

# Dell™ XPS™ M2010 Service Manual

[Before You Begin](#)

[Memory Module](#)

[Mini Card](#)

[Coin-Cell Battery](#)

[Subwoofer](#)

[Internal Card With Bluetooth Wireless Technology](#)

[Keyboard](#)

[Cosmetic Covers](#)

[Top Cover](#)

[Display](#)

[Camera](#)

[Optical Drive](#)

[Wireless USB Board](#)

[Hard Drive\(s\)](#)

[System Fans](#)

[Video Card/Thermal-Cooling Assembly](#)

[Processor Thermal-Cooling Assembly](#)

[Processor Module](#)

[Frame](#)

[Modem](#)

[System Board Assembly](#)

[Computer Base](#)

[Flashing the BIOS](#)

[Pin Assignments for I/O Connectors](#)

---

## Notes, Notices, and Cautions



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



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



**CAUTION:** A CAUTION indicates a potential for property damage, personal injury, or death.

---

Information in this document is subject to change without notice.

© 2006 Dell Inc. All rights reserved.

Reproduction in any manner whatsoever without the written permission of Dell Inc. is strictly forbidden.

Trademarks used in this text: *Dell*, the *DELL* logo, and *XPS* are trademarks of Dell Inc.; *Microsoft* and *Windows* are registered trademarks of Microsoft Corporation.

Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Dell Inc. disclaims any proprietary interest in trademarks and trade names other than its own.

**Model PP03X**

**June 2006 Rev. A00**

# Before You Begin

## Dell™ XPS™ M2010 Service Manual

- [Recommended Tools](#)
- [Turning Off Your Computer](#)
- [Before Working Inside Your Computer](#)
- [Replacing the System Battery](#)

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

- You have performed the steps in [Turning Off Your Computer](#) and [Before Working Inside Your Computer](#).
- You have read the safety information in the Dell™ *Product Information Guide*.
- A component can be replaced or—if purchased separately—installed by performing the removal procedure in reverse order.

---

## Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- Phillips screwdriver
- Small plastic scribe
- Flash BIOS update program CD

---

## Turning Off Your Computer

 **NOTICE:** To avoid losing data, save and close any open files and exit any open programs before you turn off your computer.

1. Shut down the operating system:

Save and close any open files, exit any open programs, click **Start® Shut Down® Shut down**.

The computer turns off after the operating system shutdown process finishes.

2. Ensure that the computer and any attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for four seconds.

---

## Before Working Inside 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 in the *Product Information Guide*.

**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:** Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell is not covered by your warranty.

**NOTICE:** Unless otherwise noted, each procedure in this document assumes that a part can be replaced by performing the removal procedure in reverse order.

**NOTICE:** When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

**NOTICE:** To help prevent damage to the computer, perform the following steps before you begin working inside the computer.

1. Ensure that the work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see [Turning Off Your Computer](#)).

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

3. Disconnect any telephone or network cables from the computer.
4. Disconnect your computer and all attached devices from their electrical outlets.

**NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

5. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
6. Turn the computer upside-down on a flat work surface.

**NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

7. Remove the system battery.
  - a. Slide the battery latch release on the bottom of the computer in the direction of the #1 arrow. The access door will pop up.



1	access door	2	battery latch release		
---	-------------	---	-----------------------	--	--

- b. Using your thumbs, slide the battery in the direction of the #2 arrow by inserting one thumb into the recess next to the battery access door and the other thumb into the indentation surrounding the #2 arrow.



- c. Lift the battery straight up and out of the computer.



---

## Replacing the System Battery

1. Press the release latch on the battery to open the access door.



2. Insert the battery straight down into the battery bay.



3. Slide the battery in the direction of the #1 arrow until it snaps into place.



4. Close the access door, next to the #1 arrow, on the battery.





# Memory Module

## Dell™ XPS™ M2010 Service Manual

- [Removing the Memory Module Cover](#)
- [Removing the Memory Module](#)
- [Replacing the Memory Module](#)

**CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

**NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

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

**NOTE:** To get maximum performance/dual-channel memory bandwidth capability, both memory module connectors must contain memory modules and the modules must be of the same size and configuration.

The computer has two memory slots, DIMM A and DIMM B, located under the memory module cover. If you replace or upgrade the memory in your computer, both memory modules must be the same size.

## Removing the Memory Module Cover

**NOTICE:** To help prevent damage to the system board, you must remove the main battery before you begin working inside the computer.

- Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
- With the computer still turned over, loosen the captive screw on the memory module cover and slide the cover toward the back of the computer to remove it.

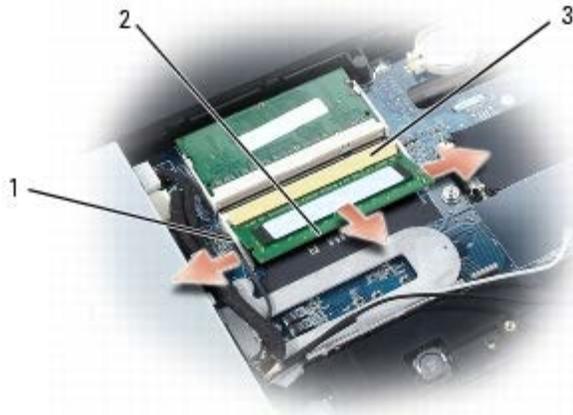


1	memory module cover	2	captive screw		
---	---------------------	---	---------------	--	--

# Removing the Memory Module

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

1. Use your fingertips to carefully spread apart the securing clips on each end of the memory module connector until the module pops up.
2. Remove the module from the connector on the system board.



1	securing clips (2 per connector)	2	memory modules (2)	3	system board connectors (2)
---	----------------------------------	---	--------------------	---	-----------------------------

# Replacing the Memory Module

➔ **NOTICE:** Insert memory modules at a 45-degree angle to avoid damaging the connector.

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

🔧 **NOTE:** To get maximum performance/dual-channel memory bandwidth capability, both memory module connectors must contain memory modules and the modules must be of the same size and configuration.

1. Align the notch on the edge of the memory module connector with the tab in the connector on the system board, and slide the module firmly into the connector at a 45-degree angle.
2. 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 memory cover. Align the notches in the cover with the tabs on the base, slide the cover toward the front of the computer, and tighten the captive screw.

➔ **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 system battery (see [Replacing the System Battery](#)).
5. Turn the computer over and open the display (see [Opening the Display](#)).
6. Press the power button to turn the computer on.

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, click the **Start** button, click **Help and Support**, and then click **Computer Information**.

---

[Back to Contents Page](#)

# Mini Card

## Dell™ XPS™ M2010 Service Manual

- [Removing a Mini Card](#)
- [Replacing a Mini Card](#)

**⚠ CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

**⚠ CAUTION:** Only products approved for use in your portable computer may be installed.

**➡ NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

## Removing a Mini Card

**➡ NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. With the computer still turned over, remove the memory module cover (see [Removing the Memory Module Cover](#)).
3. Disconnect the antenna cables from the mini card.



1	antenna cables	2	mini card	3	system board connector
---	----------------	---	-----------	---	------------------------

4. Release the card by pulling back on the metal securing tabs until the card pops up.



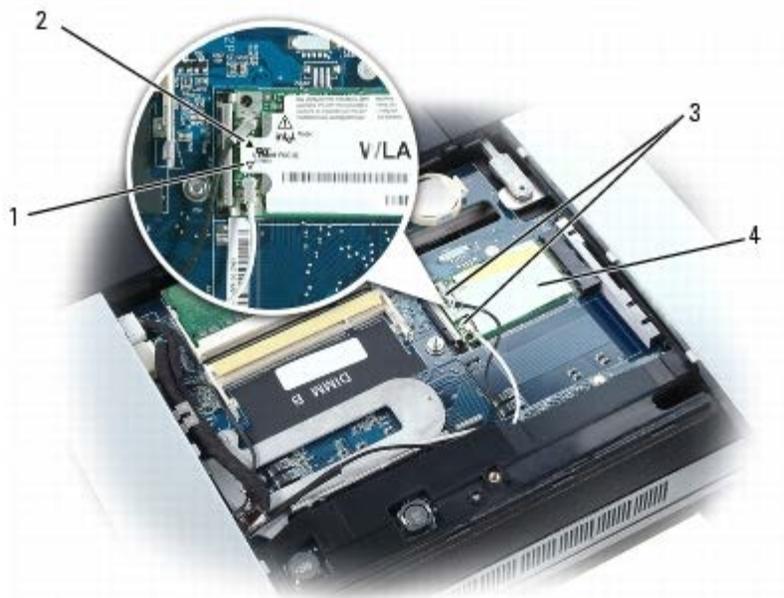
1	mini card	2	metal securing tabs (2)		
---	-----------	---	-------------------------	--	--

5. Lift the card out of its connector.

---

## Replacing a Mini Card

- ➡ **NOTICE:** To avoid damaging the card, ensure that the antenna cable is not under the card when you click the card into place.
  - ➡ **NOTICE:** The connectors are keyed to ensure correct insertion. If you feel resistance, check the connectors and realign the card.
1. Align the card with the system board connector at a 45-degree angle, and press down to insert the card into the connector.
  2. Connect the antenna cables to the antenna connectors on the mini card. Connect the white cable to the connector with the white arrow, and connect the black cable to the connector with the black arrow.
- ✍ **NOTE:** If your computer has a gray cable, connect it to the connector with the gray arrow if one is available on your card.



1	white arrow	2	black arrow	3	antenna cables
4	mini card				

3. Replace the memory module cover (see [Replacing the Memory Module](#)).
4. Replace the system battery (see [Replacing the System Battery](#)).

---

[Back to Contents Page](#)

# Coin-Cell Battery

## Dell™ XPS™ M2010 Service Manual

- [Removing the Coin-Cell Battery](#)
- [Replacing the Coin-Cell Battery](#)

**⚠ CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

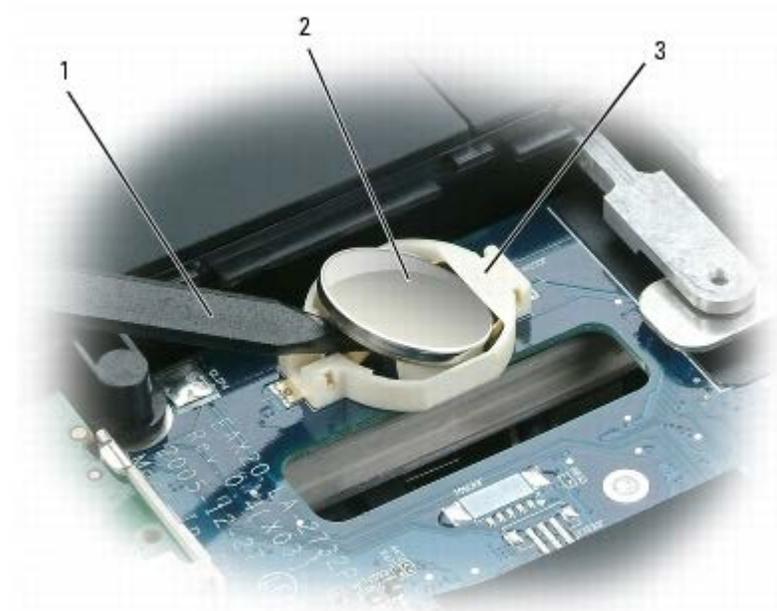
**➡ NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

---

## Removing the Coin-Cell Battery

**➡ NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. With the computer still turned over, remove the memory module cover (see [Removing the Memory Module Cover](#)).
3. Use a small plastic scribe to carefully lift one side of the battery out of the compartment.



1	small plastic scribe	2	coin-cell battery	3	battery compartment
---	----------------------	---	-------------------	---	---------------------

4. Lift the battery out of the battery compartment.
- 

## Replacing the Coin-Cell Battery

1. With the positive side up, insert an edge of the coin-cell battery under the lip of the compartment.

2. Carefully press the coin-cell battery into the compartment, being careful not to break the plastic.
  3. Replace the memory module cover (see [Removing the Memory Module Cover](#)).
  4. Replace the system battery (see [Replacing the System Battery](#)).
- 

[Back to Contents Page](#)

# Subwoofer

## Dell™ XPS™ M2010 Service Manual

[Removing the Subwoofer](#)

[Replacing the Subwoofer](#)

**⚠ CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

**➡ NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

## Removing the Subwoofer

**➡ NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

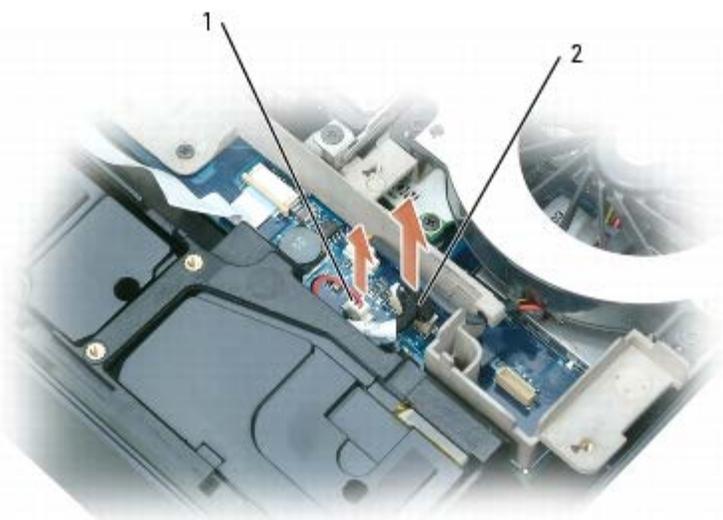
1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Remove the two M2 x 4-mm screws on the subwoofer cover. The screws are inside the battery bay.
3. Slide the subwoofer cover toward the battery bay, then lift the cover off.



