

Dell Precision 7530

Setup and specifications guide



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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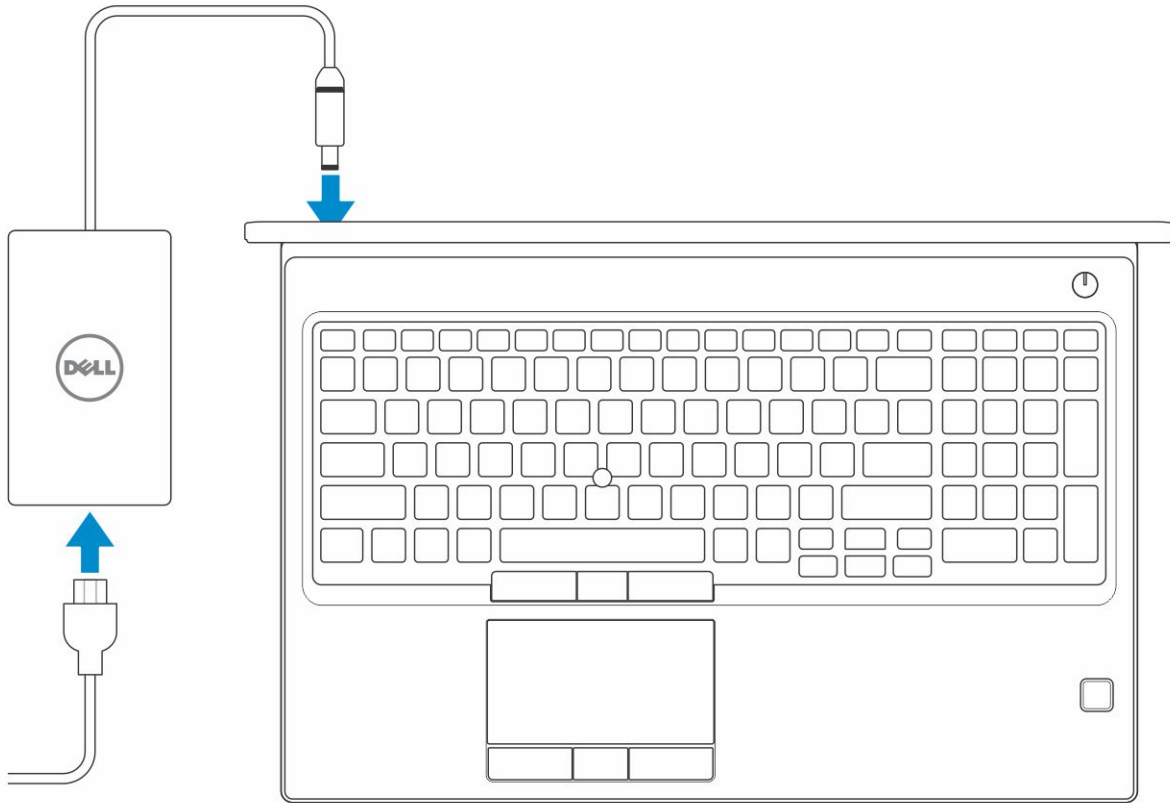
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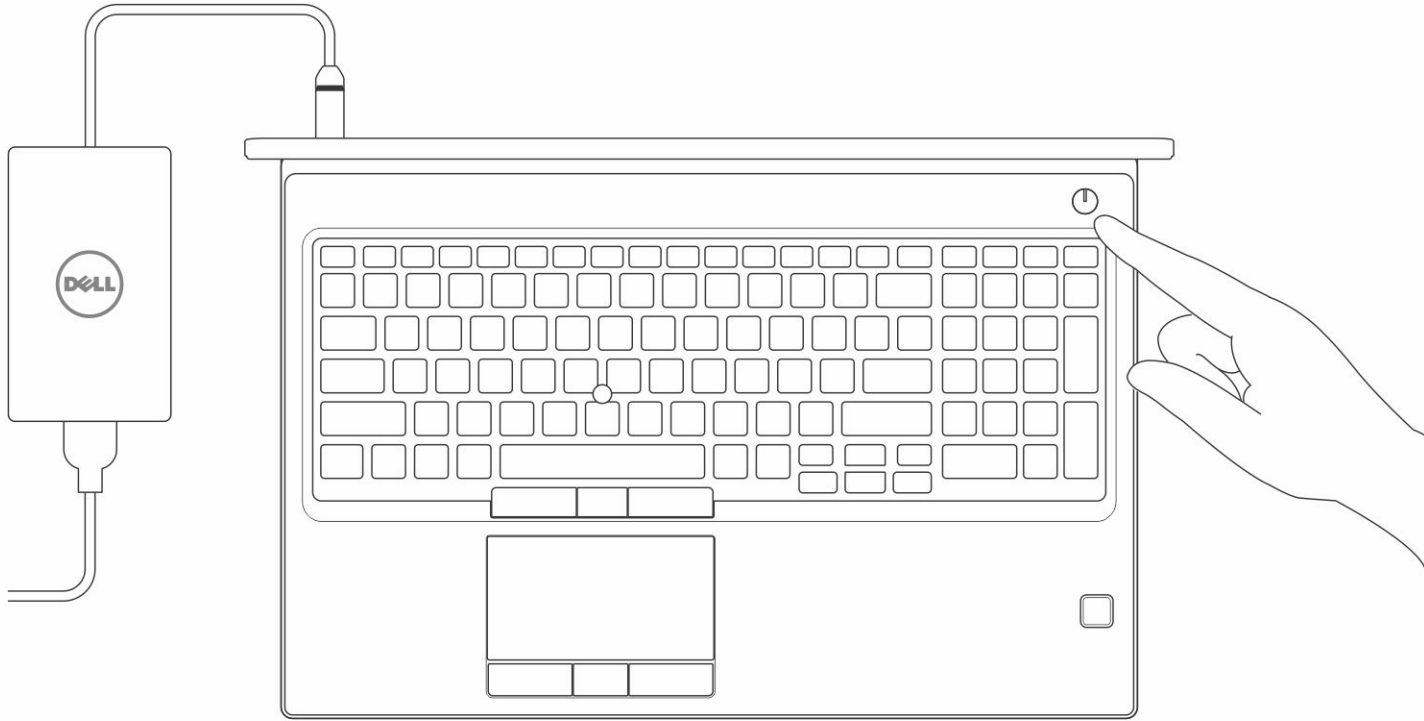
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Set up your computer

- 1 Connect the power cable.

