Dell™ Latitude™ E5400 and E5500 Service Manual

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 potential for property damage, personal injury, or death.

If you purchased a DELL™ n Series computer, any references in this document to Microsoft® Windows® operating systems are not applicable.

Bottom of the Base Assembly
Dell™ Latitude™ E5400 and E5500 Service Manual

Removing the E5400 Bottom of the Base Assembly

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the procedures in Before Working on Your Computer.

2. Close the display and turn the computer upside down.

3. Loosen the five captive screws securing the bottom of the base assembly.

4. Pry up on the recess near the slender edge where indicated and slide the bottom of the base assembly toward the left side of the computer, and lift it up.

| 1 | E5400 bottom of the base assembly | 2 | captive screws (5) |

Replacing the E5400 Bottom of the Base Assembly

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Slide in the bottom of the base assembly to the left of the computer, hold it down, and snap it into place.

2. Tighten the captive screws, making sure the bottom of the base assembly is snapped down.

3. Follow the procedures in After Working on Your Computer.

Removing the E5500 Bottom of the Base Assembly

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the procedures in Before Working on Your Computer.

2. Close the display and turn the computer upside down.

3. Remove the single M2.5 x 8-mm screw securing the bottom of the base assembly.

4. Slide the bottom of the base assembly toward the front of the computer, and lift it up.
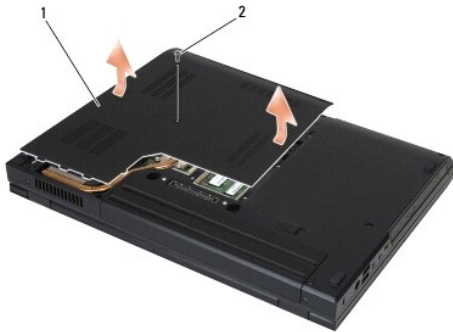
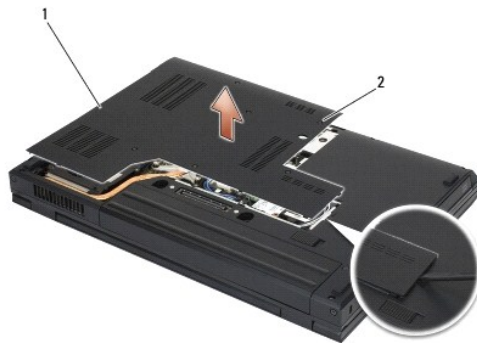| 1	E5500 bottom of the base assembly	2	M2.5 x 8-mm screw

Replacing the E5500 Bottom of the Base Assembly

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Slide the bottom of the base assembly toward the back of the computer until it is fully seated.

2. Replace the single M2.5 x 8-mm screw securing the bottom of the base assembly.

3. Follow the procedures in After Working on Your Computer.

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Working on Your Computer

Dell™ Latitude™ E5400 and E5500 Service Manual

● Recommended Tools
● Before Working on Your Computer
● After Working on Your Computer

This document provides procedures for removing and installing the components in your computer. Unless otherwise noted, each procedure assumes that:

l   You have performed the steps in Before Working on Your Computer.

l   You have read the safety information that shipped with your computer.

l   When replacing a component, you have already removed the original, if installed.

NOTE: The color of your computer and certain components may appear differently than shown in this document.

Recommended Tools

The procedures in this document may require the following tools:

l   Small flat-blade screwdriver

l   Phillips screwdriver

l   Small plastic scribe

l   Flash BIOS update (see the Dell Support website at **support.dell.com**)

Before Working on Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to help ensure your own personal safety.

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

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 electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface, such as a connector on the back of the computer.

NOTICE: 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 a component such as a processor by its edges, not by its pins.

NOTICE: When disconnecting a cable, pull on the cable's connector or on its strain-relief loop, not on the cable itself. For cable connectors with locking tabs, press inward on the locking tabs to release the connector. When connecting a cable, ensure that the connectors are correctly oriented and aligned to avoid damage to the connector and/or the connector's pins.

1. Ensure that the work surface is flat and clean to prevent the computer cover from being scratched.

2. Shut down your computer.

    l   *In Microsoft® Windows® XP*, click **Start→ Shutdown→ Shutdown**.

    l   *In Microsoft Windows Vista®*, click **Start** 🔵 , click the arrow ▶ icon, and then click **Shut Down** to turn off your computer.

    NOTE: Ensure that the computer is off and not in a power management mode. If you cannot shut down the computer using the operating system, press and hold the power button for 4 seconds.

3. Disconnect your computer and all attached devices from their electrical outlets.

NOTICE: To disconnect a network cable, first unplug the cable from your computer, and then unplug it from the network wall jack.

4. Disconnect any telephone or network cables from the computer.

NOTICE: To help prevent damage to the system board, you must remove the battery from the battery bay before you service the computer.

5. Disconnect any external devices and remove any installed cards before working on your computer:

    l   To remove any installed cards, such as an ExpressCard, see the *Dell™ Technology Guide* on your computer or at **support.dell.com**.

- l   To undock from a docking station, see the *E-Port User's Guide* or the *E-Port Plus User's Guide on* **support.dell.com**.

- l   To remove a battery slice, see the setup guide that shipped with your battery slice or on **support.dell.com**.

6. Turn the computer upside down.

7. Slide the battery latch release to the right (open position). You may need to hold the latch release in the open position while removing the battery.

8. Slide the battery out of the battery bay.
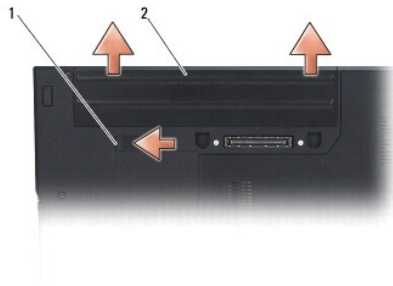
| 1 | battery latch release | 2 | battery |

9. Turn the computer top-side up, open the display, and press the power button to ground the system board.

After Working on Your Computer

🚫 **NOTICE:** After you have completed the replacement procedures, ensure you connect the external devices, cards, cables, etc. before turning on your computer.

🚫 **NOTICE:** To avoid damage to the computer, use only the battery designed for this particular Dell™ computer. Do not use batteries designed for other Dell computers.

1. Connect any external devices, such as a port replicator, battery slice, or cool slice, and replace any cards, such as an ExpressCard or SD memory card.

2. Connect any telephone or network cables to your computer.

3. Replace the battery. Slide the battery into the battery bay until it clicks into place.

4. Connect your computer and all attached devices to their electrical outlets.

5. Turn on your computer.

Flashing the BIOS
Dell™ Latitude™ E5400 and E5500 Service Manual

- Flashing the BIOS From a CD
- Flashing the BIOS From the Hard Drive

If a BIOS-update program media, such as a CD, is provided with a new system board, flash the BIOS from the media. If you do not have a BIOS-update program media, see Flashing the BIOS From the Hard Drive.

Flashing the BIOS From a CD

⊘ **NOTICE:** Connect the AC adapter to an electrical outlet that is known to be working properly to prevent a loss of power. Failure to do so may cause system damage.

1. Ensure that the AC adapter is connected to an electrical outlet and that the main battery is installed properly.

2. Start your computer.

3. Press the eject button at the front of the optical drive to open the drive tray.

4. Place the BIOS-update CD in the center of the drive tray, then gently push to close the tray.

5. Restart the computer.

6. When the DELL logo appears, press <F12> immediately.

   ✍ **NOTE:** Keyboard failure may result when a key on the keyboard is held down for extended periods of time. To avoid possible keyboard failure, press and release <F12> in even intervals until the **Boot Device Menu** appears.

   If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft® Windows® desktop, then shut down your computer and try again.

7. At the **Boot Device Menu**, use the up- and down-arrow keys or press the appropriate number on the keyboard to highlight **CD-ROM**, and then press <Enter>.

   ✍ **NOTE:** The Quickboot feature changes the boot sequence for the current boot only. Upon restart, the computer boots according to the boot sequence specified in system setup.

⊘ **NOTICE:** Do not interrupt this process once it begins. Doing so may cause system damage.

8. Follow the instructions that appear on the screen. The computer continues to boot and updates the new BIOS. When the flash update is complete, the computer automatically reboots.

9. Remove the flash BIOS update program CD from the drive.

Flashing the BIOS From the Hard Drive

⊘ **NOTICE:** Connect the AC adapter to an electrical outlet that is known to be working properly to prevent a loss of power. Failure to do so may cause system damage.

1. Ensure that the AC adapter is connected to an electrical outlet, that the main battery is properly installed, and that a network cable is attached.

2. Start the computer.

3. Locate the latest BIOS update file for your computer at **support.dell.com**.

4. Click **Download Now** to download the file.

5. If the **Export Compliance Disclaimer** window appears, click **Yes, I Accept this Agreement**.

6. In the **File Download** window, click **Save this program to disk**, and then click **OK**.

7. In the **Save In** window, click the down arrow to view the **Save In** menu, select **Desktop**, and then click **Save**.

The file downloads to your desktop.

8. Click **Close** if the **Download Complete** window appears.

   The file icon appears on your desktop and is titled the same as the downloaded BIOS update file.

9. Double-click the file icon on the desktop and follow the instructions on the screen.

Coin-Cell Battery
Dell™ Latitude™ E5400 and E5500 Service Manual

● Removing the Coin-Cell Battery
● Replacing the Coin-Cell Battery

Removing the Coin-Cell Battery

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the procedures in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly or Removing the E5500 Bottom of the Base Assembly).

3. Disconnect the coin-cell battery cable connector from the system board.

4. Lift the coin-cell battery from the system board.
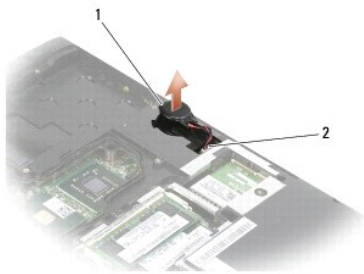
1	E5400 coin-cell battery	2	coin-cell battery cable connector

1	E5500 coin-cell battery	2	coin-cell battery cable connector

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Replacing the Coin-Cell Battery

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

✍ **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Connect the coin-cell battery cable connector to the system board.

2. Position the coin-cell battery on the system board.

3. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly or Replacing the E5500 Bottom of the Base Assembly).

4. Follow the procedures in After Working on Your Computer.

Processor Module
Dell™ Latitude™ E5400 and E5500 Service Manual

● Removing the Processor Module
● Replacing the Processor Module

Removing the Processor Module

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly or Replacing the E5400 Bottom of the Base Assembly).

3. Remove the fan (see Removing the Fan).

4. Remove the processor heat sink (see Removing the Processor Heat Sink).

🚫 **NOTICE:** To avoid damage to the processor, hold the screwdriver so that it is perpendicular to the processor when turning the cam screw.

5. To loosen the ZIF socket, use a small, flat-blade screwdriver and rotate the ZIF-socket cam screw counterclockwise until it comes to the cam stop.

1	ZIF-socket cam screw	2	ZIF socket

🚫 **NOTICE:** To ensure maximum cooling for the processor, do not touch the heat transfer areas on the processor heat sink. The oils in your skin can reduce the heat transfer capability of the thermal pads.

🚫 **NOTICE:** When removing the processor module, pull the module straight up. Be careful not to bend the pins on the processor module.

6. Lift the processor module from the ZIF socket.

Replacing the Processor Module

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

🚫 **NOTICE:** Do not touch the processor die. Press and hold the processor down on the substrate on which the die is mounted while turning the cam screw to prevent intermittent contact between the cam screw and processor.

🚫 **NOTICE:** Ensure that the cam lock is in the fully open position before seating the processor module. Seating the processor module properly in the ZIF socket does not require force. A processor module that is not properly seated can result in an intermittent connection or permanent damage to the microprocessor and ZIF socket.

📝 **NOTE:** If you are installing a new processor, you receive a new processor heat sink, which will include an affixed thermal pad, or you will receive a new thermal pad along with a tech sheet to illustrate proper installation.

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Align the pin-1 corner of the processor module with the pin-1 corner of the ZIF socket, then insert the processor module.

NOTE: The pin-1 corner of the processor module has a triangle that aligns with the triangle on the pin-1 corner of the ZIF socket.

When the processor module is properly seated, all four corners are aligned at the same height. If one or more corners of the module are higher than the others, the module is not seated properly.
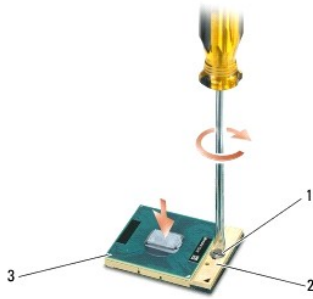
1	ZIF-socket cam screw	2	ZIF socket
3	pin-1 corner		

NOTICE: To avoid damage to the processor, hold the screwdriver so that it is perpendicular to the processor when turning the cam screw.

