

# Precision 5490

## 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 two 5K and above displays using the Thunderbolt 4 (USB Type-C) ports available on your Precision 5490. You can connect the display without the use of USB-C or Thunderbolt 4 adapters or docking stations.

Before you begin, ensure that you:

- [Check the graphics options on your computer](#)
- Check the ports available on your external displays and decide on the [mode of connection](#).

## Check the graphics options on your computer

The number of external displays that are supported depends on the type of Graphics Processing Unit (GPU) available on your computer.

**NOTE:** Both integrated and discrete graphics cards can support up to 4 displays.

For more information about the graphics card available on your computer, run Dell SupportAssist on your computer, or scan your hardware at [www.dell.com/support](http://www.dell.com/support).

The following are the graphic options that may be installed in your computer:

- Intel Arc Graphics (Integrated graphics)
- NVIDIA RTX 1000 Ada Generation Laptop GPU (Discrete graphics)
- NVIDIA RTX 2000 Ada Generation laptop GPU (Discrete graphics)
- NVIDIA RTX 3000 Ada Generation laptop GPU (Discrete graphics)

## Modes of connection

Depending on the connectors available on your external display, you can connect the displays to the Thunderbolt 4 (USB-C) ports on your computer using:

- Thunderbolt 4 cables, adapters or docking stations
- USB-C cables, adapters or docking stations

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

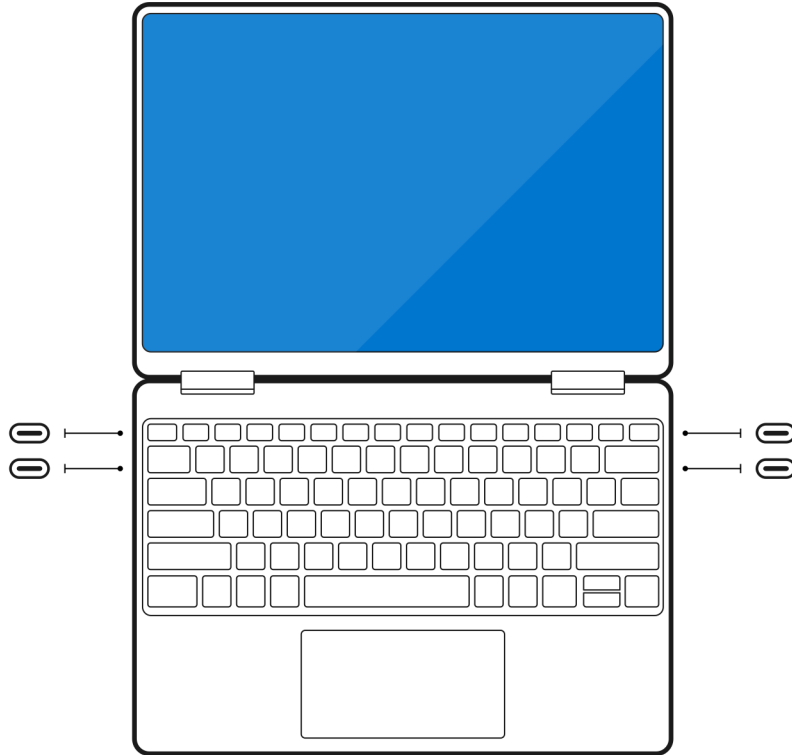
**NOTE:** USB-C or Thunderbolt docking stations can be used to connect external displays to the computer using a single USB-C cable, while charging the computer. For more information about the types of docking stations available from Dell, see the knowledge base article [000124295](https://www.dell.com/support/000124295) at [www.dell.com/support](http://www.dell.com/support).

**NOTE:** USB-C adapters can also be used to connect external displays to the computer, though these do not allow power charging at the same time. For more information about the types of USB-C adapters available from Dell, see the knowledge base article [000125728](https://www.dell.com/support/000125728) at [www.dell.com/support](http://www.dell.com/support).

