7331 and 3449 8mm Tape Library

Model 3xx

Installation Guide

IBM

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IBM

> **Note!**
>
> Before using this information and the product it supports, be sure to read the general information under "Notices" on page vii.

First Edition (October 1997)

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Safety Notices

Listed below are the safety requirements for operating this product.

Each danger and caution notice contains a reference number (RSFTxxxx). Use the reference number to check the translation in *External Devices Translated Safety Notices*, SA26-7192.

Danger Notices

A danger notice calls attention to a situation that is potentially lethal or extremely hazardous to people.

The following danger notices appear in this publication:

DANGER

> **To prevent a possible electrical shock from touching two surfaces with different electrical grounds, use one hand, when possible, to connect or disconnect signal cables.** *(RSFTD004)*

DANGER

> **An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the products that attach to the system. It is the customer's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.**
> *(RSFTD201)*

DANGER

> **To prevent a possible electrical shock when adding or removing any devices to or from the system, ensure that the power cords for those devices are unplugged before the signal cables are connected or disconnected. If possible, disconnect all power cords from the existing system before you add or remove a device.**

DANGER

> **To prevent a possible electrical shock when installing the device, ensure that the power cord for that device is unplugged before installing signal cables.** *(RSFTD204)*

Caution Notices

A caution notice calls attention to a situation that is potentially hazardous to people because of some existing condition.

The general caution symbol identifies conditions where caution must be used.

The electrical caution symbol identifies electrical hazards where extreme caution must be used.

The weight caution symbol indicates that the 8mm Tape Library weighs 42 kilograms (92.5 pounds). It takes three persons to safely lift the unit.

The laser caution symbol indicates a laser device is present. Handling laser devices requires trained and knowledgeable personnel. Extreme caution is required.

Laser Safety Cautions

The following laser safety cautions appear in this document:

CAUTION:
The bar-code reader contains a Class II laser component. Only trained service personnel may repair the bar-code reader. *(RSFTC237)*

CAUTION:
Do not place a highly reflective surface between either the picker assembly and the tape cartridge magazines or between the picker assembly and the tape drives. This may cause damage to your eyes. *(RSFTC238)*

CAUTION:
If the automatic lock on the front door is not functioning and the door is open, do not look directly at the laser beam. Staring at the beam may cause damage to your eyes. *(RSFTC239)*

Attention Notices

An attention notice indicates the possibility of damage to a program, device, system, or data.

Safety Inspection Procedures

Perform the following safety inspection prior to the normal maintenance agreement inspection. **Suspect the 8mm Tape Library is unsafe until verified it is safe.** If unsafe conditions are present, decide how serious the hazard is and whether you can continue without correcting the problem. Possible safety hazards are:

Electrical   An electrically charged frame can cause serious or lethal electrical shock.

Mechanical   Hazards, such as a missing safety cover, are potentially harmful to people.

Chemical   Do not use solvents, cleaners, or other chemicals not approved for use on the product.

Use Figure 1 to perform the following safety procedures. Before starting the procedures, ensure the existing room and electrical conditions are safe.
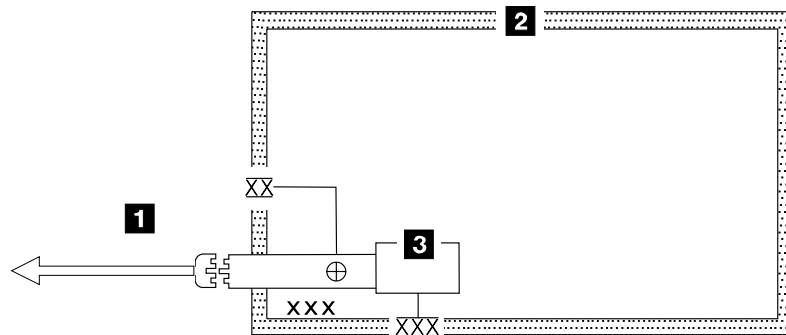
Legend:

XX   External tooth lock washer
Green/yellow ground wire terminated to chassis or ground

⊕   Green/yellow ground wire terminated with slip-on spade terminal

XXX   Redundant ground path to frame

XXX   External tooth lock washer

A34M0139

Figure 1. AC Grounding Diagram (50 Hz and 60 Hz)

1. Power off the 8mm Tape Library.

2. Disconnect the channel cables.

3. Disconnect the power cord 1 from its source.

4. Check that no voltage exists between the housing on the power source and the building ground.

5. Verify that resistance is less than 0.1 ohm from the building ground to the power supply enclosure 3 .

6. Inspect the power cable 1 for visible cracks, wear, or damage.

7. Check that resistance between the power cable ground and the 8mm Tape Library frame   2   is less than 0.1 ohm.

8. Inspect the power supply enclosure covers   3   to ensure that all screws are installed and are tight.

Environmental Notices

The following is environmental information pertaining to the 8mm Tape Library.

Product Recycling

This unit contains recyclable materials. The materials should be recycled where facilities are available and according to local regulations. In some areas, IBM will provide a product take-back program that ensures proper handling of the product. Contact your IBM representative for more information.

Product Disposal

This unit may contain batteries. The batteries must be removed and discarded, or recycled according to local regulations and where facilities exist. Specific information per battery type will be referenced throughout the manual where applicable.

Environmental Design

The environmental efforts that have gone into the design of this unit signifies IBM's commitment to improve the quality of its products and processes. Some of these activities include elimination of the use of CFCs, development of reusable or recyclable packaging, and reductions in manufacturing wastes.

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3. Sublicense or assign the license for the Code; or

4. Lease the Code or any copy of it.

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The following statement applies to this IBM product. The statement for other IBM products intended for use with this product will appear in their accompanying manuals.

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Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

> Reorient or relocate the receiving antenna.
> Increase the separation between the equipment and receiver.
> Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
> Consult an IBM authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM authorized dealers. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Compliance Statement

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EC Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

Properly shielded and grounded cables and connectors (IBM part number 21H1955 or its equivalent) must be used in order to reduce the potential for causing interference to radio and TV communications and to other electrical or electronic equipment. Such cables and connectors are available from IBM authorized dealers. IBM cannot accept responsibility for an interference caused by using other than recommended cables and connectors.

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Please note that this device has been approved for non-business purposes and may be used in any environment including residential areas.

Preface

This publication describes the 7331–305 Stand-alone RISC System 6000 library, the 3449–355 Stand-alone PC Server library and the 3449–356 Rack Mount PC Server library. All 3 libraries are 8mm base tape libraries containing 20 cartridges and up to 2 drives.

Note: Figures of the operator panels display **7331–3xx**. These are for reference only. Panels on the actual product will display **7331–305**, **3449–355**, or **3449–356**.

Related Publications

External Devices Translated Safety Notices, SA26-7192 provides translations of danger and caution notices.

7331 and 3449 8mm Tape Library Model 3xx Service Guide provides detailed service information for the Tape Library.

7331 and 3449 8mm Tape Library Model 3xx Operator Guide provides information about operating the Tape Library.

Related Webpage Sources

http://www.us.pc.ibm.com\server for information regarding the current IBM PC Company Compatible Systems and Applications for 3449 Models 355 and 356.

About This Guide

Chapter 1, "General Information" on page 1 provides a brief overview of the 7331 8mm Tape Library.

Chapter 2, "8mm Tape Library Installation" on page 5 describes the step-by-step instructions for proper installation of the 8mm Tape Library.

Chapter 3, "Moving the 8mm Tape Library" on page 25 describes how to pack and move the 8mm Tape Library.

Appendix A, "Power Cables" on page 29 provides information on power cables and their proper use.

Appendix B, "Statement of Limited Warranty" on page 33 is the 7331 and 3449 8mm Tape Library Model 3xx: Installation Guide warranty.

"Glossary" on page 37 defines terms, abbreviations, and acronyms used in this publication.

Chapter 1. General Information

This chapter provides a brief description of the 7331 and 3449 8mm Tape Libraries and their configuration options. The options consist of 7331 Model 305, which is used in a RISC System 6000 environment; 3449 Model 355, used in a PC Tower environment, and; 3449 Model 356, which is used in a PC Rack Mount environment.
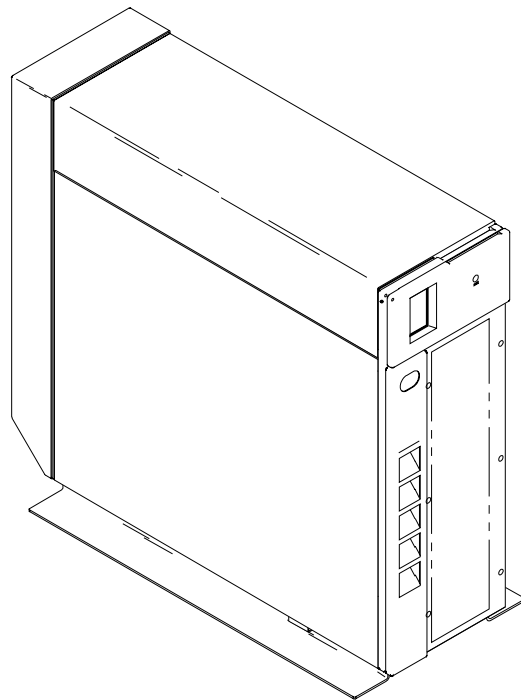
ASFNLASM-00

Figure 2. 8mm Tape Library

The 8mm Tape Library, provides an automated tape library solution. It can be used as a 20-cartridge library, two 10-cartridge libraries, or as an autoloader.

