

# Dell™ Studio XPS™ 9100 Service Manual

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## Notes, Cautions, and Warnings

-  **NOTE:** A NOTE indicates important information that helps you make better use of your computer.
-  **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.
-  **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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June 2010 Rev. A00

Regulatory model: DCRM

## Badge Back-Light Module

### Dell™ Studio XPS™ 9100 Service Manual

- [Removing the Badge Back-Light Module](#)
- [Replacing the Badge Back-Light Module](#)

**⚠ WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

**⚠ WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

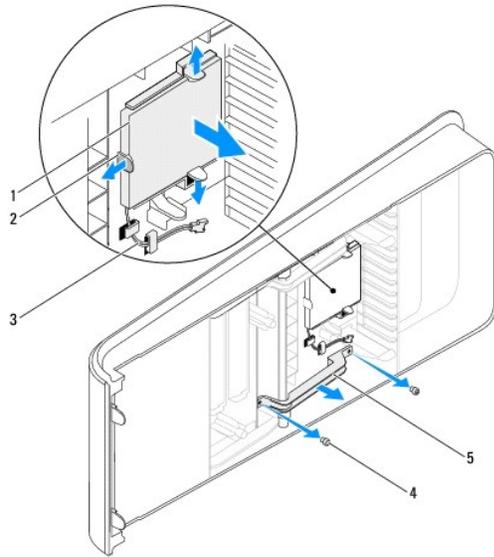
**⚠ WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.

**⚠ CAUTION:** 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.

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## Removing the Badge Back-Light Module

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Remove the front bezel (see [Removing the Front Bezel](#)).
4. Remove the two screws that secure the hinge to the front bezel.
5. Pull the hinge away from the front bezel.
6. Remove the badge back-light cable from the securing tabs.
7. Press the tabs away from the badge back-light module and pull the badge back-light module away from the front bezel.



1	badge back-light module	2	tabs (3)
3	badge back-light cable	4	screws (2)
5	hinge		

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## Replacing the Badge Back-Light Module

1. Follow the instructions in [Before You Begin](#).

2. Insert the badge back-light module into the slot on the front bezel.
  3. Press the badge back-light module down until it snaps into place.
  4. Route the badge back-light cable through the securing tabs.
  5. Align the screw holes on the hinge with the screw holes on the front bezel.
  6. Replace the two screws that secure the hinge to the front bezel.
  7. Replace the front bezel (see [Replacing the Front Bezel](#)).
  8. Replace the computer cover (see [Replacing the Computer Cover](#)).
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## Before You Begin

### Dell™ Studio XPS™ 9100 Service Manual

- [Technical Specifications](#)
- [Recommended Tools](#)
- [Turning Off Your Computer](#)
- [Safety Instructions](#)

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

- 1 You have performed the steps in [Turning Off Your Computer](#) and [Safety Instructions](#).
- 1 You have read the safety information that shipped with your computer.
- 1 A component can be replaced or—if purchased separately—installed by performing the removal procedure in reverse order.

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## Technical Specifications

For information on technical specifications of your computer, see the *Setup Guide* at [support.dell.com/manuals](http://support.dell.com/manuals).

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## Recommended Tools

The instructions in this document may require the following tools:

- 1 Small flat-blade screwdriver
- 1 Small Phillips screwdriver
- 1 BIOS executable update program available at [support.dell.com](http://support.dell.com)

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## Turning Off Your Computer

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

1. Save and close all open files and exit all open programs.
2. Shut down your computer:  
  
Click **Start** , and click **Shut Down**.
3. The computer turns off after the operating system shutdown process is complete.
4. Ensure that the computer is turned off. If your computer did not automatically turn off when you shut down the operating system, press and hold the power button until the computer turns off.

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## Safety Instructions

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

 **WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

 **CAUTION:** 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.

 **CAUTION:** When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors 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.

 **CAUTION:** To avoid damaging 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](#)) and all attached devices.

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

3. Disconnect all telephone or network cables from the computer.
4. Disconnect your computer and all attached devices from their electrical outlets.
5. Disconnect all attached devices from your computer.
6. Press and eject any installed cards from the Media Card Reader.
7. Press and hold the power button to ground the system board.

 **CAUTION:** Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

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## Front Bezel

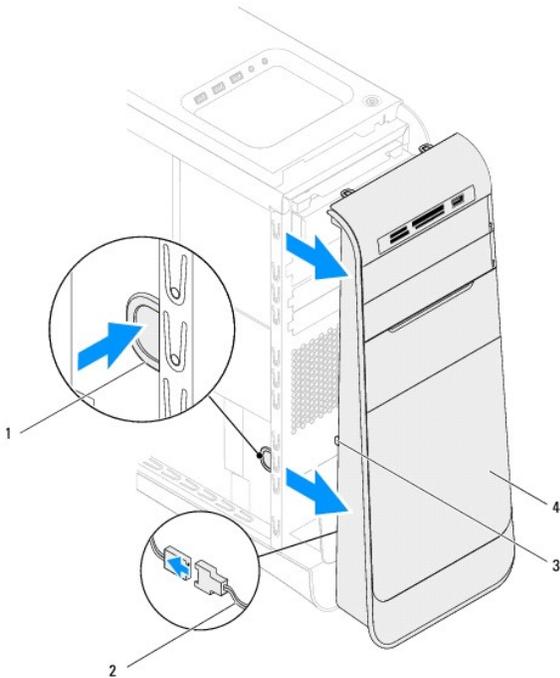
### Dell™ Studio XPS™ 9100 Service Manual

- [Removing the Front Bezel](#)
- [Replacing the Front Bezel](#)

- ⚠ **WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).
- ⚠ **WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.
- ⚠ **WARNING:** Do not operate your computer with any cover(s) (including computer covers, front bezels, filler brackets, front-panel inserts, etc.) removed.
- ⚠ **CAUTION:** 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.

## Removing the Front Bezel

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Place the computer in an upright position.
4. Press and hold the front-bezel release clamp and pull the front bezel away from the computer.
5. Disconnect the badge back-light cable from the front bezel.



1	front-bezel release clamp	2	badge back-light cable
3	front-bezel tabs	4	front bezel

6. Remove the badge back-light module (see [Removing the Badge Back- Light Module](#)).
7. Set aside the front bezel in a secure location.

📌 **NOTE:** Make a note of your computer's Service Tag/Express Service Code located on a label under the FlexBay panel. You will need the Service Tag/Express Service Code to identify your computer when you access the Dell Support website or contact technical support.

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## Replacing the Front Bezel

1. Follow the instructions in [Before You Begin](#).
2. Replace the badge back-light module (see [Replacing the Badge Back-Light Module](#)).
3. Align and insert the front bezel tabs into the slots on the chassis.
4. Push the front bezel towards the computer until the front-bezel tabs snap into place.
5. Replace the computer cover (see [Replacing the Computer Cover](#)).

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## Flashing the BIOS

### Dell™ Studio XPS™ 9100 Service Manual

The BIOS may require flashing when an update is available or when replacing the system board. To flash the BIOS:

1. Turn on the computer.
2. Go to [support.dell.com/support/downloads](http://support.dell.com/support/downloads).
3. Locate the BIOS update file for your computer.

 **NOTE:** The Service Tag for your computer is located on a label under the FlexBay panel on the front of your computer.

If you have your computer's Service Tag:

- a. Click **Enter a Service Tag**.
- b. Enter your computer's Service Tag in the **Enter a service tag** field, click **Go**, and proceed to [step 4](#).

If you do not have your computer's Service Tag:

- a. Select the type of product in the **Select Your Product Family** list.
- b. Select the product brand in the **Select Your Product Line** list.
- c. Select the product model number in the **Select Your Product Model** list.

 **NOTE:** If you have selected a different model and want to start over again, click **Start Over** on the top right of the menu.