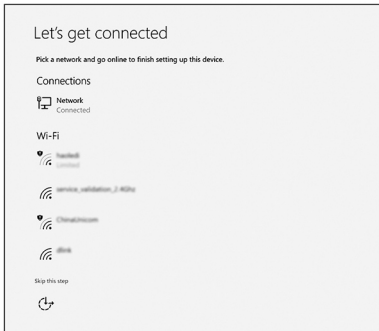


- 2 Press the power button.

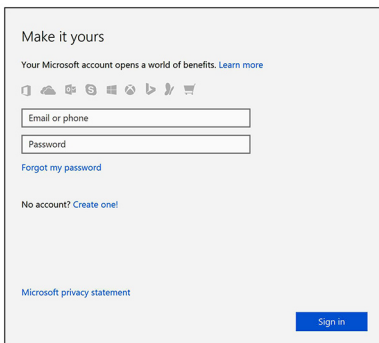


3 Follow the instructions on the screen to finish Windows setup:

a Connect to a network.



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



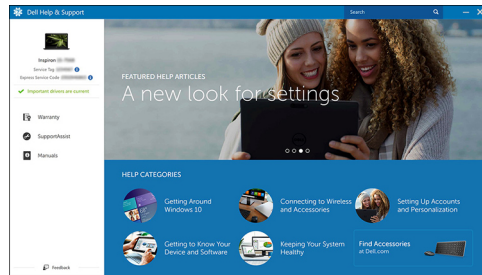
4 Locate Dell apps.

Table 1. Locate Dell apps



Register your computer

Dell Help & Support



SupportAssist — Check and update your computer

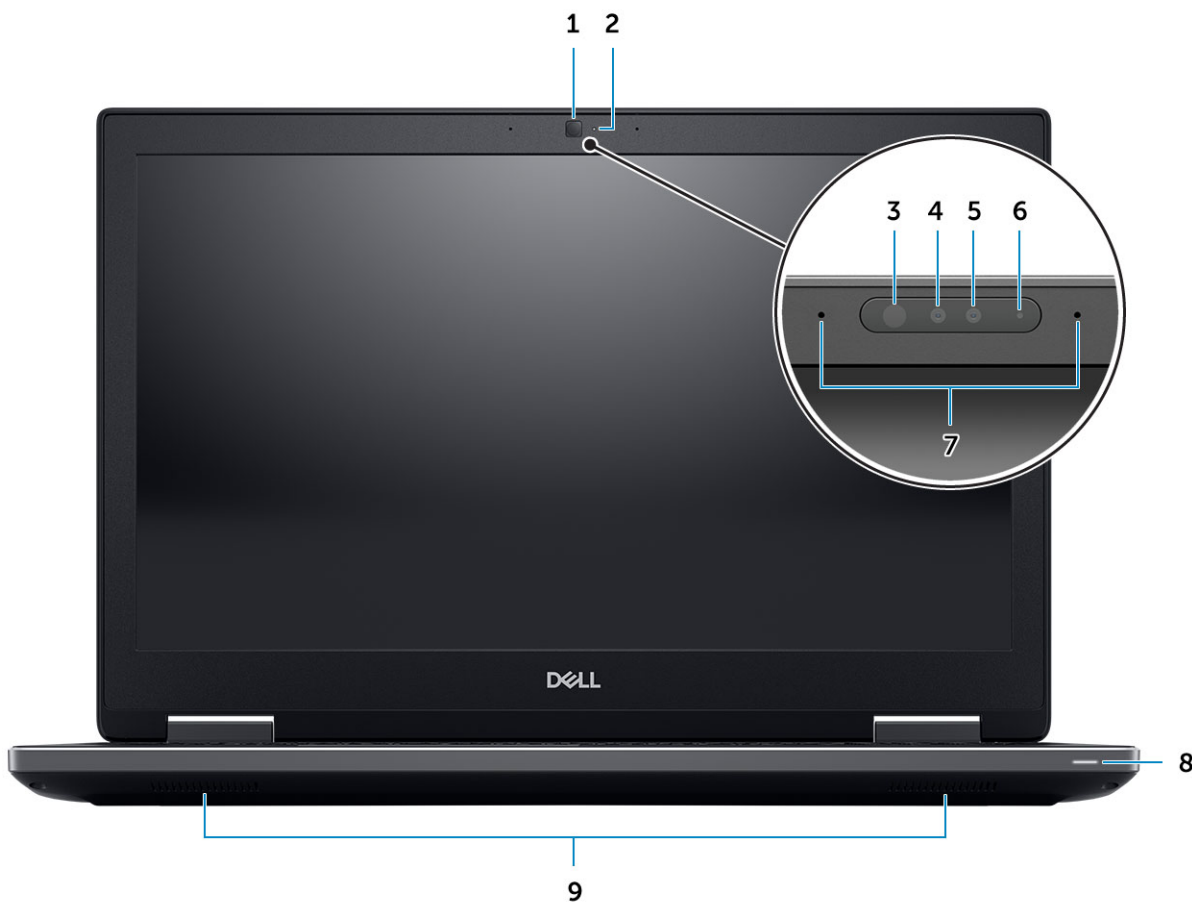
Chassis

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

Topics:

- Front open view
- Left view
- Right view
- Palmrest view
- Back view
- Bottom view

Front open view



1 Camera (optional)

3 Infrared (IR) emitter (optional)

5 Camera (optional)

2 Camera-status light (optional)

4 Infrared (IR) camera (optional)

6 Camera-status light (optional)

7 Microphones (optional)

9 Speakers

8 Battery status light

Left view

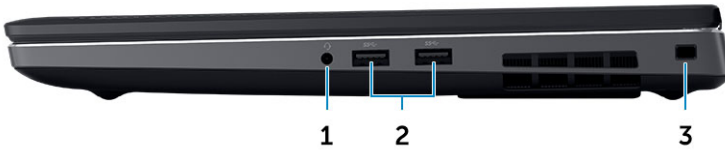


1 Thunderbolt 3 Type-C port

3 Smartcard reader

2 SD Card reader

Right view



1 Headset port

3 Security cable slot

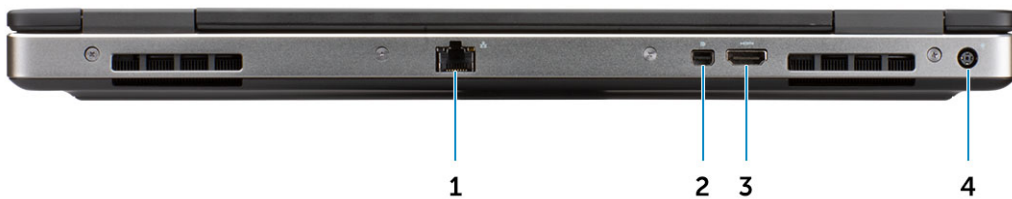
2 USB 3.1 Gen 1 ports

Palmrest view



- 1 Power button
- 2 Fingerprint reader (optional)
- 3 Touchpad

Back view



- 1 RJ45 Network port
- 2 Mini DisplayPort
- 3 HDMI port
- 4 Power connector port