2. Tighten the ZIF socket by turning the cam screw clockwise to secure the processor module to the system board.

3. Replace the processor heat sink (see Replacing the Processor Heat Sink).

4. Replace the fan (see Replacing the Fan).

5. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly or Replacing the E5500 Bottom of the Base Assembly).

6. Follow the procedures in After Working on Your Computer.

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Processor Heat Sink
Dell™ Latitude™ E5400 and E5500 Service Manual

- Removing the Processor Heat Sink
- Replacing the Processor Heat Sink

Removing the Processor Heat Sink

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly or Removing the E5500 Bottom of the Base Assembly).

3. Remove the fan (see Removing the Fan).

4. In sequential order, loosen the four numbered captive screws that secure the processor heat sink to the system board.

5. Loosen the remaining captive screw that secures the processor heat sink to the system board and carefully lift it out of the computer.

| 1 | E5400 processor heat sink | 2 | captive screws (5) |

| 1 | E5500 processor heat sink | 2 | captive screws (5) |

Replacing the Processor Heat Sink

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Line up and secure the processor heat sink with the screw closest to the front of the computer.

1. Align the five captive screws on the processor heat sink with the screw holes on the system board and secure the screws. Tighten the four numbered

screws in sequential order and then tighten the fifth screw.

2. Replace the fan (see Replacing the Fan).

3. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly or Replacing the E5500 Bottom of the Base Assembly).

4. Follow the procedures in After Working on Your Computer.

Display
Dell™ Latitude™ E5400 and E5500 Service Manual

- E5400 Display Assembly
- E5400 Display Bezel
- E5400 Display Hinges
- E5400 Display Inverter
- E5400 Display Panel
- E5400 Display Cable
- E5500 Display Assembly
- E5500 Display Bezel
- E5500 Display Hinges
- E5500 Display Inverter
- E5500 Display Panel
- E5500 Display Cable

E5400 Display Assembly

Removing the E5400 Display Assembly

⚠️ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly).

3. Remove the hinge cover (see Removing the Hinge Cover).

4. Remove the keyboard (see Removing the Keyboard).

5. Remove the display cable from the system board by pulling on the blue tab next to the display cable connector.

6. Carefully remove the display cable by moving it away from the metal and plastic cable guide tabs.

⊘ **NOTICE:** Ensure that the display cable and the antenna cables do not get caught beneath the guide tabs on the palm rest.
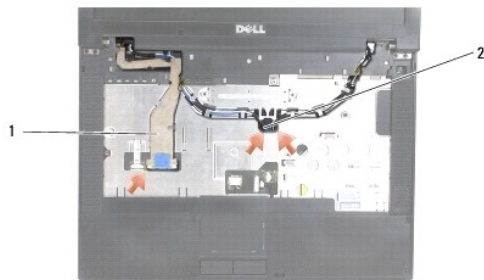
| 1 | display cable | 2 | antenna cables |

7. Turn the computer over. Disconnect the antenna cables from their cards and remove them by moving them out of the cable guides on the bottom of the computer.

8. Slide the antenna cables through the hole in the palm rest.

9. Remove the antenna cables from the cable guides on the top of the computer.

10. Remove the four M2.5 x 5-mm screws (two per hinge) on the top of the computer that secure the metal hinges.

11. Remove the two M2.5 x 8-mm screws that secure the hinges located on the bottom of the computer.

1	M2.5 x 8-mm bottom screws (2)		

12. Lift the display and hinge assembly out of the computer.

1	display cable connector	2	M2.5 x 5-mm top screws (4)
3	display assembly	4	antenna cables (2)

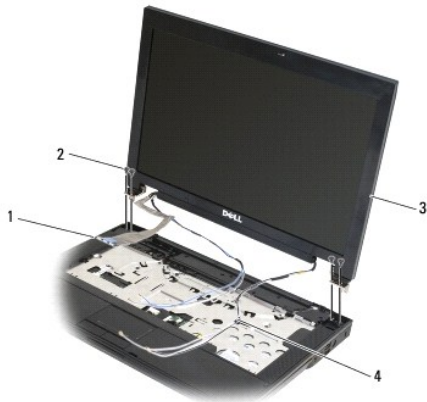## Replacing the E5400 Display Assembly

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Align the display hinges with the holes in the base of the computer, then lower the display into place.

2. Replace the two M2.5 x 8-mm screws on the bottom and the four M2.5 x 5-mm screws (two per hinge) in the top of the computer.

🚫 **NOTICE:** Ensure that the display cable and antenna cables are properly routed and secured beneath the plastic tabs on the palm rest.Route the display cable and antenna cables beneath the guide tabs on the palm rest.

3. Connect the display cable to the system board.

4. Slide the antenna cables through the hole in the palm rest and the base of the computer.

5. Insert the antenna cables into the cable guides where they were originally placed.
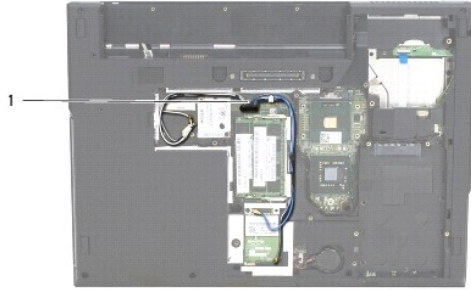
| 1 | antenna cables | | |

6. Connect the antenna cables to the appropriate optional WLAN, WPAN cards that came with your computer.

7. Replace the keyboard (see Replacing the Keyboard).

8. Replace the hinge cover (see Replacing the Hinge Cover).

9. Close the display and turn the computer over.

10. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

11. Follow the procedures in After Working on Your Computer.

E5400 Display Bezel

Removing the E5400 Display Bezel

⚠️ CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.

1. Follow the instructions in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the display assembly (see Removing the E5400 Display Assembly).

| 1 | display bezel | | |

🚫 NOTICE: Removal of the bezel from the top cover requires extreme care to avoid damage to the bezel.

5. Starting at the middle bottom of the display panel, use your fingers to separate the bezel from the top cover, then lift the inside edges to separate the remainder of the bezel.

Replacing the E5400 Display Bezel

⚠️ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

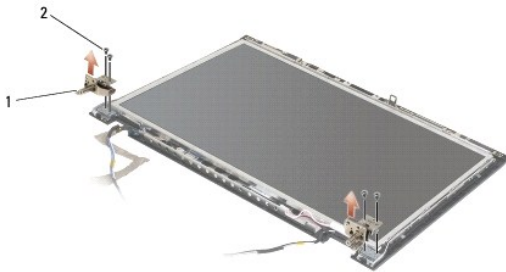📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Starting at any corner, use your fingers to gently snap the bezel into place to secure it to the top cover.

2. Replace the display assembly (see Replacing the E5400 Display Assembly).

3. Replace the keyboard (see Replacing the Keyboard).

4. Replace the hinge cover (see Replacing the Hinge Cover).

5. Close the display and turn the computer over.

6. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

7. Follow the procedures in After Working on Your Computer.

E5400 Display Hinges

Removing the E5400 Display Hinges

⚠️ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the display assembly (see Removing the E5400 Display Assembly).

5. Remove the display bezel (see Removing the E5400 Display Bezel).

6. Remove the four M2.5 x 5-mm screws (two per side) that secure the display hinges to the display cover.

| 1 | hinge | 2 | M2.5 x 5-mm screws (4) |

Replacing the E5400 Display Hinges

⚠️ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

NOTE: This procedure assumes that you have completed the removal procedure first.

1. Replace the four M2.5 x 5-mm screws (two per side) that secure the display hinges to the display cover.

   NOTE: The display hinge panels are labeled L (left) and R (right).

2. Replace the display bezel (see Replacing the E5500 Display Bezel).

3. Replace the display assembly (see Replacing the E5400 Display Assembly).

4. Replace the keyboard (see Replacing the Keyboard).

5. Replace the hinge cover (see Replacing the Hinge Cover).

6. Close the display and turn the computer over.

7. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

8. Follow the procedures in After Working on Your Computer.

E5400 Display Inverter

Removing the E5400 Display Inverter

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

⬤ **NOTICE:** Removal of the bezel from the top cover requires extreme care to avoid damage to the bezel.

1. Follow the instructions in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the display assembly (see Removing the E5400 Display Assembly).

5. Remove the display bezel (see Removing the E5400 Display Bezel).

6. Remove the M2.5 x 5-mm screw from the display inverter.

7. Disconnect the two display inverter connectors.

8. Lift the display inverter out of the display assembly.

1	top cover	2	display inverter connector
3	M2.5 x 5-mm screw (1)	4	display inverter connector
5	display inverter		

Replacing the E5400 Display Inverter

⚠️ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Connect the two display inverter connectors to the display inverter.

2. Replace the M2.5 x 5-mm screw that secures the display inverter.

3. Replace the display bezel (see Replacing the E5400 Display Bezel).

4. Replace the display assembly (see Replacing the E5400 Display Assembly).

5. Replace the keyboard (see Replacing the Keyboard).

6. Replace the hinge cover (see Replacing the Hinge Cover).

7. Close the display and turn the computer over.

8. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

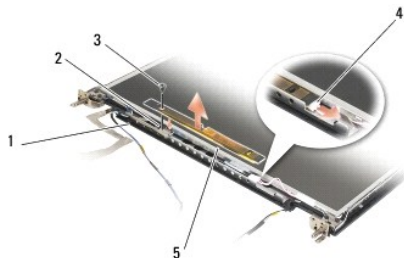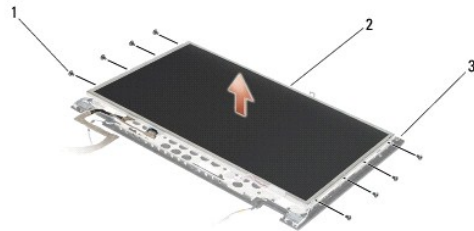9. Follow the procedures in After Working on Your Computer.

E5400 Display Panel

Removing the E5400 Display Panel

⚠️ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the display assembly (see Removing the E5400 Display Assembly).

5. Remove the display bezel (see Removing the E5400 Display Bezel).

6. Remove the display inverter (see Removing the E5400 Display Inverter).

7. Remove the eight M2 x 3-mm screws (four on each side of the display panel) from the display hinge panels.

1	M2 x 3-mm screws (8) (on display hinge panels)	2	display panel
3	top cover		

8. Lift the display panel out of the top cover.

Replacing the E5400 Display Panel

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Replace the eight M2 x 3-mm screws (four on each side of the display panel) to secure the display panel to the display hinge panels.

2. Position the display panel assembly in the top cover.

3. Replace the display inverter (see Replacing the E5400 Display Inverter).

4. Replace the display bezel (see Replacing the E5400 Display Bezel).

5. Replace the display assembly (see Replacing the E5400 Display Assembly).

6. Replace the keyboard (see Replacing the Keyboard).

7. Replace the hinge cover (see Replacing the Hinge Cover).

8. Close the display and turn the computer over.

9. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

10. Follow the procedures in After Working on Your Computer.

E5400 Display Cable

Removing the E5400 Display Cable

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**
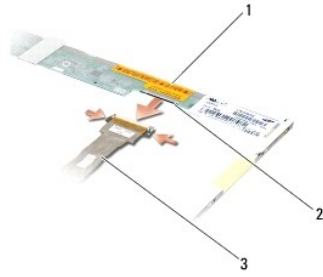
1. Follow the instructions in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the four M2.5 x 5-mm screws from the display hinges.

5. Remove the display assembly (see Removing the E5400 Display Assembly).

6. Remove the display bezel (see Removing the E5400 Display Bezel).

7. Remove the display inverter (see Removing the E5400 Display Inverter).

8. Remove the display panel (see Removing the E5400 Display Panel).

9. Disconnect the display cable from the connector on the back of the display panel.

1	display panel	2	display cable connector
3	display cable		

Replacing the E5400 Display Cable

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

✍ **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Connect the display cable to the connector on the back of the display panel.

2. Replace the display panel (see Replacing the E5400 Display Panel).

3. Replace the display inverter (see Replacing the E5400 Display Inverter).

4. Replace the display bezel (see Replacing the E5400 Display Bezel).

5. Replace the display assembly (see Replacing the E5400 Display Assembly).

6. Replace the keyboard (see Replacing the Keyboard).

7. Replace the hinge cover (see Replacing the Hinge Cover).

8. Close the display and turn the computer over.

9. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

10. Follow the procedures in After Working on Your Computer.

E5500 Display Assembly

Removing the E5500 Display Assembly

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly).

