

Dell Vostro 5590

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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Set up your Vostro 5590

About this task

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

Steps

1. Connect the power adapter and press the power button.



NOTE: To conserve battery power, the battery might enter power saving mode. Connect the power adapter and press the power button to turn on the computer.



2. 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.
 - 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.

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

Table 1. Locate Dell apps

Resources	Description
	<p>My Dell</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>SupportAssist</p> <p>Pro-actively checks the health of your computer's hardware and software. The SupportAssist OS Recovery tool troubleshoots issues with the operating system. For more information, see the SupportAssist documentation at www.dell.com/support.</p> <p>NOTE: In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.</p>

Resources

Description



Dell Update

Updates your computer with critical fixes and latest device drivers as they become available. For more information about using Dell Update, see the knowledge base article [SLN305843](https://www.dell.com/support/article/SLN305843) at www.dell.com/support.



Dell Digital Delivery

Download software applications, which are purchased but not pre-installed on your computer. For more information about using Dell Digital Delivery, see the knowledge base article [153764](https://www.dell.com/support/article/153764) at www.dell.com/support.

4. 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.

Prerequisites

 **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.

Steps

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.

Chassis overview

Topics:

- Display
- Right
- Left
- Base
- Bottom

Display



1. Left microphone
2. Camera
3. Camera-status light
4. Right microphone

Right



1. microSD-card slot
2. Headset port
3. USB 2.0 port
4. Network port
5. Security-cable slot (wedge-shaped)

Left



1. Power-adapter port
2. HDMI port
3. USB 3.1 Gen 1 port
4. USB 3.1 Gen 1 (Type-C) port with Power Delivery/DisplayPort

Base



1. Power button with optional fingerprint reader
2. Keyboard
3. Touchpad

Bottom



1. Left speaker
2. Right speaker
3. Service Tag label

Specifications of Vostro 5590

Chipset

Table 2. Chipset

Description	Values
Chipset	Integrated with the processor
Processor	10 th Generation Intel Core i3/i5/i7
DRAM bus width	64 bit
Flash EPROM	24 MB
PCIe bus	3

Processors

Table 3. Processors

Description	Values		
Processors	10 th Generation Intel Core i3-10110U	10 th Generation Intel Core i5-10210U	10 th Generation Intel Core i7-10510U
Wattage	15 W	15 W	15 W
Core count	2	4	4
Thread count	4	8	8
Speed	Up to 4.1 GHz	Up to 4.2 GHz	Up to 4.9 GHz
Cache	4 MB	6 MB	8 MB
Integrated graphics	Intel UHD Graphics	Intel UHD Graphics	Intel UHD Graphics

Operating system

- Windows 10 Home (64-bit)
- Windows 10 Professional (64-bit)
- Windows 10 Pro National Academic
- Ubuntu

Memory

Table 4. Memory specifications

Description	Values
Slots	One-DIMM slot

Description	Values
Type	Dual-channel DDR4
Speed	2666 MHz
Maximum memory	24 GB
Minimum memory	4 GB
Memory size per slot	4 GB on-board + 1 DIMM - i3 UMA/i5 Discrete, 8 GB on-board + 1 DIMM - i5 UMA/i7
Configurations supported	<ul style="list-style-type: none"> 4 GB onboard config: 4 GB, 8 GB (4+4), 12 GB (4+8), 20 GB (4+16) 8 GB onboard config: 8 GB, 12 GB (8+4), 16 GB (8+8), 24 GB (8+16)

Ports and connectors

Table 5. External ports and connectors

Description	Values
External:	
Network	RJ-45 port (10/100/1000)
USB	<ul style="list-style-type: none"> Two USB 3.1 Gen 1 ports One USB 2.0 port One USB 3.1 Gen 1 (Type-C) port with DisplayPort/PowerShare
Audio	One Universal headset jack
Video	One HDMI 1.4 port
Media card reader	microSD card reader
Docking port	N/A
Power adapter port	One
Security	One security-cable slot (wedge-shaped)

Table 6. Internal ports and connectors

Description	Values
Internal:	
M.2	<ul style="list-style-type: none"> WLAN M.2 2280/2230/2242/Intel Optane
	<p>NOTE: To learn more about the features of different types of M.2 cards, see the knowledge base article SLN301626.</p>

