



490/980 GB DLT Library

User's Guide

OPTIONS
by IBM

Note: Before using this information and the product it supports, be sure to read the information under Appendix D, "Product warranty and notices" on page 2-9.

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Safety: Read first



Before installing this product, read the Safety Information.

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information (安全信息)。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto zariadenia si pečítajte Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

安裝本產品之前，請先閱讀「安全資訊」。

Product registration

Thank you for purchasing OPTIONS by IBM . Please take a few moments to register your product and provide us with information that will help IBM to better serve you in the future. Your feedback is valuable to us in developing products and services that are important to you, as well as in developing better ways to communicate with you. Register your option on the IBM Web site at:

<http://www.ibm.com/pc/register>

IBM will send you information and updates on your registered product unless you indicate on the Web site questionnaire that you do not want to receive further information.

About this book

This manual contains information on the IBM 490/980 GB DLT Library. It is divided into the following parts:

Part 1: Installation and using guide

This section contains the product description, and installation and operating instructions.

Part 2: Appendixes

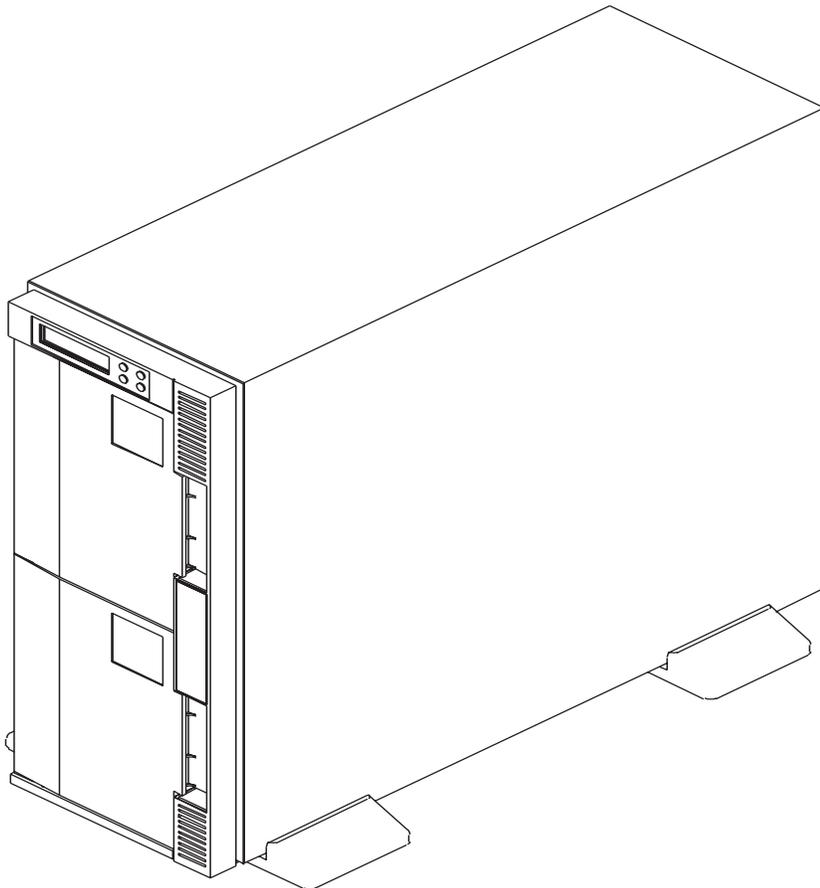
This section contains the product specifications, information on problem-solving, help and service, the product warranty, and notices.

Note: The illustrations in this manual might be slightly different from your hardware.

Part 1: Installation and using guide

This guide contains the product description, and installation and operating instructions. For problem-solving information, go to Appendix B, "Problem solving" on page 2-6.

Product description



The IBM 490/980 GB DLT Library is a 14-cartridge, multi-mode rack-mount or tower library that comes with a pre-installed DLT7000 tape drive. The library can also house up to two more DLT7000 tape drives. You can purchase additional DLT7000 tape drives for the library by ordering the drive upgrade option (PN#33L4979) from IBM. Two removable seven-cartridge magazines hold the cartridges. Each magazine be accessed through a door at the front of the library. The library can work with one or both magazines.

The slots in Magazine 0 (left magazine in rack-mount version; top magazine in tower version) are labeled 0–6. The slots in Magazine 1 (right magazine in rack-mount version; bottom magazine in tower version) are labeled 7–13. The library also has an optional autoclean mode that, when enabled, automatically cleans drives when required.

The library complies with the ANSI standard for the SCSI-2 (single-ended) interface, and has industry-standard 68-pin external SCSI cable connectors. The tape media format follows ECMA-approved and ANSI-proposed standards.

The DLT tape drive works with the following cartridges:

DLTtape IV cartridge (IBM PN 59H3040 or IBM-approved equivalent) that can store up to 35.0 GB¹ of data in native mode, or 70.0 GB in compressed mode

DLTtape IIIxt cartridge that can store up to 15.0 GB of data in native mode, or 30.0 GB in compressed mode

DLTtape III cartridge that can store up to 10.0 GB of data in native mode, or 20.0 GB in compressed mode.

Cleaning cartridge (IBM PN 59H3092 or IBM-approved equivalent)

The actual amount of data stored in the compression mode is depends on the data type. The library can write to and read from 2.6, 6.0, 10.0, 15.0, or 20.0 GB tape formats for complete interchange compatibility with earlier vintage DLT drives.

Product features

The library provides the following features:

Automatic tape operations

Library status display using the operator control panel (OCP), including:

- Tape drive status and activity
- Tape drive error status
- Magazine slot status
- Loaded tape cartridge conditions

Mode control features:

- Automatic random access to all tape cartridges
- Sequential access to tape cartridges in a single cycle
- Sequential access to tape cartridges in circular cycles

User selection of cartridges to be loaded into the tape drive

SCSI ID selection using the OCP

Library and tape drive microcode updates using the SCSI bus

Display of device microcode and hardware revision numbers

Embedded diagnostic software that displays status for head cleaning, library and tape drive operation, and that provides test functions to help isolate problems

¹ GB equals approximately 1 000 000 000 bytes.

In addition to this book, the option kit includes:

- IBM 490/980 GB DLT Library with a pre-installed DLT7000 tape drive
- AC power cord
- SCSI jumper cable
- Trial software CDs
- SCSI host adapter
- SCSI terminator
- SCSI fast/wide cable
- Data cartridge
- Cleaning cartridge
- Safety Information manual

Before you begin

Be sure that you have adequate floor space and overhead clearance to unpack and install the library. The tower library is 26.7 cm (10.5 in.) wide, 45.7 cm (29 in.) high. The rack-mount library is 45.1 cm (17.8 in.) wide, 17.7 (7 in.) high. Both versions of the library are 50.8 cm (20 in.) deep.

Place the library only on a clean, level surface. The library weighs 35 kg (76 lbs). Be sure that the surface can support the weight of the library.

Preparing for installation

Inspect the carton for damage that might have occurred during shipment. If you received the library on a pallet, check the pallet for damage. Report any damage to the shipper immediately.

When you unpack the library, place the unit as close to the installation location as possible. If you received the tower library, there will be only one shipping carton. Unpack the carton using instructions given in “Unpacking the library” on page 1-4.

If you received the rack-mount library, you will have two shipping cartons. The large carton contains the library, and the smaller carton contains the rack-mount kit. Unpack the rack-mount carton using instructions given in “Unpacking and installing the rack-mount kit.”

Unpacking and installing the rack-mount kit

To unpack the rack-mount kit:

1. Cut the packing tape at the top of the shipping carton and unpack the rack-mount kit.
2. Compare the contents of the carton with the packing list inside the shipping carton.
3. Install the rack-mount kit in the server rack, referring to the diagram that comes in the shipping carton.

4. Continue with “Unpacking the library” on page 1-4.

Unpacking the library

Caution: The library weighs 35 kg (76 lbs). Lifting or moving the library requires at least two people.

To unpack the library:

1. If you received the library on a pallet, cut the straps that secure the shipping carton to the pallet and lift the carton off of the pallet.
2. Open the top of the shipping carton by carefully cutting the packing tape.
3. Remove the cables from the carton.
4. Remove the packing foam from the top of the library.
5. With at least two people lifting the library, remove it from the shipping carton.
6. Remove the library from the shipping bag.
7. Place the library in the installation location. If it is a rack-mount library, place it in the server rack.

Attention: Do not force a magazine door open. Wait until the OCP displays the `Open Doors!` message to verify that the library locking mechanism has completed the unlocking activity.

Installation requirements

This section lists the library power ratings and ac power cord requirements.

Library power ratings requirements

The electrical ratings for the library are:

Voltage: 100 to 120 or 200 - 240 V ac

Frequency: 50 Hz for 110–120 V ac, and 60 Hz for 200–240 V ac

Amps: 1.0 to 0.55 A

Depending on usage, maximum power consumption for the library with a DLT7000 drive is between 200–260 watts.

AC power cord requirements

Carefully inspect the power cord that comes with your option to determine if it is the correct one for your country or region based on the criteria listed below. If you are not sure if the power cord is correct, contact your place of purchase.

Caution: Do not attempt to modify or use an external 100–115 V ac power cord for 220–240 V ac input power. Modifying the power cord can cause personal injury and severe equipment damage.

The ac power cord used with this equipment must meet the following criteria:

A minimum of 18/3 AWG, 60°C, Type SJT.

