

Dell Docking Station WD19TBS Thunderbolt

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.

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Introduction

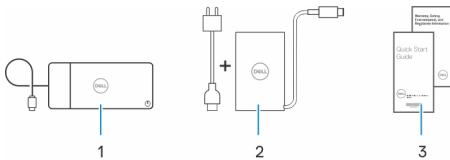
The Dell Thunderbolt Docking Station WD19TBS is a device that links all your electronic devices to your system using a Thunderbolt 3 (Type-C) cable interface. Connecting the system to the docking station allows you to access all peripherals (mouse, keyboard, stereo speakers, external hard drive, and large-screen displays) without having to plug each one into the system.

 **CAUTION:** Update your system's BIOS, graphic drivers, Thunderbolt driver, Thunderbolt firmware and the Dell Thunderbolt Docking Station WD19TBS drivers to the latest versions available at www.dell.com/support BEFORE using the docking station. Older BIOS versions and drivers could result your system not recognizing the docking station or not functioning optimally. Always check if any recommended firmware is available for your docking station at www.dell.com/support.

What's in the box

Your docking station ships with the components shown below:

1. Docking station
2. Power adapter and power cord
3. Documentation (Quick Start Guide and Safety, Environmental, and Regulatory Information)



NOTE: Contact Dell support if any of the listed items are missing from your box.

Hardware requirements

Before using the docking station, ensure that your system has a DisplayPort (Supported) or Thunderbolt port (Recommended) over USB Type-C designed to support the docking station.

NOTE: Dell Docking stations are supported with select Dell systems. See the [Dell Commercial Docking Compatibility Guide](#) for the list of supported systems and recommended docking.

Identifying Parts and Features



Figure 1. Top view



1. Sleep/Wake up/Power button

NOTE: The dock button is designed to replicate your system's power button. If you connect the Dell Thunderbolt Docking Station WD19TBS to supported Dell systems, the dock button works like your system's power button and you can use it to power on/sleep/force shutdown the system.

NOTE: The dock button is not functional when connected to unsupported Dell systems or non-Dell systems.

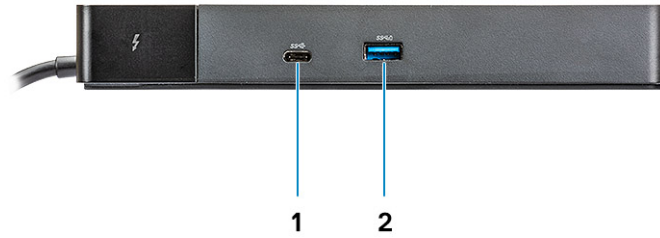


Figure 2. Front view

1.  USB 3.2 Gen2 Type-C port
2.  USB 3.2 Gen1 port with PowerShare

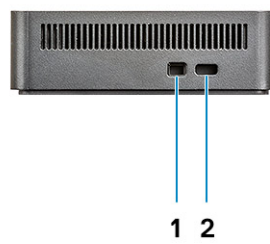


Figure 3. Left view

1.  Wedge-shaped lock slot
2.  Kensington lock slot

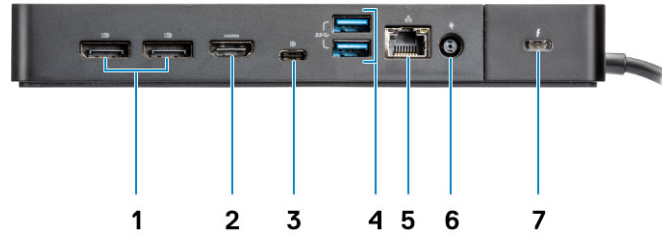


Figure 4. Back view

1.  DisplayPort 1.4 (2)
2.  HDMI 2.0 port
3.  USB 3.2 Gen2 Type-C port with DisplayPort 1.4
4.  USB 3.2 Gen1 port (2)
5.  Network connector (RJ-45)
6.  Power connector
7.  Type-C with Thunderbolt 3 port (connected to a Thunderbolt 3 host)/ Type-C USB2.0 port (connected to a non-Thunderbolt host).



Figure 5. Bottom view

1. Service tag label

Important Information

Dell Docking Station drivers (Realtek USB GBE Ethernet Controller Driver) are required to be installed before using the docking station for full functionality. Dell recommends updating the system BIOS, graphics driver, Thunderbolt driver, and Thunderbolt firmware to the latest version before using the docking station. Older BIOS versions and drivers could result in the docking station not being recognized by your system 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 Drivers & Downloads page for your product at [Dell Support Site](#)

Updating the Dell Docking Station driver set

To fully support the new generation Dell Docking Station, it is highly recommended to install the following BIOS/Drivers on a 64-bit Windows operating system:

1. Go to [Dell Support Site](#) and click **Detect Product** to Autodefect your product, or enter your system's Service Tag in the **Enter a Service Tag or Express Service Code** field, or click **View Products** to browse to your system model.
2. Flash the latest BIOS available for the system. This is available for download at [dell.com/support](#) under the "**BIOS**" section. Restart the system before the next step.
3. Install the latest Intel HD/NVIDIA/AMD Graphics drivers available for the system. This is available for download at [Drivers at Dell Support Site](#). Restart the system before the next step.
4. Install the **Realtek USB GBE Ethernet Controller Driver** for available for your system. This is available for download at [dell.com/support](#) under the "**Docks/Stand**" section.

Proper handling of the cables

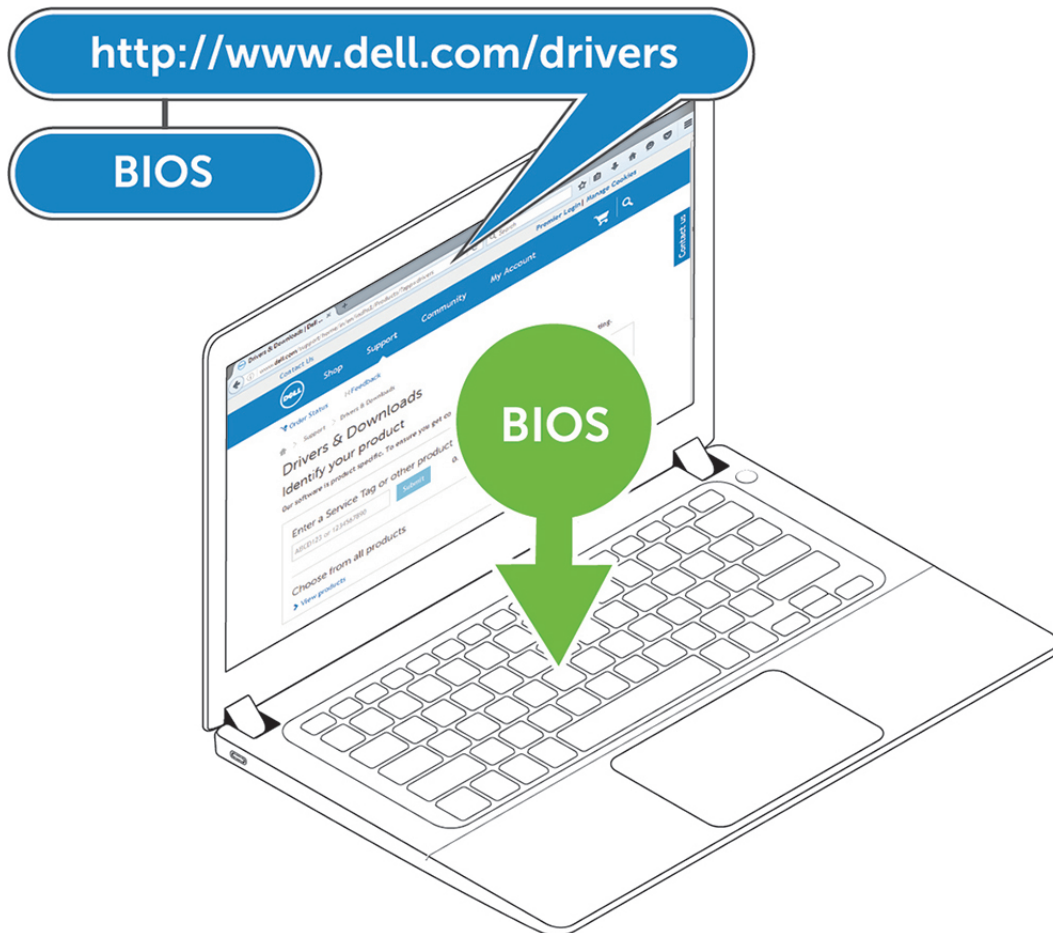
To maintain the optimal performance and enhance the longevity of the cables, manage them carefully by following these guidelines:

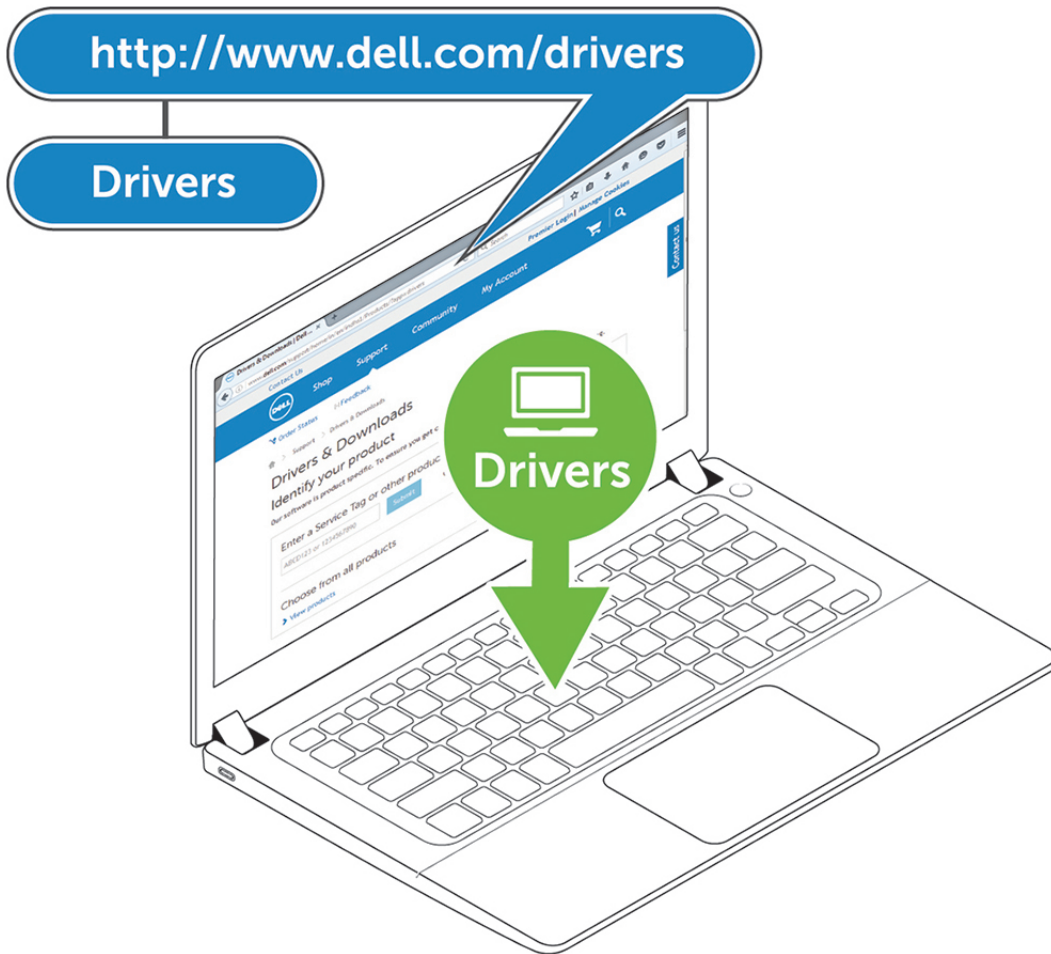
1. Avoid sharp bends
 - Ensure that the cable is not bent at sharp angles, particularly near the connectors. Maintain a gentle curve to prevent undue strain on the internal wires.
2. Implement proper cable management
 - When organizing or storing the cable, avoid wrapping it too tightly. Instead, loosely coil the cable in wide loops to preserve its integrity.
3. Refrain from tugging or twisting
 - Avoid holding the cable while disconnecting it from any connector or while carrying the dock from one place to another. This practice prevents potential damage to the cable and connectors.
4. Store safely when not in use
 - When the docking station is not in use, store the dock and its cables in a manner that prevents compression and other forms of damage.

Quick Setup of Hardware

Steps

1. Update your system's BIOS, graphics and drivers from 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 Docking Station WD19TBS .

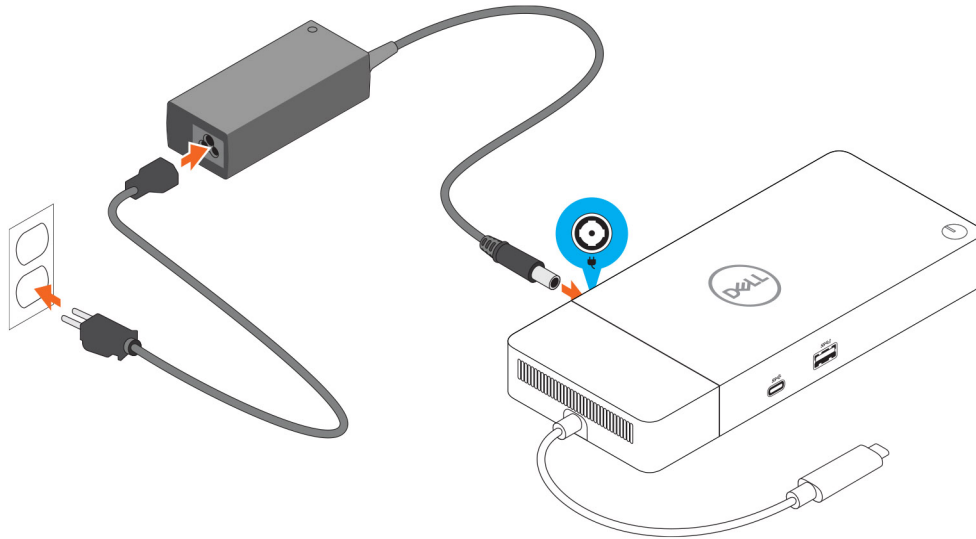


Figure 6. Connecting the AC Adapter

3. Connect the USB Type-C connector to the system.

Update the Dell Thunderbolt Docking Station WD19TBS firmware from www.dell.com/support/drivers.

