




Alienware Area-51 R7 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.
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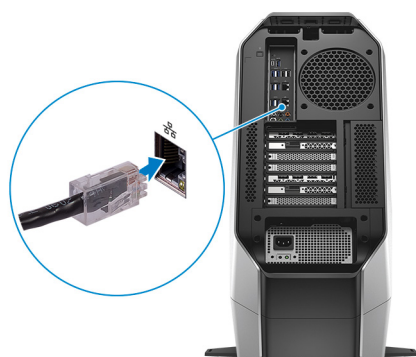
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Set up your computer

- 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: 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 one graphics card, PCI-Express (graphics) slot 1 will be the primary graphics card. If you have two graphics card, PCI-Express (graphics) slot 4 will be the primary graphics card. If you have three or four graphics card, PCI-Express (graphics) slot 7 will be 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 flash 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.**

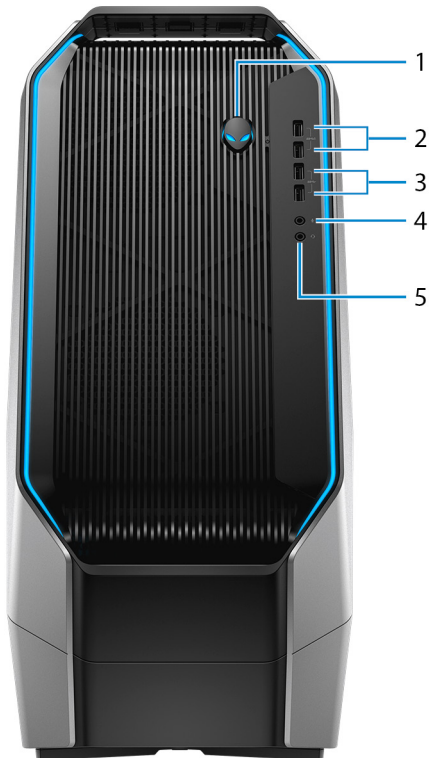
 **NOTE: The following steps may vary depending on the version of Windows installed. Refer to the [Microsoft support site](#) for latest instructions.**

- 1 Connect the USB 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**.
- 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.

Views of Alienware Area-51 R7

Front



1 **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.**

2 **USB 3.1 Gen 1 port with PowerShare (2)**

Connect peripherals such as external storage devices and printers.

Provides data transfer speeds up to 5 Gbps. PowerShare enables you to charge your USB devices even when your computer is turned off.

 **NOTE: If your computer is turned off or in hibernate state, you must connect the power adapter to charge your devices using the PowerShare port. You must enable this feature in the BIOS setup program.**

 **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.**

3 **USB 3.1 Gen 1 ports (2)**

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

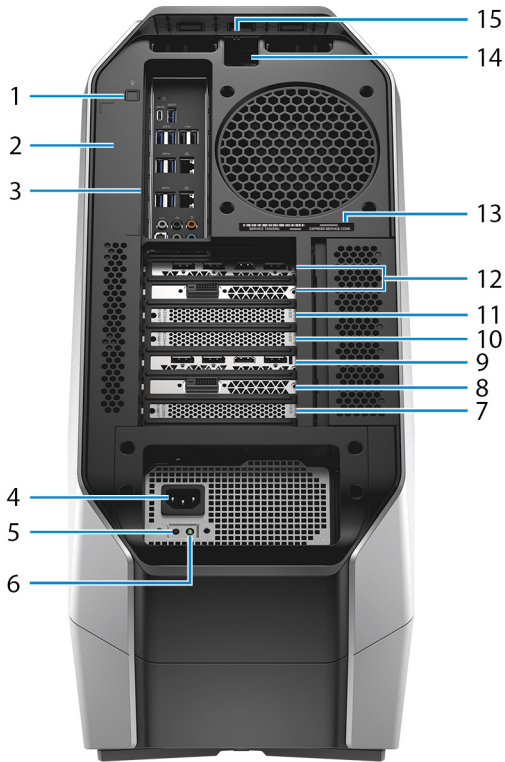
4 **Microphone port**

Connect an external microphone to provide sound input.

5 **Headphone port**

Connect a headphone or speakers.

