Vostro 7500

Setup and specifications guide

Notes, cautions, and warnings

(i) **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

Set up your computer

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.

ⓘ **NOTE:** After the initial turn on and setup of the computer, the computer can subsequently turn on just by opening the display from a closed position.

2. Finish operating system setup.

   For Ubuntu:

   Follow the on-screen instructions to complete the setup. For more information about installing and configuring Ubuntu, see the knowledge base articles SLN151664 and SLN151748 at www.dell.com/support.

   For Windows: Follow the on-screen instructions to complete the setup. When setting up, it is recommended 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

Dell apps	Details
DELL	**My Dell** 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.

Table 1. Locate Dell apps (continued)

Dell apps	Details
	Dell Product Registration Register your computer with Dell.
	Dell Help & Support Access help and support for your computer.
	SupportAssist Proactively checks the health of your computer's hardware and software. ⓘ **NOTE:** Renew or upgrade your warranty by clicking the warranty expiry date in SupportAssist.
	Dell Update Updates your computer with critical fixes and important device drivers as they become available.
	Dell Digital Delivery Download software applications including software that is purchased but not pre-installed on your computer.

Chassis overview

Topics:

- Display view
- Left view
- Right view
- Palm-rest view
- Bottom view
- Keyboard shortcuts

Display view
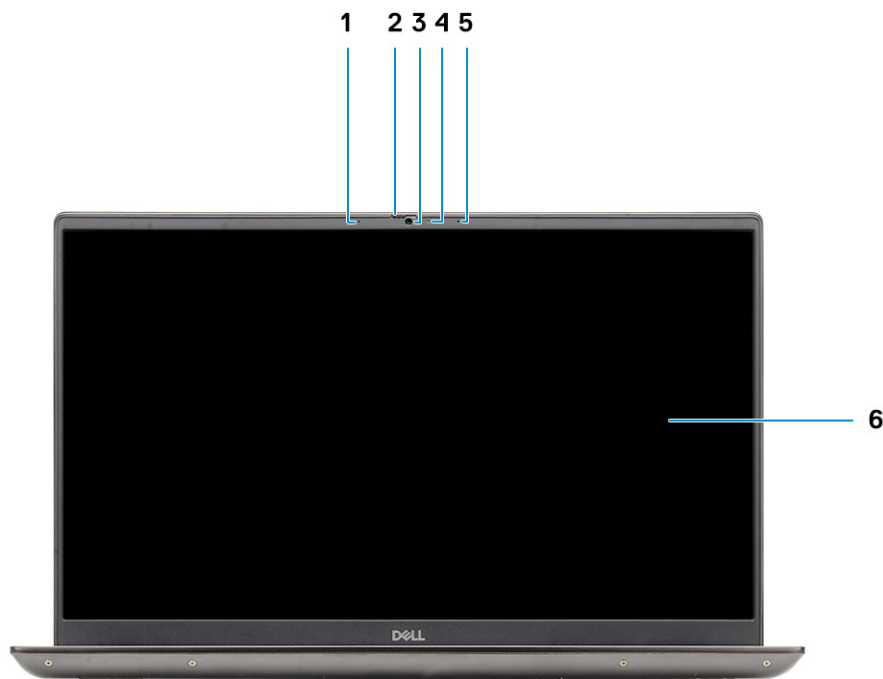
1. Microphone
2. Camera shutter
3. Camera
4. Camera-status light
5. Microphone
6. Display

Left view

1. Power connector port
2. Power LED
3. HDMI 2.0 port
4. USB 3.2 Gen 1 Type-A port
5. USB 3.2 Gen 2 Type-C port with Thunderbolt 3/DisplayPort alt mode (optional)

Right view

1. microSD card reader
2. USB 3.2 Gen 1 Type-A port
3. Universal audio jack

Palm-rest view
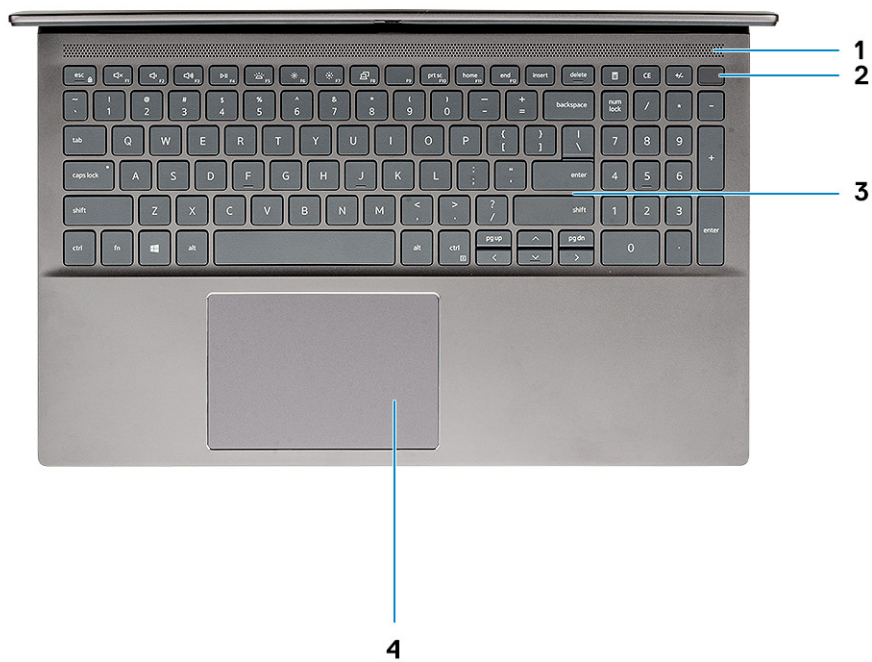
1. Air vent
2. Power button with fingerprint reader (optional)
3. Keyboard
4. Touchpad

Bottom view
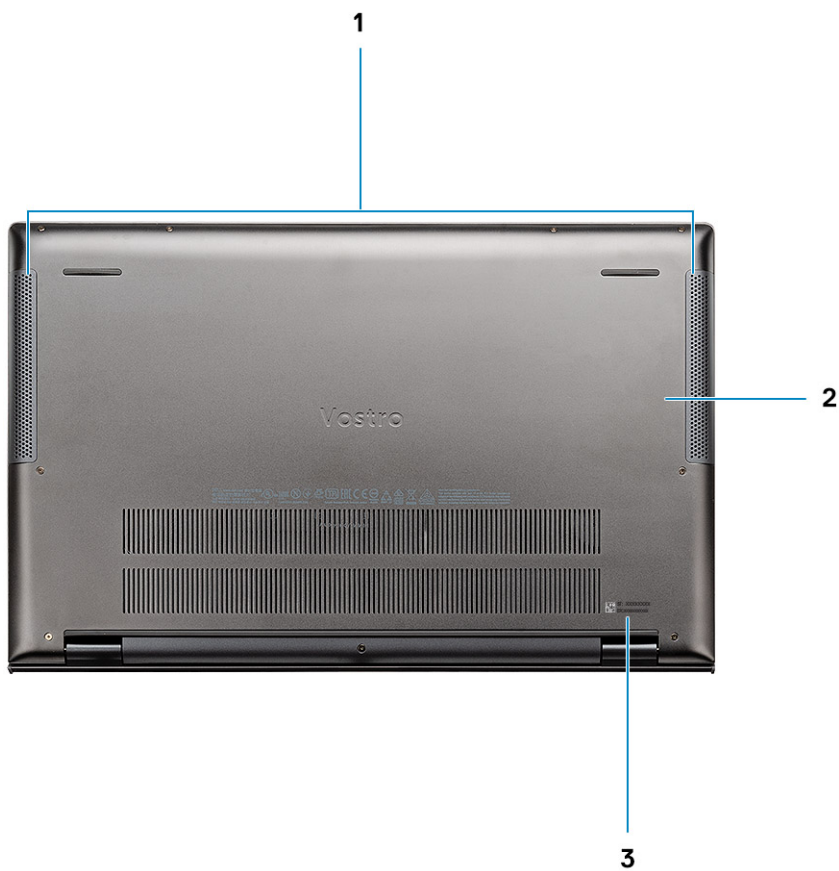
1. Speakers
2. Base cover
3. Service tag label

Keyboard shortcuts

ⓘ **NOTE:** Keyboard characters may differ depending on the keyboard language configuration. Keys that are used for shortcuts remain the same across all language configurations.

