




# Dell Wyse 7040 Thin Client User Guide



# Notes, cautions, and warnings

-  **NOTE:** A NOTE indicates important information that helps you make better use of your computer.
-  **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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# System specifications



 **NOTE:** Offerings may vary by region. For more information regarding the configuration of your device in:

- Windows 10, click or tap **Start** → **Settings** → **System** → **About**.
- Windows 8.1 and Windows 8, click or tap **Start** → **PC Settings** → **PC and devices** → **PC Info**.
- Windows 7, click **Start**, right click **My Computer**, and then select **Properties**.
- Windows Embedded Standard 7 Professional, For additional Thin Client information, click the **Dell** icon in the **Task Bar**.

**Table 1. Processor**

Feature	Specification
Processor type	6th Generation Intel Core i5/i7 series
Total cache	i5 has 6 MB and i7 has 8 MB cache depending on processor type

**Table 2. Memory**

Feature	Specification
Memory type	DDR4
Memory speed	2133 MHz
Memory connectors	Two SoDIMM slots
Memory capacity	4 GB and 8 GB
Minimum memory	4 GB  <b>NOTE:</b> The minimum memory may differ based on the operating system installed on the device.
Maximum memory	16 GB  <b>NOTE:</b> Each memory module slot supports a minimum of 1 or 2 GB and a maximum of 8 GB

**Table 3. Video**

Feature	Specification
Integrated	Intel HD Graphics

**Table 4. Audio**

Feature	Specification
Integrated	Realtek HDA Codec ALC3234

**Table 5. Network**

Feature	Specification
Integrated	Intel I219 LM Ethernet capable of 10/100/1000 communication

**Table 6. System information**

Feature	Specification
System chipset	Intel Q170 chipset

**Table 7. Expansion bus**

Feature	Specification
Bus type	USB 2.0, USB 3.0, SATA 3, and PCIe up to Gen 3
Bus speed	<ul style="list-style-type: none"> <li>• USB 2.0 – 480 Mbps</li> <li>• USB 3.0 – 5 Gbps</li> <li>• SATA 3.0 – 6 Gbps</li> <li>• PCIe – 8 Gbps</li> </ul>

**Table 8. Cards**

Feature	Specification
SSD card	One M.2 22x80 socket 3 SSD

**Table 9. Drives**

Feature	Specification
Internally accessible	2.5-inch SATA drive bay

**Table 10. External connectors**

Feature	Specification
Audio Front panel	<ul style="list-style-type: none"> <li>• Universal headset</li> </ul>

Feature	Specification
	<ul style="list-style-type: none"> <li>Line out connector</li> </ul>
Network adapter	RJ-45 and SFP connectors
USB 2.0 (front/back/internal)	0/0/1
USB 3.0 (front/back/internal)	2/4/0
Video	<ul style="list-style-type: none"> <li>19-pin HDMI connector.</li> <li>Two 20-pin DisplayPort connector (one of the DisplayPort connectors is optional).</li> </ul>

**Table 11. Controls and lights**

Feature	Specification
Front of the device Power button light	White light — Solid white light indicates power-on state; slow blinking white light indicates sleep state of the device.
Drive activity light	White light — Slow blinking white light indicates that the device is reading data from or writing data to the hard drive.
Back of the device Link integrity light on integrated network adapter	<p>Green — A 10 Mbps connection exists between the network and the device.</p> <p>Green — A 100 Mbps connection exists between the network and the device.</p> <p>Orange — A 1000 Mbps connection exists between the network and the device.</p> <p>Off (no light) — The device is not detecting a physical connection to the network.</p>
Network activity light on integrated network adapter	Yellow light — A breathing yellow light indicates that network activity is present.
Power supply diagnostic light	Green light — The power supply is turned on and is functional. The power cable must be connected to the power connector (at the back of the device) and the electrical outlet.
SPF LED	<p>Speed LED (Top):</p> <ul style="list-style-type: none"> <li>Green — 100 Mbps</li> <li>Amber — 1000 Mbps</li> <li>Off — no link</li> <li>Signal source — Realtek chip</li> <li>LED type — bi-color</li> </ul> <p>Activity LED (Bottom)</p> <ul style="list-style-type: none"> <li>Green — Link established</li> </ul>

