

Alienware Aurora Service Manual

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



CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.



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

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Regulatory model D0IM Regulatory type D0IM001; D0IM002; D0IM003

December 2010 Rev. A00

Back Bezel

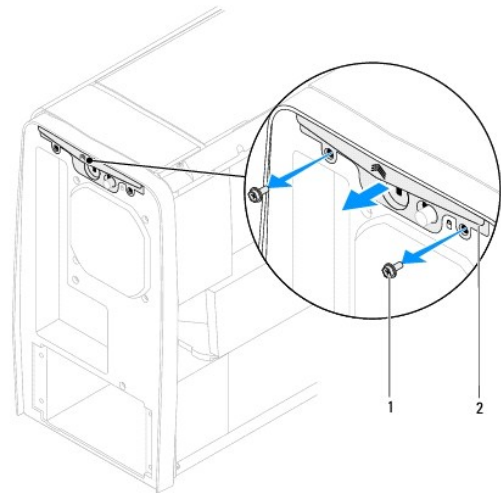
Alienware Aurora Service Manual

- [Removing the Back Bezel](#)
- [Replacing the Back 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:** Do not operate your computer with any cover(s) (including computer panels, bezels, filler brackets, etc.) removed.
- 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 side panel(s).
- 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:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on your computer).

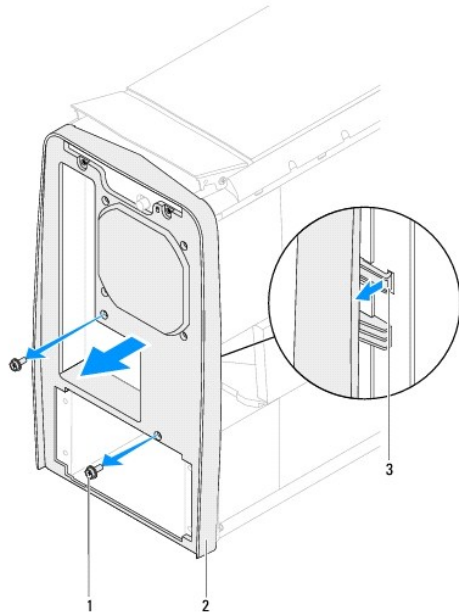
Removing the Back Bezel

1. Follow the instructions in [Before You Begin](#).
 2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
 3. Follow the instructions from [step 3](#) to [step 7](#) in [Removing the Power Supply](#).
- WARNING:** Despite having a plastic shield, the processor liquid-cooling assembly may be very hot during normal operation. Ensure that it has had sufficient time to cool before you touch it.
4. Remove the processor liquid-cooling assembly (see [Removing the Processor Liquid-Cooling Assembly](#)).
 5. Remove the two screws that secure the security lock panel to the chassis.
 6. Pull the security lock panel away from the chassis.



1	screws (2)	2	security lock panel
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7. Remove the two screws that secure the back bezel to the chassis.
8. Release the tabs that secure the back bezel to the chassis.
9. Pull the back bezel away from the chassis.



1	screws (2)	2	back bezel
3	tabs		

Replacing the Back Bezel

1. Follow the instructions in [Before You Begin](#).
2. Align the tabs on the back bezel with the slots on the chassis.
3. Push the back bezel into place.
4. Replace the two screws that secure the back bezel to the chassis.
5. Replace the two screws that secure the security lock panel to the chassis.
6. Replace the processor liquid-cooling assembly (see [Replacing the Processor Liquid-Cooling Assembly](#)).
7. Follow the instructions from [step 4](#) to [step 8](#) in [Replacing the Power Supply](#).
8. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

9. Connect your computer and all attached devices to electrical outlets, and turn them on.

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Before You Begin

Alienware Aurora Service Manual

- [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:

- 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.


Recommended Tools

The procedures in this document may require the following tools:

- 1 Small Phillips screwdriver
- 1 Hex nut driver
- 1 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. To shut down the operating system, click **Start**  and then click **Shut Down**.
3. 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 to 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.

 **WARNING:** Disconnect all power sources before opening the enclosure to replace, remove, or install accessories. After the installation is completed, the enclosure must be replaced and all fasteners installed before connecting to the power source.

 **CAUTION:** Only a certified service technician is authorized to remove the computer cover and access any of the components inside the computer. See the safety instructions for complete information about safety precautions, working inside your computer, and protecting against electrostatic discharge.

 **CAUTION:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on your computer).


 **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 chassis 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 hold the power button while the computer is unplugged 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.

 **NOTE:** For better access to components within your computer, lay your computer on its side.


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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/support/downloads.
3. Locate the BIOS update file for your computer:


 **NOTE:** The Service Tag for your computer is located on a label at the bottom of your computer.

If you have your computer's Service Tag:

- a. Click **Enter a 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. Click **Select Model**.
- 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**.
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 on the screen.

WiFi/Bluetooth Assembly

Alienware Aurora Service Manual

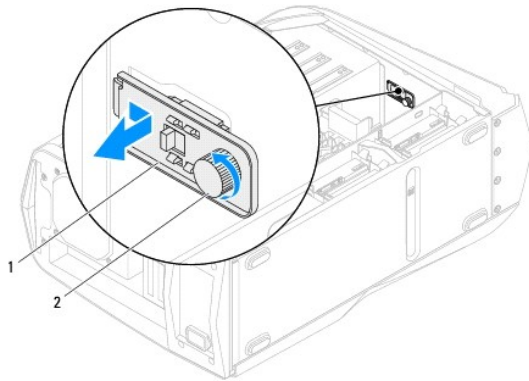
- [Removing the WiFi/Bluetooth Card](#)
- [Replacing the WiFi/Bluetooth Card](#)

-  **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:** Do not operate your computer with any cover(s) (including computer panels, bezels, filler brackets, etc.) removed.
-  **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 side panel(s).
-  **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:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on your computer).
-  **NOTE:** The WiFi/Bluetooth assembly is available on your computer only if you ordered it while purchasing your computer.
-

Removing the WiFi/Bluetooth Card

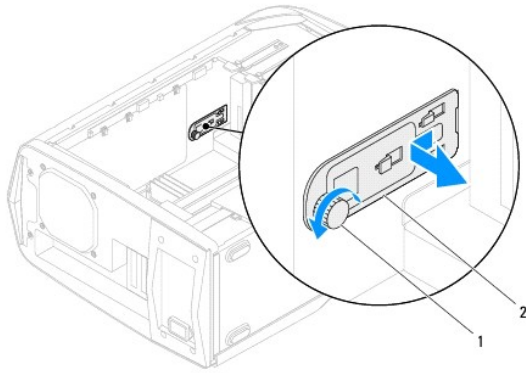
1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
4. Remove the drive-bay shroud (see [Removing the Drive-Bay Shroud](#)).
5. Disconnect the WiFi/Bluetooth assembly cable from the connector on the master I/O board.
6. Loosen the thumbscrew that secures the WiFi/Bluetooth assembly to the chassis.
7. Slide and pull the WiFi/Bluetooth assembly away from the chassis.

For Alienware Aurora/Aurora R2/Aurora ALX



1	WiFi/Bluetooth assembly	2	thumbscrew
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For Alienware Aurora R3



1	thumbscrew	2	WiFi/Bluetooth assembly
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Replacing the WiFi/Bluetooth Card

1. Follow the instructions in [Before You Begin](#).
2. Align the tab on the WiFi/Bluetooth assembly with the slot on the chassis.
3. Tighten the thumbscrew that secures the WiFi/Bluetooth assembly to the chassis.
4. Connect the WiFi/Bluetooth assembly cable to the connector on the master I/O board.
5. Replace the drive-bay shroud (see [Replacing the Drive-Bay Shroud](#)).
6. Close the PCI shroud (see [Closing the PCI Shroud](#)).
7. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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







8. Connect your computer and all attached devices to electrical outlets, and turn them on.

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Coin-Cell Battery


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

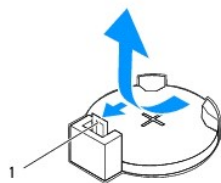
-  **WARNING:** Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.
-  **WARNING:** Do not operate your computer with any cover(s) (including computer panels, bezels, filler brackets, etc.) removed.
-  **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 side panel(s).
-  **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.
-  **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:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on your computer).
-

Removing the Coin-Cell Battery

1. Record all the screens in system setup utility (see [System Setup](#)) so that you can restore the correct settings after the new battery has been installed.
2. Follow the instructions in [Before You Begin](#).
3. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
4. Open the PCI shroud (see [Opening the PCI Shroud](#)).
5. Remove the PCI-Express card(s) (see [Removing the PCI-Express Card\(s\)](#)).
6. Locate the battery socket (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.

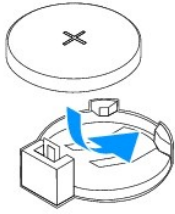
7. Press the battery release lever to remove the battery.




1	battery release lever
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Replacing the Coin-Cell Battery

1. Follow the instructions in [Before You Begin](#).
2. Insert the new battery (CR2032) into the socket with the side labeled "+" facing up, and press the battery into place.



3. Replace the PCI-Express card(s) (see [Replacing the PCI-Express Card\(s\)](#)).
4. Close the PCI shroud (see [Closing the PCI Shroud](#)).
5. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

6. Connect your computer and devices to electrical outlets, and then turn them on.
7. Enter the system setup utility (see [System Setup](#)) and restore the settings you recorded in [step 1](#).

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Fans

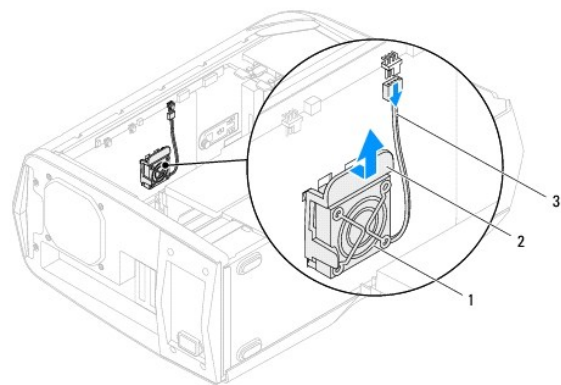
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- [Removing the Memory Fan](#)
- [Replacing the Memory Fan](#)
- [Removing the Hard-Drive Fan Assembly](#)
- [Replacing the Hard-Drive Fan Assembly](#)
- [Removing the PCI-Fan Assembly](#)
- [Replacing the PCI-Fan Assembly](#)

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Removing the Memory Fan

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Disconnect the memory fan cable from the MEM_FAN connector on the top lighting-board.
4. Pull the tab and lift the memory fan out of the chassis.