Table 2. List of keyboard shortcuts

Keys	Description
Fn + Esc	Toggle Fn-key lock
Fn + F1	Mute audio
Fn + F2	Decrease volume
Fn + F3	Increase volume
Fn + F4	Play/Pause
Fn + F5	Keyboard backlight

Table 2. List of keyboard shortcuts (continued)

Keys	Description
	ⓘ **NOTE:** Not applicable for non-backlight keyboard.
Fn + F6	Decrease screen brightness
Fn + F7	Increase screen brightness
Fn + F8	Switch to external display
Fn + F10	Print Screen
Fn + F11	Home
Fn + F12	End
Fn + Right Ctrl	Opens application menu

System specifications

> ⓘ **NOTE:** Offerings may vary by region. The following specifications are only those required by law to ship with your computer. For more information about the configuration of your computer, go to **Help and Support** in your Windows operating system and select the option to view information about your computer.

Topics:

Processors

Table 3. Processors

Description	Values	
Processors	10th Generation Intel Core i5-10300H	10th Generation Intel Core i7-10750H
Wattage	45 W	45 W
Core count	4	6
Thread count	8	12
Speed	Up to 4.2 GHz	Up to 4.3 GHz
Cache	8 MB	12 MB
Integrated graphics	Intel UHD Graphics	Intel UHD Graphics

Chipset

The following table lists the details of the chipset supported by your Latitude 5320.

Table 4. Chipset

Description	Values
Chipset	Intel HM470
Processor	10th Generation Intel Core i5/i7
DRAM bus width	64-bit
Flash EPROM	24 MB
PCIe bus	Up to Gen3

Operating system

Your Vostro 7500 supports the following operating systems:

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

Memory

Table 5. Memory specifications

Description	Values
Slots	1 on-board memory and 1 SODIMM
Type	DDR4
Speed	2933 MHz
Maximum memory	24 GB
Minimum memory	8 GB
Configurations supported	8 GB (1 x 8 GB), 2933 MHz, on-board memory 12 GB (1 x 8 GB) on-board and (1 x 4 GB), 2933 MHz, SODIMM 16 GB (1 x 8 GB) on-board and (1 x 8 GB), 2933 MHz, SODIMM 24 GB (1 x 8 GB) on-board and (1 x 16 GB), 2933 MHz, SODIMM

Storage

Your computer supports one of the following configurations:
- M.2 2230/2280 solid-state drive (class 35) and one M.2 2280 solid-state drive (class 35)

- M.2 2230/2280 solid-state drive (class 35) and one M.2 2280 solid-state drive (class 40)
- M.2 2280 solid-state drive (class 40) and one M.2 2280 solid-state drive (class 35)
- M.2 2280 solid-state drive (class 40) and one M.2 2280 solid-state drive (class 40)
- M.2 2280 solid-state drive (class 40) and Intel 512 GB QLC solid-state drive

The primary drive of your computer varies with the storage configuration. For computers with M.2 drive, the M.2 drive is the primary drive.

Table 6. Storage specifications

Form factor	Interface type	Capacity
M.2 2280/2230, PCIe NVMe, Class 35 solid-state drive	PCIe NVMe 3x4	Up to 512 GB
M.2 2280, PCIe NVMe, Class 40 solid-state drive	PCIe NVMe 3x4	Up to 2 TB
M.2 2280, PCIe QLC NVMe, solid-state drive	PCIe NVMe 3x4	Up to 512 GB

Ports and connectors

Table 7. External ports and connectors

External:	
USB	2 USB 3.2 Gen 1 Type-A ports 1 USB 3.2 Gen 1 Type-C port with DisplayPort alt mode/Power Delivery (optional) 1 USB 3.2 Gen 2 port with Thunderbolt/DisplayPort alt mode/Power Delivery (optional)
Audio	One Universal audio Jack
Video	One HDMI 2.0 port
Media card reader	One microSD 3.0
Docking port	Supported through Type-C/Thunderbolt Port
Power adapter port	One DC-in port
Security	NA

Table 8. Internal ports and connectors

Internal:	
M.2	- One M.2 2280/2230 slot for solid-state drive - One M.2 2280 slot for solid-state drive **NOTE:** To learn more about the features of different types of M.2 cards, see the knowledge base article 000144170.

Audio

Table 9. Audio specifications

Description		Values
Controller		Realtek ALC3204
Stereo conversion		Supported
Internal interface		High definition audio interface
External interface		Universal Audio Jack
Speakers		2
Internal speaker amplifier		Supported (audio codec integrated)
External volume controls		Keyboard shortcut controls
Speaker output:		
	Average	2 W
	Peak	2.5 W
Subwoofer output		Not supported
Microphone		Dual-array microphones

Video

Table 10. Discrete graphics specifications

Discrete graphics			
Controller	External display support	Memory size	Memory Type
NVIDIA GeForce GTX 1650	HDMI 2.0	4 GB	GDDR6
NVIDIA GeForce GTX 1650 Ti	HDMI 2.0	4 GB	GDDR6

Table 11. Integrated graphics specifications

Integrated graphics			
Controller	External display support	Memory size	Processor
Intel UHD Graphics	DisplayPort over USB Type-C port	Shared system memory	10th Generation Intel Core i5/i7

Camera

Table 12. Camera specifications

Description	Values
Number of cameras	One

Table 12. Camera specifications (continued)

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

Communications

Wireless module

Table 13. Wireless module specifications

Description	Values	
Model number	Intel Wi-Fi 6 AX201	Intel Wireless-AC 9560
Transfer rate	Up to 2400 Mbps	Up to 1733 Mbps
Frequency bands supported	2.4 GHz/5 GHz	2.4 GHz/5 GHz
Wireless standards	- Wi-Fi 802.11a/b/g - Wi-Fi 4 (WiFi 802.11n) - Wi-Fi 5 (WiFi 802.11ac) - Wi-Fi 6 (WiFi 802.11ax)	- Wi-Fi 802.11a/b/g - Wi-Fi 4 (WiFi 802.11n) - Wi-Fi 5 (WiFi 802.11ac)
Encryption	64-bit/128-bit WEP - AES-CCMP - TKIP	64-bit/128-bit WEP - AES-CCMP - TKIP
Bluetooth	Bluetooth 5.1	Bluetooth 5.0

Media-card reader

Table 14. Media-card reader specifications

Description	Values
Type	One microSD 3.0 card
Cards supported	- Secure Digital (SD) - Secure Digital High Capacity (SDHC) - Secure Digital Extended Capacity (SDXC)

Power adapter

Table 15. Power adapter specifications

Description		Values
Type		130 W adapter
Diameter (connector)		4.5 mm x 2.9 mm
Input voltage		100 VAC x 240 VAC
Input frequency		50 Hz x 60 Hz
Input current (maximum)		2.50 A
Output current (continuous)		6.70 A
Rated output voltage		19.50 VDC
Temperature range:		
	Operating	0°C to 40°C (32°F to 104°F)
	Storage	-40°C to 70°C (-40°F to 158°F)

Battery

Table 16. Battery specifications

Description		Values	
Type		56 WHr, 3-Cell Polymer, ExpressCharge Boost	97 WHr, 6-Cell Polymer, ExpressCharge Boost
Voltage		11.40 VDC	11.40 VDC
Weight (maximum)		0.25 kg (0.55 lb)	0.37 kg (0.82 lb)
Dimensions:			
	Height	223.30 mm (8.79 in.)	330.50 mm (13.01 in.)
	Width	71.80 mm (2.83 in.)	71.80 mm (2.83 in.)
	Depth	7.20 mm (0.28 in.)	7.20 mm (0.28 in.)
Temperature range:			
	Operating	0°C to 35°C (32°F to 95°F)	0°C to 35°C (32°F to 95°F)
	Storage	-40°C to 65°C (-40°F to 149°F)	-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.	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.
Charging time (approximate)		4 hours (when the computer is off). ⓘ **NOTE:** Control the charging time, duration, start and end time, and so	4 hours (when the computer is off). ⓘ **NOTE:** Control the charging time, duration, start and end time, and so

Table 16. Battery specifications (continued)

Description	Values	
	on, using the Dell Power Manager application. For more information on the Dell Power Manager, see, *Me and My Dell* on www.dell.com/	on, using the Dell Power Manager application. For more information on the Dell Power Manager, see, *Me and My Dell* on www.dell.com/
Coin-cell battery	Supported	Supported
Operating time	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.

