

Alienware Aurora R12

Setup and Specifications

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.

Contents

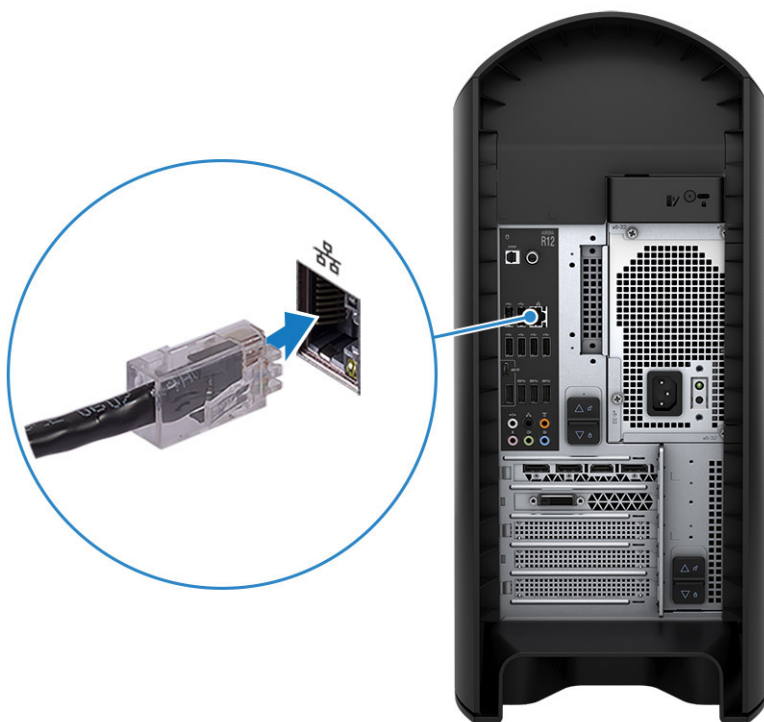
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Set up your computer

1. Connect the keyboard and mouse.



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



3. Connect the display.



① **NOTE:** The DisplayPort on the back panel of your computer is covered. Connect the display to the discrete graphics card of your computer.

① **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.

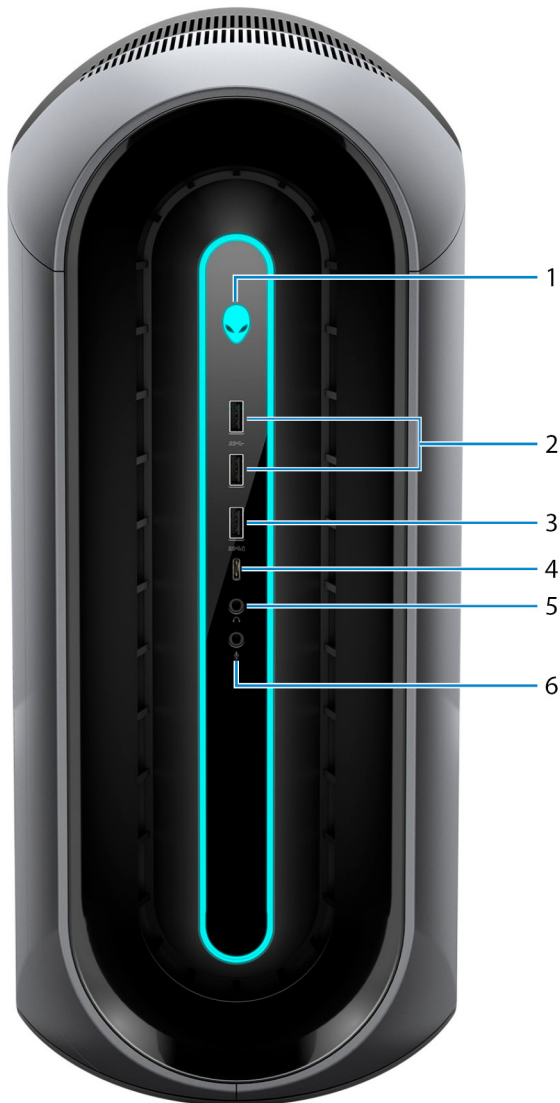


5. Press the power button.



Views of Alienware Aurora R12

Front



1. Power button (Alien head)

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.

