Dell™ Studio XPS™ 8100 Service Manual

Before You Begin
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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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Before You Begin

Dell™ Studio XPS™ 8100 Service Manual

- Technical Specifications
- Recommended Tools
- Turning Off Your Computer
- Safety Instructions

This manual 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 Safety Instructions.
- You have read the safety information that shipped with your computer.
- A component can be replaced or—if purchased separately—installed by performing the removal procedure in reverse order.

Technical Specifications

For information on technical specifications of your computer, see the *Comprehensive Specifications* at **support.dell.com/manuals**.

Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- Small Phillips screwdriver
- Plastic scribe
- BIOS executable update program available at **support.dell.com**

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:

   Windows Vista®:

   Click **Start** , click the arrow , and then click **Shut Down.**

   Windows® 7:

   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.

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.

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 19-in-1 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™ 8100 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.

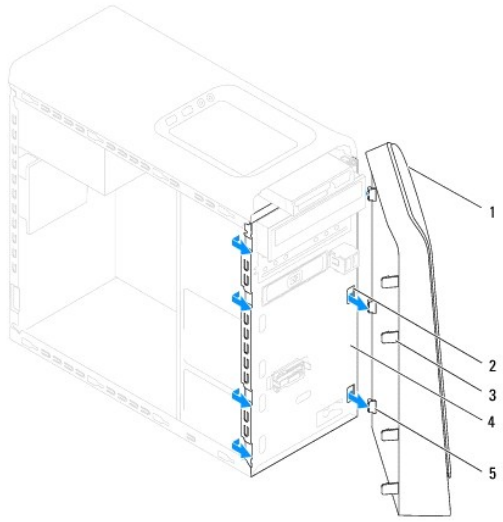
WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

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 procedures in Before You Begin.
2. Remove the computer cover (see Removing the Computer Cover).
3. Place the computer in an upright position.
4. Grasp and release the front bezel tabs sequentially, one at a time by moving them outward from the front panel.
5. Rotate and pull the front bezel away from the front of the computer to release the front bezel clamps from the front panel slots.

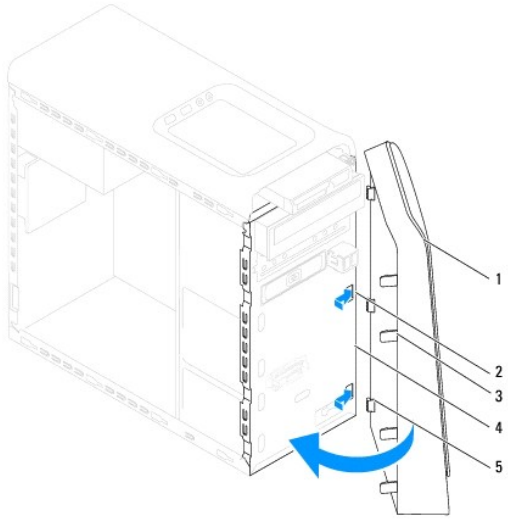


1	front bezel	2	front panel slots (3)
3	front bezel tabs (4)	4	front panel
5	front bezel clamps (3)		

6. Set aside the front bezel in a secure location.

Replacing the Front Bezel

1. Follow the procedures in Before You Begin.
2. Align and insert the front bezel clamps into the front panel slots.
3. Rotate the front bezel towards the computer until the front bezel tabs snap into place.



1	front bezel	2	front panel slots (3)
3	front bezel tabs (4)	4	front panel
5	front bezel clamps (3)		

4. Replace the computer cover (see Replacing the Computer Cover).

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Flashing the BIOS

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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.**
3. Select your country and language.
4. Click **Drivers and Downloads**.
5. Locate the BIOS update file for your computer.

   NOTE: The service tag for your computer is located on a label on the top of the 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 6

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

   a. Click **Select Your Product Model** in the **Select your Entry Method** list.
   b. Select the type of product in the **Select Your Product Family** list.
   c. Select the product brand in the **Select Your Product Line** list
   d. 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.

   e. Click **Confirm**.
6. A list of results appear on the screen. Click **BIOS**.
7. Click **Download Now** to download the latest BIOS file. The **File Download** window appears.
8. Click **Save** to save the file on your desktop. The file downloads to your desktop.
9. 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.
10. Double-click the file icon on the desktop and follow the instructions that appear on the screen.

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Bluetooth Assembly

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- Removing the Bluetooth Assembly
- Replacing the Bluetooth 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.

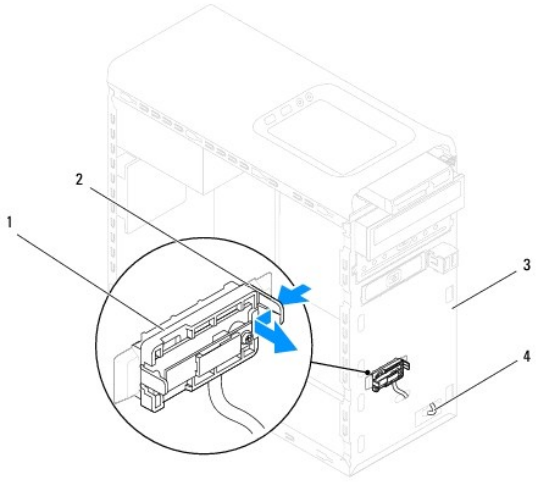
WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

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 Bluetooth Assembly

1. Follow the procedures 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 Bluetooth® assembly cable from the system board connector (see System Board Components).
5. Press the tab as shown in the illustration and pull the Bluetooth assembly.
6. Carefully slide and remove the Bluetooth assembly out from the front of the computer.



1	Bluetooth assembly	2	Bluetooth assembly tab
3	front panel	4	Bluetooth assembly cable

7. Set the Bluetooth assembly aside in a secure location.

Replacing the Bluetooth Assembly

1. Follow the procedures in Before You Begin.
2. Align the Bluetooth assembly tab to the Bluetooth assembly slot in the front panel, and push the Bluetooth assembly until it clicks into place.
3. Connect the Bluetooth assembly cable, to the system board connector (see System Board Components).
4. Replace the front bezel (see Replacing the Front Bezel).
5. Replace the computer cover (see Replacing the Computer Cover).
6. Connect your computer and devices to electrical outlets, and turn them on.

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PCI and PCI Express Cards

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- Removing the Card Retention Bracket
- Replacing the Card Retention Bracket
- Removing PCI and PCI Express Cards
- Replacing PCI and PCI Express Cards
- Configuring Your Computer After Removing or Installing the PCI Express Card

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.