The 8mm Tape Library has the following features:

   The library is configured as a stand-alone tower.

   An internal power supply that provides power for the tape library and the tape drives.

   One or two internally mounted tape drives.

   A picker (transport mechanism) that moves tape cartridges between the magazine slots and the tape drives.

   Two removable 10-cartridge magazines, located internally above the tape drives.

Two bonus slots:

– One cleaning cartridge slot.
– One custom slot for either a second cleaning cartridge, drive diagnostic cartridge, drive test cartridge, data cartridge, or special user application cartridges.

A front door provides access to the tape magazines and tape drives. Two locks on the door, a key lock and a software controlled lock, provide security and safety.

An optional bar code reader for cartridge identification.

An operator control panel with an operator key pad and a graphical liquid crystal display (LCD).

The 8mm Tape Library provides fast wide differential Small Computer System Interface (SCSI-2), which attaches to the RISC System/6000 (RS/6000) computer, and IBM PC Company PC Servers.

8mm Tape Library SCSI Bus Configurations

The 8mm Tape Library can be set in the following SCSI BUS configurations:

Single host system

Dual drive - dual host system

Single Host Configuration (Single or Dual Drives)

The 8mm Tape Library is configured as a single host computer system when the tape library is attached to a single host computer system or adapter. During random mode, in the single host configuration, the library and all tape drives are controlled by the single adapter. During sequential mode, in the single host configuration, all tape drives are controlled by the single adapter.

Dual Host Configuration (Dual Drive)

A dual host configuration is used when the tape library is shared between two host computer systems. Tape Drive 1 is controlled by the host computer system attached to the library ports 1 and 2 (accessed using connectors 1 and 2 on the rear of the Tape Library). Tape Drive 2 is controlled by the host computer system attached to the library ports 3 and 4 (accessed using connectors 3 and 4 on the rear of the Tape Library).

8mm Tape Library Configurations

The following configurations are supported by the tape library.

1. Base library configuration
2. Split library configuration

Base Library Configuration

In the base library configuration, the library elements are only accessible to the host through the primary port (accessed using the connector on the rear of the library). The second port is not enabled as a target.

Base Configuration External Cabling Requirements

The base library configuration supports the following SCSI BUS configurations. Prior to entering the base library configuration ensure the library is cabled in one of the following SCSI BUS configuration options:

1. Single Drive - Single Host SCSI Configuration
2. Dual Drive - Single Host SCSI Configuration
3. Dual Drive - Dual Host SCSI Configuration

Split Library Configuration

The split library configuration divides the library elements in half. The elements in the lower magazine and Tape Drive 1 are assigned to the primary port. The elements in the upper magazine and Tape Drive 2 are assigned to the secondary port. The bonus slots and picker elements are shared by both ports. Elements are only accessible through their respective ports.

Split Configuration External Cabling Requirements

The split library configuration supports the following SCSI BUS configurations. Prior to entering the split library configuration ensure the library is cabled in one of the following SCSI BUS configuration options:

1. Dual Drive - Single Host SCSI Configuration
2. Dual Drive - Dual Host SCSI Configuration

8mm Tape Library Modes

The 8mm Tape Library supports the following modes of operation: These modes are selected using the library control panel.

Manual Mode (Default)

Random Mode (Selectable)

Sequential Mode (Selectable)

Random/Sequential (Available only in Split configuration)

Sequential/Random (Available only in Split configuration)

See the *7331 and 3449 8mm Tape Library Model 3xx Operator Guide*, for a more detailed description of all the modes.

Chapter 2. 8mm Tape Library Installation

This chapter provides step-by-step instructions on how to properly install the 7331 and 3449 Tape Library Model 3xx. You should complete the following steps when installing the 8mm Tape Library.

Step 1. Checking the Electrical Outlets

DANGER

> **An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the products that attach to the system. It is the customer's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.**
> *(RSFTD201)*

Make sure the electrical outlets you use are properly grounded and meet the following library power specifications.

Figure 3. Tape Library Power Specifications	
Kv A:	0.34
Vac	100 to 127, or 200 to 240
Hertz	50 to 60
Watts	340

Step 2. Before You Begin

You will need to refer to the appropriate system manuals to locate information required to install the Tape Library.

Get any system unit manuals that pertain to connecting peripheral equipment to the system unit.

You may find the needed information under the following topics:
– Installing an external SCSI device
– External SCSI devices

DO NOT CONTINUE until you have located the manuals that describe how to:

Locate the SCSI controller where the 8mm Tape Library will be connected. Determine the proper way to do a controlled shutdown and system start-up of the system unit.

Tools required for installation:

#2 Phillips screwdriver

Step 3. Inventory Checklist

The following items, required to install your stand-alone Tape Library, are shipped with the unit.

Make sure you have received the following items:

Power cables for 7331 Model 305 and 3449 Model 355 1 , and 3449 Model 356 2 power cables are represented in Figure 4 and detailed in Appendix A, Power Cables.
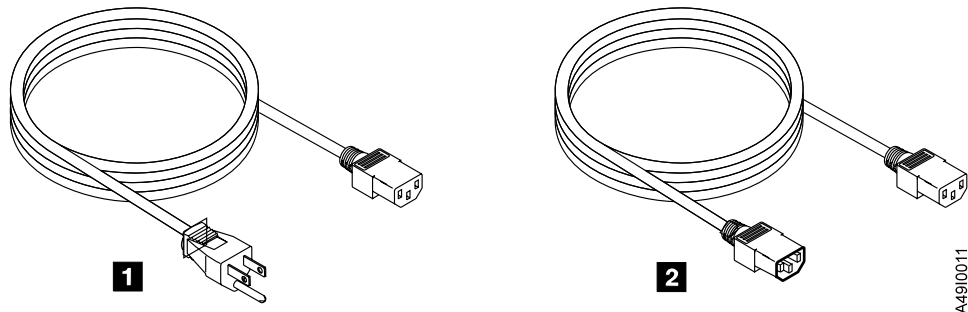

Figure 4. Power Cable for Models 305 and 355 and Model 356

The *7331 and 3449 Tape Library Model 3xx Operator Guide*
The *7331 and 3449 Tape Library Model 3xx Service Guide*
The *External Devices Translated Safety Notices*
The *External Devices Warranty Information* (U.S., Canada, and Puerto Rico only)
SCSI signal cables (1 or 2 depending on the configuration)
Terminators (1 or 2 depending on the configuration)
Tape cartridge magazines (2)
Data cartridge (1)
Cleaning cartridge (1)
Test cartridge (1)
Bar code labels (optional on Model 305 and standard on Models 355 and 356)
External SCSI jumper cable (shipped installed onto machine)
Device Driver (A-Tape) Diskette with License Agreement (Model 305 only)
3449 Fastwide SCSI Adapter Card (Models 355 and 356 only)

Checklist for Rack Mount Model 356

The Rack Mount assembly kit for Model 356 consists of the following hardware:

__ 1. Rack bezel (2)
__ 2. Filler strip (2)
__ 3. Filler panel (1)
__ 4. Rack plate (1)
__ 5. Rack spacer (1)
__ 6. Rail, LH (1)
__ 7. Rail, RH (1)
__ 8. M5 fastener (2)
__ 9. M6 fastener (2)
__ 10. M3x4 PH screw (10)
__ 11. M4x8 PH screw (4)

After completing the installation of the library, store this guide, the 7331 and 3449 8mm Tape Library Model 3xx Operator Guide, the 7331 and 3449 8mm Tape Library Model 3xx Service Guide, and External Devices Translated Safety Notices with your host computer system documentation near the 8mm Tape Library.

Step 4. Unpacking the 8mm Tape Library

CAUTION:
The weight of this part or unit is between 32 and 55 kilograms (70.5 and 121.2 pounds). It takes three persons to safely lift this part of unit. *(RSFTC205)*

Attention: The 8mm Tape Library is a precision device that requires reasonable care in handling to prevent damage to the library. Avoid bumping or dropping the 8mm Tape Library.

Perform the following steps:

Step   1. Open the library front door.

Step   2. Remove any packing material from the 8mm Tape Library.

Step   3. Loosen the picker transport lock screw, slide lock to right, and tighten lock screw (see Figure 5).

Step   4. Install 10 cartridge magazines into the library.