Dimensions and weight

Table 17. Dimensions and weight

Description		Values
Height:		
	Front	17.50 mm (0.69 in.)
	Rear	18.90 mm (0.74 in.)
Width		356.10 mm (14.02 in.)
Depth		234.50 mm (9.23 in.)
Weight		1.90 kg (4.19 lb) (i) **NOTE:** The weight of your computer depends on the configuration ordered and the manufacturing variability.

Display

Table 18. Display specifications

Description		Values
Type		15.6-inch Full High Definition (FHD)
Panel technology		In-Plane Switching (IPS)
Luminance (typical)		300 nits
Dimensions (active area):		
	Height	193.60 mm (7.62 in.)
	Width	344.20 mm (13.55 in.)
	Diagonal	396 mm (15.59 in.)
Native resolution		1920 x 1080
Megapixels		2

Table 18. Display specifications (continued)

Description	Values
Color gamut	100% (sRGB)
Pixels Per Inch (PPI)	142
Contrast ratio (min)	600:01:00
Response time (max)	35 ms
Refresh rate	60 Hz
Horizontal view angle	85 +/-degrees
Vertical view angle	85 +/-degrees
Pixel pitch	0.18 mm
Power consumption (maximum)	4.20 W
Anti-glare vs glossy finish	Anti-glare
Touch options	No

Keyboard

Table 19. Keyboard specifications

Description	Values
Type	Standard keyboard
Layout	QWERTY
Number of keys	● United States and Canada: 101 keys ● United Kingdom: 102 keys ● Japan: 105 keys
Size	X=18.70 mm key pitch Y=18.05 mm key pitch

Touchpad

The following table lists the touchpad specifications of your Vostro 7500.

Table 20. Touchpad specifications

Description		Values
Touchpad resolution:		
	Horizontal	3512
	Vertical	2442
Touchpad dimensions:		

Table 20. Touchpad specifications (continued)

Description		Values
	Horizontal	115 mm (4.53 in.)
	Vertical	80 mm (3.15 in.)
Touchpad gestures		For more information about touchpad gestures available on Windows, see the Microsoft knowledge base article 4027871 at support.microsoft.com.

Fingerprint reader (optional)

The following table lists the specifications of the optional fingerprint-reader.

Table 21. Fingerprint reader specifications

Description	Values
Sensor technology	Capacitive
Sensor resolution	64 x 80 dpi
Sensor area	4.06 mm x 3.25 mm
Sensor pixel size	64 x 80

Security

Table 22. Security specifications

Features	Specifications
Trusted Platform Module (TPM) 2.0	Discrete
ENERGY STAR 7.1 or later	
EPEAT 2018 Bronze registered	
WHQL compliant	
Intel Platform Trust Technology (PTT)	

Security Software

Table 23. Security Software specifications

Specifications
McAfee Small Business Security 30-day Trial
McAfee Small Business Security 12-month subscription, Digitally Delivered
McAfee Small Business Security 24-month subscription, Digitally Delivered
McAfee Small Business Security 36-month subscription, Digitally Delivered

Computer environment

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

Table 24. 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 (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.

Software

This chapter details the supported operating systems along with instructions on how to install the drivers.

Topics:

*   Downloading Windows drivers

Downloading Windows drivers

1. Turn on the .
2. Go to **Dell.com/support**.
3. Click **Product Support**, enter the Service Tag of your , and then click **Submit**.

    (i) **NOTE:** If you do not have the Service Tag, use the auto detect feature or manually browse for your model.

4. Click **Drivers and Downloads**.
5. Select the operating system installed on your .
6. Scroll down the page and select the driver to install.
7. Click **Download File** to download the driver for your .
8. After the download is complete, navigate to the folder where you saved the driver file.
9. Double-click the driver file icon and follow the instructions on the screen.

System setup

⚠ **CAUTION: Unless you are an expert computer user, do not change the settings in the BIOS Setup program. Certain changes can make your computer work incorrectly.**

ⓘ **NOTE:** Before you change BIOS Setup program, it is recommended that you write down the BIOS Setup program screen information for future reference.

Use the BIOS Setup program for the following purposes:
- Get information about the hardware installed in your computer, such as the amount of RAM and the size of the hard drive.
- Change the system configuration information.
- Set or change a user-selectable option, such as the user password, type of hard drive installed, and enabling or disabling base devices.

Topics:

Boot menu

Press <F12> when the Dell logo appears to initiate a one-time boot menu with a list of the valid boot devices for the system. Diagnostics and BIOS Setup options are also included in this menu. The devices listed on the boot menu depend on the bootable devices in the system. This menu is useful when you are attempting to boot to a particular device or to bring up the diagnostics for the system. Using the boot menu does not make any changes to the boot order stored in the BIOS.

The options are:
- **UEFI Boot Devices**:
  - Windows Boot Manager
  - UEFI Hard Drive
  - Onboard NIC (IPV4)
  - Onboard NIC (IPV6)
- **Pre-Boot Tasks**:
  - BIOS Setup
  - Diagnostics
  - BIOS Update
  - SupportAssist OS Recovery
  - BIOS Flash Update - Remote
  - Device Configuration

Navigation keys

ⓘ **NOTE:** For most of the System Setup options, changes that you make are recorded but do not take effect until you restart the system.

Keys	Navigation
Up arrow	Moves to the previous field.

Keys	Navigation
Down arrow	Moves to the next field.
Enter	Selects a value in the selected field (if applicable) or follow the link in the field.
Spacebar	Expands or collapses a drop-down list, if applicable.
Tab	Moves to the next focus area.
Esc	Moves to the previous page until you view the main screen. Pressing Esc in the main screen displays a message that prompts you to save any unsaved changes and restarts the system.

Boot Sequence

Boot sequence enables you to bypass the System Setup–defined boot device order and boot directly to a specific device (for example: optical drive or hard drive). During the Power-on Self-Test (POST), when the Dell logo appears, you can:
- Access System Setup by pressing F2 key
- Bring up the one-time boot menu by pressing F12 key.

The one-time boot menu displays the devices that you can boot from including the diagnostic option. The boot menu options are:

- Removable Drive (if available)
- STXXXX Drive
  - (i) **NOTE:** XXXX denotes the SATA drive number.
- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics
  - (i) **NOTE:** Choosing **Diagnostics**, displays the **SupportAssist diagnostics** screen.

The boot sequence screen also displays the option to access the System Setup screen.

BIOS setup

(i) **NOTE:** Depending on the and its installed devices, the items listed in this section may or may not appear.