3. Remove the hinge cover (see Removing the Hinge Cover).

4. Remove the keyboard (see Removing the Keyboard).

5. Remove the display cable from the system board by pulling on the blue tab next to the display cable connector.

⊘ **NOTICE:** Ensure that the display cable and the antenna cables do not get caught beneath the plastic tabs on the palm rest.

| 1 | display cable | 2 | antenna cables |

6. Carefully remove the display cable by moving it away from the metal and plastic cable guides.

7. Turn the computer over and remove the antenna cables by moving them out of the cable guides on the bottom of the computer.

8. Slide the antenna cables through the hole in the palm rest.

9. Remove the antenna cables from the cable guides on the top of the computer.

10. Remove the two M2.5 x 8-mm screws on the top of the computer that secure the metal hinges.

11. Remove the two M2.5 x 8-mm screws that secure the hinges located on the bottom of the computer.

| 1 | M2.5 x 8-mm bottom screws (2) | | |

12. Lift the display and hinge assembly out of the computer.
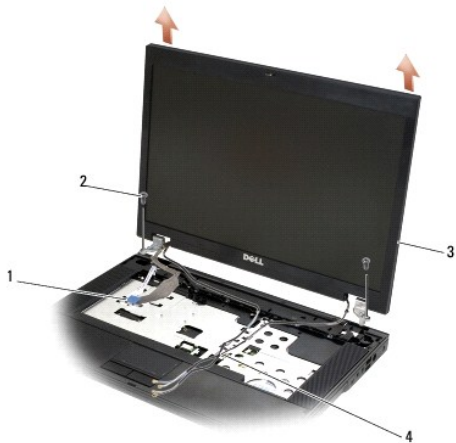
| 1 | display cable connector | 2 | M2.5 x 8-mm screws (2) |
| 3 | display assembly | 4 | antenna cables (2) |

Replacing the E5500 Display Assembly

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Align the display hinges with the holes in the base of the computer, then lower the display into place.

2. Replace the two pairs of M2.5 x 8-mm hinge screws on the bottom and top of the computer.

⬛ **NOTICE:** Ensure that the antenna cables are properly routed and secured beneath the plastic tabs on the palm rest.

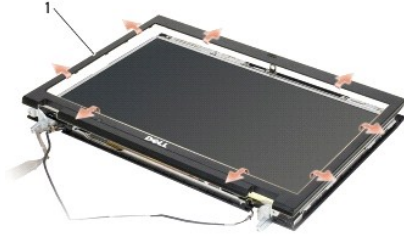| 1	antenna cables		

3. Route the display cable and antenna cables beneath the plastic tabs on the palm rest.

4. Slide the antenna cables through the hole in the palm rest and the base of the computer.

5. Connect the display cable to the display cable connector on the system board.

6. Replace the keyboard (see Replacing the Keyboard).

7. Replace the hinge cover (see Replacing the Hinge Cover).

8. Close the display and turn the computer over.

9. Replace the bottom of the base assembly (see Replacing the E5500 Bottom of the Base Assembly).

10. Follow the procedures in After Working on Your Computer.

E5500 Display Bezel

Removing the E5500 Display Bezel

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the display assembly (see Removing the E5500 Display Assembly).

5. Starting at the middle bottom of the display panel, use your fingers to separate the bezel from the top cover, then lift the inside edges to separate the remainder of the bezel.

| 1 | display bezel | | |

⬤ **NOTICE:** Removal of the bezel from the top cover requires extreme care to avoid damage to the bezel.

Replacing the E5500 Display Bezel

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

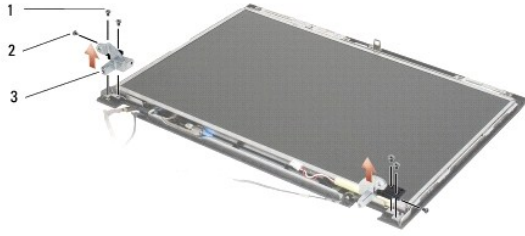📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Starting at any corner, use your fingers to gently snap the bezel into place to secure it to the top cover.

2. Replace the display assembly (see Replacing the E5500 Display Assembly).

3. Replace the keyboard (see Replacing the Keyboard).

4. Replace the hinge cover (see Replacing the Hinge Cover).

5. Close the display and turn the computer over.

6. Replace the bottom of the base assembly (see Replacing the E5500 Bottom of the Base Assembly).

7. Follow the procedures in After Working on Your Computer.

E5500 Display Hinges

Removing the E5500 Display Hinges

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the display assembly (see Removing the E5500 Display Assembly).

5. Remove the display bezel (see Removing the E5500 Display Bezel).

6. Remove the four M2.5 x 8-mm screws (two per side) and the two M2 x 3-mm screws (one per side) that secure the display hinges to the display cover.

1	M2.5 x 8-mm screws (4)	2	M2 x 3-mm screws (2)
3	hinge		

Replacing the E5500 Display Hinges

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Replace the four M2.5 x 8-**mm screws (two per side) and the two** M2 x 3-mm screws (one per side) that secure the display hinges to the display cover.

   📝 **NOTE:** The display hinge panels are labeled L (left) and R (right).

2. Replace the display bezel (see Replacing the E5500 Display Bezel).

3. Replace the display assembly (see Replacing the E5500 Display Assembly).

4. Replace the keyboard (see Replacing the Keyboard).

5. Replace the hinge cover (see Replacing the Hinge Cover).

6. Close the display and turn the computer over.

7. Replace the bottom of the base assembly (see Replacing the E5500 Bottom of the Base Assembly).

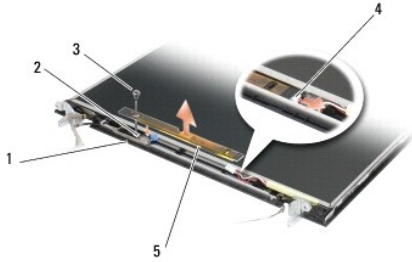8. Follow the procedures in After Working on Your Computer.

E5500 Display Inverter

Removing the E5500 Display Inverter

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the display assembly (see Removing the E5500 Display Assembly).

5. Remove the display bezel (see Removing the E5500 Display Bezel).

6. Remove the M2.5 x 5-mm screw from the display inverter.

7. Disconnect the two display inverter connectors.

8. Lift the display inverter out of the top cover.

1	E5500 top cover	2	display connector
3	M2.5 x 5-mm screw	4	display inverter connector
5	display inverter		

🔴 **NOTICE:** Removal of the bezel from the top cover requires extreme care to avoid damage to the bezel.

Replacing the E5500 Display Inverter

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Connect the two display inverter connectors to the display inverter.

2. Replace the M2.5 x 5-mm screw that secures the display inverter.

3. Replace the display bezel (see Replacing the E5500 Display Bezel).

4. Replace the display assembly (see Replacing the E5500 Display Assembly).

5. Replace the keyboard (see Replacing the Keyboard).

6. Replace the hinge cover (see Replacing the Hinge Cover).

7. Close the display and turn the computer over.

8. Replace the bottom of the base assembly (see Replacing the E5500 Bottom of the Base Assembly).

9. Follow the procedures in After Working on Your Computer.

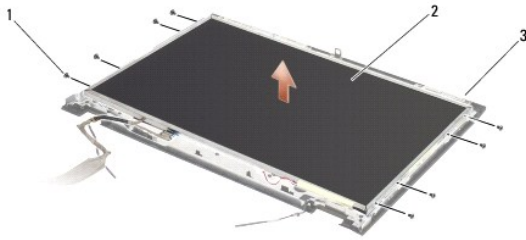## E5500 Display Panel

Removing the E5500 Display Panel

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the display assembly (see Removing the E5500 Display Assembly).

5. Remove the display bezel (see Removing the E5500 Display Bezel).

6. Remove the display inverter (see Removing the E5500 Display Inverter).

7. Remove the eight M2 x 3-mm screws (four on each side of the display panel) from the display hinge panels.

1	M2 x 3-mm screws (8) (on display hinge panels)	2	display panel
3	top cover		

8. Lift the display panel from the top cover.

Replacing the E5500 Display Panel

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

✏ **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Replace the eight M2 x 3-mm screws (four on each side of the display panel) to secure the display panel to the display hinge panels.

2. Replace the display inverter (see Replacing the E5500 Display Inverter).

3. Replace the display bezel (see Replacing the E5500 Display Bezel).

4. Replace the display assembly (see Replacing the E5500 Display Assembly).

5. Replace the keyboard (see Replacing the Keyboard).

6. Replace the hinge cover (see Replacing the Hinge Cover).

7. Close the display and turn the computer over.

8. Replace the bottom of the base assembly (see Replacing the E5500 Bottom of the Base Assembly).

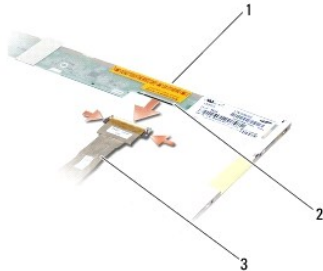9. Follow the procedures in After Working on Your Computer.

E5500 Display Cable

Removing the E5500 Display Cable

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the display assembly (see Removing the E5500 Display Assembly).

5. Remove the display bezel (see Removing the E5500 Display Bezel).

6. Remove the display inverter (see Removing the E5500 Display Inverter).

7. Remove the display panel (see Removing the E5500 Display Panel).

8. Disconnect the display cable from the connector on the back of the display panel.

1	display panel	2	display cable connector
3	display cable		

Replacing the E5500 Display Cable

⚠ CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.

📝 NOTE: This procedure assumes that you have completed the removal procedure first.

1. Connect the display cable to the connector on the back of the display panel.

2. Replace the display panel (see Replacing the E5500 Display Panel).

3. Replace the display inverter (see Replacing the E5500 Display Inverter).

4. Replace the display bezel (see Replacing the E5500 Display Bezel).

5. Replace the display assembly (see Replacing the E5500 Display Assembly).

6. Replace the keyboard (see Replacing the Keyboard).

7. Replace the hinge cover (see Replacing the Hinge Cover).

8. Close the display and turn the computer over.

9. Replace the bottom of the base assembly (see Replacing the E5500 Bottom of the Base Assembly).

10. Follow the procedures in After Working on Your Computer.

Fan
Dell™ Latitude™ E5400 and E5500 Service Manual

- Removing the Fan
- Replacing the Fan

Removing the Fan

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly or Removing the E5500 Bottom of the Base Assembly).

3. Remove the two M2.5 x 8-mm screws that secure the fan to the base of the computer.

4. Disconnect the fan connector from the system board connector, and remove the fan.
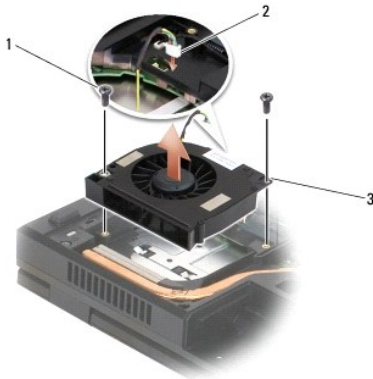
1	M2.5 x 8-mm screws (2)	2	fan connector
3	fan		

Replacing the Fan

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Align the screw holes on the fan with the holes on the base of the computer.

2. Replace the two M2.5 x 8-mm screws to secure the fan to the base of the computer.

3. Connect the fan connector to the system board connector.

4. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly or Replacing the E5500 Bottom of the Base Assembly).

5. Follow the procedures in After Working on Your Computer.

Hard Drive
Dell™ Latitude™ E5400 and E5500 Service Manual

- Removing the Hard Drive
- Replacing the Hard Drive

NOTE: Dell does not guarantee compatibility or provide support for hard drives obtained from sources other than Dell.
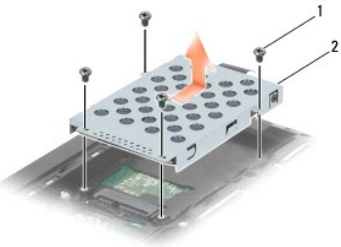
Removing the Hard Drive

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

⚠ **CAUTION:** *Do not touch* **the metal housing of the hard drive if you remove the hard drive from the computer while the drive is hot.**

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 or in Sleep state.

NOTICE: Hard drives are extremely fragile. Exercise care when handling the hard drive.

1. Follow the procedures in Before Working on Your Computer.

2. Close the display and turn the computer upside down.

3. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly or Removing the E5500 Bottom of the Base Assembly).

4. Remove the four M2 x 3-mm screws securing the hard drive.

5. Pull on the mylar tab near the install arrow towards the front of the computer until it is removed from the connector.

6. Lift out the hard drive by the tab and remove it from the computer.

| 1 | M2 x 3-mm screws (4) | 2 | hard drive |

NOTICE: When the hard drive is not in the computer, store the drive in protective antistatic packaging.

Replacing the Hard Drive

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

NOTICE: Hard drives are extremely fragile. Exercise care when handling the hard drive.

NOTICE: Use firm and even pressure to slide the hard drive into place. Excessive force may result in damage to the connector.

