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IBM ThinkPad

Dock II
User's Guide







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User's Guide



Note

Before using this information and the product it supports, be sure to read the general information under Appendix E, "Product Warranties, Notices, and Statements" on page 141.

First Edition (June 1994)

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About This Manual

This manual contains information that is needed when you use the IBM ThinkPad* Dock II Expansion Unit (hereafter called the *Dock II*). It is organized into the following chapters and appendixes:

Chapter 1, “Introduction” introduces the Dock II and describes its features.

Chapter 2, “Using the Dock II” provides the procedures for setting up the Dock II. Basic rules and operations for using the Dock II are also described.

Chapter 3, “Using the Security Features” describes the ways you can protect your Dock II against unauthorized use and theft.

Chapter 4, “Installing and Removing IBM Options” describes how to install IBM options using both the documentation provided with the options and this documentation.

Chapter 5, “Using the SCSI Controller” provides information about the setup of the SCSI controller’s configuration.

Chapter 6, “Solving Problems” describes how you can detect and resolve Dock II problems.

Appendix A, “Starting Up the Operating System” describes a way to start up the operating system that resides on a device attached to the Dock II.

Appendix B, “Using the SCSI Support Software” provides information about the installation and use of the option device drivers and the SCSI diagnostics utility program.

Appendix C, “Using the Selectable Program Load” shows how to automatically load application programs into the memory of the computer that enable the options installed in the Dock II when only the computer is docked.

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Appendix D, “Specifications” describes the specifications associated with your Dock II, the power cords, and the ports.

Appendix E, “Product Warranties, Notices, and Statements” contains the warranty statement of the Dock II, notices, trademarks, FCC statement, CDCC statement, and EC directive conformance statement.



Information Notices

This *User's Guide* contains notices that relate to specific information or text.

Note

Provides important hints, tips, guidance, or advice.

Warning

Indicates possible damage to programs, devices, system, or data. A warning notice appears before the related instruction or situation in which possible damage could occur.

Caution

Indicates situations that are potentially hazardous to you. A caution appears in text *before* the instruction or situation that could be hazardous.

Danger

Indicates situations that are potentially lethal or extremely hazardous to you. It is indicated by the symbol (⚠) and appears in text *before* the instruction or situation that could be dangerous.

Important

Provides important information or guides that you should pay attention to.





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Electrical Safety Notice

CAUTION:

Do not operate the Dock II with the top cover removed. To install the top cover, see “Installing the Top Cover” on page 66.



DANGER:

Power is controlled by the power switch of the Dock II or the computer. For emergencies, always use easily accessible electrical outlets to turn off the power by unplugging the Dock II power cord. The outlet should be installed near the Dock II and should be easily accessible.



DANGER:

To avoid a shock hazard, do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.



DANGER:

To avoid a shock hazard:

The power cord must be connected to an outlet that has been properly wired and grounded according to your local wiring rules.

This equipment must have an earth ground.

Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk.

Jordet stikkontakt skal benyttes når apparatet tilkobles datanett.

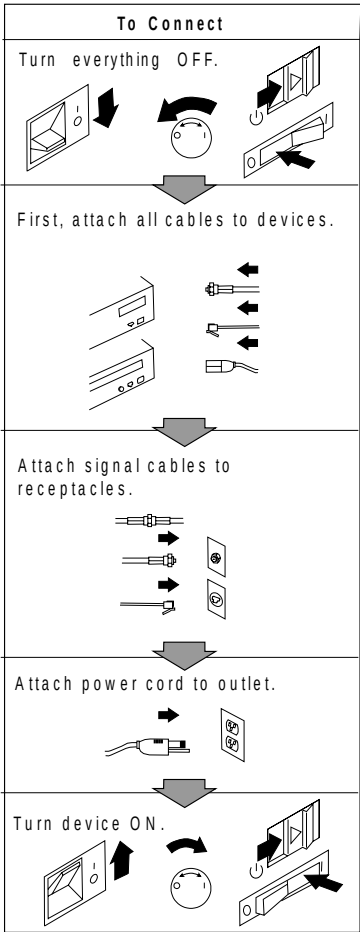
Laite on liitettävä suojakosketinspistorasiaan.

Any equipment to which this product is attached must also be connected to an outlet that has been properly wired and grounded according to your local wiring rules.

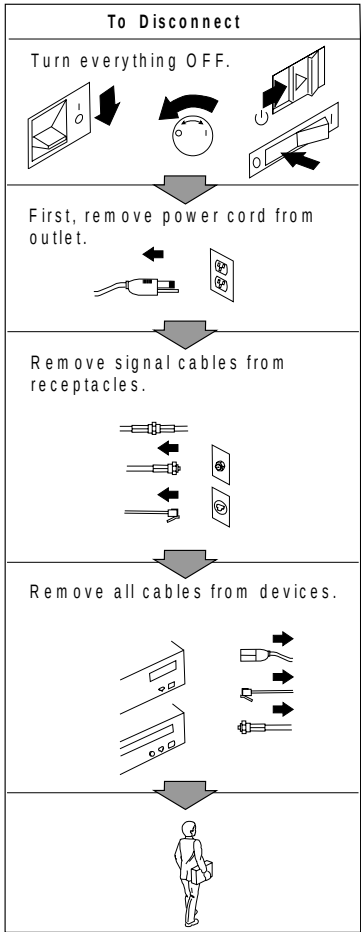


DANGER:

Electrical current from power, telephone, and communication cables is hazardous. To avoid shock hazard, connect and disconnect cables as shown below when installing, moving or opening the covers of this product or attached devices. The power cord must be used with a properly-grounded outlet.



Note: In the U.K., by law, the telephone line cable must be connected after the power cord.



Note: In the U.K., by law, the power cord must be disconnected after the telephone line cable.



Chapter 1. Introduction

The Dock II provides expandability for the following IBM ThinkPad computer systems (hereafter called the *computer*) providing the same usability as a desktop computer system.

- IBM ThinkPad 750 family
- IBM ThinkPad 755 family
- IBM ThinkPad 360 family

Portability of your computer is made easier because computer options are installed in the Dock II, and docking and undocking are effortlessly done. After your computer is docked to the Dock II, you can readily use it with the Fail-safe Docking and Plug-and-Play Ready features.

The Dock II has enhanced security features to protect it from theft and unauthorized use.

This chapter contains:

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Checking the Items	3
Locating Dock II Features	4
Front View	4
Rear View	6
Dock II Status Indicators	8
Changing Modes	10
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Standard Features

The following summarizes the standard features on the Dock II.

Audio Features	Speaker-in jacks Audio-out jacks A headphone jack Stereo speakers Compartments for CD-ROM drives
Security Features	Security key lock PCMCIA ** card lock A keyhole for Kensington ** lock
Cable Management Features	An external diskette drive connector A keyboard / numeric keypad connector A mouse / pointing device connector A parallel connector A serial connector A SVGA connector
Desktop-Equivalent Features	Two full-size ISA adapter card slots A 1-inch-high drive space A half-high drive space External SCSI-II device connectors Two PCMCIA slots

** PCMCIA is a trademark of Personal Computer Memory Card International Association, and Kensington is a trademark of Kensington Microware Inc.

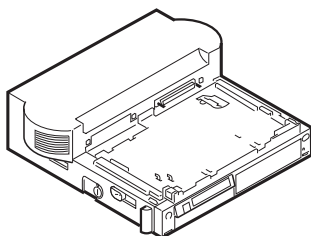
Checking the Items

Check that you have the following items.

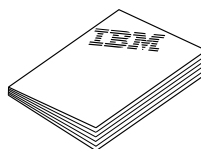
If any are missing or damaged, call your IBM marketing representative or dealer.



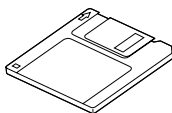
Dock II



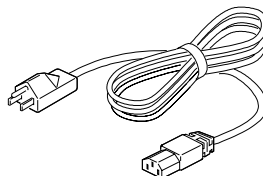
Manual



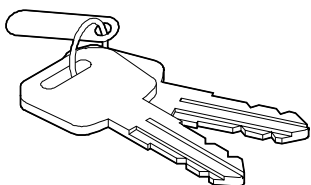
Option Diskette



Power Cord



Security Lock Keys



Notes

1. An extra key is provided as a spare.
2. The key number is necessary when replacing lost keys. See "Ordering Additional Security Lock Keys" on page 35.



IDE Cable



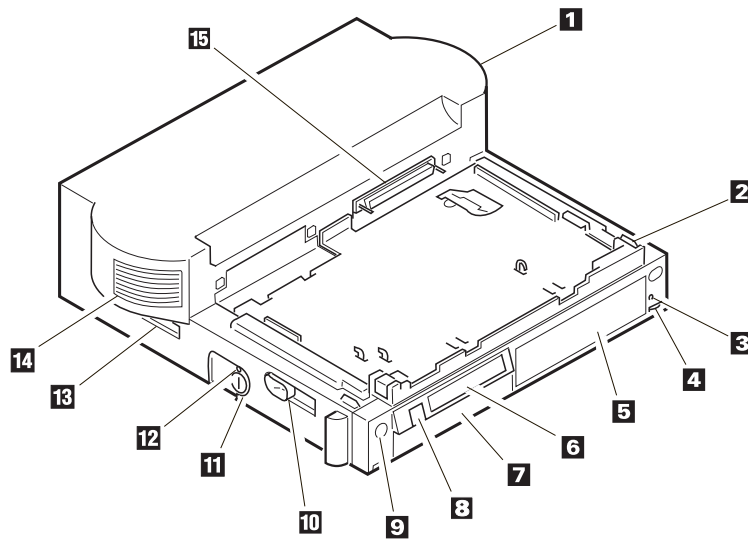
CD-ROM Extension Cable



Locating Dock II Features

This section identifies the features for the Dock II. Symbols for connectors are printed on the back of the Dock II above each connector for easy identification.

Front View



1 Top Cover

2 **Tray** is where the computer is placed for docking.

3 **Headphone Jack** is where the plug of the stereo headphone is connected.

Note

When the stereo headphone plug is connected to this jack, the speakers do not operate.

4 **Volume Control** adjusts the loudness of the speakers and headphone.

5 **Half-High Drive Space** accommodates one storage device. The blank bezel is removed when installing a removable-media device.

6 Status Indicators

indicate the current status of the Dock II by their on/off status. For more information about the status indicators, see “Dock II Status Indicators” on page 8.

7 **1-Inch-High Drive Space** accommodates one storage device. The blank bezel is removed when installing a removable-media device.

8 **Power Switch** turns the computer on or off. See “Turning On and Off the Computer and the Dock II” on page 28 for more information.

9 **Eject Switch** unlatches the tray and allows docking or undocking.

1 **Eject Lever** ejects the computer from the connector of the Dock II.

11 **Security Lock** secures various features on the Dock II, depending on the position of the key. This prevents the top cover and the contents of the Dock II from being removed, prevents unauthorized persons from using the Dock II by securing the power, and prevents the computer from being undocked from the Dock II. (For more information, see “Using the Security Lock” on page 30.)

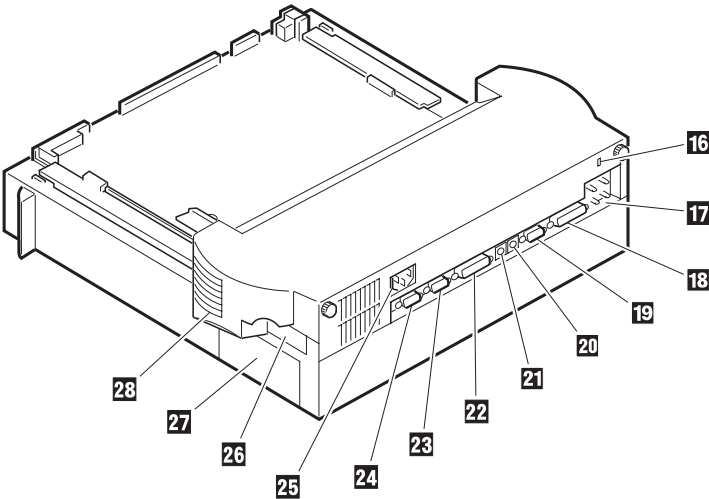
12 **Unlatch Hole** unlatches the tray to undock the computer in an emergency.

13 **Reserved.** (Always keep this lever toward the rear of the Dock II.)

14 Left Speaker

15 **Computer Connector** (male-type, 240-pin) connects the computer.

Rear View



16 Keyhole for Kensington physically secures the Dock II from theft. For more information, see “Securing the Dock II with the Kensington Lock” on page 32.

17 Speaker-in and Audio-out Jacks connect external audio equipment to use speakers in the Dock II, and to use external speakers, respectively.

18 Parallel Connector (25-pin) connects a printer signal cable.

19 Serial Connector (9-pin) connects a modem or serial-printer signal cable.

2 Mouse/Pointing Device Connector (6-pin) connects a mouse or other pointing device cable.

21 Keyboard/Numeric Keypad Connector (6-pin) connects the keyboard cable or the numeric keypad cable.

Important

1. Use this connector if you use an external keyboard or a numeric keypad.
2. The keyboard (numeric keypad) on the computer cannot be used when the external keyboard (external numeric keypad) is attached through this connector.
3. You cannot connect a mouse or other pointing device to a external numeric keypad that is connected to this connector. Connect the mouse or other pointing device directly to the mouse/pointing device connector.

22 External SCSI Connector (50-pin) connects an external SCSI (Small Computer System Interface) II device cable.

23 External Display Connector (15-pin) connects the display signal cable of an external display that supports Video Graphics Array (VGA) of 640 by 480 resolution and Super VGA (SVGA) resolution.

24 External Diskette Drive Connector (26-pin) connects the 3.5-inch diskette drive that has been removed from the computer and set up with the IBM ThinkPad 750 FDD External Attachment Kit (an IBM option).

25 Power Cord Connector connects the ac power cord.

26 PCMCIA Slots accommodate PCMCIA cards.

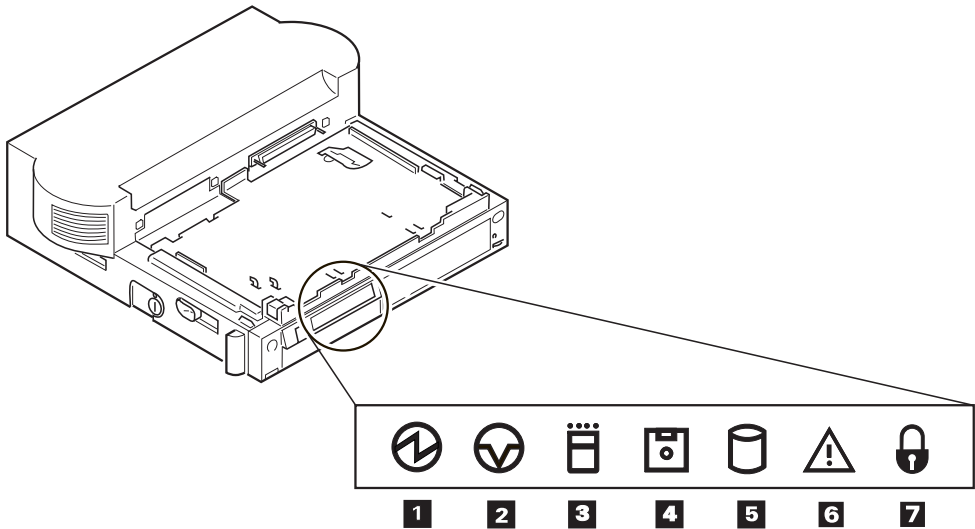
27 ISA Slots connects ISA card connectors.

28 Right Speaker

Dock II Status Indicators

The LCD status indicators show the current status of the Dock II by their On/Off states or by blinking.

The following figure and table show the name and meaning of each LCD indicator.



	Symbol	Name of LCD Indicator	LCD Status	Meaning
1		Docked	On	The computer is correctly docked with the Dock II.
1		Power-On	On	The computer power is turned on. <i>Note:</i> The "Docked" indicator changes to the "Power-On" indicator when the computer power is turned on.

	Symbol	Name of LCD Indicator	LCD Status	Meaning
2		Suspend Status	On	The computer is in suspend status.
3		PC Card In-Use	On	An inserted PC card (PCMCIA card) is accessed.
4		Diskette Drive In-Use	On	The diskette drive in the computer is used. When an external diskette drive is used, the indicator on the IBM ThinkPad FDD External Attachment Kit turns on.
5		Hard Disk In-Use	On	Either of the following is accessed. The ThinkPad hard disk drive in the computer The ThinkPad hard disk drive in the Dock II The IDE hard disk drive in the Dock II Internal or external SCSI devices
6		Warning	On or Blink	Turns on or blinks to alert users about operating conditions. For more information, see “Warning Function” on page 10.
7		Security Key	On	Security key is locked.

Changing Modes

When you are operating a computer docked to the Dock II, you cannot put the computer in hibernation mode. You will hear a warning beep from the computer if you attempt this. However, you can enter suspend and standby modes. The following table summarizes these conditions.

Attempt to Enter	Can the Computer Enter the Mode?	Is a Password Needed to Return to Operating Mode?
Suspend Mode	Yes	Power-on password is needed if you have set one.
Standby Mode	Yes	None
Hibernation Mode	No	None

Warning Function

A combination of the warning indicator and the beep is used to alert users about operating conditions. The combination is different depending on the type and mode of the computer docked or undocked. The following table summarizes the warnings.

Warning	Cause	How to Stop Warning
Beep sounds continuously and the warning indicator blinks.	A computer of the 750 series was docked during its HOT/WARM status.	Undock or shut down the computer.
Intermittent beep repeats and the warning indicator turns on.	The eject switch was pressed while a computer of the 750 series was in the HOT/WARM status.	Wait for timeout.



Warning	Cause	How to Stop Warning
Beep sounds twice and the warning indicator turns on twice.	The eject switch was pressed while the security lock was at the locked position.	Wait for timeout.







Chapter 2. Using the Dock II



This chapter contains rules and procedures for the initial and basic operations for using the Dock II.

This chapter contains:

Setting Up the Dock II	14
Docking and Undocking the Computer	16
Rules of Docking and Undocking	16
Rules of Docking (750 Series)	16
Rules of Undocking (750 Series)	18
Rules of Docking (755 and 360 Series)	18
Rules of Undocking (755 and 360 Series)	18
Docking the Computer	19
Undocking the Computer	24
Turning On and Off the Computer and the Dock II	28



Setting Up the Dock II

Before you dock the computer to the Dock II, do the following.

1. If you install either the CD-ROM drive, tape backup unit, or other SCSI devices, do the following:

	Setup the SCSI controller.	Go to Chapter 5, "Using the SCSI Controller" on page 73.
	Install the option device drivers and SCSI diagnostics utility program.	Go to Appendix B, "Using the SCSI Support Software" on page 115.

2. Do the following depending on what options you will install:

	To install and use the display shelf:	Go to "Using the Display Shelf" on page 39.
	To install devices in the 1-inch-high drive space:	Go to "Installing and Removing Devices in the 1-Inch-High Drive Space" on page 46.
	To install devices in the half-high drive space:	Go to "Installing and Removing Devices in the Half-High Drive Space" on page 52.
	To install ISA adapter cards:	Go to "Installing and Removing the ISA Adapter Cards" on page 57.
	To use the PCMCIA cards:	Go to "Using the PCMCIA Cards" on page 61.
	To connect external SCSI devices:	Go to "Connecting External SCSI Devices" on page 62.
	To connect other external options:	Go to "Connecting Other External Options" on page 63.



	If you have nothing to install or have finished installing all options:	Go to “Docking and Undocking the Computer” on page 16.
--	---	--



Docking and Undocking the Computer

This section describes the procedures for docking or undocking the computer to or from the Dock II.