Feature	Specification
	<ul style="list-style-type: none"> <li>Green Flickering – TX/RX activity</li> <li>Off – no link</li> <li>Signal usage – Realtek chip</li> <li>LED type – single color, green</li> </ul>

**Table 12. Power**

Items	Wattage	Voltage
Power adapter	65 W	19.5 V DC, 3.34 A
Coin cell battery	3 V CR2032 lithium coin cell	

**Table 13. Physical dimension**

Physical	Micro Premier
Height	18.2 cm (7.2 inches)
Width	3.6 cm (1.4 inches)
Depth	17.6 cm (7 inches)
Weight	1.41 kg (3.12 lb)

**Table 14. Environmental**

Feature	Specification
Temperature range	Operating – 5°C to 35°C (41°F to 95°F) Non-Operating – – 40°C to 65°C (–40°F to 149°F)
Relative humidity (maximum)	Operating – 20% to 80% (non condensing) Non-Operating – 5% to 95% (non condensing)
Maximum vibration	Operating – 0.66 Grms Non-Operating – 1.37 Grms
Maximum shock	Operating – 40 G Non-Operating – 105 G
Altitude	Operating – (–15.2 m to 3048 m (–50 to 10,000 ft)) Non-Operating – (–15.20 m to 10,668 m (–50 ft to 35,000 ft)) Airborne contaminant level – G1 or lower as defined by ANSI/ISA-S71.04-1985





## System setup

System Setup enables you to manage your device 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 device security


## Boot sequence

Boot Sequence allows you to bypass the System Setup-defined boot device order and boot directly to a specific device (for example: optical drive or hard drive). During the Power-on Self Test (POST), when the Dell logo appears, you can:


- Access System Setup by pressing F2 key
- Bring up the one-time boot menu by pressing F12 key

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

- Removable Drive (if available)
- STXXXX Drive

 **NOTE:** XXX denotes the SATA drive number.


- Optical Drive
- Diagnostics

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


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

## Navigation keys

The following table displays the system setup navigation keys.

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

**Table 15. Navigation keys**


<b>Keys</b>	<b>Navigation</b>
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.  <b>NOTE:</b> 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 overview

System Setup allows you to:

- Change the system configuration information after you add, change, or remove any hardware in your device.
- Set or change a user-selectable option such as the user password.
- Read the current amount of memory or set the type of hard drive installed.


Before you use System Setup, it is recommended that you write down the System Setup screen information for future reference.


 **CAUTION:** Unless you are an expert device user, do not change the settings for this program. Certain changes can cause your device to work incorrectly.

## Accessing system setup


1. Turn on (or restart) your device.
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 device and try again.

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

# System setup options



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

**Table 16. General**

Option	Description
System Information	Displays the following information: <ul style="list-style-type: none"> <li>• System Information: Displays BIOS Version, Service Tag, Asset Tag, Ownership Date, Manufacture Date, and the Express Service Code.</li> <li>• Memory Information: Displays Memory Installed, Memory Available, Memory Speed, Memory Channels Mode, Memory Technology, DIMM 1 Size, and DIMM 2 Size.</li> <li>• PCI Information: Displays SLOT1, SLOT2.</li> <li>• 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.</li> <li>• Device Information: Displays SATA-0, LOM MAC Address, Video Controller, Audio Controller, Wi-Fi Device, and Bluetooth Device.</li> </ul>
Boot Sequence	Allows you to specify the order in which the device attempts to find an operating system from the devices specified in this list. <ul style="list-style-type: none"> <li>• Legacy</li> <li>• UEFI</li> </ul>
Advanced Boot Options	Allows you to select the Enable Legacy Option ROMs option, when in UEFI boot mode. By default, this option is enabled.
Date/Time	Allows you to set the date and time settings. Changes to the system date and time take effect immediately.


