

# Sun™ StorEdge™ L1800 Facilities Planning and Installation Guide

---



THE NETWORK IS THE COMPUTER™

**Sun Microsystems Computer Company**

A Sun Microsystems, Inc. Business  
901 San Antonio Road  
Palo Alto, CA 94303-4900 USA  
1 650 960-1300 fax 1 650 969-9131

Part No. 805-5576-10  
Revision A, May 1998

Send comments about this document to: [smcc-docs@sun.com](mailto:smcc-docs@sun.com)

Copyright 1998 Sun Microsystems, Inc., 901 San Antonio Road • Palo Alto, CA 94303 USA. All rights reserved.

This product or document is protected by copyright and distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any. Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and other countries, exclusively licensed through X/Open Company, Ltd.

Sun, Sun Microsystems, the Sun logo, AnswerBook, SunDocs, StorEdge, and Solaris are trademarks, registered trademarks, or service marks of Sun Microsystems, Inc. in the U.S. and other countries. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

**RESTRICTED RIGHTS:** Use, duplication, or disclosure by the U.S. Government is subject to restrictions of FAR 52.227-14(g)(2)(6/87) and FAR 52.227-19(6/87), or DFAR 252.227-7015(b)(6/95) and DFAR 227.7202-3(a).

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 1998 Sun Microsystems, Inc., 901 San Antonio Road • Palo Alto, CA 94303 États-Unis. Tous droits réservés.

Ce produit ou document est protégé par un copyright et distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a. Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées des systèmes Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux États-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd.

Sun, Sun Microsystems, le logo Sun, AnswerBook, SunDocs, StorEdge, et Solaris sont des marques de fabrique ou des marques déposées, ou marques de service, de Sun Microsystems, Inc. aux États-Unis et dans d'autres pays. Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux États-Unis et dans d'autres pays. Les produits portant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une licence non exclusive de Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciés de Sun qui mettent en place l'interface d'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

CETTE PUBLICATION EST FOURNIE "EN L'ÉTAT" ET AUCUNE GARANTIE, EXPRESSE OU IMPLICITE, N'EST ACCORDEE, Y COMPRIS DES GARANTIES CONCERNANT LA VALEUR MARCHANDE, L'APTITUDE DE LA PUBLICATION A REpondre A UNE UTILISATION PARTICULIERE, OU LE FAIT QU'ELLE NE SOIT PAS CONTREFAISANTE DE PRODUIT DE TIERS. CE DENI DE GARANTIE NE S'APPLIQUERAIT PAS, DANS LA MESURE OU IL SERAIT TENU JURIDIQUEMENT NUL ET NON AVENU.



Adobe PostScript

# Contents

---

**Preface xi**

**1. Installation Requirements 1**

Library Specifications 1

Site Requirements 2

Floor Space 3

Floor Clearance 3

Floor Inclination 3

Floor Strength 4

Power 4

Grounding 4

**2. Unpacking the Library 5**

Receiving the Library 6

Uncrating the Library 7

Rolling the Library off the Pallet 10

Moving the Library to the Installation Site 11

Unpacking the Library	11
▼ Removing the Left Cosmetic Panel	12
▼ Removing the Internal Packing Materials	13
▼ Removing the Gripper Tie-wrap	14
▼ Removing and Storing the Shipping Bracket	15
▼ Removing and Storing the Foam Packing	16
▼ Loading Available Tape Cartridges	19
▼ Reinstalling the Left Cosmetic Panel	19
Storing the External Packaging Material	20
Relocating or Reshipping the Library	20
▼ Preparing the New Installation Site	21
▼ Removing Power from the Library	21
▼ Removing the Left Cosmetic Panel	22
▼ Unloading the Library	22
▼ Reinstalling the Internal Packing Materials	22
▼ Securing the Library Doors	23
▼ Reinstalling the Left Cosmetic Panel	24
▼ Preparing the Library for Relocation	24
Preparing the Library for Shipment	25
▼ Removing the Power Cord from the Library	25
▼ Moving the Library onto the Shipping Pallet	26
▼ Securing the Library to the Pallet	26

<b>3. Installing the Library</b>	<b>27</b>
Gathering Required Tools	27
Leveling the Library	28
Setting Up and Testing the Library	29
Turning On the Library	29
Setting SCSI Addresses	30
Configuring Library Options	31
Performing a System Test	31
Performing an Inventory	31
Connecting the Host Computer	32
<b>A. SCSI Cabling Options</b>	<b>35</b>
SCSI Configurations	36
Default SCSI Configuration (Four Tape Drives)	36
Default SCSI Configuration (Two Tape Drives)	37



# Figures

---

FIGURE 1-1	Library Floor Space Requirements	3
FIGURE 1-2	The Library's AC Power Receptacle	4
FIGURE 2-1	Library Unloading Space Requirements	6
FIGURE 2-2	Removing the Box from the Pallet	7
FIGURE 2-3	Unpacking the Library	8
FIGURE 2-4	Rolling the Library Off the Pallet	10
FIGURE 2-5	Removing the Left Cosmetic Panel	12
FIGURE 2-6	Internal Packing Materials	13
FIGURE 2-7	Removing the Tie-wrap Securing the Gripper Assembly	14
FIGURE 2-8	Removing Internal Packing Materials	15
FIGURE 2-9	Removing Upper Foam Block on Horizontal Carriage	17
FIGURE 2-10	Lifting Solenoid Plunger to Release Foam Sheet	18
FIGURE 2-11	Tape Cartridge Orientation	19
FIGURE 2-12	Removing the Power Cord Retainer	25
FIGURE 3-1	Connecting the Power Cord	30
FIGURE 3-2	Cabling the Library	33
FIGURE A-1	Two-Bus SCSI Configuration	36
FIGURE A-2	Single-Bus SCSI Configuration	37



# Tables

---

TABLE P-1	Typographic Conventions	xii
TABLE P-2	Shell Prompts	xii
TABLE 1-1	Library Mechanical Specifications	1
TABLE 1-2	Library Power Specifications	1
TABLE 1-3	Library Environmental Specifications	2
TABLE 2-1	Shipping List	9
TABLE 3-1	Required Tools	27



# Preface

---

This book describes facility preparation and first-time installation procedures for the Sun™ StorEdge™ L1800. It includes library specifications, installation site requirements, unpacking instructions, and hardware installation and testing procedures.

First read the “Safety Agency Compliance” section at the end of this preface. Then refer to the specific chapters to find the information you need.

---

## Who Should Use This Book

This book is designed to aid field service engineers and other technical users in the initial setup of the tape library system. It begins with a site requirements and continues with unpacking and installation procedures. It also contains basic troubleshooting information.

This book addresses technical issues concerning site preparation and library installation. For technical information regarding the use and maintenance of the library, authorized field service engineers and system programmers should refer to the following documents:

- Sun StorEdge L1800 Diagnostic Software User’s Manual
- Sun StorEdge L1800 Field Service Manual
- Sun StorEdge L1800 Software Interface Guide

For nontechnical operating procedures, refer to the *Sun StorEdge L1800 Operator’s Guide*.

---

# What Typographic Changes Mean

The following table describes the typographic changes used in this book.

Table P-1 Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. machine_name% You have mail.
<b>AaBbCc123</b>	What you type, contrasted with on-screen computer output	machine_name% <b>su</b> Password:
AaBbCc123	Command-line placeholder; replace with a real name or value	To delete a file, type <b>rm</b> filename.
AaBbCc123	Book titles, new words or terms, or words to be emphasized	Read Chapter 6 in <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be root to do this.

---

# Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

Table P-2 Shell Prompts

Shell	Prompt
C shell prompt	machine_name%
C shell superuser prompt	machine_name#
Bourne shell and Korn shell prompt	\$
Bourne shell and Korn shell superuser prompt	#





# Installation Requirements

---

This chapter describes library specifications and the physical requirements for the installation site.

- For library specifications—page 1
  - For site requirements—page 2
- 

## Library Specifications

The tables in this section provide the mechanical, power, and environmental specifications for the Sun StorEdge L1800. Use these specifications to help select an appropriate installation site and environment.

**TABLE 1-1** Library Mechanical Specifications

Height	44 inches (111.76 cm)
Width	21.5 inches (54.61 cm)
Depth	31.12 inches (79.04 cm)
Weight	361 lbs. (164 kg) with 4 tape drives and 52 DLT cartridges

**TABLE 1-2** Library Power Specifications

AC Power Rating	100–120V/200–240V, 4A/2A, 50/60 Hz
AC Voltage Range	90–132 VAC or 180–264 VAC
Frequency Range	47–63 Hz

**TABLE 1-3** Library Environmental Specifications

Temperature:	Storage—Short-Term (<60 Days)	-40 to 151°F (-40 to 66°C)
	Storage—Long-Term (>60 Days)	41 to 122°F (5 to 50°C)
	Transport	-40 to 151°F (-40 to 66°C)
	Operating	59 to 90°F (15 to 32°C)
Relative Humidity:	Non-Operating (Storage)	95% (Wet bulb temp = 90°F/32°C)
	Non-Operating (Transport)	95% (Wet bulb temp = 115°F/46°C)
	Operating	20–80% (Wet bulb temp = 77°F/25°C)
Altitude:	Short-Term (<60 days in storage)	12,000 ft (3,658 km)
	Long-Term (>60 days in storage)	12,000 ft (3,658 km)
	Operating	6,562 ft (2.0 km) @ 76°F Max. & 589 mmHg
Heat Dissipation:	Operating	880 BTU/hr (220 KCal/hr or 260 watts)

---

## Site Requirements

This section describes the following installation site requirements for the library:

- Floor space
- Floor clearance
- Floor inclination
- Floor strength
- Power
- Grounding

# Floor Space

FIGURE 1-1 shows the library's floor space requirements.