- d. Click **Confirm**.
  4. A list of results appear on the screen. Click **BIOS**.
  5. Click **Download Now** to download the latest BIOS file. The **File Download** window appears.
  6. Click **Save** to save the file on your desktop. The file downloads to your desktop.
  7. Click **Close** if the **Download Complete** window appears. The file icon appears on your desktop and is titled the same as the downloaded BIOS update file.
  8. Double-click the file icon on the desktop and follow the instructions that appear on the screen.
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## PCI and PCI Express Cards

### Dell™ Studio XPS™ 9100 Service Manual

- [Removing PCI and PCI Express Cards](#)
- [Replacing PCI and PCI Express Cards](#)
- [Configuring Your Computer After Removing or Installing PCI and PCI Express Cards](#)

**WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

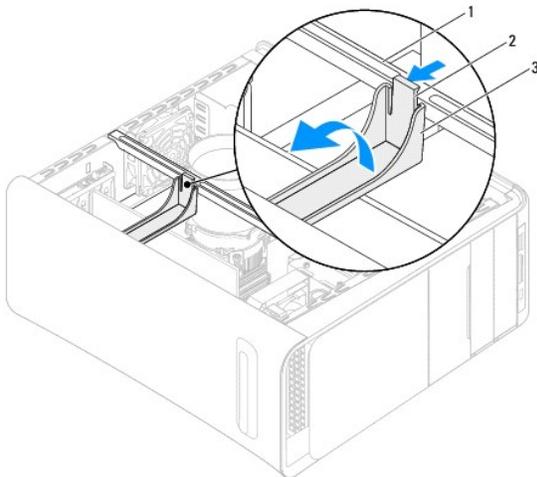
**WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

**WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.

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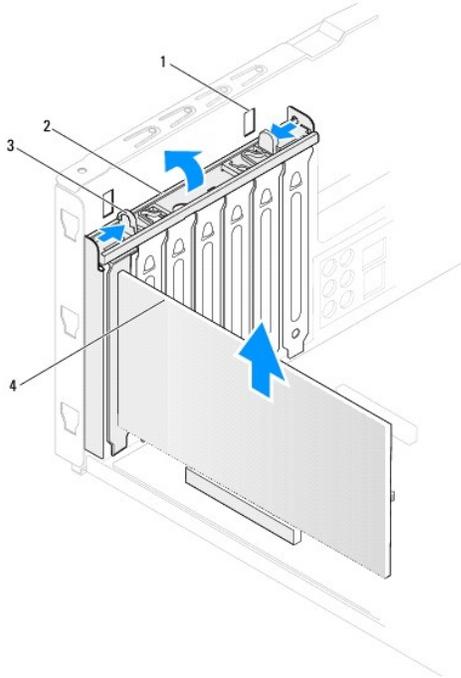
## Removing PCI and PCI Express Cards

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Push the tab on the expansion card retainer to release it from the alignment bar and pivot it away from the chassis.



1	alignment bar	2	tab
3	expansion card retainer		

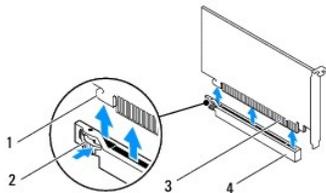
4. Disconnect any cables connected to the card, if applicable.
5. Press the tabs of the PCI support bracket and push the PCI support bracket to the back of the computer until it clicks into the slots on the back of the computer.



1	slots (2)	2	PCI support bracket
3	tabs (2)	4	expansion card

6. Remove the expansion card from the card slot:

- 1 For a PCI, PCI Express x1, or PCI Express x8 card, grasp the card by its top corners, and ease it out of its connector.
- 1 For a PCI Express x16 card, press the retention mechanism, grasp the card by its top corners, and then ease it out of its connector.



1	securing tab	2	retention mechanism
3	PCI Express x16 card	4	PCI Express x16 card connector

7. If you are removing the card permanently:

- a. Install a filler bracket in the empty card-slot opening.

**NOTE:** Installing filler brackets over empty card-slot openings is necessary to maintain FCC certification of the computer. The brackets also keep dust and dirt out of your computer.

- b. Push the PCI support bracket down until it clicks into the filler brackets.
- c. Pivot the expansion card retainer towards the alignment bar until it snaps into place.
- d. Replace the computer cover (see [Replacing the Computer Cover](#)).
- e. To complete the removal procedure, see [Configuring Your Computer After Removing or Installing PCI and PCI Express Cards](#).

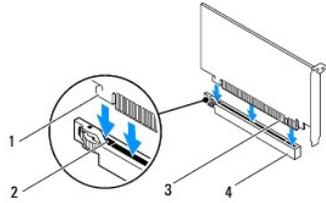
## Replacing PCI and PCI Express Cards

1. Follow the instructions in [Before You Begin](#).

2. Prepare the card for installation.

See the documentation that shipped with the card for information on configuring the card, making internal connections, or otherwise customizing it for your computer.

3. If you are installing a PCI Express card into the x16 card connector, position the card so the securing slot is aligned with the securing tab.



1	securing tab	2	securing slot
3	PCI Express x16 card	4	PCI Express x16 card connector

4. Place the card in the connector on the system board and press down firmly. Ensure that the card is fully seated in the connector.
5. Push the PCI support bracket down until it clicks into the filler brackets.
6. Pivot the expansion card retainer towards the alignment bar until it snaps into place.
7. Connect any cables that should be attached to the card.

See the documentation that shipped with the card for information about the card's cable connections.

**CAUTION:** Do not route card cables over or behind the cards. Cables routed over the cards can prevent the computer cover from closing properly or cause damage to the equipment.

8. Replace the computer cover (see [Replacing the Computer Cover](#)).
9. Reconnect the computer and devices to electrical outlets, and then turn them on.
10. To complete the installation, see [Configuring Your Computer After Removing or Installing PCI and PCI Express Cards](#).

## Configuring Your Computer After Removing or Installing PCI and PCI Express Cards

**NOTE:** For information on the location of external connectors, see the *Setup Guide*. For information on installing drivers and software for your card, see the documentation that shipped with the card.

	Installed	Removed
<b>Sound card</b>	<ol style="list-style-type: none"> <li>1. Enter system setup (see <a href="#">System Setup</a>).</li> <li>2. Go to <b>Onboard Audio Controller</b> and then change the setting to <b>Disabled</b>.</li> <li>3. Connect the external audio devices to the sound card's connectors.</li> </ol>	<ol style="list-style-type: none"> <li>1. Enter system setup (see <a href="#">System Setup</a>).</li> <li>2. Go to <b>Onboard Audio Controller</b> and then change the setting to <b>Enabled</b>.</li> <li>3. Connect the external audio devices to the computer's back panel connectors.</li> </ol>
<b>Network card</b>	<ol style="list-style-type: none"> <li>1. Enter system setup (see <a href="#">System Setup</a>).</li> <li>2. Go to <b>Onboard LAN Controller</b> and then change the setting to <b>Disabled</b>.</li> <li>3. Connect the network cable to the network card's connector.</li> </ol>	<ol style="list-style-type: none"> <li>1. Enter system setup (see <a href="#">System Setup</a>).</li> <li>2. Go to <b>Onboard LAN Controller</b> and then change the setting to <b>Enabled</b>.</li> <li>3. Connect the network cable to the integrated network connector.</li> </ol>



## Coin-Cell Battery

### Dell™ Studio XPS™ 9100 Service Manual

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

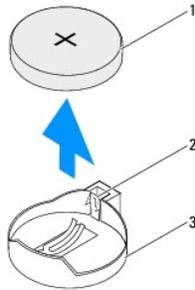
- ⚠ **WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).
  - ⚠ **WARNING:** A new battery can explode if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
  - ⚠ **WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.
  - ⚠ **WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.
  - ⚠ **CAUTION:** 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.
- 

## Removing the Coin-Cell Battery

1. Record all the screens in system setup (see [System Setup](#)) so that you can restore the correct settings after the new coin-cell battery has been installed.
2. Follow the instructions in [Before You Begin](#).
3. Remove the computer cover (see [Removing the Computer Cover](#)).
4. Locate the battery socket on the system board (see [System Board Components](#)).

- ⚠ **CAUTION:** If you pry the battery out of its socket with a blunt object, be careful not to touch the system board with the object. Ensure that the object is inserted between the battery and the socket before you attempt to pry out the battery. Otherwise, you may damage the system board by prying off the socket or by breaking circuit traces on the system board.

5. Press the battery-release lever to remove the coin-cell battery.



1	coin-cell battery	2	battery-release lever
3	battery socket		

6. Set aside the coin-cell battery in a secure location.
- 

## Replacing the Coin-Cell Battery

1. Follow the instructions in [Before You Begin](#).
2. Insert the new coin-cell battery (CR2032) into the socket with the side labeled "+" facing up, and press the coin-cell battery into place.
3. Replace the computer cover (see [Replacing the Computer Cover](#)).
4. Connect your computer and devices to electrical outlets, and then turn them on.

5. Enter system setup (see [System Setup](#)) and restore the settings you recorded in [step 1](#).

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## Computer Cover

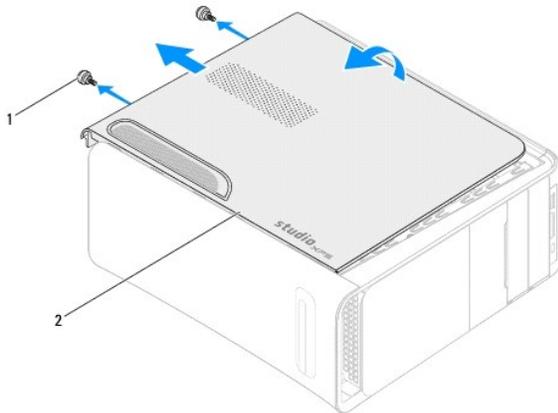
### Dell™ Studio XPS™ 9100 Service Manual

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

- ⚠ WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).
- ⚠ WARNING:** To guard against likelihood of electric shock, laceration by moving fan blades, or other unexpected injuries, always unplug your computer from the electrical outlet before removing the cover.
- ⚠ WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.
- ⚠ CAUTION:** 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.
- ⚠ CAUTION:** Ensure that sufficient space exists to support the computer with the cover removed—at least 30 cm (1 ft.) of desk top space.
- 

## Removing the Computer Cover

1. Follow the instructions in [Before You Begin](#).
2. Lay the computer on its side with the computer cover facing up.
3. Unlock and remove the security cable, if applicable.
4. Remove the two thumbscrews that secure the computer cover to the chassis, using a screw driver, if necessary.
5. Release the computer cover by sliding it away from the front of the computer.
6. Lift the cover away from the computer and set it aside in a secure location.