**Table 17. System Configuration**

Option	Description
Integrated NIC	Allows you to control the on-board LAN controller. The options are: <ul style="list-style-type: none"> <li>• Disabled</li> <li>• Enabled (default)</li> <li>• Enabled w/PXE</li> <li>• Enabled w/Cloud Desktop</li> </ul>


Option	Description
	 <b>NOTE:</b> Depending on the device and its installed devices, the items listed in this section may or may not appear.
WIDI	<p>Allows you to connect to display through WiFi. WIDI requires Intel WiFi card, Intel graphics, and WIDI receiver in display (or WIDI compliant display). To install the WIDI application, see the <a href="http://dell.com/support">dell.com/support</a> site to download the WIDI application.</p>  <b>NOTE:</b> When installing the WIDI application, connect the display to Intel on-board graphic output.
SATA Operation	<p>Allows you to configure the operating mode of the integrated hard drive controller.</p> <ul style="list-style-type: none"> <li>• Disabled = The SATA controllers are hidden</li> <li>• ATA = SATA is configured for ATA mode</li> <li>• RAID ON = SATA is configured to support RAID mode</li> </ul>
Drives	<p>Allows you to enable or disable the various drives on-board:</p> <ul style="list-style-type: none"> <li>• SATA-0 (enabled by default)</li> </ul>
Smart Reporting	<p>This field controls whether hard drive errors for integrated drives are reported during system startup. This option is disabled by default.</p>
USB Configuration	<p>Allows you to enable or disable the integrated USB controller for:</p> <ul style="list-style-type: none"> <li>• Enable Boot Support</li> <li>• Enable Front USB Ports</li> <li>• Enable Rear USB Ports</li> </ul> <p>All the options are enabled by default.</p>
Front USB Configuration	<p>Allows you to enable or disable the front USB ports. All the ports are enabled by default.</p>
Back USB Configuration	<p>Allows you to enable or disable the back USB ports. All the ports are enabled by default.</p>
USB PowerShare	<p>This option allows you to charge the external devices, such as mobile phones, music player. This option is disabled by default.</p>
Audio	<p>Allows you to enable or disable the integrated audio controller.</p> <ul style="list-style-type: none"> <li>• Enable Microphone</li> </ul>

Option	Description
	<ul style="list-style-type: none"> <li>• Enable Internal Speaker</li> </ul> <p>Both the options are enabled by default.</p>
Miscellaneous Devices	<p>Allows you to enable or disable the various on-board devices.</p> <ul style="list-style-type: none"> <li>• Enable Media Card (default option)</li> <li>• Disable Media Card.</li> </ul>

**Table 18. Video**

Option	Description
Primary Display	<p>Allows you to select the primary display when multiple controllers are available in the system.</p> <ul style="list-style-type: none"> <li>• Auto</li> <li>• Intel HD Graphics</li> </ul> <p> <b>NOTE:</b> If you do not select Auto, the on-board graphics device will be present and enabled.</p>


**Table 19. Security**

Option	Description
Strong Password	This option lets you enable or disable strong passwords for the system.
Password Configuration	Allows you to control the minimum and maximum number of characters allowed for a administrative password and the system password.
Password Bypass	<p>This option lets you bypass the System (Boot) Password and the internal HDD password prompts during a system restart.</p> <ul style="list-style-type: none"> <li>• Disabled — Always prompt for the system and internal HDD password when they are set. This option is disabled by default.</li> <li>• Reboot Bypass — Bypass the password prompts on Restarts (warm boots).</li> </ul> <p> <b>NOTE:</b> 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.</p>
Password Change	This option lets you determine whether changes to the System and Hard Disk passwords are permitted when an administrator password is set.