When the computer is turned on, press the power button to put the computer into sleep state; press and hold the power button for four seconds to force shut-down the computer.

i **NOTE:** You can customize the power-button behavior in Windows.

2. USB 3.2 Gen 1 ports (2)

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

3. USB 3.2 Gen 1 port with PowerShare

Connect peripherals such as external storage devices and printers.

Provides data transfer speeds up to 5 Gbps. PowerShare enables you to charge connected USB devices.

NOTE: Certain USB devices may not charge when the computer is turned off or in sleep state. In such cases, turn on the computer to charge the device.

4. USB 3.2 Gen 1 Type-C port with PowerShare

Connect peripherals such as external storage devices and printers.

Provides data transfer speeds up to 5 Gbps. PowerShare enables you to charge connected USB devices.

NOTE: Certain USB devices may not charge when the computer is turned off or in sleep state. In such cases, turn on the computer to charge the device.

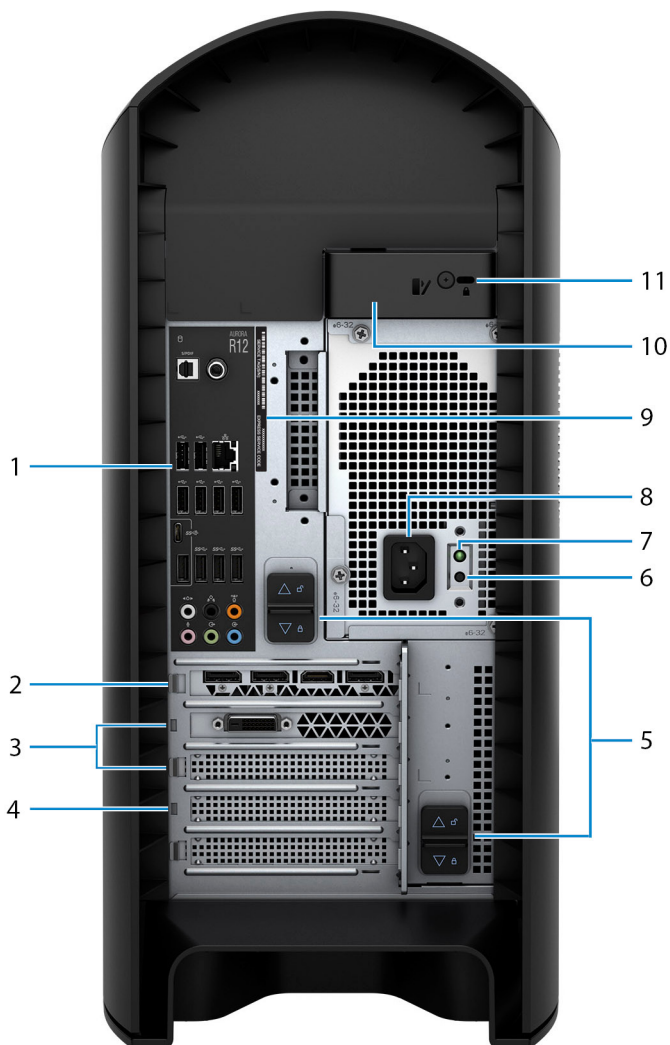
5. Headphone port

Connect a headphone or speakers.

6. Microphone port

Connect an external microphone to provide sound input.

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.

i | **NOTE:** The PCI-Express X16 slot works at X8 lanes only.

i | **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.

i | **NOTE:** The PCI-Express X4 slot 3 works at X2 lanes only.

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.

i | **NOTE:** The PCI-Express X16 slot works at X8 lanes 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.