Rules of Docking and Undocking

When computer power is turned off, docking or undocking the computer to or from the Dock II does not cause any problems.

When computer power is turned on, however, docking or undocking the computer, or changing the operation mode can cause problems.

Make sure when you dock or undock the computer to or from the Dock II you observe the following rules.

Rules of Docking (750 Series)

1. Return to operating mode.
2. Shut down the application.
3. Turn off the computer.
4. Dock the computer to the Dock II.

Do not dock the computer to the Dock II when:

- An application is running on the computer (operating mode).
- The computer has entered standby mode.
- The computer has entered suspend mode.
- The computer has entered hibernation mode.

When Docking is Incorrect (750 Series)

If you do not observe the docking rules, you will be notified by a warning, and you will need to re-dock the computer. The following table summarizes what will occur and what actions you need to take.

Current Status	This Will Occur	Action
Operating mode	The Dock II warning indicator blinks and the beep sounds.	1. Undock the computer from the Dock II. 2. Follow the Rules of Docking 2 through 4 on page 16.
Standby mode		1. Undock the computer from the Dock II. 2. Follow the Rules of Docking 1 through 4 on page 16.
Suspend mode		1. Undock the computer from the Dock II. 2. Resume operating mode. 3. Follow the Rules of Docking 2 through 4 on page 16.
Hibernation mode	When the computer is turned on, a warning screen appears.	1. Turn off the computer. 2. Undock the computer from the Dock II. 3. Turn on the computer. 4. Shut down the application. 5. Turn off the computer. 6. Dock the computer to the Dock II.

Rules of Undocking (750 Series)

1. Return to operating mode.
2. Shut down the application.
3. Turn off the computer.
4. Undock the computer from the Dock II.

Do not undock the computer from the Dock II when the computer is in one of the following modes:

Operating mode

Standby mode

Suspend mode

When Undocking is Incorrect (750 Series)

If you do not observe the undocking rules, the warning indicator blinks and the warning beep sounds. Retry the undocking by observing the rules of undocking as stated above.

Rules of Docking (755 and 360 Series)

Computers can be docked to the Dock II when the computer is turned off or turned on. For more information, read the READ.ME file on the Utility Diskette.

Rules of Undocking (755 and 360 Series)

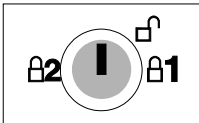
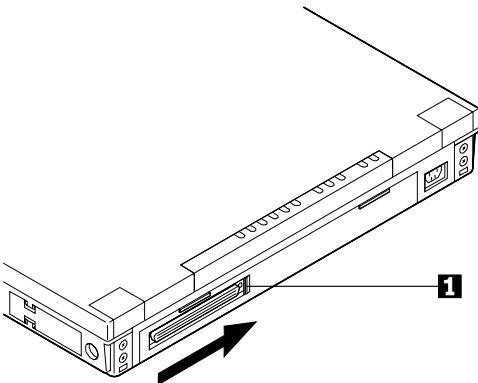
Computers can be undocked from the Dock II when the computer is turned off or turned on. For more information, read the READ.ME file on the Utility Diskette.

Docking the Computer

CAUTION:

Do not operate the Dock II with the top cover removed. To install the top cover, see “Installing the Top Cover” on page 66.

To dock the computer to the Dock II, do the following:

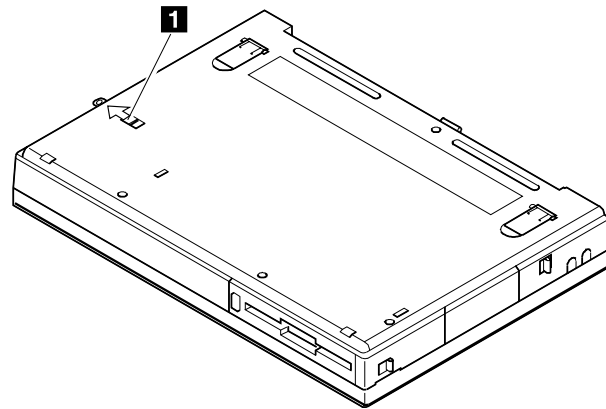
- 1.**
Observe the docking rules.
See “Rules of Docking (750 Series)” on page 16 or “Rules of Docking (755 and 360 Series)” on page 18.
- 2.**
Plug the power cord into the power cord connector of the Dock II.
See “Rear View” on page 6 for the location of the power cord connector.
- 3.**
Unlock the security lock on the left side of the Dock II by turning the key to the middle position.

- 4.**
Slide and open the door **1** on the rear of the *computer*.


5.

Turn the *computer* upside down. Slide the locking lever **1** on the bottom of your computer outward.

This is done to make sure that the hard disk inside the computer cannot be removed.

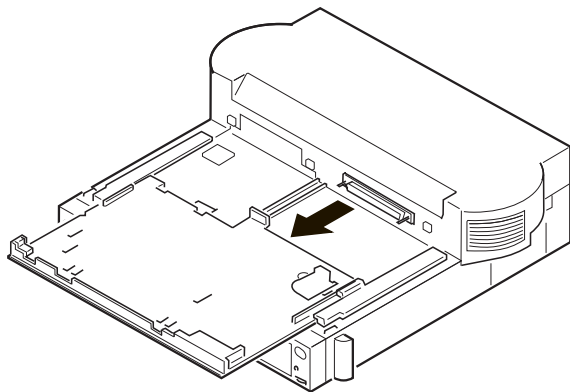
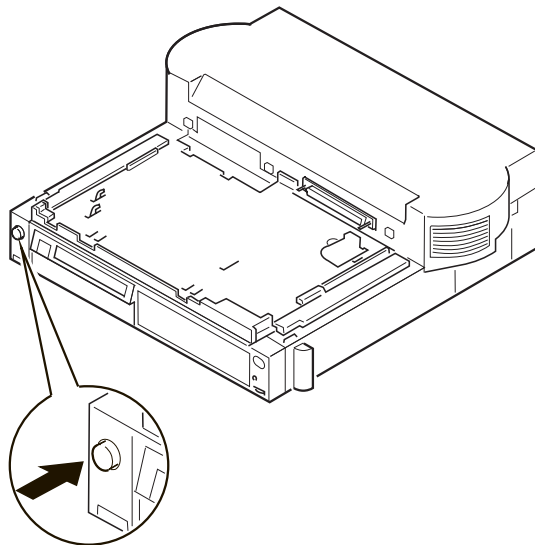
After you have removed the computer, slide the locking lever inward.



6.

Press the eject switch.

The tray is released and moves out.

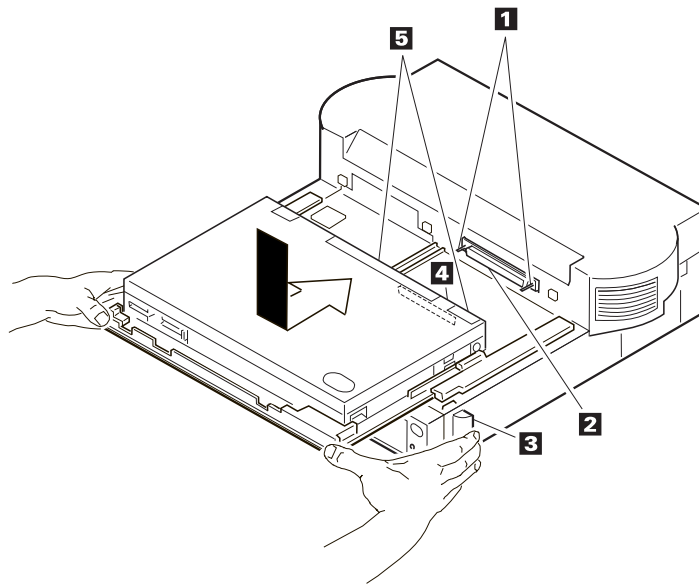


7.

Important

Wait at least ten seconds before you re-dock the computer after it has been undocked.

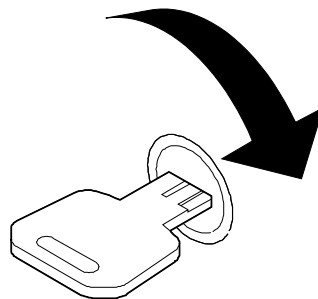
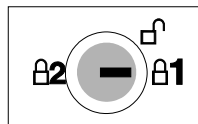
Place the computer on the tray. Using the docking-knobs **3** on the left and right sides of the Dock II as finger-holds, slide in the computer until the guide pins **1** fit into the alignment holes **5**, the docking connector **2** fits firmly into the system expansion connector **4** of the computer, and the front edge of the tray aligns with the front edge of the Dock II.



8.

Lock the security lock on the left side of the Dock II by turning the key to the extreme right position.

Remove the key and keep it in a safe place.



9.

Open the LCD of the computer,
turn on all external devices;
then turn on the computer.

Notes

1. If the warning beep sounds and the warning indicator blinks, make sure that the computer is firmly docked to the Dock II.
2. For turning on the computer, see “Turning On and Off the Computer and the Dock II” on page 28.

You have completed the installation of the computer, and can now use it.

Undocking the Computer

CAUTION:

Do not operate the Dock II with the top cover removed. To install the top cover, see “Installing the Top Cover” on page 66.

To undock the computer from the Dock II, do the following:

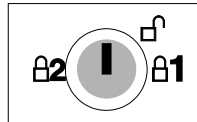
1.

Observe the undocking rules.

See “Rules of Undocking (750 Series)” on page 18 or “Rules of Undocking (755 and 360 Series)” on page 18.

2.

Unlock the security lock on the left side of the Dock II by turning the key to the middle position.



3.

Press the eject switch 1 .

The eject lever 2 moves out.

Emergency Ejection

If ac power fails or the eject switch does not work and the eject lever does not move out, do the following:

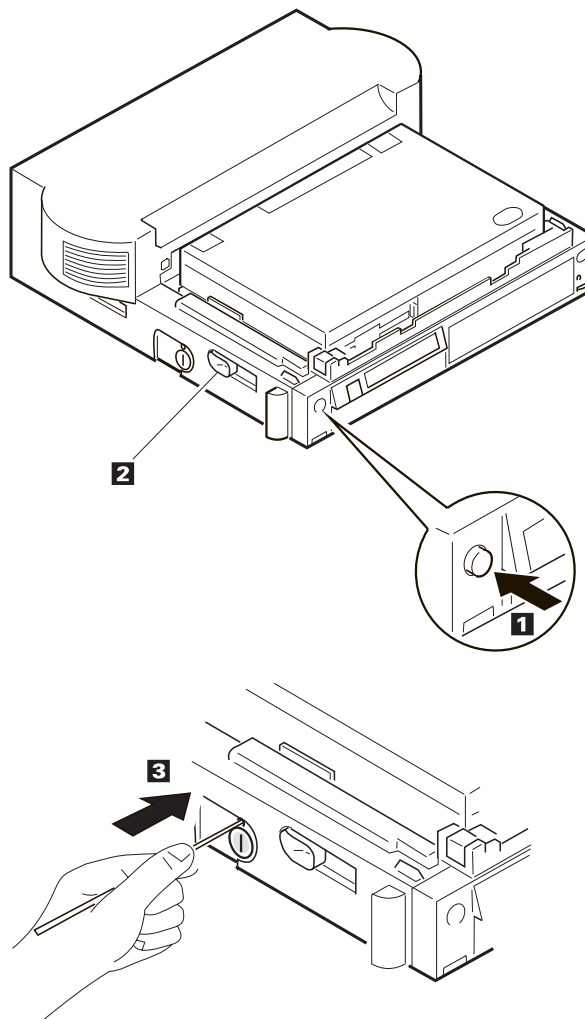
Make sure the security lock is at the middle (unlock) position.

Make sure that the application program is shut down, and the computer and the Dock II are turned off.

Unplug all power cords connected to the Dock II from the electrical outlet.

Insert a slim bar, such as a straightened paper clip, into the hole 3 above the key lock and firmly push it until the eject lever 2 moves out.

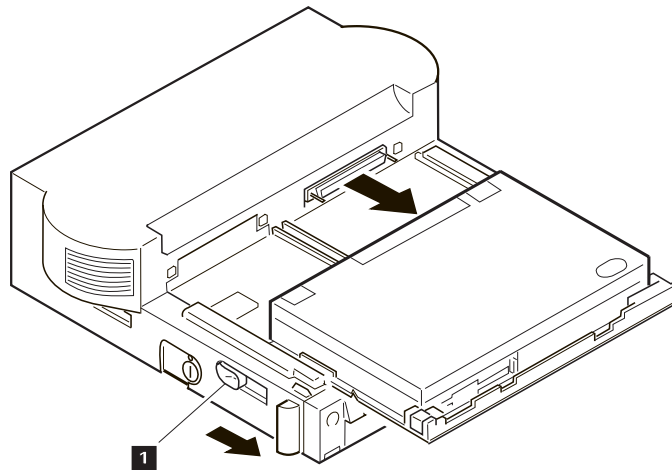
If the eject lever does not move out, push the tray toward the rear of the Dock II; then retry inserting and pushing the slim bar.



4.

Slide the eject lever 1 to the front of the Dock II.

The tray with the computer moves out.



5.

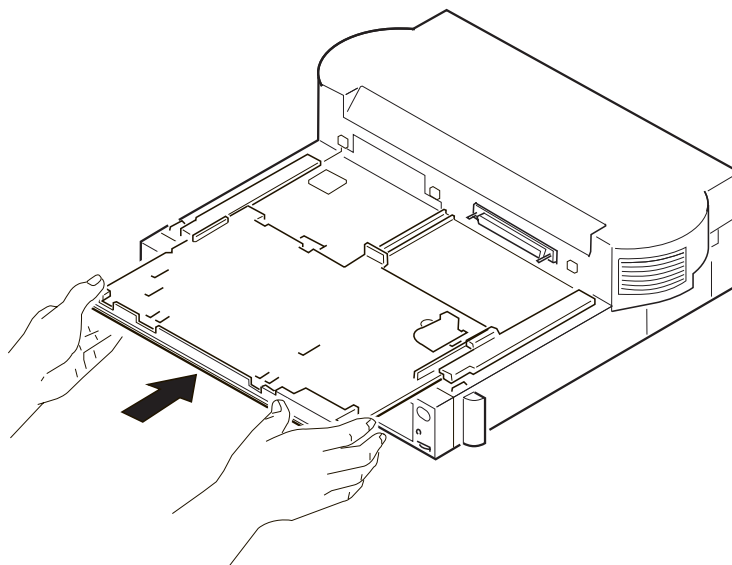
Lift and undock the computer from the Dock II.

Important

Handle the computer gently;
the hard disk is very
shock-sensitive.

6.

Push the tray until it latches.

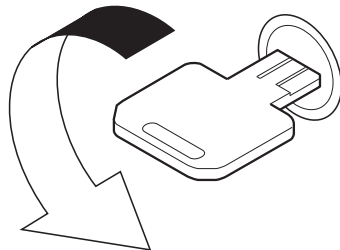
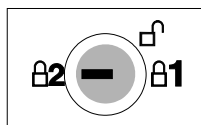
**7.**

To prevent unauthorized persons from using your Dock II, lock the security lock on the left side of the Dock II by turning the key to the extreme left position.

Remove the key and keep it in a safe place.

Key Positions

The key positions and their functions are explained in “Key Positions and Their Functions” on page 31.



You have completed the undocking of the computer from the Dock II.

Turning On and Off the Computer and the Dock II

If you are using a computer of the 750 series,
you can use only the power switch of the computer to turn on or turn off the computer docked to the Dock II. The power switch of the Dock II does not work.

If you are using a computer of the 755 or 360 series,
you can use the power switch of either the computer or the Dock II to turn on or turn off the computer docked to the Dock II.



Chapter 3. Using the Security Features



This chapter contains information on how you can protect your Dock II against theft or unauthorized use. The security is assured from the three aspects; the security lock, the Kensington lock, and the PCMCIA card lock.

This chapter contains:

Using the Security Lock	30
Security Lock Description	30
Key Positions and Their Functions	31
Securing the Dock II with the Kensington Lock	32
Securing the PCMCIA Cards	33
Ordering Additional Security Lock Keys	35





Using the Security Lock

You can secure the Dock II and the computer by using the security lock on the left side of the Dock II. The following describes the security lock and shows the various ways to use it.

Security Lock Description

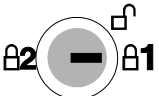
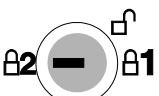
The security lock secures the following:

Top Cover	When the top cover is locked by the security lock, the top cover is not removable. This protects parts, optional devices, and cards installed in the Dock II.
Computer	The computer is not removable when the key position is <i>Lock 1</i> or <i>Lock 2</i> . When you dock or undock the computer to or from the Dock II, set the key position to <i>Unlock</i> . For the key positions, see “Key Positions and Their Functions” on page 31.
Power	The Dock II power cannot be turned on when the power is locked by the security lock.



Key Positions and Their Functions

The following shows the key positions of the security lock and their corresponding functions.

Key Position	Explanation	Can the Top Cover Be Removed?	Can the Computer Be Undocked?	Can the Dock II Power Be Turned On or Off?
Unlock 	Turn to this position to remove the top cover.	Yes	Yes	Yes
Lock 1 	The key is turned to this position when the Dock II is used.	No	No	Yes
Lock 2 	The key is turned to this position to prevent unauthorized persons from turning on the Dock II.	No	No	Cannot be turned on after the Dock II is turned off. Note To turn on the Dock II, turn the key to the extreme right position.

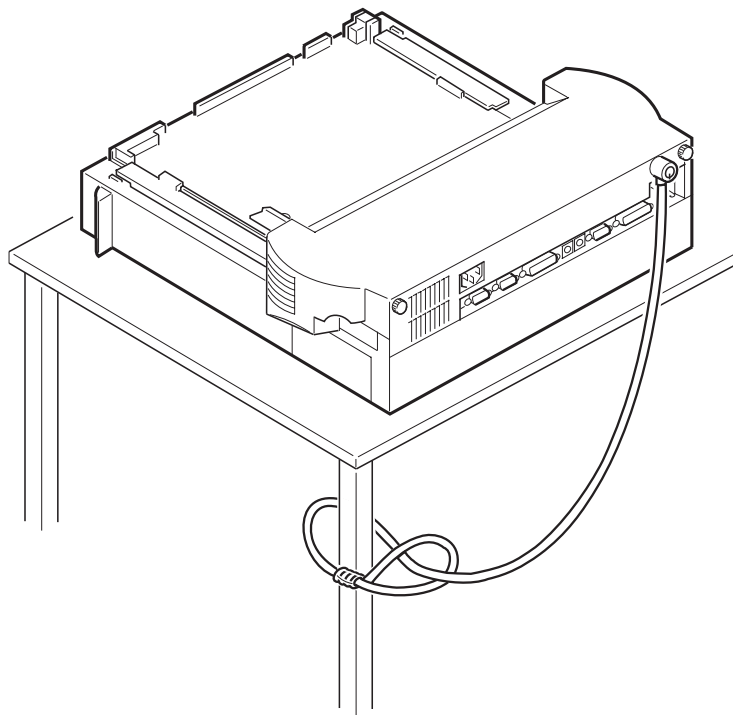
Securing the Dock II with the Kensington Lock

You can secure the Dock II to a table or desk by using a Kensington lock as shown.

Note

You must purchase the Kensington lock from a PC store.

For the installation of the Kensington lock, refer to the instruction that came with the lock.



Securing the PCMCIA Cards

You can secure the PCMCIA cards inserted into the Dock II from theft by using the PCMCIA card lock bar.