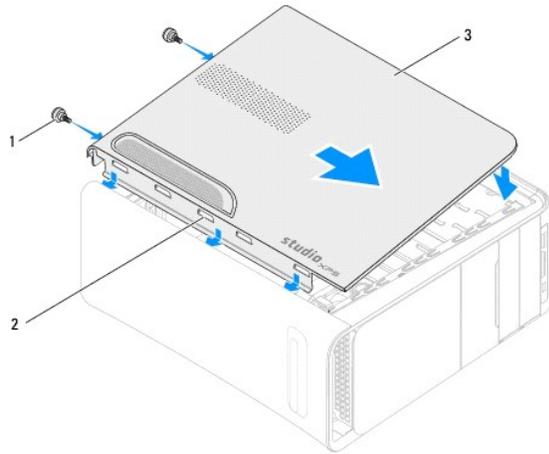
1	thumbscrews (2)	2	computer cover
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## Replacing the Computer Cover

1. Follow the instructions in [Before You Begin](#).
2. Connect all the cables and fold the cables out of the way.
3. Ensure that no tools or extra parts are left inside the computer.
4. Align the slots at the bottom of the computer cover with the tabs located along the edge of the chassis.

5. Press the computer cover down and slide it towards the front of the computer.
6. Replace the two thumbscrews that secure the computer cover to the chassis.



1	thumbscrews (2)	2	slots
3	computer cover		

7. Place the computer in an upright position.

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## Processor

### Dell™ Studio XPS™ 9100 Service Manual

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

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  - ⚠ **CAUTION:** 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.
  - ⚠ **CAUTION:** Do not perform the following steps unless you are familiar with hardware removal and replacement. Performing these steps incorrectly could damage your system board. To contact Dell for technical service, see the *Setup Guide*.
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## Removing the Processor

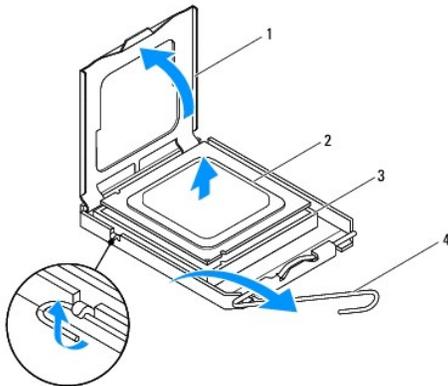
1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).

- ⚠ **CAUTION:** 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.
- ⚠ **CAUTION:** Despite having a plastic shield, the processor fan and heat sink assembly may be very hot during normal operation. Ensure that it has had sufficient time to cool before you touch it.

3. Remove the processor fan and heat sink assembly (see [Removing the Processor Fan and Heat Sink Assembly](#)).

🔍 **NOTE:** Unless a new processor fan and heat sink is required for the new processor, reuse the original processor fan and heat sink assembly when you replace the processor.

4. Press and push the release lever down and out to release it from the tab that secures it.
5. Open the processor cover.



1	processor cover	2	processor
3	socket	4	release lever

- ⚠ **CAUTION:** When removing the processor, do not touch any of the pins inside the socket or allow any objects to fall on the pins in the socket.

6. Gently lift the processor to remove it from the socket.

Leave the release lever extended in the release position so that the socket is ready for the new processor.

## Replacing the Processor

**CAUTION:** Ground yourself by touching an unpainted metal surface on the back of the computer.

**CAUTION:** When replacing the processor, do not touch any of the pins inside the socket or allow any objects to fall on the pins in the socket.

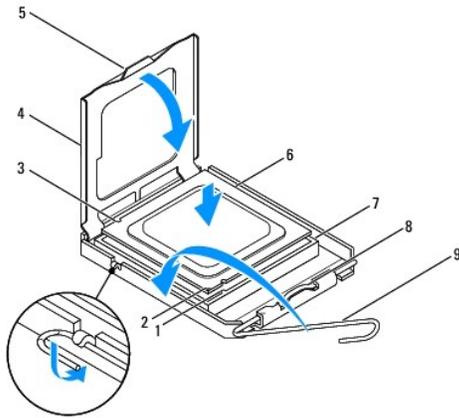
1. Follow the instructions in [Before You Begin](#).
2. Unpack the new processor, being careful not to touch the underside of the processor.

**CAUTION:** You must position the processor correctly in the socket to avoid permanent damage to the processor and the computer when you turn on the computer.

3. If the release lever on the socket is not fully extended, move it to that position.
4. Orient the front and rear alignment-notches on the processor with the front and rear alignment-tabs on the socket.
5. Align the pin-1 corners of the processor and socket.

**CAUTION:** To avoid damage, ensure that the processor aligns properly with the socket, and do not use excessive force when you install the processor.

6. Set the processor gently in the socket and ensure that the processor is positioned correctly.
7. When the processor is fully seated in the socket, close the processor cover. Ensure that the tab on the processor cover is positioned underneath the center cover latch on the socket.
8. Pivot the socket release lever back towards the socket, and snap it into place to secure the processor.



1	front alignment notch	2	processor pin-1 indicator	3	rear alignment notch
4	processor cover	5	tab	6	processor
7	socket	8	center cover latch	9	release lever

9. Clean the thermal grease from the bottom of the heat sink.

**CAUTION:** Ensure that you apply new thermal grease. New thermal grease is critical for ensuring adequate thermal bonding, which is a requirement for optimal processor operation.

10. Apply the new thermal grease to the top of the processor.
11. Replace the processor fan and heat sink assembly (see [Replacing the Processor Fan and Heat Sink Assembly](#)).

 **CAUTION:** Ensure that the processor fan and heat sink assembly is correctly seated and secure.

12. Replace the computer cover (see [Replacing the Computer Cover](#)).

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## Drives

### Dell™ Studio XPS™ 9100 Service Manual

- [Removing the Hard Drive](#)
- [Replacing the Hard Drive](#)
- [Removing the Optical Drive](#)
- [Replacing the Optical Drive](#)
- [Removing the Media Card Reader](#)
- [Replacing the Media Card Reader](#)

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**⚠ CAUTION:** 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.

## Removing the Hard Drive

**⚠ CAUTION:** If you are replacing a hard drive that contains data you want to keep, back up your files before you begin this procedure.

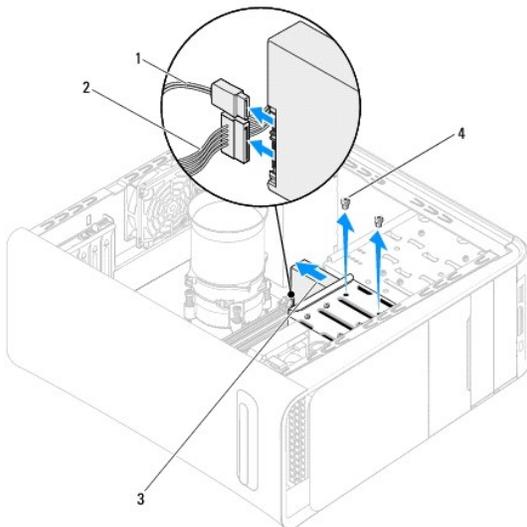
1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Disconnect the power and data cables from the hard drive.

**🔍 NOTE:** If you are not replacing the hard drive at this time, disconnect the other end of the data cable from the system board connector and set it aside. You can use the data cable to install a hard drive at a later time.

4. Remove the two screws that secure the hard drive to the chassis.

**⚠ CAUTION:** Ensure that you do not scratch the hard drive's circuit board, while removing or replacing the hard drive.

5. Slide the hard drive out towards the back of the computer.



1	data cable	2	power cable
---	------------	---	-------------

3	hard drive	4	screws (2)
---	------------	---	------------

6. If removing the hard drive changes the drive configuration, ensure that you reflect these changes in the system setup (see [System Setup](#)).

---

## Replacing the Hard Drive

1. Follow the instructions in [Before You Begin](#).
2. Check the documentation that shipped with the drive to verify that it is configured for your computer.
3. Slide the hard drive into the hard drive bay.
4. Align the screw holes on the hard drive with the screw holes on the chassis.
5. Replace the two screws that secure the hard drive to the chassis.
6. Connect the power and data cables to the hard drive.
7. If disconnected, connect the other end of the data cable to the system board connector (see [System Board Components](#)).
8. Replace the computer cover (see [Replacing the Computer Cover](#)).
9. Connect your computer and devices to electrical outlets, and then turn them on.
10. See the documentation that shipped with the drive for instructions on installing any software required for drive operation.
11. Check the System Setup for drive configuration changes (see [System Setup](#)).

