OptiPlex XE3 Small Form Factor

Setup and Specifications Guide

Regulatory Model: D11S
Regulatory Type: D11S004

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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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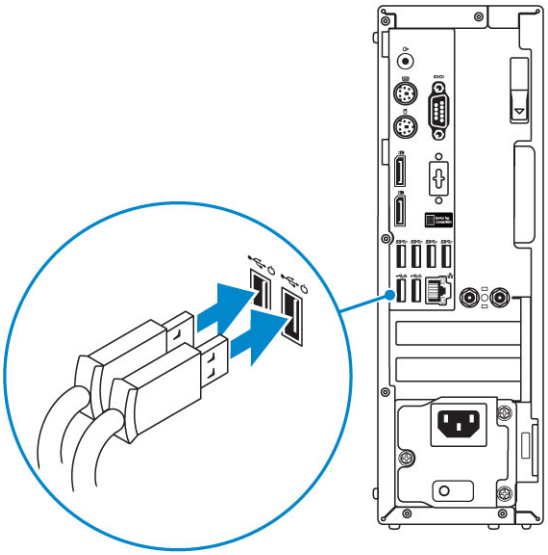
Rev. A00

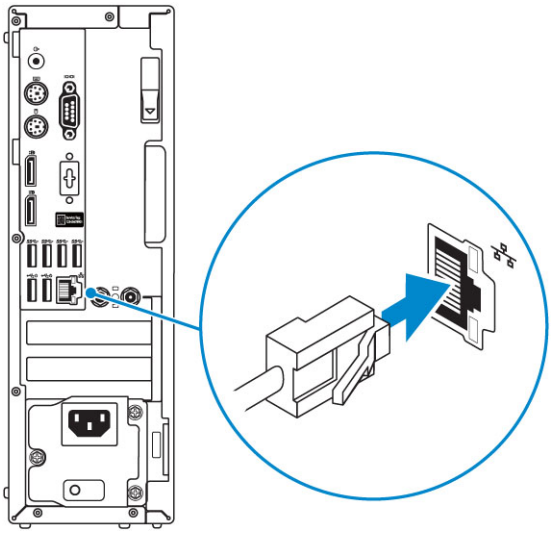
1

Set up your computer

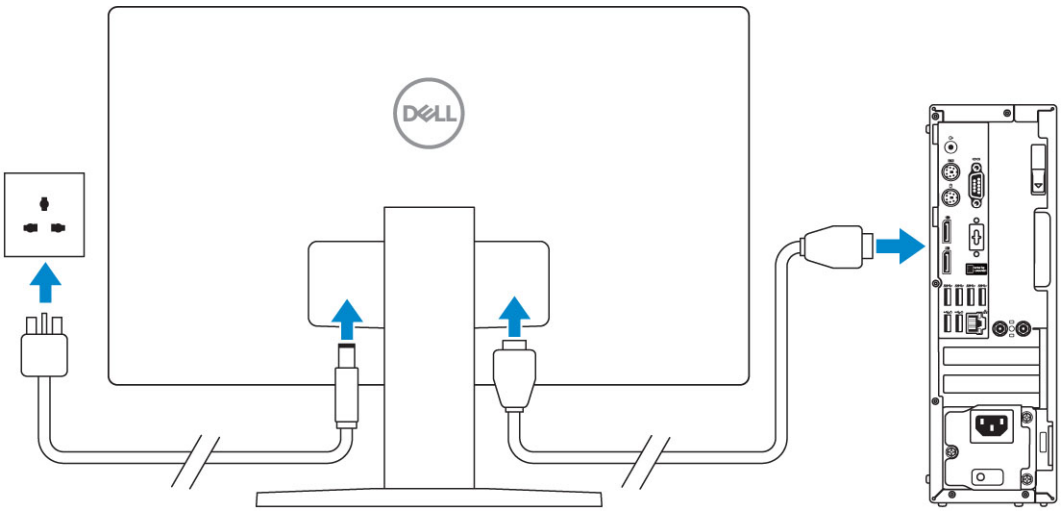
1. Connect the keyboard and mouse.



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

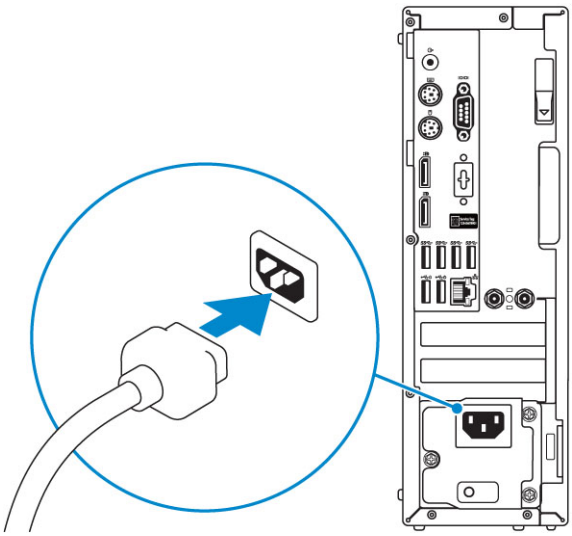


3. Connect the display.

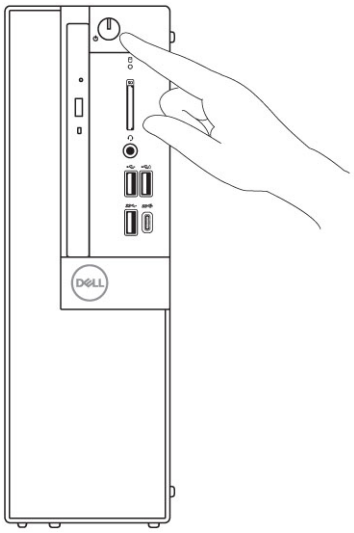


NOTE: If you ordered your computer with a discrete graphics card, the HDMI and the display ports on the back panel of your computer are covered. Connect the display to the discrete graphics card.

