Dell Precision 7550/7750

External Display Connection 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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Before you begin

You can connect up to four 4K external displays or one 5K and above display using the Thunderbolt 3 (USB Type-C), HDMI, and Mini DisplayPort available on your Precision 7550/7750.

Total number of displays supported:

- Four 4K external displays: 4 ports (two USB Type-C, HDMI, Mini DisplayPort)
- One 5K external display:
  - 2 USB Type-C ports
  - 2 ports (one USB Type-C port, one Mini DisplayPort)

Before you begin, ensure that you:
- Check the graphics options on your computer
- Check the ports available on your external displays and decide the Mode of connection.

Check the graphics options on your computer

The number of external displays supported depends on the type of graphics card available on your computer:
- The integrated graphics card can support a maximum of 3 displays
- The discrete graphics card can support a maximum of 4 displays

ⓘ **NOTE:**
- Dell Docking Station—WD19DC display behavior follows the host the Thunderbolt 3 (USB Type-C) port
- The HDMI 2.0 port and MFDC (MFDP) Type-C port on the WD19DC docking station cannot support dual monitors simultaneously

For more information on the graphics card available on your computer, run Dell SupportAssist on your computer, or scan your hardware at www.dell.com/support.

The following are the graphic options that may be installed in your computer:
- Intel UHD Graphics 630 (Integrated graphics)
- NVIDIA Quadro T1000 (Discrete graphics)
- NVIDIA Quadro T2000 (Discrete graphics available only on Precision 7550 only)
- NVIDIA Quadro RTX3000 (Discrete graphics)
- NVIDIA Quadro RTX4000 (Discrete graphics)
- NVIDIA Quadro RTX5000 (Discrete graphics)

External display connection mode

External display connection mode selected in the BIOS defines the number of displays supported by the computer.
ⓘ **NOTE:** External display connection mode is not applicable on the integrated graphic card only configuration.

External display connection modes are:
- Hybrid Graphics mode
- Hybrid Graphics mode with Direct Output
- Discrete Graphics mode

Hybrid Graphics mode

To enable Hybrid Graphics mode in the computer's BIOS:
1. Restart the system and immediately press **<F2>** to enter the BIOS.

2. On the BIOS screen, select **Video**.
3. Select **Switchable Graphics**.
4. Select **Enable Switchable Graphics**.
5. Save changes and exit the computer's BIOS.

For more information about accessing and configuring the BIOS, see the computer's *Service Manual* at www.dell.com/support.

Table 1. Hybrid Graphics mode

Graphic card type	Supported ports
Discrete GPU	- HDMI - Mini DisplayPort
Integradted GPU	- USB Type-C - USB Type-C - Laptop display

Hybrid Graphics mode with Direct Output

To enable **Hybrid Graphics mode with Direct Output** in the computer's BIOS:
1. Restart the system and immediately press **<F2>** to enter the BIOS.
2. On the BIOS screen, select **Video**.
3. Select **Switchable Graphics**.
4. Select **Enable Switchable Graphics**.
5. Select **Discrete Graphics Controller Direct Output Mode**.
6. Save changes and exit the computer's BIOS

For more information about accessing and configuring the BIOS, see the computer's *Service Manual* at www.dell.com/support.

Table 2. Hybrid Graphics mode with Direct Output

Graphic card type	Supported ports
Discrete GPU	- HDMI - Mini DisplayPort - USB Type-C - USB Type-C
Integrated GPU	Laptop display

Discrete Graphics Mode

To enable **Discrete Mode** in the computer's BIOS:
1. Restart the system and immediately press **<F2>** to enter the BIOS.
2. On the BIOS screen, select **Video**.
3. Select **Switchable Graphics**.
4. Uncheck **Enable Switchable Graphics**.
5. Save changes and exit the computer's BIOS

For more information about accessing and configuring the BIOS, see the computer's *Service Manual* at www.dell.com/support.