NOTE: This procedure assumes that you have completed the removal procedure first.

1. Slide the hard drive toward the back of the computer into the hard drive connector until the drive is fully seated.

2. Replace the four M2 x 3-mm screws that secure the hard drive.

3. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly or Replacing the E5500 Bottom of the Base Assembly).

4. Follow the procedures in After Working on Your Computer.

5. Install the operating system, drivers, and utilities for your computer, as needed. For more information, see the *Setup and Quick Reference Guide that shipped with your computer or on* **support.dell.com.**

Hinge Cover
Dell™ Latitude™ E5400 and E5500 Service Manual

- Removing the Hinge Cover
- Replacing the Hinge Cover

Removing the Hinge Cover

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

🚫 **NOTICE:** The hinge cover is fragile and can be damaged if extreme force is used. Exercise care when removing the hinge cover.

1. Follow the procedures in Before Working on Your Computer.

2. Turn the computer to the front and open the display all the way (180 degrees).

3. Insert a plastic scribe into the notch of the raised parts of the hinge cover at the back of the computer, and pry up to loosen the hinge cover.

🚫 **NOTICE:** To avoid damage to the hinge cover, do not lift the cover on both sides simultaneously.

4. Lift up on the right notch where indicated with the plastic scribe. Slide the hinge cover to the right and lift it up at the left side.

| 1 | scribe tool | 2 | notch |

Replacing the Hinge Cover

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

🚫 **NOTICE:** The hinge cover is fragile and can be damaged if extreme force is used. Exercise care when replacing the hinge cover.

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Place the hinge cover back on to the computer, aligning the cover with the notches on the display.

2. Press down on the hinge cover until it snaps into place.

3. Follow the procedures in After Working on Your Computer.

I/O Card
Dell™ Latitude™ E5400 and E5500 Service Manual

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

The I/O card provides DC-in, USB, audio, and IEEE 1394 connectors for the system.

Removing an E5400 I/O Card

1. Follow the procedures in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly).

3. Remove the hard drive (see Removing the Hard Drive).

4. Remove the WLAN card (see Removing a WLAN Card).

5. Remove the fan (see Removing the Fan).

6. Remove the processor heat sink (see Processor Heat Sink).

7. Remove the hinge cover (see Removing the Hinge Cover).

8. Remove the keyboard (see Removing the Keyboard).

9. Remove the display assembly (see Removing the E5400 Display Assembly).

10. Remove the optical drive (see Removing the Optical Drive).

11. Remove the palm rest (see Removing the E5400 Palm Rest).

12. Remove the coin cell battery connector (refer to Removing the Coin-Cell Battery).

13. Remove the system board (see Removing the E5400 System Board Assembly).

14. Remove the M2.5 x 5-mm screw that secures the I/O card to the system board.

15. Remove the I/O card from the computer.
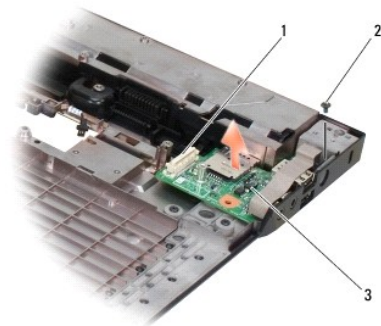
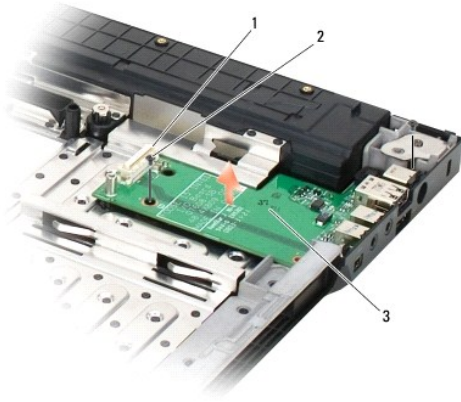| 1	system board connector	2	M2.5 x 5-mm screw (1)
3	E5400 I/O card		

Replacing an E5400 I/O Card

NOTE: This procedure assumes that you have completed the removal procedure first.

1. Insert the I/O card and replace the M2.5 x 5-mm screw.

2. Replace the system board (see Replacing the E5400 System Board Assembly)

3. Replace the palm rest (see Replacing the E5400 Palm Rest).

4. Replace the optical drive (see Replacing the Optical Drive).

5. Replace the display assembly (see Replacing the E5400 Display Assembly).

6. Replace the keyboard (see Replacing the Keyboard).

7. Replace the hinge cover (see Replacing the Hinge Cover).

8. Replace the processor heat sink (see Replacing the Processor Heat Sink).

9. Replace the fan (see Replacing the Fan).

10. Replace the WLAN card (seeReplacing a WLAN Card).

11. Replace the hard drive (see Replacing the Hard Drive).

12. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

13. Follow the procedures in After Working on Your Computer.

Removing an E5500 I/O Card

1. Follow the procedures in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly).

3. Remove the hard drive (see Removing the Hard Drive).

4. Remove the WLAN card (see Removing a WLAN Card).

5. Remove the hinge cover (see Removing the Hinge Cover).

6. Remove the keyboard (see Removing the Keyboard).

7. Remove the display assembly (see Removing the E5500 Display Assembly).

8. Remove the optical drive (see Removing the Optical Drive).

9. Remove the palm rest (see Removing the E5500 Palm Rest).

10. Remove the system board (see Removing the E5500 System Board Assembly).

11. Remove the two M2.5 x 5-mm screws that secure the I/O card to the system board.

12. Remove the I/O card from the computer.

1	system board connector	2	M2.5 x 5-mm screws (2)
3	E5500 I/O card		

Replacing an E5500 I/O Card

NOTE: This procedure assumes that you have completed the removal procedure first.

1. Insert the I/O card and replace the two M2.5 x 5-mm screws.

2. Replace the system board (see Replacing the E5500 System Board Assembly)

3. Replace the palm rest (see Replacing the E5500 Palm Rest).

4. Replace the optical drive (see Replacing the Optical Drive).

5. Replace the display assembly (see Replacing the E5500 Display Assembly).

6. Replace the keyboard (see Replacing the Keyboard).

7. Replace the hinge cover (see Replacing the Hinge Cover).

8. Replace the WLAN card (seeReplacing a WLAN Card).

9. Replace the hard drive (see Replacing the Hard Drive).

10. Replace the bottom of the base assembly (see Replacing the E5500 Bottom of the Base Assembly).

11. Follow the procedures in After Working on Your Computer.

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Keyboard
Dell™ Latitude™ E5400 and E5500 Service Manual

- Removing the Keyboard
- Replacing the Keyboard

Removing the Keyboard

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the procedures in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the two M2 x 3-mm screws at the top of the keyboard.

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

✎ **NOTE:** Lift the keyboard carefully to ensure that you do not pull on the display cable.

4. Gently lift up on the keyboard using the black pull tab and screw hole brackets at the top of the keyboard.

   Gently rock the keyboard back and forth while pulling it toward the display.

5. Slide the keyboard out of the computer.

   The connector is part of the keyboard assembly and slides out of its slot when you remove the keyboard.
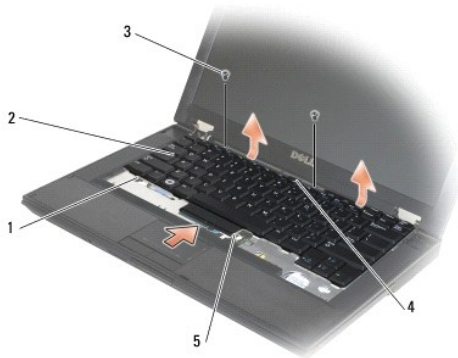
1	secure tabs (5)	2	keyboard
3	M2 x 3-mm screws (2)	4	pull tab
5	keyboard connector		

Replacing the Keyboard

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

✎ **NOTE:** This procedure assumes that you have completed the removal procedure first.

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

1. Insert the keyboard connector into the connector slot, being careful to insert the five secure tabs underneath the palm rest cover.

2. Press the top right and left side of the keyboard to snap into place.

3. Replace the M2 x 3-mm screws that hold the keyboard in place.

4. Replace the hinge cover (see Replacing the Hinge Cover).

5. Follow the procedures in After Working on Your Computer.

LED Dashboard
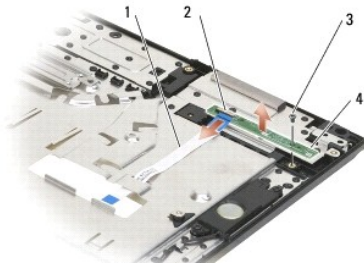**Dell™ Latitude™ E5400 and E5500 Service Manual**

- Removing the E5400 LED Dashboard
- Replacing the E5400 LED Dashboard
- Removing the E5500 LED Dashboard
- Replacing the E5500 LED Dashboard

Removing the E5400 LED Dashboard

⚠️ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the procedures in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the display assembly (see Removing the E5400 Display Assembly).

5. Remove the optical drive (see Removing the Optical Drive).

6. Remove the palm rest (see Removing the E5400 Palm Rest).

7. Carefully loosen the LED Dashboard cable by sliding it away from the metal tab.

8. Disconnect the cable to the motherboard by gently pulling on the tab near cable's connector.

9. Remove the M2 x 3-mm screw securing the LED Dashboard and remove it from the computer.

1	LED Dashboard cable	2	LED Dashboard cable connector
3	screw	4	LED Dashboard

Replacing the E5400 LED Dashboard

⚠️ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Place the LED Dashboard on to the palm rest.

2. Replace the M2 x 3-mm screw to secure the LED Dashboard.

3. Gently connect the LED Dashboard cable to the system board using the tab close the cable's connector.

4. Place the LED Dashboard cable in under the metal tab.

5. Replace the palm rest (see Replacing the E5400 Palm Rest).

6. Replace the optical drive (see Replacing the Optical Drive).

7. Replace the display assembly (see Replacing the E5400 Display Assembly).

8. Replace the keyboard (see Replacing the Keyboard).

9. Replace the hinge cover (see Replacing the Hinge Cover).

10. Replace the processor heat sink (see Replacing the Processor Heat Sink).

11. Replace the fan (see Replacing the Fan).

12. Replace the WLAN card (see Replacing a WLAN Card).

13. Replace the hard drive (see Replacing the Hard Drive).

14. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

15. Follow the procedures in After Working on Your Computer.

Removing the E5500 LED Dashboard

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the procedures in Before Working on Your Computer.

2. Remove the hinge cover (see Removing the Hinge Cover).

3. Remove the keyboard (see Removing the Keyboard).

4. Remove the LED Dashboard by lifting it from the bottom right side.

5. Carefully loosen the LED Dashboard cable by sliding it away from the metal tab.

6. Disconnect the cable to the motherboard by gently pulling on the tab near cable's connector.
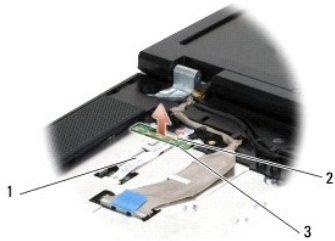
1	LED Dashboard cable	2	LED Dashboard cable connector
3	LED Dashboard		

Replacing the E5500 LED Dashboard

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Gently connect the LED Dashboard cable to the system board using the tab close the cable's connector.

2. Slide the LED Dashboard cable in under the metal tab.

3. Place the LED Dashboard back into place by placing the left side under the plastic placeholder and ensure the plastic post comes through the hole in the LED Dashboard. The right side of the LED Dashboard should be resting on the plastic placeholder just under it.

4. Replace the keyboard (see Replacing the Keyboard).

5. Replace the hinge cover (see Replacing the Hinge Cover).

6. Follow the procedures in After Working on Your Computer.

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Memory
Dell™ Latitude™ E5400 and E5500 Service Manual

● Removing a Memory Module
● Replacing a Memory Module

Your computer has two user-accessible SODIMM sockets, both accessed from the bottom of the computer.

You can increase your computer memory by installing memory modules on the system board. See "Specifications" in your *Setup and Quick Reference Guide* for information on the memory supported by your computer. Install only memory modules that are intended for your computer.

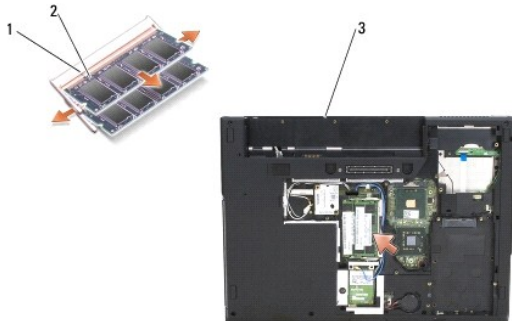**NOTE:** Memory modules purchased from Dell are covered under your computer warranty.

Removing a Memory Module

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the procedures in Before Working on Your Computer.