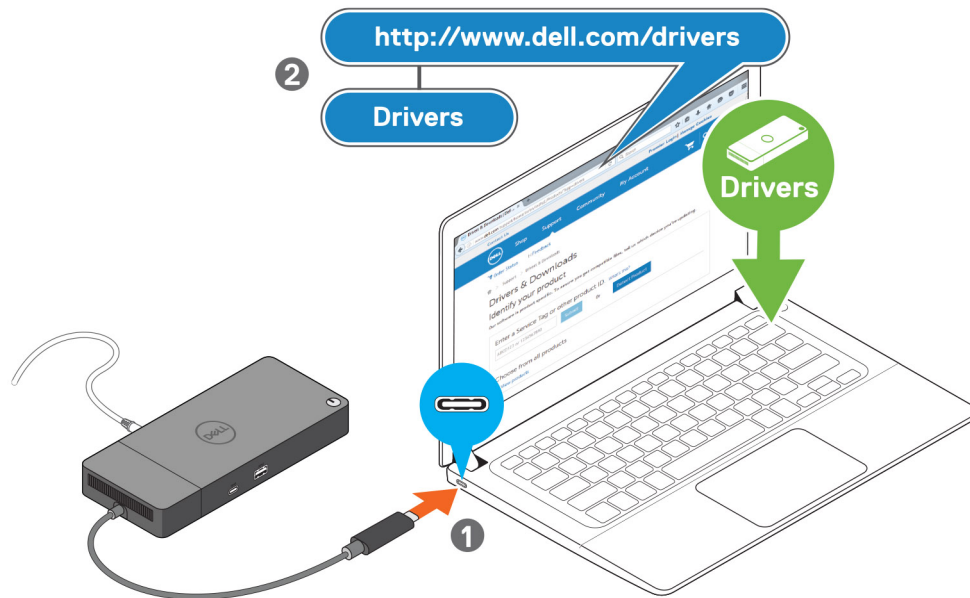


Figure 7. Connecting the USB Type-C connector

4. Connect multiple displays to the docking station, as needed.

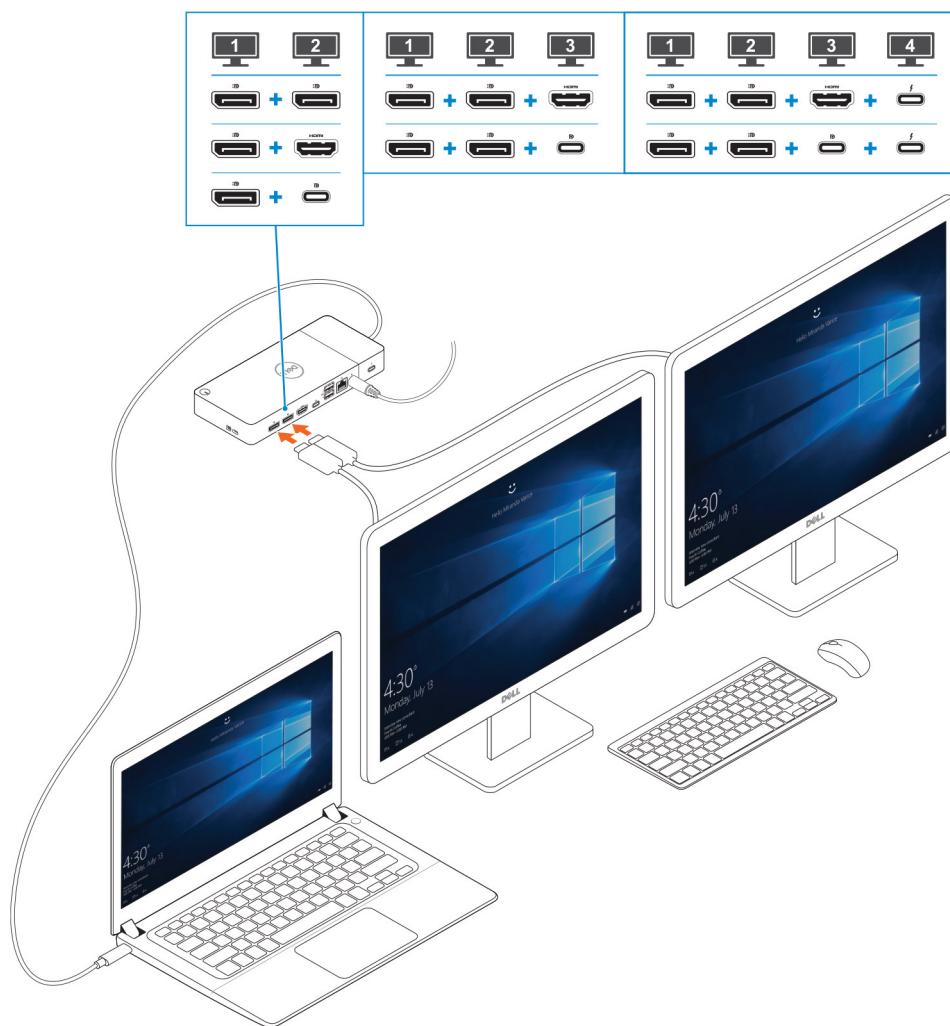


Figure 8. Connecting the multiple displays

Setup of External Monitors

Topics:

- [Updating the graphics drivers for your computer](#)
- [Configuring your Monitors](#)
- [Display bandwidth](#)
- [Display Resolution Table](#)

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 under the “**Video**” section

NOTE:

1. For nVidia Discrete Graphics solutions on the supported Dell systems:
 - 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 supported Dell systems:
 - 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.

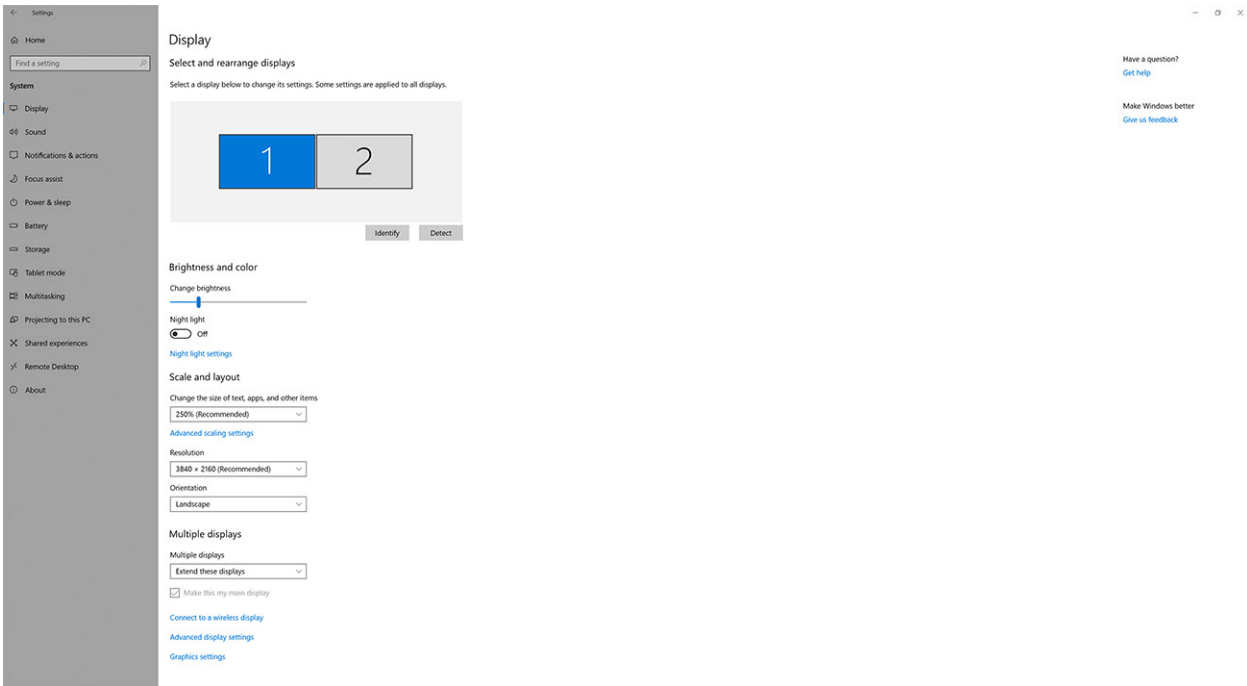
Configuring your Monitors

If connecting two displays, follow these steps:

Steps

1. Click the **Start** button, and then select **Settings**.
2. Click **System** and select **Display**.

3. Under the **Multiplay displays** section, modify the display configuration as needed.



NOTE: The display topology can be configured, by moving around the displays in the **"Select and rearrange displays"** section, to change where the operating system assumes these monitors are located.