Bottom view



- 1 Service tag label

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:

- [Base](#)
- [System information](#)
- [Processor](#)
- [Memory](#)
- [Storage](#)
- [System board connectors](#)
- [Media card-reader](#)
- [Audio](#)
- [Video](#)
- [Camera](#)
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- [Contactless smart card](#)
- [Display](#)
- [Keyboard](#)
- [Touchpad](#)
- [Operating system](#)
- [Battery](#)
- [Power adapter](#)
- [Dimensions and weight](#)
- [Security](#)

Base

Table 2. Base

Base

Dell Precision 7530 CTO Type C SC Base

Dell Precision 7530 TAA Type C SC Base

Dell Precision 7530 BTX Type C SC Base

System information

Table 3. System information

Chipset	Intel CM246 chipset
DRAM bus width	64-bit per channel (total 128 bit)
FLASH EPROM	48 kHz
PCIe bus	8 Gbps
External bus frequency	DMI 3.0-8GT/s

Processor

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 Core Processor i5-8300H, 4 Core, 8M Cache, 2.30GHz up to 4.0GHz Turbo, 45W	Integrated Intel UHD 630
Intel Core Processor i5-8400H, 4 Core, 8M Cache, 2.50GHz up to 4.1GHz Turbo, 45W, vPro	Integrated Intel UHD 630
Intel Core Processor i7-8750H, 6 Core, 9M Cache, 2.20GHz up to 4.1GHz Turbo, 45W	Integrated Intel UHD 630
Intel Core Processor i7-8850H, 6 Core, 9M Cache, 2.60GHz up to 4.3GHz Turbo, 45W, vPro	Integrated Intel UHD 630
Intel Core Processor i9-8950HK, 6 Core, 12MB Cache, 2.90GHz up to 4.60GHz Turbo, 45W	Integrated Intel UHD 630
Intel Xeon E-2176M, 6 Core Xeon, 12M Cache, 2.70GHz up to 4.40GHz Turbo, 45W, vPro	Integrated Intel UHD P630
Intel Xeon E-2186M, 6 Core Xeon, 12M Cache, 2.90GHz up to 4.60GHz Turbo, 45W, vPro	Integrated Intel UHD P630

Memory

Table 5. Memory specifications

Minimum memory configuration	8 GB
Maximum memory configuration	128 GB
Number of slots	4 SODIMM

Maximum memory supported per slot	32 GB
Memory options	<ul style="list-style-type: none"> • 8 GB - 1 x 8 GB • 16 GB - 2 x 8 GB • 32 GB - 2 x 16 GB • 32 GB - 4 x 8 GB • 64 GB - 4 x 16 GB • 64 GB - 2 x 32 GB • 128 GB - 4 x 32 GB
Type	DDR4 SDRAM ECC and Non-ECC memory
Speed	<ul style="list-style-type: none"> • 2400 MHz • 2666 MHz • 3200 MHz

Storage

Table 6. Storage specifications

Type	Form factor	Interface	Security option	Capacity
Three Solid-State Drive (SSD)	M.2 2280	<ul style="list-style-type: none"> • SATA AHCI, Up to 6 Gbps • PCIe 3 x4 NVMe, Up to 32 Gbps 	SED	<ul style="list-style-type: none"> • Up to 512 GB • Up to 2 TB
One 2.5" Hard-Disk Drive (HDD) with 4 cell battery only	Approximately (2.760 x 3.959 x 0.374 inches)	SATA AHCI, Up to 6 Gbps	SED FIPS	Up to 2 TB

System board connectors

Table 7. System board connectors

M.2 Connectors	<ul style="list-style-type: none"> • Slot 1 3030 socket 1 key A • Slot 2 3042 socket 2 key B • Slot 3 2280 socket 3 key M • Slot 4 2280 socket 3 key M • Slot 5 2280 socket 3 key M
Serial ATA (SATA) connector	1 (with 4 cell battery only)

Media card-reader

Table 8. Media-card reader specifications

Type	One SD-card slot
Supported cards	<ul style="list-style-type: none">• SD• SDHC• SDXC

Audio

Table 9. Audio specifications

Controller	Realtek ALC3281
Type	Four-channel high-definition audio
Speakers	Two (Directional speakers)
Interface	<ul style="list-style-type: none">• Universal audio jack• Stereo headphone• Stereo headset• Stereo line in• Microphone in• Stereo line out
Internal speaker amplifier	2W (RMS) per channel

Video

Table 10. Video specifications

Controller	Type	CPU Dependency	Graphics memory type	Capacity	External display support	Maximum resolution
Intel UHD Graphics 630	UMA	<ul style="list-style-type: none">• Intel Core Processor i5• Intel Core Processor i7• Intel Core Processor i9	Integrated	Shared system memory	HDMI/DP/eDP	4096x2304
Intel UHD Graphics P630	UMA	Intel Xeon	Integrated	Shared system memory	HDMI/DP/eDP	4096x2304
Radeon Pro WX 4150	Discrete	NA	GDDR5	4 GB	HDMI/mDP/eDP/USB-C	<ul style="list-style-type: none">• Single DisplayPort 1.4 - 7680 x 4320 (8k) @ 30 Hz• Dual DisplayPort 1.4 - 7680 x

