


# XPS 8950

## 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.

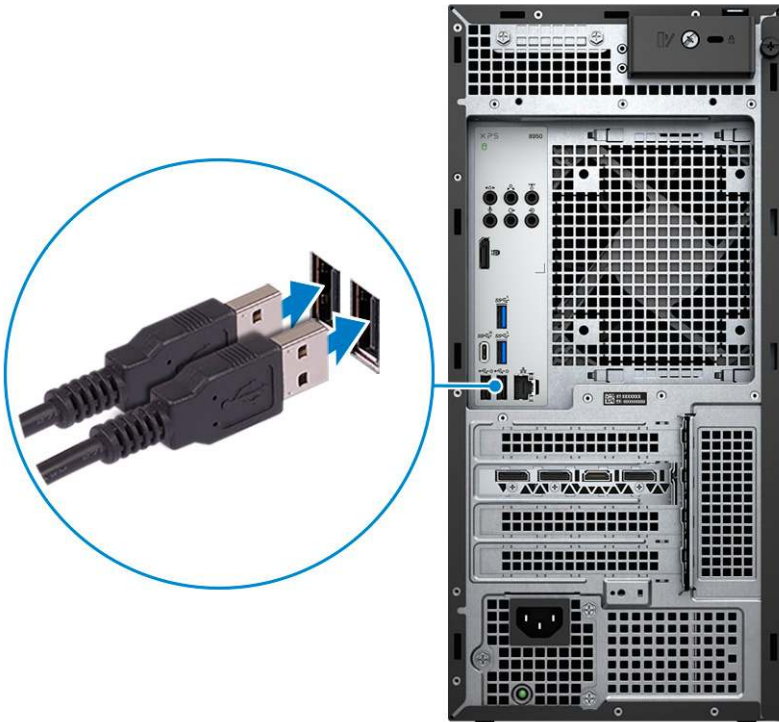
 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

<b>Chapter 1: Set up your computer</b> .....	<b>4</b>
<b>Chapter 2: Views of XPS 8950</b> .....	<b>8</b>
Front.....	8
Back.....	10
Back panel.....	11
<b>Chapter 3: Specifications of XPS 8950</b> .....	<b>13</b>
Dimensions and weight.....	13
Processor.....	13
Chipset.....	14
Operating system.....	14
Memory.....	14
Ports and connectors.....	15
Ethernet.....	16
Wireless module.....	16
Storage.....	16
GPU—Integrated.....	17
GPU—Discrete.....	17
Audio.....	18
Power ratings.....	18
Operating and storage environment.....	19
<b>Chapter 4: Getting help and contacting Dell</b> .....	<b>20</b>

