



Delta Media Server

AMD FirePro and Radeon Pro Display Setup

Technical Guide



AMD FirePro and Radeon Pro Display Setup : Technical Guide

Trademark Information

The 7thsense logo, and various hardware and software product names are trademarks of 7thSense Design Ltd. Product or company names that may be mentioned in 7thSense publications are tradenames or trademarks of their respective owners, and such trademarks may also be registered in their respective countries. Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

Copyright Information

All Rights Reserved. This document is copyrighted © by 7thSense Design Ltd and shall not be reproduced or copied without express written authorisation from 7thSense Design Ltd.

The information in this document is subject to change without notice. 7thSense Design Ltd assumes no responsibility for errors, and/or omissions contained in this information.

Printed: December 2021

This edition is for software version N/A
Document ref.: M048-7

E: info@7thsense.one
W: 7thsense.one

7thSense Design Ltd
2 The Courtyard, Shoreham Road
Upper Beeding
Steyning
West Sussex
BN44 3TN
UK

T: +44 (0) 1903 812299

7thSense Design LLC, Michigan
332 E Lincoln Ave
Suite 100
Royal Oak, MI 48067
USA

T: +1 248 599 2717

7thSense Design LLC, Orlando
4207 Vineland Rd
Suite M1
Orlando, FL 32811
USA

T: +1 407 505 5200

Emulating, Grouping and Syncing AMD Displays	4
AMD FirePro (Win 7)	5
FirePro Advanced Settings	5
FirePro EDID Emulation (Spoofing)	6
Dual GPU EDID Emulation	12
FirePro Eyefinity Grouping	16
Dual GPU Grouping	23
FirePro Synchronization (Genlocking)	31
AMD Radeon Pro 18.Q2.1	36
Advanced Settings	36
EDID Emulation	37
Display Grouping	41
Synchronization (Genlocking)	47
AMD Radeon Pro 21.Q1.2	52
EDID Emulation	54
Display Grouping	59
Synchronization (Genlocking)	61
Pico AMD Radeon	67
Document Information	72
Index	73

Emulating, Grouping and Syncing AMD Displays

This guide covers AMD FirePro and Radeon Pro GPUs, for Windows 7 and Windows 10. It covers requirements for even numbers of graphics outputs in rectangular arrangements, within the maximum available pixel width of 16384 px.

Note that the sequence: Emulate > Group > Sync should be followed.

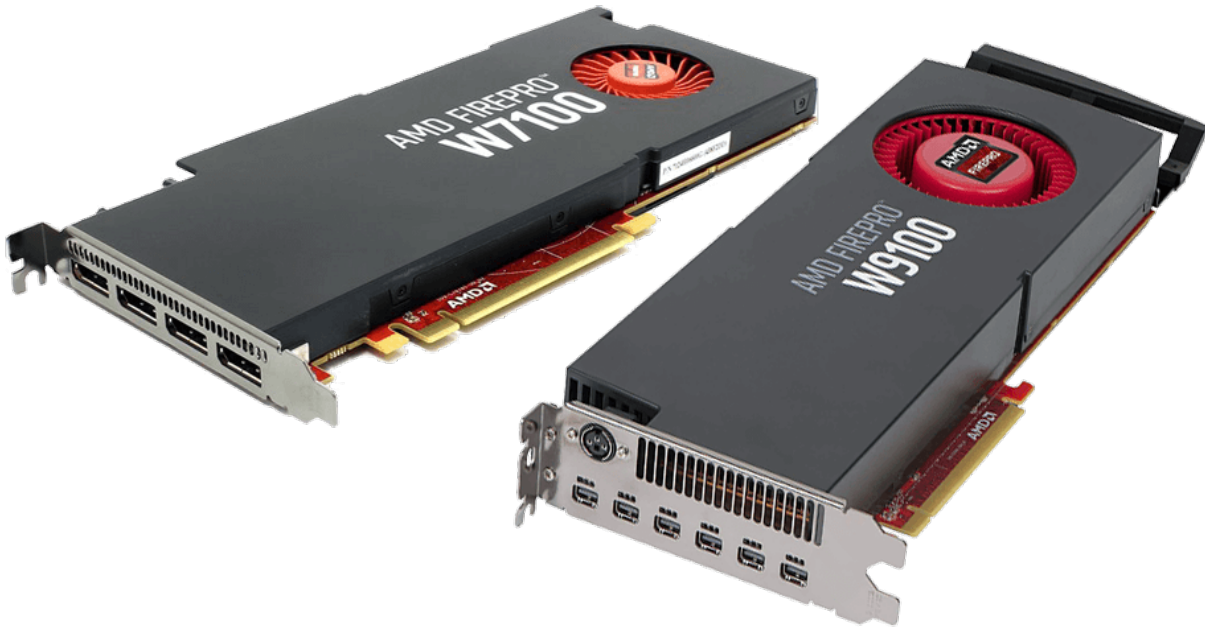
EDID (Extended Display Identification Data):

- is a protocol to allow communication between a device (graphics card) and its connected displays (monitors)
- records display information to the GPU so that it doesn't have to repeatedly communicate with displays when drawing to them
- maintains the required arrangement on working displays if one (or more) display fails:
 - If the display EDIDs are not emulated ('spoofed'), and connection between server and a display is broken, then the display arrangement reverts to single display mode, causing media distortion across the working displays, or black output across multiple displays.
 - When EDID-emulated, working displays maintain the output as if the broken connection (missing display) was still working, minimising disruption to the main output.

Note: it is advisable to keep a note of the relevant IP address of the server so that you can still VNC into the server if you happen to lose visuals – which can happen if an incorrect EDID is applied, such as a resolution forced that was unsupported by the connected display.

AMD FirePro (Win 7)

For FirePro W5100 / W7100 / W9100 under Windows 7, using AMD driver 15.[n]. The location of settings may vary between AMD graphics drivers, so please see manufacturers guidance if you cannot find emulation and grouping options.

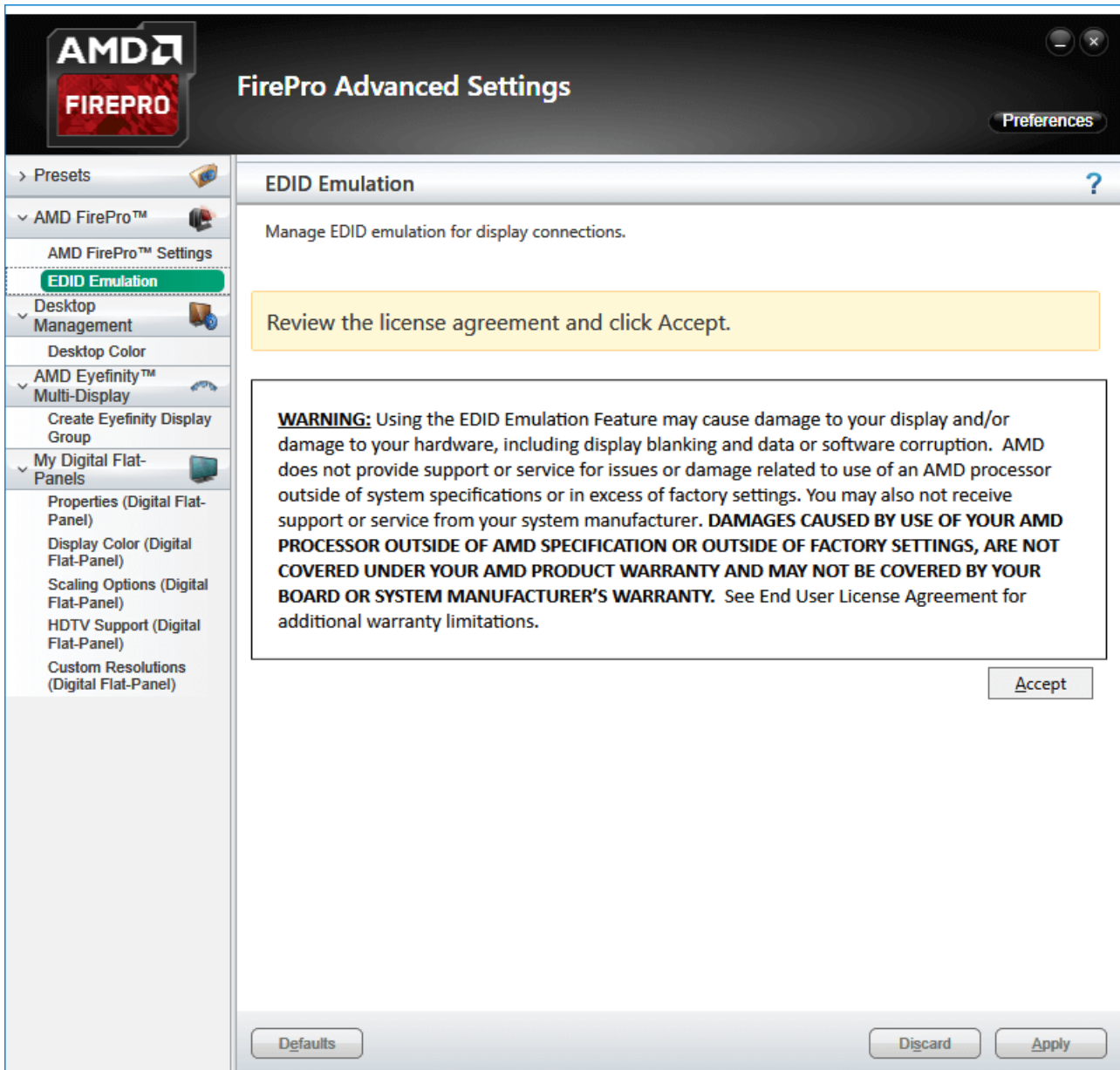


Alternatively, you can emulate, group and Genlock your system through the web interface (see the [Stack Control](#) User Guide).

- [FirePro Advanced Settings](#) ⁵
- [FirePro EDID Emulation \(Spoofing\)](#) ⁶
- [Dual GPU EDID Emulation](#) ¹²
- [FirePro Eyefinity Grouping](#) ¹⁶
- [Dual GPU Grouping](#) ²³
- [FirePro Synchronization \(Genlocking\)](#) ³¹

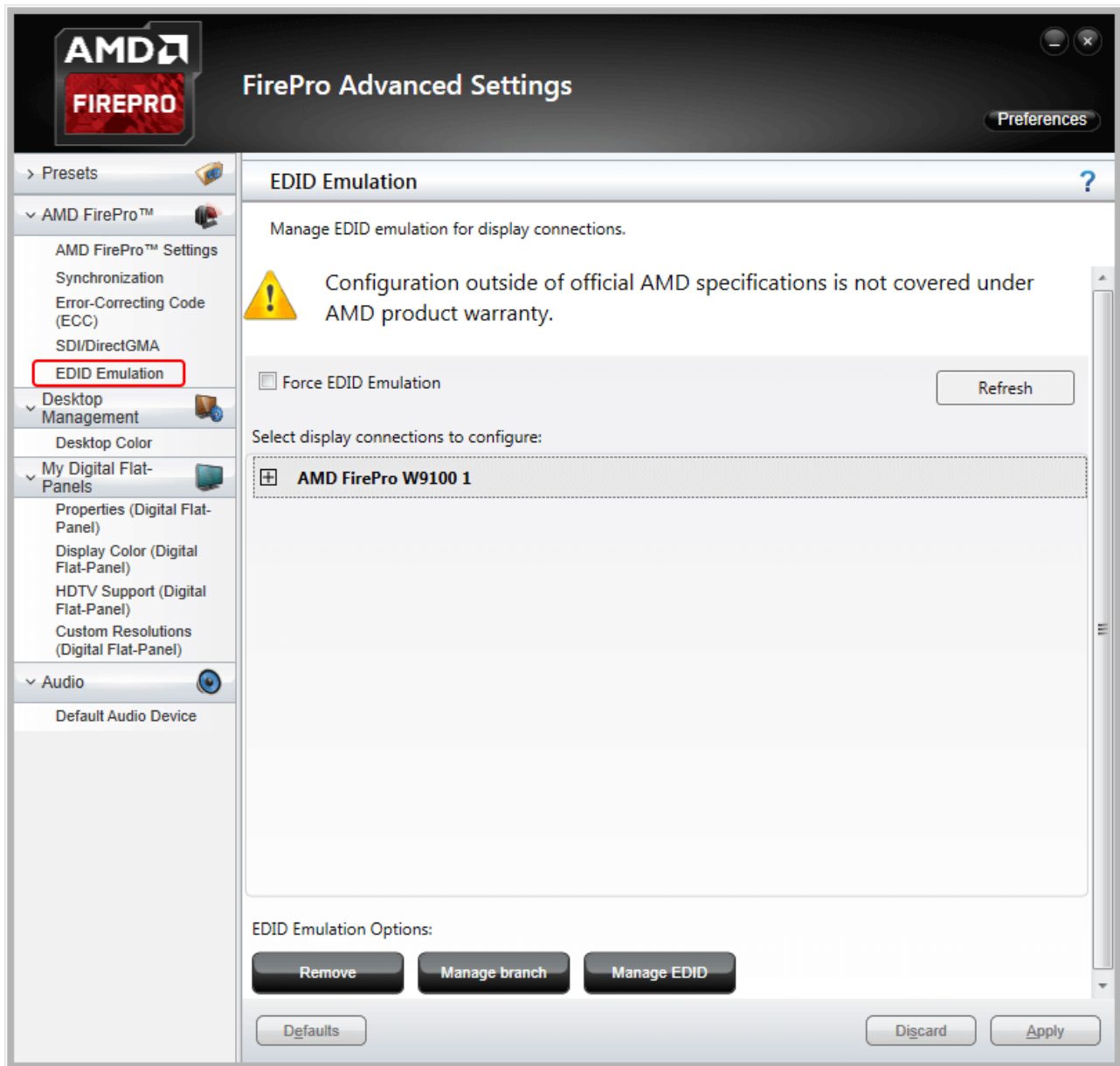
FirePro Advanced Settings

Right click the Desktop, and left-click AMD FirePro Advanced Settings:



FirePro EDID Emulation (Spoofing)

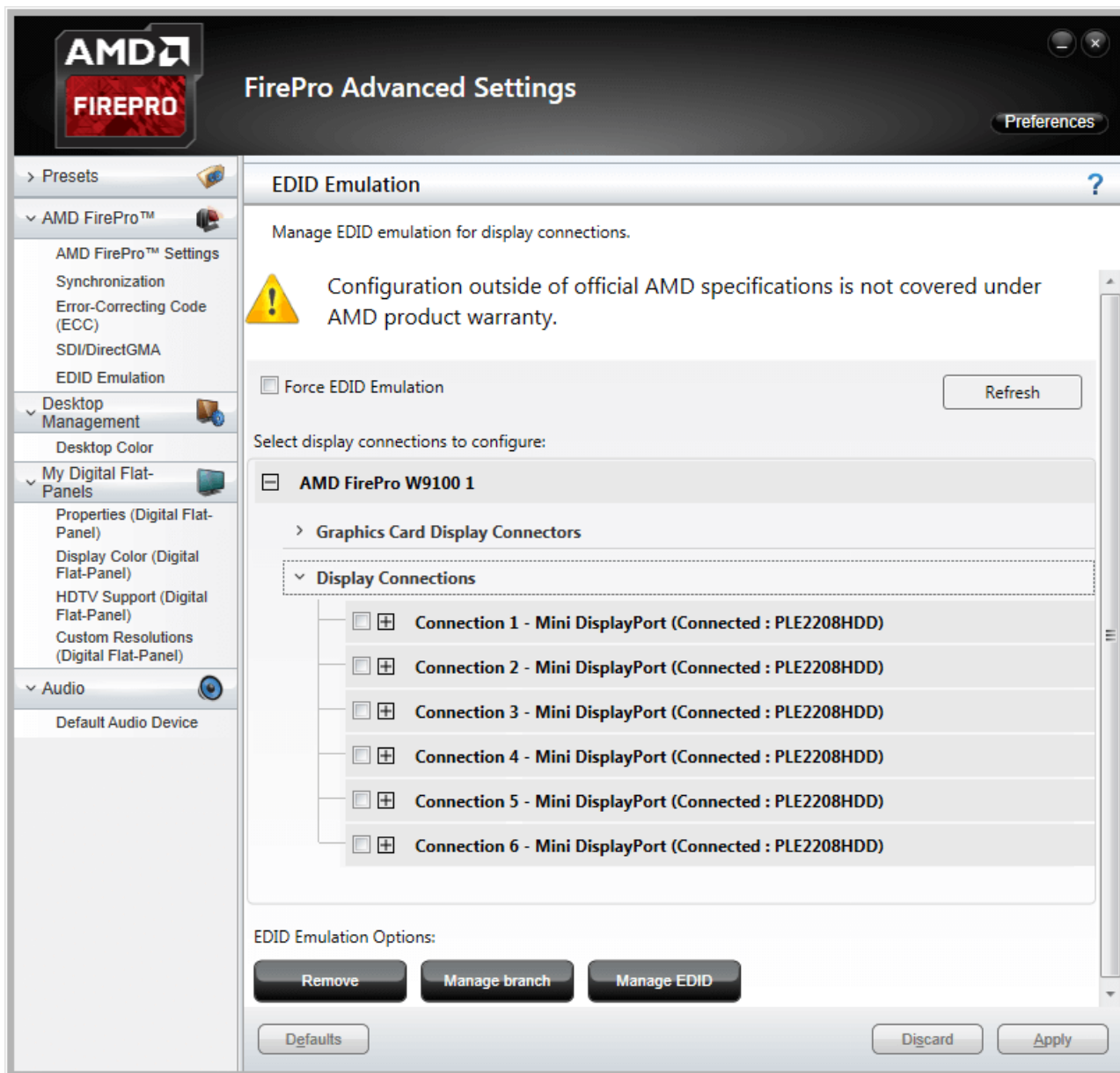
Right click on the desktop to gain access to the AMD FirePro Advanced Settings, and Click *AMD FirePro > EDID Emulation > Accept* to continue. In the example here, one GPU (AMD FirePro W9100) has been identified:



➤ See [here](#)¹² for dual GPU installations.

Begin EDID Emulation

Click on the + icon on the left-hand side of the GPU. This will bring up a drop-down menu to show how many ports are available on the GPU. Click to expand 'Display Connections':

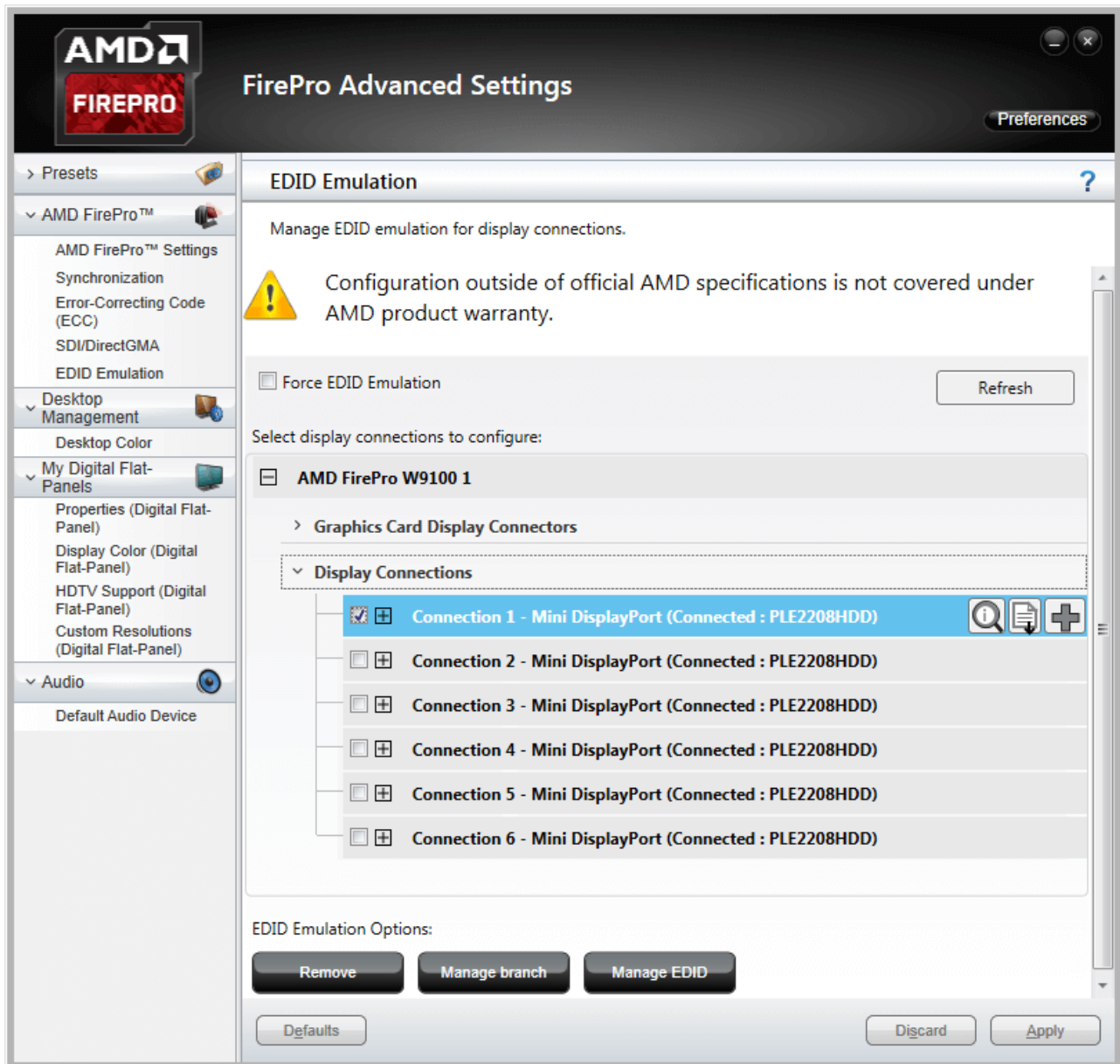


On this GPU, there are 6 available ports, showing what type of connections there are. In this instance, the GPU supports Mini DisplayPort

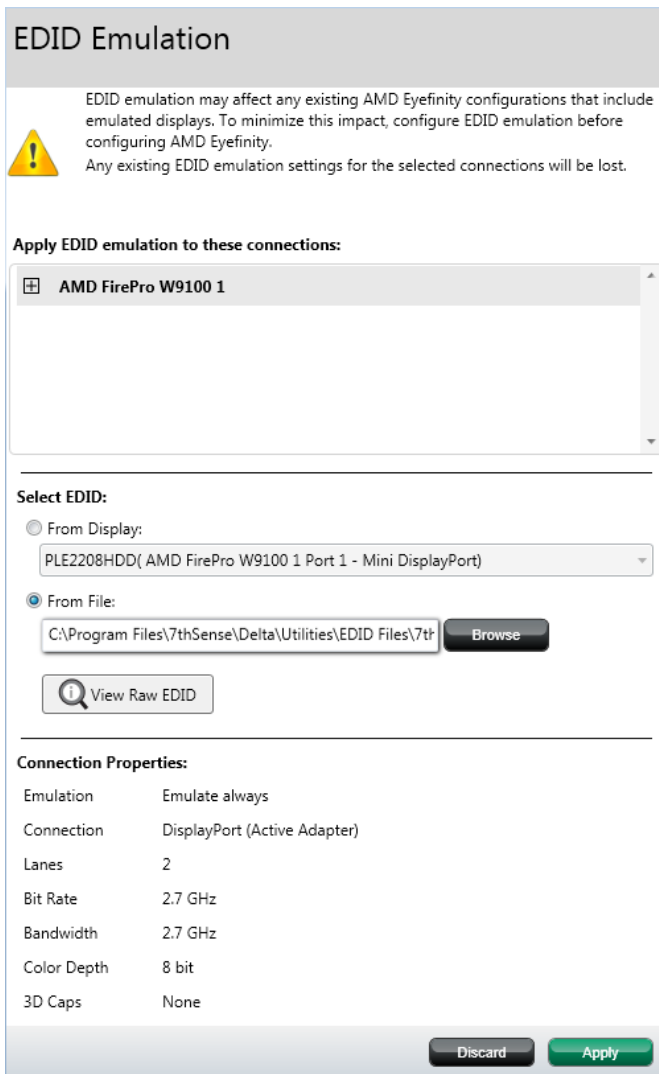
Note: Earlier versions of AMD may not have EDID Emulation as an option – you can emulate with DeltaMonitor through the Stack web interface if you can't find the option in the Control Center (see the [Stack Control](#) User Guide).

Manage EDID emulation for display connections

To apply EDID emulation to any connection, check its left-side box. Moving over a connection will reveal three icons on the right-hand side:



- The Magnifier shows raw information about the current EDID.
- The page icon downloads the current EDID, in this case, the PLE2208HDD EDID from the connected monitor.
- The large + will add an EDID to connections with a ticked check box. This will open a dialog:



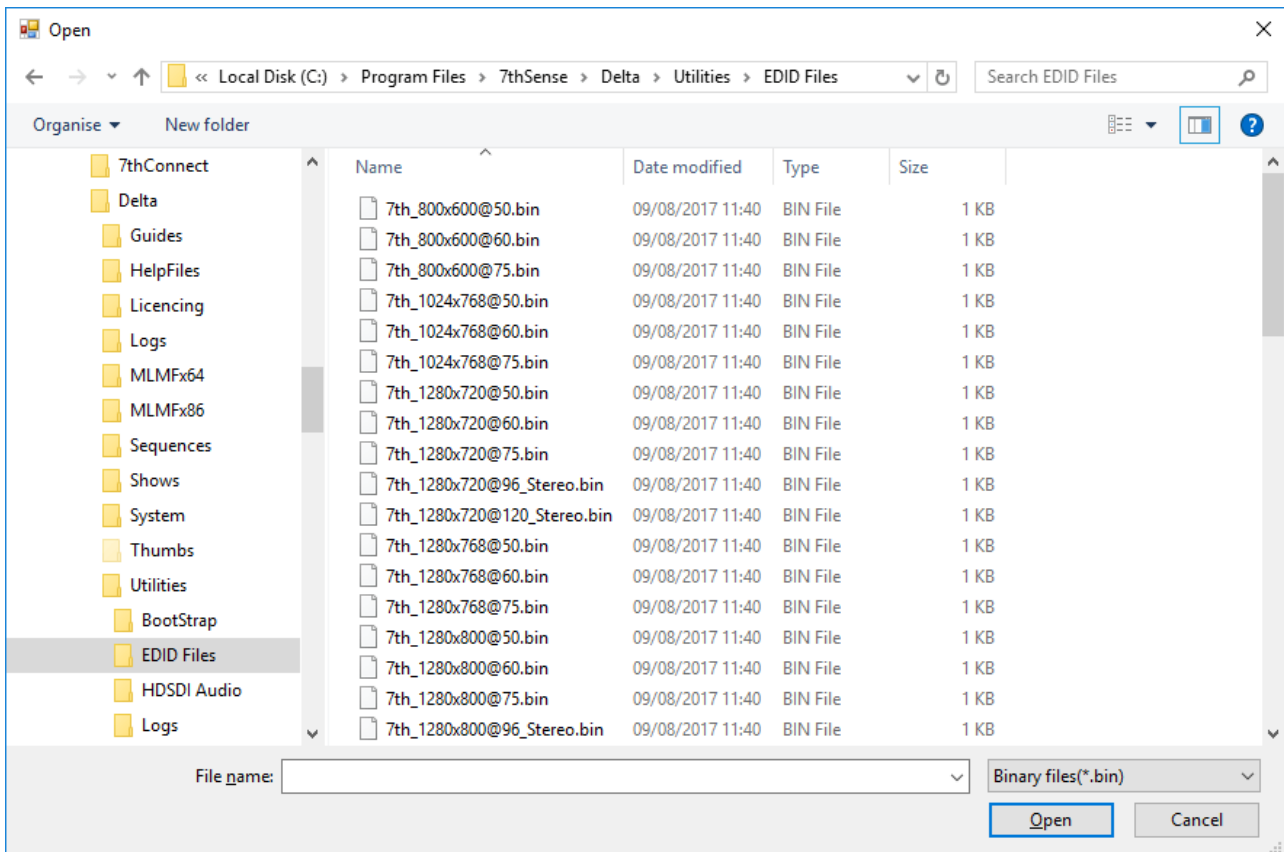
In the Connection Properties:

- **Lanes** should be set to 4.
- **Bit Rate:** dual link or above, 5.4 GHz, otherwise 2.7 GHz.
- **Bandwidth** should be changed to 5.4 GHz for higher output EDIDs, e.g. 4096 × 2160@60.
- **Color Depth** 8 bit or 10 bit depending on output required. This is important for [Working in 10-bit Colour Depth](#).

Select the EDID that you want to use and change the properties underneath. You can either apply the EDID from the display (if connected) or load a *.bin file in the local directory (select 'From File' and Browse to the file).