1	memory fan	2	tab
3	memory fan cable		

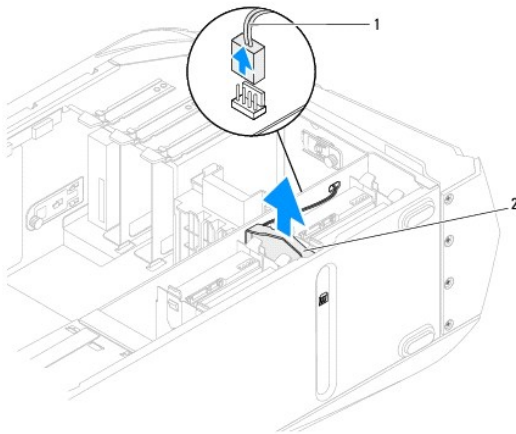
Replacing the Memory Fan

1. Follow the instructions in [Before You Begin](#).
2. Align the tabs on the memory fan with the slots on the computer chassis and place the fan in position.
3. Connect the memory fan cable to the MEM_FAN connector on the top lighting board.
4. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

5. Connect your computer and all attached devices to electrical outlets, and turn them on.
-

Removing the Hard-Drive Fan Assembly

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
4. Remove the drive-bay shroud (see [Removing the Drive-Bay Shroud](#)).
5. Make note of the hard-drive fan cable routing and then disconnect the hard-drive fan assembly cable from the connector on the master I/O board.
6. Lift the hard-drive fan assembly out of the chassis.



1	hard-drive fan assembly cable	2	hard-drive fan assembly
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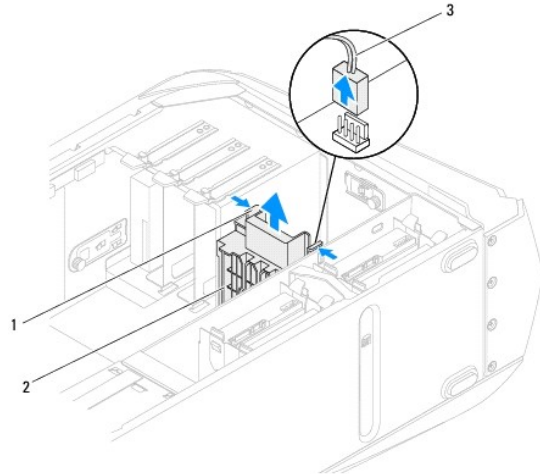
Replacing the Hard-Drive Fan Assembly

1. Follow the instructions in [Before You Begin](#).
 2. Push the hard-drive fan assembly into the hard-drive fan assembly bay.
 3. Route the cable through the slot in the hard-drive bay and then connect the hard-drive fan assembly cable to the connector on the master I/O board.
 4. Replace the drive-bay shroud (see [Replacing the Drive-Bay Shroud](#)).
 5. Close the PCI shroud (see [Closing the PCI Shroud](#)).
 6. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).
 7. Connect your computer and all attached devices to electrical outlets, and turn them on.
-

Removing the PCI-Fan Assembly

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).

4. Remove the drive-bay shroud (see [Removing the Drive-Bay Shroud](#)).
5. Remove full-length PCI-Express card(s), if any (see [Removing the PCI-Express Card\(s\)](#)).
6. Disconnect the PCI-fan assembly cable from the connector on the master I/O board.
7. Press the tabs and lift the PCI-fan assembly out of the metal brackets on the chassis.



1	tabs (2)	2	PCI-fan assembly
3	PCI-fan assembly cable		

Replacing the PCI-Fan Assembly

1. Follow the instructions in [Before You Begin](#).
2. Align the PCI-fan assembly with the metal brackets on the chassis.
3. Slide the PCI-fan assembly into the chassis.
4. Connect the PCI-fan assembly cable to the connector on the master I/O board.
5. Replace full-length PCI-Express card(s), if any (see [Replacing the PCI-Express Card\(s\)](#)).
6. Replace the drive-bay shroud (see [Replacing the Drive-Bay Shroud](#)).
7. Close the PCI shroud (see [Closing the PCI Shroud](#)).
8. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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9. Connect your computer and all attached devices to electrical outlets, and turn them on.

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Front Bezel

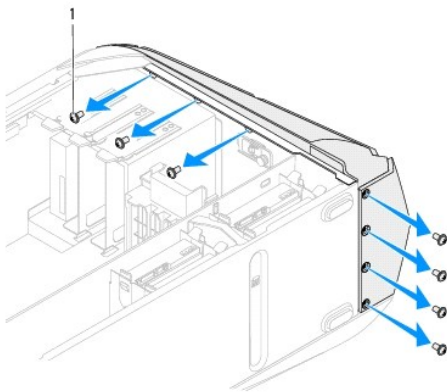
Alienware Aurora Service Manual

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

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-

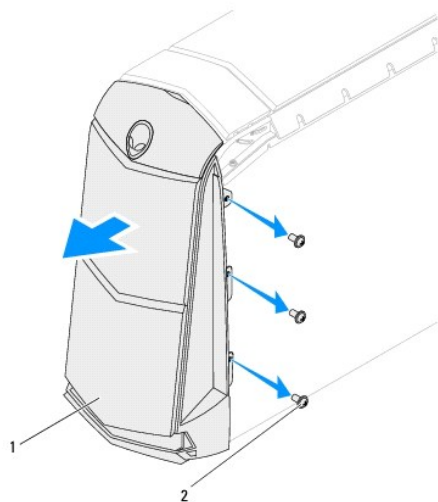
Removing the Front Bezel

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
4. Remove the drive-bay shroud (see [Removing the Drive-Bay Shroud](#)).
5. Remove the right-side top panel (see [Removing the Right-Side Top Panel](#)).
6. Remove the lighting board (see [Removing the Lighting Board](#)).
7. Remove the right-side middle panel (see [Removing the Right-Side Middle Panel](#)).
8. Remove the right-side bottom panel (see [Removing the Right-Side Bottom Panel](#)).
9. Remove the seven screws that secure the front bezel to the chassis.
10. Disconnect the front bezel cables from the connectors on the master I/O board. Note the cable routing before disconnecting the cables.



1	screws (7)
---	------------

11. Place the chassis in an upright position.
12. Remove the three screws on the right side that secure the front bezel to the chassis.
13. Pull the front bezel away from the chassis.



1	front bezel	2	screws (3)
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Replacing the Front Bezel

1. Follow the instructions in [Before You Begin](#).
2. Align the front bezel with the front of the chassis.
3. Replace the three screws on the right side that secure the front bezel to the chassis.
4. Lay the chassis on its side.
5. Route and connect the front-bezel cables to the connectors on the master I/O board.
6. Replace the seven screws that secure the front bezel to the chassis.
7. Replace the right-side bottom panel (see [Replacing the Right-Side Bottom Panel](#)).
8. Replace the right-side middle panel (see [Replacing the Right-Side Middle Panel](#)).
9. Replace the lighting board (see [Replacing the Lighting Board](#)).
10. Replace the right-side top panel (see [Replacing the Right-Side Top Panel](#)).
11. Replace the drive-bay shroud (see [Replacing the Drive-Bay Shroud](#)).
12. Close the PCI shroud (see [Closing the PCI Shroud](#)).
13. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

14. Connect your computer and all attached devices to electrical outlets, and turn them on.

Drive(s)

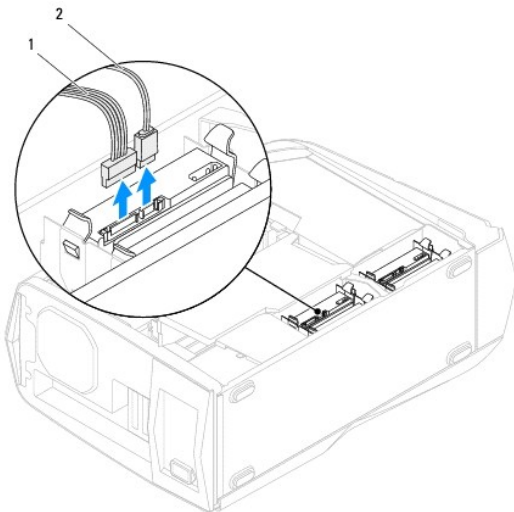
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- [Removing the Hard Drive\(s\)](#)
- [Replacing the Hard Drive\(s\)](#)
- [Removing the Optical Drive\(s\)](#)
- [Replacing the Optical Drive\(s\)](#)
- [Removing the Media Card Reader](#)
- [Replacing the Media Card Reader](#)

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- 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 side panel(s).
- WARNING:** If you remove the hard drive from the computer when the drive is hot, do not touch the metal housing of the hard drive.
- CAUTION:** 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:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on your computer).
- CAUTION:** To prevent data loss, turn off your computer (see [Turning Off Your Computer](#)) before removing the hard drive. Do not remove the hard drive while the computer is On or in Sleep state.
- CAUTION:** Hard drives are extremely fragile. Exercise care when handling the hard drive.
- NOTE:** Dell does not guarantee compatibility or provide support for hard drives from sources other than Dell or Alienware.
- NOTE:** If you are installing a hard drive from a source other than Dell or Alienware, you need to install an operating system, drivers, and utilities on the new hard drive.

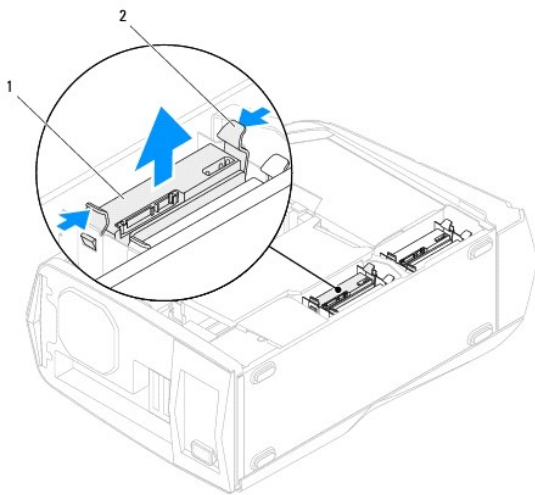
Removing the Hard Drive(s)

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Disconnect the power and data cables from the hard-drive assembly (if applicable).



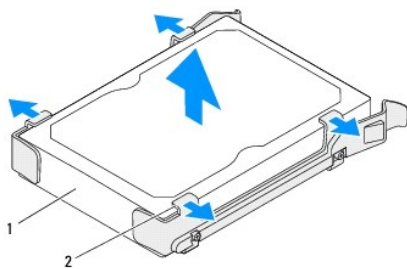
1	power cable	2	data cable
---	-------------	---	------------

4. Press the release tabs and slide the hard-drive assembly out of the hard-drive cage.



1	hard-drive assembly	2	release tabs (2)
---	---------------------	---	------------------

- Release the tabs on the hard-drive bracket and lift the hard drive out of the bracket (if applicable).



