

Dell™ Latitude™ C400 Service Manual

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Notes, Notices, and Cautions



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 a potential for property damage, personal injury, or death.

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October 2001 Rev. A00

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Before You Begin

Dell™ Latitude™ C400 Service Manual

- [Preparing to Work Inside the Computer](#)
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Preparing to Work Inside the Computer

- ➔ **NOTICE:** Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell is not covered by your warranty.
- ➔ **NOTICE:** To avoid damaging the computer, perform the following steps before you begin working inside the computer.
 1. Make sure that the work surface is clean to prevent scratching the computer cover.
 2. Save any work in progress and close all open application programs.
 3. Turn off the computer and all attached devices.
- ✎ **NOTE:** Make sure the computer is turned off and not in suspend-to-disk or hibernate mode. If you cannot shut down the computer using the computer's operating system, press and hold the power button for 4 seconds.
 4. Make sure the computer is undocked.
 5. Disconnect the computer from the electrical outlet.
 6. To avoid possible damage to the system board, wait 10 to 20 seconds and then disconnect any attached devices.

7. Disconnect all other external cables from the computer, including the IDE modular bay cable (if connected).
8. Remove any installed PC Cards or plastic blanks from the PC Card slot.
9. Close the display and turn the computer upside down on a flat work surface.

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

10. Remove the battery from the battery bay.
11. To dissipate any static electricity while you work, use a wrist grounding strap or periodically touch an unpainted metal surface.
12. Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold internal components by their edges, not by their pins.

Recommended Tools

The procedures in this manual require the following tools:

- #1 magnetized Phillips screwdriver
- Small flat-blade screwdriver
- 5-mm nut driver
- 7-mm nut driver
- Needle-nose pliers
- Flash BIOS update program floppy disk or CD

Computer Orientation

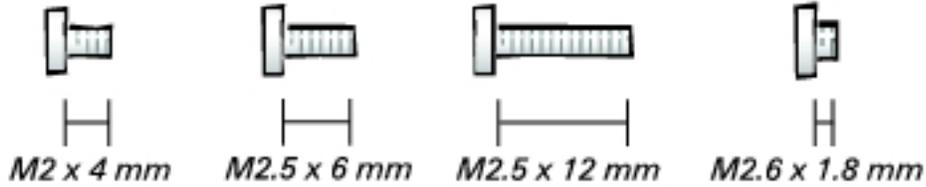


1	back
2	right
3	front
4	left

Screw Identification

When you are removing and replacing components, photocopy the placemat as a tool to lay out and keep track of the screws. The placemat provides the number of screws and their sizes.

Screw Identification



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

Hard Drive Door:

(1 each)



Modem Daughter Card:

(1 each)



Keyboard:

(4 each)



Display Assembly:

(2 each)



(2 each)



Display Bezel:

(6 each)



Rubber screw covers: 6 each

Palm Rest to Bottom Case:

(6 each: 4 to each side of battery bay; 2 by service tag) (4 each) (2 each)



Critical Component Shield:

(6 each)



Palm Rest to System Board:

(6 each)



Cooling Fan:

(3 each)



Audio Board:

(2 each)



System Board:

(1 each)



Guide pins: 2 each
5-mm hex nuts: 4 each
7-mm hex nuts: 2 each

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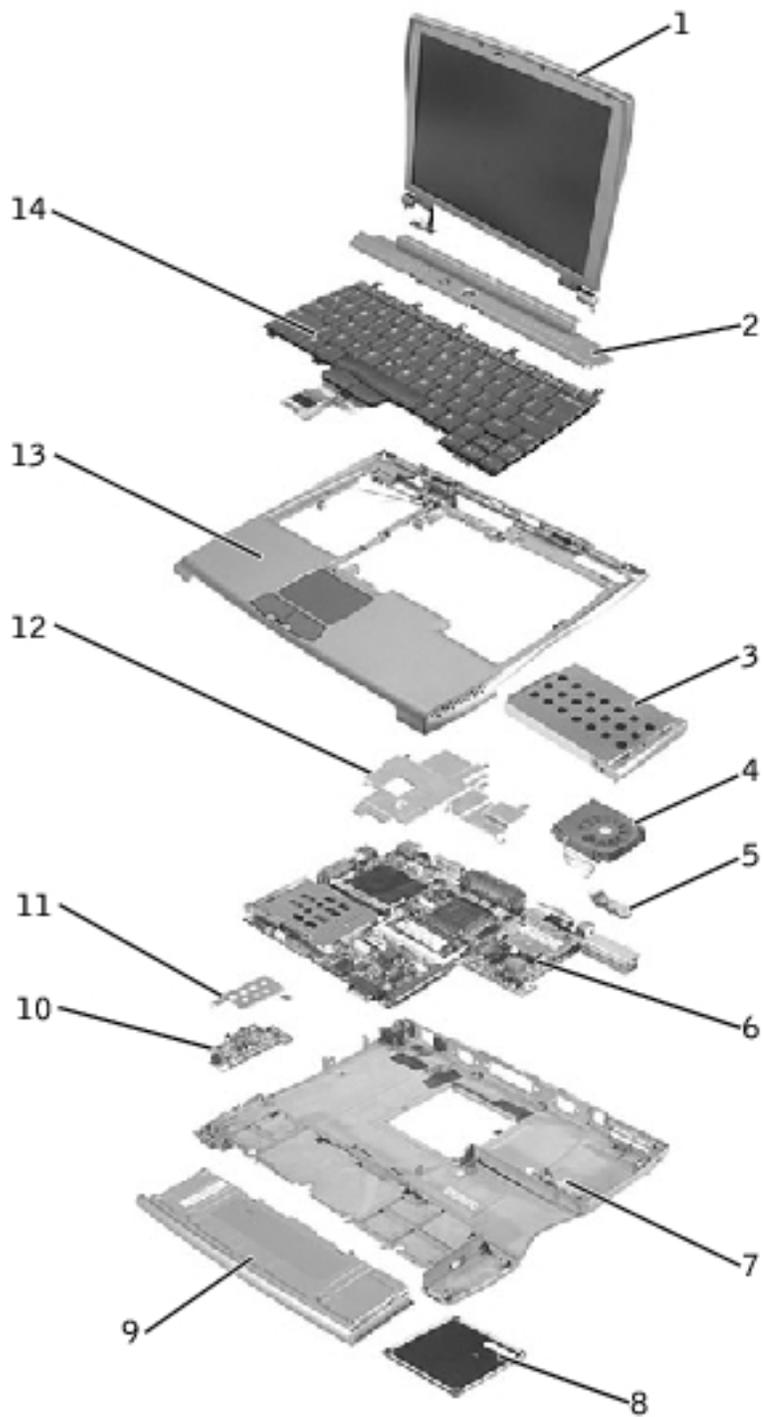
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System Components

Dell™ Latitude™ C400 Service Manual

- ➔ **NOTICE:** Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell is not covered by your warranty.
- ➔ **NOTICE:** Unless otherwise noted, each procedure in this manual assumes that a part can be replaced by performing the removal procedure in reverse order.

System Components



1	display	8	memory module/modem cover
2	center cover	9	battery
3	hard drive	10	audio card
4	cooling fan	11	audio card shield
5	reserve battery	12	critical component shield
6	system board	13	palm rest

7	bottom case	14	keyboard
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Keyboard

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Removing the Keyboard

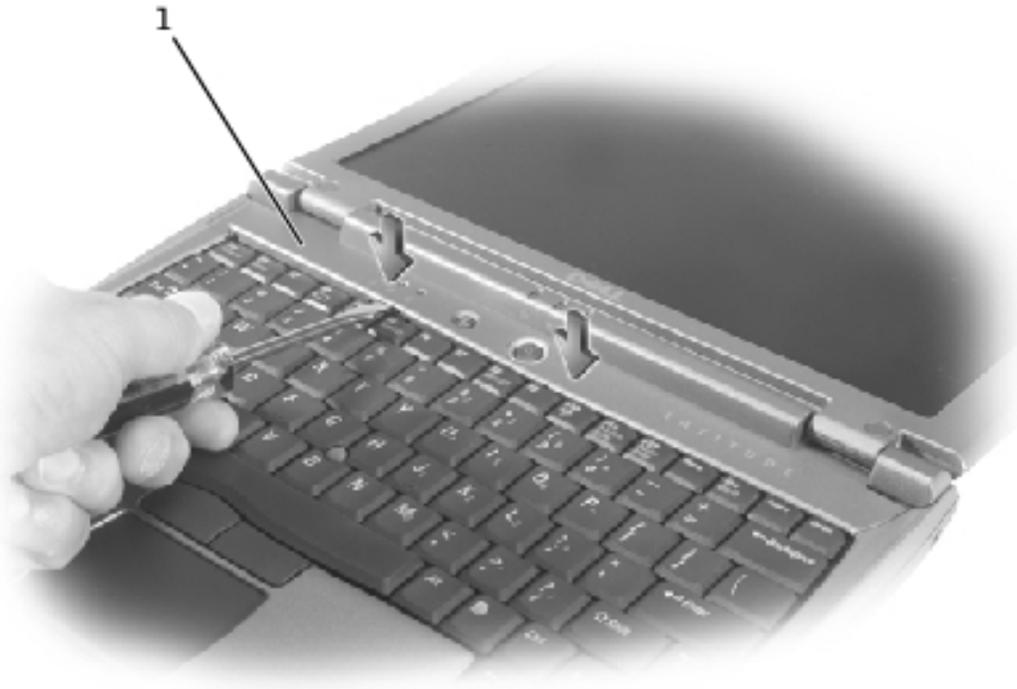
- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.

1. Remove the [hard drive](#).

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

2. Turn the computer right-side up and remove the center cover.

Center Cover Removal



1	center cover
---	--------------

- a. Open the computer all the way (180 degrees) so that it lies flat against your work surface.
- b. Press and hold down the <F4> and <F5> keys to reveal the left release slot of the center cover.