Controller	Type	CPU Dependency	Graphics memory type	Capacity	External display support	Maximum resolution
						4320 (8k) @ 60 Hz <ul style="list-style-type: none"> HDMI 2.0 - 4096 x 2160 (4K) @ 60 Hz
NVIDIA Quadro P1000	Discrete	NA	GDDR5	4 GB	eDP/mDP/HDMI/Type-C	Max Digital: <ul style="list-style-type: none"> Single DisplayPort 1.4 - 7680 x 4320 (8k) @ 30 Hz (mDP/type-c to DP) Dual DisplayPort 1.4 - 7680 x 4320 (8k) @ 60 Hz (mDP/type-c to DP)
NVIDIA Quadro P2000	Discrete	NA	GDDR5	4 GB	eDP/mDP/HDMI/Type-C	Max Digital: <ul style="list-style-type: none"> Single DisplayPort 1.4 - 7680 x 4320 (8k) @ 30 Hz (mDP/type-c to DP) Dual DisplayPort 1.4 - 7680 x 4320 (8k) @ 60 Hz (mDP/type-c to DP)
NVIDIA Quadro P3200	Discrete	NA	GDDR5	6 GB	eDP/mDP/HDMI/Type-C	Max Digital: <ul style="list-style-type: none"> Single DisplayPort 1.4 - 7680 x 4320 (8k) @ 30 Hz (mDP/type-c to DP) Dual DisplayPort 1.4 - 7680 x 4320 (8k) @ 60 Hz (mDP/type-c to DP)

Camera

Table 11. Camera specifications

Resolution

Camera:

- Still image: 0.92 megapixels
- Video: 1280x720 at 30 fps

Infrared camera (optional on FHD non-touch):

- Still image: 0.30 megapixels

Diagonal viewing angle

- Video: 340x340 at 60 fps
- Camera - 86.7 degrees
- Infrared camera - 70 degrees

Wireless

Table 12. Wireless specifications

Maximum transfer rate	867 Mbps
Frequency bands	2.4 GHz/5 GHz
Encryption	64-bit/128-bit WEP

Ports and connectors

Table 13. Ports and connectors

Memory card reader	SD 4.0 memory card reader
Smart card reader	Standard
USB	Two USB 3.1 Gen 1 ports
Security	Noble wedge lock slot
Docking port	Cable dock support
Audio	<ul style="list-style-type: none">• Headset port• Noise reduction array microphones
Video	<ul style="list-style-type: none">• Mini DisplayPort 1.4• HDMI 2.0
Network adapter	One RJ-45 connector
Thunderbolt	Two thunderbolt 3 Type-C ports

Communications

Table 14. Communications

Network adapter	Integrated Intel i219LM10/100/1000 Mb/s Ethernet (RJ-45) with Intel Remote Wake UP and PXE
Wireless	<ul style="list-style-type: none">• Wi-Fi 802.11n/ac via M.2• Bluetooth

Contactless smart card

Table 15. Contactless smart card

Type	FIPS 201 Smart Card
ISO certification	ISO14443A

Display

Table 16. Display specifications

Type	<ul style="list-style-type: none">• 15.6-inch FHD WVA, 1920x1080 AG, NT, 45% color gamut• 15.6-inch FHD WVA, 1920x1080 AG, NT, 72% color gamut• 15.6-inch FHD WVA, 1920x1080 TL, Touch, 72% color gamut• 15.6-inch FHD WVA, 1920x1080 AG, NT, 100% Adobe
Luminance/Brightness (typical)	<ul style="list-style-type: none">• 220 nits (FHD 45% color gamut)• 300 nits (FHD 72% color gamut)• 350 nits (UHD Adobe 100% color gamut)
Height (Active area)	<ul style="list-style-type: none">• FHD - 193.59 mm (7.62 inches)• UHD - 194.40 mm (7.65 inches)
Width (Active area)	<ul style="list-style-type: none">• FHD - 344.16 mm (13.55 inches)• UHD - 345.60 mm (13.61 inches)
Diagonal	<ul style="list-style-type: none">• FHD - 394.87 mm (15.60 inches)• UHD - 396.52 mm (15.60 inches)
Megapixels	<ul style="list-style-type: none">• FHD - 2.07• UHD - 8.29
Pixels Per Inch (PPI)	<ul style="list-style-type: none">• FHD - 141• UHD - 282
Contrast ratio	<ul style="list-style-type: none">• FHD - 700:1• UHD - 1000:1
Refresh rate	60 Hz
Horizontal viewing angle (min)	80/80 degrees
Vertical viewing angle (min)	80/80 degrees
Pixel pitch	<ul style="list-style-type: none">• FHD - 0.179 mm• UHD - 0.090 mm

Power consumption (max)

- 4.2 W (FHD 45% color gamut)
- 6.2 W (FHD 72% color gamut)
- 7.01 W (UHD Adobe 100% color gamut)

Keyboard

Table 17. Keyboard specifications

Number of keys

- 103 (U.S. and Canada)
- 104 (Europe)
- 106 (Brazil)
- 107 (Japan)

Size

Full sized

- X= 19.00 mm key pitch
- Y= 19.00 mm key pitch

Backlit keyboard

Optional

Layout

QWERTY/AZERTY/Kanji

Touchpad

Table 18. Touchpad specifications

Resolution

- Horizontal: 1048
- Vertical: 984

Dimensions

- Width: 3.92 inches (99.50 mm)
- Height: 2.09 inches (53 mm)

Multi-touch

Configurable single finger and multi-finger gestures

Operating system

Table 19. Operating system

Operating systems supported

- Windows 10 Home (64 bit)
- Windows 10 Professional (64 bit)
- Windows 10 Pro for Workstations (64 bit)
- Ubuntu 16.04 LTS (64bit)
- Red Hat Linux Enterprise 7.5

Battery

Table 20. Battery

Type	<ul style="list-style-type: none">• 64 WHr Lithium ion 4 cell battery with ExpressCharge• 97 WHr Lithium ion 6 cell battery with ExpressCharge• 97 WHr Lithium ion 6 cell battery with three year warranty
Dimension	<ol style="list-style-type: none">1 64 WHr "smart" lithium-ion<ul style="list-style-type: none">• Length - 222.40 mm (8.76 in)• Width - 73.80 mm (2.90 in)• Height - 11.15 mm (0.44 in)• Weight - 298.00 g2 97 WHr "smart" lithium-ion<ul style="list-style-type: none">• Length - 332.00 mm (13.07 in)• Width - 73.80 mm (2.90 in)• Height - 11.15 mm (0.439 in)• Weight - 445.00 g
Weight (maximum)	<ul style="list-style-type: none">• 64 WHr - 2.98 kg (0.66 lb)• 97 WHr - 4.45 kg (0.98 lb)
Voltage	<ul style="list-style-type: none">• 64 WHr - 7.8 VDC• 97 WHr - 11.4 VDC
Life span	300 discharge/recharge cycles
Charging time when the computer is off (approximate)	4 hours
Operating time	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions
Temperature range: Operating	0°C to 35°C (32°F to 95°F)
Temperature range: Storage	-40°C to 65°C (-40°F to 149°F)
Coin-cell battery	ML1220