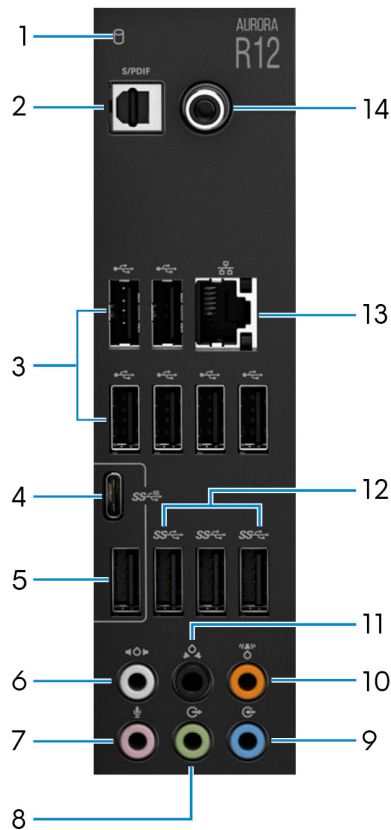
10. Side panel release latch

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

The 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. USB 3.2 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.

5. USB 3.2 Gen 2 port

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

6. 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.

7. Microphone port

Connect an external microphone to provide sound input.

8. 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.

9. Line-in port

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

10. 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.

11. 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.

12. USB 3.2 Gen 1 ports (3)

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

13. 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.

14. Coaxial S/PDIF port


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

Specifications of Alienware Aurora R12

Dimensions and weight

The following table lists the height, width, depth, and weight of your Alienware Aurora R12.

Table 1. Dimensions and weight

Description	Values
Height:	
Front height	441.80 mm (17.39 in.)
Rear height	481.60 mm (18.96 in.)
Width	222.80 mm (8.77 in.)
Depth	431.90 mm (17 in.)
Weight (maximum)	17.80 kg (39.24 lb)  NOTE: The weight of your computer depends on the configuration ordered and manufacturing variability.

Processors

The following table lists the details of the processors supported by your Alienware Aurora R12.

Table 2. Processors

Processors	Wattage	Core count	Thread count	Speed	Cache
10 th Generation Intel Core i3-10100F	65 W	6	12	3.60 GHz/4.1 GHz	12 MB
10 th Generation Intel Core i3-10100	65 W	6	12	3.60 GHz/4.1 GHz	12 MB
10 th Generation Intel Core i5-10400	65 W	6	12	2.90 GHz/4 GHz	12 MB
10 th Generation Intel Core i5-10400F	65 W	6	12	2.90 GHz/4 GHz	12 MB
10 th Generation Intel Core i5-10600K	125 W	6	12	4.10 GHz/4.50 GHz	12 MB
10 th Generation Intel Core i5-10600KF	125 W	6	12	4.10 GHz/4.50 GHz	12 MB
10 th Generation Intel Core i7-10700	65 W	8	16	2.90 GHz/4.60 GHz	16 MB
10 th Generation Intel Core i7-10700K	125 W	8	16	3.80 GHz/4.70 GHz	16 MB

Table 2. Processors (continued)

Processors	Wattage	Core count	Thread count	Speed	Cache
10 th Generation Intel Core i7-10700F	65 W	8	16	2.90 GHz/4.60 GHz	16 MB
10 th Generation Intel Core i7-10700KF	125 W	8	16	3.80 GHz/4.70 GHz	16 MB
10 th Generation Intel Core i9-10900	65 W	10	20	2.80 GHz/4.60 GHz	20 MB
10 th Generation Intel Core i9-10900K	125 W	10	20	3.70 GHz/4.90 GHz	20 MB
10 th Generation Intel Core i9-10900F	65 W	10	20	2.80 GHz/4.60 GHz	20 MB
10 th Generation Intel Core i9-10900KF	125 W	10	20	3.70 GHz/4.90 GHz	20 MB
11 th Generation Intel Core i5-11400	65 W	6	12	2.60 GHz/4.40 GHz	12 MB
11 th Generation Intel Core i5-11600K	65 W	6	12	3.90 GHz/4.90 GHz	12 MB
11 th Generation Intel Core i7-11700	65 W	8	12	2.50 GHz/4.90 GHz	16 MB
11 th Generation Intel Core i7-11700K	65 W	8	12	3.60 GHz/5 GHz	16 MB
11 th Generation Intel Core i9-11900	125 W	8	12	2.50 GHz/5.20 GHz	16 MB
11 th Generation Intel Core i5-11900K	125 W	8	12	3.50 GHz/5.30 GHz	16 MB
11 th Generation Intel Core i5-11400F	65 W	6	16	2.60 GHz/4.40 GHz	12 MB
11 th Generation Intel Core i5-11600KF	125 W	6	16	3.90 GHz/4.90 GHz	12 MB
11 th Generation Intel Core i7-11700F	65 W	8	16	2.50 GHz/4.90 GHz	16 MB
11 th Generation Intel Core i7-11700KF	125 W	8	16	3.60 GHz/5 GHz	16 MB
11 th Generation Intel Core i9-11900F	65 W	8	16	2.50 GHz/5.20 GHz	16 MB