**These are the Thunderbolt 4 (USB-C) ports available on your computer:**

**NOTE:** When connecting a display indirectly using an adapter or docking station, it is recommended that you connect the display to the docking station first, then connect the docking station to the Thunderbolt 4 (USB-C) port on your computer.

**NOTE:** The devices connected to the ports on the left side of the computer have priority over the ports on the right. While connecting external displays, it is recommended that you connect the displays to the left ports.



## Turn off the internal display

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

You can turn off the display of your computer by using the Intel 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 license agreement.
3. In the **Intel Graphics Command Center** window, click **Display**. The list of active displays is listed under the **Connected Displays** section.
4. Click the ellipsis (...) at the upper right corner of your primary display, then click **Mirror > Display 2**.
5. Click the ellipsis (...) at the upper right corner of display 2, then click **Make Display Primary**.
6. Click the ellipsis (...) at the upper right corner of your computer display, then click **Disable**.

## Connect external displays

You can connect up to four external displays to the Thunderbolt 4 (USB-C) ports on your computer.

The number of displays supported depends on the following:

- Whether you are using [integrated graphics](#) or [discrete graphics](#).
- [If the internal display is enabled or disabled](#).
- Your docking station may also limit the number of supported external displays. Check the documentation that came with your docking station for details.

The following table summarizes the number of supported external displays:

**Table 1. Display support (up to 4K/60 Hz)**

Graphics card	Direct Graphics Controller Direct Output Mode	Supported external displays with computer internal display on	Supported external displays with computer internal display off
Intel Arc Graphics (Integrated graphics)	N/A	3	4
NVIDIA RTX 1000 Ada Generation Laptop GPU	N/A	3	4
NVIDIA RTX 2000 Ada Generation Laptop GPU	N/A	3	4
NVIDIA RTX 3000 Ada Generation Laptop GPU	N/A	4	4

**Table 2. Display support (up to 8K/60 Hz)**

Graphics card	Direct Graphics Controller Direct Output Mode	Supported external displays with computer internal display on	Supported external displays with computer internal display off
Intel Arc Graphics (Integrated graphics)	N/A	1	2
NVIDIA RTX 1000 Ada Generation Laptop GPU	N/A	1	2
NVIDIA RTX 2000 Ada Generation Laptop GPU	N/A	1	2
NVIDIA RTX 3000 Ada Generation Laptop GPU	N/A	2	2

