



Alienware Aurora R8 Setup and Specifications Manual

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Alienware Aurora R8 Setup and Specifications



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Set up your computer

1. Connect the keyboard and mouse.



2. Connect to your network using a cable, or connect to a wireless network.



3. Connect the display.



NOTE: If you ordered your computer with a discrete graphics card, the HDMI and the display ports on the back panel of your computer are covered. Connect the display to the discrete graphics card.

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.




6. Create recovery drive for Windows.


NOTE: It is recommended to create a recovery drive to troubleshoot and fix problems that may occur with Windows.

For more information, see [Create a USB recovery drive for Windows](#).

Create a USB recovery drive for Windows

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

 **NOTE:** This process may take up to an hour to complete.

 **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 floppy 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 file 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 drive will be deleted.

7. Click **Create**.
8. Click **Finish**.

For more information about reinstalling Windows using the USB recovery drive, see the Troubleshooting section of your product's Service Manual at www.dell.com/support/manuals.

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.

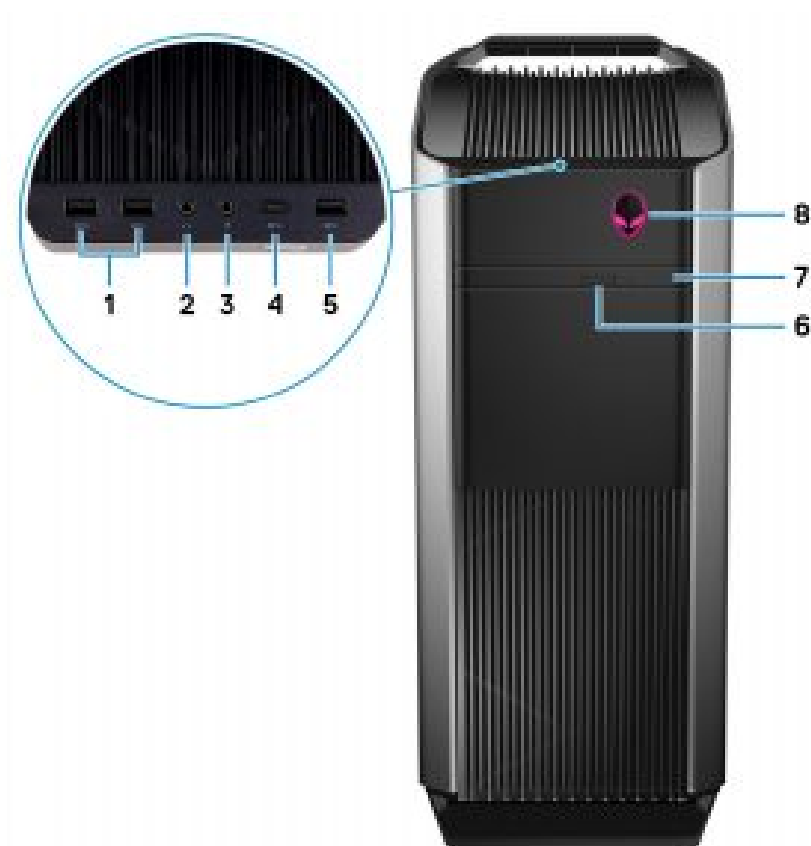


NOTE: Connect the headset to the HDMI port on the primary graphics card and connect the display to any available port on the card.

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

Views of Alienware Aurora R8

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 1 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 the optical drive tray.

7. Optical drive (optional)

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

8. Power button (AlienHead)

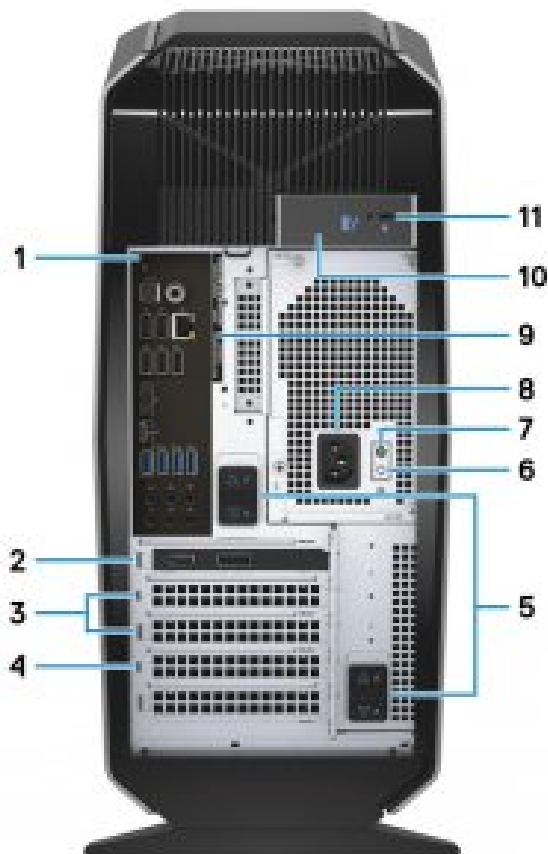
Press to turn on the computer if it is turned off in sleep state, or in hibernate state.

