



Quadro Plex D2

Mosaic Mode for windows XP

Reference Guide



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Quadro Plex Mosaic mode

Quadro Plex Mosaic Mode takes the multiple GPUs in a Quadro Plex Visual Computing System (VCS) and presents them as a single logical Quadro GPU to the operating system.

In this way, using multiple-display hardware acceleration, Quadro Plex Mosaic mode lets you use multiple displays to create a larger, virtual canvas with zero or minimal performance impact on 2D or 3D applications.

Each display defines a unique uniform region within a larger virtual canvas.

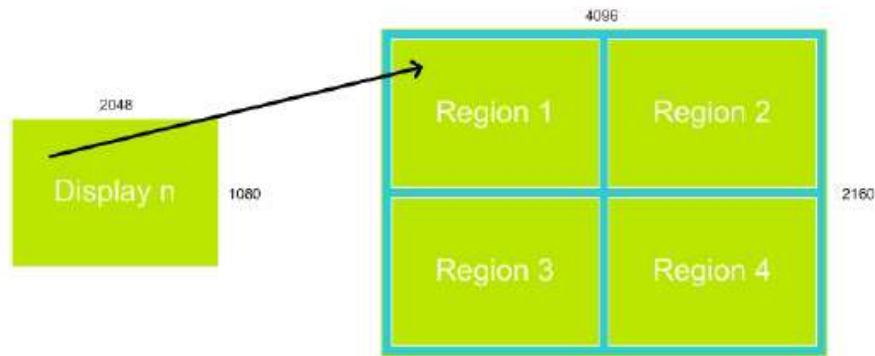


Figure 1 Quadro Plex Mosaic Mode Regions

Edge Overlap

In order to eliminate the hard edge between adjacent displays, Quadro Plex Mosaic mode can be configured to repeat the edge of an adjacent display so that the display edge can be overlapped to create a seamless composite projection.

Limitations

- **Maximum Resolution**
Quadro Plex mosaic mode is bounded by GPU rendering limitation (currently 8192x8192 pixels). For proper operation, do not configure displays settings that will total greater than 8192 pixels in either the horizontal or vertical direction. For example, a horizontal array of four displays (1x4 array) with each panel configured for 2560x1600 pixel output would exceed the 8192 limitation in the horizontal direction. In this example, the total pixels output is 10240x1600.
- **Minimum Resolution**
Quadro Plex Mosaic mode also requires that individual displays use a resolution greater than 800x600 pixel output. If a display in your configuration is set to a smaller pixel

output resolution (e.g. 640x480 or 800X600), the Quadro Plex system will revert to single display mode.

- Matching Displays
All displays must be the same type and use the same type of connection (for example, all DVI - to - DVI or all DVI- to -VGA). Mixed display use is not supported.
- Maximum Number of Displays
 1. Quadro Plex model IV : Supports up to four displays
 2. Quadro Plex 2200D2 : Supports up to eight displays when using a Dual output HIC

Using Quadro Plex Mosaic Mode

Connecting Your Displays

Connect all the displays that you intend to use in Quadro Plex mosaic mode.

- All displays must be connected to the Quadro Plex and be part of Mosaic configuration. For example, the 2x2 configuration cannot be set with only 3 displays connected.
- Additional displays that are not part of the desired Mosaic configuration should not be connected, as this may result in unpredictable behavior.
- Mosaic mode cannot be enabled when only one display is connected to the Quadro Plex.
- All displays must be the same type and use the same types of connection (for example, all DVI to DVI or all DVI to VGA).
- The visual characteristic of displays varies by manufacturer and model from the same manufacturer. NVIDIA recommends using same make and model for all displays.