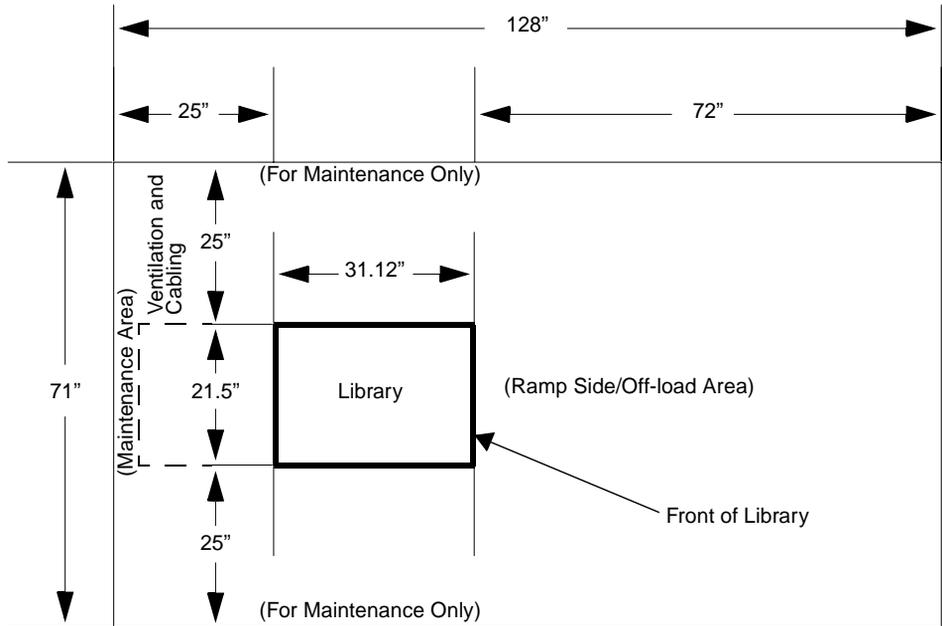


FIGURE 1-1 Library Floor Space Requirements

## Floor Clearance

The cabinet has a nominal floor clearance of 0.75 inch (1.9 cm). The library should be placed on a level, uncarpeted floor free of cracks, depressions, and so on.

## Floor Inclination

The floor in the installation site must be level to within 0.25 inch over a 6 x 6 foot area.

# Floor Strength

The floor in the installation site must be a standard raised computer floor rated at 250 lb/ft<sup>2</sup>. This is sufficient to support a fully loaded Sun StorEdge L1800.

# Power

The library's auto-ranging motor and logic power supplies accept single-phase, 90–264 VAC input power at 47–63 Hz.

The power inlet connector is a IEC-320 connector. For international applications you must replace the power cord set with a harmonized 3x2.0 mm<sup>2</sup> power cord set that is approved by the country where used.

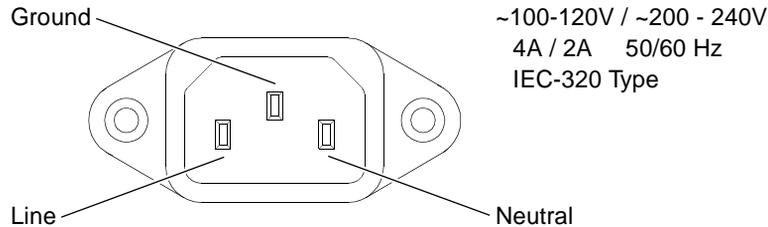


FIGURE 1-2 The Library's AC Power Receptacle

# Grounding

The library must be plugged into a properly grounded electrical outlet.

# Unpacking the Library

---

This chapter explains how to unpack and move the Sun StorEdge L1800 to the final installation site.

---

**Note** – Before following the instructions in this chapter, make sure the site chosen for the library meets the requirements found in Chapter 1.

---

This chapter provides the following procedures:

- “Receiving the Library” on page 6
- “Uncrating the Library” on page 7
- “Rolling the Library off the Pallet” on page 10
- “Moving the Library to the Installation Site” on page 11
- “Unpacking the Library” on page 11
- “Storing the External Packaging Material” on page 20

The chapter concludes with information about repacking the library for shipment or on-site relocation (see “Relocating or Reshipping the Library” on page 20).

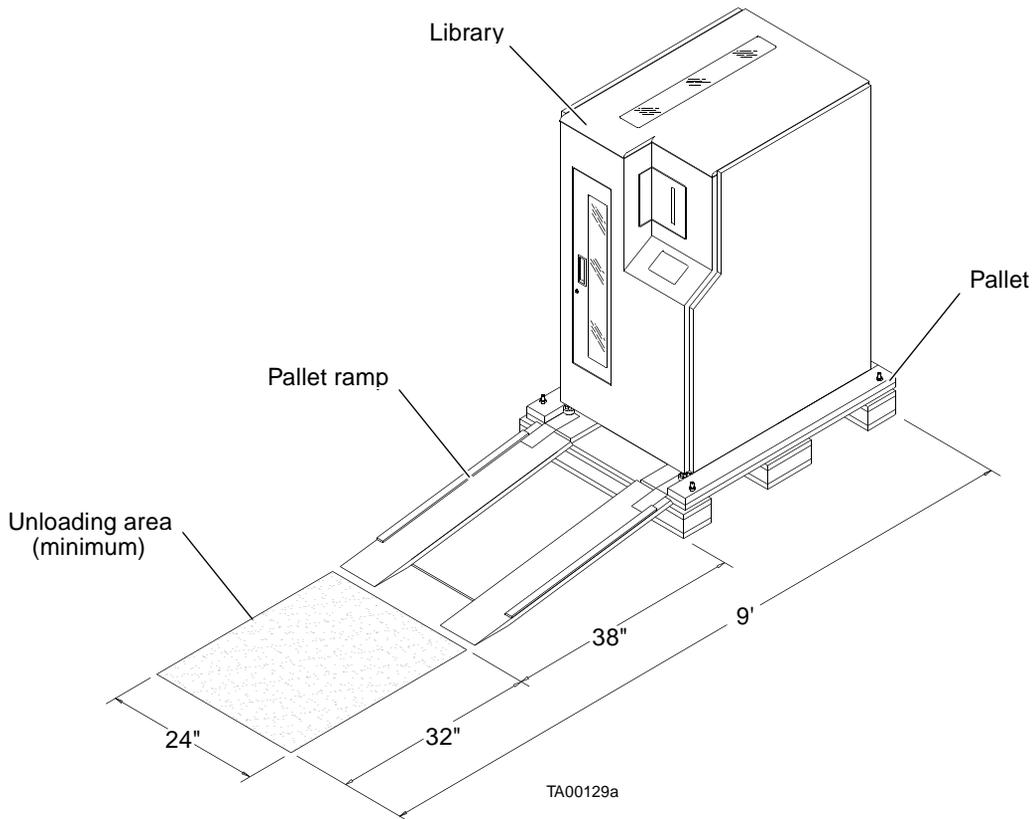
After completing these procedures, continue the installation by following the instructions in Chapter 3.

---

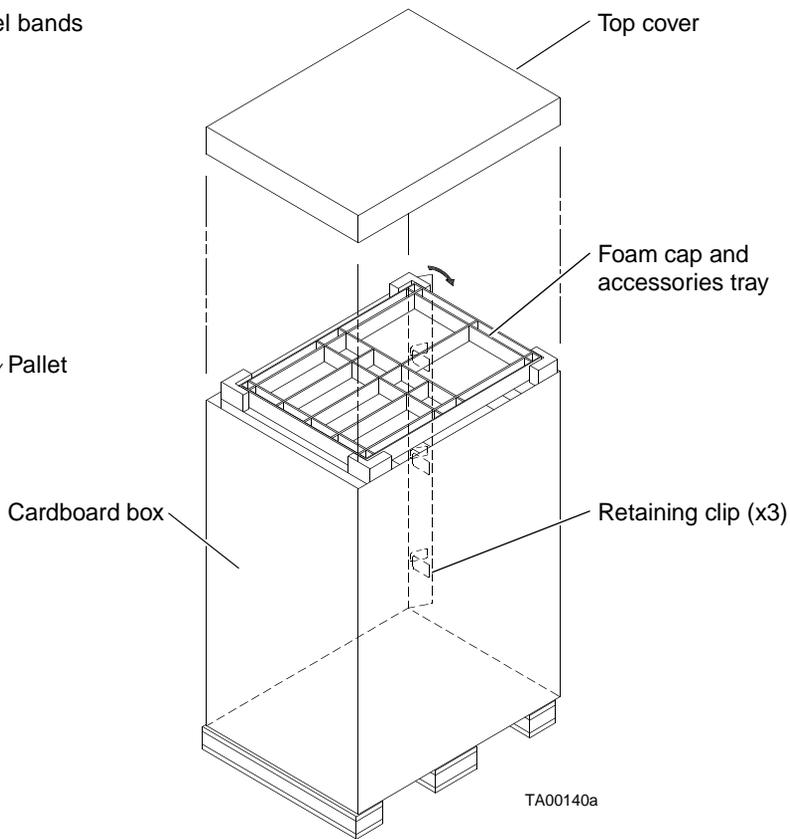
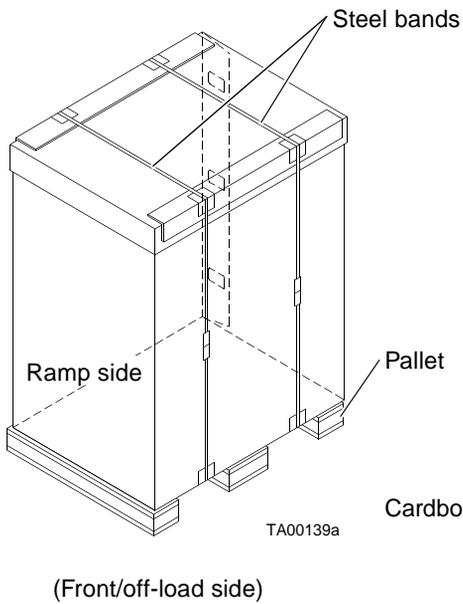
# Receiving the Library