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.




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.

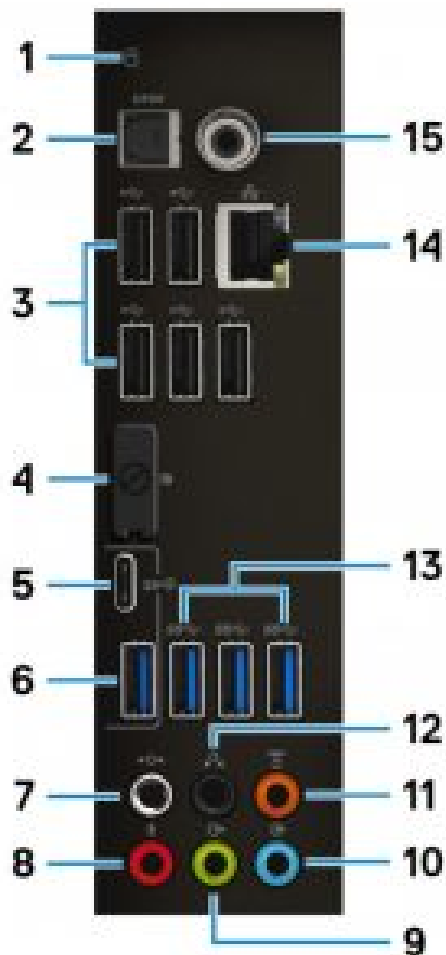
10. Side panel release latch

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 optical speaker system, or a TV for digital audio output through an optical cable.

3. USB 2.0 ports (5)

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

4. Display Port

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 omni-directional speakers. 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 omni-directional speakers. 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 omni-directional speakers. 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 omni-directional speakers, or a TV for digital audio output through a coaxial cable.

Specifications of Alienware Aurora R8

Dimensions and weight

Table 1. Dimensions and weight

Description: Values

Height:**Front:** 422.8 mm (16.65 in.)**Rear:** 472.5 mm (18.60 in.)**Width:** 212 mm (8.34 in.)**Depth:** 360.50 mm (14.19 in.)**Weight (maximum):** 14.82 kg (32.67 lb)**NOTE:** The weight of your computer depends on the configuration ordered and the manufacturing variability.**Processors****Table 2. Processor specifications****Description:** Values**Processor:** 8th Generation Intel Core i3/i5/i7 & 9th Generation Intel Core i5k/i7k/i9k**Wattage:** 65W & 95W**Core count:** 2/4/4 & 6/8/8**Thread count:** 6/8/8 & 6/8/16**Speed:** Up to 3.40 GHz/3.90 GHz/4.6 GHz Turbo Boost & Up to 4.6 GHz/4.9 GHz/5.0 GHz Turbo Boost**Intel Smart Cache:** 4 MB/6 MB/8 MB & 9 MB/12 MB/16 MB**Integrated graphics:** Intel UHD Graphics 620 & Intel UHD Graphics 630**Chipset****Table 3. Chipset specifications****Description:** Values**Chipset:** Intel Z370 chipset**Processor:** 8th Generation Intel Core i3/i5/i7 & 9th Generation Intel Core i5k/i7k/i9k**DRAM bus width:** Not supported**Flash EPROM:** 16 MB**PCIe bus:** PCIe Gen3**External bus frequency:** PCIe Gen3x4**Operating system**

- Windows 10 Home (64-bit)
- Windows 10 Professional (64-bit)

Memory**Table 4. Memory specifications****Description:** Values**Slots:** Four DIMM sockets**Type:** DDR4**Speed:**

* 2666 MHz

* Up to HyperX FURY DDR4 XMP at 3200 MHz

Maximum memory: 64 GB**Minimum memory:** 4 GB**Memory per slot:** 4 GB, 8 GB, and 16 GB**Configurations supported:**

* 8 GB DDR4 at 2666 MHz

* 16 GB DDR4 at 2666 MHz

* 32 GB DDR4 at 2666 MHz

* 64 GB DDR4 at 2666 MHz

- * 8 GB XMP at 2933 MHz
- * 16 GB XMP at 2933 MHz
- * 32 GB XMP at 2933 MHz
- * 64 GB XMP at 2933 MHz
- * 16 GB XMP at 3200 MHz
- * 32 GB XMP at 3200 MHz
- * 64 GB XMP at 3200 MHz

Intel Optane memory

Intel Optane memory functions only as a storage accelerator. It neither replaces nor adds to the memory (RAM) installed on your computer.