To install and secure the PCMCIA cards, do the following:

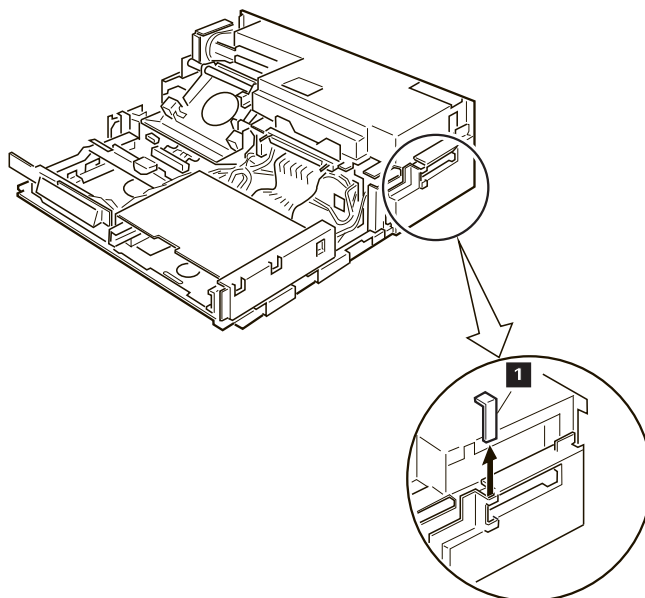
1.

Remove the top cover.

See “Removing the Top Cover” on page 64.

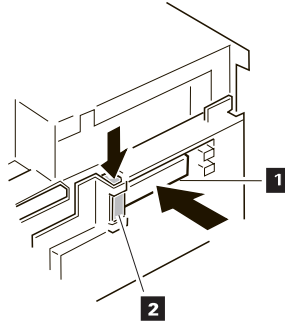
2.

Lift the PCMCIA card lock bar **1** and remove it. Save the removed bar for the later use.



3.

Insert the PCMCIA cards 1 until they completely stop. Insert the PCMCIA card lock bar 2 .



4.

Install the top cover.

See “Installing the Top Cover” on page 66.

You have completed making the PCMCIA cards secure.



Ordering Additional Security Lock Keys

Information for ordering additional keys may be obtained by writing to the address given on the tag attached to the keys. When requesting additional keys, be sure to include the key number from the tag. An additional charge is required.

The following information should be recorded. *The key number is on the tag that is attached to the keys.*

IBM Product Name	ThinkPad Dock II
Key Number	_____





Chapter 4. Installing and Removing IBM Options

Options are devices that you can attach to or install inside the Dock II to expand the capabilities of your computer. This chapter provides the instructions to add and remove the internal options. Instructions for connecting external devices are also explained.

This chapter contains:

Handling Internal Options	38
Using the Display Shelf	39
Installing and Removing Devices in the 1-Inch-High Drive Space	46
Installing Devices	46
Removing Devices	51
Installing and Removing Devices in the Half-High Drive Space	52
Installing Devices	52
Removing Devices	56
Installing and Removing the ISA Adapter Cards	57
Installing the Adapter Cards	57
Removing the Adapter Cards	60
Using the PCMCIA Cards	61
Connecting External SCSI Devices	62
Connecting Other External Options	63
Removing and Installing the Top Cover	64
Removing the Top Cover	64
Installing the Top Cover	66
Removing and Installing the Blank Bezel	68
Removing the Blank Bezel for the 1-Inch-High and Half-High Drives	69
Installing the Blank Bezel for the 1-Inch-High and Half-High Drives	69
Removing the Blank Bezel for the ISA Adapter Cards	70
Installing the Blank Bezel for the ISA Adapter Cards	70
Releasing the Latch	71

Handling Internal Options

Warning: Do not open the static-protective package containing the option until you are instructed to install the option. Static electricity can damage the option.

When you are instructed to install the option, observe these precautions as you open the static-protective package:

Touch the static-protective package containing the option to a metallic portion of the Dock II for at least 2 seconds. This action reduces the static electricity from the package and from your body.

Do not touch any exposed circuitry on the option.

Prevent other people from touching the option.

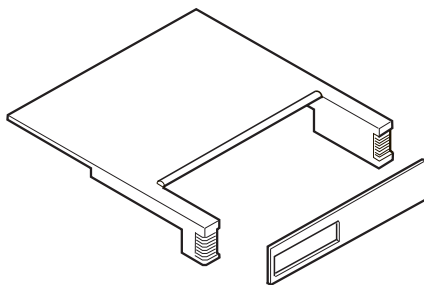
Limit your movement. Movement can cause static-electricity buildup.

Always handle the option carefully and by its edges.

If you *must* put the option down after it has been removed from the package, place the option on the static-protective package on a level surface. Do not place the option on a metal table.

Using the Display Shelf

The display shelf is available as an option. It comes with the tray cover.



To install and use the display shelf, do the following:

1.

Undock the computer from the Dock II.

See “Undocking the Computer” on page 24.

2.

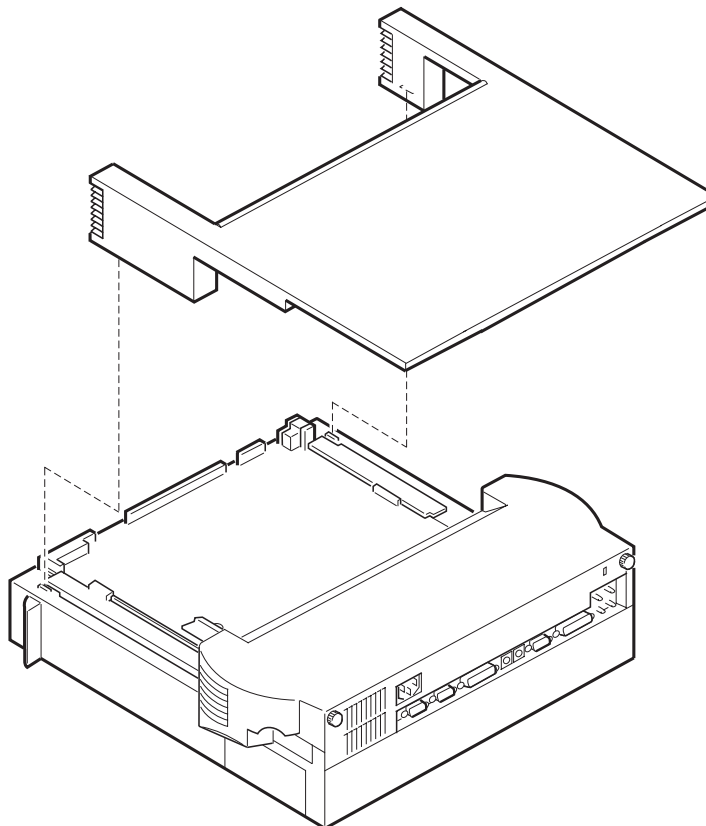
Unplug all power cords of the devices connected to the Dock II from their electrical outlets.

3.

Install the display shelf on the Dock II as shown.

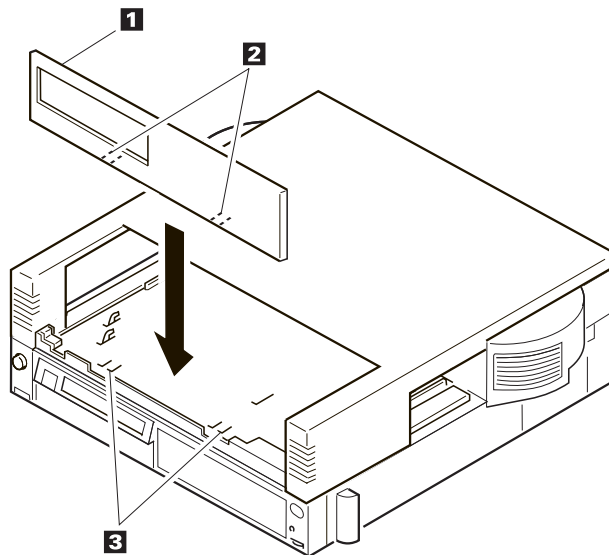
Note

The display shelf can hold up to 30 kg (66.1 lb).



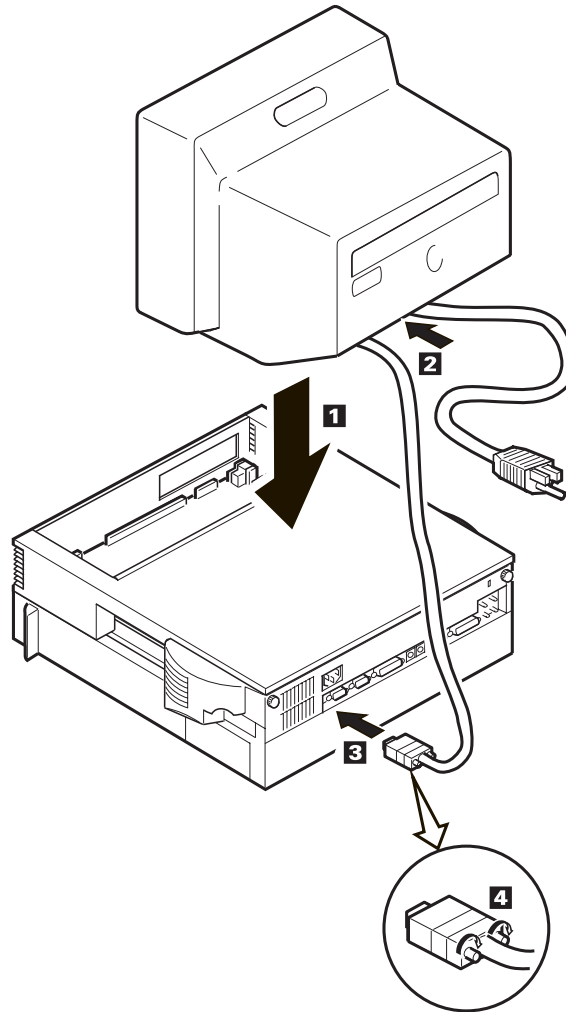
4.

Install the tray cover **1** to the tray by inserting its hooks **2** to the slots **3** on the tray.



5.

Place the display to the rear of the display shelf **1** ; then plug the display power cord into the display **2** . Connect the signal cable of the display to the display connector of the Dock II **3** and tighten the screws on the signal cable of the display **4** .

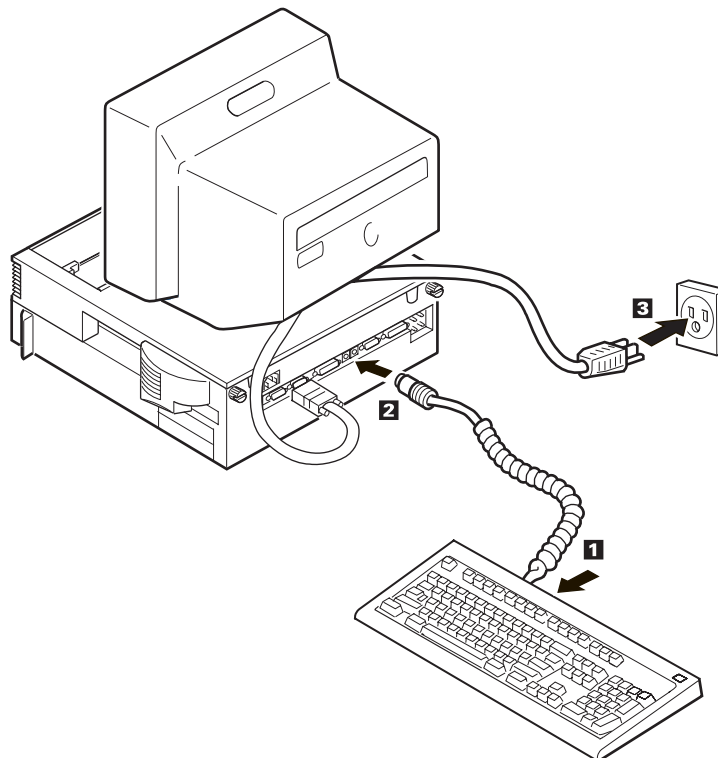


6.

Connect the keyboard cable to the external keyboard **1** and to the keyboard connector **2** of the Dock II. Plug the power cord into a correctly grounded electrical outlet **3**.

Notes

1. The computer keyboard does not work if an external keyboard is connected to the Dock II.
2. For the ThinkPad space saver keyboard (black keyboard), a cable with three connectors is used. Connect the two connectors at one end of the cable to the external keyboard connector and the mouse/pointing device connector of the Dock II, and the one connector at the other end of the cable to the keyboard.

**7.**

Plug all power cords of the devices connected to the Dock II into correctly grounded electrical outlets.

8.

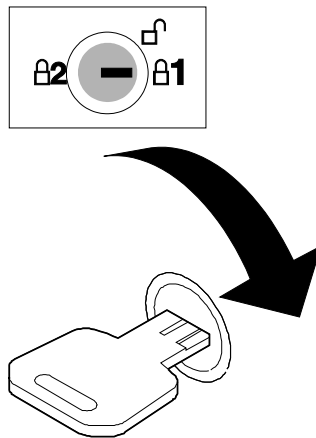
Dock the computer to the Dock II.

See “Docking the Computer” on page 19.

9.

Lock the security lock on the left side of the Dock II by turning the key to the extreme right position.

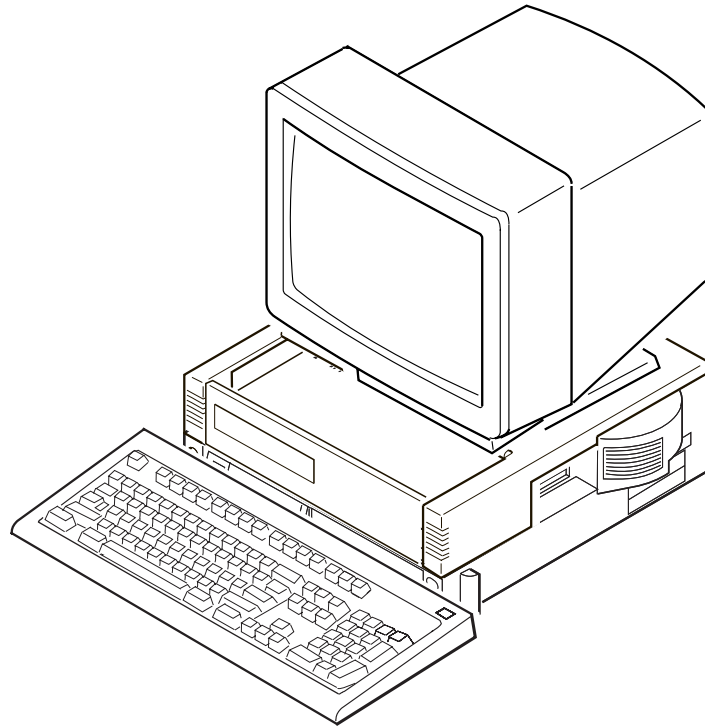
Remove the key and keep it in a safe place.



10.

Turn on all external devices;
then turn on the Dock II and the
external display.

Note: You must turn on or off
the external display
separately from the Dock
II.



You have completed the installation of the display shelf and display.

Installing and Removing Devices in the 1-Inch-High Drive Space

This section describes the procedures for installing and removing devices in the 1-inch-high drive space.

Installing Devices

To install devices in the 1-inch-high drive space, do the following:

1.

Remove the top cover.

See “Removing the Top Cover” on page 64.

2.

If the device to install is in a static-protective package, carefully remove it from the package.

See “Handling Internal Options” on page 38 for their handling.

3.

If the device to install is either the SCSI device, the ThinkPad hard disk drive, or the IDE device, attach it to its optional installation kit.

See the manual that came with the kit for the attachment guide.

4.

Attach the devices.

Cable Connectors

If cable connectors are fastened together with a twist-tie, undo the twist-tie and separate them.

Go to the applicable step.

<i>Device to Install</i>	<i>Go to Step</i>
CD-ROM drive	4a on page 47
SCSI device	4b on page 48
ThinkPad hard disk drive	4c on page 49
Tape backup unit	4d on page 50

a)

To attach the CD-ROM drive, do the following:

Insert the CD-ROM drive into the 1-inch-high compartment. Leave enough space in the back of the drive so the cables can be connected.

Insert the three connectors 1 of the cables in the Dock II to the corresponding connectors of the CD-ROM drive.

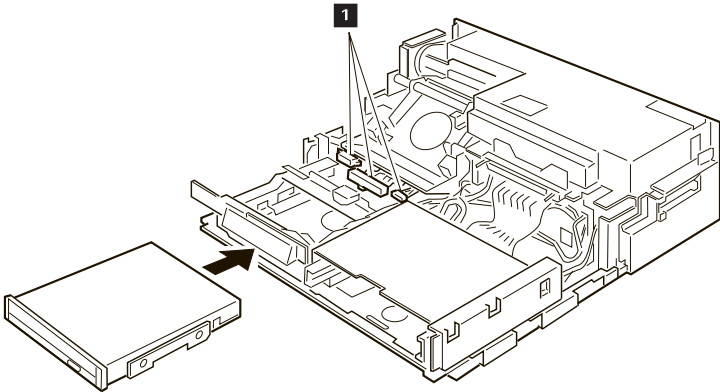
While pressing the connected cables down so that they are not above the CD-ROM drive, push in the CD-ROM drive until it completely stops and is latched.

Latch

If you need to remove devices, you must release the latch. See “Releasing the Latch” on page 71.

CAUTION:

- i. **This CD-ROM drive uses a laser system. To ensure correct use of this product, read the manual that came with the CD-ROM drive carefully and keep the manual for future reference. If the unit requires maintenance, have it serviced by authorized personnel.**
- ii. **Use of controls, adjustments or the performance of procedures other than those specified may result in hazardous radiation exposure.**
- iii. **To prevent direct exposure to the laser beam, do not open the enclosure.**



b)

To attach the SCSI device, do the following:

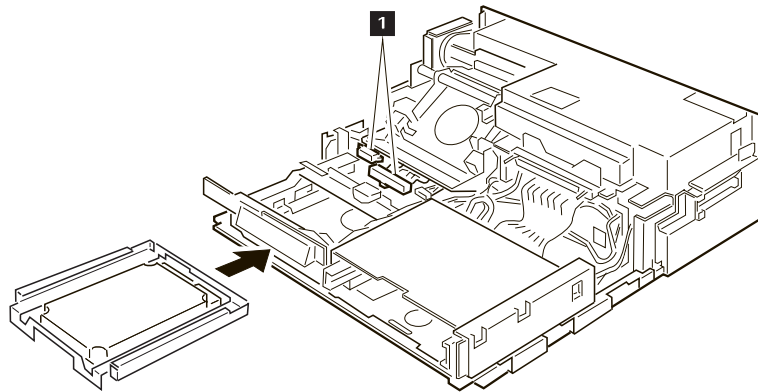
Insert the SCSI device into the 1-inch-high compartment. Leave enough space in the back of the device so the cables can be connected.

Insert the two connectors **1** of the cables in the Dock II to the corresponding connectors of the SCSI device.

While pressing the connected cables down so that they are not above the SCSI device, push in the SCSI device until it completely stops and is latched.

Latch

If you need to remove devices, you must release the latch. See “Releasing the Latch” on page 71.



c)

To attach ThinkPad hard disk drive, do the following:

Insert the ThinkPad hard disk drive into the 1-inch-high compartment. Leave enough space in the back of the device so the cables can be connected.

Insert the connector 1 of the flat-ribbon cable into the connector 2 of the Dock II.