2. Close the display and turn the computer upside down.

3. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly or Replacing the E5400 Bottom of the Base Assembly).

⊘ **NOTICE:** To prevent damage to the memory module connector, do not use tools to spread the memory module securing clips.

4. Use your fingertips to carefully spread apart the securing clips on each end of the memory module connector until the memory module pops up.

5. Remove the memory module from the connector.

1	tab	2	notch
3	E5400		
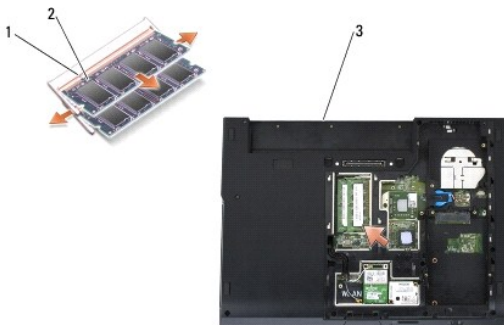
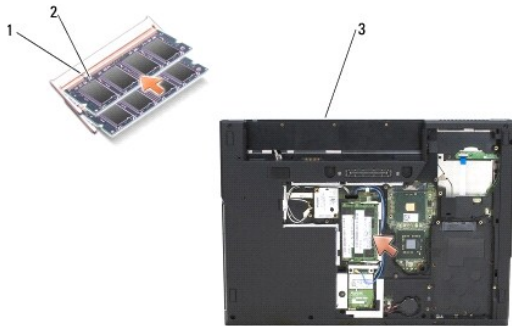| 1	tab	2	notch
3	E5500		

Replacing a Memory Module

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Align the notch in the module edge connector with the tab in the connector slot.

2. Slide the module firmly into the slot at a 45-degree angle, and rotate the module down until it clicks into place. If you do not feel the click, remove the module and reinstall it.

3. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly or Replacing the E5500 Bottom of the Base Assembly).

📝 **NOTE:** If the memory module is not installed properly, the computer may not boot. No error message indicates this failure.

1	tab	2	notch
3	E5400		
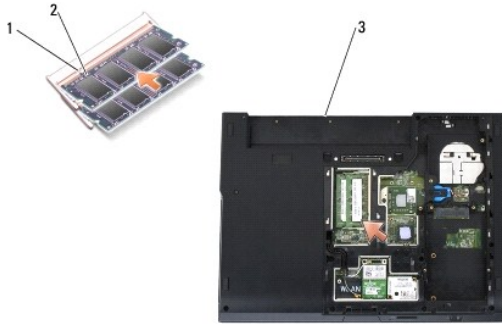
1	tab	2	notch
3	E5500		

⊘ **NOTICE:** If the cover is difficult to close, remove the module and reinstall it. Forcing the cover to close may damage your computer.

4. Replace the battery and any installed cards you may have removed from the PC card slot and the SD/IO memory card reader.

5. Follow the procedures in After Working on Your Computer.

As the computer boots, it detects the additional memory and automatically updates the system configuration information.

To confirm the amount of memory installed in the computer:

- In the Microsoft® Windows® XP operating system, right-click the **My Computer** icon on your desktop, and click **Properties**→ **General**.

- In Microsoft Windows Vista®, click **Start** → **Help and Support**→ **Dell System Information**.

Modem Card

Dell™ Latitude™ E5400 and E5500 Service Manual

- Removing a Modem Card
- Replacing a Modem Card

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

Your computer supports a modem card. If you ordered a modem card with your computer, the card is already installed.
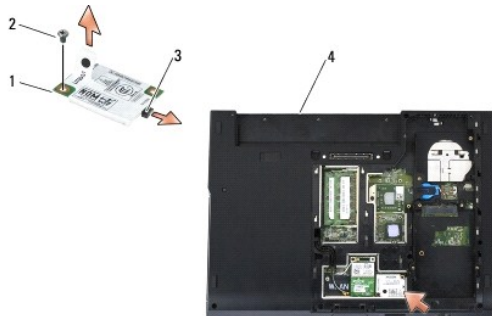

Removing a Modem Card

1. Follow the procedures in Before Working on Your Computer.

2. Turn the computer upside down.

3. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly or Removing the E5500 Bottom of the Base Assembly).

4. Remove the M2 x 3-mm screw that secures the modem card.

5. Press the modem card edge closest to the back of the computer until it loosens.

6. Lift up the modem card by the tab to fully remove it from the connector.

📝 **NOTE:** It may be necessary to loosen the cable from its guide channel.

7. Turn the modem card over, hold it while removing its cable and remove it from the computer.
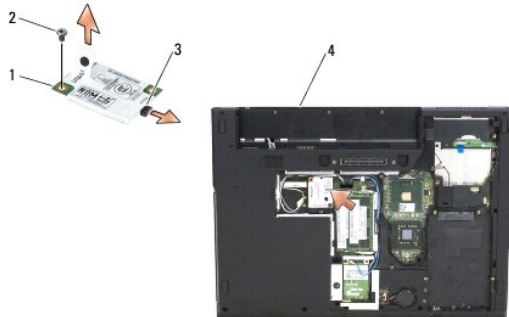
1	modem card	2	M2 x 3-mm screw
3	modem cable connector	4	E5400

1	modem card	2	M2 x 3-mm screw
3	modem cable connector	4	E5500

Replacing a Modem Card

○ **NOTICE:** The connectors are keyed to ensure correct insertion. If you feel resistance, check the connectors on the card and on the system board, and realign the card.

○ **NOTICE:** To avoid damage to the modem card, never place cables under the card.

✍ **NOTE:** This procedure assumes that you have completed the removal procedures first.

1. Insert the modem card cable into the modem card.

2. Place the modem card cable into the guide channel

3. Turn the modem card over, line it up to the connector on the system board and press it into the connector until it is firmly in place.

4. Replace the M2 x 3-mm screw that secures the modem card.

5. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly or Replacing the E5500 Bottom of the Base Assembly).

6. Follow the procedures in After Working on Your Computer.

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Optical Drive
Dell™ Latitude™ E5400 and E5500 Service Manual

● Removing the Optical Drive
● Replacing the Optical Drive

Removing the Optical Drive

⚠️ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the procedures in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly or Removing the E5500 Bottom of the Base Assembly).

3. Remove the M2.5 x 8-mm screw from the optical drive.

4. Place the screwdriver into the hole where the screw was and use it to move the drive from its connector. Slide the optical drive out of the computer.
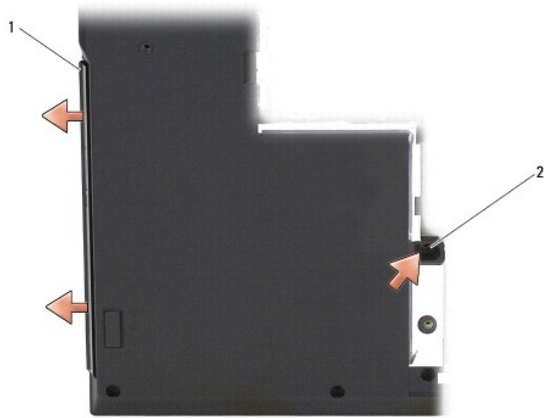
| 1 | optical drive | 2 | M2.5 x 8-mm screw |

Replacing the Optical Drive

⚠️ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Slide the optical drive all the way in to the computer until it is securely in the system board connector and the screw hole lines up.

2. Replace the M2.5 x 8-mm screw to secure the optical drive to the system board.

3. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly or Replacing the E5500 Bottom of the Base Assembly).

4. Follow the procedures in After Working on Your Computer.

Palm Rest
**Dell™ Latitude™ E5400 and E5500 Service Manual**

- Removing the E5400 Palm Rest
- Replacing the E5400 Palm Rest
- Removing the E5500 Palm Rest
- Replacing the E5500 Palm Rest

Removing the E5400 Palm Rest

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly).

3. Remove the hard drive (see Removing the Hard Drive).

4. Remove the WLAN card (see Removing a WLAN Card).

5. Remove the hinge cover (see Removing the Hinge Cover).

6. Remove the keyboard (see Removing the Keyboard).

7. Remove the display assembly (see Removing the E5400 Display Assembly).

8. Remove the optical drive (see Removing the Optical Drive).

9. Remove the 13 M2.5 x 8-mm screws from the bottom of the computer.
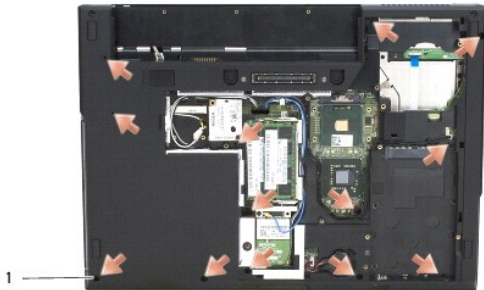
1	M2.5 x 8-mm screws (13)		

📝 **NOTE:** The screw locations may vary slightly on your computer.

10. Remove the four M2.5 x 5-mm screws on the top of the computer securing the metal plate.

11. Remove the three M2 x 3-mm screws that secure the top of the computer near the display.
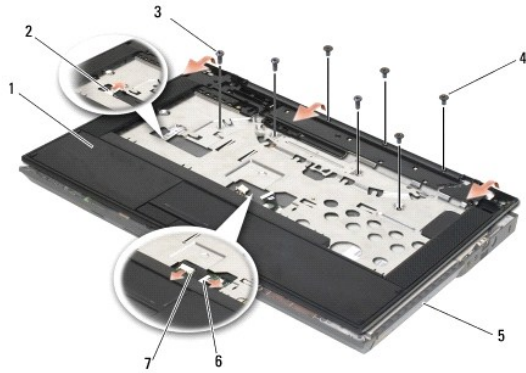
1	palm rest	2	dashboard LED board connector
3	M2.5 x 5-mm screws (4)	4	M2 x 3-mm screws (3)
5	computer base	6	touch pad connector
7	speaker connector		

12. Be sure that all screws securing the palm rest are removed.

⊖ **NOTICE:** Do not use force to separate the palm rest from the computer. If you encounter resistance, gently flex or apply pressure to the palm rest, or move along the edge, working away from the area of resistance, until the palm rest is free.

13. Gently pry the palm rest from the bottom of the computer.

14. Before separating the palm rest assembly from the bottom of the computer, carefully remove the speaker and touchpad wires from the system board.

15. Remove the palm rest assembly from the computer.

Replacing the E5400 Palm Rest

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

⊖ **NOTICE:** Ensure that the touch pad cable and the speaker cable are properly routed before snapping the palm rest into place.

✍ **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Carefully reconnect the speaker and touchpad cables to the system board

2. Align the palm rest with the computer base and gently snap it into place.

3. Replace the 13 M2.5 x 8-mm screws to the bottom of the palm rest

4. Replace the three M2 x 3-mm screws at the top of the palm rest near the display.

5. Replace the four M2.5 x 5-mm screws on the top of the computer securing the metal plate.

6. Replace the optical drive (Replacing the Optical Drive).

7. Replace the display assembly (see Replacing the E5400 Display Assembly).

8. Replace the keyboard (see Replacing the Keyboard).

9. Replace the hinge cover (see Replacing the Hinge Cover).

10. Replace the processor heat sink (see Replacing the Processor Heat Sink).

11. Replace the fan (see Replacing the Fan).

12. Replace the WLAN card (see Replacing a WLAN Card).

13. Replace the hard drive (see Replacing the Hard Drive).

14. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

15. Follow the procedures in After Working on Your Computer.

Removing the E5500 Palm Rest

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly).

3. Remove the hard drive (see Removing the Hard Drive).

4. Remove the WLAN card (see Removing a WLAN Card).

5. Remove the hinge cover (see Removing the Hinge Cover).

6. Remove the keyboard (see Removing the Keyboard).

7. Remove the display assembly (see Removing the E5500 Display Assembly).

8. Remove the optical drive (see Removing the Optical Drive).

9. Remove the nine M2.5 x 8-mm screws from the bottom of the computer.

   📝 **NOTE:** The screw locations may vary slightly on your computer.

| 1 | M2.5 x 8-mm screws (9) | | |

10. Remove the two M2.5 x 5-mm screws on the top of the computer securing the metal plate.

11. Remove the three M2 x 3-mm screws that secure the top of the computer near the display.
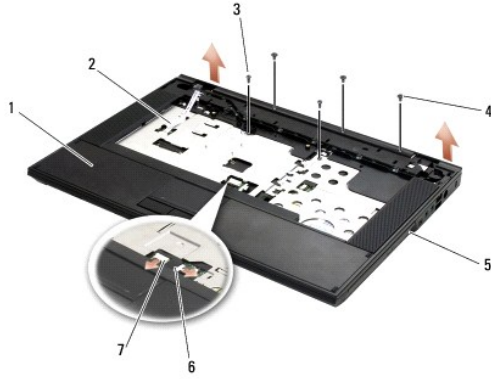
1	palm rest	2	dashboard LED board connector
3	M2.5 x 5-mm screws (2)	4	M2 x 3-mm screws (3)
5	computer base	6	touch pad connector
7	speaker connector		

12. Be sure that all screws securing the palm rest are removed.

⊘ **NOTICE:** Do not use force to separate the palm rest from the computer. If you encounter resistance, gently flex or apply pressure to the palm rest, or move along the edge, working away from the area of resistance, until the palm rest is free.