Power adapter

Table 21. Power adapter specifications

Type	180 W adapter
Input Voltage	100 to 240 VAC
Input current (maximum)	180 W - 2.34 A
Input frequency	50 Hz to 60 Hz

Output current	180 W - 9.23 A (continuous)
Rated output voltage	19.5 VDC
Temperature range (Operating)	0° to 40° C (32° to 104° F)
Temperature range (Non-Operating)	40° to 70° C (-40° to 158° F)

Dimensions and weight

Table 22. Dimensions and weight

Height	Front height (Touch) - 1.02 inches (25.9 mm)
	Rear height (Touch) - 1.21 inches (30.85 mm)
	Front height (Non-touch) - 0.98 inches (25.0 mm)
	Rear height (Non-touch) - 1.80 inches (29.95 mm)
Width	14.87 inches (377.60 mm)
Depth	9.89 inches (251.30 mm)
Weight	Starting 5.57 lbs (2.52 kg)

Security

Table 23. Security

Trusted Platform Module (TPM) 2.0	Integrated on system board
Smartcard	Yes

System setup

System setup enables you to manage your notebook 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:

- [BIOS overview](#)
- [General options](#)
- [System configuration](#)
- [Video screen options](#)
- [Security](#)
- [Secure boot](#)
- [Intel Software Guard Extensions options](#)
- [Performance](#)
- [Power management](#)
- [Post behavior](#)
- [Virtualization support](#)
- [Wireless options](#)
- [Maintenance](#)
- [System logs](#)

BIOS overview

⚠ 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.

ℹ 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.

General options



Table 24. General

Option	Description
System Information	<p>This section lists the primary hardware features of your computer.</p> <p>The options are:</p> <ul style="list-style-type: none">• System Information• Memory Configuration• Processor Information• Device Information
Battery Information	<p>Displays the battery status and the type of AC adapter connected to the computer.</p>
Boot Sequence	<p>Allows you to change the order in which the computer attempts to find an operating system.</p> <p>The options are:</p> <ul style="list-style-type: none">• Windows Boot Manager• Boot List Option: Allows you to change the boot list options. Click one of the following options:<ul style="list-style-type: none">– Legacy External Devices– UEFI—Default
Advanced Boot Options	<p>Allows you to Enable Legacy Option ROMs.</p> <p>The options are:</p> <ul style="list-style-type: none">• Enable Legacy Option ROMs—Default• Enable Attempt Legacy Boot
UEFI Boot Path Security	<p>Allows you to control whether the system prompts the user to enter the Admin password when booting to a UEFI boot path.</p> <p>Click one of the following options:</p> <ul style="list-style-type: none">• Always, Except Internal HDD—Default• Always• Never
Date/Time	<p>Allows you to set the date and time. The change to the system date and time takes effect immediately.</p>

System configuration

Table 25. System Configuration

Option	Description
Integrated NIC	Allows you to configure the integrated network controller.

Option	Description
SATA Operation	<p>Click one of the following options:</p> <ul style="list-style-type: none"> • Disabled • Enabled • Enabled w/PXE—Default <p>Allows you to configure the operating mode of the integrated SATA hard-drive controller.</p> <p>Click one of the following options:</p> <ul style="list-style-type: none"> • Disabled • AHCI • RAID On—Default <p> NOTE: SATA is configured to support RAID mode.</p>
Drives	<p>Allows you to enable or disable various drives on board.</p> <p>The options are:</p> <ul style="list-style-type: none"> • SATA-1 • SATA-4 • M.2 PCIe SSD-0 • M.2 PCIe SSD-1 <p>All the options are set by default.</p>
SMART Reporting	<p>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.</p> <ul style="list-style-type: none"> • Enable SMART Reporting
USB Configuration	<p>Allows you to enable or disable the internal/integrated USB configuration.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Enable USB Boot Support • Enable External USB Ports <p>All the options are set by default.</p> <p> NOTE: USB keyboard and mouse always work in the BIOS setup irrespective of these settings.</p>
Dell Type-C Dock Configuration	<p>Always allow Dell docks. This setting affects only the Type-C ports connected to a Dell WD or TB dock.</p>
Thunderbolt Adapter Configuration	<p>Allows you to configure the Thunderbolt adapter security settings within the operating system.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Enable Thunderbolt Technology Support—Default • Enable Thunderbolt Adapter Boot Support • Enable Thunderbolt Adapter Pre-boot Modules

Option	Description
Thunderbolt Auto Switch USB PowerShare	<p>Choose any one option:</p> <ul style="list-style-type: none"> • Security level - No Security • Security level - User Authorization—Default • Security level - Secure Connect • Security level - Display Port Only <p>Allows auto switch the thunderbolt option.</p> <p>This field configures the USB PowerShare feature behavior. This option allows you to charge external devices using the stored system battery power through the USB PowerShare port (disabled by default).</p> <ul style="list-style-type: none"> • Enable USB PowerShare
Audio	<p>Allows you to enable or disable the integrated audio controller. By default, the Enable Audio option is selected.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Enable Microphone • Enable Internal Speaker <p>This option is set by default.</p>
Keyboard Illumination	<p>This field lets you choose the operating mode of the keyboard illumination feature. The keyboard brightness level can be set from 0% to 100%.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Disabled • Dim • Bright—Default
Keyboard Backlight Timeout on AC	<p>Allows to define the timeout value for the keyboard backlight when an AC adapter is plugged in the system. The Keyboard Backlight timeout value is only in effect when the backlight is enabled.</p> <ul style="list-style-type: none"> • 5 seconds • 10 seconds—Default • 15 seconds • 30 seconds • 1 minute • 5 minutes • 15 minutes • Never
Keyboard Backlight Timeout on Battery	<p>Allows to define the timeout value for the keyboard backlight when the system is running only on battery power. The Keyboard Backlight timeout value is only in effect when the backlight is enabled.</p> <ul style="list-style-type: none"> • 5 seconds • 10 seconds—Default • 15 seconds • 30 seconds • 1 minute • 5 minutes

Option	Description
	<ul style="list-style-type: none"> • 15 minutes • Never
Unobtrusive Mode	Allows you to turn off all light and sound emissions in the system when you press Fn+F7. This option is disabled by default.
Miscellaneous devices	<p>Allows you to enable or disable various on board devices.</p> <ul style="list-style-type: none"> • Enable Camera—Default • Enable Hard Drive Free Fall Protection—Default • Enable Secure Digital (SD) Card—Default • Secure Digital (SD) Card Boot • Secure Digital Card (SD) Read-Only Mode

Video screen options

Table 26. Video


Option	Description
LCD Brightness	Allows you to set the display brightness depending upon the power source. On Battery(50% is default) and On AC (100 % default).