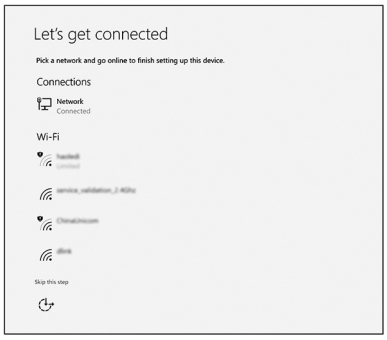
4. Connect the power cable.



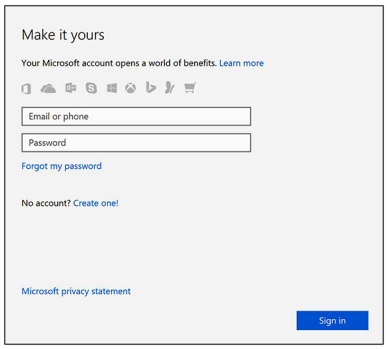
5. Press the power button.



6. Follow the instructions on the screen to finish Windows setup:
   a) Connect to a network.



b) Sign-in to your Microsoft account or create a new account.



7. Locate Dell apps.

Table 1. Locate Dell apps

	Register your computer
	Dell Help & Support
	SupportAssist — Check and update your computer

2

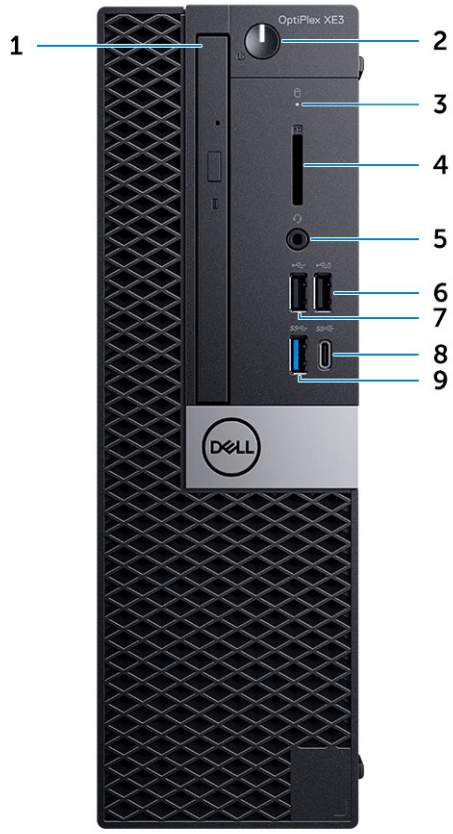
Chassis

This chapter illustrates the multiple chassis views along with the ports and connectors and also explains the FN hot key combinations.

Topics:

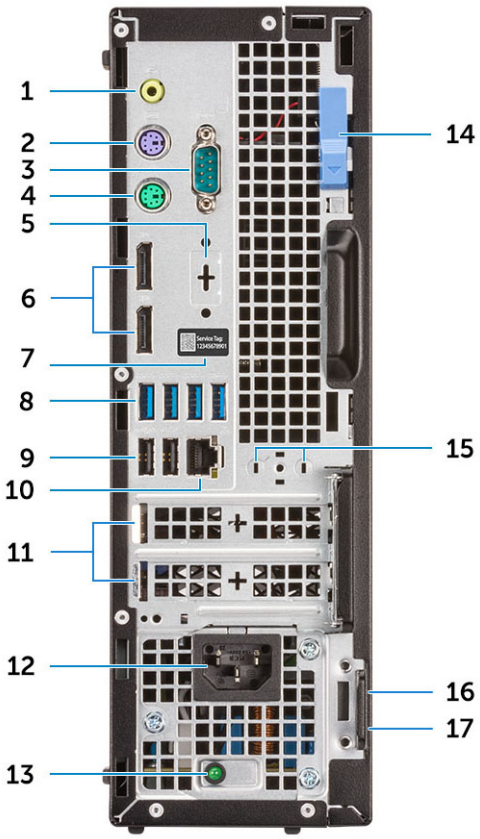
- Front view
- Back view

Front view



1. Optical drive (optional)
2. Power button and power light
3. Hard-drive activity light
4. Memory card reader (optional)
5. Headset/Universal audio jack port
6. USB 2.0 port with PowerShare (supports battery charge capability)
7. USB 2.0 port
8. USB 3.1 Gen 2 Type-C port with PowerShare
9. USB 3.1 Gen 1 port

Back view



1. Line-out port
2. PS/2 keyboard port
3. Serial port (optional)
4. PS/2 mouse port
5. DisplayPort/HDMI 2.0b/VGA/USB Type-C Alt-Mode (optional)
6. DisplayPorts
7. Service tag
8. USB 3.1 Gen 1 ports
9. USB 2.0 ports (supports SmartPower On)
10. Network port
11. Expansion card slots
12. Power connector port
13. Power supply diagnostic light
14. Release latch
15. Antenna SMA connectors (optional)
16. Kensington security cable slot
17. Padlock ring

3

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:

- Physical system dimensions
- Chipset
- Processor
- Operating system
- Memory
- Ports and connectors
- Communications
- Video
- Audio
- Storage
- Power supply
- Security
- Environmental

Physical system dimensions

Table 2. Physical system dimensions

Chassis volume (liters)	7.8
Chassis weight (pounds / kilograms)	11.57/5.26

Table 3. Chassis dimensions

Height (inches / centimeters)	11.42/29
Width (inches / centimeters)	3.65/9.26
Depth (inches / centimeters)	11.50/29.2
Shipping weight (pounds / kilograms – includes packaging materials)	15.09/6.86