Display bandwidth

External monitors require a certain amount of bandwidth to work properly. Monitors with higher resolution require more bandwidth.

- DisplayPort High Bit Rate 2 (HBR2) is 5.4 Gbps maximum link rate per lane. With DP overhead, the effective data rate is 4.3 Gbps per lane.
- DisplayPort High Bit Rate 3 (HBR3) is 8.1 Gbps maximum link rate per lane. With DP overhead, the effective data rate is 6.5 Gbps per lane.

Table 1. Display bandwidth

Resolution	Minimum bandwidth required
1 x FHD (1920 x 1080) display @60 Hz	3.2 Gbps
1 x QHD (2560 x 1440) display @60 Hz	5.6 Gbps
1 x 4K (3840 x 2160) display @30 Hz	6.2 Gbps
1 x 4K (3840 x 2160) display @60 Hz	12.5 Gbps

Display Resolution Table

Table 2. WD19TBS for Non-Thunderbolt systems

Display Port Available Bandwidth	Single Display (maximum resolution)	Dual Display (maximum resolution)	Triple Display (maximum resolution)	Quad Display (maximum resolution)
HBR2 (HBR2 x 2 lanes - 8.6 Gbps)	DP 1.4/HDMI 2.0/ MFDP Type-C: 4K (3840 x 2160) @30 Hz	- DP 1.4 + DP 1.4: FHD (1920 x 1080) @60 Hz - DP 1.4 + HDMI 2.0: FHD (1920 x 1080) @60 Hz - DP 1.4 + MFDP Type-C: FHD (1920 x 1080) @60 Hz	- DP 1.4 + DP 1.4 + HDMI 2.0: 1 x FHD (1920 x 1080) @60 Hz 2 x HD (1280 x 720) @60 Hz - DP 1.4 + DP 1.4 + MFDP Type-C: 1 x FHD (1920 x 1080) @60 Hz 2 x HD (1280 x 720) @60 Hz	NA
HBR3 (HBR3 x 2 lanes - 12.9 Gbps)	DP 1.4/HDMI 2.0/ MFDP Type-C: 4K (3840 x 2160) @30 Hz	- DP 1.4 + DP 1.4: QHD (2560 x 1440) @60 Hz - DP 1.4 + HDMI 2.0: QHD (2560 x 1440) @60 Hz - DP 1.4 + MFDP Type-C: QHD (2560 x 1440) @60 Hz	- DP 1.4 + DP 1.4 + HDMI 2.0: FHD (1920 x 1080) @60 Hz - DP 1.4 + DP 1.4 + MFDP Type-C: FHD (1920 x 1080) @60 Hz	NA
HBR3 with Display Stream Compression (DSC) or TBT Type-C 4K (3840 x 2160) @30 Hz	DP 1.4/HDMI 2.0/ MFDP Type-C: 4K (3840 x 2160) @60 Hz or TBT Type-C 4K (3840 x 2160) @30 Hz	- DP 1.4 + DP 1.4: 4K (3840 x 2160) @60 Hz - DP 1.4 + HDMI 2.0: 4K (3840 x 2160) @60 Hz - DP 1.4 + MFDP Type-C: 4K (3840 x 2160) @60 Hz	- DP 1.4 + DP 1.4 + HDMI 2.0: QHD (2560 x 1440) @60 Hz - DP 1.4 + DP 1.4 + MFDP Type-C: QHD (2560 x 1440) @60 Hz	- DP 1.4 + DP 1.4 + HDMI 2.0: 3 x QHD (2560 x 1440) @60 Hz + 1 x HD (1280 x 720) @60 Hz - DP 1.4 + DP 1.4 + MFDP Type-C: 3 x QHD (2560 x 1440) @60 Hz + 1 x HD (1280 x 720) @60 Hz i NOTE: Fourth display must be daisy chained through one of the monitors connected to DP 1.4 port.

Table 3. WD19TBS for Thunderbolt systems

Display Port Available Bandwidth	Single Display (maximum resolution)	Dual Display (maximum resolution)	Triple Display (maximum resolution)	Quad Display (maximum resolution)
HBR2 (HBR2 x 8 lanes - 34.5 Gbps)	DP 1.4/HDMI 2.0/ MFDP Type-C/USB Type-C TB: 4K (3840 x 2160) @60 Hz	DP 1.4 + DP 1.4: QHD (2560 x 1440) @60 Hz	DP 1.4 + DP 1.4 + HDMI 2.0: 2 x QHD (2560 x 1440) @60 Hz + 1 x FHD (1920 x 1080)	NA

Table 3. WD19TBS for Thunderbolt systems (continued)

Display Port Available Bandwidth	Single Display (maximum resolution)	Dual Display (maximum resolution)	Triple Display (maximum resolution)	Quad Display (maximum resolution)
		- DP 1.4 + HDMI 2.0: QHD (2560 x 1440) @60 Hz - DP 1.4 + MFDP Type-C: QHD (2560 x 1440) @60 Hz - DP 1.4 + USB Type-C TB: 4K (3840 x 2160) @60 Hz - HDMI 2.0 + USB Type-C TB: 4K (3840 x 2160) @60 Hz - MFDP Type-C + USB Type-C TB: 4K (3840 x 2160) @60 Hz	- DP 1.4 + DP 1.4 + MFDP Type-C: 2 x QHD (2560 x 1440) @60 Hz + 1 x FHD (1920 x 1080) - DP 1.4 + DP 1.4 + USB Type-C TB: 3 x QHD (2560 x 1440) @60 Hz - DP 1.4 + MFDP Type-C + USB Type-C TB: 3 x QHD (2560 x 1440) @60 Hz - DP 1.4 + HDMI 2.0 + USB Type-C TB: 3 x QHD (2560 x 1440) @60 Hz	
HBR3 (HBR3 x 4 lanes + HBR3 x1 - 32.4 Gbps) For Precision 7530/7540/7730/7740 with discrete graphics cards	DP 1.4/HDMI 2.0/ MFDP Type-C/USB Type-C TB: 4K (3840 x 2160) @60 Hz	- DP 1.4 + DP 1.4: 4K (3840 x 2160) @60 Hz - DP 1.4 + HDMI 2.0: 4K (3840 x 2160) @60 Hz - DP 1.4 + MFDP Type-C: 4K (3840 x 2160) @60 Hz - DP 1.4 + USB Type-C TB: 1 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz - HDMI 2.0 + USB Type-C TB: 1 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz - MFDP Type-C + USB Type-C TB: 1 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz	- DP 1.4 + DP 1.4 + HDMI 2.0: 1 x 4K (3840 x 2160) @60 Hz 2 x QHD (2560 x 1440) @60 Hz - DP 1.4 + DP 1.4 + MFDP Type-C: 1 x 4K (3840 x 2160) @60 Hz 2 x QHD (2560 x 1440) @60 Hz - DP 1.4 + DP 1.4 + USB Type-C TB: 2 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz - DP 1.4 + MFDP Type-C + USB Type-C TB: 2 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz - DP 1.4 + HDMI 2.0 + USB Type-C TB: 2 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz	- DP1.4 + DP1.4 + HDMI2.0 + USB Type-C TB: QHD (2560 x 1440) @60 Hz - DP1.4 + DP1.4 + MFDP Type-C + USB Type-C TB: QHD (2560 x 1440) @60 Hz
HBR3 with Display Stream Compression (DSC)	DP 1.4/HDMI 2.0/ MFDP Type-C/TBT Type-C: 4K (3840 x 2160) @60Hz	DP 1.4 + DP 1.4: 4K (3840 x 2160) @60 Hz	- DP 1.4 + DP 1.4 + HDMI 2.0: 3 x 4K (3840 x 2160) @60 Hz	- DP 1.4 + DP 1.4 + HDMI 2.0 + TBT Type-C: 3 x 4K (3840 x 2160) @60 Hz + 1 x QHD (2560 x 1440) @60 Hz