Security

Table 27. Security

Option	Description
Admin Password	<p>Allows you to set, change, or delete the administrator(admin) password.</p> <p>The entries to set password are:</p> <ul style="list-style-type: none"> • Enter the old password: • Enter the new password: • Confirm new password: <p>Click OK once you set the password.</p> <p>i NOTE: For the first time login, "Enter the old password:" field is marked to "Not set". Hence, password has to be set for the first time you login and then you can change or delete the password.</p>
System Password	<p>Allows you to set, change, or delete the System password.</p> <p>The entries to set password are:</p> <ul style="list-style-type: none"> • Enter the old password: • Enter the new password: • Confirm new password: <p>Click OK once you set the password.</p> <p>i NOTE: For the first time login, "Enter the old password:" field is marked to "Not set". Hence, password has to be set for the first time you login and then you can change or delete the password.</p>

Option	Description
Strong Password	<p>Allows you to enforce the option to always set strong password.</p> <ul style="list-style-type: none"> • Enable Strong Password <p>This option is not set by default.</p>
Password Configuration	<p>You can define the length of your password. Min = 4, Max = 32</p>
Password Bypass	<p>Allows you to bypass the System password and the Internal HDD password, when it is set, during a system restart.</p> <p>Click one of the options:</p> <ul style="list-style-type: none"> • Disabled—Default • Reboot bypass
Password Change	<p>Allows you to change the System password when the administrator password is set.</p> <ul style="list-style-type: none"> • Allow Non-Admin Password Changes <p>This option is set by default.</p>
Non-Admin Setup Changes	<p>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.</p> <ul style="list-style-type: none"> • Allow Wireless Switch Changes <p>This option is not set by default.</p>
UEFI Capsule Firmware Updates	<p>Allows you to update the system BIOS via UEFI capsule update packages.</p> <ul style="list-style-type: none"> • Enable UEFI Capsule Firmware Updates <p>This option is set by default.</p>
TPM 2.0 Security	<p>Allows you to enable or disable the Trusted Platform Module (TPM) during POST.</p> <p>The options are:</p> <ul style="list-style-type: none"> • TPM On—Default • Clear • PPI Bypass for Enable Command—Default • PPI Bypass for Disable Command • PPI Bypass for Clear Command • Attestation Enable—Default • Key Storage Enable—Default • SHA-256—Default
Computrace (R)	<p>Allows you to activate or disable the optional Computrace software.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Deactivate • Disable • Activate—Default
OROM keyboard Access	<p>Allows you to enable or disable Option ROM configuration screens via hotkeys during boot.</p> <ul style="list-style-type: none"> • Enable—Default • Disable

Option	Description
	<ul style="list-style-type: none"> • One Time Enable
Admin Setup Lockout	<p>Allows you to prevent users from entering Setup when an administrator password is set.</p> <ul style="list-style-type: none"> • Enable Admin Setup Lockout <p>This option is not set by default.</p>
Master Password Lockout	<p>Allows you to disable master password support.</p> <ul style="list-style-type: none"> • Enable Master Password Lockout <p>This option is not set by default.</p> <p> NOTE: Hard Disk password should be cleared before the settings can be changed.</p>
SMM Security Mitigation	<p>Allows you to enable or disable additional UEFI SMM Security Mitigation protection.</p> <ul style="list-style-type: none"> • SMM Security Mitigation <p>This option is not set by default.</p>

Secure boot

Table 28. Secure Boot

Option	Description
Secure Boot Enable	<p>Allows you to enable or disable the Secure Boot Feature.</p> <ul style="list-style-type: none"> • Secure Boot Enable—Default
Secure Boot Mode	<p>Changes to the Secure Boot operation mode modifies the behaviour of Secure Boot to allow evaluation of UEFI driver signatures.</p> <p>Choose one of the option:</p> <ul style="list-style-type: none"> • Deployed Mode—Default • Audit Mode
Expert Key Management	<p>Allows you to enable or disable Expert Key Management.</p> <ul style="list-style-type: none"> • Enable Custom Mode <p>This option is not set by default.</p> <p>The Custom Mode Key Management options are:</p> <ul style="list-style-type: none"> • PK—Default • KEK • db • dbx

Intel Software Guard Extensions options

Table 29. Intel Software Guard Extensions

Option	Description
Intel SGX Enable	<p>This field specifies you to provide a secured environment for running code/storing sensitive information in the context of the main OS.</p> <p>Click one of the following options:</p> <ul style="list-style-type: none">• Disabled• Enabled• Software controlled—Default
Enclave Memory Size	<p>This option sets SGX Enclave Reserve Memory Size</p> <p>Click one of the following options:</p> <ul style="list-style-type: none">• 32 MB• 64 MB• 128 MB—Default

Performance

Table 30. Performance


Option	Description
Multi Core Support	<p>This field specifies whether the process has one or all cores enabled. The performance of some applications improves with the additional cores.</p> <ul style="list-style-type: none">• All—Default• 1• 2• 3
Intel SpeedStep	<p>Allows you to enable or disable the Intel SpeedStep mode of processor.</p> <ul style="list-style-type: none">• Enable Intel SpeedStep <p>This option is set by default.</p>
C-States Control	<p>Allows you to enable or disable the additional processor sleep states.</p> <ul style="list-style-type: none">• C states <p>This option is set by default.</p>
Intel TurboBoost	<p>Allows you to enable or disable the Intel TurboBoost mode of the processor.</p> <ul style="list-style-type: none">• Enable Intel TurboBoost <p>This option is set by default.</p>

Option	Description
Hyper-Thread Control	<p>Allows you to enable or disable the HyperThreading in the processor.</p> <ul style="list-style-type: none"> • Disabled • Enabled—Default