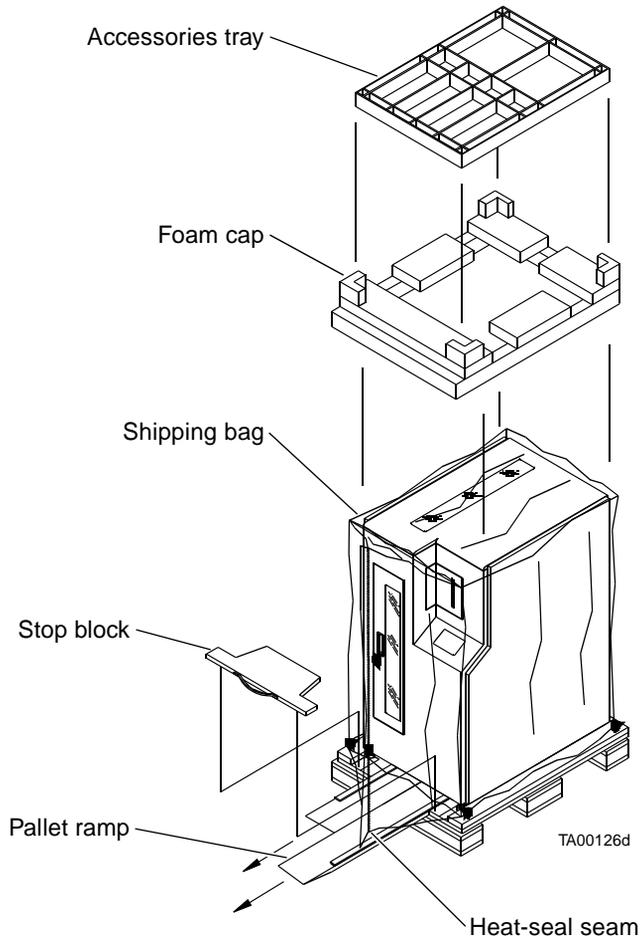
Unload the library as close to the final installation site as possible. Allow at least 6 feet of space in front of the off-load side of the pallet for placement of the ramp (FIGURE 2-1).

Inspect the crate for any damage that may have occurred during shipment, and immediately report any damage to the shipper.



**FIGURE 2-1** Library Unloading Space Requirements





**FIGURE 2-3** Unpacking the Library

- 4. Lift the foam cap up and off the library and remove the accessories tray from the top of the foam cap (FIGURE 2-3).**

**5. Verify that you have received all of the accessories listed in the following table.**

**TABLE 2-1** Shipping List

<b>Quantity</b>	<b>Item</b>
1	Sun Sun StorEdge L1800 library base unit (crated with ramp)
1	Accessories Kit with the following items: <ul style="list-style-type: none"><li>- <i>Sun Sun StorEdge L1800 Facilities Planning and Installation Guide</i></li><li>- <i>Sun Sun StorEdge L1800 Operator's Guide</i></li><li>- (7) DLTtape IV</li><li>- (1) AC Power Cord (US)</li><li>- (1) Power Cord Retainer Kit</li><li>- (99) Data Cartridge Labels (in AAAnnn Format)</li><li>- (33) Cleaning Cartridge Labels (in CLNnnn Format)</li><li>- (2) SCSI Cable Assembly (4 meter / 4 Drive System Only)</li><li>- (1) SCSI Cable Assembly (4 meter / 2 Drive System Only)</li><li>- (2) Differential SCSI Terminators (4 Drive System Only)</li><li>- (1) Differential SCSI Terminators (2 Drive System Only)</li><li>- (2) Sun Keys</li></ul>

**6. Remove the stop block (located underneath the library in front of the casters):**

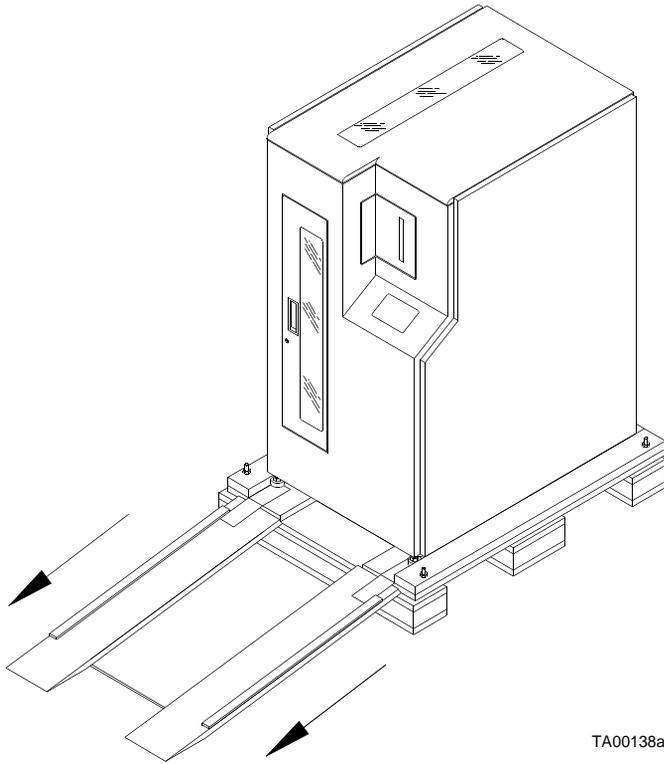
**a. Remove the two screws securing the stop block to the pallet.**

**b. Slide the stop block forward and remove it.**

**7. Slide out the two pallet ramp sections (located underneath the library) and secure them to the pallet using the Velcro straps (see FIGURE 2-3).**

**8. Carefully cut the shipping bag vertically along the heat-seal seam.**

**9. Inspect the library for damage that may have occurred during shipment. Report any damage to the shipper immediately.**



TA00138a



## ▼ Removing the Left Cosmetic Panel

1. At the back of the library, remove the three screws that secure the left cosmetic panel to the library frame.
2. Pull the panel toward the back of the library (to disengage the retention tabs) and then move the panel from the library frame (FIGURE 2-5).

Set the left panel aside.