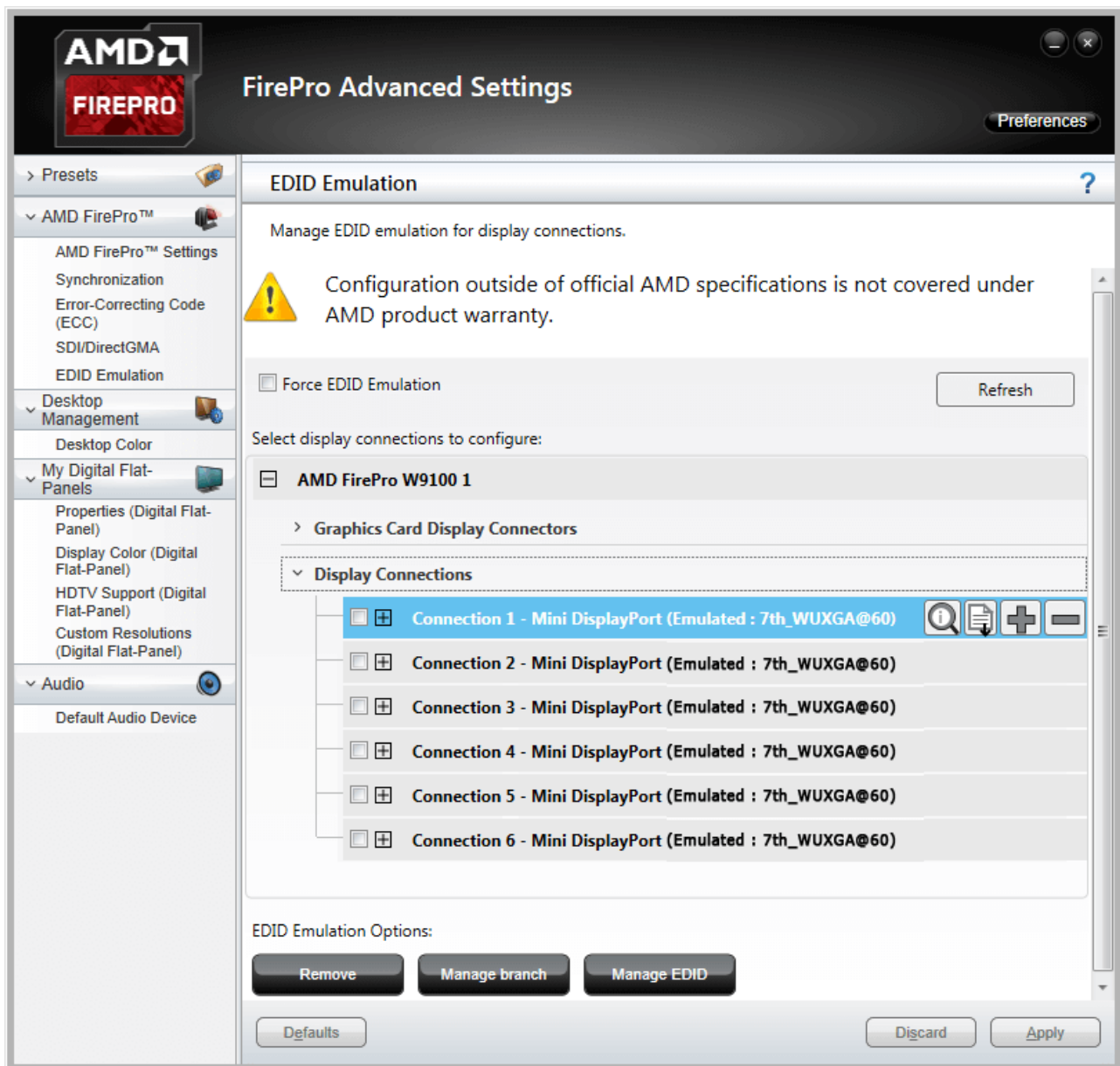
Finding the right EDID

7thSense provides a collection of available EDIDs, located in: C:\Program Files\7thSense\Delta\Utilities\EDID Files. Change the file type (bottom right) to binary to see these files:



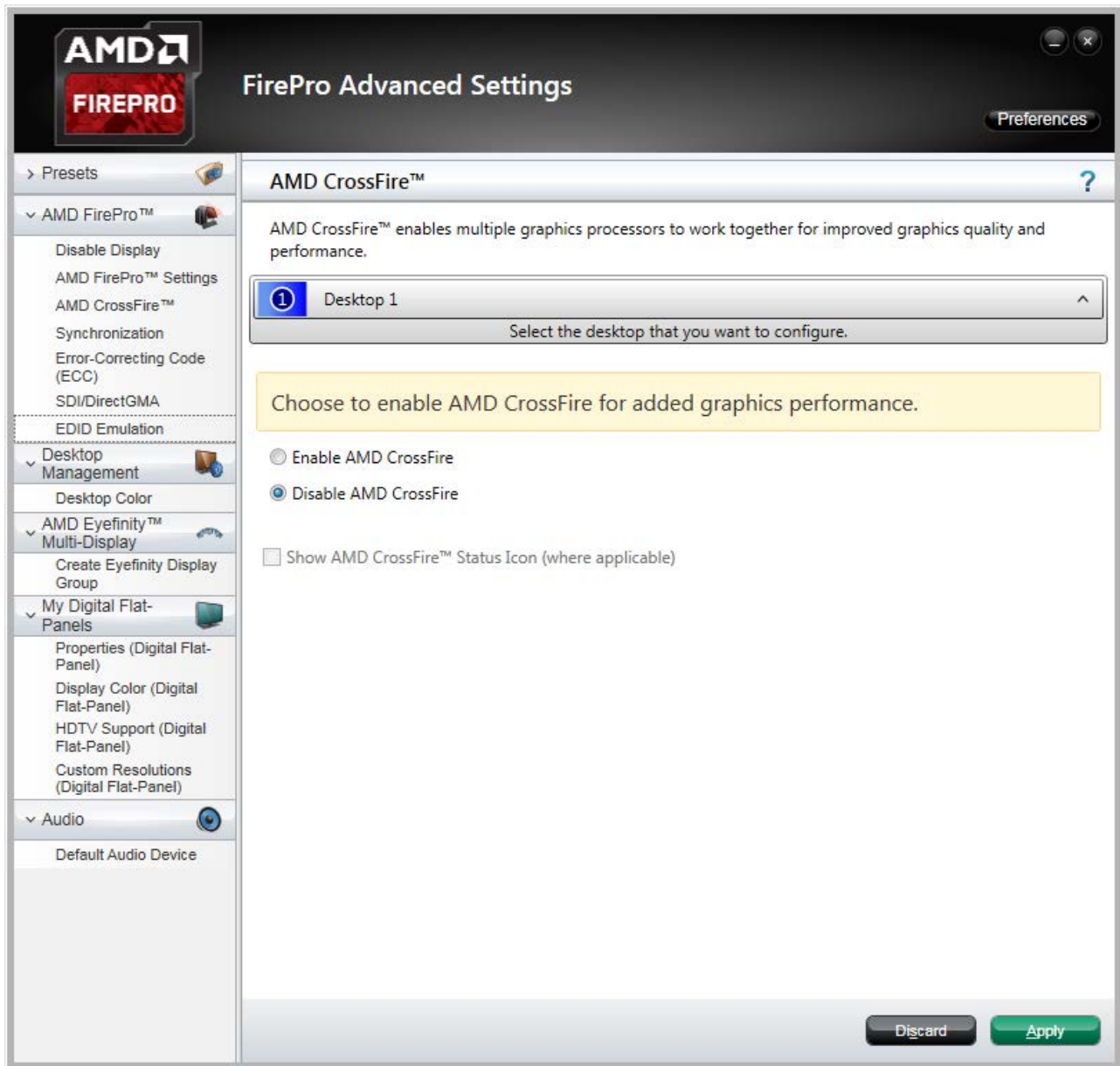
Select the EDID for the right resolution, bit depth as well as frame rate. Display devices (projectors, monitors) have their own set of embedded EDIDs that can also be used. Open the selected EDID then 'Apply', to apply it to all of the selected AMD display connections.

The Advanced Settings page will now display which EDID is connected to the relevant ports. In this instance, the **7th_WUXGA@60** has been applied to all six of the ports of the GPU:



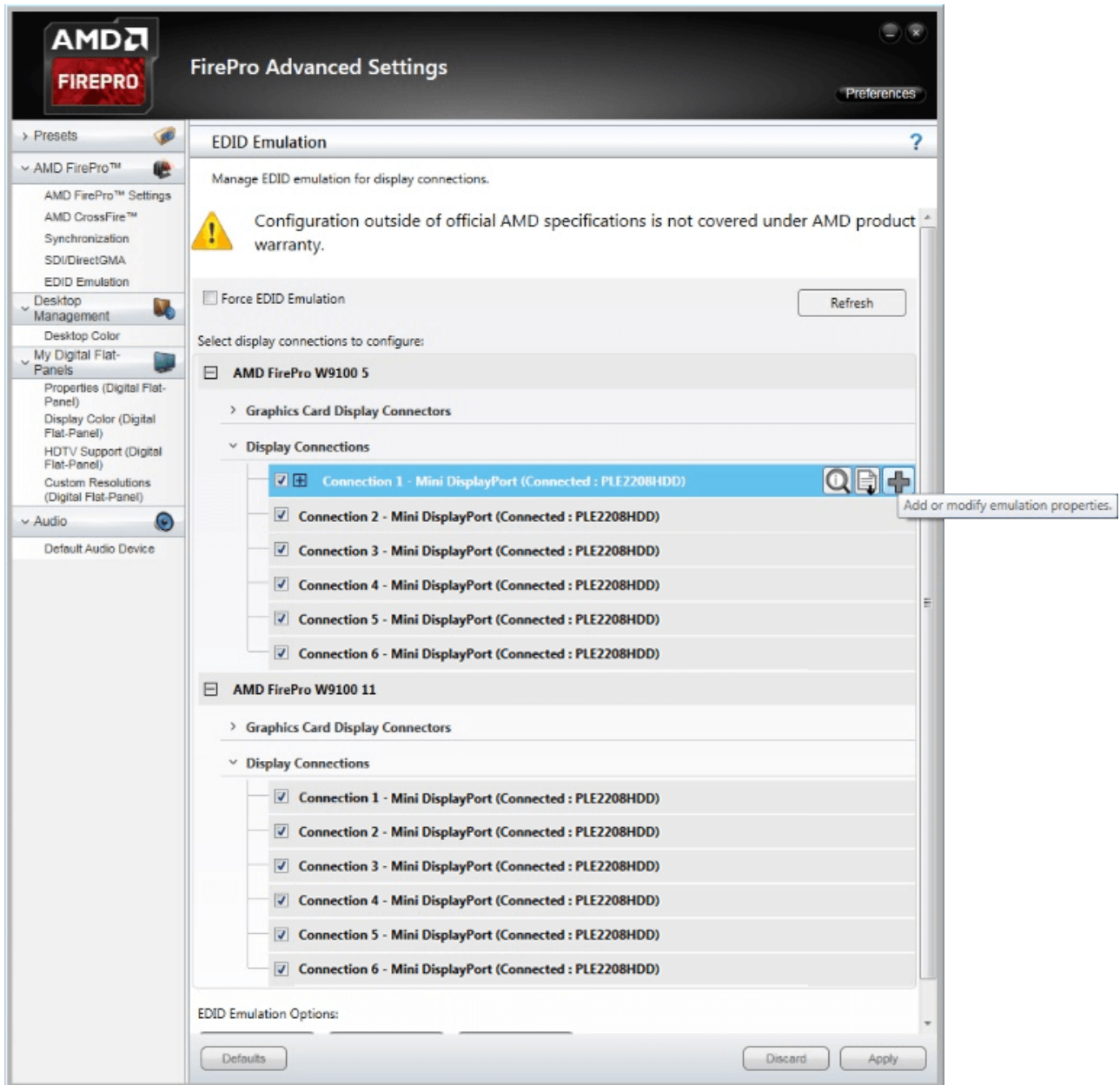
Dual GPU EDID Emulation

This is very similar to single GPU servers. Dual GPU operation for adding graphics power uses AMD CrossFire to link the cards. Delta servers instead simply need the extra display heads, so first of all ensure Crossfire is disabled. Open 'AMD FirePro Advanced Settings', and select 'AMD CrossFire' from the left-hand menu:



Now select 'EDID Emulation' from the left-hand menu. If asked whether to 'Force EDID', click 'Apply'.

Now click the + markers to expand the list of connections per GPU detected. For each GPU in turn: tick all heads required, then move over the top connection and click the big + icon on the right:



A new dialog will open. Select the EDID from the current display, or from a specific EDID file if available by clicking browse:

EDID Emulation

EDID emulation may affect any existing AMD Eyefinity configurations that include emulated displays. To minimize this impact, configure EDID emulation before configuring AMD Eyefinity. Any existing EDID emulation settings for the selected connections will be lost.

Apply EDID emulation to these connections:

- AMD FirePro W9100 5
- AMD FirePro W9100 11

Select EDID:

From Display:
 PLE2208HDD(AMD FirePro W9100 5 Port 1 - Mini DisplayPort)

From File:
 C:\Program Files\7thSense\Delta\Utilities\EDID Files\7th
 Browse

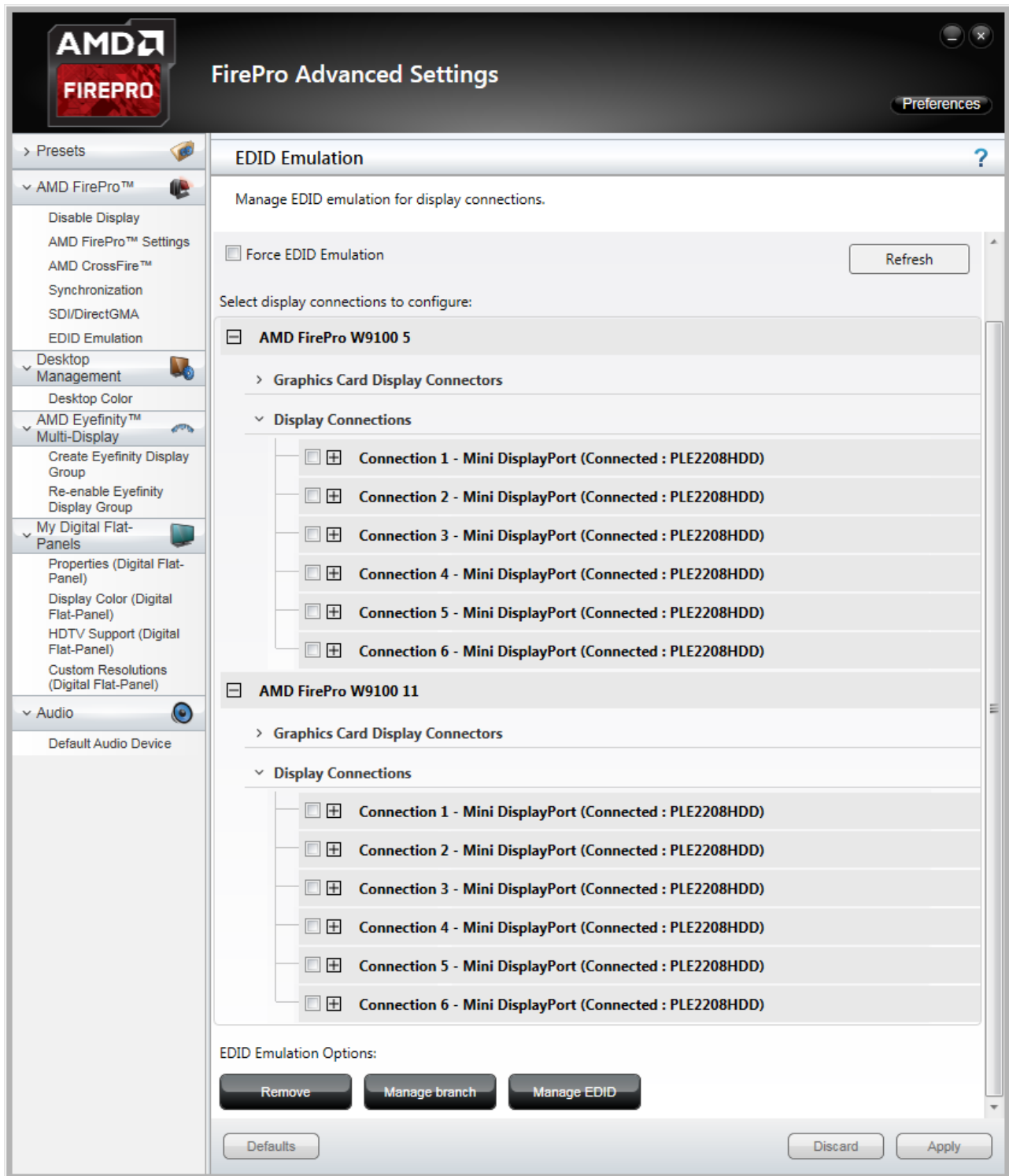
Connection Properties:

Emulation	Emulate always
Connection	DisplayPort (Active Adapter)
Lanes	2
Bit Rate	2.7 GHz
Bandwidth	2.7 GHz
Color Depth	8 bit
3D Caps	None

Finding the right EDID

7thSense provides a collection of available EDIDs, located in: C:\Program Files\7thSense\Delta\Utilities\EDID Files. Change the file type (bottom right) to binary to see these files.

All heads should show with the EDID information. Restart the server.



FirePro Eyefinity Grouping

For the most reliable results, first ensure that each display to be grouped has the correct resolution applied to it in Windows. (Windows search: 'display settings'.) These must all be the same, since mixed resolution displays are not supported in AMD Eyefinity groups. Failure to do this can often result in a Eyefinity group of the wrong resolution being created.

Troubleshooting: a Note on Scaling

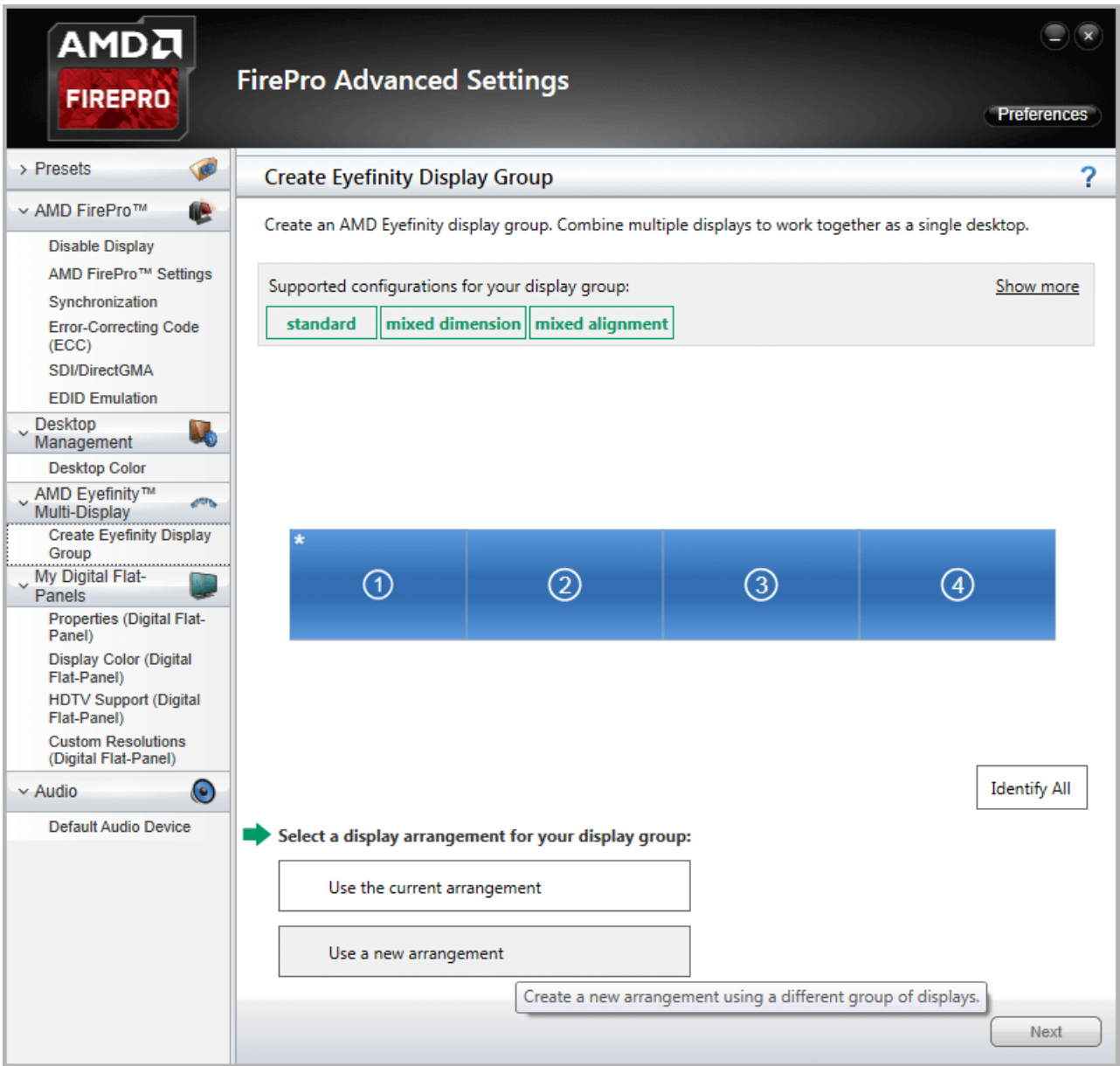
Scaling is a feature in AMD for handling media of non-native resolution. When switched on, it will either maintain aspect ratio, force-fill the screen, or centre a lower-resolution in a higher-resolution display. Occasionally an EDID has the scaling flag enabled in the CEA extension block, and AMD seems to want to default to a scaled output.

If on the actual display (not VNC) you are seeing black borders, or the aspect ratio appears incorrect, check for scaling before Eyefinity Grouping.

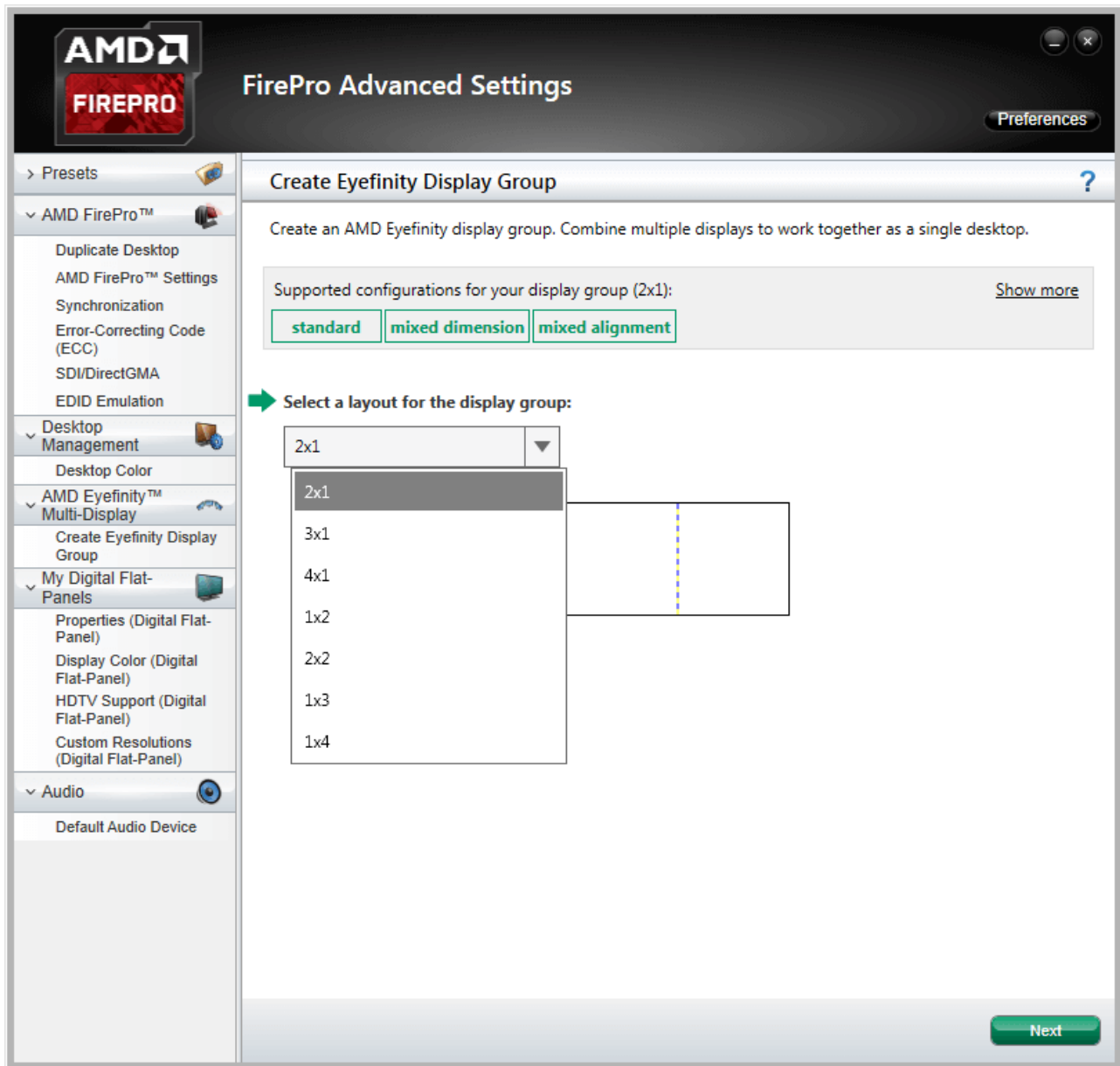
Scaling options can be found under older AMD Catalyst™ Control Center > *My Digital Flat Panels*, either as an option or within Properties.