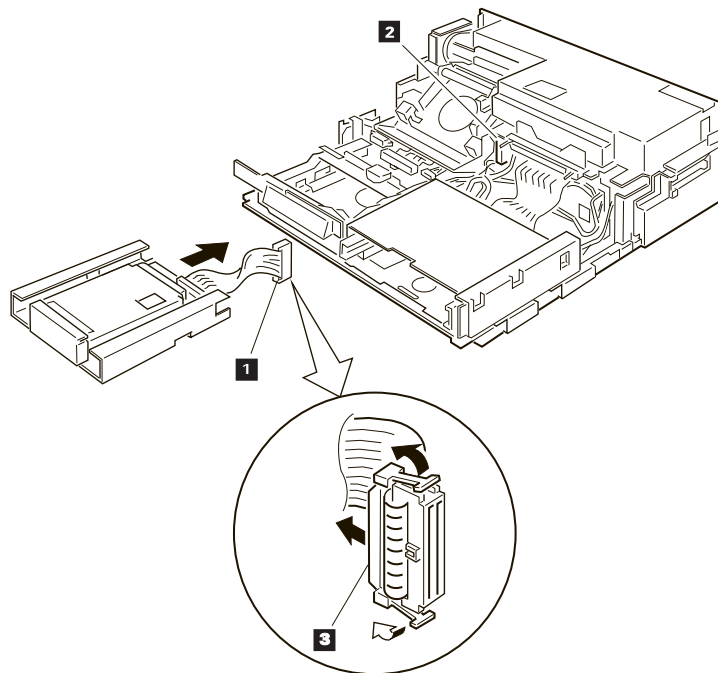
Note

If the flat-ribbon cable is not long enough to reach the connector 2, unlatch the cable clamp 3 from the cable connector 1 and remove the cable clamp to extend the cable.

While pressing the connected cables down so that they are not above the ThinkPad hard disk drive, push in the drive until it completely stops and is latched.

Latch

If you need to remove devices, you must release the latch. See “Releasing the Latch” on page 71.



d)

To attach the tape backup unit, do the following:

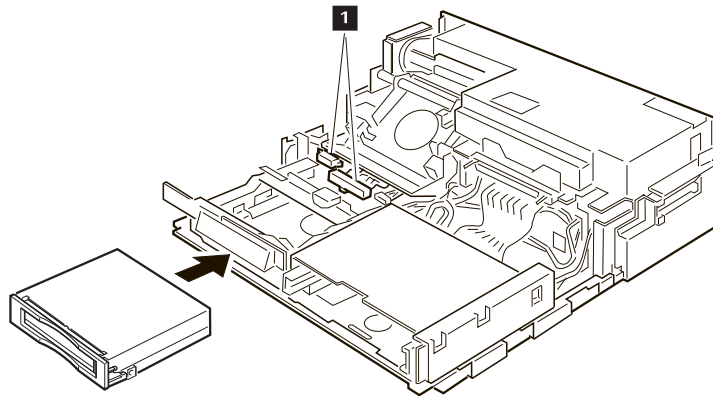
Insert the tape backup unit into the 1-inch-high compartment. Leave enough space in the back of the device so the cables can be connected.

Insert the two connectors **1** of the cables in the Dock II to the corresponding connectors of the tape backup unit.

While pressing the connected cables down so that they are not above the tape backup unit, push in the unit until it completely stops and is latched.

Latch

If you need to remove devices, you must release the latch. See “Releasing the Latch” on page 71.

**5.**

If the device to install is a removable-media device (the CD-ROM drive or the tape backup unit), remove the blank bezel from the 1-inch-high drive location on the top cover.

See “Removing the Blank Bezel for the 1-Inch-High and Half-High Drives” on page 69.



6.

See “Installing the Top Cover” on page 66.

Install the top cover.

You have completed the installation of devices in the 1-inch-high drive space.

Removing Devices

To remove devices from the 1-inch-high drive space, perform the installation procedures in the reverse order.



Installing and Removing Devices in the Half-High Drive Space

This section describes the procedures for installing and removing devices in the half-high drive space.

Installing Devices

To install devices in the half-high drive space, do the following:

1.

Remove the top cover.
- See “Removing the Top Cover” on page 64.
2.

If the device to install is in a static-protective package, carefully remove it from the package.
- See “Handling Internal Options” on page 38 for their handling.
3.

If the device to install is the IDE device, attach it to its optional installation kit.
- See the manual that came with the kit for the attachment guide.
4.

Attach the devices.

Cable Connectors

If cable connectors are fastened together with a twist-tie, undo the twist-tie and separate them.
- Go to the applicable step.

Device to Install	Go to Step
CD-ROM drive	4a on page 53
IDE device	4b on page 54
SCSI device	4c on page 55

a)

To attach the CD-ROM drive, do the following:

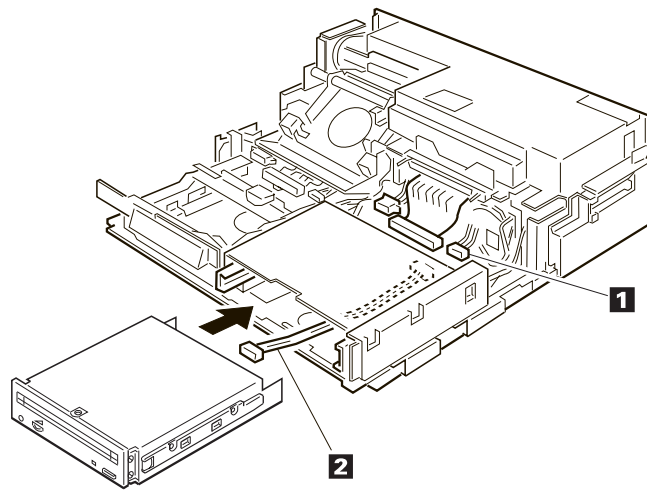
Insert the CD-ROM drive into the half-high compartment. Leave enough space in the back of the drive so the cables can be connected.

Insert the audio-cable connector 1 from the Dock II to the connector of the CD-ROM extension cable 2. Insert the other connector of the extension cable to the CD-ROM drive. Insert other two connectors of the cables from the Dock II to corresponding connectors of the CD-ROM drive.

While pressing the connected cables down so that they are not above the device, push in the device compartment until it completely stops and is latched.

CAUTION:

- i. **This CD-ROM drive uses a laser system. To ensure correct use of this product, read the manual that came with the CD-ROM drive carefully and keep the manual for future reference. If the unit requires maintenance, have it serviced by authorized personnel.**
- ii. **Use of controls, adjustments or the performance of procedure other than those specified may result in hazardous radiation exposure.**
- iii. **To prevent direct exposure to the laser beam, do not open the enclosure.**



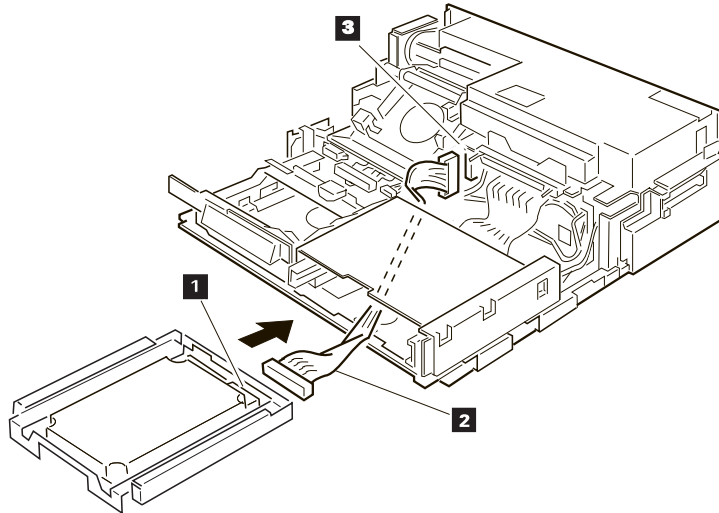
b)

To attach the IDE drive, do the following:

Insert the IDE device into the half-high compartment. Leave enough space in the back of the device so the cables can be connected.

Insert the one connector of the IDE cable **2** to the connector of the IDE **1**. Connect the other connector of the IDE cable to the connector **3** of the Dock II.

While pressing the connected cables down so that they are not above the half-high compartment, push in the IDE drive until it completely stops and is latched.



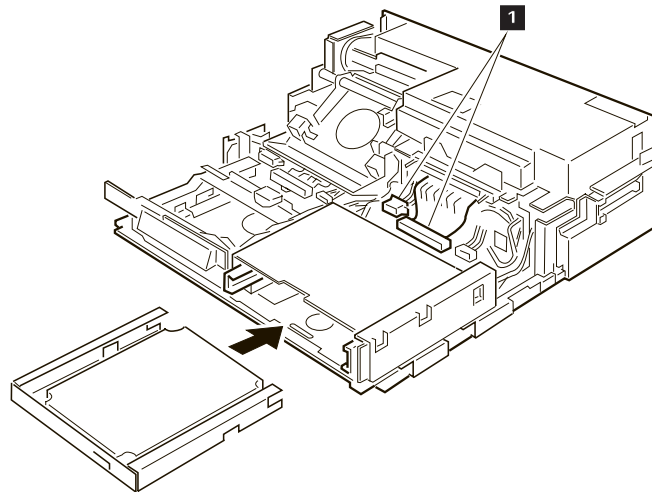
c)

To attach other types of SCSI device, do the following:

Insert the SCSI device into the half-high compartment. Leave enough space in the back of the device so the cables can be connected.

Insert the connectors **1** of the cables in the Dock II to the corresponding connectors of the SCSI device.

While pressing the connected cables down so that they not are above the half-high compartment, push in the SCSI device until it completely stops and is latched.

**5.**

If the device to install is a removable-media device (the CD-ROM drive, for example), remove the blank bezel from the half-high device location on the top cover.

See “Removing the Blank Bezel for the 1-Inch-High and Half-High Drives” on page 69.

6.

Install the top cover.

See “Installing the Top Cover” on page 66.



Removing Devices

You have completed the installation of devices in the half-high drive space.

To remove devices from the half-high drive space, perform the installation procedures in the reverse order.



Installing and Removing the ISA Adapter Cards

The Dock II can accommodate two, full-size, AT-bus, 16-bit adapter cards. This section describes the procedures for installing and removing the adapter cards.

Installing the Adapter Cards

To install the adapter cards in the Dock II, do the following:

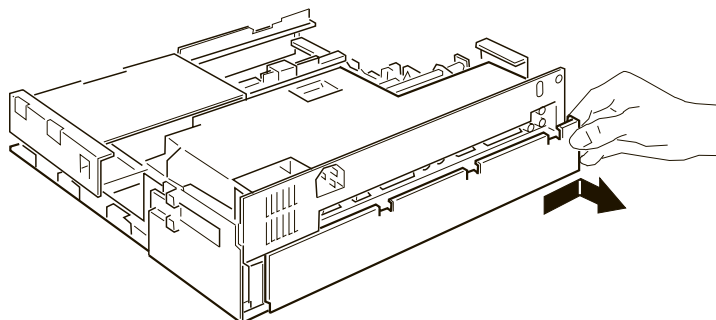
1.

Remove the top cover.

See “Removing the Top Cover” on page 64.

2.

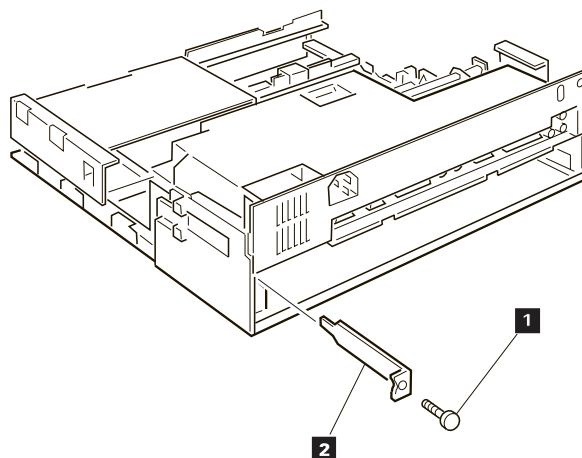
Remove the rear cover.





3.

Remove the screw **1** and expansion slot cover **2**. Save the screw for later use.



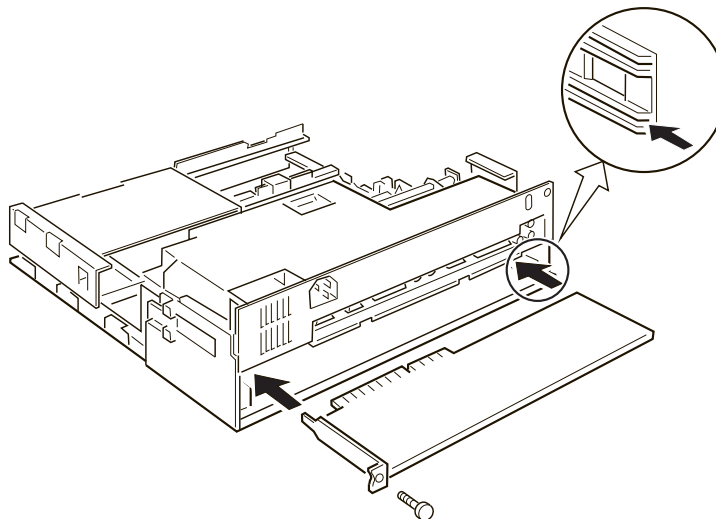
4.

If the adapter card has switches or jumpers, use the switch and jumper instructions supplied with the adapter. Record any switch or jumper information in this guide for future reference.



5.

Hold the adapter card by its edge with the components facing upward. Align the adapter with the support brackets; then slide it into the expansion slot.

**6.**

Push the adapter card firmly into the connector.

7.

To secure the adapter card, reinstall the screw you removed in step 3 on page 58.

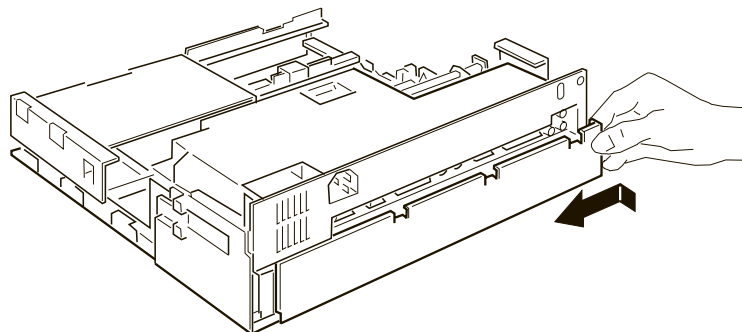
8.

If the inserted adapter card has an external cable to be connected, remove the blank bezel that covers the ISA slots from the top cover.

See “Rear View” on page 6 and “Removing the Blank Bezel for the ISA Adapter Cards” on page 70.

9.

Install the rear cover.



10.

Install the top cover.

See “Installing the Top Cover” on page 66.

You have completed the installation of the adapter card.

Removing the Adapter Cards

To remove the adapter cards from the Dock II, perform the installation procedures in the reverse order.

Using the PCMCIA Cards

The two PCMCIA slots shown on “Rear View” on page 6 can accommodate either of the following PCMCIA card combinations.

Type II (x2)

Type II (x1) + Type III (x1)

Type IV (x1)

The installed PCMCIA cards can be protected from theft by using the PCMCIA card lock bar. To install the PCMCIA cards and the PCMCIA card lock bar, see “Securing the PCMCIA Cards” on page 33.

To remove the PCMCIA cards from the slots, remove the PCMCIA card lock bar, if it is installed. Then press the eject button on the right of each slot and remove the ejected cards.

Connecting External SCSI Devices

You can connect external SCSI devices to the external SCSI connector shown on “Rear View” on page 6.

Follow the installation instructions that came with the SCSI device.

Notes

1. Do not remove the system board terminator in the Dock II, even if you are instructed to do so. The SCSI terminator automatically controls the termination. This SCSI terminator is not a removable part.
2. Turn on all external SCSI devices before you turn on the Dock II.
3. Make sure you run the automatic configuration program after connecting the external SCSI devices.



Connecting Other External Options

External options are devices that attach to connectors of the Dock II.

Notes

1. A mouse will not work if it is connected to the mouse connector of the numeric keyboard.
2. The computer keyboard does not work if an external keyboard is connected to the expansion unit.

See “Rear View” on page 6 for information about these connectors. Symbols of connectors are printed above each connector for easy identification.

To connect an external option, turn off the Dock II and refer to the information supplied with the option.



Removing and Installing the Top Cover

This section describes the procedures for removing and installing the top cover of the Dock II.

Removing the Top Cover

To remove the top cover, do the following:

1.

Remove the computer from the Dock II.

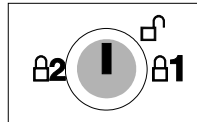
See “Undocking the Computer” on page 24.

2.

Unplug all power cords of the devices connected to the Dock II from their electrical outlets.

3.

Unlock the security lock on the left side of the Dock II by turning the key to the middle position.

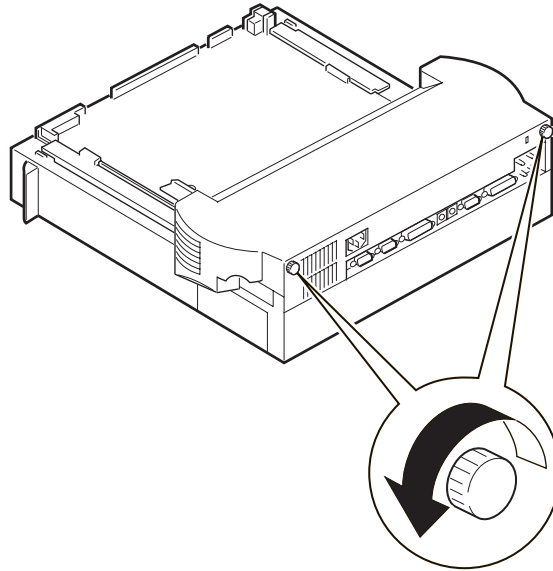


4.

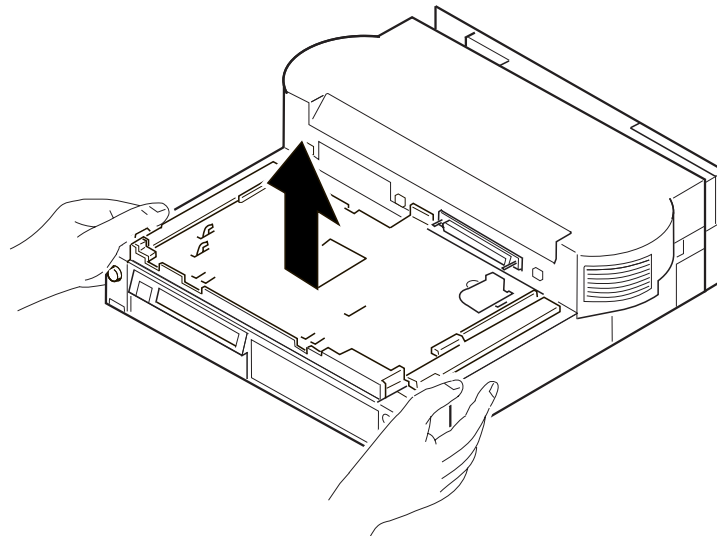
Make sure that the tray is fully inserted to the rear of the Dock II.

5.

Loosen the two thumbscrews on the rear of the Dock II. Use a coin if the thumbscrews are tight.

**6.**

Pull the top cover to the front of the Dock II about 30 mm (1.0 in.); then lift it up.



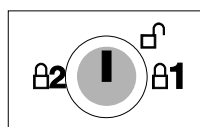
You have completed the removal of the top cover.

