

# Dell Thunderbolt Dock TB16

## User 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.

**Copyright © 2017-2022 Dell Inc. or its subsidiaries. All rights reserved.** Dell, EMC, and other trademarks are trademarks of Dell Inc. or its subsidiaries. Other trademarks may be trademarks of their respective owners.

<b>1 Introduction.....</b>	<b>4</b>
<b>2 Package Contents .....</b>	<b>5</b>
<b>3 Hardware Requirements .....</b>	<b>7</b>
<b>4 Identifying Parts and Features .....</b>	<b>8</b>
<b>5 Important Information.....</b>	<b>10</b>
<b>6 Quick Setup of Hardware .....</b>	<b>11</b>
<b>7 Thunderbolt Settings and Security Options.....</b>	<b>13</b>
Thunderbolt Driver Setting.....	13
Thunderbolt Configuration.....	16
Thunderbolt Security.....	17
<b>8 Setup of External Monitors.....</b>	<b>18</b>
Updating the graphics drivers for your computer.....	18
Configuring your Monitors.....	18
Display Resolution Table.....	22
<b>9 Technical specifications.....</b>	<b>23</b>
LED Status Indicators.....	23
Power Adapter LED.....	23
Cable LED.....	23
Docking Status Indicator.....	23
Docking Specifications .....	24
Input/Output (I/O) Connectors.....	26
<b>10 Removing the Thunderbolt 3 (Type-C) Cable .....</b>	<b>27</b>
<b>11 Frequently asked questions.....</b>	<b>32</b>
<b>12 Troubleshooting the Dell Thunderbolt Dock TB16.....</b>	<b>34</b>
Symptoms and Solutions.....	34
<b>13 Getting help.....</b>	<b>37</b>
Contacting Dell.....	37



# Introduction

The Dell Thunderbolt Dock TB16 is a device that links all your electronic devices to your laptop computer using Thunderbolt 3 (Type-C) cable interface. When you connect the laptop to the docking station, you can gain access to all your peripherals such as the mouse, keyboard, stereo speakers, external hard drive, and large-screen displays without having to plug each one into the laptop.

**CAUTION:** You must update your computer's BIOS and the Dell Docking Station drivers to the latest versions available at [www.dell.com/support](http://www.dell.com/support) before using the docking station. Older BIOS versions and drivers could result in the docking station not being recognized by your computer or not functioning optimally. Please see the [Important Information](#) chapter for detailed instructions on how to update your BIOS, Graphics, and Thunderbolt drivers/firmware as well as other associated drivers before using the Dell Thunderbolt Dock TB16.

## Package Contents

Your docking station ships with the components shown below. Ensure that you have received all the components and contact Dell (see your invoice for contact information) if something is missing.

	<p>Docking Station with Thunderbolt 3 (Type-C) cable</p> <p>180 W / 240 W Power Adapter</p> <p>Power Cord</p>
<div data-bbox="97 848 494 1425"> <p><b>Dell Thunderbolt™ Dock</b> TB16</p> <p>Quick Start Guide</p> <p><b>Important</b></p> <p>You must update your computer's BIOS and the Dell Thunderbolt Dock drivers to the latest versions available at <a href="http://www.dell.com/support/drivers">www.dell.com/support/drivers</a> before using the Dock.</p> <p>Older BIOS versions and drivers could result in the Dell Thunderbolt Dock not being recognized by your computer or not functioning optimally.</p>  </div> <div data-bbox="528 909 834 1121"> <p>1</p> <p><a href="http://www.dell.com/support/drivers">http://www.dell.com/support/drivers</a></p> <p>BIOS</p>  </div> <div data-bbox="528 1150 834 1362"> <p>2</p> <p><a href="http://www.dell.com/support/drivers">http://www.dell.com/support/drivers</a></p> <p>Drivers</p>  </div> <div data-bbox="906 909 1212 1121"> <p>3</p>  </div> <div data-bbox="906 1150 1212 1362"> <p>4</p>  <p><b>NOTE:</b> Computers requiring more than 130 W power input must also be connected to their own power adapter for charging and operating at full performance.</p> </div>	<p>Quick Setup Guide (QSG)</p>

Table of Contents

SECTION 1: SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION

SECTION 2: WARRANTY INFORMATION

SECTION 3: SUPPORT INFORMATION

SECTION 4: ADDITIONAL INFORMATION

SECTION 5: INDEX

Safety,  
Environmental,  
and Regulatory  
Information



# Hardware Requirements

Before using the docking station, ensure that your laptop or PC has a Thunderbolt 3 (Type-C) port.



## Identifying Parts and Features

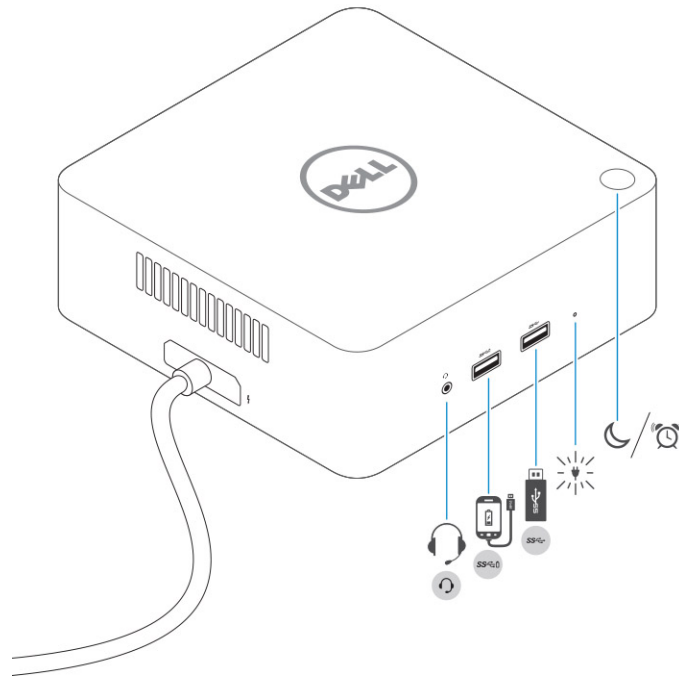


Figure 1. Identifying Parts and Features — Front



Audio headset port



USB 3.0 port with PowerShare



USB 3.0 port



Power Adapter LED Indicator

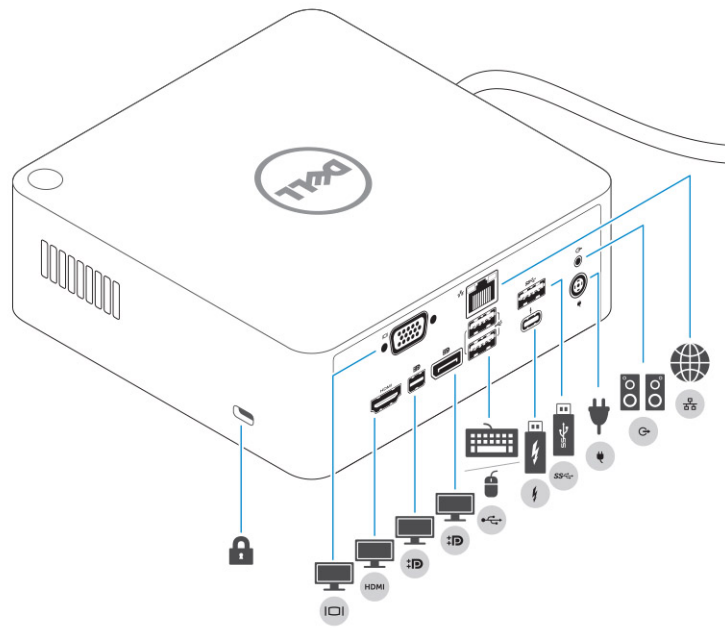


Sleep/Wake up/Power button

① **IMPORTANT:** The dock button is designed to replicate your system's power button. If you connect the TB16 to supported Dell computers, the dock button will work like your computer's power button and you can use it to "power on"/"sleep"/"force shutdown" the computer.