Grouping

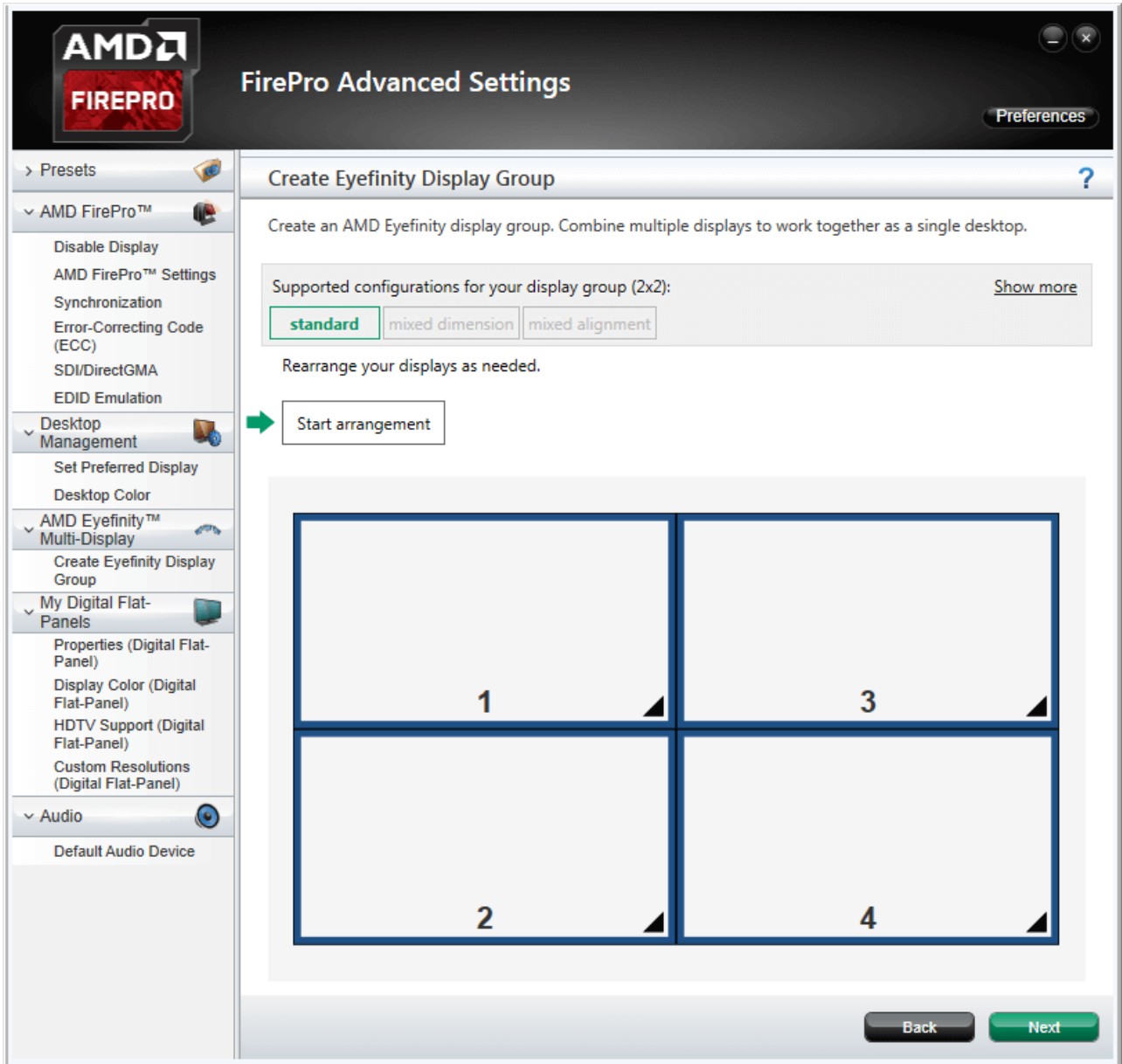
When media is to be displayed over more than one display, the display outputs need to be Grouped. Select 'Create Eyefinity Display Group' on the left. This will show how many monitors are connected:



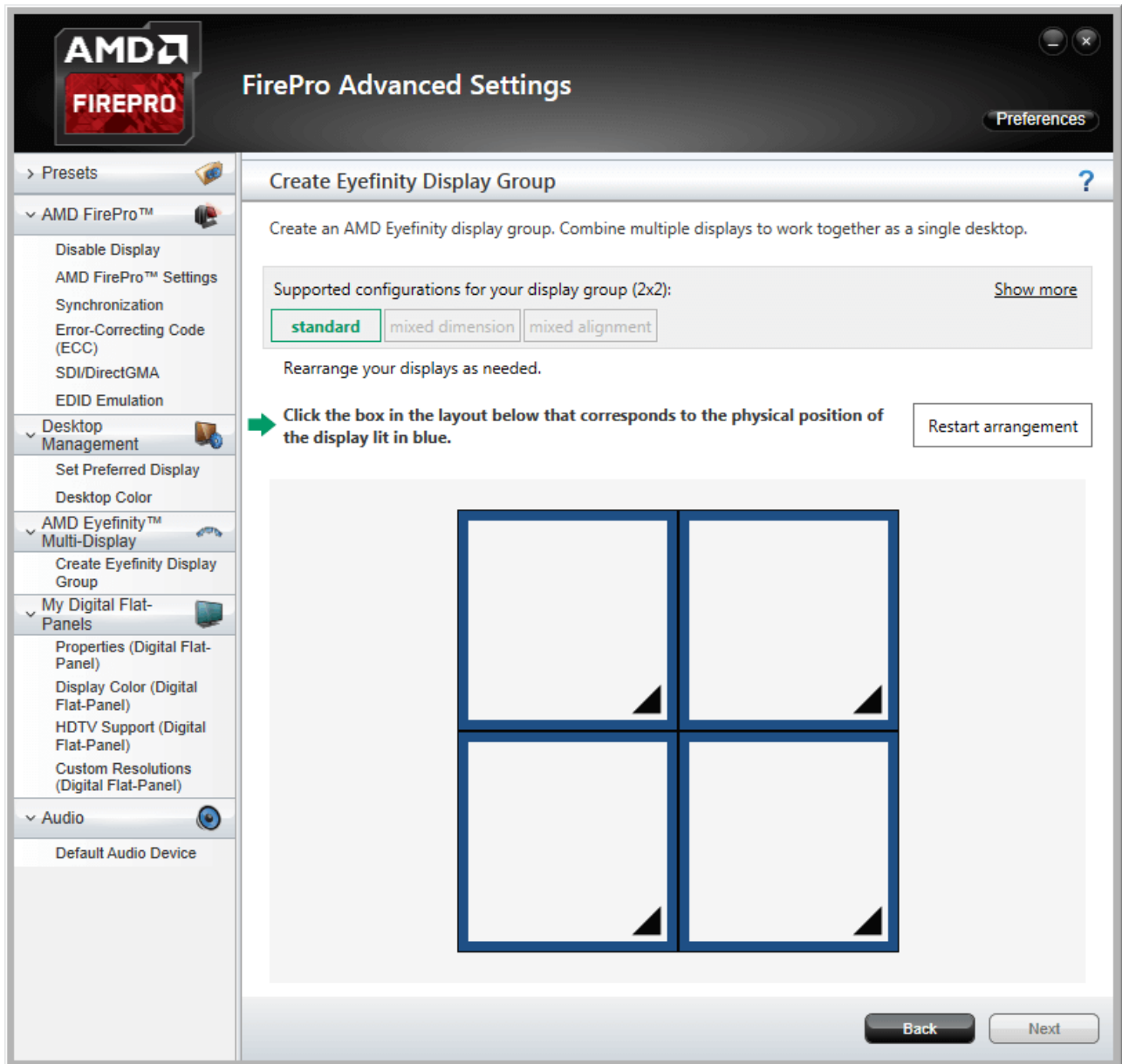
Click on 'Use a new arrangement' and then 'Next' and choose the matrix you want (AMD format: columns x rows):



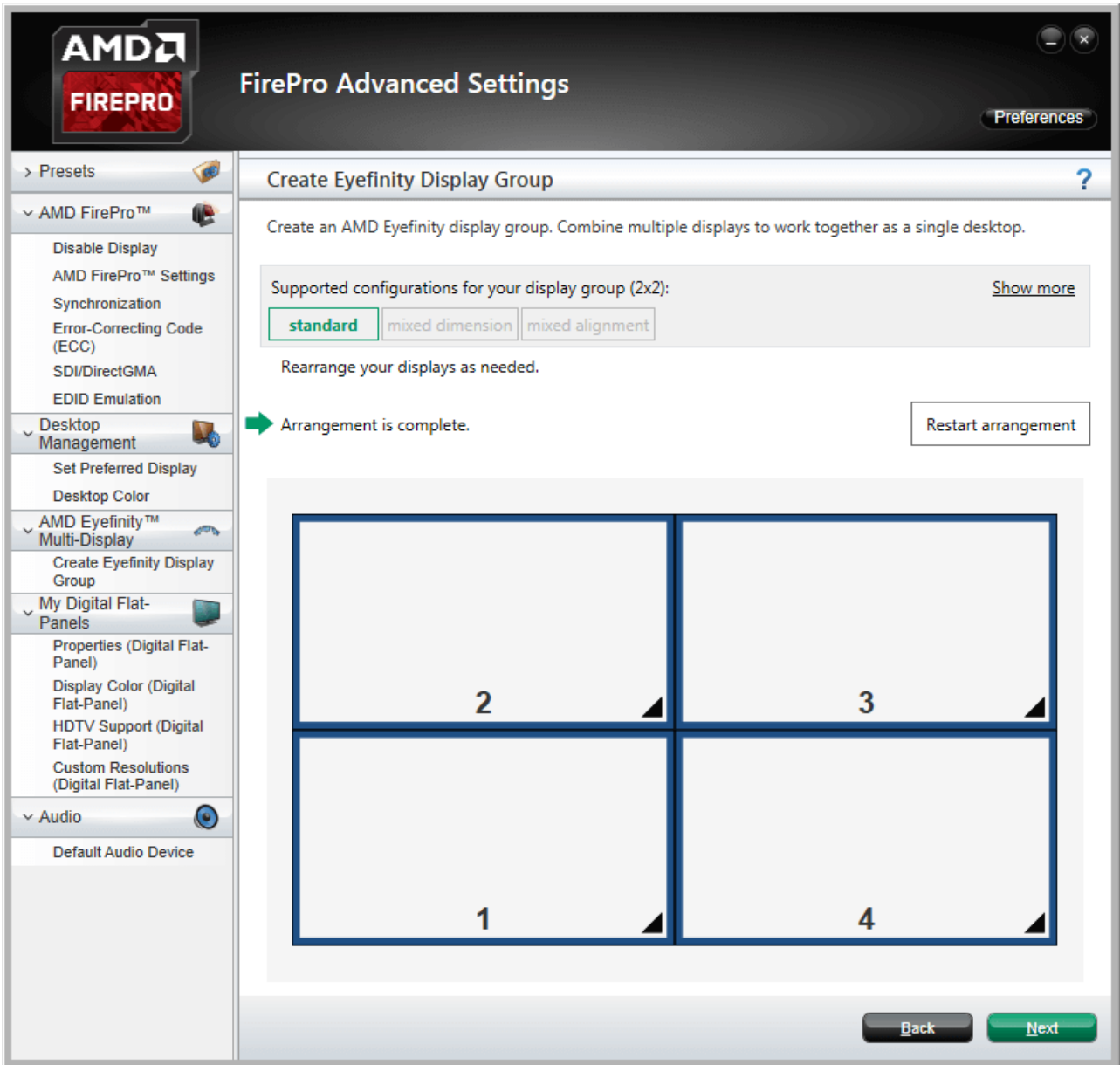
Here a standard 2×2 arrangement has been selected: if the appearance is correct, click 'Next' and then 'Start arrangement' for correct placement of the displays in actual physical order:



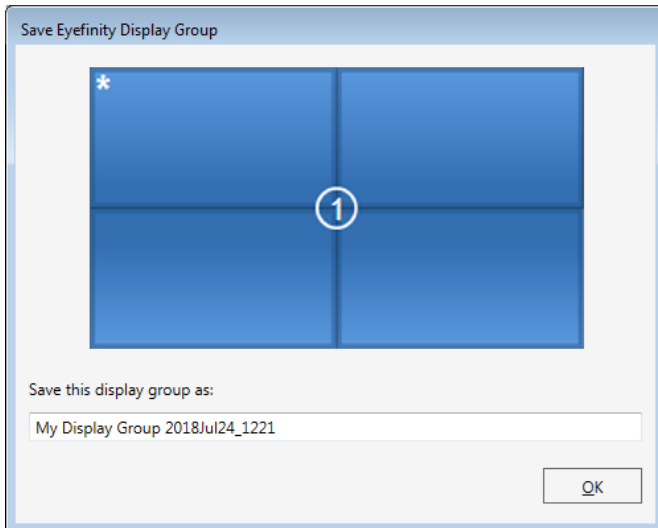
Each monitor will illuminate blue in turn. Click the square in the dialog corresponding to its physical position:



When finished, the actual correspondence will be displayed:



When you click Next you can save the .xml file of the arrangement:



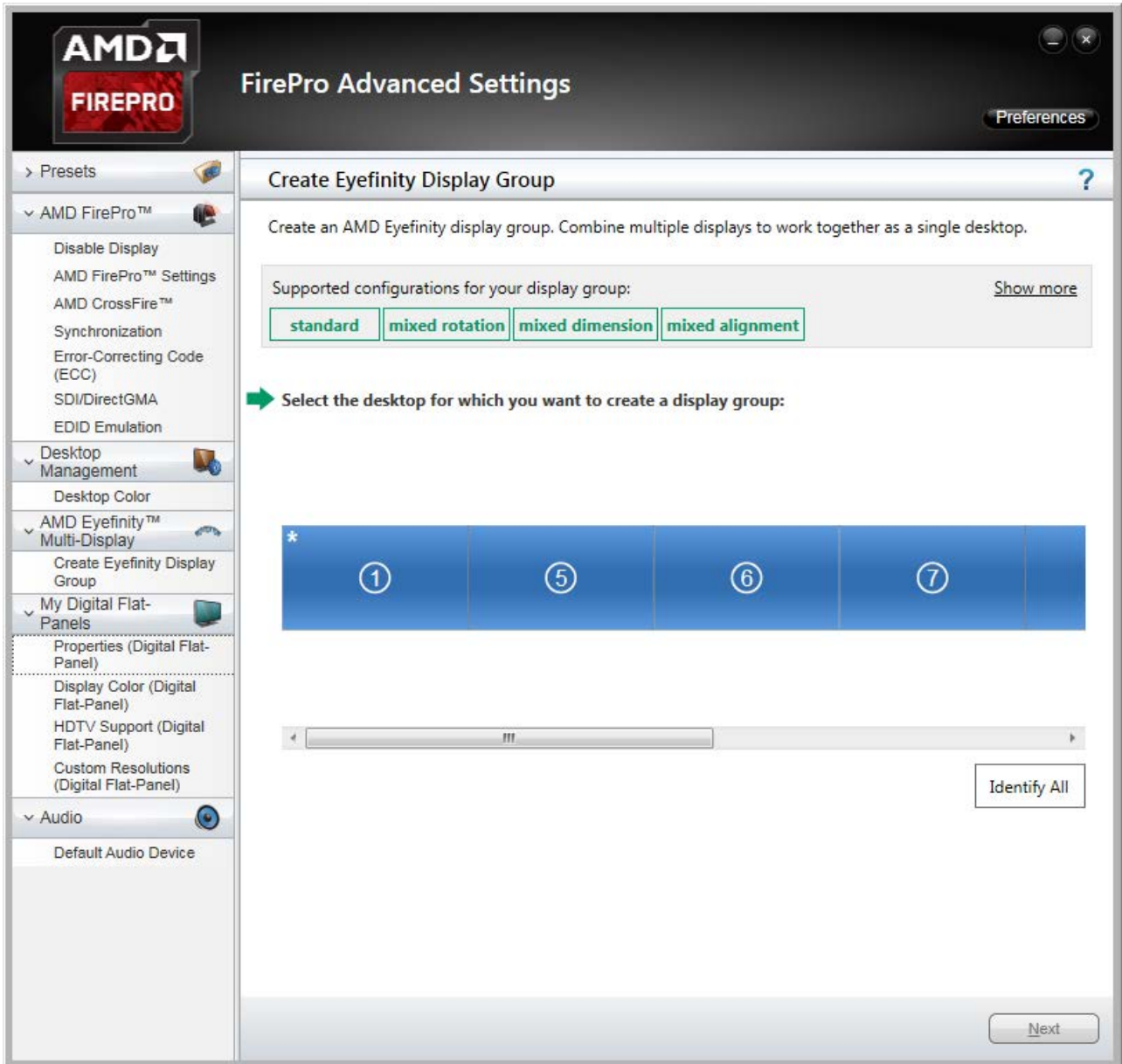
Now that you have a grouped display, return to the Windows display resolution configuration to verify that the resolution of the overall grouping matches the sum of the individual display resolutions.

You are now ready to synchronise displays to an external sync source if required.

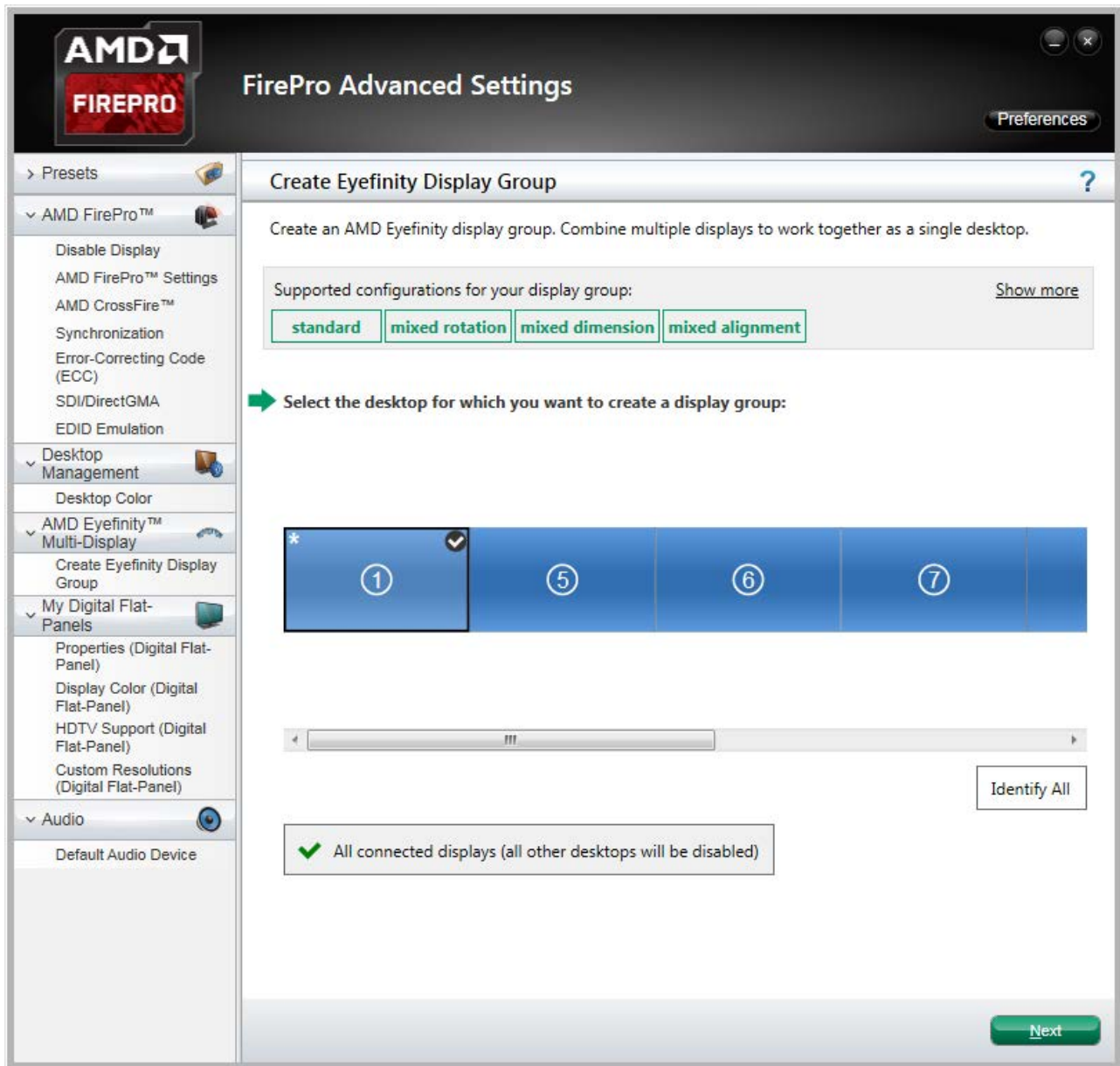
Dual GPU Grouping

For dual GPU grouping, open 'AMD FirePro Advanced Settings'. Select 'Create Eyefinity Display Group'. This will show the available displays, but not which GPU they are connected to. With AMD, displays are grouped as desktops, not as one entire group of displays. You therefore need to address each GPU in turn and group its outputs, following the same process as for a single GPU.

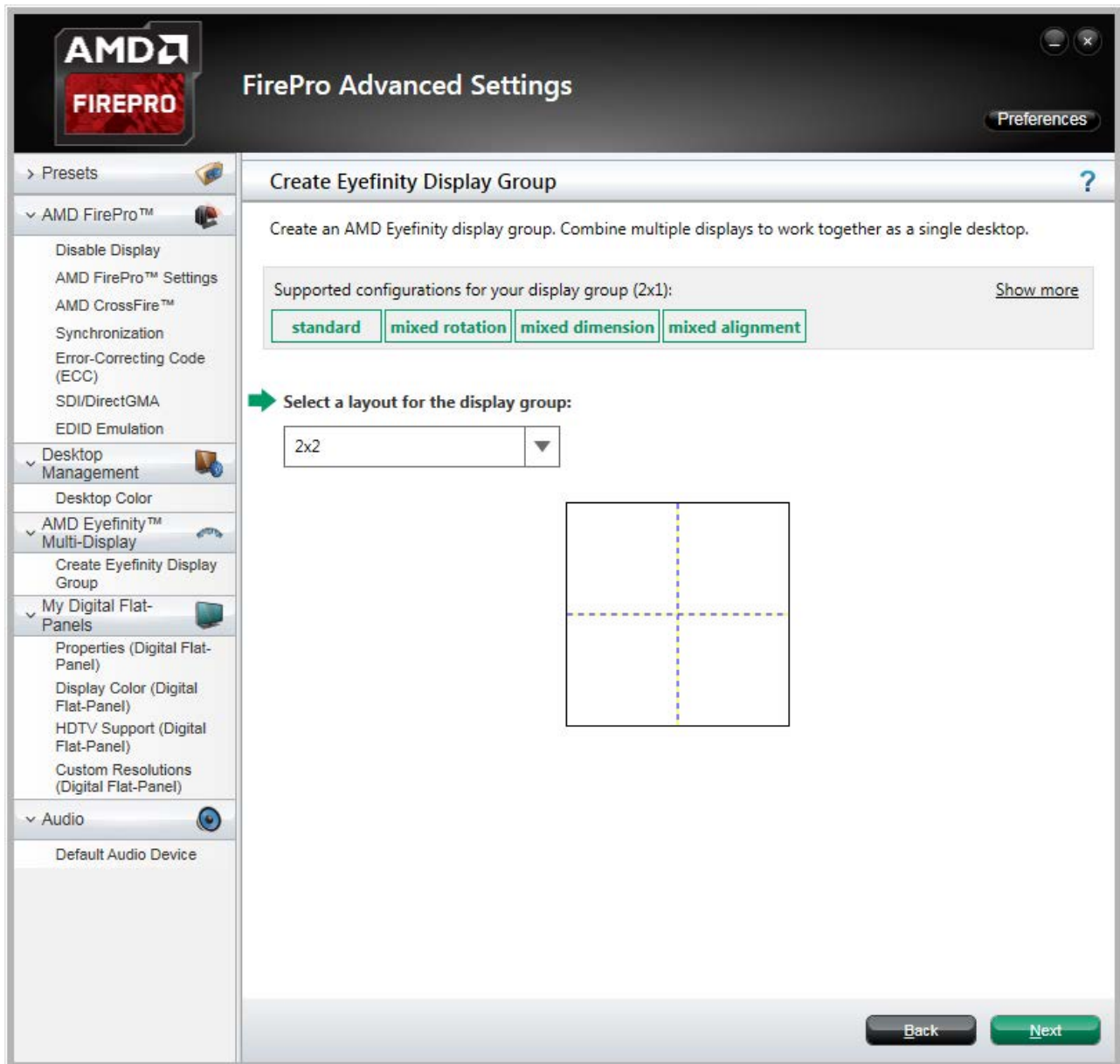
To select the first desktop to group, just click on the blue square of first display. You will see that the number sequence may appear a bit random:



With the first display selected, click Next:

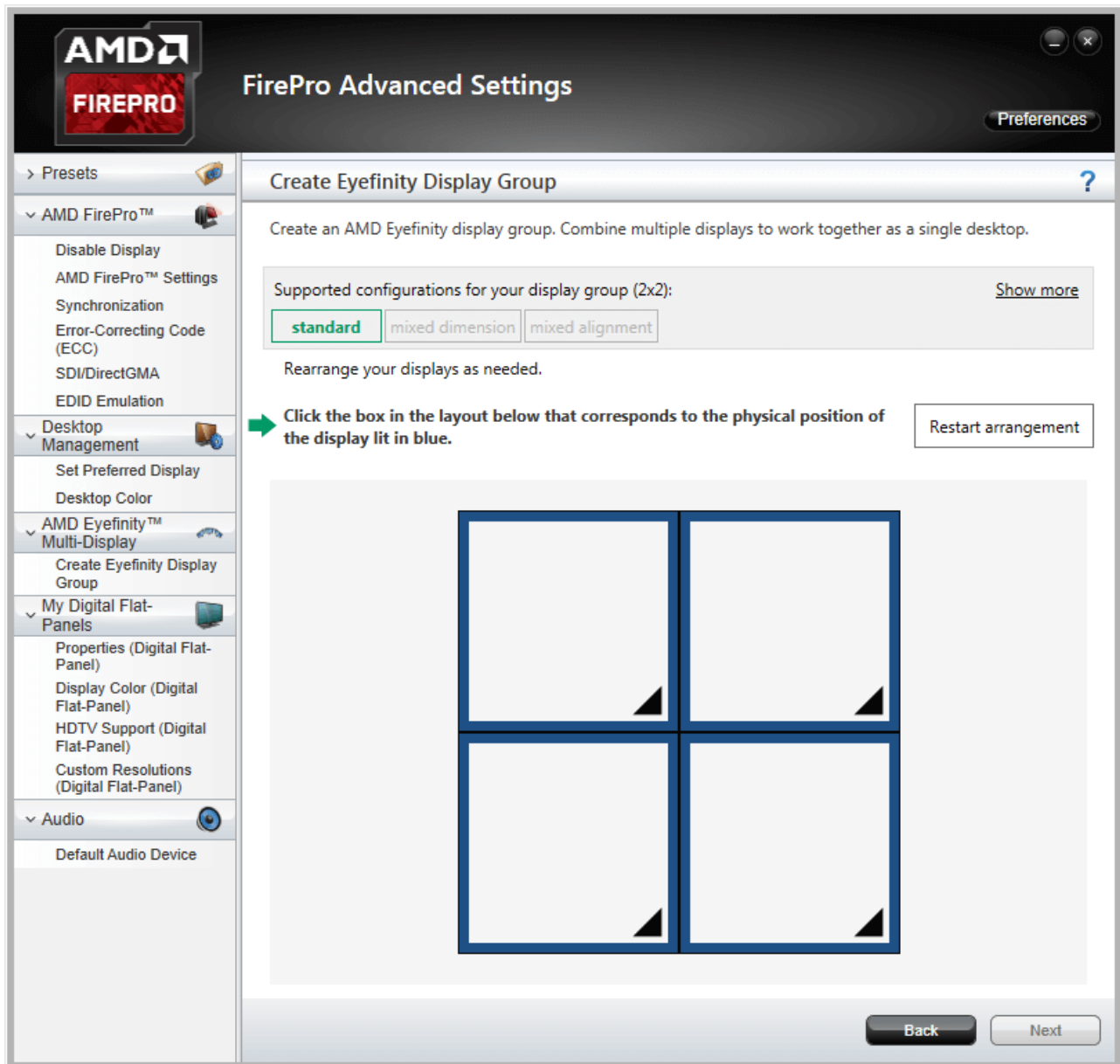


Select a layout for this display group (i.e. the outputs for one of the graphics cards). AMD format is: columns × rows:

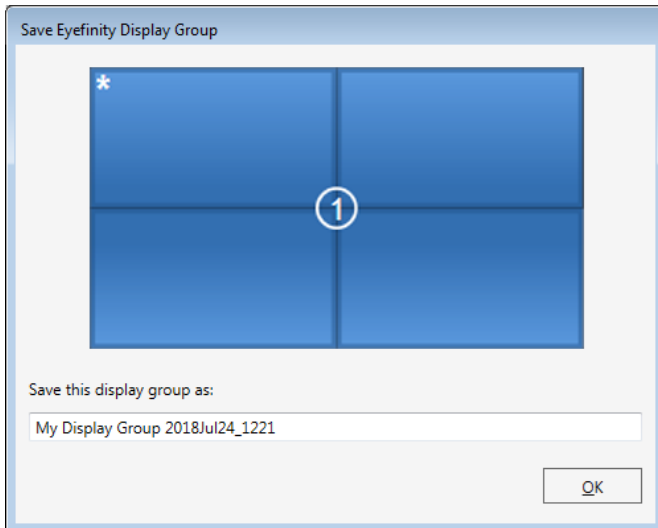


Click 'Next' and then 'Start arrangement'. Displays can now be rearranged into the actual physical order *for this part of the overall display*.

