Dell Precision 3240 Compact

Setup and Specifications

Notes, cautions, and warnings

NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

**WARNING: A WARNING indicates a potential for property damage, personal injury, or death.**

Contents

Set up your computer

Steps

1. Connect the keyboard and mouse.
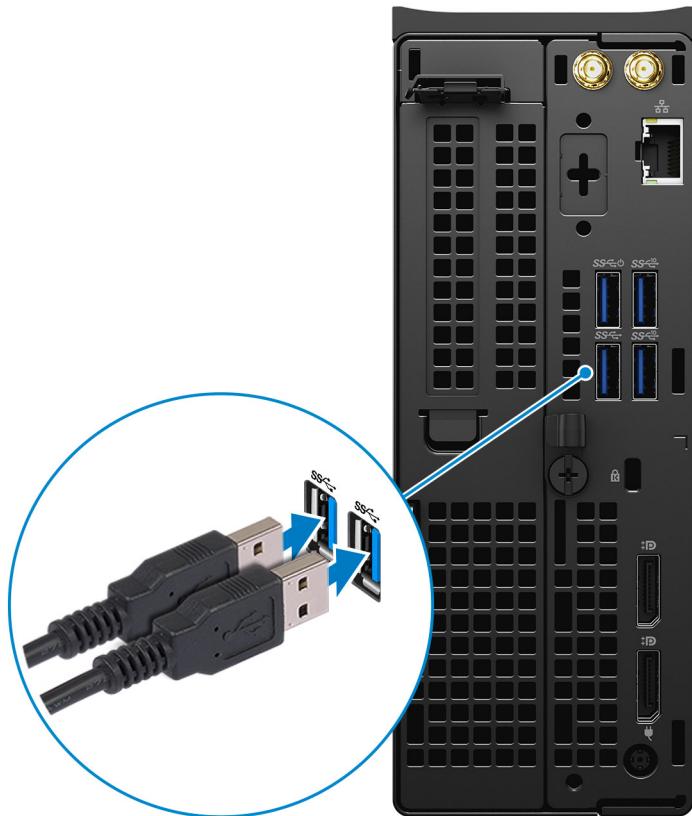
2. Connect to your network using a cable, or connect to a wireless network.

   (i) **NOTE:** The wireless network card is optional and needs to be purchased separately.
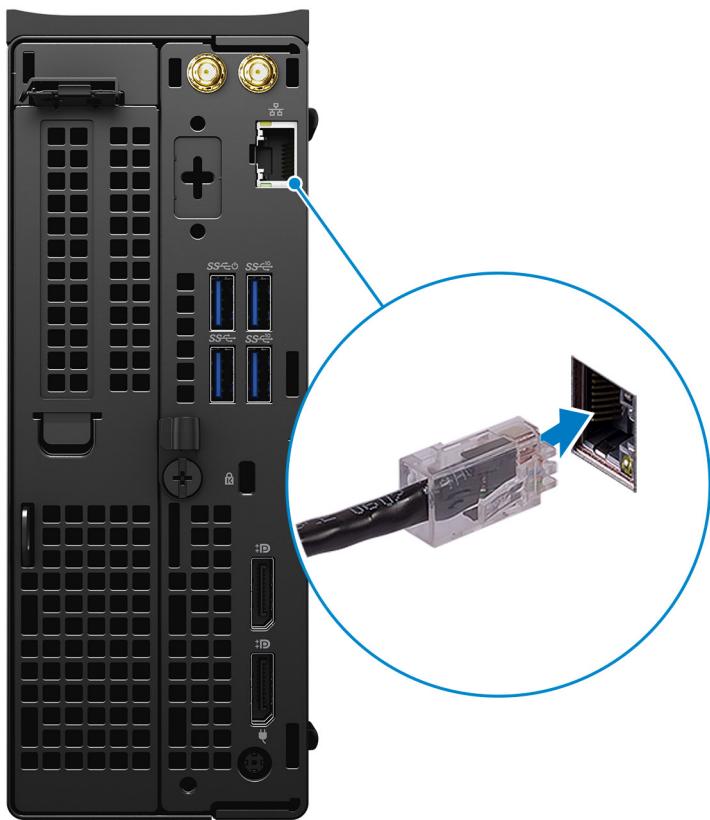
3. Connect the display.