Overview

Table 25. Overview

Option	Description
System Information	This section lists the primary hardware features of your computer. The options are: • **System Information** ○ BIOS version ○ Service Tag ○ Asset Tag ○ Manufacture Date ○ Ownership Date ○ Express Service Code ○ Ownership Tag ○ Signed Firmware Update • **Battery** ○ Primary

Table 25. Overview

Option	Description
	○ Battery Level
	○ Battery State
	○ Health
	○ AC Adapter
	● **Processor Information**
	○ Processor Type
	○ Maximum Clock Speed
	○ Minimum Clock Speed
	○ Current Clock Speed
	○ Core Count
	○ Processor ID
	○ Processor L2 Cache
	○ Processor L3 Cache
	○ Microcode Version
	○ Intel Hyper-Threading Capable
	○ 64-Bit Technology
	● **Memory Configuration**
	○ Memory Installed
	○ Memory Available
	○ Memory Speed
	○ Memory Channel Mode
	○ Memory Technology
	○ DIMM_Slot 1
	○ DIMM_Slot 2
	● **Device Information**
	○ Panel Type
	○ Video Controller
	○ Video Memory
	○ Wi-Fi Device
	○ Native Resolution
	○ Video BIOS Version
	○ Audio Controller
	○ Bluetooth Device

Boot configuration

Table 26. Boot configuration

Option	Description
Boot Sequence	Allows you to change the order in which the computer attempts to find an operating system. The options are: ● **Windows Boot Manager** ● **UEFI Hard Drive** ⓘ **NOTE:** Legacy Boot mode is not supported on this platform.
Secure Boot	Secure Boot helps ensure your system boots using only validated boot software. **Enable Secure Boot**—By default, this option is disabled.

Table 26. Boot configuration (continued)

Option	Description
	(i) **NOTE:** The system has to be in UEFI boot mode to enable **Enable Secure Boot**.
Secure Boot Mode	Changes to the Secure Boot operation mode modifies the behavior of Secure Boot to allow evaluation of UEFI driver signatures. The options are: ● **Deployed Mode**—By default, this option is enabled. ● **Audit Mode**
Expert Key Management	Allows you to enable or disable Expert Key Management. **Enable Custom Mode**—By default, this option is disabled. The Custom Mode Key Management options are: ● **PK**—By default, this option is enabled. ● **KEK** ● **db** ● **dbx**

Integrated Devices

Table 27. Integrated device options

Option	Description
Date/Time	Allows you to set the date and time. The change to the system date and time takes effect immediately.
Camera	Allows you to enable or disable camera. **Enable Camera** - This option is enabled by default.
Audio	Allows you to turn off all integrated audio. By default, the **Enable Audio** option is selected. The options are: ● **Enable Microphone** ● **Enable Internal Speaker**
USB Configuration	Allows you to enable or disable the internal/integrated USB configuration. The options are: ● **Enable USB Boot Support** ● **Enable External USB Port** By default, all the options are enabled.
Miscellaneous Devices	Allows you to enable or disable the Fingerprint Reader Device. **Enable Fingerprint Reader Device** - This option is enabled by default.

Storage

Table 28. Storage options

Option	Description
SATA Operation	Allows you to configure the operating mode of the integrated SATA hard drive controller. The options are: ● **Disabled** ● **AHCI** ● **RAID On**—By default, the RAID On option is enabled. ⓘ **NOTE:** SATA is configured to support RAID mode.
Storage Interface	Allows you to enable or disable various drives on board. The options are: ● **SATA-0** ● **M.2 PCIe SSD-0** ● **M.2 PCIe SSD-1** By default, all the options are enabled.
SMART Reporting	This field controls whether hard drive errors for integrated drives are reported during system startup. This technology is part of the Self Monitoring Analysis and Reporting Technology (SMART) specification. By default, the **Enable SMART Reporting** option is disabled .
Drive Information	Provides information about drive type and device.

Display

Table 29. Display options

Option	Description
Display Brightness	Allows you to set the screen brightness when running on battery and AC power. The options are: ● **Brightness on battery power** - By default, set to 50. ● **Brightness on AC power** - By default, set to 100.
Touchscreen	Allows you enable or disable the touchscreen for the operating system. **Touchscreen** - By default, all the option is enabled. ⓘ **NOTE: Touchscreen** always works in BIOS setup irrespective of its setting.
EcoPower	Allows you to turn on the EcoPower feature in the panel. **Enable EcoPower** - By default, this option is enabled. EcoPower increases the battery life by reducing the display brightness when appropriate.
Full Screen Logo	Displays full screen logo when the image matches screen resolution.

Table 29. Display options (continued)

Option	Description
	By default, all the option is disabled.

Connection options

Table 30. Connection

Option	Description
Wireless Device Enable	Allows you to enable or disable the internal wireless devices. The options are: **WLAN** **Bluetooth** Both the options are enabled by default.
Enable UEFI Network Stack	This controls the on-board LAN controller. It allows pre-OS and early operating system networking features to use any enabled NICs when UEFI networking protocols are installed and available, and can be used without the PXE being turned on. **Enable UEFI Network Stack** - This option is disabled by default.

Power management

Table 31. Power Management

Option	Description
Battery Configuration	Allows the system to run on battery during peak power usage hours. The options are: **Adaptive**—enabled by default **Standard** **ExpressCharge** **Primarily AC Use** **Custom** ⓘ **NOTE:** If Custom Charge is selected, you can also configure Custom Charge Start and Custom Charge Stop.
Advanced Configuration	This option enables you to maximize the battery health. By default, the **Enable Advanced Battery Charge Mode** option is disabled. ⓘ **NOTE:** The user can charge battery using feature **Beginning of Day** and **Work Period**. By default, **Work Period** is disabled. Use ExpressCharge for accelerated battery charging.
Peak Shift	Allows the system to run on battery during peak power usage hours. **Peak Shift** - By default, this option is disabled. ⓘ **NOTE:** The user can: Set **Battery Threshold** Min = 15, Max = 100

Table 31. Power Management (continued)

Option	Description
	• Prevent AC power between certain times of the day using **Peak Shift Start**, **Peak Shift End**, and **Peak Shift Charge Start**.
Thermal Management	Allows cooling of fans and the processor heat management to adjust system performance, noise, and temperature. The options are: • **Optimized**—enabled by default • **Cool** • **Quiet** • **Ultra Performance**
USB Wake Support	**Enable USB Wake Support** — Allows you to enable USB devices to wake the system from standby mode. By default, the option **Enable USB Wake Support** is disabled. **Wake on Dell USB-C Dock** — Allows you to connect a Dell USB-C Dock to wake the system from standby mode. By default, the option **Wake on Dell USB-C Dock** is enabled. (i) **NOTE:** These features are only functional when the AC power adapter is connected. If the AC power adapter is removed before Standby, the BIOS removes power from all USB ports to conserve battery power.
Block Sleep	This option enables you to block entering to sleep (S3) mode in operating system environment. By default, the **Block Sleep** option is disabled. (i) **NOTE:** When Block Sleep is enabled, the system does not go to sleep. Intel Rapid Start gets disabled automatically, and the operating system power option will be blank if it was set to Sleep.
Lid Switch	Allows the system to power on (from AC adapter or by system battery) from off state whenever the lid is opened. **Power On Lid Open**—enabled by default.
Intel Speed Shift technology	Allows you to enable or disable the Intel Speed Shift Technology support. By default,**Intel Speed Shift technology** is enabled. Enabling this option allows the operating system to select appropriate processor performance.

Security

Table 32. Security

Option	Description
Intel Software Guard Extensions	Provides a secure environment for running code/storing sensitive information in the context of the main operating system and sets enclave reserve memory size. **Intel SGX** The options are: • **Disabled** • **Enabled** • **Software Control**—This option is enabled by default.
Intel Platform Trust Technology	Allows you to control whether Intel Platform Trust Technology (PTT) feature is visible to the operating system. **Intel Platform Trust Technology On** — This option is enabled by default.