## Integrated graphics

### Connecting external displays to Precision 5490 with integrated graphics

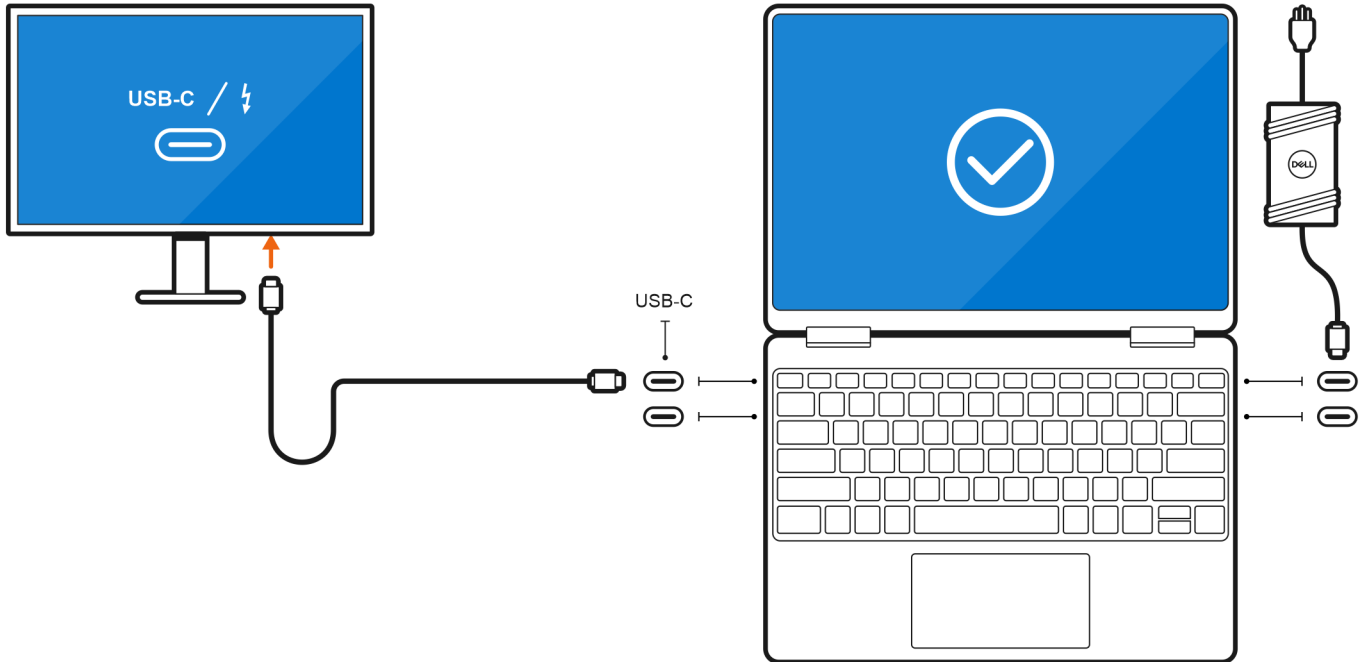
**NOTE:** When connecting a display indirectly using an adapter or a docking station (Thunderbolt or USB Type-C), it is recommended that you first connect the display to the adapter or docking station. Then, connect the adapter or docking station to the Thunderbolt 4 (USB Type-C) port on your computer.

**NOTE:** The devices connected to the ports on the left side of the computer have priority over the ports on the right. While connecting external displays, it is recommended that you connect the displays to the left ports.

## With the internal display turned on

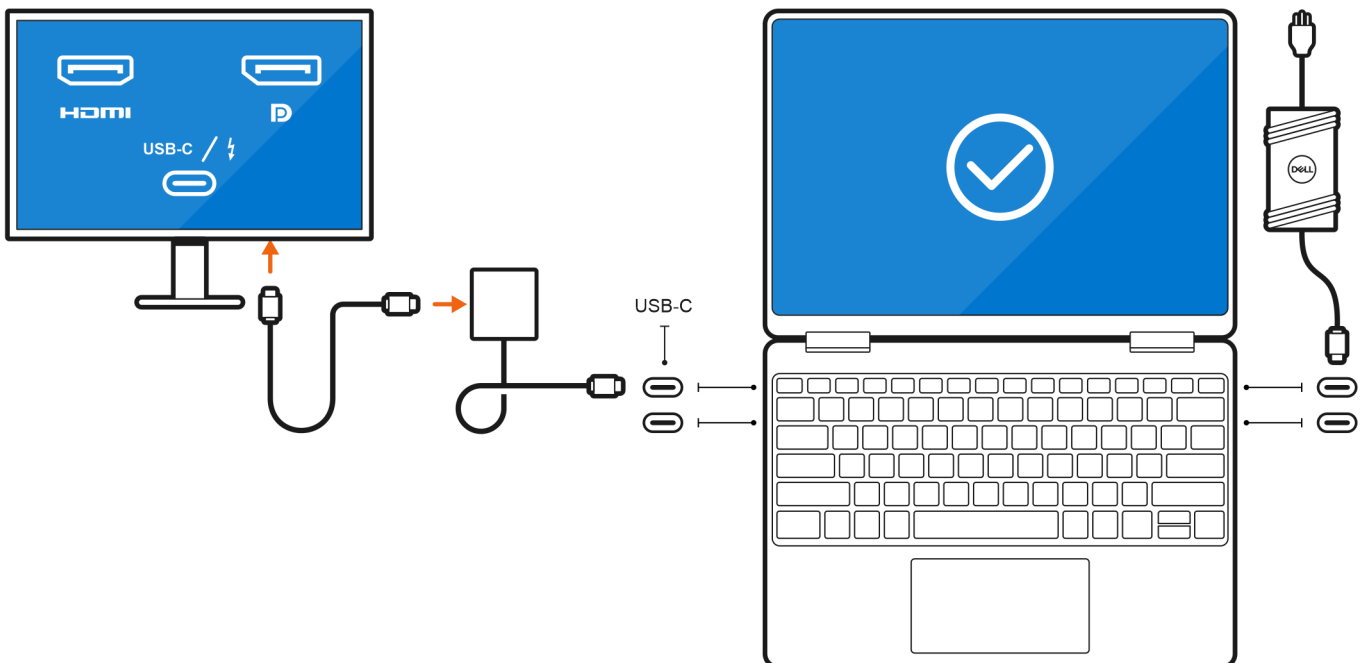
You can connect external displays directly to Thunderbolt 4 (USB Type-C) ports, or up to two external displays using a docking station (Thunderbolt or USB Type-C).