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

4. Connect the power adapter.
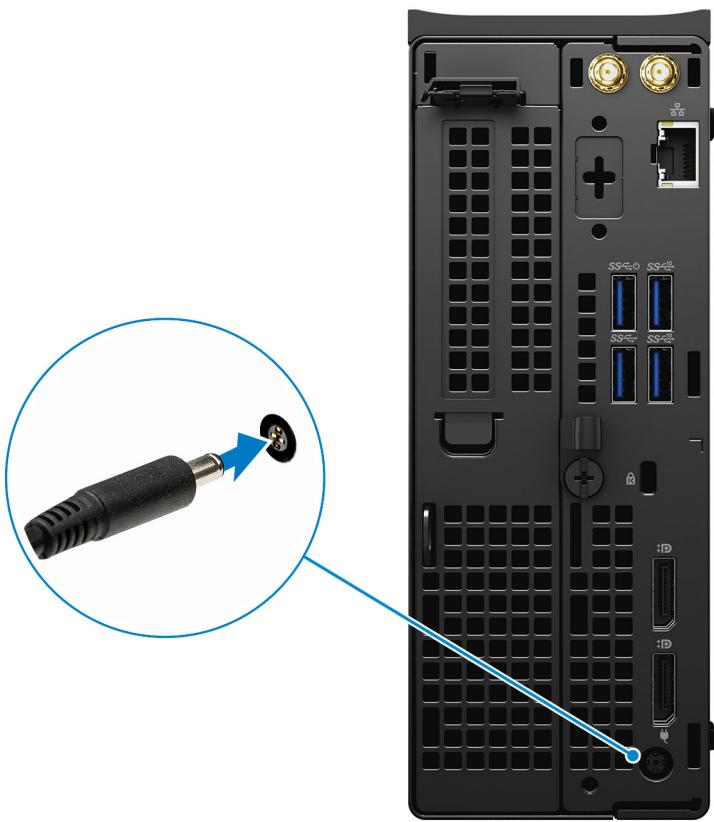
5. Press the power button.

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

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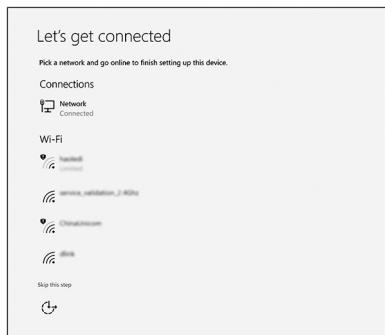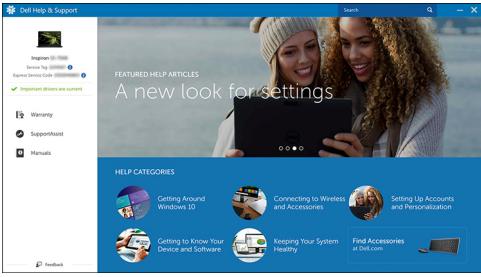
    b. Sign-in to your Microsoft account or create a new account.

Make it yours

Your Microsoft account opens a world of benefits. Learn more

Email or phone

Password

Forgot my password

No account? Create one!

Microsoft privacy statement

Sign in
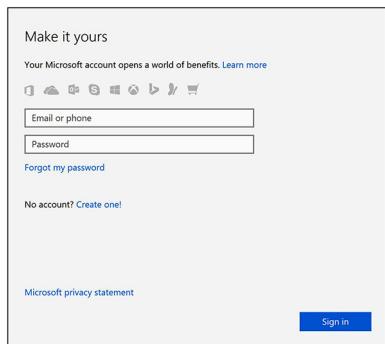
7. Locate Dell apps.

Table 1. Locate Dell apps

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

Views of Precision 3240 Compact

Front
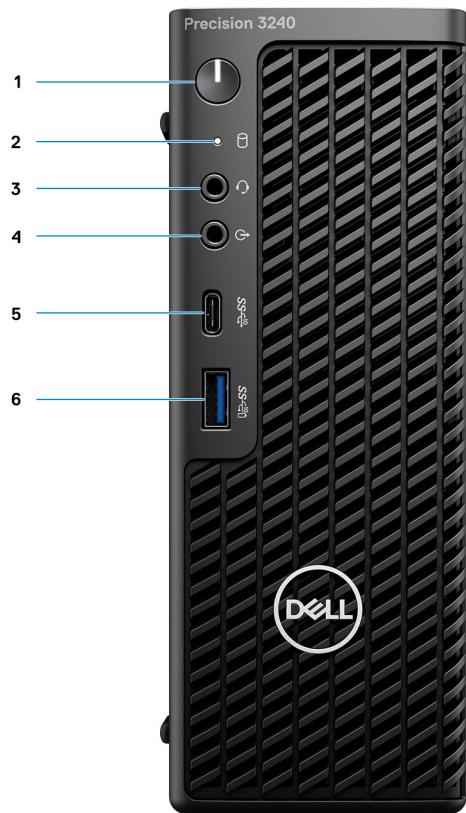
1. Power button (Diagnostics indicator)
2. Storage activity LED
3. Headset port
4. Line-out/Line-in audio port
5. USB 3.2 Type-C Gen 2 (10 Gbps)
6. USB 3.2 Type-A Gen 2 (10 Gbps), with PowerShare

Back
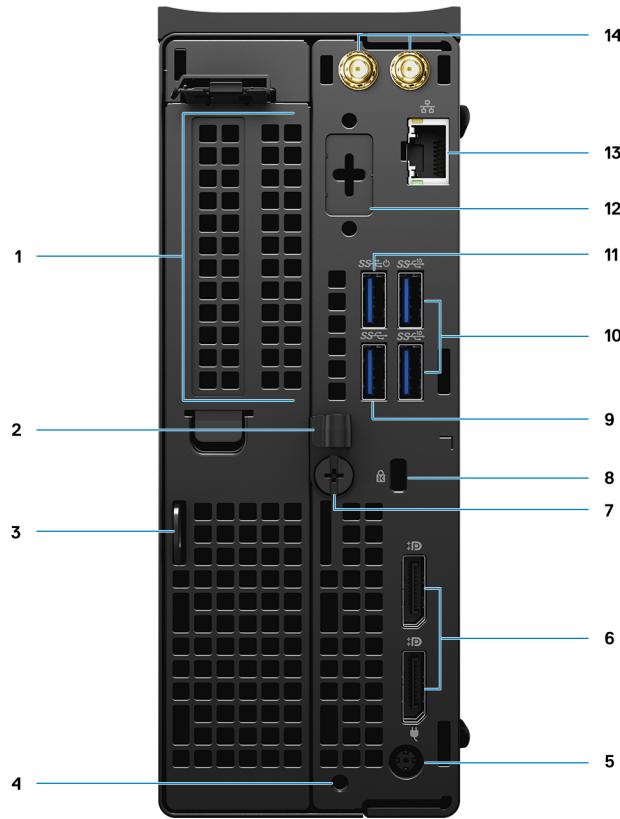
1. Expansion card slot
2. Cable management bracket
3. Padlock hoop
4. Mounting screw hole
5. Power adapter port
6. Two DisplayPort 1.4
7. Thumbscrew
8. Kensington cable lock slot
9. USB 3.2 Type-A Gen 1 (5 Gbps)
10. Two USB 3.2 Type-A Gen 2 (10 Gbps)
11. USB 3.2 Type-A Gen 1 (5 Gbps), with SmartPower
12. Optional Port (VGA, HDMI 2.0, DisplayPort++ 1.4, USB Type-C with DP 1.4-alt mode)
13. RJ45 Network Connector
14. Integrated external SMA antenna connectors (Optional)