Table 32. Security (continued)

Option	Description
	ⓘ **NOTE:** Disabling this feature does not change any settings or information stored in PTT.
PPI Bypass for Clear Command	Allows you to control the Trusted Platform Module (TPM). **PPI Bypass for Clear Command** - This option is disabled by default.
Clear	Allows you to clear the PTT owner information and return PTT to the default state. **Clear** - This option is disabled by default.
SMM Security Mitigation	Allows you to enable or disable additional UEFI SMM Security Mitigation protection. **SMM Security Mitigation** - By default, this option is enabled.
Data Wipe on Next Boot	Allows BIOS to queue up data wipe cycle for storage device(s) connected to the motherboard on the next reboot. **Start Data Wipe** - By default, this option is disabled. ⓘ **NOTE:** Secure Wipe operation deletes information in a way that it cannot be reconstructed.
Absolute	This field allows you to Enable, Disable, or Permanently Disable the BIOS module interface of the optional Absolute Persistence Module service from Absolute Software. The options are: ● **Enable Absolute**—This option is enabled by default. ● **Disable Absolute** ● **Permanently Disable Absolute**
UEFI Boot Path Security	Controls whether the system prompts the user to enter the admin password (if set) when booting to a UEFI boot path device from the F12 boot menu. The options are: ● **Never** ● **Always** ● **Always Except Internal HDD**—This option is enabled by default. ● **Always Except Internal HDD&PXE**

Password

Table 33. Security

Option	Description
Admin Password	Allows you to set, change, or delete the administrator (admin) password. The entries to set password are: ● **Enter the old password:** ● **Enter the new password:** Press **Enter** once you enter the new password and again press **Enter** to confirm the new password. ⓘ **NOTE:** Deleting the admin password deletes the system password (if set). For this reason, you cannot set an admin password if a system password is set. Hence, an admin password has to be set first if the admin password has to be used with system password. ⓘ **NOTE:** This system does not support hard drive password.
System Password	Allows you to set, change, or delete the system password.

Table 33. Security (continued)

Option	Description
	The entries to set password are: ● **Enter the old password:** ● **Enter the new password:** Press **Enter** once you enter the new password and again press **Enter** to confirm the new password.
Password Configuration	Allows you to configure a password. **Upper Case Letter** — When enabled, this field reinforces password must contain at least one upper capital letter. **Lower Case Letter** — When enabled, this field reinforces password must contain at least one lower capital letter. **Digit** — When enabled, this field reinforces password must contain at least one-digit number. **Special Character** — When enabled, this field reinforces password must contain at least one special character. (i) **NOTE:** These options by default are disabled. **Minimum Characters** — Defines the number of characters allowed for a password. Min = 4
Password Bypass	Allows you to bypass the System password, when it is set, during a system restart. (i) **NOTE:** This system does not support hard drive password. The options are: ● **Disabled**—This option is enabled by default. ● **Reboot bypass**
Password Changes	Allows you to change the system password without the need of administrator password. **Enable Non-Admin Password Changes** - By default, this option is disabled. (i) **NOTE:** This system does not support hard drive password.
Admin Setup Lockout	Allows the administrator to control how the user can access BIOS setup. **Enable Admin Setup Lockout** - By default, this option is disabled. (i) **NOTE:** ● If the admin password is set and **Enable Admin Setup Lockout** is enabled, you cannot view the BIOS setup (using F2 or F12) without the admin password. ● If the admin password is set and **Enable Admin Setup Lockout** is disabled, the BIOS setup can be entered and items that are viewed in Locked mode.
Master Password Lockout	Allows you to disable master password support. **Enable Master Password Lockout** - By default, this option is disabled. (i) **NOTE:** This system does not support hard drive password.

Update and Recovery

Option	Description
UEFI Capsule Firmware Updates	Allows you to update the system BIOS through UEFI capsule update packages. **Enable UEFI Capsule Firmware Updates** - By default, this option is enabled.
BIOS Recovery from Hard Drive	Allows you to recover BIOS on the primary hard drive or USB drive in corrupted conditions. **BIOS Recovery from Hard Drive** - By default, this option is enabled. ⓘ **NOTE:** BIOS Recovery from hard drives is not available for Self-Encrypting Drives (SED).
BIOS Downgrade	Allows you to control flashing of the system firmware to previous versions. **Allow BIOS Downgrade** - By default, this option is enabled.
SupportAssist OS Recovery	Allows you to enable or disable the boot flow for SupportAssist OS Recovery if there are certain system errors. **SupportAssist OS Recovery** - By default, this option is enabled. ⓘ **NOTE:** If **SupportAssist OS Recovery** setup option is disabled, then all the automatic boot flow for SupportAssist OS Recovery tool is disabled.
BIOSConnect	Allows you to recover cloud service operating system if the main operating system and/or local service operating system fails to boot with the number of failures equal to or greater than the value specified by the Auto operating system Recovery Threshold setup. **BIOSConnect** - By default, this option is enabled.
Dell Auto OS Recovery Threshold	The Auto OS Recovery threshold setup options control the automatic flow for SupportAssist System Resolution Console and for Dell OS Recovery Tool. The options are: ● **Off** ● **1** ● **2** - Default ● **3**

System management

Option	Description
Service Tag	Displays the service tag of your computer.
Asset Tag	An Asset Tag is a string of 64 characters that are used by IT administrator to uniquely identify a particular system. On an asset tag is set, it cannot be changed.
AC Behavior	Allows you to enable or disable the computer from turning on automatically when an AC adapter is connected. **Wake on AC** By default, this option is disabled.
Auto On Time	This setting allows a system to automatically power on for defined days/time. The options are: ● **Disabled** - This option is enabled by default.

Table 35. System management (continued)

Option	Description
	● **Every Day** ● **Weekdays** ● **Select Days**

Keyboard

Table 36. Keyboard

Option	Description
Numlock Enable	Allows you to enable or disable Numlock function when the system boots. **Enable Numlock** This option is enabled by default.
Fn Lock Options	Allows you to change the function key settings. **Fn Lock Mode** This option is enabled by default. The options are: ● **Lock Mode Standard** ● **Lock Mode Secondary**- This option is enabled by default.
Keyboard Illumination	Allows you to set keyboard illumination settings using hotkeys <Fn>+<F5> during normal system operation. The options are: ● **Disabled** ● **Dim** ● **Bright**- This option is enabled by default. ⓘ **NOTE:** The keyboard illumination brightness is set at 100%.
Keyboard Backlight Timeout on AC	This feature defines the timeout value for the keyboard backlight when an AC adapter is plugged in the system. The options are: ● **5 seconds** ● **10 seconds** - This option is enabled by default. ● **15 seconds** ● **30 seconds** ● **1 minute** ● **5 minutes** ● **15 minutes** ● **Never** ⓘ **NOTE:** If **Never** is selected, the backlight stays on always when the system has AC adapter plugged in.
Keyboard Backlight Timeout on Battery	This feature defines the timeout value for the keyboard backlight when the system is running only on battery power. The options are: ● **5 seconds** ● **10 seconds** - This option is enabled by default. ● **15 seconds** ● **30 seconds**

Table 36. Keyboard (continued)

Option	Description
	1 minute **5 minutes** **15 minutes** **Never** ⓘ **NOTE:** If **Never** is selected, the backlight stays on always when the system is running on battery power.

Pre-boot behavior

Table 37. Pre-boot behavior

Option	Description
Adapter Warnings	This option displays warning messages during boot when adapters with little power capacity are detected. **Enable Adapter Warnings** — this option is enabled by default
Warnings and Errors	This option causes the boot process to only pause when warnings and errors are detected rather than stop, prompt, and wait for user input. This feature is particularly useful where the system is being remotely managed. Select one of the following options: **Prompt on Warnings and Errors** — this option is enabled by default **Continue on Warnings** **Continue on Warnings and Errors** ⓘ **NOTE:** Errors deemed critical to the operation of the system hardware always halt the system.
USB-C Warnings	This option enables or disables dock warning messages. **Enable Dock Warning Messages** — this option is enabled by default.
Fastboot	This option allows you to configure the speed of UEFI boot process. Select one of the following options: **Minimal** **Thorough** — this option is enabled by default **Auto**
Extend BIOS POST Time	This option allows you to configure the BIOS POST load time. Select one of the following options: **0 seconds** — this option is enabled by default. **5 seconds** **10 seconds**

Connection options

Table 38. Connection

Option	Description
Integrated NIC	Integrated NIC controls the onboard LAN controller. It allows pre-OS and early operating system networking features to use any enabled NICs when UEFI networking protocols are installed and available.