Option	Description
	<b>Allow Non-Admin Password Changes</b> - This option is enabled by default.
TPM 1.2 Security	<p>Allows you to control whether the Trusted Platform Module (TPM) is visible to the operating system.</p> <ul style="list-style-type: none"> <li>• TPM On (default)</li> <li>• Clear</li> <li>• PPI Bypass for Enable Commands</li> <li>• Attestation Enable (default)</li> <li>• PPI Bypass for Disable Commands</li> <li>• Key Storage Enable (default)</li> <li>• SHA-256 (default)</li> <li>• Disabled</li> <li>• Enabled (default)</li> </ul>
Computrace	<p>This field lets you Activate or Disable the BIOS module interface of the optional Computrace Service from Absolute Software. Enables or disables the optional Computrace service designed for asset management.</p> <ul style="list-style-type: none"> <li>• Deactivate - This option is disabled by default.</li> <li>• Disable</li> <li>• Activate</li> </ul>
Chassis Intrusion	<p>Allows you to control the chassis intrusion feature. You can set this option to:</p> <ul style="list-style-type: none"> <li>• Enable</li> <li>• Disable</li> <li>• On-Silent — Enabled by default if chassis intrusion is detected.</li> <li>• Disable — User may not enter OROM configuration screens via the hotkey.</li> </ul> <p>This option is set to Enable by default.</p>
CPU XD Support	<p>Allows you to enable or disable the Execute Disable mode of the processor. This option is enabled by default.</p>
OROM Keyboard Access	<p>This option determines whether users are able to enter Option ROM Configuration screens via hotkeys during boot. Specifically, these settings are capable of preventing access to Intel RAID (CTRL +I) or Intel Management Engine BIOS Extension (CTRL+P/F12)</p> <ul style="list-style-type: none"> <li>• Enable — User may enter OROM configuration screens via the hotkey.</li> <li>• One-Time Enable — User may enter OROM configuration screens via the hotkeys on next</li> </ul>

Option	Description
	boot only. After next boot, the setting will revert to disabled.
Admin Setup Lockout	Allows you to enable or disable the option to enter Setup when an Administrative password is set. This option is not set by default.
HDD Protection Support	Allows you to enable or disable the HDD Protection feature. This option is an advanced feature, which is intended to keep the HDD data secure and unchangeable. By default, this option is disabled.

**Table 20. Secure Boot**

Option	Description
Secure Boot Enable	. Allows you to enable or disable Secure Boot feature. <ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>
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: <ul style="list-style-type: none"> <li>• PK</li> <li>• KEK</li> <li>• db</li> <li>• dbx</li> </ul> <p>If you enable the Custom Mode, the relevant options for <b>PK</b>, <b>KEK</b>, <b>db</b>, and <b>dbx</b> appears. The options are:</p> <ul style="list-style-type: none"> <li>• <b>Save to File</b>- Saves the key to a user-selected file</li> <li>• <b>Replace from File</b>- Replaces the current key with a key from a user-selected file</li> <li>• <b>Append from File</b>- Adds a key to the current database from a user-selected file</li> <li>• <b>Delete</b>- Deletes the selected key</li> <li>• <b>Reset All Keys</b>- Resets to default setting</li> <li>• <b>Delete All Keys</b>- Deletes all the keys.</li> </ul> <p> <b>NOTE:</b> If you disable the Custom Mode, all the changes made will be erased and the keys will restore to default settings.</p>

**Table 21. Intel Software Guard Extensions**

Option	Description
Intel SGX Enable	Allows you to enable or disable the Intel Software Guard Extensions to provide a secured environment for running code/storing sensitive information in the context of the main operating system. <ul style="list-style-type: none"> <li>• Disabled (default)</li> <li>• Enabled</li> </ul>
Enclave Memory Size	Allows you to set the Intel SGX Enclave Reserve Memory Size. <ul style="list-style-type: none"> <li>• 32 MB</li> <li>• 64 MB</li> <li>• 128 MB</li> </ul>


**Table 22. Performance**

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

**Table 23. 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: <ul style="list-style-type: none"> <li>• Power Off</li> <li>• Power On</li> <li>• Last Power State</li> </ul>