Table 4. Packaging parameters

Height (inches / centimeters)	10.38/26.4
Width (inches / centimeters)	19.2/48.7
Depth (inches / centimeters)	15.5/39.4

Chipset

Table 5. Chipset specifications

Type	Intel Q370
Non-volatile memory on chipset	Yes
BIOS configuration SPI (Serial Peripheral Interface)	256Mbit (32MB) located at SPI_FLASH on chipset
Trusted Platform Module (Discrete TPM Enabled)	24KB located at TPM 2.0 on chipset
Firmware TPM (Discrete TPM Disabled)	Available in select countries
NIC EEPROM	LOM configuration contained within LOM e-fuse – no dedicated LOM EEPROM

Processor

Global Standard Products (GSP) are a subset of Dell's relationship products that are managed for availability and synchronized transitions on a worldwide basis. They ensure the same platform is available for purchase globally. This allows customers to reduce the number of configurations managed on a worldwide basis, thereby reducing their costs. They also enable companies to implement global IT standards by locking in specific product configurations worldwide. The following GSP processors identified below will be made available to Dell customers.

NOTE: Processor numbers are not a measure of performance. Processor availability is subject to change and may vary by region/country.

Table 6. Processor specifications

Type	UMA Graphics
Intel Core i3-8100 (4 Cores/6MB/4T/3.6GHz/65W)	Intel UHD 630 Graphics integrated in the CPU
Intel Core i3-8300 (4 Cores/8MB/4T/3.7GHz/65W)	Intel UHD 630 Graphics integrated in the CPU
Intel Core i5-8400 (6 Cores/9MB/6T/up to 4.0GHz/65W)	Intel UHD 630 Graphics integrated in the CPU
Intel Core i5-8500 (6 Cores/9MB/6T/up to 4.1GHz/65W)	Intel UHD 630 Graphics integrated in the CPU
Intel Core i5-8600 (6 Cores/9MB/6T/up to 4.3GHz/65W)	Intel UHD 630 Graphics integrated in the CPU
Intel Core i7-8700 (6 Cores/12MB/12T/up to 4.6GHz/65W)	Intel UHD 630 Graphics integrated in the CPU
Intel Celeron-G4900 (2 Cores/2MB/up to 3.1GHz/54W)	Intel UHD 610 Graphics integrated in the CPU
Intel Celeron-G4920 (2 Cores/2MB/up to 3.2GHz/54W)	Intel UHD 610 Graphics integrated in the CPU
Intel Pentium Gold-G5400 (2 Cores/4MB/up to 3.7GHz/54W)	Intel UHD 610 Graphics integrated in the CPU
Intel Pentium Gold-G5500 (2 Cores/4MB/up to 3.8GHz/54W)	Intel UHD 610 Graphics integrated in the CPU
Intel Pentium Gold-G5600 (2 Cores/4MB/up to 3.9GHz/54W)	Intel UHD 610 Graphics integrated in the CPU

Operating system

Table 7. Operating system

Operating systems supported	• Microsoft Windows 10 Home (64-bit) • Microsoft Windows 10 Pro (64-bit)

	• Microsoft Windows 10 Pro National Academic (64-bit) • Microsoft Windows 10 Home National Academic (64-bit) • Ubuntu 16.04 SP1 LTS (64-bit) • Neokylin v6.0 SP4 (China only)

Memory

Table 8. Memory specifications

Minimum memory configuration	4 GB
Maximum memory configuration	64 GB
Number of slots	4 DIMM slots
Maximum memory supported per slot	16 GB
Memory options	• 4 GB - 1 x 4 GB • 8 GB - 1 x 8 GB • 8 GB - 2 x 4 GB • 16 GB - 2 x 8 GB • 16 GB - 1 x 16 GB • 32 GB - 2 x 16 GB • 64 GB - 2 x 32 GB
Type	DDR4 DRAM Non-ECC memory
Speed	2666 MHz (performs at 2400 MHz on i3, Pentium, Celeron processors)

Ports and connectors

Table 9. Ports and connectors

Memory card reader	SD 4.0 memory card reader—optional
USB	• USB 2.0 ports supports Smart Power On (Rear) • Four USB 3.1 Gen 1 ports (Rear) • One USB 2.0 port (Front) • USB 2.0 port with PowerShare (Front) • USB 3.1 Gen 1 port (Front) • USB 3.1 Gen 2 port with PowerShare (Front)
Security	Kensington lock slot
Audio	• Universal audio jack • One line-out port
Video	• Two DisplayPorts • HDMI 2.0, DP, VGA, USB Type C (with DP Alt Mode)—optional
Network adapter	One RJ-45 (10/100/1000) connector
Serial port	One serial port—optional

Communications

Table 10. Communications

Network adapter	Intel i219-LM Gigabit1 Ethernet LAN 10/100/1000 (Remote Wake Up, PXE and support) Intel 10/100/1000 PCIe Gigabit Network Card (optional)
Wireless	• Qualcomm QCA61x4A Dual-band 2x2 802.11ac Wireless with MU-MIMO + Bluetooth 4.2 • Intel Wireless-AC 9560, Dual-band 2x2 802.11ac Wi-Fi with MU-MIMO + Bluetooth 5 • Internal Wireless Antennas • External wireless connectors and antenna • Support for 802.11n and 802.11ac wireless NIC