Side
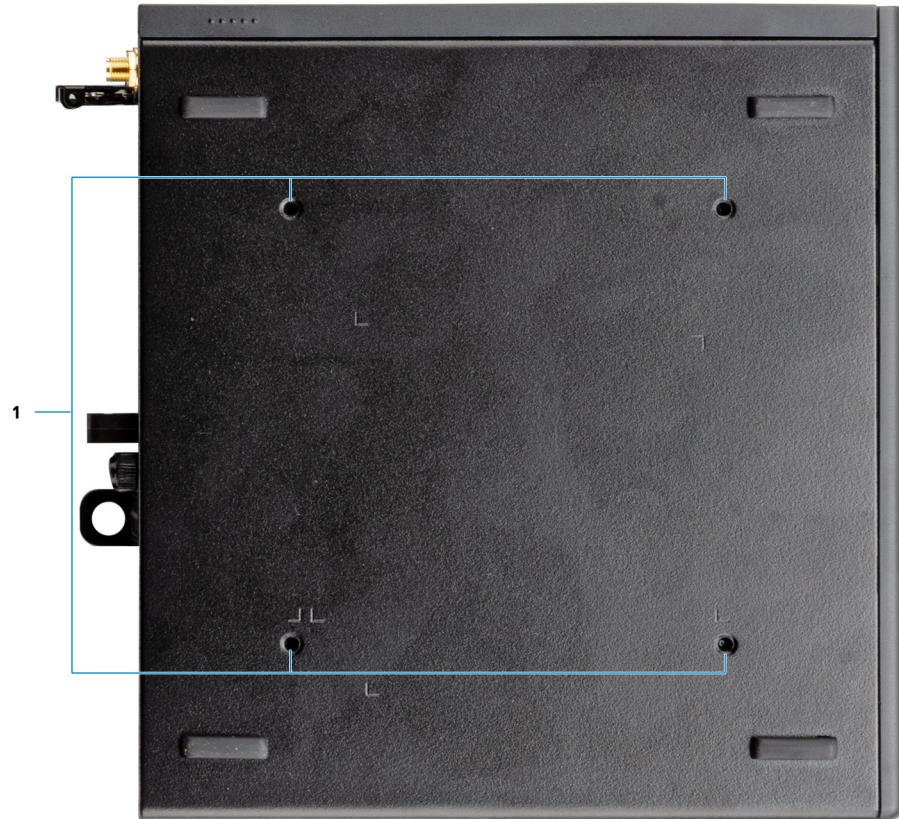
1. Four M4x10 screw posts for VESA mounting options.

ⓘ **NOTE:** The Dell Precision 3240 Compact system has screw holes 100 mmx100 mm apart.

Specifications of Precision 3240 Compact

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.

Dimensions and weight

Table 2. Dimensions and weight

Description	Values
Height	188.10 mm (7.40 in.)
Width	70.20 mm (2.76 in.)
Depth	178.65 mm (7.03 in.)
Weight (approximate)	1.71 kg (3.77 lb)
ⓘ **NOTE:** The weight of your system unit varies depending on the configuration ordered and the manufacturing variability.	

Processors

ⓘ **NOTE:** 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.

Device Guard (DG) and Credential Guard (CG) are the new security features that are only available on Windows 10 Enterprise today. Device Guard is a combination of enterprise-related hardware and software security features. When you configure them together, it locks a device down so that it can only run trusted applications. Credential Guard uses virtualization-based security to isolate secrets (credentials) so that only privileged system software can access them. Unauthorized access to these secrets can lead to credential theft attacks. Credential Guard prevents these attacks by protecting NT LAN Manager (NTLM) password hashes and Kerberos Ticket Granting Tickets.