Option	Description
	This option is Power Off by default.
Auto On Time	<p>Sets time to automatically turn on the device. 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.</p> <p> <b>NOTE:</b> This feature does not work if you turn off your device using the switch on a power strip or surge protector or if Auto Power is set to disabled.</p>
Deep Sleep Control	<p>Allows you to define the controls when Deep Sleep is enabled.</p> <ul style="list-style-type: none"> <li>• Disabled</li> <li>• Enabled in S5 only</li> <li>• Enabled in S5</li> </ul> <p>This option is Disabled by default.</p>
USB Wake Support	Allows you to enable the USB devices to wake the device from standby mode.
Wake on LAN/WWAN	<p>This option allows the device to power up from the off state when triggered by a special LAN signal. This feature only works when the device is connected to AC power supply.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• LAN or WLAN - Allows the system to be powered on by special LAN or wireless LAN signals.</li> <li>• LAN Only - Allows the system to be powered on by special LAN signals.</li> <li>• 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.</li> <li>• WLAN Only - Allows the system to be powered on by special WLAN signals.</li> </ul> <p>This option is Disabled by default</p>
Block Sleep	Allows you to block entering to sleep (S3 state) in OS environment. This option is disabled by default.
Intel Ready Mode	Allows you to enable the capability of Intel Ready Mode Technology. This option is disabled by default.

**Table 24. POST Behavior**

Option	Description
Adapter Warning	Allows you to 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 device starts. This option is enabled by default.
MEBx Hotkey	Allows you to specify whether the MEBx Hotkey function should be enabled when the system boots. This option is enabled by default.
Keyboard Errors	Allows you to enable or disable the keyboard error reporting when the device starts. This option is enabled by default.
Fast Boot	<p>This option can speed up the boot process by bypassing some compatibility steps:</p> <ul style="list-style-type: none"> <li>• Minimal – The system boots quickly, unless the BIOS has been updated, memory changed, or the previous POST did not complete.</li> <li>• Thorough – The system does not skip any steps in the boot process.</li> <li>• Auto – This allows the operating system to control this setting (this works only when the operating system supports Simple Boot Flag).</li> </ul> <p>This option is set to Thorough by default.</p>


**Table 25. Virtualization Support**

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

**Table 26. Wireless**

Option	Description
Wireless Device Enable	Allows you to enable or disable the internal wireless devices. All the options are enabled by default.

**Table 27. Maintenance**

Option	Description
Service Tag	Displays the Service Tag of your device.
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 not set by default. Some graphics cards require that the SERR message mechanism be disabled.
BIOS Downgrade	Allows you to control flashing of the system firmware to the previous versions. This option is enabled by default.  <b>NOTE:</b> If this option is not selected, the flashing of the system firmware to the previous versions is blocked.
Data Wipe	Allows you to securely erase the data from all the available internal storages, such as HDD, SSD, mSATA, and eMMC. This option is disabled by default.
BIOS recovery	Allows you to recover the corrupted BIOS conditions from the recovery files on the primary hard drive or an external USB key.

**Table 28. Cloud Desktop**

Option	Description
Server Lookup Method	Allows you to specify how the cloud desktop software will lookup server addresses. <ul style="list-style-type: none"> <li>• Static</li> <li>• DNS (Default)</li> </ul>
Server Name	Allows you to specify the name of the server
Server IP Address	Specifies the primary static IP address of the cloud desktop server. The default IP address is 255.255.255.255

Option	Description
Server port	Specifies the primary port of the cloud desktop. The default setting is 06910.
Client Address Method	Specifies how the client will obtain the IP address. <ul style="list-style-type: none"> <li>• Static IP</li> <li>• DHCP (Default)</li> </ul>
Client IP address	Specifies the static IP address of the client. The default IP address is 255.255.255.255
Client Subnet Mask	Specifies the subnet mask address of the client. The default IP address is 255.255.255.255
Client Gateway	Specifies the gateway address of the client. The default IP address is 255.255.255.255
DNS IP Address	Specifies the DNS IP address of the client. The default IP address is 255.255.255.255
Domain Name	Specifies the domain name of the client.
Advanced	Allows you to turn on the Verbose mode for advanced debugging. This option is disabled by default.

**Table 29. System Logs**

Option	Description
BIOS Events	Displays the system event log and allows you to: <ul style="list-style-type: none"> <li>• Clear Log</li> <li>• Mark all Entries</li> </ul>

**Table 30. Advanced configurations**

Option	Description
ASPM	Allows you to activate the state power management. <ul style="list-style-type: none"> <li>• Auto (Default)</li> <li>• Disabled</li> <li>• L1 Only</li> </ul>


## Updating the BIOS

It is recommended to update your BIOS (System Setup), on replacing the system board or if an update is available. For laptops, ensure that your device battery is fully charged and connected to a power outlet.