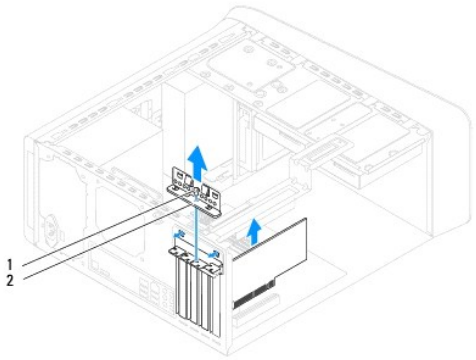
WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

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 Card Retention Bracket

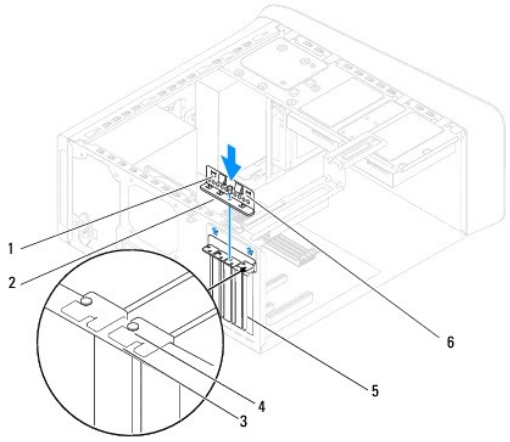
1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Removing the Computer Cover).
3. Remove the screw that secures the card retention bracket.
4. Lift the card retention bracket and set it aside in a secure location.



1	screw	2	card retention bracket

Replacing the Card Retention Bracket

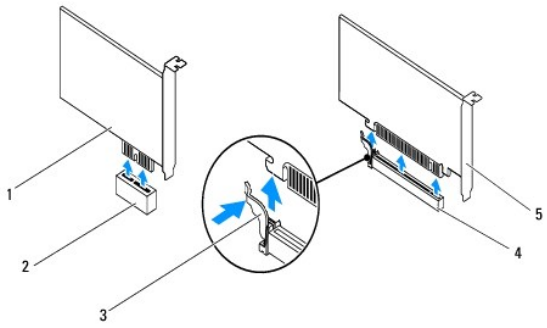
1. Follow the procedures in Before You Begin.
2. Replace the card retention bracket, ensuring that:
   - The guide clamp is aligned with the guide notch.
   - The top of all cards and filler brackets are flush with the alignment bar.
   - The notch in the top of the card or filler bracket fits around the alignment guide.
3. Replace the screw that secures the card retention bracket.



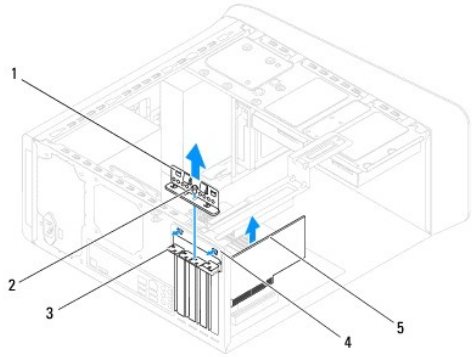
1	guide clamps (2)	2	card retention bracket	3	alignment bar
4	alignment guide	5	filler bracket	6	guide notches (2)

Removing PCI and PCI Express Cards

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Removing the Computer Cover).
3. Remove the graphics card bracket, if applicable (see Removing the Graphics Card Bracket).
4. Remove the primary hard drive, if applicable (see Removing the Hard Drive).
5. Remove the card retention bracket (see Removing the Card Retention Bracket).
6. Disconnect any cables connected to the card, if applicable.
7. Remove the PCI Express card from the card slot:
   - For a PCI or PCI Express x1 card, grasp the card by its top corners, and ease it out of its connector.
   - For a PCI Express x16 card, push the securing tab, grasp the card by its top corners, and then ease it out of its connector.



1	PCI Express x1 card	2	PCI Express x1 card slot
3	securing tab	4	PCI Express x16 card slot
5	PCI Express x16 card		



1	card retention clamp	2	screw
3	filler bracket	4	card retention clamp insert
5	PCI Express card		

8. If you are removing the card permanently, 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.

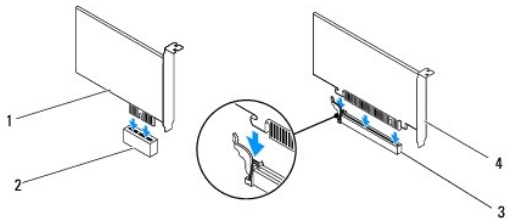
Replacing PCI and PCI Express Cards

1. Follow the procedures in Before You Begin.

2. Prepare the card for installation.

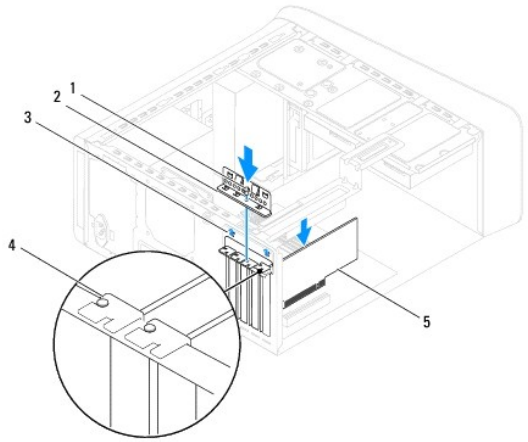
   See the documentation that came with the card for information on configuring the card, making internal connections, or otherwise customizing it for your computer.

3. Place the PCI Express card in the slot on the system board and press down firmly. Ensure that the PCI Express card is fully seated in the slot.



1	PCI Express x1 card	2	PCI Express x1 card slot
3	PCI Express x16 card slot	4	PCI Express x16 card

4. Replace the card retention bracket (see Replacing the Card Retention Bracket).



1	screw	2	card retention clamp
3	card clamp insert	4	filler bracket
5	PCI Express card		

5. Connect any cables that should be attached to the card.

   See the documentation for 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.

6. Replace the primary hard drive, if applicable (see Replacing the Hard Drive).
7. Replace the graphics card bracket, if applicable (see Replacing the Graphics Card Bracket).
8. Replace the computer cover, reconnect the computer and devices to electrical outlets, and then turn them on.
9. To complete the installation, see Configuring Your Computer After Removing or Installing the PCI Express Card.