Power management

Table 31. Power Management

Option	Description
AC Behavior	<p>Allows you to enable or disable the computer from turning on automatically when an AC adapter is connected.</p> <ul style="list-style-type: none"> • Wake on AC <p>This option is not set by default.</p>
Enable Intel Speed Shift Technology	<p>Allows you to enable or disable the Intel Speed Shift Technology.</p> <ul style="list-style-type: none"> • Enabled—Default
Auto On Time	<p>Allows you to set the time at which the computer must turn on automatically.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Disabled—Default • Every Day • Weekdays • Select Days <p>This option is not set by default.</p>
USB Wake Support	<p>Allows you to enable USB devices to wake the system from standby.</p> <ul style="list-style-type: none"> • Enable USB Wake Support <p>This option is not set by default.</p>
Wireless Radio Control	<p>This option if enabled, will sense the connection of the system to a wired network and subsequently disable the selected wireless radios (WLAN and/or WWAN). Upon disconnection from the wired network the selected wireless radio will be enabled.</p> <ul style="list-style-type: none"> • Control WLAN radio • Control WWAN radio <p>This option is not set by default.</p>
Wake on LAN	<p>This option allows the computer to power up from the off state when triggered by a special LAN signal. Wake-up from the Standby state is unaffected by this setting and must be enabled in the operating system. This feature only works when the computer is connected to AC power supply.</p> <ul style="list-style-type: none"> • Disabled—Default - Does not allow the system to power on by special LAN signals when it receives a wake-up signal from the LAN or wireless LAN. • LAN Only - Allows the system to be powered on by special LAN signals. • WLAN Only - Allows the system to be powered on by special WLAN signals. • LAN or WLAN - Allows the system to be powered on by special LAN or WLAN signals.

Option	Description
Block Sleep	Allows you to block entering to sleep in OS environment.
Advanced Battery Charge Configuration	This option enables you to maximize the battery health. By enabling this option, your system uses the standard charging algorithm and other techniques, during the non-work hours to improve the battery health.
Primary Battery Charge Configuration	<p>Allows you to select the charging mode for the battery.</p> <p>The options are:</p> <ul style="list-style-type: none"> • Adaptive—Default • Standard - Fully charges your battery at a standard rate. • ExpressCharge- The battery charges over a shorter period of time using Dell's fast charging technology. • Primarily AC use • Custom <p>If Custom Charge is selected, you can also configure Custom Charge Start and Custom Charge Stop.</p> <p> NOTE: All charging mode may not be available for all the batteries. To enable this option, disable the Advanced Battery Charge Configuration option.</p>

Post behavior

Table 32. POST Behavior

Option	Description
Adapter Warnings	<p>Allows you to enable or disable the system setup (BIOS) warning messages when you use certain power adapters.</p> <ul style="list-style-type: none"> • Enable Adapter Warnings—Default
Numlock Enable	<p>Allows you to enable or disable the Numlock function when the system boots.</p> <ul style="list-style-type: none"> • Enable Numlock—Default
Fn Lock Options	<p>Allows you to let hot key combinations Fn + Esc toggle the primary behavior of F1–F12, between their standard and secondary functions. If you disable this option, you cannot toggle dynamically the primary behavior of these keys.</p> <ul style="list-style-type: none"> • Fn Lock—Default <p>Click one of the following options:</p> <ul style="list-style-type: none"> • Lock Mode Disable/Standard • Lock Mode Enable/Secondary—Default
Fastboot	<p>Allows you to speed up the boot process by bypassing some of the compatibility steps.</p> <p>Click one of the following options:</p> <ul style="list-style-type: none"> • Minimal • Thorough—Default • Auto
Extended BIOS POST Time	<p>Allows you to create an additional preboot delay.</p> <p>Click one of the following options:</p>

Option	Description
	<ul style="list-style-type: none"> • 0 seconds—Default • 5 seconds • 10 seconds
Full Screen Logo	<p>Allows you to display full screen logo, if your image matches screen resolution.</p> <ul style="list-style-type: none"> • Enable Full Screen Logo <p>This option is not set by default.</p>
Sign of Life Indication	<p>Allows the system to indicate during POST that the power button press has been acknowledged by turning on the keyboard backlight.</p>
Warnings and Errors	<p>Allows you to select different options to either stop, prompt and wait for user input, continue when warnings are detected but pause on errors, or continue when either warnings or errors are detected during the POST process.</p> <p>Click one of the following options:</p> <ul style="list-style-type: none"> • Prompt on Warnings and Errors—Default • Continue on Warnings • Continue on Warnings and Errors

Virtualization support

Table 33. Virtualization Support

Option	Description
Virtualization	<p>This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by the Intel Virtualization technology.</p> <ul style="list-style-type: none"> • Enable Intel Virtualization Technology <p>This option is set by default.</p>
VT for Direct I/O	<p>Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by the Intel Virtualization technology for direct I/O.</p> <ul style="list-style-type: none"> • Enable VT for Direct I/O <p>This option is set by default.</p>

Wireless options


Table 34. Wireless

Option	Description
Wireless Switch	<p>Allows to set the wireless devices that can be controlled by the wireless switch.</p> <p>The options are:</p> <ul style="list-style-type: none"> • WWAN • GPS (on WWAN Module) • WLAN

Option	Description
	<ul style="list-style-type: none"> • Bluetooth <p>All the options are enabled by default.</p>
Wireless Device Enable	<p>Allows you to enable or disable the internal wireless devices.</p> <p>The options are:</p> <ul style="list-style-type: none"> • WWAN/GPS • WLAN • Bluetooth <p>All the options are enabled by default.</p>

Maintenance

Table 35. Maintenance

Option	Description
Service Tag	Displays the service tag of your computer.
Asset Tag	<p>Allows you to create a system asset tag if an asset tag is not already set.</p> <p>This option is not set by default.</p>
BIOS Downgrade	<p>Allows you to flash previous revisions of the system firmware.</p> <ul style="list-style-type: none"> • Allow BIOS Downgrade <p>This option is set by default.</p>
Data Wipe	<p>Allows you to securely erase data from all internal storage devices.</p> <ul style="list-style-type: none"> • Wipe on Next Boot <p>This option is not set by default.</p>
Bios Recovery	<p>BIOS Recovery from Hard Drive—This option is set by default. Allows you to recover the corrupted BIOS from a recovery file on the HDD or an external USB key.</p> <p>BIOS Auto-Recovery— Allows you to recover the BIOS automatically.</p> <p> NOTE: BIOS Recovery from Hard Drive field should be enabled.</p> <p>Always Perform Integrity Check—Performs integrity check on every boot.</p>

System logs

Table 36. System Logs

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

Option**Description**

Power Events

Allows you to view and clear the System Setup (Power) events.