1	hard drive	2	tabs (4)
---	------------	---	----------

Replacing the Hard Drive(s)

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

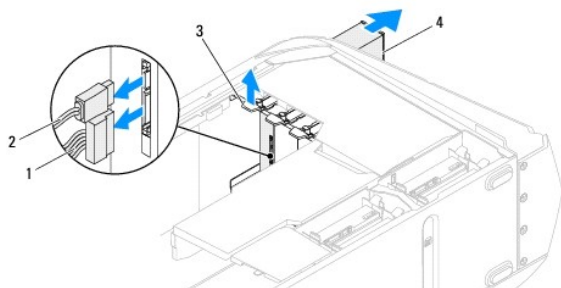
NOTE: See the documentation that shipped with your new hard drive and ensure that the jumper positioning is correct.

- Snap the hard-drive bracket on to the new hard drive (if applicable).
- Slide the hard-drive assembly into the hard-drive cage until the release tabs snap into place.
- Connect the power and data cables to the hard-drive assembly (if applicable).
- Replace the left side-panel (see [Replacing the Left Side-Panel](#)).
- Connect your computer and all attached devices to electrical outlets, and turn them on.

Removing the Optical Drive(s)

- Follow the instructions in [Before You Begin](#).
- Press the AlienHead on the front of your computer to lower the drive panel.

3. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
4. Disconnect the power and data cables from the optical drive (if applicable).
5. Lift the securing tab and push the optical drive to slide it out through the front of the computer.



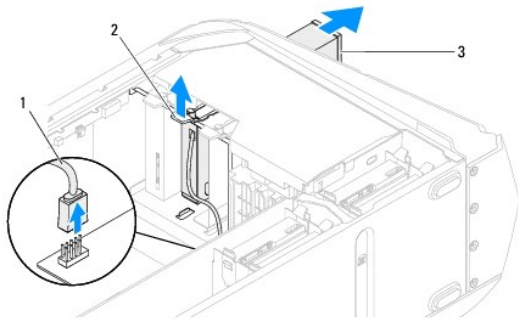
1	power cable	2	data cable
3	securing tab	4	optical drive

Replacing the Optical Drive(s)

1. Follow the instructions in [Before You Begin](#).
2. Remove the new optical drive from its packaging. Save the original packaging for storing or shipping the optical drive.
3. Remove the optical-drive bay filler (if applicable).
4. Lift the securing tab and slide the optical drive through the front of the computer until the securing tab snaps into place.
5. Connect the power and data cables to the optical drive (if applicable).
6. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).
7. Lift the drive panel towards the top of your computer until it snaps into place.
8. Connect your computer and devices to electrical outlets and then turn them on.

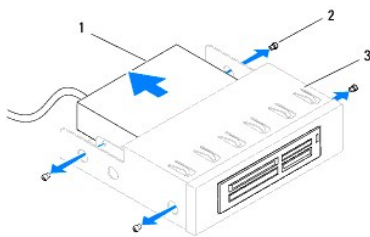
Removing the Media Card Reader

1. Follow the instructions in [Before You Begin](#).
2. Press the AlienHead on the front of your computer to lower the drive panel.
3. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
4. Open the PCI shroud (see [Opening the PCI Shroud](#)).
5. Disconnect the FlexBay USB cable from the FLEXBAY connector on the master I/O board. For more information on the location of the connector, see [Master I/O Board Components](#).
6. Lift the securing tab and push the FlexBay dock to slide it out through the front of the computer.



1	FlexBay USB cable	2	securing tab
3	Media Card Reader		

7. Remove the four screws that secure the Media Card Reader to the FlexBay dock.
8. Slide the Media Card Reader out of the FlexBay dock.



1	Media Card Reader	2	screws (4)
3	FlexBay dock		

Replacing the Media Card Reader

1. Follow the instructions in [Before You Begin](#).
2. Remove the new Media Card Reader from its packaging. Save the original packaging for storing or shipping the Media Card Reader.
3. Slide the Media Card Reader into the FlexBay dock.
4. Replace the four screws that secure the Media Card Reader to the FlexBay dock.
5. Lift the securing tab and slide the FlexBay dock through the front of the computer until the securing tab snaps into place.
6. Connect the FlexBay USB cable to the FLEXBAY connector on the master I/O board. For more information on the location of the connector, see [Master I/O Board Components](#).
7. Close the PCI shroud (see [Closing the PCI Shroud](#)).
8. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).
9. Lift the drive panel towards the top of your computer.
10. Connect your computer and devices to electrical outlets and then turn them on.

Master I/O Board

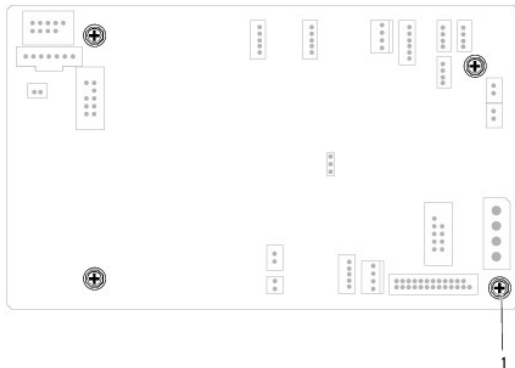
Alienware Aurora Service Manual

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

- 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:** Do not operate your computer with any cover(s) (including computer panels, bezels, filler brackets, etc.) removed.
- 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 side panel(s).
- 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:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on your computer).
-

Removing the Master I/O Board

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
4. Remove the drive-bay shroud (see [Removing the Drive-Bay Shroud](#)).
5. Remove the PCI-fan assembly (see [Removing the PCI-Fan Assembly](#)).
6. Disconnect all cables from the connectors on the master I/O board. Note the routing of all cables as you remove them so that you can re-route them correctly after installing the new master I/O board.
7. Remove the four screws that secure the master I/O board to the chassis.
8. Remove the master I/O board out of the chassis.




1	screws (4)
---	------------


Replacing the Master I/O Board

1. Follow the instructions in [Before You Begin](#).
2. Place the master I/O board in the chassis.
3. Replace the four screws that secure the master I/O board to the chassis.

4. Route and connect the cables that you removed from the connectors on the master I/O board.

 **NOTE:** For information on master I/O board connectors, see [Master I/O Board Components](#).

5. Replace the PCI-fan assembly (see [Replacing the PCI-Fan Assembly](#)).
6. Replace the drive-bay shroud (see [Replacing the Drive-Bay Shroud](#)).
7. Close the PCI shroud (see [Closing the PCI Shroud](#)).
8. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

9. Connect your computer and all attached devices to electrical outlets, and turn them on.

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Left Side-Panel

Alienware Aurora Service Manual

- [Removing the Left Side-Panel](#)
- [Replacing the Left Side-Panel](#)

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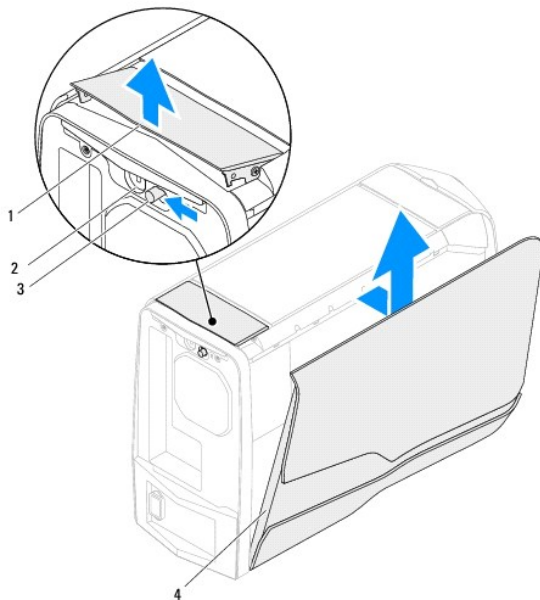
Removing the Left Side-Panel

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

NOTE: Ensure that you remove the security cable from the security cable slot (if applicable).

2. Slide the latch to unlock the release panel.
3. Lift the release panel to open the left-side panel.
4. Slide and lift the left side-panel.

NOTE: Theater lighting (available only in Alienware Aurora ALX) turns on automatically when the left side-panel is removed.



1	release panel	2	security cable slot
3	latch	4	left side-panel

Replacing the Left Side-Panel

1. Follow the instructions in [Before You Begin](#).
2. Align the tabs on the left side-panel with the slots on the side of the computer and push the panel into place.
3. Slide the latch to lock the release panel.
4. Connect your computer and all attached devices to electrical outlets, and turn them on.

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Memory Module(s)

Alienware Aurora Service Manual

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

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You can increase your computer memory by installing memory modules on the system board. See the specifications in your *Desktop Manual* at support.dell.com/manuals for information on the type of memory supported by your computer. Install only memory modules that are supported by your computer.

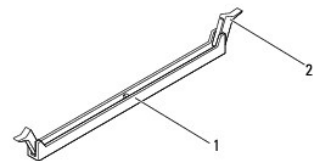
NOTE: Memory modules purchased from Dell or Alienware are covered under your computer warranty.

Removing Memory Module(s)

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
4. Locate the memory-module connectors on the system board (see [System Board Components](#)).

WARNING: The memory module(s) may become very hot during normal operation. Allow the memory module(s) to cool before touching them.

5. For better access to the memory module(s), remove the PCI-Express card if the card is full length (see [Removing the PCI-Express Card\(s\)](#)).
6. Spread apart the securing clips at both ends of the memory-module connector.
7. Lift the memory module off the memory-module connector. If the memory module is difficult to remove, gently ease the memory module back and forth to remove it from the memory-module connector.

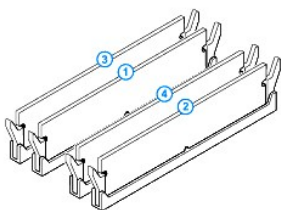


1	memory-module connector	2	securing clips (2)
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Replacing Memory Module(s)

- CAUTION:** If the memory module is not installed properly, the computer may not boot.
- CAUTION:** If you remove the original memory module(s) from your 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.

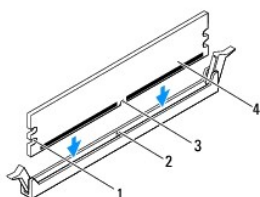
1. Follow the instructions in [Before You Begin](#).



Recommended memory configuration:

Type	Slots
1333 MHz, 1600 MHz, and 1866 MHz DDR3	Slots 1 and 2 or slots 1 — 4

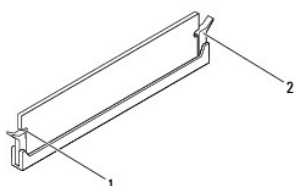
2. Align the notch on the bottom of the memory module with the tab on the memory-module connector.



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.

3. Insert the memory module into the memory-module 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)
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4. To replace the PCI-Express card(s), see [Replacing the PCI-Express Card\(s\)](#).
5. Close the PCI shroud (see [Closing the PCI Shroud](#)).
6. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

7. Connect your computer and all attached devices to electrical outlets, and then turn them on.
8. When the message appears stating that memory size has changed, press <F1> to continue.
9. Log on to your computer.