1	subwoofer cover	2	M2 x 4-mm screws (2)		
---	-----------------	---	----------------------	--	--

4. Turn the computer over and open the display (see [Opening the Display](#)).
5. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
6. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
7. Remove the top cover (see [Removing the Top Cover](#)).
8. Disconnect the subwoofer cable from the connector on the system board (JWOFR).

9. Disconnect the cable for the internal card with Bluetooth® wireless technology from the connector on the system board (JBT).



1	subwoofer cable and system board connector	2	cable for the card with Bluetooth technology and system board connector		
---	--	---	---	--	--

10. To easily access the bottom of the computer, lean the display backwards and lay it on a flat surface so that the base is facing you.



1	computer base	2	subwoofer	3	display
---	---------------	---	-----------	---	---------

11. Push the subwoofer through the top of the computer to remove the subwoofer from its compartment.
12. Detach the internal card with Bluetooth wireless technology (see [Removing the Internal Card with Bluetooth Wireless Technology](#)). Set the card and cable aside to adhere them to the new subwoofer.

---

## Replacing the Subwoofer

1. Adhere the card with Bluetooth wireless technology (with cable attached) to the new subwoofer.
2. Insert the new subwoofer into the computer base, pushing it firmly into place.

Ensure that the subwoofer cable reaches through to the system board.

3. Slide the subwoofer cover into place, and attach the subwoofer cover to the battery bay using two M2 x 4-mm screws.
4. Lift the display and place the computer base flat on the work surface.
5. Connect the subwoofer cable to the connector on the system board (JWOFR).
6. Connect the cable for the internal card with Bluetooth wireless technology to the connector on the system board (JBT).
7. Replace the top cover (see [Removing the Top Cover](#)).
8. Replace the cosmetic covers (see [Removing the Cosmetic Covers](#)).

 **NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

9. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
10. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

---

[Back to Contents Page](#)

# Internal Card With Bluetooth Wireless Technology

## Dell™ XPS™ M2010 Service Manual

- [Removing the Internal Card with Bluetooth Wireless Technology](#)
- [Replacing the Internal Card with Bluetooth Wireless Technology](#)

**⚠ CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

**➡ NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

## Removing the Internal Card with Bluetooth Wireless Technology

**➡ NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. With the computer still turned over, remove the subwoofer cover (see [Removing the Subwoofer](#)).
3. The internal card with Bluetooth wireless technology is adhered to the subwoofer. To remove the card, pry it off the subwoofer, and disconnect the cable attached to the card.



1	subwoofer	2	internal card with Bluetooth wireless technology	3	cable connected to the internal card
---	-----------	---	--	---	--------------------------------------

## Replacing the Internal Card with Bluetooth Wireless Technology

**🔧 NOTE:** The internal card with Bluetooth wireless technology is adhered to the subwoofer. To replace the card, you will need to pry it from the subwoofer and adhere a new card.

1. Connect the cable to the new internal card with Bluetooth wireless technology.

2. Adhere the new internal card with Bluetooth wireless technology to the subwoofer.
  3. Replace the subwoofer cover (see [Replacing the Subwoofer](#)).
  4. Replace the system battery (see [Replacing the System Battery](#)).
- 

[Back to Contents Page](#)

# Keyboard

## Dell™ XPS™ M2010 Service Manual

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

**⚠ CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

- ➡ **NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.
- ➡ **NOTICE:** Do not attempt to move the computer with the keyboard attached and the display open or the keyboard will fall away from the computer base and the keyboard may be damaged.

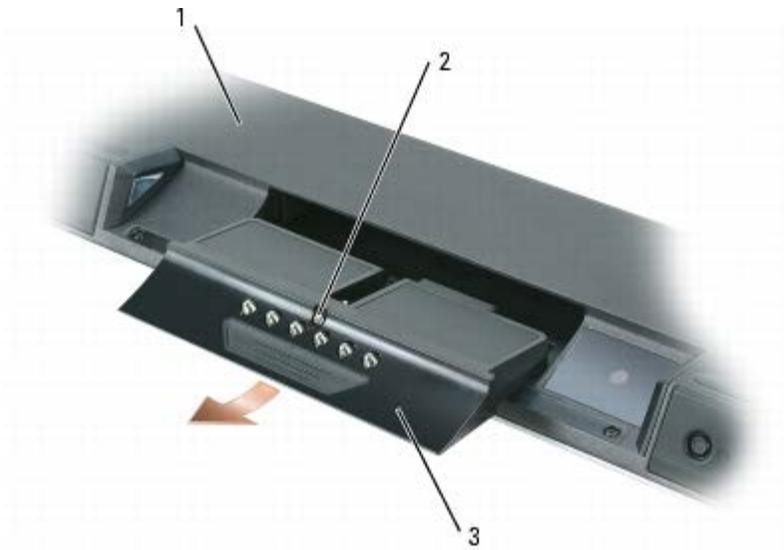
To detach the keyboard from the computer, grasp the sides of the keyboard and pull it straight out from the computer base. For most service procedures, you will detach the keyboard and set it aside.



---

## Removing the Keyboard Battery

1. Open the display (see [Opening the Display](#)).
2. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base.
3. Turn the keyboard over.
4. Loosen the captive screw on the keyboard battery.
5. Slide the battery out of the keyboard battery compartment.



---

1	keyboard	2	captive screw	3	keyboard battery
---	----------	---	---------------	---	------------------

---

## Replacing the Keyboard Battery

1. Insert the new keyboard battery into the battery compartment and snap it into place.
  2. Tighten the captive screw.
- 

[Back to Contents Page](#)

# Cosmetic Covers

## Dell™ XPS™ M2010 Service Manual

- [Removing the Cosmetic Covers](#)
- [Replacing the Cosmetic Covers](#)

**⚠ CAUTION:** Before performing the following procedures, follow the safety instructions in your *Product Information Guide*.

**➡ NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

## Removing the Cosmetic Covers

**➡ NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Turn the computer over and open the display (see [Opening the Display](#)).
3. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
4. Insert a small, flat-blade screwdriver into the slot on the back right corner of the computer, and press the screwdriver in firmly all the way.
5. While holding the screwdriver in, use the notch on the edge of the cosmetic cover to lift the cover up off the computer.



1	notch	2	cosmetic cover	3	access slot
---	-------	---	----------------	---	-------------

6. Repeat [step 4](#) and [step 5](#) to remove the left cosmetic cover.

## Replacing the Cosmetic Covers

1. Insert a small, flat-blade screwdriver into the slot on the back right corner of the computer, and press the screwdriver in firmly all the way.
2. While holding the screwdriver in, align the tabs on the bottom of the cosmetic cover with the notches in the top cover.
3. Gently push the cosmetic cover down and release the screwdriver.
4. Repeat [step 1](#) through [step 3](#) to replace the left cosmetic cover.

 **NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

5. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
6. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

---

[Back to Contents Page](#)

# Top Cover

## Dell™ XPS™ M2010 Service Manual

- [Removing the Top Cover](#)
- [Replacing the Top Cover](#)

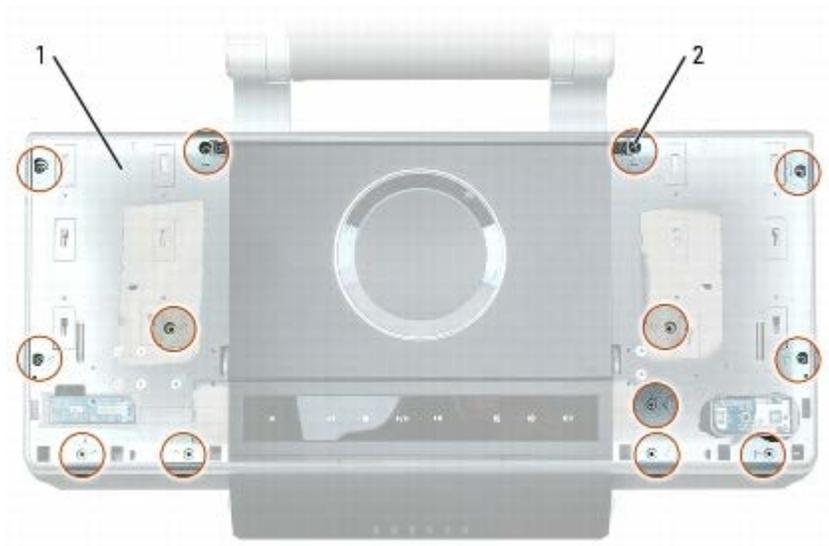
**CAUTION:** Before performing the following procedures, follow the safety instructions in your *Product Information Guide*.

**NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

## Removing the Top Cover

**NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

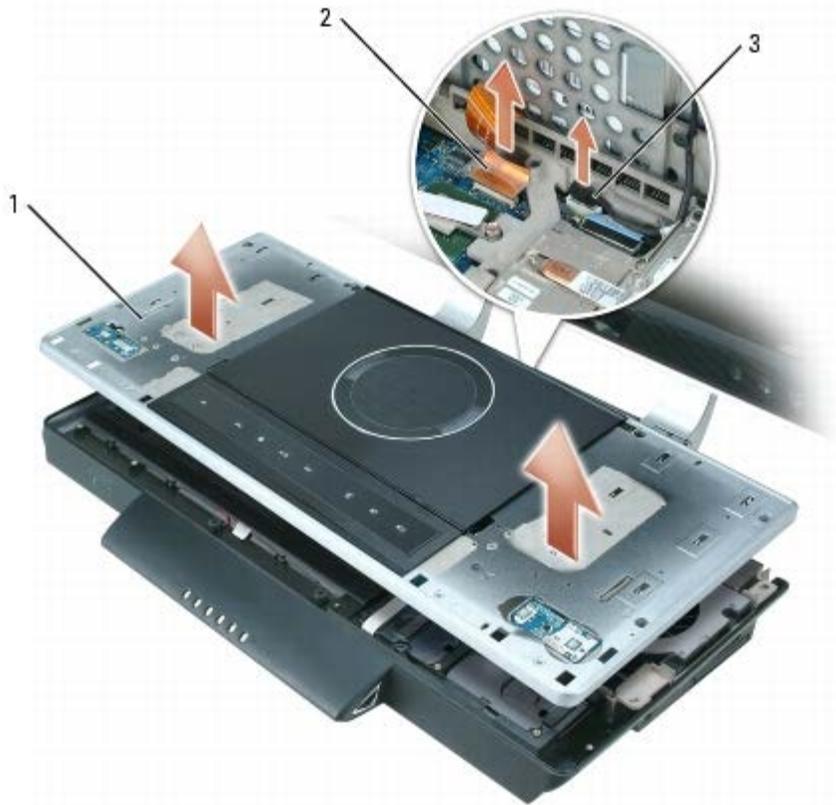
- Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
- Turn the computer over and open the display (see [Opening the Display](#)).
- Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
- Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
- Remove six M2.5 x 5-mm screws from the left side of the top cover and seven M2.5 x 5-mm screws from the right side of the top cover at the embossed arrows.



1	top cover	2	M2.5 x 5-mm screws (13)		
---	-----------	---	-------------------------	--	--

- Lift the top cover a few inches and disconnect the optical drive cable from the system board by pulling up on the loop, and disconnect the media cable from the system board by pulling up on the connector.

The media cable contains cables for the disk sensor, optical disk drive motor assembly, power button, MediaDirect button, multimedia board, and LED board.



1	top cover	2	optical drive cable	3	media cable
---	-----------	---	---------------------	---	-------------

## Replacing the Top Cover

1. While holding the top cover in one hand, connect the optical drive cable to its connector on the system board (JOD) and the media cable to its connector on the system board (JMEDIA).
2. Set the top cover in place and attach it to the computer with six M2.5 x 5-mm screws on the left side and seven M2.5 x 5-mm screws on the right side of the top cover at the embossed arrows.
3. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

 **NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

4. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
5. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

---

[Back to Contents Page](#)

# Display

## Dell™ XPS™ M2010 Service Manual

- [Opening the Display](#)
- [Closing the Display](#)
- [Adjusting the Display Panel](#)
- [Removing the LCD Panel](#)
- [Replacing the LCD Panel](#)

**CAUTION:** Before performing the following procedures, follow the safety instructions in your *Product Information Guide*.

**NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

**NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

## Opening the Display

1. Open the computer by sliding the two display latch releases toward the front of the computer to release the four display latches.

Two latches hold the display panel to the computer base and two latches hold the display panel to the keyboard.



1	display latch releases (2)	2	display latches (4)		
---	----------------------------	---	---------------------	--	--

2. Raise the display panel to open the computer. As you raise the display panel, the four latches will retract into the display panel.

**NOTE:** If the system battery is drained or removed and there is no power source, the latches will not retract.

## Closing the Display

1. Before closing the display panel, ensure that the keyboard is firmly attached to the computer base.
2. Slowly lower the display panel toward the computer base. As you lower the display panel, the four display latches will emerge from the display panel to secure the display to the computer base and keyboard.

 **NOTE:** If the system battery is drained and there is no power source, the latches will not automatically emerge, but you can manually activate them by sliding the display latch release buttons forward.

3. Firmly close the lid so all four latches are engaged.

 **NOTICE:** Ensure that all four latches are engaged securely before picking up the computer to move it or the keyboard could fall and be damaged.

---

## Adjusting the Display Panel

The display on your computer is adjustable. This allows you to find a viewing angle that is comfortable for you.

 **NOTE:** Latches hold the back of the display to the hinge arms. These latches release when the display is opened to a 90 degree angle.

