Dell™ Inspiron™ 2000 System Reference

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Power Management: Dell™ Inspiron™ 2000 System Reference

Experimenting With Power Conservation

In general, the lower the value you set for each power conservation feature, the longer thebattery's charge lasts. On the other hand, setting high values tends to optimize the computer's performance.

To evaluate the way that different settings affect how long you can operate the computer on battery power versus the relative efficiency of how the software performs, experiment as follows:

- Use the computer with all the options set at their default values.
- Use the computer with all the options disabled or set to **Off**.
- Use the computer with all the options set to their minimum or maximum values.

Using Key Combinations

Table 1 identifies the power management key combinations.

*NOTE: To use key combinations on an external keyboard, enable the **External Hot-Key** option in the system setup program, and press <Scroll Lock> instead of <Fn>.*

Table 1. Key Combinations

Feature	Activate/Deactivate
Turn off display	To activate, press <Fn><F1>. To deactivate, move the cursor or press a key on the integrated or external keyboard. (If nothing happens, the computer may be in suspend or standby mode. Press the power button to resume normal operation.)
Suspend (or standby) mode	To activate, press <Fn><Esc>. To deactivate, press the power button.
Suspend-to-disk mode*	To activate, press <Fn><a>. (On a French keyboard, press <Fn><q>.) To deactivate, press the power button.
View battery status icon	Press <Fn><F3>.

** This key combination does not function under an operating system with the Advanced Configuration and Power Interface (ACPI), such as Microsoft® Windows® 98.*

Closing the Display

One way to conserve power on the computer is to close the display when the computer is not in use. When you close the display and an external monitor is *not* connected, the computer's display shuts off and the computer enters suspend mode (standby mode in Windows 98).

NOTE: If an external monitor is connected when you close the display, the computer does not activate suspend (or standby) mode. You can still use the external monitor.

To resume work, open the display. (The computer may take several seconds to resume operation.)

Suspend Mode

If your computer is running the Microsoft Windows NT® operating system, suspend mode stops almost all computer activity, but leaves the computer ready to resume operations immediately in about 20 to 30 seconds. Use suspend mode whenever you leave the computer unattended.

NOTICE: Windows NT saves data to random-access memory (RAM), not to your hard-disk drive, before entering suspend mode. If the computer enters suspend mode while running on battery power, data loss from RAM can occur if the battery discharges completely.

Suspend mode conserves battery power by turning off the microprocessor clock; the display; the hard-disk drive; the CD-ROM, DVD-ROM, or LS-120 drive module (if installed); the external monitor connector; the external keyboard (if attached); the parallel port; the serial port; the touch pad; and the diskette drive.

You can enter suspend mode immediately by pressing <Fn><Esc> (or <Scroll Lock><Esc> on an external keyboard if the ***External Hot-Key*** option is enabled in the system setup program).

When you enter suspend mode, the power indicator is not lit.

Resume from suspend mode by pressing the power button. The computer may take several seconds to return to normal operation.

NOTES: On resumption from suspend mode, if a password is set, the computer displays the password prompt screen.

Suspend mode is known as standby mode under the Microsoft Windows 98 operating system.

Standby Mode

If your computer is running the Microsoft Windows 98 operating system, standby mode turns off the display, stops the hard-disk drive, and turns off other internal devices so that the computer uses less battery power. When the computer resumes operation from standby mode, the desktop is restored exactly as it was before entering standby mode.

NOTICE: Windows 98 saves data to random-access memory (RAM), not to your hard-disk drive, before entering standby mode. If the computer enters standby mode while running on battery power, data loss from RAM can occur if the battery discharges completely.

You can enter standby mode by pressing <Fn><Esc>.To resume operation from standby mode, press the power button.

Suspend-to-Disk (Hibernate) Mode

Suspend-to-disk (S2D) mode (known as *hibernate* under the Microsoft Windows 98 operating system) copies all system data to a reserved area—the S2D file—on the hard-disk drive and then turns off all power to the computer. When you resume normal operation, the same programs will be running and the same files will be open that were loaded before you activated this mode.

Place the computer in S2D mode if you intend to store the computer for a month or more. S2D mode preserves the configuration information stored in nonvolatile random-access memory (NVRAM). The reserve battery maintains this information, but it may run out of energy after about a month.

NOTE: S2D mode helps preserve system data by quickly saving it to the hard-disk drive if you are about to run out of battery power.

If the ***External Hot-Key*** option is enabled in the system setup program, you can enter S2D mode by pressing <Fn><a> (or <Scroll Lock><a> on an external keyboard). On a French keyboard, press <Fn><q> or <Scroll Lock><q>.

NOTE: These key combinations do not function under an operating system with ACPI, such as Windows 98.

Resume operation from S2D mode by pressing the power button.

Some PC Cards may not operate correctly after resuming from S2D mode. If you encounter problems with a card, remove and reinsert the card.

NOTE: Dell creates an appropriately sized S2D file before shipping the computer to you. Use the Suspend-to-Disk Utility to remove the file, to increase the size of the file, or to add the S2D file if you removed it. For information on creating a S2D file, see "Suspend-to-Disk Utility."

Power Management Properties for Windows 98

Windows 98 with ACPI provides the **Power Management Properties** window for setting power conservation features.

*NOTE: Set timeouts and enable hibernate (S2D) mode through the **Power Management Properties** window rather than through the **Power** screen in the system setup program.*

To access the **Power Management Properties** window and set the power management features, perform the following steps:

1. Click the **Start** button, point to **Settings**, and click **Control Panel**.
2. Double-click the **Power Management Properties** icon.

   The **Power Management Properties** window contains the following tabs:

   - **Power Scheme** — allows you to change individual power management settings or select one of three power mode settings (**Always On**, **Home/Office Desk**, or **Portable/Laptop**) that each provide a set of default power management settings.
   - **Alarms** — allows you to set the **Low Battery** and **Critical Battery** alarms to alert you when the battery charge falls below a certain percentage. When you received your computer, the **Low Battery** and **Critical Battery** alarm options were not checked. Dell recommends that you do not select these options.
   - **Power Meter** — allows you to view the percentage of battery life remaining when your computer is operating on battery power. If your computer is operating on AC power, the computer displays a message.
   - **Advanced** — allows you to display the **Power Meter** on the Windows 98 taskbar and to display a password prompt when the computer resumes operation from standby mode. **Advanced** also allows you to define the action of the Power buttons.
   - **Hibernate** — allows you to enable hibernate (S2D) mode in Windows 98.

Power Management Properties for Windows NT

Dell provides Softex software compatible with the Power Management Controller, which allows you to suspend and resume your portable computer.

For information about Softex power management software, see the Softex user's guides and see your *Dell-Installed Microsoft Windows NT Workstation Setup Guide*.

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Conventions: Dell™ Inspiron™ 2000 System Reference

Notational Conventions

The following subsections list notational conventions used in this document.

Notes, Notices, and Cautions

Throughout this guide, blocks of text may be accompanied by an icon and printed in bold type or in italic type. These blocks are notes, notices, and cautions, and they are used as follows:

NOTE: A NOTE indicates important information that helps you make better use of your computer.

NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

CAUTION: A CAUTION indicates the potential for bodily harm and tells you how to avoid the problem.

Typographical Conventions

The following list defines (where appropriate) and illustrates typographical conventions used as visual cues for specific elements of text throughout this document:

- *Interface components* are window titles, button and icon names, menu names and selections, and other options that appear on the monitor screen or display. They are presented in bold.

  Example: Click **OK**.

- *Keycaps*, the labeling that appears on the keys on a keyboard, are enclosed in angle brackets.

  Example: <Enter>

- *Key combinations* are series of keys to be pressed simultaneously (unless otherwise indicated) to perform a single function.

  Example: <Ctrl><Alt><Enter>

- *Commands* presented in lowercase bold are for reference purposes only and are not intended to be typed at that particular point in the discussion.

  Example: "Use the **setup** command to . . . ."

  In contrast, commands presented in the Courier New font are intended to be typed as part of an instruction.

  Example: "Type `format a:` to format the diskette in drive A."

- *Filenames* and *directory names* are presented in lowercase bold.

  Examples: **autoexec.bat** and **c:\windows**

- *Syntax lines* consist of a command and all its possible parameters. Commands are displayed in lowercase bold; variable parameters (those for which you substitute a value) are displayed in lowercase italics; constant parameters are displayed in lowercase bold. The brackets indicate items that are optional.

  Example: **del** [*drive***:**] [[*path*]*filename*] [**/p**]

- *Command lines* consist of a command and may include one or more of the command's possible parameters. Command lines are presented in the Courier New font.

  Example: `del c:\myfile.doc`

- *Screen text* is text that appears on the screen of your display or external monitor. It can be a system message, for example, or it can be text that you are instructed to type as part of a command (referred to as a *command line)*. Screen text is presented in the Courier New font.

  Example: The following message appears on your screen:

  ```
  No boot device available
  ```

- *Variables* are symbols for which you substitute a value. They are presented in italics.

  Example: module *n* (where *n* represents the memory module number)

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Installing Drivers: Dell™ Inspiron™ 2000 System Reference

All of your computer's drivers for Dell-installed devices are operative when you receive the computer. No further installation or configuration is needed. However, if you ever need to reinstall any of these drivers, the driver files are provided on the *System Software* CD.

Often device problems can be corrected by reinstalling the appropriate drivers. Also, hardware manufacturers frequently provide updated drivers that support feature enhancements or that correct problems. Obtain updated drivers for products purchased from Dell from the support section of the Dell World Wide Web site (**http://support.dell.com**).

NOTICE: Drivers available on the Dell Web site have been validated for correct operation on Dell systems. Installing drivers obtained from other sources may cause errors or performance degradation.

Before beginning this procedure, make sure that the external media bay containing a CD-ROM or DVD-ROM drive is connected to the computer, and make sure that the computer is connected to an electrical outlet.

*NOTE: If a **Version Conflict** dialog box appears at any time during this procedure, click **OK** and continue with the procedure.*

1. Insert your *System Software* CD into the CD-ROM or DVD-ROM drive.
2. Click **Start**, click **Run**, and type *d*`:\setup.exe` (where *d* is your CD-ROM or DVD-ROM drive letter) in the **Run** dialog box.
3. Click **Next** at the **Welcome** screen.
4. Read the **Information** screen and click **Next**.

   The system setup program checks to see if you need an operating system update before installing the drivers.
5. If the system setup program launches the Operating System Update program, click **OK** and then follow the screen prompts to complete the update. You may need to click **OK** to reboot the system several times during this process. When the system stops prompting you to reboot, repeat steps 2, 3, and 4.
6. At the **Setup Type** dialog box, highlight the level of installation you desire:
   - **Core Drivers** — includes the audio, video, touch pad, modem, local area network (LAN), and MS-DO® CD-ROM drivers.
   - **All Drivers and Applications** — includes the core drivers plus other application programs such as the Yamaha Software Wavetable, Softex BayManager, your computer's system Help, and various system utilities.
   - **Custom** — lists all available drivers, applications, and utilities. To perform a custom installation, click **Custom** and then click the radio button for each item you want to install.
7. Click **Next** to view a list of the files that will be installed; then click **Next** again.

   The selected files are copied to your hard-disk drive in preparation for installation.
8. Read the **Information** dialog box and click **OK**.

   The Windows driver **QuickInstall** screen appears and driver installation begins.

   NOTICE: While the files are being installed, there may be several minutes where the only visible activity is that of the hard-disk drive indicator light; also, various windows may appear and disappear without your intervention. During this time, do not do anything to interrupt the process.
9. At the **Restarting Windows** dialog box, click the **Yes** radio button and then click **OK** to restart the computer.
10. If an **Add New Hardware Wizard** dialog box appears, click **Next** and follow the screen prompts, accepting all defaults.
11. If you are prompted to insert your Windows operating system CD, remove the *System Software* CD, insert the Windows CD, and click **OK**. If after doing this you are prompted again to insert the CD, click **OK** to continue the installation.

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Error Messages and IRQ Assignments: Dell™ Inspiron™ 2000 System Reference

Error Messages

Your application programs, operating system, and the computer itself can identify problems and alert you to them. When this occurs, a message may appear on the computer's display or on an external monitor (if one is attached).

If an error message appears on the display or external monitor, make a note of the message. For an explanation of the message and suggestions for correcting any errors, see Table 1. The messages are listed alphabetically.

NOTE: If the message is not listed in Table 1, see the documentation for the application programs that were running at the time the message appeared or the operating system documentation for an explanation of the message and a recommended action.

Table 1. System Error Messages

Message	Cause	Action
`0271: Check date and time settings`	The real-time clock has reverted to a default date and time.	Enter the system setup program and change the date and time back to the correct settings. If the problem persists, call Dell for technical assistance.

`02B0:Diskette drive A error`
 	
`02B1:Diskette drive B error`
	A connector may be loose or the diskette may be faulty.	If the diskette-drive access indicator lights up when you access a file on the diskette, but you still get this error message, try a different diskette. If the message reappears, shut down the computer, remove the drive from the external media bay, and then reinsert it. Turn the computer back on, and check for the error message.
		
		If the problem persists, run the **Diskette Drive** test in the Dell Diagnostics. If the problem still persists, call Dell for technical assistance.

`0232:Extended RAM Failed at address line: nnnn`	Extended memory is not configured properly or has failed at memory address *nnnn*.	Call Dell for technical assistance.
`0200:Failure Fixed Disk`	The hard-disk drive failed to initialize.	Remove and reseat the hard-disk drive and reboot the computer. If the problem persists, run the **Hard-Disk Drive** tests in the Dell Diagnostics.

`02B2:Incorrect drive A type—run Setup`
 	
`02B3:Incorrect drive B type—run Setup`
	The diskette drive is not identified properly in the system setup program.	Shut down the computer, remove the drive from the external media bay, and then reinsert it. Turn the computer back on and check for the error message.
		
		If the problem persists, reboot the computer and press <F2> as soon as you see the Dell logo screen to enter the system setup program. Write down the setting for **IDE Adapter 1 Master** on the **Main** screen. Then call Dell for technical assistance.

`0212:Keyboard controller failed`	The keyboard controller is faulty.	Call Dell for technical assistance.
`0211:Keyboard error`	If an external keyboard is being used, a cable or connector may be loose or the keyboard may be faulty. If the built-in keyboard is being used, it may be faulty. A key on the built-in keyboard may have been pressed while the computer was booting.	If using an external keyboard, check and reseat the keyboard cable. Check and reseat the diskette drive cable. If the problem persists, run the **Stuck Key** test in the Dell Diagnostics. If the problem cannot be corrected, call Dell for technical assistance.
`0280:Previous boot incomplete-Default configuration used`	The computer has attempted to boot three times unsuccessfully, and will now attempt to boot using the default BIOS settings.	If the computer completes the boot routine, enter the system setup program and reset any default settings you had previously customized for your computer. If you receive this message the next time you restart the computer, call Dell for technical assistance.

0270:Real time clock error	The CMOS battery that supports data stored in NVRAM may be dead.	Call Dell for technical assistance.
0231:Shadow RAM failed at offset: *nnnn*	Shadow RAM failed at address *nnnn*.	Call Dell for technical assistance.
0210:Stuck Key	If the built-in keyboard is being used, it may be faulty. A key on the built-in keyboard may have been pressed while the computer was booting.	Run the **Stuck Key** test in the Dell Diagnostics. If the problem cannot be corrected, call Dell for technical assistance.
0250:System battery is dead–Replace and run Setup	The system battery does not have enough charge to power the computer.	Connect the computer to electrical power to recharge the battery, or replace the battery. Then check your system setup settings.
02D0:System cache error–cache disabled	The primary cache internal to the microprocessor has failed.	Call Dell for technical assistance.
0251:System CMOS checksum bad–default configuration used	The BIOS has been changed. CMOS has been corrupted or modified, possibly by an application program that changes data stored in CMOS.	Reboot the computer. As soon as you see the Dell logo screen, press <F2> to enter the system setup program and reconfigure the system. If the problem persists, call Dell for technical assistance.
0230:System RAM failed at offset: *nnnn*	System RAM failed at address *nnnn* in the 64-KB block at which the error was detected.	Call Dell for technical assistance.
0260:System timer error	A chip on the system board may be malfunctioning.	Run the **System Set** test group and the **Keyboard Controller** Test in the Dell Diagnostics.

IRQ Assignments

Problems can arise if two devices attempt to use the same interrupt request (IRQ) line. To avoid this type of conflict, check the documentation for the default IRQ line setting for each installed device. Then consult Table 2 to configure the device for one of the available IRQ lines.

NOTES: Installed devices cannot share the same COM port address. The default address of your computer's serial port is COM1.

*To view IRQ line assignments in the Microsoft® Windows® 98 operating systems, click the **Start** button, point to **Settings**, and click **Control Panel**. Double-click the **System** icon. Select the **Device Manager** tab, and then double-click **Computer**.*

Table 2. IRQ Line Assignments

IRQ Line	Assigned Device
IRQ0	Reserved; generated by the system timer
IRQ1	Reserved, generated by the keyboard controller
IRQ2	Cascade from the secondary interrupt controller
IRQ3	Available
IRQ4	Serial port; available if serial port is not configured for COM1 or COM3
IRQ5	Available
IRQ6	Generated by the diskette drive controller to indicate that the diskette drive requires the attention of the microprocessor
IRQ7	Parallel port; available if parallel port is disabled
IRQ8	Reserved; generated by the real time clock
IRQ9	SCI in ACPI mode
IRQ10	PCI IRQA, B, C, D
IRQ11	Available
IRQ12	Reserved; generated by the keyboard controller to indicate that the output buffer of the touch pad or PS/2 mouse is full
IRQ13	Reserved; generated by the math coprocessor
IRQ14	Reserved; generated by the hard-disk drive to indicate that the drive requires the attention of the microprocessor
IRQ15	Reserved; generated by the CD-ROM or DVD-ROM drive in the external media bay to indicate that the drive requires the attention of

	the microprocessor

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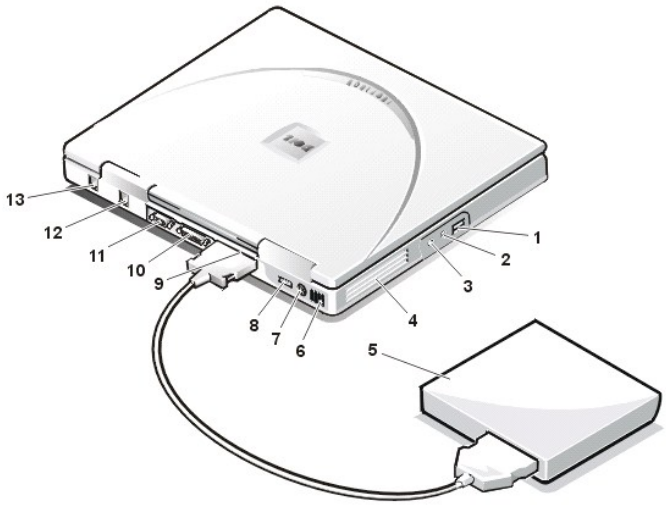
Ports and Connectors: Dell™ Inspiron™ 2000 System Reference

About the I/O Connectors

You can connect external devices to the input/output (I/O) connectors on the back and left side of the computer (see Figure 1). The computer's basic input/output system (BIOS) detects the presence of the external devices when you boot (start) or reboot your computer.

NOTE: Some external devices require you to load software called device drivers into system memory before using the devices. These device drivers help your computer recognize the external device and direct its operation. Instructions for installing this software are usually included in the upgrade kits.

Figure 1. I/O Connectors On the Computer



1. USB connector
2. Speakers and headphones (line-out/speaker-out) jack
3. Microphone (MIC IN) jack
4. Fan exhaust vent
5. External media bay
6. Air intake
7. PS/2 connector
8. AC adapter connector
9. External media bay connector
10. Parallel connector
11. Video connector
12. Modem connector
13. NIC connector

Mouse, Keyboard, and External Numeric Keypad

You can attach a Personal System (PS)/2-compatible device such as a mouse, 101- or 102-key keyboard, or external numeric keypad to the mini-DIN PS/2 connector.