① **NOTE:** The dock button is not functional if connected to non-supported Dell computers or non-Dell computers.





**Figure 2. Identifying Parts and Features — Back**



Kensington Lock slot



HDMI port



DisplayPort (Mini and Full)



VGA port



Network connector (RJ-45)



USB 2.0 port



USB 3.0 port



Line-out



Power connector

## Important Information

You must update your computer's BIOS and the Dell Docking Station drivers to the latest versions available at [www.dell.com/support](http://www.dell.com/support) before using the docking station. Older BIOS versions and drivers could result in the docking station not being recognized by your computer or not functioning optimally.

Dell highly recommends the following applications to automate the installation of BIOS, firmware, driver, and critical updates specific to your system and docking station:

- Dell | Update - for Dell XPS systems only.
- Dell Command | Update - for Dell Latitude, Dell Precision, or XPS systems.

These applications are available for download on the Driver & Downloads page for your product at [www.dell.com/support](http://www.dell.com/support)

Pick your system type from the list or enter the service tag of your system to get the right version for your computer.

**NOTE:** TB16 dock connection to your computer is required in order for Dell Update to start software updates on the host system.

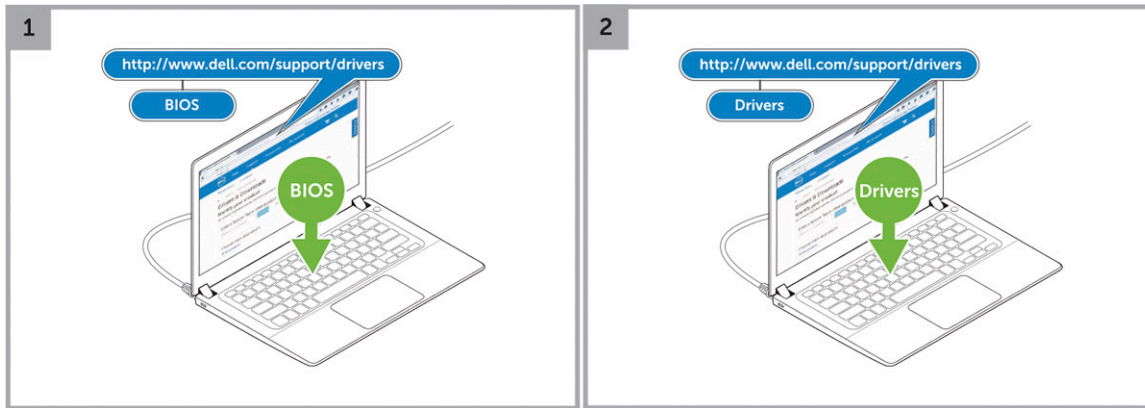
Dell Command | Update application is supported on Dell Precision, XPS, and Latitude notebooks. Alternatively, Dell recommends installing the following BIOS, firmware, and drivers step-by-step in the prescribed order to ensure optimal performance:

Search for your system model name under **Select a Product** selection, or enter the service tag of your system to locate the **Drivers & Downloads** page on the Dell support website ([www.dell.com/support](http://www.dell.com/support)). Change the **Operating System** to view all available updates for your system.

- Flash the latest **Basic Input/Output System (BIOS)** for the system. This is available in the "**BIOS**" section.
- Install the latest **Intel Thunderbolt Controller Driver** for the system. This is available in the "**Chipset**" section.
- Install the latest **Intel Thunderbolt 3 Firmware Update** for the system. This is available in the "**Chipset**" section.
- Install the latest **Intel HD Graphics Driver** for the system. This is available in the "**Video**" section.
- Install the latest **ASMedia USB 3.0 Extended Host Controller Driver for Dell Thunderbolt Dock**. This is available in the "**Docks & Stands**" section.
- Install the latest **Realtek USB GBE Ethernet Controller Driver for Dell Thunderbolt Dock and Dell Dock**. This is available in the "**Docks & Stands**" section.
- Install the latest **Realtek USB Audio Driver for Dell Thunderbolt Dock and Dell Dock**. This is available in the "**Docks & Stands**" section.
- Restart the system.
- After the software update process completes, connect the AC adapter to the TB16 dock first and then attach the Thunderbolt 3 (Type-C) cable to the computer before using the docking station.

## Quick Setup of Hardware

- 1 Update your system's BIOS and drivers from [www.dell.com/support/drivers](http://www.dell.com/support/drivers)



- 2 Connect the AC adapter to a power outlet. Then, connect the AC adapter to the 7.4 mm DC-in power input on the Dell Thunderbolt Dock TB16.

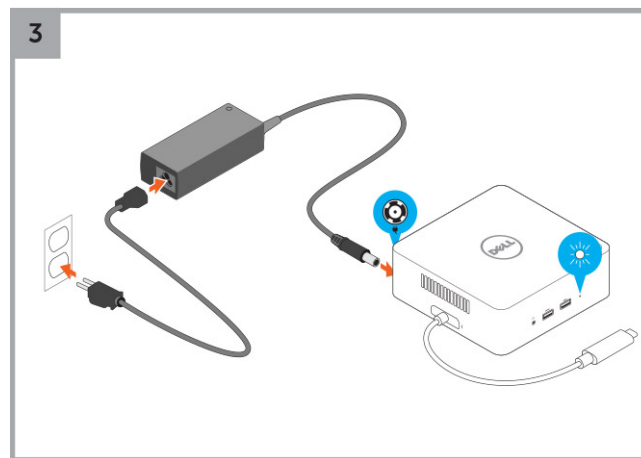
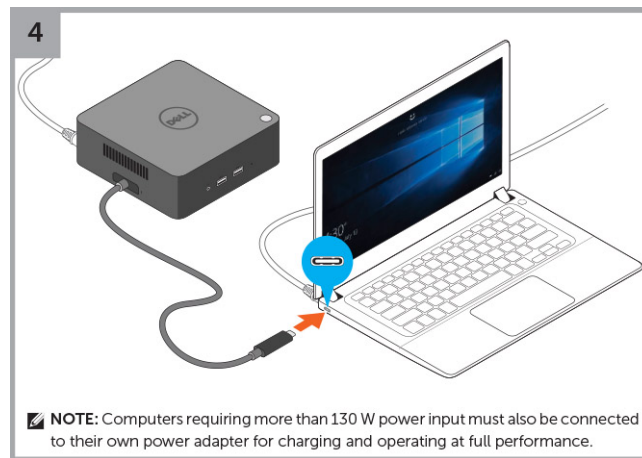


Figure 3. Connecting the AC Adapter

- 3 Connect the Thunderbolt 3 (Type-C) connector to the computer.