- Connect an external display using a direct USB Type-C or Thunderbolt cable.



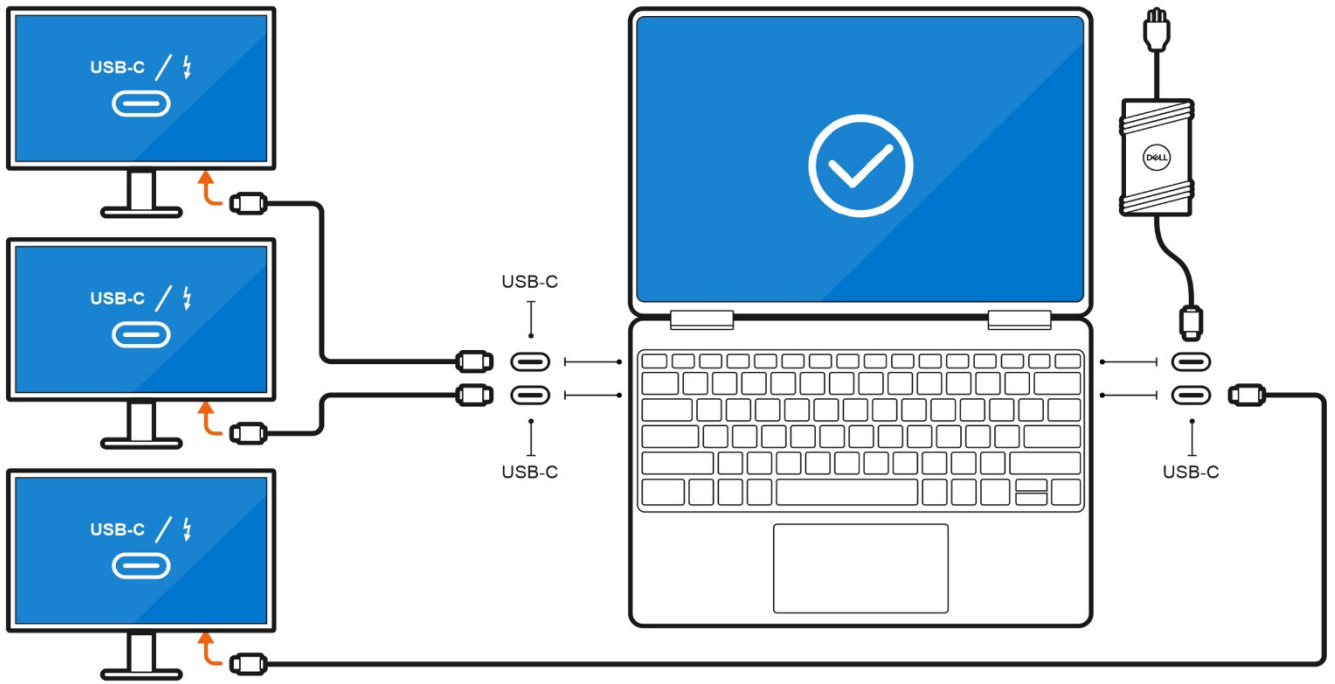
**Figure 1. Connecting external display using a direct USB Type-C or Thunderbolt cable**

- Connect an external display using a USB Type-C to Thunderbolt/HDMI/DisplayPort adapter.