Configuring Your Computer After Removing or Installing the PCI Express Card

NOTE: For information about 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
Sound Card	1. Enter system setup (see System Setup) 2. Go to **Onboard Audio Controller** and then change the setting to **Disabled**. 3. Connect the external audio devices to the sound card's connectors.	1. Enter system setup (see System Setup) 2. Go to **Onboard Audio Controller** and then change the setting to **Enabled**. 3. Connect the external audio devices to the computer's back panel connectors.
Network Card	1. Enter system setup (see System Setup) 2. Go to **Onboard LAN Controller** and then change the setting to **Disabled**. 3. Connect the network cable to the network card's connector.	1. Enter system setup (see System Setup) 2. Go to **Onboard LAN Controller** and then change the setting to **Enabled**. 3. Connect the network cable to the integrated network connector.

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Coin-Cell Battery

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- 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.

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.

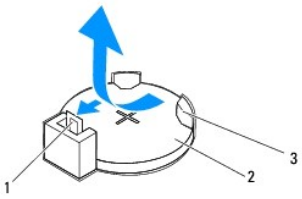
CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.

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 battery has been installed.
2. Follow the procedures 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.

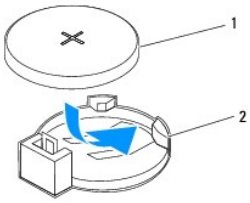


1	battery-release lever	2	coin-cell battery
3	battery socket		

6. Set aside the battery in a secure location.

Replacing the Coin-Cell Battery

1. Follow the procedures 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.



1	coin-cell battery	2	battery socket

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™ 8100 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.

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.

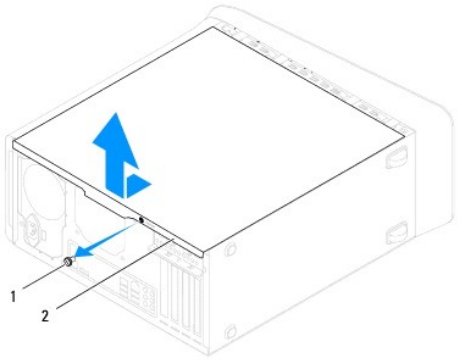
WARNING: Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.

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 procedures in Before You Begin.
2. Lay the computer on its side with the computer cover facing up.
3. Remove the thumbscrew securing the computer cover to the chassis, using a screw driver, if necessary.
4. Release the computer cover by sliding it away from the front of the computer and lift it up.



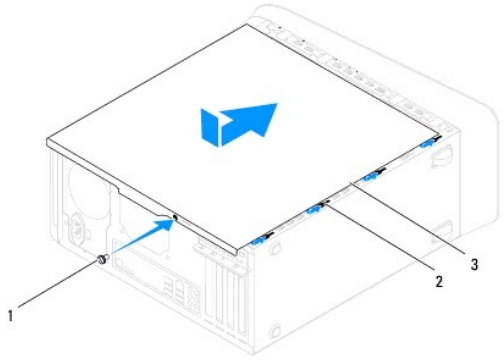
1	thumbscrew	2	computer cover

5. Set the computer cover aside in a secure location.

Replacing the Computer Cover

1. Follow the procedures in Before You Begin.
2. Ensure that all cables are connected, and fold cables out of the way.
3. Ensure that no tools or extra parts are left inside the computer.
4. Align the tabs at the bottom of the computer cover with the slots 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 thumbscrew that secures the computer cover to the chassis.



1	thumbscrew	2	slots
3	computer cover		

7. Place the computer in an upright position.

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Processor

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- Removing the Processor
- Replacing the Processor

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.

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.

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. For technical service, see the *Setup Guide*.

Removing the Processor

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Removing the Computer Cover).

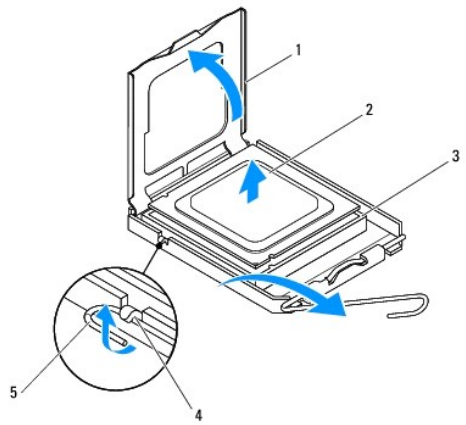
CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.

CAUTION: Despite having a plastic shield, the 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 from the computer (see Removing the Processor Fan and Heat Sink Assembly).

   NOTE: Unless a new heat sink is required for the new processor, reuse the original 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	tab
5	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.

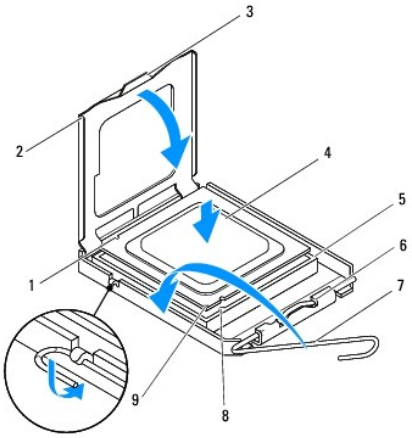
1. Follow the procedures in Before You Begin.
2. Unpack the new processor, being careful not to touch the underside of the processor.

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-notches 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.



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

9	processor pin-1 indicator

8. Pivot the socket release lever back toward the socket, and snap it into place to secure the processor.
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™ 8100 Service Manual

- Hard Drive
- Optical Drive
- Media Card Reader

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.

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.

Hard Drive

Removing the Hard Drive

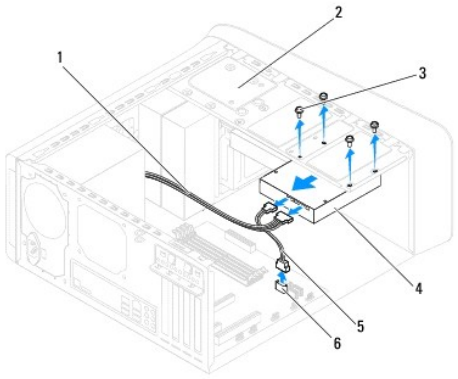
CAUTION: If you are replacing a hard drive that contains data you want to keep, back up your files before you begin this procedure.

1. Follow the procedures 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 graphics card bracket, if applicable (see Removing the Graphics Card Bracket)
5. Remove the four screws that secure the hard drive to the drive panel.
6. Slide the hard drive out towards the back of the computer.

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



1	power cable	2	drive panel
3	screws (4)	4	primary hard drive

5	data cable	6	SATA connector

7. 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 procedures in Before You Begin.
2. Check the documentation for 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 in the hard drive with the screw holes in the drive panel.
5. Replace the four screws that secure the hard drive to the drive panel.
6. Connect the power and data cables to the hard drive (see System Board Components).
7. If you are replacing the primary hard drive, replace the graphics card bracket (see Replacing the Graphics Card Bracket).
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 came 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).