Picker Lock
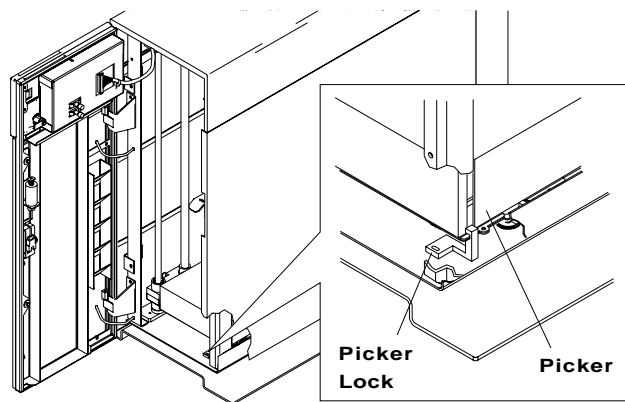
Picker

ASPKLK-00

Figure 5. Picker Transport Lock

Step 5. Host System Unit Setup for Connection to the 8mm Tape Library

Is the System Unit Power On?

YES   Go to "Step 5a."

NO   Go to "Step 5b."

Step 5a.

Is the SCSI Card installed in the system unit ?

Note: A SCSI card is required for RS/6000 and PC Server attachment to the 8mm Tape Library.

YES   Go to "Step 7. Placing the 8mm Tape Library" on page 16.

NO   Perform the following:

> **Note:** The information required to do a controlled system shutdown of the system unit can be found in the system management or planning documentation, or obtained from the person responsible for the management, planning, configuration, or operation of the system.

1. Do a controlled system shutdown.

2. Install the SCSI card in the system unit. See the system unit documentation for installation of the card.

3. Power on the system unit.

4. Go to "Step 7. Placing the 8mm Tape Library" on page 16.

Step 5b.

Is the SCSI Card installed in the system unit ?

Note: A SCSI card is required for RS/6000 and PC Server attachment to the 8mm Tape Library.

YES   Perform the following:

1. Power on the system unit.

2. Go to "Step 7. Placing the 8mm Tape Library" on page 16.

NO   Perform the following:

> **Note:** The information required to do a controlled system shutdown of the system unit can be found in the system management or planning documentation, or obtained from the person responsible for the management, planning, configuration, or operation of the system.

Install the SCSI card in the system unit. See the system unit documentation for installation of card.

Power on the system unit.

Go to "Step 7. Placing the 8mm Tape Library" on page 16.

Step 6. Installing the Rack Hardware and the Rack-Mounted 8mm Tape Library Model 356

Use the following procedure to install the Rack Hardware and the Rack-Mounted Model 356.

__ Step   1. If required, vary off the rack devices where the library will be installed.

__ Step   2. If required, remove rack front and rear covers where the library will be installed.

> **Note:** These instructions are written for the installation of a single library into a rack that does not currently have a library installed. If a library is already installed, or if two libraries are being installed, modify the instructions as required to accomplish the installation.

__ Step   3. Position right rail alignment pin on the front of the rail in the 4th hole from the bottom in right front rack upright. Position also, the U-shaped channel on back of rail around nut clip in the rear upright. See Figure 6.
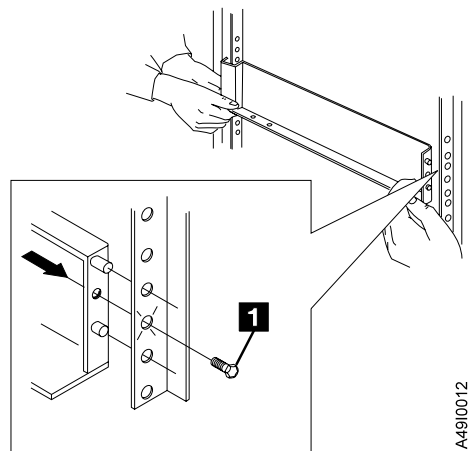

Figure 6. Rail Alignment and Installation

__ Step   4. At the front of the rack, install a screw 1 through rack upright and into the threaded hole in the rail and tighten screw. See Figure 6.

__ Step   5. Repeat steps 3 through 4 of this procedure to install rail on the other side of rack.

__ Step   6. Place base plate ⎣2⎦ on rails ⎣1⎦ and ⎣3⎦ on rack. Position plate with
           large holes to front and left. Do not fasten plate to rails at this time.
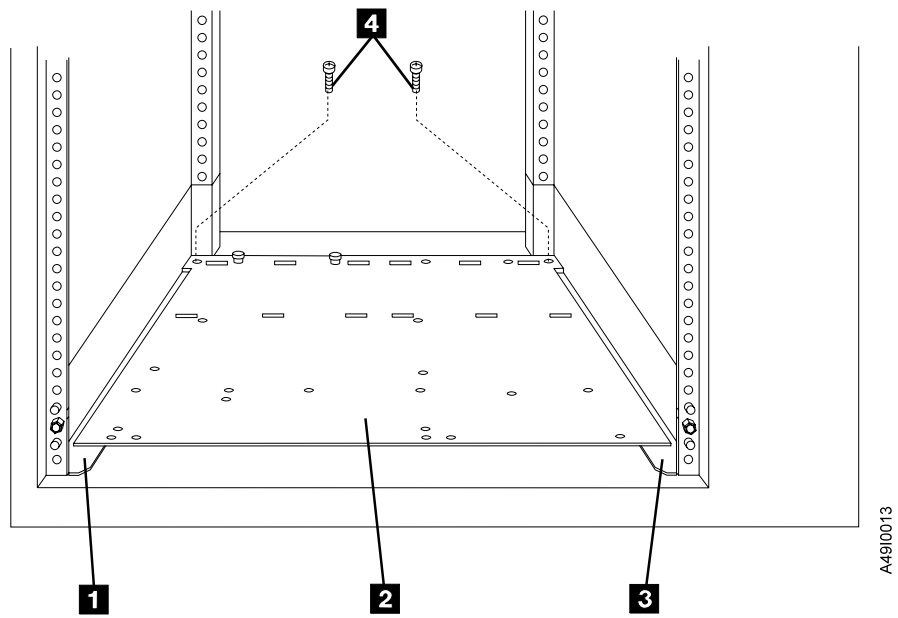   See Figure 7.

Figure 7. Base Plate Installation

__ Step   7. Assemble the frame that surrounds the library front door and holds
            the filler plate.

            __ Step   a. Arrange the 2 filler strips   1   and   4 , and 2 bezel strips
                          2   and   5 , and fasten together with 2 screws   3
                         (typical 2 screws each corner) at each corner. See
                         Figure 8.

            __ Step   b. This frame assembly is mounted on the front of the rack
                         and it frames the library. When installed the bezel strips
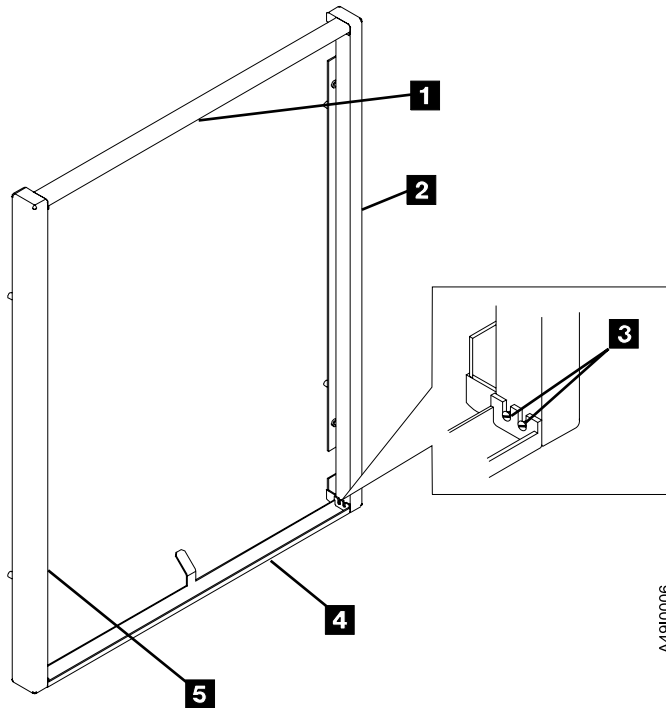   are on each side and the filler strips are at the top and
                         bottom.