Video

Table 11. Video

Controller	Type	CPU Dependency	Graphics memory type	Capacity	External display support	Maximum resolution
Intel HD 630 Graphics	UMA	8th Generation Intel Core Processors • Intel Core i3-8100 • Intel Core i3-8300 • Intel Core i5-8400 • Intel Core i5-8500 • Intel Core i5-8600 • Intel Core i7-8700	Integrated on CPU	Shared system memory	DisplayPort 1.2 Multiple Video option (VGA, DP1.2, HDMI 2.0 and USB Type-C Alt-mode)	VGA: 2048x1536@60 Hz DisplayPort: 4096x2304@60 Hz HDMI : 1920x1080@60 Hz
gfx controller	UMA	8th Generation Intel Core Processors • Intel Celeron-G4900 • Intel Celeron-G4920 • Intel Pentium Gold-G5400 • Intel Pentium Gold-G5500 • Intel Pentium Gold-G5600	Integrated on CPU	Shared system memory	DisplayPort 1.2 Multiple Video option (VGA, DP1.2, HDMI 2.0 and USB Type-C Alt-mode)	VGA: 2048x1536@60 Hz DisplayPort: 4096x2304@60 Hz HDMI : 1920x1080@60 Hz
AMD Radeon R5 430	Discrete	N/A	GDDR5	2GB	DisplayPort 1.2 Multiple Video option (VGA, DP1.2, HDMI 2.0 and USB Type-C Alt-mode)	VGA: 2048x1536@60 Hz DisplayPort: 4096x2304@60 Hz HDMI : 1920x1080@60 Hz
NVIDIA GeForce GT 730	Discrete	N/A	GDDR5	2GB	DisplayPort 1.2 Multiple Video option (VGA,	VGA: 2048x1536@60 Hz DisplayPort: 4096x2304@60 Hz

Controller	Type	CPU Dependency	Graphics memory type	Capacity	External display support	Maximum resolution
					DP1.2, HDMI 2.0 and USB Type-C Alt-mode)	HDMI : 1920x1080@60 Hz
AMD Radeon RX 550	Discrete	N/A	GDDR5	4GB	DisplayPort 1.2	VGA: 2048x1536@60 Hz
					Multiple Video option (VGA, DP1.2, HDMI 2.0 and USB Type-C Alt-mode)	DisplayPort: 4096x2304@60 Hz HDMI : 1920x1080@60 Hz
Dual AMD Radeon R5 430	Discrete	N/A	GDDR5	2GB	DisplayPort 1.2	VGA: 2048x1536@60 Hz
					Multiple Video option (VGA, DP1.2, HDMI 2.0 and USB Type-C Alt-mode)	DisplayPort: 4096x2304@60 Hz HDMI : 1920x1080@60 Hz

Audio

Table 12. Audio specifications

Controller	Realtek ALC3234
Type	Integrated
Speakers	Internal Business speaker (mono)
Interface	• AC511 Sound Bar (optional) • Microsoft PlayReady3 Ready • Multi-streaming audio support • Stereo headset/mic combo
Internal speaker amplifier	2W (RMS) per channel

Storage

Table 13. Storage specifications

Type	Form factor	Interface	Capacity
Solid-State Drive (SSD)	M.2 2280/2230	• SATA AHCI, Up to 6 Gbps • PCIe 3 x4 NVME, Up to 32 Gbps	Up to 512 GB
Hard drive (HDD)	2.5 and 3.5 inch	SATA AHCI, Up to 6 Gbps	Up to 2 TB at 5400/7200 RPM
Solid State Hybrid Drive	One 2.5 inch	SATA AHCI, Up to 6 Gbps	2.5 inch 1 TB at 5400 RPM
Optical drive	1 Slim	SATA AHCI, Up to 6 Gbps	
Intel Optane Memory	2.5 and 3.5 inch		Up to 2 TB at 5400/7200 RPM

Power supply

Table 14. Power supply

Input Voltage	90 - 264 VAC, 47 Hz - 63 Hz
Input current (maximum)	4.2A/2.1A

Security

Table 15. Security

Specifications	Optiplex XE3 Small Form Factor
• Trusted Platform Module (Discrete TPM Enabled) • Discrete TPM Disabled	Integrated on system board
Cable Cover	Optional
Chassis Intrusion Switch	Standard
Dell Smartcard Keyboard	Optional
Chassis lock slot and loop support	Standard

[1]TPM is not available in all countries.

Environmental

NOTE: For more details on Dell environmental features, please go to the environmental attributes section. See your specific region for availability.

Table 16. Environmental

Energy efficient power supply	Standard
BFR/PVC-free chassis	No
Vertical orientation packaging support	Yes
Recyclable packaging	Yes
MultiPack packaging	Optional, US only

4

System setup

System setup enables you to manage your desktop hardware and specify BIOS level options. From the System setup, you can:

- Change the NVRAM settings after you add or remove hardware
- View the system hardware configuration
- Enable or disable integrated devices
- Set performance and power management thresholds
- Manage your computer security

Topics:

- Boot Sequence
- Navigation Keys
- System and setup password
- System Setup options
- Updating the BIOS in Windows
- Updating your system BIOS using a USB flash drive
- Enabling smart power on

Boot Sequence

Boot Sequence allows 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

  NOTE: XXX denotes the SATA drive number.
- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics

  NOTE: Choosing Diagnostics, will display the ePSA diagnostics screen.

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

Navigation Keys

The following table displays the system setup navigation keys.

NOTE: For most of the system setup options, changes that you make are recorded but do not take effect until you re-start the system.

Table 17. Navigation Keys

Keys	Navigation
Up arrow	Moves to the previous field.
Down arrow	Moves to the next field.
<Enter>	Allows you to select 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.

Keys	Navigation
<Tab>	Moves to the next focus area. **NOTE: For the standard graphics browser only.**
<Esc>	Moves to the previous page till 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.
<F1>	Displays the System Setup help file.

System and setup password

Table 18. 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 password and setup password

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

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

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

NOTE: If you change the System and/or Setup password, re-enter the new password when promoted. If you delete the System and/or Setup password, confirm the deletion when promoted.

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 reboot.