Installing the Top Cover

To install the top cover, do the following:

1.

Unlock the security lock on the left side of the Dock II by turning the key to the middle position.

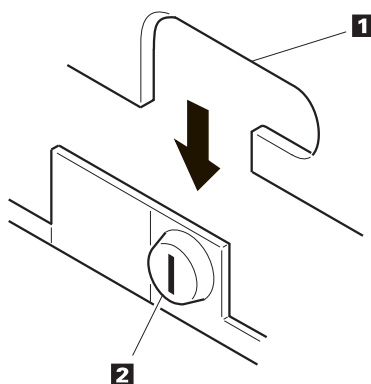


2.

Make sure that the tray is fully inserted to the rear of the Dock II.

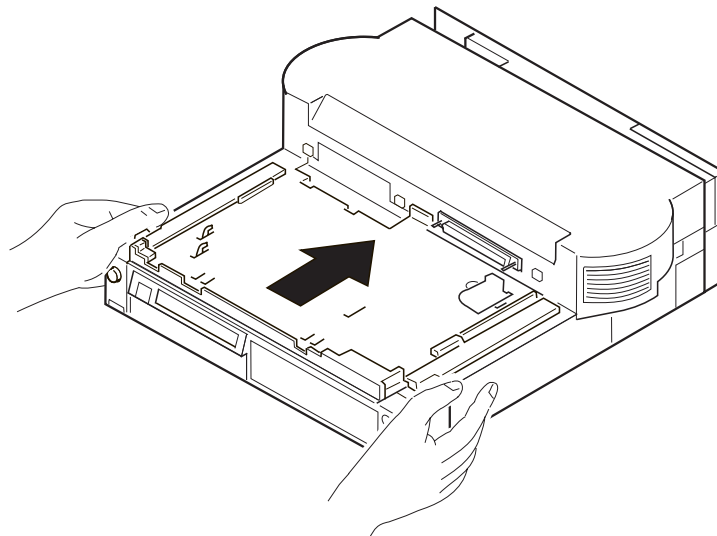
3.

Place the top cover on the Dock II about 30 mm (1.0 in.) from the rear so that the cut-out 1 is over the security lock 2.



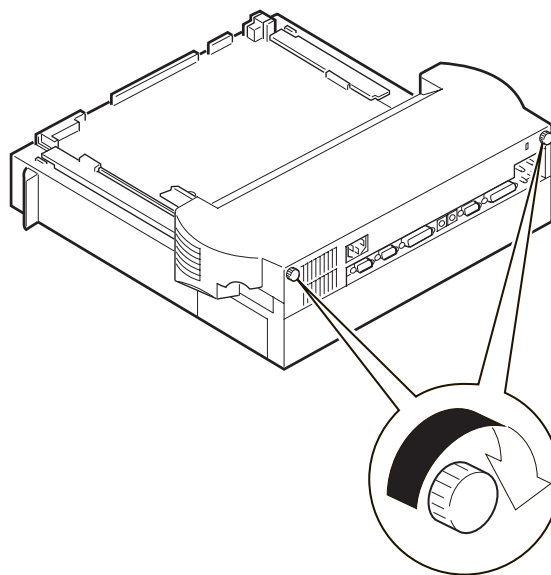
4.

Slide the top cover until it completely stops.



5.

Tighten the two thumbscrews.



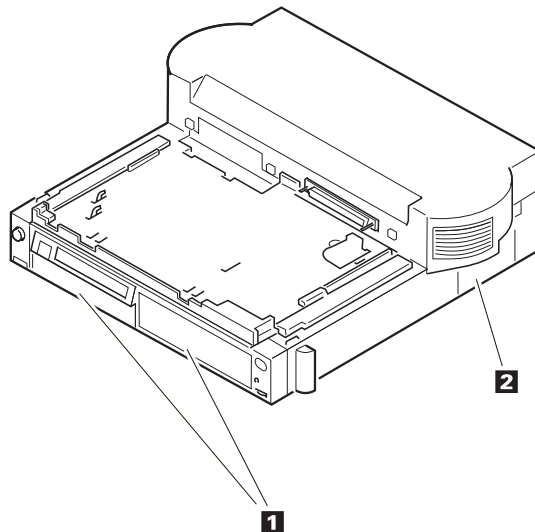
You have completed the installation of the top cover.

Removing and Installing the Blank Bezel

This section describes the procedures for removing and installing the blank bezels.

As shown, there are three locations that the blank bezels are used. The bezels 1 are used at the 1-inch-high and the half-high drive locations, and should be removed when a removable-media device is installed. The bezel 2 should be removed when ISA adapter cards that need connection of the external cables are installed.

The top cover is removed when the bezels are installed or removed.

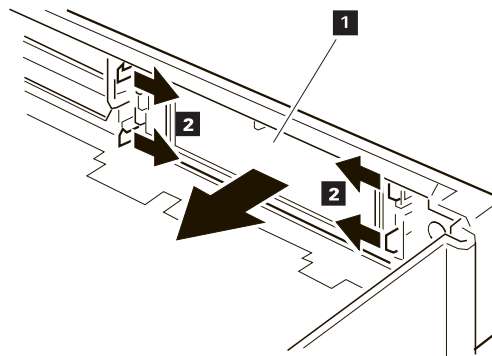


Removing the Blank Bezel for the 1-Inch-High and Half-High Drives

To remove the blank bezel, do the following:

1.

While pressing the latches 2 of the blank bezel 1 inward, push and remove the bezel 1 from the top cover.



2.

Keep the removed blank bezel for future use.

You have completed the removal of the blank bezel.

Installing the Blank Bezel for the 1-Inch-High and Half-High Drives

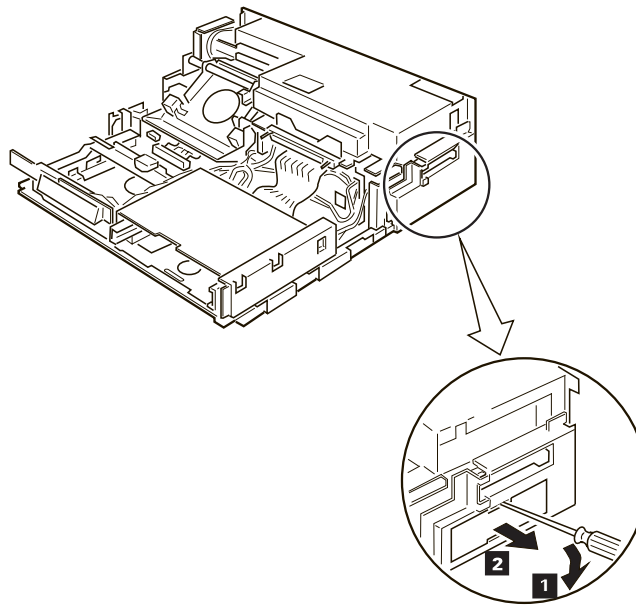
To install the blank bezel 1, push it in the opposite direction (see the previous figure) until it is latched by the latches 2.

Removing the Blank Bezel for the ISA Adapter Cards

To remove the blank bezel, do the following:

1.

Push the blank bezel 2 down and outward with a screwdriver 1 ; then remove the bezel.



2.

Keep the removed blank bezel for future use.

You have completed the removal of the blank bezel.

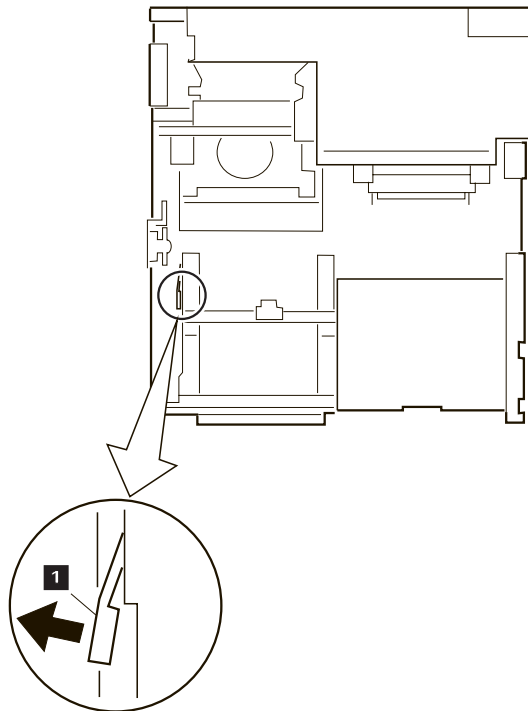
Installing the Blank Bezel for the ISA Adapter Cards

To install the blank bezel, place the bezel over the ISA slots and press it in until it latches.

Releasing the Latch

The latch is installed in the 1-inch-high drive space to hold the storage device after it is inserted. To remove the storage device, the latch must be released.

To release the latch to remove an internal storage device, press the latch **1** in an outward direction.







Chapter 5. Using the SCSI Controller



This chapter explains how to prepare for connecting peripherals, configuring the host adapter, and setting the switch block.

Important

This chapter must be referenced prior to the installation of SCSI devices.

This chapter supersedes all other documents when conflicting instructions are given. All relevant documents should be used.

This chapter contains:

Default Settings	74
Connecting Peripherals	74
Assigning SCSI IDs	74
Terminating the SCSI Bus	75
Configuring the Host Adapter	76
Running the SCSISelect Utility	76
Main Menu Options	77
Switch Block Settings	78



Default Settings

The Dock II operates correctly with factory default settings for most PCs. The default settings are:

Parameter	Default Setting
Host Adapter SCSI ID	7
Interrupt Channel	IRQ 11
Host Adapter Termination	Enabled
Host Adapter BIOS	Enabled at DC000h
Initiate Synchronous Negotiation	Enabled
Port Address	340h–35Fh
SCSI Bus Parity Checking	Enabled
SCSI Bus Reset at Host Adapter Initialization	Enabled
Greater than 1 GByte Support	Disabled
BIOS Support for More than 2 Drives	Disabled
SCSI Disconnection	Enabled
Data Transfer Mode	Programmed I/O
Send Start Unit Command	Disabled
Include in BIOS Scan	Enabled

Disabling the BIOS

CD-ROM drives, tape drives, and other non-disk SCSI devices do not use the host adapter BIOS. Therefore, if no SCSI hard disk drives are connected to the host adapter, you can reduce bootup time if you *disable* the host adapter BIOS.

Connecting Peripherals

Assigning SCSI IDs

Each device on the SCSI bus must have a different SCSI ID. When you boot your PC, the SCAM (SCSI configured auto-magically) protocol software included with the Dock II automatically assigns SCSI IDs to SCAM-capable devices.



Conventional SCSI devices are not SCAM-capable; their SCSI IDs are set by jumpers or switches and cannot be changed by SCAM commands. This causes a problem only if two or more older devices are set to the same SCSI ID, which will create a conflict. If this happens, you must change the switch or jumper settings to a different SCSI ID. See your SCSI peripheral documentation for directions on how to do this.

The default host adapter ID is SCSI ID 7 and should not be changed. Only the *SCSISelect* utility can change the host adapter ID.

If you need to assign SCSI IDs manually, it is recommended that you assign SCSI IDs 0 and 1 to the first two SCSI hard disk drives in your system.

Terminating the SCSI Bus

The last physical SCSI device on either end of the SCSI bus must have a set of resistors called *terminators*. Terminators must be removed from, or disabled on, all other devices on the SCSI bus.

The Dock II and most SCSI peripherals have built-in terminators that can be enabled or disabled. Terminate *only* the devices at each end of the SCSI bus.

Terminating the Host Adapter

Termination is *enabled* by default on the Dock II. You must *disable* host adapter termination if you attach SCSI devices to **both** the internal and external SCSI connectors.

The following table lists the three possible types of SCSI bus configuration.

Devices Connected to SCSI Bus	Host Adapter Termination
Internal devices only (host adapter at end of bus)	Enabled



Devices Connected to SCSI Bus	Host Adapter Termination
External devices only (host adapter at end of bus)	Enabled
Internal and external devices (host adapter in middle of bus)	Disabled

The Dock II termination is controlled by the *SCSISelect* utility. If you need to disable host adapter termination, first complete the physical installation; then run this utility. (See “Configuring the Host Adapter”)

Terminating SCSI Peripherals

1. Read the manufacturer's documentation to determine how to enable or disable termination on SCSI peripheral devices.
2. Install or enable terminators on SCSI devices at the *ends* of the SCSI bus (cable).
3. Remove or disable terminators on all other devices on the SCSI bus.
4. Be sure the SCSI cables are connected securely. They may have been loosened if you changed jumper or switch settings on the peripherals.

Configuring the Host Adapter

The Dock II includes the menu-driven *SCSISelect* utility, which lets you change settings such as host adapter termination without opening your PC or setting switches. The *SCSISelect* utility also includes disk formatting utilities.

Running the SCSISelect Utility

There are two ways to start the *SCSISelect* utility:

- Press **Ctrl+A** when prompted at boot time.
- At the DOS prompt type **debug** and press **Enter**. Then at the *Debug* prompt (a hyphen), type:

g=xxxx:6

where xxxx are the first four digits of the host adapter BIOS address in hex. (DC000h is the default address.)

Use the Up and Down Arrow keys (↑ or ↓) and **Enter** to make selections. Press **Esc** at any time to return to the previous menu. You can press **F6** to restore the *original* default settings. To quit the changes you made in the Configure/View Host Adapter Settings menu, press **Esc** and select **NO** when asked if you want to save the changes.

Main Menu Options

Configure/View Host Adapter Settings

The Configuration screen displays the basic software configurable options: IRQ, Host Adapter SCSI ID, Parity Checking, and Host Adapter Termination. Highlight an option and press **Enter** to see a list of possible values. Some options include information to help you determine which value to select.

Note: The Configuration Manager assigns the host adapter's IRQ and other resources at system bootup. It will override any IRQ changes made in the *SCSISelect* utility.

If you select SCSI Device Configuration you can view another menu and change these options for each device on the SCSI bus: Initiate Synchronous Negotiation, Maximum Synchronous Transfer Rate, Enable Disconnect, Send Start Unit Command, and Include in BIOS Scan.

If you select Advanced Configuration Options you can view a menu of these advanced options: Host Adapter BIOS Enable or Disable, Extended BIOS Translation, and BIOS Support for More than 2 Drives (DOS 5.0 and above).

SCSI Disk Utilities

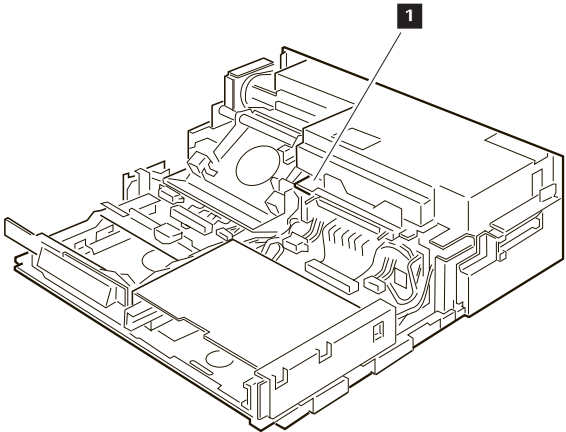
When you select SCSI Disk Utilities from the Main Menu, a list of installed SCSI devices appears. When you select a device, the Utilities menu appears.

Format Disk accesses the Adaptec SCSI low-level format utility. Most SCSI devices are pre-formatted and do not need to be formatted with this utility.

Verify Disk Media scans the selected device's media for defects. If it finds bad blocks, it prompts you to reassign them; if you select **Yes**, those blocks will no longer be used.

Switch Block Settings

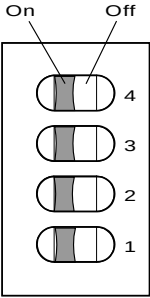
The Dock II switch block **1** is located at the upper left hand corner of the board.



To get access to the switch block, remove the top cover of the Dock II. See “Removing the Top Cover” on page 64.

The following table shows all possible settings of the four switches in the switch block. Default settings are marked with bold letters.



Memory Address Switches	sw1	sw2	sw3	BIOS Address
	Off	Off	Off	DC000h to DFFFFh
	Off	Off	On	CC000h to CFFFFh
	Off	On	Off	D4000h to D7FFFh
	Off	On	On	BIOS disabled, board inactive on reset
	On	Off	Off	D8000h to DBFFFh
	On	Off	On	C8000h to CBFFFh
	On	On	Off	D0000h to D3FFFh
	On	On	On	BIOS disabled, board active on reset
	sw4			Port Address
	Off			340h to 35Fh
	On			140h to 14Fh





Chapter 6. Solving Problems

Computer and Dock II problems can be caused by your computer, the Dock II, or both. To simplify diagnosing problems, isolate your computer and diagnose it first. Then test the Dock II with the computer docked. The diagnostic program on your computer diagnoses the Dock II and the computer when docked. Many problems can be diagnosed and solved with the assistance of the self-tests and the diagnostics programs of your computer.

By using the diagnostic programs on your computer, you may be able to solve the problem yourself or provide information to the service representative. Make a note of all error messages and be prepared to give them to the service representative if you need to call for service. If the diagnostic programs on your computer cannot be loaded, refer to the troubleshooting charts and other information supplied with your computer.

The troubleshooting charts and other information in this chapter will help you determine what corrective action to take for the Dock II.

Important

Use this chapter to test *IBM products only*. Other products may cause misleading error information or incorrect computer responses. Refer to the instructions supplied with those products for testing information.

This chapter contains:

Before Testing Is Started	83
Testing Your Dock II	85
Troubleshooting Charts	88
Computer Keyboard Problems	88
External Display (CRT) Problems	89
External Keyboard, External Numeric Keypad, or Pointing Device Problems	91
Intermittent Problems	93
LCD Problems	94



Option Problems	96
Printer Problems	99
Other Problems	99
Getting Service	101



Before Testing Is Started

Before starting the test, do the following:

Important

You may hear a continuous beep. This beep can be a message from the warning function of the Dock II. See “Rules of Docking and Undocking” on page 16 for the cause of the beep before you do the following.

1.

Turn off the computer.

2.

Remove the computer from the Dock II. (See “Undocking the Computer” on page 24.)

3.

Connect the cables (except the adapters), the storage device, or the external keyboard, to the computer.

4.

Test your computer (refer to the information supplied with your computer.) Did your computer detect any problems?

Yes Refer to any instructions supplied with your computer to resolve the problems.

No Go to step 5 on page 84.

5.

You are here because you did not find any problems on your computer.

Connect the cables to the Dock II.

6.

Dock your computer to the Dock II. (See “Docking the Computer” on page 19.)

7.

You will test the Dock II with the computer installed. Go to the next page.

Testing Your Dock II

Important

If you are instructed to get service during the following procedures, take your computer and the security lock key with the Dock II.

In this chapter, the *system unit* stands for both the computer and the Dock II.

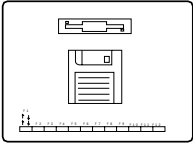
1.

Turn on all external devices; then turn on the computer.

The power-on self-test (POST) runs automatically from your computer.

If the test goes to completion without detecting an error, you will hear one beep and one of the following occurs:

The Diskette and F1 prompts (shown below) appear.



If an operating system or application software is installed, the operating system or application screen appears.

Did one of these screens appear?

Yes Continue with step 2.

No Refer to the following table. In the table, an X can be any character.

Screen Messages	Action
16X, 17X	Follow the instructions on the screen to correct the problem.
195 (The computer in hibernation mode might be attached to the Dock II)	Take the actions for hibernation mode on page 17.
Blank screen or any other screen response	Go to "LCD Problems" on page 94.
Other messages	Go to step 2.

2

Turn off the computer. Press and hold **F1**; then turn on the computer.