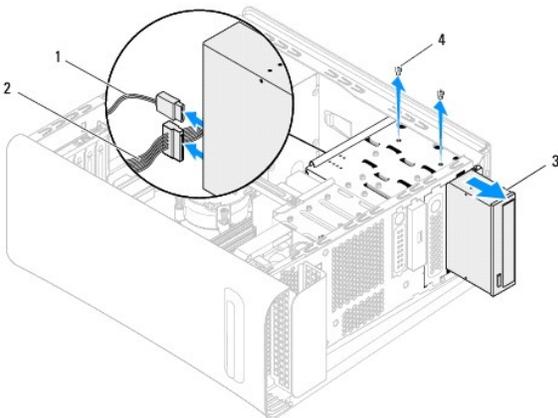
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## Removing the Optical Drive

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Remove the front bezel (see [Removing the Front Bezel](#)).
4. Disconnect the power and data cables from the optical drive.

 **NOTE:** If you are not replacing the optical drive at this time, disconnect the other end of the data cable from the system board connector and set it aside. You can use the data cable to install an optical drive at a later time.

5. Remove the two screws that secure the optical drive to the chassis.
6. Push and slide the optical drive out through the front of the computer.



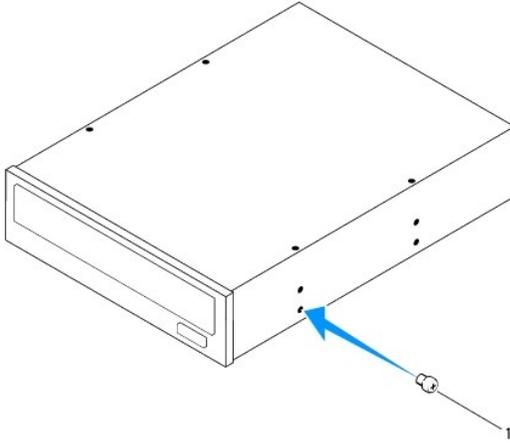
1	data cable	2	power cable
3	optical drive	4	screws (2)

7. Set aside the optical drive in a secure location.

---

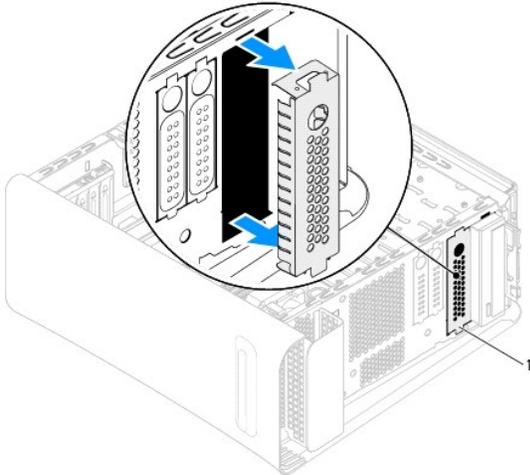
## Replacing the Optical Drive

1. Follow the instructions in [Before You Begin](#).
2. Remove the screw from the old optical drive and insert it into the new optical drive.



1 screw

3. To install a secondary optical drive, pull the metal plate away from the chassis.



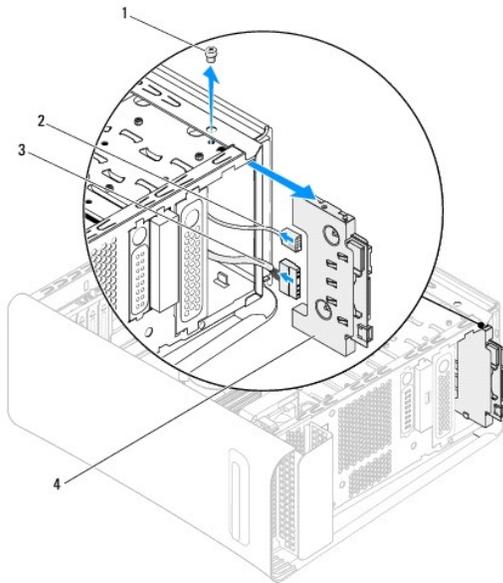
1 metal plate

4. Gently slide the optical drive into the optical drive bay through the front of the computer.
5. Align the screw holes on the optical drive with the screw holes on the chassis.
6. Replace the two screws that secure the optical drive to the chassis.

7. Connect the power and data cables to the optical drive.
  8. If disconnected, connect the other end of the data cable to the system board connector (see [System Board Components](#)).
  9. Replace the front bezel (see [Replacing the Front Bezel](#)).
  10. Replace the computer cover (see [Replacing the Computer Cover](#)).
  11. Connect your computer and devices to electrical outlets, and turn them on.
  12. See the documentation that shipped with the drive for instructions on installing any software required for drive operation.
  13. Check the System Setup for drive configuration changes (see [System Setup](#)).
- 

## Removing the Media Card Reader

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Remove the front bezel (see [Removing the Front Bezel](#)).
4. Remove the optical drive (see [Removing the Optical Drive](#)).
5. Remove the screw that secures the Media Card Reader to the chassis.
6. Push and slide the Media Card Reader out through the front of the computer.
7. Disconnect the power and data cables from the back of the Media Card Reader.



1	screw	2	data cable
3	power cable	4	Media Card Reader

---

## Replacing the Media Card Reader

1. Follow the instructions in [Before You Begin](#).

2. Connect the power and data cables to the back of the Media Card Reader.
  3. Gently slide the Media Card Reader into the drive bay.
  4. Replace the screw that secures the Media Card Reader to the chassis.
  5. Replace the optical drive (see [Replacing the Optical Drive](#)).
  6. Replace the front bezel (see [Replacing the Front Bezel](#)).
  7. Replace the computer cover (see [Replacing the Computer Cover](#)).
  8. Connect your computer and devices to electrical outlets, and then turn them on.
- 

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## Fans

### Dell™ Studio XPS™ 9100 Service Manual

- [Removing the Chassis Fan](#)
- [Replacing the Chassis Fan](#)
- [Removing the Processor Fan and Heat Sink Assembly](#)
- [Replacing the Processor Fan and Heat Sink Assembly](#)
- [Removing the Front Fan](#)
- [Replacing the Front Fan](#)

**⚠ WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

**⚠ WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

**⚠ WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.

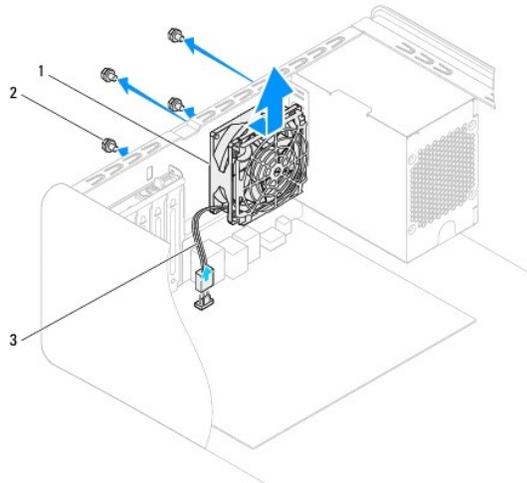
**⚠ CAUTION:** Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.

---

## Removing the Chassis Fan

**⚠ CAUTION:** Do not touch the fan blades when you are removing the chassis fan, as this could damage the fan.

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Disconnect the chassis fan cable from the system board connector SYS\_FAN (see [System Board Components](#)).
4. Remove the four screws that secure the chassis fan to the chassis.
5. Slide and lift the chassis fan away from the computer as shown in the illustration.



1	chassis fan	2	screws (4)
3	chassis fan cable		

---

## Replacing the Chassis Fan

1. Follow the instructions in [Before You Begin](#).

2. Align the screw holes on the chassis fan with the screw holes on the chassis.
3. Replace the four screws that secure the chassis fan to the chassis.
4. Connect the chassis fan cable to the system board connector SYS\_FAN (see [System Board Components](#)).
5. Replace the computer cover (see [Replacing the Computer Cover](#)).

---

## Removing the Processor Fan and Heat Sink Assembly

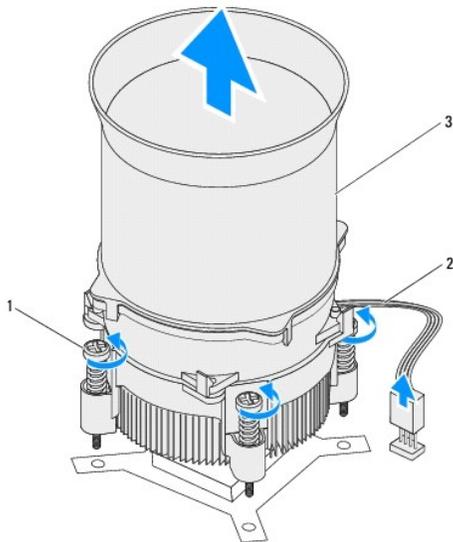
**⚠ WARNING:** Despite having a plastic shield, the processor fan and heat sink assembly may be very hot during normal operation. Ensure that it has had sufficient time to cool before you touch it.

