Dell Vostro 3470

Setup and specification guide

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Regulatory Type: D13S003
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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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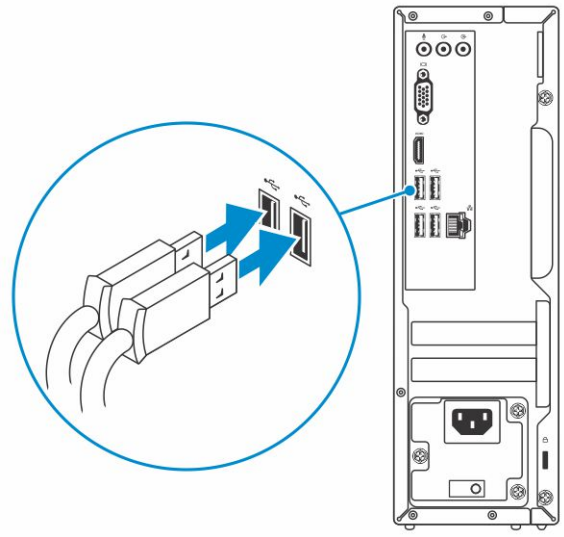
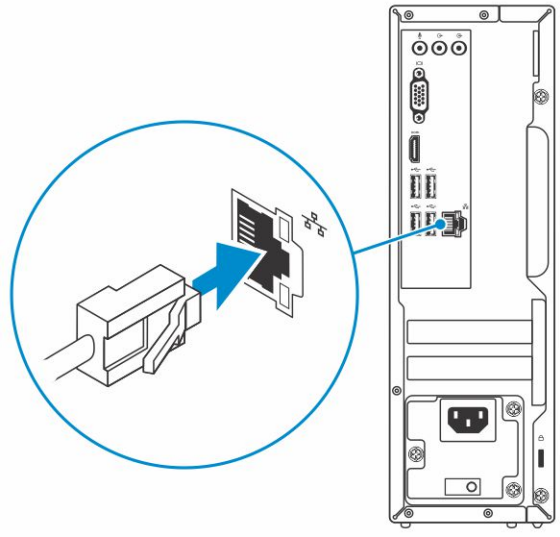
1

Set up your computer

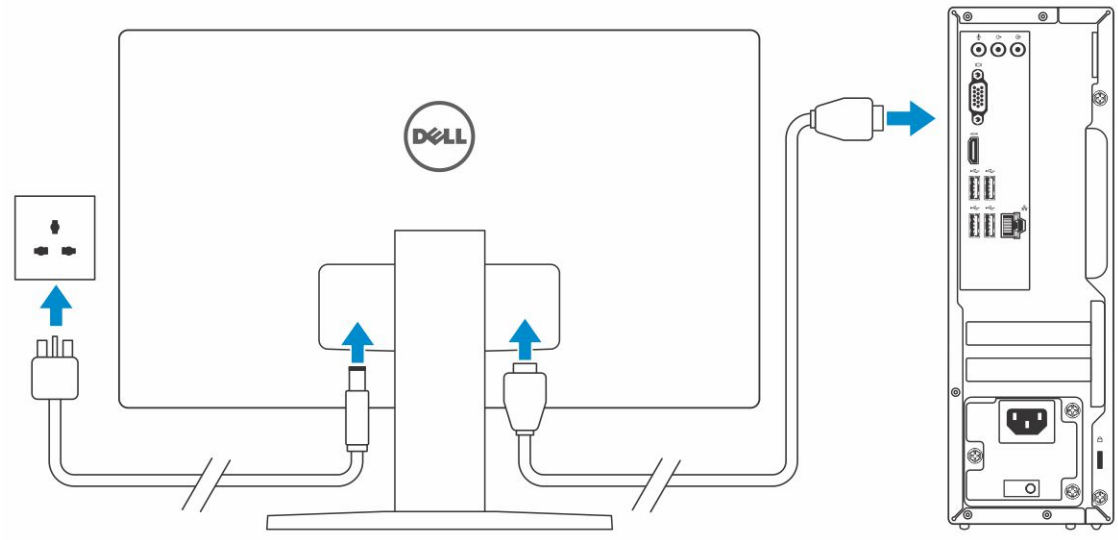
1. Connect the keyboard and mouse.