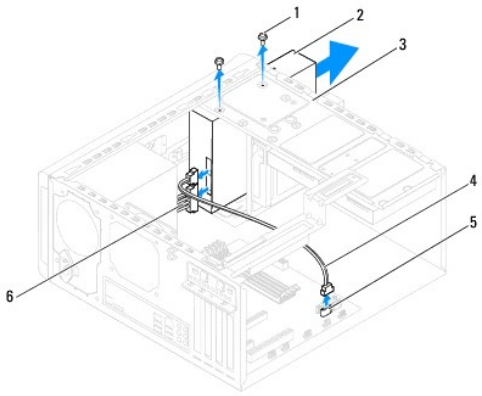
Optical Drive

Removing the Optical Drive

1. Follow the procedures 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 drive panel.
6. Push and slide the optical drive out through the front of the computer.

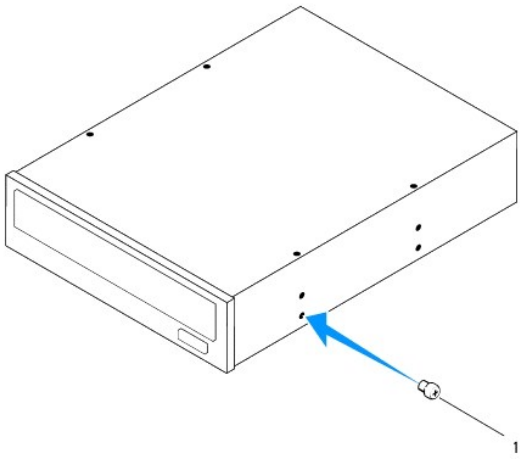


1	screws (2)	2	optical drive
3	drive panel	4	data cable
5	SATA connector	6	power cable

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

Replacing the Optical Drive

1. Follow the procedures in Before You Begin.
2. Remove the screw from the old optical drive and insert it into the new optical drive.



1	screw

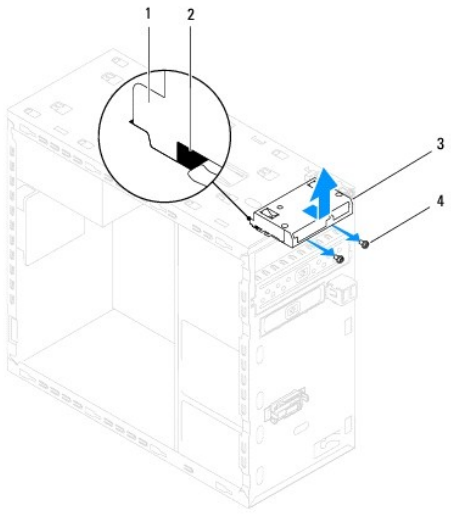
3. Gently slide the optical drive into the optical drive bay through the front of the computer.
4. Align the screw holes in the optical drive with the screw holes in the drive panel.
5. Replace the two screws that secure the optical drive to the drive panel.
6. Connect the power and data cables to the optical drive (see System Board Components).
7. Replace the front bezel (see Replacing the Front Bezel).
8. Replace the computer cover (see Replacing the Computer Cover).
9. Connect your computer and devices to electrical outlets, and turn them on.

10. See the documentation that came 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).

Media Card Reader

Removing the Media Card Reader

1. Follow the procedures 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 top cover (see Removing the Top Cover).
6. Remove the two screws that secure the Media Card Reader to the front panel. The screws are located below the Media Card Reader.
7. Disconnect the Media Card Reader cable from the system board connector (see System Board Components).
8. Slide and remove the Media Card Reader from the computer as shown in the illustration.



1	Media Card Reader guides (2)	2	slots (2)
3	Media Card Reader	4	screws (2)

Replacing the Media Card Reader

1. Follow the procedures in Before You Begin.
2. Gently slide the Media Card Reader guides into the slots in the top panel.
3. Replace the two screws that secure the Media Card Reader to the front panel.
4. Connect the Media Card Reader cable to the system board connector (see System Board Components).

5. Replace the top cover (see Replacing the Top Cover).
6. Replace the optical drive (see Replacing the Optical Drive).
7. Replace the front bezel (see Replacing the Front Bezel).
8. Replace the computer cover (see Replacing the Computer Cover).
9. Connect your computer and devices to electrical outlets, and then turn them on.

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Fans

Dell™ Studio XPS™ 8100 Service Manual

- Chassis Fan
- Processor Fan and Heat Sink 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.

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.

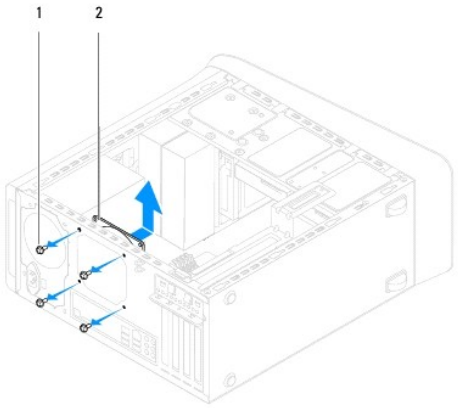
CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.

Chassis Fan

Removing the Chassis Fan

CAUTION: Do not touch the fan blades when you are removing the chassis fan. This could damage the fan.

1. Follow the procedures 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 (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	screws (4)	2	chassis fan

Replacing the Chassis Fan

1. Follow the procedures in Before You Begin.
2. Align the screw holes in the chassis fan with the screw holes in 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 (see System Board Components).
5. Replace the computer cover (see Replacing the Computer Cover).

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.

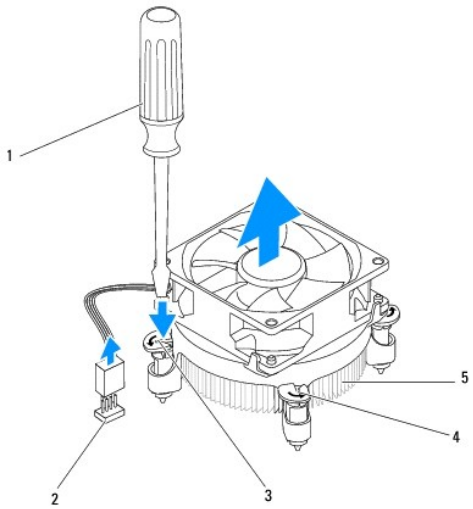
CAUTION: The processor fan and heat sink assembly is a single unit. Do not try to remove the fan separately.