UL- and CSA-certified cordage rated for use at 250 V ac with a current rating that is at least 125% of the current rating of the product. In Europe, the cord must have the HAR mark.

The ac plug must be terminated in a grounding-type male plug designed for use in your country. It must also have marks showing agency certification acceptable in the country.

The connector at the product end must be an IEC type CEE-22 female connector.

The cord cannot be longer than 4.5 meters (14.5 feet).

Installing the library

| |
|---|
| <p>Attention: Do not open doors until the library has been powered on. You must use the OCP to unlock the doors.</p> |
|---|

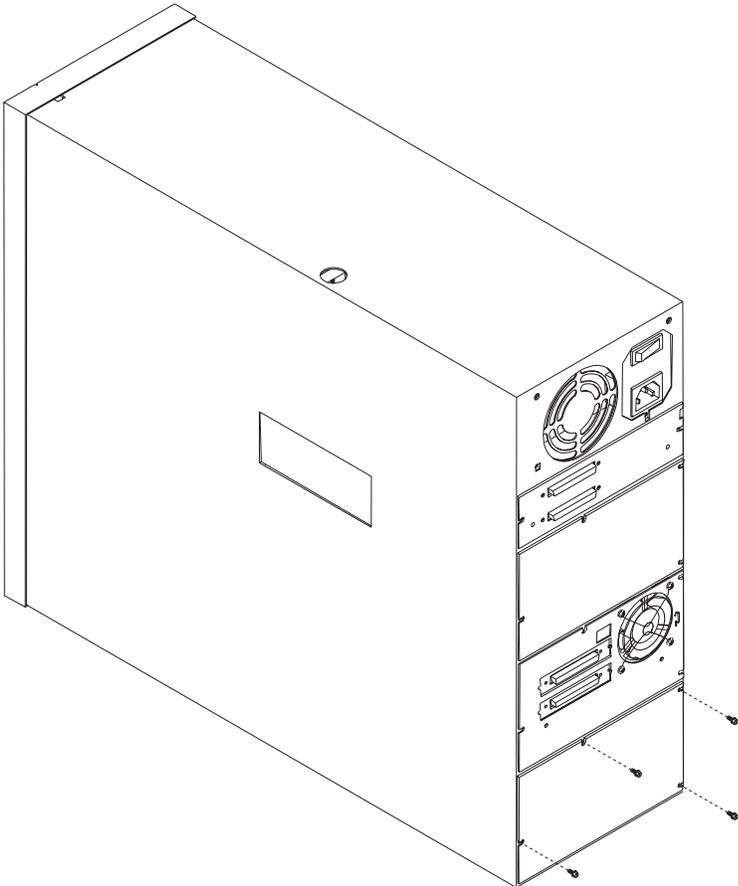
To install the library:

1. Turn off power to the library and the server, and remove all attached power cords.
2. If your *User's Guide* for your server is available, use the PC card instructions in that manual to install the provided SCSI host adapter. If you do not have the *User's Guide* for your server, use the following instructions to install the provided SCSI host adapter:
 - a. Remove the cover from the server.
 - b. Loosen and remove the screw on the top of a PCI expansion-slot cover in your server.

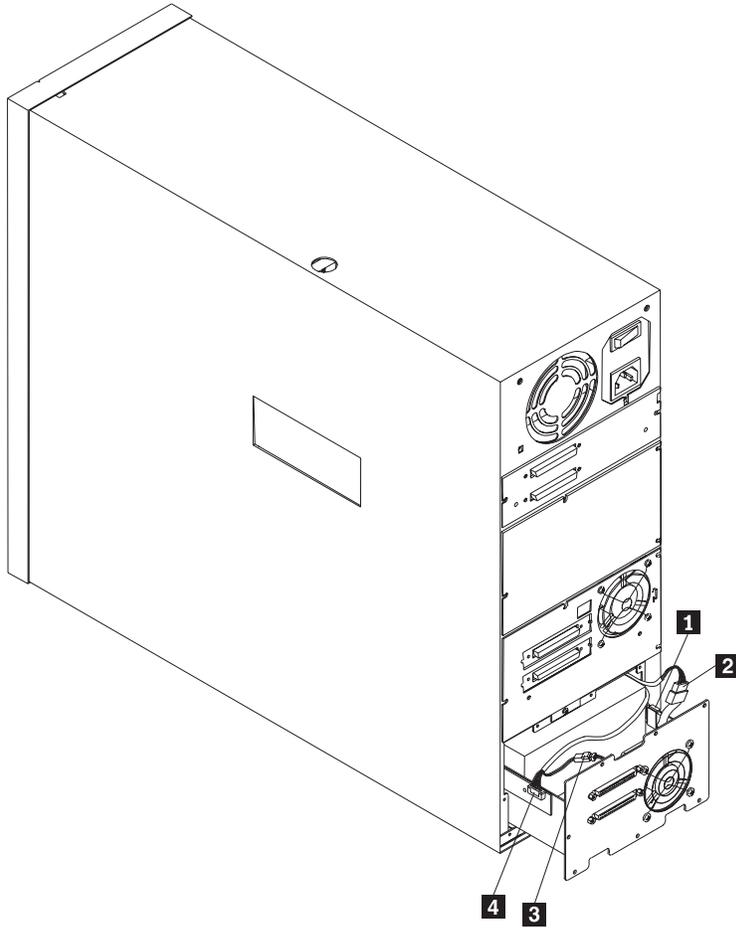
Note: For more information on removing the server cover and on the location of the PCI expansion slots, refer to the documentation that comes with your server.
 - c. Slide the expansion-slot cover out of the server.
 - d. Store the screw in a safe place for future use.
 - e. Before opening the static-protective bag containing the host adapter, touch the bag to an unpainted metal surface on the server for at least two seconds. Remove the SCSI host adapter from the static-protective package. If you must put the adapter down, place it on the static-protective package.

Note: Avoid touching the components and gold-edge connectors on the adapter.
 - f. Carefully grasp the adapter by its top edge or upper corners, and align it with the PCI expansion slot on the server system board.

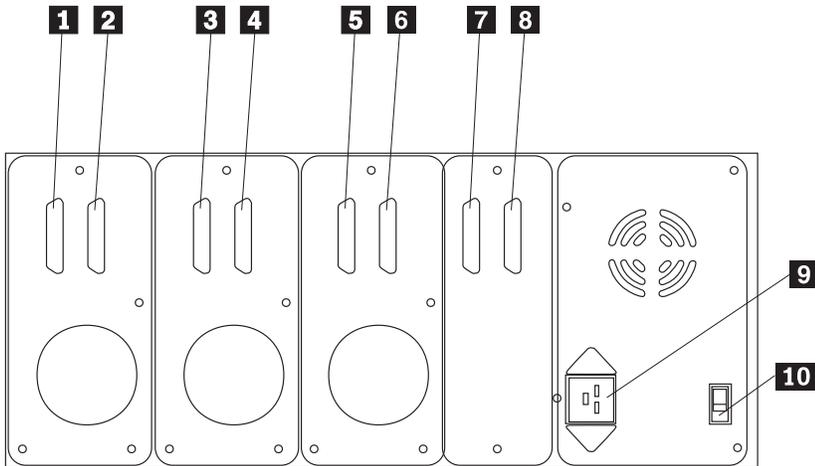
- g. Press the adapter *firmly* into the PCI expansion slot. The tapered foot of the adapter-retaining bracket must fit into the mating slot in the expansion-slot frame.
 - h. Align the rounded notch in the retaining bracket with the threaded hole in the expansion-slot frame. The retaining bracket fits into the space that was occupied by the slot cover that you removed.
 - i. Insert the expansion-slot screw that you removed into the threaded hole, and push the rounded notch up against the screw.
 - j. Tighten the expansion-slot screw firmly on the top of the adapter-retaining bracket.
 - k. Replace the server covers.
3. Install any additional tape drives using the following instructions:
- a. Remove the screws from a blank panel on the rear of the library, as shown.



- b. Slide the additional tape drive into the drive bay.



- c. Attach the library power supply cable to the tape drive power supply connector 1 .
- d. Attach the library SCSI ID cable to the tape drive SCSI ID cable connector 2 .
- e. Attach the library fan power supply cable to the tape drive fan power supply connector 3 .
- f. Attach the library tape drive information cable to the information cable connector on the side of the drive 4 .
- g. Secure the tape drive in the bay by driving the panel screws in the tape drive panel screw holes.



Note: This diagram shows the rear view of a rack-mount library with a pre-installed DLT7000 tape drive (far left), and two optional DLT7000 tape drives. To use the following steps for a tower library, orient the diagram vertically with the controller on the top.

4. Connect the library to the host server.

If the host server has a 68-pin cable connector, attach one end of the provided SCSI fast/wide cable to the 68-pin cable connector at the far right on the rear of the library 8 , and attach the other end of the SCSI cable to the host server cable connector.

If the host server has a 0.8 mm cable connector, use one of the following procedures:

- Place one end of a 0.8-mm to 68-pin cable (not provided) on the host server cable connector and the other end on the second controller 68-pin cable connector 8 .
- Install a 68-pin to 0.8-mm converter (not provided) on one end of the provided SCSI fast/wide cable. Next, attach the end of the SCSI cable with the converter to the 0.8 mm cable connector on the host; then attach the other end of the SCSI cable to the second controller cable connector 8 .