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

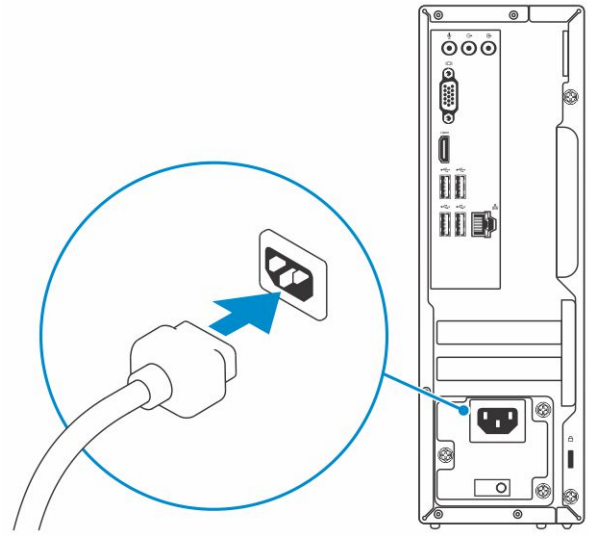


3. Connect the display.

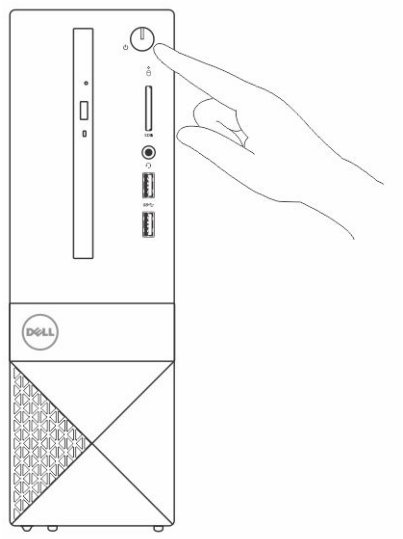


NOTE: If you ordered your computer with a discrete graphics card, the HDMI and the display ports on the back panel of your computer are covered. Connect the display to the discrete graphics card.

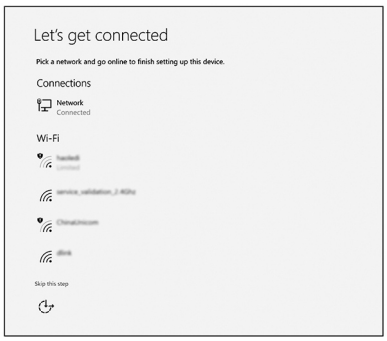
4. Connect the power cable.



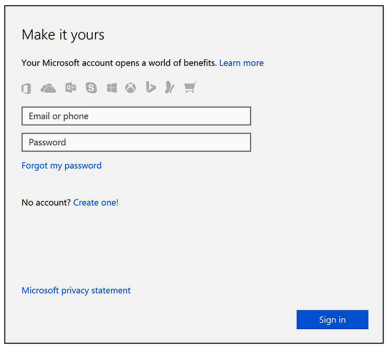
5. Press the power button.



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

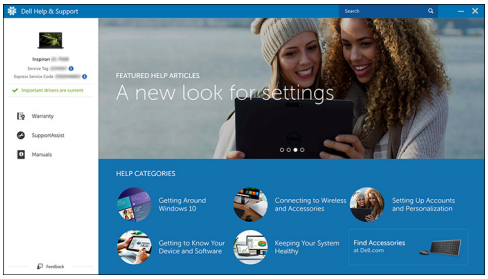


   b. Sign-in to your Microsoft account or create a new account.



7. Locate Dell apps.

Table 1. Locate Dell apps

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

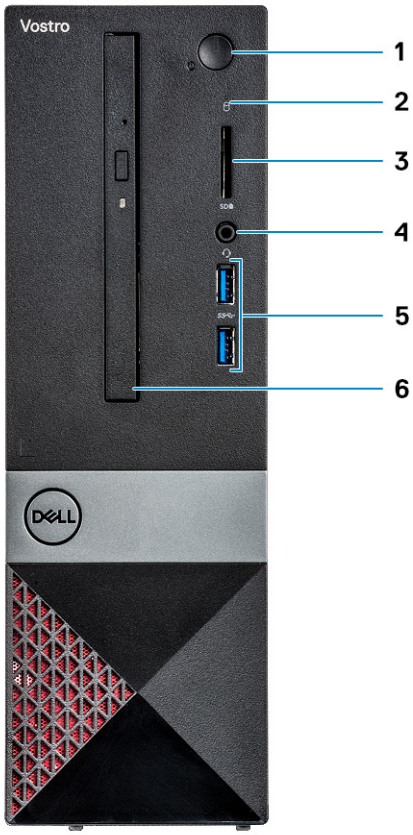
2

Chassis overview

Topics:

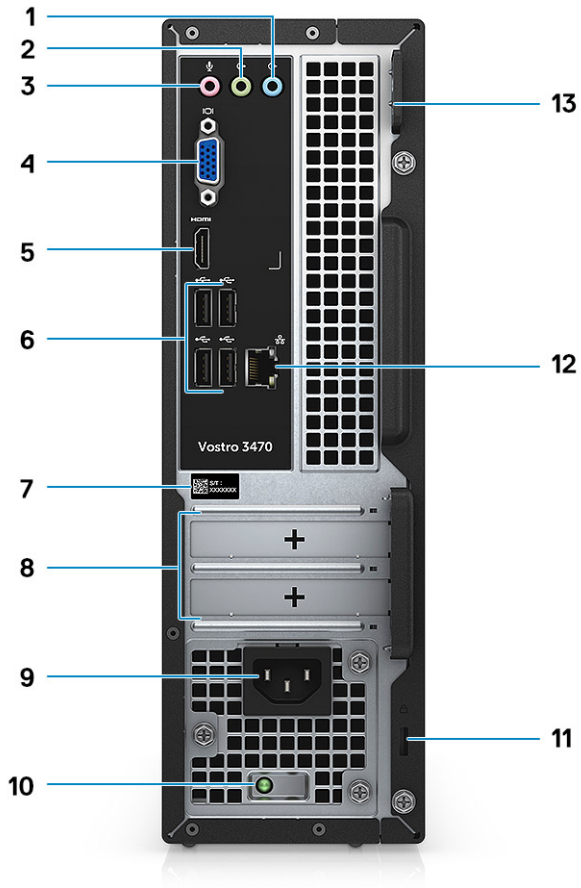
- System front view
- System back view

System front view



1. Power button/power status LED
2. Hard drive activity light
3. Memory card reader
4. Universal audio/microphone connector
5. USB 3.1 Gen 1 ports (2)
6. Optical drive

System back view



1. Line-in port
2. Line-out port
3. Microphone port
4. VGA port
5. HDMI port
6. USB 2.0 ports (4)
7. Service tag
8. Expansion card slots
9. Power connector port
10. Power diagnostics light
11. Kensington security slot
12. Network port
13. Padlock ring

3

Technical 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 specifications
- System information
- Processor specifications
- Operating system specifications
- Memory specifications
- Port and connector specifications
- Communication specifications
- Video specifications
- Audio specifications
- Storage specifications
- Storage combinations
- Power supply specifications
- Security hardware
- Regulatory and Environmental Compliance

Physical specifications

Table 2. Physical specifications

Feature	Specifications
Height	11.4 inch (290 mm)
Width	3.6 inch (92.6 mm)
Depth	11.5 inch (293 mm)
Weight	19.7 lb (4.8 kg)

System information

Table 3. System information

Feature	Specifications
Chipset	Intel H370
DRAM bus width	64-bit
FLASH EPROM	256Mbit
PCIe bus	100 Mhz
External bus frequency	DMI 3.0-8GT/s

Processor specifications

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

Table 4. Processor specifications

Type	UMA Graphics
Intel 8th Generation Celeron processor G4900 (2M Cache, 2 cores, 54 W, up to 3.1 GHz)	Intel UHD Graphics 610 with shared graphics memory
Intel 8th Generation Pentium Gold processor G5400 (4M Cache, 2 cores, 58 W, up to 3.7 GHz)	Intel UHD Graphics 610 with shared graphics memory
Intel 8th Generation Core i3-8100 processor (6 MB Cache, 4 cores, 65 W, up to 3.6 GHz)	Intel UHD Graphics 630 with shared graphics memory
Intel 8th Generation Core i5-8400 processor (9 MB Cache, 6 cores, 65 W, up to 4.0 GHz)	Intel UHD Graphics 630 with shared graphics memory
Intel 8th Generation Core i7-8700 processor (12 MB Cache, 6 cores, 65 W, up to 4.6 GHz),	Intel UHD Graphics 630 with shared graphics memory
Intel Celeron 9th Generation Celeron G4930 (2M Cache, 2 cores, 54 W, up to 3.2 GHz)	Intel UHD Graphics 610 with shared graphics memory
Intel 9th Generation Pentium Gold G5420 (4M Cache, 2 cores, 54 W, up to 3.8 GHz)	Intel UHD Graphics 610 with shared graphics memory
Intel 9th Generation Core i3-9100 (6 MB Cache, 4 cores, 65 W, up to 4.2 GHz)	Intel UHD Graphics 630 with shared graphics memory
Intel 9th Generation Core i5-9400 (9 MB Cache, 6 cores, 65 W, up to 4.1 GHz)	Intel UHD Graphics 630 with shared graphics memory
Intel 9th Generation Core i7-9700 (12 MB Cache, 8 cores, 65 W, up to 4.7 GHz)	Intel UHD Graphics 630 with shared graphics memory

Operating system specifications

Table 5. Operating system specifications

Feature	Specifications
Operating systems supported	• Windows 10 64-bit • Windows 10 64-bit Professional • Windows 10 64-bit National Academic (STF) • Ubuntu 16.04 LTS (64-bit)

Memory specifications

Table 6. Memory specifications

Feature	Specifications
Minimum memory configuration	4 GB

Table 6. Memory specifications (continued)