 **NOTICE:** Do not position the display so that it blocks the DVD drive from opening completely.

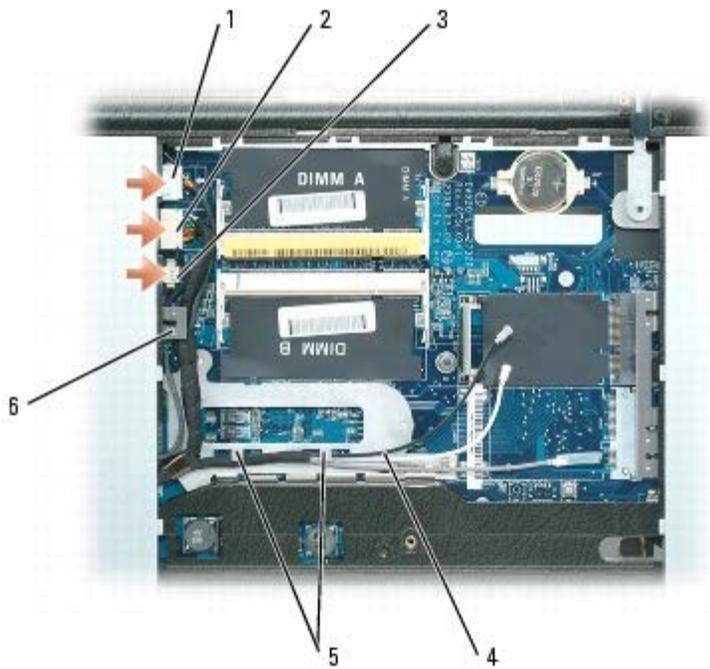


---

## Removing the LCD Panel

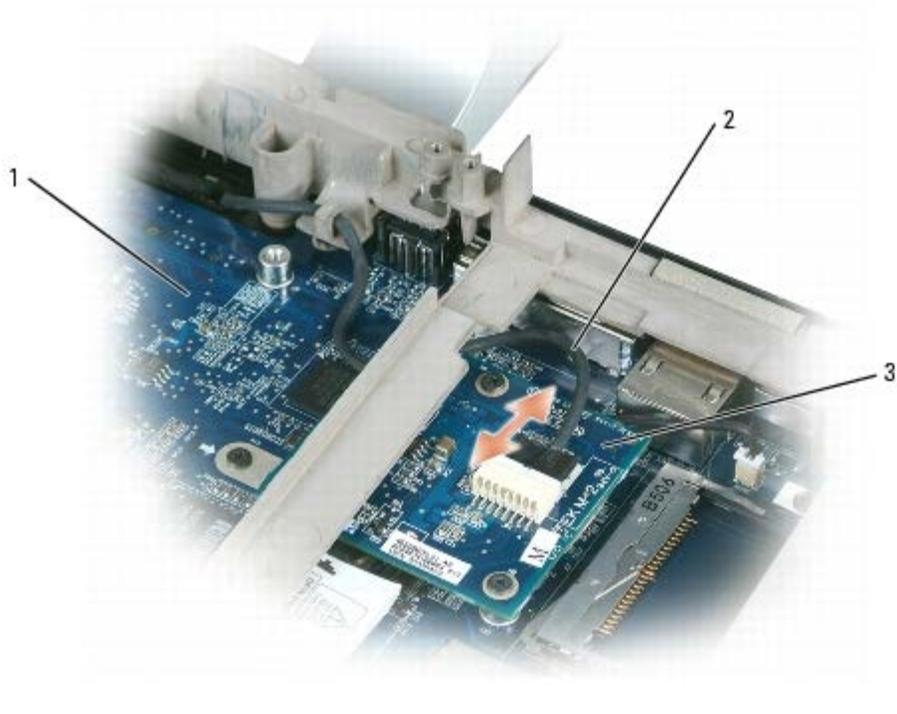
 **NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. With the computer still turned over, remove the memory module cover (see [Removing the Memory Module Cover](#)).
3. Disconnect the cables for the speakers, suspend and solenoid function, and infrared sensor from the system board connectors, and unhook the cables from the routing hook.
4. Disconnect the mini card antenna cables from the mini card, and unhook the cables from the routing hooks.



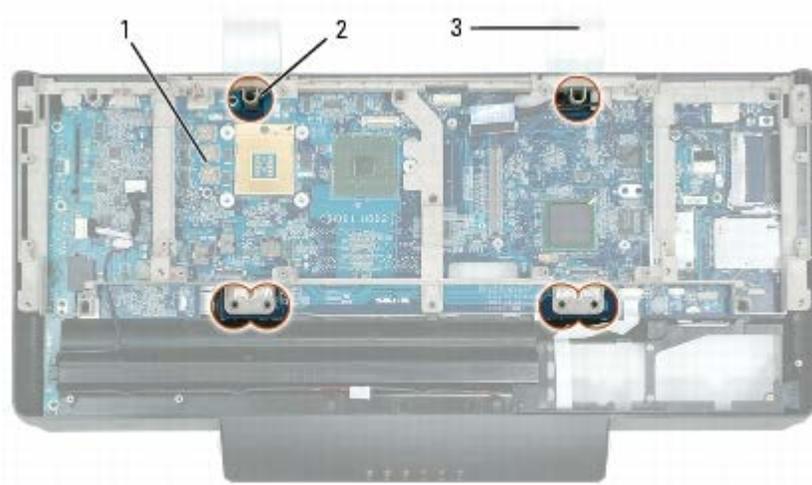
1	speaker cable	2	infrared sensor cable	3	suspend and solenoid function cable
4	mini card antenna cables	5	routing hooks for the antenna cables	6	routing hook

5. Turn the computer over and open the display (see [Opening the Display](#)).
6. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
7. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
8. Remove the top cover (see [Removing the Top Cover](#)).
9. Remove the right fan (see [Removing a System Fan](#)).
10. If your computer has two hard drives, remove the right hard drive (see [Removing a Hard Drive](#)).
11. Disconnect the video cable from the video card and remove the video card/thermal-cooling unit (see [Removing the Video Card/Thermal-Cooling Assembly](#)).
12. Disconnect the solenoid cable from the solenoid card.



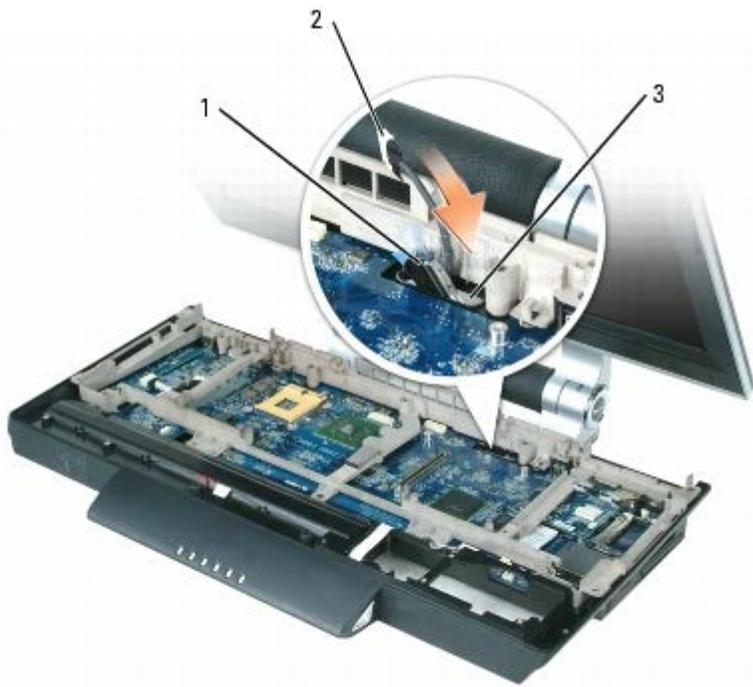
1	system board	2	solenoid cable	3	solenoid card
---	--------------	---	----------------	---	---------------

13. Remove the six M2.5 x 8-mm screws that attach the left and right hinge arms to the computer base.



1	system board	2	M2.5 x 8-mm screws (6)	3	hinge arms
---	--------------	---	------------------------	---	------------

14. Tilt the display forward slightly so the display does not tip over backwards when you remove the computer base.
15. Lift the computer base and carefully thread the solenoid and video cables through the opening in the bottom of the computer base. These cables are attached to the right hinge arm.



1	video cable	2	solenoid cable	3	opening in computer base
---	-------------	---	----------------	---	--------------------------

16. Lay the display on its back on a flat clean surface.

**NOTICE:** When working on the display, be careful not to touch the camera. The glass on the camera is fragile.

17. Starting at the top of the panel, remove the black display bezel from around the LCD panel by carefully prying it loose.



1	black display bezel	2	camera	3	LCD panel
---	---------------------	---	--------	---	-----------

18. On the silver display inlay, remove four M2.5 x 5-mm screws from the holes labeled "A" and twelve M2.5-mm shoulder screws from the remaining holes.



1	M2.5 x 5-mm screws (4)	2	M2.5-mm shoulder screws (12)	3	silver display inlay
---	------------------------	---	------------------------------	---	----------------------

19. Starting at the top of the panel, remove the silver inlay from around the LCD panel by carefully prying it loose.
20. On the rails that hold the LCD panel to the display, remove four M2 x 3-mm screws from the left rail, four M2 x 3-mm screws from the right rail, and two M2 x 3-mm screws from the bottom rail.

**NOTE:** Do not remove the screws that hold the display latches in place.



1	M2 x 3-mm screws (10)	2	LCD panel	3	rails
---	-----------------------	---	-----------	---	-------

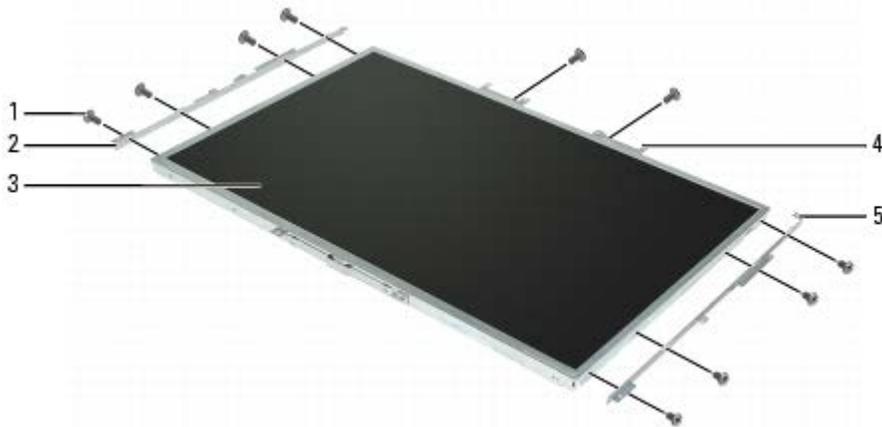
21. Carefully raise the LCD panel a few inches, and disconnect the cable underneath the panel by pulling up on the blue pull tab.



1	LCD panel	2	LCD cable	3	pull tab
---	-----------	---	-----------	---	----------

22. To remove the rails from the LCD panel, remove two M2 x 3-mm screws from the top rail, four M2 x 3- mm screws from the right rail (marked "R"), and four M2 x 3-mm screws from the left rail (marked "L").

The bottom rail is adhered to the LCD panel. Reserve the other three rails to attach to the new LCD panel.



1	M2 x 3-mm screws (10)	2	left rail	3	LCD panel
4	top rail	5	right rail		

## Replacing the LCD Panel

1. Attach the rails from the old LCD panel to the new LCD panel using two M2 x 3-mm screws in the top rail, four M2 x 3- mm screws in the right rail (marked "R"), and four M2 x 3-mm screws in the left rail (marked "L"). Ensure you have "This side up" facing up on all three rails.

If a bottom rail is not attached to the new LCD panel, adhere a bottom rail to the new panel.

2. Holding the LCD panel over the display, connect the LCD cable to the connector on the display.

3. Lower the LCD panel into place and attach the rails to the display using four M2 x 3-mm screws in the right rail, four M2 x 3-mm screws in the left rail, and two M2 x 3-mm screws in the bottom rail.

4. Snap the silver display inlay back into place around the panel.
5. Attach the silver display inlay to the display using four M2.5 x 5-mm screws in the holes labeled "A" and twelve M2.5-mm shoulder screws in the remaining holes.

 **NOTE:** When replacing the silver display inlay, ensure that the display latches fit through the correct holes.

6. Snap the black display bezel into place.
7. Set the display upright on the hinge arms, leaning the display slightly forward so it does not tip over backwards.
8. Thread the solenoid and video cables through the opening in the computer base next to the right hinge arm.
9. Seat the computer base onto the hinge arms, aligning the screw holes in the computer base with those in the hinge arms.
10. Attach the right and left hinge arms to the base using six M2.5 x 8-mm screws.
11. Connect the solenoid cable to the solenoid card. Thread the cable through the notch and under the frame as shown below.



1	opening on the base	2	solenoid cable	3	solenoid card
---	---------------------	---	----------------	---	---------------

12. Replace the video card/thermal-cooling assembly (see [Replacing the Video Card/Thermal-Cooling Assembly](#)).
13. Replace the right hard drive (see [Replacing a Hard Drive](#)).
14. Replace the right fan (see [Replacing a System Fan](#)).
15. Replace the top cover (see [Replacing the Top Cover](#)).
16. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

 **NOTICE:** Ensure that you attach the keyboard securely to avoid damage to the keyboard.

17. Firmly reattach the keyboard to the computer and close the display (see [Closing the Display](#)).
18. Turn the computer upside down.