Note: The devices in the illustration represent a common combination of SCSI devices on a chain. You can connect each SCSI device in any order that you desire.

5. Connect the library controller to the device chain by attaching one end of the SCSI jumper cable to the second cable connector from the left on the rear of the library 7 and attaching the other end of the jumper cable to the second cable connector 2 on the pre-installed DLT tape drive. If you have additional tape drives in the library as shown in the diagram, you can connect them to the device

chain by placing additional SCSI jumper cables (not provided) on the remaining cable connectors (3 , 4 , 5 or 6).

6. Verify that the SCSI chain is properly terminated.

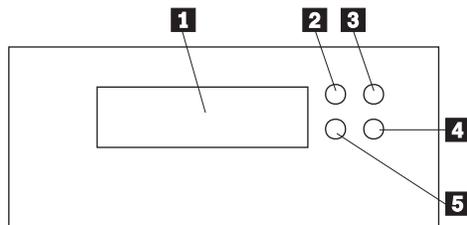
The SCSI chain must be terminated at the last SCSI device on the chain. If the library is the last device on the chain, install the SCSI terminator (provided) on the first cable connector 1 on the pre-installed DLT7000 tape drive. If another SCSI device is the last device on the chain, refer to the documentation that comes with that device for information about terminating the chain.

Note: If you are installing a rack library, refer to the server rack *User's Guide* for device installation instructions.

7. Secure all SCSI cables on the device chain, using the wire cable clamps or screws on the cable connectors.
8. Connect the ac power cord (provided) to the ac power connector on the rear of the library 9 .
9. Connect the other end of the ac power cord to a power outlet.
10. Reconnect the server power cord to the server.
11. Turn on the server.
12. Use the power switch 1 to turn on the library.

Viewing the front panel controls

The following diagram shows the location of the controls on the library front panel.



Library front panel

- 1 LCD
- 2 **PREVIOUS** button
- 3 **SELECT** button
- 4 **ENTER** button
- 5 **NEXT** button

Pressing the buttons enables library functions. For more information on using the OCP buttons to enable library functions, see “Using the library” on page 1-10.

Verifying proper installation

Run the Power-On Self-Test (POST) to verify that you have properly installed the library. To run POST:

1. Turn on the server.
2. Use the ac power switch on the rear of the library to turn on the library. The POST will run automatically.
3. The drive and the library are initialized after POST runs the tests. The OCP buttons are not active until the final `Library Idle` message displays. The following messages are displayed on the OCP:

```
Library Init  
Library Idle
```

4. If POST completes successfully, and the drive and the library have been initialized, the library is ready for use. If the tests did not complete, run POST again. If the tests are still not complete, the library needs service. For information on obtaining help and service, see Appendix C, "Help and service information" on page 2-7.

Using the library

This section contains information on enabling library functions.

Using the OCP

The OCP is a panel on the front of the library that displays a menu listing the following selections:

```
SCSI ID  
Eject/Unlock  
Library (Status)  
Load  
Mode  
Information  
Code Update  
Tests
```

Each selection has a submenu that you must use to view or enable library functions.

The following table provides descriptions of the OCP buttons that you press to activate the OCP selection functions.

| OCP Button | Description |
|------------|---|
| PREVIOUS | <p>You can use the PREVIOUS button to:</p> <ul style="list-style-type: none"> Cycle backward within the OCP main menu selections. Cycle backward within an OCP submenu. <p>Press repeatedly until you return to the desired display.</p> |
| NEXT | <p>You can use the NEXT button to:</p> <ul style="list-style-type: none"> Proceed to the next OCP main menu selection. Proceed to the next OCP submenu display. <p>Press repeatedly to cycle forward through the desired displays.</p> |
| SELECT | <p>You can use the SELECT button to:</p> <ul style="list-style-type: none"> Advance through the OCP main menu selections. Selections include SCSI ID, Eject/Unlock, Status, Load, Mode, Information, Code Update, and Tests. Press the SELECT button repeatedly until you reach the selection. Escape out of a submenu to return to the main menu. |
| ENTER | <p>You can use the ENTER button to:</p> <ul style="list-style-type: none"> Enter an OCP main menu or submenu selection. Issue a command. |

Attention: Do not press the **PREVIOUS**, **NEXT**, **SELECT**, or **ENTER** buttons until the backup or other tape operations are stopped at the host. If the tape operations are not stopped, pressing the buttons might result in failure of the current operation.

Using OCP selection submenus

This section contains information on using the OCP selection submenus to view or enable functions.

Using the SCSI ID selection submenu

This section contains information on using the SCSI IDs submenu to verify or change the SCSI ID settings for the library controller and the internal drive. The system uses SCSI IDs to identify or address devices, such as the library controller and the tape drive, on the SCSI chain. If there are other SCSI devices on the SCSI device chain, be sure the library controller uses a SCSI ID that is not used by any other device or system ID on the SCSI chain.

The following table lists the default SCSI IDs.

| SCSI ID | Device |
|---------|--------------------|
| 0 | Library controller |
| 1 | DLT7000 tape drive |

Viewing and changing SCSI ID settings

To view SCSI ID settings for the library controller and tape drives in the library:

1. Press the **SELECT** button repeatedly until the OCP displays the SCSI ID? selection prompt.
2. Press the **ENTER** button; the OCP will display this prompt:

View ID?

3. Press the **ENTER** button; the OCP will display this message:

Note: ## represents the SCSI ID number.

Lib ## Drv ##
Drv1 ## Drv2 NA

4. Press the **SELECT** button to return to the selections main menu.

To change SCSI ID settings for the library controller and tape drives:

1. Press the **SELECT** button repeatedly until the OCP displays the SCSI ID? selection prompt.
2. Press the **ENTER** button, then the **NEXT** button; the OCP will display the following prompt:

Set ID?

3. Press the **ENTER** button; the OCP will display the following prompt:

```
Set ID?  
Library?
```

4. Press the **ENTER** button; the OCP will display the following prompt:
Note: ## represents the SCSI ID number.

```
Set ID?  
Library? ##
```

5. Press the **NEXT** button repeatedly until the desired SCSI ID number displays.
6. Press the **ENTER** button to issue the command to change the SCSI ID for the library controller.
7. If you do not want to change a tape drive SCSI ID, restart the library for the new library controller SCSI ID to take effect. If you want to change a tape drive SCSI ID, press the **ENTER** button; the OCP will display this prompt:

```
Set ID?
```

8. Press the **ENTER** button; the OCP will display this prompt:
Note: # represents the drive number.

```
Set ID?  
Drive #?
```

9. If you want to change the SCSI ID for a tape drive that is not displayed, press the **NEXT** button until the desired tape drive number displays. Press the **ENTER** button when the desired tape drive number displays; the OCP will display the following prompt:
Note: # represents the drive number and ## represents the SCSI ID number.

```
Set ID?  
Drive # ##?
```

10. Press the **NEXT** button repeatedly until the desired SCSI ID number displays on the OCP.
11. Press the **ENTER** button to issue the command to change the SCSI ID for a specific tape drive.
12. Restart the library so that all new SCSI IDs will take effect.

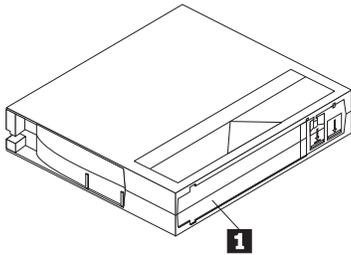
Using the Eject/Unlock selection submenu

This section provides information on using the Eject/Unlock submenu options to insert, unload, or remove a cartridge.

Note: Insert and remove all cartridges from the *front* of the magazine.

Inserting a cartridge

Attention:



Place labels only on the space on the front of the cartridge 1 . You might cause cartridge jams in the library if you place labels on the top, bottom, or sides of tape cartridges.

To insert a cartridge into a library magazine:

1. Press the **SELECT** button repeatedly until the OCP displays the EJECT/UNLOCK? selection prompt.
2. Press the **NEXT** button twice; the OCP will display the following prompt:

Unlock Doors?

3. Press the **ENTER** button; the OCP will display the following prompt:

Are You Sure?

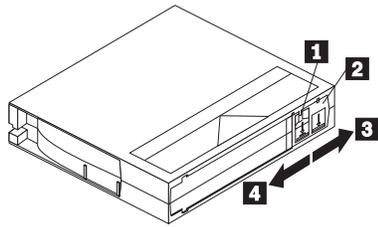
4. Press the **ENTER** button to answer Yes. The loader removes all cartridges from the loader and the OCP displays the following message:

Open Doors!

This activity can take up to three minutes if a rewind from the end of the tape is required. Pressing any other button will stop the operation.

Attention: Do not force a magazine door open. Wait until the `Open Doors!` message displays to verify that the library locking mechanism has completed the unlocking activity.

- The magazine doors are now unlocked; pull on the door handle to open the door.
- Remove a magazine from the library by grasping it and gently pulling it out.



- Grasp the cartridge with the write-protect switch 2 facing you.
- Set the write-protect switch to the desired position. Slide the switch to the right to write enable 3 or to the left to write protect 4. The tape is write-protected if the orange write-protect indicator 1 is visible on the tape. The tape is not write-protected if the orange write-protect indicator 1 is not visible.
- Insert the cartridge into a magazine by pushing it into the slot until you hear a click. A small metal tab holds the cartridge in place. *Do not press the metal tab.*
- Insert a magazine in the library using the following instructions:
 - Grasp the magazine handle and place the magazine on the library door.
 - Orient the magazine so that the slot numbers on the side of the magazine are upright.
 - Push on the front of the magazine in the area of the slot numbers to fully insert the magazine. Do not push on the cartridges.
- Close the magazine door by pushing the door until you hear it latch. The library scans the magazine. The OCP displays the `EJECT/UNLOCK?` selection prompt when the scan completes.