Feature	Specifications
Maximum memory configuration	32 GB
Number of slots	2 UDIMM
Maximum memory supported per slot	16 GB
Memory options	• 4 GB DDR4 2400 MHz (4Gx1) • 8 GB DDR4 2400 MHz (8Gx1) • 8 GB DDR4 2400 MHz (4Gx2) • 12 GB DDR4 2400 MHz (8Gx1 + 4Gx1) • 16 GB DDR4 2400 MHz (8Gx2) • 16 GB DDR4 2400 MHz (16Gx1) • 24 GB DDR4 2400 MHz (16Gx1 + 8Gx1) • 32 GB DDR4 2400 MHz (16Gx2) • 4 GB DDR4 2666 MHz (4Gx1) • 8 GB DDR4 2666 MHz (8Gx1) • 8 GB DDR4 2666 MHz (4Gx2) • 12 GB DDR4 2666 MHz (8Gx1 + 4Gx1) • 16 GB DDR4 2666 MHz (8Gx2) • 16 GB DDR4 2666 MHz (16Gx1) • 24 GB DDR4 2666 MHz (16Gx1 + 8Gx1) • 32 GB DDR4 2666 MHz (16Gx2) **NOTE:** The memory modules are customer replaceable units (CRU), and it can be upgraded. **NOTE:** • Memory configuration of 2400 MHz pair with PDC, CDC, core i3 CPU • Memory configuration of 2666 MHz pair with core i5, i7 CPU
Type	DDR4 SDRAM Non-ECC memory
Speed	• 2666 MHz on Core i5, i7 processor • 2400 MHz on Celeron, Pentium, and i3 processor

Port and connector specifications

Table 7. Ports and connectors

Feature	Specifications
USB	• Two USB 3.1 Gen 1 ports • Four USB 2.0 ports
Security	• Kensington lock slot • Padlock ring
Audio	• Universal audio jack • Microphone port • Line-in port • Line-out port
Video	• HDMI 1.4 (UMA) • VGA port

Table 7. Ports and connectors (continued)

Feature	Specifications
Network adapter	One RJ-45 connector
Secure Digital card	SD card slot

Communication specifications

Table 8. Communication specifications

Feature	Specifications
Network adapter	Realtek RTL8111H Gigabit Ethernet controller 10/100/1000 Mb/s Ethernet (RJ-45)
Wireless	• Intel 9462 1x1 ac + BT5 (band - 2.4 Ghz, 5 Ghz; 802.11ac + Bluetooth 5.0, 1X1) • Intel 9560 2x2 ac + BT5 (band - 2.4Ghz, 5Ghz; 802.11ac + Bluetooth 5.0, 2x2) • DW 1707 + BT4.0 2.4 GHZ (band - 2.4 Ghz; 802.11bgn + Bluetooth 4.0, 1x1) via M.2

Video specifications

Table 9. Video

Controller	Type	CPU Dependency	Graphics memory type	Capacity	External display support	Maximum resolution
Intel UHD Graphics 630	UMA	Intel Core i3 - 8100 / Intel Core i3 - 9100 Intel Core i5 - 8400 / Intel Core i5 - 9400 Intel Core i7 - 8700 / Intel Core i7 - 9700	Integrated	Shared system memory	VGA HDMI 1.4	VGA: 2048x1536@60 Hz HDMI : 1920x1080@ 60Hz
Intel UHD Graphics 610	UMA	Intel Pentium Gold G5400 / Intel Pentium Gold G5420 Celeron processor G4900 / Intel Pentium Gold G4930	Integrated	Shared system memory	VGA HDMI 1.4	VGA: 2048x1536@60 Hz HDMI : 1920x1080@ 60Hz
NVIDIA GeForce GT 710	Discrete	N/A	DDR3	2 GB	DL-DVI HDMI VGA (FH only)	Dual Link DVI = 2560x1600 HDMI = 1920x1200 (PC Mode), 1920x1080 (TV mode, 1080p)

Table 9. Video (continued)

Controller	Type	CPU Dependency	Graphics memory type	Capacity	External display support	Maximum resolution
						VGA (optional) = 2048x1536

Audio specifications

Table 10. Audio specifications

Feature	Specifications
Controller	Waves MaxxAudio Pro
Type	Four-channel high-definition audio
Interface	• Line-in, line-out, and microphone ports supporting 5.1 surround sound • High-quality speakers • Stereo headset/mic combo

NOTE: No internal speakers

Storage specifications

Table 11. Storage specifications

Primary/Boot drive	Secondary drive	Interface	Capacity
Solid-State Drive (SSD)	M.2 SATA 2280	SATA AHCI, Up to 6 Gbps	Up to 512 GB
Hard drive (HDD)	2.5 inch and 3.5 inch	SATA AHCI, Up to 6 Gbps	Up to 2 TB at 5400 RPM and 7200 RPM

Storage combinations

Table 12. Storage combinations

Primary/Boot drive	Secondary drive
M.2 Drive + SATA	M.2 128GB Solid State Drive+ 1TB 7200 rpm Hard Drive

Power supply specifications

Table 13. Power supply

Feature	Specifications
Input Voltage	100-240VAC, 200-240VAC, 50–60 Hz
Wattage	• 200 W APFC High voltage • 200 W APFC 100V-240V Full range • 200 W EPA Bronze