Figure 8. Filler Strip and Bezel Strip Assembly

__ Step 8. Position bezel and filler strip assembly 3 on rack and fasten in place with 2 screws 1 (typical 4 places) on each side. Screws are inserted from inside the rack through rack upright into pan nuts in bezel strips 2 . See Figure 9.
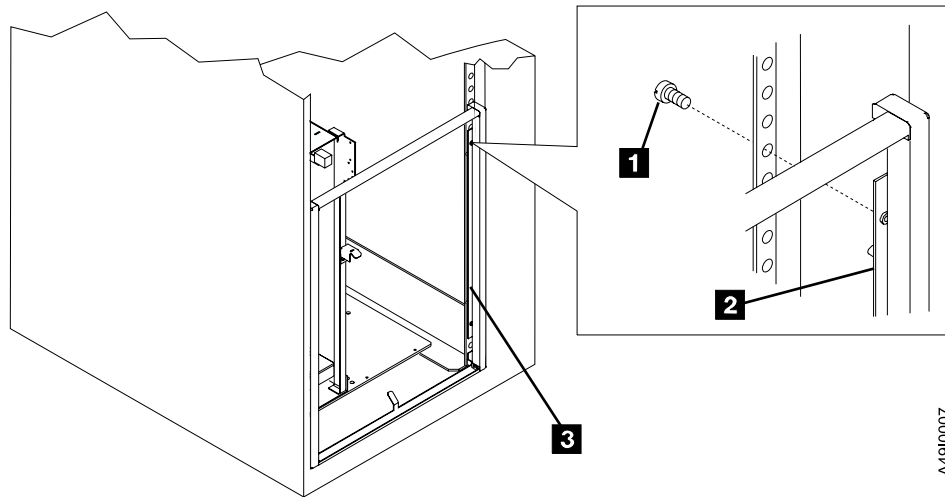

Figure 9. Filler Strip and Bezel Strip Installation

__ Step 9. Slide the base plate until aligned with the bezel and filler strip assembly.

__ Step 10. Refer back to Figure 7 on page 10 for this procedure. At the rear of the base plate 2 , align holes through base plate with threaded hole in rails on each side 1 and 3 .

__ Step 11. Refer back to Figure 7 on page 10 for this procedure. Insert screws 4 through the holes aligned in previous step into the threaded hole in the rail and tighten screws to secure the base plate in place.

__ Step 12. Obtain the library to be installed.

__ Step 13. Open the library front door 4 . See Figure 10 on page 13.

__ Step 14. Remove the cable tie securing the control panel cable 2 to the safety cover 3 .

__ Step 15. Disconnect the control panel signal cable from the control panel.

DANGER

> **To prevent a possible electrical shock when adding or removing any devices to or from the system, ensure that the power cords for those devices are unplugged before the signal cables are connected or disconnected. If possible, disconnect all power cords from the existing system before you add or remove a device.**

__ Step 16. On the inside of the front door, remove the screw securing each frame-to-door ground strap. There are two ground straps 1 . See Figure 10.
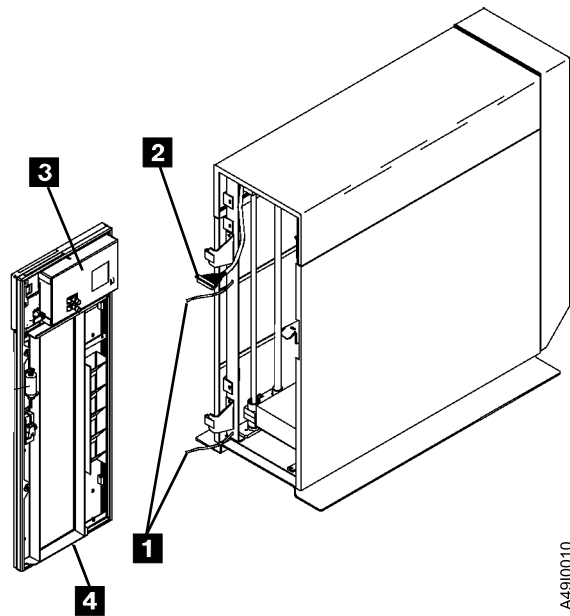

Figure 10. Ground Straps (Frame to Door)

__ Step 17. Grasp the front door assembly 4 and lift it off the hinges. Place the front door assembly where it will not get damaged.

> **Note:** To provide easier access to library assemblies during maintenance in a single library configuration, it is recommended the library be positioned on the left side of the rack.

__ Step 18. Position the library in the rack on the left side of the rack base plate 1 . See Figure 11.

__ Step 19. Slide the library in position so the slots at bottom rear of library frame 3 engage screws 2 at rear of base plate. See Figure 11.
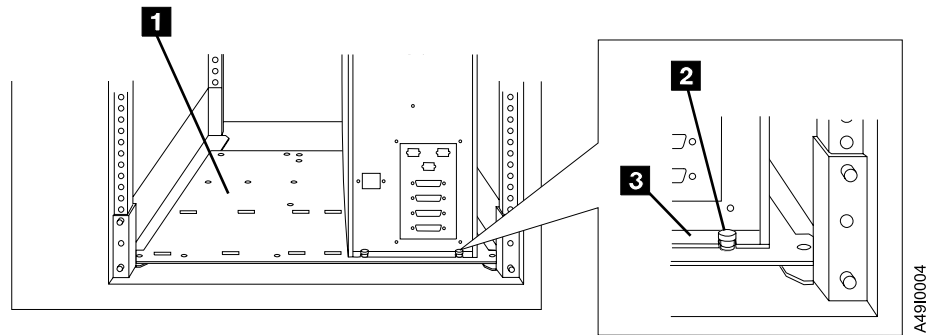

Figure 11. Library Frame Rear Alignment

__ Step 20. Align holes in the bottom front corners of the library frame with threaded holes in base plate and secure in position with screws 1 (typical both front covers). See Figure 12.
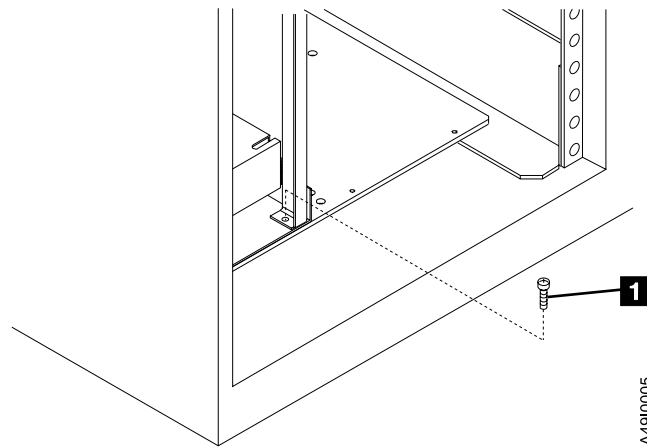

Figure 12. Library Front Frame Alignment

__ Step 21. Tighten screws at bottom rear of library frame. See Figure 11 on page 13.

__ Step 22. Slide base plate with library attached to rear most position on the rails.

__ Step 23. Position the filler plate 1 in bezel opening next to the library so the tabs 2 without screw holes slip into the slot in the bezel strip at the side of the rack and the tabs with screw holes align with the holes in the library frame. See Figure 13.
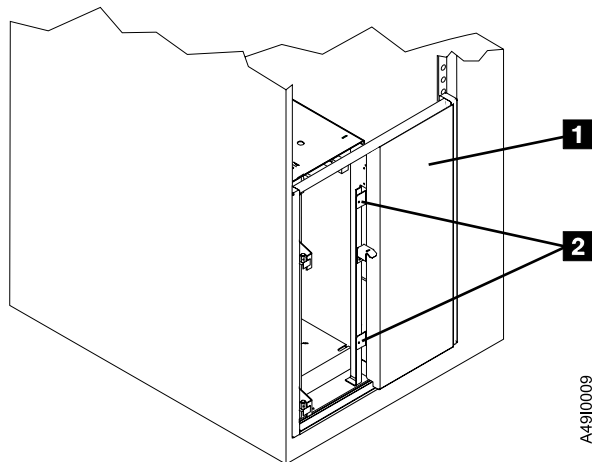

Figure 13. Filler Plate Installation

__ Step 24. Using 2 screws, fasten the filler plate to the library. See Figure 13.

__ Step 25. Obtain the front door assembly and align the hinge pins with the library hinges and lower the door assembly into position.

__ Step 26. Connect each frame-to-door ground strap to the inside of the front door. See Figure 10 on page 13.

__ Step 27. Connect the control panel signal cable to the control panel.

__ Step 28. Install a cable tie to secure the control panel cable to the safety cover.

> **Note:** The door does not lock in step 29. The library door solenoid locks the door when library power is turned On.

__ Step 29. Close the library front door. Ensure the door latches and operates correctly.

__ Step 30. Ensure the library, filler panel, and bezel assembly are all correctly aligned.

__ Step 31. If two libraries are installed in the rack, connect the rear upper inside corners of the library frames with an alignment strap.

__ Step 32. Connect the external SCSI cables between the host computer system and the 8mm Tape Library. See "Step 8. Connecting the SCSI Signal Cable" on page 16.

__ Step 33. Plug the library power cable into the rack power outlet.

__ Step 34. Install any rack panels that were removed fro the library installation.

__ Step 35. Go to "Step 13. 8mm Tape Library Checkout Procedure" on page 20.

Step 7. Placing the 8mm Tape Library

The 8mm Tape Library can be located anywhere that is convenient to your system unit. The only restrictions to the location of the library are the lengths of the power cord and the SCSI cable.