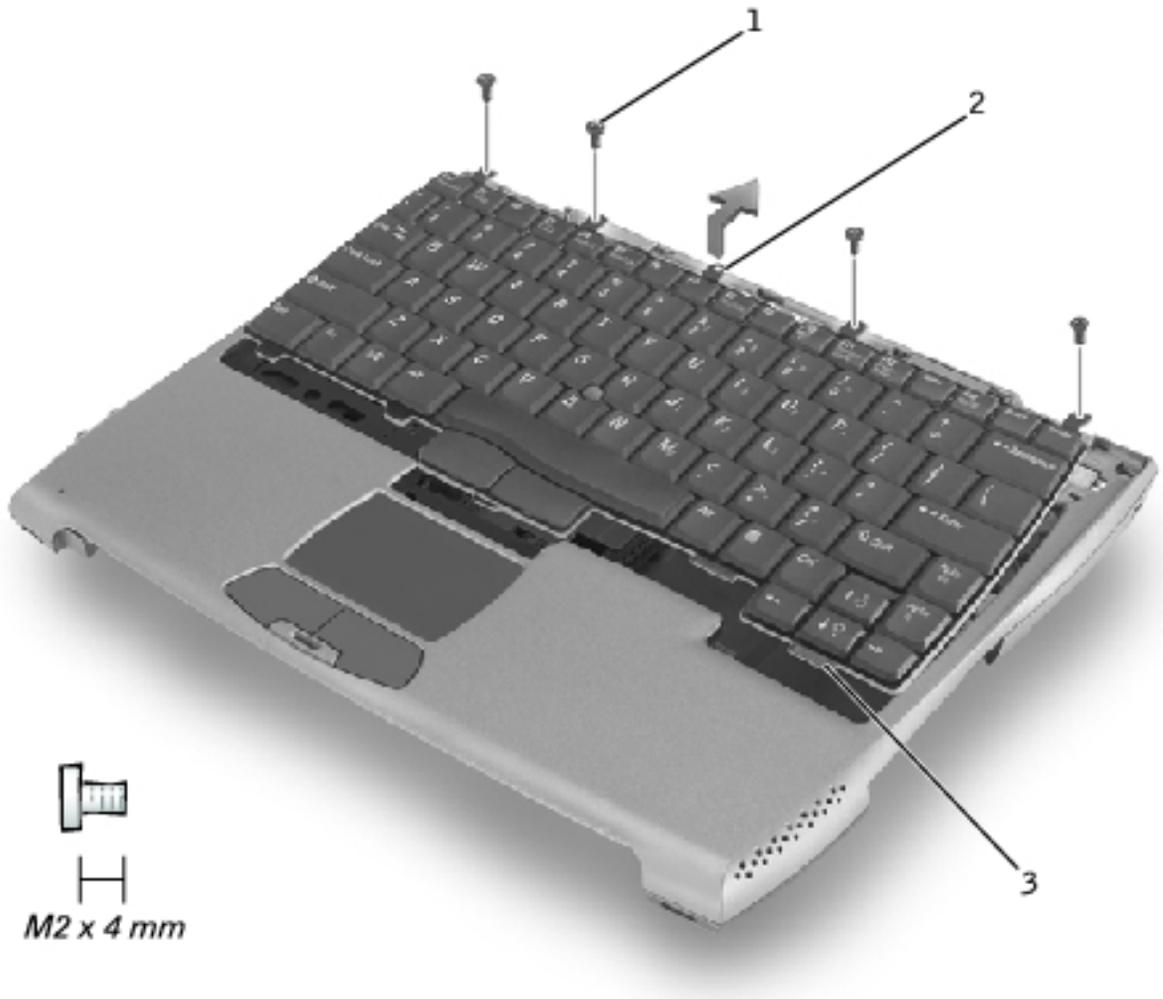


NOTE: To protect the keycaps, it may be helpful to place a straightedge (such as a short ruler) across the first row or two of keycaps, and press on the straightedge instead of on the keycaps themselves.

- c. Insert a flat-blade screwdriver into the slot. While holding the screwdriver, make your hand into a fist, brace your knuckles against the keyboard, and pry up the center cover.
- d. Repeat steps b and c for the right release slot, located behind the <F9> and <F10> keys.
- e. Lift the center cover up and away from the bottom case.

- Remove the four M2 x 4-mm screws that secure the back edge of the keyboard.

Keyboard Screws

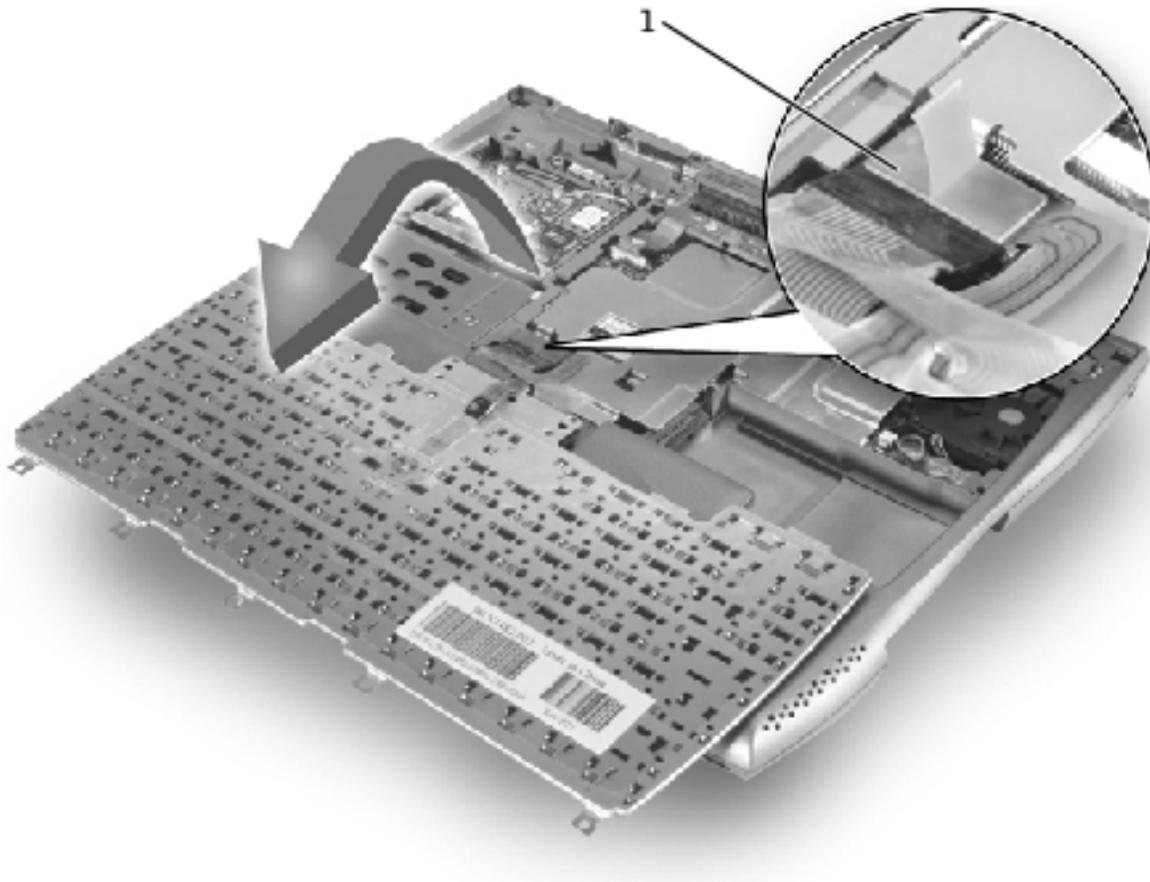


1	M2 x 4-mm screws (4)
2	keyboard locator tab
3	keyboard securing tabs (5)

- Pry up the keyboard locator tab, lift the back edge of the keyboard slightly, and then pull the keyboard a small distance toward the back of the computer to release the five securing tabs located across the front edge of the keyboard.
- Rotate the keyboard toward the front of the computer and place it face-down on the palm rest.

 **NOTICE:** Do not pull on the keyboard flex cable.

Keyboard Removal



1	keyboard flex cable
---	---------------------

6. Use the pull tab to pull the keyboard flex cable up from its connector on the system board.

The keyboard is now disconnected from the bottom case.

Replacing the Keyboard

1. Replace the [hard drive](#).
2. Place the keyboard face-down on the palm rest, with the keyboard flex cable

pointing toward the back of the computer.

- ➔ **NOTICE:** To avoid damage to the connector pins, press the keyboard flex cable connector evenly into the interface connector on the system board, and do not reverse the keyboard connector.

3. Connect the keyboard flex cable to its interface connector on the system board.

To aid with proper flex cable connection, a white locator line has been added near the end of the flex cable. Press the cable into the connector until the white line disappears and hold it steady while you snap the flex cable connector down. (The white line may reappear after the connector is closed; this should not indicate a problem with the connection.)

- ➔ **NOTICE:** Position the keyboard flex cable so that it is not pinched when you replace the keyboard in the bottom case.

Keyboard Replacement



1	keyboard securing tabs (5)
---	----------------------------

4. Carefully rotate the keyboard back and fit it into the bottom case.

Ensure that all five securing tabs are engaged in their respective slots before trying to completely seat the keyboard. Fitting the tabs to the slots may be easiest when viewed from above and slightly behind the front edge of the keyboard. Press down on the left and right <ALT> keys to help control tab/slot alignment.

When the keyboard appears to be completely seated, confirm that the front edge of the keyboard is aligned with the edge of the palm rest before proceeding.

5. Replace the four M2 x 4-mm screws at the back of the keyboard.
6. Replace the center cover.

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Memory Module and Modem Daughter Card

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 - [Removing the Modem Daughter Card](#)
 - [Replacing the Modem Daughter Card](#)
-

Removing the Memory Module/Modem Cover



NOTE: This procedure covers removing and replacing the memory module located under the memory module/modem cover on the bottom of the computer. A second memory module resides on the upper surface of the system board under the critical component shield. To replace the memory module under the critical component shield, perform the procedure for [removing the palm rest](#) up to and including removal of the critical component shield. Then replace the memory module.



NOTICE: Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.



NOTICE: To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.



NOTICE: Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.

1. Turn the computer over, and use a #1 Phillips screwdriver to release the two captive screws from the memory module/modem cover.

2. Place your finger under the cover at the indentation, rotate the cover open, and remove it.

Memory Module/Modem Cover



Removing the Memory Modules

- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove the battery.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.

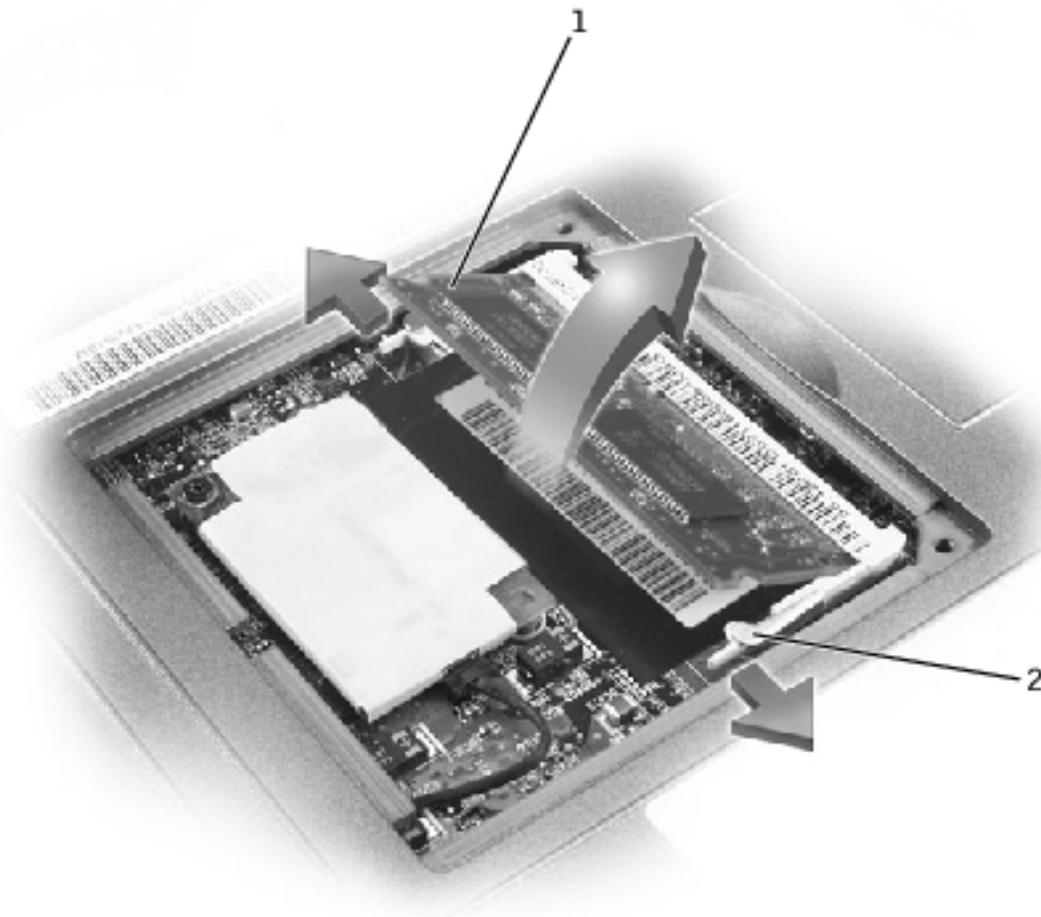
1. Remove the [memory module/modem cover](#).