**Figure 4. Connecting the Thunderbolt 3 (Type-C) connector**

**NOTE:** On TB16-supported Dell computers, connecting the Thunderbolt 3 (Type-C) cable will auto wake-up the laptop and connect any peripherals already attached. This behavior can be disabled in your BIOS Setup option “Wake on Dell USB-C Docks”.

- 4 Follow the on-screen instructions to give the Dell Thunderbolt Dock permission to connect to your computer. See [Thunderbolt Driver Settings](#) for more information.
- 5 Connect multiple displays to the docking station, as needed.

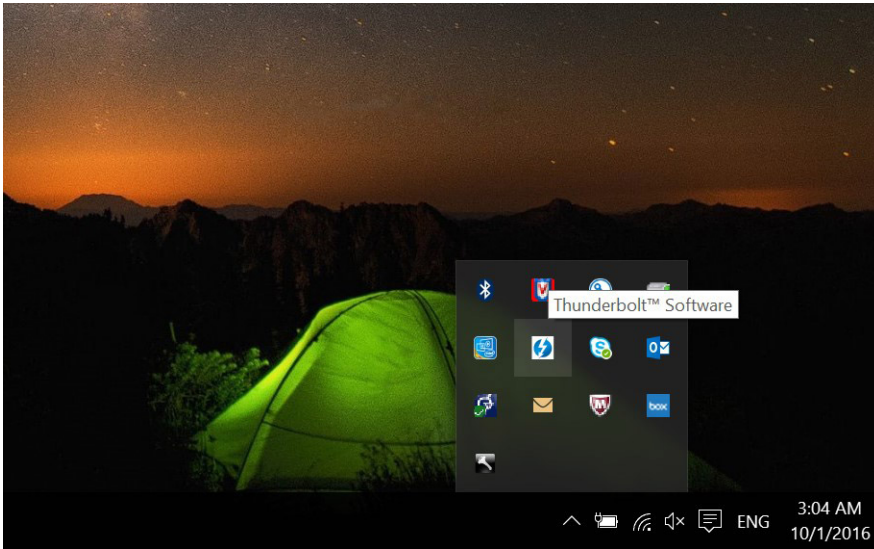


**NOTE:** Computers requiring more than 130 W power input must also be connected to their own power adapter for charging and operating at full performance.

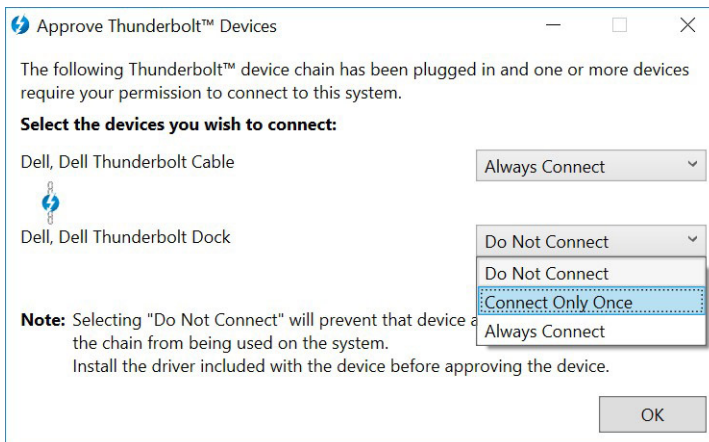
# Thunderbolt Settings and Security Options

## Thunderbolt Driver Setting

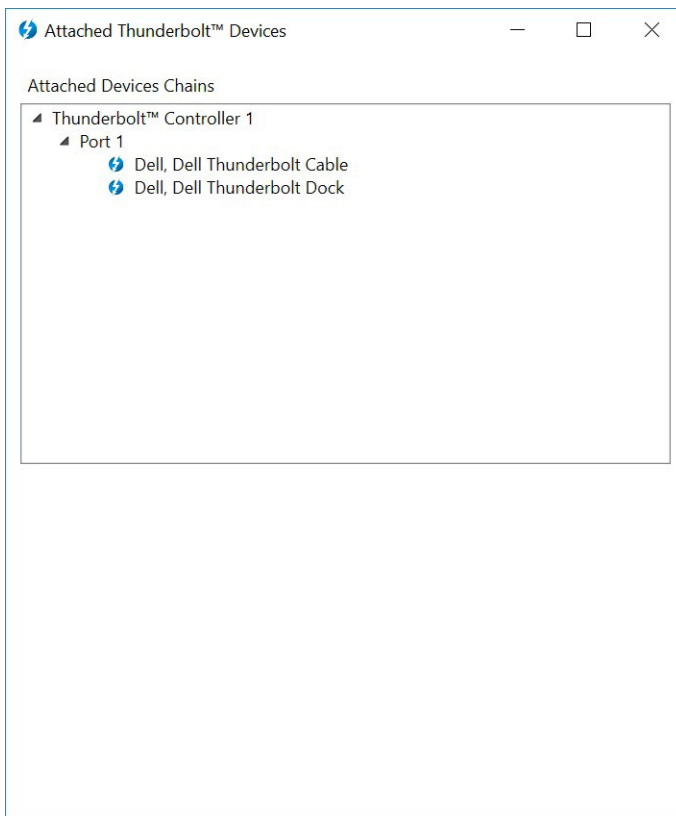
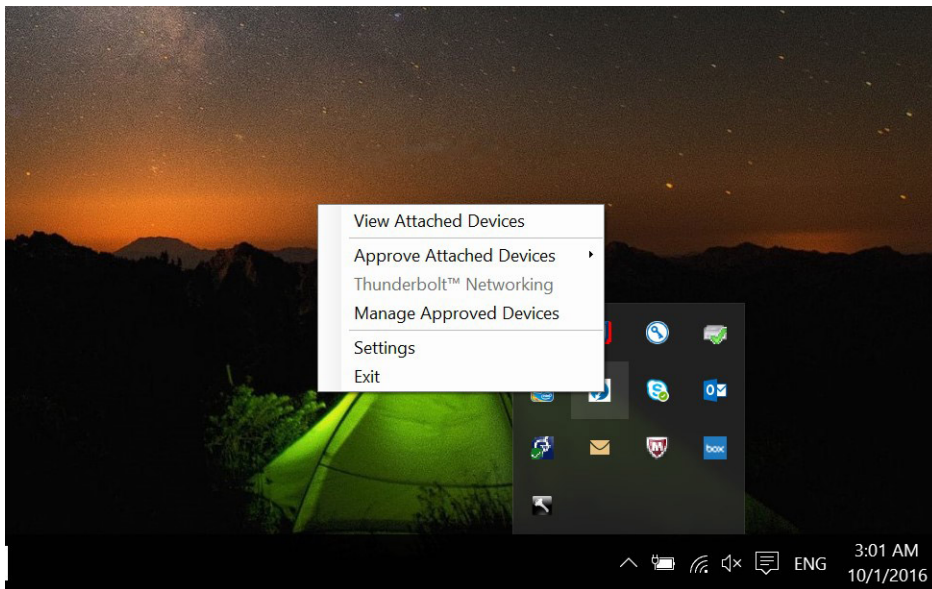
- 1 Connect the Thunderbolt Device to the system. The Thunderbolt icon appears in the system tray.