To verify that the memory is installed correctly, click **Start**  → **Control Panel** → **System and Security** → **System**.

Check the amount of memory (RAM) listed.

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PCI-Express Card(s)

Alienware Aurora Service Manual

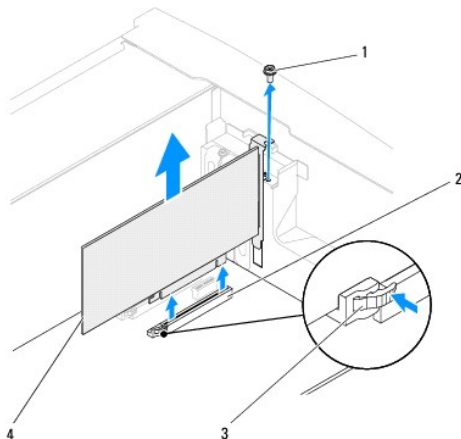
- [Removing the PCI-Express Card\(s\)](#)
- [Replacing the PCI-Express Card\(s\)](#)

- 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.
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Removing the PCI-Express Card(s)

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
4. Locate the PCI-Express card on the system board (see [System Board Components](#)).
5. Disconnect any cables connected to the card (if applicable).
6. Remove the screw that secures the card to the chassis.
7. Remove the card.
 - 1 For a PCI-Express x1 card, grasp the card by its top corners, and ease it out the card connector.
 - 1 For a PCI-Express x16 card, press the securing tab on the card connector as you grasp the card by its top corners, and then ease the card out of the card connector.

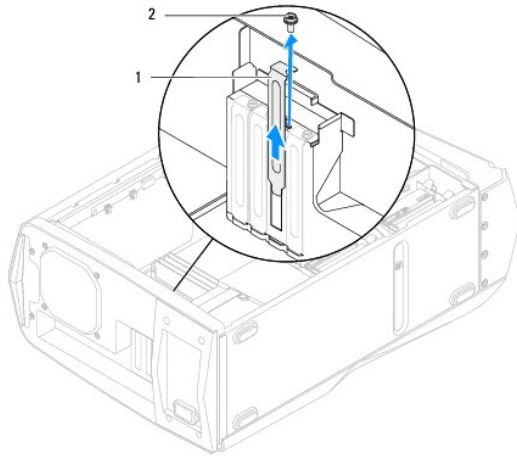
NOTE: If you are not replacing a card, install a filler bracket in the empty card-slot opening.



1	screw	2	PCI-Express x16 connector
3	securing tab	4	PCI-Express x16 card

Replacing the PCI-Express Card(s)

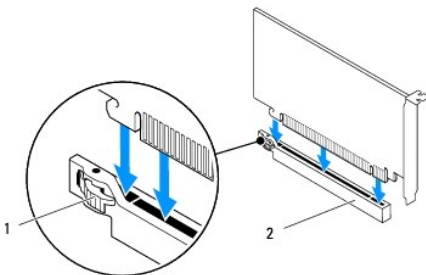
1. Follow the instructions in [Before You Begin](#).
2. Remove the screw that secures the filler bracket and remove the filler bracket to create a card-slot opening (if applicable).



1	filler bracket	2	screw
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CAUTION: To prevent damage to the PCI-Express card ensure that the memory module securing clips are in the closed position.

3. Align the card with the card connector on the system board.
4. Place the card in the connector and press down firmly. Ensure that the card is firmly seated in the slot. If you are installing the PCI-Express x16 card, press the securing tab and insert the card in the connector.



1	securing tab	2	PCI-Express x16 card connector
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5. Connect any cables that should be attached to the card (if applicable). For information about the card's cable connections, see the documentation that shipped with the card.
6. Replace the screw that secures the card to the chassis.
7. Close the PCI shroud (see [Closing the PCI Shroud](#)).
8. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

9. Connect your computer and all attached devices to electrical outlets, and turn them on.

Processor Liquid-Cooling Assembly

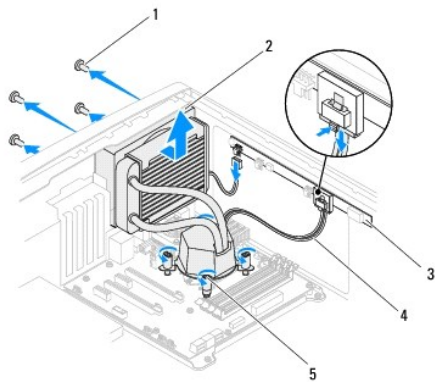
Alienware Aurora Service Manual

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

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Removing the Processor Liquid-Cooling Assembly


1. Follow the instructions in [Before You Begin](#).
 2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
 3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
- WARNING:** Despite having a plastic shield, the processor liquid-cooling assembly may be very hot during normal operation. Ensure that it has had sufficient time to cool before you touch it.
4. Press the tabs on the processor liquid-cooling assembly cables and disconnect them from the SYS FAN and CPU PUMP connectors on the top-lighting board.
 5. Loosen the four captive screws that secure the processor liquid-cooling assembly to the system board.
 6. Remove the four screws that secure the processor liquid-cooling assembly to the chassis rear wall.
 7. Slide and lift the processor liquid-cooling assembly out of the chassis.



1	screws (4)	2	processor liquid-cooling assembly
3	top lighting-board	4	cables (2)
5	captive screws (4)		

Replacing the Processor Liquid-Cooling Assembly

1. Follow the instructions in [Before You Begin](#).
2. Align the screw holes on the processor liquid-cooling assembly with the screw holes on the chassis rear wall.
3. Replace the four screws that secure the processor liquid-cooling assembly to the chassis rear wall.
4. Tighten the four captive screws that secure the processor liquid-cooling assembly to the system board.
5. Connect the processor liquid-cooling assembly cables to the SYS FAN and CPU PUMP connectors on the top lighting-board.
6. Close the PCI shroud (see [Closing the PCI Shroud](#)).
7. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

8. Connect your computer and all attached devices to electrical outlets, and turn them on.

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Processor

Alienware Aurora Service Manual

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

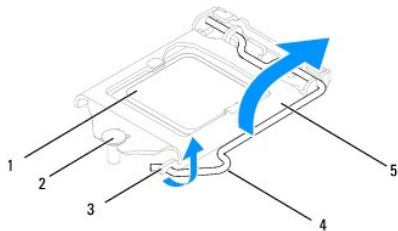
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-

Removing the Processor

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).

WARNING: Despite having a plastic shield, the processor liquid-cooling assembly may be very hot during normal operation. Ensure that it has had sufficient time to cool before you touch it.

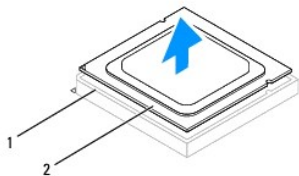
3. Remove the processor liquid-cooling assembly (see [Removing the Processor Liquid-Cooling Assembly](#)).
4. Press and push the release lever down and out and release it from the tab that secures it.



1	processor	2	center-cover latch
3	tab	4	release lever
5	processor cover		

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.

5. Open the processor cover and gently lift the processor to remove it from the socket.
6. Leave the release lever extended in the release position so that the socket is ready for the new processor.



1	socket	2	processor
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Replacing the Processor

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.

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

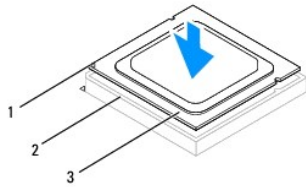
1. Follow the instructions in [Before You Begin](#).
2. Unpack the new processor. Ensure that you do not touch the underside of the processor.

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. Extend the release lever on the processor socket if it is not fully extended.

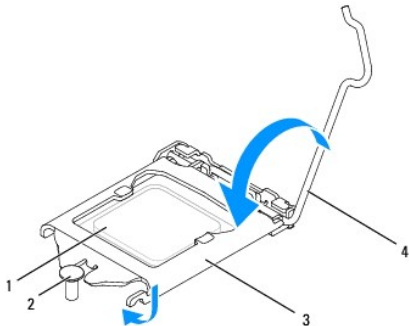
CAUTION: Socket pins are delicate. To avoid damage, ensure that the processor is aligned properly with the socket, and do not use excessive force when you replace the processor. Be careful not to touch or bend the pins on the system board.

4. Align the pin-1 corners of the processor and socket.
5. Set the processor lightly in the socket and ensure that the processor is positioned correctly.



1	processor pin-1 indicator	2	socket
3	processor		

6. When the processor is fully seated in the socket, close the processor cover. Ensure that the processor cover is positioned underneath the center-cover latch on the system board.
7. Pivot the release lever back towards the socket, and snap it into place to secure the processor.



1	processor	2	center-cover latch
3	processor cover	4	release lever

8. Clean the thermal grease from the bottom of the processor liquid-cooling assembly.

⚠ **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.

9. Apply the new thermal grease to the top of the processor.

10. Replace the processor liquid-cooling assembly (see [Replacing the Processor Liquid-Cooling Assembly](#)).

⚠ **CAUTION:** Ensure that the processor liquid-cooling assembly is correctly seated and secured.

11. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

12. Connect your computer and all attached devices to electrical outlets, and then turn them on.

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Power Supply

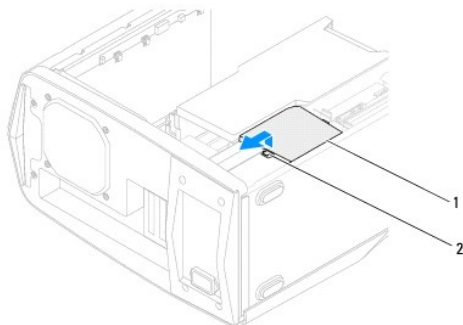
Alienware Aurora Service Manual

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

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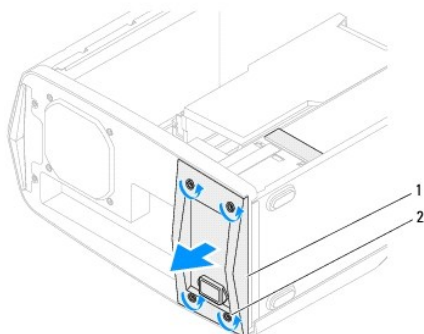
Removing the Power Supply

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Lift the tab and slide the power-supply cover towards the back of the chassis.
4. Lift the power-supply cover away from the chassis.



1	power-supply cover	2	tab
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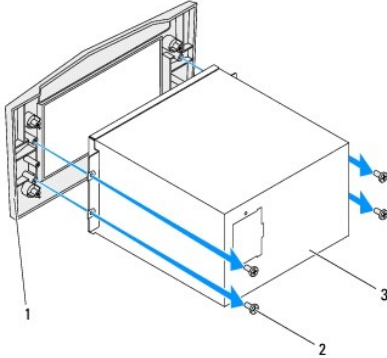
5. Disconnect the DC wire harness from the power supply.
6. Loosen the four captive screws that secure the power supply to the back of the chassis.
7. Slide the power supply out through the back of the chassis.