Removing the Processor Fan and Heat Sink Assembly

1. Follow the procedures 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 (see System Board Components).
4. Place the flat-blade screwdriver in the slot and rotate the four fastner caps in anticlockwise direction to unlock the processor heat sink assembly.
5. Lift the four fastner caps to release the processor heat sink assembly from 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	flat-blade screwdriver	2	system board connector
3	slot	4	fastner caps (4)
5	processor fan and heat sink assembly		

Replacing the Processor Fan and Heat Sink Assembly

1. Follow the procedures 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. If required, rotate the fastner caps on the processor heat sink assembly clockwise to ensure that they are in lock position.
5. Align and press the four fastner caps on the processor fan and heat sink assembly into the screw holes on the system board.
6. Connect the processor fan and heat sink assembly cable to the system board connector (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.

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Front USB Panel

Dell™ Studio XPS™ 8100 Service Manual

- Removing the Front USB Panel
- Replacing the Front USB 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.

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.

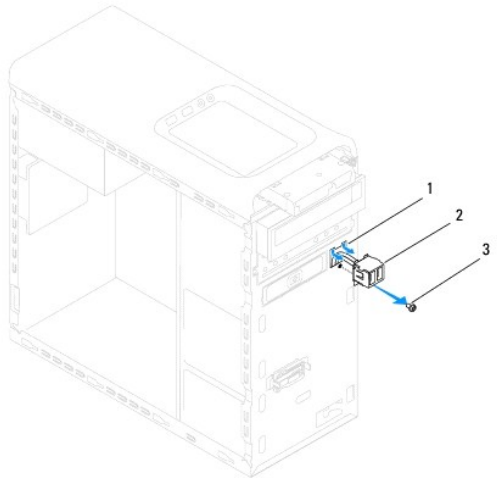
Removing the Front USB Panel

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 front USB panel.

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Removing the Computer Cover).
3. Remove the front bezel (see Removing the Front Bezel).

CAUTION: When sliding the front USB panel out of the computer, be extremely careful. Carelessness may result in damage to the cable connectors and the cable routing clips.

4. Disconnect the front USB panel cables from the system board connectors (see System Board Components).
5. Remove the screw that secures the front USB panel to the front panel.
6. Slide the front USB panel down to release the clamps from the front panel and pull it away.



1	front USB panel clamp slot	2	front USB panel
3	screw		

Replacing the Front USB Panel

CAUTION: Take care not to damage the cable connectors and the cable routing clips when sliding the front USB panel into the front USB panel clamp slot.

1. Follow the procedures in Before You Begin.
2. Align and slide the front USB panel clamp into the front USB panel clamp slot.
3. Replace the screw that secures the front USB panel to the front panel.
4. Connect the front USB panel cables to the system board connectors (see System Board Components).
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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Graphics Card Bracket

Dell™ Studio XPS™ 8100 Service Manual

- Removing the Graphics Card Bracket
- Replacing the Graphics Card Bracket

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.

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

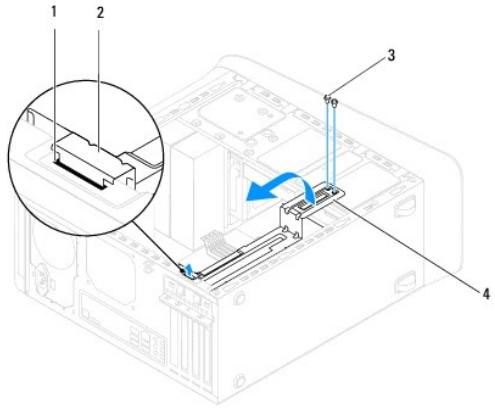
WARNING: Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.

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.

NOTE: The graphic card bracket is present in your computer only if you ordered a double-width graphics card at the time of purchase.

Removing the Graphics Card Bracket

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Removing the Computer Cover).
3. Remove the two screws that secure the graphics card bracket to the drive panel.
4. Pivot the graphics card bracket up and lift it off the hinge clamp slot.
5. Set the graphics card bracket aside in a secure location.



1	hinge clamp slot	2	hinge clamp
3	screws (2)	4	graphics card bracket

Replacing the Graphics Card Bracket

1. Follow the procedures in Before You Begin.
2. Align and insert the hinge clamp on the graphics card bracket into the hinge clamp slot on the chassis.
3. Pivot the graphics card bracket downward.
4. Replace the two screws that secure the graphics card bracket to the drive panel.

5. Replace the computer cover (see Replacing the Computer Cover).

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Memory Module(s)

Dell™ Studio XPS™ 8100 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.

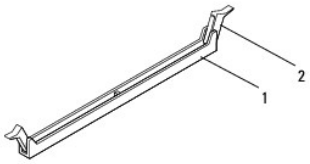
WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

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 procedures 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.

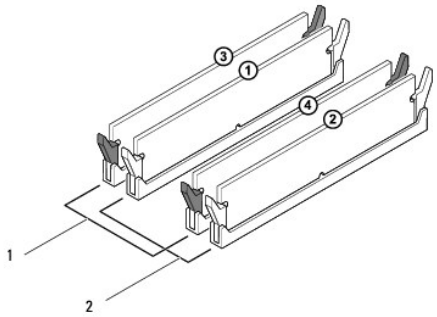
Replacing the Memory Module(s)

1. Follow the procedures 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.

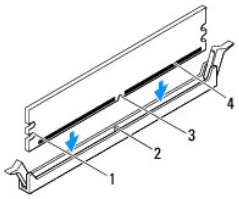
CAUTION: Do not install ECC memory modules.

CAUTION: If you remove your original memory module(s) from the computer during a memory upgrade, keep them separate from any new module(s) that you may have, even if you purchased the new 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 1 and 2 and another matched memory module(s) installed in DIMM connectors 3 and 4.



1	matched memory modules in DIMM connectors 3 and 4 (black securing clips)	2	matched memory modules in DIMM connectors 1 and 2 (white securing clips)

3. Align the notch on the bottom of the memory module with the tab in the connector.

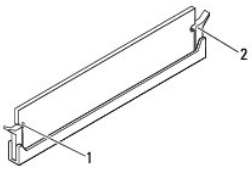


1	cutouts (2)	2	tab
3	notch	4	memory module

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.

4. 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)

5. Replace the computer cover (see Replacing the Computer Cover).

6. 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.