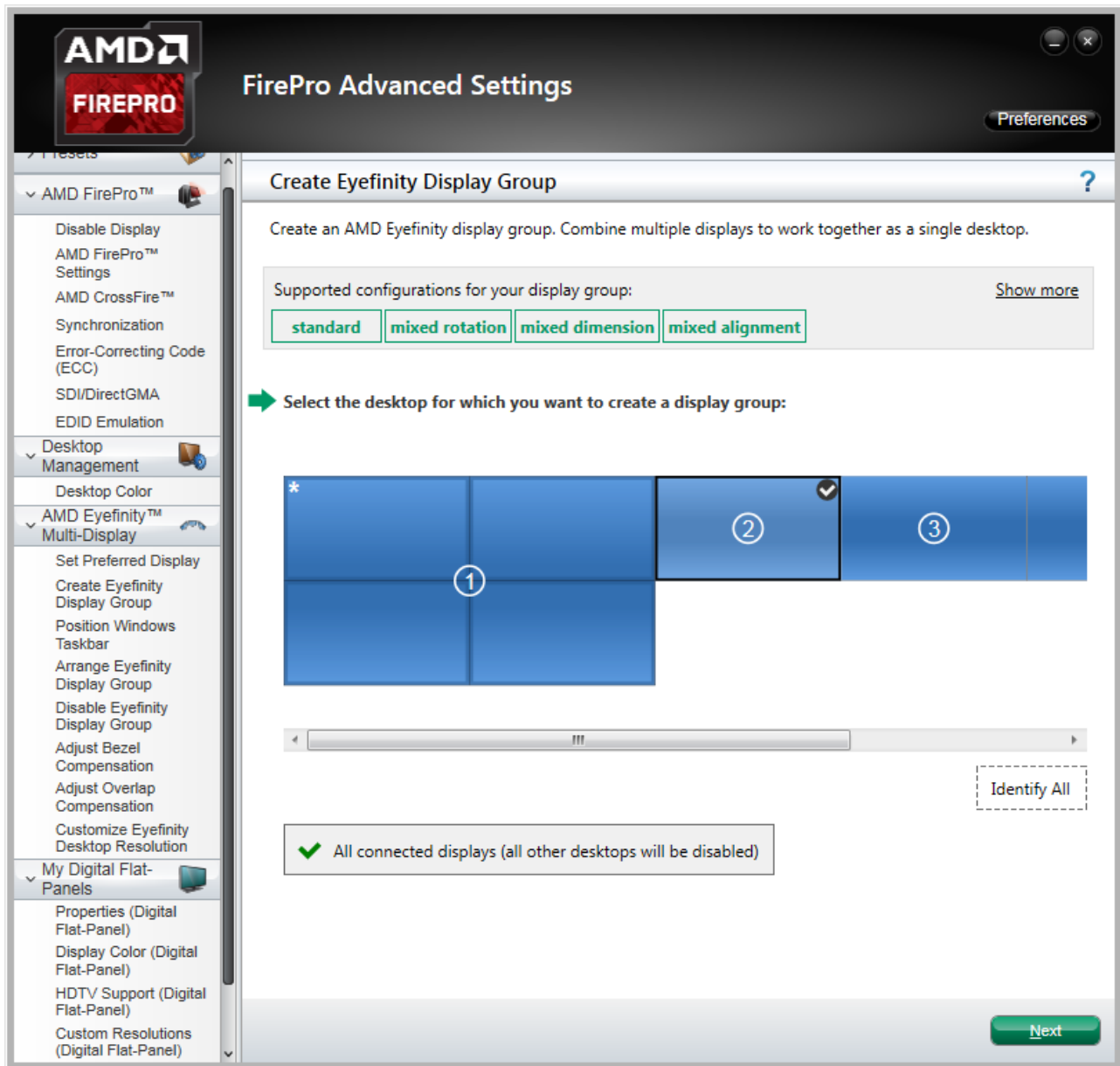
Each monitor will illuminate blue in turn. Click the square in the dialog corresponding to its physical position:



When finished, the actual correspondence will be displayed. Click Next and save the .xml file for this display group:

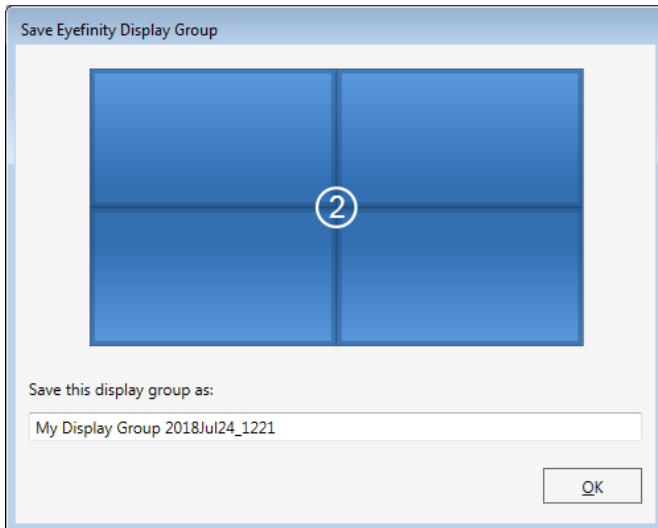


With the first group made, return to 'Create Eyefinity Display Group', where you will see the group you have just made, and the ungrouped displays. Click on one of the ungrouped displays (i.e. the next desktop):

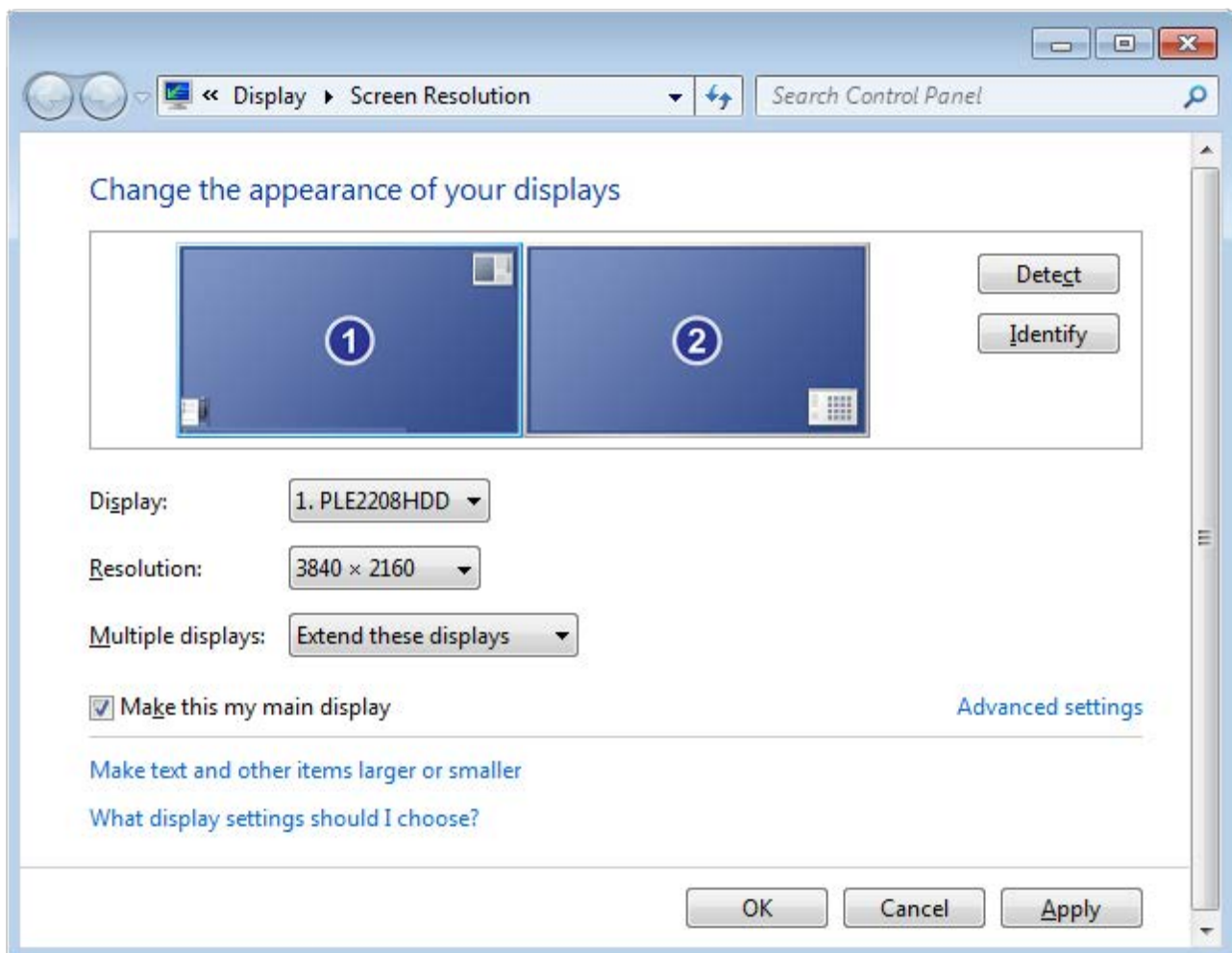


Click 'Next' and, as before, select the matrix layout and proceed to arrange the displays so that they correspond to their physical layout.

When all displays have been grouped, save the .xml file for this display group:



It may be that your desktops, as far as Windows is concerned, are not in the right order. Right-click the Windows desktop and select 'Screen Resolution':



Drag the desktop groups into the right order, 'Apply' and click 'OK'.

Restart the server.

You are now ready to synchronise displays to an external sync source if required. The procedure is the same as for a single GPU, so this time, open 'AMD FirePro Advanced Settings'.

FirePro Synchronization (Genlocking)

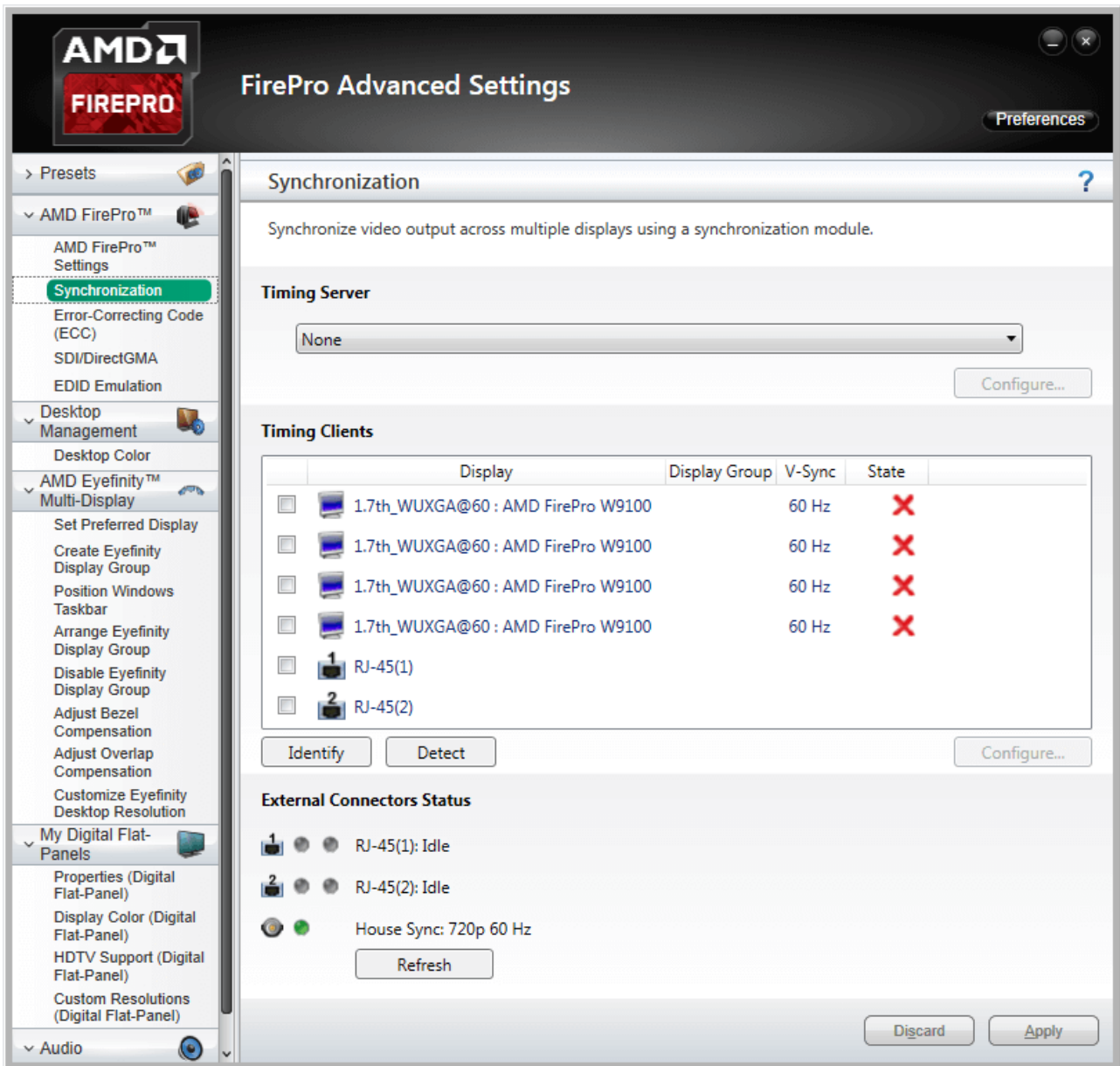
Synchronization between GPUs, and/or with an external signal source (genlocking) requires installation of an AMD FirePro S400 Synchronization Module in each Delta Media Server. This can be linked to a central house sync/reference generator.

Genlocking your system ensures that all output/displays play at precisely the same rate to prevent media tearing. 7thSense Design recommend using House Sync genlocking via the BNC reference port, rather than the framelocking method using the RJ45 ports. This procedure will synchronise your server(s) to a house sync source when using AMD GPUs.

Ensure that a House Sync Generator is plugged in to the S400 Genlock card.

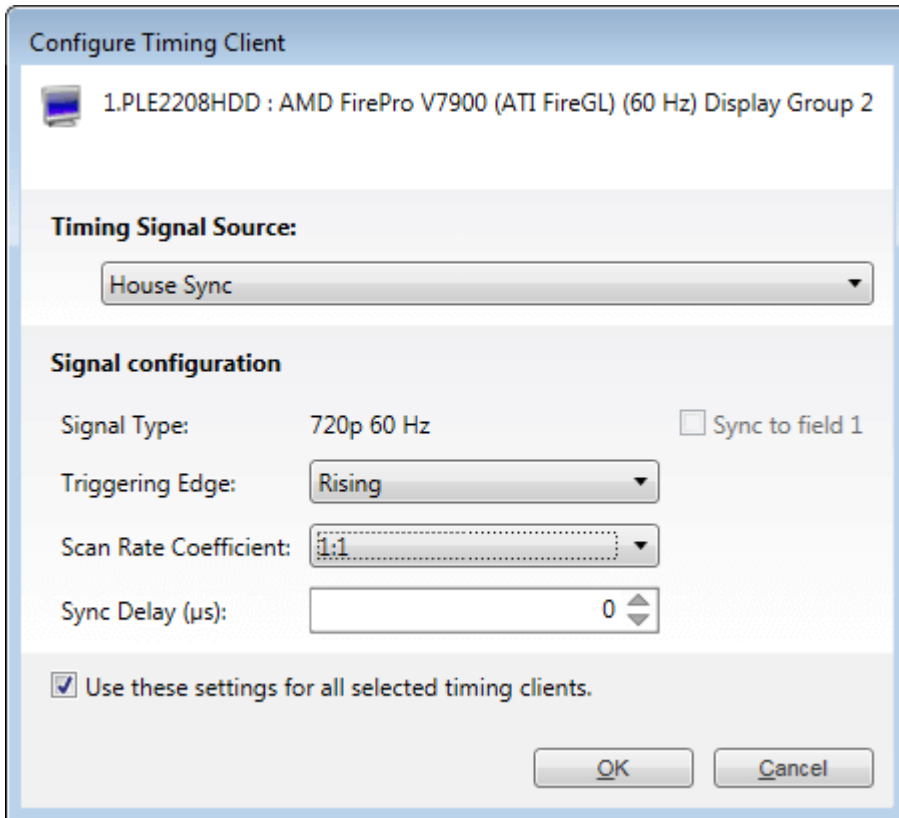
Timing Clients

From the FirePro Advanced Settings, select Synchronization. Each port that has been connected will be displayed. With the Sync Generator connected, the 'House Sync' will show the refresh rate of the Sync Generator instead of 'Idle'. The displays will always appear as a red cross at first, this is just to show that they have been registered in the Advanced settings.



Check all the displays you want to sync.

Click the 'Configure' button to select the sync source:



Timing Source Signal

can either be the first display and sync from that or just the normal House Sync. The signal type is displayed here as resolution and refresh rate, e.g. 720p 60 Hz.

Triggering Edge

by default, Rising. Only critical in mixed-GPU scenarios where another default differs.

Scan Rate Coefficient

The EDID rate and Sync rate must match to some extent, either equal, or one a multiple of the other.

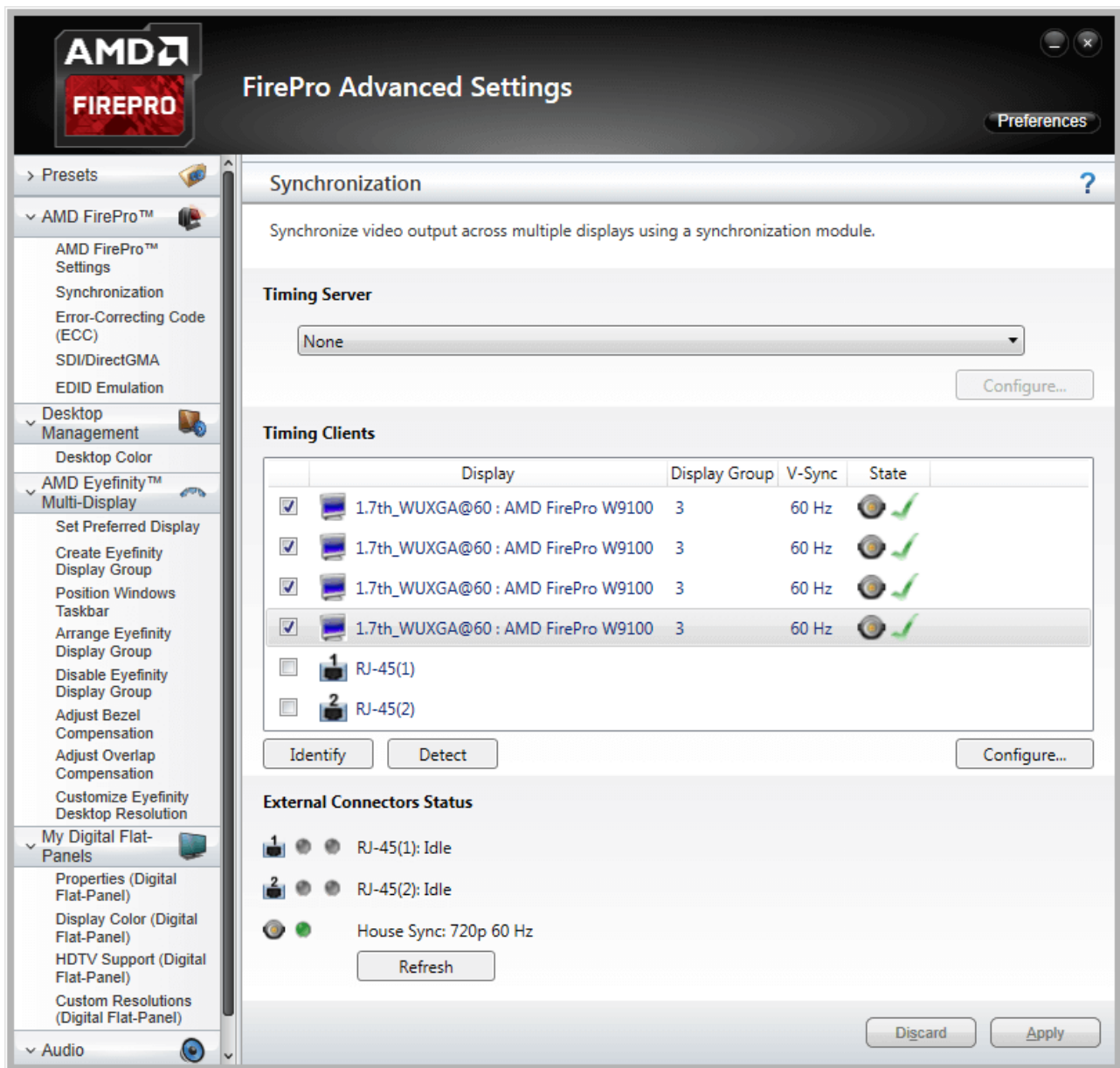
Examples:

EDID is 1920x1080@25, House Sync must be 25 Hz (1:1) or 50 Hz (1:2).

EDID is 1920x1080@120, House Sync must be 120 Hz (1:1) or 60 Hz (2:1).

Check 'Use these settings for all timing clients'.

Click 'Apply'. The red crosses will all now be green ticks, and the green light for House Sync will flash on and off:



All ports are now synced together.

Restart the server, then navigate back to the Advanced Settings and check that the connections are still present.

House Sync

House sync is shown along bottom, this is updated as soon as 'Refresh' is clicked, and the House Sync indicator will flash green. The LED on the S400 card in the server will now be illuminated steady green. So if the incoming signal from the generator changes, the House Sync will reflect this.

Genlock Polling via DeltaMonitor

Remote server control via the Stack web interface enables AMD graphics sync systems to be addressed remotely. By enabling DeltaMonitor's [Genlock Polling](#) you can ensure that any temporary loss of sync signal can be re-established automatically.

Lost Sync?

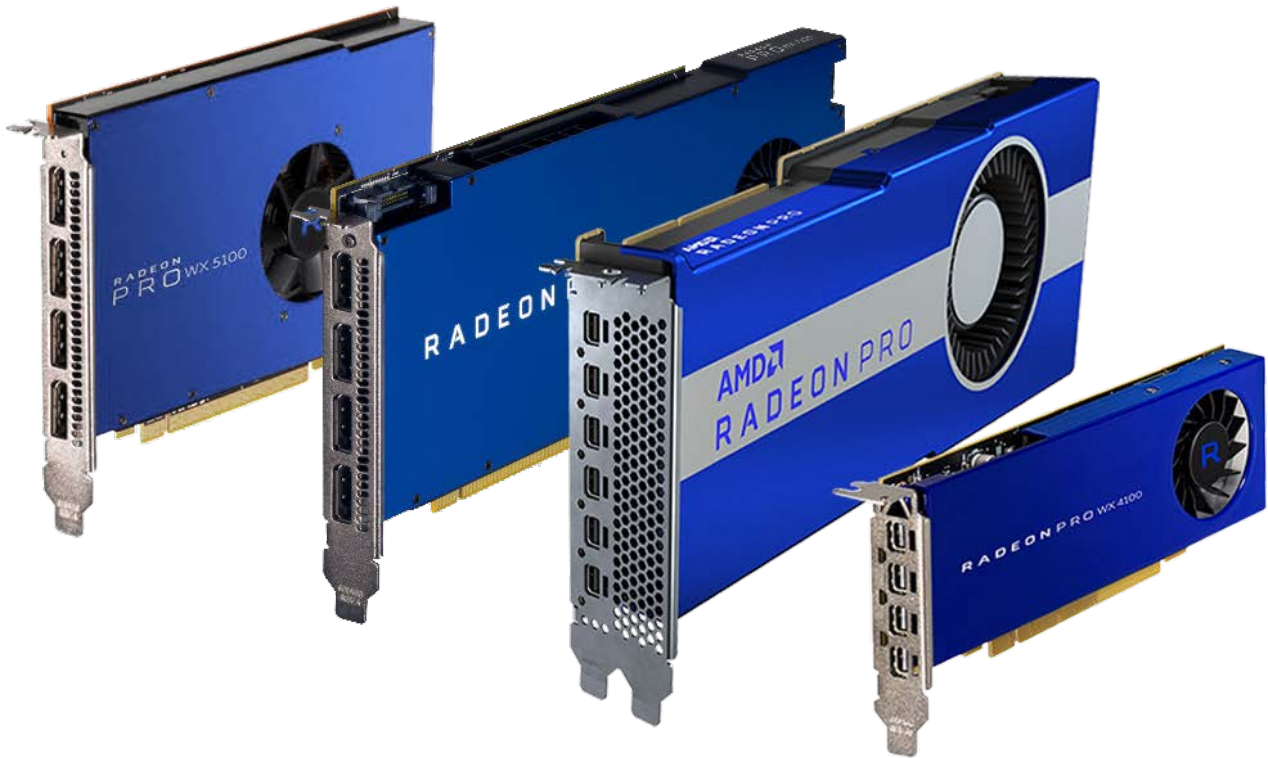
Genlock can be lost if the signal is interrupted (for example if a cable falls out or the sync generator rate is changed): this S400 LED will change from steady green to a slow flash.

If genlock is lost, check all connections and sync generator settings. Restart the server to re-grab the genlock settings.

Note: It is good practice to check all linked servers if there has been genlock loss. If it was due to the source sync generator, genlock will be lost and need resetting on all master and slave servers.

AMD Radeon Pro 18.Q2.1

For AMD Radeon™ Pro WX4100, WX 5100, VII and WX 7100 graphics cards, and for FirePro™ W600, using Radeon Pro Software, Enterprise Edition, version 18.Q2.1, under Windows 10.



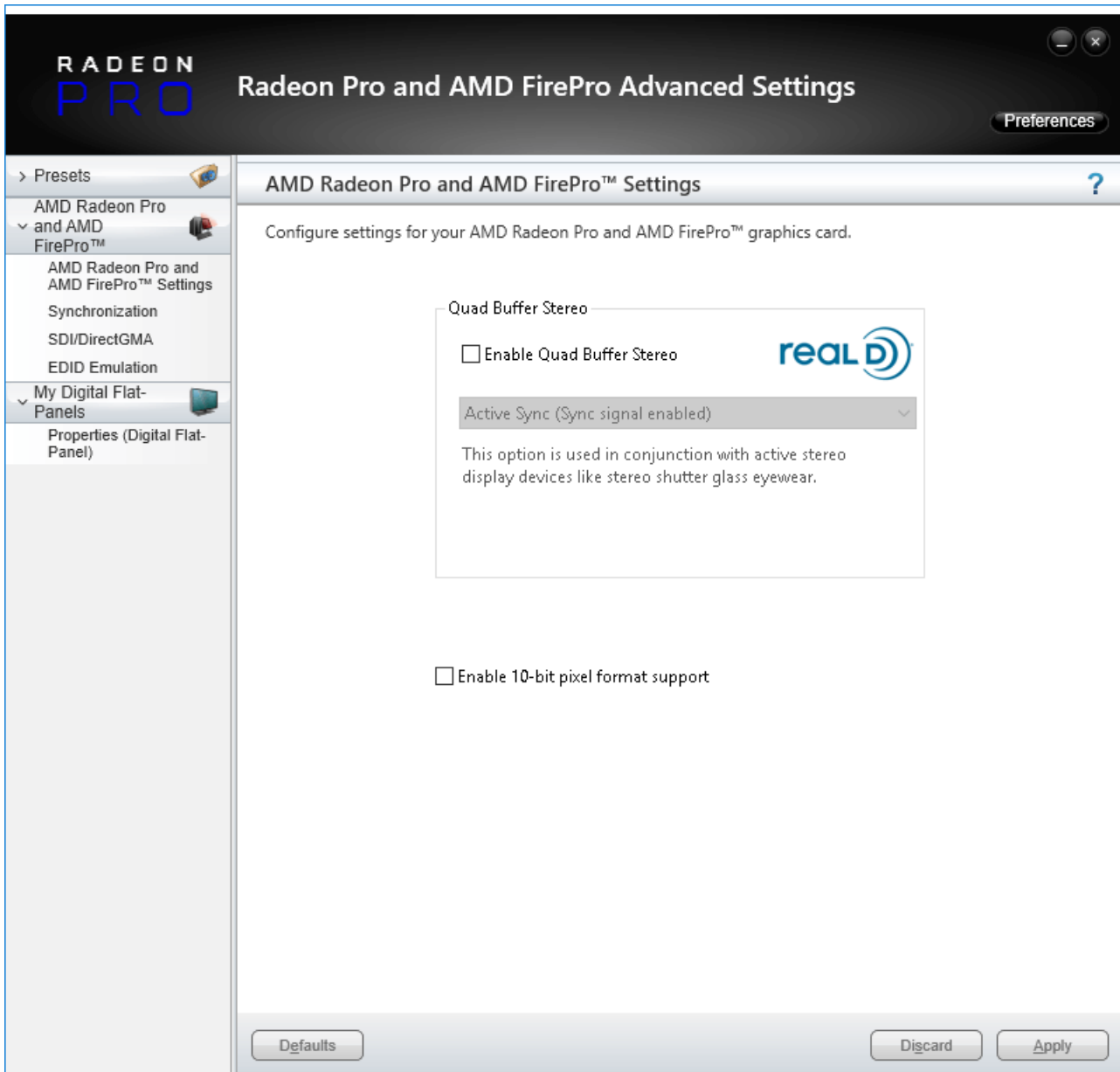
Note that currently only one of these cards can be used per server in Windows 10. A single GPU can be synced, but not two in the same server.

- [Advanced Settings](#) ³⁶
- [EDID Emulation](#) ³⁷
- [Display Grouping](#) ⁴¹
- [Synchronization \(Genlocking\)](#) ⁴⁷

Advanced Settings

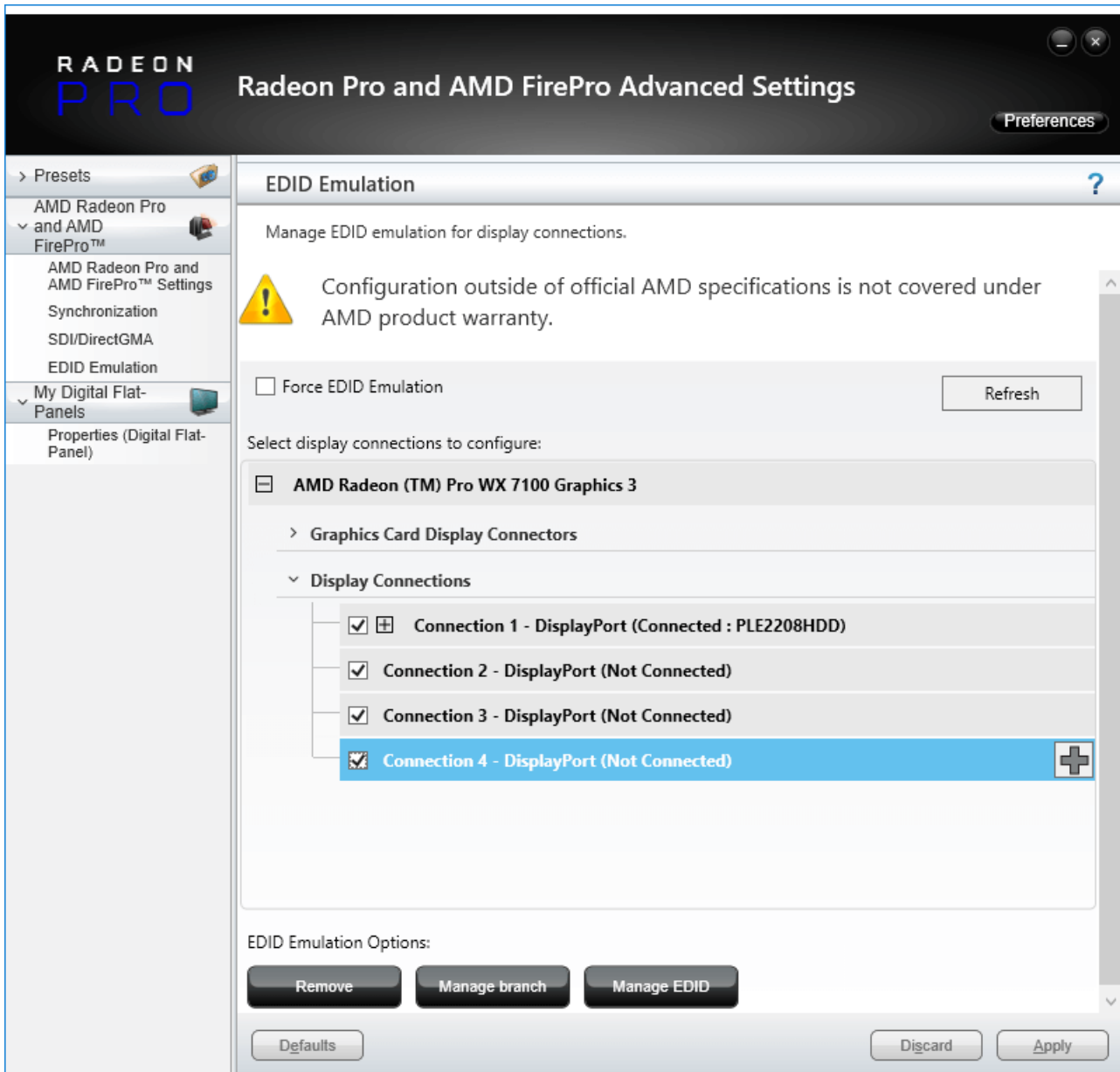
First connect display adapters into all required GPU ports. These must all be of the same type.