1	power supply	2	captive screws (4)
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8. Remove the four screws that secure the power supply to the bezel.

9. Remove the bezel from the power supply.



1	bezel	2	screws (4)
3	power supply		

Replacing the Power Supply

1. Follow the instructions in [Before You Begin](#).
2. Align the screw holes on the power supply with the screw holes on the bezel.
3. Replace the four screws that secure the power supply to the bezel.
4. Slide the power supply into the chassis through the back of the computer.
5. Tighten the four captive screws that secure the power supply to the back of the chassis.
6. Connect the DC wire harness to the power supply.
7. Align the notch on the power-supply cover with the tab on the chassis.
8. Slide the power-supply cover towards the tabs until it locks in place.
9. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

10. Connect your computer and all attached devices to electrical outlets, and turn them on.

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Right Side-Panel(s)

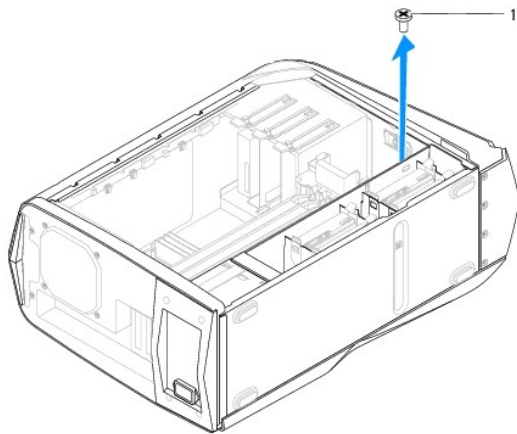
Alienware Aurora Service Manual

- [Removing the Right-Side Top Panel](#)
- [Replacing the Right-Side Top Panel](#)
- [Removing the Lighting Board](#)
- [Replacing the Lighting Board](#)
- [Removing the Right-Side Middle Panel](#)
- [Replacing the Right-Side Middle Panel](#)
- [Removing the Right-Side Bottom Panel](#)
- [Replacing the Right-Side Bottom Panel](#)

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- CAUTION:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on your computer).
-

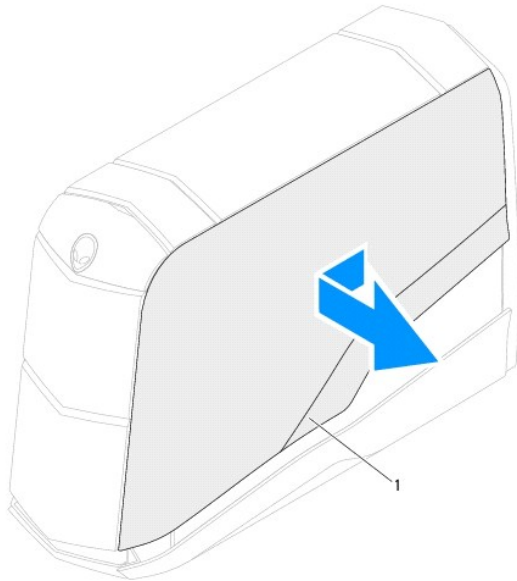
Removing the Right-Side Top Panel

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
4. Remove the drive-bay shroud (see [Removing the Drive-Bay Shroud](#)).
5. Remove the screw that secures the right-side top panel.



1	screw
---	-------

6. Place the chassis in an upright position.
7. Slide and pull the right-side top panel away from the chassis.



1	right-side top panel
---	----------------------

Replacing the Right-Side Top Panel

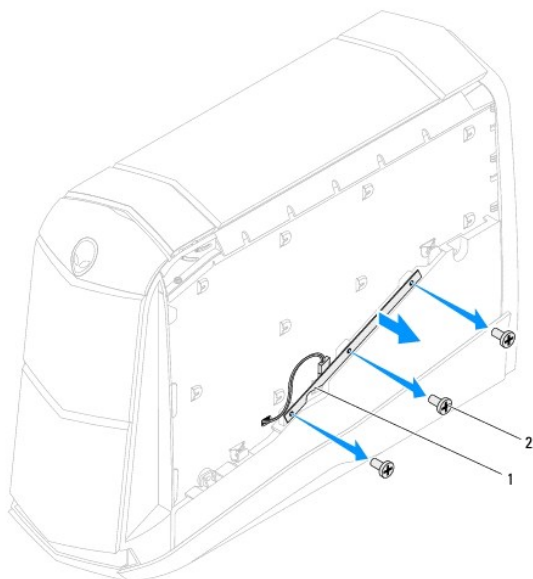
1. Follow the instructions in [Before You Begin](#).
2. Align the tabs on the right-side top panel with the slots on the chassis and slide the panel into position.
3. Lay the computer on its side.
4. Replace the screw that secures the right side-panel.
5. Replace the drive-bay shroud (see [Replacing the Drive-Bay Shroud](#)).
6. Close the PCI shroud (see [Closing the PCI Shroud](#)).
7. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

8. Connect your computer and all attached devices to electrical outlets, and turn them on.
-

Removing the Lighting Board

1. Follow the instructions in [Before You Begin](#).
2. Remove the right-side top panel (see [Removing the Right-Side Top Panel](#)).
3. Disconnect the lighting-board cable from the connector on the master I/O board.
4. Make a note of the lighting-board cable routing and remove it from the slot on the computer.
5. Remove the three screws that secure the lighting board to the right-side middle panel.
6. Lift the lighting board along with its cable away from the right-side middle panel.



1	lighting board	2	screws (3)
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Replacing the Lighting Board

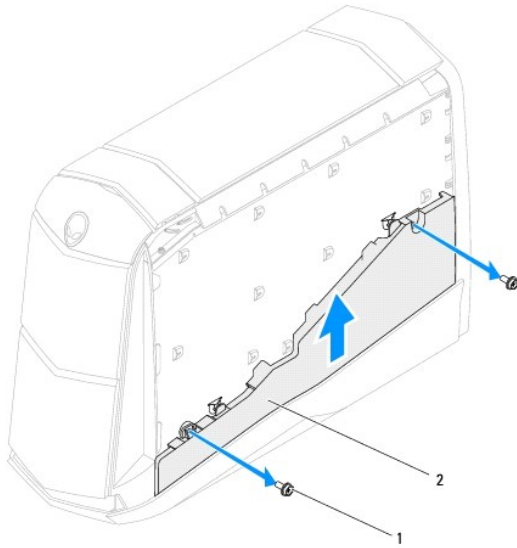
1. Follow the instructions in [Before You Begin](#).
2. Route the lighting-board cable through the slot on the computer.
3. Connect the lighting-board cable to the connector on the master I/O board.
4. Align the screw holes on the lighting board with the screw holes on the right-side middle panel.
5. Replace the three screws that secure the lighting board to the right-side middle panel.
6. Replace the right-side top panel (see [Replacing the Right-Side Top Panel](#)).

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

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

Removing the Right-Side Middle Panel

1. Follow the instructions in [Before You Begin](#).
2. Remove the right-side top panel (see [Removing the Right-Side Top Panel](#)).
3. Remove the lighting board (see [Removing the Lighting Board](#)).
4. Remove the two screws that secure the right-side middle panel to the chassis.
5. Lift the right-side middle panel up and away from the chassis.



1	screws (2)	2	right-side middle panel
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Replacing the Right-Side Middle Panel

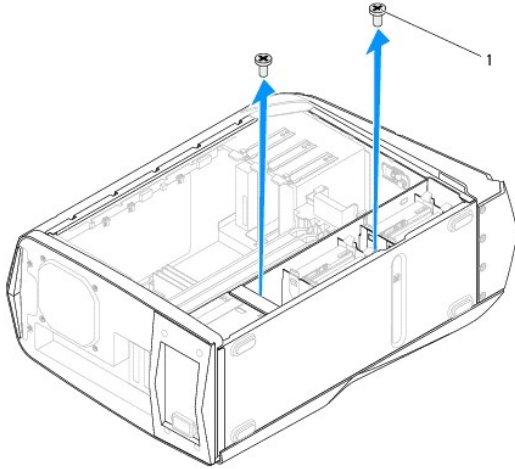
1. Follow the instructions in [Before You Begin](#).
2. Align the right-side middle panel on top of the right-side bottom panel.
3. Replace the two screws that secure the right-side middle panel to the chassis.
4. Replace the lighting board (see [Replacing the Lighting Board](#)).
5. Replace the right-side top panel (see [Replacing the Right-Side Top Panel](#)).

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

6. Connect your computer and all attached devices to electrical outlets, and turn them on.
-

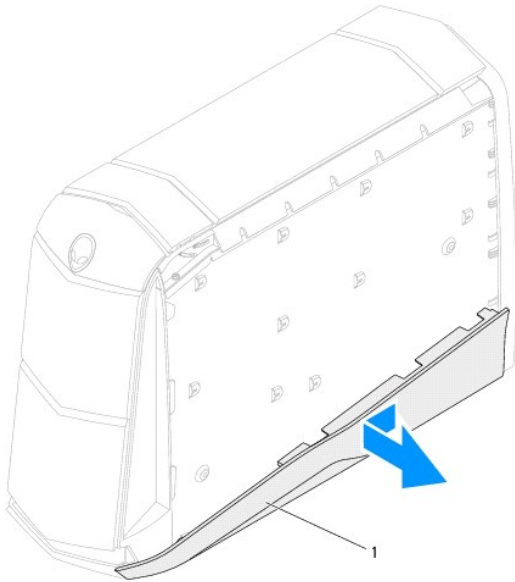
Removing the Right-Side Bottom Panel

1. Follow the instructions in [Before You Begin](#).
2. Remove the hard-drive fan assembly (see [Removing the Hard-Drive Fan Assembly](#)).
3. Remove the power-supply cover (see [Removing the Power Supply](#)).
4. Disconnect the DC wire harness from the power supply.
5. Remove the right-side top panel (see [Removing the Right-Side Top Panel](#)).
6. Remove the two screws that secure the right-side bottom panel to the chassis.



1	screws (2)
---	------------

7. Remove the lighting board (see [Removing the Lighting Board](#)).
8. Remove the right-side middle panel (see [Removing the Right-Side Middle Panel](#)).
9. Slide and pull the right-side bottom panel away from the chassis.




1	right-side bottom panel
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Replacing the Right-Side Bottom Panel

1. Follow the instructions in [Before You Begin](#).
2. Align the tabs on the right-side bottom panel with the slots on the chassis and slide the panel into position.
3. Replace the right-side middle panel (see [Replacing the Right-Side Middle Panel](#)).
4. Replace the lighting board (see [Replacing the Lighting Board](#)).