**⚠ CAUTION:** The processor fan and heat sink assembly is a single unit. Do not try to remove the fan separately.

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Disconnect the processor fan cable from the system board connector CPU\_FAN (see [System Board Components](#)).
4. Carefully move away any cables that are routed over the processor fan and heat sink assembly.
5. Loosen the four captive screws that secure the processor fan and heat sink assembly to the system board.

**⚠ CAUTION:** When you remove the processor fan and heat sink assembly, lay it upside down or on its side to avoid damaging the heat sink thermal interface.

6. Lift the processor fan and heat sink assembly out of the computer.



1	captive screws (4)	2	processor fan cable
3	processor fan and heat sink assembly		

---

## Replacing the Processor Fan and Heat Sink Assembly

1. Follow the instructions in [Before You Begin](#).
2. Clean the thermal grease from the bottom of the heat sink.

**CAUTION:** Ensure that you apply new thermal grease. New thermal grease is critical for ensuring adequate thermal bonding, which is a requirement for optimal processor operation.

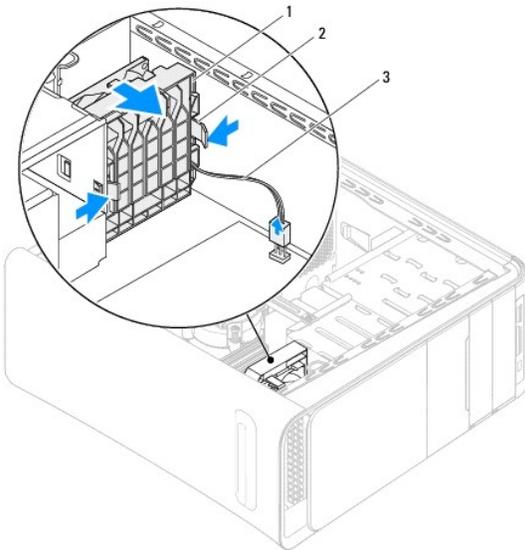
3. Apply new thermal grease to the top of the processor.
4. Align the four captive screws on the processor fan and heat sink assembly with the screw holes on the system board.
5. Tighten the four captive screws that secure the processor fan and heat sink assembly to the system board.
6. Connect the processor fan cable to the system board connector CPU\_FAN (see [System Board Components](#)).
7. Replace the computer cover (see [Replacing the Computer Cover](#)).
8. Connect your computer and devices to electrical outlets, and turn them on.

---

## Removing the Front Fan

**CAUTION:** Do not touch the fan blades when you are removing the front fan, as this could damage the fan.

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Disconnect the front fan cable from the system board connector PWR\_FAN (see [System Board Components](#)).
4. Press the tabs and pull the front fan towards the back of the computer.
5. Lift the fan out of the computer, and set it aside.



1	front fan	2	tabs (2)
3	front fan cable		

---

## Replacing the Front Fan

1. Follow the instructions in [Before You Begin](#).
2. Align the tabs on the front fan with the slots on the chassis.

3. Push the front fan towards the front of the computer, until the tabs snap into place.
  4. Connect the front fan cable to the system board connector PWR\_FAN (see [System Board Components](#)).
  5. Replace the computer cover (see [Replacing the Computer Cover](#)).
- 

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## Memory Module(s)

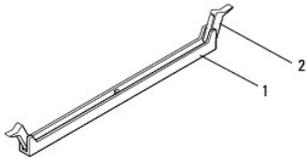
### Dell™ Studio XPS™ 9100 Service Manual

- [Removing the Memory Module\(s\)](#)
- [Replacing the Memory Module\(s\)](#)

- WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).
- WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.
- WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.
- CAUTION:** 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.
- 

## Removing the Memory Module(s)

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Locate the memory module(s) on the system board (see [System Board Components](#)).
4. Press out the securing clip at each end of the memory module connector.



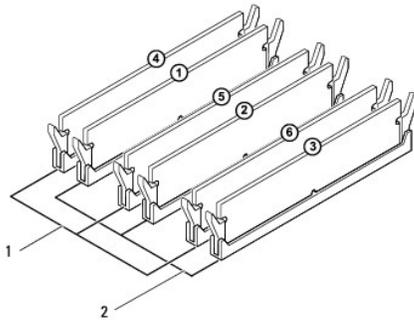
1	memory module connector	2	securing clip
---	-------------------------	---	---------------

5. Grasp the memory module and pull it upwards.  
If the memory module is difficult to remove, gently ease the memory module back and forth to remove it from the connector.
- 

## Replacing the Memory Module(s)

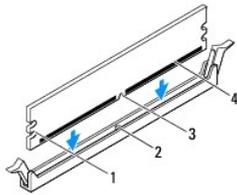
1. Follow the instructions in [Before You Begin](#).
2. Press out the securing clip at each end of the memory module connector.

- CAUTION:** 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.
- CAUTION:** Do not install ECC memory modules.
- CAUTION:** If you remove your original memory module(s) from the computer during a memory upgrade, keep them separate from any new memory module(s) that you may have, even if you purchased the new memory module(s) from Dell™. If possible, do not pair an original memory module with a new memory module. Otherwise, your computer may not start properly. The recommended memory configurations are: matched memory module(s) installed in DIMM connectors 4, 5, and 6 and another matched memory module(s) installed in DIMM connectors 1, 2, and 3.



1	matched memory modules in connectors DIMM4, DIMM5, and DIMM6 (pink connectors)	2	matched memory modules in connectors DIMM1, DIMM2, and DIMM3 (blue connectors)
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- Align the notch on the bottom of the memory module with the tab in the connector.

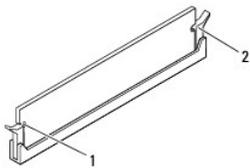


1	cutouts (2)	2	tab
3	notch	4	memory module

**CAUTION:** To avoid damage to the memory module, press the memory module straight down into the connector while you apply equal force to each end of the memory module.

- Insert the memory module into the connector until the memory module snaps into position.

If you insert the memory module correctly, the securing clips snap into the cutouts at each end of the memory module.



1	cutouts (2)	2	securing clip (snapped in position)
---	-------------	---	-------------------------------------

- Replace the computer cover (see [Replacing the Computer Cover](#)).
- Connect your computer and devices to electrical outlets, and then turn them on.  
If the message appears stating that memory size has changed, press <F1> to continue.
- Log on to your computer.
- Click **Start** , right-click **Computer**, and click **Properties**.
- To verify that the memory is installed correctly, check the amount of memory (RAM) listed.

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## Power Supply

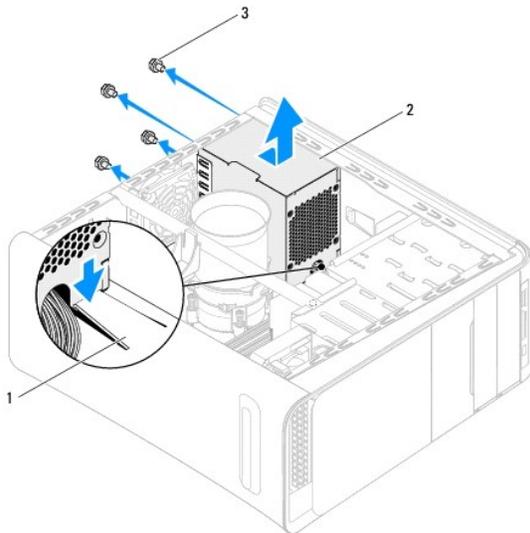
### Dell™ Studio XPS™ 9100 Service Manual

- [Removing the Power Supply](#)
- [Replacing the Power Supply](#)

- ⚠ **WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).
  - ⚠ **WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.
  - ⚠ **WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.
  - ⚠ **CAUTION:** 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.
- 

## Removing the Power Supply

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Disconnect the DC power cables from the system board and the drives (see [System Board Components](#)).
4. Release all cables from the securing clip on the bottom of the power supply.
5. Remove the four screws that secure the power supply to the chassis.
6. Press the tab and slide the power supply towards the front of the computer.
7. Lift the power supply away from the chassis.



1	tab	2	power supply
3	screws (4)		

## Replacing the Power Supply

1. Follow the instructions in [Before You Begin](#).
2. Slide the power supply towards the back of the chassis.

3. Align the screw holes on the power supply with the screw holes on the chassis.

 **WARNING:** Failure to replace and tighten all screws may cause electrical shock as these screws are a key part of the system grounding.