13. Gently pry the palm rest from the bottom of the computer.

14. Before separating the palm rest assembly from the bottom of the computer, carefully remove the speaker and touchpad wires from the system board.

15. Remove the palm rest assembly from the computer.

Replacing the E5500 Palm Rest

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

⊘ **NOTICE:** Ensure that the touch pad cable and the speaker cable are properly routed before snapping the palm rest into place.

✍ **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Carefully reconnect the speaker and touchpad cables to the system board

2. Align the palm rest with the computer base and gently snap it into place.

3. Replace the nine M2.5 x 8-mm bottom screws.

4. Replace the two M2.5 x 5-mm screws on the top of the computer securing the metal plate.

5. Replace the three M2 x 3-mm screws at the top of the palm rest near the display.

6. Replace the optical drive (Replacing the Optical Drive).

7. Replace the display assembly (see Replacing the E5500 Display Assembly).

8. Replace the keyboard (see Replacing the Keyboard).

9. Replace the hinge cover (see Replacing the Hinge Cover).

10. Close the display and turn the computer over.

11. Replace the bottom of the base assembly (see Replacing the E5500 Bottom of the Base Assembly).

12. Follow the procedures in After Working on Your Computer.

Speaker Assembly
**Dell™ Latitude™ E5400 and E5500 Service Manual**

- Removing the E5400 Speaker Assembly
- Replacing the E5400 Speaker Assembly
- Removing the E5500 Speaker Assembly
- Replacing the E5500 Speaker Assembly

Removing the E5400 Speaker Assembly

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly).

3. Remove the hard drive (see Removing the Hard Drive).

4. Remove the WLAN card (see Removing a WLAN Card).

5. Remove the fan (see Removing the Fan).

6. Replace the processor heat sink (see Replacing the Processor Heat Sink).

7. Remove the hinge cover (see Removing the Hinge Cover).

8. Remove the keyboard (see Removing the Keyboard).

9. Remove the display assembly (see Removing the E5400 Display Assembly).

10. Remove the optical drive (see Removing the Optical Drive).

11. Remove the palm rest (see Removing the E5400 Palm Rest).

12. Remove the two M2 x 3-mm screws that secure the touch pad cover and remove it.

13. Carefully remove the cable assembly from the cable guides.

14. Remove the four M2 x 3-mm screws that secure each of the right and left speaker assemblies to the base of the computer.

15. Remove the speaker assembly.
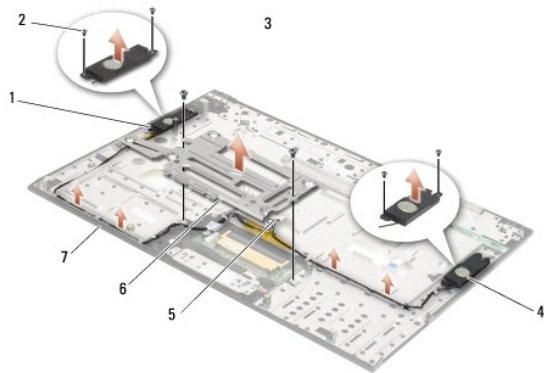
1	left speaker assembly	2	M2 x 3-mm screws (4)
3	M2 x 3-mm screws (2)	4	right speaker assembly

5	speaker connector	6	touchpad cover
7	base		

Replacing the E5400 Speaker Assembly

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

✎ **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Align the guide holes in the speaker assembly with the guide posts on the base of the computer, then lower the right and left speaker assemblies into place.

2. Replace the four M2 x 3-mm screws that secure the right and left speaker assemblies to the base of the computer.

3. Insert the cable assembly into the cable guides.

4. Replace the touch pad cover.

5. Replace the system board (see Replacing the E5400 System Board Assembly).

6. Replace the palm rest (see Replacing the E5400 Palm Rest).

7. Replace the optical drive (see Replacing the Optical Drive).

8. Replace the display assembly (see Replacing the E5400 Display Assembly).

9. Replace the keyboard (see Replacing the Keyboard).

10. Replace the hinge cover (see Replacing the Hinge Cover).

11. Replace the processor heat sink (see Replacing the Processor Heat Sink).

12. Replace the fan (see Replacing the Fan).

13. Replace the WLAN card (see Replacing a WLAN Card).

14. Replace the hard drive (see Replacing the Hard Drive).

15. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

16. Follow the procedures in After Working on Your Computer.

Removing the E5500 Speaker Assembly

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly).

3. Remove the hard drive (see Removing the Hard Drive).

4. Remove the WLAN card (see Removing a WLAN Card).

5. Remove the fan (see Removing the Fan).

6. Remove the hinge cover (see Removing the Hinge Cover).

7. Remove the keyboard (see Removing the Keyboard).

8. Remove the display assembly (see Removing the E5500 Display Assembly).

9. Remove the optical drive (see Removing the Optical Drive).

10. Remove the palm rest (see Removing the E5500 Palm Rest).

11. Remove the two M2 x 3-mm screws that secure the each of the right and left speaker assemblies to the palm rest of the computer.

12. Carefully remove the cable assembly from the cable guides.

13. Remove the speaker assembly.
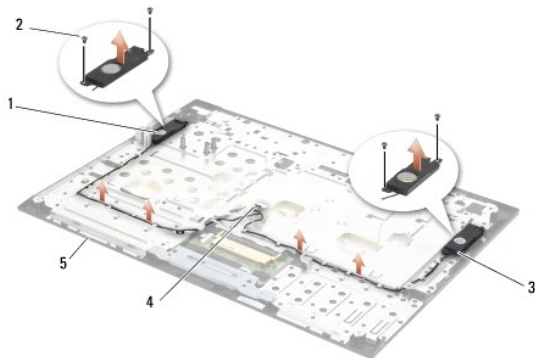
1	left speaker assembly	2	M2 x 3-mm screws (4)
3	right speaker assembly	4	speaker connector
5	base		

Replacing the E5500 Speaker Assembly

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

📝 **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Align the guide holes in the speaker assembly with the guide posts on the palm rest of the computer, then lower the right and left speaker assemblies into place.

2. Replace the four M2 x 3-mm screws that secure the right and left speaker assemblies to the base of the computer.

3. Replace the system board (see Replacing the E5500 System Board Assembly).

4. Replace the palm rest (see Replacing the E5500 Palm Rest).

5. Replace the optical drive (see Replacing the Optical Drive).

6. Replace the display assembly (see Replacing the E5500 Display Assembly).

7. Replace the keyboard (see Replacing the Keyboard).

8. Replace the hinge cover (see Replacing the Hinge Cover).

9. Replace the fan (see Replacing the Fan).

10. Replace the WLAN card (see Replacing a WLAN Card).

11. Replace the hard drive (see Replacing the Hard Drive).

12. Replace the bottom of the base assembly (see Replacing the E5500 Bottom of the Base Assembly).

13. Follow the procedures in <u>After Working on Your Computer</u>.

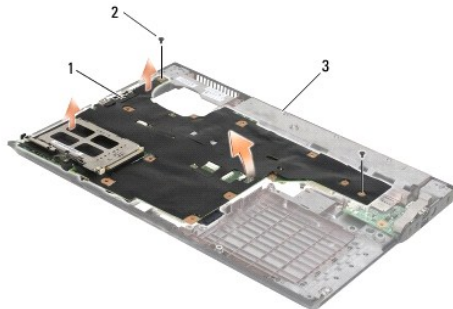## System Board Assembly
Dell™ Latitude™ E5400 and E5500 Service Manual

- Removing the E5400 System Board Assembly
- Replacing the E5400 System Board Assembly
- Removing the E5500 System Board Assembly
- Replacing the E5500 System Board Assembly

The system board's BIOS chip contains the Service Tag, which is also visible on a barcode label on the base of the computer. The replacement kit for the system board includes media that provide a utility for transferring the Service Tag to the replacement system board.

Removing the E5400 System Board Assembly

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly).

3. Remove the hard drive (see Removing the Hard Drive).

4. Remove the WLAN card (see Removing a WLAN Card).

5. Remove the fan (see Removing the Fan).

6. Remove the processor heat sink (see Processor Heat Sink).

7. Remove the hinge cover (see Removing the Hinge Cover).

8. Remove the keyboard (see Removing the Keyboard).

9. Remove the display assembly (see Removing the E5400 Display Assembly).

10. Remove the optical drive (see Removing the Optical Drive).

11. Remove the palm rest (see Removing the E5400 Palm Rest).

12. Remove the coin cell battery connector (refer to Removing the Coin-Cell Battery).

13. Remove the two M2.5 x 5-mm screws from the system board.

14. Lift the left edge of the system board off of the I/O board connector, and then carefully lift the system board out of the computer.

1	E5400 system board	2	M2.5 x 5-mm system board screws (2)
3	base		

Replacing the E5400 System Board Assembly

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

⊘ **NOTICE:** Ensure that any loose cables do not get caught beneath the system board.

✎ **NOTE:** This procedure assumes that you have completed the removal procedure first.

1. Insert the right side of the system board into the base of the computer at an angle until the connectors on the system board are aligned with the holes on the base of the computer, then carefully lower the system board into place and into the I/O board connector.

2. Replace the two M2.5 x 5-mm screws on the system board.

3. Connect the coin cell battery connector from the bottom side of the computer.

4. Replace the palm rest (see Replacing the E5400 Palm Rest).

5. Replace the optical drive (see Replacing the Optical Drive).

6. Replace the display assembly (see Replacing the E5400 Display Assembly).

7. Replace the keyboard (see Replacing the Keyboard).

8. Replace the hinge cover (see Replacing the Hinge Cover).

9. Replace the processor heat sink (see Replacing the Processor Heat Sink).

10. Replace the fan (see Replacing the Fan).

11. Replace the WLAN card (see Replacing a WLAN Card).

12. Replace the hard drive (see Replacing the Hard Drive).

13. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly).

⊘ **NOTICE:** Before turning on the computer, replace all screws and ensure that no stray screws remain inside the computer. Failure to do so may result in damage to the computer.

14. Follow the procedures in After Working on Your Computer.

✎ **NOTE:** If you use a BIOS update program media to flash the BIOS, press <F12> before inserting the media in order to set the computer to boot from the media for one time only. Otherwise, you must enter the system setup program to change the default boot order.

15. Flash the BIOS (see Flashing the BIOS).

16. Enter the system setup program to update the BIOS on the new system board with the computer Service Tag.

    For information on the system setup program, see the *Dell™ Technology Guide* on your computer or at **support.dell.com**.

Removing the E5500 System Board Assembly

⚠ **CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

1. Follow the instructions in Before Working on Your Computer.

2. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly).

3. Remove the hard drive (see Removing the Hard Drive).

4. Remove the WLAN card (see Removing a WLAN Card).

5. Remove the fan (see Removing the Fan).

6. Remove the processor heat sink (see Processor Heat Sink).

7. Remove the hinge cover (see Removing the Hinge Cover).

8. Remove the keyboard (see Removing the Keyboard).

9. Remove the display assembly (see Removing the E5500 Display Assembly).

10. Remove the optical drive (see Removing the Optical Drive).

11. Remove the palm rest (see Removing the E5500 Palm Rest).

12. Carefully remove the coin cell battery cable from the system board on the bottom of the computer.

13. Remove the serial I/O connector to the system board (E5500 only).

14. Remove the three M2.5 x 5-mm screws from the system board.

15. Lift the right edge of the system board off of the I/O board connector, and then carefully lift the system board out of the computer.
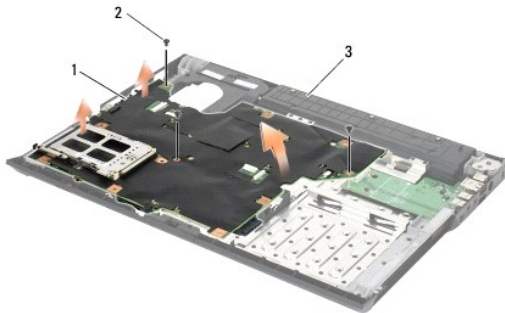
1	E5500 system board	2	M2.5 x 5-mm system board screws (3)
3	base		

Replacing the E5500 System Board Assembly

⚠ CAUTION: Before you begin the following procedure, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.

⬛ NOTICE: Ensure that any loose cables do not get caught beneath the system board.