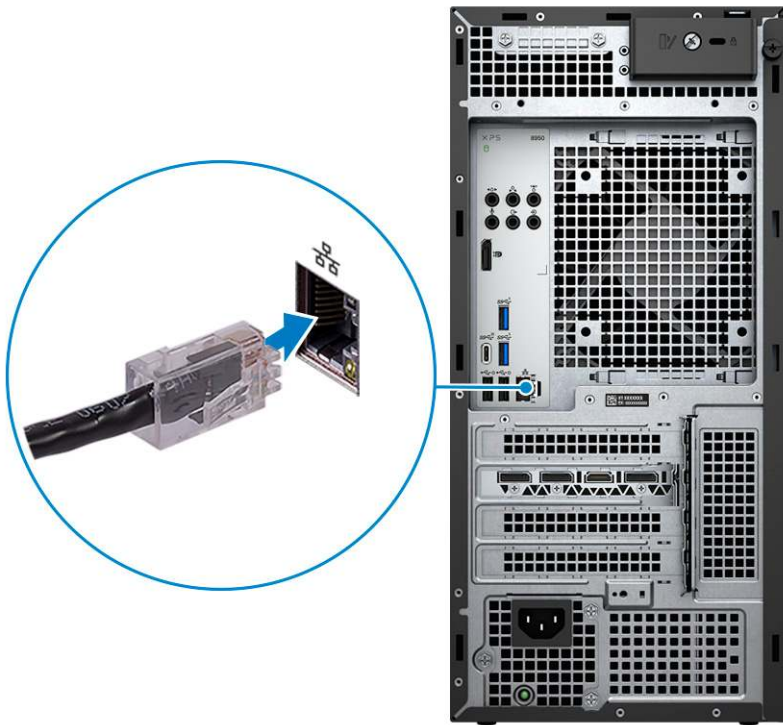
# Set up your computer

**NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

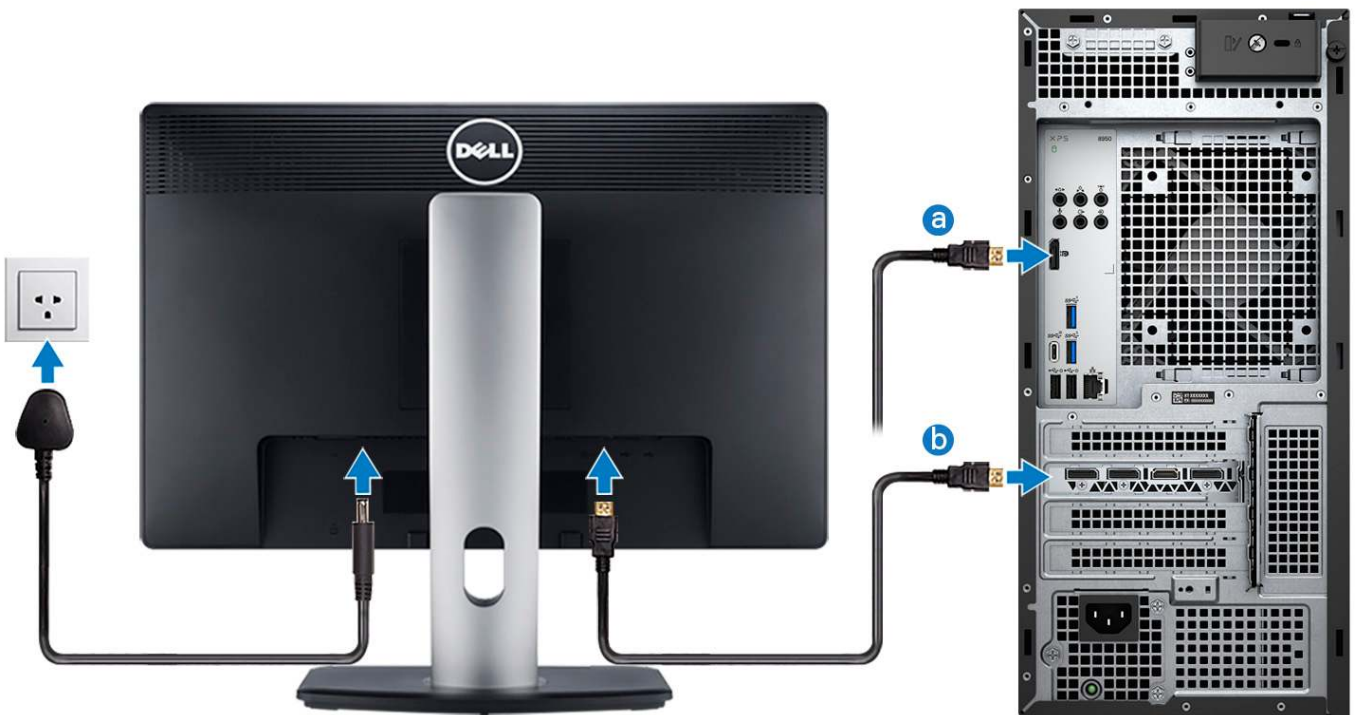
1. Connect the keyboard and mouse to the USB ports on the computer. If you have a wireless keyboard and mouse, see the documentation that shipped with the wireless keyboard and mouse for instructions.



2. Connect to your network using an Ethernet cable. Alternatively, connect to an available wireless network when setting up the operating system.



3. Connect the display. For more information about setting up the display, see the documentation that is shipped with your display.



**NOTE:** There are different connection points for your display depending on whether your computer has a discrete graphics card installed.