4. Replace the four screws that secure the power supply to the chassis.

5. Connect the DC power cables to the system board and drives (see [System Board Components](#)).

6. Replace the computer cover (see [Replacing the Computer Cover](#)).

7. Connect your computer and devices to electrical outlets, and turn them on.

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## Power Button Module

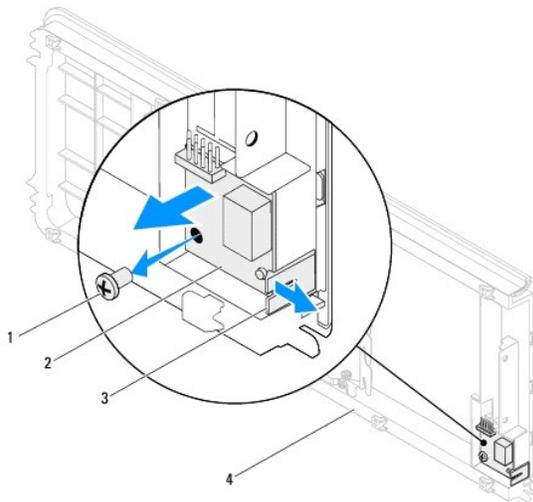
### Dell™ Studio XPS™ 9100 Service Manual

- [Removing the Power Button Module](#)
- [Replacing the Power Button Module](#)

- ⚠ **WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).
  - ⚠ **WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.
  - ⚠ **WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.
  - ⚠ **CAUTION:** 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.
- 

### Removing the Power Button Module

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Remove the front bezel (see [Removing the Front Bezel](#)).
4. Remove the top cover (see [Removing the Top Cover](#)).
5. Remove the screw that secures the power button module to the top cover.
6. Press out the securing tab and pull the power button module away from the top cover.



1	screw	2	power button module
3	securing tab	4	top cover

7. Set the power button module aside in a secure location.
- 

### Replacing the Power Button Module

1. Follow the instructions in [Before You Begin](#).
2. Align and push the power button module into the slot on the top cover.

3. Replace the screw that secures the power button module to the top cover.
4. Replace the top cover (see [Replacing the Top Cover](#)).
5. Replace the front bezel (see [Replacing the Front Bezel](#)).
6. Replace the computer cover (see [Replacing the Computer Cover](#)).
7. Connect your computer and devices to electrical outlets, and turn them on.

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## System Board

### Dell™ Studio XPS™ 9100 Service Manual

- [Removing the System Board](#)
- [Replacing the System Board](#)
- [Entering the Service Tag in the BIOS](#)

**WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

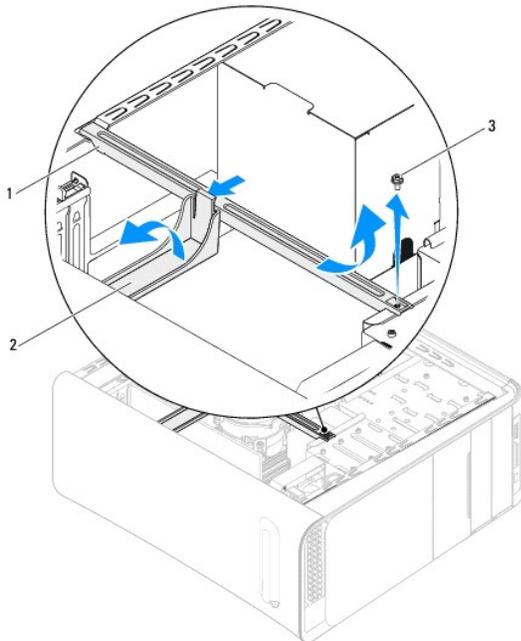
**WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

**WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.

**CAUTION:** 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.

## Removing the System Board

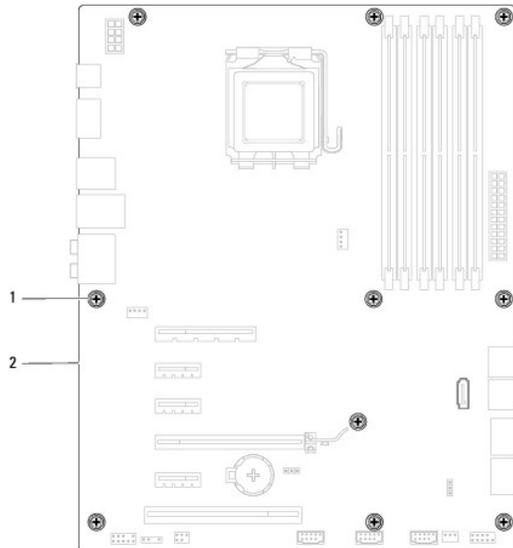
1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Push the tab on the expansion card retainer to release it from the alignment bar and pivot it away from the chassis.
4. Remove the screw that secures the alignment bar to the chassis.
5. Lift the alignment bar up and out of the chassis.



1	alignment bar	2	expansion card retainer
3	screw		

6. Remove any PCI and PCI Express cards, if applicable (see [Removing PCI and PCI Express Cards](#)).
7. Remove the processor fan and heat sink assembly (see [Removing the Processor Fan and Heat Sink Assembly](#)).
8. Remove the processor (see [Removing the Processor](#)).

- Remove the memory modules (see [Removing the Memory Module\(s\)](#)) and record which memory module is removed from each DIMM slot so that the memory modules can be installed in the same slot after the system board is replaced.
- Disconnect all cables connected to the system board (see [System Board Components](#)). Note the routing of all cables as you remove them so that you can re-route them correctly after installing the new system board.
- Remove the ten screws that secure the system board to the chassis.



1	screws (10)	2	system board
---	-------------	---	--------------

- Lift the system board up and out of the chassis.
- Compare the system board that you just removed with the replacement system board to ensure that they are identical.
  - NOTE:** Some components and connectors on the replacement system board may be in different locations compared to the components and connectors on the existing system board.
  - NOTE:** Jumper settings on the replacement system board is preset at the factory.

---

## Replacing the System Board

- Follow the instructions in [Before You Begin](#).
  - Gently place the system board into the chassis and slide it towards the back of the computer.
  - Replace the ten screws that secure the system board to the chassis.
  - Connect the cables that you disconnected from the system board (see [System Board Components](#)).
- CAUTION:** 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.
- Replace the processor (see [Replacing the Processor](#)).
- CAUTION:** Ensure that the heat sink assembly is correctly seated and secure.
- Replace the processor fan and the heat sink assembly (see [Replacing the Processor Fan and Heat Sink Assembly](#)).
  - Replace the memory modules (see [Replacing the Memory Module\(s\)](#)).
  - Replace any PCI and PCI Express cards on the system board, if applicable (see [Replacing PCI and PCI Express Cards](#)).

9. Place the alignment bar in the chassis.
10. Replace the screw that secures the alignment bar to the chassis.
11. Pivot the expansion card retainer towards the alignment bar until it snaps into place.
12. Replace the computer cover (see [Replacing the Computer Cover](#)).
13. Connect your computer and devices to electrical outlets, and turn them on.
14. Flash the system BIOS, as needed.

 **NOTE:** For information on flashing the system BIOS, see [Flashing the BIOS](#).

---

## Entering the Service Tag in the BIOS

1. Turn on the computer.
  2. Press <F2> during POST to enter the System Setup program.
  3. Navigate to the **System Info** tab and enter the Service Tag in the **Set Service Tag** field.
- 

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# System Setup

## Dell™ Studio XPS™ 9100 Service Manual

- [Overview](#)
- [Clearing Forgotten Passwords](#)
- [Clearing CMOS Settings](#)

### Overview

Use system setup to:

- 1 Change the system configuration information after you add, change, or remove any hardware in your computer
- 1 Set or change a user-selectable option such as the user password
- 1 Read the current amount of memory or set the type of hard drive installed

 **CAUTION:** 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.

 **CAUTION:** Unless you are an expert computer user, do not change the settings for this program. Certain changes can make your computer work incorrectly.

 **NOTE:** Before you change system setup, it is recommended that you write down the system setup screen information for future reference.

### Entering System Setup

1. Turn on (or restart) your computer.
2. When the DELL™ logo is displayed, watch for the F2 prompt to appear and then press <F2> immediately.

 **NOTE:** The F2 prompt indicates that the keyboard has initialized. This prompt can appear very quickly, so you must watch for it to display, and then press <F2>. If you press <F2> before you are prompted, this keystroke will be lost. If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft® Windows® desktop. Then, shut down your computer (see [Turning Off Your Computer](#)) and try again.

### System Setup Screens

The system setup screen displays the current or changeable configuration information for your computer. Information on the screen is divided into three areas: the options list, active options field, and key functions.

<b>Menu</b> — Appears on top of the System Setup window. This field provides a menu to access the System Setup options. Press the up- and down-arrow keys to navigate. As a <b>Menu</b> option is highlighted, the <b>Options List</b> , lists the options that define the hardware installed on you computer.		
<b>Options List</b> — Appears on the left side of the System Setup window. The field lists features that define the configuration of your computer, including installed hardware, power conservation, and security features. Scroll up and down the list using the up- and down-arrow keys. As an option is highlighted, the <b>Options Field</b> displays the option's current and available settings.	<b>Options Field</b> — Appears on the right side of <b>Options List</b> and contains information about each option listed in the <b>Options List</b> . In this field you can view information about your computer and make changes to your current settings. Press <Enter> to make changes to your current settings. Press <ESC> to return to the <b>Options List</b> .  <b>NOTE:</b> Not all settings listed in the <b>Options Field</b> are changeable.	<b>Help</b> — Appears on the right side of the System Setup window and contains help information about the option selected in <b>Options List</b> .
<b>Key Functions</b> — Appears below the <b>Options Field</b> and lists keys and their functions within the active system setup field.		