7. Log on to your computer.

8. Right-click the **My Computer** icon on your Microsoft® Windows® desktop and click **Properties**.
9. Click the **General** tab.
10. To verify that the memory is installed correctly, check the amount of memory (RAM) listed.

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Power Supply

Dell™ Studio XPS™ 8100 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.

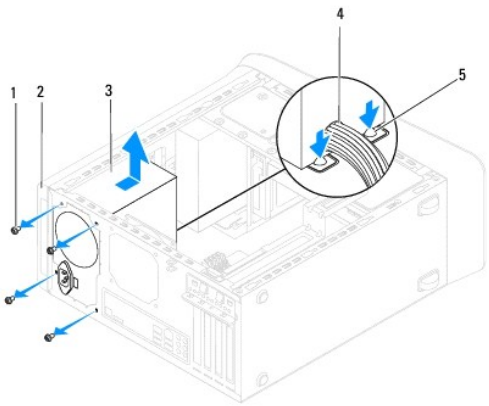
WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

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 procedures 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. Remove all the cables from the securing clip on the side of the power supply.
5. Remove the four screws that secure the power supply to the chassis.
6. Press the power supply clamp to release the power supply from the chassis.



1	screws (4)	2	chassis
3	power supply	4	cable
5	power supply clamp		

Replacing the Power Supply

1. Follow the procedures in Before You Begin.
2. Align the screw holes in the power supply with the screw holes in 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.

3. Replace the four screws that secure the power supply to the chassis.
4. Connect the DC power cables to the system board and drives (see System Board Components).
5. Replace the computer cover (see Replacing the Computer Cover).
6. Check the voltage selector switch (if applicable) to ensure that the correct voltage is selected.
7. Connect your computer and devices to electrical outlets, and turn them on.

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Power Button Module

Dell™ Studio XPS™ 8100 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.

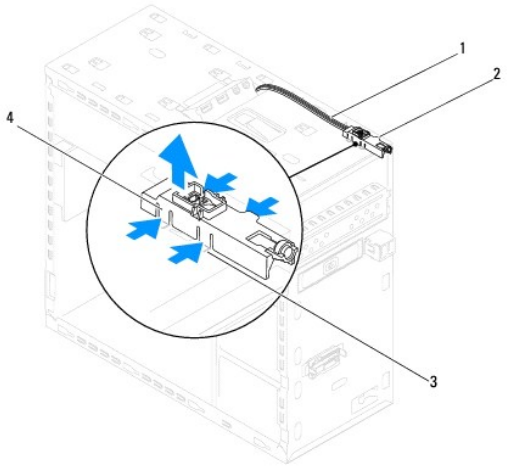
WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

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 procedures 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 top cover (see Removing the Top Cover).
6. Disconnect the power button module cable from the system board connector FP1 (see System Board Components).
7. Press the power button module tabs to release them from the top panel and lift the power button module.



1	cable	2	power button module
3	slot	4	power button module tabs (4)

8. Set the power button module aside in a secure location.

Replacing the Power Button Module

1. Follow the procedures in Before You Begin.
2. Align and push the power button module tabs into the slots in the top panel.
3. Connect the power button module cable to the system board connector FP1 (see System Board Components).
4. Replace the top cover (see Replacing the Top Cover).
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 turn them on.

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System Board

Dell™ Studio XPS™ 8100 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.

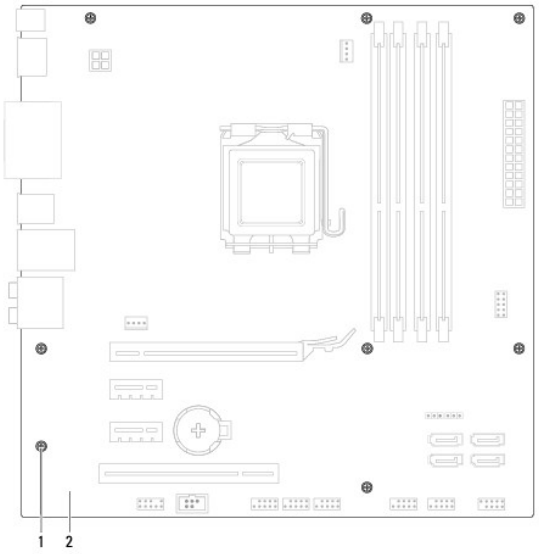
WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

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 procedures in Before You Begin.
2. Remove the computer cover (see Removing the Computer Cover).
3. Remove any PCI and PCI Express cards, if applicable (see Removing PCI and PCI Express Cards).
4. Remove the processor fan and heat sink assembly (see Removing the Processor Fan and Heat Sink Assembly).
5. Remove the processor (see Removing the Processor).
6. 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.
7. 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.
8. Remove the eight screws that secure the system board to the chassis.



1	screws (8)	2	system board

9. Lift the system board up and out.
10. 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

1. Follow the procedures in Before You Begin.
2. Gently align the system board into the chassis and slide it towards the back of the computer.
3. Replace the eight screws that secure the system board to the chassis.
4. Connect the cables that you disconnected from the system board (see System Board Components).
5. Replace the processor (see Replacing the Processor).
6. Replace the processor fan and the heat sink assembly (see Replacing the Processor Fan and Heat Sink Assembly).

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 the heat sink assembly is correctly seated and secure.

7. Replace the memory modules (see Replacing the Memory Module(s)).
8. Replace any PCI and PCI Express cards on the system board, if applicable (see Replacing PCI and PCI Express Cards).
9. Replace the computer cover (see Replacing the Computer Cover).
10. Connect your computer and devices to electrical outlets, and turn them on.
11. 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 security tab and enter the service tag in the Set Service Tag field.

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System Setup

Dell™ Studio XPS™ 8100 Service Manual

- Overview
- Clearing Forgotten Passwords
- Clearing CMOS Settings

Overview

Use system setup to:

- Change the system configuration information after you add, change, or remove any hardware in your computer
- Set or change a user-selectable option such as the user password
- 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 blue 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 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.

<table>
<tr><td colspan="3">Menu — 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 Menu option is highlighted, the Options List, lists the options that define the hardware installed on you computer.</td></tr>
<tr><td>Options List — 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 Options Field displays the option's current and available settings.</td><td>Options Field — Appears on the right side of Options List and contains information about each option listed in the Options List. 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 Options List.