Unloading a cartridge

To unload a cartridge from a drive:

- Press the **SELECT** button repeatedly until the OCP displays the `EJECT/UNLOCK?` selection prompt.
- Press the **ENTER** button twice; the OCP will display this prompt:
Note: # represents the drive number.

Eject Drive #?

3. If you want to eject a cartridge from a drive not displayed, press the **NEXT** button until the desired drive number is displayed. When the desired drive number displays, press the **ENTER** button; one of the following messages will display:

Note: # represents the drive number and ## represents the slot number.

| |
|---------------------------------|
| Eject Drive#? Drive is Empty |
|---------------------------------|

| |
|----------------------------------|
| Eject Drive#? Drv NOT Present |
|----------------------------------|

| |
|-----------------------------------|
| Eject Drive#? Eject to Slot ## |
|-----------------------------------|

4. If the OCP displays the Drive is Empty message, there is no cartridge in the tape drive.

If the OCP displays the Drv NOT Present message, there is no tape drive in the library and, therefore, no cartridge to unload.

If the OCP displays the Eject to Slot # message, and the displayed number (#) is the desired slot destination for the cartridge, press the **ENTER** button to unload the cartridge. If the displayed number is not the desired slot destination, press the **NEXT** button repeatedly until the desired slot destination is displayed on the OCP.

During the unloading process, the following occurs:

1. The elevator moves to a drive. The OCP displays the Unload message.
2. The cartridge is removed from a drive and placed in the elevator. The OCP displays the Unload message.
3. The elevator moves to the displayed slot position and inserts the cartridge into the magazine. The OCP displays the Unload message.
4. After the cartridge is unloaded, the OCP displays the Idle message.
5. Press the **SELECT** button to return to the OCP selection main menu.

Removing a cartridge

To remove a cartridge from a magazine:

1. Repeat steps 1–6 from “Inserting a cartridge” on page 1-14.
2. To remove a cartridge from a magazine, press on the cartridge until it stops and you hear a click; then release the cartridge. The slot has a spring-release action.

| |
|--|
| <p>Important: There are metal tabs next to each of the cartridge slot numbers. Sliding the metal tab aside to remove the cartridge from a magazine is the leading cause of magazine errors. Use only the push-and-release method to insert and remove cartridges.</p> |
|--|

3. Insert the magazine back in the library using steps 10–11 from “Inserting a cartridge” on page 1-14.

Using the Status (Library) selection submenu

This section provides information on displaying tape drive and magazine slot status when the `Library Idle` message displays on the OCP.

The computer runs POST when you first turn it on. The drives and the library are initialized after POST completes. The OCP buttons are not active during initialization.

After POST completes and the drives and the library have been initialized, the following messages are displayed in sequence on the OCP:

```
Library Init
```

```
Library Idle
```

If either status message `Library Init` or `Library Idle` displays on the LCD, the library is in the process of completing an activity. Do not enter any commands until the `Library Idle` message displays.

Note: The Status selection gives status information only, and there are no commands to be issued; therefore, the **ENTER** button does not work with the Status selection.

Viewing cartridge status for all the magazine slots

To view the cartridge status for all the magazine slots:

1. Press the **SELECT** button repeatedly until the OCP displays the `Library Idle` message.
2. Press the **NEXT** button; the OCP will display the following message:

```
0   6       7   13
  _         _
```

The top (slot) row identifies all possible slots (0–13) within the magazines. The bottom (status) row displays information for each cartridge and slot using the following symbols:

- 0, 1 or 2 = cartridge in tape drive
- = cartridge present in the slot
- = empty slot
- M = missing
- T = in transit: cartridge is in the elevator

The following display is an example of specific slot information.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|----|
| 0 | . | . | . | . | . | 6 | 7 | . | . | . | . | 13 |
| 0 | - | M | - | T | 0 | - | M | - | | | | |

Viewing tape drive status

To view the status for a tape drive:

1. Press the **SELECT** button repeatedly until the OCP displays the Library Idle message.
2. Press the **NEXT** button twice. The OCP will display one of the following messages:

Note: # represents the number for a tape drive. To view the status of a specific tape drive, press the **NEXT** button until the desired drive number displays.

| |
|---------------------------------|
| Drive# DRIVE EMPTY |
| Drive# IDLE |
| Drive# WRITING TO TAPE |
| Drive# READING FROM TAPE |
| Drive# SEEKING |
| Drive# TAPE IS REWINDING |
| Drive# TAPE IS BEING ERASED |
| Drive# HEAD IS BEING CLEANED |
| Drive# LOADING |
| Drive# Drv NOT Present |

The OCP might display these additional messages:

WP: If a tape cartridge is loaded and it is write protected, WP is displayed in addition to the status message.

COMP: If the last read or write operation was data compressed, COMP is displayed in addition to the status message.

CLN: If the tape drive head requires cleaning, CLN is displayed in addition to the status message. For more information on cleaning drives, see “Cleaning a drive” on page 1-26.

The OCP might also display the following error messages:

Hardware Error
Comm Error
Library Error

If the OCP displays one of these error messages, refer to Appendix B, “Problem solving” on page 2-6 for problem-solving information.

Viewing tape cartridge status for each slot

To view tape cartridge status for each slot:

1. Press the **SELECT** button repeatedly until the `Library Idle` message displays.
2. Press the **NEXT** button repeatedly to cycle through the cartridge status information for all slots; then, the status information for all drives; and finally the OCP will display one of the following messages for slot information:
Note: ## represents the slot number.

| | |
|----------|------------|
| Slot ## | in Drv# |
| Barcode: | |
| Slot ## | Empty |
| Barcode: | |
| Slot ## | Full |
| Barcode: | |
| Slot ## | In Transit |
| Barcode: | |
| Slot ## | Missing |
| Barcode: | |

Using the Load selection submenu

This section provides information on using the Load selection submenu to control loading cartridges into a tape drive.

Loading a cartridge

To load a cartridge from the magazine slot into a drive:

1. Press the **SELECT** button repeatedly until the `LOAD?` selection prompt displays on the OCP.
2. Press the **ENTER** button; the OCP will display the following prompt:

| |
|-------------|
| From Slot ? |
|-------------|

3. If you want to load a cartridge from a slot not displayed, press the **NEXT** button until the desired slot number displays. When the desired slot number displays, press the **ENTER** button; one of the following messages will display:

Note: ## represents the slot number.

From Slot ##?
DRIVE FULL

From Slot ##?
Slot # is Empty

From Slot ##?
LOADING

From Slot ##?
UNLOADING

From Slot ##?
CALIBRATING COMP

From Slot ##?
CLEANING

If the DRIVE FULL message displays, a cartridge is already installed in the drive. To continue, remove the cartridge from the full drive using instructions given in “Unloading a cartridge” on page 1-15; then perform the load function again.

If the SLOT EMPTY message displays, there is no cartridge available in the selected slot. To continue, do one of the following:

- use the **PREVIOUS** and **NEXT** buttons to select a slot that contains a cartridge.
- insert a cartridge into the empty slot using instructions given in “Inserting a cartridge” on page 1-14.

If a LOADING, UNLOADING, CALIBRATING COMP, or CLEANING message displays, the library is in the process of completing an activity. When the activity completes, the Idle message displays.

During the loading process, the following occurs:

1. The elevator moves to the selected slot. The OCP displays the LOAD message.
2. The cartridge is removed from a magazine and placed in the elevator. The OCP displays the LOAD message.
3. The elevator moves to the displayed drive position and inserts the cartridge into a drive. The OCP displays the LOAD message.
4. After the cartridge is inserted into the drive, the OCP displays the Calibration message.
5. After the cartridge is fully loaded and at the beginning of the tape, the OCP displays the Idle message.

Using the Mode selection submenu

This section provides information on using the Mode selection submenu to view and select modes.

Viewing and selecting modes

To view and select library modes:

1. Press the **SELECT** button until the OCP displays the `MODE?` selection prompt.
2. Press the **ENTER** button; the OCP will display the following message:

```
Random
```

3. Press the **ENTER** button; the OCP will display one of the following messages:

```
Random  
Selected (default)
```

```
Random  
NOT Selected
```

This default selection enables the library to automatically load any cartridge from any magazine in the load cycle.

Note: If another mode has been selected, press the **ENTER** button to toggle the Random mode to `Selected` and all the other modes to `NOT Selected`.

4. Press the **NEXT** button; the OCP will display the following message:

```
Sequential
```

5. Press the **NEXT** button; the OCP will display one of the following messages:

```
Sequential  
NOT Selected (default)
```

```
Sequential  
Selected
```

Note: Press the **ENTER** button to toggle the Sequential mode to `Selected` and all the other modes to `NOT Selected`.

When you select this mode, the library loads cartridges sequentially from the lowest magazine address and the lowest loaded slot position in that magazine.

The loading and unloading of cartridges sequentially progresses to the last cartridge and then the library stops. To reinitiate this process, either reissue the sequential command or restart the library.