Table 38. Connection (continued)

Option	Description
	The options are: ● **Disabled** ● **Enabled** ● **Enabled with PXE** - This option is enabled by default.
Wireless Device Enable	Allows you to enable or disable the internal wireless devices. The options are: ● **WLAN** ● **Bluetooth** Both the options are enabled by default.
Enable UEFI Network Stack	Allows you to control the onboard LAN controller. It allows pre-OS and early operating system networking features to use any enabled NICs when UEFI networking protocols are installed and available. **Enable UEFI Network Stack** - This option is enabled by default.

Performance

Table 39. Performance

Option	Description
Multi Core Support	This field specifies whether the process has one or all cores enabled. The default value is set to the maximum number of cores. ● **All Cores** — This option is enabled by default. ● **1** ● **2** ● **3**
Intel SpeedStep	This feature allows the system to dynamically adjust processor voltage and core frequency, decreasing average power consumption and heat production. **Enable Intel SpeedStep** This option is enabled by default.
C-States Control	This feature allows you to enable or disable the ability of the CPU to enter and exit low-power states. **Enable C-state control** This option is enabled by default.
	This feature allows the system to dynamically detect high usage of discrete graphics and adjust system parameters for higher performance during that time period. **Enable Adaptive C-states for Discrete Graphics** This option is enabled by default.
Intel Turbo Boost Technology	This option allows you to enable or disable the Intel TurboBoost mode of the processor. **Enable Intel Turbo Boost Technology**

Table 39. Performance (continued)

Option	Description
	This option is enabled by default.
Intel Hyper-Threading Technology	This option allows you to enable or disable the HyperThreading in the processor. **Enable Intel Hyper-Threading Technology** This option is enabled by default.

System logs

Table 40. System Logs

Option	Description
BIOS Event Log	Allows you to either keep and clear the BIOS event log. **Clear BIOS Event Log** The options are: ● **Keep** - This option is enabled by default. ● **Clear**
Thermal Event Log	Allows you to either keep and clear the Thermal event log. **Clear Thermal Event Log** The options are: ● **Keep** - This option is enabled by default. ● **Clear**
Power Event Log	Allows you to either keep and clear the Power event log. **Clear Power Event Log** The options are: ● **Keep** - This option is enabled by default. ● **Clear**

Updating the BIOS in Windows

It is recommended to update your BIOS (System Setup) when you replace the system board or if an update is available.

ⓘ **NOTE:** If BitLocker is enabled, it must be suspended prior to updating the system BIOS, and then re enabled after the BIOS update is completed.

⚠ **CAUTION: If BitLocker is not suspended before updating the BIOS, the next time you reboot the system it will not recognize the BitLocker key. You will then be prompted to enter the recovery key to progress and the system will ask for this on each reboot. If the recovery key is not known this can result in data loss or an unnecessary operating system re-install. For more information on this subject, see Knowledge Base Article: https://www.dell.com/support/kbdoc/000134415/.**

1. Restart the computer.
2. Go to **Dell.com/support**.
   ● Enter the **Service Tag** or **Express Service Code** and click **Submit**.
   ● Click **Detect Product** and follow the instructions on screen.
3. If you are unable to detect or find the Service Tag, click **Choose from all products**.
4. Choose the **Products** category from the list.

5. Select your computer model and the **Product Support** page of your computer appears.
6. Click **Get drivers** and click **Drivers and Downloads**.
   The Drivers and Downloads section opens.
7. Click **Find it myself**.
8. Click **BIOS** to view the BIOS versions.
9. Identify the latest BIOS file and click **Download**.
10. Select your preferred download method in the **Please select your download method below** window, click **Download File**.
    The **File Download** window appears.
11. Click **Save** to save the file on your computer.
12. Click **Run** to install the updated BIOS settings on your computer.
    Follow the instructions on the screen.

Updating BIOS on systems with BitLocker enabled

⚠ **CAUTION: If BitLocker is not suspended before updating the BIOS, the next time you reboot the system it will not recognize the BitLocker key. You will then be prompted to enter the recovery key to progress and the system will ask for this on each reboot. If the recovery key is not known, this can result in data loss or an unnecessary operating system reinstall. For more information about this subject, see Knowledge Article: Updating the BIOS on Dell Systems With BitLocker Enabled**

Updating the Dell BIOS in Linux and Ubuntu environments

If you want to update the system BIOS in a Linux environment, such as Ubuntu, see https://www.dell.com/support/article/sln171755/.

Flashing the BIOS from the F12 One-Time boot menu

Updating your system BIOS using a BIOS update .exe file that is copied to a FAT32 USB key and booting from the F12 one time boot menu.

BIOS Update

You can run the BIOS update file from Windows using a bootable USB key or you can also update the BIOS from the F12 One-Time boot menu on the system.

Most Dell systems built after 2012 have this capability and you can confirm by booting your system to the F12 One-Time Boot Menu to see if **BIOS UPDATE** is listed as a boot option for your system. If the option is listed, then the BIOS supports this BIOS update option.

ⓘ NOTE: Only systems with BIOS Flash Update option in the F12 One-Time Boot Menu can use this function.

Updating from the One-Time Boot Menu

To update your BIOS from the F12 One-Time boot menu, you need:

● USB key formatted to the FAT32 file system (key does not have to be bootable).
● BIOS executable file that you downloaded from the Dell Support website and copied to the root of the USB key.
● AC power adapter that is connected to the system.
● Functional system battery to flash the BIOS.

Perform the following steps to run the BIOS update flash process from the F12 menu:

⚠ **CAUTION: Do not power off the system during the BIOS update process. Powering off the system could make the system fail to boot.**
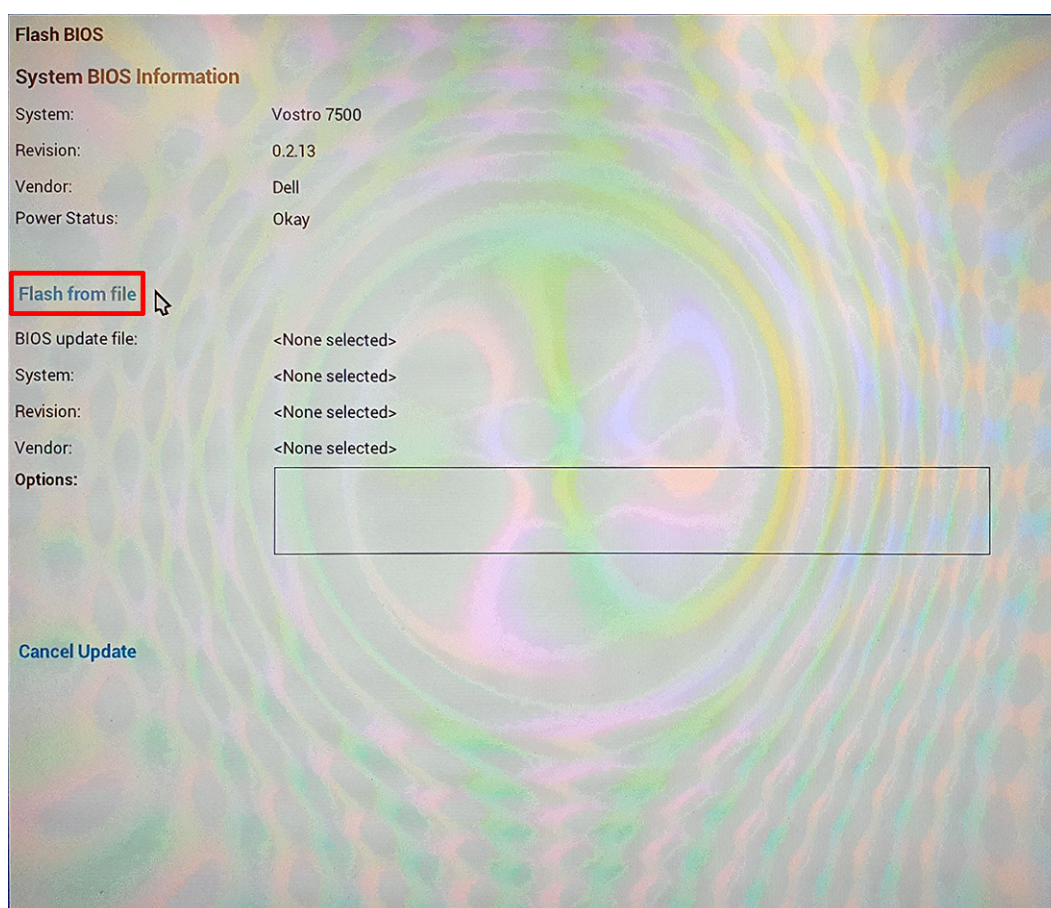
1. From a power off state, insert the USB key where you copied the flash into a USB port of the system .
2. Power on the system and press the **F12** key to access the One-Time Boot Menu.

3. Select **BIOS Update** using the mouse or arrow keys then press **Enter**.
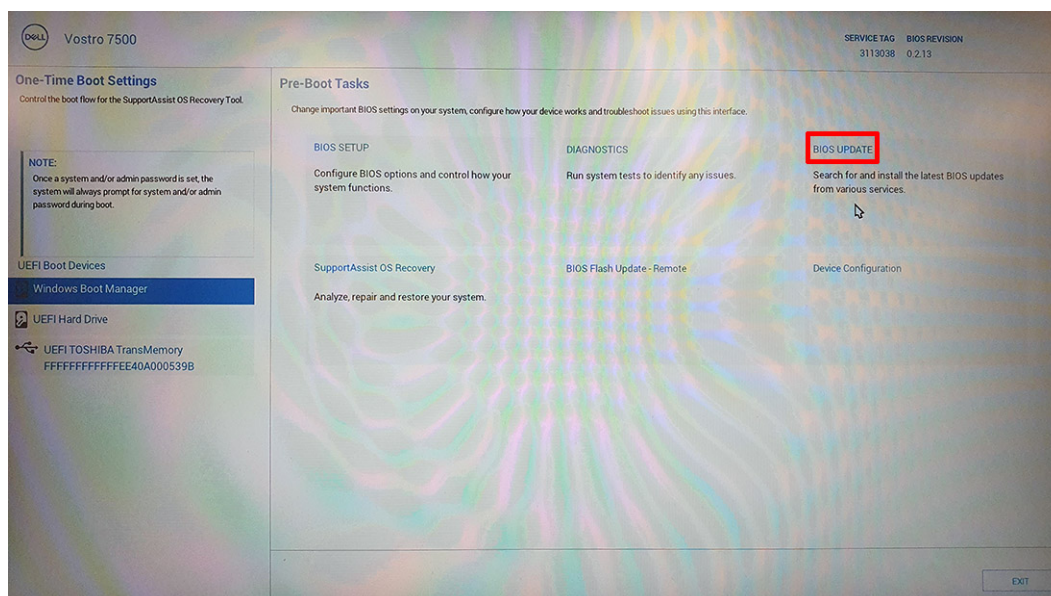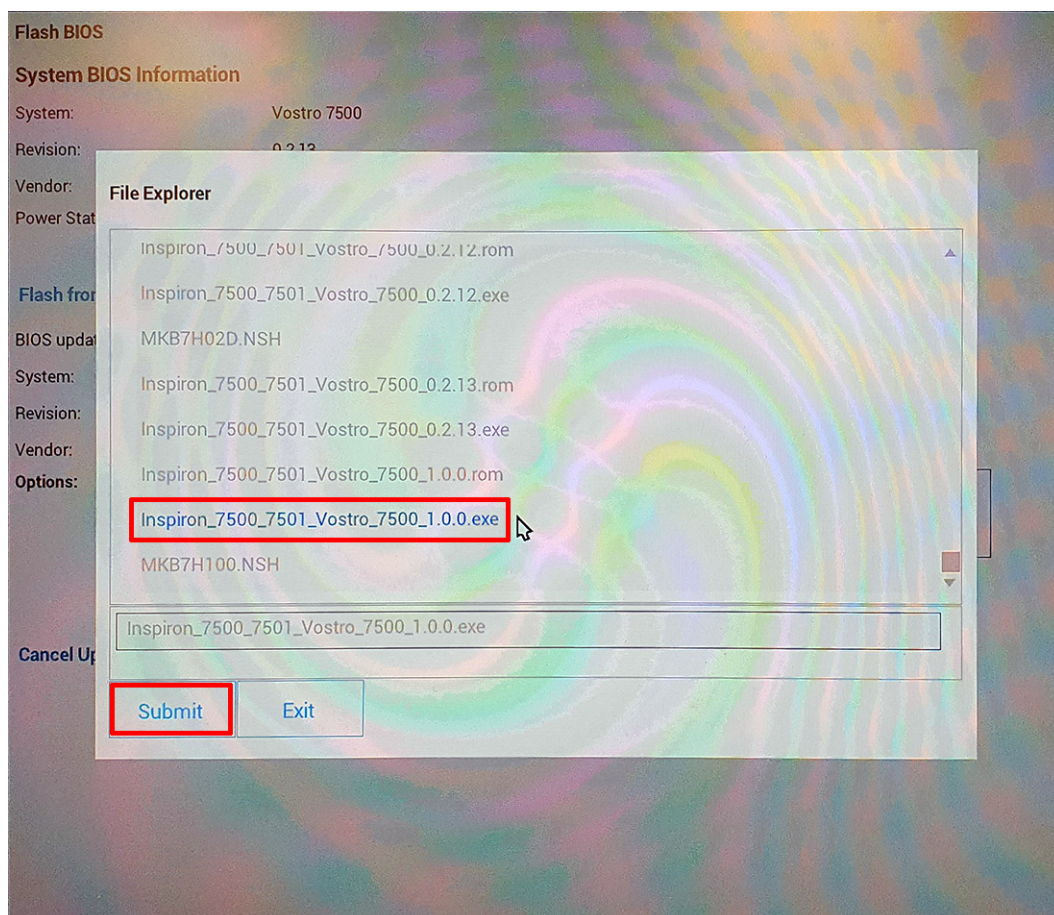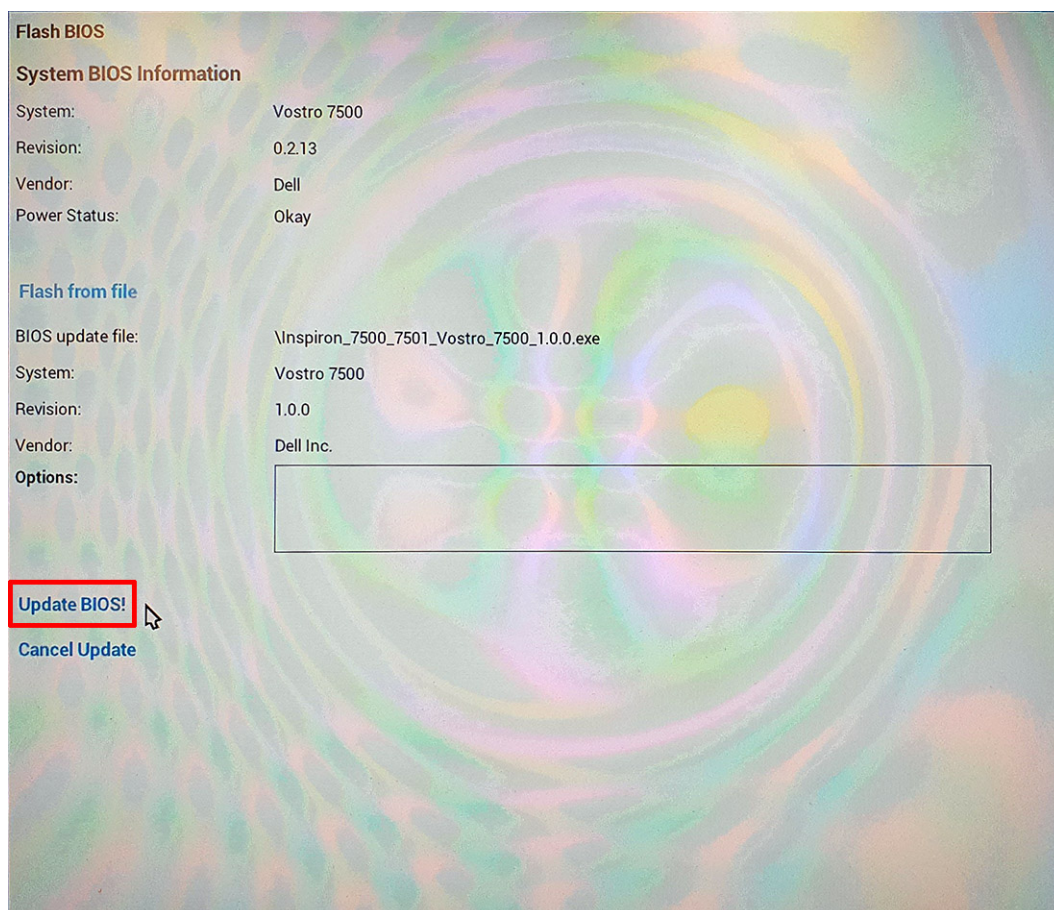

The **Flash BIOS** opens.
4. Click **Flash from file**.

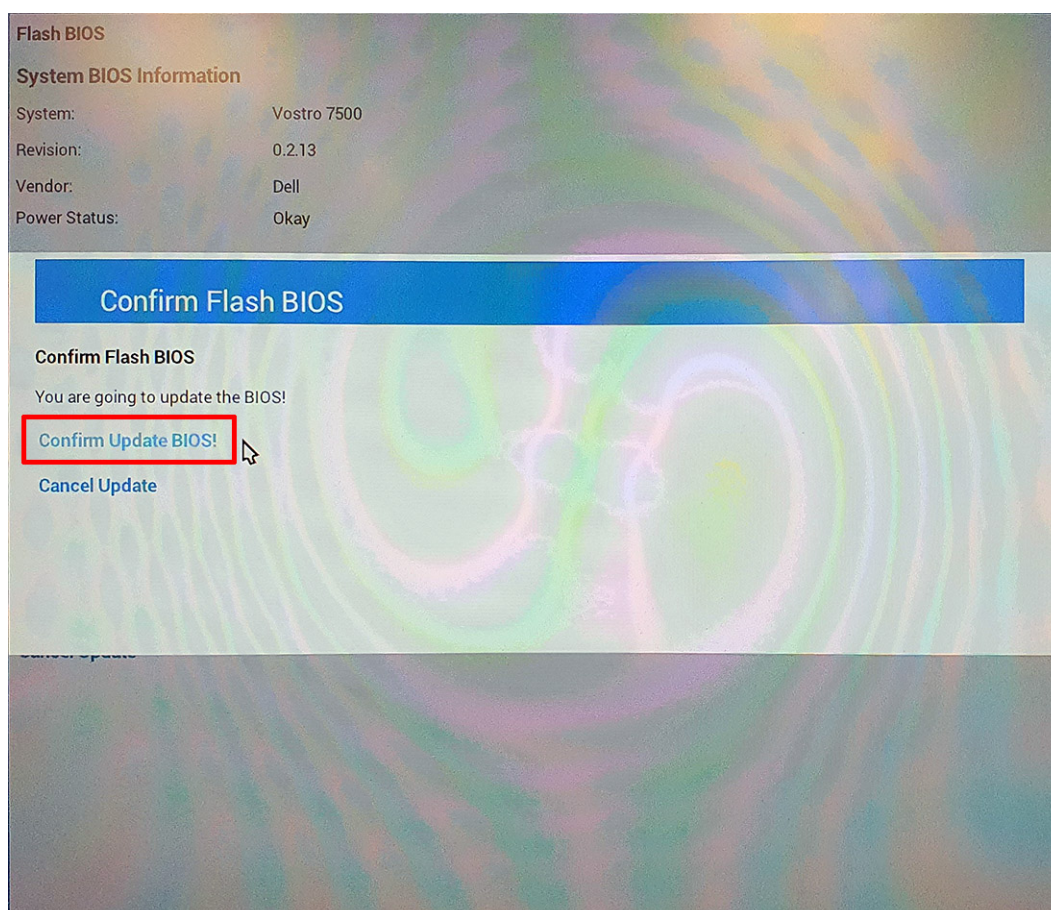5. Select external USB device.

6. Once the file is selected, double-click the flash target file and click **Submit**.
7. Click **Update BIOS** for the system to reboot and flash the BIOS.

A Flash BIOS window opens prompting whether you want to confirm the update.

8. Click **Confirm Update BIOS**.

Once complete, the system reboots and the BIOS update process is completed.

System and setup password

Table 41. System and setup password

Password type	Description
System password	Password that you must enter to log on to your system.
Setup password	Password that you must enter to access and make changes to the BIOS settings of your computer.

You can create a system password and a setup password to secure your computer.

⚠ **CAUTION: The password features provide a basic level of security for the data on your computer.**

⚠ **CAUTION: Anyone can access the data stored on your computer if it is not locked and left unattended.**

ⓘ **NOTE:** System and setup password feature is disabled.

Assigning a system setup password

You can assign a new **System or Admin Password** only when the status is in **Not Set**.

To enter the system setup, press F2 immediately after a power-on or reboot.

1. In the **System BIOS** or **System Setup** screen, select **Security** and press **Enter**.
   The **Security** screen is displayed.

2. Select **System/Admin Password** and create a password in the **Enter the new password** field.
   Use the following guidelines to assign the system password:
   - A password can have up to 32 characters.
   - The password can contain the numbers 0 through 9.
   - Only lower case letters are valid, upper case letters are not allowed.
   - Only the following special characters are allowed: space, ("), (+), (,), (-), (.), (/), (;), ([), (\), (]), (`).
3. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
4. Press **Esc** and a message prompts you to save the changes.
5. Press **Y** to save the changes.
   The computer reboots.

Deleting or changing an existing system setup password

Ensure that the **Password Status** is Unlocked (in the System Setup) before attempting to delete or change the existing System and Setup password. You cannot delete or change an existing System or Setup password, if the **Password Status** is Locked.

To enter the System Setup, press **F2** immediately after a power-on or reboot.

1. In the **System BIOS** or **System Setup** screen, select **System Security** and press **Enter**.
   The **System Security** screen is displayed.
2. In the **System Security** screen, verify that **Password Status** is **Unlocked**.
3. Select **System Password**, alter or delete the existing system password and press **Enter** or **Tab**.
4. Select **Setup Password**, alter or delete the existing setup password and press **Enter** or **Tab**.

   (i) **NOTE:** If you change the System and/or Setup password, re enter the new password when prompted. If you delete the System and Setup password, confirm the deletion when prompted.

5. Press **Esc** and a message prompts you to save the changes.
6. Press **Y** to save the changes and exit from System Setup.
   The computer restarts.

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 42. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	www.dell.com
My Dell app	
Tips	
Contact Support	In Windows search, type `Contact Support`, and press Enter.
Online help for operating system	www.dell.com/support/windows
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 www.dell.com/support. For more information on how to find the Service Tag for your computer, see Locate the Service Tag on your computer.
Dell knowledge base articles for a variety of computer concerns	1. Go to www.dell.com/support. 2. On the menu bar at the top of the Support page, select **Support** > **Knowledge Base**. 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.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

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

(i) **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.