CAUTION:
The weight of this part or unit is between 32 and 55 kilograms (70.5 and 121.2 pounds). It takes three persons to safely lift this part of unit. *(RSFTC205)*

Attention: The 8mm Tape Library is a precision device requiring reasonable care in handling to prevent damage to the library. Avoid bumping or dropping the 8mm Tape Library.

Perform the following steps:

Step   1. Place the 8mm Tape Library in the desired location.

Step   2. Remove the rear cover.

Attention: Do not place anything on top of the 8mm Tape Library.

Step 8. Connecting the SCSI Signal Cable

Note: The internal SCSI cables are installed and connected at the factory.

Determine the SCSI cable option for your system configuration and follow the connection instructions listed with that option. Refer to "8mm Tape Library Configurations" on page 3 for a description of possible system configurations.

– "Step 9. Single Drive – Single Host SCSI Configuration" on page 17

– "Step 10. Dual Drive – Single Host SCSI Configuration" on page 18

– "Step 11. Dual Drive – Dual Host SCSI Configuration" on page 19

DANGER

> **To prevent a possible electrical shock when installing the device, ensure that the power cord for that device is unplugged before installing signal cables.** *(RSFTD204)*

DANGER

> **To prevent a possible electrical shock from touching two surfaces with different electrical grounds, use one hand, when possible, to connect or disconnect signal cables.** *(RSFTD004)*

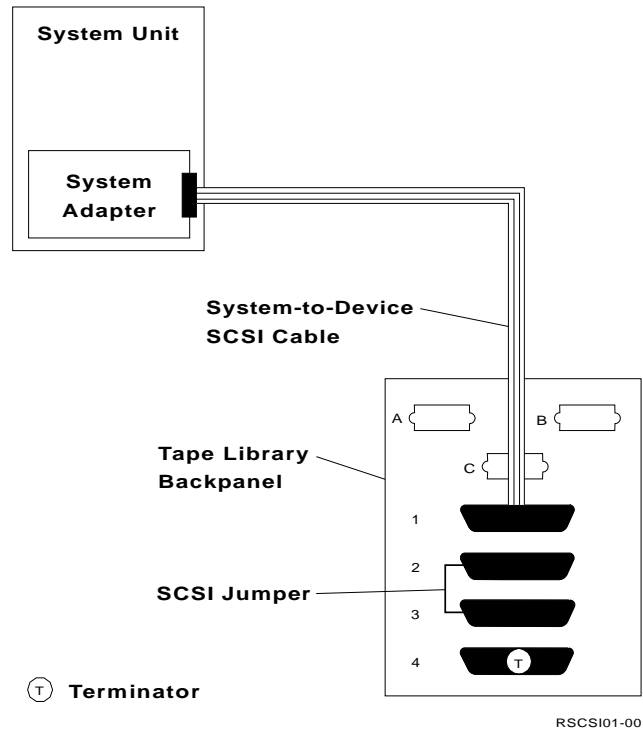# Step 9. Single Drive – Single Host SCSI Configuration

Figure 14. Single Drive-Single Host SCSI Configuration

Refer to Figure 14 and perform the following steps:

__ Step   1. Remove 2 screws at the bottom of the back cover and lift the cover off the library.

__ Step   2. Make sure the SCSI jumper cable is installed across connectors 2 and 3 on the library back panel.

> **Note:**   With the SCSI jumper cable installed, the library is configured as a single SCSI bus. The library and tape drive respond on this bus.

__ Step   3. Make sure the terminator is installed on connector 4.

__ Step   4. Align the external SCSI cable with connector 1 on the library back panel.

__ Step   5. Push in to seat the cable and tighten the thumbscrews (finger tight).

__ Step   6. Connect the other end of the SCSI cable to the system unit.

__ Step   7. Go to "Step 12. Connecting the Power Cables" on page 20.

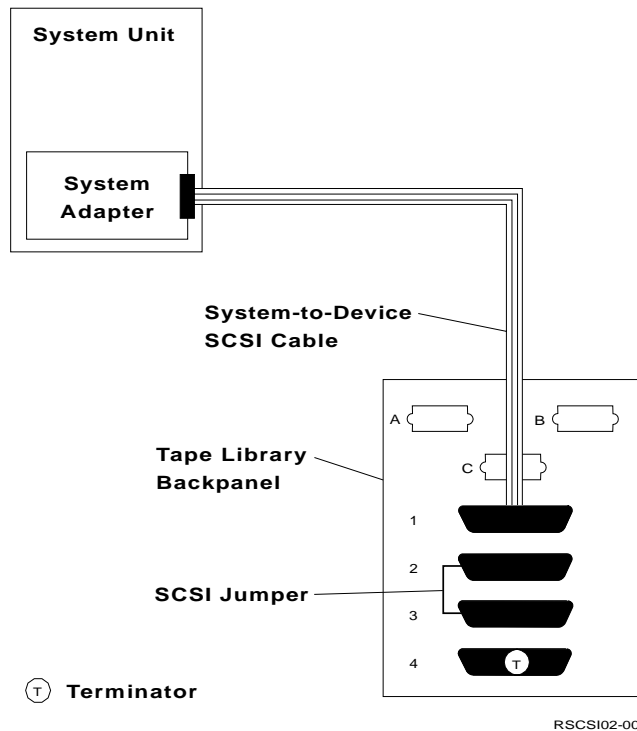## Step 10. Dual Drive – Single Host SCSI Configuration

Figure 15. Dual Drive-Single Host SCSI Configuration

Refer to Figure 15 and perform the following steps:

__ Step 1. Remove 2 screws at the bottom of the back cover and lift the cover off the library.

__ Step 2. Make sure the SCSI jumper cable is installed across connectors 2 and 3 on the library back panel.

> **Note:** With the SCSI jumper cable installed, the library is configured as a single SCSI bus. The library and both tape drives respond on this bus.

__ Step 3. Make sure the terminator is installed on connector 4.

__ Step 4. Align the external SCSI cable with connector 1 on the library back panel.

__ Step 5. Push in to seat the cable and tighten the thumbscrews (finger tight).

__ Step 6. Connect the other end of the SCSI cable to the system unit.

__ Step 7. Go to "Step 12. Connecting the Power Cables" on page 20.

The advantages of this configuration include:

> Two jobs can be run simultaneously.
> Library functions available for both drives (for Random Mode only).

The disadvantage of this configuration is the loss of drive performance.
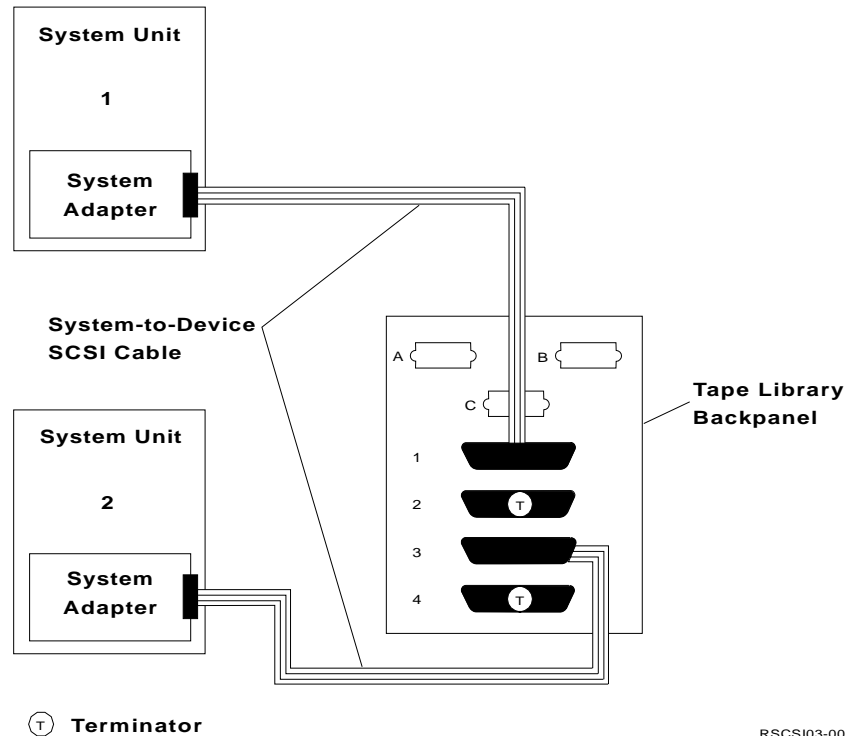
Step 11. Dual Drive – Dual Host SCSI Configuration

Figure 16. Dual Drive-Dual Host SCSI Configuration

Refer to Figure 16 and perform the following steps:

__ Step 1. Remove 2 screws at the bottom of the back cover and lift the cover off the library.

__ Step 2. If a SCSI jumper cable is installed across connectors 2 and 3 on the library back panel, remove it at this time.