19. Connect the antenna cables from the mini card.
  20. Connect the speaker cable to the connector on the system board (JSPK).
  21. Connect the suspend and solenoid function cable to the connector on the system board (JHING).
  22. Connect the infrared sensor cable to the connector on the system board (JCIR).
  23. Replace the memory module cover (see [Replacing the Memory Module](#)).
  24. Replace the system battery (see [Replacing the System Battery](#)).
- 

[Back to Contents Page](#)

# Camera

## Dell™ XPS™ M2010 Service Manual

- [Removing the Camera](#)
- [Replacing the Camera](#)

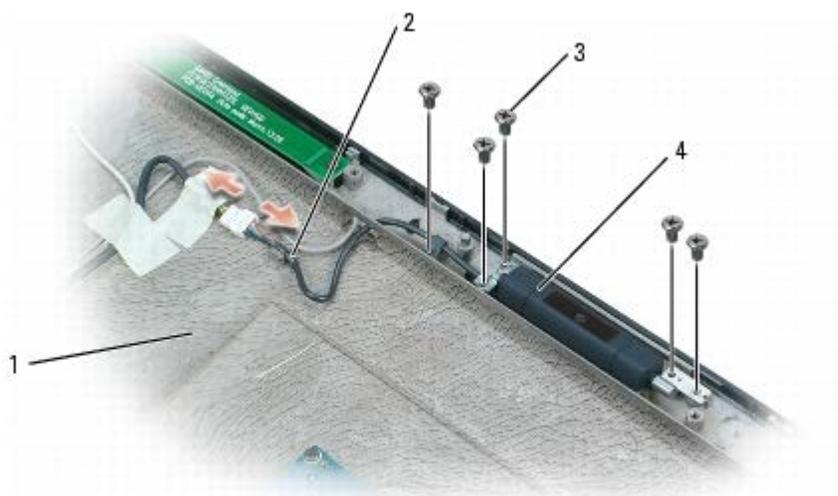
**⚠ CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

- ➡ **NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.
- ➡ **NOTICE:** The camera is very fragile. When servicing the camera, be careful not to grab the camera as the glass in the camera can easily break.

## Removing the Camera

➡ **NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Turn the computer over and open the display (see [Opening the Display](#)).
3. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
4. To access the camera, follow the instructions for removing the black display bezel and the silver display inlay (see [Removing the LCD Panel](#)).
5. Disconnect the camera cable from the connector on the display.
6. Remove the five M2 x 3-mm screws that attach the camera and cable to the top of the display.



1	display	2	camera cable	3	M2 x 3-mm screws (5)
4	camera				

---

## Replacing the Camera

1. Attach the new camera and cable to the top of the display with five M2 x 3-mm screws.
2. Connect the camera cable to the connector on the display.
3. Follow the instructions for replacing the silver display inlay and the black display bezel (see [Replacing the LCD Panel](#)).

 **NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

4. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
5. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

---

[Back to Contents Page](#)

# Optical Drive

## Dell™ XPS™ M2010 Service Manual

- [Removing the Optical Drive Assembly](#)
- [Replacing the Optical Drive Assembly](#)

**⚠ CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

**➡ NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

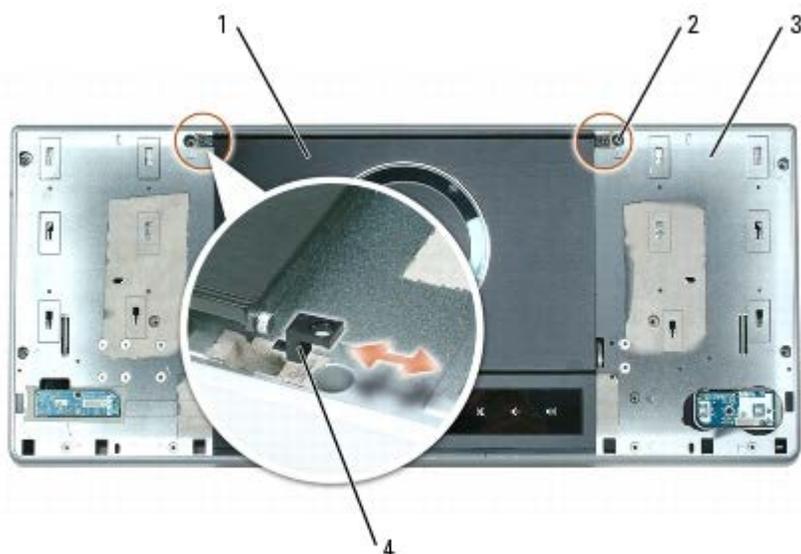
**➡ NOTICE:** To help prevent damage to drives, store them in a safe, dry place when they are not installed in the computer. Avoid pressing down on them or placing heavy objects on top of them.

Your computer ships with a fixed optical drive installed.

## Removing the Optical Drive Assembly

**➡ NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

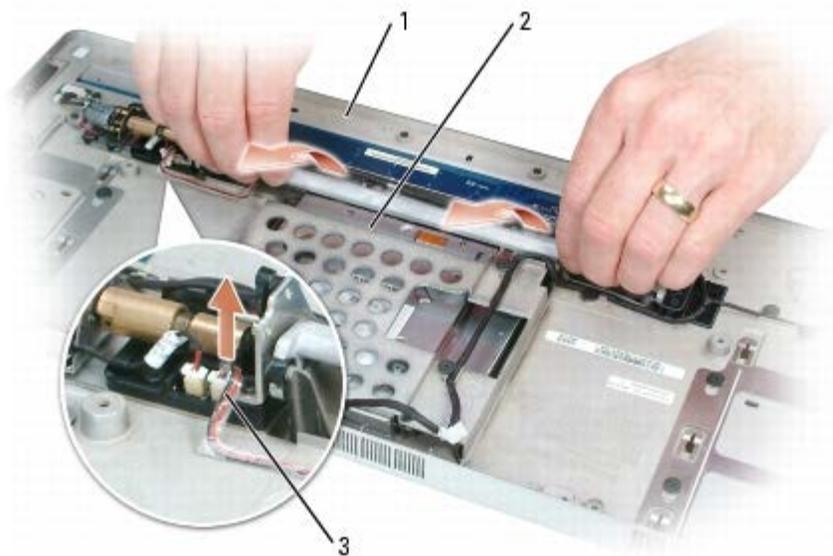
1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Turn the computer over and open the display (see [Opening the Display](#)).
3. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
4. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
5. Remove the top cover (see [Removing the Top Cover](#)).
6. Remove the optical drive assembly from the top cover by removing the two M2.5 x 5-mm screws and the end caps.



1	optical drive assembly	2	M2.5 x 5-mm screws (2)	3	top cover
---	------------------------	---	------------------------	---	-----------

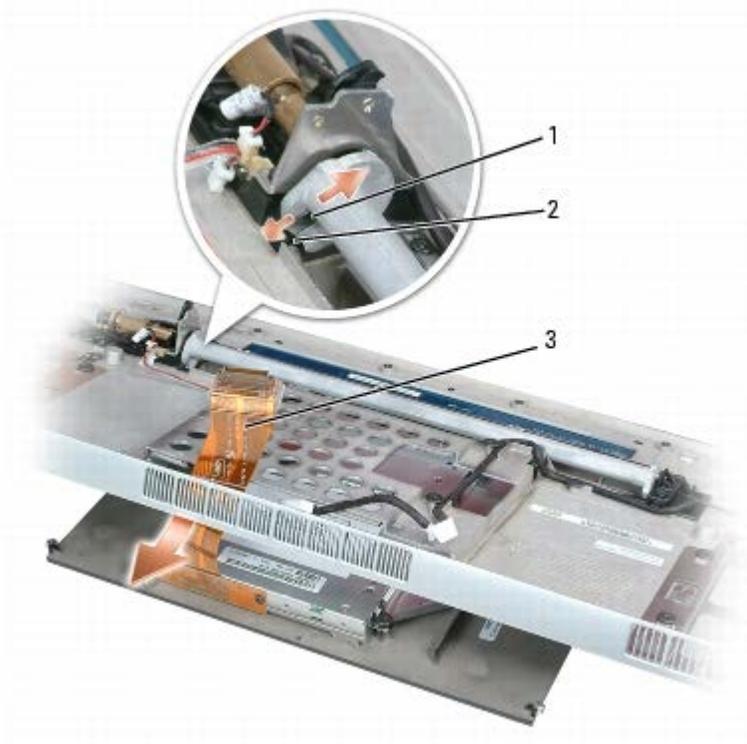
4	end caps				
---	----------	--	--	--	--

7. While holding the optical drive assembly and the top cover together, turn the top cover over.
8. Disconnect and untape the disk sensor cable from the top cover.
9. Rotate the swing arm on the top cover toward the optical drive assembly to put the optical drive in the "Open" position.



1	top cover (underside)	2	optical drive assembly	3	disk sensor cable
---	-----------------------	---	------------------------	---	-------------------

10. Lower the back of the assembly slightly and slide it away from the top cover, disconnecting the black round tabs on the assembly from the notches in the swing arm.
11. Carefully guide the optical drive cable and disk sensor cable through their respective openings in the top cover.

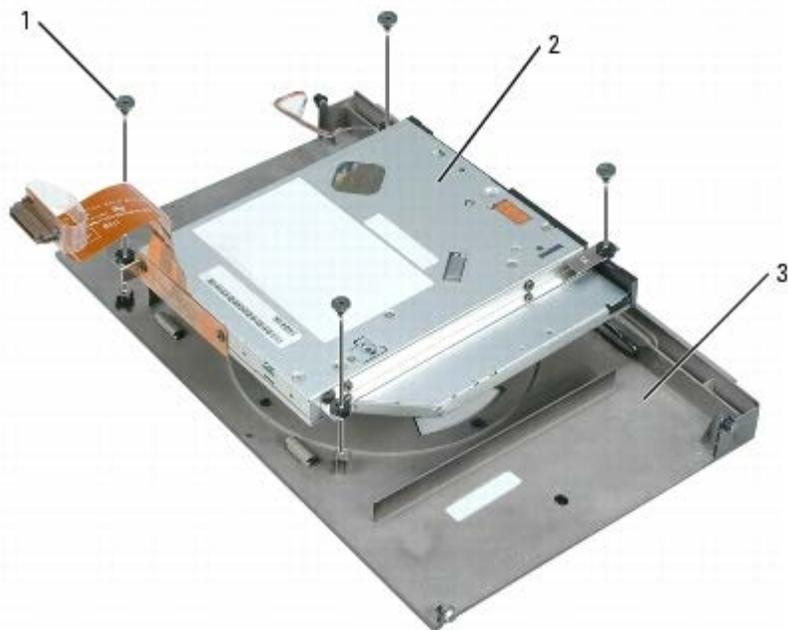


1	notch in swing arm (2)	2	tab on optical drive assembly (2)	3	optical drive cable
---	------------------------	---	-----------------------------------	---	---------------------

## Removing Media from the Optical Drive

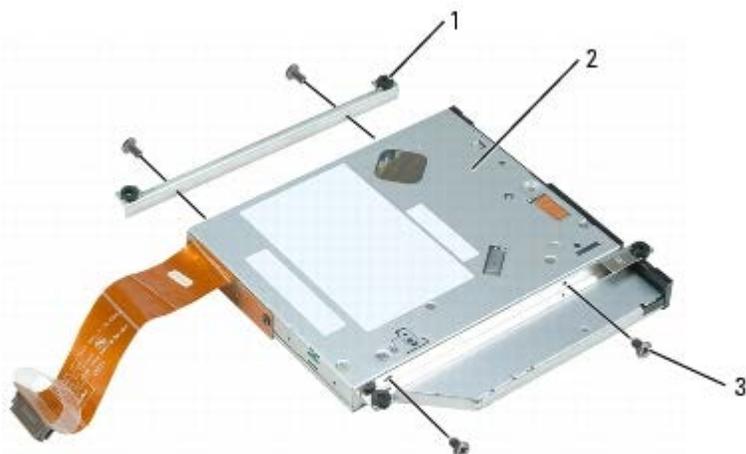
If media becomes stuck in the optical drive, you can retrieve the media by opening the drive.

1. Remove the optical drive assembly (see [Removing the Optical Drive Assembly.](#))
2. Remove the optical drive from the optical drive assembly by removing the four M2.0-mm shoulder screws that hold the optical drive to the assembly.



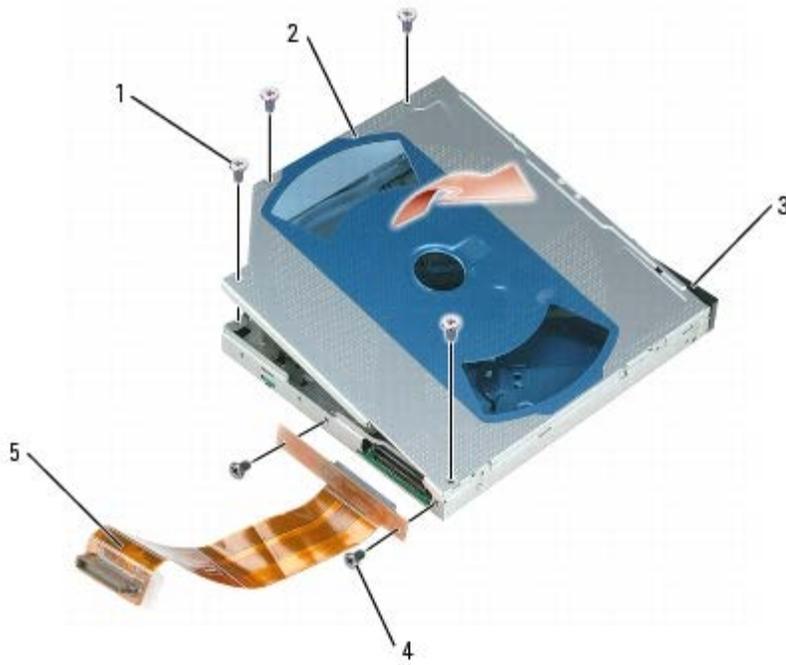
1	M2.0-mm shoulder screws (4)	2	optical drive	3	optical drive assembly
---	-----------------------------	---	---------------	---	------------------------

3. Lift the optical drive out of the assembly.
4. Remove the two drive rails from the optical drive by removing the two M2 x 3-mm screws in each drive rail.