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

- 7th Generation or higher Intel Core i3/i5/i7 processor
- Windows 10 64-bit version or higher
- Intel Rapid Storage Technology driver version 15.9.1.1018 or higher

Table 5. Intel Optane memory specifications

Description: Values

Type: Storage accelerator

Interface: PCIe 3.0×4

Connector: M.2 2280

Configurations supported: 16 GB and 32 GB

Capacity: Up to 32 GB

Ports and connectors

Table 6. External ports and connectors specifications

Description: Values

Front:

USB:

- * Three USB 3.1 Gen 1 ports
- * One USB 3.1 Gen 1 Type-C port

Audio:

- * One audio output/headphone port (supports 2 channel audio)
- * One audio input/microphone port

Back:

Network: One RJ-45 port

USB:

- * Five 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:

- * 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.

Media-cardreader: Not supported

Poweradapterport: Not supported

Security: Kensington locks

Legacyports: Not supported

Table 7. Internal ports and connectors specifications

Description: Values

Expansion:

* Two PCIe x16 slots

* Two PCIe x4 slots

M.2:

* One M.2 slot for Wi-Fi and Bluetooth combo card

* One PCIe/SATA M.2 2280 slots for solid-state drive

Communications

Ethernet

Table 8. Ethernet specifications

Description: Values

Model number: Killer E2500 Ethernet controller integrated on system board

Transfer rate: 10/100/1000 Mbps

Wireless module

Table 9. Wireless module specifications

Description: Values

Model number: 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

Wireless standards: WiFi 802.11ac & WiFi 802.11a/b/g/n/ac & WiFi 802.11a/b/g/n/ac

Encryption:

* 64-bit and 128-bit WEP

* CKIP

* TKIP

* AES-CCMP

&

* 64-bit and 128-bit WEP

* CKIP

* TKIP

* AES-CCMP

&

* 64-bit and 128-bit WEP

* CKIP

* TKIP

* AES-CCMP

Bluetooth: Bluetooth 4.1 & Bluetooth 4.1 & Bluetooth 4.2

Video

Table 10. Discrete graphics specifications

Discrete graphics

Controller: External display support: **Memory size:** Memory type

NVIDIA GeForce RTX 2080: One HDMI port and one DisplayPort: **8 GB:** GDDR6

NVIDIA GeForce RTX 2080 Ti: One HDMI port and one DisplayPort: **11 GB:** GDDR6

Table 11. Integrated graphics specifications

Controller: External display support: **Memory size:** Processor

Intel UHD Graphics 620: One DisplayPort: **Shared system memory:** 8th Generation Intel Core i3/i5/i7



NOTE: Use discrete card output for best performance.

Intel UHD Graphics 630: One DisplayPort: **Shared system memory:** 9th Generation Intel Core i5k/i7k/i9k



NOTE: Use discrete card output for best performance.

Audio

Table 12. Audio specifications

Description: Values

Type: Integrated 7.1 channel audio with S/PDIF support

Controller: Realtek ALC3861

Internal interface: High-definition audio

External interface: 7.1 channel output, microphone-in, stereo headphones, and headset combo connector

Storage

Your computer supports one of the following specification:

- One U.2 drive and two 2.5-inch hard drives
- One M.2 2242/2260/2280 solid-state drive, one 3.5-inch hard drive, and two 2.5-inch hard drives
- One 3.5-inch hard drive and two 2.5-inch hard drives



NOTE: The primary drive of your computer varies depending on the storage configuration.

For computers:

- with a U.2 drive, the U.2 drive is the primary drive
- with an M.2 drive, the M.2 drive is the primary drive.
- without both U.2 drive and M.2 drive, the 3.5-inch drive is the primary drive.

Table 13. Storage specifications

Storage type: Interface type: **Capacity**

Two 2.5-inch hard drives: SATA AHCI 6 Gbps: **Up to 2 TB**

One 3.5-inch hard drive: SATA AHCI 6 Gbps: **Up to 1 TB**

Two M.2 2242/2260/2280 solid-state drives:

* SATA AHCI 6 Gbps

* PCIe NVMe up to 32 Gbps: **Up to 1 TB**

One U.2 drive: PCIe NVMe up to 32 Gbps (U.2 drive): **Up to 280 GB**

One 9.5 mm slim drive for DVD+/-RW drive or Blu-ray Disc.: SATA 1.5 Gbps: **Not applicable**

Power ratings

Table 14. Power ratings

Description: Values

Input voltage: 100 VAC to 240 VAC

Input frequency: 50 Hz to 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 (continuous) 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: G1 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** 1.30 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): **-15.2 m to 3,048 m (-50 ft to 10,000 ft)**: -15.2 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.

‡ Measured using a 2 ms half-sine pulse when the hard-drive head is in parked position.

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

Self-help resources: Resource location

Information about Alienware products and services: www.alienware.com



Tips:

Contact Support: In Windows search, type **Contact Support**, and press **Enter**.

Online help for operating system: www.dell.com/support/windows

www.dell.com/support/linux

Troubleshooting information, user manuals, setup instructions, product specifications, technical help blogs, drivers, software updates, and so on: www.alienware.com/gamingservices

VR Support: www.dell.com/VRsupport

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 about your purchase invoice, packing slip, bill, or Dell product catalog.

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