System Setup options

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

Table 19. General

Option	Description
System Information	Displays the following information: • System Information: Displays **BIOS Version, Service Tag, Asset Tag, Ownership Tag, Ownership Date, Manufacture Date,** and the **Express Service Code**. • Memory Information: Displays **Memory Installed, Memory Available, Memory Speed, Memory Channel Mode, Memory Technology, DIMM 1 Size**, and **DIMM 2 Size**, **DIMM 3 Size**, and **DIMM 4 Size**. • PCI Information: Displays SLOT1, SLOT2, SLOT3, SLOT4, and SLOT5_M.2 • Processor Information: Displays **Processor Type, Core Count, Processor ID, Current Clock Speed, Minimum Clock Speed, Maximum Clock Speed, Processor L2 Cache, Processor L3 Cache, HT Capable,** and **64-Bit Technology.** • Device Information: Displays **SATA-0, SATA-1, SATA-2, SATA-3, SATA-4, M.2 PCIe SSD-0, LOM MAC Address, Video Controller, and Audio Controller.** .
Boot Sequence	Allows you to specify the order in which the computer attempts to find an operating system from the devices specified in this list. • Legacy • UEFI (selected by default)
Advanced Boot Options	Allows you to select the Enable Legacy Option ROMs option, when in UEFI boot mode. By default, this option is selected.
Date/Time	Allows you to set the date and time settings. Changes to the system date and time take effect immediately.

Table 20. System Configuration

Option	Description
Integrated NIC	Allows you to control the on-board LAN controller. The option 'Enable UEFI Network Stack' is not selected by default. The options are: • Disabled • Enabled • Enabled w/PXE (default) **NOTE: Depending on the computer and its installed devices, the items listed in this section may or may not appear.**
SATA Operation	Allows you to configure the operating mode of the integrated hard drive controller. • Disabled = The SATA controllers are hidden • RAID ON = SATA is configured to support RAID mode (selected by default) • AHCI= SATA is configured for AHCI mode
Serial Port	Allows you to determine how the built-in serial port to operate. The options are: • Disabled • COM 1 – Default setting • COM 2

Option	Description
	• COM 3 • COM 4
Drives	Allows you to enable or disable the various drives on-board: • SATA-0 • SATA-1 • SATA-2 • SATA-3 • SATA-4
Smart Reporting	This field controls whether hard drive errors for integrated drives are reported during system startup. The **Enable Smart Reporting option** is disabled by default.
USB Configuration	Allows you to enable or disable the integrated USB controller for: • Enable Boot Support • Enable Front USB Ports • Enable Rear USB Ports All the options are enabled by default.
Front USB Configuration	Allows you to enable or disable the front USB ports. All the ports are enabled by default.
Rear USB Configuration	Allows you to enable or disable the back USB ports. All the ports are enabled by default.
USB PowerShare	This option allows you to charge the external devices, such as mobile phones, music player. This option is disabled by default.
Audio	Allows you to enable or disable the integrated audio controller. The option **Enable Audio** is selected by default. • Enable Microphone • Enable Internal Speaker Both the options are selected by default.
Miscellaneous	Allows you to enable or disable the various on-board devices. • Enable PCI Slot (default option) • Enable Media Card (default option) • Disable Media Card

Table 21. Video

Option	Description
Primary Display	Allows you to select the primary display when multiple controllers are available in the system. • Auto (default) • Intel HD Graphics **NOTE: If you do not select Auto, the on-board graphics device will be present and enabled.**

Table 22. Security

Option	Description
Admin Password	Allows you to set, change, and delete the admin password.
System Password	Allows you to set, change, and delete the system password.
Internal HDD-0 Password	Allows you to set, change, and delete the computer's internal HDD.
Internal HDD-3 Password	Allows you to set, change, and delete the computer's internal HDD. **NOTE: HDD passwords are not available for PCI-e hard drives.**
Strong Password	This option lets you enable or disable strong passwords for the system.

Option	Description
Password Configuration	Allows you to control the minimum and maximum number of characters allowed for a administrative password and the system password. The range of characters is between 4 and 32.
Password Bypass	This option lets you bypass the System (Boot) Password and the internal HDD password prompts during a system restart. • Disabled — Always prompt for the system and internal HDD password when they are set. This option is selected by default. • Reboot Bypass — Bypass the password prompts on Restarts (warm boots). **NOTE: The system will always prompt for the system and internal HDD passwords when powered on from the off state (a cold boot). Also, the system will always prompt for passwords on any module bay HDDs that may be present.**
Password Change	This option lets you determine whether changes to the System and Hard Disk passwords are permitted when an administrator password is set. **Allow Non-Admin Password Changes** - This option is enabled by default.
UEFI Capsule Firmware Updates	This option controls whether this system allows BIOS updates via UEFI capsule update packages. This option is selected by default. Disabling this option will block BIOS updates from services such as Microsoft Windows Update and Linux Vendor Firmware Service (LVFS)
TPM 2.0 Security	Allows you to control whether the Trusted Platform Module (TPM) is visible to the operating system. • TPM On (default) • Clear • PPI Bypass for Enable Commands • PPI Bypass for Disable Commands • Attestation Enable (default) • Key Storage Enable(default) • SHA-256(default) • Disabled • Enabled (default)
Computrace	This field lets you Activate or Disable the BIOS module interface of the optional Computrace Service from Absolute Software. Enables or disables the optional Computrace service designed for asset management. • **Deactivate** - This option is selected by default. • Disable • Activate
Chassis Intrusion	Allows you to control the chassis intrusion feature. You can set this option to: • Enabled • Disabled (default) • On-Silent
CPU XD Support	Allows you to enable or disable the Execute Disable mode of the processor. This option is enabled by default.
OROM Keyboard Access	This option determines whether users are able to enter Option ROM Configuration screens via hotkeys during boot. Specifically, these settings are capable of preventing access to Intel RAID (CTRL+I) or Intel Management Engine BIOS Extension (CTRL+P/F12). • Enable (selected by default)— User may enter OROM configuration screens via the hotkey. • One-Time Enable — User may enter OROM configuration screens via the hotkeys on next boot only. After next boot, the setting will revert to disabled. • Disable — User may not enter OROM configuration screens via the hotkey.
Admin Setup Lockout	Allows you to enable or disable the option to enter Setup when an Administrative password is set. This option is not set by default.