NOTE: Not all settings listed in the Options Field are changeable.</td><td>Help — Appears on the right side of the System Setup window and contains help information about the option selected in Options List.</td></tr>
<tr><td colspan="3">Key Functions — Appears below the Options Field and lists keys and their functions within the active system setup field.</td></tr>
</table>

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
Standard CMOS Features	
System Time	Displays the current time in hh:mm:ss format
System Date	Displays the current date in mm:dd:yy format
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 integrated in the computer
Advanced BIOS Features	
CPU Feature	• Hyper-Threading — Enabled or Disabled (Enabled by default) • Intel SpeedStep™ Tech — Enabled or Disabled (Enabled by default) • Intel® C-STATE Tech — Enabled or Disabled (Enabled by default) • Intel® Virtualization Tech — Enabled or Disabled (Enabled by default) • Limit CPUID Value — Enabled or Disabled (Disabled by default) • CPU XD Support — Enabled or Disabled (Enabled by default) • Multi Core Support — All or 1 or 2 (All by default)
USB Device Setting	• USB Controller — Enabled or Disabled (Enabled by default) • USB Operation Mode — High Speed; Full/Low Speed (High Speed by default)
Advanced Chipset Features	
Onboard Audio Controller	Enabled or Disabled (Enabled by default)
SATA Mode	ATA/RAID (RAID 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)
Memory Remap feature	Enabled or Disabled (Enabled by default)
Boot Device Configuration	
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
1st Boot Device	Specifies the boot sequence from the available devices Removable; CD/DVD; Hard Drive; Disabled (Removable by default)
2nd Boot Device	Specifies the boot sequence from the available devices Removable; CD/DVD; Hard Drive; Disabled (CD/DVD by default)
3rd Boot Device	Specifies the boot sequence from the available devices Removable; CD/DVD; Hard Drive; Disabled (Hard Drive by default).
Boot Other Device	No; Yes (Yes by default)
Power Management Setup	
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	Specifies the behavior of the computer after recovering from a power loss (Off by default) • On — The computer turns on after it recovers from a power failure • Off — The computer remains off. • Last — The computer returns to the power state it was in before the power failure

Auto Power On	Enables you to set an alarm to turn on the computer automatically
Low Power Mode	Enabled or Disabled (Enabled by default)
BIOS Security Features	
Supervisor Password	Status of supervisor installed
User Password	Status of user installed
Set Supervisor Password	Allows to set the desired supervisor password
Exit	
Exit Options	Provides options to **Load Default, Save and Exit Setup, and Exit Without Saving**

Boot Sequence

This feature allows you to change the boot sequence for devices.

Boot Options

- **Hard Drive** — The computer attempts to boot from the primary hard drive. If no operating system is on the drive, the computer generates an error message.
- **CD/DVD Drive** — The computer attempts to boot from the CD/DVD drive. If no CD/DVD is in the drive, or if the CD/DVD has no operating system, the computer generates an error message.
- **USB Flash Device** — Insert the memory device into a USB port and restart the computer. When F12 = Boot Menu appears in the screen, press <F12>. The BIOS detects the device and adds the USB flash option to the boot menu.

NOTE: To boot to a USB device, the device must be bootable. To ensure that your device is bootable, check the device documentation.

Changing Boot Sequence for the Current Boot

You can use this feature to change the current boot sequence, for example, to boot from the CD/DVD drive to run the Dell Diagnostics from the *Drivers and Utilities* disc. On completion of diagnostic tests, the previous boot sequence is restored.

1. If you are booting to a USB device, connect the USB device to a USB connector.
2. Turn on (or restart) your computer.
3. When F2 = Setup, F12 = Boot Menu appears on the screen, press <F12>.

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

   The **Boot Device Menu** appears, listing all available boot devices. Each device has a number next to it.
4. On the **Boot Device Menu** choose the device you want to boot from.

   For example, if you are booting to a USB memory key, highlight **USB Flash Device** and press <Enter>.

   NOTE: To boot to a USB device, the device must be bootable. To ensure your device is bootable, check the device documentation.

Changing Boot Sequence for Future Boots

1. Enter system setup (see Entering System Setup).
2. Use the arrow keys to highlight the **Boot Device Configuration** menu option and press <Enter> to access the menu.

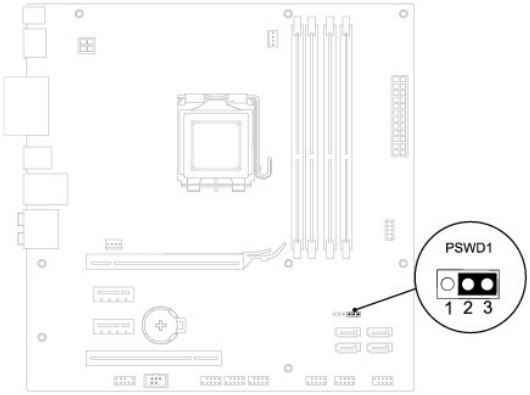
   NOTE: Write down your current boot sequence in case you want to restore it.
3. Press the up- and down-arrow keys to move through the list of devices.
4. Press plus (+) or minus (−) to change the boot priority of the device.

Clearing Forgotten Passwords

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

WARNING: The computer must be disconnected from the electrical outlet to clear the Password setting.

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Removing the Computer Cover).
3. Locate the 3-pin password reset jumper (PSWD1) on the system board (see System Board Components).



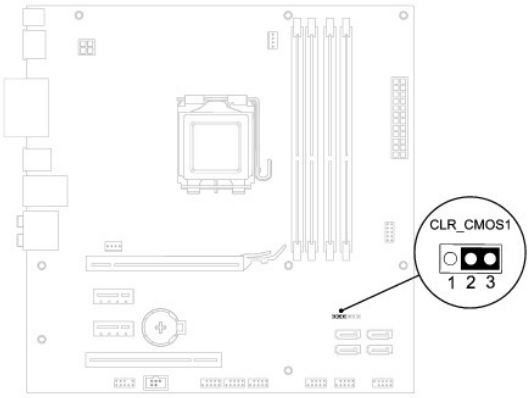
4. Remove the 2-pin jumper plug from pins 2 and 3 and fix it on pins 1 and 2.
5. Turn on the computer to clear the password.
6. Turn off the computer and disconnect your computer and all attached devices from their electrical outlets.
7. Remove the 2-pin jumper plug from pins 1 and 2 and replace it on pins 2 and 3 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 procedures 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 procedures in Before You Begin.
2. Remove the computer cover (see Removing the Computer Cover).
3. Locate the 3-pin CMOS reset jumper (CLR_CMOS1) 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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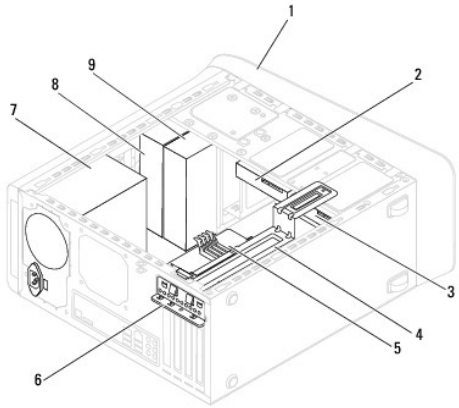
Technical Overview

