TruCluster Production Server Software Version 1.6 or TruCluster Available Server Software Version 1.6 products.

1.1 General Overview

The Compaq StorageWorks ESL9326D Enterprise Library was recently qualified for use with the TruCluster Production Server Software Version 1.6 and TruCluster Available Server Software Version 1.6 products with Tru64 UNIX Version 4.0F.

The Compaq StorageWorks ESL9326D Enterprise Library is the first building block of the Compaq ESL 9000 series tape library.

For more information on the ESL9326D Enterprise Library, see the following Compaq StorageWorks ESL9000 Series Tape Library documentation:

- *Unpacking and Installation Guide*
- *Reference Guide*
- *Maintenance and Service Guide*
- *Tape Drive Upgrade Guide*

Note

These tape devices have been qualified for use on shared SCSI buses with both the KZPSA-BB and KZPBA-CB host bus adapters.

1.2 ESL9326D Enterprise Library Overview

The ESL9326D Enterprise Library is an enterprise Digital Linear Tape (DLT) automated tape library with from 6 to 16 fast-wide, differential tape drives. This tape library uses the 35/70 DLT (DS-TZ89N-AV) differential tape drives. The SCSI bus connectors are 68-pin, high-density.

The ESL9326D Enterprise Library has a capacity of 326 DLT cartridges in a fixed storage array (back wall, inside the left door, and inside the right door).

This provides a storage capacity of 11.4 TB uncompressed for the ESL9326D Enterprise Library using DLT Tape IV cartridges. The library can also use DLT Tape III or IIIXT tape cartridges.

The ESL9326D Enterprise Library is available as six different part numbers, based on the number of tape drives:

Order Number	Number of Tape Drives
146205-B23	6
146205-B24	8
146205-B25	10
146205-B26	12
146205-B27	14
146205-B28	16

You can upgrade a tape library with part number 146209-B21, which adds a 35/70 DLT tape drive. See the Compaq StorageWorks ESL9000 Series Tape Library *Tape Drive Upgrade Guide* for more information.

1.3 Preparing the ESL9326D Enterprise Library for Shared SCSI Bus Usage

The ESL9326D Enterprise Library contains library electronics (robotic controller) and from 6 to 16 35/70 DLT (DS-TZ89N-AV) fast-wide, differential DLT tape drives.

Tape devices are supported only on those shared SCSI buses that use the KZPSA-BB or KZPBA-CB host bus adapters.

Notes

The ESL9326D Enterprise Library is cabled internally for two 35/70 DLT tape drives on each SCSI bus. It arrives with the library electronics cabled to tape drives 0 and 1. Every other pair of tape drives is cabled together (2 and 3, 4 and 5, 6 and 7, and so on).

An extra SCSI bus jumper cable is provided with the ESL9326D Enterprise Library for those customers that do not have enough SCSI buses, and want to jumper two SCSI buses together and place four tape drives on the same SCSI bus.

We recommend that you place no more than two 35/70 DLT tape drives on a shared SCSI bus.

We also recommended that you do not place storage on shared SCSI buses that have tape drives.

The following sections describe how to prepare the ESL9326D Enterprise Library in more detail.

1.3.1 ESL9326D Enterprise Library Robotic and Tape Drive Required Firmware

Library electronics firmware V1.22 is the minimum firmware version that supports the TruCluster Production Server Software Version 1.6 and TruCluster Available Server Software Version 1.6 products.

The 35/70 DLT tape drives require V80 or later firmware (V97 is available).