Security hardware

Table 14. Security hardware

Feature	Specifications
Security HW	• Data wipe via BIOS (Secure Erase) • Support of Computrace BIOS agent – supports both Computrace and Proactive Systems Management • Discrete TPM 2.0 (optional) • BIOS disable TPM (China Only)

Regulatory and Environmental Compliance

Table 15. Regulatory and Environmental Compliance

Feature	Specifications
Regulatory and Environmental Compliance	• Energy Star 7.0 (available in selected configurations only) • FCC, UL mark • EPEAT Registered (for selected configurations only). For specific country participation and rating, please visit **www.epeat.net** • CCC/CECP (China only) • ESPL/ 1 Million Hr MTBF (China only, Post-RTS) • *INMETRO* (Brazil only)
Temperature range	• Operating :10°C to 35°C (50°F to 95°F) • Storage: -40°C to 65°C (-40°F to 149°F
Relative humidity	• Operating : 20% to 80% (*Max dew point temperature = 26°C) (non-condensing) • Storage: 5% to 95% (+Max dew point temperature = 33°C) (non-condensing)
Airborne contaminant level	G1 as defined by ISA-S71.04-1985
Vibration	Vibration (maximum)*: operating=0.26 GRMS; Storage=1.37 GRMS
Shock	Shock (maximum): operating=40 G†; Storage=105 G‡

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:

- Accessing System Setup
- Navigation Keys
- System setup options
- Updating the BIOS in Windows
- System and setup password

Accessing System Setup

1. Turn on (or restart) your computer.
2. After the white Dell logo appears, press F2 immediately.

   The System Setup page is displayed.

   NOTE: If you wait too long and the operating system logo appears, wait until you see the desktop. Then, shut down or restart your computer and try again.

   NOTE: After the Dell logo appears, you can also press F12 and then select **BIOS setup**.

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 16. 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.
<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 setup options

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

General screen options

This section lists the primary hardware features of your computer.

Option	Description
System 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 Channels Mode, Memory Technology, DIMM 1 Size, DIMM 2Size. • 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 Primary Hard Drive, SATA-0, SATA-1, SATA-2, SATA-3, LOM MAC Address, Video Controller, Audio Controller, WiFi Device, M.2PCIe SSD-0, Dock eSATA Device, Video BIOS Version, Video Memory, Panel Type, Native Resolution, WiGig Device, Cellular Device, Bluetooth Device.
Boot Sequence	**Boot Sequence** — Allows you to change the order in which the computer attempts to find an operating system. The options are: • Windows Boot Manager • PEBOOT By default, all the options are checked. You can also deselect any option or change the boot order. **Boot List Options** — Allows you to change the boot list option: • Legacy • UEFI (default)
Advanced Boot Options	This option allows you the legacy option ROMs to load. • By default, the **Enable Legacy Option ROMs** is enabled • This option allows you the legacy option ROMs to load. By default, the **Enable Attemot Legacy Boot** is disabled. .
UEFI Boot Path Security	This options control whether or not the system will prompt the user to enter the Admin password (if set) when booting a UEFI boot path from the F12 Boot Menu • **Always Except Internal HDD** (default) • Always • Never
Date/Time	Allows you to change the date and time.

System Configuration screen options

Option	Description
Integrated NIC	Allows you to configure the integrated network controller. The options are: • Disabled • Enabled • Enabled w/PXE: This option is enabled by default.
SATA Operation	Allows you to configure the internal SATA hard-drive controller. The options are: • Disabled

Option	Description
	• **AHCI** (default)
Drives	Allows you to configure the SATA drives on board. All drives are enabled by default. The options are: • SATA-0 • SATA-1 • SATA-2 • SATA-3
SMART Reporting	This field controls whether hard drive errors for integrated drives are reported during system startup. This technology is part of the SMART (Self-Monitoring Analysis and Reporting Technology) specification. This option is disabled by default. • Enable SMART Reporting
USB Configuration	This field configures the integrated USB controller. If Boot Support is enabled, the system is allowed to boot any type of USB Mass Storage Devices (HDD, memory key, floppy). If USB port is enabled, device attached to this port is enabled and available for OS. If USB port is disabled, the OS cannot see any device attached to this port. • **Enable USB Boot Support** (default) • **Enable Front USB Ports**(default) • **Enable Rear USB Ports** (default) **NOTE:** USB keyboard and mouse always work in the BIOS setup irrespective of these settings.
Front USB Configuration	This field enables or disables the front USB configuration • **Front Port 1 (Bottom Right)* (default)** • **Front Port 2 (Bottom Left)* (default)** * denotes a USB 3.0-capable port
Rear USB Configuration	This field enables or disables the front USB configuration • Rear Port 1 • Rear Port 2 • Rear Port 3 (w/RJ-45) • Rear Port 4 (w/RJ-45) * denotes a USB 3.0-capable port
Audio	This field enables or disables the integrated audio controller. By default, the **Enable Audio** option is selected.
Miscellaneous Devices	Allows you to enable or disable the following devices: • Enabled Secure Digital (SD) Card (default) • Secure Digital (SD) Card Boot • Secure Digital (SD) Card Read-Only Mode