Table 23. Secure Boot

Option	Description
Secure Boot Enable	Allows you to enable or disable Secure Boot feature • Disable (selected by default) • Enable
Expert key Management	Allows you to manipulate the security key databases only if the system is in Custom Mode. The **Enable Custom Mode** option is disabled by default. The options are: • PK (default) • KEK • db • dbx If you enable the **Custom Mode**, the relevant options for **PK, KEK, db, and dbx** appear. The options are: • **Save to File**- Saves the key to a user-selected file • **Replace from File**- Replaces the current key with a key from a user-selected file • **Append from File**- Adds a key to the current database from a user-selected file • **Delete**- Deletes the selected key • **Reset All Keys**- Resets to default setting • **Delete All Key**s- Deletes all the keys **NOTE: If you disable the Custom Mode, all the changes made will be erased and the keys will restore to default settings.**

Table 24. Intel Software Guard Extensions

Option	Description
Intel SGX Enable	Allows you to enable or disable the Intel Software Guard Extensions to provide a secured environment for running code/storing sensitive information in the context of the main operating system. • Disabled (default) • Enabled
Enclave Memory Size	Allows you to set the Intel SGX Enclave Reserve Memory Size. • 32 MB • 64 MB (Disabled by default) • 128 MB (Disabled by default)

Table 25. Performance

Option	Description
Multi Core Support	This field specifies whether the process will have one or all cores enabled. This option is enabled by default. options: • All (selected by default) • 1 • 2 • 3
Intel SpeedStep	Allows you to enable or disable the Intel SpeedStep mode of the processor. This option is enabled by default.
C States Control	Allows you to enable or disable additional processor sleep states. This option is enabled by default.
Limited CPUID Value	Allows you to limit the maximum value of the processor standard CPUID function. This options is disable by default.

Intel TurboBoost	Allows you to enable or disable the Intel TurboBoost mode of the processor. This option is enabled by default.

Table 26. Power Management

Option	Description
AC Recovery	Determines how the system responds when AC power is re-applied after a power loss. You can set the AC Recovery to: • Power Off • Power On • Last Power State This option is Power Off by default.
Auto On Time	Sets time to automatically turn on the computer. Time is kept in standard 12-hour format (hour:minutes:seconds). Change the startup time by typing the values in the time and AM/PM fields. **NOTE: This feature does not work if you turn off your computer using the switch on a power strip or surge protector or if Auto Power is set to disabled.**
Deep Sleep Control	Allows you to define the controls when Deep Sleep is enabled. • Disabled • Enabled in S5 only • Enabled in S4 and S5 This option is **Enabled in S4 and S5** by default.
Fan Control Override	Allows you to determine the speed of the system fan. When this option is enabled, the system fan runs at the maximum speed. This option is disabled by default.
USB Wake Support	Allows you to enable the USB devices to wake the computer from standby mode. The option "Enable USB Wake Support" is selected by default
Wake on LAN/WWAN	This option allows the computer to power up from the off state when triggered by a special LAN signal. This feature only works when the computer is connected to AC power supply. • **Disabled** - Does not allows the system to power on by special LAN signals when it receives a wake-up signal from the LAN or wireless LAN. • **LAN** or **WLAN** - Allows the system to be powered on by special LAN or wireless LAN signals. • **LAN Only** - Allows the system to be powered on by special LAN signals. • **LAN with PXE Boot** - A wakeup packet sent to the system in either the S4 or S5 state, that will cause the system to wake-up and immediately boot to PXE. • **WLAN Only** - Allows the system to be powered on by special WLAN signals. This option is Disabled by default.
Block Sleep	Allows you to block entering to sleep (S3 state) in OS environment. This option is disabled by default.
Intel Ready Mode	Allows you to enable the capability of Intel Ready Mode Technology. This option is disabled by default.

Table 27. POST Behavior

Option	Description
Numlock LED	Allows you to enable or disable the Numlock feature when your computer starts. This option is enabled by default.
Keyboard Errors	Allows you to enable or disable the keyboard error reporting when the computer starts. This option is disabled by default.
Fast Boot	This option can speed up the boot process by bypassing some compatibility steps: • Minimal — The system boots quickly, unless the BIOS has been updated, memory changed, or the previous POST did not complete. • Thorough — The system does not skip any steps in the boot process. • Auto — This allows the operating system to control this setting (this works only when the operating system supports Simple Boot Flag).

Option	Description
	This option is set to **Minimal** by default.

Table 28. Manageability

Option	Description
USB provision	This option is not selected by default.
MEBx Hotkey	This option is selected by default.

Table 29. Virtualization Support

Option	Description
Virtualization	This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by Intel® Virtualization Technology. **Enable Intel Virtualization Technology** - This option is enabled by default.
VT for Direct I/O	Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by Intel® Virtualization technology for direct I/O. **Enable VT for Direct I/O** - This option is enabled by default.

Table 30. Maintenance

Option	Description
Service Tag	Displays the Service Tag of your computer.
Asset Tag	Allows you to create a system asset tag if an asset tag is not already set. This option is set by default.
SERR Messages	Controls the SERR message mechanism. This option is set by default. Some graphics cards require that the SERR message mechanism be disabled.
BIOS Downgrade	Allows you to control flashing of the system firmware to the previous versions. This option is enabled by default. **NOTE: If this option is not selected, the flashing of the system firmware to the previous versions is blocked.**
Data Wipe	Allows you to securely erase the data from all the available internal storages, such as HDD, SSD, mSATA, and eMMC. The option Wipe on Next Boot is disabled by default.
BIOS recovery	Allows you to recover the corrupted BIOS conditions from the recovery files on the primary hard drive. The option **BIOS Recovery from Hard Drive** is selected by default

Table 31. System Logs

Option	Description
BIOS Events	Displays the system event log and allows you to: • Clear Log • Mark all Entries

Table 32. Advanced configurations

Option	Description
ASPM	Allows you to activate the state power management. • Auto (Default) • Disabled • L1 Only

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. For laptops, ensure that your computer battery is fully charged and connected to a power outlet

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.