▨ NOTE: This procedure assumes that you have completed the removal procedure first.

1. Connect the coin cell battery connector from the bottom side of the computer.

2. Insert the left side of the system board into the base of the computer at an angle until the connectors on the system board are aligned with the holes on the base of the computer, then carefully lower the system board into place and into the I/O board connector.

3. Replace the three M2.5 x 5-mm screws on the system board.

4. Connect the serial I/O cable to the connector on the system board.

5. Replace the palm rest (see Replacing the E5500 Palm Rest).

6. Replace the optical drive (see Replacing the Optical Drive).

7. Replace the display assembly (see Replacing the E5500 Display Assembly).

8. Replace the keyboard (see Replacing the Keyboard).

9. Replace the hinge cover (see Replacing the Hinge Cover).

10. Replace the fan (see Replacing the Fan).

11. Replace the WLAN card (see Replacing a WLAN Card).

12. Replace the hard drive (see Replacing the Hard Drive).

13. Replace the bottom of the base assembly (see Replacing the E5500 Bottom of the Base Assembly).

14. Follow the procedures in After Working on Your Computer.

NOTE: If you use a BIOS update program media to flash the BIOS, press <F12> before inserting the media in order to set the computer to boot from the media for one time only. Otherwise, you must enter the system setup program to change the default boot order.

15. Flash the BIOS (see Flashing the BIOS).

16. Enter the system setup program to update the BIOS on the new system board with the computer Service Tag.

    For information on the system setup program, see the *Dell™ Technology Guide* on your computer or at **support.dell.com**.

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Dell™ Latitude™ E5400 and E5500 Service Manual

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 potential for property damage, personal injury, or death.

If you purchased a DELL™ n Series computer, any references in this document to Microsoft® Windows® operating systems are not applicable.

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May 2008   Rev. A00

Troubleshooting
Dell™ Latitude™ E5400 and E5500 Service Manual

● Troubleshooting Tools
● Solving Problems

Troubleshooting Tools

Diagnostic Lights

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

Your computer has three keyboard status lights located above the keyboard. During normal operation, the keyboard status lights display the current status (*on* or *off*) of the Num Lock, Caps Lock, and Scroll Lock features. If the computer starts without error, the lights flash, and then turn off. If the computer malfunctions, however, you can use the status of the lights to help identify the problem.

📝 **NOTE:** After the computer completes POST, the Num Lock light may remain on, depending on your BIOS settings. For more information on using the system setup program, see the *Dell™ Technology Guide* on your computer or at **support.dell.com**.

Diagnostic Light Codes During POST

To troubleshoot a problem with your computer, read the sequence of the keyboard status lights in order from left to right (Num Lock, Caps Lock, and then Scroll Lock). If the computer malfunctions the individual lights display a status of either *On* ⬤ , *Off* ◎ , or *Flashing* ✳ .

Light Pattern	Problem Description	Suggested Resolution
⬤✳✳	No memory modules are detected.	l If two or more memory modules are installed, remove the modules (see Removing a Memory Module), then reinstall one module (see Replacing a Memory Module) and restart the computer. If the computer starts normally, continue to install additional memory modules (one at a time) until you have identified a faulty module or reinstalled all modules without error. l If available, install working memory of the same type into your computer (see Memory). l If the problem persists, contact Dell Support.
⬤✳⬤	Memory modules are detected, but a memory failure has occurred.	l If two or more memory modules are installed, remove the modules (see Removing a Memory Module), then reinstall one module (see Replacing a Memory Module) and restart the computer. If the computer starts normally, continue to install additional memory modules (one at a time) until you have identified a faulty module or reinstalled all modules without error. l If available, install working memory of the same type into your computer (see Memory). l If the problem persists, contact Dell Support.
✳⬤⬤	A possible processor failure has occurred.	l Reseat the processor (see Removing the Processor Module). l If the problem persists, contact Dell Support.
✳✳⬤	A possible graphics card/video failure has occurred.	l Reseat any installed graphics cards. l If available, install a working graphics card into your computer. l If the problem persists, contact Dell Support.
✳⬤✳	A possible display failure has occurred.	l Reseat the display cable (see Removing the E5400 Display Assembly). l If the problem persists, contact Dell Support.
✳◎✳	SPD data indicates all SODIMMs are unusable.	l Remove the unusable memory module (see Removing a Memory Module). l Replace with a usable memory module (see Replacing a Memory Module).

Hardware Troubleshooter

If a device is either not detected during the operating system setup or is detected, but incorrectly configured, you can use the Hardware Troubleshooter to resolve the incompatibility.

Windows XP:

1. Click **Start→ Help and Support**.

2. Type `hardware troubleshooter` in the search field and press <Enter> to start the search.

3. In the **Fix a Problem** section, click **Hardware Troubleshooter**.

4. In the **Hardware Troubleshooter** list, select the option that best describes the problem, and click **Next** to follow the remaining troubleshooting steps.

Windows Vista®:

1. Click the Windows Vista start button 🏵 , and click **Help and Support.**

2. Type `hardware troubleshooter` in the search field and press <Enter> to start the search.

3. In the search results, select the option that best describes the problem and follow the remaining troubleshooting steps.

Dell Diagnostics

⚠️ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.**

When to Use the Dell Diagnostics

If you experience a problem with your computer, perform the checks in Solving Problems, and then run the Dell Diagnostics before contacting Dell for assistance.

Start the Dell Diagnostics from your hard drive or from the *Drivers and Utilities* media provided with your computer.

📝 **NOTE:** The *Drivers and Utilities* media is optional and may not ship with your computer.

📝 **NOTE:** The Dell Diagnostics only operate on Dell computers.

Starting the Dell Diagnostics From Your Hard Drive

Before running the Dell Diagnostics, enter system setup to review your computer's configuration information, and ensure that the device you want to test is displayed in system setup and is active. For more information on using the system setup program, see the *Dell™ Technology Guide* on your computer or at **support.dell.com.**

The Dell Diagnostics is located on a separate diagnostic utility partition on your hard drive.

📝 **NOTE:** If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

📝 **NOTE:** If your computer does not display a screen image, contact Dell Support.

1. Ensure that the computer is connected to an electrical outlet that is known to be working properly.

2. Press and hold the <Fn> key or the mute button then turn on your computer.

   📝 **NOTE:** Alternatively, you can select **Diagnostics** from the one-time boot menu at startup to boot to the diagnostic utility partition and run the Dell Diagnostics.

   The computer runs the Pre-boot System Assessment (PSA), a series of initial tests of your system board, keyboard, display, memory, hard drive, etc.

   o During the assessment, answer any questions that appear.

   o If failures are detected during the Pre-boot System Assessment, write down the error code(s) and contact Dell Support.

   o If the Pre-boot System Assessment completes successfully, the following message appears: "`Booting Dell Diagnostic Utility Partition. Press any key to continue.`"

   📝 **NOTE:** If you see a message stating that no diagnostics utility partition has been found, run the Dell Diagnostics from your *Drivers and Utilities* media (see Starting the Dell Diagnostics From the Drivers and Utilities Media).

3. Press any key to start the Dell Diagnostics from the diagnostics utility partition on your hard drive.

4. Press <Tab> to select **Test System** and then press <Enter>.

   📝 **NOTE:** It is recommended that you select **Test System** to run a complete test on your computer. Selecting **Test Memory** initiates the extended memory test, which can take up to thirty minutes or more to complete. When the test completes, record the test results and then press any key to return to the previous menu.

5. At the Dell Diagnostics Main Menu, left-click with the touch pad/mouse, or press <Tab> and then <Enter>, to select the test you want to run (see Dell

Diagnostics Main Menu).

📝 **NOTE:** Write down any error codes and problem descriptions exactly as they appear and follow the instructions on the screen.

6. After all tests have completed, close the test window to return to the Dell Diagnostics Main Menu.

7. Close the Main Menu window to exit the Dell Diagnostics and restart the computer.

📝 **NOTE:** If you see a message stating that no diagnostics utility partition has been found, run the Dell Diagnostics from your *Drivers and Utilities* media (see Starting the Dell Diagnostics From the Drivers and Utilities Media).

Starting the Dell Diagnostics From the Drivers and Utilities Media

Before running the Dell Diagnostics, enter system setup to review your computer's configuration information, and ensure that the device you want to test is displayed in system setup and is active. For more information on using the system setup program, see the *Dell™ Technology Guide* on your computer or at **support.dell.com.**

1. Insert the *Drivers and Utilities* media into the optical drive.

2. Restart your computer.

3. When the DELL logo appears, press <F12> immediately.

📝 **NOTE:** Keyboard failure may result when a key is held down for extended periods of time. To avoid possible keyboard failure, press and release <F12> in even intervals to open the Boot Device Menu.

If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop, then shut down your computer and try again.

4. When the boot device list appears, use the up- or down- arrow keys to highlight **CD/DVD/CD-RW Drive** then press <Enter>.

📝 **NOTE:** Using the one-time boot menu changes the boot sequence for the current boot only. Upon restart, the computer boots according to the boot sequence specified in system setup.

5. Press any key to confirm that you want to start from the CD/DVD.

If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop, then shut down your computer and try again.

6. Type 1 to **Run the 32 Bit Dell Diagnostics**.

7. At the **Dell Diagnostics Menu**, type 1 to select **Dell 32-bit Diagnostics for Resource CD (graphical user interface)**.

8. Press <Tab> to select **Test System** and then press <Enter>.

📝 **NOTE:** It is recommended that you select **Test System** to run a complete test on your computer. Selecting **Test Memory** initiates the extended memory test, which can take up to thirty minutes or more to complete. When the test completes, record the test results and then press any key to return to the previous menu.

9. At the Dell Diagnostics Main Menu, left-click with the mouse, or press <Tab> and then <Enter>, to select the test you want to run (see Dell Diagnostics Main Menu).

📝 **NOTE:** Write down any error codes and problem descriptions exactly as they appear and follow the instructions on the screen.

10. After all tests have completed, close the test window to return to the Dell Diagnostics Main Menu.

11. Close the Main Menu window to exit the Dell Diagnostics and restart the computer.

12. Remove the *Drivers and Utilities* media from the optical drive.

Dell Diagnostics Main Menu

After the Dell Diagnostics loads the following menu appears:

Option	Function
Test Memory	Run the stand-alone memory test

Test System	Run system diagnostics
Exit	Exit the diagnostics

Press <Tab> to select the test you want to run and then press <Enter>.

🛈 **NOTE:** It is recommended that you select **Test System** to run a complete test on your computer. Selecting **Test Memory** initiates the extended memory test, which can take up to thirty minutes or more to complete. When the test completes, record the test results and then press any key to return to this menu.

After **Test System** is selected, the following menu appears:

Option	Function
Express Test	Performs a quick test of devices in the system. This typically can take 10 to 20 minutes. **NOTE:** The Express Test requires no interaction on your part. Run Express Test first to increase the possibility of tracing a problem quickly.
Extended Test	Performs a thorough check of devices in the system. This typically can take 1 hour or more. **NOTE:** The Extended Test periodically requires your input to answer specific questions.
Custom Test	Use to test a specific device or customize the tests to be run.
Symptom Tree	This option allows you to select tests based on a symptom of the problem you are having. This option lists the most common symptoms.

🛈 **NOTE:** It is recommended that you select **Extended Test** to perform a more thorough check of devices in the computer.

For any problem encountered during a test, a message appears with an error code and a description of the problem. Write down the error code and problem description exactly as it appears and follow the instructions on the screen. If you cannot resolve the problem, contact Dell Support.

🛈 **NOTE:** When contacting Dell Support, have your Service Tag ready. The Service Tag for your computer is located at the top of each test screen.

The following tabs provide additional information for tests run from the Custom Test or Symptom Tree option:

Tab	Function
Results	Displays the results of the test and any error conditions encountered.
Errors	Displays error conditions encountered, error codes, and the problem description.
Help	Describes the test and any requirements for running the test.
Configuration	Displays the hardware configuration for the selected device. The Dell Diagnostics obtains configuration information for all devices from System Setup, memory, and various internal tests, and displays the information in the device list in the left pane of the screen. **NOTE:** The device list may not display the names of all components installed on your computer or all devices attached to your computer.
Parameters	Allows you to customize the test, if applicable, by changing the test settings.

Error Messages

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.**

If the error message is not listed, see the documentation for the operating system or the program that was running when the message appeared.

A filename cannot contain any of the following characters:
\ / : * ? " < > | — Do not use these characters in filenames.

A required .DLL file was not found — The program that you are trying to open is missing an essential file. To remove and then reinstall the program:

Windows XP:

1. Click **Start→ Control Panel→ Add or Remove Programs→ Programs and Features**.
2. Select the program you want to remove.
3. Click **Uninstall**.
4. See the program documentation for installation instructions.