> **Note:** With the SCSI jumper cable removed, the library is configured as two SCSI buses. The library and drive 1 are on the first bus (ports 1 and 2) and drive 2 is on the second bus (ports 3 and 4).

__ Step 3. Install a terminator on connector 2 and connector 4.

__ Step 4. Align the external SCSI cable for system unit 1 with connector 1 on the library back panel.

__ Step 5. Push in to seat the cable and tighten the thumbscrews (finger tight).

__ Step 6. Connect the other end of the SCSI cable to system unit 1.

__ Step 7. Align the external SCSI cable for system unit 2 with connector 3 on the library back panel.

__ Step 8. Push in to seat the cable and tighten the thumbscrews (finger tight).

__ Step 9. Connect the other end of the SCSI cable to system unit 2.

__ Step 10. Go to "Step 12. Connecting the Power Cables" on page 20.

The advantages of this configuration include:

One 8mm Tape Library with two drives can be shared with two host systems.

Two jobs can be run simultaneously from two host systems.

The disadvantage to this configuration is the reduced capacity. Only 10 tape cartridges are available for use per host.

Step 12. Connecting the Power Cables

Perform the following steps:

Step 1. Plug the library power cable into the back of the library and into a grounded power outlet. (This may or may not power on the library depending upon the state of the power switch.)

Step 2. If the library power-on indicator lights and the display shows the message, `Power On Selftest in Progress`, press the control panel power switch (⊚) to turn the library power Off.

Step 3. Install any library covers that are not installed.

> **Note:** Use care when installing the rear cover after the SCSI cables have been attached to the 8mm Tape Library.

Step 13. 8mm Tape Library Checkout Procedure

> **Note:** The 8mm Tape Library includes internal diagnostics that can help identify faults within the device. These diagnostics, called Power-On Self Tests (POSTs), are run each time the 8mm Tape Library power is switched on.

This procedure should be followed the first time the library is powered on and any other time library operation is suspect. Performing this procedure ensures that all selftests are performed by the library and that the library initializes to a known state.

Step 1. Ensure the library door is closed. (Required for initialization.)

Step 2. Ensure library is supplied with termination power from a SCSI host adapter. If termination power is not provided the 8mm Tape Library will post a 01E5 (drive presence) error.

Step 3. Open the control panel access cover and press power switch (⊚) to turn the library power On.
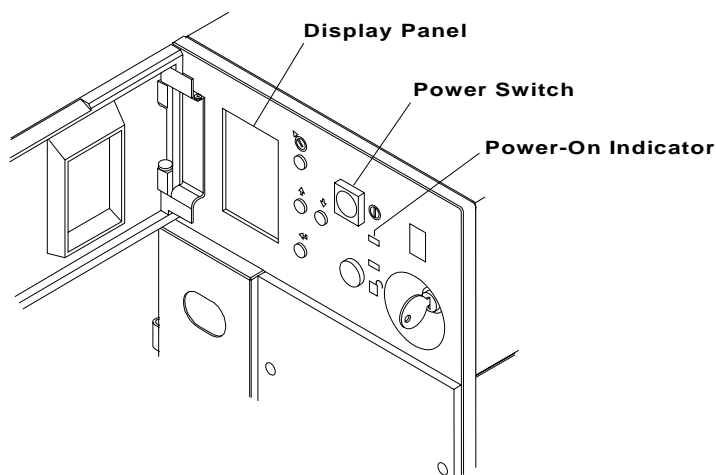
ASOP03-00

Figure 17. Control Panel

Step 4. If the library power-on indicator lights and the display shows the message, `Power On Selftest in Progress`, go to step 6 on page 21

Step 5. If the library control panel does not display information, call the 8mm Tape Library service representative.

Step 6. Wait for Power-On Self Test (POST) to complete.

The following definitions are applicable to the library Power-On Self Test (POST):

A single 1 second beep Indicates the library Power-On Self Test (POST) completed successfully.

Recoverable error Causes the library to beep once when the error is encountered and to display the message, `Power On Selftest Warning` and other information to further identify the cause of the error. The library resumes operation after 3 seconds.

Irrecoverable error The library Power-On Self Test (POST) stops and the control panel display shows failure information to identify the cause of the error. The library may also beep and blink (power-on indicator) one of four sequences to indicate a specific error. These errors are defined in the *7331 and 3449 8mm Tape Library Model 3xx Service Guide*.

Step 7. At the start of POST, the power-on indicator lights and the display shows the message in Figure 18:

```
7331-3XX

Power On
Selftest
in
Progress
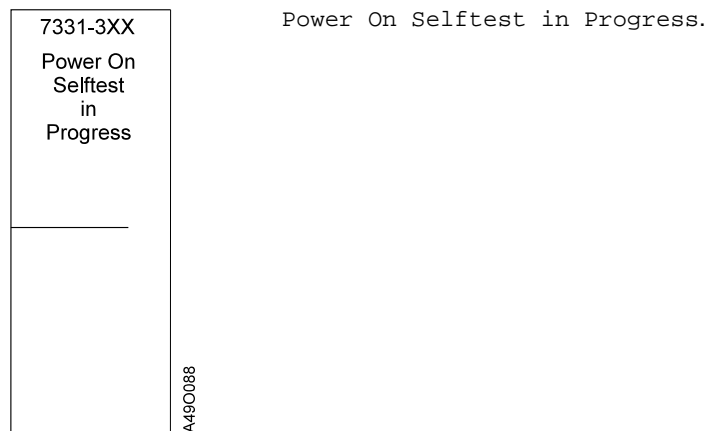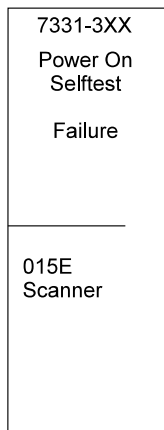```

A49O088

`Power On Selftest in Progress.`

*Figure 18. Power On Selftest in Progress Display*

Step   8. If an irrecoverable error is detected, the library beeps and the power-on
indicator blinks to indicate a specific error occurred. The control panel
display shows the message in Figure 19:

```
7331-3XX

Power On
 Selftest

 Failure
_____

015E
Scanner
```

Power On Selftest Failure and other information to further identify
the cause of the error. The message is continuously displayed and
the library ends further operation.

A49S0047

Figure 19. Power On Selftest Failure Display

Step   9. After checking for irrecoverable errors, POST checks for recoverable
errors. If a recoverable error is detected, the library beeps once and the
display shows the message in Figure 20:
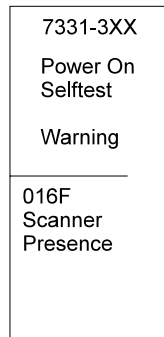
```
7331-3XX

Power On
Selftest

Warning
_____
016F
Scanner
Presence
```

Power On Selftest Warning and other information to further identify
the cause of the error. The message is displayed for 3 seconds
before the library resumes operation.

A49S0048

Figure 20. Power On Selftest Warning Display

Step 10. At the end of POST, the library beeps for 1 second. The control panel display shows the message in Figure 21:
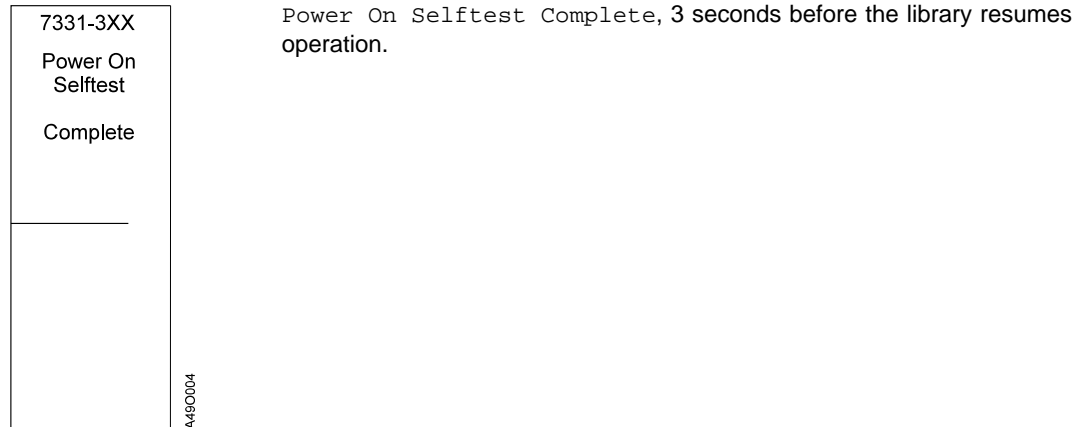
```
7331-3XX