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.

   NOTE: Choose the appropriate category to reach the product page
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.

NOTE: It is recommended not to update the BIOS version for more than three revisions. For example: If you want to update the BIOS from 1.0 to 7.0, then install version 4.0 first and then install version 7.0.

Updating your system BIOS using a USB flash drive

If the system cannot load into Windows but there is still a need to update the BIOS, download the BIOS file using another system and save it to a bootable USB Flash Drive.

NOTE: You will need to use a bootable USB Flash drive. Please refer to the following article for further details: http://www.dell.com/support/article/us/en/19/SLN143196/how-to-create-a-bootable-usb-flash-drive-using-dell-diagnostic-deployment-package--dddp-

1. Download the BIOS update .EXE file to another system.
2. Copy the file e.g. O9010A12.EXE onto the bootable USB Flash drive.
3. Insert the USB Flash drive into the system that requires the BIOS update.
4. Restart the system and press F12 when the Dell Splash logo appears to display the One Time Boot Menu.
5. Using arrow keys, select **USB Storage Device** and click Return.
6. The system will boot to a Diag C:\> prompt.
7. Run the file by typing the full filename e.g. O9010A12.exe and press Return.
8. The BIOS Update Utility will load, follow the instructions on screen.

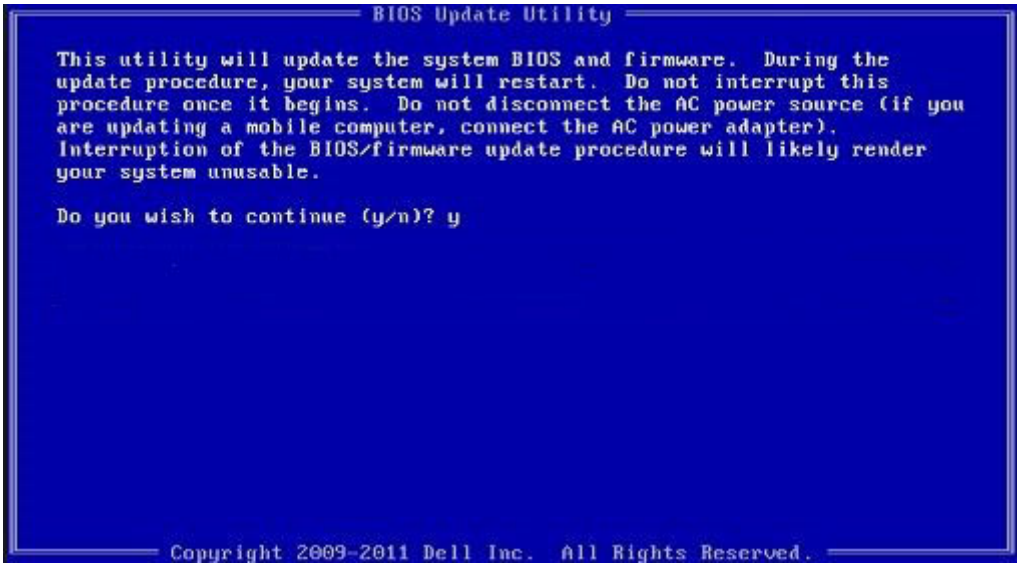


Figure 1. DOS BIOS Update Screen

Enabling smart power on

To enable Smart Power On and 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, perform these steps:

1. Make sure the following BIOS settings under **Power Management** setup option are set as mentioned here:
   - `USB Wake Support` as Enabled.
   - `Deep Sleep Control` as Disabled.
2. Connect a keyboard, mouse, or wireless USB dongle to the Smart Power On USB port(s) on the back of your system.
3. Disable `Fast Startup` in the Operating System:
   a. Search and open **Power options** in the Start Menu.
   b. Click **Choose what the power buttons do** on the left side of the window.
   c. Under **Shutdown settings**, make sure **Turn on fast startup** is disabled.
4. Reboot your system so the changes can take effect. The next time when your system goes to sleep or is shut down, any use of the mouse or keyboard will wake it up.

5

Software

Supported operating systems

The following list shows supported operating systems:

Table 33. Supported operating system

Supported operating systems	Operating System Description
Microsoft Windows	• Microsoft Windows 10 Home (64-bit) • Microsoft Windows 10 (64-bit) Professional • Microsoft Windows 7 (32/64 bit) Professional **NOTE: Microsoft Windows 7 is not supported with the Intel 7th Generation processors.**
Other	• Ubuntu 16.04 LTS • Neokylin V6.0
OS Media Support	• Optional USB optical drive

Downloading drivers

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

   NOTE: If you do not have the Service Tag, use the auto detect feature or manually browse for your computer model.
4. Click **Drivers and Downloads**.
5. Select the operating system installed on your computer.
6. Scroll down the page and select the driver to install.
7. Click **Download File** to download the driver for your computer.
8. Navigate to the folder where you saved the driver file, after the download is complete.
9. Double-click the driver file icon and follow the instructions on the screen.

Downloading the chipset driver

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

   NOTE: If you do not have the Service Tag, use the autodetect feature or manually browse for your computer model.
4. Click **Drivers and Downloads**.
5. Select the operating system installed in your computer.
6. Scroll down the page, expand **Chipset**, and select your chipset driver.
7. Click **Download File** to download the latest version of the chipset driver for your computer.
8. After the download is complete, navigate to the folder where you saved the driver file.
9. Double-click the chipset driver file icon and follow the instructions on the screen.