1. Click **Start** → **Control Panel**→ **Programs**→ **Programs and Features**.
2. Select the program you want to remove.
3. Click **Uninstall**.
4. See the program documentation for installation instructions.

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drive letter **:\ is not accessible. The device is not ready —** The drive cannot read the disk. Insert a disk into the drive and try again.

Insert bootable media — Insert a bootable floppy disk, CD, or DVD.

Non-system disk error — Remove the floppy disk from the floppy drive and restart your computer.

Not enough memory or resources. Close some programs and try again — Close all windows and open the program that you want to use. In some cases, you may have to restart your computer to restore computer resources. If so, run the program that you want to use first.

Operating system not found — Contact Dell Support.

Solving Problems

Follow these tips when troubleshooting your computer:

- l If you added or removed a part before the problem started, review the installation procedures and ensure that the part is correctly installed.

- l If a peripheral device does not work, ensure that the device is properly connected.

- l If an error message appears on the screen, write down the exact message. This message may help support personnel diagnose and fix the problem(s).

- l If an error message occurs in a program, see the program's documentation.

NOTE: The procedures in this document were written for the Windows default view, so they may not apply if you set your Dell computer to the Windows Classic view.

Battery Problems

⚠️ **CAUTION: There is a danger of a new battery exploding if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.**

⚠️ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.**

Drive Problems

⚠️ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.**

Ensure that Microsoft® Windows® recognizes the drive —

Windows XP:

- l Click **Start and click My Computer**.

Windows Vista:

- l Click **Start** and click **Computer**.

If the drive is not listed, perform a full scan with your antivirus software to check for and remove viruses. Viruses can sometimes prevent Windows from recognizing the drive.

Test the drive —

- l Insert another disc to eliminate the possibility that the original drive is defective.

- l Insert a bootable floppy disk and restart the computer.

Clean the drive or disk — For information on cleaning your computer, see the *Dell™ Technology Guide* on your computer or at **support.dell.com**.

Check the cable connections

Run the Hardware Troubleshooter — See Hardware Troubleshooter.

Run the Dell Diagnostics — See Dell Diagnostics.

Optical drive problems

📝 **NOTE:** High-speed optical drive vibration is normal and may cause noise, which does not indicate a defect in the drive or the media.

📝 **NOTE:** Because of different regions worldwide and different disc formats, not all DVD titles work in all DVD drives.

Adjust the Windows volume control —

  l Click the speaker icon in the lower-right corner of your screen.

  l Ensure that the volume is turned up by clicking the slidebar and dragging it up.

  l Ensure that the sound is not muted by clicking any boxes that are checked.

Check the speakers and subwoofer — See Sound and Speaker Problems.

Problems writing to an optical drive

Close other programs — The optical drive must receive a steady stream of data during the writing process. If the stream is interrupted, an error occurs. Try closing all programs before you write to the optical.

Turn off standby mode in Windows before writing to a disc — For information about setting power options, see the *Dell™ Technology Guide* on your computer or at **support.dell.com**. You can also search for the keyword *standby* in Windows Help and Support for information on power management modes.

Hard drive problems

Run Check Disk —

Windows XP:

  1. Click **Start and click My Computer**.
  2. Right-click **Local Disk C:**.
  3. Click **Properties→ Tools→ Check Now**.
  4. Click **Scan for and attempt recovery of bad sectors and click Start**.

Windows Vista:

  1. Click **Start** 🔵 and click **Computer**.
  2. Right-click **Local Disk C:**.
  3. Click **Properties→ Tools→ Check Now**.

  The **User Account Control** window may appear. If you are an administrator on the computer, click **Continue**; otherwise, contact your administrator to continue the desired action.

  4. Follow the instructions on the screen.

IEEE 1394 Device Problems

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.**

📝 **NOTE:** Your computer supports only IEEE 1394a standard.

Ensure that the cable for the IEEE 1394 device is properly inserted into the device and into the connector on the computer

Ensure that the IEEE 1394 device is enabled in system setup — For more information on using the system setup program, see the *Dell™ Technology Guide* on your computer or at **support.dell.com.**

Ensure that the IEEE 1394 device is recognized by Windows —

Windows XP:

1. Click **Start and click Control Panel**.
2. Under **Pick a Category**, click **Performance and Maintenance**→ **System**→ **System Properties** → **Hardware**→ **Device Manager**.

Windows Vista:

1. Click **Start** → **Control Panel**→ **Hardware and Sound**.
2. Click **Device Manager.**

If your IEEE 1394 device is listed, Windows recognizes the device.

If you have problems with a Dell IEEE 1394 device — Contact Dell Support.

If you have problems with an IEEE 1394 device not provided by Dell — Contact the IEEE 1394 device manufacturer.

Lockups and Software Problems

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.**

The computer does not start up

Check the diagnostic lights — See Power Problems.

Ensure that the power cable is firmly connected to the computer and to the electrical outlet

The computer stops responding

◯ **NOTICE:** You may lose data if you are unable to perform an operating system shutdown.

Turn the computer off — If you are unable to get a response by pressing a key on your keyboard or moving your mouse, press and hold the power button for at least 8 to 10 seconds (until the computer turns off), and then restart your computer.

A program stops responding

End the program —

1. Press <Ctrl><Shift><Esc> simultaneously to access the Task Manager.

2. Click the **Applications** tab.

3. Click to select the program that is no longer responding.

4. Click **End Task**.

A program crashes repeatedly

📝 **NOTE:** Most software includes installation instructions in its documentation or on a floppy disk, CD, or DVD.

Check the software documentation — If necessary, uninstall and then reinstall the program.

A program is designed for an earlier Windows operating system

Run the Program Compatibility Wizard —

Windows XP:

The Program Compatibility Wizard configures a program so that it runs in an environment similar to non-XP operating system environments.

1. Click **Start→ All Programs→ Accessories→ Program Compatibility Wizard→ Next**.
2. Follow the instructions on the screen.

Windows Vista:

The Program Compatibility Wizard configures a program so that it runs in an environment similar to non-Windows Vista operating system environments.

1. Click **Start → Control Panel→ Programs→ Use an older program with this version of Windows**.
2. In the welcome screen, click **Next**.
3. Follow the instructions on the screen.

A solid blue screen appears

Turn the computer off — If you are unable to get a response by pressing a key on your keyboard or moving your mouse, press and hold the power button for at least 8 to 10 seconds (until the computer turns off), and then restart your computer.

Other software problems

Check the software documentation or contact the software manufacturer for troubleshooting information —

l   Ensure that the program is compatible with the operating system installed on your computer.

l   Ensure that your computer meets the minimum hardware requirements needed to run the software. See the software documentation for information.

l   Ensure that the program is installed and configured properly.

l   Verify that the device drivers do not conflict with the program.

l   If necessary, uninstall and then reinstall the program.

Back up your files immediately

Use a virus-scanning program to check the hard drive, floppy disks, CDs, or DVDs

Save and close any open files or programs and shut down your computer through the Start menu

Memory Problems

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.**

If you receive an insufficient memory message —

l   Save and close any open files and exit any open programs you are not using to see if that resolves the problem.

l   See the software documentation for minimum memory requirements. If necessary, install additional memory (see Replacing a Memory Module).

l   Reseat the memory modules (see Memory) to ensure that your computer is successfully communicating with the memory.

l   Run the Dell Diagnostics (see Dell Diagnostics).

If you experience other memory problems —

l   Reseat the memory modules (see Memory) to ensure that your computer is successfully communicating with the memory.

l   Ensure that you are following the memory installation guidelines (see Replacing a Memory Module).

l   Ensure that the memory you are using is supported by your computer. For more information about the type of memory supported by your computer, see the *Setup and Quick Reference Guide* for your computer at **support.dell.com**.

l   Run the Dell Diagnostics (see Dell Diagnostics).

Power Problems

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.**

If the power light is green and the computer is not responding — See Diagnostic Lights.

If the power light is off — The computer is either turned off or is not receiving power.

l   Reseat the power cable in the power connector on the back of the computer and the electrical outlet.

l   Bypass power strips, power extension cables, and other power protection devices to verify that the computer turns on properly.

l   Ensure that any power strips being used are plugged into an electrical outlet and are turned on.

l   Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Eliminate interference — Some possible causes of interference are:

l   Power, keyboard, and mouse extension cables

l   Too many devices connected to the same power strip

l   Multiple power strips connected to the same electrical outlet

Sound and Speaker Problems

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.**

No sound from speakers

📝 **NOTE:** The volume control in MP3 and other media players may override the Windows volume setting. Always check to ensure that the volume on the media player(s) has not been turned down or off.

Adjust the Windows volume control — Click or double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted.

Disconnect headphones from the headphone connector — Sound from the speakers is automatically disabled when headphones are connected to the computer's front-panel headphone connector.

Eliminate possible interference — Turn off nearby fans, fluorescent lights, or halogen lamps to check for interference.

Run the Hardware Troubleshooter — See Hardware Troubleshooter.

No sound from headphones

Check the headphone cable connection — Ensure that the headphone cable is securely inserted into the headphone connector. See the *Setup and Quick Reference Guide* for your computer at **support.dell.com**.

Adjust the Windows volume control — Click or double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted.

Video and Display Problems

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.

NOTICE: If your computer came with a PCI graphics card installed, removal of the card is not necessary when installing additional graphics cards; however, the card is required for troubleshooting purposes. If you remove the card, store it in a safe and secure location. For information about your graphics card, go to **support.dell.com.**

Check the diagnostic lights — See Diagnostic Lights.

Check the display settings — See the *Dell™ Technology Guide* on your computer or at **support.dell.com**.

Adjust the Windows display settings —

Windows XP:

1. Click **Start**→ **Control Panel**→ **Appearance and Themes**.

2. Click the area you want to change or click the **Display** icon.

3. Try different settings for **Color quality** and **Screen resolution**.

Windows Vista:

1. Click **Start** → **Control Panel**→ **Hardware and Sound**→ **Personalization**→ **Display Settings**.

2. Adjust **Resolution** and **Colors settings,** as needed.

Only part of the display is readable

Connect an external monitor —

1. Shut down your computer and connect an external monitor to the computer.

2. Turn on the computer and the monitor and adjust the monitor brightness and contrast controls.

If the external monitor works, the computer display or video controller may be defective. Contact Dell Support.

Wireless Local Area Network (WLAN) Card
**Dell™ Latitude™ E5400 and E5500 Service Manual**

- Removing a WLAN Card
- Replacing a WLAN Card

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at: www.dell.com/regulatory_compliance.**

Your computer supports a WLAN card. If you ordered a WLAN card with your computer, the card is already installed.

Removing a WLAN Card

1. Follow the procedures in Before Working on Your Computer.

2. Turn the computer upside down.

3. Remove the bottom of the base assembly (see Removing the E5400 Bottom of the Base Assembly or Removing the E5500 Bottom of the Base Assembly).

4. Remove the M2 x 3-mm screw that secures the WLAN card.

5. Remove the WLAN card out of its system board connector at a 45-degree angle

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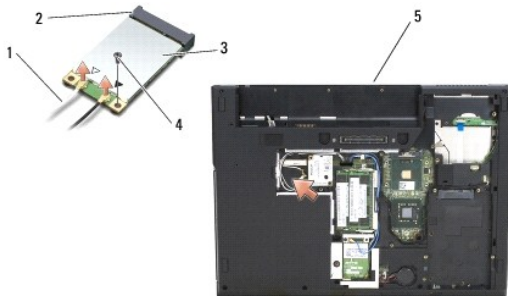
1	antenna cable	2	system board connector
3	WLAN card	4	M2 x 3-mm screw
5	E5400		
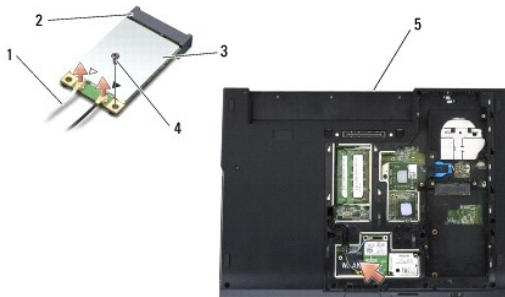
1	antenna cable	2	system board connector
3	WLAN card	4	M2 x 3-mm screw
5	E5500		

Replacing a WLAN Card

NOTICE: The connectors are keyed to ensure correct insertion. If you feel resistance, check the connectors on the card and on the system board, and realign the card.

NOTICE: To avoid damage to the WLAN card, never place cables under the card.

NOTE: This procedure assumes that you have completed the removal procedure first.

1. Insert the WLAN card connector into the system board connector at a 45-degree angle.

2. Press the card flat and replace the M2 x 3-mm screw that secures the WLAN card.

3. Replace the bottom of the base assembly (see Replacing the E5400 Bottom of the Base Assembly or Replacing the E5500 Bottom of the Base Assembly).

4. Follow the procedures in After Working on Your Computer.