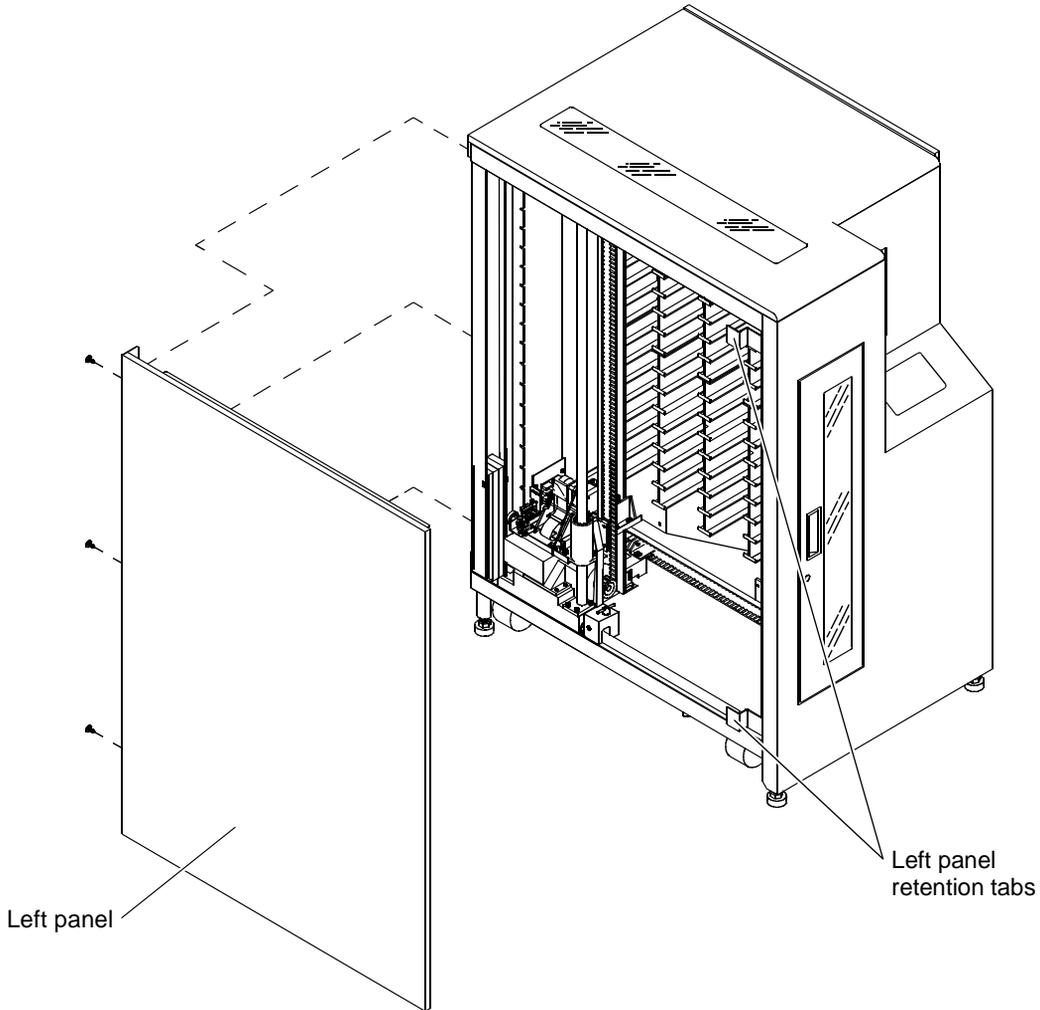
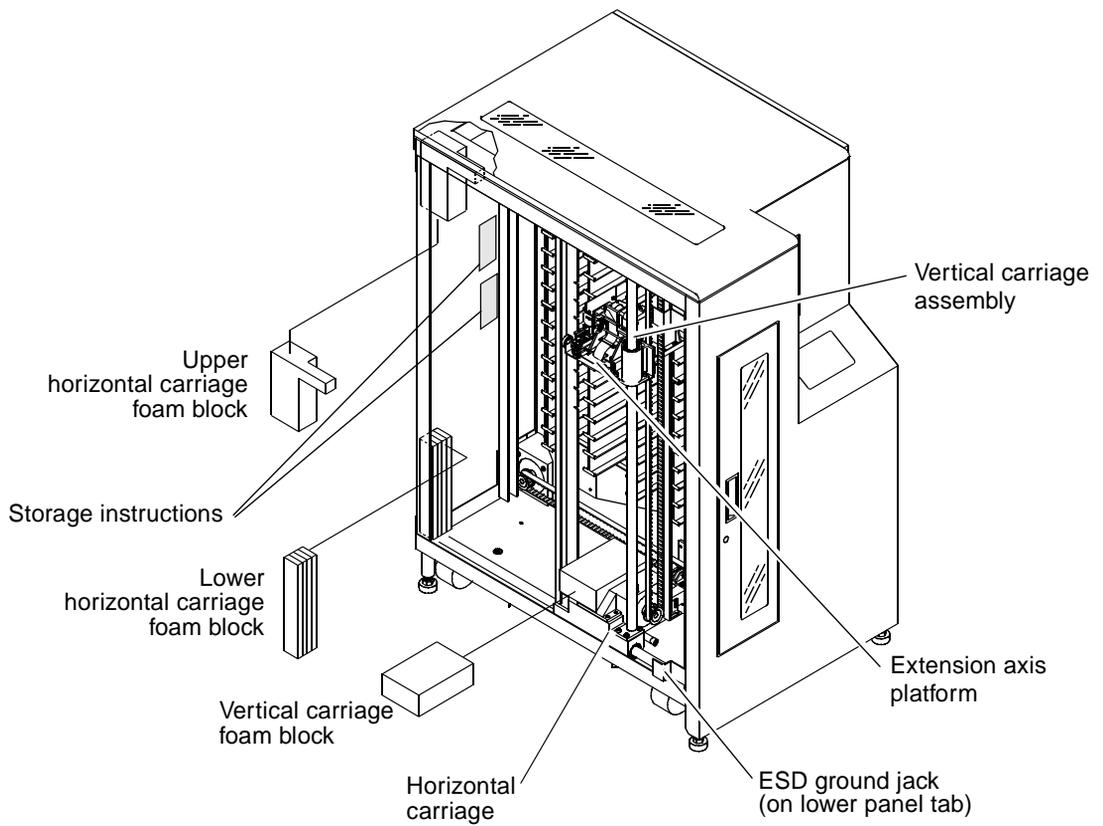


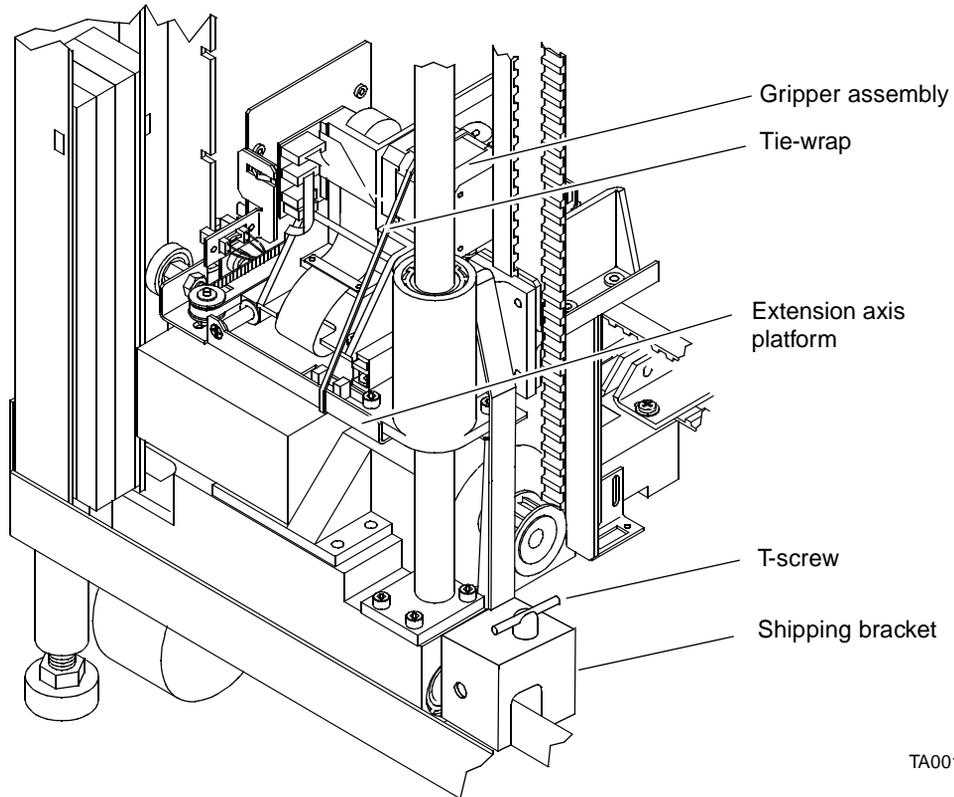
FIGURE 2-5 Removing the Left Cosmetic Panel



## ▼ Removing the Gripper Tie-wrap

1. Remove the tie-wrap securing the gripper assembly (see FIGURE 2-7 below).

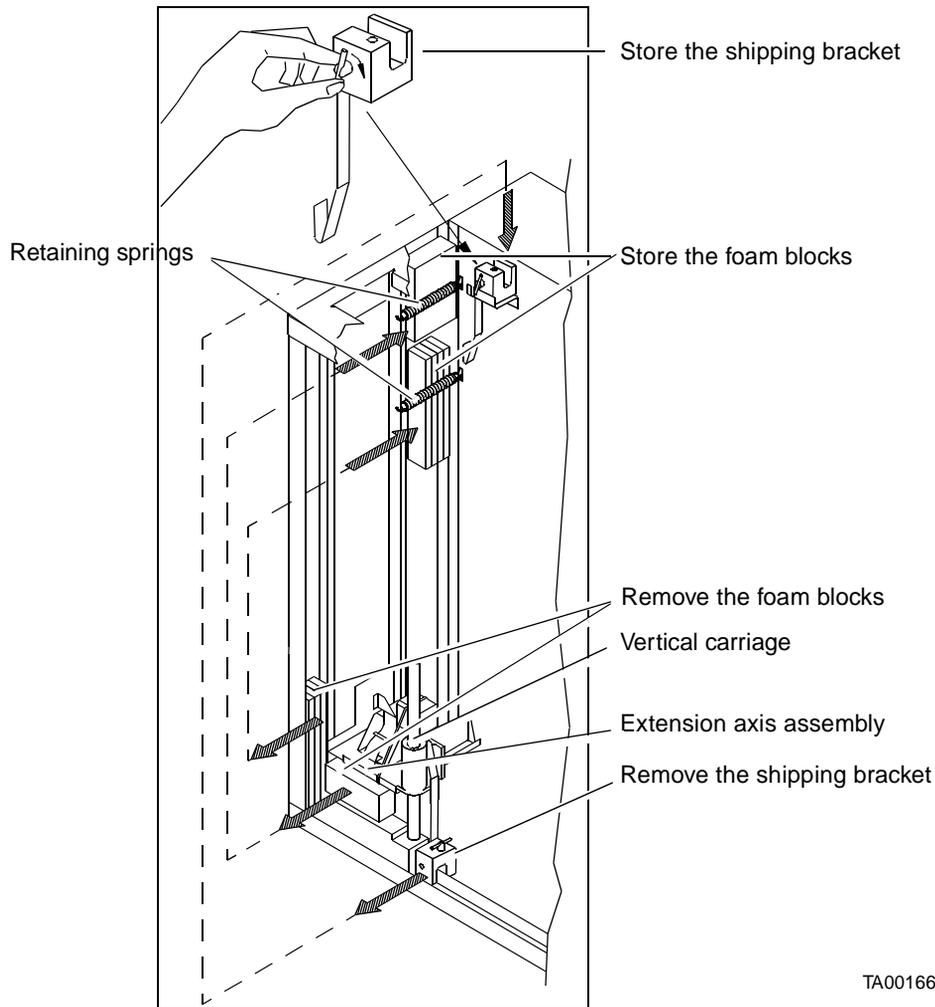
The tie-wrap is reusable and should be retained for future use.