This command works with the Autoload Cart command

6. Press the **NEXT** button; the OCP will display the following message:

Note: The Sequential Circ mode is designed primarily for testing purposes.

```
Sequential Circ
```

7. Press the **NEXT** button; the OCP will display one of the following messages:

Sequential Circ
NOT Selected (default)

Sequential Circ
Selected

Note: Press the **ENTER** button to toggle the Sequential Circ mode to Selected and all the other modes to NOT Selected.

When you select Sequential Circ, the library loads cartridges sequentially from the lowest magazine address and the lowest loaded slot position in that magazine.

The loading and unloading of cartridges sequentially progresses to the last cartridge and then the library restarts sequential loading sequence from the first available slot.

This command works in conjunction with the Autoload Cart command.

8. Press the **NEXT** button; the OCP will display one of the following messages:

Autoload Cart:N (default)

Autoload Cart:Y

Note: Press the **ENTER** button to toggle the Autoload Cart mode to Y(es).

The Autoload Cart mode works only in conjunction with Sequential or Sequential Circular modes. When selected, the Autoload Cart mode enables the library to automatically start loading cartridges after power up. The Autoload Cart mode will not work unless the library is in the Sequential or Sequential Circ mode.

9. Press the **NEXT** button; the OCP will display one of the following messages:

Enable Barcode:N (default)

Enable Barcode:Y

Note: Press the **Enter** button to toggle the Enable Barcode mode to Y(es).

When you select the Enable Barcode mode, the barcode reader will scan tape cartridge barcode labels when you turn on the library and when the door is closed. You can use the OCP status display to read barcode labels.

10. Press the **NEXT** button; the OCP will display one of the following messages:

Auto Clean:N (default)

Auto Clean:Y

Note: Press the **ENTER** button to toggle the Auto Clean mode to Y(es).

When you select the Auto Clean mode, the library will automatically clean the drive when required. During Auto Clean, the library will report only 13 cartridges. Slot 13 is reserved for the cleaning cartridge. When cleaning is required, the autoloader automatically performs the following actions:

- a. Loads the cleaning cartridge.
- b. Performs the drive cleaning.
- c. Unloads the cleaning cartridge from the drive.
- d. Returns the cleaning cartridge to Slot 13.

Note: Be sure to load a cleaning cartridge to Slot 13 when using the Auto Clean mode.

Using the Information selection submenu

You can use the Information submenu to display the device revision number, software revision number, library cycle count, and library error count.

To view the information messages:

Note: ##. represents the number in decimal and ##h represents the number in hex.

1. Press the **SELECT** button repeatedly until the INFORMATION? selection prompt displays on the OCP.
2. Press the **ENTER** button; the OCP displays the following information message:

```
Ldr Hw Rev ##.  
Ldr Fw Rev ##.
```

This message displays the device hardware and firmware revision level information in decimal.

3. Press the **NEXT** button; the OCP displays the following information:

```
Mech Rev ##.
```

This message displays the loader revision level in decimal.

4. Press the **NEXT** button again; the OCP displays the following information:

```
Lib Hw Rev  
##
```

This message displays the library hardware revision level information.

5. Press the **NEXT** button again; the OCP displays the following information:

```
Lib Fw Rev  
##.
```

This message displays the library firmware revision level in decimal.

6. Press the **NEXT** button again; the OCP displays the following information:

```
Drv Fw Rev ##h
```

This message displays the firmware revision level in hex for Drive 0.

7. Press the **NEXT** button again; the OCP will display one of the following messages:

Drv 1 Fw Rev ##h

Drv 1 Rev
NOT PRESENT

If Drive 1 is present, the OCP will display the firmware revision level in hex for the drive.

8. Press the **NEXT** button again; the OCP will display one of the following messages:

Drv 2 Fw Rev ##h

Drv 2 Rev
NOT PRESENT

If Drive 2 is present, the OCP will display the firmware revision level in hex for the drive.

9. Press the **NEXT** button again; the OCP displays the following information:

Total Cycle Cnt:
##.

This message displays the number of cycles since the completion of the library's first POST.

10. Press the **NEXT** button again; the OCP displays the following information:

Current Cycles:
##.

This message displays the number of cycles since the completion of the library's most recent POST.

11. Press the **NEXT** button again; the OCP displays the following information:

Ldr Err: ##

This message displays the loader error count information.

Using the Code Update selection submenu

You can use the Code Update submenu to update new microcode for tape drives. For information on installing new microcode for the tape drive, visit the IBM Web site at: <http://www.ibm.com/pc/files> and search for the machine type model and number.

Using the Tests selection submenu

You can control the library internal self-test functions by entering the Tests submenu.

To activate a test:

1. Press the **SELECT** button repeatedly until the TESTS? selection displays on the OCP.

Notes:

- a. The OCP will display the Active message during a test and the Aborted message when the test is terminated before completion.
 - b. If you press the **PREVIOUS** or **NEXT** button during a test, the next message will be displayed along with the message, A Test is Active. When the original test completes, the next selected test will start.
 - c. If you press the **ENTER** button while any test is in progress, the test will be terminated.
 - d. If you press the **ENTER** button during a terminated test, the test will restart from the beginning.
2. Press the **ENTER** button; the OCP will display the following message:

Elevator Test

The Elevator Test is a one-cycle test that positions the elevator at each available drive or magazine slot. If the magazine is not present, the elevator cannot be positioned at those slots.

3. If you want to issue a command to activate the Elevator Test, press the **ENTER** button. If you want to activate another test, press the **NEXT** button; the OCP will display the following message:

Short Load/Unload Test

The Short Load/Unload Test is a one-cycle test that sequentially loads and unloads cartridges into the tape drive.

4. If you want to issue a command to activate the Short Load/Unload Test, press the **ENTER** button. If you want to activate another test, press the **NEXT** button; the OCP will display the following message:

Long Load/Unload Test

The Long Load/Unload Test randomly loads and unloads cartridges into the tape drive continuously.

5. If you want to issue a command to activate the Long Load/Unload Test, press the **ENTER** button. If you want to activate another test, press the **NEXT** button; the OCP will return to the Elevator Test submenu.

Cleaning a drive

If the tape drive detects a failure during the calibration routine, or if an unrecoverable error occurs while writing or reading a tape, the OCP displays the CLN message. If the CLN message displays, the drive head might be contaminated and in need of cleaning.

To clean the tape drive, insert a cleaning cartridge into any magazine slot; then load the cartridge using instructions given in “Inserting a cartridge” on page 1-14. The autoloader will load the cleaning cartridge, perform the drive cleaning, and unload the cleaning cartridge after the cleaning completes. Remove the cleaning cartridge from the magazine after it has been unloaded from the drive.

You can also clean the tape drive by setting the Mode selection to Auto Clean, using instructions given in “Viewing and selecting modes” on page 1-21. Next, insert the cleaning cartridge (included) in Slot 13 in the autoloader magazine, using instructions given in “Inserting a cartridge” on page 1-14. Do not use cleaning solvents or try to clean the tape drive head directly.

The cleaning cartridge can be used 20 times. When the drive detects that a cleaning cartridge has been used 20 times, the drive rewinds and unloads the tape, and the CLN message continues to display. If the cleaning routine is run with a valid cleaning cartridge, the CLN message is cleared after the tape rewinds and unloads. The CLN message is cleared when the tape drive successfully completes a cartridge calibration routine after a retry.

To limit the need for using the cleaning cartridge:

Avoid touching leaders and media with bare fingers. Oils and grease found on the skin are especially damaging and might cause drive failures that require drive replacement.

Maintain a clean work area for any DLT tape product to help ensure drive reliability.

Select a site location away from line printers and cardboard boxes.

Follow the handling and storage guidelines that come with each cartridge.

Notes:

1. Repeated CLN messages with different data cartridges might indicate a drive failure that requires drive replacement.
2. If the CLN message appears on the display only when a certain cartridge is used, the cartridge might be damaged. Replace that tape cartridge.

Installing the trial software

The option package includes several trial software CDs with popular backup/restore software. You can use the instructions from the software CDs to install a preferred application.

Part 2: Appendixes

The following appendixes contain the product specifications, problem-solving information, help and service information, the product warranty, and notices.