Back



- 1 **Rear I/O accessibility lighting button**
Press to illuminate the back panel ports.
- 2 **Regulatory label**
Contains regulatory information of your computer.
- 3 **Back panel**
Connect USB, audio, video, and other devices.
- 4 **Power cable connector**
Connect a power cable to provide power to your computer.
- 5 **Power-supply diagnostics button**
Press to check the power-supply state.
- 6 **Power-supply diagnostics light**
Indicates the power-supply state.
- 7 **PCI-Express (graphics) slot 7**
Connect a PCI-Express X16 card such as graphics, audio, or network card to enhance the capabilities of your computer.
- 8 **PCI-Express slot 6**
Connect a PCI-Express X4 card such as audio, or network card to enhance the capabilities of your computer.
- 9 **PCI-Express (graphics) slot 5**
Connect a PCI-Express X16 card such as graphics, audio, or network card to enhance the capabilities of your computer.
- 10 **PCI-Express (graphics) slot 4**
Connect a PCI-Express X16 card such as graphics, audio, or network card to enhance the capabilities of your computer.
- 11 **PCI-Express (graphics) slot 3**
Connect a PCI-Express X16 card such as graphics, audio, or network card to enhance the capabilities of your computer.

12 **PCI-Express (graphics) slot 1**

Connect a PCI-Express X16 card such as graphics, audio, or network card to enhance the capabilities of your computer.

NOTE: For more details on installing the PCI-Express graphics card, see [PCI-Express graphics card installation matrix](#).

13 **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.

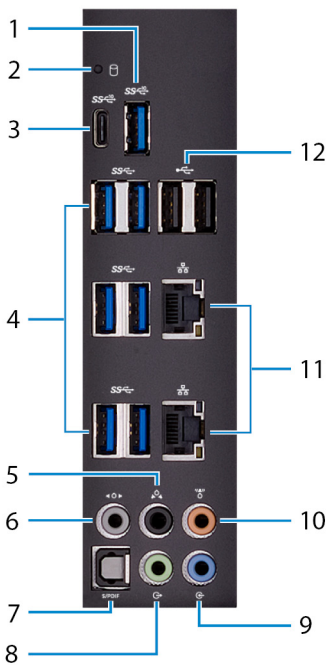
14 **Security-cable slot (for Kensington locks)**

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

15 **Security-cable slot latch**

Release to allow opening the side panel.

Back panel



1 **USB 3.1 Gen 2 port**

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

2 **Hard-drive activity light**

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

3 **USB 3.1 Gen 2 (Type-C) port with PowerShare**

Connect peripherals such as storage devices and printers.

Provides data transfer speeds up to 10 Gbps. Supports Power Delivery that enables two-way power supply between devices. Provides up to 15 W power output that enables faster charging of peripheral devices.

PowerShare enables you to charge your USB devices even when your computer is turned off.

NOTE: The Type-C port only provides the USB data function, and no alternate video or Thunderbolt mode features are supported.

4 **USB 3.1 Gen 1 ports (6)**

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

5 **Rear L/R surround port**

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

6 **Side L/R surround port**

Connect the side-left and side-right speakers or surround sound speakers.

7 **Optical S/PDIF port**

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

8 **Line-out port**

Connect speakers.

9 **Line-in port**

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

10 **Center/subwoofer port**

Connect the subwoofer.

11 **Network ports (2)**

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

12 **USB 2.0 ports (2)**

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

Specifications of Alienware Area-51 R7

Dimensions and weight

Table 1. Dimensions and weight

Description	Values
Height	569.25 mm (22.41 in.)
Width	638.96 mm (25.16 in.)
Depth	272.71 mm (10.74 in.)
Weight (approximate)	28 kg (61.73 lbs)



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

Processors

Table 2. Processors

Description	Values		
Processors	AMD Ryzen Threadripper (2950X)	AMD Ryzen Threadripper (2920X)	AMD Ryzen Threadripper (1900X)
Wattage	180 W	180 W	180 W
Core count	16	12	8
Thread count	32	24	16
Speed	Base 3.5 GHz, Boost up to 4.4 GHz	Base 3.5 GHz, Boost up to 4.3 GHz	Base 3.8 GHz, Boost up to 4.0 GHz
L2 Cache	8 MB	6 MB	4 MB
L3 Cache	32 MB	32 MB	16 MB
Integrated graphics	Not supported	Not supported	Not supported