TA00165a

FIGURE 2-7 Removing the Tie-wrap Securing the Gripper Assembly

## ▼ Removing and Storing the Shipping Bracket



TA00166a

**FIGURE 2-8** Removing Internal Packing Materials

- 1. Remove the screw and washer securing the shipping bracket (FIGURE 2-7 on page 14 and FIGURE 2-8 above) to the floor of the unit.**  
Retain the T-screw and washer.
- 2. Remove the shipping bracket to release the extension axis assembly.**

3. **Raise the vertical carriage to move the extension axis assembly away from the floor of the unit.**
4. **Store the shipping bracket on the back wall of the unit (FIGURE 2-8).**
  - a. **Turn the shipping bracket upside down so the strap portion of the shipping bracket is pointing downward.**
  - b. **Hand tighten the screw and washer to secure the bracket in its storage location.**

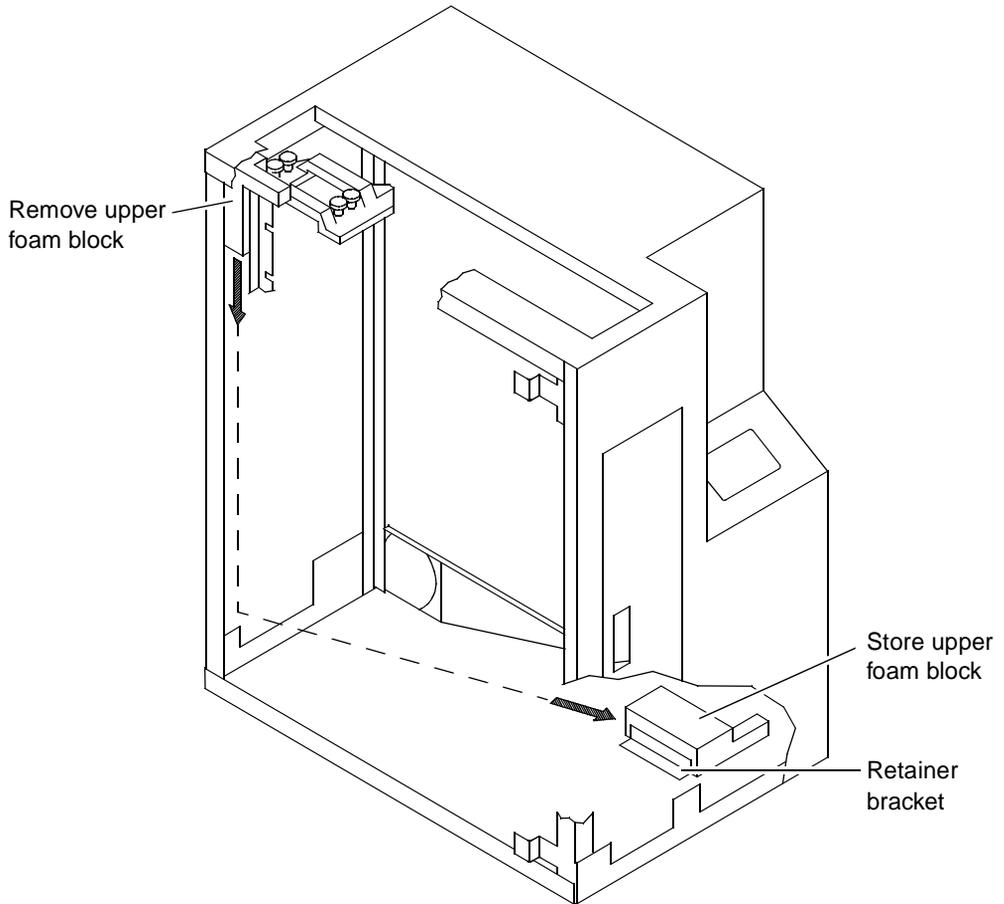
## ▼ **Removing and Storing the Foam Packing**

---

**Note** – Refer to FIGURE 2-8 and FIGURE 2-9 to locate the foam blocks.

---

1. **Slide the horizontal carriage toward the front of the library.**
2. **Remove the lower foam block (FIGURE 2-6 on page 13) that protects the horizontal carriage.**
3. **Remove the upper foam block (FIGURE 2-6) that protects the horizontal carriage.**
4. **Raise the vertical carriage and remove the foam block between the horizontal carriage and the extension axis platform (FIGURE 2-6).**
5. **Lower the extension axis assembly to its resting position on the horizontal carriage.**
6. **Store the foam blocks.**
  - a. **Slide the lower horizontal carriage foam block and the vertical carriage foam block under the retaining springs located on the back interior wall of the unit (FIGURE 2-8 on page 15).**
  - b. **Store the upper horizontal carriage foam block below the tape drives and behind the retainer bracket on the floor of the library (FIGURE 2-9).**



**FIGURE 2-9** Removing Upper Foam Block on Horizontal Carriage

7. To remove the foam sheet from the load port door, release the door by lifting the solenoid plunger (FIGURE 2-10).

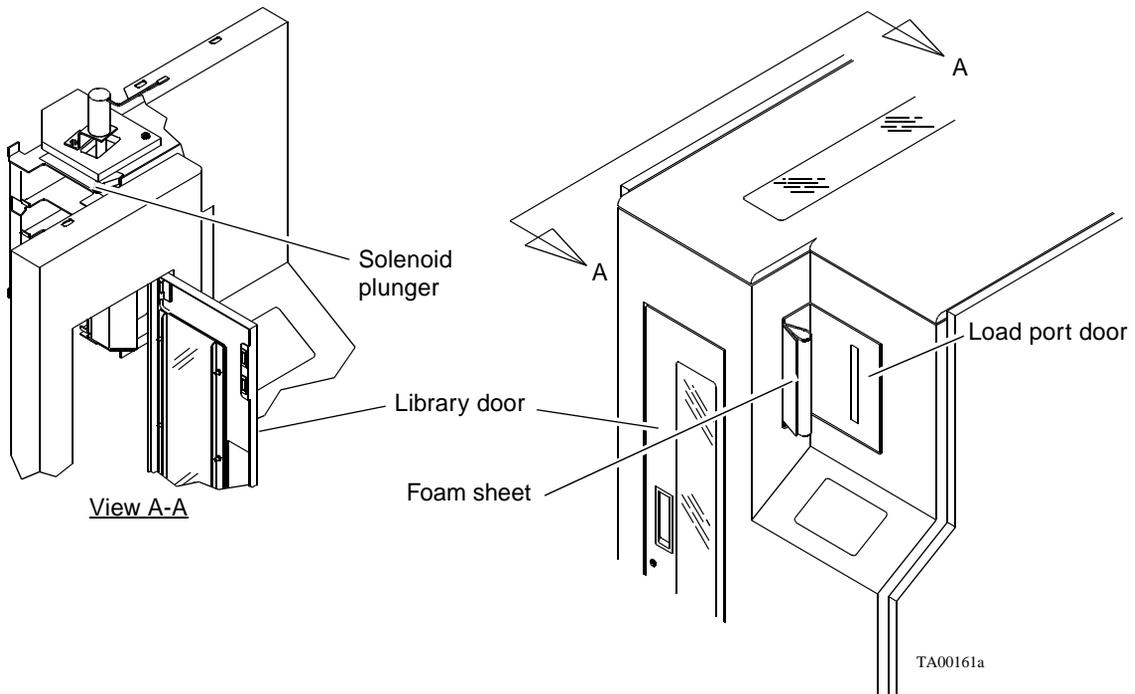


FIGURE 2-10 Lifting Solenoid Plunger to Release Foam Sheet

8. Open the front library door (FIGURE 2-10), remove the foam sheet, then close the door.
9. Set the foam sheet aside for future use.

## ▼ Loading Available Tape Cartridges

If there are tape cartridges available for loading at this time, it is best to load them while the side panel is removed. Insert up to 48 cartridges directly into empty bins in the fixed storage array.

FIGURE 2-11 shows how cartridges should be oriented before insertion into a bin.