➔ **NOTICE:** To prevent damage to the memory module connector, do not use tools to spread the inner metal tabs that secure the memory module.

2. Use your fingertips to carefully spread apart the inner tabs on each end of the memory module socket.

The module should pop up.

Memory Module Removal



1	memory module socket
2	inner tabs (2)

3. Lift the memory module out of its socket.

Replacing the Memory Modules

 **NOTE:** Memory modules are keyed, or designed to fit into their sockets, in only one direction.

 **NOTICE:** The memory module must be inserted at a 45-degree angle to avoid damaging the connector.

1. Align the notch in the memory module with the slot in the center of the socket.
2. Slide the edge connector of the module firmly into the socket at a 45-degree angle, and rotate the module down until you hear a click. If you do not hear the click, remove the module and reinstall it.
3. Replace the cover and tighten the two captive screws.

Removing the Modem Daughter Card

 **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove the battery.

 **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.

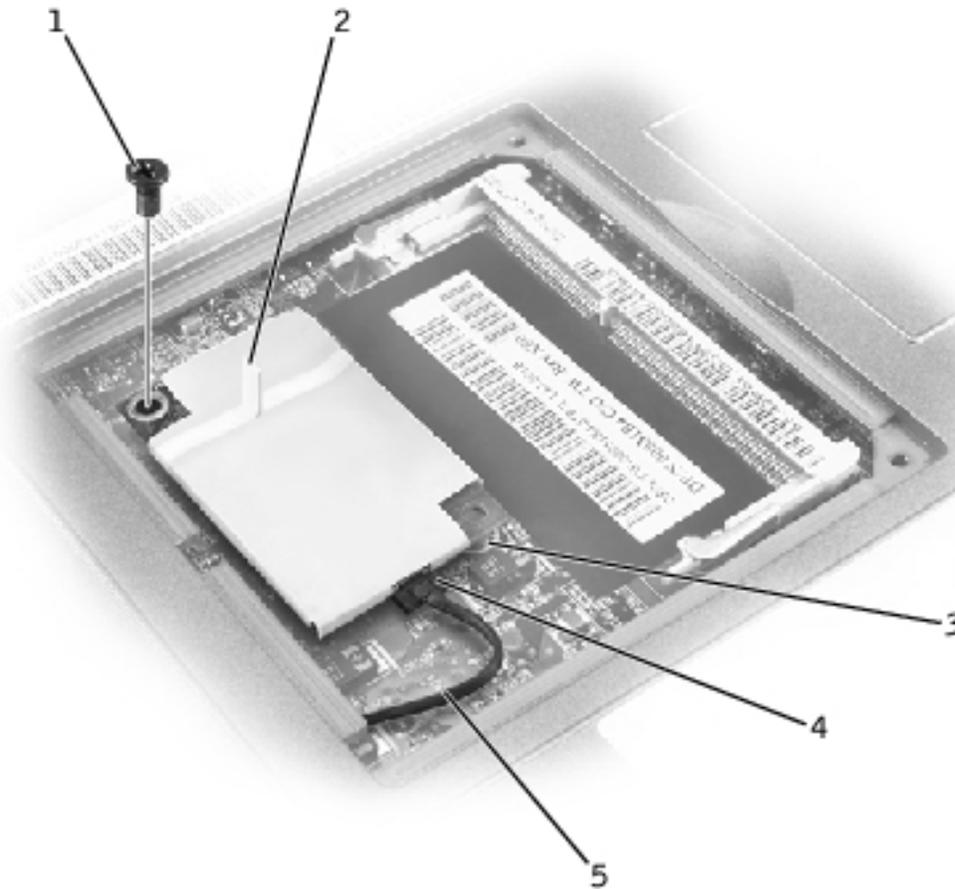
 **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.

1. Turn the computer over, and remove the [memory module/modem cover](#).
2. Remove the M2 x 4-mm screw that secures the modem daughter card to the system board.

NOTICE: Do not pull on the modem cable. Pull from the modem connector to disconnect the cable.

3. Use the pull tab to pull the modem daughter card straight up out of its connector.
4. Disconnect the modem cable from the modem daughter card.

Modem Daughter Card Removal



M2 x 4 mm

1	M2 x 4-mm screw (1)
2	pull tab
3	boss
4	modem connector
5	modem cable

Replacing the Modem Daughter Card

1. Connect the modem cable to the modem daughter card.



NOTICE: The connectors are keyed for correct insertion; do not force the connections.

2. Using the screw hole and the boss at the opposite corner of the daughter card to align the card, press the card into its connector on the system board.
3. Install the M2 x 4-mm screw that secures the modem to the system board.
4. Replace the [memory module/modem cover](#) and tighten the two captive screws.

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Hard Drive

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Removing the Hard Drive

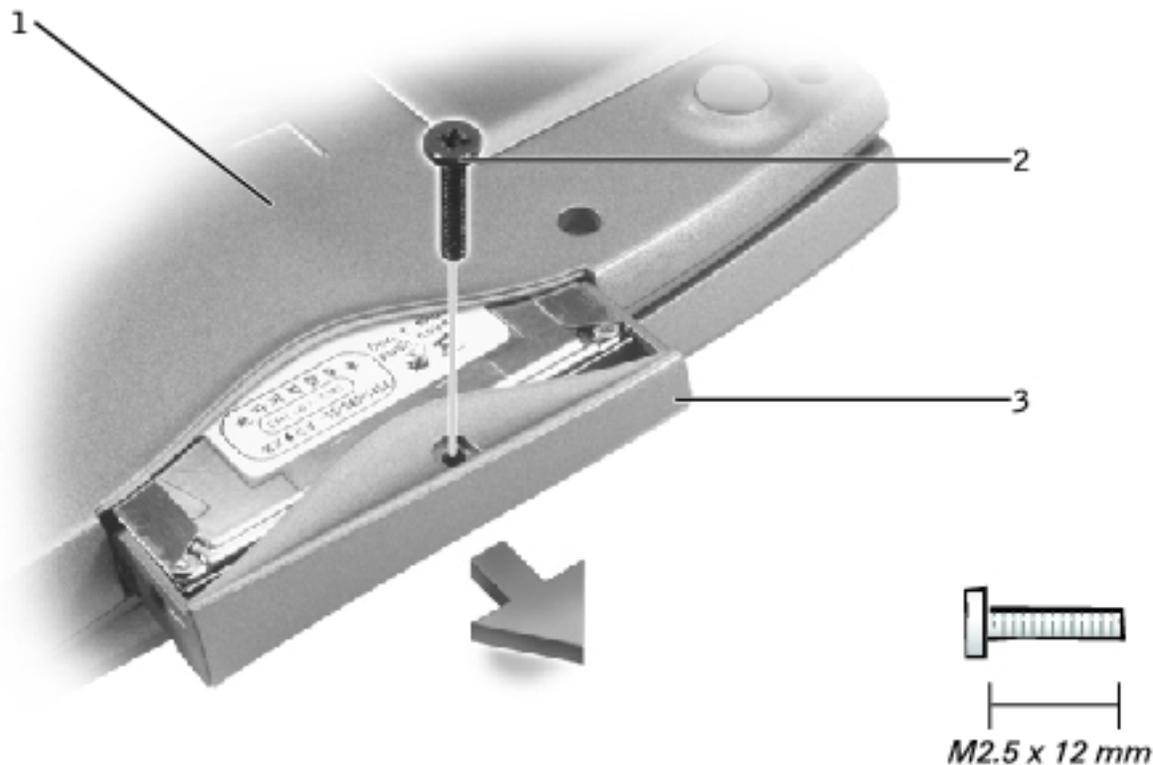
1. Save and close any open files, exit any open programs, and shut down the computer.

- ➡ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove the battery.
- ➡ **NOTICE:** The hard drive is very sensitive to shock. Handle the hard drive by its edges (do not squeeze the top of the hard drive case), and avoid dropping it.
- ➡ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.
- ➡ **NOTICE:** To prevent data loss, turn off your computer before removing the hard drive. Do not remove the hard drive while the computer is on, in standby mode or in hibernate mode.

 **CAUTION:** If you remove the hard drive from the computer when the drive is hot, *do not touch the metal housing of the hard drive.*

2. Ground yourself by touching a metal connector on the back of the computer.
3. Turn the computer over. Remove the M2.5 x 12-mm screw from the hard drive door.

Hard Drive Removal



1	bottom of computer
2	M2.5 x 12-mm screw (1)
3	hard drive door

4. Slide the hard drive straight out of the computer.

Replacing the Hard Drive

NOTICE: Use firm and even pressure to slide the hard drive into place. If you force the hard drive into place using excessive force, you may damage the connector.

1. Push the hard drive into the drive bay until it is fully seated in the bay.
2. Replace the M2.5 x 12-mm screw in the hard drive door.