From Windows Start, open AMD Radeon Settings:



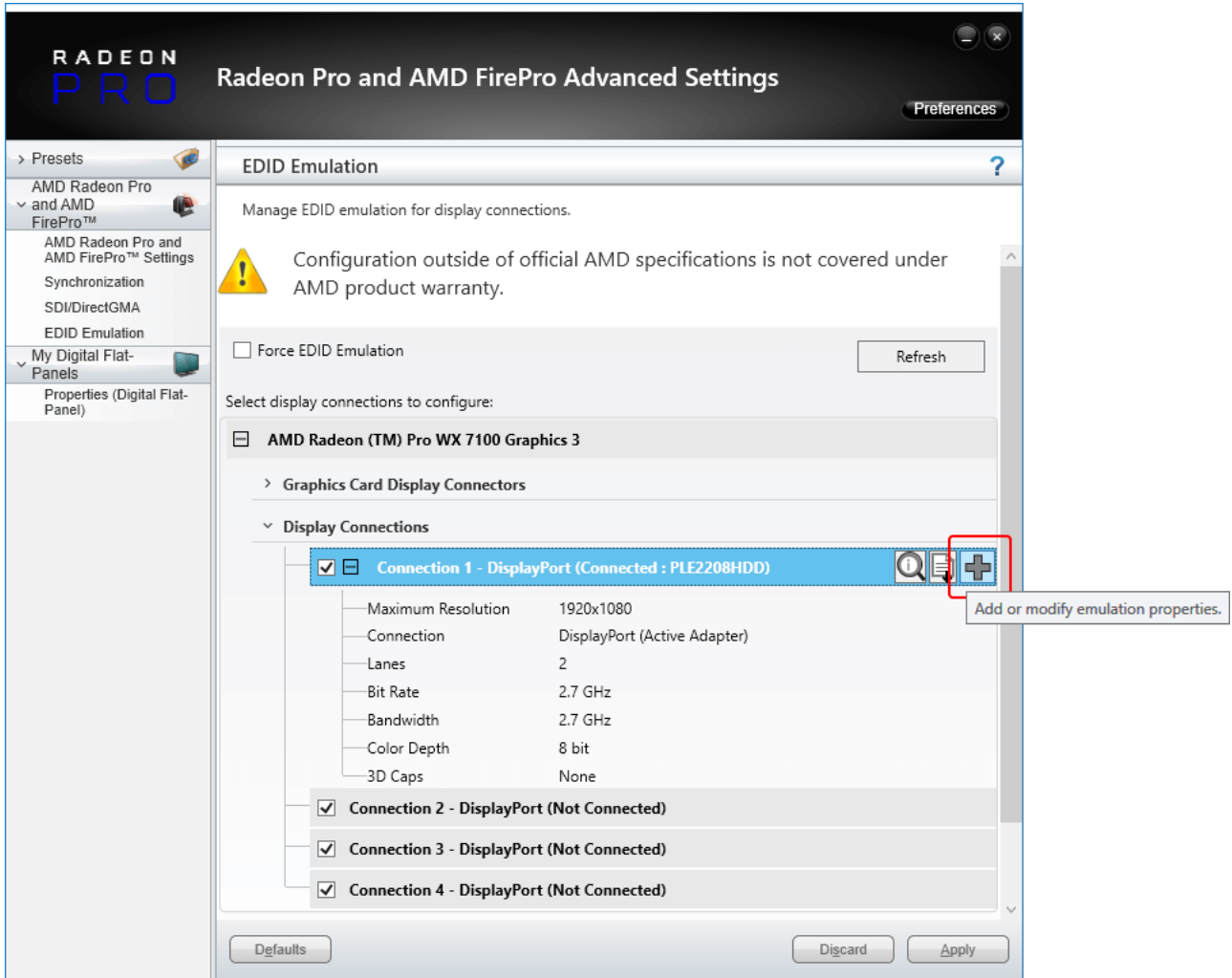
EDID Emulation

Select EDID Emulation from the left-hand menu, then click to small + box under 'Select display connections to configure', to expand the available GPU connections:

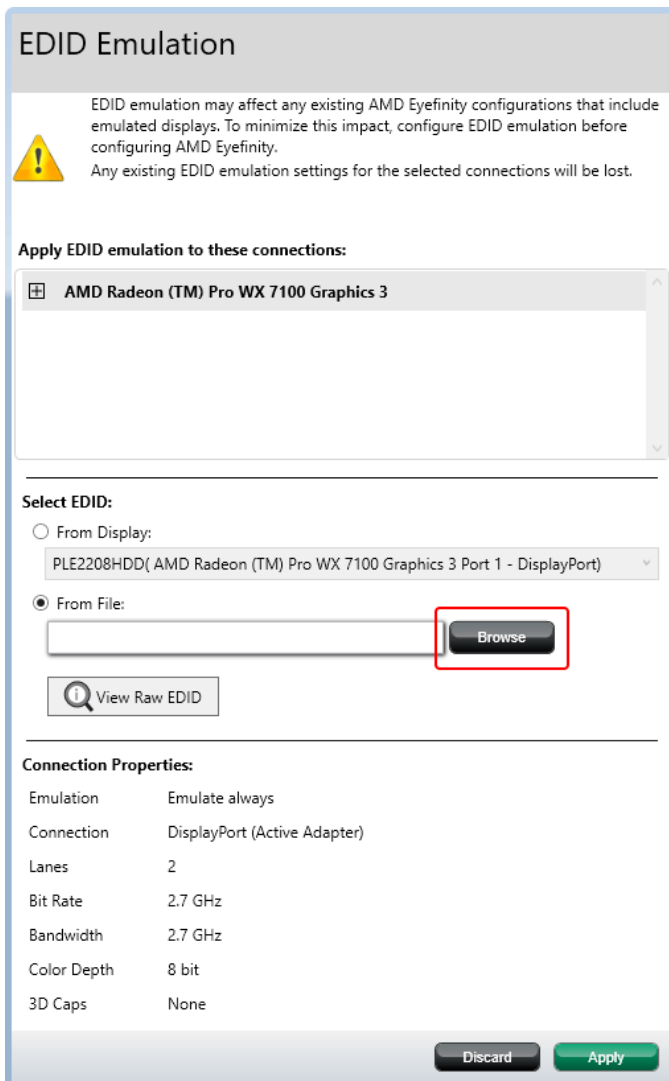


In this example, a single Radeon WX 7100 is installed, and you can see that whilst we have four adapters in the GPU ports, only one is connected. Select the connected port:

- the magnifier shows raw information about the current EDID
- the page icon downloads the current EDID, in this case, the PLE2208HDD EDID from the connected monitor
- the large + will add an EDID to connections with a ticked check box. Click this to open a dialog:



From the dialog, select EDID 'From File' (file type *.bin) and browse to C:\Program Files\7thSense\Delta\Utilities\EDID Files:



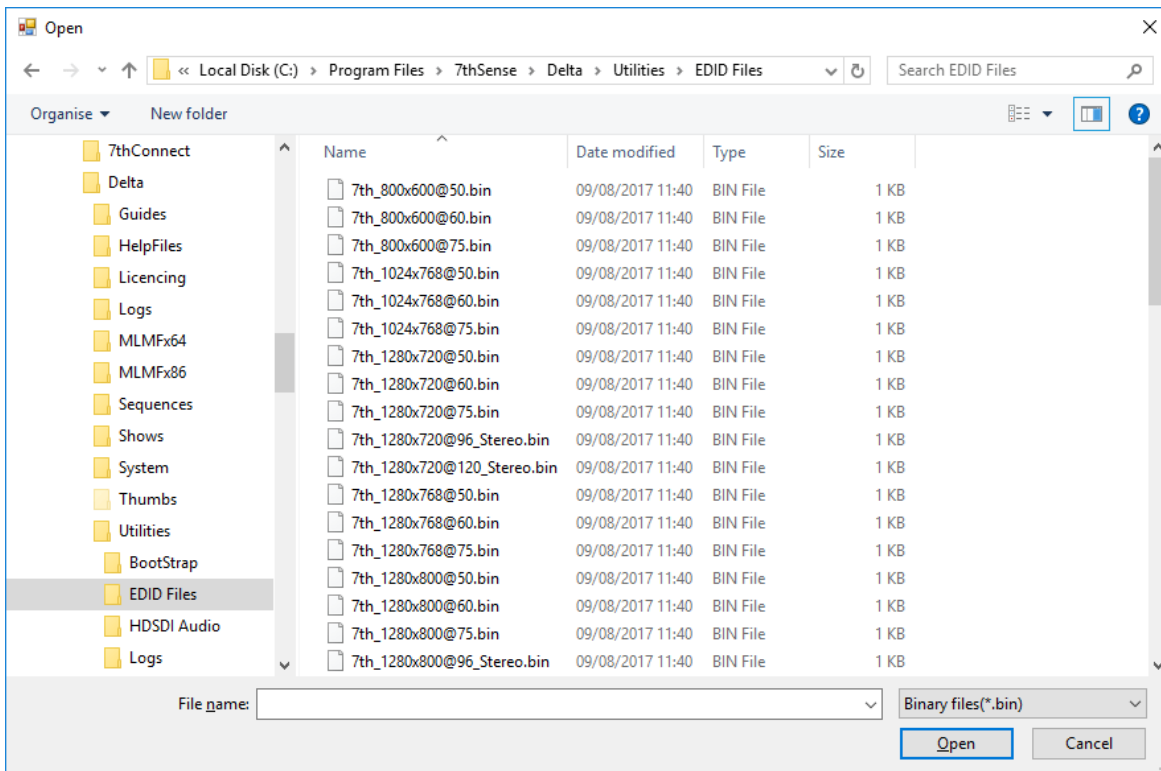
In the Connection Properties:

- **Lanes** should be set to 4.
- **Bit Rate:** dual link or above, 5.4 GHz, otherwise 2.7 GHz.
- **Bandwidth** should be changed to 5.4 GHz for higher output EDIDs, e.g. 4096 × 2160@60.
- **Color Depth** 8-bit or 10-bit depending on output required. This is important for [Working in 10-bit Colour Depth](#).

Select the EDID that you want to use and change the properties underneath. You can either apply the EDID from the display (if connected) or load a *.bin file in the local directory (select 'From File' and Browse to the file).

Finding the right EDID

7thSense provides a collection of available EDIDs, located in: C:\Program Files\7thSense\Delta\Utilities\EDID Files. Change the file type (bottom right) to binary to see these files:



Select the EDID for the right resolution, bit depth and frame rate. Some EDIDs indicate specific interface types (HDMI, DVI); take care to select the correct option. Display devices (projectors, monitors) have their own set of embedded EDIDs that can also be used. Open the selected EDID then 'Apply', to apply it to all of the selected AMD display connections.

The Advanced Settings page will now display which EDID is connected to the relevant ports.

Unexpected screen resolution?

If, after emulation, the resolution is different from what you are expecting (an EDID can contain multiple resolutions and refresh rates), you will need adjust Windows display settings.

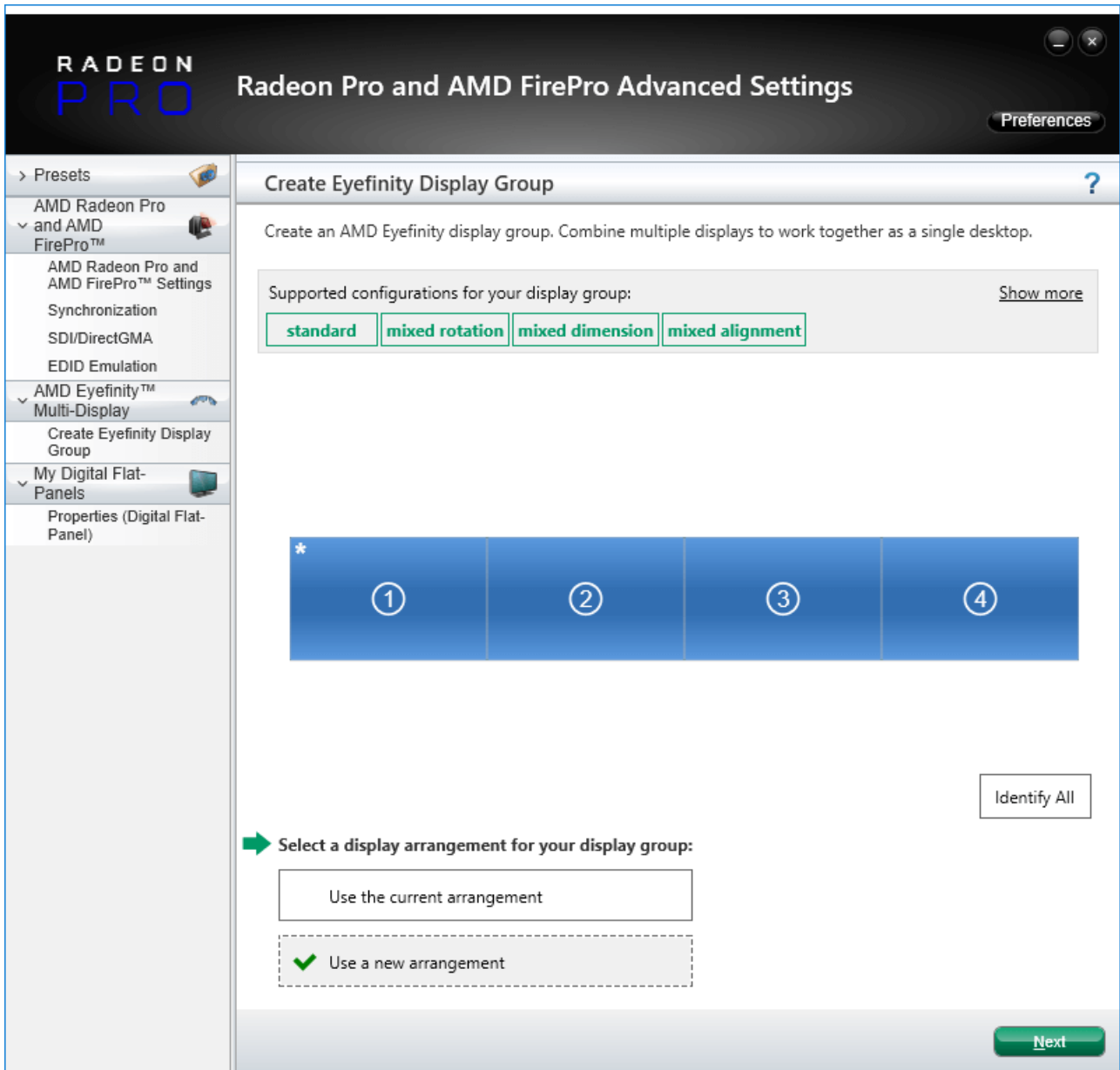
Right-click on the desktop and select 'Display Settings'. In 'Customize your display', scroll down to the bottom of the page and select 'Advanced Display Settings'. Then select 'Display Adapter Properties'.

In the Display Adapter Properties window, click 'List all Modes' at the bottom and then select the resolution from the drop-down menu (this may need to be applied per output).

With the correct resolution now set for each output, proceed to grouping configuration your displays.

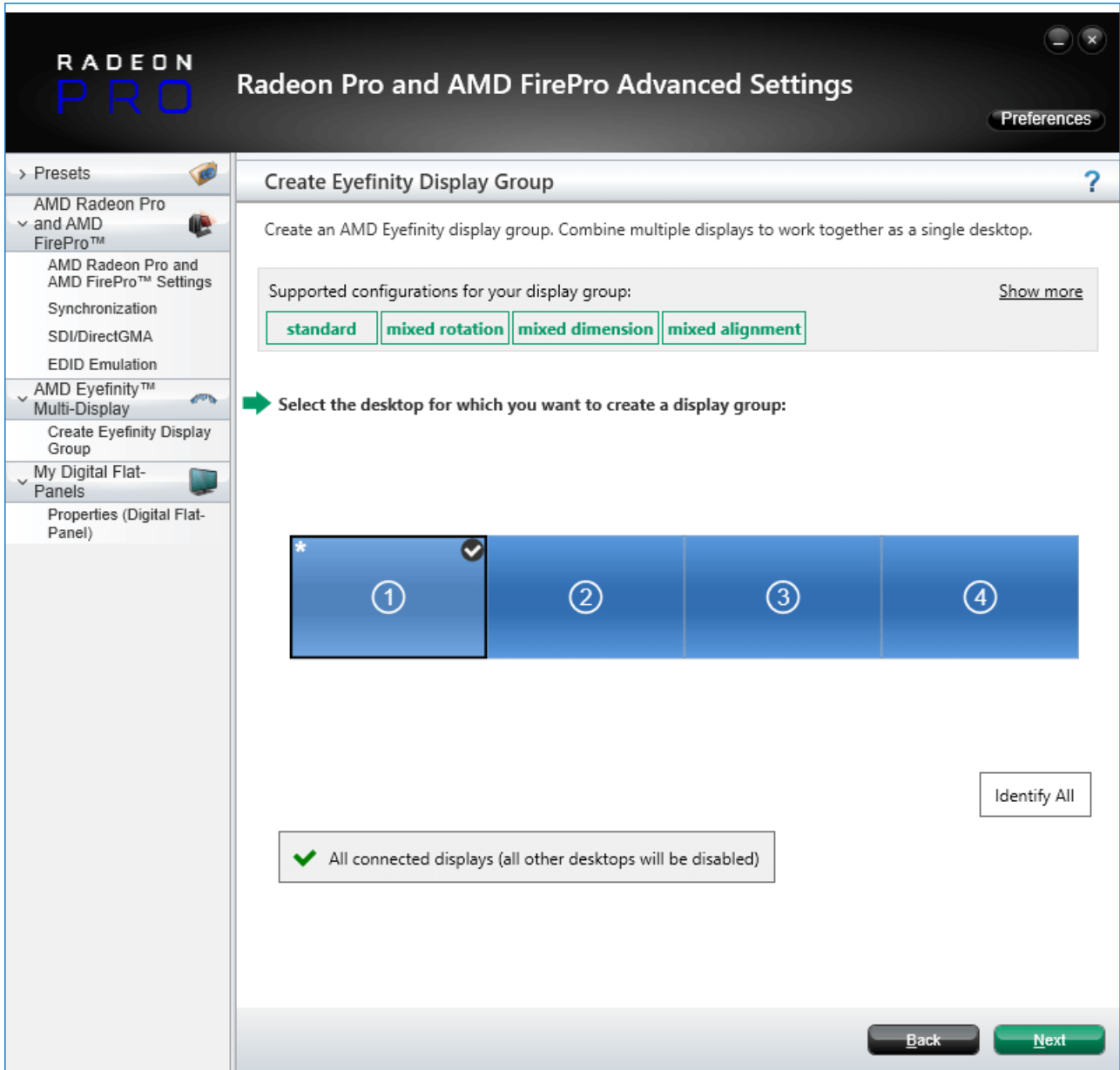
Display Grouping

From AMD Radeon Settings, select from the left-hand menu, 'Create Eyefinity Display Group':

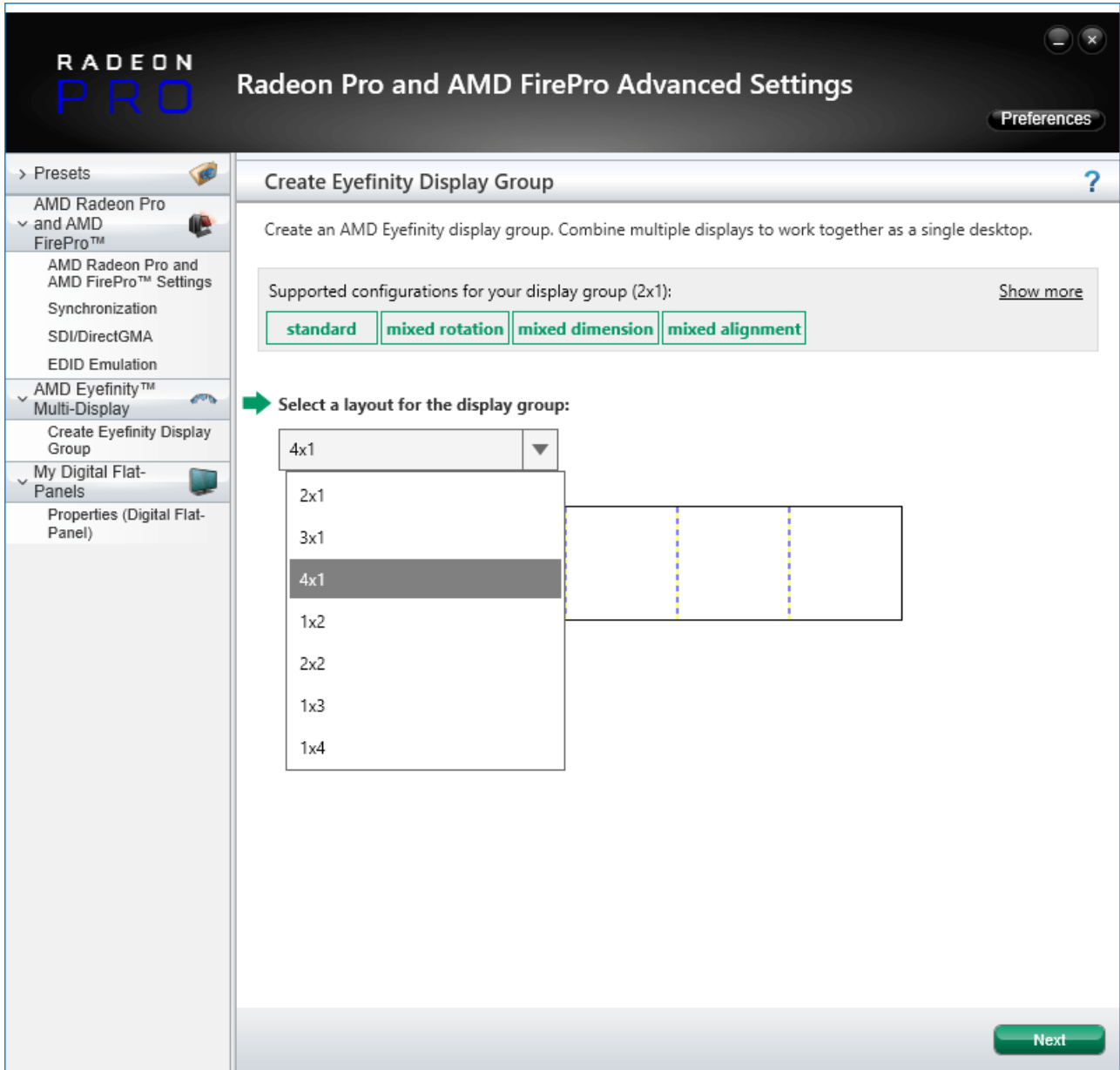


Select 'Use a new arrangement' and click 'Next'.

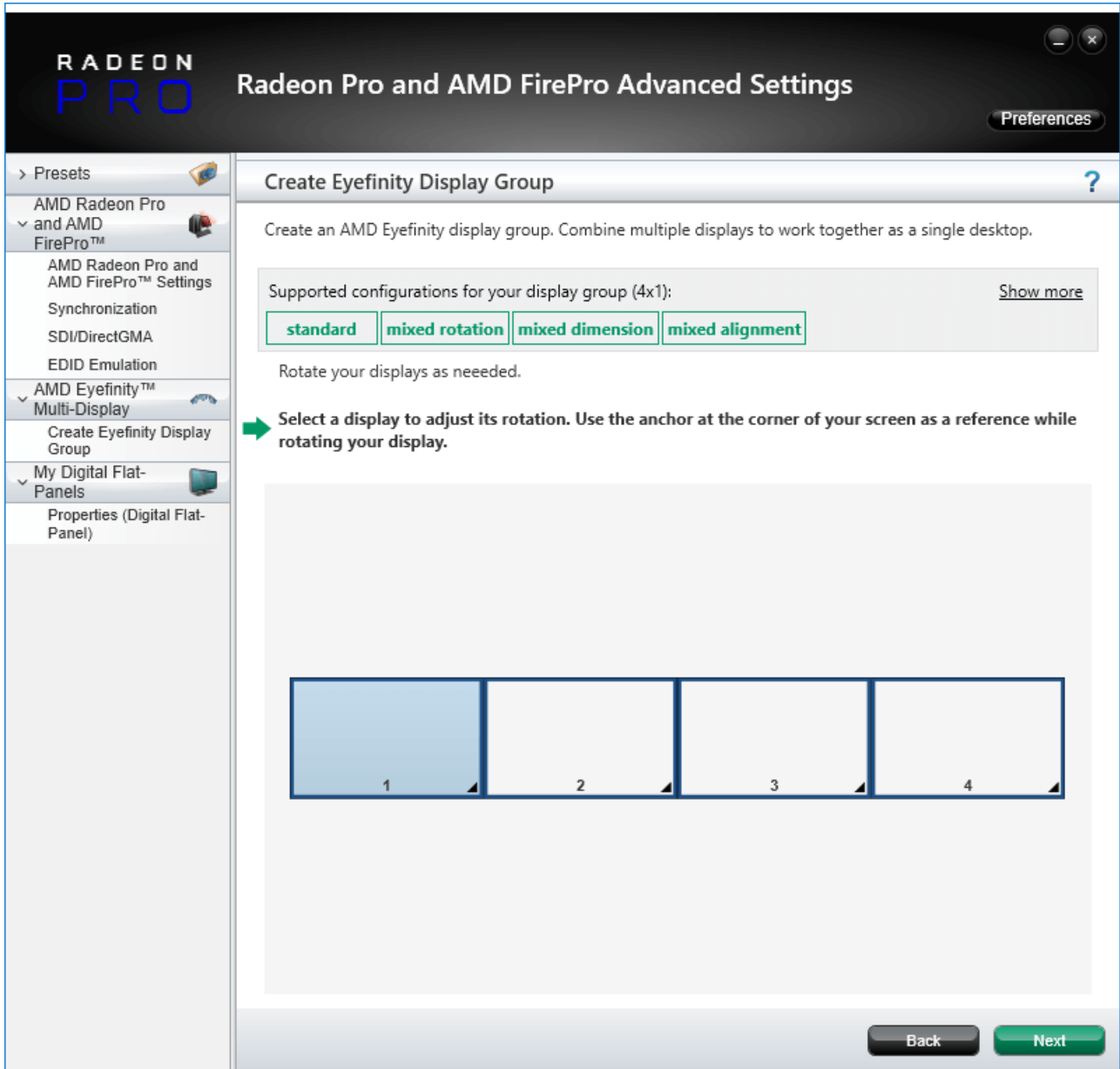
Now select your primary display (the one marked with an asterisk in its top left-hand corner) and click Next:



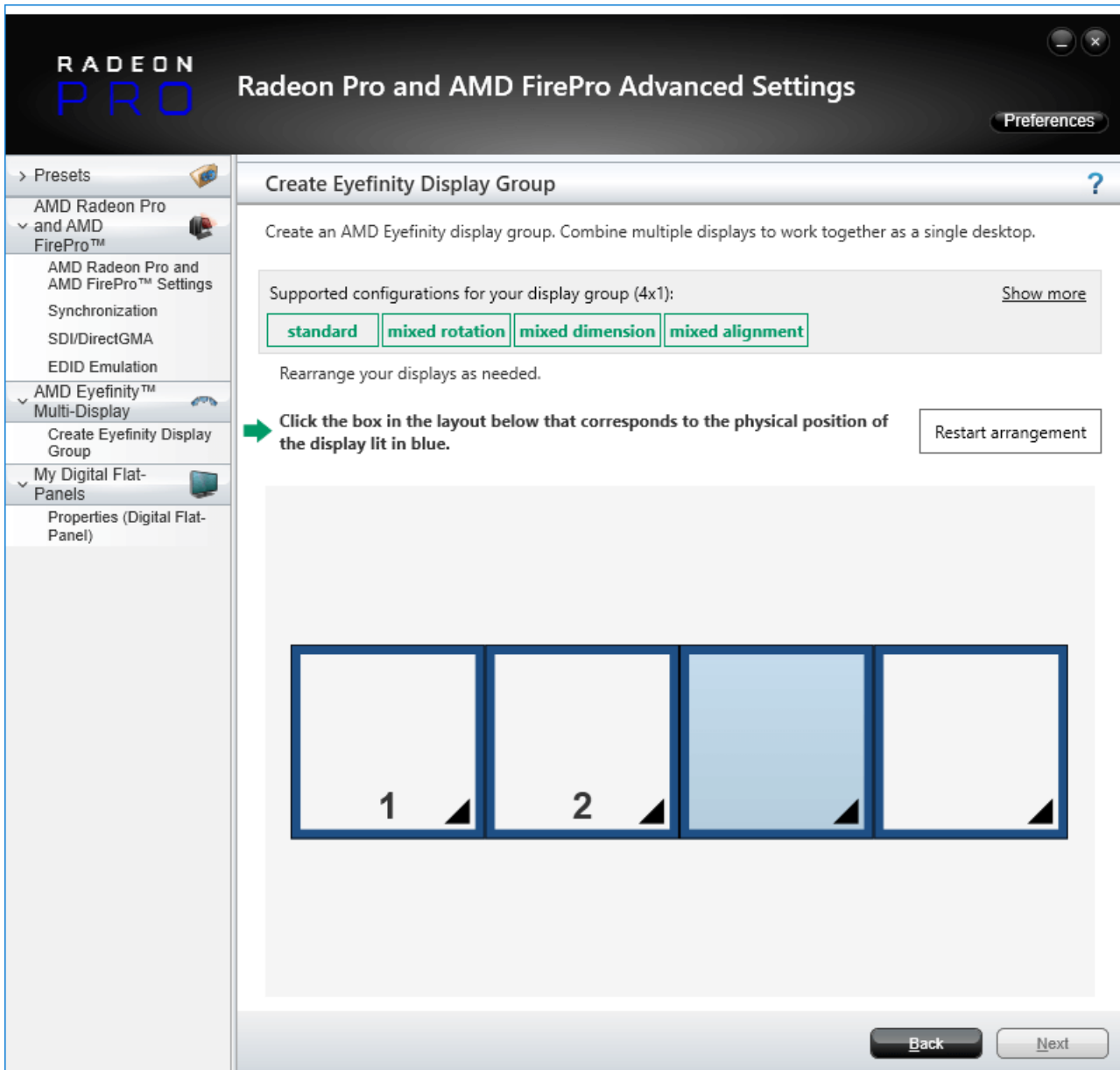
Select your desired matrix from the dropdown menu and press 'Next':



If you need to rotate any display, do this here, or just click 'Next':



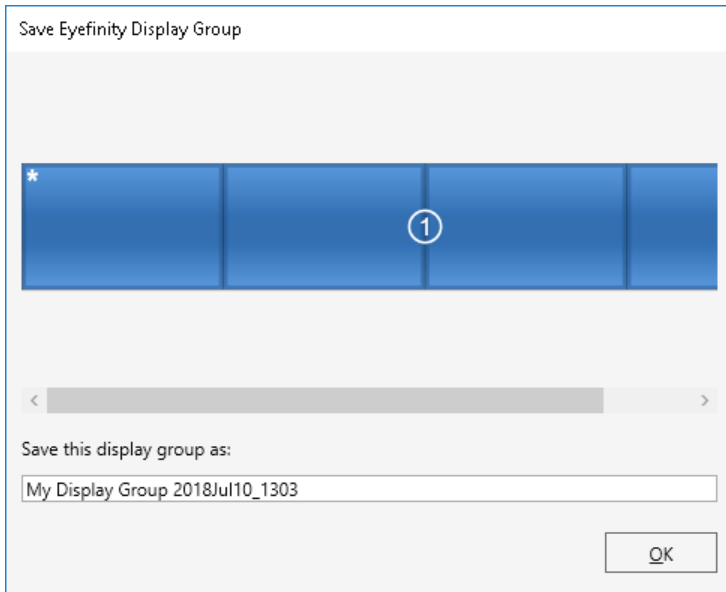
Click 'Start Arrangement' which will cause each screen to turn blue:



Click each display in sequence for its matrix position. When correct, click Next.