Table 3. WD19TBS for Thunderbolt systems (continued)

Display Port Available Bandwidth	Single Display (maximum resolution)	Dual Display (maximum resolution)	Triple Display (maximum resolution)	Quad Display (maximum resolution)
		- DP 1.4 + HDMI 2.0: 4K (3840 x 2160) @60 Hz - DP 1.4 + MFDP Type-C: 4K (3840 x 2160) @60 Hz - DP 1.4 + TBT Type-C: 1 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz - HDMI 2.0 + TBT Type-C: 1 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz - MFDP Type-C + TBT Type-C: 1 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz	- DP 1.4 + DP 1.4 + MFDP Type-C: 3 x 4K (3840 x 2160) @60 Hz - DP 1.4 + DP 1.4 + TBT Type-C: 2 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz - DP 1.4 + MFDP Type-C + TBT Type-C: 2 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz - DP 1.4 + HDMI 2.0 + TBT Type-C: 2 x 4K (3840 x 2160) @60 Hz 1 x QHD (2560 x 1440) @60 Hz	or 3 x 4K (3840 x 2160) @60 Hz + 1 x 4K (3840 x 2160) @30 Hz - DP 1.4 + DP 1.4 + MFDP Type-C + TBT Type-C: 3 x 4K (3840 x 2160) @60 Hz + 1 x QHD (2560 x 1440) @60 Hz or 3 x 4K (3840 x 2160) @60 Hz + 1 x 4K (3840 x 2160) @30 Hz - DP 1.4 + DP 1.4 + HDMI 2.0: 4 x 4K (3840 x 2160) @60 Hz NOTE: The fourth display must be a 4K DSC monitor daisy-chained through one of the monitors connected to the DP 1.4 port. - DP 1.4 + DP 1.4 + MFDP Type-C: 4 x 4K (3840 x 2160) @60 Hz NOTE: The fourth display must be a 4K DSC monitor daisy-chained through one of the monitors connected to the DP 1.4 port. - DP 1.4 + DP 1.4 + TBT Type-C: 4 x 4K (3840 x 2160) @60 Hz NOTE: The fourth display must be a 4K DSC monitor daisy-chained through

Table 3. WD19TBS for Thunderbolt systems (continued)

Display Port Available Bandwidth	Single Display (maximum resolution)	Dual Display (maximum resolution)	Triple Display (maximum resolution)	Quad Display (maximum resolution)
				one of the monitors connected to the DP 1.4 port. - DP 1.4 + DP 1.4 + HDMI 2.0 + TBT Type-C: 4 x 4K (3840 x 2160) @60 Hz NOTE: The TBT port must be connected to a DSC-capable 4K monitor. - DP 1.4 + DP 1.4 + MFDP Type-C + TBT Type-C: 4 x 4K (3840 x 2160) @60 Hz NOTE: The TBT port must be connected to a DSC-capable 4K monitor. - DP 1.4 x 2 (daisy-chain) + DP 1.4 x 2 (daisy-chain): 4 x 4K (3840 x 2160) @60 Hz - all four monitors should support DSC.

NOTE: HDMI2.0 and MFDP (Multi-Function DisplayPort) Type-C ports on the back of all docks in the WD19S family are toggled. HDMI2.0 and MFDP Type-C cannot support dual monitors simultaneously. Only one of these ports can be used as a display device at a time.

NOTE: If higher resolution monitors are used, the Graphics driver makes a judgment based on monitor specifications and display configurations. Some resolutions may not be supported and so will be removed from the Windows Display Control Panel.

NOTE: Linux operating system is unable to physically turn-off built-in display, the external display numbers will be one less than the display numbers listed in above tables.

If the Display Port Data Rate is HBR2, then, the maximum resolution that Linux supports is 8192 x 8192 (counted with built-in display plus external display).

WD19TBS for Thunderbolt systems with HBR2:

- If the built-in display resolution is FHD (1920 x 1080 @60 Hz), two external displays with QHD (2560 x 1440) @60 Hz could be supported.
- If the built-in display resolution is 4K (3840 x 2160 @60 Hz), only one external display with QHD (2560 x 1440) @60 Hz could be supported.

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

i **NOTE:** Configuration that is supported with AMD and Nvidia in discrete-only mode or special-graphics mode. These modes are listed in the BIOS for the Dell Precision mobile workstations 7000 series 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 four monitors are NOT supported.

i **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 3 Type-C to a dual DisplayPort adapter.

Removing the USB Type-C cable module

Prerequisites

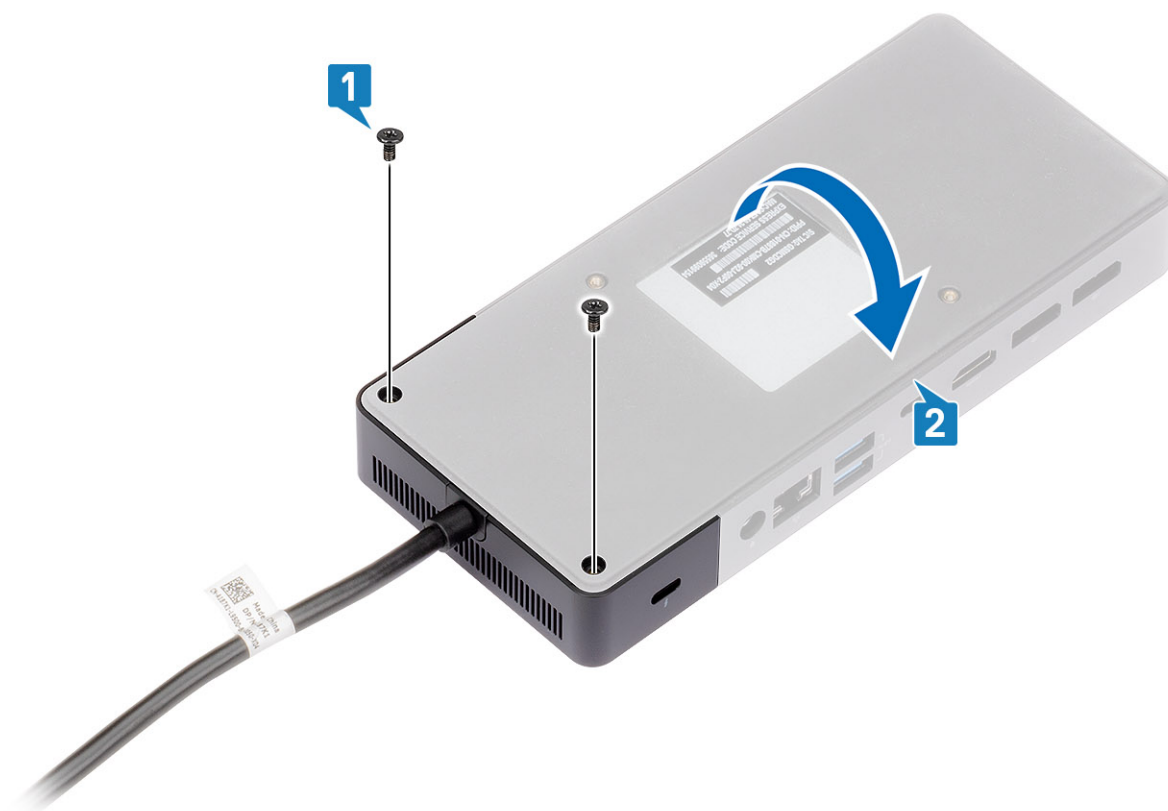
The Dell Thunderbolt Docking Station WD19TBS is shipped with the USB Type-C cable attached. To remove/change the cable module, follow these steps:

Steps

1. Turn over the docking station.



2. Remove the two M2.5 x 5 screws [1], and turn over the docking station [2].



3. Gently pull the cable module away from the docking station.



4. Lift and remove the USB Type-C cable module from its connector inside the docking station.



Technical specifications

Topics:

- LED Status Indicators
- Docking specifications
- Input/Output (I/O) Connectors
- Dell ExpressCharge and ExpressCharge Boost overview

LED Status Indicators

Power Adapter LED

Table 4. Power Adapter LED indicator

State	LED Behavior
Power Adapter is plugged into wall socket	Flash three times

Docking Status Indicator

Table 5. Docking Station LED Indicators

State	LED Behavior
Docking station is receiving power from power adapter	Flash three times

Table 6. Cable LED Indicators

State	LED Behavior
USB Type-C host supports video + data + power	On
USB Type-C host does not support video + data + power	Off (will not illuminate)

Table 7. RJ-45 LED Indicators

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

Docking specifications

Table 8. Docking Specifications

Features	Specifications
Standard	Thunderbolt 3 (Type-C)
Video Ports	• USB 3.2 Gen2 Type-C with DisplayPort 1.4 or HDMI2.0 x1

Table 8. Docking Specifications (continued)

Features	Specifications
	- DisplayPort++ 1.4 x2 - Rear Thunderbolt 3 (Type-C), when connected to a Thunderbolt 3 host.
Network Port	- Gigabit Ethernet (RJ-45) x1 - Support Wake On LAN from S3, S4, or S5 sleep state with select Dell systems. See platform setup guide for more details. - Support MAC Address Pass-Through with select Dell systems. See platform setup guide for more details.
USB Ports	- Front USB 3.2 Gen1 x1: Dell PowerShare BC1.2; 2 A @ 5 V (max 10 W) - Front USB 3.2 Gen2 Type-C: 1.5 A @ 5 V (max 7.5 W) - Rear USB 3.2 Gen1 x2: 0.9 A @ 5 V (max 4.5 W) - Rear USB 3.2 Gen2 Type-C with DisplayPort 1.4 x1: 1.5 A @ 5 V (max 7.5 W) - Rear Thunderbolt Type-C Port: 3 A @ 5 V (max 15 W)
DC-in Port	7.4 mm DC-in port x1
USB Type-C cable length	0.8 m
Power delivery	Dell systems 130 W power capability to Dell systems with 180 W AC-adapter Non-Dell systems - Maximum 90 W to Non-Dell system with 180 W AC-adapter
Button	Sleep/Wakeup/Power button

Table 9. Environment specifications

Feature	Specifications
Temperature range	Operating: 0°C–35°C (32°F–95°F) Non-operating: - Storage: -20°C to 60°C (-4°F to 140°F) - Shipping: -20°C to 60°C (-4°F to 140°F)
Relative humidity	Operating: 10% to 80% (non-condensing) Non-operating: - Storage: 5% to 90% (non-condensing) - Shipping: 5% to 90% (non-condensing)
Dimension	205 mm x 90 mm x 29 mm
Weight	620 g (1.37 lb)
VESA Mounting options	Yes—using Dell Docking station mounting kit

Table 10. Power adapter specifications

Dell AC Adapter Specifications	180 W
Input voltage	100 to 240 VAC
Input current (max)	2.34 A
Input frequency	50 to 60 Hz
Output current	9.23 A (continuous)
Rated output voltage	19.5 VDC

Table 10. Power adapter specifications (continued)

Dell AC Adapter Specifications	180 W
Weight (lb)	1.32
Weight (kg)	0.600
Dimensions (in.)	1.18 x 3.0 x 6.1
Dimensions (mm)	29.97 x 76.2 x 154.94
Temperature range operating	0°C to 40°C 32°F to 104°F
Storage	-40°C to 70°C -40°F to 158°F

Input/Output (I/O) Connectors

The Dell Thunderbolt Docking Station WD19TBS has the following I/O connectors:

Table 11. I/O connectors

Ports	Connectors
Video Ports	• DisplayPort++ 1.4 x2 • USB 3.2 Gen2 with DisplayPort 1.4 or HDMI 2.0 x1 • Rear Thunderbolt 3 (Type-C), when connected to a Thunderbolt 3 host.
Input/Output Ports	• USB 3.2 Gen1 x 2 • USB 3.2 Gen1 with PowerShare x 1 • USB 3.2 Gen2 Type-C • Type-C Thunderbolt 3 port or Type-C USB2.0 port • 7.4 mm DC-in x 1 • Gigabit Ethernet (RJ-45) x 1

Dell ExpressCharge and ExpressCharge Boost overview

- Dell ExpressCharge enables an empty battery to charge to 80% in about one hour when the system is turned off and to 100% in approximately two hours.
- Dell ExpressCharge Boost enables an empty battery to charge to 35% in 15 minutes.
- Metrics are created for **system off** given charge time with the system on has varied results.
- Customers must enable ExpressCharge mode in the BIOS or through Dell Power Manager to take advantage of these features.
- Check your Dell Latitude, XPS or Precision system for the battery size using the table to determine compatibility.

Table 12. Dell ExpressCharge compatibility

Power Delivery to System	Max Battery Size for ExpressCharge	Max Battery Size for ExpressCharge Boost
90 W with 130 W adapter	92 Whr	53 Whr
130 W with 180 W adapter	100 Whr	76 Whr