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Wireless Network Adapter

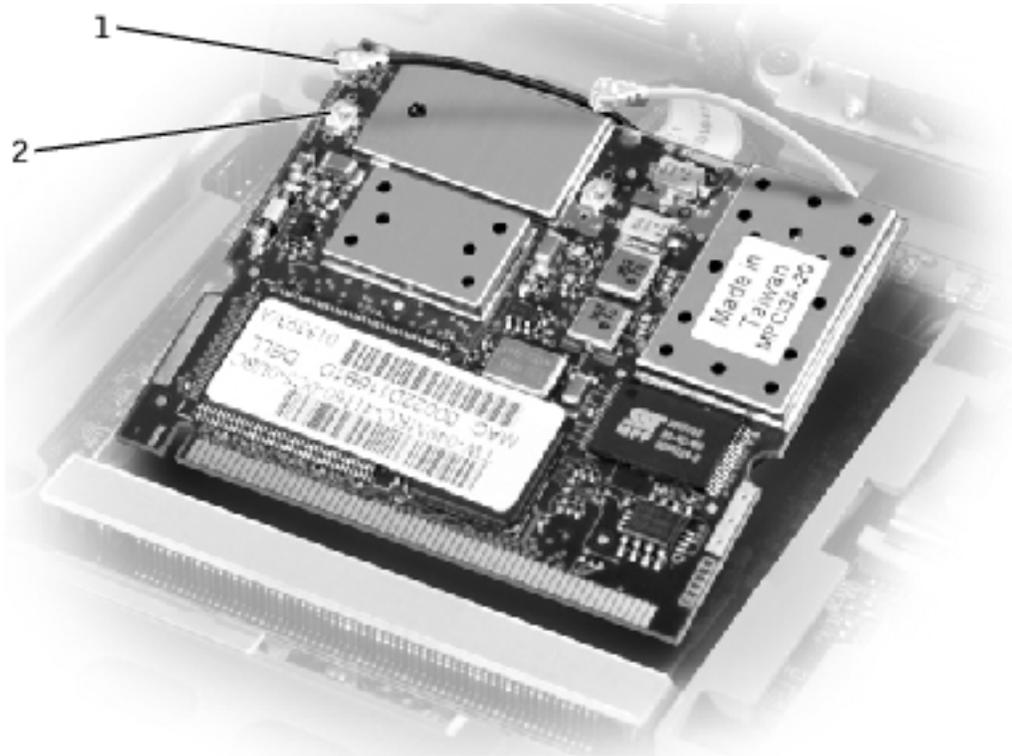
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Removing the Wireless Network Adapter

- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
 - ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
 - ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.
1. Remove the [hard drive](#).
 2. Remove the [keyboard](#).

Wireless Network Adapter



1	wireless cables (2)
2	wireless cable connectors (2)

3. Disconnect the two wireless cables from the wireless card.
4. Spread the two metal securing tabs apart, and pull the card from its socket.

Replacing the Wireless Network Adapter

The wireless card is keyed to the connector. Make sure the card is fully seated in the socket before attempting to pivot it down into place.

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Display Assembly and Display Latch

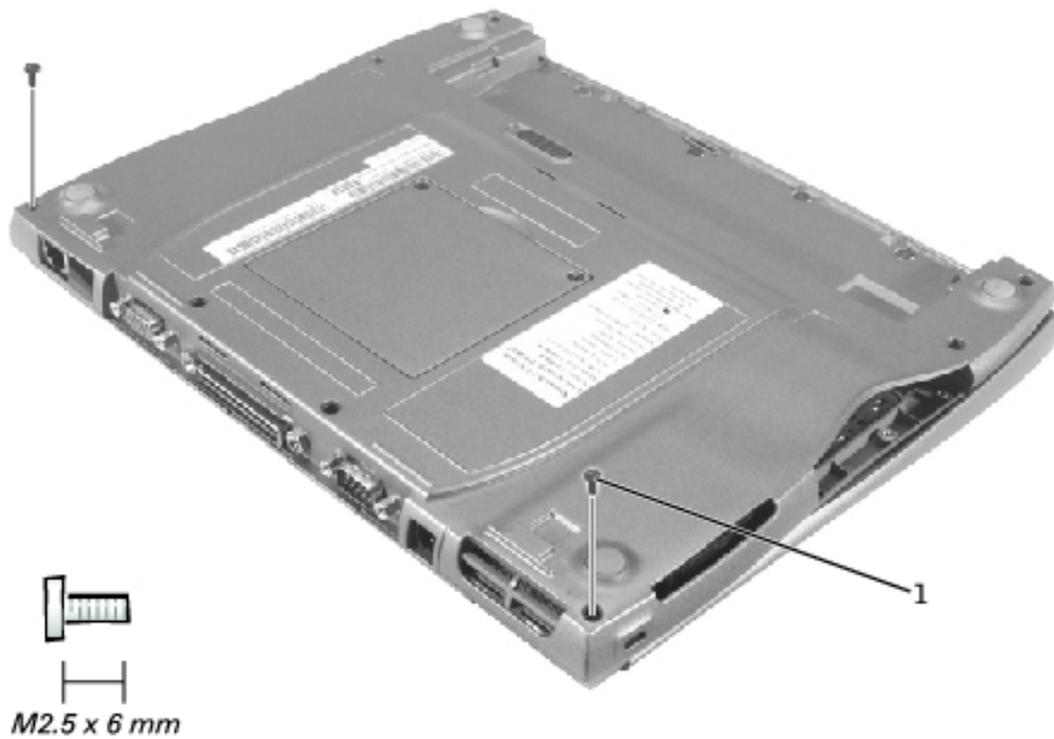
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- [Removing the Display Assembly](#)
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Removing the Display Assembly

- ➔ **NOTICE:** You must remove the display assembly before you remove the palm rest.
 - ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
 - ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
 - ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.
1. Remove the battery.
 2. Remove the [hard drive](#).
 3. Remove the [center cover](#).
 4. Close the display.
 5. Turn the computer over and remove the two M2.5 x 6-mm screws at the bottom back corners of the computer.

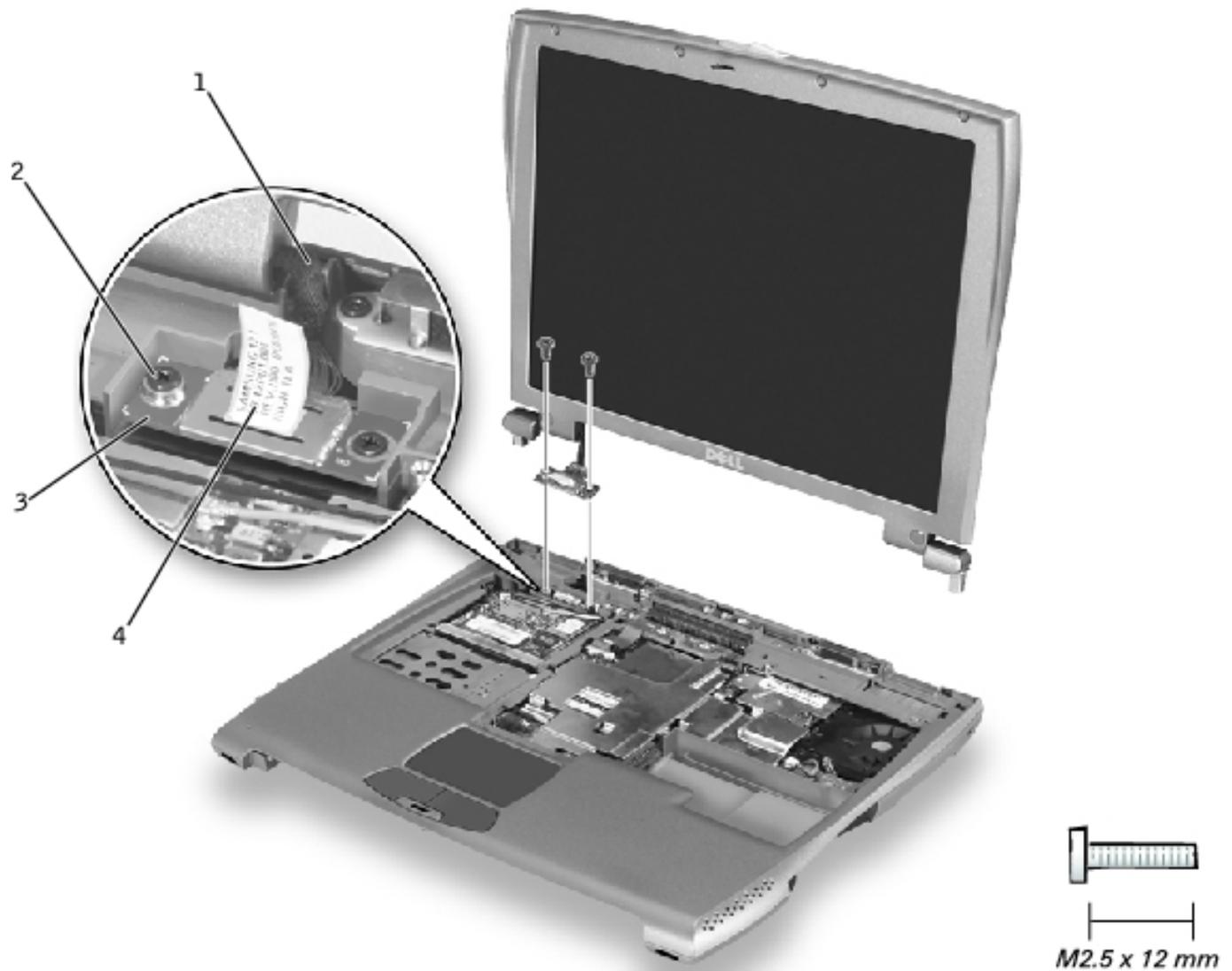
Display Screws



1	M2.5 x 6-mm screws (2)
---	------------------------

6. Turn the computer right-side up and open the display 180 degrees.

Display Assembly



1	display-feed flex cable
2	M2.5 x 12-mm screws (2)
3	display-feed flex cable hold-down board
4	pull tab

7. Remove the two M2.5 x 12-mm screws from the display-feed flex cable hold-down board.
8. Use the pull tab to disconnect the display-feed flex cable from its connector on the system board.
9. Move the display assembly to an upright position and pull it up out of the computer.

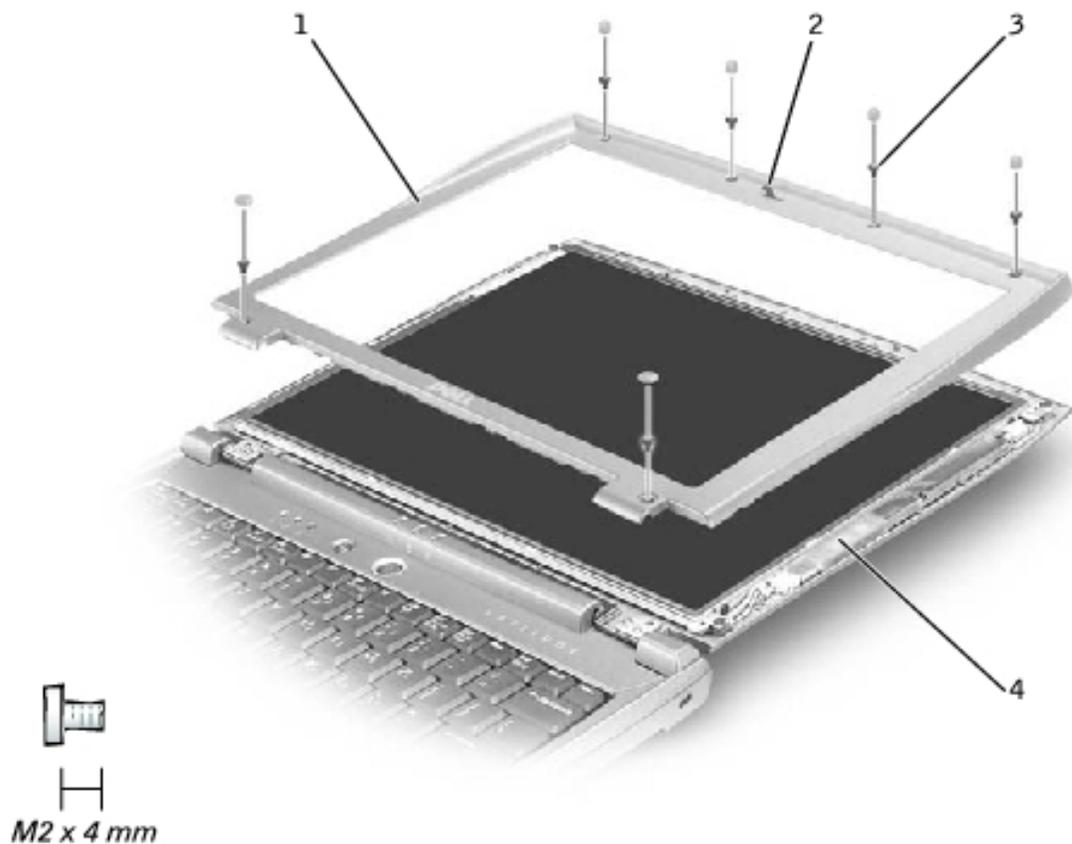
Replacing the Display Latch

- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.