Communications

Ethernet

Table 7. Ethernet specifications

Description	Values
Model number	RJ-45 port (10/100/1000)
Transfer rate	10/100/1000

Wireless module

Table 8. Wireless module specifications

Description	Values
Model number	Intel 9560 NGW Intel 9462 NGW
Transfer rate	867 Mbps (max) 433 Mbps (max)
Frequency bands supported	2.4 G GHz/5 G GHz 2.4 GHz/5 GHz
Wireless standards	<ul style="list-style-type: none">WiFi 802.11a/b/gWiFi 802.11nWiFi 802.11ac <ul style="list-style-type: none">WiFi 802.11a/b/gWiFi 802.11nWiFi 802.11ac
Encryption	<ul style="list-style-type: none">64/128-bit WEPAES-CCMPTKIP <ul style="list-style-type: none">64/128-bit WEPAES-CCMPTKIP
Bluetooth	Bluetooth 5 (HW ready, SW depends on OS) Bluetooth 5 (HW ready, SW depends on OS)

Audio

Table 9. Audio specifications

Description	Values
Controller	Realtek ALC3204
Stereo conversion	Supported
Internal interface	High definition audio
External interface	Universal audio jack
Speakers	Two
Internal speaker amplifier	Supported (Audio codec built-in amplifier)
External volume controls	Keyboard shortcut keys
Speaker output:	
Average	2 W

Description	Values
Peak	2.5 W
Subwoofer output	Not supported
Microphone	Dual-array microphones

Storage

Your computer supports one of the following configurations:

- Dual storage (HDD + SSD)
- M.2 2280/2230/2242/Intel Optane
- One 2.5-inch hard-drive and one M.2 2230/2280 solid-state drive
- One 2.5-inch hard-drive and one M.2 Intel Optane memory

Table 10. Storage specifications

Storage type	Interface type	Capacity
One 2.5-inch hard-disk drive	SATA (5400 RPM)	Up to 2 TB
One 2.5-inch hard-disk drive	SATA (7200 RPM)	Up to 1 TB
PCIe NVMe 2230 Solid-State Drive(Class 35)	PCIe Gen 3x2 NVMe, up to 32 Gbps	Up to 512 GB
PCIe NVMe 2280 Solid-State Drive(Class 40)	PCIe Gen 3x4 NVMe, up to 32 Gbps	Up to 1 TB
Intel Neptune Harbor	QLC NVMe SSD	512 GB

Intel Optane memory (optional)

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**
- **Unified Extensible Firmware Interface (UEFI) BIOS configuration**
- **Windows 10 64-bit version or higher (Anniversary Update)**
- **Latest version of Intel Rapid Storage Technology driver**

Table 11. Intel Optane memory

Description	Values
Type	Storage accelerator
Interface	PCIe
Connector	M.2
Configurations supported	32 GB
Capacity	512 GB

Media-card reader

Table 12. Media-card reader specifications

Description	Values
Type	microSD card reader
Cards supported	Micro Secure Digital

Keyboard

Table 13. Keyboard specifications

Description	Values
Type	Backlit keyboard (optional)
Layout	QWERTY
Number of keys	<ul style="list-style-type: none">• United States and Canada: 101 keys• United Kingdom: 102 keys• Japan: 105 keys
Size	X=18.7 mm key pitch Y=18.05 mm key pitch
Shortcut keys	<p>Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key.</p> <p>NOTE: You can define the primary behavior of the function keys (F1–F12) changing Function Key Behavior in BIOS setup program.</p>

Camera

Table 14. Camera specifications

Description	Values
Number of cameras	One
Type	HD RGB camera
Location	Front camera
Sensor type	CMOS sensor technology
Resolution:	
Still image	0.92 megapixels
Video	1280 x 720 (HD) at 30 fps
Diagonal viewing angle	74.9 degrees

Touchpad

Table 15. Touchpad specifications

Description	Values
Resolution:	
Horizontal	1229 pixel
Vertical	749 pixel
Dimensions:	
Horizontal	105 mm
Vertical	80 mm

Touchpad gestures

For more information about touchpad gestures for Windows 10, see the Microsoft knowledge base article [4027871](https://support.microsoft.com/4027871) at support.microsoft.com.