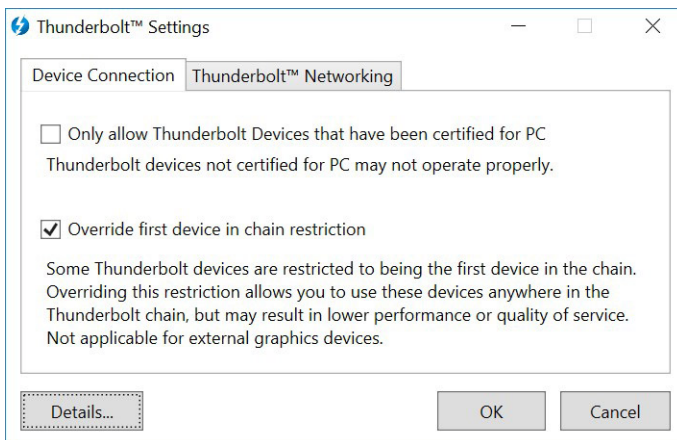
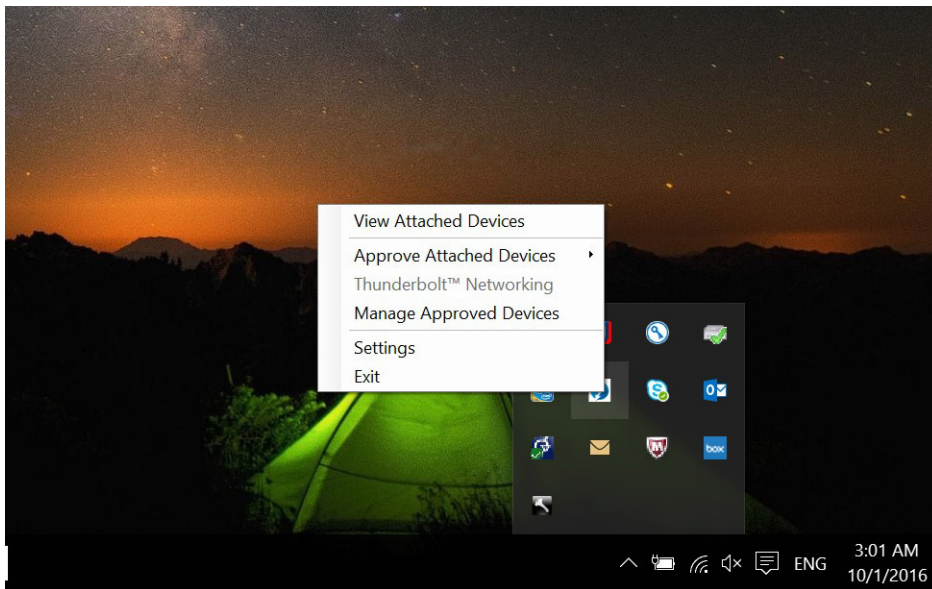
- 2 An Authentication window pops up for the user to select the connection setting.



- 3 Right click on the Thunderbolt icon to View Attached Thunderbolt Devices.

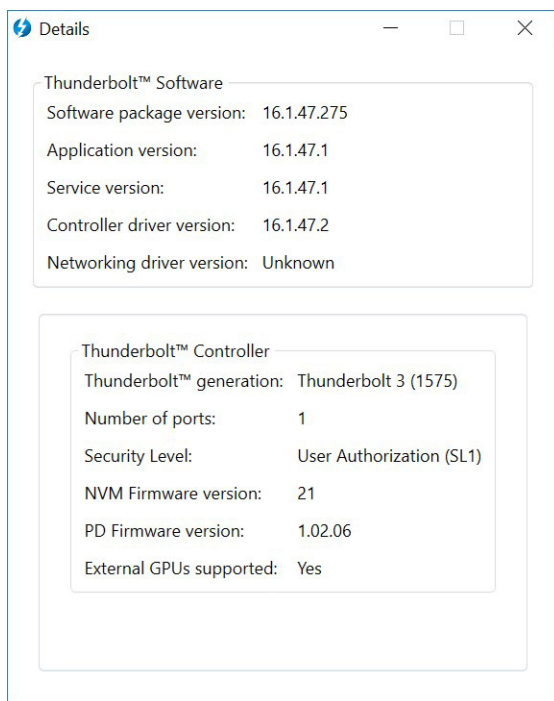


- 4 Right click on the Thunderbolt Icon to view Thunderbolt Settings.



- 5 Click **Details** to view (Thunderbolt driver/firmware) version details





## Thunderbolt Configuration

If Dell BIOS is used in your system, you may find below Control options in Thunderbolt™ Configuration page in your BIOS Setup:

- 1 Enable Thunderbolt™ Technology Support (Enabled by default)
  - When enabled, the Thunderbolt™ Technology feature, and associated ports and adapters are enabled.
  - When disabled, the Thunderbolt™ Technology feature is disabled, and any connected Thunderbolt™ adapter devices are not available in pre-boot or within the operating system.
- 2 Enable Thunderbolt™ Boot Support (Disabled by default)
  - When enabled, the following Thunderbolt™ adapter features are enabled during Pre-boot: Thunderbolt™ adapter boot support, USB device on Thunderbolt™ adapter support (including USB boot support). This allows Thunderbolt™ adapter peripheral devices and USB devices connected to the Thunderbolt™ adapter to be used during BIOS pre-boot. However, setting this to “Enabled” will override the Security Levels utilized within the operating system. When this setting is enabled, any Thunderbolt™ adapter peripherals and USB devices connected to the Thunderbolt™ adapter port prior to booting the system can be used in pre-boot. As long as the device remains connected, it will continue to function within the operating system, regardless of the Security Level set in BIOS.
- 3 Enable Thunderbolt™ Adapter Pre-boot Modules (Disabled by default)
  - When enabled, this setting will allow PCIe devices that are connected through a Thunderbolt™ adapter (i.e. PCIe devices behind the Thunderbolt™ adapter) to execute the PCIe device's UEFI Option ROM(s) (if present) during pre-boot.
  - When disabled, this setting will prevent PCIe device Option ROMs from executing during pre-boot for PCIe devices connected behind the Thunderbolt™ adapter.

**NOTE:** Enabling the “Enable Thunderbolt™ Adapter Boot Support” or “Enable Thunderbolt™ Adapter Pre-boot Modules” options may allow devices connected to the Thunderbolt™ adapter during pre-boot to function in the operating system regardless of the Security Level selected in BIOS Setup. The device will continue to operate in the operating system until it is disconnected. When reconnected while within the operating system, the device will connect according to the Security Level and previous OS authorizations.



# Thunderbolt Security

The settings below configure the Thunderbolt™ adapter security settings within the operating system. Security Levels are not applicable or enforced in the Pre-boot environment.

- No Security: Automatically connect to devices plugged into the Thunderbolt™ port.
- User Authorization: Approval is required for any new devices connected to the Thunderbolt™ port.
- Secure Connect: The Thunderbolt™ adapter port will only allow connection to devices that have been configured with a shared key.