Table 2. Processors (continued)

Processors	Wattage	Core count	Thread count	Speed	Cache
11 th Generation Intel Core i9-11900KF	125 W	8	16	3.50 GHz/5.30 GHz	16 MB

Chipset

The following table lists the details of the chipset supported by your Alienware Aurora R12.

Table 3. Chipset

Description	Values
Chipset	Intel Z490
Processor	11 th Generation Intel Core i5/i7/i9
DRAM bus width	128 bit
Flash EPROM	256 Mb
PCIe bus	PCIe Gen4

Operating system

Your Alienware Aurora R12 supports the following operating systems:

- Windows 11 Home, 64-bit
- Windows 11 Pro, 64-bit
- Windows 10 Home, 64-bit
- Windows 10 Pro, 64-bit

Memory

The following table lists the memory specifications of your Alienware Aurora R12.

Table 4. Memory specifications

Description	Values
Memory slots	Four UDIMM
Memory type	DDR4
Memory speed	3200 MHz up to 3400 MHz (XMP memory)
Maximum memory configuration	128 GB
Minimum memory configuration	8 GB
Memory size per slot	8 GB, 16 GB, and 32 GB
Memory configurations supported	<ul style="list-style-type: none">• 8 GB, 1 x 8 GB, DDR4, 3200 MHz• 16 GB, 1 x 16 GB, DDR4, 3200 MHz• 16 GB, 2 x 8 GB, DDR4, 3200 MHz

Table 4. Memory specifications (continued)

Description	Values
	<ul style="list-style-type: none"> • 32 GB, 2 x 16 GB, DDR4, 3200 MHz • 64 GB, 2 x 32 GB, DDR4, 3200 MHz • 64 GB, 4 x 16 GB, DDR4, 3200 MHz • 128 GB, 4 x 32 GB, DDR4, 3200 MHz • 16 GB, 1 x 16 GB, DDR4, 3400 MHz • 32 GB, 2 x 16 GB, DDR4, 3400 MHz • 64 GB, 4 x 16 GB, DDR4, 3400 MHz • 64 GB, 2 x 32 GB, DDR4, 3400 MHz • 128 GB, 4 x 32 GB, DDR4, 3400 MHz


Ports and connectors

The following table lists the external and internal ports available on your Alienware Aurora R12.

Table 5. Ports and connectors

Description	Values
External:	
Network	One RJ-45 port
USB	<ul style="list-style-type: none"> • Six USB 2.0 ports • Five USB 3.2 Gen 1 ports • One USB 3.2 Gen 1 (Type-C) port with PowerShare • One USB 3.2 Gen 2 port • One USB 3.2 Gen 2 (Type-C) port • One USB 3.2 Gen 1 port with PowerShare
Audio	<ul style="list-style-type: none"> • One audio output/headphone port (supports 2 channel 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	Supported through discrete GPU
Media-card reader	Not supported
Power port	110 V/220 V
Security	Kensington lock slot
Internal:	
PCIe expansion card slots	<ul style="list-style-type: none"> • Two PCIe x16 mechanical/x8 electrical Gen4 slots (SLOT 1 and SLOT4) • Two PCIe x4 slots (SLOT2 and SLOT3)
mSATA	Not supported

Table 5. Ports and connectors (continued)

Description	Values
SATA	Four
M.2	<ul style="list-style-type: none"> One M.2 card slot for WLAN and Bluetooth One PCIe/SATA M.2 card slot for 2230/2280 solid-state drive <p> NOTE: To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at Dell Support Site.</p>

Ethernet

The following table lists the wired Ethernet Local Area Network (LAN) specifications of your Alienware Aurora R12.