Chipset

Table 3. Chipset

Description	Values
Chipset	AMD X399
Processor	AMD Ryzen Threadripper
DRAM bus width	64 bit
Flash EPROM	16 MB
PCIe bus	PCIe Gen3/Gen2
External bus frequency	PCIe Gen2x4

Operating system

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

Memory


Table 4. Memory specifications

Description	Values
Slots	Four internally-accessible DDR4 DIMM sockets
Type	DDR4
Speed	2666 MHz up to 3200 MHz (XMP memory)
Maximum memory	64 GB
Minimum memory	8 GB
Memory per slot	4 GB, 8 GB, and 16 GB
Configurations supported:	<ul style="list-style-type: none">▪ 8 GB DDR4 at 2666 MHz▪ 16 GB Dual Channel DDR4 at 2666MHz▪ 32 GB Dual Channel DDR4 at 2666MHz▪ 64 GB Quad Channel DDR4 at 2666MHz▪ 8 GB DDR4 XMP 2933MHz - Kingston HyperX▪ 16 GB Dual Channel DDR4 XMP 2933MHz - Kingston HyperX▪ 32 GB Quad Channel DDR4 XMP 2933MHz - Kingston HyperX▪ 64 GB Quad Channel DDR4 XMP 2933MHz - Kingston HyperX▪ 16 GB Dual Channel DDR4 XMP 3200MHz - Kingston HyperX▪ 32 GB Quad Channel DDR4 XMP 3200MHz - Kingston HyperX▪ 64GB Quad Channel DDR4 XMP 3200MHz - Kingston HyperX

Ports and connectors

Table 5. Ports and connectors

Description	Values
Front	
USB	<ul style="list-style-type: none">▪ Two USB 3.1 Gen 1 ports▪ Two USB 3.1 Gen 1 ports with PowerShare
Audio	<ul style="list-style-type: none">▪ One headset port▪ One microphone port
Back	
Network	Two RJ-45 port

Description	Values
USB	<ul style="list-style-type: none"> Two USB 2.0 ports Six USB 3.1 Gen 1 ports One USB 3.1 Gen 2 port One USB 3.1 Gen 2 (Type-C) port with PowerShare
Audio	<ul style="list-style-type: none"> Four audio output/headphone ports One audio input/microphone port
Video	One optical S/PDIF port
Memory card reader	Not supported
Power port	Not supported
Smart card reader	Not supported
Security	Padlock rings
Legacy ports	Not supported
Internal	
Expansion	Four SATA ports
M.2	<ul style="list-style-type: none"> One M.2 card slot for WLAN and Bluetooth One M.2 card slot for 2280 solid-state drive
	 NOTE: To learn more about the features of different types of M.2 cards, see the knowledge base article SLN301626 .

Communications

Ethernet

Table 6. Ethernet specifications

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

Wireless module

Table 7. Wireless module specifications

Description	Values	
Model number	Qualcomm QCA61x4A (DW1820)	Killer 1535
Transfer rate	Up to 867 Mbps	Up to 867 Mbps
Frequency bands supported	Dual band 2.4 GHz/5 GHz	Dual band 2.4 GHz/5 GHz
Wireless standards	Wi-Fi 802.11a/b/g/n/ac	Wi-Fi 802.11a/b/g/n/ac
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