3

Did the Easy-Setup menu appear on the screen?

Yes The computer has successfully completed the POST and the system programs are loaded. To start the test programs, select the **Test** icon; then select the **Start** icon or press **Enter**.

If you cannot go past the first screen, have the system unit serviced.

If the Dock II stops during testing and does not continue, have the system unit serviced.

If testing does not find a problem and a problem still exists, go to the Troubleshooting Charts on page 88 and find the problems.

No If the Easy-Setup menu did not appear, it might have been caused by one of the following:

Power was incorrectly turned on in step 2.



Troubleshooting Charts

Troubleshooting Chart	Page
Computer Keyboard Problems	88
External Display (CRT) Problems	89
External Keyboard, External Numeric Keypad, or Pointing Device Problems	91
Intermittent Problems	93
LCD Problems	94
Option Problems	96
Printer Problems	99
Other Problems	99

Computer Keyboard Problems

Problems	Action
All or some keyboard keys on the computer keyboard do not work.	When the external keyboard is connected, the computer keyboard does not work. Verify the connection of the external numeric keypad, external keyboard, or mouse. If the problem still occurs, have the system unit serviced.
A number appears after typing an alphabetic character.	The Numeric Lock indicator is on. Press and hold Shift; then press NumLk.



External Display (CRT) Problems

Problems	Action
Blank screen.	Verify that: 1. The power cord for the external display is plugged into a working electrical outlet and into the external display. 2. The external display is turned on and the brightness and contrast controls for the display are turned up. 3. The signal cable for the external display is plugged into the external display connector on the Dock II. 4. The external display is selected as the display device using the Fn key Function or the ThinkPad Features. 5. When you are using a video adapter, connect the external display signal cable to the video adapter. If the above items are correct and the screen of the external display remains blank, run the display tests described in the instructions supplied with the external display. If those tests show the external display works correctly, have the system unit serviced.





Problems	Action
Screen is unreadable or distorted.	Verify that: 1. The ThinkPad 750 video device driver was installed correctly. Refer to the manual that came with the computer. 2. The Display in the Windows** Setup screen is set to your display resolution type. If the above is correct, run the tests described in the instructions supplied with the external display. If the tests show the external display works correctly, have the system unit serviced.
Wrong characters appear on the screen.	Verify that operating systems and application programs have been installed and configured correctly. If they are already installed and configured, have the system unit serviced.



** Trademark of the Microsoft Corporation.



External Keyboard, External Numeric Keypad, or Pointing Device Problems

Problems	Action
All or some keyboard keys do not work.	When the external keyboard is connected, the computer keyboard does not work. Verify that the external keyboard is correctly connected to the keyboard / numeric keypad connector. Verify that the external keyboard cable is securely connected. If the above items are correct, turn off the Dock II, remove the external keyboard from the Dock II, and turn on the computer. Try to operate the computer keyboard. If the computer keyboard works, have the external keyboard serviced.
All or some external numeric keypad keys do not work.	Verify that the external numeric keypad is securely connected to the keyboard or numeric keypad connector of the Dock II. If the mouse is connected to the Dock II: 1. Turn off the Dock II. 2. Remove the mouse. 3. Turn on the Dock II and try the keyboard operation again. If the problem still occurs, have the system unit serviced.

Problems	Action
The mouse or pointing device does not work.	The mouse or pointing-device does not work when it is connected to the mouse connector on the numeric keypad. Reconnect it to the mouse or pointing device connector of the Dock II. Verify that the device driver for the mouse is installed. Verify that the mouse or pointing-device cable is securely connected to the Dock II. If you use a mouse that is not compatible with the IBM PS/2* mouse, disable the TrackPoint II* pointing device by doing the following. 1. Press and hold down F1; then turn on the computer to start Easy-Setup. Hold down F1 until the Main Menu appears. 2. Select the CONFIG icon. 3. Select the Keyboard icon. 4. Select any icon other than <i>TrackPoint II</i>. 5. Press the OK button to save the change. 6. Restart the computer. If the problem still occurs, have the system unit serviced.

* Trademark of the International Business Machines Corporation.



Intermittent Problems

Problems	Action
Does your Dock II have an intermittent problem?	A problem can be difficult to find because it occurs just once in a while. If your Dock II has such a problem, verify that: 1. The computer is firmly attached to the Dock II. 2. All cables and power cords are securely connected to the rear of the Dock II and to the attached options. 3. When the Dock II is turned on, air is flowing from the louvers on the back side of the Dock II. If there is no air flow, the fan is not working. This causes the Dock II to overheat and shut down. 4. The SCSI device is correctly terminated. If the above items are correct and the problem still occurs, write down what the problem is and what the system was doing when the problem occurs. Then contact your place of purchase or service representative for help.



LCD Problems

Problems	Action
Blank screen with no beep. Note If you are not sure about the beep, turn the computer off, then turn the computer on again, and listen for the beep.	Verify that: 1. The Dock II power cord is plugged into a working electrical outlet and into the Dock II. 2. The cables connected to the Dock II are securely connected. (For locations where cables are connected, see “Locating Dock II Features” on page 4.) 3. The power switch is turned on. 4. The security lock is not in the extreme left position. 5. The computer is firmly installed on the Dock II. If the above items are correct and the screen remains blank, have the system unit serviced.
Blank screen with one beep. Note If you are using an external display, go to “External Display (CRT) Problems” on page 89.	When you are using an external display with a display adapter, a blank screen is normal. When you return to operating mode from suspend mode, one beep sounds and the suspend LCD on the computer blinks and a power-on password is required. The cursor does not appear as you type the power-on password, but it is entered. Verify that: 1. Both the brightness and contrast controls on the computer are correctly adjusted. 2. The <i>Display device</i> parameter in the ThinkPad Features menu is correctly specified. Refer to the information supplied with your computer. If the above items are correct and the screen remains blank, have the system unit serviced.



Problems	Action
Blank screen with a continuous beep, or two or more beeps.	This beep can be a message from the warning function of the Dock II. See “Warning Function” on page 10 for the cause of the beep. If the problem still occurs, have the system unit serviced.
Only the cursor “_” appears.	If you are using an external display with a display adapter, the cursor “_” is normal. Otherwise, have the system unit serviced.
Screen is unreadable or distorted.	Have the system unit serviced.
Wrong characters appear on the screen.	Have the system unit serviced.



Option Problems

Problems	Action
An IBM option that was just installed does not work.	Verify that: 1. The computer and Dock II hardware settings do not conflict. 2. The option is designed for the Dock II. 3. Be sure to follow the instructions supplied with the option. 4. The option is installed correctly. 5. You have not loosened any other installed options or cables. If the above items are correct, run the Expansion Unit diagnostics and “SCSI subsystem” diagnostics on the Dock II Option Diskette. <i>Note:</i> If a SCSI adapter card is installed in the ISA adapter card slot, remove it before running the diagnostics. See “Removing the Adapter Cards” on page 60. If the above items are correct and the test programs found no problems, have the system unit and the option serviced. If the option does not work with a specific computer, have that computer serviced with the Dock II.

Problems	Action
An IBM option that used to work does not work.	Verify that: 1. All of the option hardware and cable connections are securely connected. 2. If the option came with its own test instructions, use those instructions to test the option. If the failing device is a SCSI device: 1. Verify that the cables for all external SCSI devices are correctly connected. 2. Verify that all external SCSI devices are turned on. External SCSI devices must be turned on before the Dock II is turned on. If the above items are correct, run the Expansion Unit diagnostics and “SCSI subsystem” diagnostics on the Dock II Option Diskette. <i>Note:</i> If a SCSI adapter card is installed in the ISA adapter card slot, remove it before running the diagnostics. See “Removing the Adapter Cards” on page 60. If the above items are correct and the test programs found no problems, have the system unit and option serviced. If the option does not work with a specific computer, have that computer serviced with the Dock II.

Problems	Action
The PC card does not work.	Verify that: 1. The PC card is designed for the computer. 2. The software is suitable to be used with the PC card. See the instructions that came with the PC card. 3. If the PC card is supplied with its own diagnostic instructions, use those instructions to test the PC card. If the above items are correct, run the Expansion Unit diagnostics on the Dock II Option Diskette. <i>Note:</i> If a SCSI adapter card is installed in the ISA adapter card slot, remove it before running the diagnostics. See “Removing the Adapter Cards” on page 60.

Printer Problems

Problems	Action
The printer does not work.	Verify that: 1. The printer is turned on and is ready to print. 2. The printer signal cable is connected to the correct connector on the Dock II. (For the location of the printer connector, see “Parallel Connector” on “Locating Dock II Features” on page 4.) 3. You have correctly assigned the printer connector in your operating system or application. If the above items are correct and the printer still does not work, run the tests described in the printer manual. If the tests show that the printer works correctly, have the system unit serviced.

Other Problems

Problems	Action
Broken security lock.	Have the Dock II with the security lock key serviced. See “Ordering Additional Security Lock Keys” on page 35.
Cannot read nor write from or to the internal ThinkPad hard disk.	Verify that the hard-disk password has been removed.
Status indicators not working.	Have the system unit serviced. 1. The <i>hard disk in-use</i> indicator does not turn on when a SCSI hard disk is accessed. 2. When an external diskette drive is used, the indicator on the ThinkPad 750 FDD External Attachment Kit turns on.



Problems	Action
XXXXX KB OK and the computer hangs.	Verify that the computer and Dock II hardware settings do not conflict. If the problem still occurs, have the system unit serviced.
Cannot remove the computer from the Dock II.	Verify that the Dock II power cord is securely connected to the ac power source, the security lock on the left side of the Dock II is turned to the middle position; then try removing the computer again. If the problem still occurs, run the Expansion Unit diagnostics on the Dock II Option Diskette. <i>Note:</i> If a SCSI adapter card is installed in the ISA adapter card slot, remove it before running the diagnostics. See “Removing the Adapter Cards” on page 60.



Getting Service

Important

When visiting the service representative, be sure to take your computer and key for the security lock with the Dock II.

Note

During the warranty period, you may be responsible for repair costs if the product was damaged due to misuse, accident, modification, unsuitable physical or operating environment, or improper maintenance by you.

To obtain warranty service for the Dock II, call the IBM HelpCenter^{*}. See the statement of limited warranty on page 143.

When requesting service, describe the error message or problem to the service representative. Error messages help identify what service action is required and help the service representative provide quick and efficient service.

For your convenience, write down service phone numbers here:

^{*} Trademark of the International Business Machines Corporation.





Appendix A. Starting Up the Operating System



When the computer is docked to the Dock II, you can start up the operating system from the additional hard disk in the Dock II.

The procedures for starting up the operating system from the additional hard disk varies depending on which operating system you have installed on the additional hard disk.

This appendix contains:

Planning for the Operating System Startup	104
Starting DOS	106
Starting the OS/2 2.1 Operating System	110



Planning for the Operating System Startup

When you dock the computer to the Dock II, keep in mind the following.

When installing the operating system, verify the following.

- The configuration of all additional hard disks attached to the Dock II.
- All external SCSI devices are turned on.

The drive letter assigned to the partitions on the computer and on the additional hard disk may change when the computer is docked to the Dock II. When the originally-assigned drive letter for the hard disk is changed, as shown in the following examples, the operating system cannot be started up correctly.

Examples:

Hard Disk Drive in the Computer

Boot Manager	→ No drive letter
Primary (DOS)	→ C:
Logical Drive (OS/2 2.1 or later)	→ D:

Figure 1. Drive Letters assigned to the computer. The drive letter assigned to the partition containing the OS/2* 2.1 operating system is drive D.

* Trademark of the International Business Machines Corporation.

Hard Disk Drive in the Computer

Additional Hard Disk

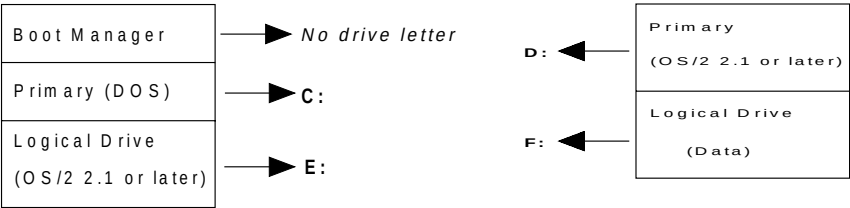


Figure 2. Drive Letters assigned on the computer when docked to the Dock II. The drive letter assigned to the partition containing the OS/2 2.1 operating system changes to E when docked to the Dock II.

For more information, refer to the manuals that came with the operating system.

Warning:

The assigned drive letters will vary depending on the defined startup sequence and on the operating system or the device drivers used. If you have changed your startup sequence in the Easy-Setup menu, you must be extremely careful when you do write operations, such as copying, saving, or formatting. Your data or programs will be overwritten if you select the wrong drive.

Only one startup sequence can be stored in the computer. The result of starting up the operating system will vary if the computer is docked to another Dock II that has different configurations for the additional hard disk.

Starting DOS

To start up DOS from the additional hard disk in the Dock II, you must change the startup sequence.

Important

To start up DOS from a SCSI drive, set the SCSI ID of the drive to 0. You cannot start up DOS from drives with SCSI IDs other than 0.

To change the startup sequence, do the following.

1.

Install the additional hard disk in the Dock II.

2.

Check the devices you have installed or attached.

Then assign serial numbers (1 through 4) only to the hard disk devices you have checked, from the top to the bottom of the first table.

Then assign serial numbers (1 through 2) to the diskette drives.

The second table shows an example of a completed table.

✓		Drive Number	Hard Disk/Diskette Drive
			ThinkPad Hard Disk in the computer
			ThinkPad Hard Disk in the Dock II or IDE Hard Disk
			SCSI Hard Disk (SCSI ID Number 0)
			Diskette Drive in the computer
			Diskette Drive connected to the Dock II



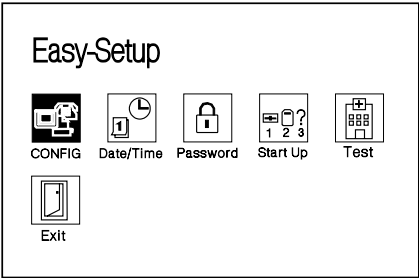
✓		Drive Number	Hard Disk/Diskette Drive
✓		1	ThinkPad Hard Disk in the computer
✓		2	ThinkPad Hard Disk in the Dock II or IDE Hard Disk
✓		3	SCSI Hard Disk (SCSI ID Number 0)
✓		1	Diskette Drive in the computer
✓		2	Diskette Drive connected to the Dock II

3.

Dock the computer to the Dock II and turn on all external devices and the system.

4.

The Easy-Setup menu appears.
Select **Start Up**.

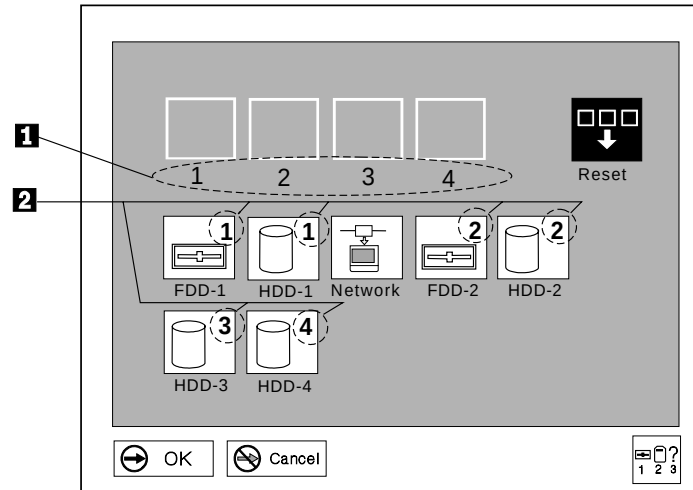


5.

In the **Start Up** menu, 1 indicates startup numbers and 2 indicates drive numbers.

By referring to the table that you completed in step 2, click up to four drive number icons in the order of the startup numbers.

The diskette drive where the *Installation Diskette* of DOS will be inserted must be clicked first. The additional hard disk where DOS will be installed must be clicked second. The hard disk in the computer must be clicked third.

**6.**

Insert the *Installation Diskette* of the operating system into the diskette drive and install the operating system on the additional hard disk.

You have completed the setup for starting up the operating system from the additional hard disk installed in the Dock II. When you turn on the computer docked to the Dock II the next time, the operating system on the additional hard disk will start up.



When the Computer Is Undocked

Whenever you undock the computer from the Dock II and turn on the computer, the operating system on the hard disk drive of the computer starts up. Error code **I999 3 1** is displayed to indicate that the *bootable* additional hard disk is not present. You can ignore this error code.



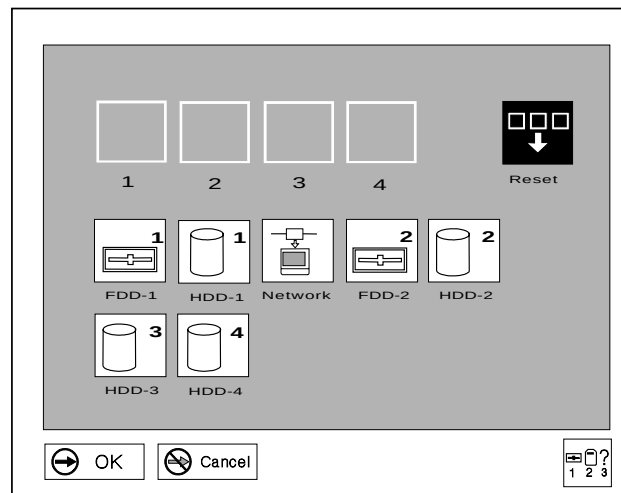
Starting the OS/2 2.1 Operating System

from the Additional Hard Disk

To start up the OS/2 2.1 operating system from the additional hard disk, you must use the Boot Manager.

Notes

In the **Start Up** menu, click on the “Reset” icon for the Boot Manager to start up correctly.



To boot the OS/2 2.1 operating system from the SCSI HDD, the SCSI ID of the HDD should be set to **0** to have the Boot Manager recognize the HDD.

You need the *OS/2 Installation Diskette* and *Diskette 1* that is supplied with the OS/2 2.1 operating system. To start up the operating system from the additional hard disk, do the following.

1.

Install the additional hard disk in the Dock II.

2.

Dock the computer to the Dock II.

3.

Insert the *Installation Diskette* into the diskette drive and turn on the Dock II using the power switch of the computer. Follow the instructions on the screen until the Installation Drive Selection screen is displayed.

4.

From the Installation Drive Selection screen, select option 2, **Specify a different drive or partition** to display the FDISK screen.

5.

If you have not created a Boot Manager partition, do so now at the FDISK screen. Otherwise, go to step 6 on page 112. For more information, refer to the manuals that came with the operating system.

CAUTION:

The Boot Manager requires 1MB of free space. When partitions on a hard disk are modified, all of the data in those partitions are deleted. Make backup copies of all necessary data before you continue.

6.

Add the operating system on the additional hard disk to the Boot Manager menu, by selecting **Add to Boot Manager menu** from the Options menu.

7.

If you are installing the operating system on the additional hard disk, set the partition for the additional hard disk drive to installable; then install the operating system.

8.

If you have already installed the OS/2 2.1 operating system, save the changes and exit the program.

9.

When the Boot Manager menu appears on the screen, select the option for the additional hard disk drive.

You have completed the setup for starting up the OS/2 2.1 operating system from the additional hard disk.



When the Computer is Undocked

If you have set the default value to the hard disk drive in the computer and have undocked the computer from the Dock II, no error code appears. When the computer is turned on, the additional hard disk drive is automatically removed from the Boot Manager menu, and stays removed until the computer is docked to the Dock II.