Mouse

NOTE: If the computer is in suspend (or standby) or suspend-to-disk (S2D) mode when you attach a mouse, you can use the mouse when the computer resumes normal operation. However, programs that were already running may need to be restarted to recognize the mouse. If the computer is not in suspend (or standby) or S2D mode when you attach the mouse, you must reboot the computer to use the mouse.

When you attach a PS/2 mouse to the computer, the touch pad is automatically disabled. If you disconnect the mouse, you must shut down the computer or enter suspend or standby mode and then resume from it before the touch pad is operational. If you do not do this, the touch pad resumes operation in standard PS/2 mode, which means that many of the configuration features are disabled.

If you are using a PS/2-compatible mouse that is not made by Microsoft and the mouse does not work properly, reboot the computer. If the mouse still does not work, install the drivers from the diskette that came with the mouse and reboot the computer.

Keyboard

NOTE: If the computer is in suspend (or standby) mode or S2D mode when you attach an external keyboard, the device is recognized immediately by the computer when it resumes normal operation.

You can use the computer's keyboard and an external keyboard at the same time. When you attach a keyboard to the computer, the embedded numeric keypad is automatically disabled.

On an external keyboard, the <Scroll Lock> key acts the same way as the <Fn> key on the computer's keyboard (if the **External Hot-Key** option is enabled in the system setup program).

External Numeric Keypad

NOTE: If the computer is in suspend (or standby) mode or S2D mode when you attach an external numeric keypad, the device is recognized immediately by the computer when it resumes normal operation.

When you attach an external numeric keypad to the computer, the numeric keypad on the computer keyboard is automatically disabled. The indicators on the integrated keyboard track the operation of an external numeric keypad.

USB Devices

You can attach a USB hub device to the USB connector. The USB hub device can support multiple USB devices (typically low-speed peripherals such as mice, keyboards, printers, and computer speakers).

Parallel Devices

You can attach a parallel device (usually a printer) to the 25-pin parallel connector. You can also connect the diskette drive to the parallel connector.

The parallel port sends and receives data in parallel format, where eight data bits (one byte) are sent simultaneously over eight separate lines. The port can be configured as a unidirectional (output-only) port for devices such as a printer or as a bidirectional port for devices such as a network adapter.

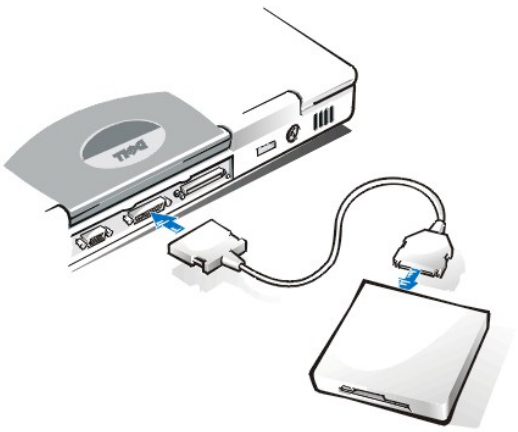
The computer's integrated parallel port is designated as LPT1. The Microsoft® Windows® 98 operating systems automatically recognize the parallel device and configure it correctly. The parallel port can also be configured for compatibility with the PS/2 standard.

Connecting a Diskette Drive to the Parallel Connector

You can use the diskette drive as a second external device if you already have a device connected to the media bay connector. The diskette drive letter is A, unless a diskette drive is already installed in the external media bay, in which case the drive connected to the parallel connector is drive B.

To connect the drive to the parallel connector on the I/O panel, use the optional parallel diskette-drive cable (available from Dell), as shown in Figure 2.

Figure 2. Connecting a Diskette Drive to the Parallel Connector



NOTICE: When the diskette drive is not being used externally, remove the parallel diskette-drive cable from the parallel connector.

NOTICE: Use the parallel diskette-drive cable only with the diskette drive. Do not try to connect any other device to the computer with this cable.

The drive access indicator does not blink when data is being accessed from the diskette drive connected to the parallel connector.

NOTICE: Protect the diskette drive when it is not in the external media bay. Do not squeeze the drive or place objects on top of it; doing so could damage the drive motor.

External Monitor

You can use the 15-pin video connector to attach an external monitor to the computer.

Connecting an External Monitor

To attach an external monitor, perform the following steps.

NOTICE: Do not place the monitor directly on top of your portable computer, even if it is closed. Doing so can crack the computer case, the display, or both.

1. Make sure that the external monitor is turned off. Set the monitor on a monitor stand, desk top, or other level surface near your computer.
2. Connect the external monitor's video cable to the computer.

   Plug the video cable connector into the matching video connector on the back of the computer. If the video cable is not permanently attached to the monitor, connect it to the monitor.

   Be sure to tighten all the screws on the video cable connector(s) to eliminate radio frequency interference (RFI).
3. Connect your external monitor to a grounded electrical outlet.

   Plug the three-prong connector on one end of the monitor's power cable into a grounded power strip or some other grounded power source. If the cable is not permanently attached to the monitor, connect it to the monitor.

   NOTE: If you are using the Microsoft Windows 98 operating system, you can use an external monitor as an extension of your display. For more information, see the Windows 98 documentation or Dual-Display Mode.

Using an External Monitor

When an external monitor is connected to the computer, the video image automatically appears on the external monitor's screen when you boot your computer.

To toggle the video image between the display, an external monitor, or both simultaneously, press <Fn><F8> on the keyboard. Press <Scroll Lock><F8> on an external keyboard if the **External Hot-Key** option is enabled in the system setup program.

If the external monitor is turned off when you boot your computer, the computer still sends the video image to the external monitor, but you will not see an image on either the computer's display or the external monitor. To see an image, turn on the external monitor or switch the video image to the computer's display by pressing <Fn><F8> on the keyboard or <Scroll Lock><F8> on an external keyboard if the **External Hot-Key** option is enabled in the system setup program.

NOTE: If you are using your external monitor at a resolution greater than the display supports, the simultaneous display feature is disabled. To use the display, switch to a resolution that the computer supports, or disconnect the external monitor and restart your computer.

AC Adapter

You can attach the AC adapter to the computer by using the AC adapter connector. The AC adapter converts AC power to the DC power required by the computer.

You can connect the AC adapter with your computer turned either on or off.

The AC adapter works with electrical outlets worldwide. However, power connectors vary among countries. Before using AC power in a foreign country, you may need to obtain a new power cable designed for use in that country.

Audio Devices

You can connect audio devices such as speakers, microphones, and headphones to the two audio jacks, as follows:

- Connect the audio cable from a microphone to the microphone jack, also called the MIC IN jack.
- Connect the audio cable from speakers to the headphones/speakers jack, also called the line-out/speaker-out jack.

Modem Connector

You can connect a telephone line to the integrated modem through the RJ11 modem connector on the back of the computer.

NOTICE: Do not confuse the modem and NIC connectors on your computer. Do *not* plug a telephone line into the NIC connector.

NIC Connector

You can connect to the integrated network interface controller (NIC) through the RJ45 connector on the back of the computer.

NOTICE: Do not confuse the modem and NIC connectors on your computer. Do *not* plug a telephone line into the NIC connector.

External Media Options

You can connect external media options such CD-ROM, DVD-ROM, SuperDisk LS-120, and diskette drives to the external media bay connector.

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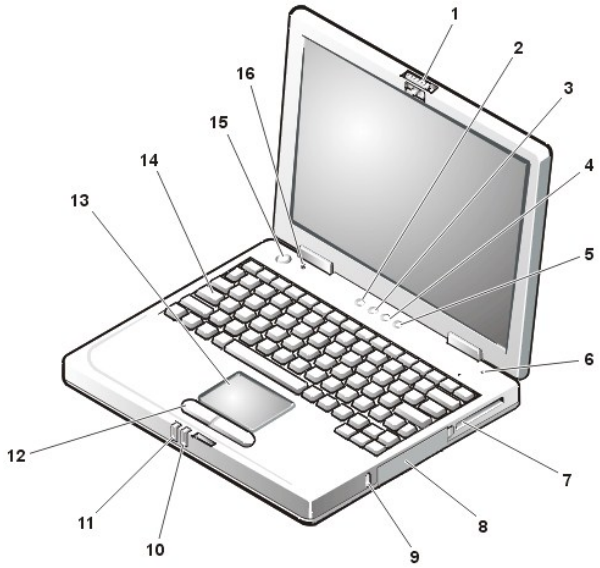
Technical Overview: Dell™ Inspiron™ 2000 System Reference

Front View

Figure 1. Front/Right View of the Computer



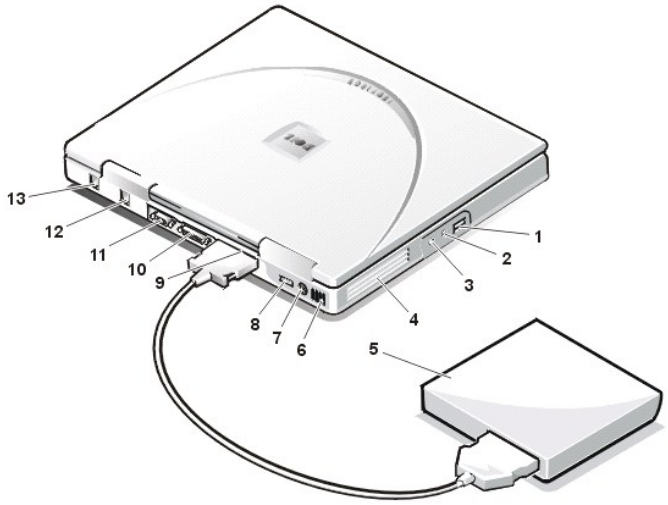
1 Display latch
2 Drive access indicator
3 Pad Lock indicator
4 Caps Lock indicator
5 Scroll Lock indicator
6 Integrated microphone
7 PC Card slot
8 Hard-disk drive
9 Security cable slot
10 Battery status indicator
11 Power indicator
12 Touch pad buttons
13 Touch pad
14 Keyboard
15 Power button
16 Display-close button

NOTICE: To avoid overheating the computer, do not place the external media bay close to the air inlet or fan intake/exhaust vents (see Figure 2).

NOTICE: Do not confuse the modem and NIC connectors on your computer. Do *not* plug a telephone line into the NIC connector (see Figure 2).

Back View

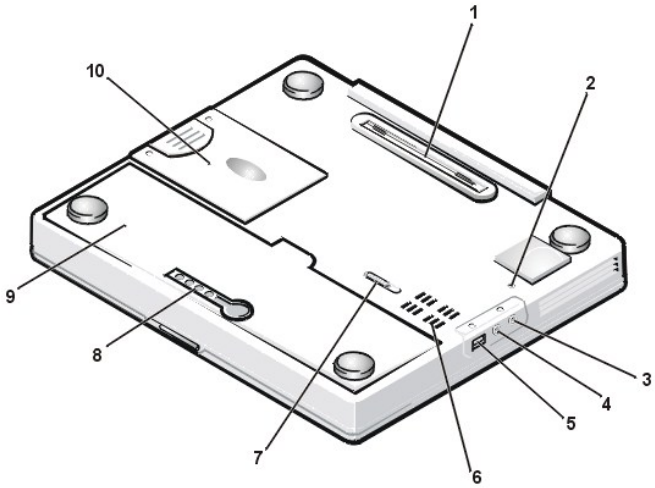
Figure 2. Back/Left View of the Computer



1. USB port connector
2. Speakers and headphones (line-out/speaker-out) jack
3. Microphone (MIC IN) jack
4. Fan exhaust vent
5. External media bay
6. Air intake
7. PS/2 connector
8. AC adapter connector
9. External media bay connector
10. Parallel connector
11. Video connector
12. Modem connector
13. NIC connector

Bottom View

Figure 3. Bottom View of the Computer



1. Docking connector (not supported)
2. Reset switch access hole
3. Microphone (MIC IN) jack
4. Speakers and headphones (line-out/speaker-out) jack
5. USB port connector
6. Speaker
7. Battery latch
8. Battery charge gauge
9. Battery
10. Hard-disk drive

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Power Sources: Dell™ Inspiron™ 2000 System Reference

AC Adapter

The AC adapter converts AC power from an electrical outlet to the DC power used by the computer. The AC adapter kit includes the AC adapter with its attached DC cable (which connects to the computer) as well as an AC power cable that connects the adapter to an electrical outlet.

You can connect the AC adapter with your computer either turned on or off.

The AC adapter works with electrical outlets worldwide. However, power connectors vary among countries. Before you use AC power in a foreign country, you may need to obtain a new power cable designed for use in that country.

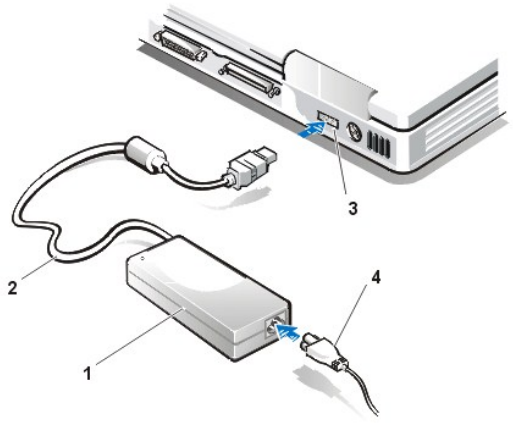
NOTE: If you are running your computer on AC power with a battery installed, the AC adapter charges the battery (if needed) and then maintains the battery's charge.

NOTICE: The AC adapter should be in a ventilated area, such as on a desktop or on the floor, when used to power the computer or charge the battery. Do not use the AC adapter in a poorly ventilated environment, such as inside a carrying case.

Connecting the AC Adapter

1. Connect the AC adapter's attached cable into the computer's AC adapter connector (see Figure 1).
2. Plug the AC adapter power cable into the other end of the AC adapter.
3. Plug the AC adapter power cable into an electrical outlet.

Figure 1. Connecting the AC Adapter



1 AC adapter
2 AC adapter's attached cable
3 AC adapter connector
4 AC adapter power cable

Batteries

Your computer includes a 4-cell or 6-cell lithium ion battery that provides power when an electrical outlet is not available. The battery is installed on the underside of the computer and forms part of the bottom of the computer. Lithium ion batteries are longer lived than conventional batteries and do not require replacement as often. You do not need to drain a lithium ion battery completely before recharging it.

Do not place spent batteries with common household waste products. See Battery Disposal for more information.

Keep the following information in mind when you are running your computer from the battery:

- A fully charged 6-cell, 34-watt-hour (WH) battery provides approximately 2 hours of battery life; a fully charged 4-cell, 23-WH battery provides approximately 1 hour of battery life. Actual performance varies, depending on which power management features are enabled and which application programs you are using.
- The integrated battery charge gauge lets you check the charge status of an installed or uninstalled battery at any time.

- The battery's self-test capability alerts you to battery conditions such as low charge.

NOTE: If the battery is totally drained the alert functions will not operate.

- You can charge the battery whenever you like without fear of reducing its charge capacity.
- A battery has a life span of up to 350 full charges and 2000 partial charges, provided it is charged at normal room temperature.

NOTICE: The batteries are designed to work only with Dell Inspiron 2000 portable computers. Do not use the Inspiron 2000 batteries with other computers, and do not use batteries from other computers with the Dell Inspiron 2000.

Using the Battery

The battery is partially charged when you receive it. Dell recommends that you charge your battery to full capacity before using it to power the computer.

If you are powering the computer from a battery, try to conserve battery power. A number of factors affect battery operating time:

- Power conservation features that you use
- Type of display and microprocessor installed
- Brightness setting of the display
- Use of storage media
- Number and type of external devices and type of PC Cards that you use

NOTE: You can extend battery life by removing PC Cards when they are not being used.

- Kinds of application programs that you run
- Capacity of the memory module installed (the higher the capacity, the more power used)

When you activate suspend mode (known as standby in the Microsoft® Windows® 98 operating system), the computer can remain in suspend mode on battery power for approximately one week (if the battery was fully charged before activating suspend or standby mode).

If you are going to store the computer, disconnect all devices and turn off the computer. Remove the battery when you store your computer for an extended period of time. A battery will drain when not in use during prolonged storage. After a long storage period, recharge the battery fully before you attempt to run your computer from battery power.

NOTE: To extend battery life, store batteries at room temperature.

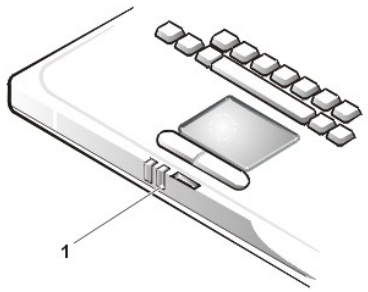
Charging the Battery

Each time you connect the computer to an electrical outlet or install a battery in a computer that is connected to an electrical outlet, the computer checks the battery's charge. The AC adapter charges the battery (if needed) and then maintains the battery's charge.

NOTE: For maximum battery performance, charge the battery only at room temperature.

The battery status indicator (see Figure 2) turns orange while the battery is charging and then turns green when the charge cycle is complete. It takes about 1.5 hours to completely charge the battery, whether the computer is turned on or off.

Figure 2. Battery Status Indicator



1 Battery status indicator

NOTE: You can leave the battery in the computer as long as you like. The battery's integrated circuitry prevents the battery from overcharging.

Charging a Hot Battery

If your battery is hot from being used in your computer or being in a hot environment, take note of the following precautions:

- A hot battery will not charge when you connect the AC adapter to the computer. This safety feature is important because charging a hot battery shortens the battery's life span and may damage the battery and the computer.
- If the computer is not allowed to return to room temperature, the battery stops charging before it reaches its full capacity.

Replacing the Battery

To replace a battery in the battery bay, perform the following steps (see Figure 3).

NOTES: If necessary, print these instructions for reference before proceeding.

Dell recommends that you turn the computer off before replacing the battery.

If you want to replace the battery while the computer is running, you must first connect the computer to an electrical outlet or enter suspend (or standby) mode or suspend-to-disk (S2D) mode. You cannot replace the battery while the computer is running on battery power.

1. If the computer is docked, undock it. (See the documentation that came with your docking device.)

NOTICE: If you choose to replace the battery with the computer in suspend (or standby) mode, you have up to 2 minutes to complete the battery replacement.

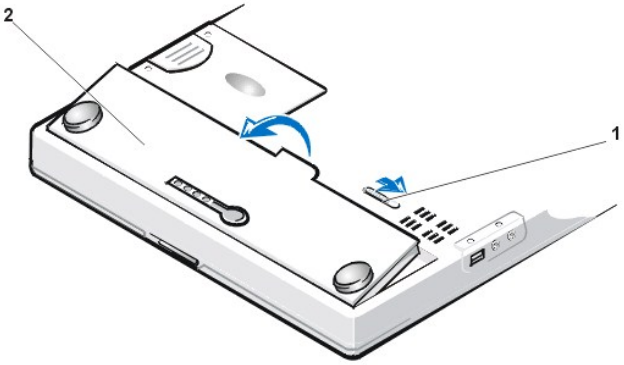
2. Connect the computer to an electrical outlet and then preserve your data by placing the computer in suspend (or standby) mode.

   Press <Fn><Esc> (or <Scroll Lock><Esc> on an external keyboard if the **External Hot Key** option is enabled in the system setup program).

3. Remove the battery from the battery bay.

   Close the computer display and turn the computer over. Slide the battery bay latch to the unlock position (see Figure 3), causing the battery to pop up slightly on one side. While keeping the latch in the unlock position, pivot the battery up and out of the bay. Release the latch.

Figure 3. Removing a Battery



1 Battery bay latch
2 Battery

4. Position the new battery as shown in Figure 2, and lower the outside edge of the battery into the battery compartment.

   Four small tabs on the battery fit into four slots in the side wall of the computer.

5. Press the battery firmly into place, flush with the surrounding surface.

   Make sure that the battery latch is completely closed before turning the computer right-side up.

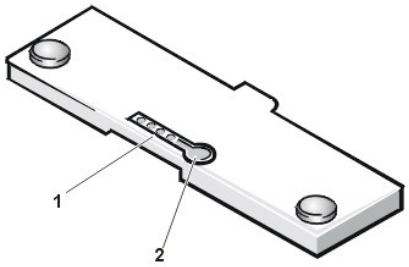
6. If you put the computer into suspend (or standby) mode or S2D mode in step 2, press the power button to resume normal operation.

Battery Charge Gauge

The battery charge gauge, located on the battery and accessible on the underside of the computer, consists of four indicators and a test button. Each indicator represents 25 percent of full charge. If only one indicator lights up, recharge the battery before using it.

To check the charge level, press the battery test button (see Figure 4). The appropriate number of indicators lights up for a few seconds to indicate the amount of charge remaining in the battery.

Figure 4. Battery Charge Gauge



1 Battery charge indicators (4)

2 Battery test button

NOTES: A charge indicator that blinks rapidly indicates a temporary failure or a potentially recoverable failure such as overheating. Allow the battery to cool for several minutes before checking the charge level again.

If the battery has permanently failed or completely discharged, no charge indicators will light when you press the battery test button. If you install a failed or completely discharged battery in the computer and the battery status indicator turns red, the battery has failed. If the battery status indicator turns red, allow the battery to charge overnight and check it the next day. If the battery is fully discharged, it takes a much longer time than usual to recharge it.

To purchase a new battery, call Dell or access the Dell World Wide Web site at ***http://www.dell.com****. Dispose of the old battery properly.*

Percentage of Charge

The battery charge gauge uses its four indicator lights to show the percent of charge remaining in the battery:

- If one indicator lights up, the battery has 1 to 25 percent of its charge remaining.
- If two indicators light up, the battery has 26 to 50 percent of its charge remaining.
- If three indicators light up, the battery has 51 to 75 percent of its charge remaining.
- If four indicators light up, the battery has 76 to 100 percent of its charge remaining.

First Low-Battery Warning

The first low-battery warning—consisting of a battery warning icon that appears on the screen and a triple beep from the speaker—occurs when you have about 20 minutes of battery life left under current conditions and the computer is not connected to an electrical outlet.

NOTICE: When you receive a low-battery warning, save your work immediately. Then replace the battery or connect your computer to an electrical outlet.

Second Low-Battery Warning

The second low-battery warning consists of a triple beep from the speaker, with the computer entering suspend (or standby) mode immediately after the beep if **Battery Low Suspend** is enabled in the system setup program. If **Battery Low Suspend** is disabled, a low-battery icon appears on the display screen. This warning occurs when you have about 15 minutes of battery life left under current conditions and the computer is not connected to an electrical outlet.

After the second low-battery warning, if no further input/output (I/O) activity occurs within a few seconds, the computer enters S2D mode. If the computer has no S2D file, it enters suspend (or standby) mode, in which it can preserve data for several hours.

If the computer is already in suspend (or standby) mode when a final low-battery warning occurs, the computer enters S2D mode immediately. If S2D mode has been disabled, the computer reenters suspend (or standby) mode.

NOTICE: To avoid losing data and possibly corrupting data areas on your hard-disk drive, save your work immediately after a second low-battery warning. Then connect your computer to an electrical outlet, or place the computer in suspend (or standby) mode. If the battery runs completely out of power, the computer turns off without properly closing any open files.

Detecting Battery Problems

A battery problem may prevent the battery from being charged to its full potential and can lead to unpredictable operation. To obtain a new battery, call Dell or access the Dell World Wide Web site at **http://www.dell.com**.

To avoid installing a defective battery in your computer, first check the battery's charge, indicated by the battery charge indicators on the battery itself, by pressing the battery test button (see Figure 4).

NOTE: If the battery has 0 (zero) percent charge, you cannot use the battery test button to check the battery's capacity. The battery charge indicators will not light if the battery is completely drained.

Battery Disposal

CAUTION: Do not puncture or incinerate the battery.

NOTE: To purchase a new battery, call Dell or access the Dell World Wide Web site at ***http://www.dell.com****.*

Your computer system uses both a lithium-ion battery pack and a nickel-metal hydride (NiMH) coin cell battery. For instructions about replacing the lithium-ion battery pack in your computer, see "Replacing the Battery." The NiMH battery is a long-life battery, and it is very possible that you will never need to replace it. However, if this battery ever needs to be replaced, the procedure must be performed by an authorized service technician.

Do not dispose of these batteries along with household waste. Contact your local waste disposal agency for the address of the nearest battery deposit site.

About Battery Power

You automatically conserve battery power each time you connect the computer to an electrical outlet. The battery is even being recharged when you use AC power. The battery's life expectancy is largely determined by the number of charges it receives, so use an electrical outlet to run the computer whenever possible.

You can customize power management by individually controlling the computer's power management features. These features reduce power consumption by monitoring application programs and computer devices for inactivity and slowing down or stopping some of the computer's internal devices.

NOTES: When you use power conservation features, you often trade some of the performance of the computer for increased battery operating time. For example, if you turn off the hard-disk drive, you may experience a delay the next time the computer tries to access the hard-disk drive.

Other power conservation features, such as suspend (or standby) mode, stop almost all system activity. They allow you to maximize power conservation when your work is interrupted.

Experiment with power conservation features to achieve the optimum power conservation for your work environment.

Turning On the Computer

To turn on the computer, press the power button.

NOTES: If your computer's operating system is "locked up"—that is, it does not respond to commands—press and hold down the power button for at least five seconds to turn off the computer.

If the operating system locks up and does not respond to the power button, you can restart the computer using the reset switch on the bottom of the computer. To do so, straighten a paper clip and press it into the reset switch access hole for about one second.

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Removing and Replacing Parts: Dell™ Inspiron™ 2000 System Reference

NOTICE: Only a certified service technician should perform the procedures for removing and replacing parts. The warranty on the computer becomes void if anyone other than a certified technician performs these procedures.

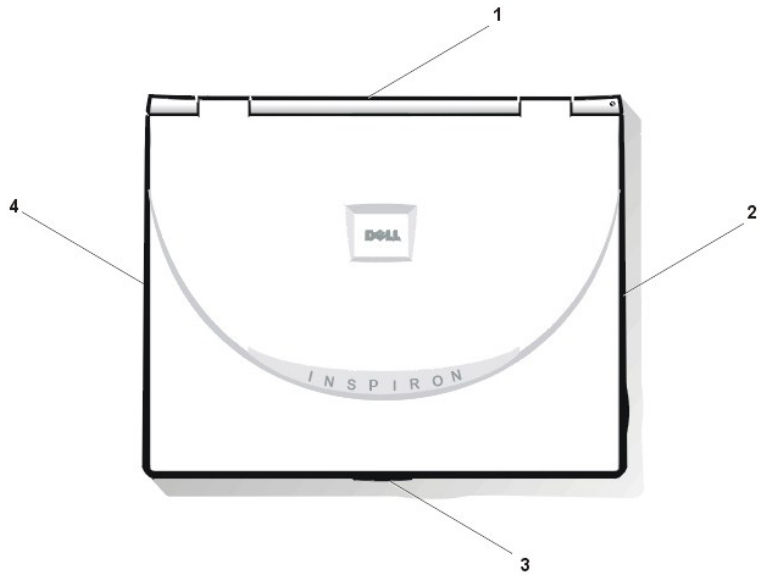
Overview

This section provides instructions for removing and replacing field-replaceable components, assemblies, and subassemblies in your Dell Inspiron 2000 portable computer. Unless otherwise noted, each procedure in this manual assumes the following conditions:

- The computer and any attached peripherals are turned off, and the peripherals are disconnected from the I/O panel on the back and right side of the computer.
- A part can be replaced by performing the removal procedure in reverse order unless otherwise noted.

When the display assembly is open nearly 180 degrees, use a book or something similar to support it. The angle of the display assembly with respect to the bottom case should never exceed 180 degrees. Also, when performing the procedures in this manual, the locations or directions relative to the computer are as shown in Figure 1 unless otherwise specified.

Figure 1. Computer Orientation



1 Back of computer
2 Right side
3 Front of computer
4 Left side

Recommended Tools

Most of the procedures in this manual require the use of one or more of the following tools:

- #0 and #1 magnetized Phillips-head screwdrivers
- Small flat-blade screwdriver
- 5-mm socket wrench
- Small plastic scribe
- Needle-nose pliers

Preparing to Work Inside Your Computer

NOTICE: Only a certified service technician should perform the procedures for removing and replacing parts. The warranty on the computer becomes void if anyone other than a certified technician performs these procedures.

Before you start to work on the computer, perform the following steps:

1. Save any work in progress and close all open application programs.
2. Turn off the computer and any attached peripherals.

   NOTE: Make sure that the computer is turned off and not in suspend-to- disk mode (S2D). If you cannot shut down the computer using its operating system, press the power button for 4 seconds.
3. Disconnect the computer and any attached peripherals from their electrical outlets to reduce the potential for personal injury or shock. Also disconnect any telephone or telecommunications lines from the computer.
4. Remove the power cable.
5. Disconnect all other external cables from the computer.
6. Remove any installed PC Cards.

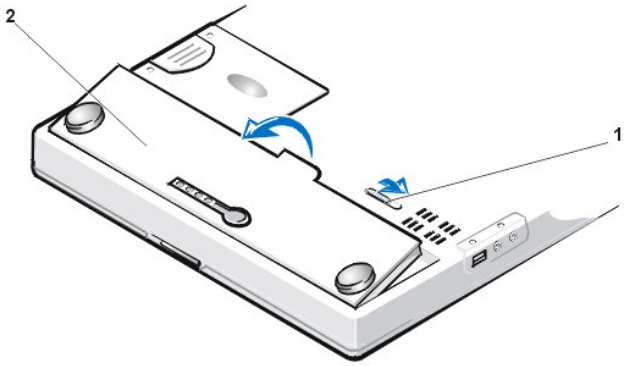
NOTICE: Make sure that the work surface is clean to prevent scratching the computer cover.

NOTICE: To avoid damaging the system board, you must remove the main battery before you service the computer.

7. Turn the computer over and remove the main battery assembly from the battery bay.

   Slide the battery bay latch toward the right side of the computer to push the back side of the battery up and out of the battery bay (see Figure 2).

Figure 2. Main Battery Assembly Removal



1 Battery bay latch
2 Battery

8. Ground yourself by touching the unpainted metal surface of an I/O connector on the back of the computer.

NOTICE: While you work, periodically touch the I/O panel to dissipate any static electricity that might harm components.

Screw Identification

NOTICE: When reinstalling a screw, you must use a screw of the correct length. Otherwise, you could damage the hardware. Make sure that the screw is properly aligned with its corresponding hole, and avoid overtightening.

When you are removing and replacing components, print the Table 1 placement mat as a tool to lay out and keep track of the component screws.

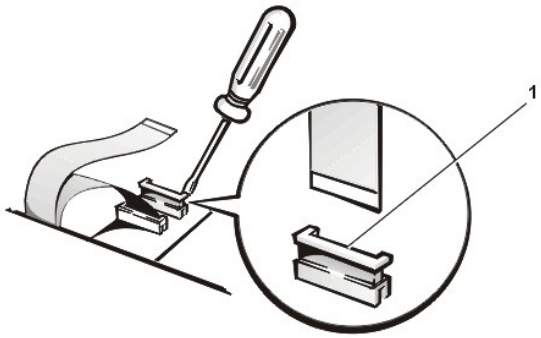
Table 1. Screw Placement Mat With Component Screw Counts and Sizes

Hard-Disk Drive Assembly: M3 x 3 mm (2 each)	**Display Assembly Hinge to Base:** M2 x 4 mm (2 each) M2 x 5 mm (2 each)	**Display Assembly Bezel:** M2 x 3.5 mm (6 each) Rubber Screw Covers (4 each)
LCD Panel and Inverter: M2 x 3.5 mm (5 each)	**Display Assembly Hinges:** M2.6 x 4 mm (4 each)	**Keyboard Assembly:** M2 x 4 mm (4 each)
Palmrest Assembly: M2.6 x 1.6 mm (6 each [battery bay]) M2 x 4 mm (4 each [black]) M2 x 6 mm (3 each [silver])	**Touch Pad:** M2 x 3.5 mm (3 each)	**Modem Retainer Bracket:** M2 x 8.5 mm (2 each)
VGA and Parallel Port**:** 5 mm socket (4 each)	Media Bay (IDE) Connector: Media bay connector screws (2 each)	**Fan**: M2 x 3.5 mm (2 each)
Speaker: M2 x 3.5 mm (2 each)	**Audio I/O Cover**: M2 x 4 mm (2 each)	**System Board Assembly**: M2 x 3.5 mm (6 each)

ZIF Connectors

Some of the computer's interface connectors are zero insertion force (ZIF) connectors. These connectors are not removable, but they must be released to disconnect a cable from them (see Figure 3).

Figure 3. Disconnecting an Interface Cable



1 Movable part of connector (do not remove)

NOTICE: The ZIF connectors are fragile. To avoid damage, do not apply too much pressure to the movable part of the connector.

To disconnect an interface cable from a ZIF connector, perform the following steps:

1. Insert a small flat-blade screwdriver under the movable part of the connector.
2. Pull gently upward on the movable part of the connector until it releases the interface cable.
3. Grasp the interface cable and pull it out of the connector.

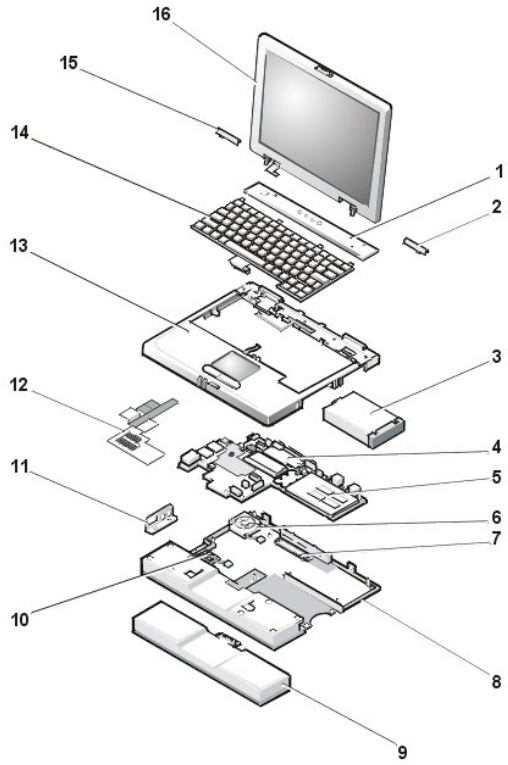
To reconnect an interface cable to a ZIF connector, perform the following steps:

1. Use a small flat-blade screwdriver to open the movable part of the ZIF connector.
2. Orient the end of the interface cable with the ZIF connector, and insert the end of the cable into the connector.
3. While holding the cable in place, close the ZIF connector.

   To ensure a firm connection, make sure the ZIF connector is completely closed.

Removing Field-Replaceable Parts and Assemblies

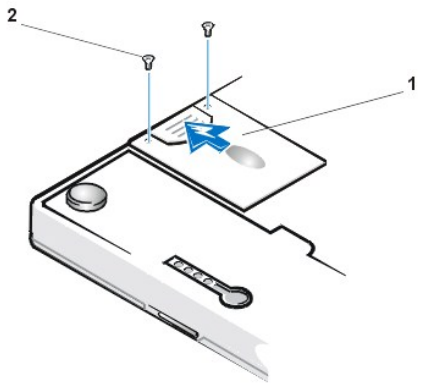
Figure 4. Exploded View—Computer



1 Keyboard bezel
2 Right hinge cover
3 Hard-disk drive
4 Modem
5 System board assembly
6 Fan
7 Docking doors (not supported)
8 Bottom case assembly
9 Battery
10 Speaker
11 Audio I/O port cover
12 Audio EMI shield
13 Palmrest assembly
14 Keyboard
15 Left hinge cover
16 Display assembly

Hard-Disk Drive Assembly

Figure 5. Hard-Disk Drive Assembly Removal



1 Hard-disk drive
2 M3 x 3-mm screws (2)

NOTICE: To avoid damaging the system board, you must remove the main battery before you service the computer.

NOTICE: The hard-disk drive is very sensitive to shock. Handle the assembly by its edges (do not squeeze the top of the hard-disk drive case), and avoid dropping it.

NOTICE: Make sure that the work surface is clean to prevent scratching the computer cover.

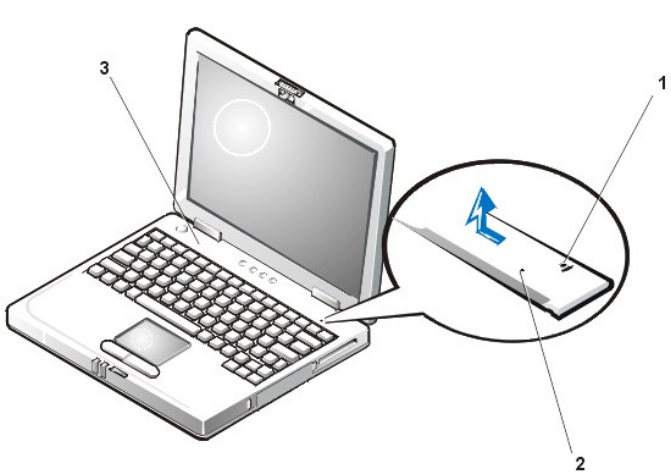
1. Turn the computer over, and remove the two M3 x 3-mm screws from the bottom of the hard-disk drive door (see Figure 5).

   The hard-disk drive is located on the right side of the computer.

2. Pull the drive out of the computer.

Keyboard Bezel

Figure 6. Keyboard Bezel Removal



1 Microphone hole
2 Keyboard bezel release hole
3 Keyboard bezel

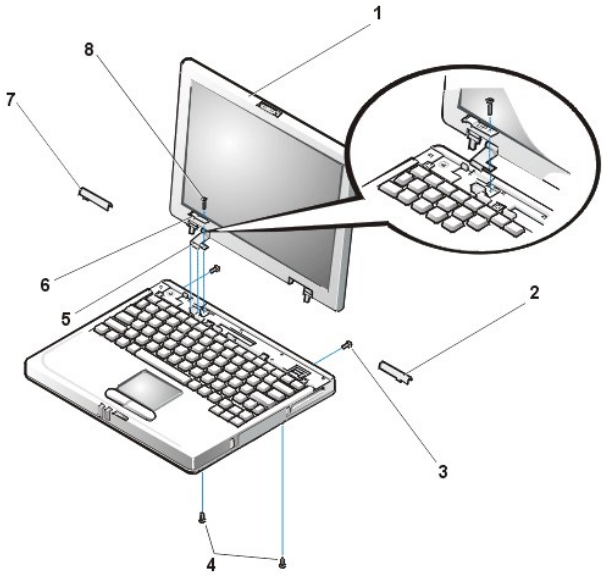
NOTICE: To avoid damaging the system board, you must remove the main battery before you service the computer.

NOTICE: To avoid damaging the microphone, do not put any objects into the microphone hole (see Figure 6).

1. Place the point of a paper clip, a very small flat-blade screwdriver, or a tool of similar size in the keyboard bezel hole and carefully push down (see Figure 6).
2. While pushing down, slide the keyboard bezel to the left until it releases.
3. Lift the keyboard bezel.

Display Assembly

Figure 7. Display Assembly Removal



1 Display assembly
2 Right hinge cover
3 M2 x 5-mm screws (2)
4 M2 x 4-mm screws (2)
5 LCD flex cable
6 LCD flex cable hold-down clip
7 Left hinge cover
8 M2 x 8.5-mm screw

NOTICE: To avoid damaging the system board, you must remove the battery before you service the computer.

1. Remove the keyboard bezel.
2. Close the display.

3. Remove the two M2 x 5-mm screws at the back of the computer that secure the display assembly to the bottom case (see Figure 7).
4. Turn the computer upside down on a flat work surface.
5. Remove the two M2 x 4-mm screws at the bottom of the computer that secure the display assembly to the bottom case (see Figure 7).
6. Turn the computer right-side up.
7. Open the display.
8. Remove the left and right hinge covers (see Figure 7).

   NOTE: When replacing the display assembly, the left hinge cover must go over the left hinge and the right hinge cover must go over the right hinge. They are not interchangeable. An L is stamped on the bottom of the left hinge cover and an R is stamped on the bottom of the right hinge cover.
9. Remove the M2 x 8.5-mm screw that secures the LCD flex-cable hold-down clip and the LCD flex-cable connector to the system board assembly (see Figure 7).

   The M2 x 8.5-mm screw also secures the left side of the modem retainer bracket to the system board assembly.
10. Carefully disconnect the LCD flex-cable connector from the system board.
11. Lift the display assembly from the bottom assembly.

To replace the display assembly, perform the following steps:

1. Place the display assembly on the bottom assembly.

   Insert the left and right hinge posts into the holes at the top of the palm rest.
2. Carefully connect the LCD flex cable to the connector on the system board.
3. Place the LCD flex-cable hold-down clip over the LCD flex-cable connector.

   The word *up* is stamped on the top of the clip.

   The tab at the left of the clip should go under the palm rest, and the screw hole on the right side of the clip should line up with the holes in the connector ground strip and the threaded hole in the system board.
4. Reinstall the M2 x 8.5-mm screw that secures the LCD flex-cable hold-down clip to the system board.
5. Close the display.

   You may have to press down on the back end of the display (above the hinges) while closing the display to get the display to close completely.
6. Reinstall the two M2 x 4-mm screws that secure the display assembly to the bottom case.

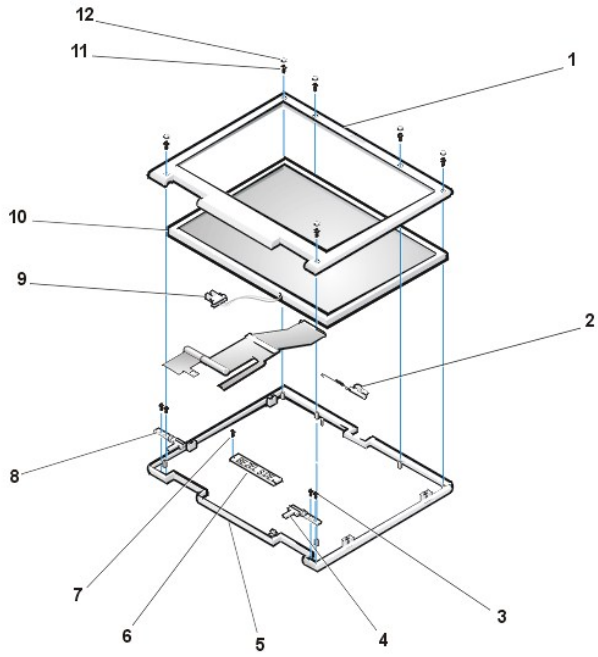
   You may have to squeeze the display assembly and the bottom assembly together, so the screw holes align in the base assembly and the hinge posts.

   Do not completely tighten the screws.
7. Reinstall the two M2 x 5-mm screws in the back of the computer that secure the display assembly to the back of the bottom case.
8. Tighten the two screws that you installed in step 6.
9. Open the display and reinstall the left and right hinge covers.

   An *L* is stamped on the bottom of the left hinge cover and an *R* is stamped on the bottom of the right hinge cover.

Display Assembly Bezel

Figure 8. Display Assembly Bezel Removal



1 Display assembly bezel
2 Latch
3 M2.6 x 4-mm screws (4)
4 Right hinge
5 Display-assembly top cover
6 Inverter
7 M2 x 3.5-mm screw
8 Left hinge
9 Back light plug
10 LCD panel
11 M2 x 3.5-mm screw (6)
12 Large rubber screw covers (6)

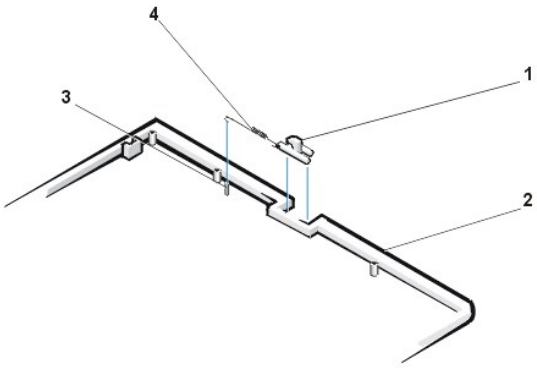
NOTICE: To avoid damaging the system board, you must remove the main battery before you service the computer.

1. Use a scribe to carefully pry the six rubber screw covers out of the six screw holes located along the top and bottom of the bezel on the front of the display assembly (see Figure 8).
2. Remove the six M2 x 3.5-mm screws located at the top and bottom of the bezel on the front of the display assembly (see Figure 8).
3. Separate the bezel from the display-assembly top cover.

   The bezel is secured by slot openings that snap into the display-assembly top cover. Carefully lift the inside edge of the bezel, working your way around the inside perimeter, to unsnap and remove the bezel from the display assembly.

Display Assembly Latch

Figure 9. Display Assembly Latch Removal



1 Display assembly latch
2 Display assembly top cover
3 Post
4 Latch spring

NOTICE: To avoid damaging the system board, you must remove the main battery before you service the computer.

1. Remove the display assembly bezel.
2. Lift the display assembly latch of off the display-assembly top cover (see Figure 9).
3. Slide the latch spring off of the post on the display-assembly top cover (see Figure 9).

   You may need to use a small flat-blade screwdriver to separate the latch spring from the post.

To replace the display-assembly latch, perform the following steps:

1. Carefully place the latch spring over the post on the display-assembly top cover.

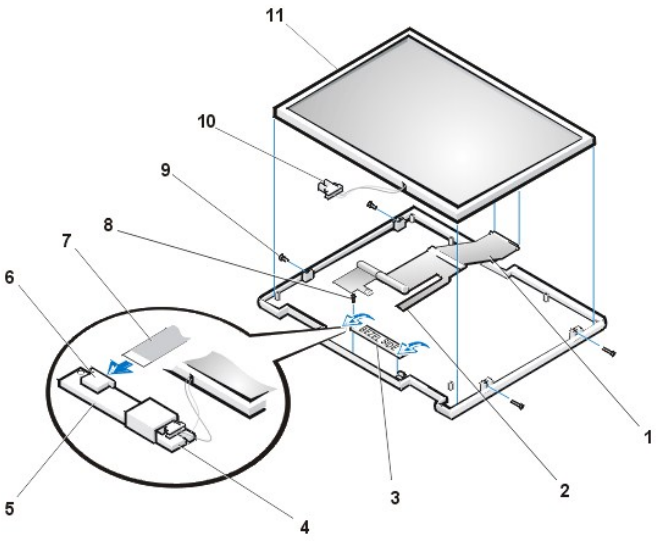
   You may need to use a small flat-blade screwdriver to place the spring over the post. Hold the spring on the post with the screwdriver while performing the next step.

2. Holding the latch, stretch the spring slightly and set the display-assembly latch in place in the display assembly top cover.

3. Reinstall the bezel.

LCD Panel

Figure 10. LCD Panel Removal



1 Wide flex cable
2 Narrow flex cable
3 Inverter
4 Back light plug
5 Inverter
6 ZIF connector
7 Narrow flex cable
8 M2 x 3.5-mm screw
9 M2 x 3.5-mm screws (4)
10 Back light plug
11 LCD panel

NOTICE: To avoid damaging the system board, you must remove the main battery before you service the computer.

1. Ground yourself by touching the unpainted metal surface of the I/O panel on the back of the computer.
2. Remove the keyboard bezel.
3. Remove the display assembly.
4. Remove the display assembly bezel.
5. Remove the four M2 x 3.5-mm screws on the left and right sides of the display assembly that secure the LCD panel to the top cover (see Figure 10).
6. Remove the M2 x 3.5-mm screw that secures the inverter to the top cover.
7. Lift and roll the inverter over (toward you), so you can view the component (non-Mylar) side of the inverter (see Figure 10).
8. Disconnect the narrow flex cable from the ZIF connector on the left side of the inverter.
9. Disconnect the two-wire back-light plug from the connector on the right side of the inverter (see Figure 10).
10. Remove the inverter.
11. Lift the LCD panel from the bottom edge, giving enough room to fit your hand between the LCD panel and the top cover.
12. Carefully peel the LCD flex cable away from the top cover.
13. Lift the LCD panel out of the top cover.
14. Lift up on the tape that is covering the wide flex-cable connector on the back of the LCD panel.

NOTE: Keep the tape for when you replace the LCD panel.

15. Disconnect the wide flex cable from the connector on the back of the LCD panel.

To replace the LCD panel, perform the following steps:

1. Connect the LCD flex cable to the connector on the back of the LCD panel.
2. Reinstall the tape that covers the LCD flex-cable connector on the back of the LCD panel.
3. If you are installing a new LCD flex cable, peel off the backing tapes that are on the LCD flex-cable EMI sponges.
4. Reinstall the LCD panel in the top cover.
    a. Holding the LCD flex cable against the back of the LCD panel, insert the right edge of the LCD panel into the right end of the top cover.

       The right edge of the LCD panel should press against the EMI sponge on the right side of the top cover. The LCD panel should not rest on top of the EMI sponge.
    b. Lower the bottom end of the LCD panel into the top cover, making sure the LCD flex cable lines up with the opening that is to the right of the left hinge.
    c. Make sure the inverter flex cable is visible at the bottom edge of the LCD panel.
    d. Press the LCD panel into the top cover.
5. Connect the inverter flex cable to the ZIF connector on the inverter.
6. With component side of the inverter facing up, connect the two-wire back-light plug to the connector on the right side of the inverter.

   When the plug is all the way in the connector, the key slot in the center of the plug should *not* be visible. If you can see the key slot, the plug is not in the connector correctly. Pull the plug out, turn the plug over, and reinsert it into the connector.
7. Roll the inverter over (away from you), so you can view the back side of the inverter.
8. Place the inverter into the top cover, aligning the posts in the top cover with the alignment holes in the inverter.
9. Holding the inverter in place, reinstall the M2 x 3.5-mm screw that secures the inverter to the top cover.
10. Reinstall the four M2 x 3.5-mm screws, in the left and right ends of the top cover, that secure the LCD panel to the top cover.
11. Reinstall the display assembly latch.
12. Reinstall the display assembly bezel.

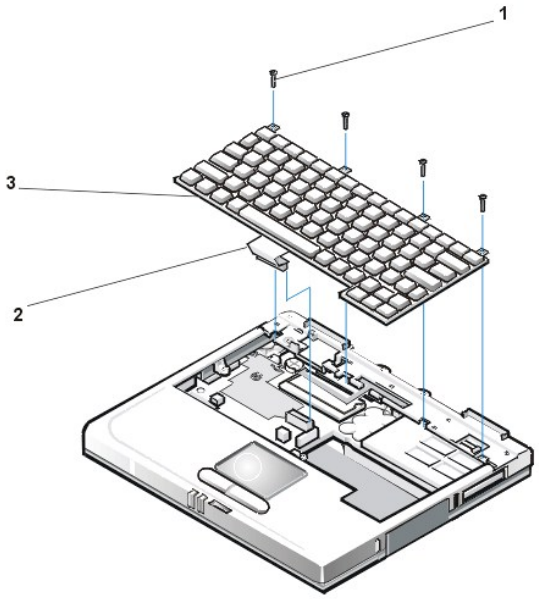
Display Assembly Hinges

1. Remove the keyboard bezel.
2. Remove the display assembly.
3. Remove the display assembly bezel.
4. Remove the two M2.6 x 4-mm screws that secure the left hinge to the top cover (see Figure 8).
5. Remove the two M2.6 x 4-mm screws that secure the right hinge to the top cover.

When replacing the left and right hinges, make sure they are installed correctly. An *L* is stamped on the left hinge and an *R* is stamped on the right hinge.

Keyboard Assembly

Figure 11. Keyboard Assembly Removal



1 M2 x 4-mm screws (4)
2 Keyboard cable
3 Keyboard assembly

To remove the keyboard assembly, perform the following steps.

NOTICE: To avoid damaging the system board, you must remove the main battery before you service the computer.

NOTICE: Make sure that the work surface is clean to prevent scratching the computer cover.

1. Remove the keyboard bezel.
2. Remove the four M2 x 4-mm screws located across the top of the keyboard assembly (see Figure 11).

   NOTE: Five metal tabs retain the bottom of the keyboard in the palmrest assembly.
3. Release the keyboard assembly from the palmrest assembly by lifting the top edge of the keyboard assembly up and sliding it toward the back of the computer.
4. Rotate the keyboard up so it is perpendicular to the computer.
5. Carefully disconnect the keyboard cable from the connector on the system board.

NOTICE: The keycaps on the keyboard are fragile, easily dislodged, and time-consuming to replace. Be careful when removing and handling the keyboard.

6. Remove the keyboard assembly.

To replace the keyboard assembly, perform the following steps.

NOTICE: Position the keyboard cable so it is not twisted when it is connected to the system board.

1. Connect the keyboard cable to the connector on the system board.

   NOTE: Five metal tabs retain the bottom of the keyboard in the palmrest assembly.
2. Fit the keyboard into place by sliding the five tabs on the bottom of the keyboard into the palmrest assembly.

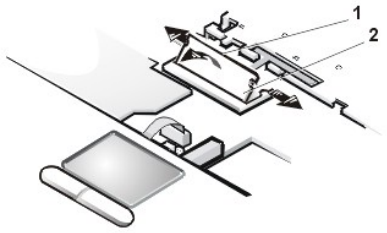
   It is important that the two tabs on the bottom right edge of the keyboard assembly fit correctly into the slotted holes in the palmrest assembly. To help align the tabs with the slotted holes, you can temporarily insert the hard-disk drive into the hard-disk drive bay before you place the keyboard assembly in the palmrest assembly. By resting the keyboard assembly on the hard-disk drive, the tabs will be at the correct height to enter the slotted holes. When the keyboard assembly is seated in the palmrest assembly, remove the hard-disk drive and look through the hard-disk drive bay to make sure the tabs are seated in the slot holes.
3. Ensure that the top screw-hole tabs rest correctly in the screw slots on the palmrest assembly.
4. Verify that the keyboard is correctly installed.

   The keys should be flush with the left and right surfaces of the palmrest.
5. Reinstall the four M2 x 4-mm screws that secure the top of the keyboard assembly to the bottom assembly.

6. Reinstall the keyboard bezel.

Memory Module

Figure 12. Memory Module Removal



1 Memory module
2 Inner tabs (2)

NOTICE: To avoid damaging the system board, you must remove the main battery before you service the computer.

1. Remove the keyboard bezel.
2. Remove the keyboard assembly.
3. Ground yourself by touching the unpainted metal surface of an I/O connector on the computer's back panel.
4. To release the memory module from its socket, carefully spread apart the inner tabs of the memory module socket just far enough for the memory module to disengage from the socket (it should pop up slightly) (see Figure 12).
5. Lift the memory module out of its socket.

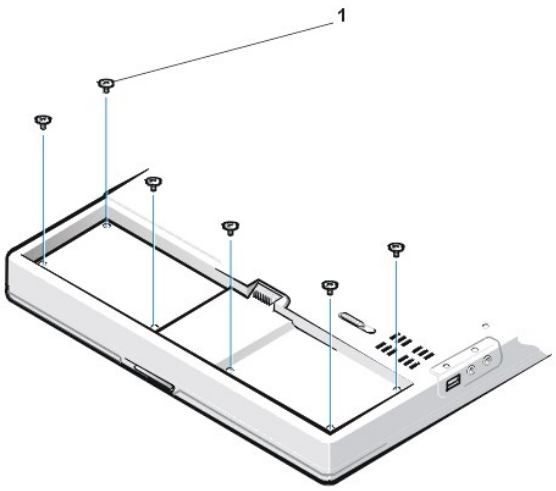
To replace a memory module, perform the following steps:

1. Align the memory module's edge connector with the slot in the center of the memory module socket. The memory module is keyed, or designed to fit into the socket in only one direction. The slot on the system board is notched so that the memory module can be firmly seated only one way.
2. With the module at a 45-degree angle, press the memory module's edge connector firmly into the memory module socket.
3. Pivot the memory module down until it clicks into place.

   If you do not hear a click as each end of the memory module snaps into the tabs, remove the memory module and reinstall it.

Palmrest Assembly

Figure 13. Removing the Palmrest Assembly Bottom Screws



1 M2.6 x 1.6-mm screws (6)

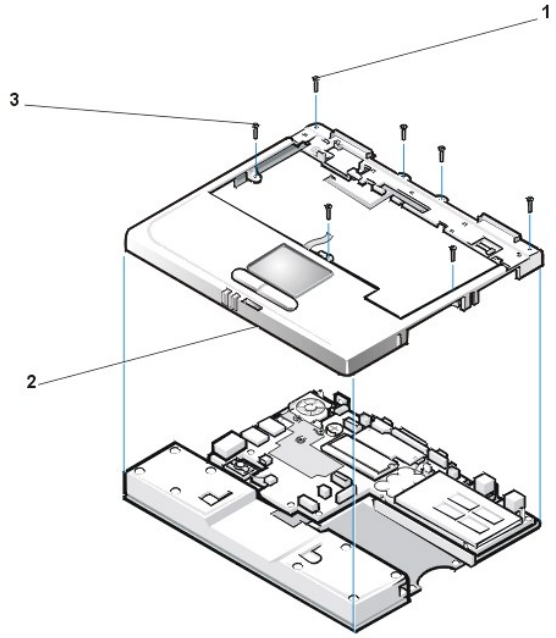
The palmrest assembly consists of the palmrest, status lights, and touch pad assembly.

NOTICE: To avoid damaging the system board, you must remove the main battery before you service the computer.

1. Remove the keyboard bezel.
2. Remove the display assembly.
3. Remove the keyboard assembly.
4. Turn the computer upside down on a flat work surface.
5. Remove the six M2.6 x 1.6-mm screws located in the battery bay (see Figure 13).

   NOTICE: Make sure that the work surface is clean to prevent scratching the computer cover.
6. Turn the computer right-side up.
7. Remove the four black M2 x 4-mm screws across the top of the computer (see Figure 14).

Figure 14. Removing the Palmrest Assembly Top Screws



1 M2 x 4-mm screws (4 black)
2 Palmrest assembly
3 M2 x 6-mm screws (3 silver)

8. Remove the three silver M2 x 6-mm screws in the keyboard-assembly area that secure the middle of the palmrest assembly to the bottom case (see Figure 14).
9. Disconnect the status lights flex cable from the ZIF connector on the system board.
10. Disconnect the touch pad flex cable from the ZIF connector on the system board.
11. Carefully remove the palmrest assembly from the bottom assembly.

To replace the palmrest assembly, perform the following steps:

1. Place the palmrest assembly on the bottom assembly.
2. Reinstall the three silver M2 x 6-mm screws in the keyboard-assembly area that secure the middle of the palmrest assembly to the bottom-case assembly (see Figure 14).
3. Reinstall the four black M2 x 4-mm screws that secure the top of the palmrest assembly to the bottom-case assembly (see Figure 14).
4. Connect the touch pad flex cable to the ZIF connector on the system board.
5. Connect the status lights flex cable to the ZIF connector on the system board.
6. Turn the computer upside down.
7. Reinstall the six M2.6 x 1.6-mm screws in the battery bay that secure the bottom of the palmrest assembly to the bottom-case assembly (see

Figure 13).

8. Turn the computer right-side up.
9. Reinstall the keyboard assembly.
10. Reinstall the display assembly.
11. Reinstall the keyboard bezel.

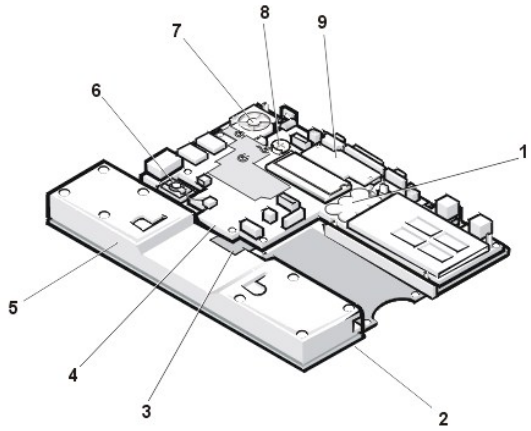
Touch Pad Assembly

1. Remove the keyboard bezel.
2. Remove the display assembly.
3. Remove the keyboard assembly.
4. Remove the palmrest assembly.
5. Remove the three M2 x 3.5-mm screws that secure the touch pad assembly to the palmrest assembly.
6. Slide the touch pad assembly out from under the two hold-down tabs.
7. Remove the touch pad assembly from the palmrest assembly.
8. Disconnect the flex cable from the ZIF connector on the back of the touch pad.

The flex cable remains attached to the touch pad holder assembly.

Bottom Case Assembly

Figure 15. Bottom Assembly



1 Reserve battery
2 Bottom case cover
3 Main battery release latch
4 System board assembly
5 Main battery compartment
6 Speaker (shown with audio EMI shield removed)
7 Fan
8 RTC battery
9 Modem

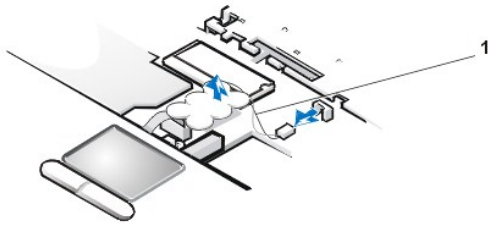
The bottom assembly consists of the following field-replaceable components:

- Reserve battery
- RTC battery
- Main battery
- Modem
- Fan
- Speaker
- System board assembly
- Main battery release latch

- Bottom case assembly

Reserve Battery

Figure 16. Reserve Battery Removal



1 Reserve battery cable

NOTICE: The reserve battery provides power to the computer's nonvolatile random-access memory (NVRAM) when the computer is turned off. Removing the battery causes the computer to lose the user-settable parameters in NVRAM. If possible, make a copy of this information before you remove the reserve battery.

1. Remove the keyboard bezel.
2. Remove the keyboard assembly.
3. Peel the reserve battery away from the foam pad on the system board (see Figure 16).

   The reserve battery is located between the memory module and the PC card bay, and is attached to the system board with an adhesive foam pad.
4. Disconnect the reserve battery cable from the connector on the system board.
5. Remove the remnants of the foam pad from the system board.

RTC Battery

NOTICE: Removing the real time clock (RTC) battery causes the computer to lose its date and time settings, which are used to identify when files are created or modified. You must enter the date and time settings after you replace the RTC battery.

1. Remove the keyboard bezel.
2. Remove the keyboard assembly.
3. Grasp the RTC battery and pull it out of the holder.

   You may need to used a small flat-blade screwdriver to carefully pry the battery out of the holder.

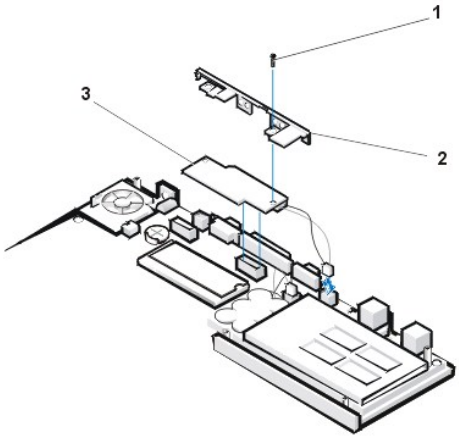
Main Battery

See the Preparing to Work Inside Your Computer section for detailed instructions for removing the battery.

Modem

Figure 17. Modem Removal

1 M2 x 8.5-mm screw
2 Modem retainer bracket
3 Modem



1. Remove the keyboard bezel.
2. Remove the display assembly.
3. Remove the keyboard assembly.
4. Remove the palmrest assembly.
5. Use a 5-mm socket wrench to remove the four 5-mm socket screws for the video graphics array (VGA) and parallel ports located on the back of the bottom assembly.
6. Use a small flat-blade screwdriver to remove the two media bay connector screws at both ends of the media bay connector located on the back of the bottom assembly.
7. Remove the M2 x 8.5-mm screw that secures the modem retainer bracket and modem to the system board (see Figure 17).

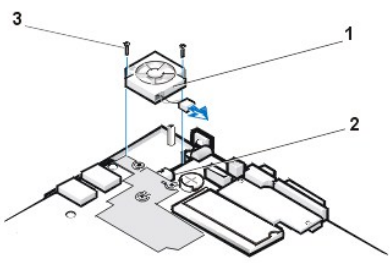
   The screw is located by the VGA port.
8. Remove the modem retainer bracket from the system board.
9. Pull the modem straight up to disconnect it from the system board.
10. Disconnect the modem cable from the connector on the system board.

To replace the modem, perform the following steps:

1. Connect the modem cable to the connector on the system board.
2. Align the connector on the bottom of the modem with the connector on the system board, and carefully press the modem onto the system board.
3. Put the modem retainer bracket in place.
4. Reinstall the M2 x 8.5-mm screw to secure the modem retainer bracket and modem to the system board.
5. Reinstall the two media bay connector screws at both ends of the media bay (IDE) connector located on the back of the bottom assembly.
6. Reinstall the four 5-mm socket screws for the VGA and parallel ports located on the back of the bottom assembly.
7. Reinstall the palmrest assembly.
8. Reinstall the keyboard assembly.
9. Reinstall the display assembly.
10. Reinstall the keyboard bezel.

Fan

Figure 18. Fan Removal



1 Fan
2 Connector
3 M2 x 3.5-mm screws (2)

1. Remove the keyboard bezel.
2. Remove the display assembly.
3. Remove the keyboard assembly.
4. Remove the palmrest assembly.
5. Carefully disconnect the fan wire connector from the system board (see Figure 18).

   The male connector on the fan wire is keyed to fit into the female connector one way only.
6. Remove the two M2 x 3.5-mm screws that secure the fan to the bottom assembly (see Figure 18).
7. Remove the fan from the bottom assembly.

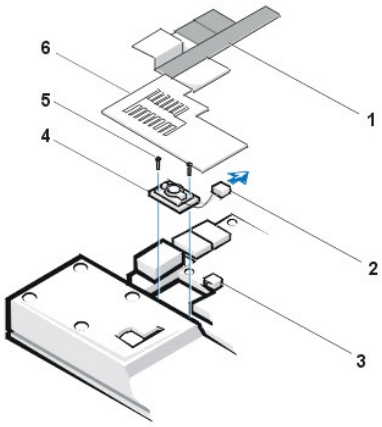
To replace the fan, perform the following steps:

1. Place the fan in the bottom case.

   Make sure that the arrow that is stamped on top of the fan is pointing towards the thermal cooling solution.
2. Reinstall the M2 x 3.5-mm screws to secure the fan the bottom assembly.
3. Reconnect the fan wire to the connector on the system board assembly.
4. Replace the palmrest assembly.
5. Replace the keyboard assembly.
6. Replace the display assembly.
7. Replace the keyboard bezel.

Speaker

Figure 19. Speaker Removal



1 EMI adhesive sponge
2 Speaker wire
3 Connector
4 Speaker
5 M2 x 3.5-mm screws (2)
6 Audio EMI shield

1. Remove the keyboard bezel.
2. Remove the display assembly.
3. Remove the keyboard assembly.
4. Remove the palmrest assembly.

NOTICE: To ensure maximum cooling for the microprocessor, do not touch the glue side of the thermal conductive tape. The oils in your skin reduce the heat transfer capability on the glue side of the tape.

5. Peel up the EMI adhesive sponge that connects the audio EMI shield to the thermal cooling solution (see Figure 19).

   You only need to peel up the part of the sponge that lays on the thermal cooling solution. The end of the sponge that lays on the audio EMI shield can remain.

NOTICE: The audio EMI shield is attached to the USB connector housing with two-sided tape. To avoid bending the audio EMI shield, care must be taken when separating the audio EMI shield from the USB connector housing.

6. Using a small flat-blade screwdriver, carefully separate the audio EMI shield away from the USB connector housing.

   Place the edge of the screwdriver between the audio EMI shield and the USB connector housing, and slowly pry the two apart.

7. Carefully disconnect the speaker wire connector from the system board.

   The male connector on the speaker wire is keyed to fit into the female connector one way only.

8. Remove the two M2 x 3.5-mm screws that secure the speaker to the bottom assembly.
9. Remove the speaker from the bottom assembly.
10. Remove the rubber speaker gasket from the bottom assembly.

To replace the speaker, perform the following steps:

1. Reinstall the rubber speaker gasket in the bottom case.

   The gasket is keyed, so it will fit in the bottom case one way only.

2. Place the speaker in the bottom case.
3. The wire end of the speaker should face towards the center of the bottom assembly.
4. Reinstall the two M2 x 3.5-mm screws to secure the speaker to the bottom assembly.
5. Carefully connect the speaker wire to the connector in the system board assembly.

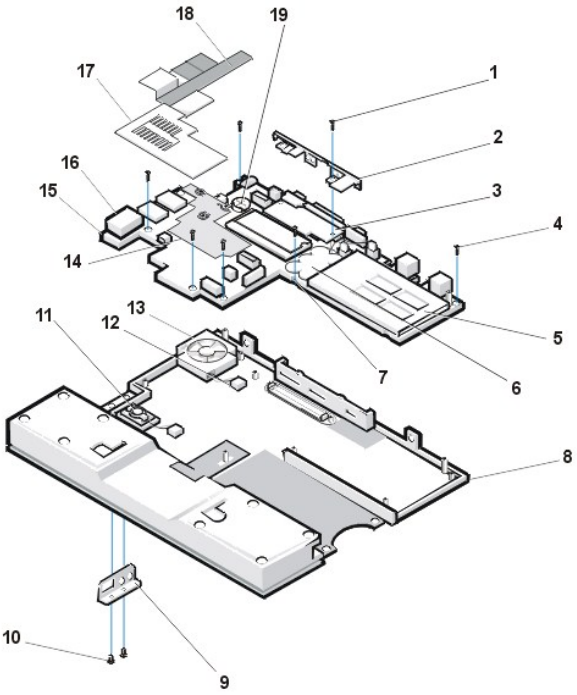
   The male connector on the speaker wire is keyed to fit into the female connector one way only.

6. Reinstall the audio EMI shield.
   a. Carefully position the audio EMI shield so the section with the two-sided tape is over the USB connector housing.
   b. Press the audio EMI shield down so it attaches to the USB connector housing.
   c. Reattach the EMI adhesive sponge across the thermal cooling solution.

7. Reinstall the palmrest assembly.
8. Reinstall the keyboard assembly.
9. Reinstall the display assembly.
10. Reinstall the keyboard bezel.

System Board Assembly

Figure 20. System Board Assembly Removal



1 M2 x 8.5-mm screw
2 Modem retainer bracket
3 Modem
4 M2 x 3.5-mm screws (6)
5 PC Card cover
6 Reserve battery
7 EMI clip location
8 Bottom case assembly
9 Audio I/O port cover
10 M2 x 4-mm screws (2)
11 Speaker
12 Fan wire connector
13 Fan
14 Thermal cooling solution
15 System board
16 USB connector
17 Audio EMI shield
18 EMI adhesive sponge
19 RTC battery

To remove the system board assembly, perform the following steps.

NOTICE: To avoid damaging the system board, you must remove the main battery before you service the computer.

NOTICE: The processor is not replaceable. Do not attempt to remove the thermal cooling solution.

1. Remove the keyboard bezel.
2. Remove the display assembly.
3. Remove the keyboard assembly.
4. Remove the palmrest assembly.
5. Use a 5-mm socket wrench to remove the four 5-mm socket screws for the VGA and parallel ports located on the back of the bottom case assembly.
6. Use a small flat-blade screwdriver to remove the two media bay connector screws at both ends of the media bay connector located on the back of the bottom case assembly.

NOTICE: To ensure maximum cooling for the microprocessor, do not touch the glue side of the thermal conductive tape. The oils in your skin reduce the heat transfer capability on the glue side of the tape.

7. Peel up the thermal conductive tape that connects the audio EMI shield to the thermal cooling solution (see Figure 20).

   You only need to peel up the part of the tape that lays on the thermal cooling solution. The end of the tape that lays on the audio EMI shield can remain.

NOTICE: The audio EMI shield is attached to the USB connector housing with two-sided tape. To avoid bending the audio EMI

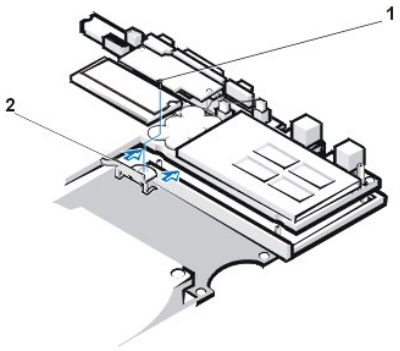
shield, care must be taken when separating the audio EMI shield from the USB connector housing.

8. Using a small flat-blade screwdriver, carefully separate the audio EMI shield away from the USB connector housing. Place the edge of the screwdriver between the audio EMI shield and the USB connector housing, and slowly pry the two apart.
9. Remove the two M2 x 4-mm screws that secure the audio I/O cover to the bottom case assembly.
10. Remove the audio I/O cover.
11. Remove the six M2 x 3.5-mm screws that secure the system board to the bottom case assembly. White arrows on the system board assembly point to the M2 x 3.5-mm screws.
12. Remove the M2 x 8.5-mm screw that secures the modem retainer bracket.
13. Remove the modem retainer bracket from the bottom case assembly.
14. Disconnect the speaker wire from the connector on the system board assembly.
15. Disconnect the fan wire from the connector on the system board assembly.
16. Lift the system board assembly out of the bottom case assembly.

To replace the system board assembly, perform the following steps:

1. Transfer the memory module(s) to the replacement system board assembly.
2. Place the new hard-disk drive EMI clip on the system board assembly (see Figure 21).

Figure 21. Hard-Disk Drive EMI Clip Installation



1 M2 x 3.5-mm screw
2 Hard-disk drive EMI clip

3. Place the system board assembly in the bottom case assembly.

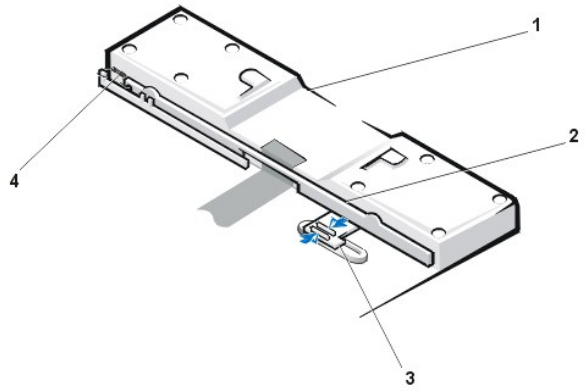
   The I/O ports should protrude comfortably through the openings at the back of the bottom case assembly.
4. Reconnect the fan wire to the connector on the system board assembly.
5. Reconnect the speaker wire to the connector on the system board assembly.
6. Replace the modem retainer bracket around the I/O ports and on top of the modem.
7. Reinstall the M2 x 8.5-mm screw on the right side of the modem to secure the modem retainer bracket to the system board assembly. The hole for the M2 x 8.5-mm screw is located by the VGA port.
8. Reinstall the six M2 x 3.5-mm screws that secure the system board assembly to the bottom case assembly. White arrows on the system board assembly point to the screw holes. One of the M2 x 3.5-mm screws passes through the hard-disk drive EMI clip (see Figure 20).
9. Reinstall the audio EMI shield.
   a. Carefully position the audio EMI shield so the section with the two-sided tape is over the USB connector housing.
   b. Press the audio EMI shield down so it attaches to the USB connector housing.
   c. Reattach the thermal conductive tape across the thermal cooling solution.
10. Reinstall the two media bay connector screws at both ends of the media bay connector located on the back of the bottom case assembly.
11. Reinstall the four 5-mm socket screws for the VGA and parallel ports located on the back of the bottom case assembly

12. Replace the audio I/O cover.
13. Replace the two M2 x 4-mm screws to secure the audio I/O cover to the bottom case assembly.
14. Reinstall the palmrest assembly.
15. Reinstall the keyboard assembly.
16. Reinstall the display assembly.
17. Reinstall the keyboard bezel.

Main Battery Release Latch

Figure 22. Main Battery Release Latch Removal

1 Bottom case assembly
2 Main battery release latch
3 Release button
4 Tension spring



1. Remove the keyboard bezel.
2. Remove the display assembly.
3. Remove the keyboard.
4. Remove the palmrest assembly.
5. Remove the system board.

NOTICE: The tabs on the release button are plastic. Care should be taken when squeezing the tabs to avoid breaking them.

6. Using needle-nose pliers, gently squeeze the two tabs on the back of the release button together and grasp the top of the battery release latch and gently pull up to free it from the release button assembly (see Figure 22).
7. To remove the battery release latch, unhook the small tension spring located on the metal post next to the hard-disk drive.

Docking Doors

NOTE: A docking device is not supported on the Inspiron 2000 portable computer.

1. Turn the computer upside down.

   The APR docking doors should be at the top.
2. Carefully insert a small flat-blade screwdriver in the opening between the door edges and the edge of the door opening on the right side.

   There is a small slot at the right edge of the door opening to show where the screwdriver is placed.

3. Gently push the screwdriver against the right edge of the back door to cause the door to bow up at their center.
4. Grasp the back door as it bows up while still pressing the door edge with the screwdriver.
5. Carefully slip the right-edge hinge of the back door off its right hinge pin.

NOTICE: The doors are attached to each other by a tension spring at the left end of the doors. Do not try to separate the doors from each other. They must be removed together.

6. Gently push the screwdriver against the right edge of the front door to cause the door to bow up at their center.
7. Grasp the front door as it bows up while still pressing the door edge with the screwdriver.
8. Carefully slip the right-edge hinge of the front door off its right hinge pin.
9. Grasping both doors together, carefully slip the left side of each door off their left hinge pins.

To replace the APR docking doors, perform the following steps.

NOTE: On the under side of the doors, a small F is printed on the front door and a small B is printed on the back door. As you hold the doors for installation, the front door is near you, the back door is away from you, and the tension spring is to the left.

1. Turn the computer upside down.

   The APR connector door opening should be at the top.
2. Holding the two doors together at their right edges, insert the left hinges of the doors (at the end with the tension spring) onto the left, front and back hinge pins.
3. Carefully bow the doors in the center.
4. Slip the right hinge of the back door on to the right, back hinge pin.
5. Slip the right hinge of the front door on to the right, front hinge pin.
6. Release the doors so they set into place.

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Passwords and Security: Dell™ Inspiron™ 2000 System Reference

About Passwords

A user password prevents unauthorized access to the computer at start-up. A supervisor password provides access to the system setup program. A hard-disk drive password helps prevent the unauthorized access of data on the hard-disk drive, even when the device is placed into another computer.

NOTES: All three passwords are disabled when you receive your computer. You need to assign those passwords if you require password security for your computer. Some companies may assign any or all of these passwords before distributing the computer.

Use the system setup program to assign all passwords.

NOTICE: The password features provide a high level of security for the data in your computer or hard-disk drive. However, they are not foolproof. If your data requires more security, you should obtain and use additional forms of protection, such as data encryption programs or PC Cards with encryption features.

If you forget any of your passwords, call Dell. For your protection, Dell's technical support staff will ask you for proof of your identity to make sure that an unauthorized person is not trying to use the computer.

Using a Supervisor Password

The supervisor password is designed to give system administrators or service technicians in large companies access to computers for repair or reconfiguration. The administrators or technicians can assign identical supervisor passwords to groups of computers as they are unpacked and configured, leaving the user password free to be assigned by the user.

The supervisor password overrides the user password. Whenever you are prompted to enter the user password, you can enter the supervisor password instead.

NOTE: The supervisor password provides access to the computer, but it does not provide access to the hard-disk drive when the drive is protected by a password.

If you forget the user password and do not have a supervisor password assigned, or if you have both a user and a supervisor password assigned but forget them both, call Dell.

NOTICE: Disabling the supervisor password disables the user password.

Using a User Password

The user password allows you to protect the computer from unauthorized access.

NOTE: Before assigning a user password, you must set a supervisor password.

After assigning a user password, you must enter it each time you turn on your computer. The following message appears at the bottom of the screen each time you turn on the computer:

```
Enter Password
```

To continue, type your password and press <Enter>.

If you assigned a supervisor password, you can use it instead of the user password. The computer does not specifically prompt you for the supervisor password.

NOTICE: Disabling the supervisor password disables the user password.

Using a Hard-Disk Drive Password

The hard-disk drive password helps protect the data on your hard-disk drive from unauthorized access.

NOTE: Hard-disk drives that are not purchased from Dell for use with your computer may not support the hard-disk drive password option.

After assigning a hard-disk drive password, you must enter it each time you turn on the computer and each time you resume normal operation from suspend mode or standby mode.

If the hard-disk drive password is enabled, the following message appears each time you turn on the computer:

```
Enter HD1 Password
```

To continue, enter the hard-disk drive password. Press <Esc> to return the computer to its previous state—suspend, standby, or off.

If you enter the wrong password, the following message appears:

```
Invalid password
[Press Enter to retry]
```

If the correct password is not entered in three attempts, you receive a message stating that the hard-disk drive cannot be accessed. If the hard-disk drive is inaccessible and the **boot options** in the system setup program are set to allow booting from another device, the computer tries to boot from another device. If all boot attempts are unsuccessful, the computer prompts you to enter the system setup program and modify the boot options.

NOTES: If the hard-disk drive password is different from the user password, you are prompted for both. Two different passwords provide greater security.

The supervisor password provides access to the computer, but it does not provide access to the hard-disk drive when the drive is protected by a password.

Physically Securing the Computer and the Hard-Disk Drive

To prevent unauthorized removal of the computer, you can use a security cable to attach the computer to an immovable object. Your computer has a security cable slot located on the right side of the computer next to the hard-disk drive (see Figure 1).

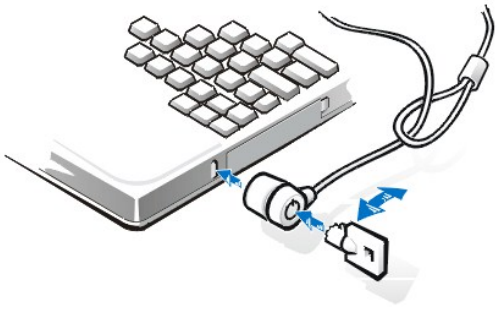
Description of Security Cable Slots

The security cable slot allows you to attach a commercially available antitheft device to the computer. Antitheft devices for portable computers usually include a segment of metal-stranded cable with an attached locking device and associated key. You can use a security cable on your computer whether it is undocked or docked in a Dell Latitude LS Advanced Port Replicator (APR).

Basic Instructions for Using Security Cable Slots

To prevent unauthorized removal of your computer, loop the cable around an immovable object, insert the locking device into the security cable slot, and lock the device. See Figure 1 for an example of how to secure your computer. Complete instructions for installing this kind of antitheft device are usually included with the device.

Figure 1. Securing the Computer



NOTE: Antitheft devices are of differing designs. Before purchasing such a device, make sure that it will work with the security cable slot in your computer.

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Technical Specifications: Dell™ Inspiron™ 2000 System Reference

Chip Set and Bus

System chip set	Intel® Mobile Pentium® III with 443BX/PIIX4m
Microprocessor data bus width	64 bits
DRAM bus width	64 bits
Address bus width	32 bits
Flash EPROM	4 megabits (Mb)
AGP bus	66 MHz
PCI bus	33 MHz

PC Cards

CardBus controller	Texas Instruments PCI 1211 CardBus controller
PC Card slots	one (supports type I and type II cards, including ZV cards on computers running the Microsoft® Windows® 98 operating system)
Cards supported	3.3-V and 5-V
PC Card connector size	68 pins
Data width (maximum):	
PCMCIA	16 bits
CardBus	32 bits

Memory

Architecture	SDRAM
Memory module sockets	144-pin industrial standard SODIMM socket
Memory module capacities and type	64, 128, or 256 MB of 3.3-V SDRAM[1] modules
Standard RAM	64-MB memory module
Maximum RAM	256 MB
Memory clock speed	100 MHz

Connectors

Parallel	unidirectional, bidirectional, or ECP connector
IDE	IDE connector for external media bay
Video	SVGA connector
PS/2	mini-DIN connector

Audio	microphone-in jack; headphones/speakers jack
USB	USB-compliant connector
Modem	RJ-11 connector
NIC	RJ-45 connector
Docking	240- pin connector (not supported)

Audio

Audio type	Sound Blaster (software emulation-capable)
Audio controller	NeoMagic NMG5 + AC97 CODEC
Stereo conversion	16 bit (analog-to-digital and digital-to-analog)
Interfaces:	
Internal	PCI bus/AC97
External	microphone-in minijack; headphones/speakers-out minijack
Speaker	4.0-ohm speaker
Internal speaker amplifier	0.5 W
Controls	volume can be controlled through key combinations and application program menus

Video

Video type	256-bit hardware-accelerated
Data bus	AGP
Video controller	NeoMagic NM2200
Video memory	2.5 MB

Display

Type	SVGA TFT
Maximum resolution/colors	800 x 600; 262,144 colors
Operating angle	0° (closed) to 180°
Response time (typical)	50 ms rise; 20 ms fall
Dot pitch	0.30 mm
Power consumption:	
Panel (typical)	0.825 W
Backlight	2.9 W
Controls	brightness can be controlled through a key combination

Network Interface Controller

Integrated network interface chip	3Com® 3C920 10/100-BASETX PCI bus master Ethernet

Integrated Modem

DataFax Modem	Worldwide 56-Kbps v.90 Lucent 1646 controllerless Data Access Arrangement (DAA) modem. For more information, see the online documentation for the modem.

Keyboard

Number of keys	84 keys - QWERTY (North America) 85 keys - AZERTY (Europe) 87 keys - Kanji (Japan)
Key travel	2.5 mm (.098 inch) ± .2mm (.008 inches)
Key spacing	18 mm (0.70 inch)

Battery

Type	lithium ion
Dimensions:	
Height	12.7 mm (0.5 inch)
Depth	57.25 mm (2.25 inches)
Width	262.49 mm (10.33 inches)
Weight	214 g (.47 lb) for 4-cell version; 288 g (0.63 lb) for 6-cell version
Voltage	14.8 for 4-cell version; 11.10 VDC for 6-cell version
Capacity	23 WH for 4-cell version; 34 WH for 6-cell version
Charge time (approximate):[2]	
Computer on	About 1.5 hours
Computer off	About 1.5 hours
Life span (approximate)[2]	350 discharge/charge cycles; 2000 partial charges
Temperature range:	
Charge	0° to 40°C (32° to 104°F)
Storage	–20° to 50°C (–4° to 122°F)

AC Adapter

Input voltage	100 to 240 VAC
Input current (maximum)	1.5 A
Input frequency	50 to 60 Hz
Output current	2.64 A (maximum)
Rated output voltage	19.0 VDC
Height	29 mm (1.14 inches)
Width	46.3 mm (1.82 inches)
Depth	108 mm (4.25 inches)
Weight (with cables)	355 g (0.78 lb)
Temperature range:	
Operating	0° to 40°C (32° to 104°F)
Storage	–20° to 60°C (–4° to 140°F)

Physical

Height	25.7 mm (1.01 inches)
Width	272 mm (10.7 inches)
Depth	220.0 mm (8.66 inches)
Weight	1.665 kg (3.67 lb) with 6-cell battery 1.618 kg (3.57 lb) with 4-cell battery

Environmental (Computer)

Temperature:

Operating	5° to 35°C (41° to 95°F)
Storage	–20° to 60°C (–4° to 140°F)
Relative humidity (maximum):	
Operating	20% to 80% (noncondensing)
Storage	8% to 90% (noncondensing)
Maximum vibration:	
Operating	0.9 GRMS using a random-vibration spectrum that simulates user environment
Storage	1.3 GRMS using a random-vibration spectrum that simulates air/truck shipment
Maximum shock:[3]	
Operating	152.4 cm/sec (60.0 inches/sec) (equal to a half-sine pulse 2 ms in width)
Storage	203.2 cm/sec (80 inches/sec) (equal to a half-sine pulse 2 ms in width)
Altitude (maximum):	
Operating	–18 to 3048 m (–59 to 10,000 ft)
Storage	–18 to 10,600 m (–59 to 35,000 ft)

Touch Pad

Interface	PS/2 (compatible with Microsoft mouse driver)
X/Y position resolution	Minimum 20 points/mm (500 points/inch) (graphics tablet mode)
Size:	
Thickness	0.69 ± 0.15-mm (0.027 ± 0.006-inch) printed-circuit board (PCB) thickness (including mylar cover)
Width	64.88 mm (2.55-inch)
Height	48.88 mm (1.92 inches)
Weight	6.0 ± 0.5g (0.21 oz)
Power:	
Supply voltage	5 V ± 10%
Supply current	4.0 mA (nominal operating)
ESD	In accordance with IEC-801-2

NOTES:

[1] The Dell Inspiron 2000 portable computer supports only 100-MHz SDRAM SODIMMs. It does not support EDO memory modules.

[2] Battery performance features such as charge time and life span can vary according to the conditions under which the computer and battery are used.

[3] Measured with the hard-disk drive in head-parked position.

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System Setup: Dell™ Inspiron™ 2000 System Reference

System Setup Program

Each time you turn on your computer, it compares the installed hardware with the system configuration information stored in nonvolatile random-access memory (NVRAM). If the system detects a discrepancy, it generates an error message for each incorrect configuration setting. You can use the system setup program to adjust the configuration settings.

You can use the system setup program as follows:

- To set or change user-selectable features — for example, your password or power management features
- To verify information about your computer's current configuration, such as the amount of system memory

For some setup options, you must reboot the computer before any changes take effect. Changes for other options take effect immediately.

*NOTE: If you change an option that is activated by rebooting, the system setup program displays the setting you selected rather than the setting currently in effect. You **must** reboot for the new setting to take effect.*

After you set up your computer, run the system setup program to familiarize yourself with your system configuration information and optional settings. Dell recommends that you write down the information for future reference.

For more information, see "System Setup Options."

Entering the System Setup Program

To enter the system setup program, turn on the computer and press <F2> as soon as you see the Dell logo screen and before the Microsoft® Windows® logo screen appears. The computer reboots automatically when you exit the Setup program.

The system setup screens display the current setup and configuration information and optional settings for your computer. Information on the screens is organized in four areas:

- The menu across the top of each screen lists the six top-level screens (**Main**, **Advanced**, **Security**, **Power**, **Boot**, and **Exit**) to aid you in moving from screen to screen.
- The large box on the left two-thirds of each screen lists options that define the installed hardware and the power conservation and security features of your computer.
- The smaller box on the right third of the screen provides item-specific help information about the currently selected option.
- The information across the bottom of all screens lists keys and their functions within the system setup program.

To exit the system setup program, press <Esc> and select one of the exit options.

NOTE: To reset the default values for each option in a menu, press <F9> and then press <Enter> to confirm. To save the current values and exit the system setup program, press <F10> and then press <Enter> to confirm.

For more information, see "System Setup Options."

System Setup Options

Main Screen

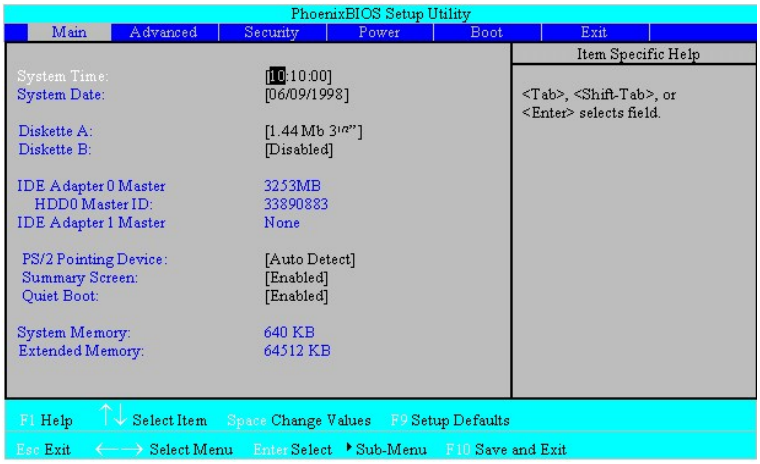


Table 1. Main Screen Options

Option	Function
System Time	Resets the time on the computer's internal clock.
System Date	Resets the date on the computer's internal calendar.
Diskette A, Diskette B	Identifies the type of diskette drive being used by the computer. **Diskette Drive B** identifies a second diskette drive, if installed.
IDE Adapter 0 Master	Displays the capacity of the computer's internal hard-disk drive. This option does not have any user-selectable settings.
IDE Adapter 1 Master	Identifies an IDE device (such as a CD-ROM or DVD-ROM drive) attached to the media bay connector through the media bay cable.
PS/2 Pointing Device	**Auto Detect** (the default) allows the BIOS to detect and enable an external PS/2 mouse (if attached) or enable the touch pad. **Enabled** enables the touch pad only. **Disabled** allows the use of a serial mouse.
Summary Screen	When **Summary Screen** is **Enabled** (the default), a **Phoenix BIOS Setup Utility** summary screen appears during system boot after the power-on self-test (POST). The summary screen lists many of the system setup settings. When this option is set to **Disabled**, the summary screen does not appear.
Quiet Boot	When set to **Enabled** (default), prevents the diagnostic POST messages and summary screen from appearing at system start-up. When set to **Disabled**, allows POST messages and the summary screen to appear at system start-up. If **Quiet Boot** is enabled, you cannot choose a boot device as the system initializes.
System Memory	Displays the base amount of DRAM installed in the computer. Each computer has 640 KB of base memory. This option has no user-selectable settings.
Extended Memory	Displays the total amount of memory above 1 MB. Each computer comes with at least 64 MB of memory installed. If you install or remove memory, the amount of extended memory displayed changes. This option has no user-selectable settings.
NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the system Help.	

Advanced Screen

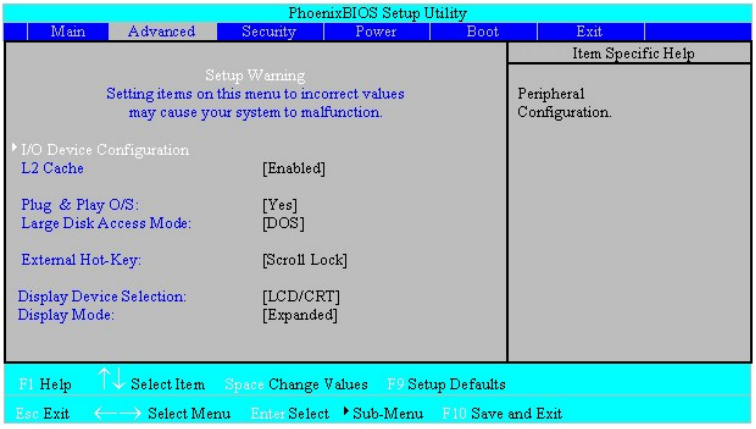


Table 2. Advanced Screen Options

Option	Function
I/O Device Configuration	Select this option and press <Enter> to display the I/O Device Configuration Submenu.
L2 Cache	Sets the level-2 (L2) cache to **Enabled** (the default) or **Disabled**.
Plug & Play O/S	Options are **Yes** (the default) and **No**. Set this option to **Yes** unless your computer is running a non-Microsoft operating system such as Linux.
Large Disk Access Mode	Options are **DOS** (the default) and **Other**. Set this option to **DOS** unless your computer is running a non-Microsoft operating system such as Linux.
External Hot-Key	Lets you use the <Scroll Lock> key on the external keyboard the same way you use the <Fn> key on the computer's keyboard. Set this option to **Scroll Lock** (the default) if you are using an external keyboard. Set this option to **Disabled** to disable this function on the external keyboard.
Display Device Selection	Specifies whether the screen image will appear on the computer display, an attached external monitor, or both. Options are **LCD** (the display), **CRT** (an external monitor), and **LCD/CRT**. If this option is set to **CRT** but no external monitor is connected, the screen image appears on the computer display.
Display Mode	Allows you to switch between **Standard** and **Expanded** mode. Under **Expanded** mode, resolutions other than 800 x 600 expand to fill the screen.
NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the system Help.	

I/O Device Configuration Submenu

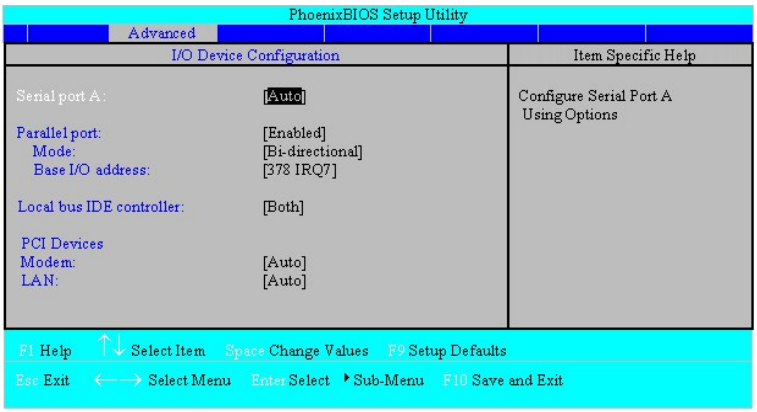


Table 3. I/O Device Configuration Submenu Options

Option	Function
Serial port A	Enabled sets the **Serial port A: Base I/O Address** to **3F8h IRQ4**. If there is a conflict between two or more addresses, an asterisk appears next to the port type. **Disabled** disables the serial port to conserve power.
Parallel port	When the option is **Enabled**, the **Mode** is **Bi-directional**, the **Base I/O address** is **378h IRQ 7**. When the option is set to **Disabled**, the port is disabled and you can use its assigned LPT resources for another device. If you change the parallel port address or DMA channel, be careful not to create a conflict with the address.
Local bus IDE controller	Configures the integrated local-bus IDE adapter. Options are **Both** (default), **Disabled**, **Primary**, or **Secondary**. If **Both** is selected, you can access both the hard-disk drive and the media bay device(s). If **Primary** is selected, only the hard-disk drive is accessible. When **Disabled**, the media bay device(s) and hard-disk drive are disabled.
Modem	Options are **Auto** (the default) and **Disabled**. Setting **Modem** to **Auto** automatically configures the internal modem.
LAN	Options are **Auto** (the default) and **Disabled**. Setting to **Auto** automatically configures the integrated NIC.
NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the system Help.	

Security Screen

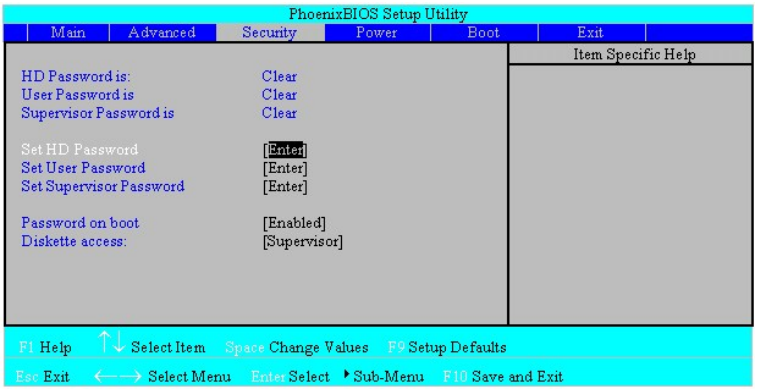
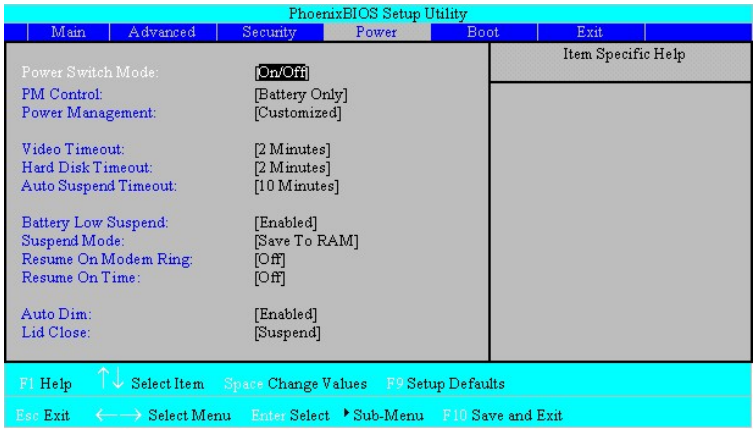


Table 4. Security Screen Options

Option	Function
HD Password is:	If no hard-disk drive password has been set, the setting for **HD Password is** is **Clear**. Otherwise, the setting displayed is **Set**.
User Password is:	If no user password has been set, the setting for **User Password is** is **Clear**. Otherwise, the setting displayed is **Set**.
Supervisor Password is:	If no supervisor password has been set, the setting for **Supervisor Password is** is **Clear**. Otherwise, the setting displayed is **Set**.
Set HD Password	Press <Enter> to set up a new hard-disk drive password, and then follow the instructions on your screen. This password restricts access to the hard-disk drive.
Set User Password	Press <Enter> to set up a new hard-disk drive password, and then follow the instructions on your screen. This password restricts access to the hard-disk drive.
Set Supervisor Password	Press <Enter> to set up a new supervisor password, and then follow the instructions on your screen. This password can replace the user password.
Password on Boot	When this option is enabled, you must enter a password before the computer loads the operating system into memory. Settings for this option are **Disabled** (default) and **Enabled**.
Diskette access	Specifies whether a **Supervisor** or **User** password is required to access the diskette drive.
NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the system Help.	

Power Screen



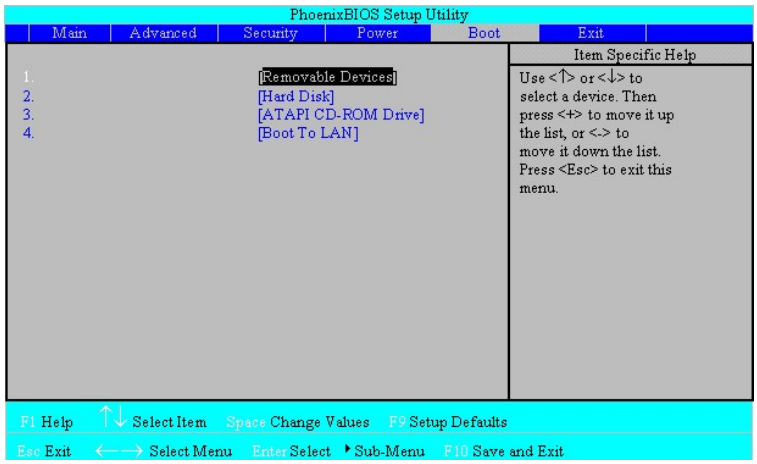
*NOTE: In the Microsoft Windows 98 operating system, if you change settings in the **Power Management Properties** window in the **Control Panel**, you override settings in the **Power** screen of the system setup program. You must enable power management and set timeouts in the **Power Management Properties** window, not in the system setup program.*

Table 5. Power Screen Options

Option	Function

Power Switch Mode	Specifies whether the power button operates in **On/Off** or **Suspend/Resume** mode. When set to **On/Off**, the power button turns the computer on and off. When set to **Suspend/Resume**, the power button suspends or resumes the computer.
PM Control	Enables or disables all power management features for the battery only or for both the battery and the AC power adapter. **AC/Battery** enables the power management features regardless of power source. **Battery Only** (the default) enables power management features only while the computer is running on battery power. **Disabled** completely disables the power management features.
Power Management	**Customized** (the default) allows you to control each power management setting. **Maximum Battery Life** conserves the maximum amount of system power and sets **Video Timeout**, **Hard Disk Timeout**, and **Auto Suspend Timeout** to 2 minutes each. **Maximum Performance** conserves power but allows the greatest system performance and sets **Video Timeou**t to 10 minutes, **Hard Disk Timeout** to 5 minutes, and **Auto Suspend Timeout** to 10 minutes.
Video Timeout	Lets you determine how long the keyboard, touch pad, and PS/2 mouse remain idle (no I/O activity) before the display and backlight turn off. The display and backlight turn on again at the first attempt to access the keyboard, touch pad, PS/2 mouse, or display memory. Settings are **Off**, **30 Minutes**, **20 Minutes**, **15 Minutes**, **10 Minutes**, **5 Minutes**, and **2 Minutes**.To increase battery operating time, set this option to a lower number of minutes. To use this option, you must set **Power Management** to **Customized**.
Hard Disk Timeout	Lets you determine how long the hard-disk drive remains idle (no I/O activity) before the drive motor shuts down. The drive motor starts up again at the first attempt to access the hard-disk drive. Settings are **Off**, **30 Minutes**, **20 Minutes**, **10 Minutes**, **5 Minutes**, and **2 Minutes**. To increase battery operating time, set this option to a lower number of minutes. To use this option, you must set **Power Management** to **Customized**.
Auto Suspend Timeout	Lets you determine how long the computer remains idle (no I/O activity) before before activating suspend-to-disk (S2D) mode. Settings are **Off**, **30 Minutes**, **20 Minutes**, **10 Minutes**, **5 Minutes**, **2 Minutes**, and **1 Minute**. To increase battery operating time, set this option to a lower number of minutes. To use this option, you must set **Power Management** to **Customized**.
Battery Low Suspend	Sets the computer to enter suspend (or standby) mode when the battery is low. Options are **Enabled** (the default) and **Disabled**. **Disabled** turns off the low-battery suspend function, but the **Auto Suspend Timeout** setting is still operative.
Suspend Mode	When set to **Save to RAM** (default), the computer conserves battery power by entering standby mode by stopping almost all computer activity, but leaves the computer ready to resume operations in seconds. Resume normal computer activity by pressing the power button (the computer may take several seconds to return to normal operation). When set to **Save to Disk**, the computer copies all system data to a reserved area on the hard-disk drive and then turns off all power to the computer. When the computer resumes normal operation, the same programs will be running and the same files will be open that were loaded before you activated this mode. Use save-to-disk suspend mode to conserve battery power or to preserve system data by quickly saving it to the hard-disk drive if you are about to run out of battery power.
Resume on Modem Ring	Setting this option to **On** tells the computer to resume normal operation when an incoming call is detected by the modem and the computer is in standby mode. The default is **Disabled**. To use this option, you must set **Suspend Mode** to **Save to RAM**.
Resume On Time	When the Resume On Time option is set to On, a computer in standby mode resumes normal operation at a time specified in the **Resume Time** field. The default is **Off**. To use this option, you must set **Suspend Mode** to **Save to RAM**.
Resume Time	**Resume Time** appears on the screen only when **Resume On Time** is set to **On**. Lets you specify a time when the computer resumes from standby mode to normal operation. To use this option, you must set **Suspend Mode** to **Save to RAM**.
Auto Dim	Extends battery life by setting the computer to automatically decrease the brightness of the display when running on battery power. Options are **Enabled** (the default) and **Disabled**.
Lid Close	Specifies how the computer will respond when the display lid is closed. When set to **Active** (the default), the computer switches the display image to an attached monitor. When set to **Suspend**, the computer enters standby mode.

Boot Screen



The **Boot Screen** defines the order of the devices from which the computer attempts to boot when you turn it on (see Table 6).

The boot device options appear in a list on the screen. When you turn on the computer, it attempts to boot from the first option on the list. If no bootable files are present on the first option, the computer tries to boot from the second option, and so on down the list (except where noted in the following table).

To arrange the boot sequence, use the up- or down-arrow key to select a device, and then press <F6> or the plus key (<+>) to move the device up the list or <F5> or the minus key (<–>) to move it down the list.

The term *boot* refers to the computer's start-up procedure. When you turn on the computer, it "bootstraps" itself into an operational state by loading into memory a small program, which in turn loads the necessary operating system.

Table 6. Boot Screen Options

Option	Function
Removable Devices	The computer attempts to boot first from a bootable diskette or SuperDisk. If it does not detect one of these removable media disks, the computer tries to boot from the hard-disk drive. If a disk is in its drive, but the disk does not have the required boot files, an error message appears.
Hard Disk	The computer boots only from the hard-disk drive. If it fails to boot from the hard-disk drive, the computer does not attempt to boot from the diskette drive.
ATAPI CD-ROM Drive	The computer attempts to boot first from a bootable CD. If it does not detect a bootable CD in the CD-ROM or DVD-ROM drive, the computer tries to boot from the next device on the list. If a CD is in the CD-ROM or DVD-ROM drive, but the CD does not have the required boot files, an error message appears.
Boot to LAN	The computer to attempt to boot first from a LAN.

Exit Screen

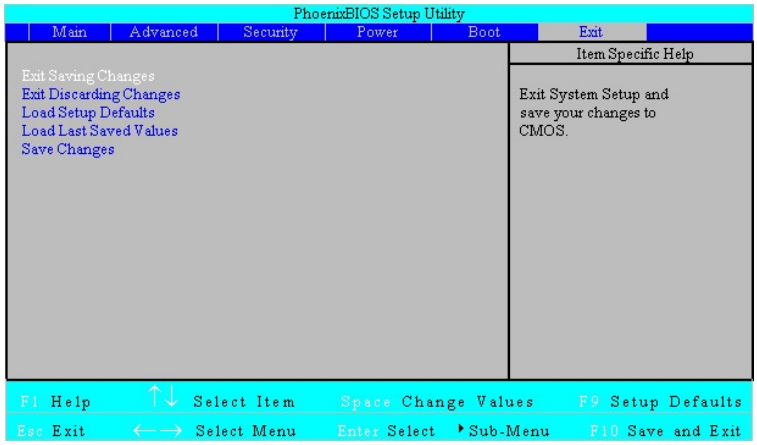


Table 7. Exit Screen Options

Option	Function

Exit Saving Changes	Saves the any changes you made and exits the system setup program.
Exit Discarding Changes	Discards any changes you made and exits the system setup program.
Load Last Saved Values	Discards the settings you have made and restores the settings you previously saved. Press <Enter> when prompted to continue.
Save Changes	Saves any changes you made, but does not exit the system setup program.

Suspend-to-Disk Utility

If you are installing a new hard-disk drive or rebuilding one and you want to be able to use suspend-to-disk (S2D) mode (called hibernate in the Microsoft Windows 98 operating system), you must create an S2D file on the hard-disk drive. This allows all system data to be stored in the S2D file whenever you activate S2D mode.

Creating an S2D File for Windows 98

NOTE: The following procedure assumes that your hard-disk drive is already partitioned and formatted. For information on partitioning and formatting your drive, see both your operating system and your drive documentation.

To create the S2D file for computers running the Windows 98 operating system, perform the following steps:

1. Insert the *Dell System Software* CD into the CD-ROM or DVD-ROM drive.
2. Turn on or restart the computer.
3. Press <F2> as soon as you see the Dell logo screen to enter the system setup program.

   If you wait too long and the operating system begins to load into memory, *let the computer complete the load operation*. Then shut down the computer and try again.
4. Enter the **Boot** screen, select **ATAPI CD-ROM Drive**, and move it to the first position in the boot sequence.
5. Press <F10> to save the settings and exit the system setup program.

   The computer restarts and automatically begins to run the Dell Diagnostics.
6. Type `x` to exit to MS-DOS mode.
7. At the MS-DOS prompt, type `d:\`, where d is the drive letter for your CD-ROM or DVD-ROM drive, and press <Enter>.

   Your MS-DOS prompt changes from `A:\>` to `D:\>`, assuming that D is your drive letter.
8. Type `cd\utilities` and press <Enter>.
9. Type `phdisk /create /file` and press <Enter>.

   NOTE: Include a space before each forward slash.

   The utility calculates the size of the file in megabytes (MB), based on the amount of system memory in your computer, plus 2 MB to handle video memory and additional system requirements.
10. Follow the instructions on your screen to create the S2D file.

    To check the size of the S2D file, at an MS-DOS prompt type `phdisk /info` and press <Enter>.

    If you need to delete the S2D file, at an MS-DOS prompt type `phdisk /delete /file` and press <Enter>.

NOTICE: The S2D file is placed in your computer's root directory, where it may be a hidden file, depending on how you set up your operating system. Do not delete the file inadvertently.

To restore the default boot sequence, perform the following steps:

1. Turn on or restart the computer.
2. Press <F2> as soon as you see the Dell logo screen to enter the system setup program.

   If you wait too long and the operating system begins to load into memory, *let the computer complete the load operation*. Then shut down the computer and try again.
3. Enter the **Boot** screen, and press <F9> to restore the default boot sequence.
4. Press <F10> to save the settings and exit the system setup program.

Creating an S2D Partition for Windows NT®

NOTE: The following procedure assumes that your hard-disk drive is unpartitioned and unformatted or you have a minimum of 150 MB of unpartitioned space on the drive. For information on partitioning and formatting your drive, see both your operating system and your drive documentation.

To create the S2D partition for computers running Microsoft Windows NT, perform the following steps:

1. Insert the *Dell System Software* CD into the CD-ROM or DVD-ROM drive.
2. Turn on or restart the computer.
3. Press <F2> as soon as you see the Dell logo screen to enter the system setup program.

   If you wait too long and the operating system begins to load into memory, *let the computer complete the load operation*. Then shut down the computer and try again.
4. Enter the **Boot** screen, select **ATAPI CD-ROM Drive**, and move it to the first position in the boot sequence.
5. Press <F10> to save the settings and exit the system setup program.

   The computer restarts and automatically begins to run the Dell Diagnostics.
6. Type `x` to exit to MS-DOS mode.
7. At the MS-DOS prompt, type *d*`:\`, where d is the drive letter for your CD-ROM or DVD-ROM drive, and press <Enter>.

   Your MS-DOS prompt changes from `A:\>` to `D:\>`, assuming that D is your drive letter.
8. Type `cd\utilities` and press <Enter>.
9. Type `phdisk /create /partition` and press <Enter>.

   NOTE: Include a space before each forward slash.

   The utility calculates the size of the partition in MB, based on the amount of system memory in your computer, plus 2 MB to handle video memory and additional system requirements.
10. Follow the instructions on your screen to create the S2D partition.

To check the size of the S2D partition, at an MS-DOS prompt type `phdisk /info` and press <Enter>.

If you need to delete the S2D partition, at an MS-DOS prompt type `phdisk /delete / partition` and press <Enter>.

To restore the default boot sequence, perform the following steps:

1. Turn on or restart the computer.
2. Press <F2> as soon as you see the Dell logo screen to enter the system setup program.

   If you wait too long and the operating system begins to load into memory, *let the computer complete the load operation*. Then shut down the computer and try again.
3. Enter the **Boot** screen, and press <F9> to restore the default boot sequence.
4. Press <F10> to save the settings and exit the system setup program.

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Display

Adjusting the Display Brightness

To adjust the brightness of the display, you can use the key combinations shown in Table 1.

NOTE: When you run the computer on battery power, set your computer's brightness control to the lowest setting that affords comfortable viewing. You can extend your battery life by using the minimum brightness setting.

Table 1. Brightness Key Combinations and Their Functions

Key Combinations	Function
<Fn> + down arrow	Decreases brightness
<Fn> + up arrow	Increases brightness

*NOTE: To use key combinations on an external keyboard, enable the **External Hot-Key** option in the system setup program and use <Scroll Lock> instead of <Fn>.*

Expanded Video Mode

When working in MS-DOS® text mode, you can select the font used to display text. Press <Fn><F7> to toggle between regular video mode (serif font) and expanded video mode (a serif font with extra leading). In expanded video mode, items in resolutions other than 800 x 600 expand to fill the screen, which is useful if you are working in 800 x 600 resolution on a 12.1-inch super video graphics array (SVGA) display.

NOTE: You may have difficulty using the display fonts feature with MS-DOS programs that use downloaded fonts. For optimum video performance in these cases, do not use expanded video mode.

Video Drivers and Video Resolution

The Dell-installed video drivers work with the operating system to let you customize the video resolution, number of screen colors, and refresh rate of your display.

NOTE: The Dell-installed video drivers are designed to offer the best performance on your computer. Dell recommends that you use only these drivers with your factory-installed operating system.

Table 2. Combinations of Resolutions and Colors Supported

Resolution	Color Options			Display Refresh Rate	External Monitor Refresh Rate
640 x 480	256 colors	High Color (16-bit) (65,536 colors)	True Color (24-bit) (1,677,721 colors)	60 Hz	60, 75, or 85 Hz
800 x 600	256 colors	High Color (16-bit) (65,536 colors)	True Color (24-bit) (1,677,721 colors)	60 Hz	60, 75, or 85 Hz
1024 x 768*	256 colors	High Color (16-bit) (65,536 colors)	True Color (24-bit) (1,677,721 colors)	60 Hz	60, 75, or 85 Hz
1280 x 1024*	256 colors	N/A	N/A	60 Hz	60 Hz

** At this resolution, only an external monitor will display the entire desktop area at one time. For the computer's display, using this resolution*

sets the display to pan mode, which allows you to scroll left, right, up, and down to view the entire desktop.

To use the 1280 x 1024 or the 1024 x 768 resolution on an external monitor for a system running the Microsoft® Windows® 98 operating system, set the external monitor to **Plug and Play Monitor** as described in the following procedure:

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.
2. Double-click the **Display** icon.
3. Click the **Settings** tab, click **Advanced...**, and click the **Monitor** tab.
4. Click **Change...**, click **Next**, and click **Display a list of all the drivers**.
5. Click **Next**, and click **Show all hardware**.
6. Under **Manufacturers**, click **(Standard monitor types)**.
7. Under **Models**, click **Plug & Play Monitor**, and click **Next**.
8. Click **Next** again, click **Finish**, and click **Close**.
9. At the **Display Properties** screen, set **Screen area** to **1280 x 1024**or **1024 x 768**, and click **Apply**.
10. Click **OK**, click **Yes**, and click **OK**.

To display more colors, select a lower resolution. If you select a resolution and color combination that the computer does not support, the computer automatically selects the next supported combination.

Customizing Video Resolution

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.

   The **Control Panel** window appears.

2. Double-click the **Display** icon.

   The **Display Properties** window appears.

3. Click the **Settings** tab, and then set the resolution by dragging the slider in the **Desktop Area** box. In the **Color Palette** box, choose the number of colors from the menu provided. For more information, see your operating system documentation.

   If you choose a resolution or color palette that is higher than is supported, the settings adjust automatically to the closest possible setting.

4. To change the refresh rate, click the **NeoMagic** tab, and then follow the instructions on your display.

   *NOTE: You can adjust the refresh rate only on an external monitor. If the **NeoMagic** tab is inactive, your external monitor adjusts the refresh rate automatically.*

Dual-Display Mode

With Windows 98, you can use an external monitor as an extension of your display (see your operating system documentation for more information). To set up your computer for dual-display mode, perform the following steps:

1. Connect the external monitor.
2. Click the **Start** button, point to **Settings**, and then click **Control Panel**.
3. In the **Control Panel** window, double-click the **Display** icon.
4. In the **Display Properties** window, click the **Settings** tab.
5. Change the **Colors** option to **High Color (16 bit)**.
6. Change the **Desktop Area** to **1024 by 768 pixels**.
7. Click **Advanced...**.
8. Click the **NeoMagic** tab.
9. Select the **Set Dual-Display** checkbox and click **Apply**.
10. Click **Yes** when prompted to restart your computer.
11. Click the **Start** button, point to **Settings**, and then click **Control Panel**.

12. Double-click **Display**, and then click the **Settings** tab.

    Two display icons appear in the **Settings** window.

13. Click the display icon marked "**2**."

14. When asked if you want to enable this monitor, click **Yes**.

15. Click **Apply**, and then click **OK**.

If You Have Display Problems

If your computer is receiving power, but nothing appears on your display (such as light, text, or graphics) or the display image does not appear as you would expect, try the following measures to resolve the problem:

1. If the display is blank, you may be in suspend, standby, or suspend-to-disk (S2D) mode. Press the power button to resume.

   If the display is blank and the power indicator is on, the display may have timed out. In this case, press any key on the keyboard to resume normal operation.

2. If the low-battery warning occurs, connect the AC adapter to the computer or replace the battery.

3. Adjust the brightness.

4. If your computer is attached to an external monitor, press <Fn><F8> to switch the video image to the display.

   NOTE: It takes several seconds to switch the video image.

Cleaning the Display and Touch Pad

If the display or touch pad become smudged from use, they can be cleaned using a soft, clean cloth slightly dampened with water. Always turn off the computer before cleaning the display or touch pad.

To clean the display, stroke the cloth across the display in one direction, moving from the top of the display to the bottom.

To clean the touch pad, stroke the cloth gently across the surface of the touch pad. Do not allow water from the cloth to seep between the touch pad and the top cover of the computer.

Storage Devices

External Media Bay

You can use the external media bay (see Figure 1) for the diskette drive that comes with your system. Alternatively, you can install an optional device (such as a CD-ROM, DVD-ROM, or SuperDisk LS-120 drive) in the bay.

NOTE: If desired, you can use the media bay cable to connect a device directly to the external media bay connector, without using the external media bay.

To install a device in the external media bay, perform the following steps:

1. *If your computer is running the Dell-installed Microsoft Windows NT® operating system with Softex Docking Services, or if it is running the Dell-installed Microsoft Windows 95 or Windows 98 operating system with Softex Bay Manager:* Right-click the Softex icon (the icon looks like an open portable computer) in the Windows system tray on the taskbar, and click either **Remove or Swap Devices** or **Insert Bay Devices**

   If your computer is not running one of the Softex programs: Save your work, close all open files and application programs, and turn off the computer.

NOTICE: When a device is not inside the external media bay, it is fragile and must be handled carefully to avoid damage. Do not press down on it or place a heavy object on top of it. Place extra devices in a travel case to keep them free of dust and liquids. Store devices in a safe place.

2. If the external media bay contains a device, remove the device as follows:

   a. Remove the media bay cable from the back of the bay.

   b. Turn the media bay over.

   c. Slide the release latch on the bottom of the bay toward the unlock icon.

   d. Hold the latch in the unlock position with one hand and pull the device out of the bay with the other hand.

   e. Release the latch, and then turn the media bay back over.

3. Slide the new device firmly into the external media bay.

   You should hear a click when the device is fully seated.

NOTICE: To avoid overheating the computer, do not place the external media bay close to the air inlet or fan intake/exhaust vents (see Figure 1).

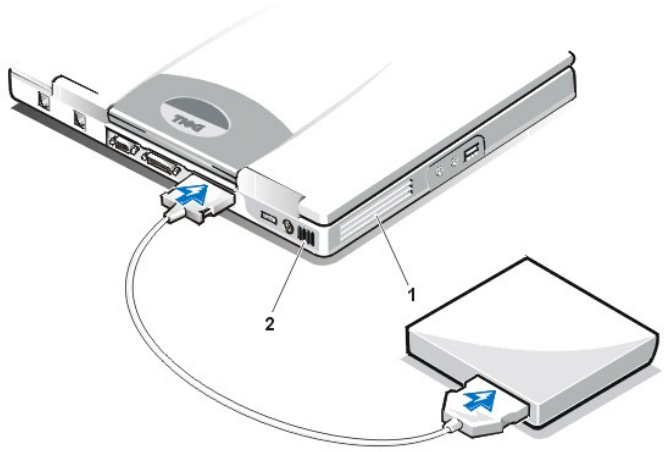
4. Connect the media bay cable as follows:

   a. Position the larger of the cable connectors with its shiny metal lip down, and connect it firmly to the device through the slot in the back of the bay.

   b. Make sure that the securing clips are fully engaged and the connector is fully seated.

   c. Connect the other end of the cable to the media bay connector at the back of the computer (see Figure 1).

Figure 1. External Media Bay



1 Fan intake/exhaust vents

2 Air inlet

5. If your computer is running *Softex Docking Services* or *Softex Bay Manager:* Click **OK** at the **Softex Docking Services** or **Softex Bay Manager** screen. Click **OK** at the **Device Removal** screen (if it appears), and then click **OK** at the **Device Configured** screen.

   If you turned off the computer in step 1: Press the power button to turn the computer back on.

Using CD-ROM and DVD-ROM Drives

CD-ROM and DVD-ROM drives are read-only devices that can play most commercially available 8- or 12-centimeter (cm) sound and video CDs. Dell installed the appropriate CD-ROM device drivers on your hard-disk drive. Dell also installed the drivers that will allow a DVD-ROM drive to play most CDs and read data from a DVD.

NOTE: "Reading data" does not refer to playing a movie. However, if you are using the Microsoft Windows 98 operating system, you can play DVD movies in your DVD-ROM drive by installing a zoomed video (ZV) PC Card, such as a hardware Moving Picture Experts Group (MPEG) decoder, in the PC card slot. You must also install the drivers that came with the card.

To use a CD-ROM or DVD-ROM drive, install it in the computer's external media bay.

NOTICE: Protect the CD-ROM and DVD-ROM drives when they are not in the external media bay. Do not squeeze a drive or place objects on top of it; doing so could damage the drive motor. Keep the drive as clean as possible.

To play a CD or DVD, press the eject button on the face of the CD-ROM or DVD-ROM drive or press <Fn><e>. When the tray slides out, place the disc into the tray, label side up. Make sure that the CD or DVD is seated correctly on the spindle by pressing down on the disc until it clicks in place. Then gently push in the tray.

NOTICE: If the CD or DVD is not seated correctly, the disc or drive can be damaged.

NOTICE: Do not use the CD-ROM or DVD-ROM drive while the computer is in motion. Doing so could interrupt the flow of data between the CD-ROM or DVD-ROM drive and the hard-disk or diskette drive.

When the CD-ROM or DVD-ROM drive is in use, the drive access indicator blinks.

If you are using the Microsoft Windows 98 operating system, disable the autoplay feature while you use the CD-ROM or DVD-ROM drive. (The autoplay feature can interfere with the computer's power management functions.) If Dell installed the operating system, the autoplay feature has been disabled. If you reinstall the operating system or if you installed it yourself, be sure to disable the autoplay feature if you want to use the CD-ROM or DVD-ROM drive.

For instructions on changing the **Auto Insert Notification** option, see the operating system user's guide.

Caring for CDs and DVDs

When handling and using CDs and DVDs, follow these precautions:

- Never use a damaged or warped CD or DVD.
- Always hold the CD or DVD by its edges. Do not touch the surface of the disc.
- Use a clean, dry cloth to remove dust, smudges, or fingerprints from the surface of the CD or DVD. When cleaning, wipe from the center of the CD or DVD to the edge.
- Never use solvents, such as benzene, record cleaners, or antistatic sprays, to clean the CD or DVD.
- Do not write on the surface of the CD or DVD.
- Store CD or DVDs in their containers, placing them in a cool, dry place. Extreme temperatures may damage CDs or DVDs.
- Do not bend or drop a CD or DVD.
- Do not place objects on top of a CD or DVD.

Types of Supported Discs

Your computer's CD-ROM and DVD-ROM drives are able to play the following disc formats:

- CD-ROM red-book audio discs (CD-DA)
- CD-ROM yellow-book mode-1 and mode-2 data discs
- CD-ROM XA (mode-2 form 1 and form 2; without Adaptive Differential Pulse Code modulation [ADPCM])
- CD-I (mode-2 form 1 and form 2)
- CD-I Ready
- CD-Bridge
- Photo CD, CD-recordable (CD-R) (single and multisession)
- Video CD
- CD-rewritable (CD-RW). The 24x CD-ROM and DVD-ROM drives support reading CD-RW discs. This format is supported as read-only; neither the CD-ROM nor the DVD-ROM drive can write to CD-RW discs.
- DVD-5 (the DVD-ROM drive supports the DVD-5 format)

Diskette Drive

Your computer was shipped with a 3.5-inch diskette drive installed in the external media bay. For more information on using and installing devices in the external media bay, see "External Media Bay."

The diskette drive lets you install programs and transfer data using 3.5-inch diskettes.

To use the diskette drive, insert a 3.5-inch diskette into the drive (label side up and metal end first). Push the diskette into the drive until the eject button extends outside the drive casing.

NOTICE: Do not travel with a diskette in the diskette drive. Doing so could break the eject button and damage the drive.

To remove a diskette from the drive, press the eject button to release the diskette, and then pull the diskette out of the drive.

When data is being accessed from the diskette drive, the drive access indicator blinks.

NOTE: As an alternative diskette drive configuration, you can connect the diskette drive to the parallel connector on the back of the computer using an optional cable available from Dell. If you are running either the Microsoft Windows 95 or Windows 98 operating system on your computer, you do not have to reboot the computer when you connect the diskette drive to the parallel connector. If you are running the Microsoft Windows NT operating system on your computer, reboot the computer after you connect the diskette drive.

Embedded Numeric Keypad

As you work, you may want to use the embedded numeric keypad (see Figure 2) to enter numbers in spreadsheet or financial programs. The embedded numeric keypad shares some of the keys on your computer's keyboard. On these keys, the number and symbol characters of the numeric keypad appear in blue to the right of the main keypad characters. To activate the embedded numeric keypad, press <Fn><Pad Lock>

(the Pad Lock indicator lights up while the embedded numeric keypad is active).

Figure 2. Embedded Numeric Keypad

Some key combinations can be used whether or not the keypad is activated.

*NOTE: On an external keyboard, use <Scroll Lock> with the appropriate keys if the **External Hot-Key** option is enabled in the system setup program.*

Use the numeric keypad combinations in Table 3 to enable and disable several numeric keypad functions.

Table 3. Embedded Numeric Keypad Key Combinations

When Keypad Is On	Function
<Fn><F9>	Toggles the embedded numeric keypad off
When Keypad Is Off	**Function**
<Fn><F9>	Toggles the embedded numeric keypad on

Keyboard

Display Key Combinations

*NOTE: On an external keyboard, use <Scroll Lock> with the appropriate keys if the **External Hot-Key** option is enabled in the system setup program.*

Use the key combinations in Table 4 to adjust the computer's display.

Table 4. Display Key Combinations

Key Combinations	Function
<Fn> + down arrow	Incrementally decreases brightness
<Fn> + up arrow	Incrementally increases brightness
<Fn><F7>	Toggles the computer’s display between expanded video mode and regular video mode
<Fn><F8>	Switches the video image to the next display in the following sequence: the display, an external monitor, or both displays simultaneously
<Fn><F1>	Turns off the display

NOTE: Contrast cannot be changed on an active-matrix (thin film transistor [TFT]) display, such as the display in your computer.

Power Conservation Key Combinations

*NOTE: On an external keyboard, use <Scroll Lock> with the appropriate keys if the **External Hot-Key** option is enabled in the system setup program.*

Use the key combinations in Table 5 to activate or turn off the computer's power conservation features.

Table 5. Power Conservation Key Combinations

Key Combinations	Function
<Fn><F1>	Turns off the display
<Fn><F3>	Displays the battery status icon

<Fn><Esc>	Activates suspend or standby mode
<Fn><a>* or <Fn><q>* on French keyboards	Activates suspend-to-disk (S2D) mode

** This key combination does not function under an operating system with the Advanced Configuration and Power Interface (ACPI), such as Microsoft Windows 98.*

Speaker Key Combinations

*NOTE: On an external keyboard, use <Scroll Lock> with the appropriate keys if the **External Hot-Key** option is enabled in the system setup program.*

Use the key combinations in Table 6 to adjust the computer's speaker volume and to enable and disable the speakers.

Table 6. Speaker Key Combinations

Key Combinations	Function
<Fn><F5>*	Increases the volume of the integrated speaker and the external speakers, if attached
<Fn><F6>*	Decreases the volume of the integrated speaker and the external speakers, if attached

** This key combination does not function under an operating system with ACPI, such as Windows 98.*

System Function Key Combinations

*NOTE: On an external keyboard, use <Scroll Lock> with the appropriate keys if the **External Hot-Key** option is enabled in the system setup program.*

Use the key combinations in Table 7 to boot the computer in MS-DOS mode and enter the system setup program.

Table 7. System Function Key Combinations

Key Combinations	Function
<Ctrl><Alt><Del>	Restarts (reboots) the computer in MS-DOS mode. In Windows 98 or Windows NT, click the **Start** button and click **Shut Down**.
<F2>	Enters the system setup program (at system start-up only).

CD-ROM and DVD-ROM Drive Key Combinations

*NOTE: On an external keyboard, use <Scroll Lock> with the appropriate keys if the **External Hot-Key** option is enabled in the system setup program.*

To eject the CD-ROM or DVD-ROM tray, press <Fn><e>.

PC Cards

On the right side of the computer is a PC Card slot in which you can install PC Cards that comply with Release 2.01 of the Personal Computer Memory Card International Association (PCMCIA) standard and Release 4.2 of the Japanese Electronic Industry Development Association (JEIDA) standard.

The computer supports type I and type II PC Cards, such as modems, local area network (LAN) cards, wireless LAN cards, and small computer system interface (SCSI) cards. Also supported are such memory devices as static random-access memory (SRAM) cards that emulate diskettes, random-access memory (RAM) cards, and one-time programmable (OTP) ROM cards, and advanced technology attachment (ATA) cards that emulate integrated drive electronics (IDE) hard-disk drives.

If you are using the Microsoft Windows 98 operating system, you can use a zoomed video (ZV) PC Card, such as a hardware Moving Picture Experts Group (MPEG) decoder. (The Microsoft Windows NT 4.0 operating system does not support ZV.)

NOTES: A PC Card is not a boot device.

The "type" of a card refers to its thickness, not its functionality.

Your computer recognizes most input/output (I/O) cards and automatically loads the device driver associated with that card.

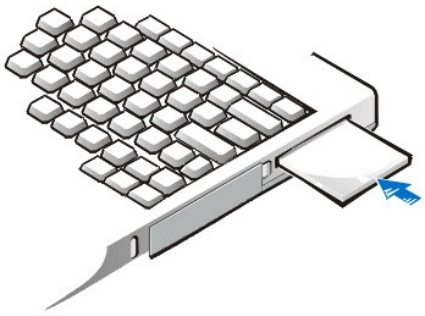
NOTICE: Take extra precautions if you use extended PC Cards in your computer. Extended cards are longer versions of standard PC Cards. They fit into, and operate correctly with, your computer. However, they extend beyond the edge of the computer when installed. If something strikes the exposed end of an installed card, your system board can be damaged. Always remove an extended PC Card before you pack the computer in its carrying case.

Installing PC Cards

PC Cards are generally marked with a symbol, such as a triangle or an arrow, to indicate which end should be inserted into the slot. The cards are keyed to prevent incorrect insertion. If card orientation is not clear, see the documentation that came with the card.

You do not need to turn off your computer or exit suspend or standby mode before you install a PC Card. To install a PC Card (see Figure 3), perform the following steps.

Figure 3. Installing a PC Card



1. If necessary, remove the blank from the PC Card slot. Press the eject button once to pop the button out, press it again to eject the blank partway, and then pull the blank out.
2. Make sure that the eject button is pressed all the way in. Hold the card with its orientation symbol pointing into the slot and the top side of the card facing up.
3. Insert the card into the slot and press in firmly until the card is completely seated in the internal PC Card connector.
4. If you encounter too much resistance when inserting it, do not force the card. Check the card's orientation and try again.

PC Card Blanks

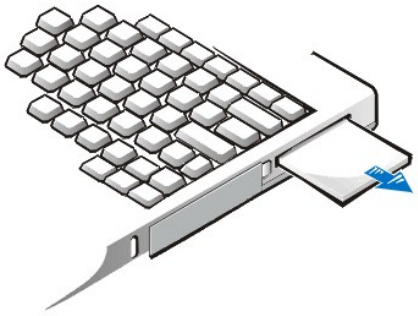
Save the blank to use whenever you do not have a PC Card installed. The blank protects the PC Card slot from dust and other particles.

Removing PC Cards

NOTICE: If you are using Windows 98, use the PC Card configuration utility on the taskbar to select and stop a card before you remove it. If you do not stop the card using the configuration utility, you could lose data from open application programs.

To remove a PC Card (see Figure 4), perform the following steps.

Figure 4. Removing a PC Card



1. Press the PC Card eject button once to pop the button out, and then press the button in again to eject the card partway. (The button may or may not pop out again when you eject the card.)

2. Gently remove the card.

To protect the PC Card slot, install a blank if you are not going to use the slot.

Configuring PC Cards

The PC Card configuration utility performs the following functions:

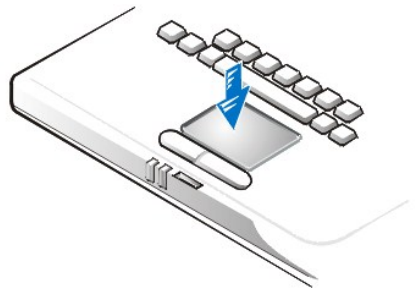
- Notifies you whenever a PC Card is inserted and tells you how the card is configured
- Automatically loads the proper device driver if it is available on the hard-disk drive
- If drivers are not available on the hard-disk drive, prompts you to install them by using the device driver diskette that came with the card

The operating system automatically detects a PC Card and opens the **Add New Hardware** menu from the **Control Panel**. For information, see the PC Card operating system documentation.

Touch Pad

The touch pad (see Figure 5) detects the position of your finger over a touch-sensitive area and provides the computer full mouse functionality. The touch pad's two buttons correspond to the left and right buttons on a standard mouse. For information on cleaning the touch pad, see "Cleaning the Display and Touch Pad."

Figure 5. Touch Pad



To best use the touch pad, follow these techniques:

- To move the cursor, lightly slide your finger over the smooth sensor area.
- To select an object, gently tap once on the surface of the touch pad.
- To select and move (or drag) an object, position the cursor on the object and tap down-up-down on the touch pad. On the second down motion, leave your finger on the touch pad and move the selected object by sliding your finger across the surface.
- To double-click an object, position the cursor on the object and then tap twice.

NOTES: When enabled, the touch pad uses interrupt request (IRQ) 12. No other device can use IRQ12 while the touch pad is enabled.

When you attach an external Personal System (PS)/2 mouse to the computer, the touch pad is automatically disabled.

Customizing the Touch Pad

To customize the touch pad, perform the following steps:

1. Click the **Start** button, point to **Settings**, and click **Control Panel**.
2. Double-click the **Mouse** icon to open the **Mouse Properties** window and click the **Touch** tab.
3. Select the settings that work best for you and click **Apply**.
4. Check the **Button Configuration, Pointers, Motion, Touch, Edge Motion, Scrolling, Button Actions** and **More Features** tabs and make any desired changes to those settings.
5. Click **OK** to save the settings and close the window.

You can also click the touch pad icon on the taskbar and click **TouchPad Properties** to open the **Mouse Properties** control panel.

Reset Switch

You can use the reset switch (accessible though the reset switch access hole on the bottom of the computer) to restart the computer without turning the power off and on. To restart the computer using the reset switch, straighten a paper clip and press it into the reset switch access hole for about one second.

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