Dell™ Studio XPS™ 8100 Service Manual

- Inside View of Your Computer
- System Board Components

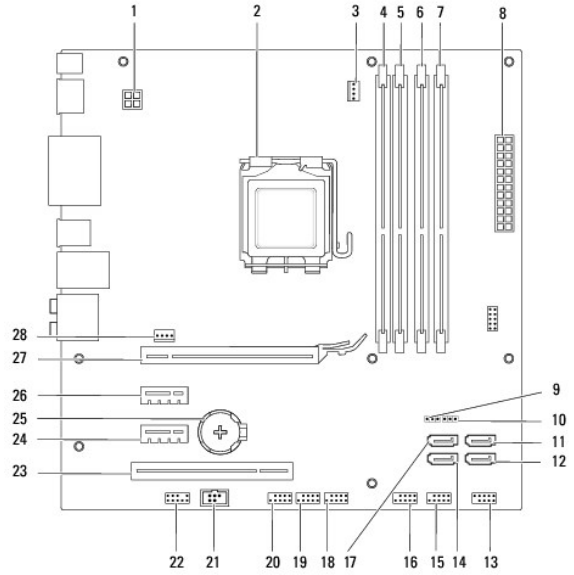
WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Inside View of Your Computer



1	front bezel	2	secondary hard drive
3	primary hard drive	4	graphics card bracket
5	system board	6	card retention clamp
7	power supply	8	primary optical drive
9	secondary optical drive		

System Board Components



1	Power connector (PWR2)	2	processor socket
3	processor fan connector (CPU_FAN1)	4	memory module connector (DIMM3)
5	memory module connector (DIMM1)	6	memory module connector (DIMM4)
7	memory module connector (DIMM2)	8	main power connector (PWR1)
9	CMOS reset jumper (CLR_CMOS1)	10	password reset jumper (PSWD1)
11	SATA connector (SATA1)	12	SATA connector (SATA2)
13	power button connector (FP1)	14	SATA connector (SATA4)
15	front panel USB connector (F_USB1)	16	front panel USB connector (F_USB2)
17	SATA connector (SATA3)	18	front panel USB connector (F_USB3)
19	front panel USB connector (F_USB4)	20	front panel USB connector (F_USB5)
21	S/PDIF connector (SPDIF_OUT2)	22	front panel audio connector (F_AUDIO1)
23	PCI card slot (PCI1)	24	PCI Express x1 card slot (PCI-EX1_1)
25	battery socket (BAT1)	26	PCI Express x1 card slot (PCI-EX1_2)
27	PCI Express x16 card slot (PCI-EX16_1)	28	chassis fan connector (sys_fan1)

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Dell™ Studio XPS™ 8100 Service Manual

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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Top Cover

Dell™ Studio XPS™ 8100 Service Manual

- Removing the Top Cover
- Replacing the Top 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.

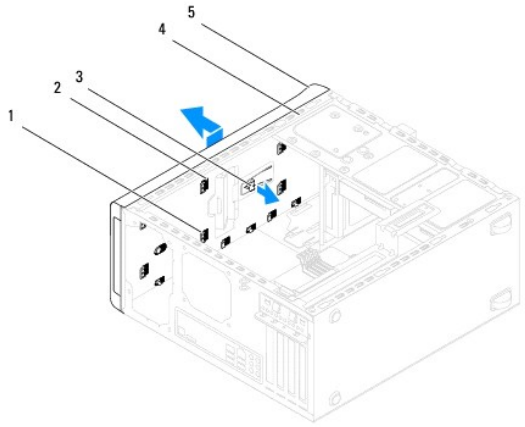
WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

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 Top Cover

1. Follow the procedures 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. Pull the release tab, and slide the top cover towards the front of the computer to release the top cover tabs from the slots on the top panel.
6. Pull the top cover away from the top panel.



1	top cover tabs	2	slots
3	release tab	4	top panel
5	top cover		

7. Set the top cover aside in a secure location.

Replacing the Top Cover

1. Follow the procedures in Before You Begin.

2. Align the tabs in the top cover with the slots in the top panel.
3. Press and slide the top cover towards the back of the computer, until it clicks into place.
4. Replace the optical drive (see Replacing the Optical Drive).
5. Replace the front bezel (see Replacing the Front Bezel).
6. Replace the computer cover (see Replacing the Computer Cover).

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Top I/O Panel

Dell™ Studio XPS™ 8100 Service Manual

- Removing the Top I/O Panel
- Replacing the Top 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.

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

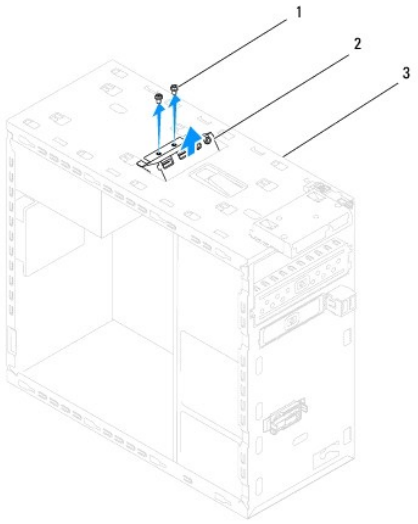
WARNING: Do not operate your computer with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.

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 Top 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 top I/O panel.

1. Follow the procedures 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 top cover (see Removing the Top Cover).
6. Disconnect the top I/O panel cables from the system board connectors F_USB3 and F_AUDIO1 (see System Board Components).
7. Remove the two screws that secure the top I/O panel to the top panel.



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

8. Carefully remove the top I/O panel from the computer.

Replacing the Top I/O Panel

1. Follow the procedures in Before You Begin.
2. Align the screw holes in the top I/O panel with the screw holes in the top panel.
3. Replace the two screws that secure the top I/O panel to the top panel.
4. Connect the top I/O panel cables to the system board connectors F_USB3 and F_AUDIO1 (see System Board Components).
5. Replace the top cover (see Replacing the Top Cover).
6. Replace the optical drive (see Replacing the Optical Drive).
7. Replace the front bezel (see Replacing the Front Bezel).
8. Replace the computer cover (see Replacing the Computer Cover).
9. Connect your computer and devices to electrical outlets, and turn them on.

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