- a. Connect the display cable to this DisplayPort connector if your computer does not have a discrete graphics card installed.
  - b. Connect the display cable to any of these connectors if your computer has a discrete graphics card installed.
4. Connect the power cable to the computer and then connect it to the wall outlet.

**CAUTION:** If you are using a 1000 W Power-Supply Unit (PSU), connect the power cable to a Power Distribution Unit (PDU) 16 A, and then connect the PDU to the wall outlet.



5. Press the power button at the front of the computer to turn it on. If required, press the power button on the display to turn it on.



**NOTE:** For instructions on how to connect speakers, a printer and other accessories, see *Me and My Dell* at [www.dell.com/manuals](http://www.dell.com/manuals).





6. Finish Windows setup.

Follow the on-screen instructions to complete the setup. When setting up, Dell recommends that you:

- Connect to a network for Windows updates.
  - ① **NOTE:** If connecting to a secured wireless network, enter the password for the wireless network access when prompted.
- If connected to the Internet, sign in with or create a Microsoft account. If not connected to the Internet, create an offline account.
- On the **Support and Protection** screen, enter your contact details.

7. Locate and use Dell apps from the Windows Start menu—Recommended.

**Table 1. Locate Dell apps**

Resources	Description
	<p><b>My Dell</b></p> <p>Centralized location for key Dell applications, help articles, and other important information about your computer. It also notifies you about the warranty status, recommended accessories, and software updates if available.</p>
	<p><b>SupportAssist</b></p> <p>SupportAssist proactively and predictively identifies hardware and software issues on your computer and automates the engagement process with Dell Technical support. It addresses performance and stabilization issues, prevents security threats, monitors, and detects hardware failures. For more information, see <i>SupportAssist for Home PCs User's Guide</i> at <a href="http://www.dell.com/serviceabilitytools">www.dell.com/serviceabilitytools</a>. Click <b>SupportAssist</b> and then, click <b>SupportAssist for Home PCs</b>.</p> <p>① <b>NOTE:</b> In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.</p>
	<p><b>Dell Update</b></p> <p>Updates your computer with critical fixes and latest device drivers as they become available. For more information on using Dell Update, search in the Knowledge Base Resource at <a href="http://www.dell.com/support">www.dell.com/support</a>.</p>
	<p><b>Dell Digital Delivery</b></p> <p>Download software applications, which are purchased but not preinstalled on your computer. For more information on using Dell Digital Delivery, search in the Knowledge Base Resource at <a href="http://www.dell.com/support">www.dell.com/support</a>.</p>

## Views of XPS 8950

### Front



**1. Slim optical drive (optional)**

The optical drive reads from and writes to CDs and DVDs.

**2. Optical-drive activity light**

The optical-drive activity light turns on when the computer reads from or writes to an optical drive.

**3. Optical-drive eject button**

Press to open the optical drive tray.

**4. Optical-drive emergency eject pinhole**

Used to eject the optical-drive tray manually if the optical-drive eject button fails.

**NOTE:** For more information about manually ejecting optical-drive trays, see the knowledge base article [000139665](https://www.dell.com/support) at [www.dell.com/support](https://www.dell.com/support).

**5. Power button**

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 to force shut-down the computer.

## 6. SD-card slot

Reads from and writes to the SD card. The computer supports the following card types:

- Secure Digital (SD)
- Secure Digital High Capacity (SDHC)
- Secure Digital Extended Capacity (SDXC)

## 7. Universal Audio Jack

Connect headphones or a headset (headphone and microphone combo).

## 8. USB 3.2 Gen 1 ports (2)


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

## 9. USB 3.2 Gen 1 port with PowerShare

Connect devices such as external storage devices and printers.

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

 **NOTE:** Deep Sleep is enabled by default. Disable Deep Sleep in the BIOS to enable PowerShare feature on your computer.