To replace the display latch, you must replace the whole bezel.

1. Remove the battery.
2. Remove the [hard drive](#).
3. Open the display 180 degrees, and remove the six rubber screw covers and the six M2 x 4-mm screws that secure the bezel.

Bezel Removal



1	bezel
---	-------

2	display latch
3	M2 x 4-mm screw (6)
4	display assembly

4. Use a small flat-blade screwdriver to carefully pry around the perimeter of the bezel until the bezel separates from the display assembly.
5. Install the new bezel.

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Palm Rest

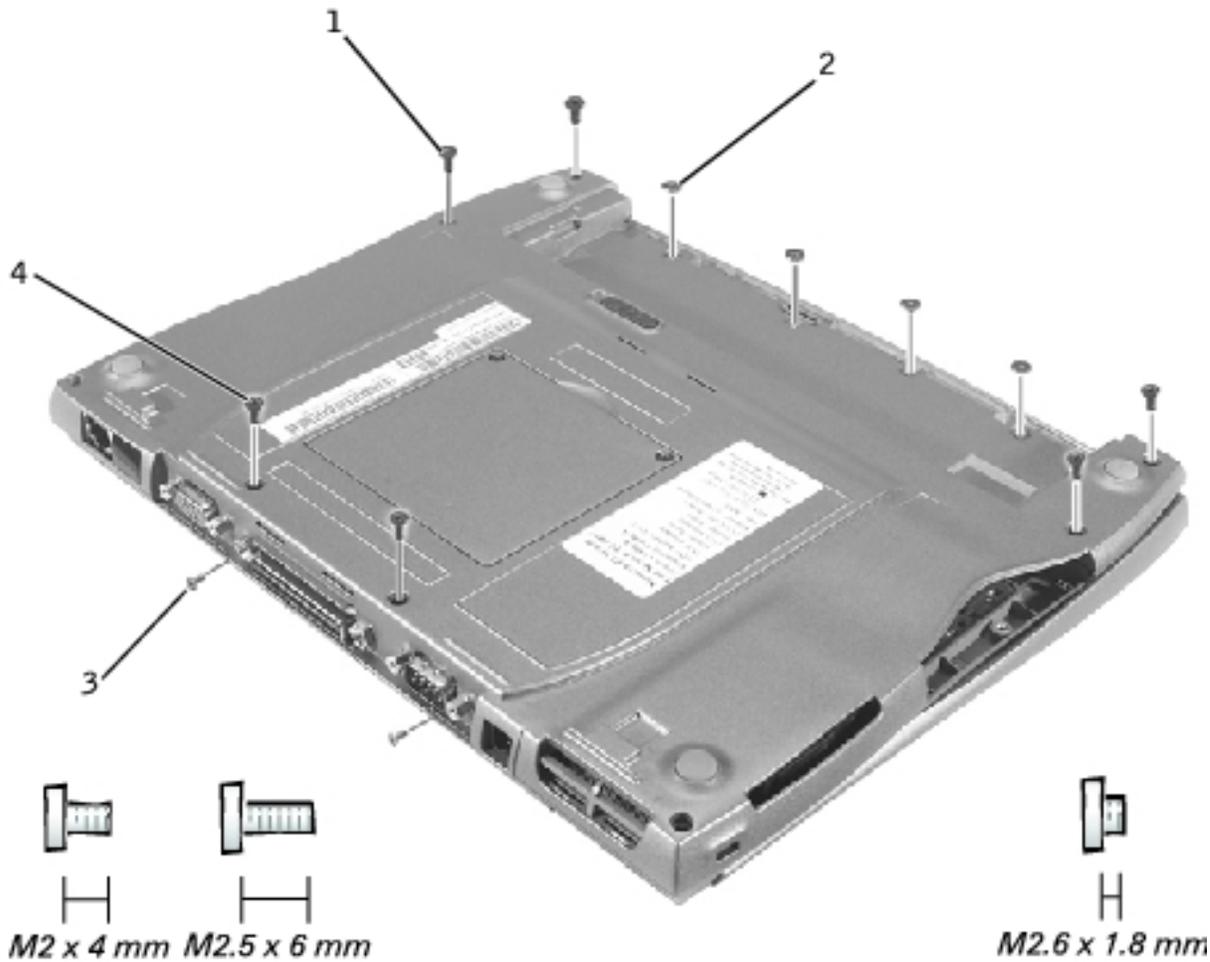
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Removing the Palm Rest

- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.
 1. Remove the [hard drive](#).
 2. Remove the [keyboard](#).
- ➔ **NOTICE:** You must remove the display assembly before you remove the palm rest; the display hinges pass through the back of the palm rest.
 3. Remove the [display assembly](#).
 4. Turn the computer over and remove the four M2.5 x 6-mm screws (two screws to each side of the battery bay).

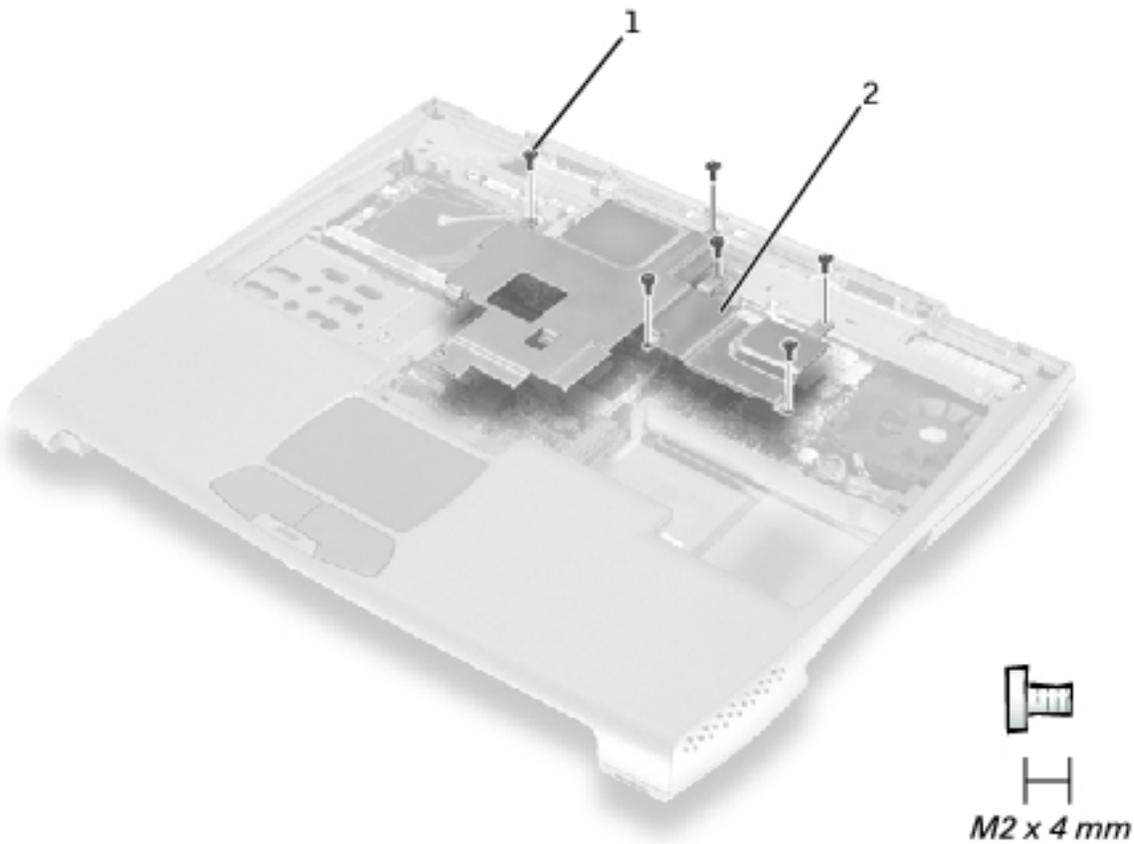
Palm-Rest Screws on Bottom of Computer



1	M2.5 x 6-mm screws (4)
2	M2.6 x 1.8-mm screws (4)
3	M2 x 4-mm screws (2)
4	M2.5 x 6-mm screws (2)

5. Remove the four M2.6 x 1.8-mm screws located inside the battery bay.
6. Remove the two M2.5 x 6-mm screws located near the service tag at the back edge of the computer.
7. Turn the computer over and remove the two M2 x 4-mm screws located above the serial, docking, and video connectors on the back panel.