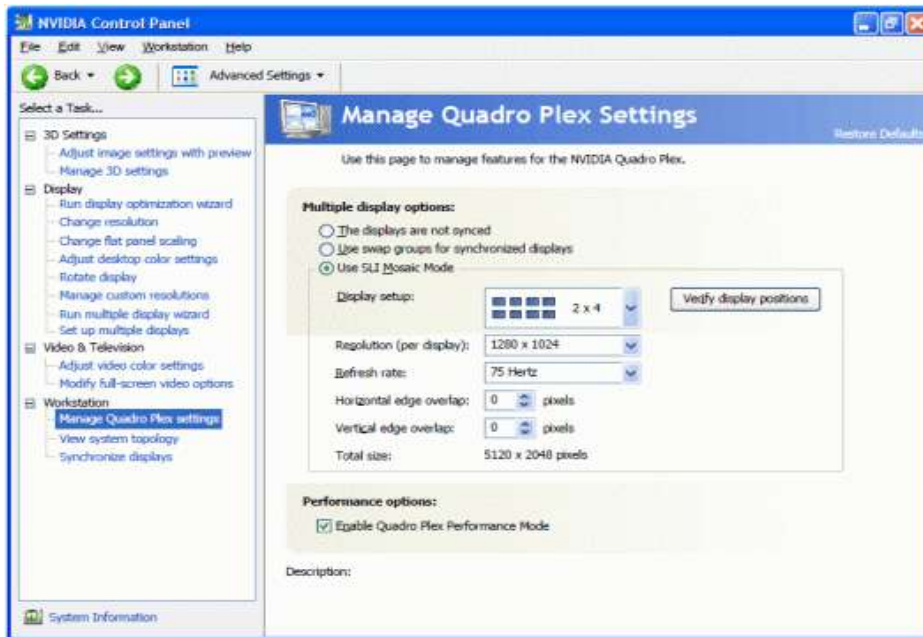
Configure Display Settings

1. Open the NVIDIA Control Panel by right-clicking the desktop and then clicking NVIDIA Control Panel from context menu.
2. Configure your display settings before enabling mosaic (SLI mosaic) Mode.
Display settings may include but are not limited to
 - Desktop color settings
 - Flat panel scaling
 - Video and TV settings
3. Enable Mosaic Mode (SLI Mode)
 - From the NVIDIA Control Panel select a task pane, under 3D settings ,select Set SLI configuration to open the associated page.
 - Under select the SLI configuration for your system, click Enable SLI technology.
 - Click Apply.
4. Verify the SLI performance mode:
 - From the NVIDIA Control Panel , Select a Task pane, under 3D Settings ,select Manage 3D settings to open associated page.

- Check the Antialiasing –Settings feature to make sure it is not set to any of the “SLI AA” values (e.g., 16xSLI AA, 32xSLI AA).
 - Check the SLI Performance mode settings to make sure it is not set to SLI Antialiasing.
- 5 Set the Stereo settings as needed –On the Manage 3D settings page:
- If you are not using performance stereo, make sure the stereo is disabled.
 - If you are using active stereo, then enable stereo and select the appropriate stereo display mode.
 - If you are using passive stereo, then enable stereo and select the clone mode stereo display mode.

Set up Mosaic (SLI Mosaic) Mode

1. From the Select Task navigation pane, under Workstation, click Manage Quadro Plex Settings to open the associated page.



NVIDIA control Panel Manage Quadro Plex Settings Page

2. Click the Use SLI Mosaic Mode check box to enable SLI Mosaic Mode Settings.
3. Click the Display setup list arrow and then select the display configuration that matches your arrangement
Note: Available configuration lists the number of display rows (vertical) by number of display columns (horizontal). For example, a 1x4 configuration would be used for a single row of 4 displays lined up side-by-side; a 2x1 configuration would be used for a single column with 2 displays stacked one on top of the other.
4. Click Verify display position to make sure your displays are attached to the correct Quadro Plex connectors.

A diagram appears on each display in the mosaic surface and indicates which Quadro Plex output is being driven.

Example of the diagrams that should appear on each display in a 2X2 Quadro Plex SLI mosaic arrangement:



2x2 Verify Display Example

If the diagrams match your display layout, you can close all the diagrams by clicking the “X” in the upper right corner of any of the diagrams.

If the diagrams do not match your display layout, then make the necessary corrections as follows:

Note: Do not disconnect the displays while the system is still powered on. Doing so can disable Mosaic mode.

- a. Determine and make a note of the correct connections, using the diagrams as a guide.
 - b. Close all applications and shutdown your system.
 - c. Rearrange the display connections.
 - d. Turn your system back on and verify the connection.
5. Set the resolution per display.
- Click the resolution (per display) list arrow and then select the resolution for each display. Make sure your settings fall within the following limits:

- Maximum total resolution : 8132, horizontal or vertical
- Minimum individual resolution : 800x600

6. Set refresh rate.

Click the *Refresh Rate* list arrow and select the refresh rate you want applied to all displays.

Note: The Refresh Rate box contains the refresh rates that are available for the resolution selected.

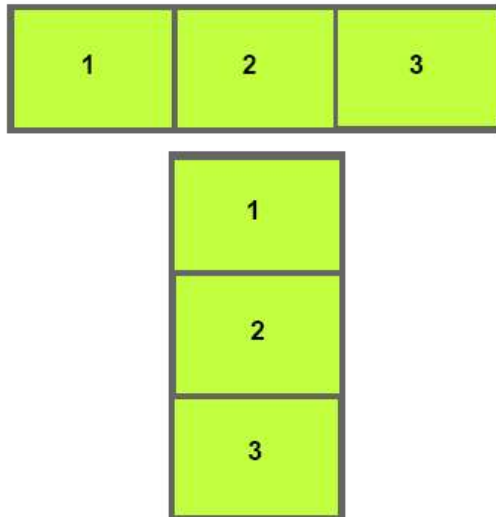
7. Set the Horizontal and/or Vertical edge overlap as needed to accommodate a variety of configurations. For example, you can introduce gaps (negative overlap) to accommodate bezeled displays.