5. Replace the two screws that secure the right-side bottom panel to the chassis.
6. Replace the right-side top panel (see [Replacing the Right-Side Top Panel](#)).
7. Connect the DC wire harness to the power supply.
8. Replace the power-supply cover (see [Replacing the Power Supply](#)).
9. Replace the hard-drive fan assembly (see [Replacing the Hard-Drive Fan Assembly](#)).

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

10. Connect your computer and all attached devices to electrical outlets, and turn them on.

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Shrouds

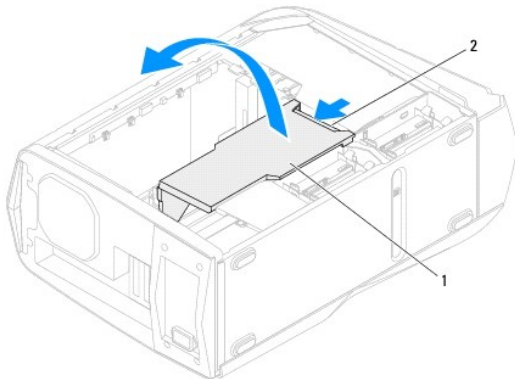
Alienware Aurora Service Manual

- [Opening the PCI Shroud](#)
- [Closing the PCI Shroud](#)
- [Removing the Drive-Bay Shroud](#)
- [Replacing the Drive-Bay Shroud](#)

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-

Opening the PCI Shroud

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Press the shroud button and rotate the PCI shroud away from the chassis.



1	PCI shroud	2	shroud button
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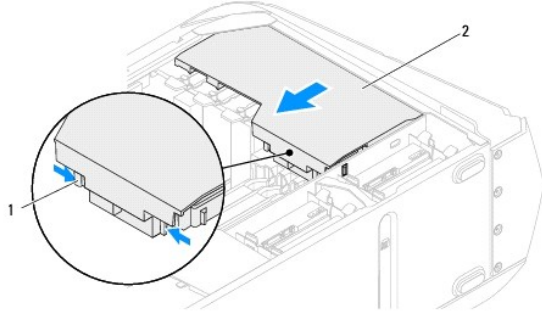
Closing the PCI Shroud

1. Follow the instructions in [Before You Begin](#).
 2. Lower the PCI shroud into the chassis until it clicks into place.
 3. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).
 4. Connect your computer and all attached devices to electrical outlets, and turn them on.
-

Removing the Drive-Bay Shroud

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

2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
4. Press the tabs and slide the drive-bay shroud towards the back of the chassis.



1	tabs (2)	2	drive-bay shroud
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Replacing the Drive-Bay Shroud







1. Follow the instructions in [Before You Begin](#).
2. Align the drive-bay shroud with the slots on the chassis.
3. Slide the drive-bay shroud toward the front of the chassis until it clicks into place.
4. Close the PCI shroud (see [Closing the PCI Shroud](#)).
5. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).
6. Connect your computer and all attached devices to electrical outlets, and turn them on.

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System Board

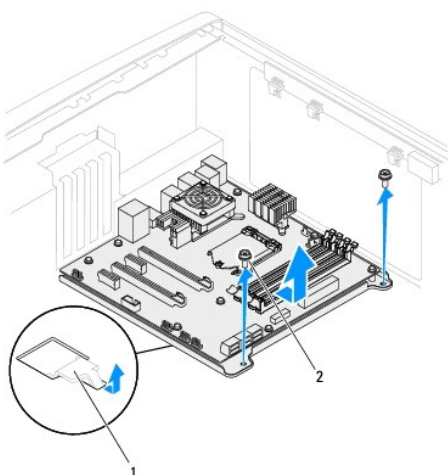
Alienware Aurora Service Manual

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- [Replacing the System Board](#)

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-  **CAUTION:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on your computer).
-  **CAUTION:** Handle components and cards by their edges, and avoid touching pins and contacts.
-

Removing the System Board


1. Record all the screens in system setup (see [System Setup Options](#)) so that you can restore the correct settings.
 2. Follow the instructions in [Before You Begin](#).
 3. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
 4. Remove the memory fan (see [Removing the Memory Fan](#)).
 5. Open the PCI shroud (see [Opening the PCI Shroud](#)).
 6. Remove the PCI-Express card(s) (see [Removing the PCI-Express Card\(s\)](#)).
 7. Remove the coin-cell battery (see [Removing the Coin-Cell Battery](#)).
-  **WARNING:** Despite having a plastic shield, the processor liquid-cooling assembly may be very hot during normal operation. Ensure that it has had sufficient time to cool before you touch it.
8. Remove the processor liquid-cooling assembly (see [Removing the Processor Liquid-Cooling Assembly](#)).
 9. Remove the processor (see [Removing the Processor](#)).
 10. Remove the memory modules (see [Removing Memory Module\(s\)](#)).
-  **CAUTION:** Carefully note the routing and location of each cable before you disconnect it, so that you are sure to re-route the cables correctly. An incorrectly routed or a disconnected cable could lead to computer problems.
11. Disconnect all the cables connected to the system board.
 12. Remove the two screws that secure the system board to the chassis.
 13. Slide the system board towards the front of the chassis to disengage it from the latches that secure it to the chassis.
 14. Lift the system board out of the chassis.



1	latch	2	screws (2)
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Replacing the System Board

1. Follow the instructions in [Before You Begin](#).
2. Align the connectors on the system board with the slots on the chassis and place the system board in position.
3. Slide the system board towards the back of the chassis and engage the latches that secure it to the chassis.
4. Replace the two screws that secure the system board to the chassis.
5. Route and connect the cables that you disconnected from the system board.

 **NOTE:** For information on system board connectors, see [System Board Components](#).

6. Replace the memory module(s) (see [Replacing Memory Module\(s\)](#)).
7. Replace the processor (see [Replacing the Processor](#)).
8. Replace the processor liquid-cooling assembly (see [Replacing the Processor Liquid-Cooling Assembly](#)).
9. Replace the coin-cell battery (see [Replacing the Coin-Cell Battery](#)).
10. Replace the PCI-Express card(s) (see [Replacing the PCI-Express Card\(s\)](#)).
11. Close the PCI shroud (see [Closing the PCI Shroud](#)).
12. Replace the memory fan (see [Replacing the Memory Fan](#)).
13. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

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

System Setup


Alienware Aurora Service Manual


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

Overview

Use the system setup utility 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 Set the type of hard drive installed
- 1 Read the current amount of memory or set the type of hard drive installed

 **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.

 **NOTE:** Keyboard failure may result when a key on the keyboard is held down for extended periods of time. To avoid possible keyboard failure, press and release <F2> in even intervals until the System Setup screen appears.

2. While the computer is booting, press <F2> immediately before the operating system logo appears to access the **BIOS Setup Utility**.

 **NOTE:** If an error occurs during Power On Self Test (POST), press <F2> when the prompt appears to enter the BIOS Setup Utility.


 **NOTE:** 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 desktop and try again.

System Setup Screens

The **BIOS Setup Utility** displays current or changeable configuration information for your desktop.

Key functions appear at the bottom of the **BIOS Setup Utility** screen and lists keys and their functions within the active field.

System Setup Options

 **NOTE:** The items listed in this section may or may not appear exactly as listed depending on your computer model and installed devices.





Main	
BIOS Information	
Product Information	
Build Date	Displays the BIOS release date.
Product Name	Displays the product name.
BIOS Version	Displays the BIOS version number.
Service Tag	Displays the service tag of the computer.
Asset Tag	Displays the asset tag of the computer.
Memory Information	
Total Memory	Displays the total memory of the computer.
Memory Available	Displays the amount of memory available on the computer.
Memory Technology	Displays the type of memory technology used.
Memory Speed	Displays the memory speed.

CPU Information	
CPU Type	Displays the processor type.
CPU ID	Displays the processor identification code.
CPU Speed	Displays the processor speed.
Cache L2	Displays the processor L2 cache size.
Cache L3	Displays the processor L3 cache size.
Advanced — Standard CMOS Features	
System Date (mm:dd:yy)	Displays current date.
System Time (hh:mm:ss)	Displays the current time.
Device Information	
SATA Port1	Displays the SATA 1 drive integrated in the computer.
SATA Port2	Displays the SATA 2 drive integrated in the computer.
SATA Port3	Displays the SATA 3 drive integrated in the computer.
SATA Port4	Displays the SATA 4 drive integrated in the computer.
SATA Port5	Displays the SATA 5 drive integrated in the computer.
SATA Port6	Displays the SATA 6 drive integrated in the computer.
SATA Port7	Displays the SATA 7 drive integrated in the computer.
SATA Port8	Displays the SATA 8 drive integrated in the computer.
Wait for 'F1' If Errors	If enabled, the system will HALT during boot to display system errors.
Advanced — Advanced BIOS Features	
Bootup Num-Lock	Select power-on state for num-lock.
OptionROM Display Screen	Allows you to enable or disable the RAID Option ROM screen during POST.
Advanced — CPU Configuration	
Hyper-threading Technology	If disabled only one thread per enabled core is active.
XD Bit Capability	Enable XD Bit Capability to allow the processor to distinguish between the bits of code that can be executed and the ones that cannot be executed.
Intel(R) Speedstep tech	If enabled, the processor clock speed and core voltage are adjusted dynamically based on the processor load.
Intel(R) C-State Tech	If enabled, C-State: Processor idle is set to C2/C3/C4.
Advanced — Integrated Devices	
USB Controller	Allows you to enable or disable the integrated USB controller.
HD Audio	Allows you to enable or disable the integrated audio controller.
Onboard IEEE1394 Controller	Allows you to enable or disable the onboard IEEE 1394 controller.
Onboard LAN Controller	Allows you to enable or disable the onboard LAN controller.
LAN Option ROM	Allows you to enable or disable the network controller's boot option.
Jmicron 362 ATA Controller	Allows you to enable or disable the ATA controller.
ICH SATA Configuration	
SATA Mode	Allows you to configure the integrated hard drive controller to AHCI or RAID.
Advanced — Power Management Setup	
Suspend Mode	Sets the energy-saving mode of the ACPI function.
AC Recovery	Sets what action the computer takes when power is restored.
Auto Power On	Allows the computer to start up at a certain time.
Advanced — Frequency/Voltage Control	
Current CPU Frequency	Displays the current processor speed.
Current DRAM Frequency	Displays the current memory speed.
Adjust Cpu Ratio	Allows you to change the processor ratio.
Memory Ratio	Allows you to change the memory ratio.
Extreme Memory Profile (X.M.P)	Allows you to change the extreme memory profile value.
DRAM Timing Mode	Allows you to change the memory timing mode.