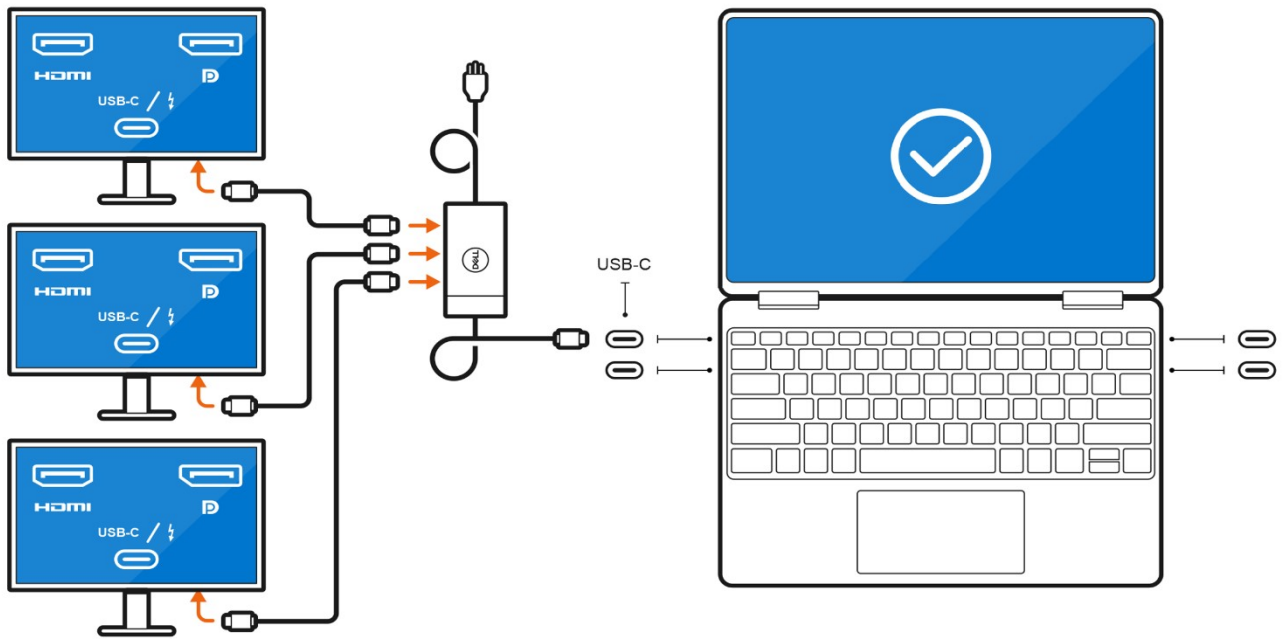
**Figure 2. Connecting external display using a USB Type-C to Thunderbolt/HDMI/DisplayPort adapter**

- Connect up to two external displays using a USB Type-C docking station.
- Connect up to three external displays using direct USB Type-C or Thunderbolt cables.



**Figure 3. Connecting up to three external displays using direct USB Type-C or Thunderbolt cables**

- Connect up to three external displays using a USB Type-C docking station.



**Figure 4. Connecting up to three external displays using direct USB Type-C or Thunderbolt cables**

## With the internal display turned off

**NOTE:** Ensure that you turn off the computer's internal display before connecting the external displays. For more information, see [Turn off the internal display](#).

You can connect up to four external displays directly to Thunderbolt 4 (USB Type-C) ports.

- Connect four external displays using direct USB Type-C or Thunderbolt cables.