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

Table 3. Processors

Processors	Wattage	Core count	Thread count	Speed	Cache	Integrated graphics
10th Generation Intel Core i3-10100	65 W	4	8	3.6 GHz to 4.3 GHz	6 MB	Intel UHD Graphics 630
10th Generation Intel Core i5-10500	65 W	6	12	3.1 GHz to 4.5 GHz	12 MB	Intel UHD Graphics 630

Table 3. Processors (continued)

Processors	Wattage	Core count	Thread count	Speed	Cache	Integrated graphics
10th Generation Intel Core i5-10600	65 W	6	12	3.3 GHz to 4.8 GHz	12 MB	Intel UHD Graphics 630
10th Generation Intel Core i7-10700	65 W	8	16	2.9 GHz to 4.7 GHz	16 MB	Intel UHD Graphics 630
10th Generation Intel Core i9-10900	65 W	10	20	2.8 GHz to 5.2 GHz	20 MB	Intel UHD Graphics 630
10th Generation Intel Xeon W-1250	80 W	6	12	3.3 GHz to 4.7 GHz	12 MB	Intel UHD Graphics P630
10th Generation Intel Xeon W-1270	80 W	8	16	3.4 GHz to 4.9 GHz	16 MB	Intel UHD Graphics P630
10th Generation Intel Xeon W-1290	80 W	10	20	3.2 GHz to 5.2 GHz	20 MB	Intel UHD Graphics P630

(i) **NOTE:** 10th Generation Intel Core i3-10100, i5-10500, i5-10600 and, Xeon W-1250 processors supports the shipped 3200 MHz memory at 2666 MHz.

(i) **NOTE:** 10th Generation Intel Core i7-10700, i9-10900, W-1270 and, W-1290 processors supports the shipped 3200 MHz memory at 2933 MHz.

Chipset

The following table lists the details of the chipset supported by your Precision 3240 Compact.

Table 4. Chipset

Description	Values
Chipset	Intel W480 PCH
Processor	10th Generation Intel Core i3/i5/i7/i9 and Xeon W-series processors
DRAM bus width	64-bit
Flash EPROM	32 MB
PCIe bus	Up to Gen 3.0

Operating system

Your Precision 3240 Compact supports the following operating systems:

- Windows 10 Home (64-bit)
- Windows 10 Pro (64-bit)
- Windows 10 Pro (64-bit) National Academic
- Windows 10 Pro Workstation (64-bit)
- Windows 10 IoT Enterprise 2019, LTSC
- Ubuntu Linux 18.04 SP1
- Red Hat Enterprise Linux 8.2

Memory

The following table lists the memory specifications of your Precision 3240 Compact.

Table 5. Memory specifications

Description	Values
Memory slots	Two-SODIMM slots
Memory type	Single-channel DDR4
Memory speed	3200 MHz ⓘ **NOTE:** 10th Generation Intel Core i3-10100, i5-10500, i5-10600 and, Xeon W-1250 processors supports the shipped 3200 MHz memory at 2666 MHz. ⓘ **NOTE:** 10th Generation Intel Core i7-10700, i9-10900, W-1270 and, W-1290 processors supports the shipped 3200 MHz memory at 2933 MHz.
Maximum memory configuration	64 GB
Minimum memory configuration	8 GB
Memory size per slot	8 GB, 16 GB, 32 GB
Memory configurations supported	● 8 GB = 2 x 4 GB or 1 x 8 GB ● 16 GB = 2 x 8 GB or 1 x 16 GB ● 32 GB = 1 x 32 GB or 2 x 16 GB ● 64 GB = 2 x 32 GB ⓘ **NOTE:** A multiple DIMM memory option is recommended to prevent any performance reduction. If the system configuration includes integrated graphics, consider selecting 2 or more DIMMs

Ports and connectors

The following table lists the external and internal ports available on your Precision 3240 Compact.

Table 6. Ports and connectors

Description	Values
External:	
Network	One RJ-45 port

USB	● **Front:**
	  ○ One USB 3.2 Type A Gen 2 (10 Gbps), with PowerShare
	  ○ One USB 3.2 Type C Gen 2 (10 Gbps)
	● **Rear:**
	  ○ One USB 3.2 Type A Gen 1 (5 Gbps)
	  ○ One USB 3.2 Type A Gen 1 (5 Gbps), with SmartPower
	  ○ Two USB 3.2 Type A Gen 2 (10 Gbps)

Table 6. Ports and connectors (continued)

Description	Values
Audio	● One Line-out/Line-in audio port ● One 3.5 mm headset port
Video	Two DisplayPort 1.4
Media-card reader	Not supported
Power port	7.4 mm DC barrel-type
Security	● One Kensington security-cable slot ● One Padlock hoop
Internal:	
PCIe expansion card slots	One Half-height Gen 3 PCIe x8 slot
mSATA	Not supported
SATA	One SATA slot for 2.5-inch HDD
M.2	● One M.2 2230 slot for WiFi/Bluetooth combo card ● Two M.2 2230/2280 slot for PCIe solid-state drive ⓘ **NOTE:** To learn more about the features of different types of M.2 cards, see the knowledge base article SLN301626.

Ethernet

The following table lists the wired Ethernet Local Area Network (LAN) specifications of your Precision 3240 Compact.

Table 7. Ethernet specifications

Description	Values
Model number	Intel i219-LM
Transfer rate	10/100/1000 Mbps

Wireless module

The following table lists the Wireless Local Area Network (WLAN) modules supported on your Precision 3240 Compact.