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

## 10. USB 3.2 Gen 2 Type-C port with PowerShare

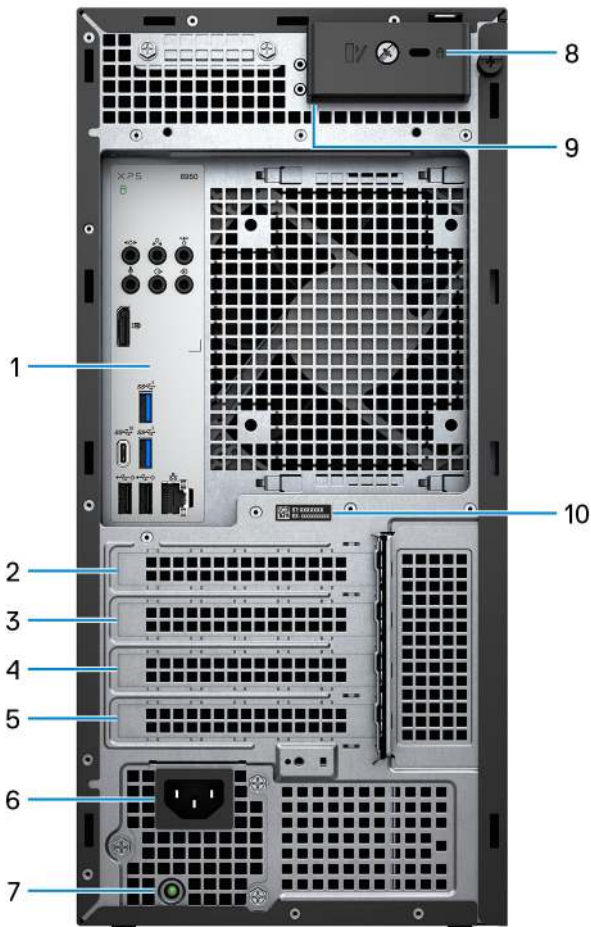
Connect devices such as external storage devices and printers.

Provides data transfer speeds up to 10 Gbps. Provides up to 15 W power output that enables faster charging.

 **NOTE:** Deep Sleep is enabled by default. Disable Deep Sleep in the BIOS to enable PowerShare feature on your computer.

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

# Back



**1. Back panel**

Connect USB, audio, video, and other devices.

**2. PCI-express x4 slot**

Connect a PCI-express card such as an audio or network card to enhance the capabilities of your computer.

**3. PCI-express X16 slot**

Connect a PCI-express graphics card to enhance the capabilities of your computer.

**4. Expansion slot for dual-width graphics card**

This expansion slot seats the bottom half of a dual-width graphics card if it is installed in the PCI-Express x16 slot.

**5. PCI-express x4 slot**

Connect a PCI-express card such as an audio or network card to enhance the capabilities of your computer.

**6. Power port**

Connect a power cable to provide power to your computer.

**7. Power-supply diagnostics light**

Indicates the power-supply state.

**8. Security-cable slot (wedge-shaped)**

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

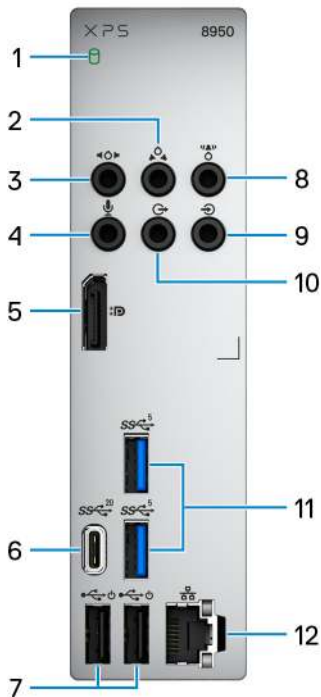
**9. Padlock rings**

Attach a standard padlock to prevent unauthorized access to the interior of your computer.

## 10. 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.

# Back panel



### 1. Hard-drive activity light

The activity light turns on when the computer reads from or writes to the hard drive.

### 2. Rear L/R surround port

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

### 3. 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.

### 4. Microphone port

Connect an external microphone to provide sound input.

### 5. Dual-Mode DisplayPort 1.4

Connect an external display or a projector.

**NOTE:** Besides a DisplayPort connector, this port can also provide display output to a DVI or HDMI connector with a DisplayPort 1.4 adapter (sold separately).