The next step allows for alignment should you require it. Finally click 'Next'.

The displays will go black, the group will now configure itself, and once complete, will bring up a window where you can save the group name as 'My Display Group [Date]' – or as you prefer – and press 'OK':



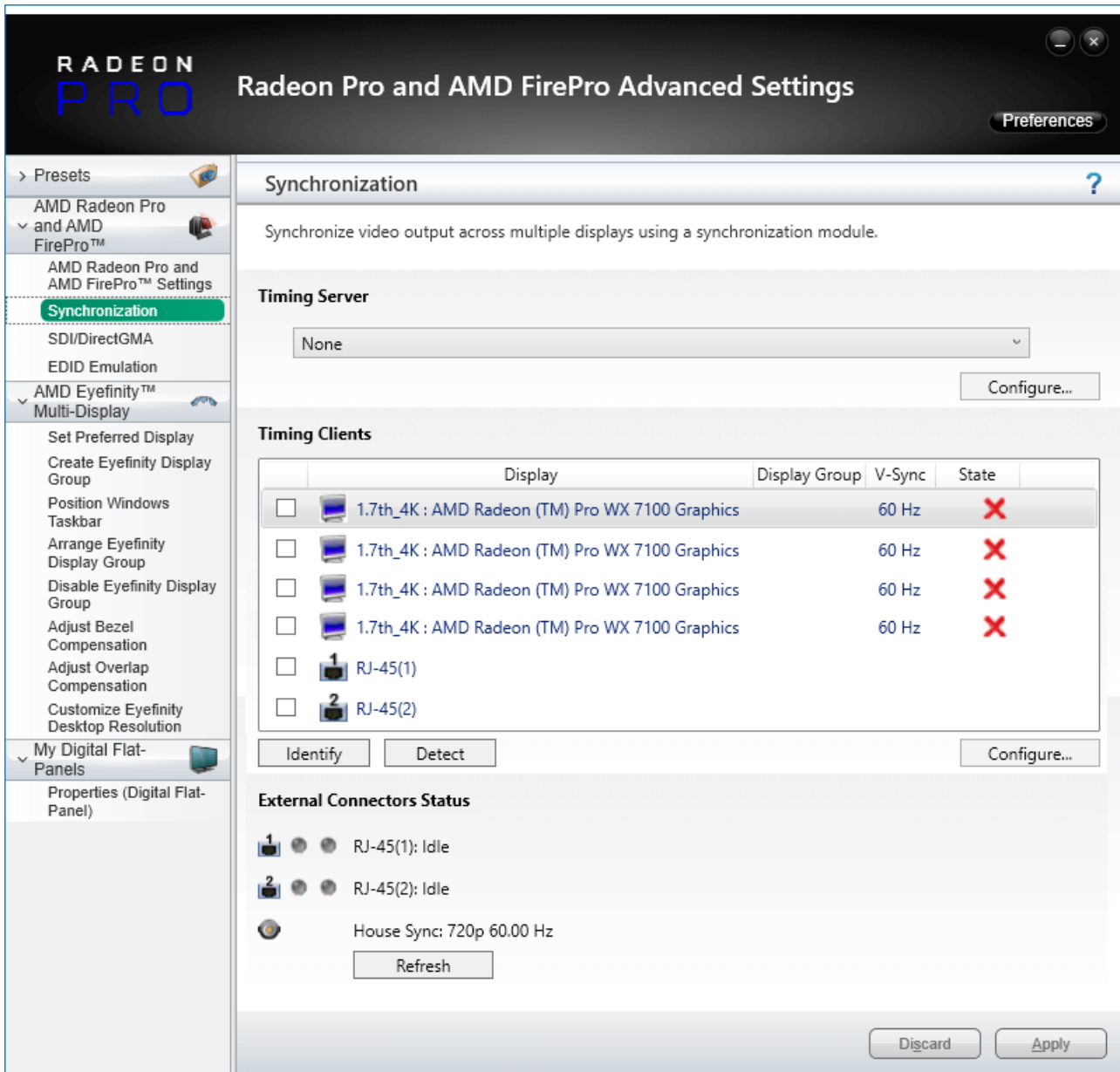
Synchronization (Genlocking)

Synchronization with an external signal source (genlocking) requires installation of an AMD FirePro S400 Synchronization Module in each Delta Media Server. This is linked to a central house sync/reference generator.

Genlocking your system ensures that all output/displays play at precisely the same rate to prevent media tearing. 7thSense Design recommend using House Sync genlocking via the BNC reference port, rather than the framelocking method using the RJ45 ports. This procedure will synchronise your server(s) to a house sync source when using AMD GPUs.

Timing Clients

From the Radeon Pro Advanced Settings, select Synchronization. Each port that has been connected will be displayed. They will always appear as a red cross at first, this is just to show that they are being registered in the Advanced settings.



Check the displays you want to sync.

Click the 'Configure' button to select the sync source:

Timing Source Signal

can either be the first display and sync from that or just the normal House Sync. The signal type is displayed here as resolution and refresh rate, e.g. 720p 60 Hz.

Triggering Edge

by default, Rising. Only critical in mixed-GPU scenarios where another default differs.

Scan Rate Coefficient

The EDID rate and Sync rate must match or (a feature of AMD GPUs) be a valid multiple.

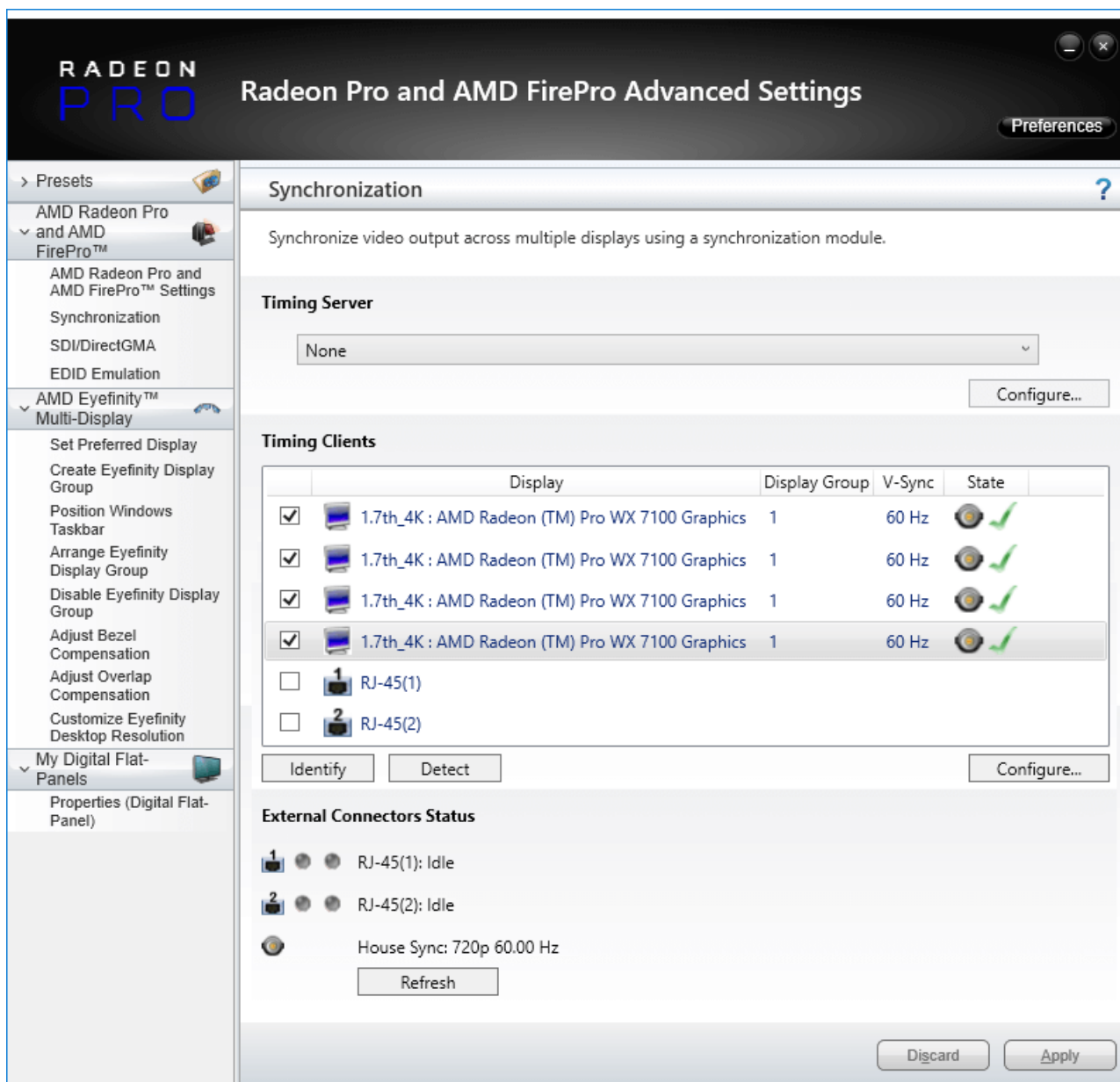
Examples:

EDID is 1920x1080@25, House Sync must be 25 Hz (1:1) or 50 Hz (1:2).

EDID is 1920x1080@60, House Sync must be 60 Hz (1:1) or 30 Hz (2:1).

Check 'Use these settings for all timing clients'.

Click 'Apply'. The red crosses will all now be green ticks:



All ports are now synced together.

Restart the server, then navigate back to the Advanced Settings and check that the connections are still present.

House Sync

House sync is shown along bottom, this is updated as soon as 'Refresh' is clicked, and the House Sync indicator will flash green. The LED on the S400 card in the server will now be illuminated steady green. So if the incoming signal from the generator changes, the House Sync will reflect this.

Genlock Polling via DeltaMonitor

Remote server control via the Stack web interface enables AMD graphics sync systems to be addressed remotely. By enabling DeltaMonitor's [Genlock Polling](#) you can ensure that any temporary loss of sync signal can be re-established automatically.

Lost Sync?

Genlock can be lost if the signal is interrupted (for example if a cable falls out or the sync generator rate is changed): this S400 LED will change from steady green to a slow flash.

If genlock is lost, check all connections and sync generator settings. Restart the server to re-grab the genlock settings.

Note: It is good practice to check all linked servers if there has been genlock loss. If it was due to the source sync generator, genlock will be lost and need resetting on all master and slave servers.

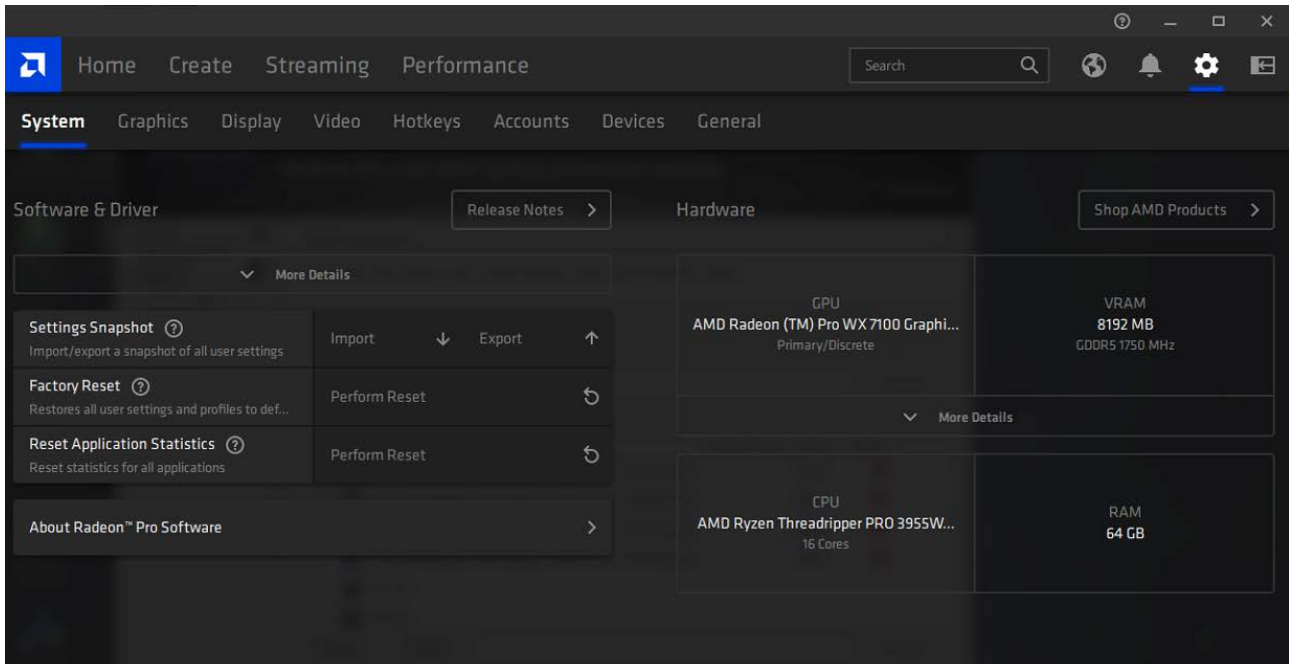
AMD Radeon Pro 21.Q1.2

For AMD Radeon™ Pro WX 5100 and WX 7100 graphics cards, using Radeon Pro Software, Enterprise Edition, version 11.Q1.2.

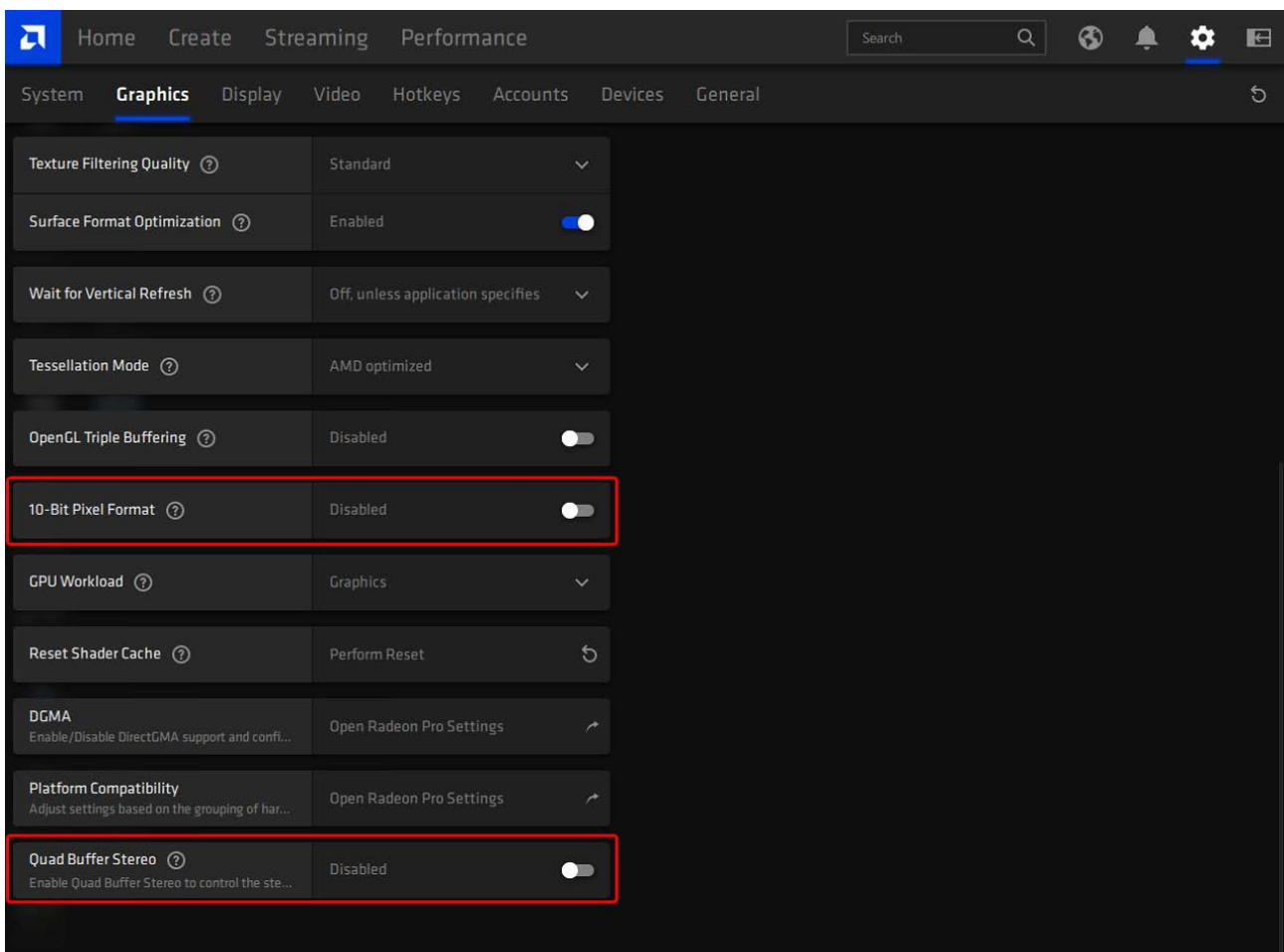


Note that currently only one of these cards can be used per server in Windows 10. A single GPU can be synced, but not two in the same server.

On the Delta server, find the AMD Radeon Pro Settings Desktop app, and select the 'Settings' gear-wheel icon:



In the Graphics tab, you may need to select Quad buffer (if using 3D stereo), or 10-bit format:

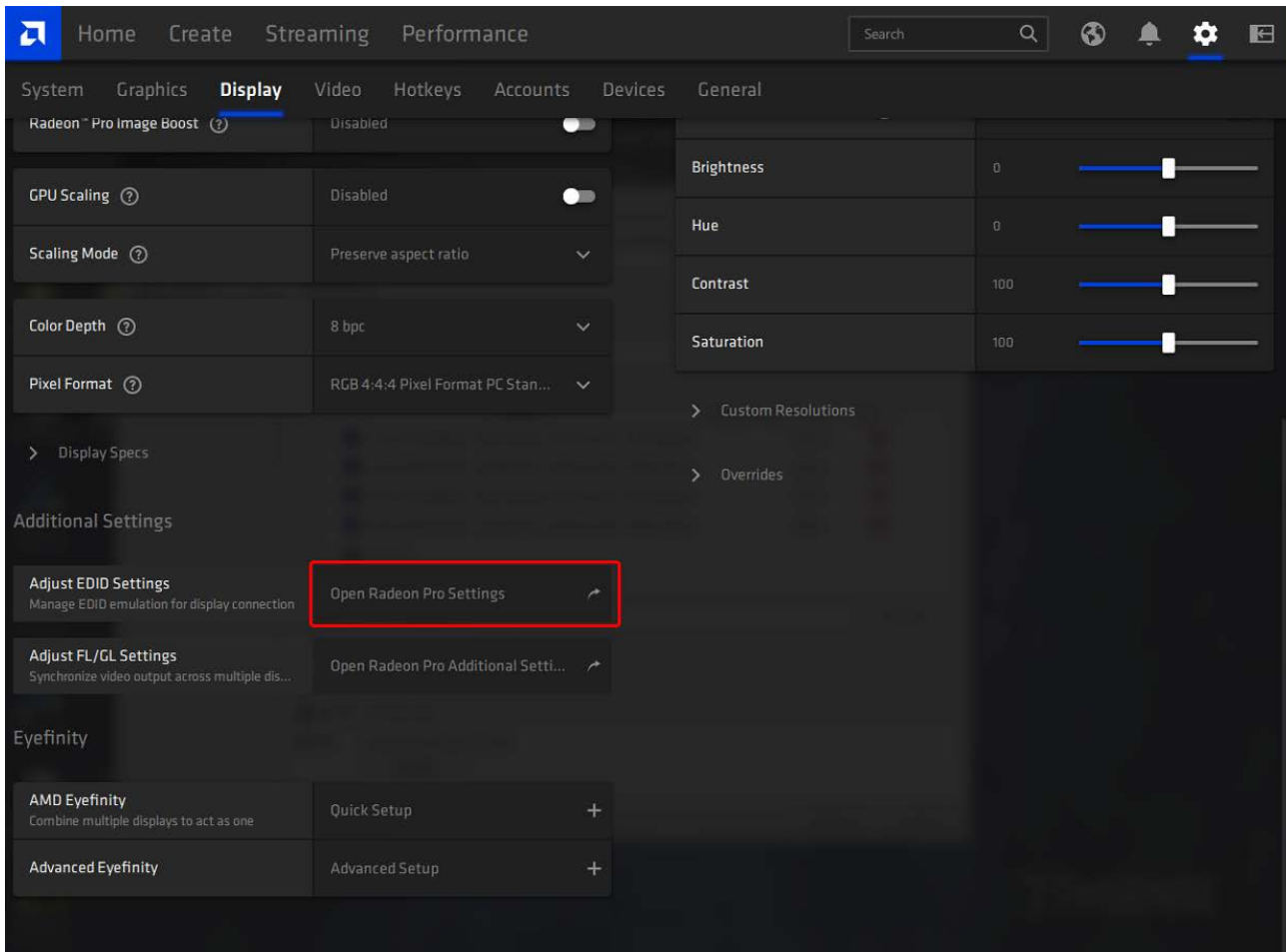


➤ [EDID Emulation](#) 54

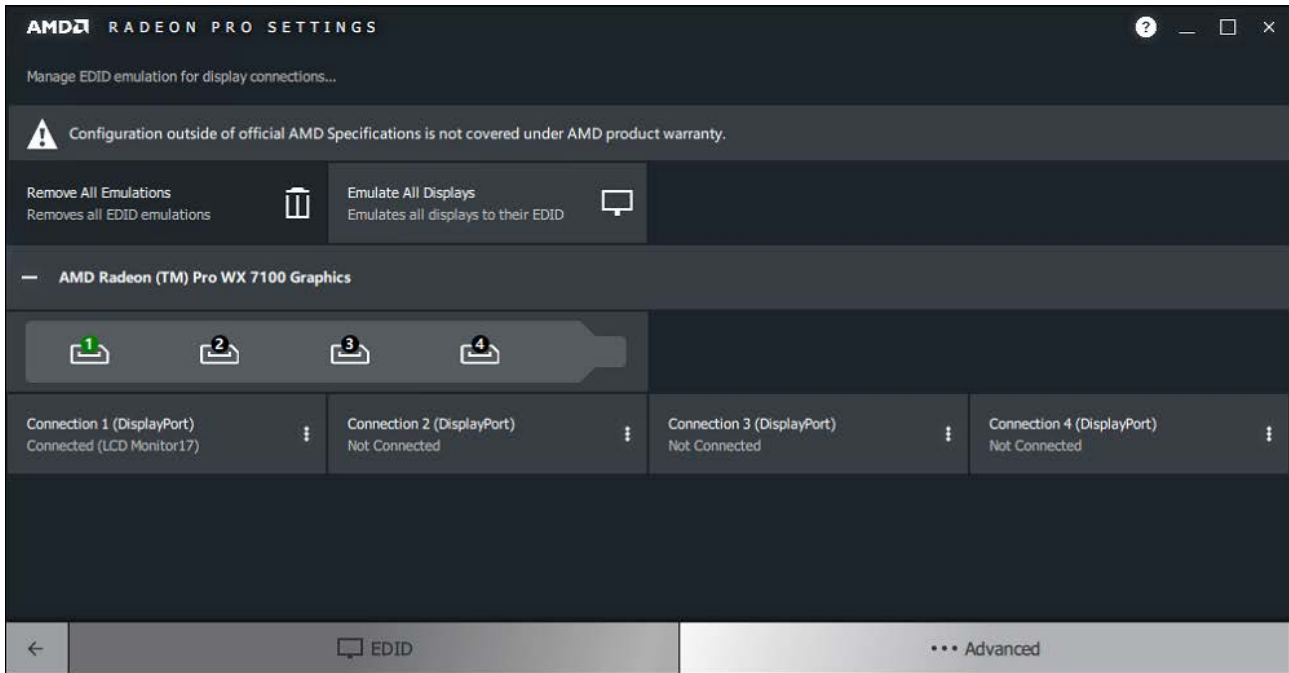
- [Display Grouping](#) ⁵⁹
- [Synchronization \(Genlocking\)](#) ⁶¹