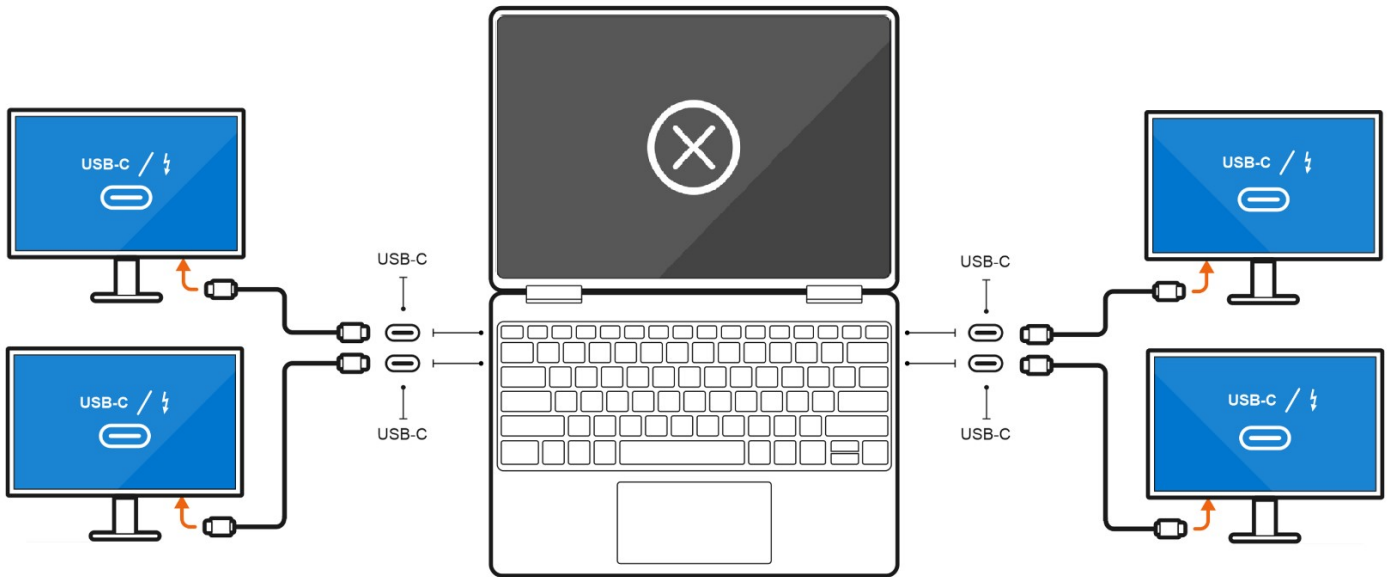


Figure 5. Connecting four external displays using direct USB Type-C or Thunderbolt cables