Video screen options

Option	Description
Primary Display	This option determines which video controller becomes the primary display when multiple controllers are available in the system • Auto: This option is enabled by default. • Intel HD Graphics

Security screen options

Option	Description
Admin Password	Allows you to set, change, or delete the administrator (admin) password. **NOTE:** You must set the admin password before you set the system or hard drive password. Deleting the admin password automatically deletes the system password and the hard drive password. **NOTE:** Successful password changes take effect immediately. Default setting: Not set
System Password	Allows you to set, change, or delete the system password. **NOTE:** Successful password changes take effect immediately. Default setting: Not set
Internal HDD-0 Password	Allows you to set, change, or delete the password on the system's internal hard-disk drive. **NOTE:** Successful password changes take effect immediately. Default Setting: Not set
Internal HDD-1 Password	Allows you to set, change, or delete the password on the system's internal hard-disk drive. **NOTE:** Successful password changes take effect immediately. Default Setting: Not set
Password Change	Allows you to enable the disable permission to the System and Hard Drive passwords when the admin password is set. Default setting: **Allow Non-Admin Password Changes** is selected.
UEFI Capsule Firmware Update	This option controls whether the system allows the BIOS updates through UEFI capsule update packages. This option is enabled by default.
Non-Admin Setup Changes	Allows you to determine whether changes to the setup options are allowed when an Administrator Password is set. If disabled the setup options are locked by the admin password.
TPM 2.0 Security	Allows you to enable the Trusted Platform Module (TPM) during POST. The options are: • **TPM On** (enabled by default) • Clear • PPI Bypass for Enabled Commands • PPI Bypass for Disabled Commands • PPI Bypass for Clear Command • **Attestation Enable** (enabled by default) • **Key Storage Enable** (enabled by default) • **SHA-256** (enabled by default) • Disabled • Enabled (enabled by default) **NOTE:** To upgrade or downgrade TPM1.2/2.0, download the TPM wrapper tool (software).
Computrace	Allows you to activate or disable the optional Computrace software The options are: • Deactivate • Disable • Activate **NOTE:** The Activate and Disable options will permanently activate or disable the feature and no further changes are allowed Default setting: Deactivate
Master Password Lockout	The option Enable Master Password Lockout is not selected by default.

Option	Description
SIMM Security Mitigation	Allows you to enable or disable the additional UEFI SIMM Security Mitigation protections. Default Setting: SIMM Security Mitigation is not selected.

Secure Boot screen options

Option	Description
Secure Boot Enable	This option enables or disables the **Secure Boot** feature. Default setting: Not selected
Secure Boot Mode	• **Deployed Mode** (default) • Audit Mode
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 Keys**—Deletes all the keys **NOTE:** If you disable the **Custom Mode**, all the changes made are erased and the keys restore to default settings.

Intel Software Guard Extensions screen options

Option	Description
Intel SGX Enable	This field specifies you to provide a secured environment for running code/storing sensitive information in the context of the main OS. The options are: • Disabled • Enabled • **Software Controlled** (default)
Enclave Memory Size	This option sets **SGX Enclave Reserve Memory Size**. The options are: • 32 MB • 64 MB • 128 MB

Performance screen options

Option	Description
Multi Core Support	This field specifies whether the process has one or all cores enabled. The performance of some applications improve with the additional cores. This option is enabled by default. Allows you to enable or disable multi-core support for the processor. The installed processor supports two cores. If you enable Multi Core Support, two cores are enabled. If you disable Multi Core Support, one core is enabled. • All (enabled by default)

Option	Description
	● 1 ● 2 ● 3
Intel SpeedStep	Allows you to enable or disable the Intel SpeedStep feature. Enable Intel SpeedStep Default setting: The option is enabled.
C-States Control	Allows you to enable or disable the additional processor sleep states. C states Default setting: The option is enabled.
Intel TurboBoost	Allows you to enable or disable the Intel TurboBoost mode of the processor. Enable Intel TurboBoost (default)

Power Management screen options

Option	Description
AC Recovery	Allows you to enable or disable the computer from turning on automatically when an AC adapter is connected. ● Power Off (default) ● Power On ● Last Power State
Enable Intel Speed Shift Technology	This option is used to enable or disable the Intel speed shift technology support. The option is enabled by default.
Auto On Time	Allows you to set the time at which the computer must turn on automatically. The options are: ● Disabled ● Every Day ● Weekdays ● Select Days Default setting: Disabled
Deep Sleep Control	Allows you to aggressive the system is at conserving power while Shut down (S5) or in Hybernate (S4) mode. ● Disabled (default) ● Enabled in S5 only ● Enabled in S4 and S5
USB Wake Support	Allows you to enable USB devices to wake the system from Standby. **NOTE:** This feature is only functional when the AC power adapter is connected. If the AC power adapter is removed during Standby, the system setup removes power from all the USB ports to conserve battery power. ● Enable USB Wake Support Default setting: The option is enabled..
Wake on LAN/ WLAN	Allows you to enable or disable the feature that powers on the computer from the Off state when triggered by a LAN signal. ● **Disabled**: This option is enabled by default. ● LAN Only ● WLAN Only ● LAN or WLAN ● LAN with PXE Boot