**NOTE:** The first time a Thunderbolt peripheral's Unique ID is granted "always connect" PCIe access, a secure encrypted key is written to the peripheral controller's non-volatile memory and added to the host PC's ACL list. Each time a peripheral's Unique ID is found on the ACL, the PC's controller sends a security challenge and the response from the peripheral is then verified before the PCIe connection is allowed. If the response is not valid, the user receives a connection permission prompt. This capability, when enabled, prevents pre-SL2 capable peripherals from connecting to a PC; thereby preventing a potential HW spoofing of an approved device to generate a DMA exploit (beyond what is prevented with SL1).

- DisplayPort Only: Automatically connect to DisplayPort devices only. No Thunderbolt™ adapter or PCIe devices are allowed to connect.

In the BIOS of a Dell Thunderbolt-enabled PC, you will be able to configure the security settings of the Thunderbolt connection. You can find the configuration options in the BIOS path: **System Configuration > USB / Thunderbolt Configuration**.

No security	Allow legacy Thunderbolt devices to auto-connect – the CM auto connects a new device plugged in.
User Authorization	Allow User Notification devices at minimum –the CM requests connection approval from the host SW and auto-approval may be given based on the Unique ID of the connecting device.
Secure Connect	Allow one-time saved key devices at minimum – the CM requests connection approval from the host SW and auto-approval is only given if the host challenge to the device is acceptable.
DisplayPort Only	Allow DisplayPort sinks to be connected (re-driver or DP tunnel, no PCIe tunneling).



# Setup of External Monitors

## Updating the graphics drivers for your computer

The Microsoft Windows operating systems include the VGA graphics drivers only. Therefore, for optimum graphics performance, it is recommended that Dell graphics drivers applicable for your computer be installed from [dell.com/support](http://dell.com/support) under the “**Video**” section

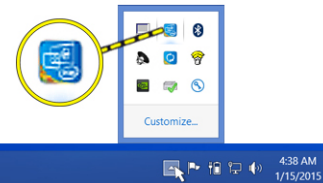
### NOTE:

- 1 For nVidia Discrete Graphics solutions on the Latitude E-Family and Mobile Precision computers:
  - a First, install the Intel Media Adapter Graphics Driver applicable to your computer.
  - b Second, install the nVidia Discrete Graphics Driver applicable to your computer.
- 2 For AMD Discrete Graphics solutions on the Latitude E-Family and Mobile Precision computers:
  - a First, install the Intel Media Adapter Graphics driver applicable to your computer.
  - b Second, install the AMD Discrete Graphics driver applicable to your computer.

## Configuring your Monitors

If connecting two displays, follow these steps:

- 1 Click the icon list on the task bar.



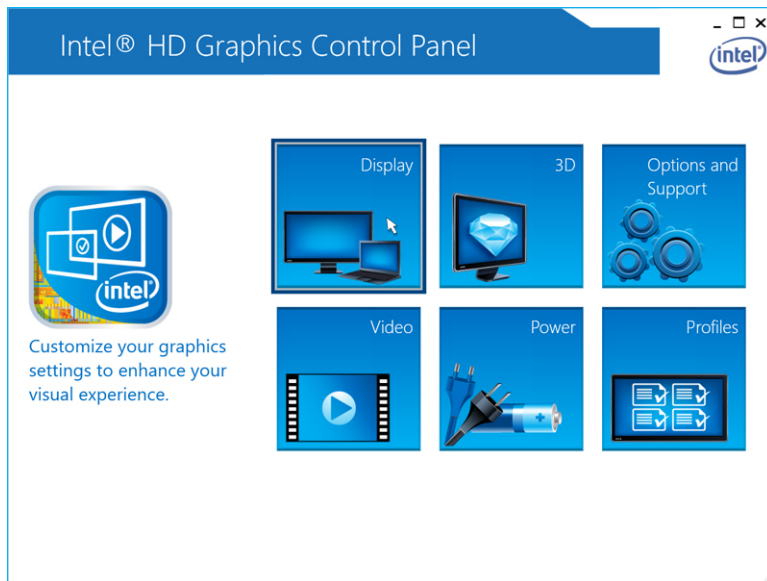
- 2 Click the Intel HD Graphics utility on your taskbar as shown here.



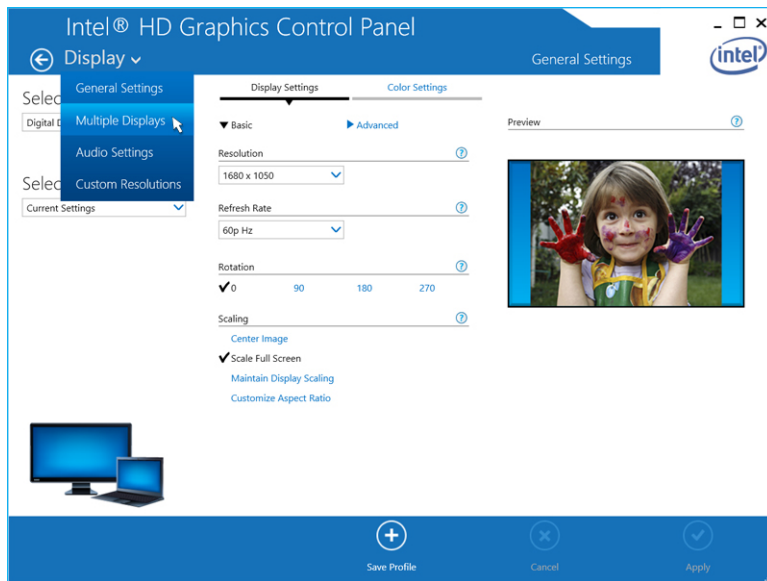
- 3 Click **Graphics Properties**.



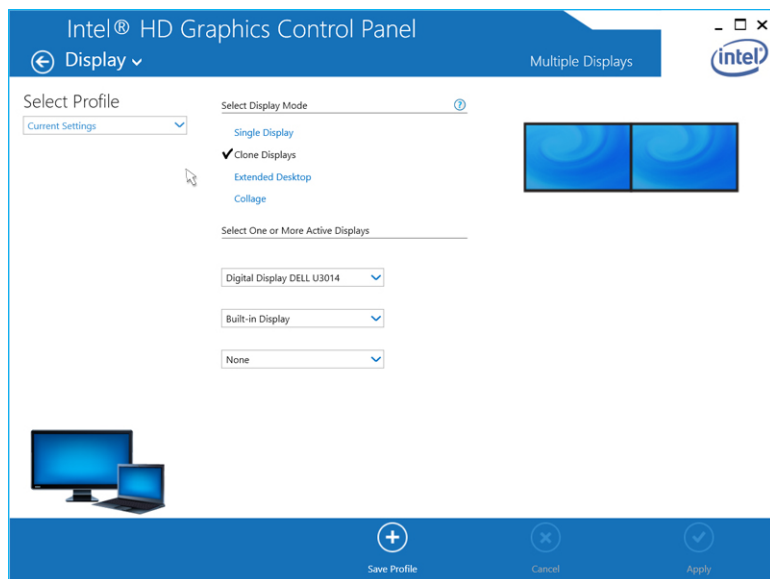
- 4 Click **Display**.



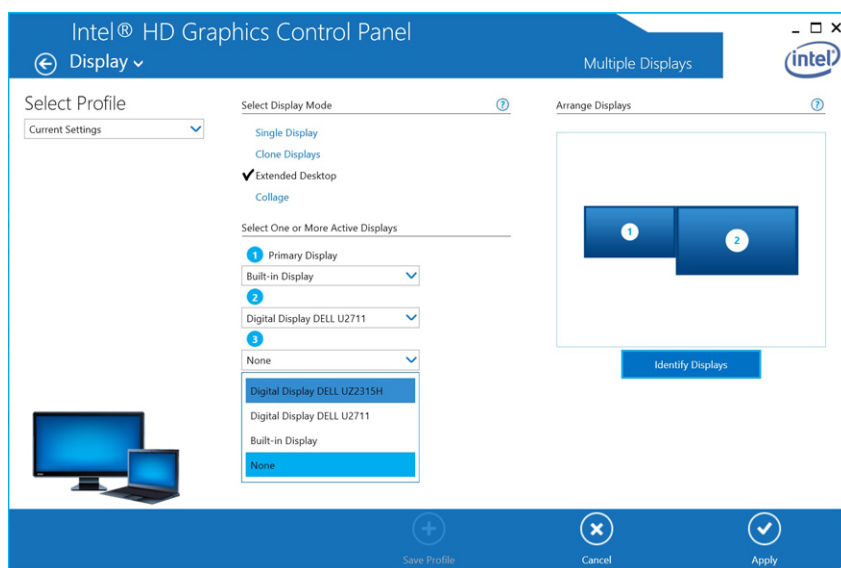
- 5 Click **Display** and select **Multiple Displays**.



- 6 Select your preferred Display Mode.



- 7 Select and arrange your displays to your preferred style and then click **Apply** for the changes to take effect.



# Display Resolution Table

Table 1. Display Resolution Table

Single Display (maximum resolution)	Dual Display (maximum resolution)	Triple Display (maximum resolution)	Quad Display (maximum resolution)
<p>**DP + mDP (Single Image): 5120 x 2880 @ 60Hz</p> <p>DP/mDP/Type-C: 3840 x 2160 @ 60 Hz</p> <p>HDMI: 3840 x 2160 @ 24/30 Hz</p> <p>VGA: 1920 x 1200 @ 60 Hz</p> <p>***Type-C: 5120 x 2880 @ 60 Hz</p>	<p>DP/mDP/Type-C: 3840 x 2160 @ 60 Hz</p> <p>DP+VGA: 2 x 2560 x 1440 @60 Hz</p> <p>mDP+HDMI: 2 x 2560 x 1440 @60 Hz or 3840 x 2160 @ 30 Hz</p> <p>VGA may be limited to 2048 x 1280</p>	<p>DP + mDP+HDMI: 3 x 3840 x 2160 @ 30 Hz</p> <p><b>NOTE:</b> DP port at 60 Hz is supported, but mDP +HDMI are limited to 30 Hz for 4k</p>	<p>**mDP + HDMI + DP + VGA: 3x3840 x 2160 @ 30 Hz + 1x 1920 x1200 (VGA)</p> <p><b>NOTE:</b> **Discrete only mode or “Special Graphics Mode”.</p>

**NOTE:** If higher resolution monitors are used, the Intel Graphics driver will make a judgement based on monitor specifications and display configurations. Some resolutions may not be supported and so will be removed from the Intel Graphics Media Control Panel.

**NOTE:** Resolution support is also dependent on the monitor’s Extended Display Identification Data (EDID) resolution.

**NOTE:** The 5K resolution support is only available in either of these conditions:

- 1 With discrete graphics mode only, or special graphics mode, or
- 2 \*\*\* Using the Thunderbolt 3Type-C to a dual DisplayPort adapter.

**NOTE:** \*\* Configuration supported with AMD and Nvidia in discrete-only mode or special-graphics mode. These modes are listed in the BIOS for the following systems: Dell Precision 7510/7529/7710/7720 and will require disabling switchable graphics for discrete-only mode or enabling special-graphics mode when Switchable is enabled. If the system does not have these options in the BIOS, then 4 monitors are NOT supported.

# Technical specifications

Topics:

- LED Status Indicators
- Docking Specifications
- Input/Output (I/O) Connectors

## LED Status Indicators

### Power Adapter LED

**Table 2. Power Adapter LED indicator**

State	LED Behavior
Power Adapter is plugged into wall socket	Solid White

### Cable LED

**Table 3. Cable LED indicator**

State	LED Behavior
Connected to a Dell Thunderbolt-enabled PC	Solid White

### Docking Status Indicator

**Table 4. Docking Station LED Indicators**

State	LED Behavior
Docking station is receiving power from power adapter	Solid White

**Table 5. RJ-45 LED Indicators**

Link Speed Indicators	Ethernet Activity Indicator
10 Mb = Green	Yellow Flashing
100 Mb = Orange	
1 Gb = Green + Orange	



# Docking Specifications

<b>Standard</b>	<ul style="list-style-type: none"> <li>Thunderbolt 3 (Type-C)</li> </ul>
<b>Video Ports</b>	<ul style="list-style-type: none"> <li>mini DisplayPort x 1 (supports DP 1.2)</li> <li>DisplayPort x 1</li> <li>HDMI x 1 (supports HDMI 1.4a)</li> <li>VGA Port x 1</li> <li>Thunderbolt 3 (Type-C) port</li> </ul>
<b>Audio Ports</b>	<ul style="list-style-type: none"> <li>Headset connector x 1</li> <li>Line out x 1</li> </ul>
<b>Network Port</b>	<ul style="list-style-type: none"> <li>Gigabit Ethernet (RJ-45) x 1</li> </ul>
<b>USB Ports</b>	<ul style="list-style-type: none"> <li>2 Front USB 3.0 Ports (one with PowerShare)</li> <li>1 Rear USB 3.0 Port</li> <li>2 Rear USB 2.0 Ports</li> <li>1 Rear Thunderbolt 3 (Type-C) Port</li> </ul>
<b>DC-in Port</b>	<ul style="list-style-type: none"> <li>one 7.4 mm DC-in port</li> </ul>
<b>USB Type-C cable length</b>	<ul style="list-style-type: none"> <li>0.5 m</li> </ul>
<b>Buttons</b>	<ul style="list-style-type: none"> <li>Sleep/Wakeup/Power</li> </ul>
<b>LED</b>	<ul style="list-style-type: none"> <li>Front status indicator</li> </ul>



<b>Environmental Characteristics</b>	Temperature	Operating: 0 °C to 35 °C
		Non-operating: <ul style="list-style-type: none"> <li>Storage: -20 °C to 60 °C (-4 °F to 140 °F)</li> <li>Shipping: -20 °C to 60 °C (-4 °F to 140 °F)</li> </ul>
	Humidity	Operating: 10% to 80% (non-condensing)
		Non-operating: <ul style="list-style-type: none"> <li>Storage: 5% to 90% (non-condensing)</li> <li>Shipping: 5% to 90% (non-condensing)</li> </ul>
<b>Average Power Consumption</b>	4.384 W	
<b>Network Standby Power Consumption</b>	5.8 W	
<b>Dimension</b>	145 mm x 145 mm x 52 mm	
<b>Weight</b>	720 g (minimum)	
<b>VESA Mounting options</b>	Yes — via Dell Docking Station Mounting Kit	

**Table 6. Dell Thunderbolt Dock TB16 Power Adapter**

<b>Adapter Specifications</b>	<b>E4 180 W</b>	<b>E4 240 W</b>
Input voltage	100 VAC to 240 VAC	100 VAC to 240 VAC
Input current (max)	2.34 A	3.5 A
Input frequency	50 Hz to 60 Hz	50 Hz to 60 Hz
Output current	9.23 A (continuous)	12.31 A (continuous)
Rated output voltage	19.5 VDC	19.5 VDC

# Input/Output (I/O) Connectors

The Dell Thunderbolt Dock TB16 has the below I/O connectors:

<b>Video Ports</b>	<ul style="list-style-type: none"><li>• mini DisplayPort x 1</li><li>• DisplayPort x 1</li><li>• HDMI x 1</li><li>• VGA x 1</li><li>• Thunderbolt 3 (Type-C) x 1</li></ul>
<b>Input/Output Ports</b>	<ul style="list-style-type: none"><li>• USB 2.0 x 2</li><li>• USB 3.0 x 2</li><li>• USB 3.0 PowerShare x 1</li><li>• Thunderbolt 3 (Type-C) x 1</li><li>• 7.4 mm DC-in x 1</li><li>• Gigabit Ethernet (RJ-45) x 1</li><li>• Headset connector x 1</li><li>• Line-out connector x 1</li></ul>

## Removing the Thunderbolt 3 (Type-C) Cable

The Dell Thunderbolt Dock TB16 is shipped with the Thunderbolt 3 (Type-C) cable attached. To remove/change the cable, follow these steps:

- 1 Turn over the docking station.



- 2 Peel back the rubber safety shield as shown.



- 3 Remove the two M2.5 x 5 screws.



- 4 Lift and remove the metal cable bracket.



- 5 Pull out the USB Type-C cable from its connector inside the docking station.



## Frequently asked questions

### 1 The fan is not working after connecting with the system.

- The fan is triggered by temperature. The dock fan will not rotate until the dock is hot enough to trigger a thermal threshold.
- Vice versa, if your dock is not cool enough, the fan will not stop even when you disconnect the dock from the system.

### 2 The dock does not work after high-speed fan noise.

- When you hear a loud fan noise, it is warning you that the dock is in some kind of a hot condition. For example, the vent in the dock may be blocked or the dock is working in a high working-temperature environment (> 35C), etc. Please eliminate these abnormal conditions from the dock. If you do not eliminate the abnormal condition, in a worst-case situation, the dock will shut down through the over-temperature protection mechanism. Once this happens, please un-plug the Type-C cable from the system and remove dock's power. Then, plug in the dock power to recover the dock back online.

### 3 I hear a fan noise when I plug in the dock's AC adapter.

- This is a normal condition. First time plugging in of the dock's AC adapter will trigger the fan to rotate, but it will subsequently turn off very soon.

### 4 I hear a loud fan noise. What's wrong?

- The dock fan is designed with two different rotate speeds. Normally, the dock will work on low fan speed. If you put the dock in a heavy loading, or in high working-temperature environment, the dock fan may have a chance to work at a high speed. But, this is normal and the fan will work at a low/high speed depending on the work loading.

### 5 What is the charging station feature?

- The Dell Thunderbolt Dock TB16 can charge your mobile or power bank even without being connected to the system. Just make sure your dock is connected with external power. The dock fan will rotate automatically if the dock gets too warm. This is normal working condition.

### 6 Why am I asked to approve Thunderbolt Devices after the Windows logon and what should I do?

- This is for Thunderbolt security. You are asked to approve a Thunderbolt device because the Thunderbolt Security level on your unit is set to "User Authorization" or "Secure Connect" in the BIOS Setup. You will not see this page if the Thunderbolt Security level on your system is set to "No Security" or "DisplayPort Only". Also, if you checked "Enable Thunderbolt Boot Support" in the BIOS Setup and power-on the system with TB16 attached, you will not see this page because the Security level is overridden to "No Security" in this case. When you are asked to approve a Thunderbolt device, you may select "Always Connect" if you do not have any security concerns to always allow the Thunderbolt device connection to your system. Or you may select "Connect Only Once" or "Do Not Connect" if you do have concerns.

### 7 Why does it take a long time for the system to recognize all the peripheral devices which are attached to the docking station?

- Security is always Dell's highest priority. We ship our systems with "Security level - User Authorization" setting by default. This allows our customers to review the Thunderbolt security conditions of their systems so they can make selections accordingly. However, this also means the Thunderbolt dock and the devices attached to it will need to pass Thunderbolt driver security permission checking to get it connected and initialized. This normally means some extra time is needed before these devices can be accessed by users.

### 8 Why does the hardware installation window show up when I plug in a USB device to the docking stations ports?

- When a new device is plugged in, the USB hub driver notifies the Plug and Play (PnP) manager that a new device was detected. The PnP manager queries the hub driver for all of the device's hardware IDs and then notifies Windows OS that a new device needs to be installed. In this scenario, the user will see a hardware installation window.

<https://msdn.microsoft.com/en-us/windows/hardware/drivers/install/step-1--the-new-device-is-identified>

<https://msdn.microsoft.com/en-us/windows/hardware/drivers/install/identifiers-for-usb-devices>

### 9 Why do the peripheral devices, which are connected to the dock station, become unresponsive after recovering from a power loss?

- The Thunderbolt dock is designed to operate only with the AC adapter connected and it cannot be powered by the computer's Type-C port. If the AC adapter is disconnected or if there is a power failure, the dock will stop functioning. Even when the power is restored or the AC adapter is reconnected, the dock may still not function properly. After a power loss, the user needs to unplug the Type-C cable, disconnect and reconnect the AC adapter, and then reconnect the Type-C cable to computer to restore dock back to normal condition.