Table 6. Ethernet specifications

Description	Values
Model number	Killer E3100 Ethernet controller integrated on system board
Transfer rate	10/100/1000/2500 Mbps

Wireless module

The following table lists the Wireless Local Area Network (WLAN) module specifications of your Alienware Aurora R12.

Table 7. Wireless module specifications

Description	Option one	Option two	Option three
Model number	Qualcomm QCA9377 (DW1810)	Intel AX201	Killer 1650i
Transfer rate	Up to 433 Mbps	Up to 2400 Mbps	Up to 2400 Mbps
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	Wi-Fi 5 (WiFi 802.11ac)	Wi-Fi 6 (WiFi 802.11ax)	Wi-Fi 6 (WiFi 802.11ax)
Encryption	<ul style="list-style-type: none"> 64-bit/128-bit WEP AES-CCMP TKIP 	<ul style="list-style-type: none"> 64-bit/128-bit WEP AES-CCMP TKIP 	<ul style="list-style-type: none"> 64-bit/128-bit WEP AES-CCMP TKIP
Bluetooth	Bluetooth 5.0	Bluetooth 5.1	Bluetooth 5.1

GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your Alienware Aurora R12.

Table 8. Discrete graphics specifications

Controller	Number of cards (maximum)	External display support	Memory size	Memory type
AMD RX 5300	1	Three DisplayPort and one HDMI port	3 GB	GDDR6
AMD RX 5700	1	Three DisplayPort and one HDMI port	8 GB	GDDR6
AMD RX 5700 XT	1	Three DisplayPort and one HDMI port	8 GB	GDDR6
AMD RX 5600	1	Three DisplayPort and one HDMI port	6 GB	GDDR6
AMD RX 6800 XT	1	Three DisplayPort and one HDMI port	8 GB	GDDR6
NVIDIA GeForce GTX 1650 Super	1	One HDMI port and one DVI-D port	4 GB	GDDR6
NVIDIA GeForce GTX 1660 Super	1	One HDMI port and one DVI-D port	6 GB	GDDR6
NVIDIA GeForce GTX 1660Ti	1	One DVI port, one HDMI port and one DisplayPort	6 GB	GDDR6
NVIDIA GeForce RTX 2060 Super	1	One DVI port, one HDMI port and one DisplayPort	8 GB	GDDR6
NVIDIA GeForce RTX 2070 Super	1	Three DisplayPort and one HDMI port	8 GB	GDDR6
NVIDA GeForce RTX 2080 Super	1	Three DisplayPort and one HDMI port	8 GB	GDDR6
NVIDIA GeForce RTX 2080Ti	1	Three DisplayPort and one HDMI port	11 GB	GDDR6
NVIDIA GeForce RTX 2080 Super	1	Three DisplayPort and one HDMI port	8 GB	GDDR6
NVIDIA GeForce RTX 3060Ti	1	Three DisplayPort and one HDMI port	8 GB	GDDR6
NVIDIA GeForce RTX 3070	1	Three DisplayPort and one HDMI port	8 GB	GDDR6
NVIDIA GeForce RTX 3080	1	Three DisplayPort and one HDMI port	10 GB	GDDR6X
NVIADIA GeForce 3090	1	Three DisplayPort and one HDMI port	24 GB	GDDR6X

Audio

The following table lists the audio specifications of your Alienware Aurora R12.

Table 9. Audio specifications

Description	Values
Audio type	Integrated 7.1 channel audio with S/PDIF port
Audio controller	Realtek ALC3861
Internal audio interface	High-definition audio
External audio interface	7.1 channel output, Microphone-in, stereo headphones, and headset combo connector

Storage

This section lists the storage options on your Alienware Aurora R12.