Table 3. Discrete Graphics mode

Graphic card type	Supported ports
Discrete GPU	- HDMI - Mini DisplayPort - USB Type-C - USB Type-C - Laptop display

Turn off the internal display

There may be instances where you may want to turn off the computer's internal display to connect more external displays.

You can turn off the LCD display of your computer by using the Intel HD Graphics Command Center.

To turn off the display:
1. In the Windows search bar, type **Intel Graphics Command Center** and press **<Enter>**.
2. Accept the **Intel Graphics Command Center** software licence agreement.
3. On the **Intel Graphics Command Center** window, click **Display**. The list of active displays is listed under the **Connected Displays** section.
4. Click the ellipsis (**...**) in the top-right corner of your primary display, then click **Extend > Display 2**.
5. Click the ellipsis (**...**) in the top-right corner of display 2, then click **Make Display Primary**.
6. Click the ellipsis (**...**) in the top-right corner of your computer's display, then click **Disable**.

Connect displays

Depending on the connectors available on your external display, you can connect the displays to the Thunderbolt 3 (USB Type-C) ports, HDMI port, Mini DisplayPort on your computer using:

- Thunderbolt 3 cables, adapters or docking stations
- USB Type-C cables. adapters or docking stations
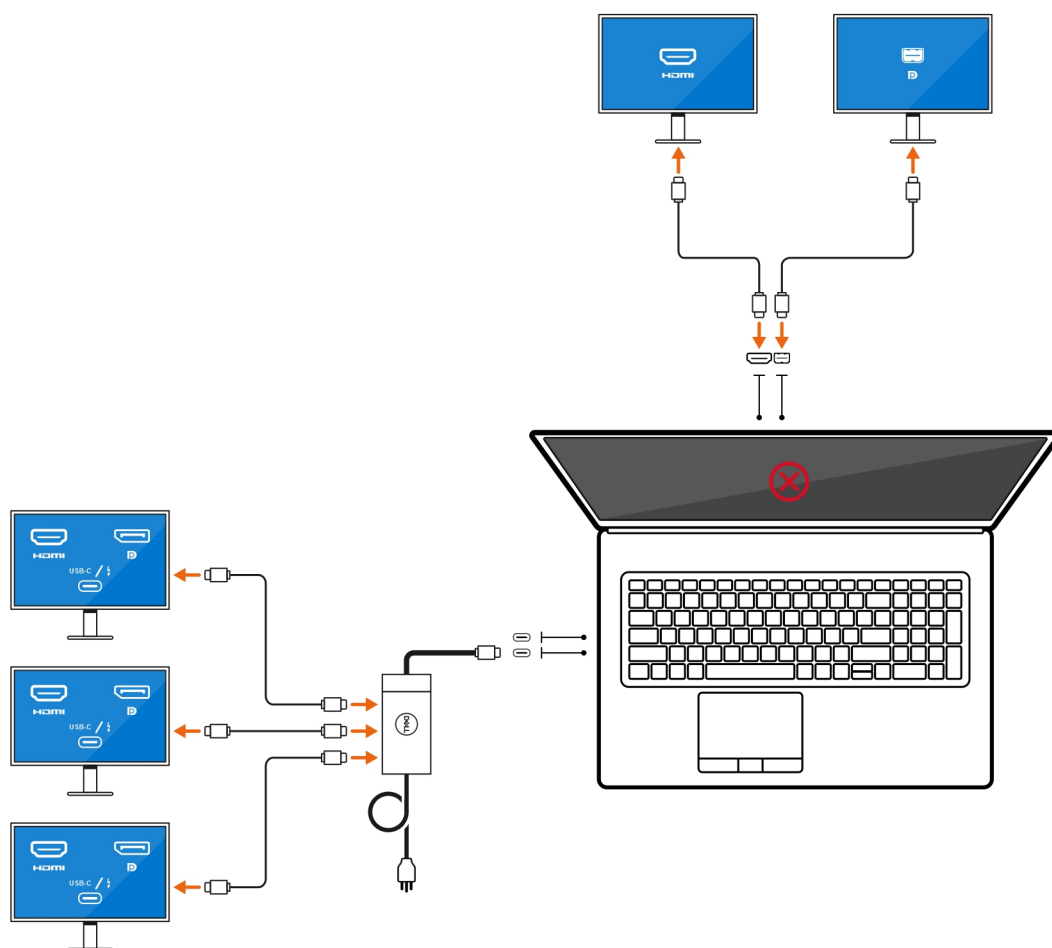- HDMI cables or adapters
- Mini DisplayPort cables or adapters