Description	Values	
Bluetooth	Bluetooth 4.2	Bluetooth 4.2

Video

Table 8. Video specifications

Controller	SLI/Crossfire support	Number of cards (maximum)	External display support	Memory size	Memory Type
AMD Vega 10 E2-90 (Single/ Dual)	Yes	2	Three DisplayPort, one HDMI port	8 GB	HBM
NVIDIA GTX 1050 Ti (Single)	No	1	One DLDVI-D, one DisplayPort, one HDMI port	4 GB	GDDR5
NVIDIA GTX 1060 (Single)	No	1	One DLDVI-D, three DisplayPort, one HDMI port	6 GB	GDDR5
NVIDIA GTX 1070 (Single / Dual)	Yes	2	One DLDVI-D, three DisplayPort, one HDMI port	8 GB	GDDR5
NVIDIA GTX 1080 Ti (Single / Dual)	Yes	2	Three DisplayPort, one HDMI port	11 GB	GDDR5X
AMD RX570X (Single / Triple)	Yes	3	Three DisplayPort, one HDMI port	8 GB	GDDR5
AMD RX580X (Single / Triple)	Yes	3	Three DisplayPort, one HDMI port	8 GB	GDDR5
NVIDIA RTX 2080 OC (Single/Dual)	Yes	2	Three Display Port, One HDMI, One Type-C	8 GB	GDDR6
NVIDIA RTX 2080 Ti OC (Single/Dual)	Yes	2	Three Display Port, One HDMI, One Type-C	11 GB	GDDR6

Audio

Table 9. Audio specifications

Description	Values
Type	Integrated 7.1 channel High Definition Audio
Controller	Realtek ALC3861
Internal interface	High-definition audio
External interface	7.1 channel output, Microphone-in, stereo headphones, and headset combo connector

Storage

Table 10. Storage specifications

Storage type	Interface type	Internally accessible capacity
Three 3.5-inch hard drives	SATA AHCI 6 Gbps	Up to 4 TB
Two 2.5-inch drive bay support or U.2 PCIe solid-state drives	PCIe Gen3 8 Gbps	Up to 960 GB (only for U.2)

Power ratings

Table 11. Power adapter specifications

Description	Values		
Type	850 W	1500 W	1500 W
Input voltage	100 VAC to 240 VAC	100 VAC to 240 VAC	200 VAC to 240 VAC
Input frequency	50 Hz to 60 Hz	50 Hz to 60 Hz	50 Hz to 60 Hz
Input current (maximum)	10 A	16 A	10 A
Output current (continuous)	+3.3 V/20 A, +5 V/20 A, +12 VA/32 A, +12 VB/48 A, +12 VD/16 A, -12 V/0.5 A, +5 Vaux/4 A	+3.3 V/20 A, +5 V/25 A, +12 VA/32 A, +12 VB/48 A, +12 VC/48 A, +12 VD/16 A, -12 V/0.5 A, +5 Vaux/4 A	+3.3 V/20 A, +5 V/25 A, +12 VA/32 A, +12 VB/48 A, +12 VC/48 A, +12 VD/16 A, -12 V/0.5 A, +5 Vaux/4 A
Rated output voltage	+3.3 V, +5 V, +12 VA, +12 VB, +12 VD, -12 V, +5 Vaux	+3.3 V, +5 V, +12 VA, +12 VB, +12 VC, +12 VD, -12 V, +5 Vaux	+3.3 V, +5 V, +12 VA, +12 VB, +12 VC, +12 VD, -12 V, +5 Vaux
Temperature range:			
Operating	5°C to 50°C (41°F to 122°F)	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)	-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

	Operating	Storage
Temperature range	0°C to 35°C (32°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)*	0.66 GRMS	1.30 GRMS
Shock (maximum)	110 G†	160 G‡
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.

PCI-Express graphics card installation matrix

850 W power-supply unit

Table 13. PCI-Express graphics card installation matrix

	Single graphics	Dual graphics	Triple graphics	Quad graphics
Slot installation	Slot 1	Slot 1 and Slot 4		
Power connector label	PCIE1	PCIE1 and PCIE3	Not supported	Not supported
Primary output	Slot 1	Slot 4		

1500 W power-supply unit

Table 14. PCI-Express graphics card installation matrix


	Single graphics	Dual graphics	Triple graphics	Quad graphics
Slot installation	Slot 1	Slot 1 and Slot 4	Slot 1, Slot 4 and Slot 7	Slot 1, Slot 3, Slot 5 and Slot 7
Power connector label	VGA1	VGA1 and VGA2	VGA1 and VGA2 and VGA3	VGA1 and VGA2 and VGA3 and VGA4
Primary output	Slot 1	Slot 4	Slot 7	Slot 7

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 15. 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 on your purchase invoice, packing slip, bill, or Dell product catalog.**