1. Restart the device.
2. Go to [Dell.com/support](https://www.dell.com/support).

3. Enter the **Service Tag** or **Express Service Code** and click **Submit**.

 **NOTE:** To locate the Service Tag, click **Where is my Service Tag?**

 **NOTE:** If you cannot find your Service Tag, click Detect My Product. Proceed with the instructions on screen.

4. If you are unable to locate or find the **Service Tag**, click the **Product Category** of your device.
5. Choose the **Product Type** from the list.
6. Select your **device model** and the **Product Support** page of your device appears.
7. Click **Get drivers** and click **View All Drivers**.

The Drivers and Downloads page opens.

8. On the Drivers and Downloads screen, under the **Operating System** drop-down list, select **BIOS**.
9. Identify the latest BIOS file and click **Download File**.


You can also analyze which drivers need an update. To do this for your product, click Analyze System for Updates and follow the instructions on the screen.

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 device.
12. Click Run to install the updated BIOS settings on your device.

Follow the instructions on the screen.

 **NOTE:** It is recommended not to update the BIOS version for more than 3 revisions. For example: If you want to update the BIOS from 1.0 to 7.0, then install version 4.0 first and then install version 7.0

## Troubleshooting your device

You can troubleshoot your device using indicators like diagnostic lights, beep codes, and error messages during the operation of the device.

### Diagnostic power LED codes

Table 31. Diagnostic power LED codes

Power LED light status	Possible cause	Troubleshooting steps
Off	The device is either turned off or is not receiving power or in Hibernation mode.	<ul style="list-style-type: none"> <li>• Re-seat the power cable in the power connector on the back of the device and the electrical outlet.</li> <li>• If the device is plugged into a power strip, ensure that the power strip is plugged into an electrical outlet and is turned on. Also, bypass power protection devices, power strips, and power extension cables to verify that the device turns on properly.</li> <li>• Ensure the electrical outlet is working by testing it with another device, such as a lamp.</li> </ul>
Steady/blinking amber	The device fails to complete POST or processor failure.	<ul style="list-style-type: none"> <li>• Remove and reinstall any cards.</li> <li>• Remove and reinstall the graphics card, if applicable.</li> <li>• Ensure the power cable is connected to the system board and processor.</li> </ul>
Slow Blinking white light	The device is in sleep mode.	<ul style="list-style-type: none"> <li>• Press the power button to bring the device out of the sleep mode.</li> <li>• Ensure all power cables are securely connected to the system board.</li> <li>• Ensure the main power cable and front panel cable are connected to the system board.</li> </ul>
Steady white	The device is fully functional and in the On state	<p>If the device is not responding, do the following:</p> <ul style="list-style-type: none"> <li>• Ensure the display is connected and turned on.</li> <li>• If the display is connected and turned on, listen for a beep code.</li> </ul>

## Diagnostic error messages

Table 32. Diagnostic error messages

Error messages	Description
AUXILIARY DEVICE FAILURE	The touchpad or external mouse may be faulty. For an external mouse, check the cable connection. Enable the Pointing Device option in the System Setup program.
BAD COMMAND OR FILE NAME	Ensure that you have spelled the command correctly, put spaces in the proper place, and used the correct path name.
CACHE DISABLED DUE TO FAILURE	The primary cache internal to the microprocessor has failed. See
CD DRIVE CONTROLLER FAILURE	The optical drive does not respond to commands from the device.
DATA ERROR	The hard drive cannot read the data.
DECREASING AVAILABLE MEMORY	One or more memory modules may be faulty or improperly seated. Reinstall the memory modules or, if necessary, replace them.
DISK C: FAILED INITIALIZATION	The hard drive failed initialization. Run the hard drive tests in Dell Diagnostics.
DRIVE NOT READY	The operation requires a hard drive in the bay before it can continue. Install a hard drive in the hard drive bay.
ERROR READING PCMCIA CARD	The device cannot identify the ExpressCard. Reinsert the card or try another card.
EXTENDED MEMORY SIZE HAS CHANGED	The amount of memory recorded in non-volatile memory (NVRAM) does not match the memory module installed in the device. Restart the device. If the error appears again,
THE FILE BEING COPIED IS TOO LARGE FOR THE DESTINATION DRIVE	The file that you are trying to copy is too large to fit on the disk, or the disk is full. Try copying the file to a different disk or use a larger capacity disk.
A FILENAME CANNOT CONTAIN ANY OF THE FOLLOWING CHARACTERS: \ / : * ? " < >	Do not use these characters in filenames.
GATE A20 FAILURE	A memory module may be loose. Reinstall the memory module or, if necessary, replace it.
GENERAL FAILURE	The operating system is unable to carry out the command. The message is usually followed by