Your computer supports one of the following configurations:

- One M.2 2230/2280 solid-state drive, one 3.5-inch hard drive, and two 2.5-inch hard drives
- One 3.5-inch hard drives and two 2.5-inch hard drive


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

Table 10. 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 drives	SATA AHCI 6 Gbps	Up to 2 TB
One M.2 2230/2280 solid-state drive	PCIe Gen3 NVMe, up to 32 Gbps	Up to 2 TB

Power ratings

The following table lists the power rating specifications of Alienware Aurora R12.

Table 11. Power ratings

Description	Option one	Option two
Type	550 W	1000 W
Input voltage	90 VAC to 264 VAC	90 VAC to 264 VAC
Input frequency	47 Hz to 63 Hz	47 Hz to 63 Hz
Input current (maximum)	8 A	12 A
Output current (continuous)	5.1 V/20 A, 12 VA1/18 A, 12 VA2/18 A, 12 VA1+12 VA2/28 A, 12 VB/16 A, 12 VC1/18 A, 12 VC2/18 A, 12 VC1+12 VC2/20 A, 3.3 V/15 A, 5.1 Vaux/4A	5.1 V/20 A, 12VA/42 A, 12VB/52 A, 12VD/16 A, 3.3 V/20 A, -12 V/0.5 A, 5.1Vaux/4 A

Table 11. Power ratings (continued)

Description		Option one	Option two
Rated output voltage		5.1 V/12 VA1/12 VA2/ 12 VB/12 VC1/12 VC2/3.3 V/ 5.1 V _{aux}	5.1 V/12 VA/12VB/12VD/3.3 V/-12 V/5.1 V _{aux}
Temperature range			
	Operating	5°C to 50°C (41°F to 122°F)	5°C to 50°C (41°F to 122°F)
	Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)

Computer environment

Airborne contaminant level: G1 as defined by ISA-S71.04-1985

Table 12. Computer environment

Description	Operating	Storage
Temperature range	10°C to 35°C (50°F to 95°F)	-40°C to 65°C (-40°F to 149°F)
Relative humidity (maximum)	20% to 90% (non-condensing)	5% 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)	-15.2 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.

Alienware Command Center

Alienware Command Center (AWCC) provides a single interface to customize and enhance the gaming experience. The AWCC dashboard displays most recently played or added games, and provides game-specific information, themes, profiles, and access to computer settings. You can quickly access settings such as game-specific profiles and themes, lighting, macros, and audio that are critical to the gaming experience.

AWCC also supports AlienFX 2.0. AlienFX enables you to create, assign, and share game-specific lighting maps to enhance the gaming experience. It also enables you to create your own individual lighting effects and apply them to the computer or attached peripherals. AWCC embeds Peripheral Controls to ensure a unified experience and the ability to link these settings to your computer or game.

AWCC supports the following features:

- **FX:** Create and manage the AlienFX zones.
- **Fusion:** Includes the ability to adjust game-specific Power Management, Sound Management, and Thermal Management features.
- **Peripheral Management:** Enables peripherals to appear in and be managed in Alienware Command Center. Supports key peripheral settings and associates with other functions such as profiles, macros, AlienFX, and game library.

AWCC also supports Sound Management, Thermal Controls, CPU, GPU, Memory (RAM) monitoring. For more information about AWCC, see the *Alienware Command Center Online Help*.

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 13. Alienware products and online self-help resources

Self-help resources	Resource location
Information about Alienware products and services	Alienware Support Site
Contact Support	In Windows search, type Contact Support , and press Enter .
Online help for operating system	Windows Support Site
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents.	Your Alienware computer is uniquely identified by a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, enter the Service Tag or Express Service Code at Dell Support Site . For more information about how to find the Service Tag for your computer, see Instructions on how to find your Service Tag or Serial Number .
Videos providing step-by-step instructions to service your computer.	Alienware Support Channel

Contacting Alienware

To contact Alienware for sales, technical support, or customer service issues, see [Alienware Support Site](#).

- ⓘ

NOTE: Availability of the services may vary depending on the country or region, and product.
- ⓘ

NOTE: If you do not have an active Internet connection, you can find contact information in your purchase invoice, packing slip, bill, or Dell product catalog.