Table 8. Wireless module specifications

Description	Option one	Option two
Model number	Qualcomm QCA61x4A (DW1820) with Bluetooth 5.1	Intel Wi-Fi 6, AX201, 2x2, 802.11ax with Bluetooth 5.1
Transfer rate	Up to 867 Mbps	Up to 2400 Mbps
Frequency bands supported	2.4 GHz/5 GHz	2.4 GHz /5 GHz
Wireless standards	● WiFi 802.11a/b/g ● Wi-Fi 4 (WiFi 802.11n) ● Wi-Fi 5 (WiFi 802.11ac)	● WiFi 802.11a/b/g ● Wi-Fi 4 (WiFi 802.11n)

Table 8. Wireless module specifications (continued)

Description	Option one	Option two
		- Wi-Fi 5 (WiFi 802.11ac) - Wi-Fi 6 (WiFi 802.11ax)
Encryption	64-bit/128-bit WEP - AES-CCMP - TKIP	64-bit/128-bit WEP - AES-CCMP - TKIP
Bluetooth	Bluetooth 5.1	Bluetooth 5.1

Audio

The following table lists the audio specifications of your Precision 3240 Compact.

Table 9. Audio specifications

Description	Values
Audio type	High Definition (HD) Audio
Audio controller	Realtek ALC3246
Internal audio interface	HD audio interface
External audio interface	Universal Audio Jack and One Line-out port (re-taskable Line-in)

Storage

This section lists the storage options on your Precision 3240 Compact.

Your computer supports one of the following configurations:

- One 2.5-inch hard-disk drive (HDD)
- Two M.2 2230/2280 Solid-State Drive (SSD)

The primary drive of your computer varies with the storage configuration. For computers:

- with a M.2 SSD drive, the SSD is the primary drive
- without a M.2 SSD drive, the 2.5-inch HDD is the primary drive

Table 10. Storage specifications

Storage type	Interface type	Capacity
2.5-inch, 5400 RPM, HDD	SATA 3.0 AHCI, up to 6 Gbps	Up to 2 TB
2.5-inch, 7200 RPM, HDD	SATA 3.0 AHCI, up to 6 Gbps	Up to 1 TB
2.5-inch, 7200 RPM, FIPS Self Encrypting Opal 2.0, HDD	SATA 3.0 AHCI, up to 6 Gbps	Up to 512 GB
M.2 2280 SSD	Gen 3 PCIe x4 NVMe, Class 40	Up to 2 TB
M.2 2280 SSD	Gen 3 PCIe x4 NVMe, Class 50	Up to 1 TB
M.2 2280 SSD, self-encrypting drive	Gen 3 PCIe x4 NVMe, Class 40	Up to 1 TB

Power adapter

The following table lists the power adapter specifications of your Precision 3240 Compact.

Table 11. Power adapter specifications

Description		Option one	Option two
Type		180 W	240 W (required for discrete graphics card configurations)
Connector dimensions:			
	External diameter	7.40 mm (0.29 in.)	7.40 mm (0.29 in.)
	Internal diameter	5.10 mm (0.20 in.)	5.10 mm (0.20 in.)
Input voltage		100 VAC or 240 VAC	100 V VAC or 240 V VAC
Input frequency		50 Hz or 60 Hz	50 Hz or 60 Hz
Input current (maximum)		2.34 A	3.5 A or 5 A
Output current (continuous)		9.23 A	12.31 A
Rated output voltage		19.50 VDC	19.5 VDC
Temperature range:			
	Operating	0 °C to 40 °C (32 °F to 104 °F)	0 °C to 40 °C (32 °F to 104 °F)
	Storage	40 °C to -40 °C (104 °F to -40 °F)	40 °C to -40 °C (104 °F to -40 °F)

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Precision 3240 Compact.

Table 12. GPU—Integrated

Controller	External display support	Memory size	Processor
Intel UHD Graphics 630	Three DisplayPort 1.4	Shared system memory	10th Generation Intel Core i3/i5/i7/i9 processors
Intel UHD Graphics P630	Three DisplayPort 1.4	Shared system memory	10th Generation Intel Xeon W-series processor

GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your Precision 3240 Compact.

Table 13. GPU—Discrete

Controller	External display support	Memory size
NVIDIA Quadro P1000	Four Mini-DisplayPort 1.4	4 GB
NVIDIA Quadro P620	Four Mini-DisplayPort 1.4	2 GB

Table 13. GPU—Discrete (continued)

Controller	External display support	Memory size
NVIDIA Quadro P400	Three Mini-DisplayPort 1.4	2 GB
NVIDIA Quadro RTX3000	Four Mini-DisplayPort 1.4	6 GB

Add-in cards

Table 14. Add-in cards

Add-in cards
Dell Ultra Speed Drive
2.5/5.0GbE NIC (Aquantia) add-in card
Intel Ethernet server adapter I210-T1
USB 3.2 Type-C PCIe card
USB 3.2 Gen 1 PCIe card
Powered Serial PCIe add-in card
ThunderBolt 3.0 - Dual port with DP 1.4 loopback

Regulatory

Table 15. Regulatory compliance

Features	Specifications
ENERGY STAR 8.0 qualified	Compliant
EPEAT Gold Registered	available in select configurations and regions only
China CECP	Compliant
China RoHS	Compliant
TCO 8.0	available in select configurations and regions only
China CEL	Compliant
WEEE	Compliant
Japan Energy Law	Compliant
South Korea E-standby	Compliant
EU RoHS	Compliant

Data security

Table 16. Data security

Data security options	Values
Dell Data Protection—Endpoint Security Suite and Endpoint Security Suite Enterprise	Supported
Dell Data Protection—Software Encryption	Supported
Dell Data Protection—External Media Encryption	Not supported

Table 16. Data security (continued)

Data security options	Values
Windows 10 Device Guard and Credential Guard (Enterprise SKU)	Supported
Microsoft Windows BitLocker	Supported
Local hard drive data wipe through BIOS (secure erase)	Supported
FIPS Self-Encrypting Opal 2.0 hard drive	Supported
Dell Data Guardian	Supported

Operating and storage environment

This table lists the operating and storage specifications of your Precision 3240 Compact.