1.3.2 Library Electronics and Tape Drive SCSI IDs

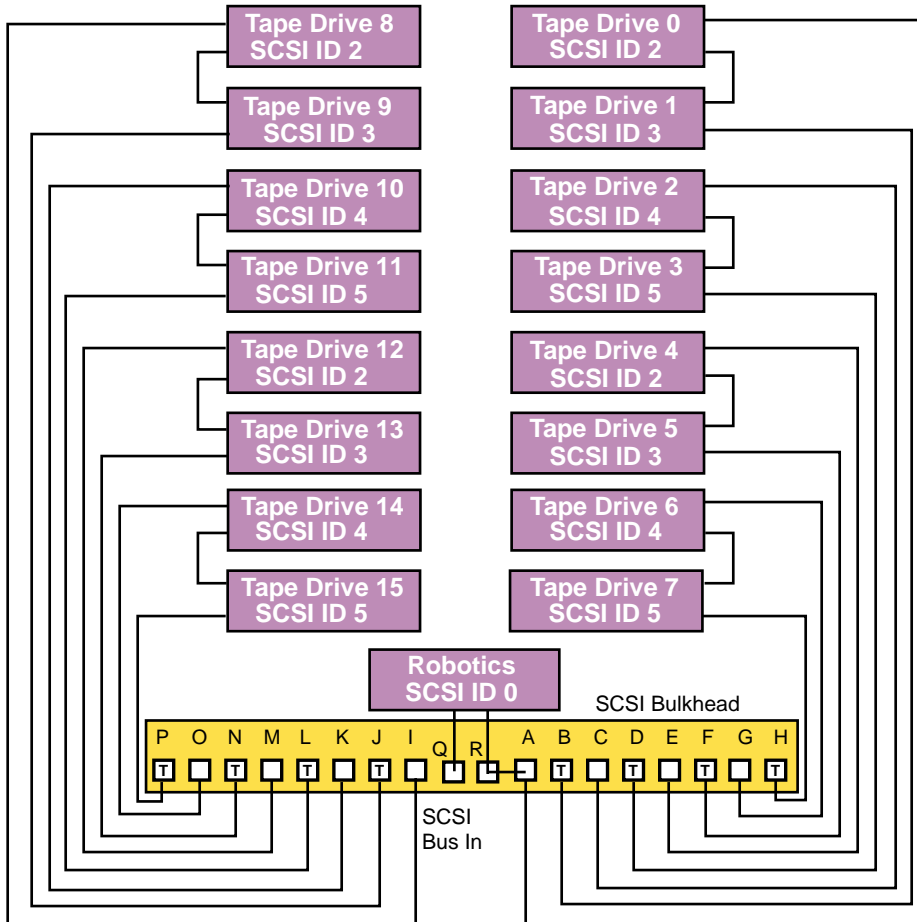
Figure 1–1 shows the default robotics and tape drive SCSI IDs. If these SCSI IDs are not acceptable for your configuration and you need to change them, follow the steps in the Compaq StorageWorks ESL9000 Series Tape Library *Reference Guide*.

1.3.3 ESL9326D Enterprise Library Internal Cabling

The default internal cabling for the ESL9326D Enterprise Library is to place two 35/70 DLT tape drives on one SCSI bus.

Figure 1–1 shows the default cabling for an ESL9326D Enterprise Library with 16 tape drives. Each pair of tape drives is cabled together internally to place two drives on a single SCSI bus. If your model has fewer drives, all internal cabling is supplied. The terminators for the drives that are not present are not installed on the SCSI bulkhead.

Figure 1–1: ESL9326D Internal Cabling



ZK-1705U-AI

Note

Each internal cable is up to 2.5 meters long. The length of the internal cables, two per SCSI bus, must be taken into consideration when ordering SCSI bus cables.

The maximum length of a differential SCSI bus segment is 25 meters, and the internal tape drive SCSI bus length is 5 meters. Therefore, you must limit the external SCSI bus cables to 20 meters maximum.

1.3.4 Connecting the ESL9326D Enterprise Library to the Shared SCSI Bus

The ESL9326D Enterprise Library has 5 meters of internal SCSI bus cabling for each pair of tape drives. Because of the internal SCSI bus lengths, you cannot use a tralink connector or Y cable to terminate the SCSI bus external to the tape library as is done with other devices on the shared SCSI bus. You must terminate each SCSI bus at the end of the SCSI bus by installing a terminator on the SCSI bulkhead SCSI connector. Therefore, you must ensure that the ESL9326D Enterprise Library is on the end of the shared SCSI bus in TruCluster Server configurations.

Note

We recommend that you put disk storage devices on separate shared SCSI buses.

Use 328215-001 (5-meter), 328215-002 (10-meter), 328215-003 (15-meter), 328215-004 (20-meter), or BN21K (BN21L) cables of the appropriate length to connect the ESL9326D Enterprise Library to a shared SCSI bus. Do not use a cable longer than 20 meters. Terminate each SCSI bus with a 330563-001 (or H879-AA) HD-68 terminator. Connect the cables and terminator on the SCSI bulkhead SCSI connectors as indicated in Table 1–1 to form shared SCSI buses.

Table 1–1: Shared SCSI Bus Cable and Terminator Connections for the ESL9326D Enterprise Library

Tape Drives on Shared SCSI Bus	Connect SCSI Cable to Connector	Install HD68 Terminator on Connector
0, 1, and library electronics ^a	Q	B
2, 3	C	D
4, 5	E	F
6, 7	G	H
8, 9	I	J
10, 11	K	L
12, 13	M	N
14, 15	O	P

^a Install .3-meter jumper cable part number 330582-001 between SCSI connectors R and A to place the library electronics on the SCSI bus with tape drives 0 and 1.

Notes

Each ESL9326D Enterprise Library arrives with one 330563-001 HD68 terminator for each pair of tape drives (one SCSI bus). The kit also includes at least one 330582-001 jumper cable to connect the library electronics to tape drives 0 and 1.

Tape libraries with more than six tape drives include extra 330582-01 jumper cables in case you do not have enough host bus adapters and you want to place more than two tape drives on a single SCSI bus (a configuration that we do not recommend).