8. Click Apply to save your changes.

Display Connections

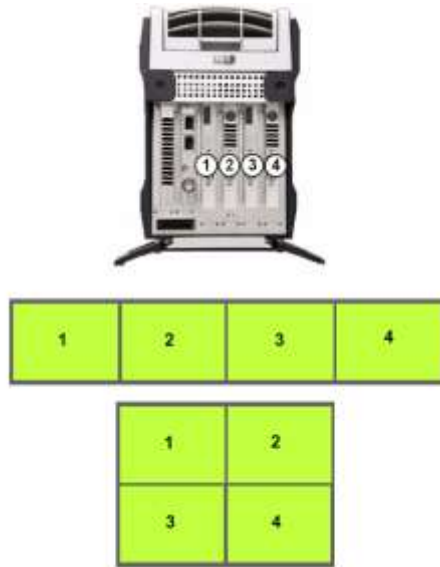
Quadro Plex D2: Three Display Mosaic Connections

Connect the numbered connector to the display located at the corresponding mosaic position.



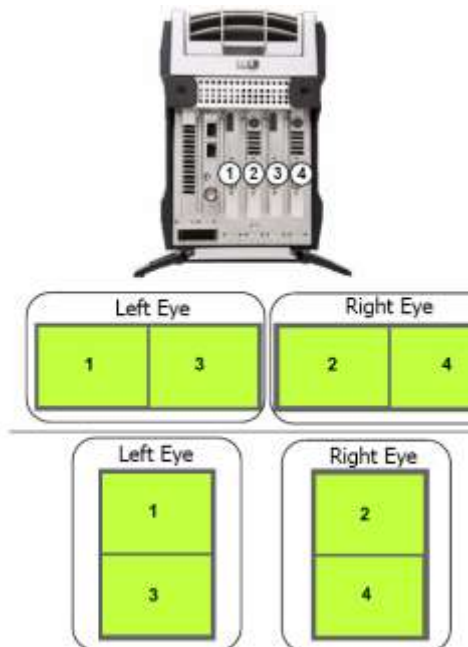
Quadro Plex D2 : Four Display Mosaic Connections

Connect the numbered connection to the display at the corresponding mosaic position.



Quadro Plex D2: 4-Display Connections for 2-Display Passive Stereo

Connect the numbered connection to the display at the corresponding mosaic position.



Using Two Quadro Plex D2 Unit

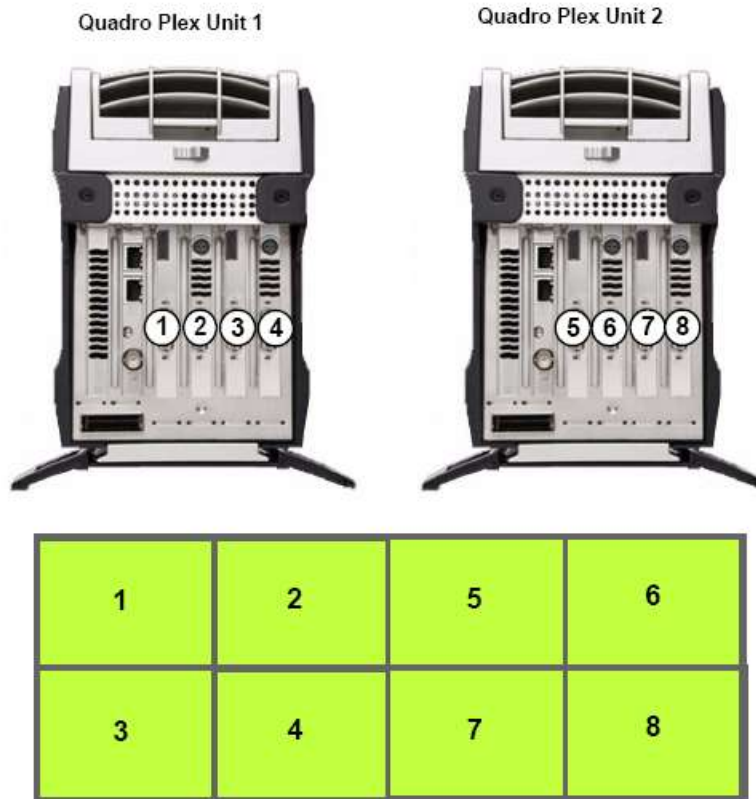
To implement a monitor layout that consists of more than four displays, you will need two Quadro Plex D2 units connected to a Dual Output HIC (DoHIC) card installed in your host system. You will also need to synchronize the displays across the Quadro Plex units: connect the Quadro Plex units to each other using an RJ45 cable connected to the G-Sync connectors and then configure using the NVIDIA Control Panel Synchronize Display page.



Dual Quadro Plex D2: 8-Display Mosaic Connections

This section describes the display connections when two Quadro Plex D2 units are connected to a Dual Output HIC (DoHIC) card.

Connect the numbered connector to the display located at the corresponding mosaic position.



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