Error messages	Description
	specific information. For example, Printer out of paper. Take the appropriate action.
HARD-DISK DRIVE CONFIGURATION ERROR	The device cannot identify the drive type. Shut down the device, remove the hard drive, and boot the device from an optical drive. Then, shut down the device, reinstall the hard drive, and restart the device. Run the <b>Hard Disk Drive</b> tests in <b>Dell Diagnostics</b> .
HARD-DISK DRIVE CONTROLLER FAILURE 0	The hard drive does not respond to commands from the device. Shut down the device, remove the hard drive, and boot the device from an optical drive. Then, shut down the device, reinstall the hard drive, and restart the device. If the problem persists, try another drive. Run the <b>Hard Disk Drive</b> tests in <b>Dell Diagnostics</b> .
HARD-DISK DRIVE FAILURE	The hard drive does not respond to commands from the device. Shut down the device, remove the hard drive, and boot the device from an optical drive. Then, shut down the device, reinstall the hard drive, and restart the device. If the problem persists, try another drive. Run the <b>Hard Disk Drive</b> tests in <b>Dell Diagnostics</b> .
HARD-DISK DRIVE READ FAILURE	The hard drive may be defective. Shut down the device, remove the hard drive, and boot the device from an optical. Then, shut down the device, reinstall the hard drive, and restart the device. If the problem persists, try another drive. Run the <b>Hard Disk Drive</b> tests in <b>Dell Diagnostics</b> .
INSERT BOOTABLE MEDIA	The operating system is trying to boot to non-bootable media, such as an optical drive. Insert bootable media.
INVALID CONFIGURATION INFORMATION- PLEASE RUN SYSTEM SETUP PROGRAM	The system configuration information does not match the hardware configuration. The message is most likely to occur after a memory module is installed. Correct the appropriate options in the system setup program.
KEYBOARD CLOCK LINE FAILURE	For external keyboards, check the cable connection. Run the <b>Keyboard Controller</b> test in <b>Dell Diagnostics</b> .
KEYBOARD CONTROLLER FAILURE	For external keyboards, check the cable connection. Restart the device, and avoid touching the keyboard or the mouse during the boot routine. Run the <b>Keyboard Controller</b> test in <b>Dell Diagnostics</b> .



Error messages	Description
KEYBOARD DATA LINE FAILURE	For external keyboards, check the cable connection. Run the <b>Keyboard Controller</b> test in <b>Dell Diagnostics</b> .
KEYBOARD STUCK KEY FAILURE	For external keyboards or keypads, check the cable connection. Restart the device, and avoid touching the keyboard or keys during the boot routine. Run the <b>Stuck Key</b> test in <b>Dell Diagnostics</b> .
LICENSED CONTENT IS NOT ACCESSIBLE IN MEDIADIRECT	Dell MediaDirect cannot verify the Digital Rights Management (DRM) restrictions on the file, so the file cannot be played.
MEMORY ADDRESS LINE FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE	A memory module may be faulty or improperly seated. Reinstall the memory module or, if necessary, replace it.
MEMORY ALLOCATION ERROR	The software you are attempting to run is conflicting with the operating system, another program, or a utility. Shut down the device, wait for 30 seconds, and then restart it. Run the program again. If the error message still appears, see the software documentation.
MEMORY DOUBLE WORD LOGIC FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE	A memory module may be faulty or improperly seated. Reinstall the memory module or, if necessary, replace it.
MEMORY ODD/EVEN LOGIC FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE	A memory module may be faulty or improperly seated. Reinstall the memory module or, if necessary, replace it.
MEMORY WRITE/READ FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE	A memory module may be faulty or improperly seated. Reinstall the memory module or, if necessary, replace it.
NO BOOT DEVICE AVAILABLE	The device cannot find the hard drive. If the hard drive is your boot device, ensure that the drive is installed, properly seated, and partitioned as a boot device.
NO BOOT SECTOR ON HARD DRIVE	The operating system may be corrupted
NO TIMER TICK INTERRUPT	A chip on the system board may be malfunctioning. Run the <b>System Set</b> tests in <b>Dell Diagnostics</b> .
NOT ENOUGH MEMORY OR RESOURCES. EXIT SOME PROGRAMS AND TRY AGAIN	You have too many programs open. Close all windows and open the program that you want to use.