# Troubleshooting the Dell Thunderbolt Dock TB16

## Symptoms and Solutions

Symptoms	Suggested solutions
1. No video on the monitors attached to the High Definition Multimedia Interface (HDMI), mini-DisplayPort (mDP) port, or DisplayPort (DP) port on the docking station.	<ul style="list-style-type: none"> <li>• Ensure that the latest BIOS and drivers for your computer and the docking station are installed on your computer.</li> <li>• Make sure your computer is connected to the docking station securely. Try to disconnect and reconnect the docking station to the notebook computer.</li> <li>• Disconnect both ends of the video cable and check for damaged/bent pins. Securely re-connect the cable to the monitor and docking station.</li> <li>• Make sure the video cable (HDMI, mDP or DisplayPort) is connected properly to the monitor and the docking station. Ensure to select the correct video source on your monitor (refer to your monitor's documentation for more information about changing the video source).</li> <li>• Check the resolution settings on your computer. Your monitor may support higher resolutions than what the docking station is able to support. Please see the <a href="#">Display Resolution Table</a> for more information on maximum resolution capacity.</li> <li>• If your monitor is connected to the docking station, the video output on your computer may be disabled. You can enable the video output using the Intel Graphics Control Panel or refer to the User Guide of your computer.</li> <li>• If only one monitor is shown, while the other is not, go to the Intel Graphics Control Panel, and under <b>Multiple Displays</b>, select the output for the second monitor.</li> <li>• If three monitors are connected to the docking station, then the docking station will only support a maximum of two external monitors. Refer to the User Guide of your docking station for information on how to select and activate the desired monitors.</li> <li>• Try with a different monitor and cable that is known to be good, if possible.</li> </ul>
2. The video on the attached monitor is distorted or flickering.	<ul style="list-style-type: none"> <li>• Reset the monitor to Factory Defaults. Refer to the User Guide of your monitor for more information on how to reset the monitor to factory defaults.</li> <li>• Ensure that the video cable (HDMI, mDP or DisplayPort) is connected securely to the monitor and the docking station.</li> <li>• Disconnect and reconnect the monitor/s from the docking station.</li> <li>• First power off the docking station by disconnecting the Type-C cable and then removing the power adapter from the dock. Then, power on the docking station by connecting power adapter to the dock before connecting the Type-C cable to your computer.</li> </ul>
3. The video on the attached monitor is not displaying as an Extended Monitor.	<ul style="list-style-type: none"> <li>• Ensure that the Intel HD Graphics driver is installed in the Windows Device Manager.</li> </ul>

Symptoms	Suggested solutions
	<ul style="list-style-type: none"> <li>Open the Intel HD Graphics Control Panel and go to <b>Multiple Displays</b> control to set the display to the extended mode.</li> </ul>
4. The audio connector is not functioning or there is a lag in the audio.	<ul style="list-style-type: none"> <li>Ensure that the latest BIOS and drivers for your computer and the docking station are installed on your computer.</li> <li>If your BIOS Setup has a Audio Enabled/Disabled option, make sure it is set to <b>Enabled</b>.</li> <li>Ensure the correct playback device is selected on the notebook computer.</li> <li>Try to re-plug the audio cable to the external speaker output on the docking station.</li> <li>First power off the docking station by disconnecting the Type-C cable and then removing the power adapter from the dock. Then, power on the docking station by connecting the power adapter to the dock before connecting the Type-C cable to your computer.</li> </ul>
5. The USB ports are not functioning on the docking station.	<ul style="list-style-type: none"> <li>Ensure that the latest BIOS and drivers for your computer and the docking station are installed on your computer.</li> <li>If your BIOS Setup has a USB Enabled/Disabled option, make sure it is set to <b>Enabled</b>.</li> <li>Verify if the device is detected in Windows Device Manager and that the correct device drivers are installed.</li> <li>Ensure that the docking station is connected securely to the notebook computer. Try to disconnect and reconnect the docking station to the computer.</li> <li>Check the USB ports. Try plugging the USB device into another port.</li> <li>First power off the docking station by disconnecting the Type-C cable and then removing the power adapter from the dock. Then, power on the docking station by connecting the power adapter to the dock before connecting the Type-C cable to your computer.</li> </ul>
6. The HDCP content is not displayed on the attached monitor.	<ul style="list-style-type: none"> <li>Dell Dock and Dell Thunderbolt Dock do not support HDCP content.</li> </ul>
7. The LAN port is not functioning.	<ul style="list-style-type: none"> <li>Ensure that the latest BIOS and drivers for your computer and the docking station are installed on your computer.</li> <li>Ensure that the RealTek Gigabit Ethernet Controller is installed in the Windows Device Manager.</li> <li>If your BIOS Setup has a LAN/GBE Enabled/Disabled option, make sure it is set to <b>Enabled</b>.</li> <li>Ensure that the Ethernet cable is connected securely on the docking station and the hub/router/firewall.</li> <li>Check the status LED of the Ethernet cable to confirm connectivity. Re-seat both ends of the Ethernet cable if the LED is not lit.</li> <li>First power off the docking station by disconnecting the Type-C cable and then removing the power adapter from the dock. Then, power on the docking station by connecting the power adapter to the dock before connecting the Type-C cable to your computer.</li> </ul>
8. Cable LED is not ON after it is connected to your host.	<ul style="list-style-type: none"> <li>Make sure the TB16 is connected to AC power.</li> <li>Make sure the laptop is connected with the docking station. Try to disconnect and re-connect again with the docking station.</li> </ul>



Symptoms	Suggested solutions
9. USB port has no function in a pre-OS environment.	<ul style="list-style-type: none"> <li>• If your BIOS has an USB/Thunderbolt Configuration page, please make sure the following options are checked:</li> <li>• 1. Enable USB Boot Support</li> <li>• 2. Enable External USB Port</li> <li>• 3. <b>Enable Thunderbolt Boot Support</b></li> </ul>
10. PXE boot on dock does not function.	<ul style="list-style-type: none"> <li>• If your BIOS has an integrated NIC page, please select <b>Enabled w/PXE</b>.</li> <li>• If your BIOS Setup on your computer has an USB/Thunderbolt Configuration page, please make sure the following options are checked:</li> <li>• 1. Enable USB Boot Support</li> <li>• 2. <b>Enable Thunderbolt Boot Support</b></li> </ul>
11. USB Boot does not function.	<ul style="list-style-type: none"> <li>• If your BIOS has an USB/Thunderbolt Configuration page, please make sure the following options are checked:</li> <li>• 1. Enable USB Boot Support</li> <li>• 2. Enable External USB Port</li> <li>• 3. <b>Enable Thunderbolt Boot Support</b></li> </ul>
12. AC Adapter is displayed as “Not Installed” in the Battery Information page of the Dell BIOS Setup when the Thunderbolt 3 (Type-C) cable is connected.	<ul style="list-style-type: none"> <li>• 1. Make sure the Dell Thunderbolt Dock TB16 is connected properly to its own adapter (240 W).</li> <li>• 2. Make sure the cable LED of your docking station is ON.</li> <li>• 3. Disconnect and then re-connect the Thunderbolt 3 (Type-C) cable to your computer.</li> </ul>
13. Peripherals connected to the docking station do not work in a pre-OS environment.	<ul style="list-style-type: none"> <li>• Thunderbolt Boot Support is by default disabled in BIOS Setup on your Dell computer. With such default setting the docking station and the peripherals connected to the docking station do not work in a pre-OS environment.</li> <li>• If the BIOS Setup on your computer has an USB/Thunderbolt Configuration page, check the following options to enable docking station function in a pre-OS environment:</li> <li>• Enable External USB Port</li> <li>• Enable Thunderbolt Boot Support</li> </ul>
14. Alert message “You have attached an undersized power adapter to your system” is displayed when the docking station is connected to your computer.	<ul style="list-style-type: none"> <li>• Make sure the docking station is connected properly to its own power adapter. Computer requiring more than 130 W power input must also be connected to their own power adapter for charging and operating at full performance.</li> <li>• First power off the docking station by disconnecting the Type-C cable and then removing power adapter from the dock. Then, power on the docking station by connecting the power adapter to the dock before connecting the Type-C cable to your computer.</li> </ul>

## 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.