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

Table 17. Computer environment

Description	Operating	Storage
Temperature range	0°C to 35°C (32°F to 95°F)	-40°C to 65°C (-40°F to 149°F)
Relative humidity (maximum)	10% to 90% (non-condensing)	0% to 95% (non-condensing)
Vibration (maximum)*	0.66 GRMS	1.3 GRMS
Shock (maximum)	110 G†	160 G†
Altitude range	-15.2 m to 3048 m (4.64 ft to 5518.4 ft)	-15.2 m to 10668 m (4.64 ft to 19234.4 ft)

* Measured using a random vibration spectrum that simulates user environment.

† Measured using a 2 ms half-sine pulse when the hard drive is in use.

4

System setup

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

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

Use the BIOS Setup program for the following purposes:

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

BIOS overview

The BIOS manages data flow between the computer's operating system and attached devices such as hard disk, video adapter, keyboard, mouse, and printer.

Entering BIOS setup program

About this task

Turn on (or restart) your computer and press F2 immediately.

Boot menu

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

The options are:

- UEFI Boot:
  - Windows Boot Manager
- Other Options:
  - BIOS Setup
  - BIOS Flash Update
  - Diagnostics
  - Change Boot Mode Settings

Navigation keys

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

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

Boot Sequence

Boot Sequence 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 (if available)
  - ⓘ **NOTE:** XXX denotes the SATA drive number.
- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics
  - ⓘ **NOTE:** Choosing **Diagnostics**, will display the **diagnostics** screen.

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

System setup options

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

General options

Table 18. General

Option	Description
System Information	Displays the following information: • System Information: Displays **BIOS Version, Service Tag, Asset Tag, Ownership Tag, Manufacture Date, Ownership 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**. • PCI Information: Displays Slot1_M.2, Slot2_M.2, Slot3_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, M.2 PCIe SSD-2, LOM MAC Address, Video Controller, Audio Controller, Wi-Fi Device, and Bluetooth Device.**
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.

Table 18. General (continued)

Option	Description
UEFI Boot Path Security	This option controls whether or not the system prompts the user to enter the Admin password when booting a UEFI boot path from the F12 Boot Menu.
Date/Time	Allows you to set the date and time settings. Changes to the system date and time take effect immediately.

.

System information

Table 19. System Configuration

Option	Description
Integrated NIC	Allows you to control the onboard 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 that are 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 ● AHCI = SATA is configured for AHCI mode ● RAID ON = SATA is configured to support RAID mode (selected by default)
Drives	Allows you to enable or disable the various drives onboard: ● SATA-0 (enabled by default) ● M.2 PCIe SSD-0 (enabled by default)
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 USB 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.
Dust Filter Maintenance	Allows you to enable or disable BIOS messages for maintaining the optional dust filter that is installed in your computer. BIOS will generate a pre-boot reminder to clean or replace the dust filter based on the interval set. The option **Disabled** is selected by default.

Table 19. System Configuration (continued)

Option	Description
	- Disabled 15 days 30 days 60 days 90 days 120 days 150 days 180 days

Video screen options

Table 20. Video

Option	Description
Multi-Display	The option is selected by default.
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.

Security

Table 21. 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.
Password Configuration	Allows you to control the minimum and maximum number of characters that are allowed for an 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 hard drive password prompts during a system restart. ● Disabled — Always prompt for the system and internal HDD password when they are set. This option is disabled 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).

Table 21. Security (continued)

Option	Description
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 ● PPI Bypass for Clear Commands ● Attestation Enable (default) ● Key Storage Enable (default) ● SHA-256 (default) Choose any one option: ● Disabled ● Enabled (default)
Absolute	This field lets you Enable, Disable or permanently Disable the BIOS module interface of the optional Absolute Persistence Module service from Absolute Software. ● Enabled - This option is selected by default. ● Disable ● Permanently Disabled
Chassis Intrusion	This field controls the chassis intrusion feature. Choose any one of the options: ● Disabled (default) ● Enabled ● On-Silent
OROM Keyboard Access	This option determines whether users can enter Option ROM Configuration screens using hotkeys during boot. ● Enabled - This option is selected by default. ● Disable ● One Time Enable
Admin Setup Lockout	Allows you to prevent users from entering Setup when Admin password is set. This option is not set by default.
Master Password Lockout	Allows you to disable master password support. Hard Disk passwords need to be cleared before the settings can be changed. This option is not set by default.
SMM Security Mitigation	Allows you to enable or disable additional UEFI SMM Security Mitigation protections. This option is not set by default.

Secure boot options

Table 22. Secure Boot

Option	Description
Secure Boot Enable	Allows you to enable or disable Secure Boot feature ● Secure Boot Enable. This option is not selected by default.
Secure Boot Mode	Allows you to modify the behavior of Secure Boot to allow evaluation or enforcement of UEFI driver signatures. ● Deployed Mode (default).

Table 22. Secure Boot (continued)

Option	Description
	● 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 Key**s- Deletes all the keys. (i) **NOTE:** If you disable the Custom Mode, all the changes made will be erased and the keys will restore to default settings.