Appendix A. Product specifications

This appendix includes the following product specifications and requirements. Performance specifications for the library are dependent upon data type, SCSI bus limitations and the system configuration. For drive performance specifications, refer to the specific tape drive user's guide.

| <i>Physical Specifications</i> | |
|--|--|
| Height (rack-mount) (tower) | 17.8 cm (7.0 in) 45.7 cm (10.5 in) |
| Width (rack-mount) (tower) | 45.1 cm (17.8 in) 26.7 cm (10.5 in) |
| Length (rack-mount) (tower) | 50.8 cm (20.0 in) 50.8 cm (20.0 in) |
| Weight (fully loaded with three drives) (rack-mount) (tower) | 32 kg (70 lb) 35 kg (76 lb) |

| <i>Certifications</i> | |
|-----------------------|--|
| EMI | Meets CSA 108.8 (ICES-003) Class B CE Mark Class B (EN55022 and National standards are based on EEC Directive 89/336) FCC Part 15, Class B (Certified) CISPR 22, Class B EN50082/-1:1992 (CE Mark) VCCI, Class B (Japan) AS/NZS 3548, Class B (Australia and New Zealand) CNS 13438 - BCIQ (Taiwan) |
| Safety | Meets: UL1950 CSA C22.2 No. 950 EN60950 (GS Mark) IEC (CB Scheme) |

| Operating Environment | |
|---|---|
| Temperature range (Operating) (Nonoperating) | +10°C to +40°C (+50°F to +104°F) -40°C to +66°C (-40°F to +150.8°F) |
| Relative humidity (noncondensing) (Operating) (Nonoperating) | 20% to 80% 10% to 95% |
| Humidity gradient (Operating) (Nonoperating) | 10% per hour 10% per hour |
| Dry bulb temperature (Operating) (Nonoperating) | 10°C to 40°C (50°F to 104°F) -40°C to 66°C (-40°F to 150.8°F) |
| Wet bulb temperature (Operating) (Nonoperating) | 25°C (77°F) 46°C (114.8°F) |
| Temperature gradient (Operating) (Nonoperating) | 11°C (19.8° F) per hour across the range 20°C per hour with 5°C margin across the range (36°F per hour with a 9°F margin across the range) |
| Temperature shock (Operating) (Nonoperating) | 10°C (18°F) over two minutes 15°C with 5° margin over two minutes (27°F with 9°F margin over two minutes) |
| Altitude | 152.4 m (500 ft) below sea level to 9144 m (30000) above sea level |
| Power-On (No tape in unit/unpacked for 72 hours) Relative humidity Humidity gradient Temperature gradient Temperature shock | 10% to 90% noncondensing 10% per hour 15°C (27°F) per hour across the range 15°C (27°F) per hour over two minutes |

| Operating vibration specifications | | |
|---|------------------|---------------------------------|
| Vibration type | Sine | Sweep |
| Frequency range | 5-500-5 Hz | Upward and downward sweep |
| Acceleration level | 0.25 G | Between 22.14 and 500 Hz |
| Application | X, Y, and Z axes | Sweep rate; 1 octave per minute |

| <i>Operating vibration specifications (overstress)</i> | | |
|--|----------------------------|---------------------------------|
| Vibration type | Sine | Sweep |
| Frequency range | 5-500–5 Hz | Upward and downward sweep |
| Acceleration level | 0.5 G | Between 31.2 and 500 Hz |
| Application | Vertical axis (top/bottom) | Sweep rate; 1 octave per minute |

| <i>Operating shock specifications</i> | |
|---------------------------------------|-------------------------------------|
| Item | Specification |
| Pulse shape | Half sine |
| Peak acceleration | 5 G |
| Duration | 10 ms |
| Application | X, Y, and Z axes, once in each axis |

| <i>Nonoperating (unpacked) vibration specifications</i> | | |
|---|------------------|-----------------------------------|
| Vibration Type | Sine | Sweep |
| Frequency range | 10-500–10 Hz | Upward and downward sweep |
| Acceleration level | 1 G | 10-500–10 Hz |
| Application | X, Y, and Z axes | Sweep rate; 1/2 octave per minute |

| <i>Nonoperating (unpacked) vibration specifications</i> | |
|---|-------------------------------|
| Vibration type | Random vibration |
| Frequency range | 10–500 X, Y, and Z axes |
| Vibration levels | 2 G (rms) in X, Y, and Z axes |
| PSD Envelope | 0.008 G /Hz |

| <i>Nonoperating (packaged) vibration specifications</i> | |
|---|---|
| Vibration type | Random vibration |
| Frequency range | 5 to 300 Hz, Vertical (Z); 5 to 200 Hz horizontal (X and Y) |
| Vibration levels | 1 G (rms) in X, Y, and Z axes |

| <i>Nonoperating (unpackaged) shock specifications</i> | |
|---|--|
| Pulse shape | Half-sine pulse |
| Peak acceleration | 75 G |
| Duration | 2 ms |
| Application | X, Y, and Z axes once on two side faces and bottom |

| <i>Nonoperating (repetitive/packaged) shock specifications</i> | |
|--|---|
| Excitation type | Synchronous vertical motion; 1 in excursion |
| Shock (bounce) cycles | 14 200 total |
| Application | Half cycles each in X and Y orientations; 7100 cycles in the X orientation, 7100 cycles in the Y orientation. |

| <i>Nonoperating (drop/packaged) shock specifications</i> | |
|--|-----------------------------------|
| Test Type | Drop Shock |
| Drop Height | 18 in |
| Application | 10 drops total; 3 edges, 1 corner |

| <i>Conducted Emission Limits</i> | | |
|---|-----------------------|-------------------|
| Frequency Range = 0.15 to 30 MHz | Limits dB Quasi-speak | Limits dB Average |
| 0.15 to 0.050 | 66 to 56 | 56 to 46 |
| 0.50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |
| <i>The limit decreases with the logarithm of the frequency.</i> | | |

| <i>Radiated Emissions</i> | |
|---|---|
| Frequency Range = 30 MHz to 1000 MHz | Quasi-Peak Limit dB (μ V/m) @ 10 meters |
| 30 to 230 MHz | 30 |
| 230 to 1000 MHz | 37 |
| Above 1000 MHz | Not applicable |

| <i>Radiated Susceptibility</i> | |
|---------------------------------|--|
| 3 V/m (rms) 80% modulated 1 kHz | No errors, no screen distortion. Software recoverable errors. No hardware failure. |

The transient voltage is the actual peak voltage above the normal ac voltage from the power source. The following table lists the voltage limits for power and data cables and power cable voltage limits.

| | |
|---|--|
| Fast transient (bursts) for power and data cables | 2 kV: software recoverable errors; no hardware failure |
| High energy transient voltage for power cables | 1.2 kV: no errors 2.5 kV: software recoverable errors; no hardware failure |
| Low level conducted interference | 3 V (rms) 80% modulated 1 kHz: No errors, software recoverable errors; no hardware failure |

| <i>ESD Failure Level Limits</i> | | | |
|---------------------------------|-----------|---------------|--|
| Failure type | Equipment | Failure level | Allowable errors |
| Hard | Office | To 12 kV | No operator intervention (soft recoverable allowed) |
| Hardware | Office | To 15 kV | No component damage - operator intervention allowed (soft/hard errors allowed) |

| <i>Acoustic noise emission levels (Declared values per ISO9296 and ISO 7779/EN27779)</i> | | | | | | |
|--|-------------------|---------------------|-------------------|--------------------------------|---------------------|-------------------|
| Product | Sound power level | | | Sound pressure level | | |
| | LwAd, B | | | LpAm, dBA (bystander position) | | |
| | Idle | Operate (Streaming) | Operate (Loading) | Idle | Operate (Streaming) | Operate (Loading) |
| TH6WF-ZZ | 5.5 | 5.7 | 5.9 | 48 | 49 | 51 |
| IB = 10 dBA | | | | | | |

Appendix B. Problem solving

Computer problems can be caused by hardware, software, or user error. You might be able to use the information in this section to solve problems yourself, or gather helpful information you can pass on to a service technician.

Review the following list for any problem descriptions that might fit your situation.

An Error message displays during POST.

Run POST again if you have received one of the following POST messages:

- Post Error in ROM EDC
- POST Error in Micro RAM
- POST Error in UART
- Post Error in Other

If tests are still not complete, the library needs service. For information on obtaining help and service, see Appendix C, “Help and service information” on page 2-7.

The OCP buttons are not functioning properly.

Take the following actions.

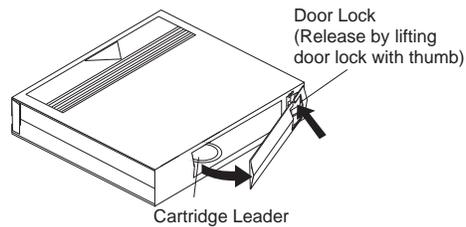
- Do not issue a menu command from the OCP when a SCSI device is issuing commands to the drive or library. Issuing a menu command during SCSI chain activity to the library or the drive might cause operation failure or drive unavailability or both.
- Do not press the **PREV**, **NEXT**, **SELECT**, and **ENTER** buttons until backup or other tape operations are stopped at the host. If the tape operations are not stopped, pressing the buttons can result in operation failure or drive unavailability or both.

The tape cartridges are not functioning properly.

Take the following actions.

- Use DLTtape III, DLTtape IIIxt or DLTtape IV cartridges.
Note: Do not touch the exposed magnetic tape. If the tape leader is not in the correct position, use a new cartridge.

- View the tape leader in the cartridge by lifting the cartridge latch that opens the door to expose the leader. Be sure the leader is in position shown.



Some manual operations are causing write operations to fail.

Take the following actions.

- Be sure you are not loading any write-protected DLTtape III, DLTtape IIIxt or DLTtape IV cartridges when issuing write commands.
- Be sure you are not selecting the incorrect cartridge slot from which to initialize operations.
- If an error does occur, read the OCP display to help determine the problem. If the OCP is not on, or your system does not recognize the library:
 - Ensure the power plug is secure.
 - Verify that the library configuration is correct

Appendix C. Help and service information

See Appendix B, “Problem solving” on page 2-6 before requesting help or service. This section contains information on how to obtain online and telephone technical support.