Option	Description
Block Sleep	This option lets you block entering to sleep (S3 state) in operating system environment. Block Sleep (S3 state) Default setting: This option is disabled

POST Behavior screen options

Option	Description
Numlock LED	This option specifies whether the NumLock LED should be on when the system boots. ● Enable Numlock LED: The option is enabled.
Keyboard Errors	This option option specifies whether the keyboard related errors are reported when it boots. ● Enables Keyboard Error Detection: The option is enabled by default.
Fastboot	Allows you to speed up the boot process by bypassing some of the compatibility steps. The options are: ● Minimal ● **Thorough** (default) ● Auto
Extend BIOS POST Time	This option created an additional pre-boot delay. ● **0 seconds (default)** ● 5 seconds ● 10 seconds
Full Screen Logo	. This option displays full screen logo if your image match screen resolution. The option Enable Full Screen Logo is not selected by default.
Warnings and Errors	● **Prompt on Warnings and Errors** (default) ● Continue on Warnings ● Continue on Warnings and Errors

Virtualization support screen options

Option	Description
Virtualization	Allows you to enable or disable the Intel Virtualization Technology. Enable Intel Virtualization Technology (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 - enabled by default.

Wireless screen options

Option	Description
Wireless Device Enable	Allows you to enable or disable internal wireless devices. ● **WLAN/WiGig** (default) ● **Bluetooth** (default)

Advanced configuration options

Option	Description
ASPM	Allows you to set the ASPM level. ● **Auto** (default) ● Disabled ● L1 Only

Maintenance screen options

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 not set by default.
SERR Messages	This field controls the SERR message mechanism. Some graphic card required the SERR message. ● Enable SERR Messages (default)
BIOS Downgrade	This field controls flashing of the system firmware to pervious revisions. Allows BIOS Downgrade (Enabled by default)
Data Wipe	This field enables user to erase data from all internal storage device.
BIOS Recovery	Allows you to recover from certain corrupted BIOS conditions from a recover file on the user primary hard drive or an external USB key. Enabled by default.
First Power On Date	This option lets you set Ownership date. This option is disabled by default.

System Log screen options

Option	Description
BIOS Events	Allows you to view and clear the System Setup (BIOS) POST events.

SupportAssist System Resolution

Option	Description
Auto OS Recovery Threshold	Allows you to control the automatic boot flow for SupportAssist System. Options are: ● Off ● 1 ● 2 (Enabled by default) ● 3
SupportAssist OS Recovery	Allows you to recover the SupportAssist OS Recovery (Enabledby default)

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.

   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.

System and setup password

Table 17. 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**.

   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.

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Software

Topics:

- Supported operating systems
- Downloading Windows drivers

Supported operating systems

Table 18. Supported operating systems

Features	Specifications
Supported operating systems	**Description**
Windows 10	• Windows 10 64-bit • Windows 10 64-bit Professional • Windows 10 64-bit National Academic (STF)
Others	• Ubuntu