Software

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

Topics:

- [Operating system](#)
- [Downloading drivers](#)
- [Network adapter drivers](#)
- [Audio drivers](#)
- [Display adapter](#)
- [Security drivers](#)
- [Storage controller](#)
- [System device drivers](#)
- [Other device drivers](#)
- [Identifying Windows 10 OS version](#)

Operating system

Table 37. Operating system

Operating systems supported

- Windows 10 Home (64 bit)
- Windows 10 Professional (64 bit)
- Windows 10 Pro for Workstations (64 bit)
- Ubuntu 16.04 LTS (64bit)
- Red Hat Linux Enterprise 7.5

Downloading drivers

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

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

- 4 Click **Drivers and Downloads**.
- 5 Select the operating system installed on your notebook.
- 6 Scroll down the page and select the driver to install.
- 7 Click **Download File** to download the driver for your notebook.
- 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.

Network adapter drivers

Verify if the Network adapter drivers are already installed in the system.

- Network adapters
 - Bluetooth Device (Personal Area Network)
 - Bluetooth Device (RFCOMM Protocol TDI)
 - Intel(R) Ethernet Connection (7) I219-LM
 - Qualcomm QCA61x4A 802.11ac Wireless Adapter

Audio drivers

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

- Audio inputs and outputs
 - Microphone Array (Realtek Audio)
 - Speakers / Headphones (Realtek Audio)
- Sound, video and game controllers
 - Intel(R) Display Audio
 - Realtek Audio

Display adapter

Verify if the display adapter drivers are already installed in the system.

- Display adapters
 - Intel(R) UHD Graphics 630

Security drivers

Verify if the security drivers are already installed in the system.

- Security devices
 - Trusted Platform Module 2.0

Storage controller

Verify if the storage control drivers are already installed in the system.

- Storage controllers
 - Intel(R) Chipset SATA/PCIe RST Premium Controller
 - Microsoft Storage Spaces Controller

System device drivers

Verify if the system device drivers are already installed in the system.

- System devices
 - 8th Gen Intel(R) Core(TM) Host Bridge/DRAM Registers - 3E10
 - ACPI Fixed Feature Button
 - ACPI Lid
 - ACPI Power Button
 - ACPI Processor Aggregator
 - ACPI Sleep Button
 - ACPI Thermal Zone
 - CannonLake LPC Controller (CM246) - A30E
 - CannonLake PCI Express Root Port #1 - A338
 - CannonLake PCI Express Root Port #6 - A33D
 - CannonLake PCI Express Root Port #7 - A33E
 - CannonLake SMBus - A323
 - CannonLake SPI (flash) Controller - A324
 - CannonLake Thermal Subsystem - A379
 - Charge Arbitration Driver
 - Composite Bus Enumerator
 - Dell Diag Control Device
 - Dell System Analyzer Control Device
 - DPO Control Device
 - High Definition Audio Controller
 - High precision event timer
 - Intel(R) Dynamic Platform and Thermal Framework Generic Participant
 - Intel(R) Dynamic Platform and Thermal Framework Generic Participant
 - Intel(R) Dynamic Platform and Thermal Framework Generic Participant
 - Intel(R) Dynamic Platform and Thermal Framework Generic Participant
 - Intel(R) Dynamic Platform and Thermal Framework Manager
 - Intel(R) Dynamic Platform and Thermal Framework Processor Participant
 - Intel(R) Management Engine Interface
 - Intel(R) Power Engine Plug-in
 - Intel(R) Serial IO GPIO Host Controller - INT3450
 - Intel(R) Serial IO I2C Host Controller - A368
 - Intel(R) Serial IO I2C Host Controller - A369
 - Intel(R) Xeon(R) E3 - 1200/1500 v5/6th Gen Intel(R) Core(TM) Gaussian Mixture Model - 1911
 - Microsoft ACPI-Compliant Embedded Controller
 - Microsoft ACPI-Compliant System
 - Microsoft System Management BIOS Driver
 - Microsoft UEFI-Compliant System
 - Microsoft Virtual Drive Enumerator
 - Microsoft Windows Management Interface for ACPI
 - Microsoft Windows Management Interface for ACPI
 - Microsoft Windows Management Interface for ACPI

- Microsoft Windows Management Interface for ACPI
- NDIS Virtual Network Adapter Enumerator
- NFC USB Bus Driver
- Numeric data processor
- PCI Express Root Complex
- PCI standard RAM Controller
- Plug and Play Software Device Enumerator
- Programmable interrupt controller
- Remote Desktop Device Redirector Bus
- STMicroelectronics 3-Axis Digital Accelerometer
- System CMOS/real time clock
- System timer

Other device drivers

Verify if the following drivers are already installed in the system.

Control Vault Device

- ControlVault Device
 - Dell ControlVault w/ Fingerprint Touch Sensor

Universal Serial Bus Controller

- Universal Serial Bus controllers
 - Intel(R) USB 3.1 eXtensible Host Controller - 1.10 (Microsoft)
 - UCSI USB Connector Manager
 - USB Composite Device
 - USB Composite Device
 - USB Root Hub (USB 3.0)

Software components

- Software devices
 - Microsoft Device Association Root Enumerator
 - Microsoft GS Wavetable Synth

Smart card reader

- Smart card readers
 - Microsoft Usbccid Smartcard Reader (WUDF)
 - Microsoft Usbccid Smartcard Reader (WUDF)

Mice and other pointing devices

- Mice and other pointing devices
 - HID-compliant mouse

Memory technology devices

- Memory technology devices
 - Realtek PCIE CardReader

Firmware

- Firmware
 - System Firmware

Identifying Windows 10 OS version

Run dialog box with the Windows Key + R keyboard shortcut. Once that box shows up, enter winver (it stands for Windows version).

Table 38. Identifying Windows 10 OS version

OS Version	Code name	Version	Latest build
Windows 10	Threshold 1	1507	10240
Windows 10	Threshold 2	1511	10586
Windows 10	Redstone 1	1607	14393
Windows 10	Redstone 2	1703	15063
Windows 10	Redstone 3	1709	16299
Windows 10	Redstone 4	1803	17134

Getting help

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.