Advance DRAM Configuration	Allows you to change the Advance DRAM Configuration.
Overclock Configuration	Allows you to access the Overclock Configuration submenu.
Overvoltage Configuration	Allows you to access the Overvoltage Configuration submenu.
Load Level 1 Defaults	Allows you to load Level 1 default setting. NOTE: This setting may not be available for some processors.
Load Level 2 Defaults	Allows you to load Level 2 default setting. NOTE: This setting may not be available for some processors.
Advanced — ME Subsystem	
ME Version	Displays the ME version number.
ME subsystem	Allows you to enable or disable the ME subsystem.
End of Post Message	End of Post Message.
Execute MEBx	Allows you to enable or disable the Execute MEBx.
Integrated Clock Chip Configuration	Allows you to access the Integrated Clock Chip Configuration submenu.
Advanced — ME Subsystem — Integrated Clock Chip Configuration Submenu	
ICC OverClocking Lib Version	Displays the ICC OverClocking Lib Version number.
Number of ICC Profiles:	Displays the number of ICC Profiles supported on your computer.
Current ICC Profile Index:	Displays the current ICC Profile Index value.
ICC Enable	Allows you to enable or disable the Integrated Clock Chip.
Advance DRAM Configuration Submenu	
Memory-Z	Opens submenu to display the SPD configuration for each memory module.
Command Rate	Displays the Command Rate (editable in Manual Mode).
tCL	Displays the Column Address Strobe Latency (editable in Manual Mode).
tRCD	Displays timing of RAS to CAS delay (editable in Manual Mode).
tRP	Displays timing of RAS Precharge (editable in Manual Mode).
tRAS	Displays timing of Row Address Strobe (editable in Manual Mode).
tRFC	Displays timing of Refresh to Archive/Refresh cycle time (editable in Manual Mode).
tWR	Displays timing of Write Recover (editable in Manual Mode).
tWTR	Displays Write to Read Delay (editable in Manual Mode).
tRRD	Displays RAS to RAS delay (editable in Manual Mode).
tRTP	Displays Read to Precharge Command Delay (editable in Manual Mode).
tFAW	Displays the Four Activate Window (editable in Manual Mode).
tWCL	Displays the Write CAS Latency (editable in Manual Mode).
tCKE	Displays the Minimum CKE High and Low Pulse Width (editable in Manual Mode).
Overclock Configuration Submenu	
Turbo Mode	If enabled, allows processor to run at faster frequencies than marked.
Long duration power limit	Allows you to change the long duration power limit.
Long duration maintained	Allows you to change the long duration time limit.
Short duration power limit	Allows you to change the short duration power limit.
1-Core Ratio Limit	Allows you to change the ratio limit of the processor's first core.
2-Core Ratio Limit	Allows you to change the ratio limit of the processor's second core.
3-Core Ratio Limit	Allows you to change the ratio limit of the processor's third core.
4-Core Ratio Limit	Allows you to change the ratio limit of the processor's fourth core.
VID Override for Max Turbo Ratio	Allows you to change the VID override for max turbo ration value.
Overvoltage Configuration Submenu	
DDR3 Memory Voltage	Adjusts the DDR3 Memory Voltage.
Dynamic CPU VCore Offset	Allows you to change the Processor Core Voltage Offset value.

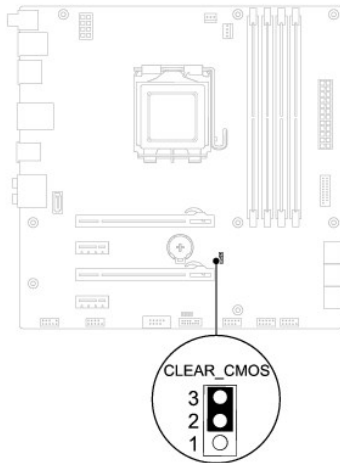
Adjust DDR_VREF_DQ_A	Adjusts the DDR3 Data VREF – Channel A.
Adjust DDR_VREF_DQ_B	Adjusts the DDR3 Data VREF – Channel B.
Adjust DDR_VREF_CA_A	Adjusts the DDR3 Address VREF – Channel A.
Adjust DDR_VREF_CA_B	Adjusts the DDR3 Address VREF – Channel B.
Security	
Supervisor Password:	Allows you to change the supervisor password.
User Password:	Allows you to change the user password. You cannot use the user password to enter the BIOS setup, during POST.
Set Supervisor Password	Allows you to set a supervisor password.
Boot	
Set Boot Priority	
1st Boot Device	Displays the first boot device.
2nd Boot Device	Displays the second boot device.
3rd Boot Device	Displays the third boot device.
4th Boot Device	Displays the fourth boot device.
5th Boot Device	Displays the fifth boot device.
6th Boot Device	Displays the sixth boot device.
7th Boot Device	Displays the seventh boot device.
Hard Disk Drive BBS Priorities	Sets the hard drive boot priority. The items displayed are dynamically updated according to the hard drives detected.
CD/DVD ROM Drive BBS Priorities	Sets the CD/DVD drive boot priority.
Exit	
Provides options to Save Changes and Reset, Discard Changes and Reset, Restore Defaults, and Reset System with ME disable Mode.	

Clearing Forgotten Passwords and CMOS Settings

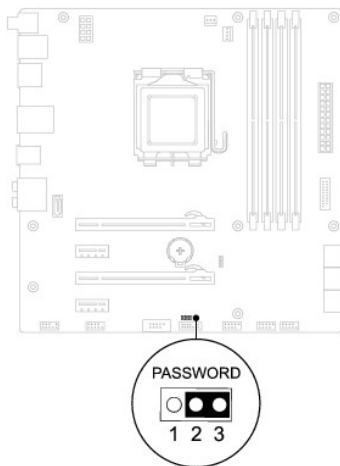
-  **WARNING:** Before you begin any of the procedures in this section, follow the safety instructions that shipped with your computer.
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- Follow the instructions in [Before You Begin](#).
- Remove the left side-panel (see [Removing the Left Side-Panel](#)).
- Reset the current password and CMOS settings:
 - Locate the 3-pin CMOS or password-reset jumper on the system board (see [System Board Components](#)).
 - Remove the jumper plug from the CMOS or password-reset jumper pins 2 and 3.
 - Place the jumper plug on the CMOS or password-reset jumper pins 1 and 2 and wait for approximately five seconds.
 - Remove the jumper plug and replace it on the CMOS or password reset jumper pins 2 and 3.

CMOS:



Password:



4. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).
5. Connect your computer and devices to electrical outlets and then turn them on.

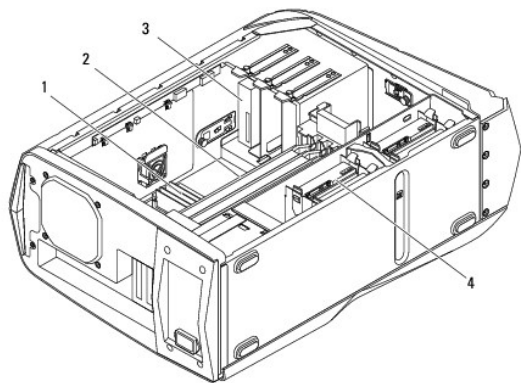
Technical Overview

Alienware Aurora Service Manual

- [Inside View of Your Computer](#)
- [System Board Components](#)
- [Master I/O Board Components](#)

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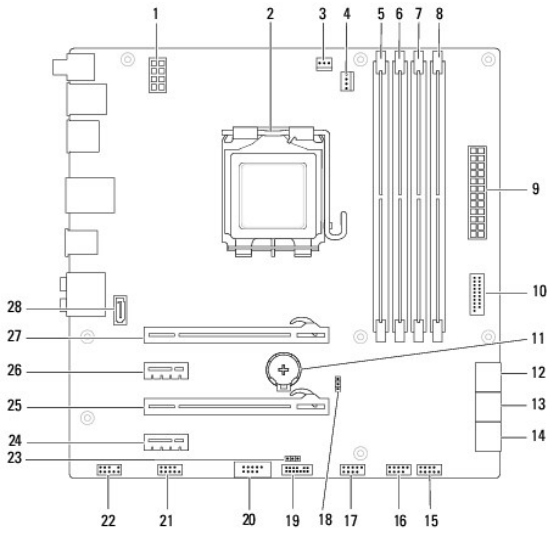
Inside View of Your Computer



1	memory module(s) (4)	2	PCI-Express card(s) (2)
3	optical drive(s) (3)	4	hard-drive(s) (4)


System Board Components

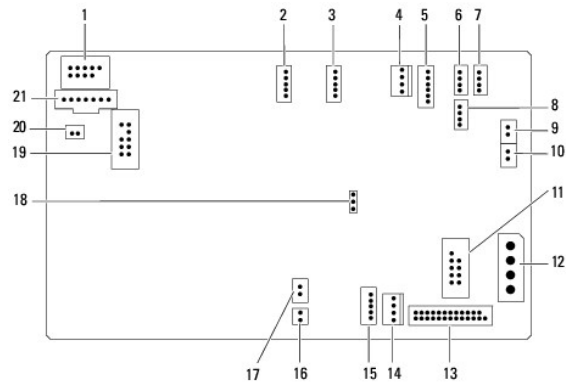
- NOTE:** The location of the connectors may vary based on the selections you made at the time of purchase.



1	processor power connector (PWR2)	2	processor socket (CPU1)
3	heat-sink fan connector (VRM_FAN)	4	processor fan connector (CPU_FAN)
5	memory-module connector (DIMM1)	6	memory-module connector (DIMM2)
7	memory-module connector (DIMM3)	8	memory-module connector (DIMM4)
9	main power connector (PWR1)	10	front USB connector (FUSB3_0)
11	battery socket (BAT1)	12	serial ATA drive connectors (SATA1_2)
13	serial ATA drive connectors (SATA3_4)	14	serial ATA drive connectors (SATA5_6)
15	front panel connector (FRONT_PANEL)	16	USB connector (USB1)
17	USB connector (USB2)	18	CMOS jumper (CLEAR_CMOS)
19	Low pin count debug header (LPC)	20	IEEE 1394 connector (1394)
21	serial port connector (COM1)	22	front audio connector (FRONT_AUDIO)
23	password jumper (PASSWORD)	24	PCI-Express x1 connector (SLOT4)
25	PCI-Express x16 connector (SLOT3)	26	PCI-Express x1 connector (SLOT2)
27	PCI-Express x16 connector (SLOT1)	28	eSATA connector (ESATA)

Master I/O Board Components

 **NOTE:** The location of the connectors may vary based on the selections you made at the time of purchase.



1	FlexBay connector (FLEXBAY)	2	drive-bay shroud battery connector (FRONT_BEZEL)
3	AlienHead connector (HEAD1)	4	PCI-fan connector (FAN_PCI)
5	left side-panel contact board connector (SIDE_L)	6	WiFi/Bluetooth connector (BLUETOOTH)
7	power-LED board connector (BLINK)	8	wireless connector (WIRELESS)
9	hard-drive LED connector (HDD_LED1)	10	hard-drive LED connector (HDD_LED2)
11	USB connector (MB_USB)	12	main-power connector (PWR1)
13	system-board lighting (MB_MIO)	14	hard-drive fan connector (FAN_HDD)
15	right side-panel connector (SIDE_R)	16	ODD sensors (ODD_SW)
17	ODD LED connector (ODD_LED)	18	front-default connector (FACTORY_DEFAULT)
19	Debug connector (DEBUG)	20	graphics-temperature sensor connector (GFX_TEMP)
21	graphics-pump connector (GFX_PUMP)		

Theater-Lighting Batteries (Alienware Aurora ALX Only)

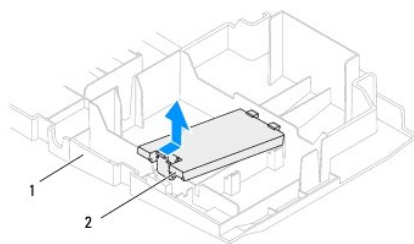
Alienware Aurora Service Manual

- [Removing the Theater-Lighting Batteries](#)
- [Replacing the Theater-Lighting Batteries](#)

- 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:** Do not operate your computer with any cover(s) (including computer panels, bezels, filler brackets, etc.) removed.
- 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 side panel(s).
- 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.
- 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:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on your computer).
-

Removing the Theater-Lighting Batteries


1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
4. Remove the drive-bay shroud (see [Removing the Drive-Bay Shroud](#)).
5. Turn the drive-bay shroud over.
6. Open the theater-lighting battery compartment door.
7. Remove the two batteries (AA rechargeable) from the theater-lighting battery compartment.



1	drive-bay shroud	2	theater-lighting battery-compartment door
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Replacing the Theater-Lighting Batteries

1. Follow the instructions in [Before You Begin](#).
2. Insert the two new batteries (AA rechargeable) in the theater-lighting battery compartment.
3. Close the theater-lighting battery-compartment door.
4. Replace the drive-bay shroud (see [Replacing the Drive-Bay Shroud](#)).
5. Close the PCI shroud (see [Closing the PCI Shroud](#)).
6. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

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

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Alienware Aurora Service Manual



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



CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.



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

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December 2010 Rev. A00

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Top Lighting-Board

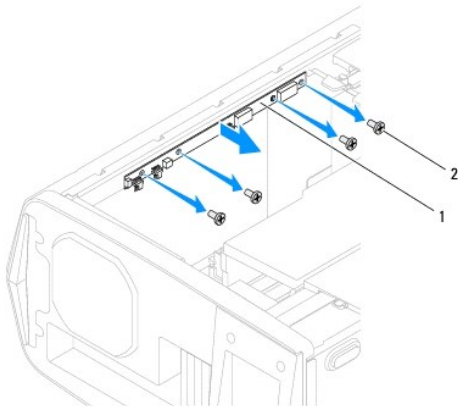
Alienware Aurora Service Manual

- [Removing the Top Lighting-Board](#)
- [Replacing the Top Lighting-Board](#)

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-

Removing the Top Lighting-Board

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Remove the optical drive(s) (if applicable) (see [Removing the Optical Drive\(s\)](#)).
4. Remove the Media Card Reader (if applicable) (see [Removing the Media Card Reader](#)).
5. Disconnect all cables from the connectors on the top lighting-board.
6. Remove the four screws that secure the top lighting-board to the chassis.
7. Remove the top lighting-board out of the chassis.




1	top lighting-board	2	screws (4)
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Replacing the Top Lighting-Board

1. Follow the instructions in [Before You Begin](#).
2. Align the screw holes on the top lighting-board with the screw holes on the chassis.
3. Replace the four screws that secure the top lighting-board to the chassis.

4. Connect the cables to the connectors on the top lighting-board.
5. Replace the Media Card Reader (if applicable) (see [Replacing the Media Card Reader](#)).
6. Replace the optical drive(s) (if applicable) (see [Replacing the Optical Drive\(s\)](#)).
7. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

8. Connect your computer and all attached devices to electrical outlets, and turn them on.

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Top Vent

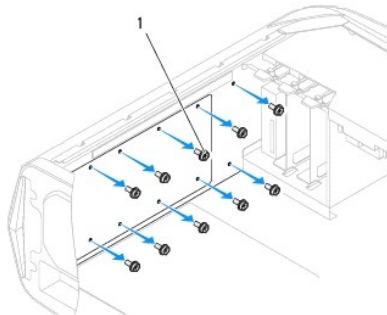
Alienware Aurora Service Manual

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

- 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.
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-

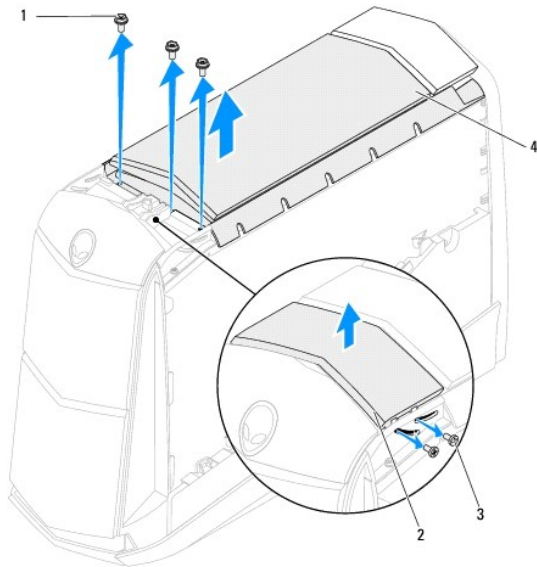
Removing the Top Vent

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Remove the memory fan (see [Removing the Memory Fan](#)).
4. Open the PCI shroud (see [Opening the PCI Shroud](#)).
5. Remove the drive-bay shroud (see [Removing the Drive-Bay Shroud](#)).
6. Remove the top lighting-board (see [Removing the Top Lighting-Board](#)).
7. Remove the system board (see [Removing the System Board](#)).
8. Remove the right-side top panel (see [Removing the Right-Side Top Panel](#)).
9. Remove the ten screws that secure the top vent to the chassis.



1	screws (10)
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10. Place the chassis in an upright position.
11. Remove the two screws that secure the top panel to the chassis.
12. Lift the top panel away from the chassis.
13. Remove the three screws that secure the top vent to the chassis.
14. Lift the top vent away from the chassis.



1	screws (3)	2	top panel
3	top-panel screws (2)	4	top vent

Replacing the Top Vent

1. Follow the instructions in [Before You Begin](#).
2. Align the screw holes on the top vent with the screw holes on the chassis.
3. Replace the three screws that secure the top vent to the chassis.
4. Align the top panel with the slots in the chassis and replace the two screws that secure the top panel to the chassis.
5. Lay the chassis on its side.
6. Replace the ten screws that secure the top vent to the top of the chassis.
7. Replace the right-side top panel (see [Replacing the Right-Side Top Panel](#)).
8. Replace the system board (see [Replacing the System Board](#)).
9. Replace the top lighting-board (see [Replacing the Top Lighting-Board](#)).
10. Replace the drive-bay shroud (see [Replacing the Drive-Bay Shroud](#)).
11. Close the PCI shroud (see [Closing the PCI Shroud](#)).
12. Replace the memory fan (see [Replacing the Memory Fan](#)).
13. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).






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

14. Connect your computer and all attached devices to electrical outlets, and turn them on.

Top I/O Panel

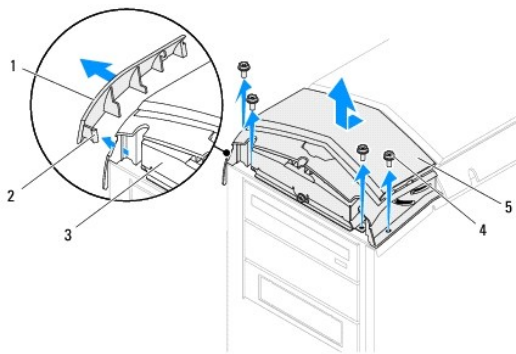
Alienware Aurora Service Manual

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

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-  **CAUTION:** To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on your computer).
-

Removing the Top I/O Panel

1. Follow the instructions in [Before You Begin](#).
2. Remove the left side-panel (see [Removing the Left Side-Panel](#)).
3. Open the PCI shroud (see [Opening the PCI Shroud](#)).
4. Remove the drive-bay shroud (see [Removing the Drive-Bay Shroud](#)).
5. Remove any PCI-Express cards (see [Removing the PCI-Express Card\(s\)](#)).
6. Remove the PCI-fan assembly (see [Removing the PCI-Fan Assembly](#)).
7. Remove the right-side top panel (see [Removing the Right-Side Top Panel](#)).
8. Remove the lighting board (see [Removing the Lighting Board](#)).
9. Remove the right-side middle panel (see [Removing the Right-Side Middle Panel](#)).
10. Remove the right-side bottom panel (see [Removing the Right-Side Bottom Panel](#)).
11. Remove the front bezel (see [Removing the Front Bezel](#)).
12. Push the tab on the panel insert to release the panel insert from the slot on the chassis.
13. Pull the panel insert away from the chassis.
14. Remove the four screws that secure the top I/O panel to the chassis.
15. Disconnect the top I/O panel cables from the connectors on the system board and master I/O board.
16. Slide and remove the top I/O panel out of the chassis.



1	panel insert	2	tab
3	top I/O panel	4	screws (4)
5	top panel		

Replacing the Top I/O Panel

1. Follow the instructions in [Before You Begin](#).
2. Slide the tabs on the top I/O panel into the slots on the chassis.
3. Connect the top I/O panel cables to the connectors on the system board and master I/O board.
4. Replace the four screws that secure the top I/O panel to the chassis.
5. Align the tabs on the panel insert with the slots on the computer chassis.
6. Replace the front bezel (see [Replacing the Front Bezel](#)).
7. Replace the right-side bottom panel (see [Replacing the Right-Side Bottom Panel](#)).
8. Replace the right-side middle panel (see [Replacing the Right-Side Middle Panel](#)).
9. Replace the lighting board (see [Replacing the Lighting Board](#)).
10. Replace the right-side top panel (see [Replacing the Right-Side Top Panel](#)).
11. Replace the PCI-fan assembly (see [Replacing the PCI-Fan Assembly](#)).
12. Replace the PCI-Express card(s) (see [Replacing the PCI-Express Card\(s\)](#)).
13. Replace the drive-bay shroud (see [Replacing the Drive-Bay Shroud](#)).
14. Close the PCI shroud (see [Closing the PCI Shroud](#)).
15. Replace the left side-panel (see [Replacing the Left Side-Panel](#)).

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

16. Connect your computer and all attached devices to electrical outlets, and turn them on.