Intel chipset drivers

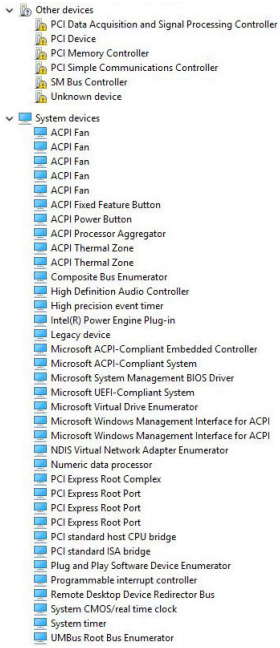
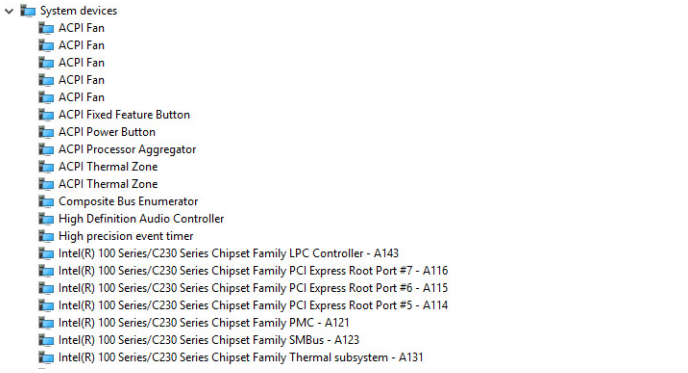
Verify if the Intel chipset drivers are already installed in the computer.

NOTE: Click Start > Control Panel > Device Manager

or

In Search the web and Windows, type **Device Manager**

Table 34. Intel chipset drivers

Before installation	After installation
	

Downloading graphic drivers

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

   NOTE: If you do not have the Service Tag, use the auto detect feature or manually browse for your computer model.
4. Click **Drivers and Downloads**.
5. Click **Find it myself** tab.
6. Select the operating system installed on your computer.
7. Scroll down the page and select the graphic driver to install.
8. Click **Download File** to download the graphic driver for your computer.
9. After the download is complete, navigate to the folder where you saved the graphic driver file.
10. Double-click the graphic driver file icon and follow the instructions on the screen.

Intel HD Graphics drivers

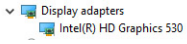
Verify if the Intel HD Graphics drivers are already installed in the computer.

NOTE: Click Start > Control Panel > Device Manager.

or

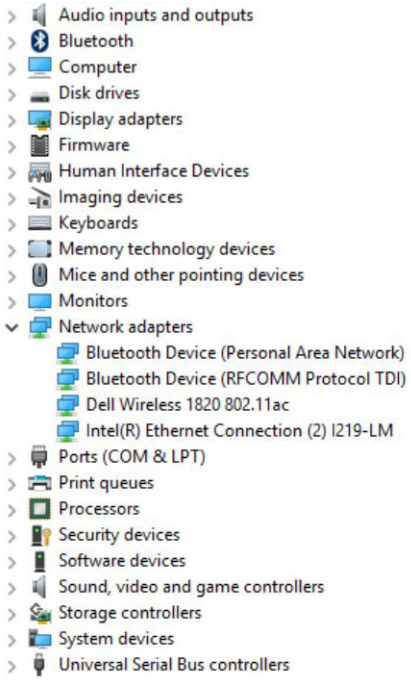
Tap Search the web and Windows and type **Device Manager**

Table 35. Intel HD Graphics drivers

Before installation	After installation
	

Intel Wi-Fi and Bluetooth drivers

In the Device Manager, check if the network card driver is installed. Install the driver updates from **dell.com/support**.



In the Device Manager, check if the Bluetooth driver is installed. Install the driver updates from **dell.com/support**.

Downloading the Wi-Fi driver

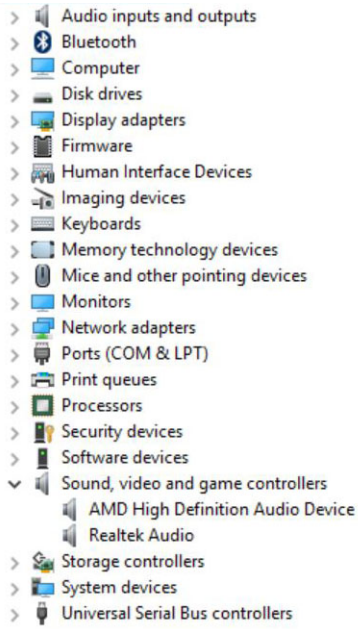
1. Turn on your computer.
2. Go to **dell.com/support**.
3. Click **Product Support**, enter the Service Tag of your computer and click **Submit**.

   NOTE: If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.
4. Click **Drivers & downloads** > **Find it myself**.
5. Scroll down the page and expand **Network**.
6. Click **Download** to download the Wi-Fi driver for your computer.
7. After the download is complete, navigate to the folder where you saved the Wi-Fi driver file.
8. Double-click the driver file icon and follow the instructions on the screen.

Realtek HD audio drivers

Verify if the Realtek audio drivers are already installed in the computer.

Table 36. Realtek HD audio drivers



Downloading the audio driver

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

   NOTE: If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.
4. Click **Drivers & downloads** > **Find it myself**.
5. Scroll down the page and expand **Audio**.
6. Click **Download** to download the audio driver.
7. Save the file, and after the download is complete, navigate to the folder where you saved the audio driver file.
8. Double-click the audio driver file icon and follow the instructions on the screen to install the driver.

6

Getting help

Topics:

- Contacting Dell

Contacting Dell

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.

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:

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.