### System Setup Options

 **NOTE:** The items listed in this table may vary depending on your computer and installed devices.

System Info	
BIOS Info	Displays the BIOS version number and date information
System	Displays the system model number
Service Tag	Displays the service tag of the computer
Asset Tag	Displays the asset tag of the computer if present
Processor Type	Displays the processor type

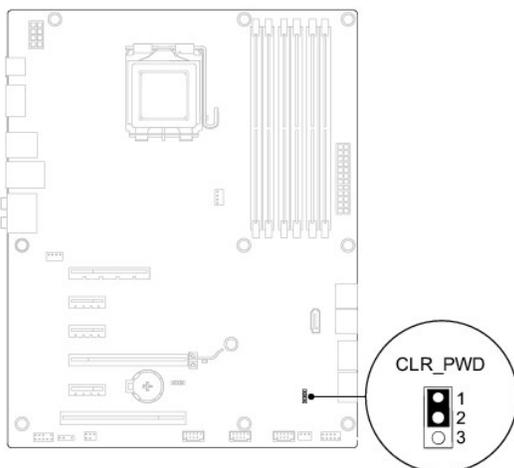
Processor Cache L1	Displays the processor L1 cache size
Processor Cache L2	Displays the processor L2 cache size
Processor Cache L3	Displays the processor L3 cache size
Memory Installed	Indicates the amount of installed memory in MB
Memory Available	Indicates the amount of memory available in MB
Memory Speed	Indicates the memory speed in MHz
Memory Technology	Indicates the memory technology; DDR3
<b>Standard CMOS Features</b>	
System Time	Displays the current time in hh:mm:ss format
System Date	Displays the current date in mm:dd:yy format
SATA0	Displays the SATA0 drive integrated in the computer
SATA1	Displays the SATA1 drive integrated in the computer
SATA2	Displays the SATA2 drive integrated in the computer
SATA3	Displays the SATA3 drive integrated in the computer
SATA4	Displays the SATA4 drive integrated in the computer
eSATA	Displays the eSATA drive connected to the computer
<b>Advanced BIOS Features</b>	
CPU Feature	<ul style="list-style-type: none"> <li>1 Secure Virtual Machine Mode — Enabled or Disabled (Enabled by default)</li> </ul>
USB Device Setting	<ul style="list-style-type: none"> <li>1 USB Controller — Enabled or Disabled (Enabled by default)</li> <li>1 USB Operation Mode — High Speed; Full/Low Speed (High Speed by default)</li> </ul>
<b>Advanced Chipset Features</b>	
Onboard Audio Controller	Enabled or Disabled (Enabled by default)
SATA Mode	AHCI/RAID (AHCI by default)
Onboard LAN Controller	Enabled or Disabled (Enabled by default)
Onboard LAN Boot ROM	Enabled or Disabled (Disabled by default)
Onboard 1394 Controller	Enabled or Disabled (Enabled by default)
<b>Boot Device Configuration</b>	
Boot Settings Configuration	Configures the settings during system boot
Hard Disk Boot Priority	Sets the hard drive boot priority. The items displayed are dynamically updated according to the hard drives detected
CD/DVD Drives Boot Priority	Sets the CD/DVD drive boot priority. The items displayed are dynamically updated according to the drives detected
1st Boot Device	<p>Specifies the boot sequence from the available devices</p> <p>Removable; CD/DVD; Hard Drive; Disabled (Removable by default)</p>
2nd Boot Device	<p>Specifies the boot sequence from the available devices</p> <p>Removable; CD/DVD; Hard Drive; Disabled (CD/DVD by default)</p>
3rd Boot Device	<p>Specifies the boot sequence from the available devices</p> <p>Removable; CD/DVD; Hard Drive; Disabled (Hard Drive by default).</p>
Boot Other Device	No; Yes (Yes by default)
<b>Power Management Setup</b>	
ACPI Suspend Type	Specifies the ACPI suspend type. The default is S3
Remote Wake Up	This option turns on the computer when you try to access the computer through the LAN (Enabled by default)
AC Recovery	<p>Specifies the behavior of the computer after recovering from a power loss (Off by default)</p> <ul style="list-style-type: none"> <li>1 On — The computer turns on after it recovers from a power failure</li> <li>1 Off — The computer remains off</li> <li>1 Last — The computer returns to the power state it was in before the power failure</li> </ul>

Auto Power On	Enables you to set an alarm to turn on the computer automatically
<b>BIOS Security Features</b>	
Supervisor Password	Status of supervisor installed
User Password	Status of user installed
Set Supervisor Password	Allows to set the desired supervisor password
<b>Exit</b>	
Exit Options	Provides options to <b>Load Default, Save and Exit Setup, and Exit Without Saving</b>

## Clearing Forgotten Passwords

- ⚠ WARNING:** Before you begin any of the instructions in this section, follow the safety instructions that shipped with your computer.
- ⚠ WARNING:** The computer must be disconnected from the electrical outlet to clear the CMOS setting.

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Locate the 3-pin password reset jumper (CLR\_PWD) on the system board (see [System Board Components](#)).



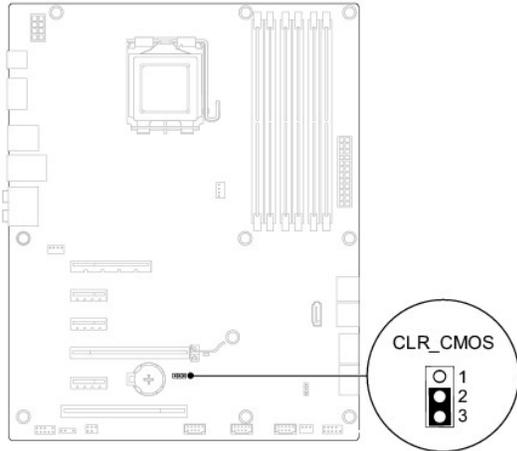
4. Remove the 2-pin jumper plug from pins 1 and 2 and fix it on pins 2 and 3.
5. Turn on the computer to clear the password.
6. Turn off the computer and disconnect your computer and all attached devices from their electrical outlets.
7. Remove the 2-pin jumper plug from pins 2 and 3 and replace it on pins 1 and 2 to enable the password feature.
8. Replace the computer cover (see [Replacing the Computer Cover](#)).
9. Connect your computer and devices to electrical outlets, and turn them on.

## Clearing CMOS Settings

- ⚠ WARNING:** Before you begin any of the instructions in this section, follow the safety instructions that shipped with your computer.

**⚠ WARNING:** The computer must be disconnected from the electrical outlet to clear the CMOS setting.

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Locate the 3-pin CMOS reset jumper (CLR\_CMOS) on the system board (see [System Board Components](#)).



4. Remove the 2-pin jumper plug from pins 2 and 3 and fix it on pins 1 and 2.
5. Wait for approximately five seconds to clear the CMOS setting.
6. Remove the 2-pin jumper plug from pins 1 and 2 and replace it on pins 2 and 3.
7. Replace the computer cover (see [Removing the Computer Cover](#)).
8. Connect your computer and devices to electrical outlets, and turn them on.

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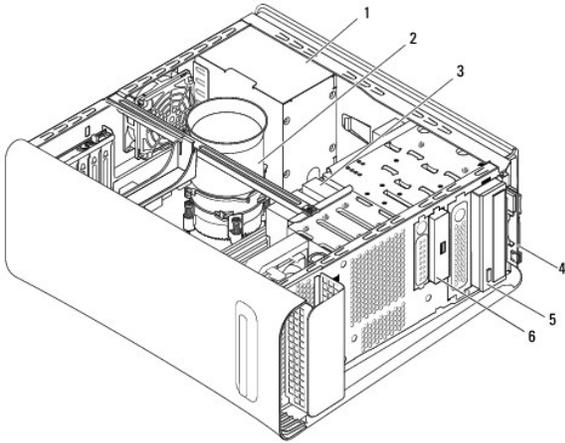
## Technical Overview

### Dell™ Studio XPS™ 9100 Service Manual

- [Inside View of Your Computer](#)
- [System Board Components](#)

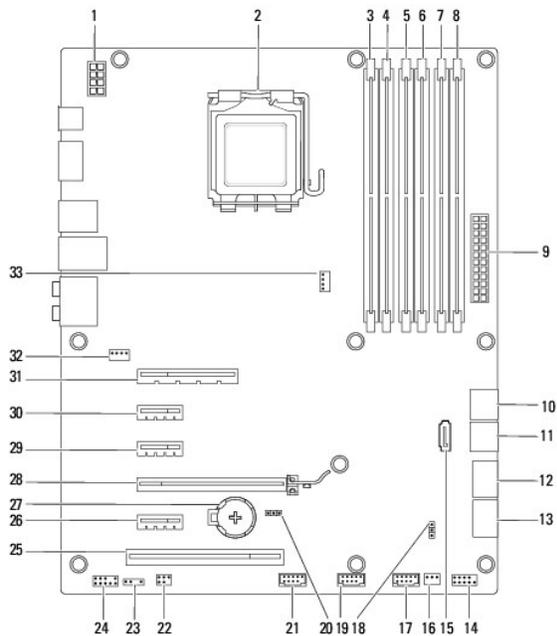
**WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