## Discrete graphics

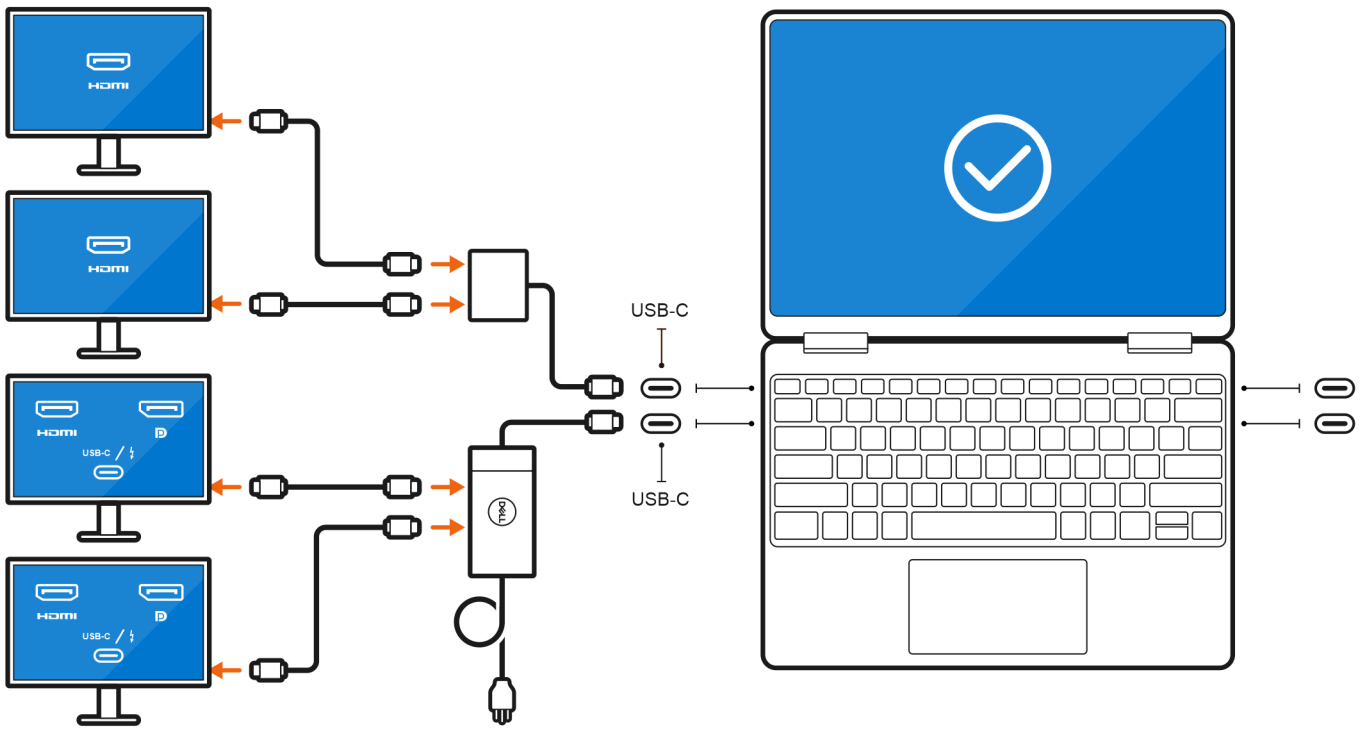
### Connecting external displays to Precision 5490 with discrete graphics

If you have a discrete graphics card that is installed in your computer, you can connect up to four external displays or two 8K displays.

- NOTE:** When connecting a display indirectly using an adapter or docking station, it is recommended that you connect the display to the docking station first, then connect the docking station to a Thunderbolt 4 (USB Type-C) port on your computer.
- NOTE:** The devices connected to the ports on the left side of the computer have priority over the ports on the right. While connecting external displays, it is recommended that you connect the displays to the left ports.

If you have a discrete card with Direct Graphics Controller Direct Output Mode disabled, the maximum number of external displays that are supported is the same as the integrated graphics option.

- Connect two external displays using a docking station and two more external displays using a USB Type-C to HDMI/DisplayPort/Thunderbolt 4 adapter.



**Figure 6. Connecting two external displays using a docking station and two more external displays using a USB Type-C to HDMI/DisplayPort/Thunderbolt 4 adapter**

# 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.

For more information about accessing and configuring the BIOS, see the computer's *Service Manual* at [www.dell.com/support](http://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 WD19DCs 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 3. Self-help resources**

Self-help resources	Resource location
Information about Dell products and services	<a href="http://www.dell.com">www.dell.com</a>
My Dell app	
Tips	
Contact Support	In Windows search, type <code>Contact Support</code> , and press Enter.
Online help for operating system	<a href="http://www.dell.com/support/windows">www.dell.com/support/windows</a>
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents.	Your Dell computer is uniquely identified by a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, enter the Service Tag or Express Service Code at <a href="http://www.dell.com/support">www.dell.com/support</a> .  For more information about how to find the Service Tag for your computer, see <a href="#">Locate the Service Tag on your computer</a> .
Dell knowledge base articles	<ol style="list-style-type: none"> <li>1. Go to <a href="http://www.dell.com/support">www.dell.com/support</a>.</li> <li>2. On the menu bar at the top of the Support page, select <b>Support &gt; Knowledge Base</b>.</li> <li>3. In the Search field on the Knowledge Base page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.</li> </ol>

## Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see [www.dell.com/contactdell](http://www.dell.com/contactdell).

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

 **NOTE:** If you do not have an active Internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog.