

Aurora R7

Setup and Specifications

Computer Model: Alienware Aurora R7
Regulatory Model: D23M
Regulatory Type: D23M002

A L I E N W A R E™ 

Notes, cautions, and warnings



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



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



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

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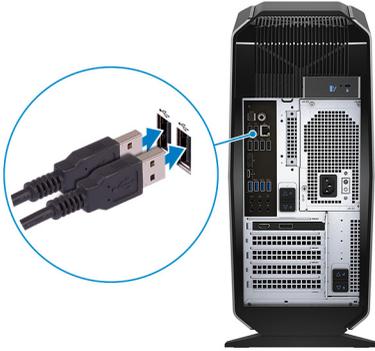
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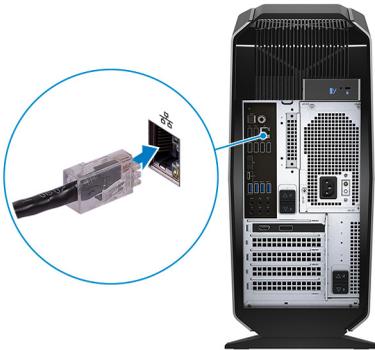
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Set up your computer

- 1 Connect the keyboard and mouse.



- 2 Connect the network cable — optional.



- 3 Connect the display.



 **NOTE:** The DisplayPort on the back panel of your computer is covered. Connect the display to the discrete graphics card of your computer.

 **NOTE:** If you have two graphics cards, the card installed in PCI-Express X16 (graphics slot 1) is the primary graphics card.

- 4 Connect the power cable.



5 Press the power button.



Create a USB recovery drive for Windows

Dell recommends that you create a recovery drive to troubleshoot and fix problems that may occur with Windows. An empty USB flash drive with a minimum capacity of 16 GB is required to create the recovery drive.



NOTE: The following steps may vary depending on the version of Windows installed. Refer to the [Microsoft support site](#) for latest instructions.

- 1 Connect the USB flash drive to your computer.
- 2 In Windows search, type *Recovery*.
- 3 In the search results, click **Create a recovery drive**.
The **User Account Control** window is displayed.
- 4 Click **Yes** to continue.
The **Recovery Drive** window is displayed.
- 5 Select **Back up system files to the recovery drive** and click **Next**.
- 6 Select the **USB flash drive** and click **Next**.
A message appears, indicating that all data in the USB flash drive will be deleted.
- 7 Click **Create**.



NOTE: This process may take several minutes to complete.

- 8 Click **Finish**.

Reinstall Windows using a USB recovery drive



CAUTION: This process formats the hard drive and removes all data on your computer. Ensure that you back up data on your computer before beginning this task.



NOTE: Before reinstalling Windows, ensure your computer has more than 2 GB of memory and more than 32 GB of storage space.

- 1 Connect the USB recovery drive to your computer.
- 2 Restart your computer.
- 3 Press F12 after the Dell logo is displayed on the screen to access the boot menu.

A **Preparing one-time boot menu** message appears.

- 4 After the boot menu loads, select the USB recovery device under **UEFI BOOT**.

The system reboots and a screen to **Choose the keyboard layout** is displayed.

- 5 Choose your keyboard layout.
- 6 In the **Choose an option** screen, click **Troubleshoot**.
- 7 Click **Recover from a drive**.
- 8 Choose one of the following options:

- **Just remove my files** to do a quick format.
- **Fully clean the drive** to do a complete format.

- 9 Click **Recover** to start the recovery process.

This will take several minutes to complete and your computer will restart during this process.

Setting up the Virtual Reality (VR) headset — optional

 **NOTE:** The VR headset is sold separately.

- 1 Download and run the setup tools for your VR headset at www.dell.com/VRsupport.
- 2 Connect the VR headset to the USB 3.1 Gen 1 and HDMI ports on your computer, when prompted.

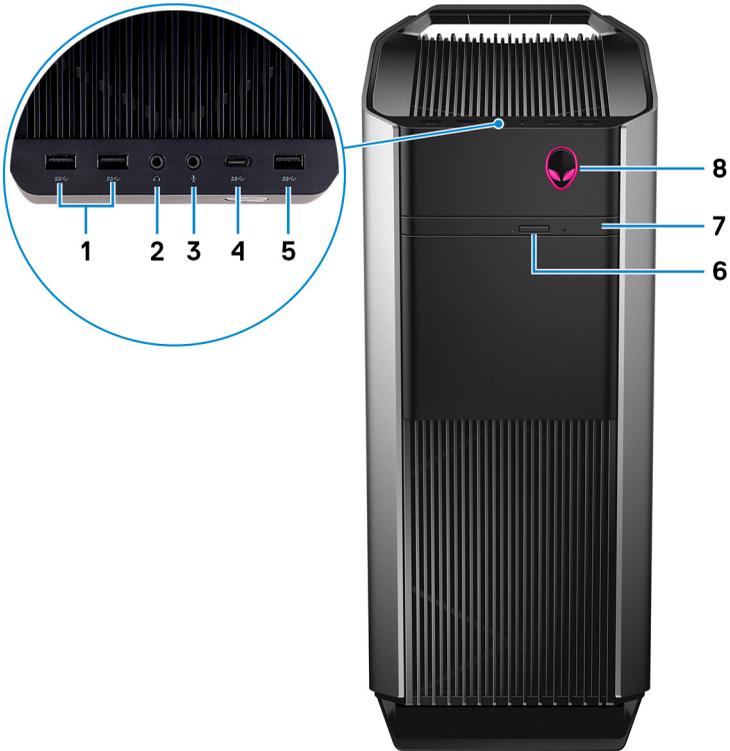


 **NOTE:** Connect the headset to the HDMI port on the primary graphics card and connect the display to any available port on the card.

- 3 Follow the instructions on the screen to complete the setup.

Views

Front



- 1 USB 3.1 Gen 1 ports (2)**
Connect peripherals such as external storage devices and printers.
Provides data transfer speeds up to 5 Gbps.
- 2 Headphone port**
Connect a headphone or speakers.
- 3 Microphone port**

Connect an external microphone to provide sound input.

4 **USB 3.1 Gen 2 Type-C port**

Connect to external storage devices. Provides data transfer speeds up to 5 Gbps.



NOTE: This port does not support video/audio streaming or power delivery.

5 **USB 3.1 Gen 1 port**

Connect peripherals such as external storage devices and printers. Provides data transfer speeds up to 5 Gbps.

6 **Optical-drive eject button**

Press to open or close the optical drive tray.

7 **Optical drive (optional)**

Reads from and writes to CDs, DVDs, and Blu-ray discs.

8 **Power button (AlienHead)**

Press to turn on the computer if it is turned off, in sleep state, or in hibernate state.

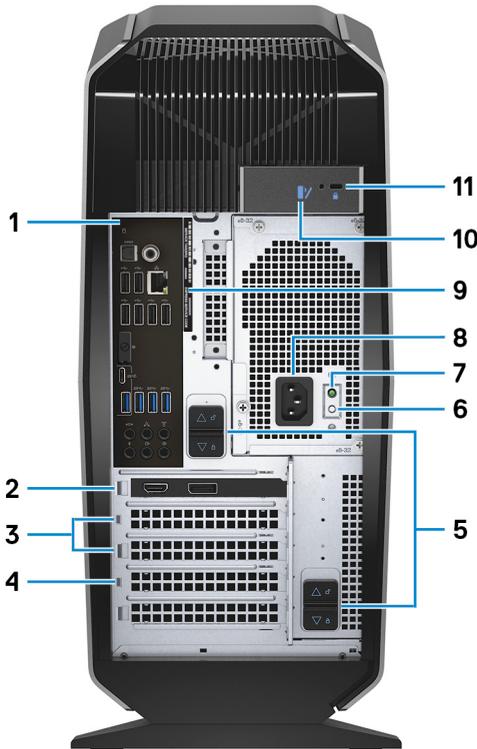
Press to put the computer in sleep state if it is turned on.

Press and hold for 4 seconds to force shut-down the computer.



NOTE: You can customize the power-button behavior in Power Options.

Back



1 Back panel

Connect USB, audio, video, and other devices.

2 PCI-Express X16 (graphics slot 1)

Connect a PCI-Express card such as graphics, audio, or network card to enhance the capabilities of your computer.

For optimal graphics performance, use a PCI-Express X16 slot for connecting the graphics card.



NOTE: The PCI-Express X16 slot works at X8 speed only.



NOTE: If you have two graphics cards, the card installed in PCI-Express X16 (graphics slot 1) is the primary graphics card.

3 **PCI-Express X4 slots (2)**

Connect a PCI-Express card such as graphics, audio, or network card to enhance the capabilities of your computer.

4 **PCI-Express X16 (graphics slot 2)**

Connect a PCI-Express card such as graphics, audio, or network card to enhance the capabilities of your computer.

For optimal graphics performance, use a PCI-Express X16 slot for connecting the graphics card.



NOTE: The PCI-Express X16 slot works at X8 speed only.

5 **Power-supply cage release-latches (2)**

Allows you to remove the power supply unit from your computer.

6 **Power-supply diagnostics button**

Press to check the power-supply state.

7 **Power-supply diagnostics light**

Indicates the power-supply state.

8 **Power port**

Connect a power cable to provide power to your computer.

9 **Service Tag label**

The Service Tag is a unique alphanumeric identifier that enables Dell service technicians to identify the hardware components in your computer and access warranty information.

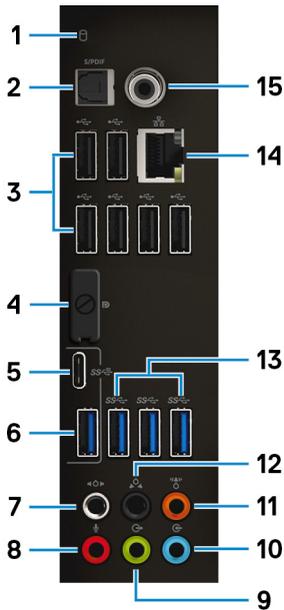
10 **Side panel release latch**

Allows you to remove the side panel from your computer.

11 **Security-cable slot (for Kensington locks)**

Connect a security cable to prevent unauthorized movement of your computer.

Back panel



1 Hard-drive activity light

Turns on when the computer reads from or writes to the hard drive.

2 Optical S/PDIF port

Connect an amplifier, speakers, or a TV for digital audio output through an optical cable.

3 USB 2.0 ports (6)

Connect peripherals such as external storage devices and printers. Provides data transfer speeds up to 480 Mbps.

4 DisplayPort

Connect an external display or a projector.



NOTE: The DisplayPort on the back panel of your computer is covered. Connect the display to the discrete graphics card of your computer.

5 **USB 3.1 Gen 2 Type-C port**

Connect peripherals, such as external storage devices and printers.
Provides data transfer speeds up to 10 Gbps.



NOTE: This port does not support video/audio streaming or power delivery.

6 **USB 3.1 Gen 2 port**

Connect peripherals, such as external storage devices and printers.
Provides data transfer speeds up to 10 Gbps.

7 **Side L/R surround port**

Connect audio-output devices such as speakers and amplifiers. In a 7.1 speaker channel setup, connect the side-left and side-right speakers.

8 **Microphone port**

Connect an external microphone to provide sound input.

9 **Front L/R surround line-out port**

Connect audio-output devices such as speakers and amplifiers. In a 2.1 speaker channel setup, connect the left and right speakers. In a 5.1 or a 7.1 speaker channel setup, connect the front-left and front-right speakers.

10 **Line-in port**

Connect recording or playback devices such as a microphone or CD player.

11 **Center/subwoofer LFE surround port**

Connect the center speaker or the subwoofer.



NOTE: For more information about the speaker setup, refer the documentation that shipped with the speakers.

12 **Rear L/R surround port**

Connect audio-output devices such as speakers and amplifiers. In a 5.1 or a 7.1 speaker channel setup, connect the rear-left and rear-right speakers.

13 **USB 3.1 Gen 1 ports (3)**

Connect peripherals such as external storage devices and printers.
Provides data transfer speeds up to 5 Gbps.

14 **Network port (with lights)**

Connect an Ethernet (RJ45) cable from a router or a broadband modem for network or Internet access.

The two lights next to the connector indicate the connectivity status and network activity.

15 **Coaxial S/PDIF port**

Connect an amplifier, speakers, or a TV for digital audio output through a coaxial cable.

Specifications

Computer model

Table 1. Computer model

Computer model	Alienware Aurora R7
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Dimensions and weight

Table 2. Dimensions and weight

Height	472.5 mm (18.60 in)
Width	212 mm (8.34 in)
Depth	360.50 mm (14.19 in)
Weight	14.62 kg (32.23 lb)



NOTE: The weight of your computer varies depending on the configuration ordered and the manufacturing variability.

System information

Table 3. System information

Processor	<ul style="list-style-type: none">• 8th Generation Intel Core i5/i5k• 8th Generation Intel Core i7/i7k
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NOTE: If your computer is shipped with an Intel Core i5k or Intel Core i7k processor, you can overclock the processing speed beyond the standard specifications.

Chipset	Intel Z370 chipset
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Operating system

Table 4. Operating system

Operating system supported	Windows 10 Home 64-bit Windows 10 Pro 64-bit
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Memory

Table 5. Memory specifications

Slots	Four DIMM sockets
Type	DDR4
Speed	<ul style="list-style-type: none">• 2666 MHz• Up to HyperX FURY DDR4 XMP at 2933 MHz
Configurations supported	
Per slot	4 GB, 8 GB, and 16 GB
Total memory	4 GB, 8 GB, 16 GB, 32 GB, and 64 GB

Intel Optane memory

Intel Optane memory functions as a storage accelerator. It accelerates the system and any type of SATA-based storage media such as hard drives and solid-state drives (SSDs).

 **NOTE: Intel Optane memory is supported on computers that meet the following requirements:**

- 7th generation Intel Core i3/i5/i7 processor or higher
- Windows 10 64-bit version or higher(Anniversary Update)
- Intel Rapid Storage Technology driver version 15.5.xxxx or higher

Table 6. Intel Optane memory

Interface	PCIe NVMe 3.0 x2
Connector	M.2
Configurations supported	16 GB and 32 GB



NOTE: For more information about enabling or disabling the Intel Optane memory, see [Enabling Intel Optane memory](#) or [Disabling Intel Optane memory](#).

Ports and connectors

Table 7. Ports and connectors on the back panel

Back panel:

Network	One RJ45 port
USB	<ul style="list-style-type: none">• Six USB 2.0 ports• Three USB 3.1 Gen 1 ports• One USB 3.1 Gen 2 port• One USB 3.1 Gen 2 Type-C port
Audio	<ul style="list-style-type: none">• One audio input/microphone port• One optical S/PDIF port• One coaxial S/PDIF port• One front L/R surround line-out port• One side L/R surround port• One rear L/R surround port• One center/subwoofer LFE surround port• One line-in port
Video	One DisplayPort - optional



NOTE: The DisplayPort on the back panel of your computer is covered. Connect the display to the discrete graphics card of your computer.

Table 8. Ports and connectors on the front panel

Front panel:	
USB	<ul style="list-style-type: none">• Three USB 3.1 Gen 1 ports• One USB 3.1 Gen 1 Type-C port
Audio	<ul style="list-style-type: none">• One audio output/headphone port (supports 2 channel audio)• One audio input/microphone port

Communications

Table 9. Supported Communications

Ethernet	10/100/1000 Mbps Killer E2500 Ethernet controller integrated on system board
Wireless	<ul style="list-style-type: none">• 802.11b/g/n• 802.11ac• Bluetooth 4.1/Bluetooth 4.2

Wireless module

Table 10. Wireless module specifications

Type	QCA9377 (DW1810)	QCA61x4A (DW1820)	Rivet 1535 (Killer)
Transfer rate	433 Mbps	Up to 867 Mbps	Up to 867 Mbps (1.867 Gbps with Doubleshot Pro technology)
Frequency bands supported	Dual band 2.4 GHz/5 GHz	Dual band 2.4 GHz/5 GHz	Dual band 2.4 GHz/5 GHz
Encryption	<ul style="list-style-type: none">• 64-bit and 128-bit WEP• CKIP• TKIP	<ul style="list-style-type: none">• 64-bit and 128-bit WEP• CKIP• TKIP	<ul style="list-style-type: none">• 64-bit and 128-bit WEP• CKIP• TKIP

- AES-CCMP
- AES-CCMP
- AES-CCMP

Video

Table 11. Video specifications

Integrated:	
Controller	Intel HD Graphics 630
Memory	Shared system memory
Discrete:	
Type	Up to two PCI-Express X16, single-width/double-width, full length (maximum 10.5 inches)
	 NOTE: The graphics configuration of your desktop varies depending on the graphics card configuration ordered.
Controller	<ul style="list-style-type: none"> • AMD or NVIDIA • Also supports NVIDIA SLI and AMD Crossfire technologies
Memory	Up to 12 GB

Audio

Table 12. Audio specifications

Controller	Realtek ALC3861
Type	Integrated 7.1 channel audio with S/PDIF support

Storage

Table 13. Storage specifications

Interface	SATA 6 Gbps
Externally accessible	One 9.5 mm slim drive bay for DVD+/-RW drive, Blu-ray Disc combo (optional), or Blu-ray Disc writer (optional)
Internally accessible	
Solid-state drive (SSD)	One M.2 drive  NOTE: If you purchased an M.2 drive, it is assigned as primary drive and all other SATA drives in your computer are assigned as secondary drives.
U.2 drive	One optional U.2 drive installed in 3.5" HDD bay.
One 3.5-inch drive bay	For one 3.5-inch SATA drive or two 2.5-inch SATA drives (optional)  NOTE: If your computer is shipped with only one 3.5-inch SATA drive, it is the primary drive. If your computer is shipped with two 2.5-inch SATA drives, one is primary drive and the other is secondary drive.
Two 2.5-inch drive bays	For two 2.5-inch SATA drives  NOTE: The SATA drives installed in these drive bays are secondary drives.
Capacity	
SSD	Up to 1 TB
U.2	Up to 960 GB
Hard drive	Up to 2 TB

Power ratings

Table 14. Power ratings specifications

Input voltage	100 VAC–240 VAC	
Input frequency	50 Hz–60 Hz	
Temperature range		
Operating	5°C to 50°C (41°F to 122°F)	
Storage	–40°C to 70°C (–40°F to 158°F)	
Type	460 W	850 W
Input current (maximum):	8 A	10 A
Output current:	3.3V/17A, 5V/25A, 12VA/18A, 12VB/16A, 12VC/8A, 5Vaux/3A	3.3V/20A, 5V/20A, 12VA/32A, 12VB/48A, 12VD/16A, -12V/0.5A, 5Vaux/4A
Rated output voltage:	3.3V, 5V, 12VA, 12VB, 12VC, 5Vaux	3.3V, 5V, 12VA, 12VB, 12VD, -12V, 5Vaux

Computer environment

Airborne contaminant level: G2 or lower as defined by ISA-S71.04-1985

Table 15. Computer environment

	Operating	Storage
Temperature range	5°C to 35°C (41°F to 95°F)	–40°C to 65°C (–40°F to 149°F)
Relative humidity (maximum)	10% to 90% (non-condensing)	0% to 95% (non-condensing)
Vibration (maximum)	0.26 GRMS	1.37 GRMS
Shock (maximum)*	40 G for 2 ms with a change in velocity of 20 in/s (51 cm/s) [†]	105 G for 2 ms with a change in velocity of 52.5 in/s (133 cm/s) [‡]
Altitude (maximum)	–15.20 m to 3048 m (–50 ft to 10,000 ft)	–15.20 m to 10,668 m (–50 ft to 35,000 ft)

* Measured using a random vibration spectrum that simulates user environment.

† Measured using a 2 ms half-sine pulse when the hard drive is in use.

Intel Optane memory

Enabling Intel Optane memory

- 1 On the taskbar, click the search box, and then type `Intel Rapid Storage Technology`.
- 2 Click **Intel Rapid Storage Technology**.
The **Intel Rapid Storage Technology** window is displayed.
- 3 On the **Status** tab, click **Enable** to enable the Intel Optane memory.
- 4 On the warning screen, select a compatible fast drive, and then click **Yes** to continue enabling Intel Optane memory.
- 5 Click **Intel Optane memory** → **Reboot** to complete enabling your Intel Optane memory.



NOTE: Applications may take up to three subsequent launches after enablement to see the full performance benefits.

Disabling Intel Optane memory



CAUTION: Do not try to remove the Intel Rapid Storage Technology driver after disabling Intel Optane memory, it will result in a blue screen error. The Intel Rapid Storage Technology user interface can be removed without uninstalling the driver.



NOTE: Disabling Intel Optane memory is required before removing the SATA storage device accelerated by the Intel Optane memory or the Intel Optane memory module from the system.

- 1 On the taskbar, click the search box, and then type `Intel Rapid Storage Technology`.
- 2 Click **Intel Rapid Storage Technology**.
The **Intel Rapid Storage Technology** window is displayed.
- 3 On the **Intel Optane memory** tab, click **Disable** to disable the Intel Optane memory.
- 4 Click **Yes** if you accept the warning.
The disabling progress is displayed.

- 5 Click **Reboot** to complete disabling your Intel Optane memory and restart your computer.

Getting help and contacting Alienware

Self-help resources

You can get information and help on Alienware products and services using these online self-help resources:

Table 16. Alienware products and online self-help resources

Information about Alienware products and services	www.alienware.com
Troubleshooting information, user manuals, setup instructions, product specifications, technical help blogs, drivers, software updates, and so on	www.alienware.com/gamingservices
Videos providing step-by-step instructions to service your computer	www.youtube.com/alienwareservices

Contacting Alienware

To contact Alienware for sales, technical support, or customer service issues, see www.alienware.com.

-  **NOTE: Availability varies by country and product, and some services may not be available in your country.**
-  **NOTE: If you do not have an active internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.**