1	optical drive rails (2)	2	optical drive	3	M2 x 3-mm screws on rails (4)
---	-------------------------	---	---------------	---	-------------------------------

- Remove the optical drive cable from the optical drive by removing the two M2 x 3-mm screws.
- Remove the four M2.0-mm shoulder screws on the optical drive cover.
- Slide the top cover away from the front bezel to disengage the tabs, and lift the drive cover off the drive.
- Remove the media from the drive.



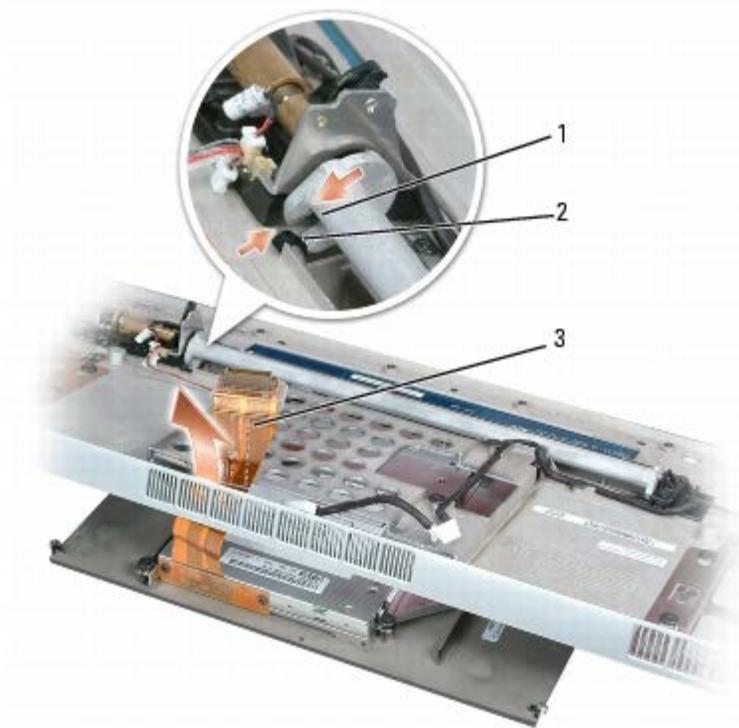
1	M2.0-mm shoulder screws (4)	2	optical drive	3	front bezel
4	M2 x 3-mm screws (2)	5	optical drive cable		

To reassemble the optical drive:

- Slide the drive cover onto the drive and engage the tabs on the cover to the front bezel.
- Replace the four M2.0-mm shoulder screws in the optical drive cover.
- Connect the optical drive cable to the drive with two M2 x 3-mm screws.
- Attach the two rails to the drive with two M2 x 3-mm screws in each drive rail.
- Attach the optical drive to the optical drive assembly with four M2.0-mm shoulder screws.

## Replacing the Optical Drive Assembly

- Carefully thread the optical drive cable and disk sensor cable back through the top cover.
- While holding the top cover level in one hand, tilt the optical drive assembly slightly at an angle and fit the lip of the assembly into the slot on the top cover.
- Fit the black round tabs on the assembly into the notches in the swing arm.



1	notch in swing arm (2)	2	tab on optical drive assembly (2)	3	optical drive cable
---	------------------------	---	-----------------------------------	---	---------------------

4. Rotate the swing arm away from the optical assembly to bring the optical drive to the "Closed" position.
5. Attach the disk sensor cable and tape it to the underside of the top cover.
6. Holding the optical drive assembly in place, turn the top cover over.
7. Attach the optical drive assembly to the top cover with two M2.5 x 5-mm screws and end caps.
8. Replace the top cover (see [Replacing the Top Cover](#)).
9. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

**➡ NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

10. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
11. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

---

[Back to Contents Page](#)

# Wireless USB Board

## Dell™ XPS™ M2010 Service Manual

- [Removing the Wireless USB Board](#)
- [Replacing the Wireless USB Board](#)

**CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

**CAUTION:** Only products approved for use in your portable computer may be installed.

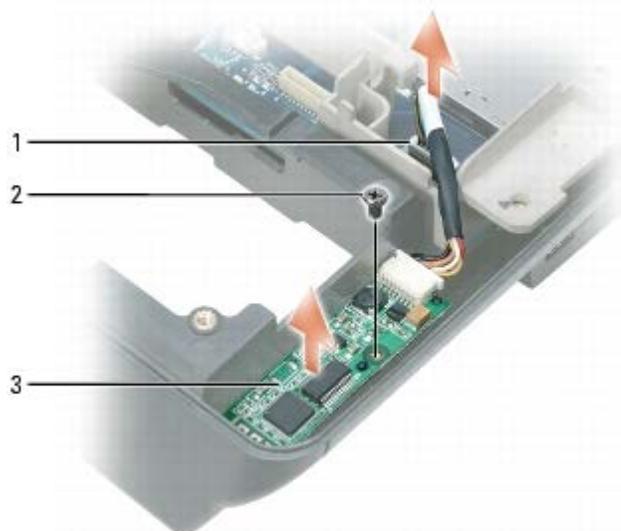
**NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

The wireless USB board provides the wireless connection for the remote controller.

## Removing the Wireless USB Board

**NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

- Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
- Turn the computer over and open the display (see [Opening the Display](#)).
- Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
- Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
- Remove the top cover (see [Removing the Top Cover](#)).
- Disconnect the wireless USB cable from the system board.
- Remove the wireless USB board by removing the M2 x 3-mm screw.



---

## Replacing the Wireless USB Board

1. Attach the new wireless USB board with the M2 x 3-mm screw.
2. Connect the wireless USB cable to the system board.
3. Replace the top cover (see [Replacing the Top Cover](#)).
4. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

 **NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

5. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
6. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

---

[Back to Contents Page](#)

# Hard Drive(s)

## Dell™ XPS™ M2010 Service Manual

- [Removing a Hard Drive](#)
- [Replacing a Hard Drive](#)
- [Returning a Hard Drive to Dell](#)

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

**CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

**NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

**NOTICE:** To prevent data loss, turn off your computer before removing the hard drive. Do not remove the hard drive while the computer is on, in standby mode, or in hibernate mode.

**NOTICE:** Hard drives are extremely fragile; even a slight bump can damage the drive.

**NOTE:** Dell does not guarantee compatibility or provide support for hard drives from sources other than Dell.

Your computer may contain two hard drives — a primary hard drive and a secondary hard drive. The left hard drive is the primary hard drive (HDD1), and the right hard drive is the secondary hard drive (HDD2). If you remove a hard drive, you must replace it in the same drive location.

If your computer has two hard drives configured for RAID, and you replace one or both, the new hard drive(s) must be configured for RAID. See "About Your RAID Configuration" in your *Owner's Manual*.



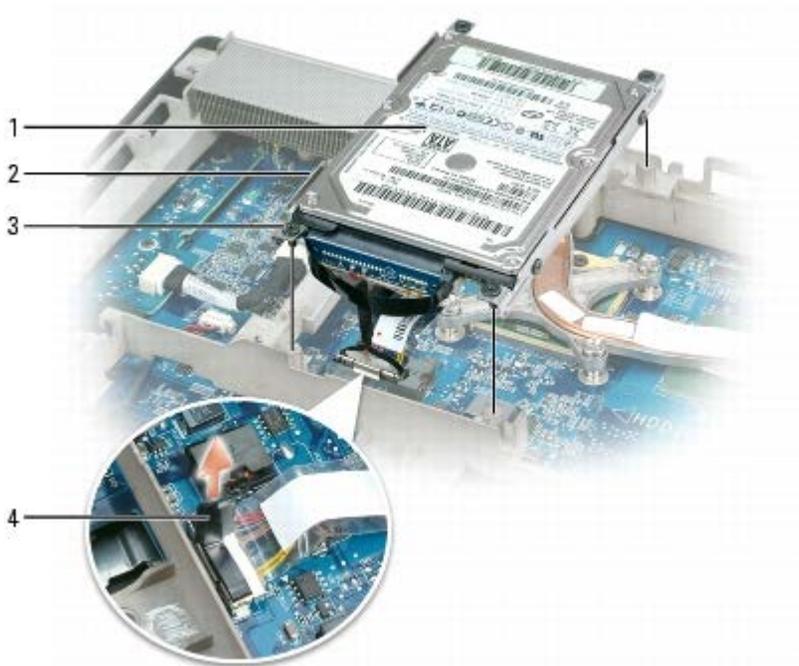
1	primary hard drive (HDD1)	2	secondary hard drive (HDD2)		
---	---------------------------	---	-----------------------------	--	--

## Removing a Hard Drive

**NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.



1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Turn the computer over and open the display (see [Opening the Display](#)).
3. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
4. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
5. Remove the top cover (see [Removing the Top Cover](#)).
6. Loosen the four captive screws on each corner of the hard drive bracket.
7. Lift the hard drive only a few inches, and disconnect the data cable from the system board by pulling up on the black tab.

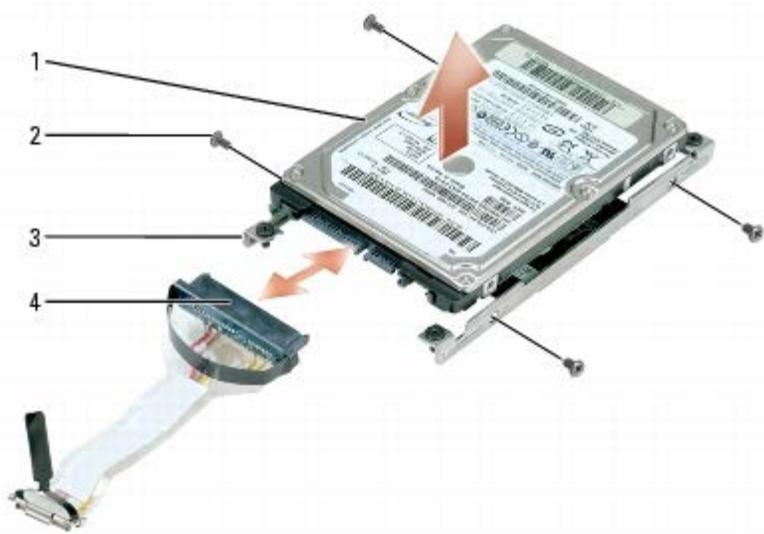


1	primary hard drive (HDD1)	2	hard drive bracket	3	captive screws (4)
4	pull tab				



**NOTICE:** When the hard drive is not in the computer, store it in protective antistatic packaging. See "Protecting Against Electrostatic Discharge" in your *Product Information Guide*.

8. Remove the four M3 x 3-mm screws that attach the hard drive to the hard drive bracket.
9. Pull the strap on the hard drive cable to remove the data cable from the hard drive. Reserve this cable for use with the new hard drive.



1	hard drive	2	M3 x 3-mm screws (4)	3	hard drive brackets (2)
4	hard drive cable connector				

## Replacing a Hard Drive

1. Attach the new hard drive to the brackets using four M3 x 3-mm screws.
2. Connect the data cable to the new hard drive.
3. Connect the hard drive cable to the appropriate connector on the system board (JHDD1 for primary; JHDD2 for secondary).
4. Align the captive screws in each corner of the hard drive with the holes in the frame and tighten the screws.
5. Replace the top cover (see [Replacing the Top Cover](#)).
6. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

**NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

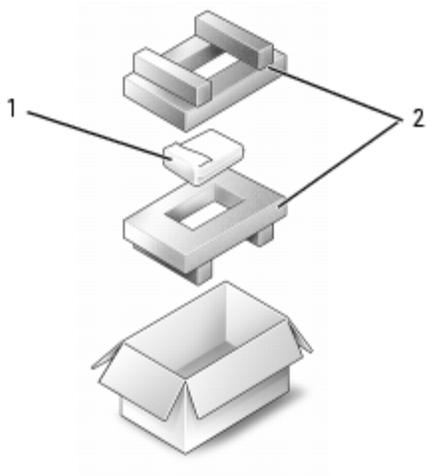
7. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
8. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

If you have installed a replacement hard drive:

9. Turn the computer over and open the display (see [Opening the Display](#)).
10. Press the power button to turn the computer on.
11. Reinstall the Microsoft® Windows® operating system. For instructions, see "Restoring Your Operating System" in the *Owner's Manual*.
12. Reinstall drivers on the new hard drive. For instructions, see "Reinstalling Drivers and Utilities" in the *Owner's Manual*.
13. If the original hard drive had RAID configured, configure RAID on the new hard drive. See "About Your RAID Configuration" in your *Owner's Manual*.

# Returning a Hard Drive to Dell

Return your old hard drive to Dell in its original or comparable foam packaging. Otherwise, the hard drive may be damaged in transit.



1	hard drive	2	foam packaging		
---	------------	---	----------------	--	--

---

[Back to Contents Page](#)

# System Fans

## Dell™ XPS™ M2010 Service Manual

- [Removing a System Fan](#)
- [Replacing a System Fan](#)

**⚠ CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

**➡ NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

**🔧 NOTE:** The left and right system fans are unique. They are not interchangeable.

## Removing a System Fan

**➡ NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Turn the computer over and open the display (see [Opening the Display](#)).
3. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
4. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
5. Remove the top cover (see [Removing the Top Cover](#)).
6. Disconnect the fan cable from the system board.



1	left system fan	2	left system fan cable	3	left system board connector (JFAN1)
4	right system board connector (JFAN2)	5	right system fan cable	6	right system fan
7	M2.5 x 5-mm screws (3 per fan)				

7. Remove the fan from the frame by removing the three M2.5 x 5-mm screws.
8. Lift the fan out of the computer.

---

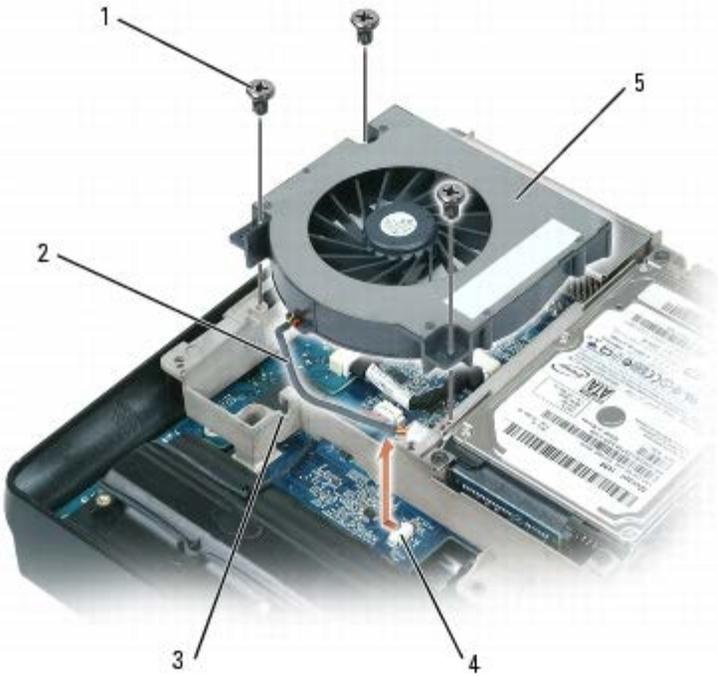
## Replacing a System Fan

 **NOTE:** If the system board was replaced, be sure to reattach the microphone cable under the left fan before replacing the fan.



1	microphone cable	2	microphone cable connector	3	system board connector
---	------------------	---	----------------------------	---	------------------------

1. Attach the left fan to the computer frame using three M2.5 x 5-mm screws.
2. Route the left fan cable under the notch on the frame.
3. Connect the left fan cable to the system board connector (JFAN1).



1	M2.5 x 5-mm screws (3)	2	fan cable	3	notch in frame
4	system board connector (JFAN1)	5	left system fan		

4. Attach the right fan to the computer frame using three M2.5 x 5-mm screws.
5. Route the right fan cable under the notch on the frame.
6. Connect the right fan cable to the system board connector (JFAN2).
7. Replace the top cover (see [Replacing the Top Cover](#)).
8. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

**➡ NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

9. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
10. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

# Video Card/Thermal-Cooling Assembly

## Dell™ XPS™ M2010 Service Manual

- [Removing the Video Card/Thermal-Cooling Assembly](#)
- [Replacing the Video Card/Thermal-Cooling Assembly](#)

 **CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

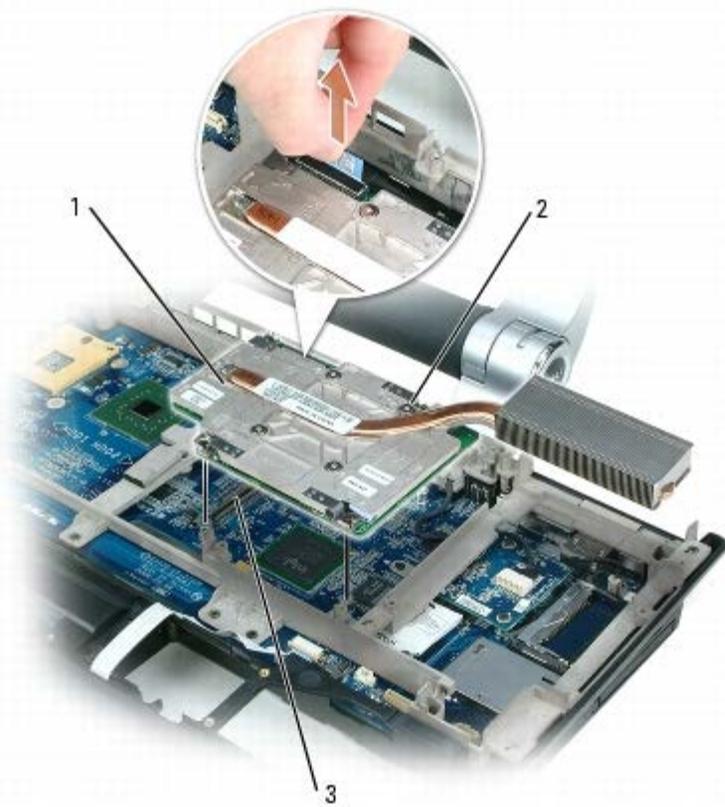
 **NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

---

## Removing the Video Card/Thermal-Cooling Assembly

 **NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Turn the computer over and open the display (see [Opening the Display](#)).
3. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
4. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
5. Remove the top cover (see [Removing the Top Cover](#)).
6. Remove the right hard drive (see [Removing a Hard Drive](#)).
7. Disconnect the video cable from the video card by pulling up on the blue tab.
8. Loosen in consecutive order the four captive screws, labeled "1" through "4", that secure the video card/thermal-cooling assembly to the system board.



1	video card/thermal-cooling assembly	2	captive screws (4)	3	system board connector (JVGA)
---	-------------------------------------	---	--------------------	---	-------------------------------

**NOTE:** The video card is integrated with its thermal assembly. Do not remove the heatsink from the video card.

9. Pull the video card/thermal-cooling assembly straight up to disconnect the card from the system board.

## Replacing the Video Card/Thermal-Cooling Assembly

1. Align the video card/thermal-cooling assembly over the connector and screw holes on the system board.
2. Press down on the "PUSH HERE" label on the video card/thermal-cooling assembly.
3. Tighten in consecutive order the four captive screws, labeled "1" through "4", on the video card/thermal-cooling assembly.
4. Connect the video cable to the connector on the video card.
5. Replace the right hard drive (see [Replacing a Hard Drive](#)).
6. Replace the top cover (see [Replacing the Top Cover](#)).
7. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

**NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

8. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
9. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

---

[Back to Contents Page](#)

# Processor Thermal-Cooling Assembly

## Dell™ XPS™ M2010 Service Manual

- [Removing the Processor Thermal-Cooling Assembly](#)
- [Replacing the Processor Thermal-Cooling Assembly](#)

 **CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

 **NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

---

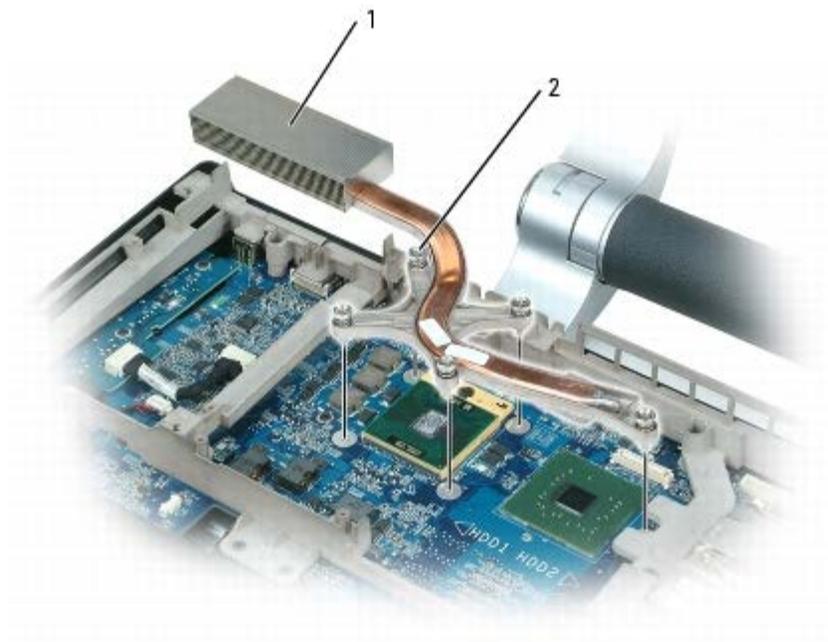
## Removing the Processor Thermal-Cooling Assembly

 **NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Turn the computer over and open the display (see [Opening the Display](#)).
3. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
4. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
5. Remove the top cover (see [Removing the Top Cover](#)).
6. Remove the left hard drive (see [Removing a Hard Drive](#)).
7. Loosen in consecutive order the five captive screws, labeled "1" through "5", that secure the processor thermal-cooling assembly to the system board.

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

8. Remove the processor thermal-cooling assembly from the system board.



1	processor thermal-cooling assembly	2	captive screws (5)		
---	------------------------------------	---	--------------------	--	--

## Replacing the Processor Thermal-Cooling Assembly

**NOTE:** If you are replacing the thermal-cooling assembly without removing and replacing a new processor, you can place the new thermal pad directly on any existing thermal pad already installed on the thermal-cooling assembly. It is not necessary to remove an existing pad or to clean the surface.

1. Remove the backing from the new thermal pad, taking care not to tear the pad.
2. Place the adhesive-side of the pad on top of the old pad, and press it into place on the thermal-cooling assembly.
3. Place the processor thermal-cooling assembly over the processor.
4. Tighten in consecutive order the five captive screws, labeled "1" through "5", on the processor thermal-cooling assembly.
5. Replace the left hard drive (see [Replacing a Hard Drive](#)).
6. Replace the top cover (see [Replacing the Top Cover](#)).
7. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

**NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

8. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
9. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

# Processor Module

## Dell™ XPS™ M2010 Service Manual

- [Removing the Processor Module](#)
- [Replacing the Processor Module](#)

 **CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

 **NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

---

## Removing the Processor Module

 **NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Turn the computer over and open the display (see [Opening the Display](#)).
3. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
4. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
5. Remove the top cover (see [Removing the Top Cover](#)).
6. Remove the left hard drive (see [Removing a Hard Drive](#)).

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

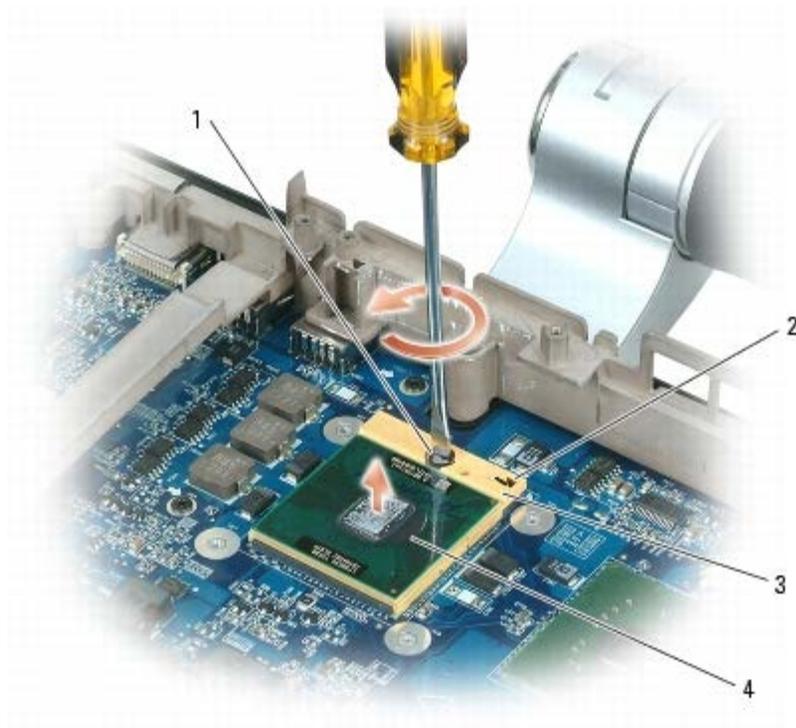
7. Remove the processor thermal-cooling assembly (see [Removing the Processor Thermal-Cooling Assembly](#)).

 **NOTE:** The ZIF-socket cam screw secures the processor to the system board.

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

8. 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	pin-1 corner of microprocessor	3	ZIF-socket
4	processor module				

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

9. Lift the processor module from the ZIF socket.

## Replacing the Processor Module

➡ **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 processor and ZIF socket.

🔧 **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.

1. Align the pin-1 corner of the processor module with the pin-1 corner of the ZIF socket, and place the processor module on the socket.

When the processor module is correctly 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 correctly.

➡ **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.

🔧 **NOTE:** When you replace the processor thermal-cooling assembly, be sure to place a new thermal pad on the processor thermal-cooling assembly.

3. Replace the processor thermal-cooling assembly (see [Replacing the Processor Thermal-Cooling Assembly](#)).
4. Replace the left hard drive (see [Replacing a Hard Drive](#)).
5. Replace the top cover (see [Replacing the Top Cover](#)).
6. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

 **NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

7. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
8. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

---

[Back to Contents Page](#)

# Frame

## Dell™ XPS™ M2010 Service Manual

- [Removing the Frame](#)
- [Replacing the Frame](#)

**⚠ CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

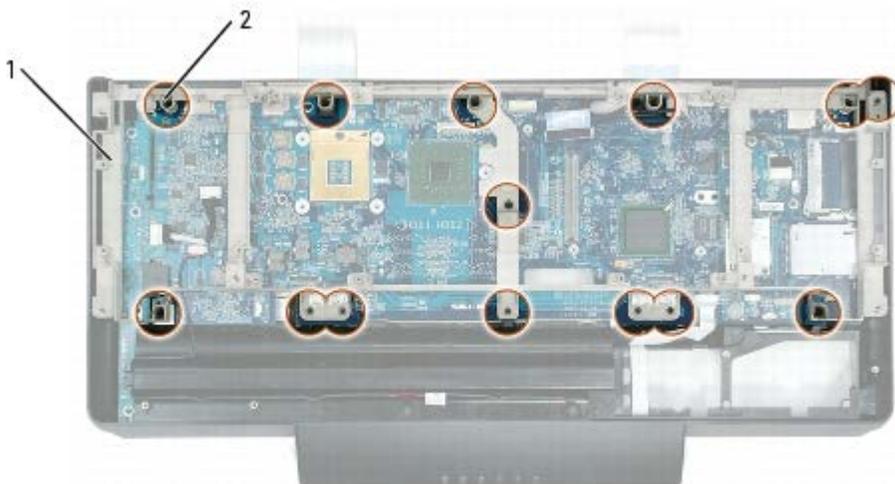
**➡ NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

---

## Removing the Frame

**➡ NOTICE:** To help prevent damage to the system board, you must remove the main battery before you begin working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Turn the computer over and open the display (see [Opening the Display](#)).
3. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
4. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
5. Remove the top cover (see [Removing the Top Cover](#)).
6. Remove the hard drive(s) (see [Removing a Hard Drive](#)).
7. Remove the system fans (see [Removing a System Fan](#)).
8. Remove the video card/thermal-cooling assembly (see [Removing the Video Card/Thermal-Cooling Assembly](#)).
9. Remove the processor thermal-cooling assembly (see [Removing the Processor Thermal-Cooling Assembly](#)).
10. Remove the frame by removing the fourteen M2.5 x 8-mm screws that attach the frame to the computer base.



1	frame	2	M2.5 x 8-mm screws (14)		
---	-------	---	-------------------------	--	--

---

## Replacing the Frame

1. Attach the frame to the computer base with fourteen M2.5 x 8-mm screws.
2. Replace the processor thermal-cooling assembly (see [Replacing the Processor Thermal-Cooling Assembly](#)).
3. Replace the video card/thermal-cooling assembly (see [Replacing the Video Card/Thermal-Cooling Assembly](#)).
4. Replace the system fans (see [Replacing a System Fan](#)).
5. Replace the hard drive(s) (see [Replacing a Hard Drive](#)).
6. Replace the top cover (see [Replacing the Top Cover](#)).
7. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

 **NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

8. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
9. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).

---

[Back to Contents Page](#)

# Modem

## Dell™ XPS™ M2010 Service Manual

[Removing the Modem](#)

[Replacing the Modem](#)

 **CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

 **NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

---

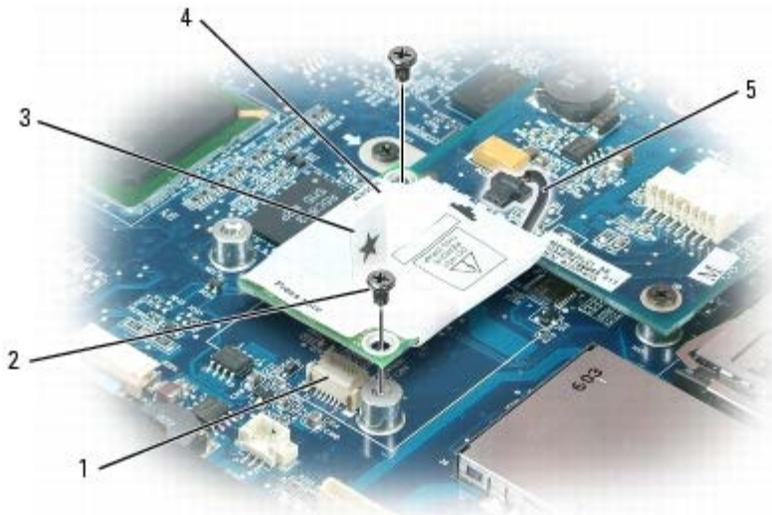
## Removing the Modem

 **NOTICE:** To help prevent damage to the system board, you must remove the main battery before you begin working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Turn the computer over and open the display (see [Opening the Display](#)).
3. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
4. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
5. Remove the top cover (see [Removing the Top Cover](#)).
6. Remove the hard drive(s) (see [Removing a Hard Drive](#)).
7. Remove the system fans (see [Removing a System Fan](#)).
8. Remove the video card/thermal-cooling assembly (see [Removing the Video Card/Thermal-Cooling Assembly](#)).
9. Remove the processor thermal-cooling assembly (see [Removing the Processor Thermal-Cooling Assembly](#)).
10. Remove the frame (see [Removing the Frame](#)).
11. Remove the two M2 x 3-mm screws that attach the modem to the system board.
12. Pull up on the pull-tab to disconnect the modem from the connector on the system board.

 **NOTICE:** Do not disconnect the modem cable from the system board.

13. Disconnect the modem cable from the modem.



1	system board connector	2	M2 x 3-mm screws (2)	3	pull-tab
4	modem	5	modem cable		

## Replacing the Modem

1. Connect the modem cable to the modem.

**NOTICE:** Ensure that the modem cable is routed correctly when you replace the modem.

2. Align the connector on the bottom of the modem with the modem connector on the system board, and press down on the "PRESS HERE" label on the modem to connect it to the system board.
3. Attach the modem to the system board with two M2 x 3-mm screws.
4. Replace the frame (see [Replacing the Frame](#)).
5. Replace the processor thermal-cooling assembly (see [Replacing the Processor Thermal-Cooling Assembly](#)).
6. Replace the video card/thermal-cooling assembly (see [Replacing the Video Card/Thermal-Cooling Assembly](#)).
7. Replace the system fans (see [Replacing a System Fan](#)).
8. Replace the hard drive(s) (see [Replacing a Hard Drive](#)).
9. Replace the top cover (see [Replacing the Top Cover](#)).
10. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).

**NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

11. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
12. Turn the computer upside down and replace the system battery (see [Replacing the System Battery](#)).



# System Board Assembly

## Dell™ XPS™ M2010 Service Manual

- [Removing the System Board Assembly](#)
- [Replacing the System Board Assembly](#)

 **CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

 **NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

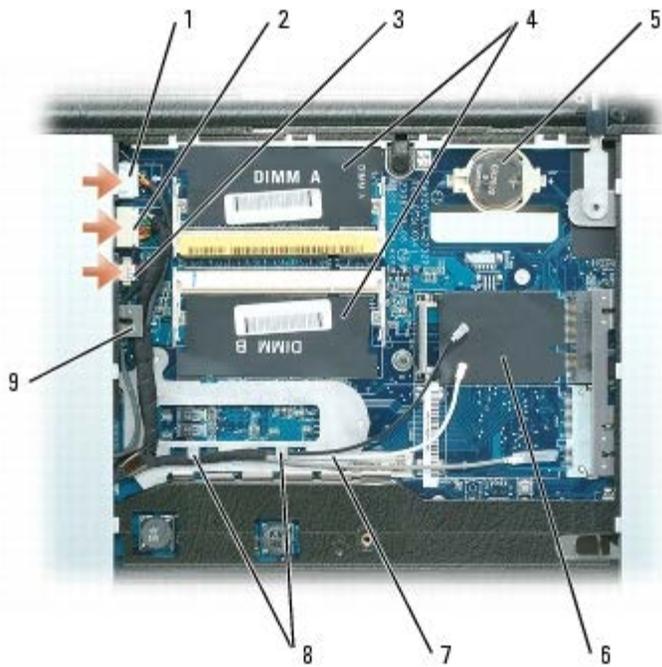
The system board's BIOS chip contains the Service Tag, which is also visible on a barcode label on the bottom of the computer in the battery compartment. The replacement kit for the system board includes a CD that provides a utility for transferring the Service Tag to the replacement system board.

---

## Removing the System Board Assembly

 **NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

1. Follow the instructions in [Before Working Inside Your Computer](#), including removing the system battery.
2. Remove the memory module cover (see [Removing the Memory Module Cover](#)).
3. Remove the memory module(s) (see [Removing the Memory Module](#)). Set the memory module(s) aside to install on the new system board.
4. Disconnect the mini card antenna cables from the mini card, unhook the cables from the routing hooks, and remove the mini card (see [Removing a Mini Card](#)). Set the mini card aside to install on the new system board.
5. Disconnect the cables from the system board connectors for the speakers, suspend and solenoid function, and infrared, and unhook the cables from the routing hook.
6. Remove the coin cell battery (see [Removing the Coin-Cell Battery](#)). Set the battery aside to install on the new system board.



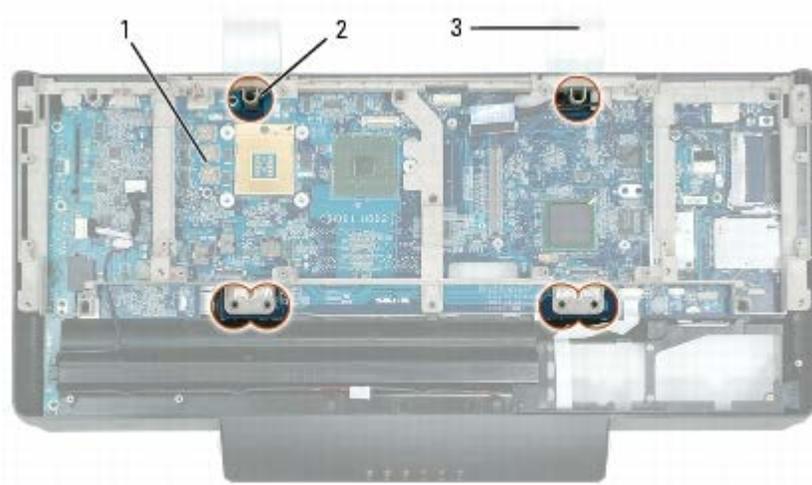
1	speaker cable	2	infrared cable	3	suspend and solenoid function cable
4	memory modules	5	coin-cell battery	6	mini card
7	mini card antenna cables	8	routing hooks for mini card antenna cables	9	routing hook

7. Turn the computer over and open the display (see [Opening the Display](#)).
8. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base. Set the keyboard aside.
9. Remove the cosmetic covers (see [Removing the Cosmetic Covers](#)).
10. Remove the top cover (see [Removing the Top Cover](#)).
11. Remove the hard drive(s) (see [Removing a Hard Drive](#)).
12. Remove the system fans (see [Removing a System Fan](#)).
13. Remove the video card/thermal-cooling assembly (see [Removing the Video Card/Thermal-Cooling Assembly](#)).
14. Remove the processor thermal-cooling assembly (see [Removing the Processor Thermal-Cooling Assembly](#)).
15. Disconnect the solenoid cable on the solenoid card.



1	system board	2	solenoid cable	3	solenoid card
---	--------------	---	----------------	---	---------------

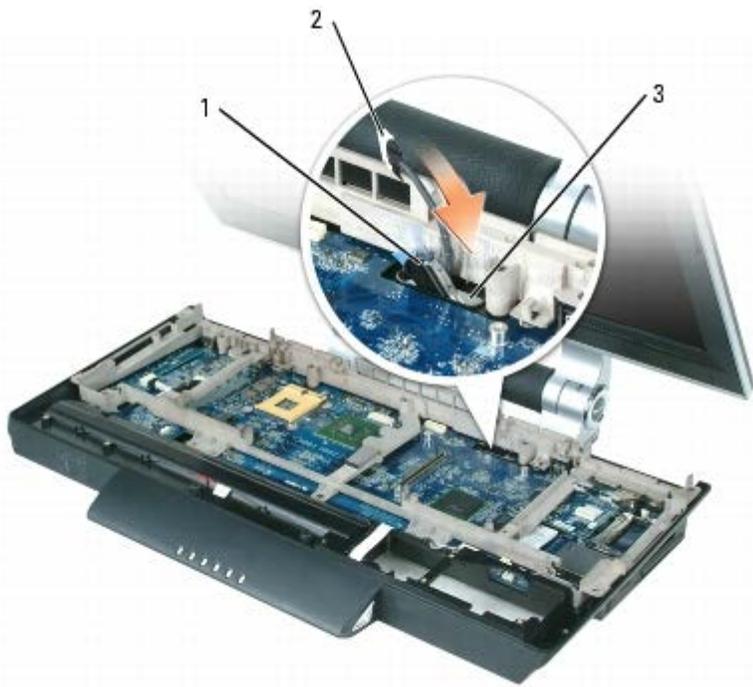
16. Remove the six M2.5 x 8-mm screws that attach the left and right hinge arms to the computer base.



1	system board	2	M2.5 x 8-mm screws (6)	3	hinge arms (2)
---	--------------	---	------------------------	---	----------------

17. Lift the computer base and carefully thread the solenoid and video cables through the opening in the bottom of the computer base. These cables are attached to the right hinge arm.

18. Remove the hinge arms and display from the computer base and set the display aside.



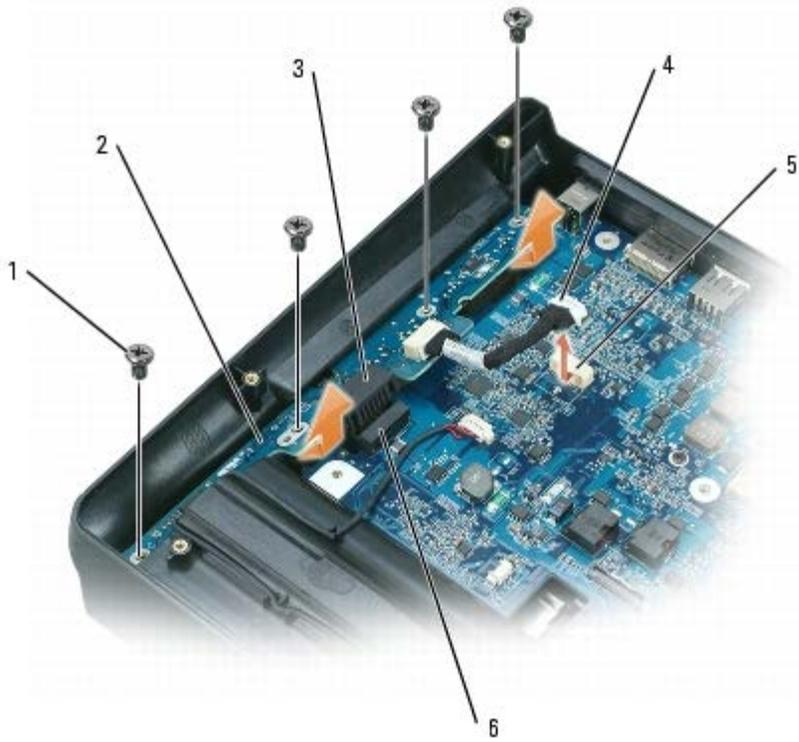
1	video cable	2	solenoid cable	3	opening in computer base
---	-------------	---	----------------	---	--------------------------

19. Remove the frame (see [Removing the Frame](#)).

20. Remove the modem (see [Removing the Modem](#)).

21. Remove the USB/audio port board from the system board:

- a. Disconnect the USB/audio cable from the system board.
- b. Remove the four M2.5 x 5-mm screws that attach the USB/audio port board to the system board.
- c. Grasp the black connector on the USB/audio port board with one hand, hold the black connector on the system board in place with the other hand, and pull up and angle the USB/audio port board out of the computer.



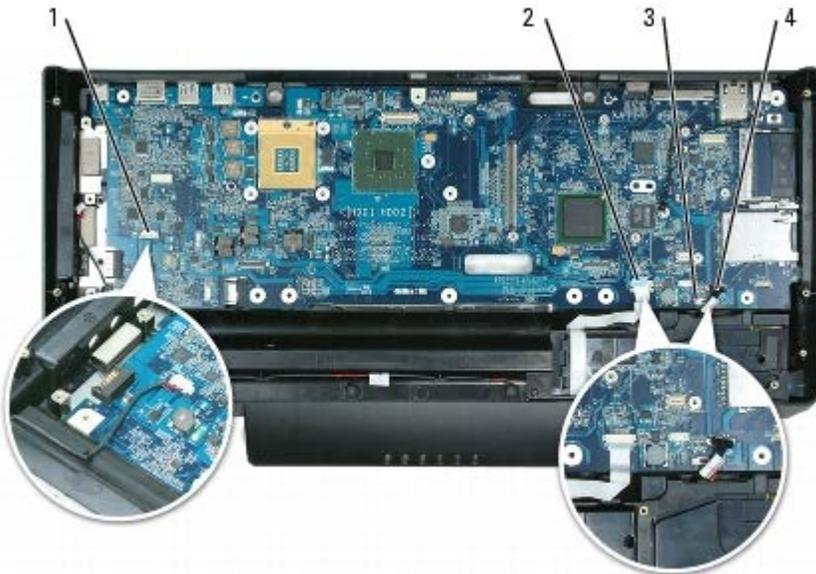
1	M2.5 x 5-mm screws (4)	2	USB/audio port board	3	black connector on USB/audio port board
4	USB/audio cable	5	cable connector on system board	6	black connector on system board

22. Disconnect the microphone cable from the system board.

23. Disconnect the keyboard cable from the system board. Pull the top of the connector out, then remove the flat cable.

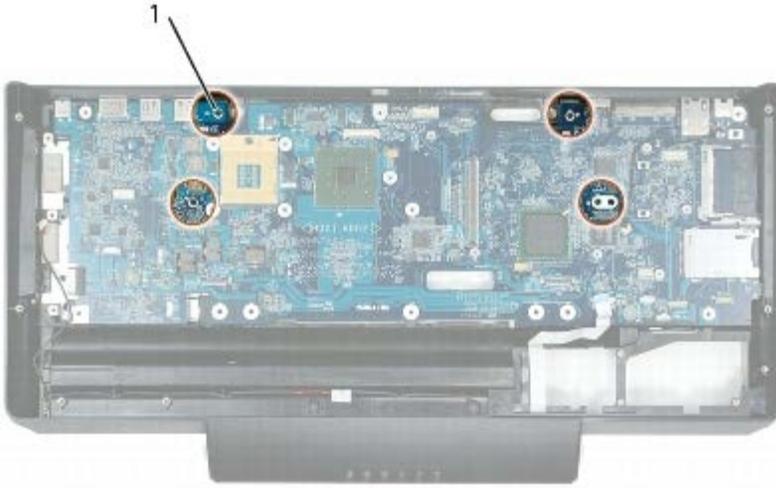
24. Disconnect the subwoofer cable from the system board.

25. Disconnect the cable for the internal card with Bluetooth® wireless technology from the system board.



1	microphone cable (JMIC)	2	keyboard cable (JKBDK)	3	subwoofer cable (JWOFR)
4	cable for internal card with Bluetooth wireless technology (JBT)				

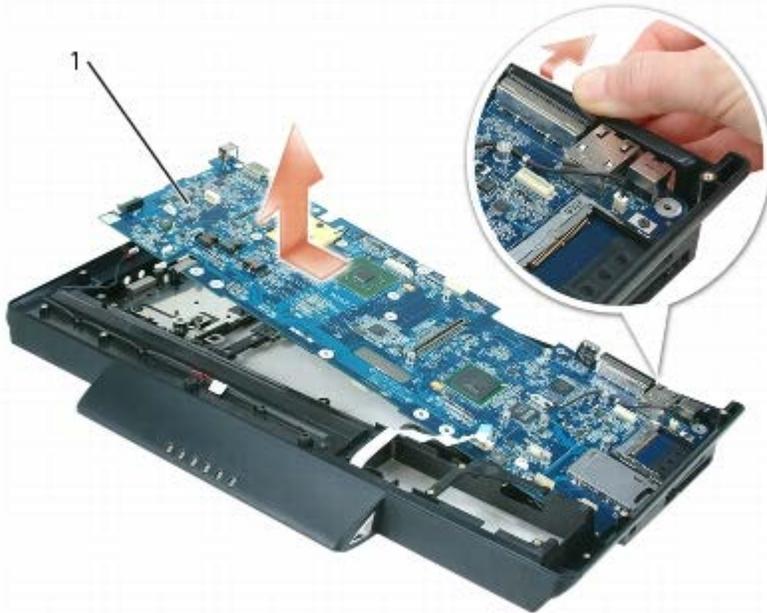
26. Remove the four M2.5 x 5-mm screws marked with white arrows on the system board.



1	arrows and M2.5 x 5-mm screws (4)				
---	-----------------------------------	--	--	--	--

27. Pull out slightly on the back right corner of the computer base to release the connectors on the system board from the base.

28. Lift the left side of the system board and slowly ease the connectors out of the computer base to remove the system board.



1	system board				
---	--------------	--	--	--	--

## Replacing the System Board Assembly

1. Insert the system board, slowly easing the connectors into their access holes on the back and side of the computer base.

Ensure that the cables for the microphone and keyboard are not underneath the system board.

2. Replace the four M2.5 x 5-mm screws marked with white arrows on the system board.
3. Replace the USB/audio port board:
  - a. Insert the USB/audio port board at an angle and push down on the black connector to snap the board into place.
  - b. Attach the USB/audio port board to the system board with four M2.5 x 5-mm screws.
  - c. Connect the USB/audio cable to the connector on system board (JAUDIO).
4. Connect the cable for the internal card with Bluetooth wireless technology to the connector on the system board (JBT).
5. Connect the subwoofer cable to the connector on the system board (JWOFR).
6. Connect the keyboard cable to the connector on the system board (JKBDK). Place the flat cable in the connector, then close the connector.
7. Connect the microphone cable to the connector on the system board (JMIC).
8. Replace the modem (see [Replacing the Modem](#)).
9. Thread the solenoid and video cables through the opening in the computer base.
10. Seat the computer base onto the hinge arms, aligning the screw holes in the computer base with those in the hinge arms.
11. Connect the solenoid cable to the solenoid card.
12. Replace the frame (see [Replacing the Frame](#)).
13. Replace the processor thermal-cooling assembly (see [Replacing the Processor Thermal-Cooling Assembly](#)).
14. Replace the video card/thermal-cooling assembly and connect the video cable to the video card (see [Replacing the Video Card/Thermal-Cooling Assembly](#)).
15. Replace the system fans (see [Replacing a System Fan](#)).
16. Replace the hard drive(s) (see [Replacing a Hard Drive](#)).
17. Replace the top cover (see [Replacing the Top Cover](#)).
18. Replace the cosmetic covers (see [Replacing the Cosmetic Covers](#)).



**NOTICE:** To avoid damage to the keyboard, ensure that you attach the keyboard securely before moving the computer.

19. Firmly attach the keyboard to the computer and close the display (see [Closing the Display](#)).
20. Turn the computer upside down.
21. Replace the coin cell battery (see [Replacing the Coin-Cell Battery](#)).
22. Connect the cables to the system board connectors for the speaker (JSPK), suspend and solenoid function (JHING), and infrared (JCIR).
23. Replace the mini card antenna cables and card (see [Replacing a Mini Card](#)).
24. Replace the memory module(s) and cover (see [Replacing the Memory Module](#)).
25. Replace the system battery (see [Replacing the System Battery](#)).

26. Turn the computer over and open the display (see [Opening the Display](#)).
  27. Detach the keyboard by grasping the sides of the keyboard and pulling it straight out from the computer base.
-  **NOTICE:** Before turning on the computer, ensure that no stray screws remain inside the computer. Failure to do so may result in damage to the computer.

28. Turn on the computer.

 **NOTE:** If you use a BIOS update program CD to flash the BIOS, press <F12> before inserting the CD so that you can set up the computer to boot from a CD this one time only. Otherwise, you must enter the system setup program to change the default boot order.

29. Insert the flash BIOS update program CD that accompanied the replacement system board assembly into the optical drive. Follow the instructions that appear on the screen. See [Flashing the BIOS](#) for further information.

 **NOTE:** The Service Tag is located in the battery compartment.

To update the BIOS on the new system board with the computer Service Tag, press <F2> during POST to enter the system setup program. See [Flashing the BIOS](#).

---

[Back to Contents Page](#)

# Computer Base

## Dell™ XPS™ M2010 Service Manual

### [Replacing the Computer Base](#)

 **CAUTION:** Before you begin the following procedure, follow the safety instructions in the *Product Information Guide*.

 **NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface. If you leave the area, ground yourself again when you return to the computer.

 **NOTICE:** To help prevent damage to the system board, remove the main battery before working inside the computer.

---

## Replacing the Computer Base

The computer base includes cables for the microphone and the keyboard. If you need to replace the computer base, follow all the instructions for removing the system board assembly (see [System Board Assembly](#)) and install all system components into the new computer base.

---

# Flashing the BIOS

## Dell™ XPS™ M2010 Service Manual

 **NOTICE:** Plug the AC adapter into a known good power source to prevent a loss of power. Failure to do so may cause system damage.

 **NOTE:** The Service Tag is located in the battery compartment.

1. Before flashing the BIOS, follow the instructions in [Before Working Inside Your Computer](#) to remove the battery and make a note the Service Tag number.
2. Ensure that the AC adapter is plugged in and that the main battery is installed properly.

 **NOTE:** If you use a BIOS update program CD to flash the BIOS, press <F12> before inserting the CD so that you can set up the computer to boot from a CD this one time only. Otherwise, you must enter the system setup program to change the default boot order.

3. Insert the BIOS update program CD, and turn on the computer.

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

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 will automatically reboot.

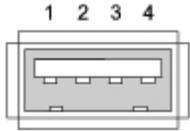
4. Press <F2> during POST to enter the system setup program to update the BIOS on the new system board with the computer Service Tag.
5. Press <Alt> and <f> to reset the computer defaults.
6. Press <Esc>, select **Save changes and reboot**, and press <Enter> to save configuration changes.
7. Remove the flash BIOS update program CD from the drive and restart the computer.

# Pin Assignments for I/O Connectors

## Dell™ XPS™ M2010 Service Manual

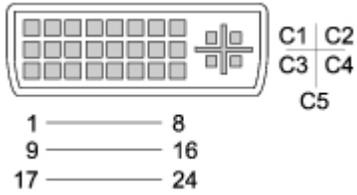
- [USB Connector](#)
- [DVI-I Connector](#)
- [S-Video TV-Out Connector](#)
- [IEEE 1394 Connector](#)

### USB Connector



Pin	Signal
1	USB5V+
2	USBP-
3	USBP+
4	GND

### DVI-I Connector

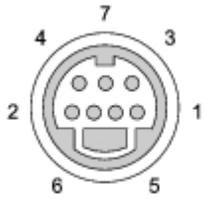


Pin	Signal	Pin	Signal
1	TMDS DATA2-	13	TMDS DATA3+
2	TMDS DATA2+	14	+5V
3	TMDS DATA2/4 SHLD	15	GND (FOR +5V)
4	TMDS DATA4-	16	HOT PLUG DETECT
5	TMDS DATA4+	17	TMDS DATA0-
6	DDC CLK	18	TMDS DATA0+
7	DDC DATA	19	TMDS DATA0/5 SHLD
8	ANALOG VERT SYNC	20	TMDS DATA5-
9	TMDS DATA1-	21	TMDS DATA5+
10	TMDS DATA1+	22	TMDS CLK SHLD

11	TMDS DATA1/3 SHLD	23	TMDS CLK+
12	TMDS DATA3-	24	TMDS CLK-

Pin	Signal
C1	ANALOG RED VID OUT
C2	ANALOG GRN VID OUT
C3	ANALOG BLU VID OUT
C4	ANALOG HOR SYNC
C5	ANALOG COM GND RET

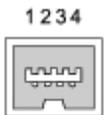
## S-Video TV-Out Connector



S-Video	
Pin	Signal
1	GND
2	GND
3	DLUMA-L
4	DCRMA-L

Composite Video	
Pin	Signal
5	NC
6	DCMPS-L
7	GND

## IEEE 1394 Connector



Pin	Signal
-----	--------

1	TPB-
2	TPB+
3	TPA-
4	TPA+

---

[Back to Contents Page](#)