**NOTE:** This port is only available on computers shipped with a Intel UHD Graphics integrated graphics processor.

### 6. USB 3.2 Gen 2x2 Type C port

Connect devices such as external storage devices and printers. Provides data transfer rate of up to 20 Gbps.

**NOTE:** This port does not support video/audio streaming.

### 7. USB 2.0 ports with Smart Power On (2)

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

**i** **NOTE:** Deep Sleep is enabled by default. Disable Deep Sleep in the BIOS to enable Smart Power On feature on your computer.

**i** **NOTE:** Smart Power On is the ability to wake a system from S3, S4, and S5 sleep states with a move of a mouse or press of a key on the keyboard.

#### **8. Center or subwoofer surround port**

Connect the center speaker and/or subwoofer.

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

#### **9. Line-in port**

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

#### **10. 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.

#### **11. USB 3.2 Gen 1 ports (2)**

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

#### **12. Network port (with lights)**

Connect an Ethernet (RJ-45) 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.

# Specifications of XPS 8950

## Dimensions and weight

The following table lists the height, width, depth, and weight of your XPS 8950.

**Table 2. Dimensions and weight**

Description	Values
Height	<ul style="list-style-type: none"> <li>Night Sky: 372.90 mm (14.68 in.)</li> <li>Platinum Silver: 391 mm (15.39 in.)</li> </ul>
Width	173 mm (6.81 in.)
Depth	426.70 mm (16.80 in.)
Weight  <b>NOTE:</b> The weight of your computer depends on the configuration ordered and manufacturing variability.	<ul style="list-style-type: none"> <li>Night Sky: 12.61 kg (27.81 lb)</li> <li>Platinum Silver: 12.80 kg (28.22 lb)</li> </ul>

## Processor

The following table lists the details of the processors that are supported by your XPS 8950.

**Table 3. Processors**

Processor type	Processor wattage	Processor core count	Processor thread count	Processor speed	Processor cache	Integrated graphics
12 <sup>th</sup> Generation Intel Core i3-12100	65 W	4	8	Up to 4.30 GHz	12 MB	Intel UHD Graphics
12 <sup>th</sup> Generation Intel Core i5-12400	65 W	6	12	Up to 4.40 GHz	18 MB	Intel UHD Graphics
12 <sup>th</sup> Generation Intel Core i5-12600K	125 W	10	16	Up to 4.90 GHz	20 MB	Intel UHD Graphics
12 <sup>th</sup> Generation Intel Core i7-12700	65 W	12	20	Up to 4.90 GHz	25 MB	Intel UHD Graphics
12 <sup>th</sup> Generation Intel Core i7-12700F	65 W	12	20	Up to 4.90 GHz	25 MB	None
12 <sup>th</sup> Generation Intel Core i7-12700K	125 W	12	20	Up to 5 GHz	25 MB	Intel UHD Graphics
12 <sup>th</sup> Generation Intel Core i7-12700KF	125 W	12	20	Up to 5 GHz	25 MB	None

**Table 3. Processors (continued)**

Processor type	Processor wattage	Processor core count	Processor thread count	Processor speed	Processor cache	Integrated graphics
12 <sup>th</sup> Generation Intel Core i9-12900	65 W	16	24	Up to 5.10 GHz	30 MB	Intel UHD Graphics
12 <sup>th</sup> Generation Intel Core i9-12900K	125 W	16	24	Up to 5.20 GHz	30 MB	Intel UHD Graphics
12 <sup>th</sup> Generation Intel Core i9-12900KF	125 W	16	24	Up to 5.20 GHz	30 MB	None

## Chipset

The following table lists the details of the chipset supported by your XPS 8950.

**Table 4. Chipset**

Description	Values
Chipset	Z690
Processor	<ul style="list-style-type: none"> <li>12<sup>th</sup> Generation Intel Core i3</li> <li>12<sup>th</sup> Generation Intel Core i5/i5K</li> <li>12<sup>th</sup> Generation Intel Core i7/i7K/i7F/i7KF</li> <li>12<sup>th</sup> Generation Intel Core i9/i9K/i9KF</li> </ul>
DRAM bus width	128-bit
Flash EPROM	32 MB
PCIe bus	Up to Gen4.0

## Operating system

Your XPS 8950 supports the following operating systems:

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

## Memory

The following table lists the memory specifications of your XPS 8950.