Power On
Selftest

Complete
```

`Power On Selftest Complete`, 3 seconds before the library resumes operation.

Figure 21. Power On Selftest Complete Display

Step 11. If any of the following exist, call the 8mm Tape Library service representative.
  The control panel display is blank.
  The power-on indicator continuously beeps and blinks an error code.
  The power-on indicator does not light.
  The library does not beep.

Step 12. After POST is complete, wait for the library initialization to complete. During the initialization operation The control panel display shows the message in Figure 22:
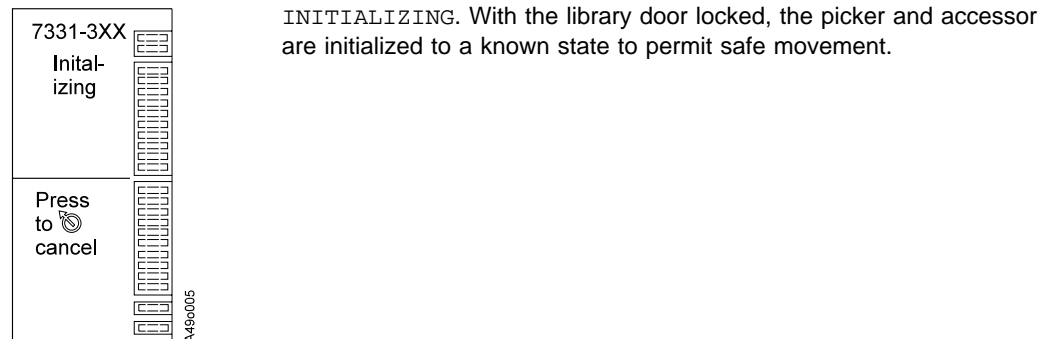
```
7331-3XX