Online technical support

Online technical support is available during the life of your product. Online assistance can be obtained through the Personal Computing Support Web site, the PSG Electronic Bulletin Board System, and the IBM Automated Fax System.

| <i>Online technical support</i> | |
|---|---|
| IBM Personal Computing Support Web Site | http://www.pc.ibm.com/support |
| IBM PSG BBS | 1-919-517-0001 |
| IBM Automated Fax System | 1-800-426-3395 1-800-465-3299 (in Canada) |

During the warranty period, assistance for replacement or exchange of defective components is available. In addition, if your IBM option is installed in an IBM

computer, you might be entitled to service at your location. Your technical support representative can help you determine the best alternative.

Telephone technical support

Marketing, installation, and configuration support through the HelpCenter will be withdrawn or made available for a fee, at IBM's discretion, 90 days after the option has been withdrawn from marketing. Additional support offerings, including step-by-step installation assistance, are available for a nominal fee.

To assist the technical support representative, have available as much of the following information as possible:

1. Option name
2. Option number
3. Proof of purchase
4. Computer manufacturer, model, serial number (if IBM), and manual
5. Exact wording of the error message (if any)
6. Description of the problem
7. Hardware and software configuration information for your system

If possible, be at your computer. Your technical support representative might want to walk you through the problem during the call.

For the support telephone number and support hours by country, refer to the following table or to the enclosed technical support insert. If the number is not provided, contact your IBM reseller or IBM marketing representative. Response time may vary depending on the number and nature of the calls received.

| <i>Support 24 hours a day, 7 days a week</i> | |
|--|----------------|
| Canada | 1-800-565-3344 |
| U.S.A./Puerto Rico | 1-800-772-2227 |

Appendix D. Product warranty and notices

Warranty Statements

The warranty statements consist of two parts: Part 1 and Part 2. Part 1 varies by country. Part 2 is the same for both statements. Be sure to read both the Part 1 that applies to your country and Part 2.

United States, Puerto Rico, and Canada (Z125-4753-05 11/97)

(Part 1 - General Terms on page 2-9)

Worldwide except Canada, Puerto Rico, Turkey, and United States

(Z125-5697-01 11/97)

(Part 1 - General Terms on page 2-12)

Worldwide Country-Unique Terms

(Part 2 - Country-Unique Terms on page 2-15)

IBM Statement of Limited Warranty for United States, Puerto Rico, and Canada (Part 1 - General Terms)

*This Statement of Limited Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. **The terms of Part 2 may replace or modify those of Part 1.** The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you 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. The term "Machine" does not include any software programs, whether pre-loaded with the Machine, installed subsequently or otherwise. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. Nothing in this Statement of Warranty affects any statutory rights of consumers that cannot be waived or limited by contract. If you have any questions, contact IBM or your reseller.*

Machine - IBM 490/980 GB DLT Library

Warranty Period* - Three Years

**Contact your place of purchase for warranty service information. Some IBM Machines are eligible for On-site warranty service depending on the country where service is performed.*

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 sales receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period IBM or your reseller, if approved by IBM to provide warranty service, will provide repair and exchange service for the Machine, without charge, under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

If a Machine does not function as warranted during the warranty period, and IBM or your reseller are unable to either 1) make it do so or 2) replace it with one that is at least functionally equivalent, you may return it to your place of purchase and your money will be refunded. The replacement may not be new, but will be in good working order.

Extent of Warranty

The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible. The warranty is voided by removal or alteration of Machine or parts identification labels.

THESE WARRANTIES ARE YOUR EXCLUSIVE WARRANTIES AND REPLACE ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS 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.

Items Not Covered by Warranty

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

Unless specified otherwise, IBM provides non-IBM machines **WITHOUT WARRANTIES OF ANY KIND.**

Any technical or other support provided for a Machine under warranty, such as assistance via telephone with "how-to" questions and those regarding Machine set-up and installation, will be provided **WITHOUT WARRANTIES OF ANY KIND.**

Warranty Service

To obtain warranty service for the Machine, contact your reseller or IBM. In the United States, call IBM at 1-800-772-2227. In Canada, call IBM at 1-800-565-3344. You may be required to present proof of purchase.

IBM or your reseller provides certain types of repair and exchange service, either at your location or at a service center, to keep Machines in, or restore them to, conformance with their Specifications. IBM or your reseller will inform you of the available types of service for a Machine based on its country of installation. IBM may repair the failing Machine or exchange it at its discretion.

When warranty 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.

Any feature, conversion, or upgrade IBM or your reseller services must be installed on a Machine which is 1) for certain Machines, the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. Many features,

conversions, or upgrades involve the removal of parts and their return to IBM. A part that replaces a removed part will assume the warranty service status of the removed part.

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

1. ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange;
2. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
3. where applicable, before service is provided
 - a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provides,
 - b. secure all programs, data, and funds contained in a Machine,
 - c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit them to fulfill their obligations, and
 - d. 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.

Neither IBM nor your reseller is responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM or your reseller for any reason. You should remove all such information from the Machine prior to its return.

Production Status

Each IBM 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 appropriate warranty terms apply.

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 for no more than

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, up to the greater of U.S. \$100,000 (or equivalent in local currency) or the charges (if recurring, 12 months' charges apply) for the Machine that is the subject of the claim.

This limit also applies to IBM's suppliers and your reseller. It is the maximum for which IBM, its suppliers, and your reseller are collectively responsible.

UNDER NO CIRCUMSTANCES IS IBM LIABLE FOR ANY OF THE FOLLOWING: 1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, YOUR RECORDS OR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS OR SAVINGS), EVEN IF IBM, ITS SUPPLIERS OR YOUR RESELLER IS INFORMED OF THEIR POSSIBILITY. SOME JURISDICTIONS DO NOT ALLOW THE

EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

IBM Statement of Warranty Worldwide except Canada, Puerto Rico, Turkey, United States (Part 1 - General Terms)

This Statement of Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. The terms of Part 2 may replace or modify those of Part 1. The warranties provided by IBM in this Statement of Warranty apply only to Machines you 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. The term "Machine" does not include any software programs, whether pre-loaded with the Machine, installed subsequently or otherwise. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. Nothing in this Statement of Warranty affects any statutory rights of consumers that cannot be waived or limited by contract. If you have any questions, contact IBM or your reseller.

Machine - IBM 490/980 GB DLT Library

Warranty Period* - Three Years

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During the warranty period IBM or your reseller, if approved by IBM to provide warranty service, will provide repair and exchange service for the Machine, without charge, under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

If a Machine does not function as warranted during the warranty period, and IBM or your reseller are unable to either 1) make it do so or 2) replace it with one that is at least functionally equivalent, you may return it to your place of purchase and your money will be refunded. The replacement may not be new, but will be in good working order.

Extent of Warranty

The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible. The warranty is voided by removal or alteration of Machine or parts identification labels.

THESE WARRANTIES ARE YOUR EXCLUSIVE WARRANTIES AND REPLACE ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS 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.

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Unless specified otherwise, IBM provides non-IBM machines **WITHOUT WARRANTIES OF ANY KIND.**

Any technical or other support provided for a Machine under warranty, such as assistance via telephone with “how-to” questions and those regarding Machine set-up and installation, will be provided **WITHOUT WARRANTIES OF ANY KIND.**

Warranty Service

To obtain warranty service for the Machine, contact your reseller or IBM. You may be required to present proof of purchase.

IBM or your reseller provides certain types of repair and exchange service, either at your location or at a service center, to keep Machines in, or restore them to, conformance with their Specifications. IBM or your reseller will inform you of the available types of service for a Machine based on its country of installation. IBM may repair the failing Machine or exchange it at its discretion.

When warranty 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.

Any feature, conversion, or upgrade IBM or your reseller services must be installed on a Machine which is 1) for certain Machines, the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. Many features, conversions, or upgrades involve the removal of parts and their return to IBM. A part that replaces a removed part will assume the warranty service status of the removed part.

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

1. ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange;
2. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
3. where applicable, before service is provided
 - a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provides,
 - b. secure all programs, data, and funds contained in a Machine,

- c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit them to fulfil their obligations, and
- d. 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.

Neither IBM nor your reseller is responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM or your reseller for any reason. You should remove all such information from the Machine prior to its return.

Production Status

Each IBM 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 appropriate warranty terms apply.

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 for no more than

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, up to the greater of U.S. \$100,000 (or equivalent in local currency) or the charges (if recurring, 12 months' charges apply) for the Machine that is the subject of the claim.

This limit also applies to IBM's suppliers and your reseller. It is the maximum for which IBM, its suppliers, and your reseller are collectively responsible.

UNDER NO CIRCUMSTANCES IS IBM LIABLE FOR ANY OF THE FOLLOWING: 1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, YOUR RECORDS OR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS OR SAVINGS), EVEN IF IBM, ITS SUPPLIERS OR YOUR RESELLER IS INFORMED OF THEIR POSSIBILITY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Part 2 - Worldwide Country-Unique Terms

ASIA PACIFIC

AUSTRALIA: The IBM Warranty for Machines: The following paragraph is added to this Section:

The warranties specified in this Section are in addition to any rights you may have under the Trade Practices Act 1974 or other legislation and are only limited to the extent permitted by the applicable legislation.

Extent of Warranty: The following replaces the first and second sentences of this Section:
The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, operation in other than the Specified Operating Environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible.

Limitation of Liability: The following is added to this Section:
Where IBM is in breach of a condition or warranty implied by the Trade Practices Act 1974, IBM's liability is limited to the repair or replacement of the goods or the supply of equivalent goods. Where that condition or warranty relates to right to sell, quiet possession or clear title, or the goods are of a kind ordinarily acquired for personal, domestic or household use or consumption, then none of the limitations in this paragraph apply.