**Table 5. Memory specifications**

Description	Values
Memory slots	Four UDIMM slots
Memory type	Dual-Channel DDR5
Memory speed	3600 MHz, 4000 MHz, 4400 MHz, 4800 MHz

**Table 5. Memory specifications (continued)**

Description	Values
Maximum memory configuration	128 GB
Minimum memory configuration	8 GB
Memory size per slot	8 GB, 16 GB, 32 GB
Memory configurations supported	<ul style="list-style-type: none"> <li>• 8 GB, 1 x 8 GB, DDR5, 4400 MHz</li> <li>• 16 GB, 2 x 8 GB, dual-channel DDR5, 4400 MHz</li> <li>• 16 GB, 1 x 16 GB, DDR5, 4400 MHz</li> <li>• 32 GB, 2 x 16 GB, dual-channel DDR5, 4400 MHz</li> <li>• 64 GB, 4 x 16 GB, dual-channel DDR5, 4000 MHz</li> <li>• 64 GB, 2 x 32 GB, dual-channel DDR5, 4400 MHz</li> <li>• 128 GB, 4 x 32 GB, dual-channel DDR5, 3600 MHz</li> </ul>


## Ports and connectors

The following table lists the external and internal ports available on your XPS 8950.

**Table 6. Ports and connectors**

Description	Values
<b>External:</b>	
Network	One RJ-45 port
USB	<ul style="list-style-type: none"> <li>• Four USB 3.2 Gen 1 ports</li> <li>• Two USB 2.0 ports with SmartPower</li> <li>• One USB 3.2 Gen 1 port with PowerShare</li> <li>• One USB 3.2 Gen 2 (Type-C) port with PowerShare</li> <li>• One USB 3.2 Gen 2x2 (Type-C) port</li> </ul>
Audio	<ul style="list-style-type: none"> <li>• One Universal audio jack</li> <li>• One 7.1 audio 6-connector stack of retaskable audio ports</li> </ul>
Video	One Dual-Mode DisplayPort 1.4
Media-card reader	One SD-card slot
Power port	One AC power-supply port
Security	<ul style="list-style-type: none"> <li>• One security-cable slot (wedge-shaped)</li> <li>• One padlock slot</li> </ul>
<b>Internal:</b>	
PCIe expansion card slots	<ul style="list-style-type: none"> <li>• One PCIe x16 expansion card slot</li> <li>• Two PCIe x4 expansion card slots</li> </ul>
mSATA	Not supported
SATA	<ul style="list-style-type: none"> <li>• Three SATA 3.0 slots for 3.5-inch hard drives</li> <li>• One SATA 3.0 slot for optical drive or 3.5-inch hard drive</li> </ul>
M.2	<ul style="list-style-type: none"> <li>• One M.2 2230 slot for WiFi and Bluetooth combo card</li> <li>• Two M.2 2230/2280 slots for solid-state drives</li> </ul>

**Table 6. Ports and connectors (continued)**

Description	Values
	 <b>NOTE:</b> To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at <a href="http://www.dell.com/support">www.dell.com/support</a> .

## Ethernet

The following table lists the wired Ethernet Local Area Network (LAN) specifications of your XPS 8950.

**Table 7. Ethernet specifications**

Description	Values
Model number	Killer E3100G Ethernet controller
Transfer rate	10/100/1000/2500 Mbps

## Wireless module

The following table lists the Wireless Local Area Network (WLAN) module specifications of your XPS 8950.