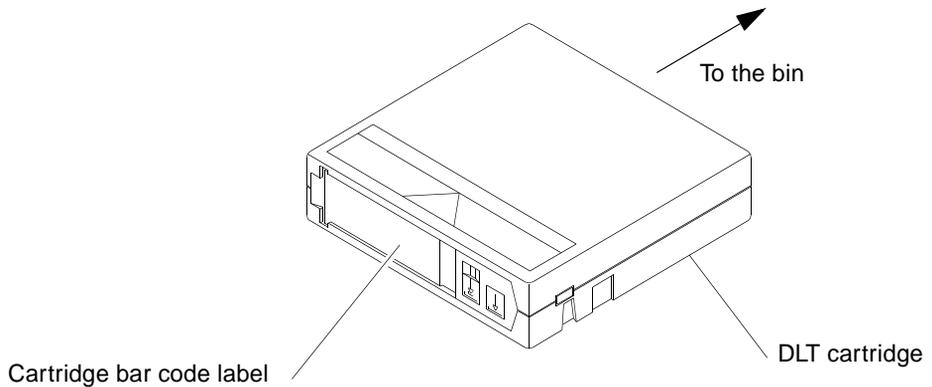


FIGURE 2-11 Tape Cartridge Orientation

## ▼ Reinstalling the Left Cosmetic Panel

1. Rest the top lip of the left cosmetic panel on the library frame. (See FIGURE 2-5 on page 12.)
2. Push the panel toward the front of the library and insert the frame buckles into the retention tabs.
3. At the back of the library, insert and tighten the three screws to secure the left panel to the back of the library frame.

---

# Storing the External Packaging Material

1. **Raise the ramp and rest it on top of the pallet.**
  2. **Collapse the cardboard box.**
  3. **Store the box, foam cap, pallet, and all packing material for future use.**
- 

# Relocating or Reshipping the Library

If it becomes necessary to move the library from its installation site, whether moving it down the hall or across country, you need to protect the library from damage.

Complete the procedures in these sections:

- “Preparing the New Installation Site” on page 21
- “Removing Power from the Library” on page 21
- “Removing the Left Cosmetic Panel” on page 22
- “Unloading the Library” on page 22
- “Reinstalling the Internal Packing Materials” on page 22
- “Securing the Library Doors” on page 23
- “Reinstalling the Left Cosmetic Panel” on page 24

The level of protection depends upon how you’re moving the library.

- **If you’re rolling the library to a nearby installation site**, also complete the procedures in these sections:
  - “Preparing the Library for Relocation” on page 24
- **If you’re shipping the library to another location**, also complete the procedures in:
  - “Preparing the Library for Shipment” on page 25



## ▼ Removing the Left Cosmetic Panel

1. **At the back of the library, remove the three screws that secure the left cosmetic panel to the library frame.**
2. **Pull the panel toward the back of the library (to disengage the retention tabs) and then move the panel from the library frame (FIGURE 2-5).**

Carefully set the left panel aside.

## ▼ Unloading the Library

1. **Remove all tapes from the fixed storage bins.**
2. **Remove any tapes in the load port bins.**
3. **Remove any ejected tapes from the tape drives.**

If you ejected any tapes prior to turning off the library, they may be in the drive slots. Remove each tape carefully from the drive; make sure the tape is completely unloaded (not buckled to the take-up leader) before completely removing it.

For more information about unloading a tape, refer to the *Sun StorEdge L1800 Operator's Guide*.

## ▼ Reinstalling the Internal Packing Materials

For this procedure, you need the following internal packing materials:

- Shipping bracket and three foam blocks—stored within the unit.
- Tie-wrap and two foam sheets to secure the library doors.

To secure the robotics:

1. **Remove the foam blocks on the back interior wall of the unit and from below the drive stack. (See FIGURE 2-8 on page 15 and FIGURE 2-9 on page 17.)**
2. **Gently push the horizontal carriage assembly towards the front of the library.**
3. **Place the long, narrow foam block between the library frame and the horizontal carriage. (See FIGURE 2-6 on page 13).**
4. **Place the irregular-shaped foam block at the top of the horizontal carriage. (See FIGURE 2-9 on page 17).**





# Preparing the Library for Shipment

## ▼ Removing the Power Cord from the Library

1. Disconnect the power cord from the power source.
2. Remove the two screws securing the power cord retainer to the rear of the library and set them aside (FIGURE 2-12).
3. Remove the power cord (with retainer attached) from the rear of the library.
4. Place the power cord and screws in the accessories tray.

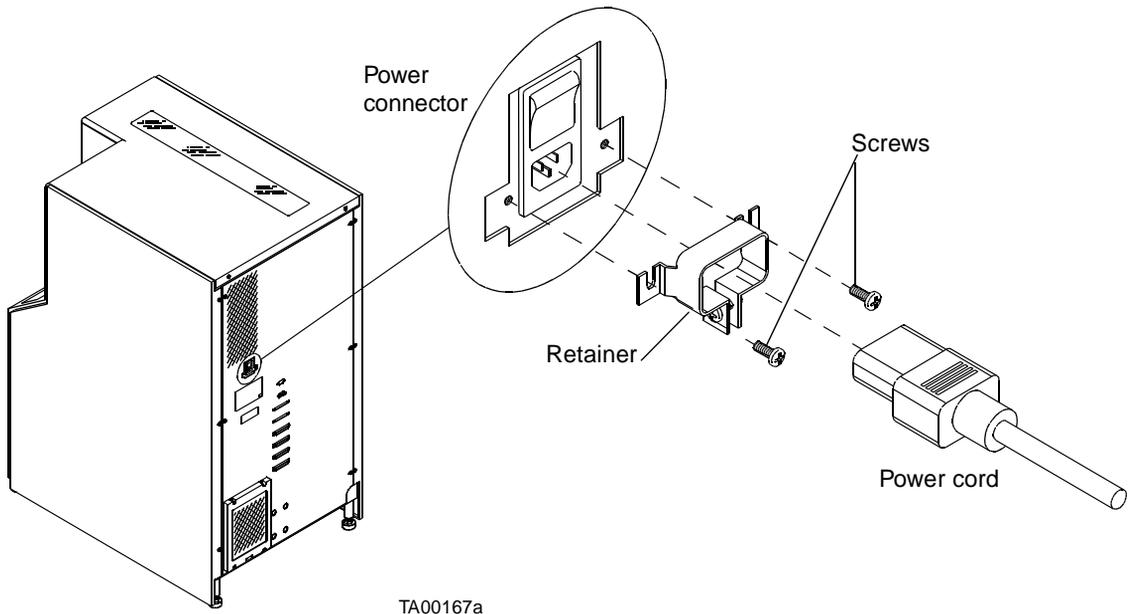


FIGURE 2-12 Removing the Power Cord Retainer

## ▼ Moving the Library onto the Shipping Pallet

- 1. Retract the leveling feet by rotating each of the four feet clockwise until they are all in the up position.**
- 2. Position the pallet to load the library and secure the two ramp sections to the pallet using the Velcro strips.**
- 3. Unfold the shipping bag and align the white tape to the pallet where the library casters will roll onto the pallet.**
- 4. Roll the library onto the pallet and into the shipping bag.**  
Observe all cautions and guidelines in “Moving the Library to the Installation Site” on page 11.
- 5. Seal the shipping bag by folding the seam over and taping the edge.**
- 6. Disconnect the ramp sections from the pallet and slide them underneath the library.**
- 7. Install the stop block in front of the library front casters and secure it with the Velcro fasteners.**

## ▼ Securing the Library to the Pallet

- 1. Place all accessories (cables, manuals, installation hardware, and so forth) in the accessories tray.**  
Provide a separate shipping container for the tape cartridges.
- 2. Place the accessories tray and foam cap on top of the library (see FIGURE 2-3 on page 8).**
- 3. Wrap the cardboard box around the library and secure it using the cardboard retaining clips.**
- 4. Place the cardboard top cover securely over the cardboard box.**
- 5. Install steel bands to secure the library and packing material to the pallet.**  
Tighten the bands to approximately 200 pounds of tension.
- 6. Label the library for shipment.**

## Installing the Library

---

This chapter explains how to install the Sun StorEdge L1800 library using the following procedures:

- Gathering required tools—page 27
- Leveling the library—page 28
- Setting up and testing the library—page 29
- Connecting the library to the host computer—page 32

To ensure a problem-free installation, these procedures should be followed in order. The on-site system administrator should also be present during these procedures.

---

## Gathering Required Tools

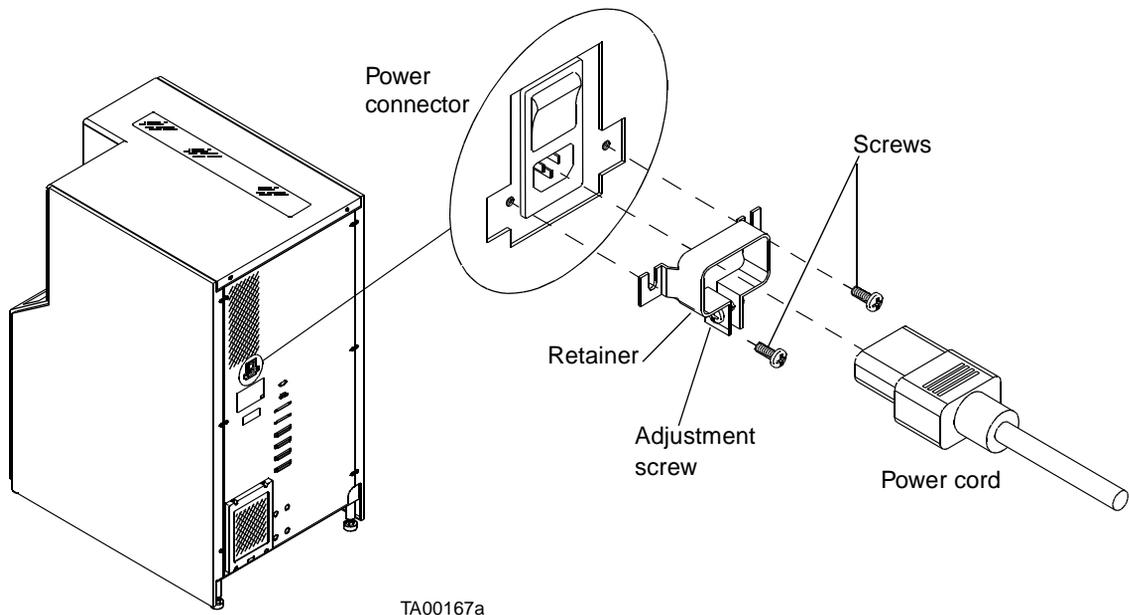
Make sure you have the tools listed in TABLE 3-1 before beginning this installation.