Inital-
izing



Press
to     cancel
```

`INITIALIZING`. With the library door locked, the picker and accessor are initialized to a known state to permit safe movement.

Figure 22. Initializing Display

Step 13. Upon successful completion of initialization, the library returns to the mode of operation it was in before the library was powered off.

Step 14. Make sure the library covers are installed.

Step 15. If additional language support is required, refer to the *7331 and 3449 8mm Tape Library Model 3xx Operator Guide*, GA32-0376, for instructions on how to select the required language.

Step 16. You may now power-on the system unit for the library.

Note: After completing the 8mm Tape Library installation, store its publications with your system documentation.

Chapter 3. Moving the 8mm Tape Library

This chapter describes how to pack and move the 8mm Tape Library Model 3xx.

Move Checklist

Attention: Damage as a result of improper handling may void your equipment warranty. Consult your local Service Representative to obtain packing materials or assistance in preparing your Tape Library for moving.

Please do all of the following steps when moving the stand-alone Tape Library.

Note: You may need to contact a person who is knowledgeable in system management, planning, configuration, or operations to complete some of these steps.

___ Step   1. If not already done, do a controlled shutdown of the system unit.

CAUTION:
Do not place a highly reflective surface between either the picker assembly and the tape cartridge magazines or between the picker assembly and the tape drives. This may cause damage to your eyes. *(RSFTC238)*

___ Step   2. Remove any tape cartridges loaded in the tape drives.

___ Step   3. Power-off the library. Refer to the *7331 and 3449 8mm Tape Library Model 3xx Operator Guide*, GA32-0376, for instructions on powering off the library.

__ Step   4. If the library is being moved a long distance (for example, to another facility) or needs to be prepared for shipment, do the following:

> __ Step   a. Remove the removable tape cartridge magazines and tape cartridges from the bonus slots.
>
> __ Step   b. Position the picker at the bottom of the library.
>
> __ Step   c. Loosen the picker transport lock screw, slide the lock to the left, and tighten the screw to secure the picker in place. See Figure 23.
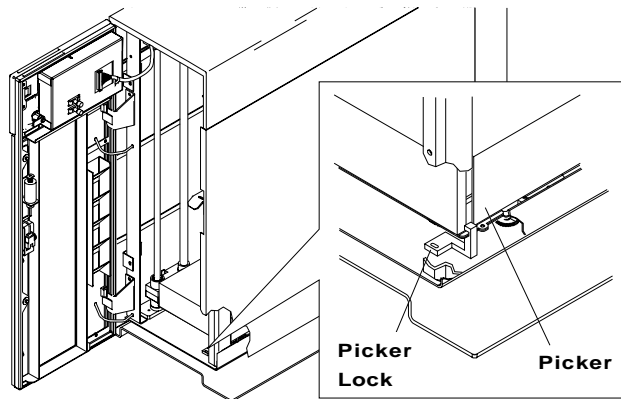
ASPKLK-00

Figure 23. Picker Transport Lock

__ Step   5. If the library is being moved a short distance (for example, across the room), do the following:

> a. Position the picker at the top of the library and lock in place with the accessor lock (mechanical). See Figure 24.
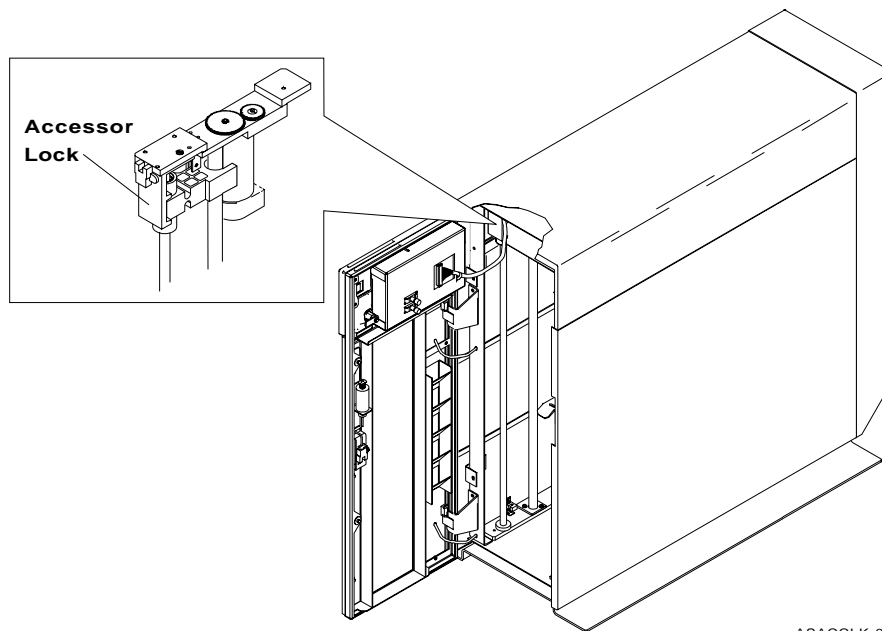
ASACCLK-00

Figure 24. Accessor Lock

DANGER

> **To prevent a possible electrical shock when installing the device, ensure that the power cord for that device is unplugged before installing signal cables.** *(RSFTD204)*

DANGER

> **To prevent a possible electrical shock from touching two surfaces with different electrical grounds, use one hand, when possible, to connect or disconnect signal cables.** *(RSFTD004)*

__ Step 6. Unplug the library power cable from the power outlet.

> **Attention:** When SCSI signal cables are connected to a system unit they have to be connected to a device. Do not leave the signal cable connected to the system if the device for that cable has been removed.

__ Step 7. Disconnect the external SCSI signal cable from the 8mm Tape Library that you are moving.

__ Step 8. Disconnect the other end of the SCSI signal cable disconnected in the previous step from the system unit.

CAUTION:
The weight of this part or unit is between 32 and 55 kilograms (70.5 and 121.2 pounds). It takes three persons to safely lift this part of unit. *(RSFTC205)*

__ Step 9. If the library is being moved a long distance (for example, to another facility) or needs to be prepared for shipment, do the following:

> **Note:** The library should be packaged in the original or new packaging material designed for shipment of the library.

> a. Prepare and package the library for shipment.

> b. Move preparations are complete.

DANGER

> **To prevent a possible electrical shock when installing the device, ensure that the power cord for that device is unplugged before installing signal cables.** *(RSFTD204)*

DANGER

> **To prevent a possible electrical shock when adding or removing any devices to or from the system, ensure that the power cords for those devices are unplugged before the signal cables are connected or disconnected. If possible, disconnect all power cords from the existing system before you add or remove a device.**

DANGER

> **To prevent a possible electrical shock from touching two surfaces with different electrical grounds, use one hand, when possible, to connect or disconnect signal cables.** *(RSFTD004)*

__ Step 10. If the library is being moved a short distance (for example, across the room), carefully move the library to the new location.

> __ Step a. Connect the external SCSI cables between the host computer system and the 8mm Tape Library. See "Step 8. Connecting the SCSI Signal Cable" on page 16.

> __ Step b. If required, plug the system unit power cable into a power outlet.

> __ Step c. Plug the library power cable into a power outlet.

> __ Step d. Unlock the picker. Support the picker with one hand while unlocking the accessor lock (mechanical lock) then lower picker to bottom of library. See Figure 24 on page 26.

> __ Step e. Power-on the library. Refer to the *7331 8mm Tape Library Model 3xx Operator Guide*, GA32-0376, for instructions on powering on the library.

Appendix A. Power Cables

To avoid electrical shock, a power cable with a grounded attachment plug is provided. Use only properly grounded outlets.

DANGER

> **An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the products that attach to the system. It is the customer's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.**
> *(RSFTD201)*

Power cables used in the United States and Canada are listed by Underwriter's Laboratories (UL**) and certified by the Canadian Standards Association (CSA**). These power cables consist of:

Electrical cables, type SVT or SJT.

Attachment plugs complying with National Electrical Manufacturers Association (NEMA) 5-15P. That is,

"For 115 V operation use a UL Listed Cable Set consisting of a minimum 18 AWG, Type SVT or SJT three conductor cable a maximum of 15 feet in length and a parallel blade, grounding type attachment plug rated at 15 A, 125 V."

"For 230 V operation in the United States use a UL Listed Cable Set consisting of a minimum 18 AWG, Type SVT or SJT three conductor cable a maximum of 15 feet in length, and a tandem blade, grounding type attachment plug rated at 15 A, 250 V."

Appliance couplers complying with International Electrotechnical Commission (IEC) Standard 320, Sheet C13.

Power cables used in other countries consist of:

Electrical cables, type HD21.

Attachment plugs approved by the appropriate testing organization for the specific countries where they are used.

"For units set at 230 V (outside of U. S.): Use a Cable Set consisting of a minimum 18 AWG cable and grounding type attachment plug rated 15 A, 250 V. The Cable Set should have the appropriate safety approvals for the country in which the equipment will be installed and marked ′HAR′."

Model 305 Power Cables

Figure 25 lists the power cable part number, the country where the power cable can be used, and an index number to be matched with the receptacle illustrations shown in Figure 26 on page 31. Please contact your local dealer if your 7331 Tape Library power cable does not match this information.

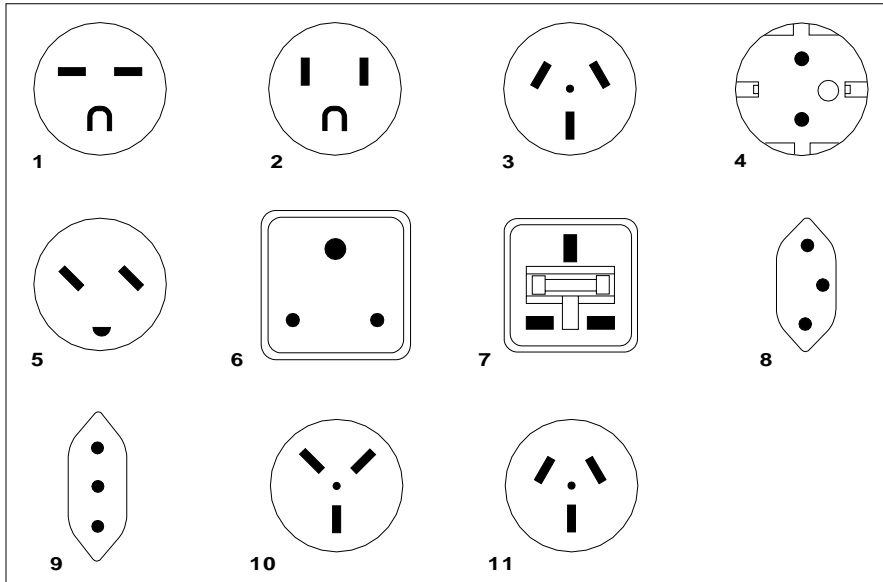| Figure 25. Power Cable Information		
Part Number	**Country**	**Index**
1838574 US/Canada	Bahamas, Barbados, Bolivia, Brazil, Canada, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Japan, Netherlands Antilles, Panama, Peru, Philippines, Taiwan, Thailand, Tobago, Trinidad, U.S.A. (except Chicago), Venezuela	1
6952300 US/Canada	Bahamas, Barbados, Bermuda, Bolivia, Brazil, Canada, Cayman Islands, Columbia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Japan, Korea (South), Mexico, Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, Puerto Rico, Saudi Arabia, Suriname, Taiwan, Trinidad, U.S.A. (except Chicago), Venezuela	2
6952301 6 ft. Chicago	Chicago, U.S.A.	2
13F9940 Australia	Argentina, Australia, New Zealand	3
13F9979 France	Abu Dhabi, Austria, Belgium, Bosnia, Botswana, Bulgaria, Croatia, Egypt, Finland, France, Germany, Greece, Iceland, Indonesia, Korea (South), Lebanon, Luxembourg, Macau, Macedonia, Netherlands, Norway, Portugal, Saudi Arabia, Serbia, Slovenia, Spain, Sudan, Sweden, Turkey	4
13F9997 Denmark	Denmark	5
14F0015 South Africa	Bangladesh, Burma, Pakistan, South Africa, Sri Lanka	6
14F0033 United Kingdom	Bahrain, Bermuda, Brunei, Channel Islands, Cyprus, Ghana, Hong Kong, India, Iraq, Ireland, Jordan, Kenya, Kuwait, Malawi, Malaysia, Nigeria, Oman, People's Republic of China, Qatar, Sierra Leone, Singapore, Tanzania, Uganda, United Arab Emirates (Dubai), United Kingdom, Zambia	7
14F0051 Switzerland	Liechtenstein, Switzerland	8
14F0069 Italy	Chile, Ethiopia, Italy	9
14F0087 Israel	Israel	10
6952291 Colombia	Colombia, Paraguay, Uruguay	11

Figure 26. Power Receptacle Index

Model 355 Power Cables

Model 355 cables are the same as for Model 305.

Model 356 Power Cables

The power cables for Model 356 are PN 13F9961 and PN 34G0253.

Appendix B. Statement of Limited Warranty

The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you originally purchase for your use, and not for resale, from IBM or your reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. If you have any questions, contact IBM or your reseller.

Machine: 7331 and 3449 8mm Tape Library Model 3xx: Installation Guide
Warranty Period*: One year

*Contact your place of purchase for warranty service information.

Production Status

Each Machine is manufactured from new parts, or new and used parts. In some cases, the Machine may not be new and may have been previously installed. Regardless of the Machine's production status, IBM's warranty terms apply.

The IBM Warranty for Machines

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications. The warranty period for a Machine is a specified, fixed period commencing on its Date of Installation. The date on your receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period IBM or your reseller, if authorized by IBM, will provide warranty service under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

For IBM or your reseller to provide warranty service for a feature, conversion, or upgrade, IBM or your reseller may require that the Machine on which it is installed be 1) for certain Machines, the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. Many of these transactions involve the removal of parts and their return to IBM. You represent that all removed parts are genuine and unaltered. A part that replaces a removed part will assume the warranty service status of the replaced part.

If a Machine does not function as warranted during the warranty period, IBM or your reseller will repair it or replace it with one that is at least functionally equivalent, without charge. The replacement may not be new, but will be in good working order. If IBM or your reseller is unable to repair or replace the Machine, you may return it to your place of purchase and your money will be refunded.

If you transfer a Machine to another user, warranty service is available to that user for the remainder of the warranty period. You should give your proof of purchase and this Statement to that user. However, for Machines which have a life-time warranty, this warranty is not transferable.

Warranty Service

To obtain warranty service for the Machine, you should contact your reseller or call IBM. In the United States, call IBM at **1-800-IBM-SERV (426-7378)**. In Canada, call IBM at **1-800-465-6666**. You may be required to present proof of purchase.

IBM or your reseller will provide certain types of repair and exchange service, either at your location or at IBM's or your reseller's service center, to restore a Machine to good working order.

When a type of service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item. Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service. You also agree to ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange. You agree to:

1. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
2. where applicable, before service is provided —
   a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provide,
   b. secure all programs, data, and funds contained in a Machine, and
   c. inform IBM or your reseller of changes in a Machine's location.

IBM is responsible for loss of, or damage to, your Machine while it is 1) in IBM's possession or 2) in transit in those cases where IBM is responsible for the transportation charges.

Extent of Warranty

IBM does not warrant uninterrupted or error-free operation of a Machine.

The warranties may be voided by misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, removal or alteration of Machine or parts identification labels, or failure caused by a product for which IBM is not responsible.

OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU. IN THAT EVENT SUCH WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD.

Limitation of Liability

Circumstances may arise where, because of a default on IBM's part or other liability you are entitled to recover damages from IBM. In each such instance, regardless of the basis on which you are entitled to claim damages from IBM (including fundamental breach, negligence, misrepresentation, or other contract or tort claim), IBM is liable only for:

1. damages for bodily injury (including death) and damage to real property and tangible personal property; and
2. the amount of any other actual direct damages or loss, up to the greater of U.S. $100,000 or the charges (if recurring, 12 months' charges apply) for the Machine that is the subject of the claim.

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Glossary

SCSI. Small computer system interface: cabling used to interface one device to another or other devices.

PC. Personal Computer: an individual workstation comprised of 'desk-top-type' hardware including a monitor.

RS/6000. IBM RISC System/6000: a reduced instruction set computer.

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