Intel Software Guard Extensions options

Table 23. Intel Software Guard Extensions

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. Click one of the following options: ● **Disabled** ● **Enabled** ● **Software controlled**—Default
Enclave Memory Size	This option sets **SGX Enclave Reserve Memory Size** Click one of the following options: ● **32 MB** ● **64 MB** ● **128 MB**—Default

Performance

Table 24. Performance

Option	Description
Multi Core Support	This field specifies whether the processor has one or all cores enabled. The performance of some applications improves with the additional cores. ● **All**—Default ● **1**

Table 24. Performance (continued)

Option	Description
	• **2** • **3**
Intel SpeedStep	Allows you to enable or disable the Intel SpeedStep mode of processor. • **Enable Intel SpeedStep** This option is set by default.
C-States Control	Allows you to enable or disable the additional processor sleep states. • **C states** This option is set by default.
Cache Prefetcher	• Hardware Prefetcher (default) • Adjacent Cache Prefetch (default) When Hardware Prefetcher is enabled, the processor's hardware prefetcher will automatically prefetch data and code for the processor. When Adjacent Cache is enabled, the process will retrieve the currently requested cache line, as well as subsequent cache line.
Intel TurboBoost	Allows you to enable or disable the Intel TurboBoost mode of the processor. • **Enable Intel TurboBoost** This option is set by default.
Hyper-Thread Control	Allows you to enable or disable the HyperThreading in the processor. • **Disabled** • **Enabled**—Default

Power management

Table 25. 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.
Enable Intel Speed Shift Technology	Allows you to enable or disable Intel Speed Shift Technology support. The option **Enable Intel Speed Shift Technology** is set 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**.

Table 25. Power Management (continued)

Option	Description
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
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.

Post behavior

Table 26. POST Behavior

Option	Description
Adapter Warnings	This option lets you choose whether the system displays warning messages when you use certain power adapters. This option is enabled by default.
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. The option **Enable Keyboard Error Detection** is enabled 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). This option is set to **Thorough** by default.
Extend BIOS POST Time	This option creates an additional pre-boot delay. ● 0 seconds (default) ● 5 seconds ● 10 seconds
Full Screen Logo	This option will display full screen logo if your image match screen resolution. The option **Enable Full Screen Logo** is not set by default.
Warnings and Errors	This option causes the boot process to only pause when warning or errors are detected. Choose any one of the option:

Table 26. POST Behavior (continued)

Option	Description
	● Prompt on Warnings and Errors - default ● Continue on Warnings ● Continue on Warnings and Errors

Manageability

Table 27. Manageability

Option	Description
Intel AMT Capability	Allows you to provision AMT and MEB Hotkey function is enabled, during the system boot. ● Disabled ● Enabled ● Restrict MEBx Access - by default
USB Provision	When enabled Intel AMT can be provisioned using the local provisioning file using a USB storage device. ● Enable USB Provision - disabled by default
MEBx Hotkey	Allows you to specify whether the MEBx Hotkey function should enable, during the system boot. ● Enable MEBx hotkey—disabled by default

Virtualization support

Table 28. Virtualization Support

Option	Description
Virtualization	This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by the Intel Virtualization technology. ● **Enable Intel Virtualization Technology** This option is set by default.
VT for Direct I/O	Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by the Intel Virtualization technology for direct I/O. ● **Enable VT for Direct I/O** This option is set by default.
Trusted Execution	This option specifies whether a Measured Virtual Machine Monitor (MVMM) can utilize the additional hardware capabilities provided by Intel Trusted Execution Technology. ● Trusted Execution This option is not set by default.

Wireless options

Table 29. Wireless

Option	Description
Wireless Device Enable	Allows you to enable or disable the internal wireless devices.

Table 29. Wireless

Option	Description
	The options are: ● **WLAN/WiGig** ● **Bluetooth** All the options are enabled by default.

Maintenance

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 not 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 flash previous revisions of the system firmware. ● **Allow BIOS Downgrade** This option is set by default.
Data Wipe	Allows you to securely erase data from all internal storage devices. ● **Wipe on Next Boot** This option is not set by default.
BIOS Recovery	**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. ⓘ **NOTE: BIOS Recovery from Hard Drive** field must be enabled. **Always Perform Integrity Check**—Performs integrity check on every boot.
First Power On Date	Allows you the set Ownership date. The option **Set Ownership Date** is not set by default.

System logs

Table 31. System Logs

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

Advanced configuration

Table 32. Advanced configuration

Option	Description
ASPM	Allows you to set the ASPM level. ● Auto (default) - There is handshaking between the device and PCI Express hub to determine the best ASPM mode supported by the device.

Table 32. Advanced configuration (continued)

Option	Description
	• Disabled - ASPM power management is turned off at all time. • L1 Only - ASPM power management is set to use L1.
PCIe Linkspeed	Allows you to select the max PCIe link speed attainable by devices within the system. • Auto (default) • Gen1 • Gen2

SupportAssist System Resolution

Table 33. 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 (Enabled by default).
BIOSConnect	BIOSConnect enable or disable cloud Service OS upon absence of Local OS Recovery (Enabled by default).

Updating the BIOS in Windows

Prerequisites

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

About this task

ⓘ **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.

Steps

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.

Updating BIOS on systems with BitLocker enabled

⚠ **CAUTION: If BitLocker is not suspended before updating the BIOS, the next time you reboot the system it will not recognize the BitLocker key. You will then be prompted to enter the recovery key to progress and the system will ask for this on each reboot. If the recovery key is not known this can result in data loss or an unnecessary operating system re-install. For more information on this subject, see Knowledge Article: https://www.dell.com/support/article/sln153694**

Updating your system BIOS using a USB flash drive

About this task

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

ⓘ **NOTE:** You must use a bootable USB flash drive. For more information, see the knowledge base article SLN143196.