(i) **NOTE:** To experience the full resolution supported by your external displays, use appropriate cables. For examples, use DisplayPort or HDMI cables for 4K and above resolution.

Supported Display

Graphics card	Switchable Graphics	Discrete Graphics Controller Direct Output Mode	Supported external displays with computer internal display on	Supported displays with computer internal display off
Intel UHD Graphics 630 - Integrated graphics	Not Applicable	Not Applicable	2	3
NVIDIA Quadro T1000/ T2000/RTX 3000/RTX 4000/RTX 5000/ Intel UHD Graphics 630	Enabled	Disabled	4	5 displays with docking station 4 displays without the docking station (two USB Type-C, HDMI, Mini DisplayPort)
NVIDIA Quadro T1000/ T2000/RTX 3000/RTX 4000/RTX 5000/ Intel UHD Graphics 630	Enabled	Enabled	4	4
NVIDIA Quadro T1000/ T2000/RTX 3000/RTX 4000/RTX 5000	Disabled	Disabled	3	4

Connecting multiple displays with Dell Docking Station—WD19DC

5 external displays example with the computer display off

Troubleshooting

Question

When I connect an 8K display using the USB Type-C to DisplayPort adapter, the monitor resolution is 4k.

Cause

This may be because of incorrect settings in the BIOS.

Workaround

Ensure BIOS setting is special graphics mode or discrete graphics mode.

For more information about accessing and configuring the BIOS, see the computer's *Service Manual* at www.dell.com/support.

Question

When I connect an 8K display using the USB Type-C to DisplayPort adapter, the display resolution can reach to 8K, but refresh rate cannot reach to 60Hz.

Workaround

Connect the 8K display with the dual USB Type-C to DisplayPort adapter or one USB Type-C to DisplayPort adapter + one Mini DisplayPort.

Connect the 8K display with dual cable WD19DC dock dual DisplayPort or Host dual USB Type-C to DisplayPort adapter or Host DisplayPort adapter + one Mini DisplayPort.

Getting help and contacting Dell

Self-help resources

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

Table 4. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	www.dell.com
My Dell	
Tips	
Contact Support	In Windows search, type `Contact Support`, and press Enter.
Online help for operating system	www.dell.com/support/windows www.dell.com/support/linux
Troubleshooting information, user manuals, setup instructions, product specifications, technical help blogs, drivers, software updates, and so on.	www.dell.com/support
Dell knowledge base articles for a variety of computer concerns.	1. Go to https://www.dell.com/support/home/? app=knowledgebase. 2. Type the subject or keyword in the **Search** box. 3. Click **Search** to retrieve the related articles.
Learn and know the following information about your product: ● Product specifications ● Operating system ● Setting up and using your product ● Data backup ● Troubleshooting and diagnostics ● Factory and system restore ● BIOS information	See *Me and My Dell* at www.dell.com/support/manuals. To locate the *Me and My Dell* relevant to your product, identify your product through one of the following: ● Select **Detect Product**. ● Locate your product through the drop-down menu under **View Products**. ● Enter the **Service Tag number** or **Product ID** in the search bar.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

NOTE: Availability varies by country and product, and some services may not be available in your country.

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.