**TABLE 3-1** Required Tools

Quantity	Description
1	#2 Phillips screwdriver
1	Wire cutters
1	Carpenter's level
1	3/4-inch (19 mm) open-ended wrench or adjustable wrench
1	Digital voltmeter (DVM)
1	Antistatic wristband







**FIGURE 3-1** Connecting the Power Cord

- 3. Connect the other end of the AC power cord to facility power.**
- 4. On the rear panel, set the power switch to the “|” (on) position.**
- 5. After several seconds, verify that the control panel displays library status.**

## Setting SCSI Addresses

After power is applied to the library, you need to set library and tape drive SCSI addresses. Setting SCSI addresses require operator- or service-level security clearance at the library control panel.

# Configuring Library Options

In addition, you may want to change the default configuration (in bold) of these options:

- Library power-up state (**online**/offline)
- Auto clean (**enable**/disable)
- Retries (**enable**/disable)
- Exabyte emulation (enable/**disable**)
- Read barcode labels (**yes**/no)
- Auto inventory (**yes**/no)
- Auto load (**enable**/disable)

These procedures require operator- or service-level security clearance at the library control panel. For a description of these procedures, refer to the *Sun StorEdge L1800 Operator's Guide*.

## Performing a System Test

The system test checks out the functionality of all library components. To run the system test, you must have Service-level access at the control panel.

For more information about this test, refer to the *Sun StorEdge L1800 Field Service Manual*.

## Performing an Inventory

The inventory command identifies tape cartridges by reading their bar code labels and writes their location to nonvolatile RAM. To run the inventory command, you must have either Operator- or Service-level access at the control panel.

For more information about this command, refer to the *Sun StorEdge L1800 Operator's Guide*.

---

# Connecting the Host Computer

This section explains how to connect the library to the Sun system acting as host computer. The library is shipped with the internal cabling configured for one host SCSI connection (single-wire).

---

**Note** – To support a SCSI configuration other than single-wire, the library’s internal SCSI cabling must be changed. Additional SCSI cables are provided in the library accessories kit. The accessories kit also includes SCSI cables and terminator for connecting the library to the host computer.

---

To perform this procedure:

1. **Turn off the library as follows:**
  - a. **Press the STANDBY button on the control panel. Make sure that “System Offline” appears in the display and the STANDBY indicator is on.**
  - b. **Press the STOP button on the control panel. Make sure that the STOP indicator is on.**
  - c. **At the back panel, set the power switch to the O (off) position.**
2. **Turn off all SCSI devices that will be connected to the same SCSI bus as the library.**

---

**Note** – The library uses differential (Diff) SCSI connections. If your host adapter is single-ended (SE) SCSI, you must use an SE-to-Diff converter for proper SCSI communication.

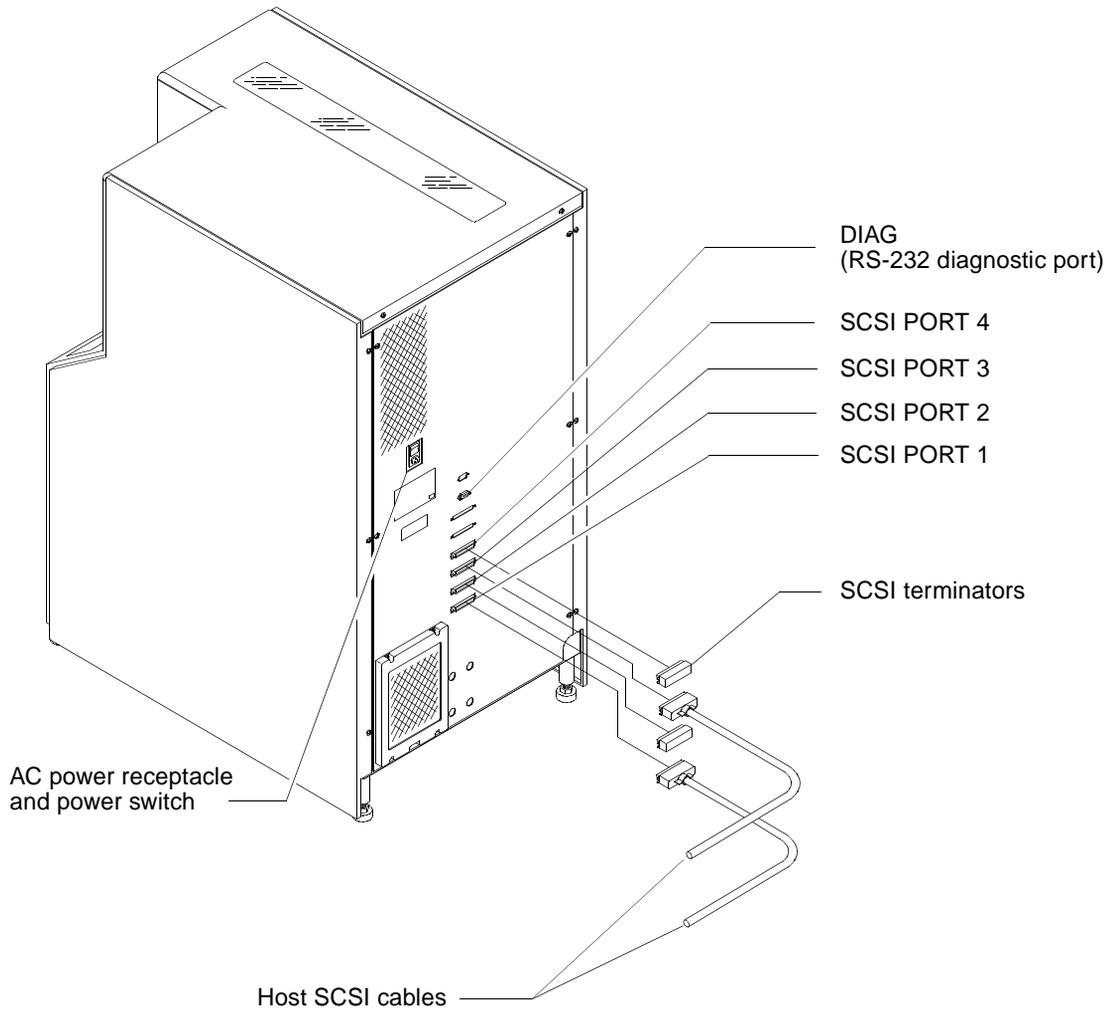
---

3. **Connect a SCSI cable from the host computer’s SCSI adapter to SCSI PORT 1 on the back panel of the library (FIGURE 3-2 on page 33).**
4. **Install the SCSI jumper cable between SCSI PORT 2 and SCSI PORT 3 on the back panel of the library.**
5. **Install the SCSI terminator to SCSI PORT 4 on the back panel of the library.**

---

**Note** – Refer to the Sun Booklet for information on how to configure the Sun system, to determine and set SCSI IDs, and to apply power to the system.

---



**FIGURE 3-2** Cabling the Library



## SCSI Cabling Options

---

This appendix describes the SCSI cabling options of the Sun StorEdge L1800 tape library. The following SCSI devices are included in communications between the host computer and library:

- Host computer
- Library robotics
- Tape drive 0
- Tape drive 1
- Tape drive 2
- Tape drive 3

# SCSI Configurations

The SCSI configuration depends on how many drives are installed in the library.

The SCSI configuration of the tape drives and library can be changed according to your needs by using the cable provided in the accessories kit shipped with each library unit.

## Default SCSI Configuration (Four Tape Drives)

In libraries with four tape drives, one SCSI bus connects SCSI PORT 1 to the robotics controller, tape drive 0, and tape drive 1, and is terminated at SCSI PORT 2. A second SCSI bus connects SCSI PORT 3 to tape drives 2 and 3, and is terminated at SCSI PORT 4. FIGURE A-1 shows this two-bus configuration.