Error messages	Description
OPERATING SYSTEM NOT FOUND	Reinstall the operating system. If the problem persists,
OPTIONAL ROM BAD CHECKSUM	The optional ROM has failed.
SECTOR NOT FOUND	The operating system cannot locate a sector on the hard drive. You may have a defective sector or corrupted File Allocation Table (FAT) on the hard drive. Run the Windows error-checking utility to check the file structure on the hard drive. See Windows Help and Support for instructions (click <b>Start</b> → <b>Help and Support</b> ). If a large number of sectors are defective, back up the data (if possible), and then format the hard drive.
SEEK ERROR	The operating system cannot find a specific track on the hard drive.
SHUTDOWN FAILURE	A chip on the system board may be malfunctioning. Run the System Set tests in Dell Diagnostics. If the message reappears,
TIME-OF-DAY CLOCK LOST POWER	System configuration settings are corrupted. Connect your device to an electrical outlet to charge the battery. If the problem persists, try to restore the data by entering the System Setup program, then immediately exit the program. If the message reappears,
TIME-OF-DAY CLOCK STOPPED	The reserve battery that supports the system configuration settings may require recharging. Connect your device to an electrical outlet to charge the battery. If the problem persists
TIME-OF-DAY NOT SET-PLEASE RUN THE SYSTEM SETUP PROGRAM	The time or date stored in the system setup program does not match the system clock. Correct the settings for the <b>Date and Time</b> options.
TIMER CHIP COUNTER 2 FAILED	A chip on the system board may be malfunctioning. Run the <b>System Set</b> tests in Dell Diagnostics.
UNEXPECTED INTERRUPT IN PROTECTED MODE	The keyboard controller may be malfunctioning, or a memory module may be loose. Run the System Memory tests and the Keyboard Controller test in Dell Diagnostics or
X:\ IS NOT ACCESSIBLE. THE DEVICE IS NOT READY	Insert a disk into the drive and try again.

## System error messages

Table 33. System error messages

System message	Description
DescriptionAlert! Previous attempts at booting this system have failed at checkpoint [nnnn]. For help in resolving this problem, please note this checkpoint and contact Dell Technical Support	The device failed to complete the boot routine three consecutive times for the same error.
CMOS checksum error	RTC is reset, BIOS Setup default has been loaded.
CPU fan failure	CPU fan has failed.
System fan failure	System fan has failed.
Hard-disk drive failure	Possible hard disk drive failure during POST.
Keyboard failure	Keyboard failure or loose cable. If reseating the cable does not solve the problem, replace the keyboard.
No boot device available	No bootable partition on hard disk drive, the hard disk drive cable is loose, or no bootable device exists. <ul style="list-style-type: none"> <li>• If the hard drive is your boot device, ensure that the cables are connected and that the drive is installed properly and partitioned as a boot device.</li> <li>• Enter system setup and ensure that the boot sequence information is correct.</li> </ul>
No timer tick interrupt	A chip on the system board might be malfunctioning or motherboard failure.
NOTICE - Hard Drive SELF MONITORING SYSTEM has reported that a parameter has exceeded its normal operating range. Dell recommends that you back up your data regularly. A parameter out of range may or may not indicate a potential hard drive problem	S.M.A.R.T error, possible hard disk drive failure.

## 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](https://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.