EDID Emulation

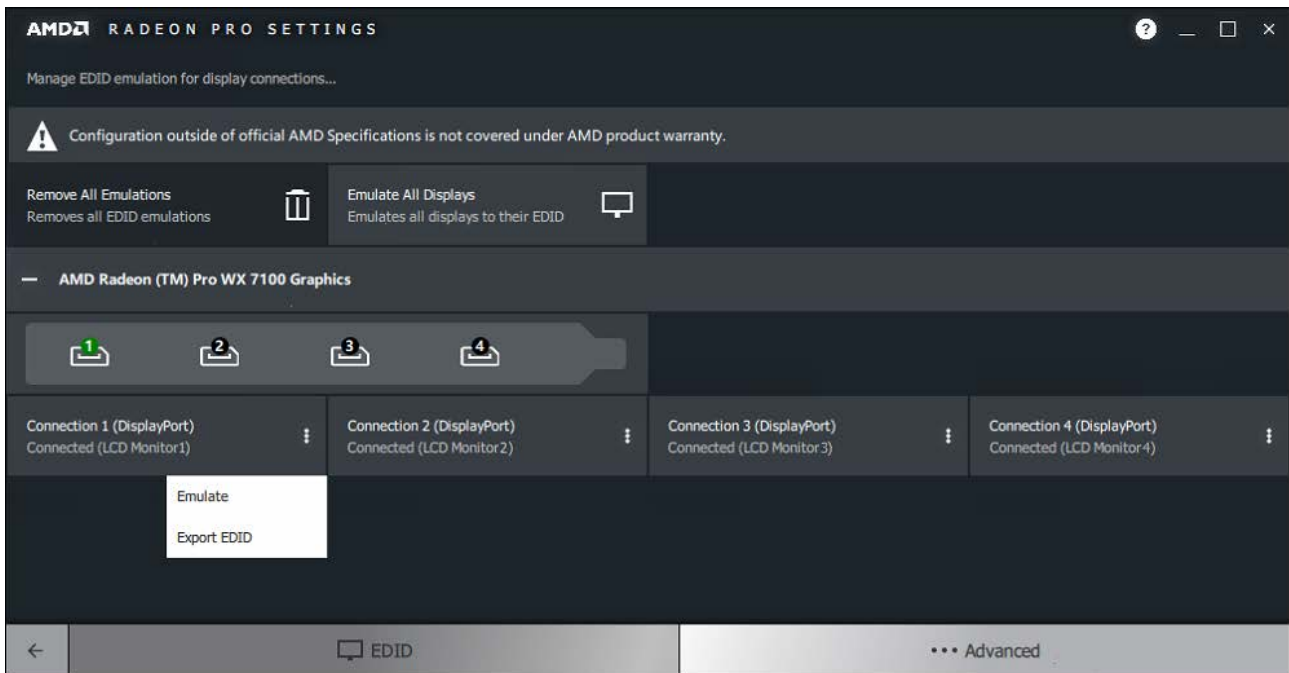
Select Display on the top menu, and scroll down to 'Additional Settings' to 'Adjust EDID Settings':



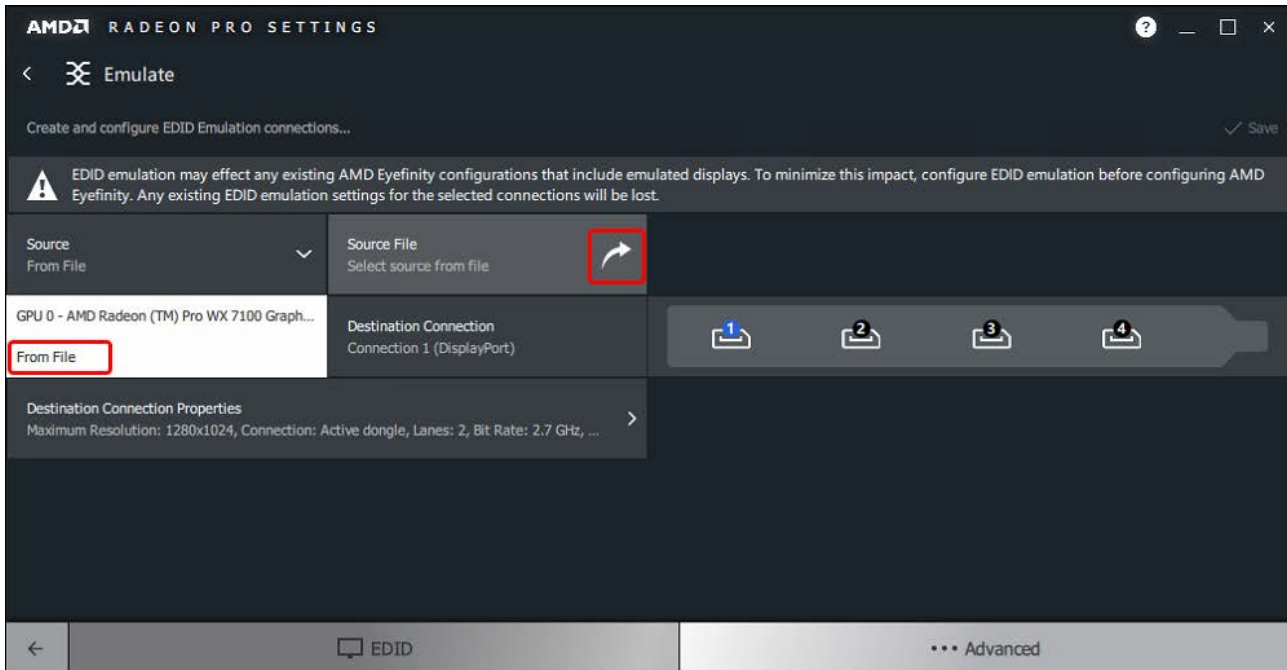
Open Radeon Pro Settings, and expand the GPU section:



Select 'Emulate All Displays' then click the 3-dot selector in the first display and choose 'Emulate':



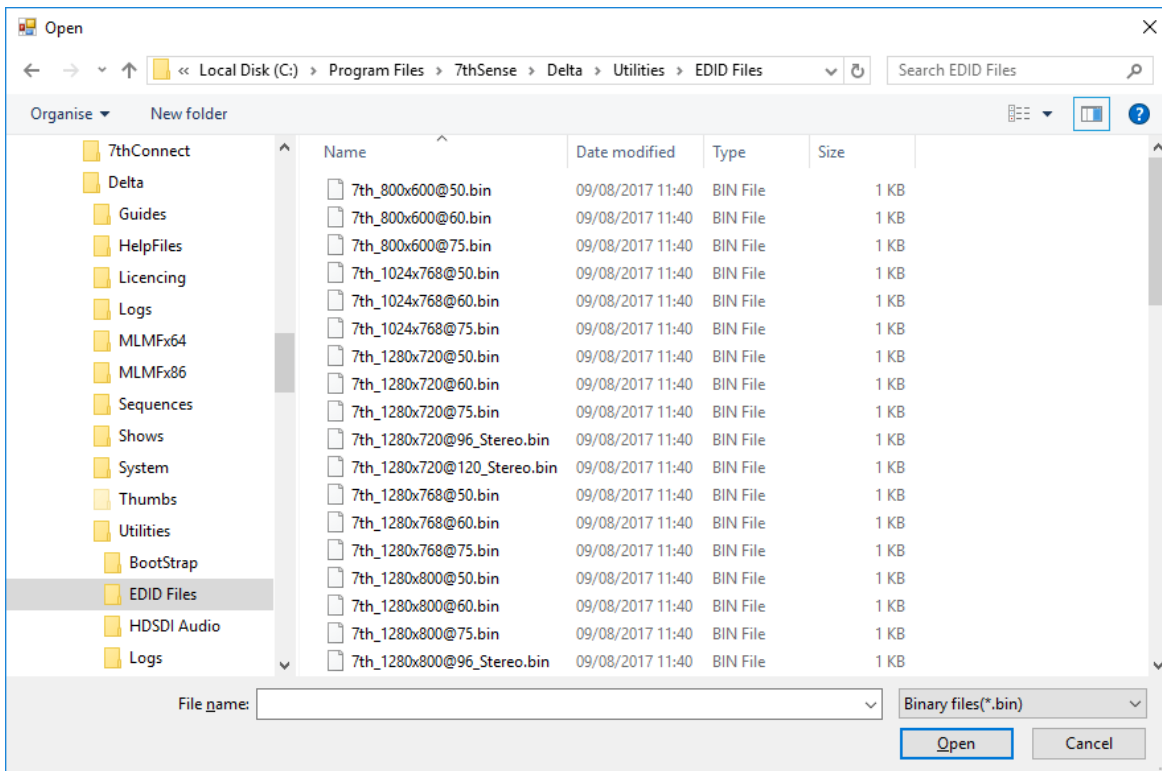
Now select 'Source', choose 'From File' and then the source file arrow, to browse to select the correct EDID:



Select the EDID (*.bin file) that you want to use. 7thSense supplied EDID are found in C:\Program Files\7thSense\Delta\Utilities\EDID Files.

Finding the right EDID

7thSense provides a collection of available EDIDs, located in: C:\Program Files\7thSense\Delta\Utilities\EDID Files. Change the file type (bottom right) to binary to see these files:

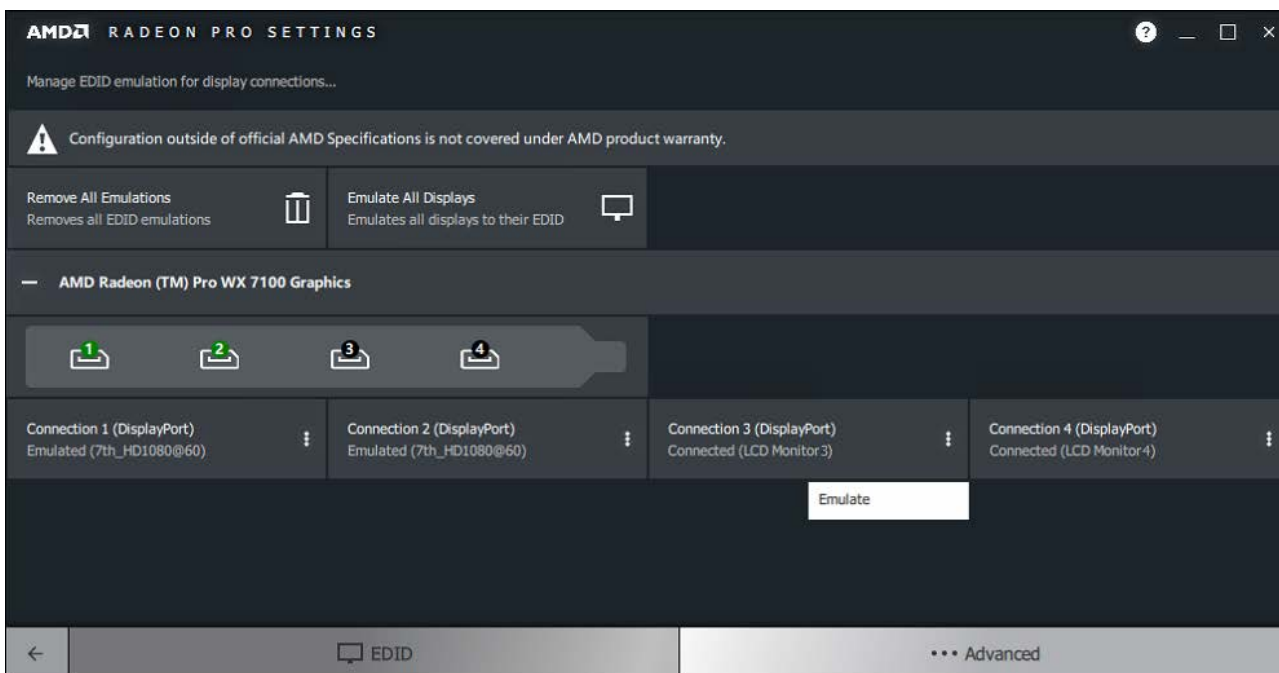


Select the EDID for the right resolution, bit depth and frame rate. Some EDIDs indicate specific interface types (HDMI, DVI); take care to select the correct option. Display devices (projectors, monitors) have their own set of embedded EDIDs that can also be used. Open the selected EDID then 'Apply', to apply it to all of the selected AMD display connections.

Note that the Destination Connection Properties will show the current values of the display being addressed. Typical post-emulation properties will be:

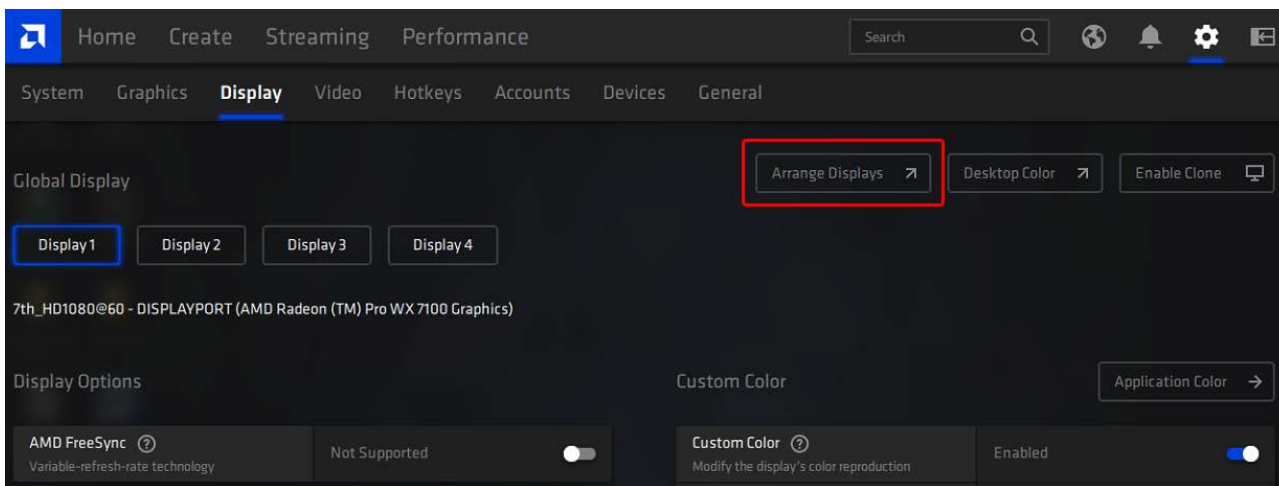
- **Lanes:** 4
- **Bit Rate:** dual link or above, 5.4 GHz, otherwise 2.7 GHz
- **Bandwidth** should be changed to 5.4 GHz for higher output EDIDs, e.g. 4096 × 2160@60
- **Color Depth** 8-bit or 10-bit depending on output required. This is important for [Working in 10-bit Colour Depth](#).

Repeat for all displays:



Unexpected screen resolution?

If, after emulation, the resolution is different from what you are expecting (an EDID can contain multiple resolutions and refresh rates), you will need adjust Windows display settings, accessible from here, and go to the Windows 'Advanced Display Settings' and find 'Display Adapter Properties' at the bottom:

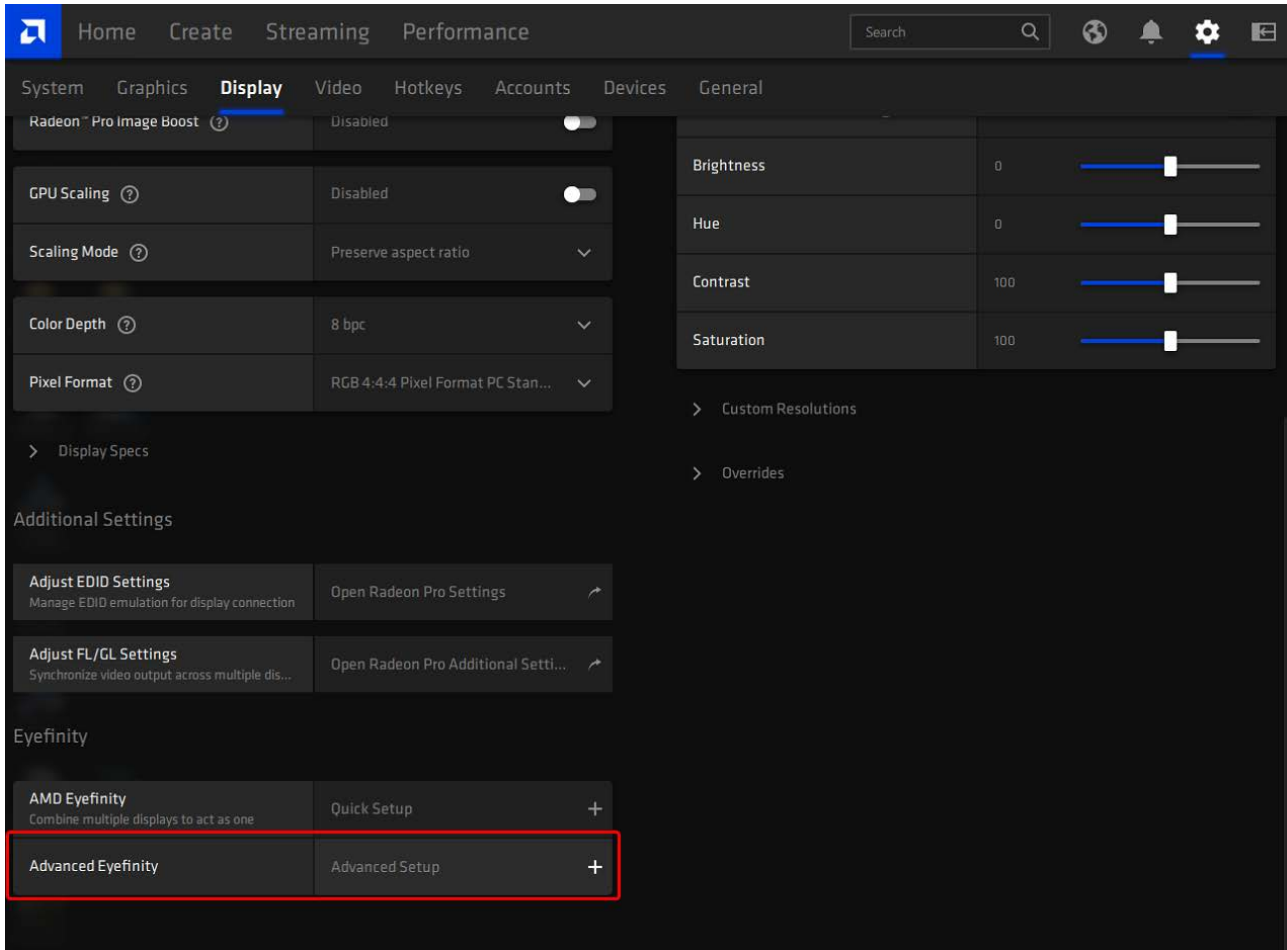


In the Display Adapter Properties window, click 'List all Modes' at the bottom, and then select the resolution from the drop-down menu (this may need to be applied per output).

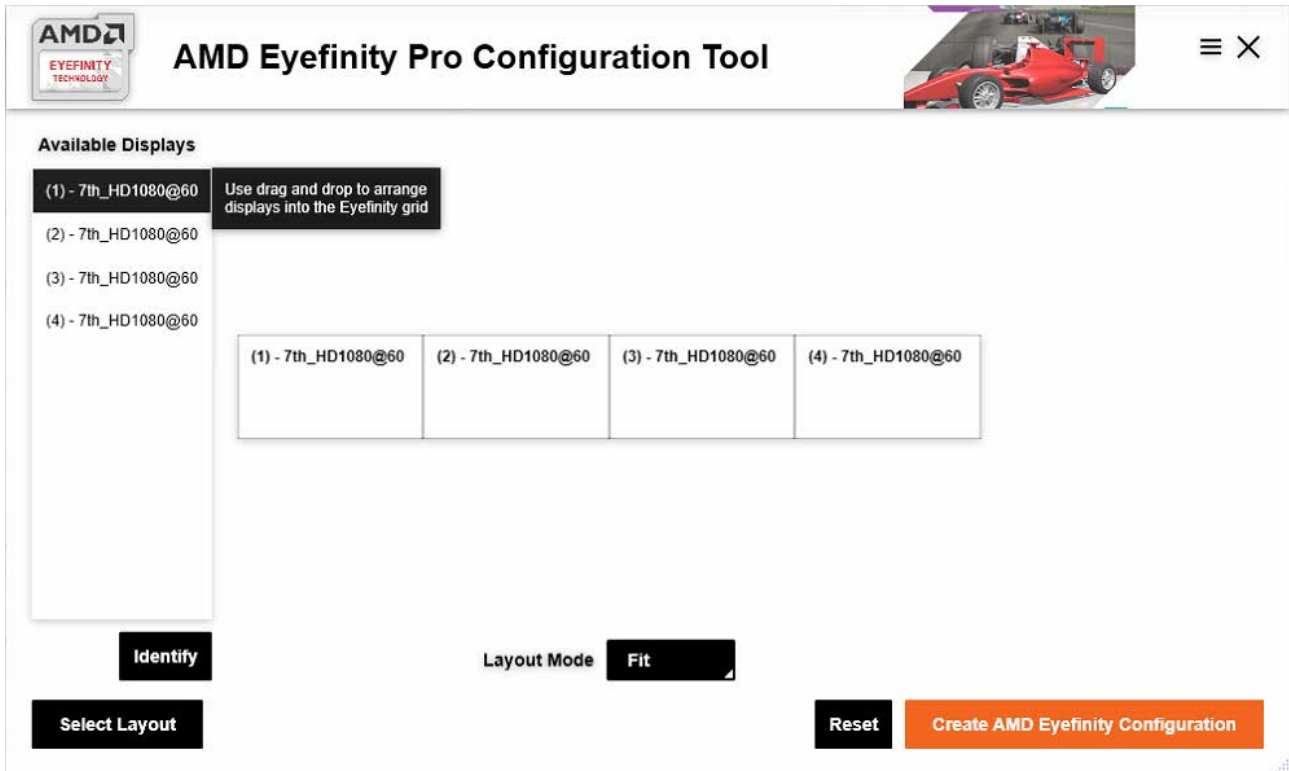
With the correct resolution now set for each output, proceed to grouping configuration your displays.

Display Grouping

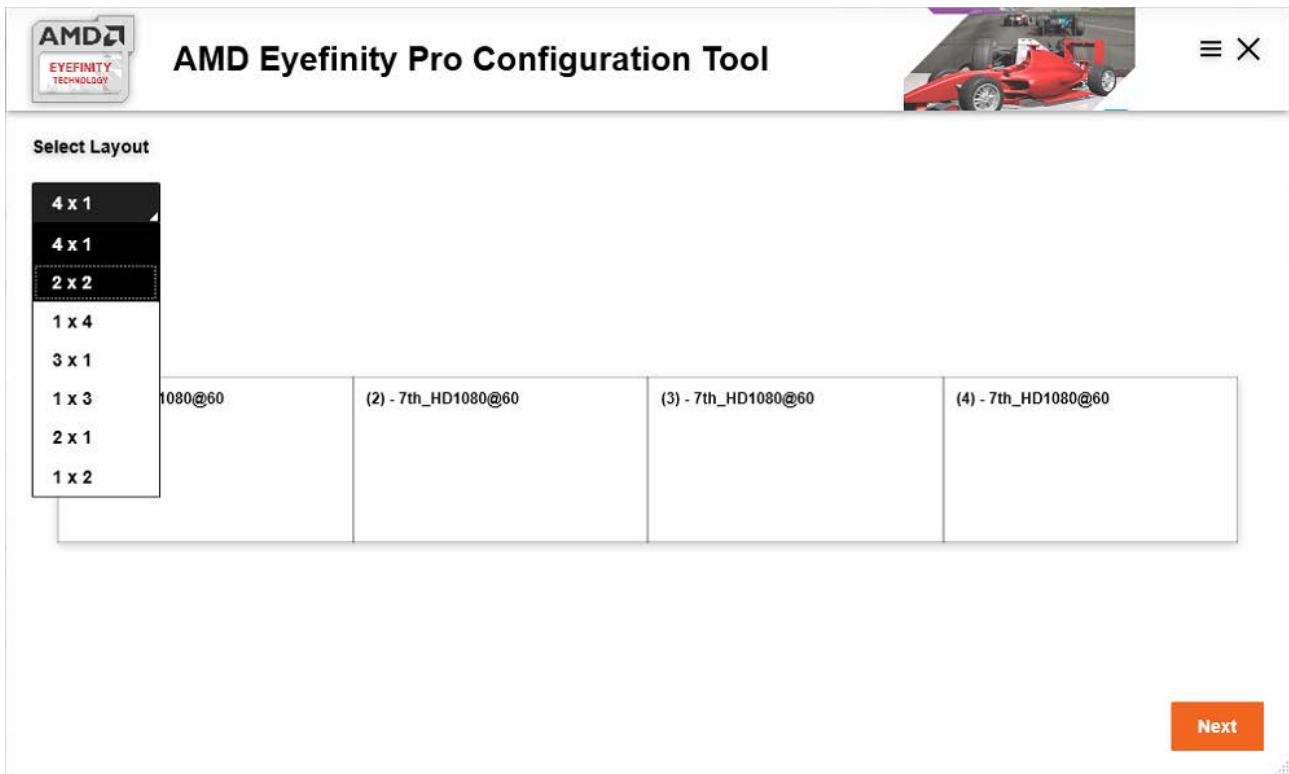
From the main page of Display, scroll down to 'Additional Settings', 'Eyefinity', and select 'Advanced Setup':



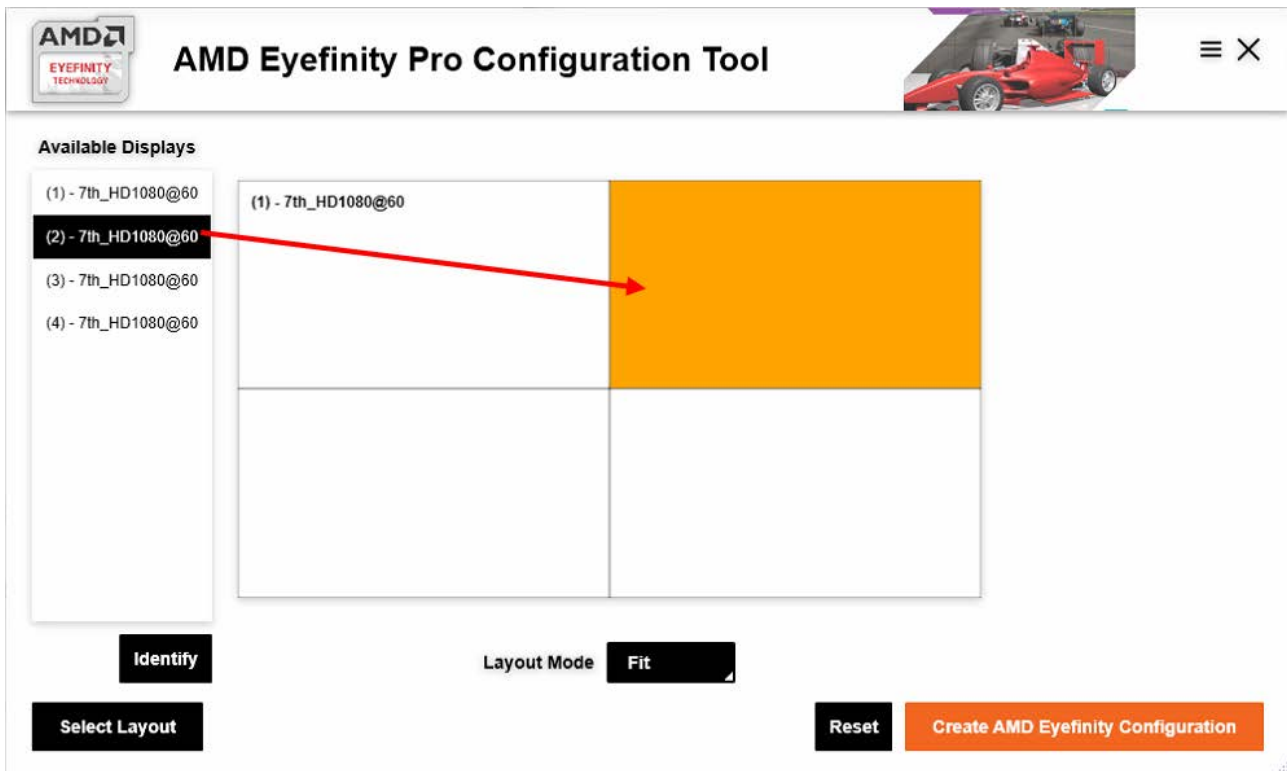
This will show your displays in a default row. Use 'Select Layout' for a different arrangement.