Boot Manager Menu

The Boot Manager starts up the operating system that is selected from the Boot Manager menu, regardless of its contents, if there is a matching partition assigned the selected drive letter.





Appendix B. Using the SCSI Support Software

This appendix explains how Adaptec EZ-SCSI configures SCSI devices installed in your computer. EZ-SCSI analyzes your SCSI configuration, copies applications and device drivers to the hard disk, and adjusts configuration files automatically. After you install EZ-SCSI, your computer is ready to use all the features of SCSI.

Read this appendix to find out:

- How to install Adaptec EZ-SCSI for Windows or DOS

- How to reinstall EZ-SCSI if your computer hardware setup changes

- How to use the EZ-SCSI formatting utilities

- How to troubleshoot your computer and its devices

Adaptec EZ-SCSI automatically configures your computer for your SCSI host adapter and the devices connected to it. EZ-SCSI also copies applications and device drivers to your computer's hard disk drive. The configuration and installation process is explained with a series of screens in both the DOS and Windows version of EZ-SCSI. In nearly every case, your computer and SCSI devices will be configured correctly when you accept the default values suggested by these screens. EZ-SCSI prepares your computer to take full advantage of all the performance benefits of SCSI.

The Dock II Option Diskette includes both a DOS and a Windows version of the program.

If Microsoft^{**} Windows 3.1 or later is installed on your computer, follow the instructions in "Installing EZ-SCSI for Windows."

If Windows 3.1 or later is not installed on your computer, it is recommended that you install it before you install EZ-SCSI so you can use the EZ-SCSI Windows applications.

^{**} Trademark of the Microsoft Corporation.

If your system uses DOS but not Windows, follow the instructions in "Installing EZ-SCSI for DOS."

Notes:

1. If you use an operating system other than DOS and Windows, install the driver for the Adaptec AHA-1520 adapter.
2. The files on the Dock II option diskette are compressed. Do not use the DOS **copy** command to install them on your computer. (The files are decompressed automatically when you install EZ-SCSI.)
3. The drive letters for configured SCSI devices are kept even if the computer is not docked to the Dock II so that you can use SCSI devices without rebooting the system; you only need to:

1. Close the display to suspend the operation.
2. Connect your computer to the Dock II.
3. Open the display to resume the operation.

SCSI devices are now ready to operate.

This chapter contains:

Installing EZ-SCSI for Windows	117
Installing EZ-SCSI for DOS	118
Reinstalling Adaptec EZ-SCSI	119
Viewing More Online Information	120
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Command Line Option	125
Running afdisk	125
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Installing EZ-SCSI for Windows

The Windows version of EZ-SCSI gives you access to the Adaptec SCSI device drivers and ASPI (advanced SCSI programming interface) managers that make your SCSI devices work together efficiently. It also includes a number of applications that are described later in this appendix. Dock your computer to the Dock II; then follow these steps to install Adaptec EZ-SCSI for Windows:

1. Start Windows.
2. Insert the Dock II option diskette into the diskette drive.
3. Select **File** and **Run** from the Program Manager menu bar. When the Run dialog box appears, enter **a:\setup** if you are using the A drive, or **b:\setup** if you are using the B drive.
4. Click **OK**. A message appears while Adaptec EZ-SCSI loads into memory.
5. Click **Install Adaptec EZ-SCSI** to continue with installation.

Click **Help** on any screen to view more information. To close a Help window, select **File** and **Exit** or double-click the Control-menu box in the upper left corner of the window.

6. Follow the instructions that appear on the screen. Click **Continue**, **Install**, or **OK** to continue with the installation and accept the EZ-SCSI default values.

If you accept all the default values, EZ-SCSI:

Decompresses and copies the files to the c:\scsi directory. (It creates this directory if it does not already exist.)

Adds command lines to your computer's configuration files (*autoexec.bat* and / or *config.sys*) that load the required device drivers into memory when you start your computer

Follow the instructions on the screen if you want to copy the files to a different directory or control the changes to your configuration files.

The last EZ-SCSI screen has three buttons:

Click **Reboot** to restart your computer and activate the newly installed EZ-SCSI device drivers.

Click **Return to Windows** to exit EZ-SCSI and keep working in Windows without restarting your computer. You must restart your computer later to activate the new configuration.

Click **View README** to view the information in the *readme.txt* file.

When you return to Windows before or after restarting your computer, you will see the Adaptec SCSI group, which contains icons for several EZ-SCSI applications and informational files.

Installing EZ-SCSI for DOS

The DOS version of EZ-SCSI gives your computer access to the Adaptec SCSI device drivers and ASPI managers. It also includes several formatting utilities and an audio CD-Player application.

Note: Adaptec EZ-SCSI for DOS does not install any Windows applications, nor does it install ASPI for Windows. If Microsoft Windows 3.1 or later is installed on your computer, follow the directions in "Installing EZ-SCSI for Windows."

Dock your computer; then follow these steps to install Adaptec EZ-SCSI for DOS:

1. Insert the Dock II option diskette into the diskette drive on your computer.
2. At the DOS prompt, change to the drive letter where you inserted the diskette (either A or B).
3. Type *dosinst* and press **Enter**. A message appears while Adaptec EZ-SCSI loads into memory.

4. When the first EZ-SCSI screen appears, read the text carefully. You can press **F1** for additional Help text on any screen. (Press **Esc** to exit a Help screen.)
5. Press **Enter** to continue with the installation.
6. Follow the instructions that appear on the screen. Press **Enter** at every screen to accept the EZ-SCSI default values. (Press **Esc** to continue after EZ-SCSI enters changes to your system configuration files.)

If you accept all the default values, EZ-SCSI:

Decompresses and copies the files from the diskettes to the c:\scsi directory. (It creates this directory if it does not already exist.)

Adds command lines to your computer's configuration files (*autoexec.bat* and /or *config.sys*) to load the required device drivers into memory when you start your computer

If you want to copy the files to a different directory or control the changes to your configuration files, follow the instructions on the screen. Press **F1** on any screen to see more information.

7. When you see the final screen and the message "Adaptec EZ-SCSI has been successfully installed...", press **Enter** or **Esc** to exit EZ-SCSI. Then restart your computer.

Reinstalling Adaptec EZ-SCSI

You should reinstall Adaptec EZ-SCSI if you change your computer's SCSI hardware configuration. This allows EZ-SCSI to adjust your configuration files so the appropriate device drivers and other files are loaded into memory.

For example, if you reinstall EZ-SCSI after connecting a CD-ROM drive to your host adapter it adds the CD-ROM device driver to your

configuration files and assigns the correct drive letter to the new device.

To reinstall EZ-SCSI, follow the directions given earlier in this appendix for either the DOS or Windows versions.

Viewing More Online Information

Adaptec EZ-SCSI includes online information to help you better understand EZ-SCSI features and your SCSI devices. Here is a brief description of these informational applications.

In the Windows environment you can view these applications or files by double-clicking their icons in the Adaptec SCSI group.

readme.txt File

(DOS and Windows) The *readme.txt* file has information about new EZ-SCSI features, CD-ROM drive support, and other topics. In the DOS environment you can view the file in any text processor. In Windows, you can double-click its icon in the Adaptec SCSI group.

Adaptec SCSI Interrogator

(Windows only) The Adaptec SCSI Interrogator displays information about the SCSI devices on your system. When you double-click the icon that represents the device, you can view information about its supported features, manufacturer, model number, storage capacity, and so on. The Adaptec SCSI Interrogator also lets you lock, unlock, and eject media in removable-media drives.

The Adaptec SCSI Interrogator includes online Help that explains how to interpret the product information.

Formatting Utilities

Adaptec EZ-SCSI includes the *scsifmt* and *afdisk* formatting utilities. These utilities are copied to your hard disk when you install either the DOS or Windows version of EZ-SCSI.

scsifmt

scsifmt is a low-level formatting utility for SCSI hard disks, removable media, diskette drives, and magneto-optical drives. You can also use *scsifmt* to scan a disk device for surface defects before you store data on it.

Command Line Options

You can use the following command line options when you start *scsifmt* from the DOS prompt:

To make *scsifmt* run in monochrome mode, type:

```
scsifmt/m
```

This option may be useful if the *scsifmt* screens do not display correctly on your computer or monochrome VGA monitor.

To format SCSI disk devices that support more than one LUN (logical unit), type:

```
scsifmt/L
```

To use both options together, type:

```
scsifmt /m /L
```

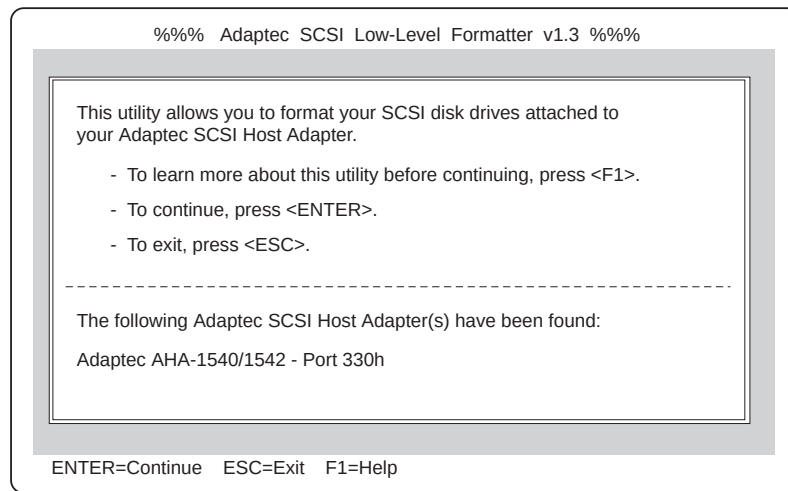
Running scsifmt

Before you run *scsifmt*, make sure the disk devices you want to format are connected to your host adapter and power is turned on. If you want to format removable media, make sure it is in the disk device.

You must exit Windows before running *scsifmt*. You cannot run the utility from the Windows MS-DOS Prompt.

Press **F1** to view online Help information for any *scsifmt* screen.
Press **Esc** to exit the Help screen.

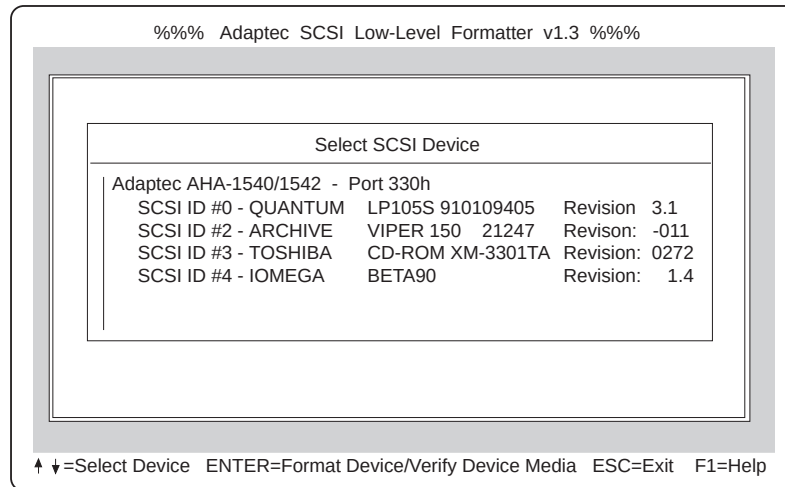
1. Change to the directory where *scsifmt.exe* is located (the default directory is *c:\scsi*) and enter *scsifmt* to start the program. The following screen appears.



scsifmt scans your computer for Adaptec SCSI host adapters and displays information about them at the bottom of the screen. In the above screen *scsifmt* found an AHA-1540/1542 host adapter at port 330h.

2. Press **Enter** to continue. (You can also press **F1** to view a Help screen or press **Esc** to exit *scsifmt*.)

Next, *scsifmt* displays information about the installed SCSI devices, as shown in the following figure.



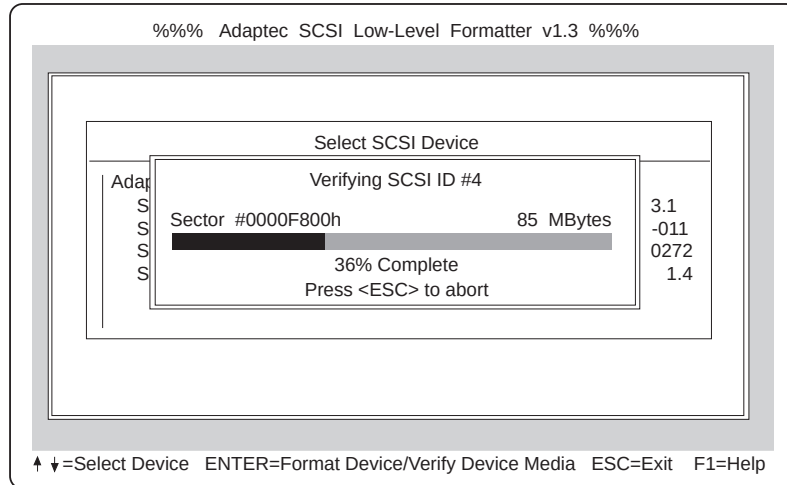
- Use the Up and Down Arrow keys (↑ or ↓) to select a disk device; then press **Enter**.
- When the next screen appears, select **Format** (to format the disk device) or **Verify** (to scan the disk device for defects); then press **Enter**.

CAUTION:

A low-level format erases all data from the disk. Back up important data on the disk device before you format it!

- If you selected **Format**, verify that you want to format the disk (or abort the Format option); then wait while *scsifmt* formats the disk device. This may take a long time for a large-capacity disk device.

If you select **Verify**, verify that you want to scan the disk media for defects (or abort the Verify option). A screen similar to the following appears.



You can press **Esc** at any time to abort this process. This does not damage the disk; it just stops the operation before the entire disk has been scanned for defects.

If *scsifmt* finds defects on the disk, it displays information about the defects. It allows you to reassign the bad blocks on the disk device to prevent data from being stored there.

6. Repeat steps 3 on page 123, 4 on page 123, and 5 on page 123, as needed, to Format or Verify other disk devices. When you are finished, press **Esc** to exit *scsifmt*.

afdisk

afdisk is a formatting utility for SCSI hard disks, removable media, and magneto-optical drives. You can use *afdisk* to:

- Format SCSI hard disk drives

- Format removable media in standard hard disk format, OS/2 floppy format, or DOS V (Japanese) format

- Add partitions, or delete partitions created with the DOS *fdisk* utility

Delete non-DOS partitions

Use *afdisk*, not the DOS *fdisk* utility, to partition SCSI disk drives that are not managed by the host adapter BIOS (basic input/output system).

Use the DOS *fdisk* utility, not *afdisk*, to format or partition devices that are controlled by the host adapter BIOS.

Partitions created with *afdisk* can be accessed when you boot your computer with the *aspidisk* driver. Partitions created with *afdisk* are compatible with DOS partitions.

You can boot your computer from a SCSI disk partition controlled by the host adapter BIOS if the partition was formatted to include the system files (for example, using the */s* option of the DOS *format* utility). If you want to boot from a SCSI disk, you must be using DOS 3.3 or later.

After you partition a disk device with *afdisk* you should also run the DOS *format* utility on the device before you use it. This helps to ensure that the disk media is free of defects.

Command Line Option

You can use this command line option to make *afdisk* run in monochrome mode:

```
afdisk /m
```

This option may be useful if the *afdisk* screens do not display correctly on your computer or monochrome VGA monitor.

Running afdisk

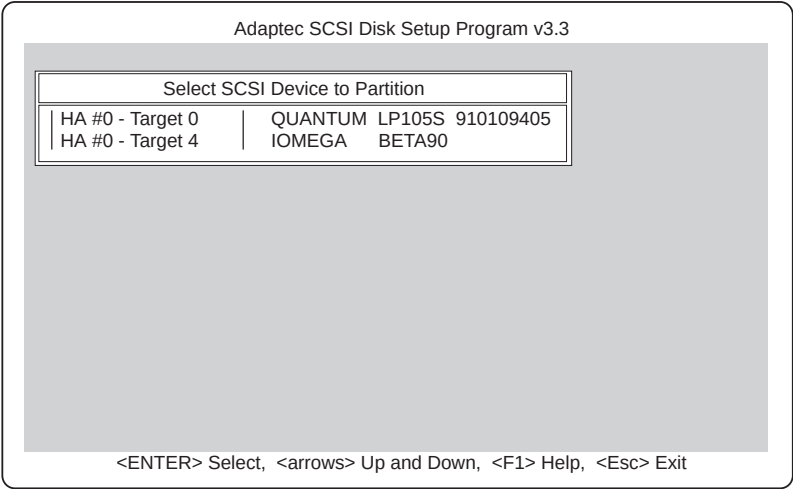
Before you run *afdisk*, be sure the disk devices you want to format or partition are connected to your host adapter and are turned on. If

you have a removable-media drive, be sure that media is inserted in the drive.

You must close Windows completely before running *afdisk*. You cannot run the utility from the Windows MS-DOS Prompt.

Press **F1** to view online Help information for any *afdisk* screen. Press **Esc** to exit the Help screen.

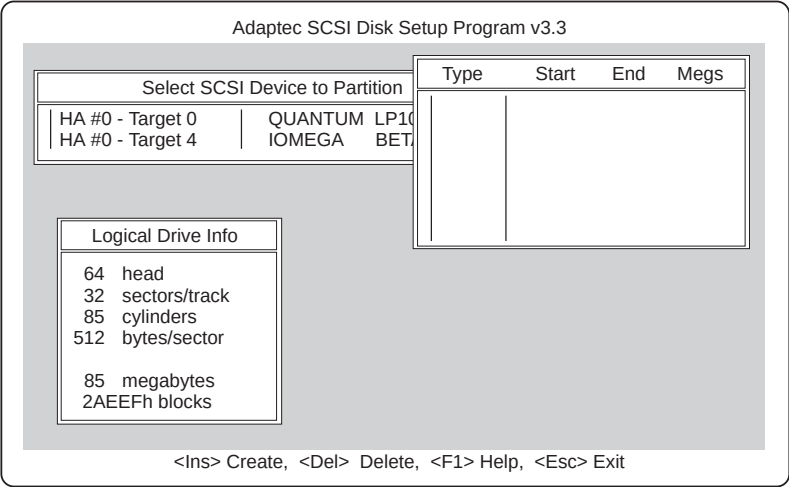
1. Change to the directory where *afdisk.exe* is located (the default directory is *c:\scsi*) and enter *afdisk* to start the program. The following screen appears.



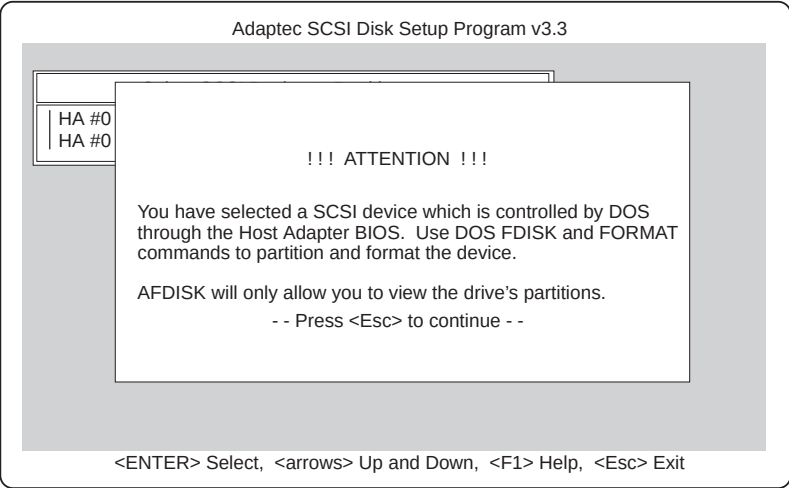
afdisk lists all installed SCSI disk devices, including removable-media drives and SCSI drives controlled by the host adapter BIOS. Reading from left to right, the following information is listed for each device:

- HA #** The host adapter number. This number is zero if the computer has a single host adapter.
- Target #** The device's SCSI ID number.
- Drive ID** The SCSI device's vendor name and product identification.