**Table 8. Wireless module specifications**

Description	Values
Model number	Killer 1675x
Transfer rate	Up to 2400 Mbps
Frequency bands supported	2.4 GHz/5 GHz
Wireless standards	<ul style="list-style-type: none"><li>• WiFi 802.11a/b/g</li><li>• Wi-Fi 4 (WiFi 802.11n)</li><li>• Wi-Fi 5 (WiFi 802.11ac)</li><li>• Wi-Fi 6 (WiFi 802.11ax)</li></ul>
Encryption	<ul style="list-style-type: none"><li>• 64-bit/128-bit WEP</li><li>• AES-CCMP</li><li>• TKIP</li></ul>
Bluetooth	Bluetooth 5.2

## Storage

This section lists the storage options on your XPS 8950.

Your XPS 8950 supports one of the following storage configurations:

- Up to two 3.5-inch hard drives, or
- Up to two 3.5-inch hard drives + up to two M.2 2230/2280 solid-state drives.

The primary drive of your XPS 8950 varies with the storage configuration. For computers:

- with a M.2 drive, the M.2 drive where your operating system is installed is the primary drive.
- without a M.2 drive, the 3.5-inch hard drive where your operating system is installed is the primary drive.

**NOTE:** The storage capacity of each 3.5-inch, M.2 2230 or 2280 solid-state drive is dependent on the configuration ordered. The following section lists the possible storage options for your computer from Dell.com. Depending on your region, some options may not be available.

**Table 9. Storage specifications**

Storage type	Interface type	Capacity
3.5-inch hard drive	SATA AHCI, up to 6 Gbps	Up to 2 TB
M.2 2230 solid-state drive	PCIe Gen3.0x4 NVMe, up to 32 Gbps	Up to 256 GB
M.2 2230 solid-state drive	PCIe Gen4.0x4 NVMe, up to 64 Gbps	Up to 256 GB
M.2 2280 solid-state drive	PCIe Gen4.0x4 NVMe, up to 64 Gbps	Up to 2 TB
9.5 mm 16x Slimline DVD-RW drive	SATA AHCI, up to 1.5 Gbps	One DVD-RW

## GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your XPS 8950.

**Table 10. GPU—Integrated**

Controller	External display support	Memory size	Processor
Intel UHD Graphics	One Dual-Mode DisplayPort 1.4	Shared-system memory	<ul style="list-style-type: none"> <li>12<sup>th</sup> Generation Intel Core i3</li> <li>12<sup>th</sup> Generation Intel Core i5/i5K</li> <li>12<sup>th</sup> Generation Intel Core i7/i7K</li> <li>12<sup>th</sup> Generation Intel Core i9/i9K</li> </ul>

## GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your XPS 8950.

**Table 11. GPU—Discrete**

Controller	External display support	Memory size	Memory type
NVIDIA GeForce GTX 1650 SUPER	<ul style="list-style-type: none"> <li>One DVI-D port</li> <li>One HDMI 2.0 port</li> <li>One DisplayPort 1.4</li> </ul>	4 GB	GDDR6
NVIDIA GeForce GTX 1660 SUPER	<ul style="list-style-type: none"> <li>One DVI-D port</li> <li>One HDMI 2.0 port</li> <li>One DisplayPort 1.4</li> </ul>	6 GB	GDDR6
NVIDIA GeForce GTX 1660 Ti	<ul style="list-style-type: none"> <li>One DVI-D port</li> <li>One HDMI 2.0 port</li> <li>One DisplayPort 1.4</li> </ul>	6 GB	GDDR6
NVIDIA GeForce RTX 3060	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4a</li> </ul>	12 GB	GDDR6
NVIDIA GeForce RTX 3060 Ti	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4a</li> </ul>	8 GB	GDDR6

**Table 11. GPU—Discrete (continued)**

Controller	External display support	Memory size	Memory type
NVIDIA GeForce RTX 3070	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4a</li> </ul>	8 GB	GDDR6
NVIDIA GeForce RTX 3070 Ti	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4a</li> </ul>	8 GB	GDDR6X
NVIDIA GeForce RTX 3080	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4a</li> </ul>	10 GB	GDDR6X
NVIDIA GeForce RTX 3080 Ti	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4a</li> </ul>	12 GB	GDDR6X
NVIDIA GeForce RTX 3090	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4a</li> </ul>	24 GB	GDDR6X
AMD Radeon RX 5300	<ul style="list-style-type: none"> <li>One HDMI 2.0b port</li> <li>Two DisplayPort 1.4</li> </ul>	3 GB	GDDR6
AMD Radeon RX 6600 XT	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4</li> </ul>	8 GB	GDDR6
AMD Radeon RX 6700 XT	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4</li> </ul>	12 GB	GDDR6
AMD Radeon RX 6800 XT	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4</li> </ul>	16 GB	GDDR6
AMD Radeon RX 6900 XT	<ul style="list-style-type: none"> <li>One HDMI 2.1 port</li> <li>Three DisplayPort 1.4</li> </ul>	16 GB	GDDR6