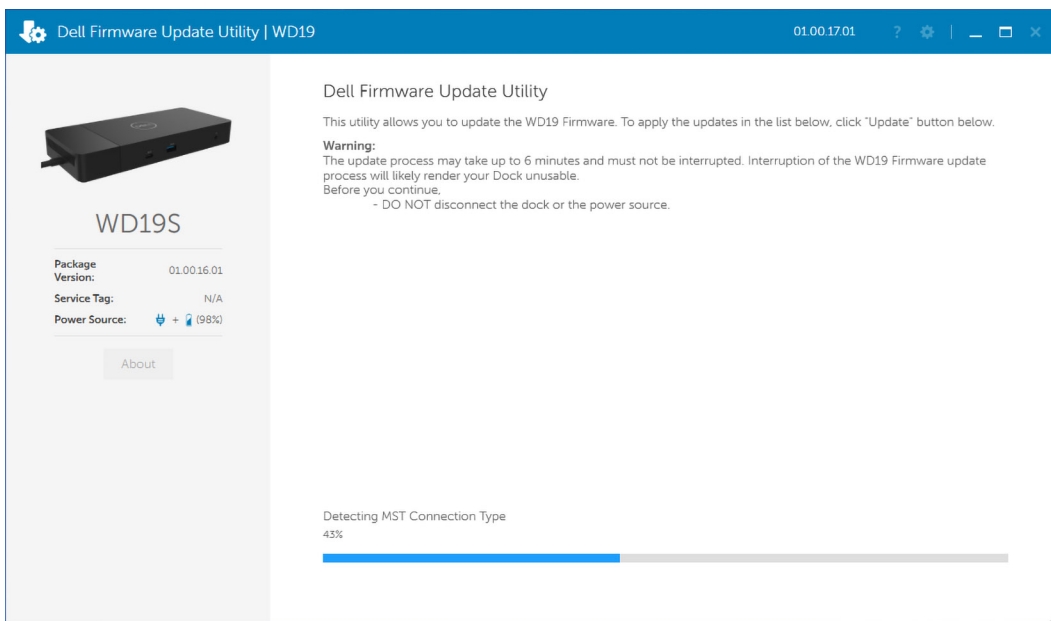
Dell docking station firmware update

Standalone Dock Firmware Update utility

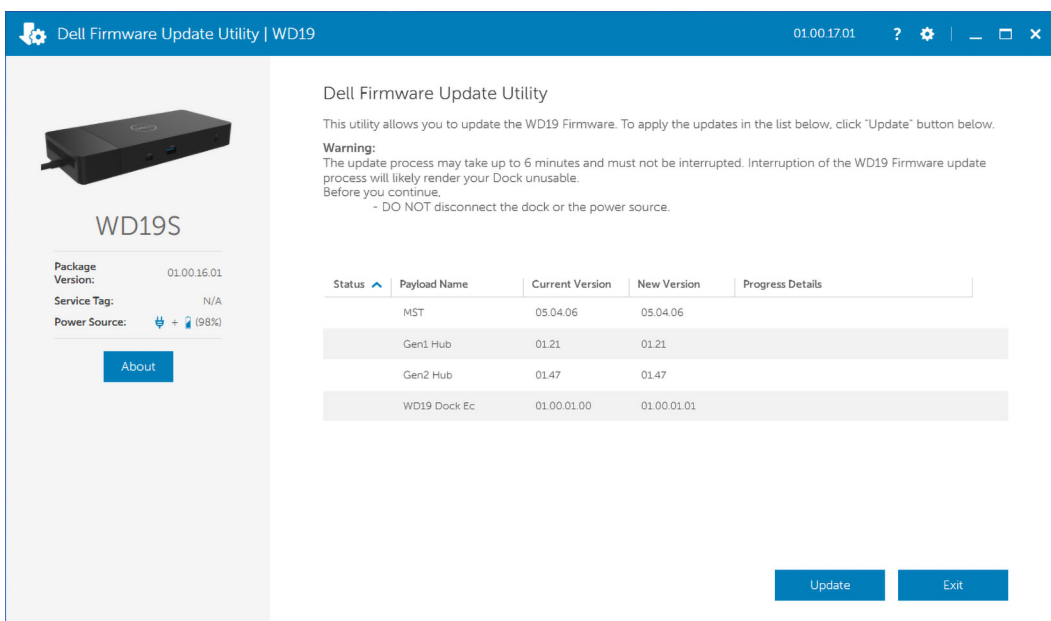
NOTE: Information that is provided is for Windows users running the executable tool. For other operating systems or further detailed instructions see the WD19 admin guide available on www.dell.com/support.

Download the TB driver and firmware update from www.dell.com/support. Connect the dock to the system and start the tool in administrative mode.

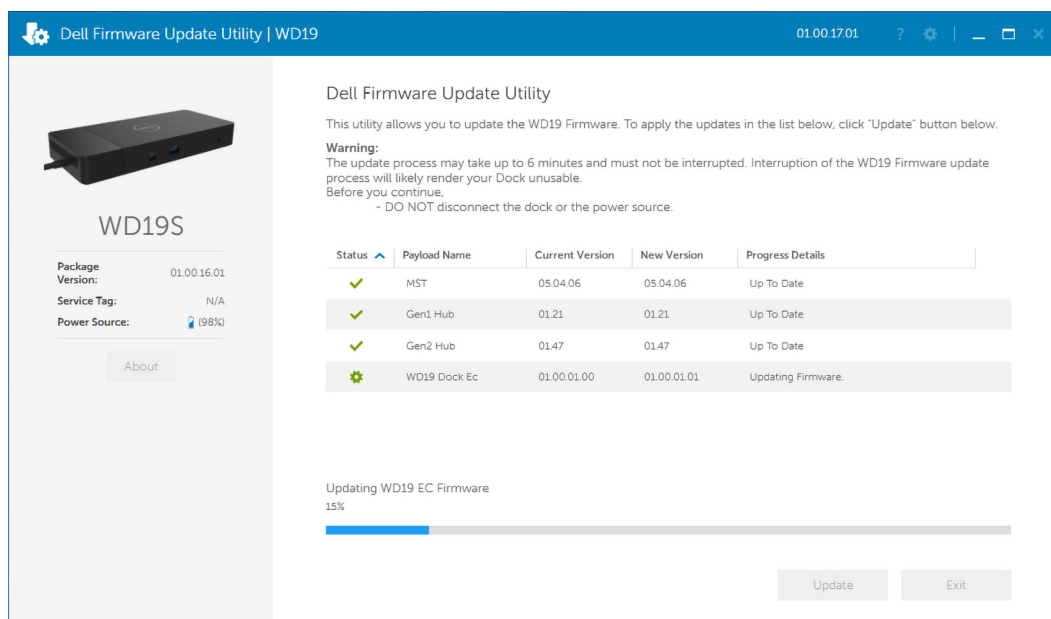
1. Wait for all the information to be entered in the various Graphical User Interface (GUI) panes.



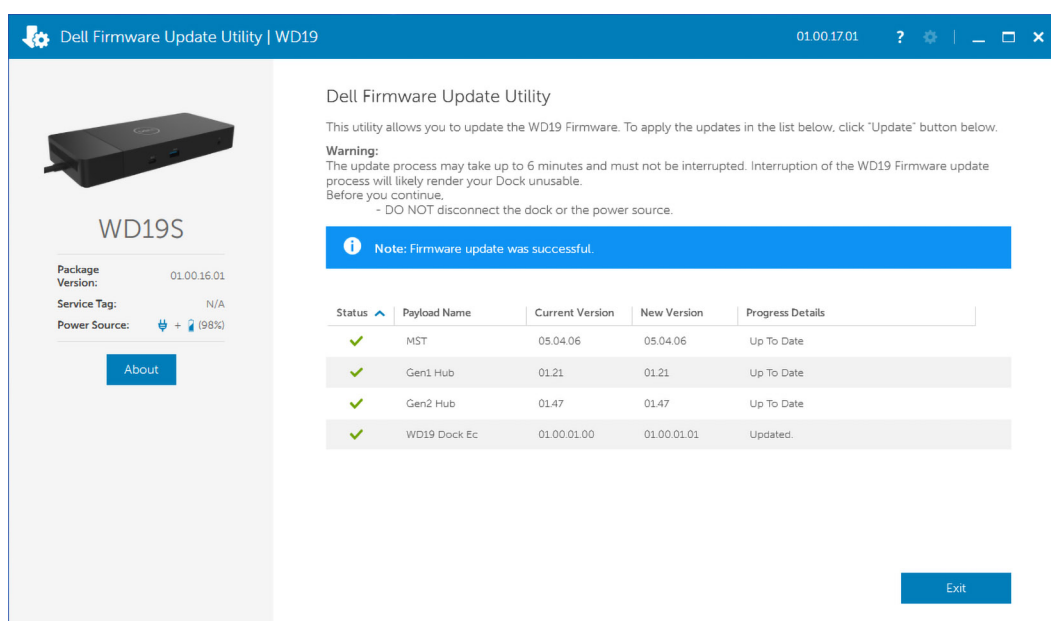
2. **Update** and **Exit** buttons are displayed in the bottom-right corner. Click the **Update** button.



- Wait for all the component firmware update to complete. A progress bar is displayed in the bottom.



- The update status is displayed above the payload information.



NOTE: While the model number appearing in the Dell Firmware Update Utility images above shows WD19S, the same steps are applicable for WD19TBS as well.

Table 13. Command-Line Options

Command lines	Function
/? or /h	Usage.
/s	Silent.
/l=<filename>	Log file.
/verflashexe	Display utility version.
/componentsvers	Display current version of all dock firmware components.

For IT professionals and engineers, to get more information about the following technical topics, see the Dell Docking Station TBS Administrator's Guide:

- Step-by-step stand-alone DFU (Dock Firmware Update) and driver update utilities.
- Using DCU (Dell Command | Update) for driver download.
- Dock asset management locally and remotely through DCM (Dell Command | Monitor) and SCCM (System Center Configuration Manager).

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 the dock's power. Then wait 15 seconds and 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 five different rotate speeds. Normally, the dock will work on low fan speed. If you put the dock in a heavy loading, or in a 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.