PEOPLE'S REPUBLIC OF CHINA: Governing Law: The following is added to this Statement:
The laws of the State of New York govern this Statement.

INDIA: Limitation of Liability: The following replaces items 1 and 2 of this Section:
1. liability for bodily injury (including death) or damage to real property and tangible personal property will be limited to that caused by IBM's negligence;
2. as to any other actual damage arising in any situation involving nonperformance by IBM pursuant to, or in any way related to the subject of this Statement of Warranty, IBM's liability will be limited to the charge paid by you for the individual Machine that is the subject of the claim.

NEW ZEALAND: The IBM Warranty for Machines: The following paragraph is added to this Section:

The warranties specified in this Section are in addition to any rights you may have under the Consumer Guarantees Act 1993 or other legislation which cannot be excluded or limited. The Consumer Guarantees Act 1993 will not apply in respect of any goods which IBM provides, if you require the goods for the purposes of a business as defined in that Act.

Limitation of Liability: The following is added to this Section:
Where Machines are not acquired for the purposes of a business as defined in the Consumer Guarantees Act 1993, the limitations in this Section are subject to the limitations in that Act.

EUROPE, MIDDLE EAST, AFRICA (EMEA)

The following terms apply to all EMEA countries.

The terms of this Statement of Warranty apply to Machines purchased from an IBM reseller. If you purchased this Machine from IBM, the terms and conditions of the applicable IBM agreement prevail over this warranty statement.

Warranty Service

If you purchased an IBM Machine in Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland or United Kingdom, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM.

If you purchased an IBM Personal Computer Machine in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Kazakhstan, Kirghizia, Federal Republic of Yugoslavia, Former Yugoslav Republic of Macedonia (FYROM), Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, or Ukraine, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM.

The applicable laws, Country-unique terms and competent court for this Statement are those of the country in which the warranty service is being provided. However, the laws of Austria govern this Statement if the warranty service is provided in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Federal Republic of Yugoslavia, Georgia, Hungary, Kazakhstan, Kirghizia, Former Yugoslav Republic of Macedonia (FYROM), Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, and Ukraine.

The following terms apply to the country specified:

EGYPT: Limitation of Liability: The following replaces item 2 in this Section:

2. as to any other actual direct damages, IBM's liability will be limited to the total amount you paid for the Machine that is the subject of the claim.

Applicability of suppliers and resellers (unchanged).

FRANCE: Limitation of Liability: The following replaces the second sentence of the first paragraph of this Section:

In such instances, regardless of the basis on which you are entitled to claim damages from IBM, IBM is liable for no more than: (items 1 and 2 unchanged).

GERMANY: The IBM Warranty for Machines: The following replaces the first sentence of the first paragraph of this Section:

The warranty for an IBM Machine covers the functionality of the Machine for its normal use and the Machine's conformity to its Specifications.

The following paragraphs are added to this Section:

The minimum warranty period for Machines is six months.

In case IBM or your reseller are unable to repair an IBM Machine, you can alternatively ask for a partial refund as far as justified by the reduced value of the unrepaired Machine or ask for a cancellation of the respective agreement for such Machine and get your money refunded.

Extent of Warranty: The second paragraph does not apply.

Warranty Service: The following is added to this Section:

During the warranty period, transportation for delivery of the failing Machine to IBM will be at IBM's expense.

Production Status: The following paragraph replaces this Section:

Each Machine is newly manufactured. It may incorporate in addition to new parts, re-used parts as well.

Limitation of Liability: The following is added to this Section:

The limitations and exclusions specified in the Statement of Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

In item 2, replace "U.S. \$100,000" with "1.000.000 DEM."

The following sentence is added to the end of the first paragraph of item 2:
IBM's liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

IRELAND: Extent of Warranty: The following is added to this Section:
Except as expressly provided in these terms and conditions, all statutory conditions, including all warranties implied, but without prejudice to the generality of the foregoing all warranties implied by the Sale of Goods Act 1893 or the Sale of Goods and Supply of Services Act 1980 are hereby excluded.

Limitation of Liability: The following replaces items one and two of the first paragraph of this Section:

1. death or personal injury or physical damage to your real property solely caused by IBM's negligence; and 2. the amount of any other actual direct damages, up to the greater of Irish Pounds 75,000 or 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim.

Applicability of suppliers and resellers (unchanged).

The following paragraph is added at the end of this Section:
IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

ITALY: Limitation of Liability: The following replaces the second sentence in the first paragraph:
In each such instance unless otherwise provided by mandatory law, IBM is liable for no more than: (item 1 unchanged) 2) as to any other actual damage arising in all situations involving non-performance by IBM pursuant to, or in any way related to the subject matter of this Statement of Warranty, IBM's liability, will be limited to the total amount you paid for the Machine that is the subject of the claim.

Applicability of suppliers and resellers (unchanged).

The following replaces the second paragraph of this Section:
Unless otherwise provided by mandatory law, IBM and your reseller are not liable for any of the following: (items 1 and 2 unchanged) 3) indirect damages, even if IBM or your reseller is informed of their possibility.

SOUTH AFRICA, NAMIBIA, BOTSWANA, LESOTHO AND SWAZILAND: Limitation of Liability: The following is added to this Section:
IBM's entire liability to you for actual damages arising in all situations involving nonperformance by IBM in respect of the subject matter of this Statement of Warranty will be limited to the charge paid by you for the individual Machine that is the subject of your claim from IBM.

TURKIYE: Production Status: The following replaces this Section:
IBM fulfils customer orders for IBM Machines as newly manufactured in accordance with IBM's production standards.

UNITED KINGDOM: Limitation of Liability: The following replaces items 1 and 2 of the first paragraph of this Section:

1. death or personal injury or physical damage to your real property solely caused by IBM's negligence;
2. the amount of any other actual direct damages or loss, up to the greater of Pounds Sterling 150,000 or 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim.

The following item is added to this paragraph:

3. breach of IBM's obligations implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982.

Applicability of suppliers and resellers (unchanged).

The following is added to the end of this Section:

IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default will be limited to damages.

NORTH AMERICA

CANADA: Warranty Service: The following is added to this Section:

To obtain warranty service from IBM, call **1-800-465-6666**.

UNITED STATES OF AMERICA: Warranty Service: The following is added to this Section:

To obtain warranty service from IBM, call **1-800-IBM-SERV**.

Notices

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Subject to IBM's valid intellectual property or other legally protectable rights, any functionally equivalent product, program, or service may be used instead of the IBM product, program, or service. The evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, are the responsibility of the user.

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Armonk, NY 10504-1785
U.S.A.

Industry Canada Class B emission compliance statement

This Class B digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Deutsche EMV-Direktive (electromagnetische Verträglichkeit)

Dieses Gerät ist berechtigt in Übereinstimmung mit dem deutschen EMVG vom 9.Nov.92 das EG-Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM UK, Greenock.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse B.

European Union - emission directive

This product is in conformity with the protection requirements of EU Council Directive 89/366/ECC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

IBM can not 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.

Union Européenne - Directive Conformité électromagnétique

Ce produit est conforme aux exigences de protection de la Directive 89/336/EEC du Conseil de l'UE sur le rapprochement des lois des États membres en matière de compatibilité électromagnétique.

IBM ne peut accepter aucune responsabilité pour le manquement aux exigences de protection résultant d'une modification non recommandée du produit, y compris l'installation de cartes autres que les cartes IBM.

Ce produit a été testé et il satisfait les conditions de l'équipement informatique de Classe B en vertu de CISPR22 / Standard européen EN 55022. Les conditions pour l'équipement de Classe B ont été définies en fonction d'un contexte résidentiel ordinaire afin de fournir une protection raisonnable contre l'interférence d'appareils de communication autorisés.

Unione Europea - Direttiva EMC (Conformità elettromagnetica)

Este producto satisface los requisitos de protección del Consejo de la UE, Directiva 89/336/CEE en lo que a la legislación de los Estados Miembros sobre compatibilidad electromagnética se refiere.

IBM no puede aceptar responsabilidad alguna si este producto deja de satisfacer dichos requisitos de protección como resultado de una modificación no recomendada del producto, incluyendo el ajuste de tarjetas de opción que no sean IBM.

Este producto ha sido probado y satisface los límites para Equipos Informáticos Clase B de conformidad con el Estándar CISPR22 y el Estándar Europeo EN 55022. Los límites para los equipos de Clase B se han establecido para entornos residenciales típicos a fin de proporcionar una protección razonable contra las interferencias con dispositivos de comunicación licenciados.

Union Europea - Normativa EMC

Questo prodotto è conforme alle normative di protezione ai sensi della Direttiva del Consiglio dell'Unione Europea 89/336/CEE sull'armonizzazione legislativa degli stati membri in materia di compatibilità elettromagnetica.

IBM non accetta responsabilità alcuna per la mancata conformità alle normative di protezione dovuta a modifiche non consigliate al prodotto, compresa l'installazione di schede e componenti di marca diversa da IBM.

Le prove effettuate sul presente prodotto hanno accertato che esso rientra nei limiti stabiliti per le apparecchiature di informatica Classe B ai sensi del CISPR 22 / Norma Europea EN 55022. I limiti delle apparecchiature della Classe B sono stati stabiliti al fine di fornire ragionevole protezione da interferenze mediante dispositivi di comunicazione in concessione in ambienti residenziali tipici.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

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