## Inside View of Your Computer



1	power supply	2	processor fan and heat sink assembly
3	hard drive	4	Media Card Reader
5	optical drive	6	front USB 3.0 assembly (optional)

## System Board Components



1	12 V power connector (ATX_12V)	2	processor socket
3	memory module connector (DIMM4)	4	memory module connector (DIMM1)
5	memory module connector (DIMM5)	6	memory module connector (DIMM2)
7	memory module connector (DIMM6)	8	memory module connector (DIMM3)
9	main power connector (ATX1)	10	SATA connector (S_SATA1)
11	SATA connector (S_SATA2)	12	front panel USB connector (FUSB_4)
13	front panel USB connector (FUSB_5)	14	front panel connector (F_PANEL)
15	SATA connector (S_SATA3)	16	front fan connector (PWR_FAN)
17	front panel USB connector (FUSB_3)	18	password reset jumper (CLR_PWD)
19	front panel USB connector (FUSB_1)	20	CMOS reset jumper (CLR_CMOS)
21	top panel USB connector (FUSB_2)	22	S/PDIF connector (SPDIF_IO)
23	badge back-light connector (JPWR)	24	top panel audio connector (F_AUDIO)
25	PCI card slot (PCI_1)	26	PCI Express x1 card slot (PCIEX3)
27	battery socket (BATTERY)	28	PCI Express x16 card slot (PCIEX16_1)
29	PCI Express x1 card slot (PCIEX2)	30	PCI Express x1 card slot (PCIEX1)
31	PCI Express x8 card slot (PCIEX8_2)	32	chassis fan connector (SYS_FAN)
33	processor fan connector (CPU_FAN)		

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## Top Cover

### Dell™ Studio XPS™ 9100 Service Manual

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

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**⚠ WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

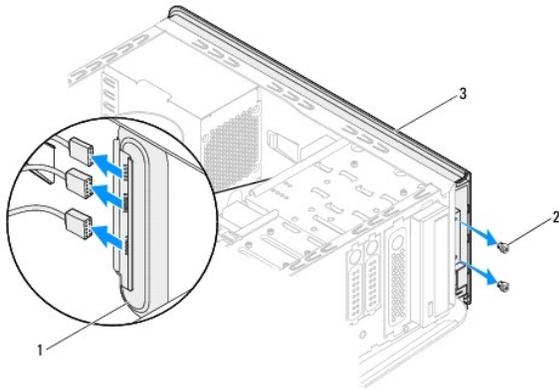
**⚠ WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.

**⚠ CAUTION:** 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.

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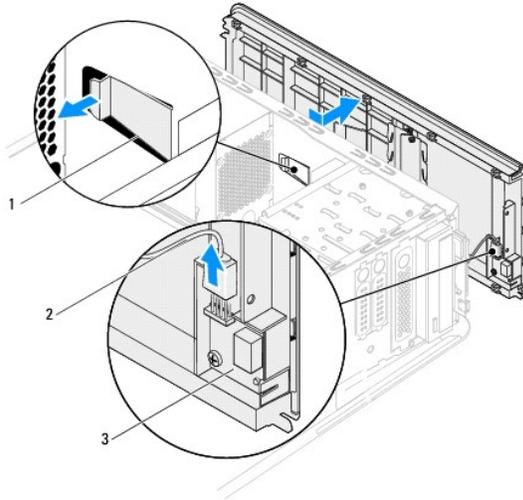
## Removing the Top Cover

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Remove the front bezel (see [Removing the Front Bezel](#)).
4. Remove the two screws that secure the top cover to the computer.
5. Disconnect the cables connected to the I/O panel.



1	I/O panel	2	screws (2)
3	top cover		

6. While pulling the release tab, slide and pull the top cover away from the chassis.
7. Disconnect the power button cable from the connector on the power button module.



1	release tab	2	power button cable
3	power button module		

8. Remove the I/O panel (see [Removing the I/O Panel](#)).
  9. Remove the power button module (see [Removing the Power Button Module](#)).
  10. Set the top cover aside in a secure location.
- 

## Replacing the Top Cover

1. Follow the instructions in [Before You Begin](#).
  2. Replace the power button module (see [Replacing the Power Button Module](#)).
  3. Replace the I/O panel (see [Replacing the I/O Panel](#)).
  4. Connect the power button cable to the connector on the power button module.
  5. Align the tabs in the top cover with the slots in the chassis.
  6. Press and slide the top cover towards the back of the computer, until it clicks into place.
  7. Connect the cables that you disconnected from the I/O panel.
  8. Replace the two screws that secure the top cover to the chassis.
  9. Replace the front bezel (see [Replacing the Front Bezel](#)).
  10. Replace the computer cover (see [Replacing the Computer Cover](#)).
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## I/O Panel

### Dell™ Studio XPS™ 9100 Service Manual

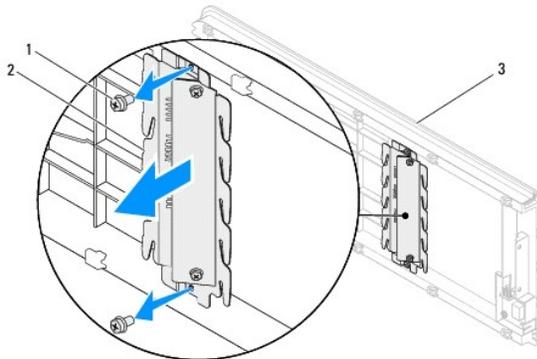
- [Removing the I/O Panel](#)
- [Replacing the I/O Panel](#)

- ⚠ **WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).
  - ⚠ **WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.
  - ⚠ **WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.
  - ⚠ **CAUTION:** 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.
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## Removing the I/O Panel

🔍 **NOTE:** Make note of the routing of all cables as you remove them so that you can re-route them correctly when installing the new I/O panel.

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Remove the front bezel (see [Removing the Front Bezel](#)).
4. Remove the top cover (see [Removing the Top Cover](#)).
5. Remove the two screws that secure the I/O panel to the top cover.



1	screws (2)	2	I/O panel
3	top cover		

6. Carefully remove the I/O panel from the top cover.
- 

## Replacing the I/O Panel

1. Follow the instructions in [Before You Begin](#).
2. Align the screw holes on the I/O panel with the screw holes on the top cover.
3. Replace the two screws that secure the I/O panel to the top cover.
4. Replace the top cover (see [Replacing the Top Cover](#)).
5. Replace the front bezel (see [Replacing the Front Bezel](#)).

6. Replace the computer cover (see [Replacing the Computer Cover](#)).
  7. Connect your computer and devices to electrical outlets, and turn them on.
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## Front USB 3.0 Assembly

### Dell™ Studio XPS™ 9100 Service Manual

- [Removing the Front USB 3.0 Assembly](#)
- [Replacing the Front USB 3.0 Assembly](#)

**⚠ WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

**⚠ WARNING:** To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

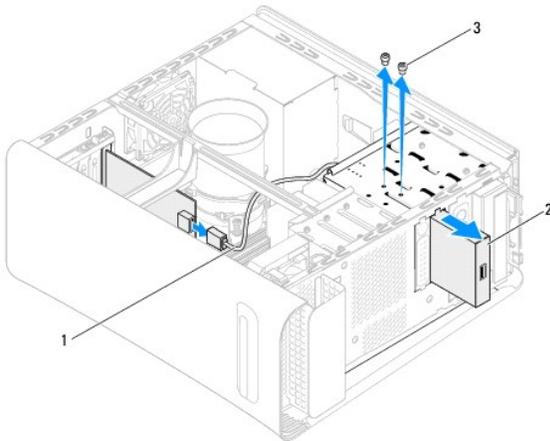
**⚠ WARNING:** Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.

**⚠ CAUTION:** 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.

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## Removing the Front USB 3.0 Assembly

1. Follow the instructions in [Before You Begin](#).
2. Remove the computer cover (see [Removing the Computer Cover](#)).
3. Remove the front bezel (see [Removing the Front Bezel](#)).
4. Disconnect the USB 3.0 cable from the connector on the expansion card.
5. Remove the two screws that secure the front USB 3.0 assembly to the chassis.
6. Push and slide the front USB 3.0 assembly out through the front of the computer.



1	USB 3.0 cable	2	front USB 3.0 assembly
3	screws (2)		

7. Set the front USB 3.0 assembly aside in a secure location.
- 

## Replacing the Front USB 3.0 Assembly

1. Follow the instructions in [Before You Begin](#).
2. Gently slide the front USB 3.0 assembly into the FlexBay slot through the front of the computer.
3. Replace the two screws that secure the front USB 3.0 assembly to the chassis.

4. Connect the USB 3.0 cable to the connector on the expansion card.
  5. Replace the front bezel (see [Replacing the Front Bezel](#)).
  6. Replace the computer cover (see [Replacing the Computer Cover](#)).
  7. Connect your computer and devices to electrical outlets, and turn them on.
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