Downloading Windows drivers

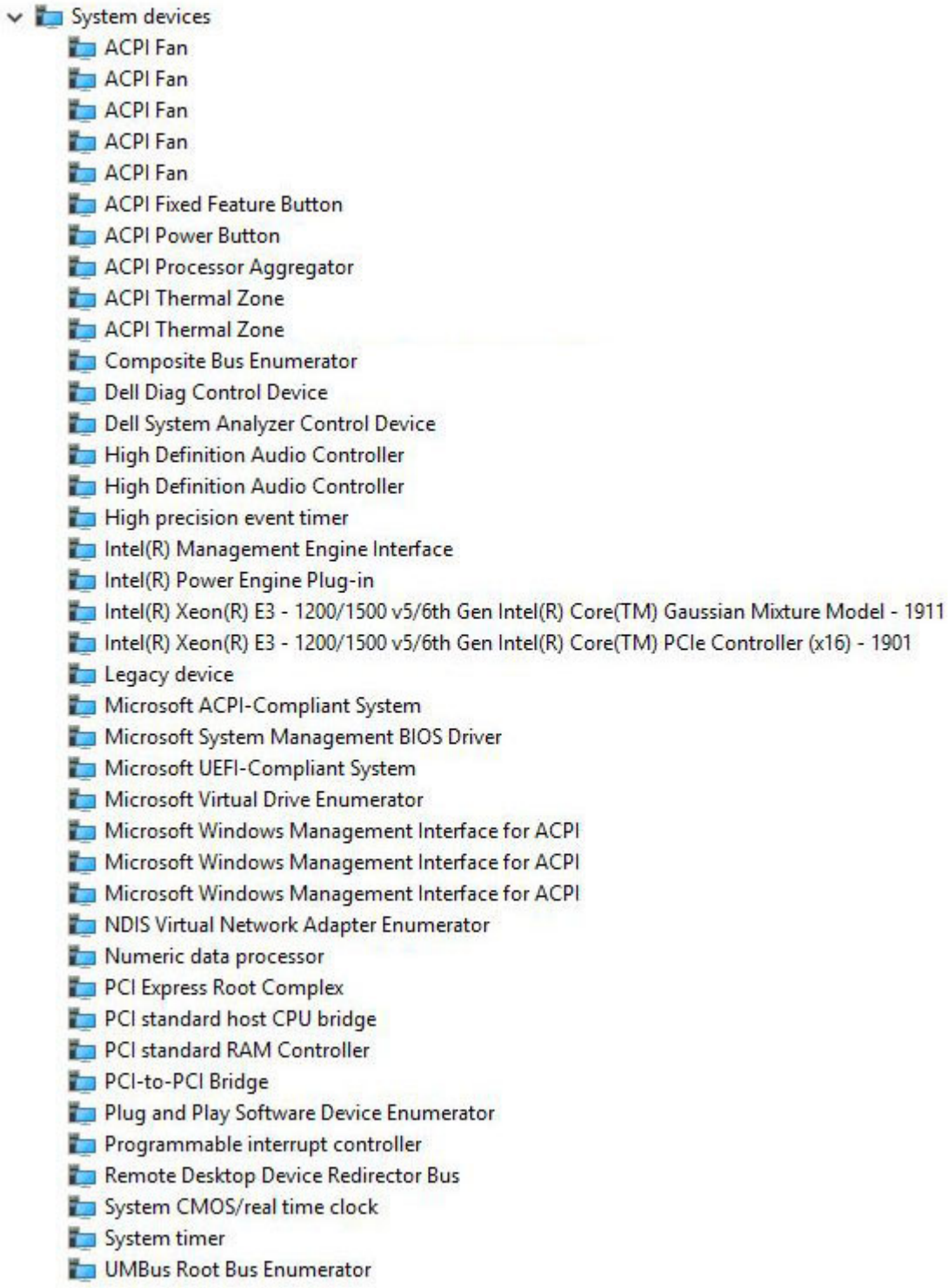
1. Turn on the .
2. Go to **Dell.com/support**.
3. Click **Product Support**, enter the Service Tag of your , and then click **Submit**.

   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.

Intel chipset drivers

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



Serial IO driver

Verify if the drivers for Touchpad, IR camera, and keyboard and are installed.

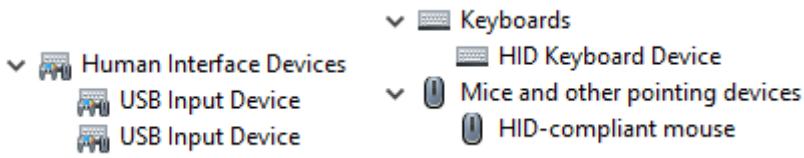
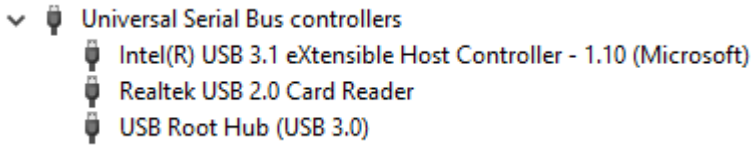


Figure 1. Serial IO driver

USB drivers

Verify if the USB drivers are already installed in the computer.



Network drivers

Install the WLAN and Bluetooth drivers from the Dell support site.

Table 19. Network drivers

Before installation	After installation
Network adapters Bluetooth Device (Personal Area Network) Bluetooth Device (RFCOMM Protocol TDI)	Network adapters Bluetooth Device (Personal Area Network) Bluetooth Device (RFCOMM Protocol TDI) Qualcomm QCA9565 802.11b/g/n Wireless Adapter Realtek PCIe GBE Family Controller WAN Miniport (IKEv2) WAN Miniport (IP) WAN Miniport (IPv6) WAN Miniport (L2TP) WAN Miniport (Network Monitor) WAN Miniport (PPPOE) WAN Miniport (PPTP) WAN Miniport (SSTP)

Realtek Audio

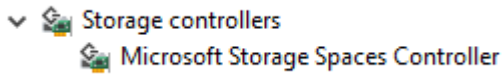
Verify if audio drivers are already installed in the computer.

Table 20. Realtek audio

Before Installation	After Installation
Sound, video and game controllers Intel(R) Display Audio	Audio inputs and outputs Speakers/Headphones (Realtek(R) Audio)

Serial ATA drivers

Install the latest Intel Rapid Storage driver for best performance. Using the default Windows storage drivers is not recommended. Verify if the default serial ATA drivers are installed in the computer.



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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.