2. Use the Up and Down Arrow keys (↑ or ↓) to select a disk device; then press **Enter**. A screen similar to the following appears, if the disk is formatted.



If the selected device is controlled by the host adapter BIOS, *afdisk* displays a screen similar to the following. You can view information for this device, but you cannot change its partitions with *afdisk*.



If the disk media is unformatted, you must format it before you can create partitions. To do this, follow the instructions on the screen. Read the *afdisk* online Help, which explains the available formatting options.

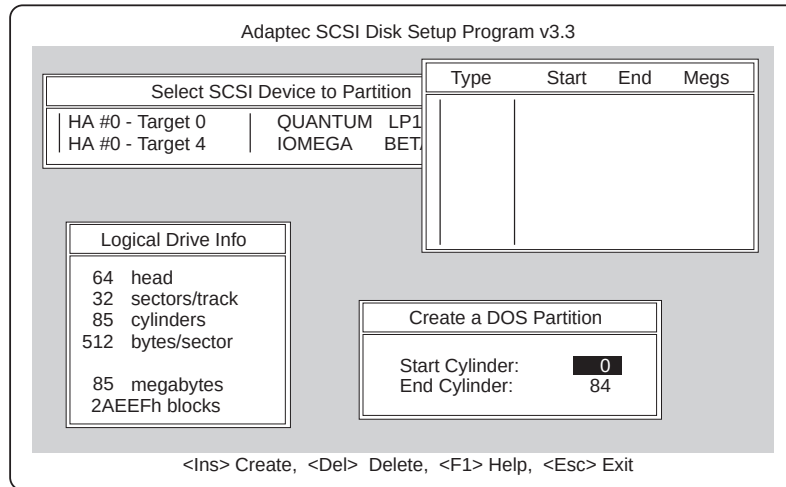
If you select a removable-media device with a diskette format, such as a magneto-optical (MO) device, *afdisk* asks if you want to delete the diskette format. Select **No**, unless you want to reformat the media in a different format.

If the disk media is formatted, *afdisk* displays information about the selected physical drive in the lower left corner of the screen, as shown in the following figure. The following table shows the translation schemes used by Adaptec SCSI host adapters.

Drive Capacity	Translation Scheme	Number of Cylinders
Less than 1 GByte	64 heads, 32 sectors per track	Equal to number of MBytes of available capacity
Greater than 1 GByte	255 heads 63 sectors per track	One cylinder per 8 MBytes of available capacity

Partitions that currently exist on the drive appear in the upper right corner of the screen. (The example shown in the previous figure has no partitions.) Select a partition with the Up and Down Arrow keys (↑ or ↓). To delete a partition, press **Del** and select **Yes** at the prompt.

3. To create a new partition, press **Ins**. The following screen appears.



The Create a DOS Partition window at the lower right of the screen suggests by default that you create one partition equal to the total capacity of the disk device, which in this example is 85 MBytes. (Each cylinder equals 1 MByte; cylinders are numbered 0 through 84.)

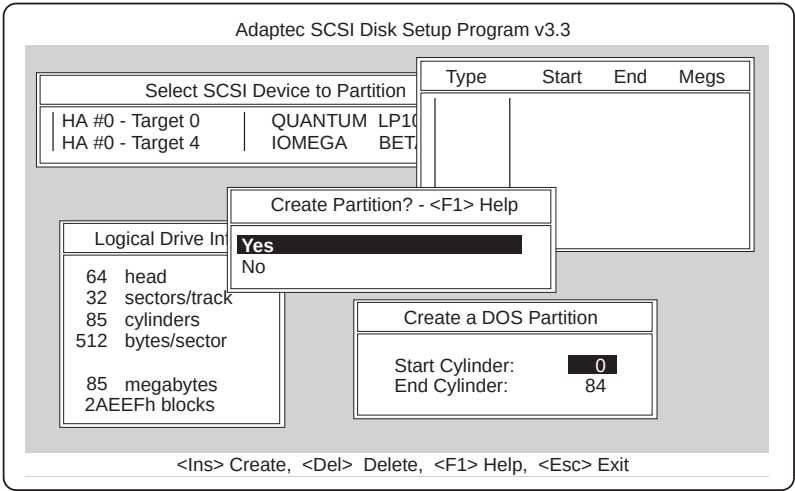
If you want just one partition on the disk device, skip to step 5 on page 130.

4. To change the Start Cylinder and End Cylinder values, select them with the Up and Down Arrow keys (↑ or ↓) and enter different values.

You need to change these values if you want to create multiple partitions on the disk device. In this example, you could change the End Cylinder number to 44 to create a 45-MByte partition. Then you could create a 40-MByte partition for cylinders 45 through 84. Each partition would then be assigned a different drive letter, such as *E* and *F*.

Note: *afdisk* displays an error message if you try to enter invalid values, such as a number greater than the actual number of cylinders on the disk.

5. When you have entered the number of cylinders you want, press **Esc**. The screen shown in the following figure appears.



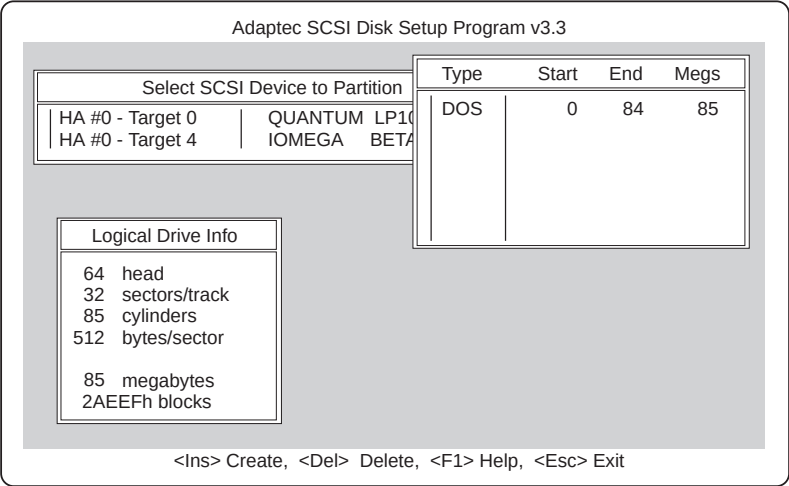
6. To create the partition, select **Yes**; then press **Enter**.

If you want to create more partitions, press **Ins** and repeat steps 3 on page 128, 4 on page 129, and 5.

There are limits to the size of the partition, depending on which version of DOS you are using. The following table explains the limits:

DOS Version	Maximum Partition Size
IBM 3.30	32 MBytes / partition
IBM 4.0 or 4.01	1 GByte / partition to a maximum of 1 GByte / drive
IBM 5.0 and later	1 GByte / partition to a maximum of 1 GByte / drive. (Up to 2 GBytes / partition to a maximum of 8 GBytes / drive, if extended BIOS translation is used.)

As you create partitions, *afdisk* displays them in the upper right of the screen, as shown in the following figure.



- 7. Press **Esc** to return to the Select SCSI Device to Partition window. If you want to format a different disk device or create partitions on it, select the device from the list.
- 8. To quit *afdisk*, press **Esc** and select **Yes** when you are asked if you want to quit.

If you have changed the disk partitions, a screen message reminds you that you must restart your computer before you can access the newly-created partitions.

Note: If you add or delete disk partitions, you must reinstall EZ-SCSI to update the system configuration.

General Hardware Troubleshooting

Check these things first if an error message indicates that the software programs cannot find a SCSI device (for example, a CD-ROM drive or hard disk drive) connected to the SCSI bus:

Be sure your computer is docked.

Be sure that termination is correctly set for all devices on the SCSI bus, as described in your host adapter documentation.

Be sure the cables connecting the external and internal SCSI devices and the host adapter are attached securely. Also be sure the pin-1 orientation is correct for internal cables. If all connections are secure and if you have ruled out other possible problems, try replacing the cable.

Be sure CD-ROM drives and other SCSI devices are attached to a power source and are turned on.

Technical Support

If you cannot solve your problem after reading this troubleshooting information, contact Adaptec technical support. When you call, have this information ready:

The model number of your Dock II and the version of EZ-SCSI you are using

The type and version number of the operating system you are using (for example, IBM DOS 5.0)

The contents of your *config.sys* and *autoexec.bat* files

Any error messages that appeared on your screen

The name of the place from which you purchased your Dock II

Appendix C. Using the Selectable Program Load

When an adapter card, for example, an audio adapter card is installed in the Dock II, an application program that enables the adapter card to operate is loaded into the memory of the computer. When you use the computer in a stand-alone mode the application program does not need to be loaded into the memory of the computer.

The application program can be loaded automatically when the computer is docked to the Dock II. To do this, modify the AUTOEXEC.BAT file (for the DOS sample) or the STARTUP.CMD file (for the OS/2 sample) as follows. The QExpUnit.EXE file is on the Utility Diskette supplied with the computer.

```
@echo off
QExpUnit > nul
If ErrorLevel 255 goto error
If ErrorLevel 2 goto exp2
If ErrorLevel 1 goto exp1
If ErrorLevel   goto exp

:exp
rem
rem Start the programs here which are to be run when no Dock II,
rem or the port replicator without PCMCIA is connected to the computer
rem
goto end

:exp1
rem
rem Start the programs here which are to be run when the port replicator
rem with PCMCIA slots is connected to the computer
rem
goto end

:exp2
rem
rem Start the programs here which are to be run when the Dock II
rem is connected to the computer
rem
goto end

:error
echo This version of QExpUnit will not run on this computer

:end
```

Appendix D. Specifications

The Dock II has the following specifications. The IBM power cord part numbers available in each country are listed in “IBM Power Cords” on page 137.

Physical Characteristics

Depth		400 mm (15.7 in.)
Height	Front	67 mm (2.6 in.)
	Rear	124 mm (4.8 in.)
Width		380 mm (15.0 in.)
Weight (without options)		7.7 kg (17.0 lb)

Environmental Requirements

Temperature, Relative Humidity, and Wet Bulb Temperature

Operating Environment	Temperature	5°C to 35°C (41°F to 95°F)
	Relative Humidity	8% to 95% (non-condensing)
	Maximum Wet Bulb	29.4°C (85°F)
Non-operating Environment	Temperature	5°C to 43°C (41°F to 109°F)
	Relative Humidity	8% to 95% (non-condensing)
	Maximum Wet Bulb	29.4°C (85°F)
Storage Environment	Temperature	−20°C to 60°C (−4°F to 140°F)
	Relative Humidity	5% to 95% (non-condensing)
	Maximum Wet Bulb	29.4°C (85°F)

Maximum Altitude

2435 m (8000 ft) under non-pressurized conditions

Electrical Characteristics

Heat Output	Base Configuration		181 BTUs/hr †
	Maximum Configuration		498 BTUs/hr
Input Voltage—Sine-wave Input (50 or 60 Hz) ††	Low Range	Minimum	100 V ac
		Maximum	125 V ac
	High Range	Minimum	200 V ac
		Maximum	240 V ac
Input Kilovolt-Amperes (k VA) (approximately)	Configuration as shipped from IBM		0.053 k VA
	Maximum Configuration		0.146 k VA
Power Cord			See “IBM Power Cords” on page 137.
<i>Notes:</i>			
† British Thermal Units per hour			
†† This product is also designed for an IT power system with Phase to Phase voltage not exceeding 240 V ac.			

Audio-Circuit Specifications

Speaker-In to Audio-Out

Input frequency 1 kHz, speaker-in level 200 mV rms:

Output (mV rms)	190 to 270
S/N ratio (dB)	> 48
Total Harmonic Distortion (THD) (%)	< 1

Speaker-In to Headphone Jack

Input frequency 1 kHz, Headphone impedance 32 , Speaker output 1 W:



Output (mW)	> 1
S / N ratio (dB)	> 50
Total Harmonic Distortion (THD) (%)	< 1

Speaker-In to Embedded Speaker

Input frequency 1 kHz, Speaker impedance 8 Ω :

Output (W)	> 2 †
S / N ratio (dB)	> 45 ††
Total Harmonic Distortion (THD) (%)	< 2 ††
<i>Notes:</i> † Speaker-In level 200 mV rms, Minimum attenuation †† Output level 50 mW	

IBM Power Cords

For your safety, IBM provides a power cord with a grounded attachment plug to use with this IBM product. To avoid electrical shock, always use the power cord and plug with a correctly grounded outlet.

IBM power cords used in the United States and Canada are listed by Underwriters Laboratories (UL^{**}) and certified by the Canadian Standards Association (CSA).

For units intended to be operated at 115 volts: Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a parallel blade, grounding-type attachment plug rated 15 amperes, 125 volts.

^{**} Trademark of Underwriters Laboratories Inc.



For units intended to be operated at 230 volts (in the U.S.): Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a tandem blade, grounding-type attachment plug rated 15 amperes, 250 volts.

For units intended to be operated at 230 volts (outside the U.S.): Use a cord set with a grounding-type attachment plug rated 15 amperes (minimum), 250 volts. The cord set should be marked <HAR> and have the appropriate safety approvals for the country in which the equipment will be installed. IBM power cords for a specific country are usually available only in that country:

Country	IBM Power Cord Part Number	Country	IBM Power Cord Part Number	Country	IBM Power Cord Part Number
Abu Dhabi	14F0033	Chile	14F0069	Haiti	13F9959
Albania	14F0033	Colombia	13F9959	Honduras	13F9959
Antigua	14F0033	Costa Rica	13F9959	Hong Kong	14F0033
Argentina	13F9940	Czech Republic	13F9979	Hungary	13F9979
Australia	13F9940	Denmark	13F9997	Iceland	13F9979
Austria	13F9979	Dominican Republic	13F9959	India	14F0033
Bahamas	13F9959	Dubai	14F0033	Indonesia	13F9979
Bahrain	14F0033	Ecuador	13F9959	Ireland	14F0033
Bangladesh	14F0015	Egypt	13F9979	Israel	14F0087
Barbados	13F9959	El Salvador	13F9959	Italy	14F0069
Belgium	13F9979	Fiji	14F0033	Jamaica	13F9959
Bermuda	13F9959	Finland	13F9979	Kenya	14F0033
Bolivia	13F9959	France	13F9979	Korea (South)	13F9959
Brunei	14F0033	Germany	13F9979	Kuwait	14F0033
Bulgaria	13F9979	Greece	13F9979	Macao	14F0033
Canada	13F9959	Guatemala	13F9959	Malaysia	14F0033
Cayman Islands	13F9959	Guyana	13F9959	Mexico	13F9959

Country	IBM Power Cord Part Number
Netherlands	13F9979
Netherlands Antilles	13F9959
New Guinea	13F9940
New Zealand	13F9940
Nicaragua	13F9959
Nigeria	14F0033
Norway	13F9979
Oman	14F0033
Pakistan	14F0015
Panama	13F9959
Papua New Guinea	13F9940
Paraguay	13F9940
People's Republic of China	14F0033
Peru	13F9959
Philippines	13F9959
Poland	13F9979
Portugal	13F9979
Qatar	14F0033
Romania	13F9979
Saudi Arabia	13F9959
Singapore	14F0033
South Africa	14F0015
Spain	13F9979
Sri Lanka	14F0015
Suriname	13F9959
Sweden	13F9979
Switzerland	14F0051

Country	IBM Power Cord Part Number
Taiwan	13F9959
Thailand	1838574
Trinidad (West Indies)	13F9959
Turkey	13F9979
U.K.	14F0033
U.S.	13F9959
Uruguay	13F9940
Venezuela	13F9959
former Yugoslavia	13F9979





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International Business Machines Corporation

Armonk, New York 10504

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 an IBM authorized reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. Machines are subject to these terms only if purchased in the United States or Puerto Rico, or Canada, and located in the country of purchase. If you have any questions, contact IBM or your reseller.

Machine: IBM ThinkPad Dock II

Warranty Period*: One year

**Elements and accessories are warranted for three months. Contact your place of purchase for warranty service information.*

Production Status

Each Machine is manufactured from new parts, or new and serviceable used parts (which perform like new 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

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications. IBM calculates the expiration of the warranty period from the Machine's 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 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. IBM or your reseller will specify the type of service.

For a feature, conversion, or upgrade, IBM or your reseller may require that the Machine on which it is installed be 1) the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. Some of these transactions (called "Net-Priced" transactions) may include additional parts and associated replacement parts that are provided on an exchange basis. All removed parts become the property of IBM and must be returned to IBM.

Replacement parts assume the remaining warranty of the parts they replace.

If a Machine does not function as warranted during the warranty period, IBM or your reseller will repair or replace it (with a Machine that is at least functionally equivalent) without charge. If IBM or your reseller is unable to do so, 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.

Warranty Service

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

Depending on the Machine, the service may be 1) a "Repair" service at your location (called "On-site") or at one of IBM's or a reseller's service locations (called "Carry-in") or 2) an "Exchange" service, either On-site or Carry-in.

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. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced.

It is your responsibility to:

1. obtain authorization from the owner (for example, your lessor) to have IBM or your reseller service a Machine that you do not own;
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,
 - c) inform IBM or your reseller of changes in a Machine's location, and
 - d) for a Machine with exchange service, remove all features, parts, options, alterations, and attachments not under warranty service. Also, the Machine must be free of any legal obligations or restrictions that prevent its exchange; and
3. be responsible for loss of, or damage to, a Machine in transit when you are responsible for the transportation charges.

Extent of Warranty

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

Misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible may void the warranties.

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In Canada, warranties include both warranties and conditions.

Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

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

1. bodily injury (including death), and damage to real property and tangible personal property; and
2. the amount of any other actual loss or damage, up to the greater of \$100,000 or the charge for the Machine that is the subject of the claim.

Under no circumstances is IBM liable for any of the following:



1. third-party claims against you for losses or damages (other than those under the first item listed above);
2. loss of, or damage to, your records or data; or
3. economic consequential damages (including lost profits or savings) or incidental damages, even if IBM 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.

This warranty gives you specific legal rights and you may also have other rights which vary from jurisdiction to jurisdiction.



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OS/2	PS/2
ThinkPad	TrackPoint II

The following terms, denoted by a double asterisk (**) in this publication, are trademarks of other companies as follows:

Adaptec	Adaptec, Inc.
EZ-SCSI	Adaptec, Inc.
Kensington	Kensington Microware Inc.
Microsoft	Microsoft Corporation
PCMCIA	Personal Computer Memory Card International Association
UL	Underwriters Laboratories Inc.
Windows	Microsoft Corporation

Federal Communications Commission (FCC) Statement

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.

Canadian Department of Communications Compliance Statement

This equipment does not exceed Class B limits per radio noise emissions for digital apparatus, set out in the Radio Interference Regulation of the Canadian Department of Communications.

Avis de conformité aux normes du ministère des Communications du Canada

Cet équipement ne dépasse pas les limites de Classe B d'émission de bruits radioélectriques pour les appareils numériques, telles que prescrites par le Règlement sur le brouillage radioélectrique établi par le ministère des Communications du Canada.

European Community (EC) Directive Conformance 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.

A Declaration of Conformity with the requirements of the Directive has been signed by IBM United Kingdom Limited, PO Box 30, Spango Valley, Greenock, PA16 0AH Renfrewshire, U.K.

This Product satisfies the Class B limits of EN 55022.

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