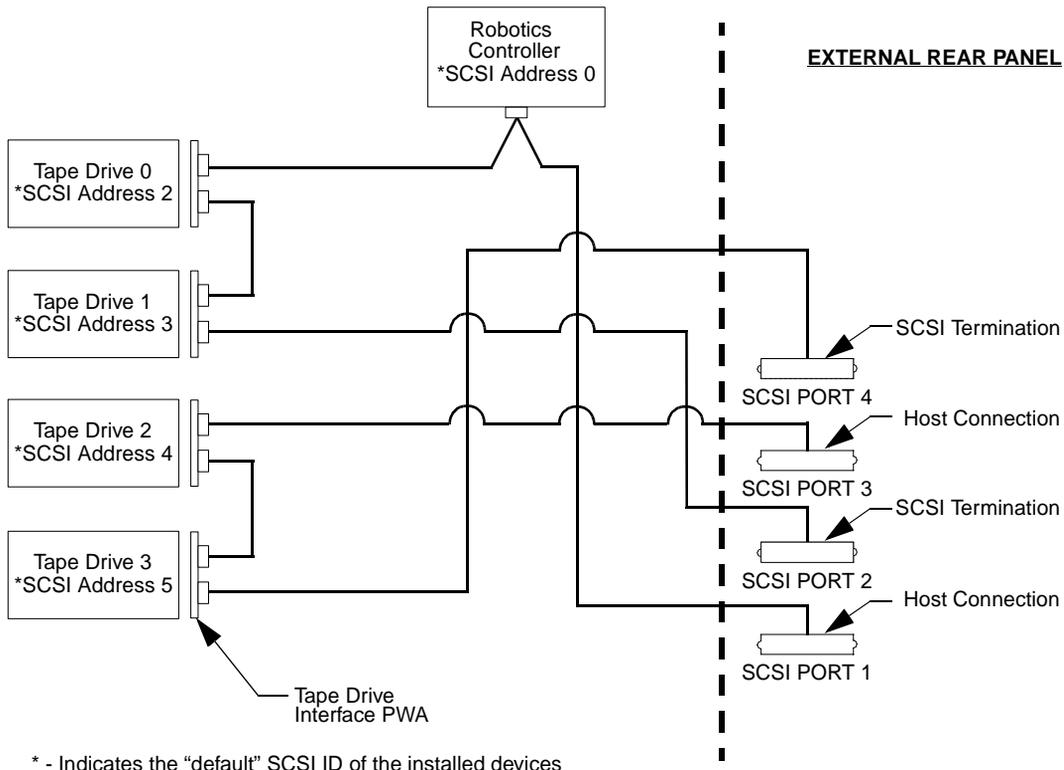


FIGURE A-1 Two-Bus SCSI Configuration

# Default SCSI Configuration (Two Tape Drives)

In libraries with two tape drives, one SCSI bus connects SCSI PORT 1 to the robotics controller, tape drive 0, and tape drive 1, and is terminated at SCSI PORT 2. FIGURE A-2 shows this single-bus configuration.

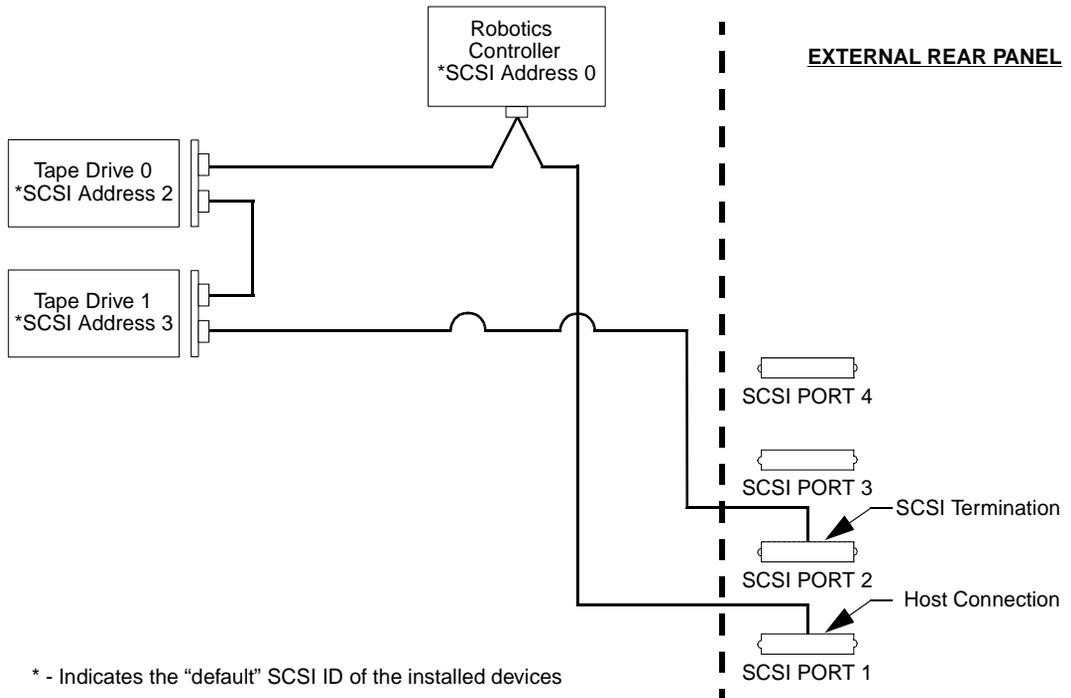


FIGURE A-2 Single-Bus SCSI Configuration



# Glossary

---

<b>actuators</b>	Robotic components that move inside the library to manipulate cartridges. These include the gripper, extension axis, vertical and horizontal axes.
<b>automated tape library</b>	A robotic storage and retrieval system for DLT tape cartridges.
<b>bar code label</b>	The identification label on DLT tape cartridges.
<b>bar code scanner</b>	A device that is mounted on the extension axis that reads the cartridge bar code labels.
<b>calibration</b>	The software measurements and configuration required for successful operation of the library.
<b>CHM</b>	Cartridge handling mechanism
<b>DLT</b>	Digital linear tape
<b>control panel</b>	The panel on the front of the library that contains the status display area, as well as indicators and control buttons.
<b>EIA/TIA-574</b>	A serial communications cabling and protocol standard for nine pin connectors, sometimes referred to as RS-232. The diagnostic port (DIAG), on the rear of the library, uses this protocol.
<b>extension axis assembly</b>	Mounted onto the vertical axis, the extension axis assembly consists of the gripper assembly and the horizontal axis on which the gripper assembly is mounted.
<b>extension axis belt</b>	The drive belt connecting the extension motor/gearbox to the gripper.
<b>FCC Class A</b>	Standard established by the U.S. Federal Communications Commission governing electromagnetic emissions.
<b>FSA</b>	Fixed storage array. This is a 3-column by 16-row fixture mounted inside the library. Its purpose is to store up to 48 cartridges in the library.

<b>FSE</b>	Field service engineer
<b>gripper assembly</b>	The assembly that mounts on the extension axis and grips cartridges, referred to as the gripper.
<b>horizontal belt</b>	The drive belt connecting the horizontal motor to the horizontal axis assembly.
<b>host</b>	Host computer
<b>host computer</b>	The computer that issues SCSI commands to control the library robotics.
<b>Load Port</b>	The operator accessible component of the library that allows up to four cartridges to be import/export loaded and unloaded into/from the library.
<b>NVRAM</b>	Nonvolatile RAM
<b>offline</b>	Not ready for communications with a host. This mode is required for configuration, diagnostic, and maintenance operations.
<b>online</b>	Ready for communications with a host.
<b>PC</b>	Personal computer
<b>pick</b>	The act of removing a cartridge from one location in preparation for placing it in another location.
<b>place</b>	The act of placing a cartridge in a location after it has been picked from another location.
<b>PROM</b>	Programmable read-only memory
<b>RAM</b>	Random access memory
<b>rear panel</b>	The rear cosmetic panel of the library that contains the AC power switch, AC power receptacle and connectors for attaching external cabling to the library.
<b>SCSI</b>	Small computer system interface. A communications standard for attaching peripheral equipment to computers.
<b>Sun StorEdge L1800</b>	The automated storage and retrieval component of an automated tape library system used for storing and handling DLT cartridges.
<b>tape drive</b>	The mechanism that reads and writes data from and to a tape cartridge.
<b>UL</b>	Underwriters Laboratories
<b>vertical belt</b>	The drive belt connecting the vertical motor to the vertical axis assembly.
<b>vertical carriage assembly</b>	The crossbar and linear bearings mounted on the vertical rails and all components mounted on the crossbar.

# Index

---

## A

accessories kit 9

## C

connecting the host computer 32

conventions, typographic xii

cosmetic panels, removing 11

crating the library 26

## D

differential SCSI connector 32

## E

Enterprise Tape Library 4/1000 Operator's Guide  
xi

environmental specifications 2

## F

fixed storage array 39

foam blocks, installing 22

## G

grounding xiv, 4

## H

host computer 32

## I

IEC-320 connector 4

installing

foam blocks 22

tie-wraps 22

inventory 31

## L

leveling the library 28

## M

mechanical specifications 1

moving to installation location 11

## **P**

- packing materials
  - installing 22
  - storing 20
- power
  - connector 4
  - cord connection xiv
  - rating xiv, 4
  - specifications 1

## **R**

- receiving the library 6
- removing from pallet 10

## **S**

- safety information xiii–xiv
- SCSI
  - addresses 36
    - setting library 30
  - cabling 32, 36
  - devices 35, 36
  - ports 32
  - terminator 32, 36
- shell prompts xii
- shipping the library 25–26
- single-ended SCSI connector 32
- site requirements 2–4
  - floor clearance 3
  - floor inclination 3
  - floor strength 4
  - grounding 4
  - power connector 4
  - power rating 4
- specifications, library 1
- Sun StorEdge L1800 Diagnostic Software User's Manual xi
- Sun StorEdge L1800 Field Service Manual xi
- Sun StorEdge L1800 Software Interface Guide xi

## **T**

- terminator 32
- tie-wraps, installing 22
- tools, installation 27
- turning on the library 29
- typographic conventions xii

## **U**

- unloading the library from pallet 6
- unpacking 7