Critical Component Shield

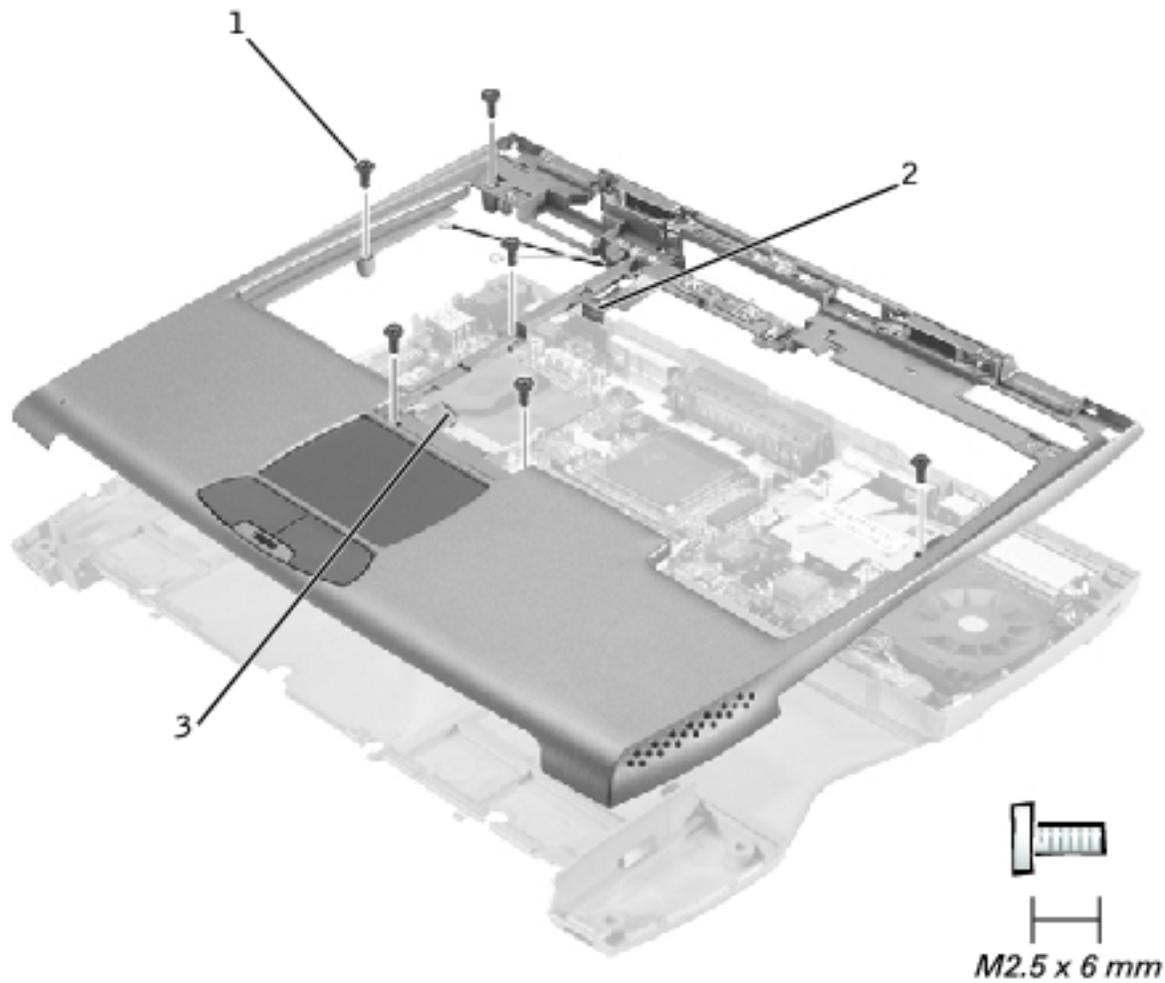


1	M2 x 4-mm screws (6) (one screw may be captive)
2	critical component shield

- Remove the six M2 x 4-mm screws (one of which may be captive) that secure the critical component shield to the system board, and lift the shield away.

 **NOTE:** At this point, the memory module under the critical component shield can be replaced.

Palm Rest Removal



1	M2.5 x 6-mm screws (6)
2	LED cable
3	palm-rest flex cable

9. Remove the six M2.5 x 6-mm screws that secure the palm rest to the system board.
10. Disconnect the LED and palm-rest flex cables.
11. If a Mini PCI wireless card is installed, [disconnect the two wireless cables](#) from the card.
12. Lift the palm rest away.

Replacing the Palm Rest

To aid with proper flex cable connection, a white locator line has been added near the ends of the flex cables. When replacing the LED and palm-rest flex cables, press the cable into the connector until the white line disappears and hold it steady while you snap the flex cable connector down. (The white line may reappear after the connector is closed; this should not indicate a problem with the connection.)

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Cooling Fan

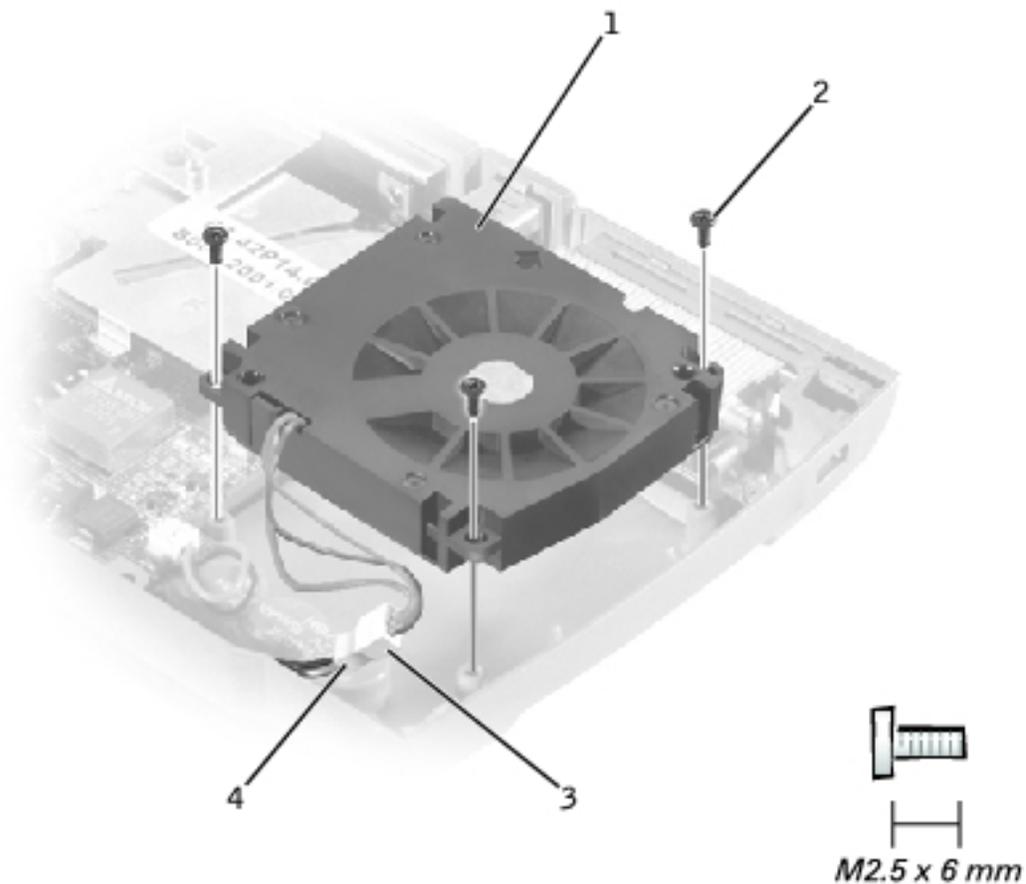
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Removing the Cooling Fan

- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
 - ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
 - ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.
1. Remove the [hard drive](#).
 2. Remove the [keyboard](#).
 3. Remove the [display assembly](#).
 4. Remove the [palm rest](#).

Cooling Fan Removal



1	cooling fan
2	M2.5 x 6-mm screws (3)
3	fan cable
4	fan extender cable

5. Remove the fan cable from the fan extender cable that runs under the system board.
6. Remove the three M2.5 x 6-mm screws that secure the cooling fan.
7. Lift out the cooling fan.

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Reserve Battery

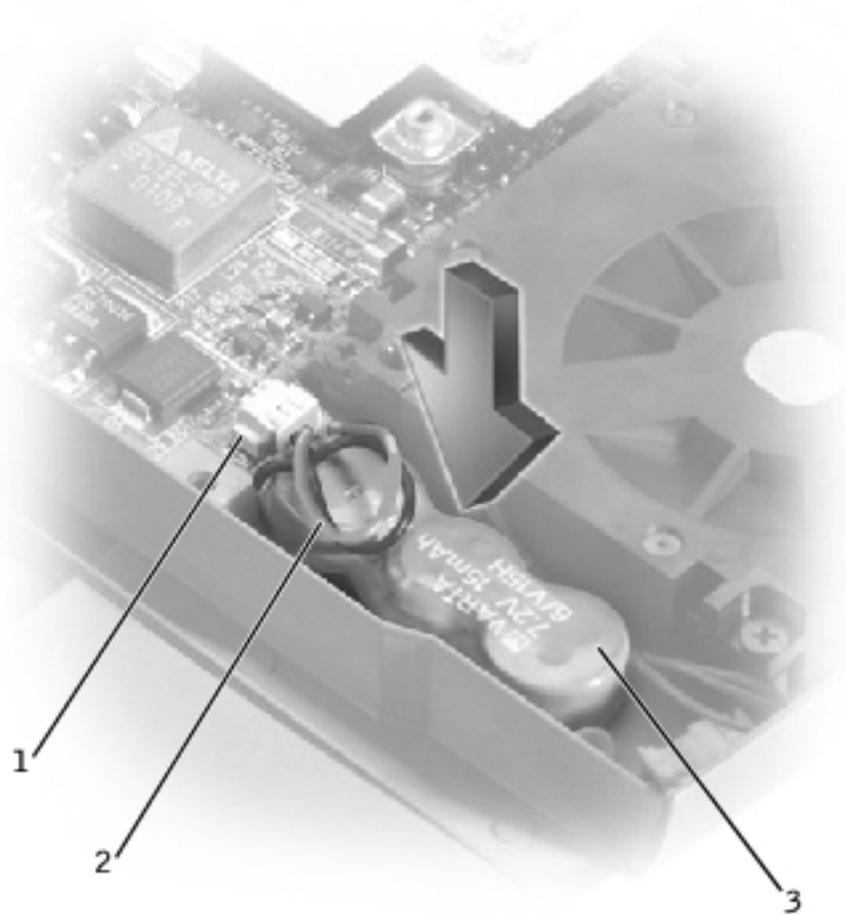
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Removing the Reserve Battery

- ➔ **NOTICE:** The reserve battery provides power to the computer's RTC and NVRAM when the computer is turned off. Removing the battery causes the computer to lose the date and time information as well as all user-specified parameters in the BIOS. If possible, make a copy of this information before you remove the reserve battery.
- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.
 1. Remove the [hard drive](#).
 2. Remove the [keyboard](#).
 3. Remove the [display assembly](#).
 4. Remove the [palm rest](#).

Reserve Battery Removal



1	reserve battery connector on system board
2	reserve battery cable
3	reserve battery

5. Disconnect the reserve battery cable from the system board connector.
6. Pry the reserve battery free from the system board. The reserve battery is attached to the system board with a piece of adhesive tape.
7. Remove any remnants of the adhesive tape from the system board.

Replacing the Reserve Battery

1. Connect the reserve battery cable to the system board connector.
 2. Press the reserve battery into place on the system board.
 3. Update the BIOS using a flash BIOS update program floppy disk or CD. For instructions on how to flash the BIOS, see "[Flashing the BIOS.](#)"
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Flashing the BIOS

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Perform the following steps to update the BIOS:

1. Make sure that the AC adapter is plugged in and that the main battery is installed properly.
2. Turn on the computer. The following error message appears:

```
System hardware failures: #0010
```

```
Strike the F1 key to shutdown
```

3. Instead of pressing <F1>, insert the Flash BIOS update floppy disk or CD into the appropriate drive and press <F6>, and then press <F4>. The computer displays the following message on the screen:

```
Failure override
```

```
Processor update failure. Reload current BIOS
```

```
Strike the F1 key to continue, F2 to run the setup utility.
```

4. Press <F1>. The computer continues to boot and updates the new BIOS.
5. Press <F2> to enter the system setup program and reset the boot sequence with the appropriate drive, if required.
6. Press <ESC> to exit the system setup program.
7. Remove the Flash BIOS update floppy disk or CD from the drive and restart the computer.

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Audio Board

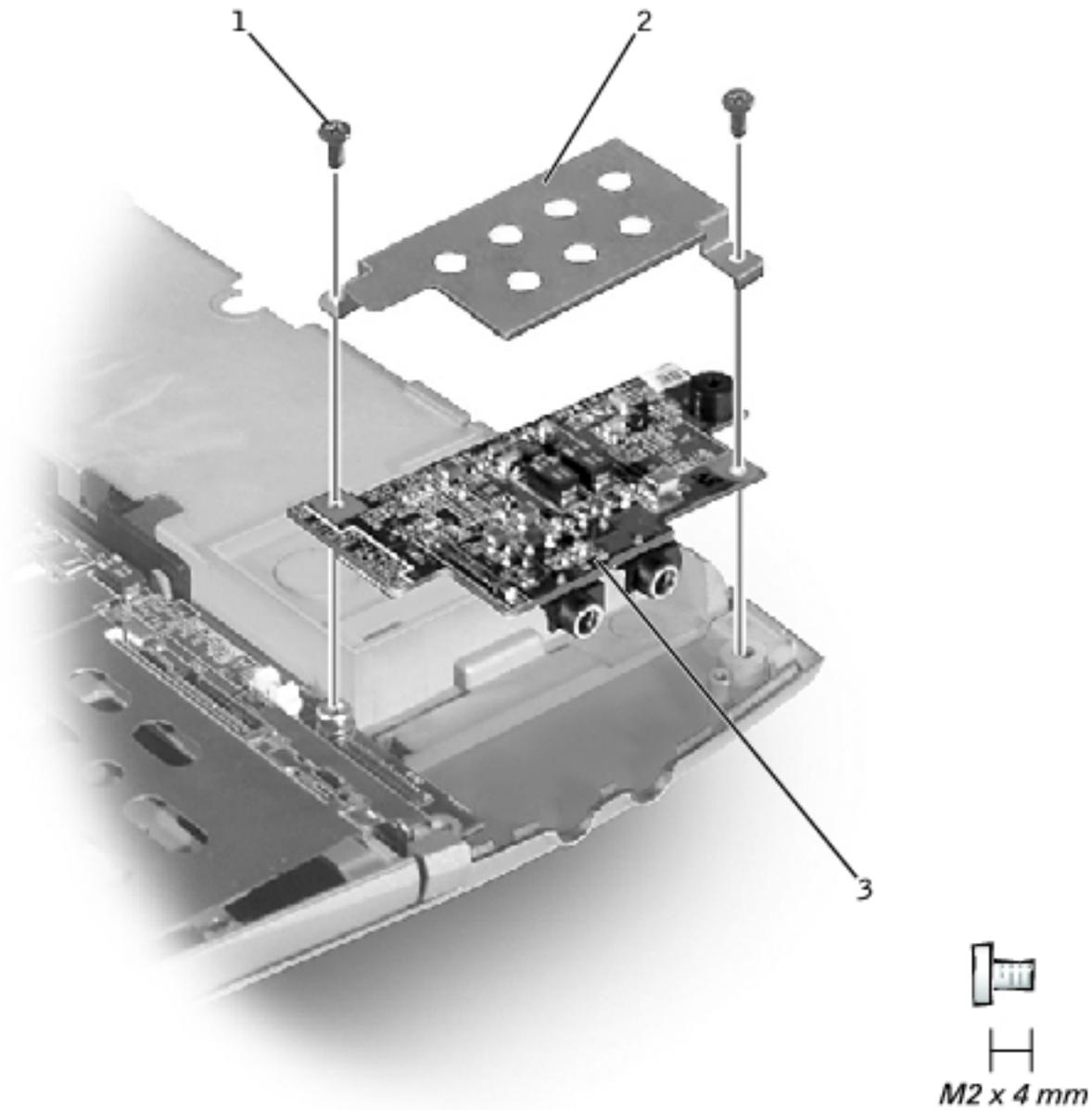
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-

Removing the Audio Board

- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
 - ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
 - ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.
1. Remove the [hard drive](#).
 2. Remove the [keyboard](#).
 3. Remove the [display assembly](#).
 4. Remove the [palm rest](#).

Audio Board Removal



1	M2 x 4-mm screws (2)
2	audio board shield
3	audio board

5. Remove the two M2 x 4-mm screws from the audio board shield, and remove the shield.
6. Pull the audio board up out of its connector.

Replacing the Audio Board

The audio board can be easily misaligned. When replacing it, first align the two screw holes in the board with the holes in the bosses. Then, as you press the audio board into the connector, sight sideways between the audio board and the system board to ensure that all pins on the audio board connector are headed correctly into the system board connector.

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System Board

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 - [Replacing the System Board](#)
-

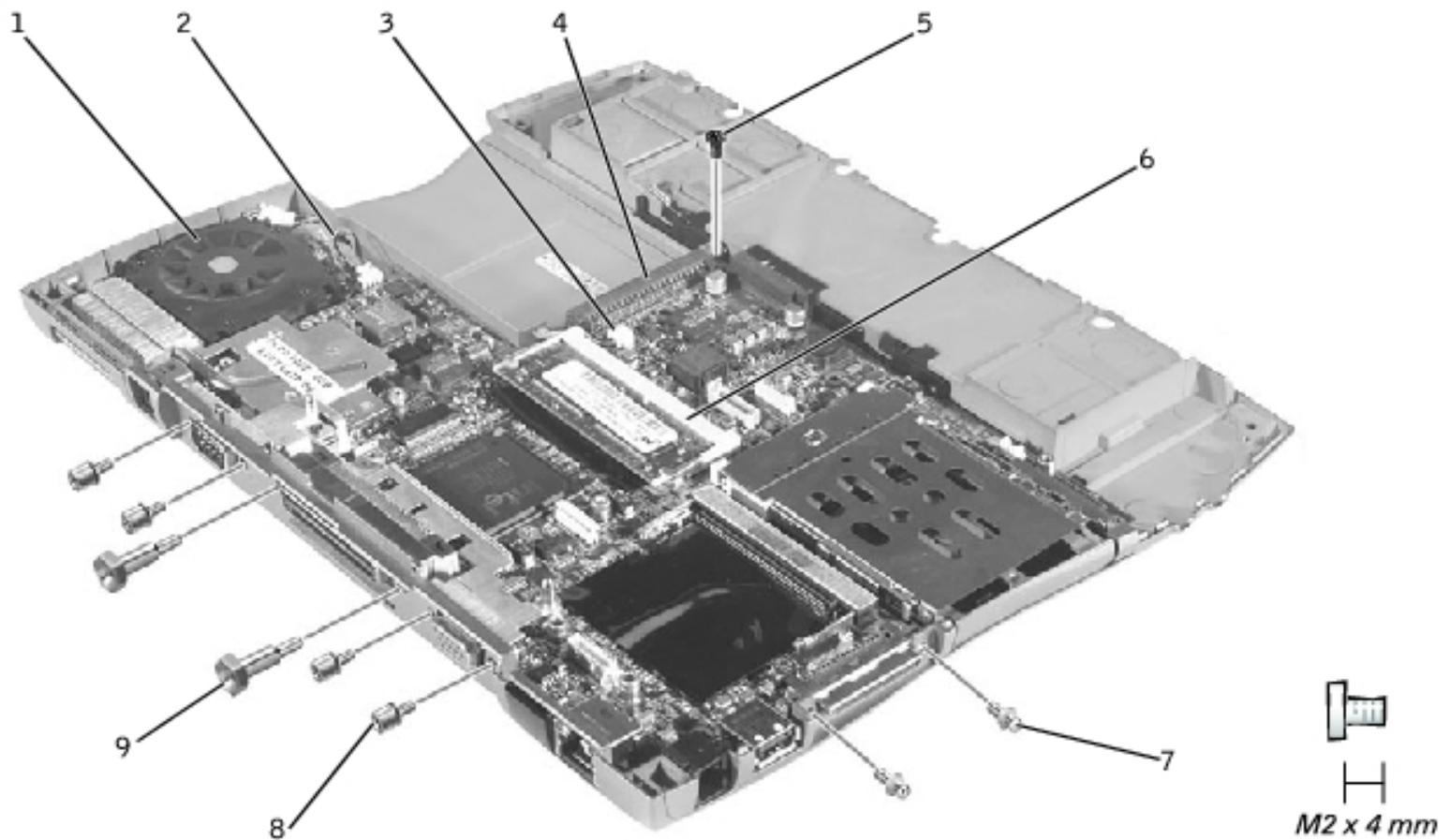
Removing the System Board

The system board's BIOS chip contains the service tag sequence, which is also visible on a barcode label on the bottom of the computer. The replacement kit for the system board may include a CD that provides a utility for transferring the service tag sequence to the replacement system board.

- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.

1. Remove the PC Card or plastic blank, if present, from the PC Card slot.
2. Remove the [hard drive](#).
3. Remove the [keyboard](#).
4. Remove the [display assembly](#).
5. Remove the [palm rest](#).
6. Remove the [wireless network adapter](#), if present.
7. Remove the [modem daughter card](#), if present.
8. Remove all installed [memory modules](#).
9. Remove the [audio board](#).

System Board Removal



1	fan
2	reserve battery cable
3	connector for fan extender cable
4	hard-drive connector
5	M2 x 4-mm screw (1)
6	memory module socket
7	guide pins (2)
8	5-mm hex nuts (4)
9	7-mm hex nuts (2)

10. Remove the four 5-mm hex nuts near each end of the serial and video connectors.
11. Use a flat-blade screwdriver to remove the two 7-mm hex nuts near each end of the docking connector.

12. Remove the two guide pins from the IDE connector.
 13. Disconnect the cooling fan from the fan extender cable.
 14. Disconnect the fan extender cable from the connector beside the internal memory socket.
 15. Disconnect the reserve battery cable from the system board.
 16. Remove the M2 x 4-mm screw that secures the right front corner of the system board.
 17. Disengage the system board from the back panel.
-

Replacing the System Board

While replacing the system board, pull the fan extender cable aside to avoid trapping it beneath the system board. After replacing the system board, route the cable between the hard-drive connector and the internal memory socket.

After you have replaced the system board, insert the floppy disk or CD that accompanied the replacement system board into the appropriate drive, and turn on the computer. Follow the instructions on the screen.



NOTE: After replacing the system board, be sure to enter the computer's service tag sequence into the BIOS of the replacement system board.