Power adapter

Table 16. Power adapter specifications

Description	Values
Type	45 W 65 W
Diameter (connector)	4.5 mm x 2.9 mm 4.5 mm x 2.9 mm
Input voltage	100 VAC x 240 VAC 100 VAC x 240 VAC
Input frequency	50 Hz x 60 Hz 50 Hz x 60 Hz
Input current (maximum)	1.3 A 1.6 A
Output current (continuous)	2.31 A (continuous) 3.34 A (continuous)
Rated output voltage	19.5 VDC 19.5 VDC
Temperature range:	
Operating	0°C to 40°C (32°F to 104°F) 0°C to 40°C (32°F to 104°F)
Storage	-40°C to 70°C (-40°F to 158°F) -40°C to 70°C (-40°F to 158°F)

Battery

Table 17. Battery specifications

Description	Values
Type	3-cell "smart" lithium-ion/polymer (42 WHr)
Voltage	11.40 VDC
Weight (maximum)	0.2 kg (0.44 lb)

Description	Values
Dimensions:	
Height	90.73 mm (3.572 inc.)
Width	175.47 mm (6.908 inc.)
Depth	5.90 mm (0.23 inc.)
Temperature range:	
Operating	0°C to 35°C (32°F to 95°F)
Storage	-40°C to 65°C (-40°F to 149°F)
Operating time	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.
Charging time (approximate)	Standard Charge: 4 hours hours (when the computer is off) i NOTE: Control the charging time, duration, start and end time, and so on using the Dell Power Manager application. For more information on the Dell Power Manager see, <i>Me and My Dell</i> on https://www.dell.com/
Life span (approximate)	300 discharge/charge cycles
Coin-cell battery	CR2032
Operating time	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.

Dimensions and weight

Table 18. Dimensions and weight

Description	Values
Height:	
Front	17.2 mm
Rear	18.7 mm
Width	356.56 mm
Depth	237.1 mm
Weight (maximum)	1.82 kg
	i NOTE: The weight of your computer depends on the configuration ordered and the manufacturing variability.

Display

Table 19. Display specifications

Description	Values
Type	Full High Definition (FHD) Full High Definition (FHD)
Panel technology	Wide viewing angle (WVA) Wide viewing angle (WVA)
Luminance (typical)	220 nits 300 nits

Description	Values	
Dimensions (Active area):		
Height	344	344
Width	194	194
Diagonal	395	395
Native resolution	1920 x 1080	1920 x 1080
Megapixels	2 M	2 M
Color gamut	NTSC 45% (typical)	NTSC 72% (typical)
Pixels per inch (PPI)	142	142
Contrast ratio (min)	400:1(typ) 700:1(typ)	600:1(typ) 700:1(typ)
Response time (max)	35 ms (Max)	35 ms (Max)
Refresh rate	60 Hz	60 Hz
Horizontal view angle	+/- 80 degrees	+/- 80 degrees
Vertical view angle	+/- 80 degrees	+/- 80 degrees
Pixel pitch	0.179 mm	0.179 mm
Power consumption (maximum)	4.2 W	6.2 W
Anti-glare vs glossy finish	Anti-glare	Anti-Glare
Touch options	No	No

Fingerprint reader (optional)

Table 20. Fingerprint reader specifications

Description	Values
Sensor technology	Capacitive
Sensor resolution	500 dpi
Sensor area	5.5 mm x 4.5 mm
Sensor pixel size	108 x 88

Video

Table 21. Discrete graphics specifications

Discrete graphics			
Controller	External display support	Memory size	Memory Type
Nvidia MX230	HDMI 1.4b port	2 GB	GDDR5
Nvidia MX250	HDMI 1.4b port	2 GB	GDDR5

Table 22. Integrated graphics specifications

Integrated graphics

Controller	External display support	Memory size	Processor
Intel UHD Graphics	HDMI 1.4b port	Shared system memory	10th Generation Intel Core i3/i5/i7

Computer environment

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

Table 23. 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 (0)	1.3 GRMS (0)
Shock (maximum)	110 G† (0)	160 G† (0)
Altitude (maximum)	-15.2 m to 3048 m (4.64 ft to 5518.4 ft)	-15.2 m to 10668 m (4.64 ft to 19234.4 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.


Getting help

Topics:

- [Contacting Dell](#)

Contacting Dell

Prerequisites

 **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.

About this task

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

Steps

1. Go to **Dell.com/support**.
2. Select your support category.
3. Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.