Table 14. Fan states

State	State name	Fan speed (rpm)
0	Fan off	Off
1	Fan minimum	1900
2	Fan low	2200
3	Fan medium	2900
4	Fan medium-high	3200
5	Fan high	3600

5. What is the charging station feature?

- The Dell Thunderbolt Docking Station WD19TBS can charge your mobile or power bank even without being connected to the system. Just make sure your dock is connected to 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 the WD19TBS dock 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 the 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?

- Our Dell Thunderbolt dock is designed to operate on AC power only and it does not support system power source back (powered by system Type-C port). A power loss event will make all devices on the dock fail to work. Even when you restore the AC power, the dock may still not function properly because the dock still needs to negotiate proper power contract with the system's Type-C port and establish a system EC-to-dock-EC connection.

10. When BIOS is set to default, it does not respond to the F2 or F12 at POST from an external keyboard attached to the dock. It boots to the operating system and the keyboard and mouse only work after the operating system boots.

- To enable F2 and F12 options from the dock, you must enable boot support for thunderbolt devices and must set fast boot to through or auto in the BIOS (scroll down in the BIOS section to see the note about this function).

Troubleshooting the Dell Thunderbolt Docking Station WD19TBS

Topics:

- [Symptoms and solutions](#)

Symptoms and solutions

Table 15. Symptoms and solutions

Symptoms	Suggested solutions
No video on the monitors that are attached to the High Definition Multimedia Interface (HDMI), or DisplayPort (DP) port on the docking station.	• Ensure that the latest BIOS and drivers for your system and the docking station are installed on your system. • Ensure that your system is connected to the docking station securely. Try to disconnect and reconnect the docking station to the notebook system. • Disconnect both ends of the video cable and check for damaged/bent pins. Securely re-connect the cable to the monitor and docking station. • Ensure the video cable (HDMI, or DisplayPort) is connected properly to the monitor and the docking station. Ensure to select the correct video source on your monitor (see your monitor's documentation for more information about changing the video source). • Check the resolution settings on your system. Your monitor may support higher resolutions than what the docking station can support. See the Display Resolution Table for more information about maximum resolution capacity. • If your monitor is connected to the docking station, the video output on your system may be disabled. You can enable the video output using the Windows Control Panel or see the User Guide of your system. • If only one monitor is shown, while the other is not, go to Windows Display Properties, and under Multiple Displays, select the output for the second monitor. • Using Intel graphics and using the system LCD, only two additional displays can be supported. • For NVIDIA or AMD discrete graphics, the dock supports three external displays plus the system LCD. • Try with a different monitor and cable that is known to be good, if possible.
The video on the attached monitor is distorted or flickering.	• Reset the monitor to Factory Defaults. See the User Guide of your monitor for more information about how to reset the monitor to factory defaults. • Ensure that the video cable (HDMI, or DisplayPort) is connected securely to the monitor and the docking station. • Disconnect and reconnect the monitor/s from the docking station.

Table 15. Symptoms and solutions (continued)

Symptoms	Suggested solutions
	- 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 system. - Undock and reboot the system if, the above steps do not work.
The video on the attached monitor is not displaying as an Extended Monitor.	- Ensure that the Intel HD Graphics driver is installed in the Windows Device Manager. - Ensure that the nVidia or AMD Graphics driver is installed in the Windows Device Manager. - Open the Windows Display Properties and go to Multiple Displays control to set the display to the extended mode.
The USB ports are not functioning on the docking station.	- Ensure that the latest BIOS and drivers for your system and the docking station are installed on your system. - If your BIOS Setup has a USB Enabled/Disabled option, ensure it is set to Enabled. - Verify if the device is detected in Windows Device Manager and that the correct device drivers are installed. - Ensure that the docking station is connected securely to the notebook system. Try to disconnect and reconnect the docking station to the system. - Check the USB ports. Try plugging the USB device into another port. - 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 system.
The High-Bandwidth Digital Content Protection (HDCP) content is not displayed on the attached monitor.	Dell Thunderbolt Dock supports HDCP up to HDCP 2.2.  NOTE: User's monitor/display must support HDCP 2.2
The LAN port is not functioning.	- Ensure that the latest BIOS and drivers for your system and the docking station are installed on your system. - Ensure that the RealTek Gigabit Ethernet Controller is installed in the Windows Device Manager. - If your BIOS Setup has a LAN/GBE Enabled/Disabled option, ensure it is set to Enabled - Ensure that the Ethernet cable is connected securely on the docking station and the hub/router/firewall. - Check the status LED of the Ethernet cable to confirm connectivity. Re-connect both ends of the Ethernet cable if the LED is not lit. - 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 system.
Cable LED is not ON after it is connected to your host.	- Ensure the WD19TBS is connected to AC power. - Ensure that the system is connected with the docking station. Try to disconnect and re-connect again with the docking station.
USB port has no function in a pre-OS environment.	- If your BIOS has an Thunderbolt Configuration page, ensure that the following options are checked: 1. Enable USB Boot Support

Table 15. Symptoms and solutions (continued)

Symptoms	Suggested solutions
	• 2. Enable External USB Port • 3. Enable Thunderbolt Boot Support
PXE boot on dock does not function.	• If your BIOS has an integrated NIC page, select Enabled w/PXE. • If your BIOS Setup on your system has an Thunderbolt Configuration page, ensure that the following options are checked: • 1. Enable USB Boot Support • 2. Enable Thunderbolt Boot Support
USB Boot does not function.	• If your BIOS has an Thunderbolt Configuration page, ensure that the following options are checked: • 1. Enable USB Boot Support • 2. Enable External USB Port • 3. Enable Thunderbolt Boot Support
AC Adapter is displayed as “Not Installed” in the Battery Information page of the Dell BIOS Setup when the Type-C cable is connected.	• 1. Ensure the Dell Thunderbolt Docking Station WD19TBS is connected properly to its own adapter. • 2. Ensure the cable LED of your docking station is ON. • 3. Disconnect and re-connect the Thunderbolt 3 (Type-C) cable to your system.
Peripherals connected to the docking station do not work in a pre-OS environment.	• Thunderbolt Boot Support is by default that is disabled in BIOS Setup on your Dell system. With such default setting the docking station and the peripherals that are connected to the docking station do not work in a pre-OS environment. • If the BIOS Setup on your system has an Thunderbolt Configuration page, check the following options to enable docking station function in a pre-OS environment: • Enable External USB Port • Enable Thunderbolt Boot Support
Alert message “You have attached an undersized power adapter to your system” is displayed when the docking station is connected to your system.	• Ensure that 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. • 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 system.
Undersized power adapter warning message that is displayed and cable LED are off.	• The docking connector has disconnected from the system's Thunderbolt ports. Reconnect the docking cable from the system, wait for 15 seconds or more, and then dock again.
No external display. USB or data and cable LED is off.	• The docking connector has disconnected from the system's Thunderbolt ports. Reconnect the docking connector. • Undock and reboot the system if the above steps do not work.
When system or dock is moved the cable LED turns off.	• Avoid moving the system/dock when the docking cable is connected to the system.
With Ubuntu 18.04, WIFI will be turned off when the docking station is connected to the system and the WIFI turns On again after rebooting the system.	• Please uncheck the option Control WLAN radio in BIOS. • Option is available in - Settings -> Power Management -> Wireless Radio Control.

Table 15. Symptoms and solutions (continued)

Symptoms	Suggested solutions
I connected both dock cables to my system but only one cable LED lights up.	When both dock cables are connected to a non-Precision system that does not support dual-C dock, only one of the dock cables functions. The LED on that working dock cable lights up, indicating that power, video, and data connections have been established for that specific cable.

Getting help

Topics:

- [Contacting Dell](#)

Contacting Dell

Prerequisites

 **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.

About this task

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:

Steps

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.