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Battery Latch

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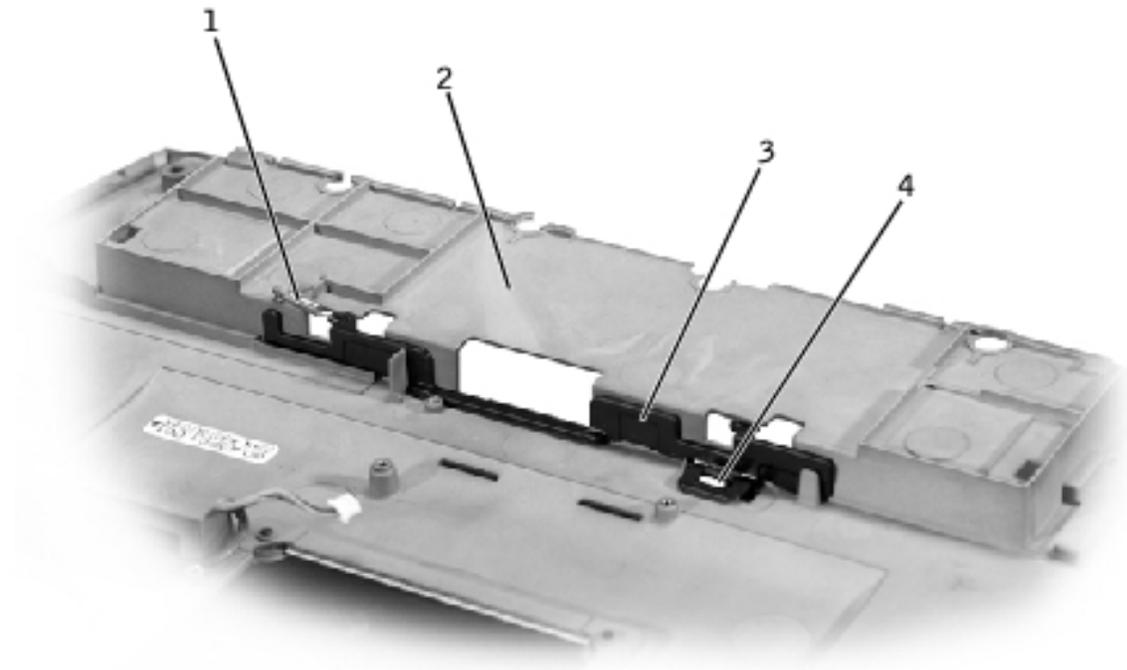
- [Removing the Battery Latch](#)
 - [Replacing the Battery Latch](#)
-

Removing the Battery Latch

- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside the Computer](#)" before performing the following procedure.

1. Remove the PC Card or plastic blank, if present, from the PC Card slot.
2. Remove the [hard drive](#).
3. Remove the [keyboard](#).
4. Remove the [display assembly](#).
5. Remove the [palm rest](#).
6. Remove the [wireless network adapter](#), if present.
7. Remove the [modem daughter card](#), if present.
8. Remove all installed [memory modules](#).
9. Remove the [audio board](#).
10. Remove the [system board](#).

Battery Latch Removal



1	tension spring
2	bottom case
3	battery latch
4	battery release-button tabs

⚠ NOTICE: The tabs on the release button are plastic. When squeezing the tabs, be careful not to break them.

11. On the inside of the bottom case, use needle-nose pliers to gently squeeze the two release-button tabs together and push the tabs down through the hole, catching the release button on the outside of the bottom case.
12. To remove the battery latch, unhook the small tension spring located on the metal post next to the hard drive.

Replacing the Battery Latch

1. With the inside of the bottom case facing up, place the battery latch in position.
2. Turn the bottom case over and align the slot in the battery latch with the release-button slot in the bottom case.
3. Holding the battery latch in place, press the release-button tabs through the underside of the bottom case and into the battery latch until the tabs snap into place.
4. Replace the tension spring.

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Pin Assignments for I/O Connectors

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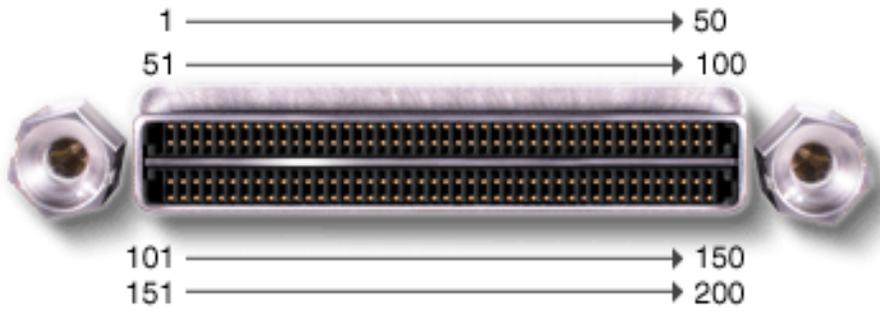
- [Serial Connector](#)
- [Docking Connector](#)
- [Video Connector](#)
- [USB Connector](#)
- [IDE Module Bay Connector](#)

Serial Connector



Pin	Signal
1	DCD
2	RXDA
3	TXDA
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

Docking Connector



Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	STRB#/5V	51	HSYNC	101	VGA_GRN	151	GND
2	PD0	52	VSYNC	102	GND	152	CLK_SPCI
3	PD1	53	GND	103	VGA_RED	153	GND
4	PD2	54	DOCKED	104	GND	154	SAD0
5	PD3	55	USB_VD1+	105	VGA_BLU	155	SAD1
6	PD4	56	USB_VD1-	106	DOCK_SD/MODE	156	SAD2
7	PD5	57	GND	107	D_IRTX	157	SAD3
8	PD6	58	USB_VD2+	108	D_IRRX	158	SAD4
9	PD7	59	USB_VD2-	109	GND	159	SAD5
10	GND	60	DOCKOC1#	110	SPIRQB#	160	SAD6
11	DOCK_SPKR	61	RUN_ON#	111	SPIRQC#	161	GND
12	DOCK_MIC	62	GND	112	DAT_DDC2	162	SAD7
13	DOCK_LINE	63	NC	113	CLK_DDC2	163	SAD8
14	DOCK_CDROM	64	DOCK_SCLK	114	SPAR	164	SC/BE0#
15	GND	65	DOCK_LRCK	115	SPME#	165	SAD9
16	NC	66	DOCK_MCLK	116	GND	166	SAD10
17	POWER_SW#	67	GND	117	SSERR#	167	SAD11
18	QPCIEN#	68	+12V	118	SPERR#	168	SAD12
19	S1.6M_EN#	69	AFD#	119	SLOCK#	169	GND
		70	ERROR#	120	SSTOP#	170	SAD13
		71	ACK#	121	GND	171	SAD14

20	DFDD/LPT#	72	GND	122	SDEVSEL#	172	SAD15
21	GND	73	INIT#	123	STRDY#	173	SAD16
22	NC	74	SLCT_IN#	124	SIRDY#	174	SC/BE1#
23	NC	75	BUSY	125	SFRAME#	175	CD/BE2#
24	D_ACTLED	76	PE	126	SCLKRUN#	176	GND
25	D_PWRLED	77	SLCT	127	GND	177	SAD17
26	DOCK_PWR_SRC	78	GND	128	SGNTA#	178	SAD18
27	DOCK_PWR_SRC	79	DAT_SMB	129	SREQA#	179	SAD19
28	DOCK_PWR_SRC	80	DCLK_SMB	130	SGNT0#	180	SAD20
29	GND	81	SMB_INIT#	131	SREQ0#	181	SAD21
30	+5VDOCK	82	GND	132	SPCIRST#	182	GND
31	+5VDOCK	83	DAT_DOCKSM1	133	SH1SEL#	183	SAD22
32	+5VDOCK	84	CLK_DOCKSM1	134	GND	184	SAD23
33	+5VDOCK	85	DAT_DOCKKBD	135	SWRPRT#	185	SAD24
34	+5VDOCK	86	CLK_DOCKKBD	136	SDSKCHG#/DRQ	186	SC/BE3#
35	GND	87	GND	137	SDIR#	187	SAD25
36	DOCK_PWR_SRC	88	RI0	138	STRK0#	188	GND
37	DOCK_PWR_SRC	89	CTS0	139	SSTEP#	189	SAD26
38	DOCK_PWR_SRC	90	RTS0	140	SDRV1#	190	SAD27
39	DOCK_PWR_SRC	91	DSR0	141	GND	191	SAD28
40	GND	92	GND	142	SMTR1#	192	SAD29
41	DOCK_+DC_IN	93	DTR0	143	SWRDATA#	193	SAD30
42	DOCK_+DC_IN	94	TXD0#	144	SWGATE#	194	SAD31
43	DOCK_+DC_IN	95	RXD0#	145	SRDATA#	195	GND
44	DOCK_+DC_IN	96	DCD0	146	SINDEX#	196	NC
45	DOCK_+DC_IN	97	NC	147	GND	197	NC
46	DOCK_+DC_IN	98	+5VSUS	148	NC	198	NC
47	DOCK_+DC_IN	99	NC	149	+5VALW	199	NC
48	DOCK_+DC_IN	100	NC	150	NC	200	GND

49	GND
50	LOW_PWR

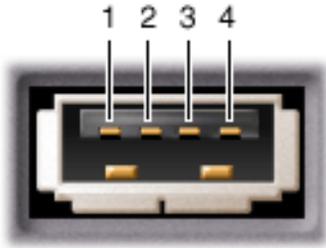
Video Connector



5 4 3 2 1
10 9 8 7 6
15 14 13 12 11

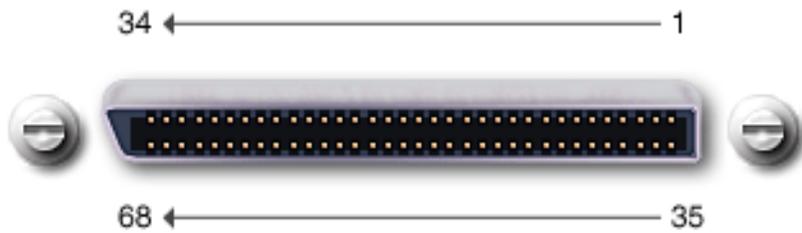
Pin	Signal	Pin	Signal
1	RED	9	CRT_VCC
2	GREEN	10	GND
3	BLUE	11	NC
4	NC	12	DAT_DDC2
5	GND	13	HSYNC
6	GND	14	VSYNC
7	GND	15	CLK_DDC2
8	GND		

USB Connector



Pin	Signal
1	VCC
2	-DATA
3	+DATA
4	GROUND

IDE Module Bay Connector



Pin	Signal	Pin	Signal
1	BAY_MODPRES#	35	WGATE#
2	HDSEL#	36	GND
3	RDATA#	37	MTR0#
4	WRPRT#	38	STEP#
5	WRDATA#	39	DRV0#
		40	GND
		41	DIR#

6	INDEX#	42	TRKO#
7	DSKCHG#	43	BAY_CD_FDD#
8	1D6M_EN#	44	GND
9	SIDE_IOW#	45	SIDED1
10	SIDED15	46	SIDED4
11	SIDED12	47	SIDED7
12	SIDED9	48	GND
13	SIDE_CS3#	49	SIDEIORDY
14	SIDE_CS1#	50	GND
15	+5VMOD	51	SIDE_DREQ
16	IRQ15	52	GND
17	+5VMOD	53	SIDED13
18	SIDED0	54	SIDED10
19	+5VMOD	55	IDE_RST_MOD_5V#
20	SIDED3	56	GND
21	+5VMOD	57	SIDEACT#
22	SIDED6	58	SIDE_A1
23	+5VMOD	59	SIDE_A0
24	SIDE_A2	60	GND
25	+5VMOD	61	SIDE_CSEL_SEC#
26	SIDE_DACK#	62	SIDED2
27	+5VMOD	63	SIDED5
28	SIDE_IOR#	64	GND
29	+5VMOD	65	SIDED8
30	SIDED14	66	MOD_CL_L
31	+5VMOD	67	CDGND
32	SIDED11	68	BAY_MODPRES#
33	+5VMOD		
34	MOD_CD_R		

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