## Audio

The following table lists the audio specifications of your XPS 8950.

**Table 12. Audio specifications**

Description	Values
Audio controller	Realtek ALC3861 with Waves MaxxAudio Pro
Internal audio interface	High definition audio interface
External audio interface	<ul style="list-style-type: none"> <li>One Universal audio jack</li> <li>One 7.1 audio 6-connector stack of retaskable audio ports</li> </ul>

## Power ratings

The following table lists the power rating specifications of XPS 8950.

**Table 13. Power ratings**

Description	Option one	Option two	Option three
Type	460 W Bronze	750 W Platinum	1000 W Platinum
Input voltage	90 VAC-264 VAC	90 VAC-264 VAC	90 VAC-264 VAC
Input frequency	47 Hz-63 Hz	47 Hz-63 Hz	47 Hz-63 Hz

**Table 13. Power ratings (continued)**


Description	Option one	Option two	Option three
Input current (maximum)	7 A	10 A	13.6 A
Output current (continuous)	Operating: • 12 VA - 18 A • 12 VB - 18 A • 12 VC - 18 A Standby: • 12 VA - 1.5 A • 12 VB - 3.3 A • 12 VC - 0 A	Operating: • 12 VA - 36 A • 12 VB - 27 A • 12 VC - 36 A Standby: • 12 VA - 1.5 A • 12 VB - 5 A • 12 VC - 0 A	Operating: • 12 VA - 36 A • 12 VB - 27 A • 12 VC - 36 A Standby: • 12 VA - 1.5 A • 12 VB - 5 A • 12 VC - 0 A
Rated output voltage	• 12 VA • 12 VB • 12 VC	• 12 VA • 12 VB • 12 VC	• 12 VA • 12 VB • 12 VC
Temperature range:			
Operating	5°C to 45°C (41°F to 113°F)	5°C to 45°C (41°F to 113°F)	5°C to 45°C (41°F to 113°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)

## Operating and storage environment

This table lists the operating and storage specifications of your XPS 8950.

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

**Table 14. Computer environment**

Description	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 range	-15.2 m to 3048 m (-49.87 ft to 10000 ft)	-15.2 m to 10668 m (-49.87 ft to 35000 ft)
 <b>CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.</b>		

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



† Measured using a 2 ms half-sine pulse.

# Getting help and contacting Dell

## Self-help resources


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


**Table 15. Self-help resources**

Self-help resources	Resource location
Information about Dell products and services	<a href="http://www.dell.com">www.dell.com</a>
My Dell app	
Tips	
Contact Support	In Windows search, type <code>Contact Support</code> , and press Enter.
Online help for operating system	<a href="http://www.dell.com/support/windows">www.dell.com/support/windows</a>
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals and documents.	Your Dell 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 <a href="http://www.dell.com/support">www.dell.com/support</a> .  For more information on how to find the Service Tag for your computer, see <a href="#">Locate the Service Tag on your computer</a> .
Dell knowledge base articles for a variety of computer concerns	<ol style="list-style-type: none"> <li>1. Go to <a href="http://www.dell.com/support">www.dell.com/support</a>.</li> <li>2. On the menu bar at the top of the Support page, select <b>Support &gt; Knowledge Base</b>.</li> <li>3. In the Search field on the Knowledge Base page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.</li> </ol>

## Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see [www.dell.com/contactdell](http://www.dell.com/contactdell).

 **NOTE:** Availability varies by country/region and product, and some services may not be available in your country/region.

 **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.