Steps

1. Download the BIOS update .exe file to another computer.
2. Copy the .exe file onto the bootable USB flash drive.
3. Insert the USB flash drive into the computer that requires the BIOS update.
4. Restart the computer and press F12 when the Dell logo appears to display the One Time Boot Menu.
5. Using arrow keys, select **USB Storage Device** and press Enter.
6. The computer restarts to a Diag C:\> prompt.
7. Run the file by typing the complete filename and press Enter.
8. The BIOS Update Utility is displayed. Follow the on-screen instructions.
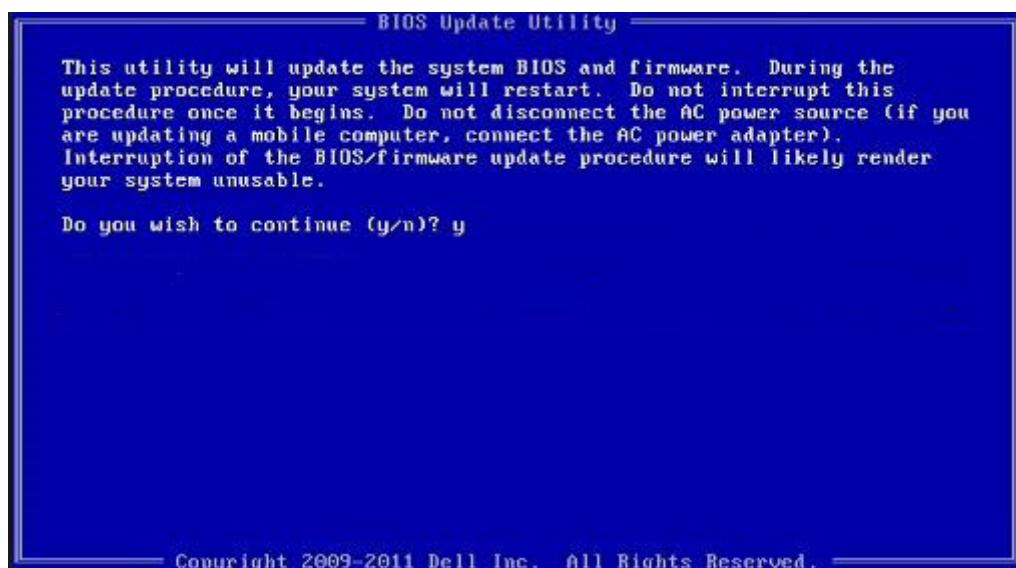

Figure 1. DOS BIOS Update Screen

System and setup password

Table 34. 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

Prerequisites

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

About this task

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

Steps

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

Prerequisites

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.

About this task

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

Steps

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.

Clearing BIOS (System Setup) and System passwords

About this task

ⓘ **NOTE:** To conduct a BIOS and System password reset, you must call the Dell Tech Support number in your region.

Steps

1. Key in your computer's service tag number into the locked BIOS/system setup screen.
2. Convey the code generated to the Dell Tech Support agent.
3. The Dell Tech Support agent will provide a 32 character Master System Password that can be used to access the locked BIO/system setup.

Software

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

Downloading Windows drivers

Steps

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.

Getting help and contacting Dell

Self-help resources

You can get information and help on Dell products and services using these self-help resources:

Table 35. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	https://www.dell.com/
Dell Support	
Tips	
Contact Support	In Windows search, type `Contact Support`, and press Enter.
Online help for operating system	- Windows: https://www.dell.com/support/windows - Linux: https://www.dell.com/support/linux
Troubleshooting information, user manuals, set up instructions, product specifications, technical help blogs, drivers, software updates, and so on.	https://www.dell.com/support/home/
Dell knowledge base articles for various of system concerns:	1. Go to https://www.dell.com/support/home/?app=knowledgebase. 2. Type the subject or keyword in the **Search** box. 3. Click **Search** to retrieve the related articles.
Learn and get more information about your product: - Product specifications - Operating system - Setting up and using your product - Data backup - Troubleshooting and diagnostics - Factory and system restore - BIOS information	Dell provides several online and telephone-based support and service options. If you do not have an active Internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog. - Select **Detect Product**. - Locate your product through the drop-down menu under **View Products**. - Enter the **Service Tag number** or **Product ID** in the search bar. - Once on product support page, scroll down to Manuals and Documents section to preview all the Manuals, documents, and other information for your product.

Contacting Dell

Dell provides several online and telephone-based support and service options. If you do not have an active Internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog. Availability varies by country/region 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 https://www.dell.com/support/.
2. Select your country/region from the drop-down menu on the lower right corner of the page.
3. For **customized support:**
   a. Enter your system Service Tag in the **Enter your Service Tag** field.
   b. Click **submit**.

      ● The support page that lists the various support categories is displayed.
4. For **general support:**
   a. Select your product category.
   b. Select your product segment.
   c. Select your product.

      ● The support page that lists the various support categories is displayed.
5. For contact details of Dell Global Technical Support, see https://www.dell.com/contactdell.
   ⓘ **NOTE:** The Contact Technical Support page is displayed with details to call, chat, or email the Dell Global Technical Support team.

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