Select the arrangement of the required displays (example: 2 x 2):



You can now drag the displays into the correct locations:



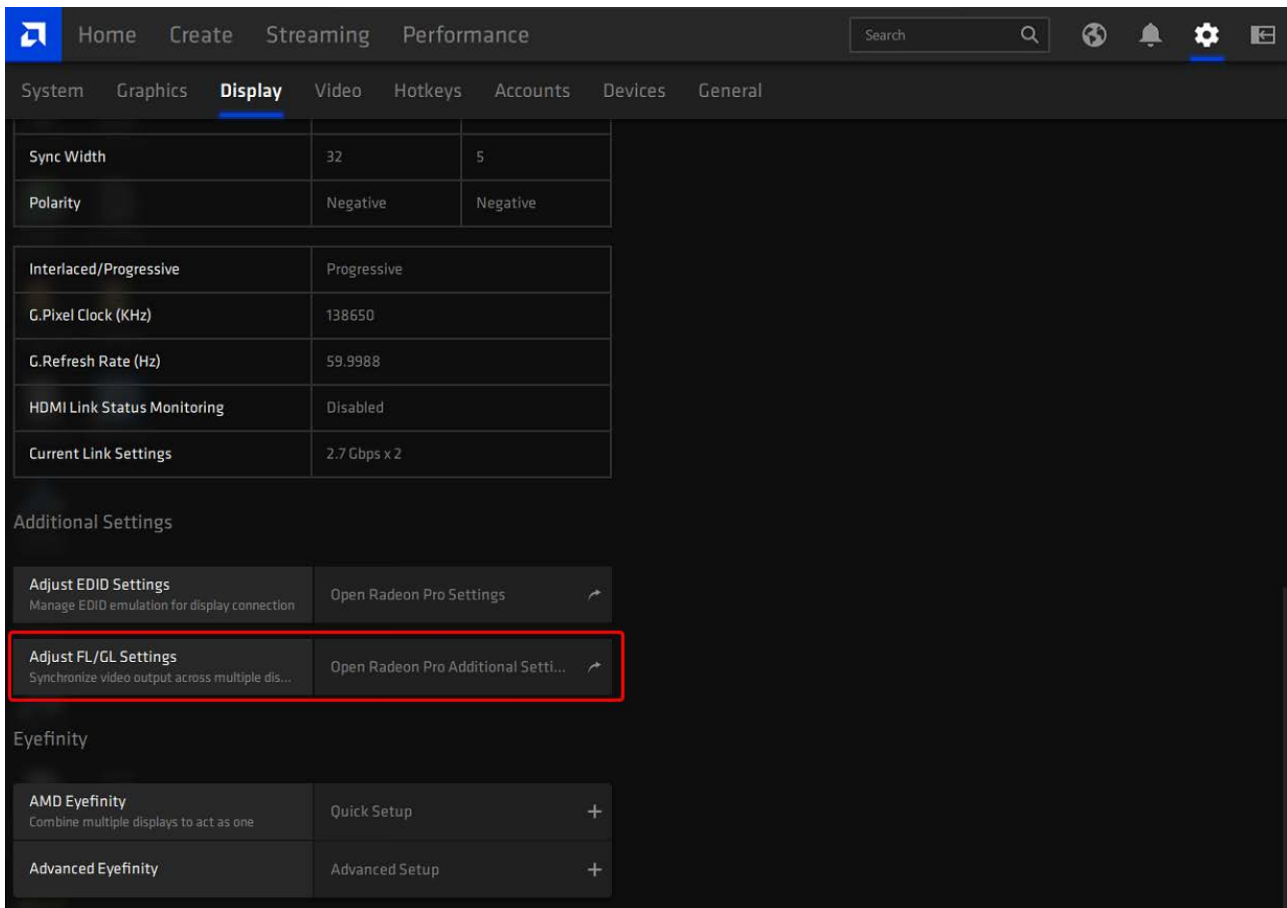
Use the 'Identify' button if unsure of the physical correspondence. Then click the red 'Create' button to complete the layout.

Synchronization (Genlocking)

Synchronization with an external signal source (genlocking) requires installation of an AMD FirePro S400 Synchronization Module in each Delta Media Server. This is linked to a central house sync/reference generator.

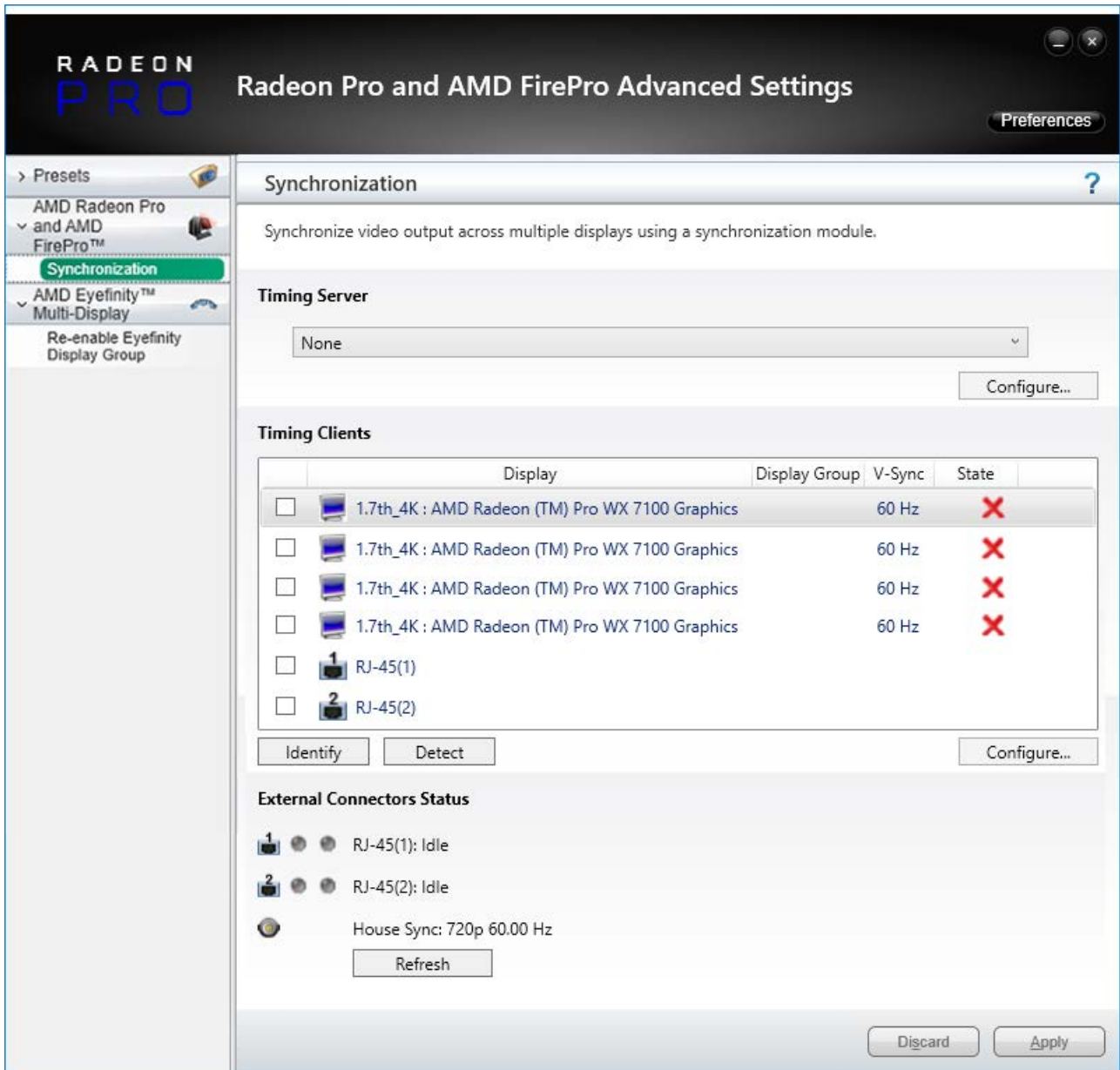
Genlocking your system ensures that all output/displays play at precisely the same rate to prevent media tearing. 7thSense Design recommend using House Sync genlocking via the BNC reference port, rather than the framelocking method using the RJ45 ports. This procedure will synchronise your server(s) to a house sync source when using AMD GPUs.

From the main page Display tab, scroll down to 'Additional Settings', 'Adjust FL/GL Settings':



Timing Clients

From the Radeon Pro Advanced Settings, select Synchronization. Each port that has been connected will be displayed. They will always appear as a red cross at first, this is just to show that they are being registered in the Advanced settings.



Check the displays you want to sync.

Click the 'Configure' button to select the sync source:

Timing Source Signal

can either be the first display and sync from that or just the normal House Sync. The signal type is displayed here as resolution and refresh rate, e.g. 720p 60 Hz.

Triggering Edge

by default, Rising. Only critical in mixed-GPU scenarios where another default differs.

Scan Rate Coefficient

The EDID rate and Sync rate must match or (a feature of AMD GPUs) be a valid multiple.

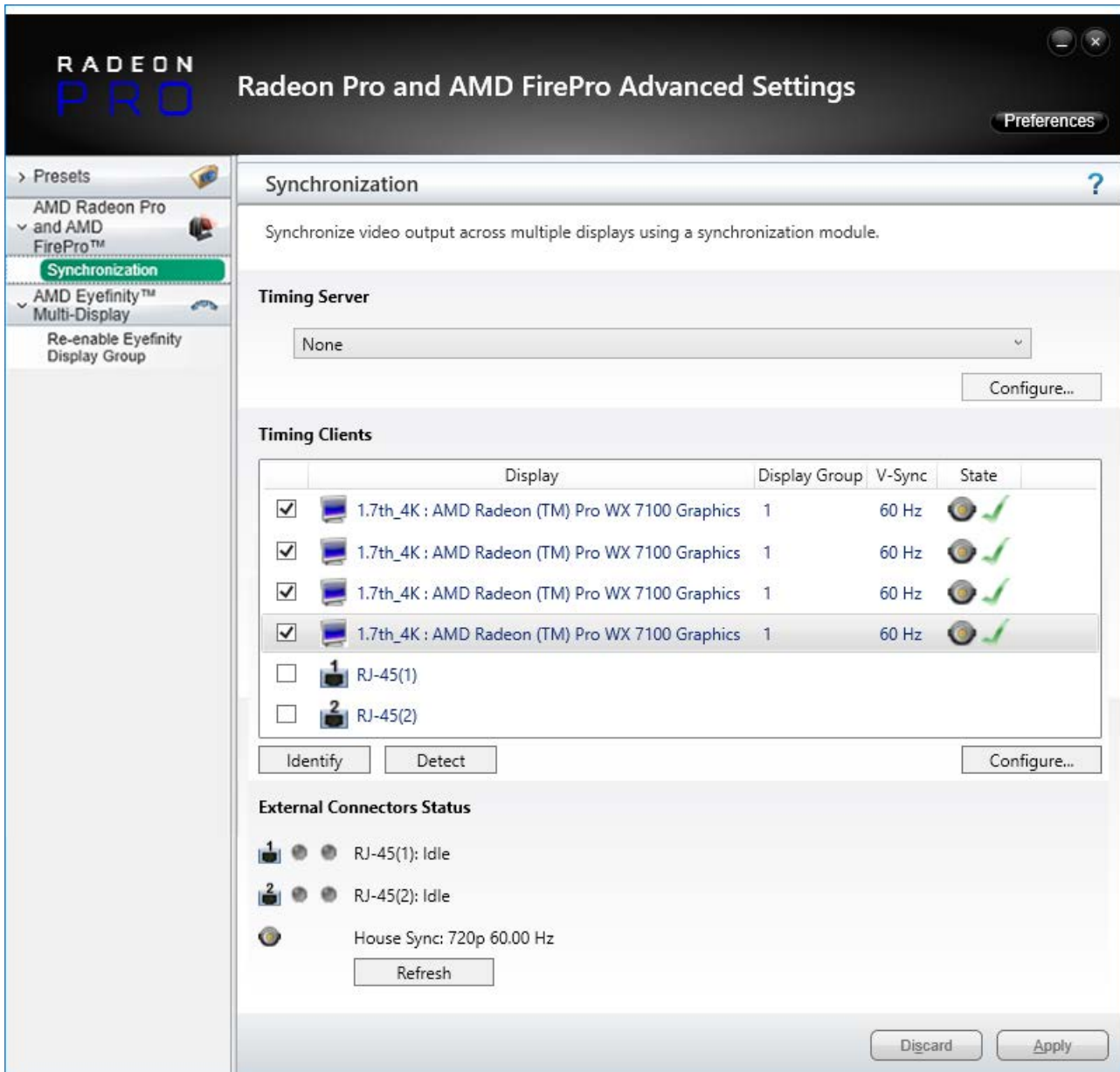
Examples:

EDID is 1920x1080@25, House Sync must be 25 Hz (1:1) or 50 Hz (1:2).

EDID is 1920x1080@60, House Sync must be 60 Hz (1:1) or 30 Hz (2:1).

Check 'Use these settings for all timing clients'.

Click 'Apply'. The red crosses will all now be green ticks:



All ports are now synced together.

Restart the server, then navigate back to the Advanced Settings and check that the connections are still present.

House Sync

House sync is shown along bottom, this is updated as soon as 'Refresh' is clicked, and the House Sync indicator will flash green. The LED on the S400 card in the server will now be illuminated steady green. So if the incoming signal from the generator changes, the House Sync will reflect this.

Genlock Polling via DeltaMonitor

Remote server control via the Stack web interface enables AMD graphics sync systems to be addressed remotely. By enabling DeltaMonitor's [Genlock Polling](#) you can ensure that any temporary loss of sync signal can be re-established automatically.

Lost Sync?

Genlock can be lost if the signal is interrupted (for example if a cable falls out or the sync generator rate is changed): this S400 LED will change from steady green to a slow flash.

If genlock is lost, check all connections and sync generator settings. Restart the server to re-grab the genlock settings.

Note: It is good practice to check all linked servers if there has been genlock loss. If it was due to the source sync generator, genlock will be lost and need resetting on all master and slave servers.

Pico AMD Radeon

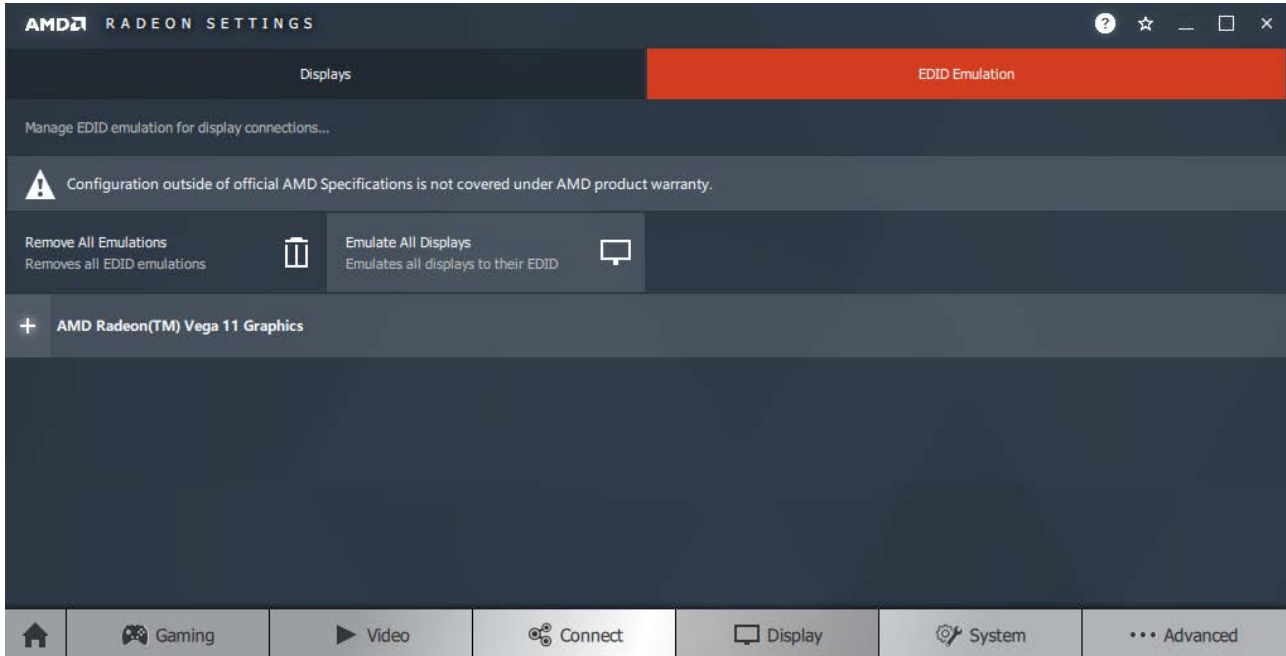
Note that we only support active adapters for the Pico.

Emulating and grouping AMD Radeon displays with the Pico is slightly different. From Windows Start (or right-click the desktop), open AMD Radeon Settings:

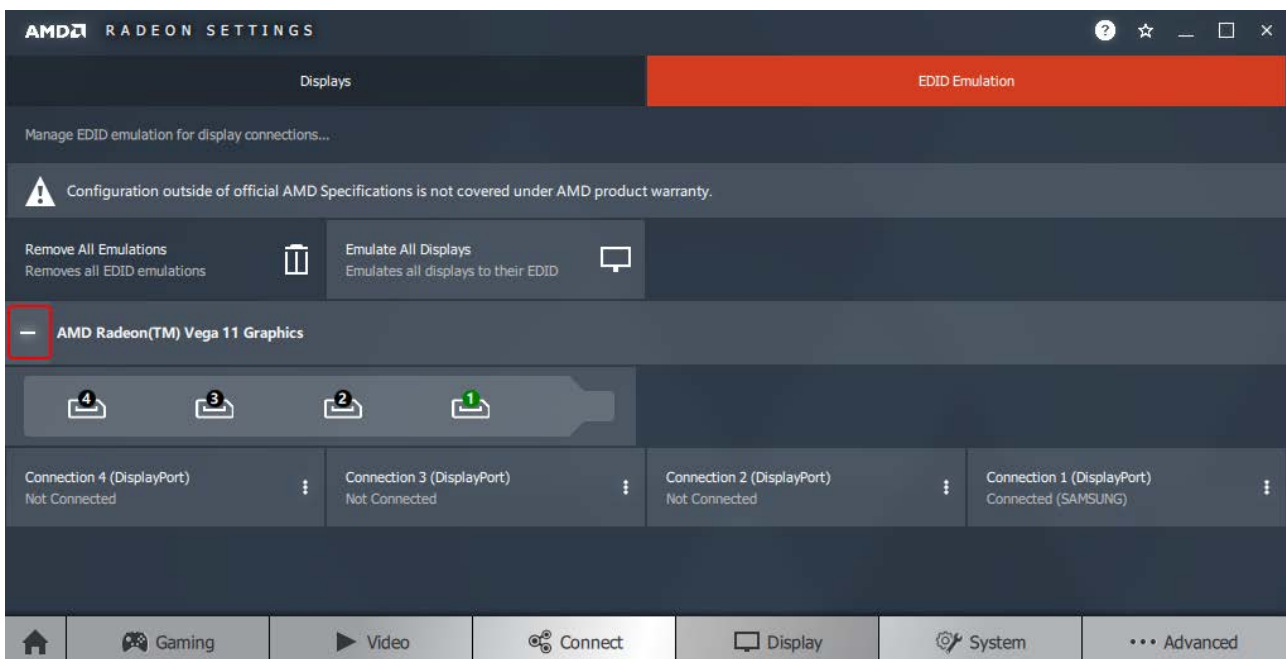


Display

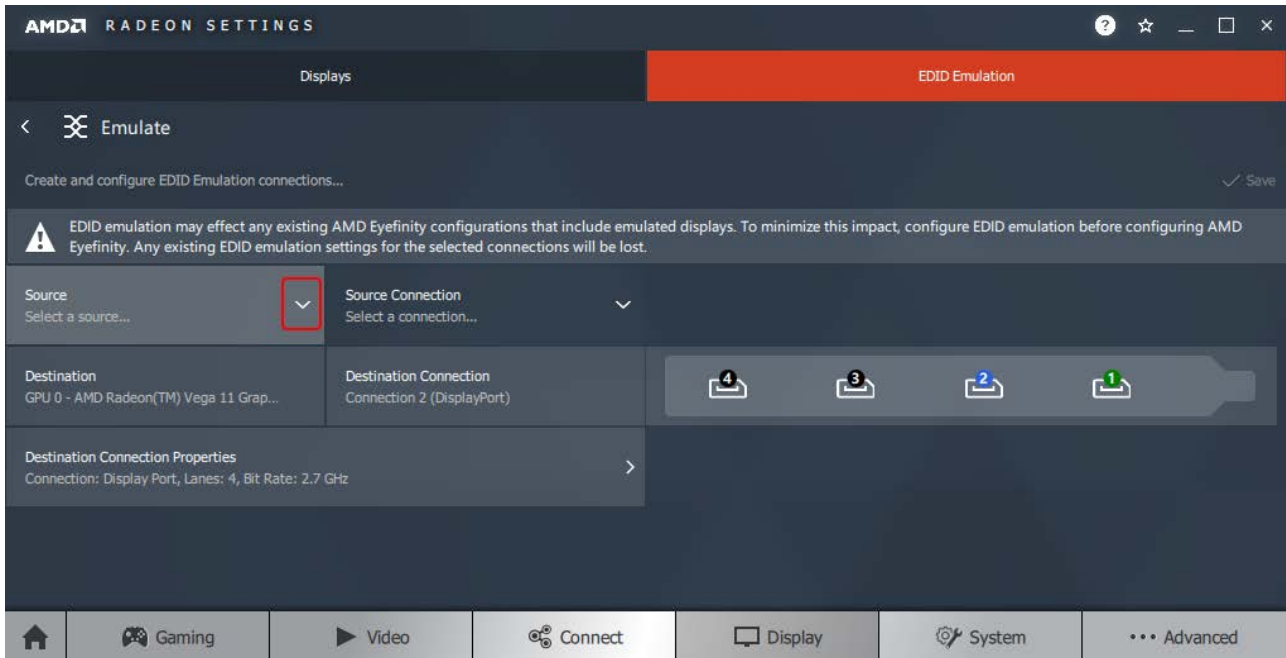
Select Display and then EDID Emulation:



Emulate all four connections, or select a port to configure by expanding the Radeon bar:

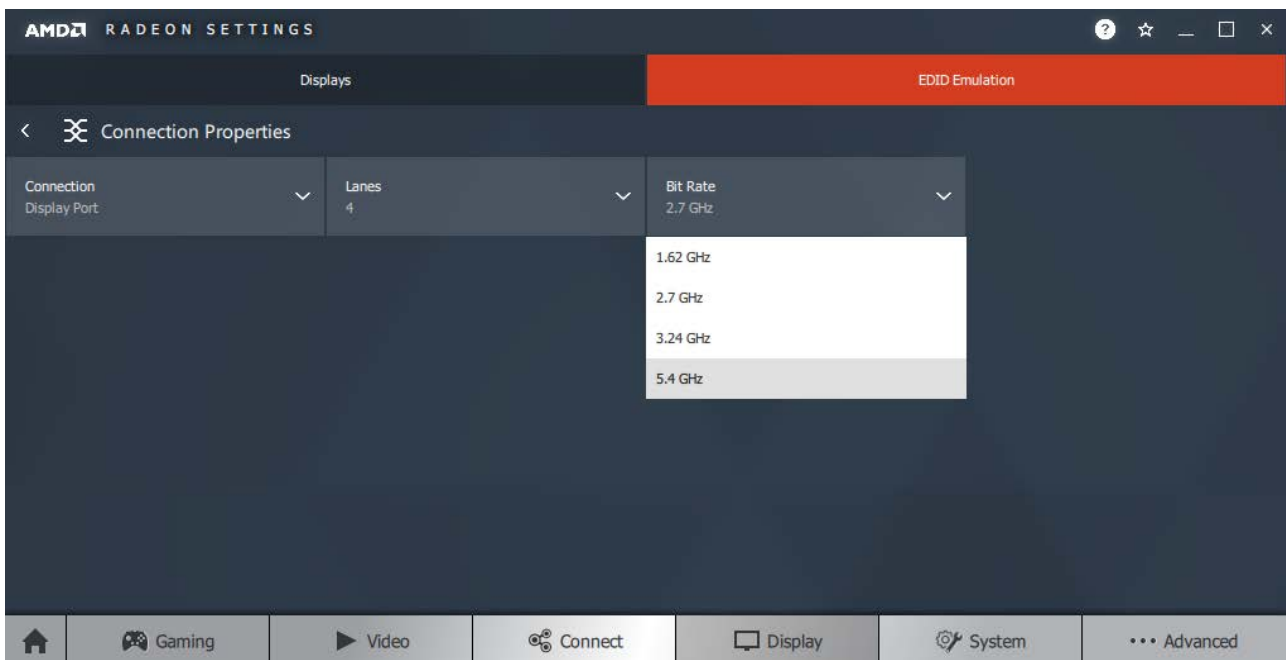


For the required connection, click the three dots and then 'Emulate'. Reading across, you have the Destination, the Connection and the graphic, with highlights in green (connected), blue (current selected) and black (not connected). Click 'Source' for the EDID of the selected connection:

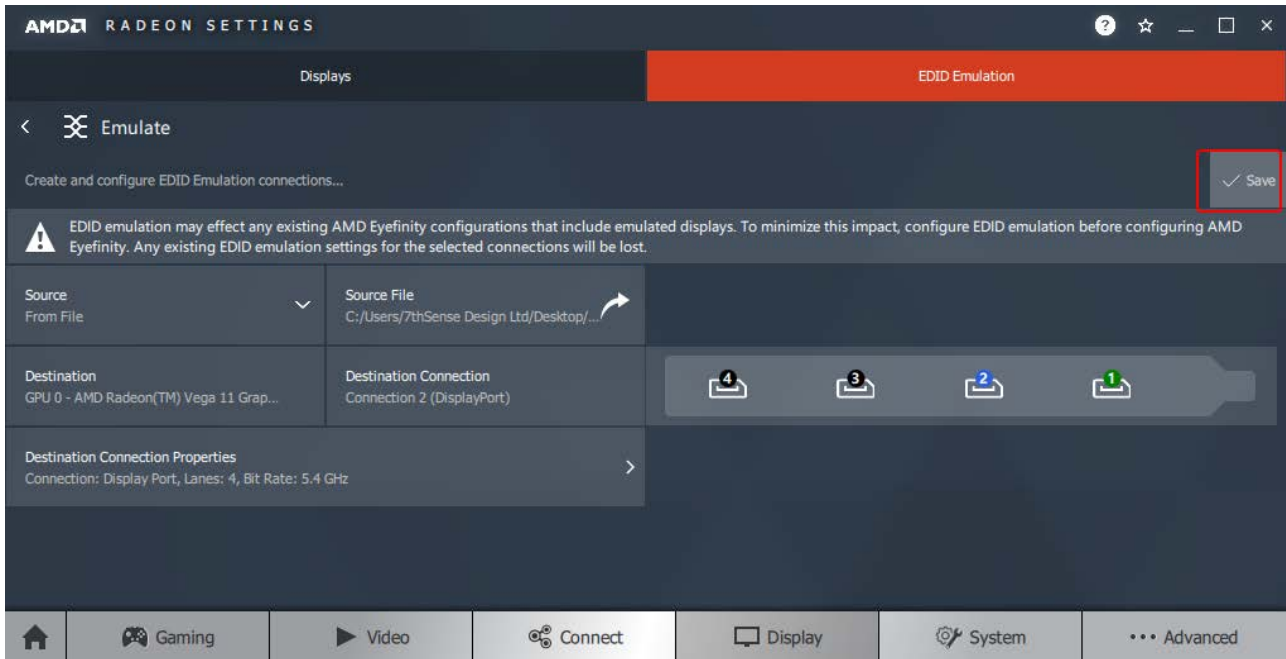


'Source Connection' changes to 'Source File'; click and browse to select the txt format EDID file you want.

Next, Click on Destination Connection Properties, and make sure the Bit Rate is correct. This needs to be 5.4 GHz for anything above WQHD (2560 × 1440):

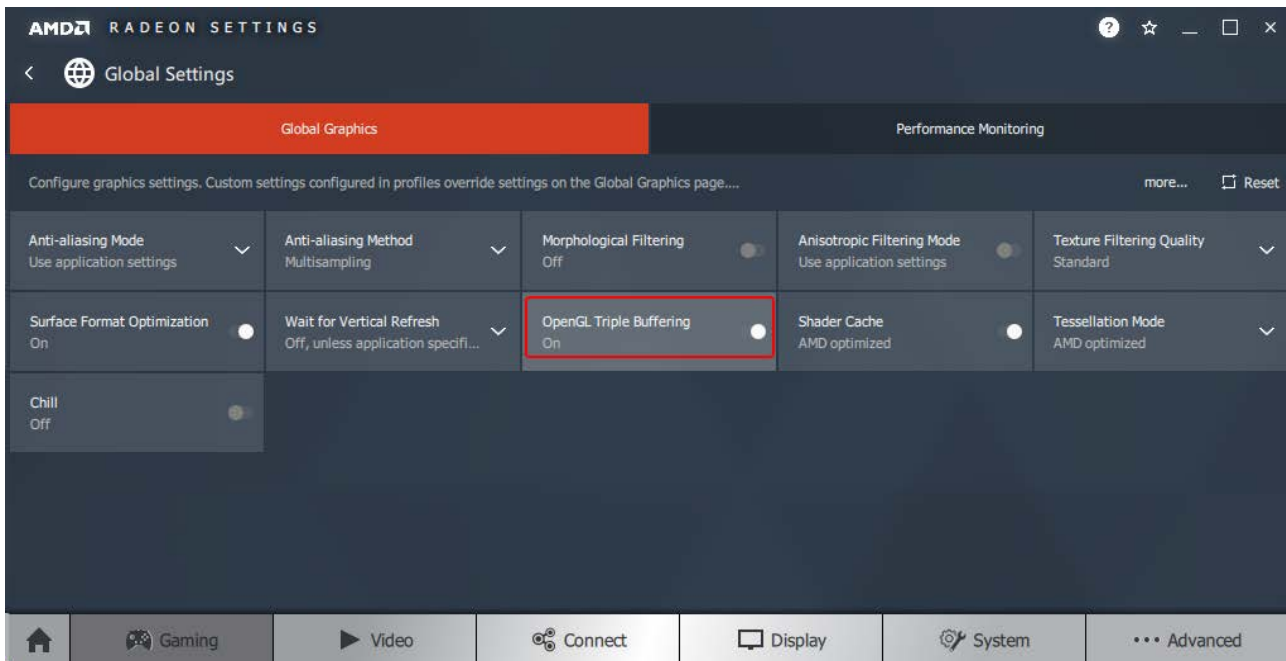


Now step back to the 'Emulate' page (there is no user confirmation) and click 'Save' on the right:



Gaming

For UHD or higher, there is just one setting here. Click 'Gaming' and in Global Settings, switch on 'Triple Buffer':

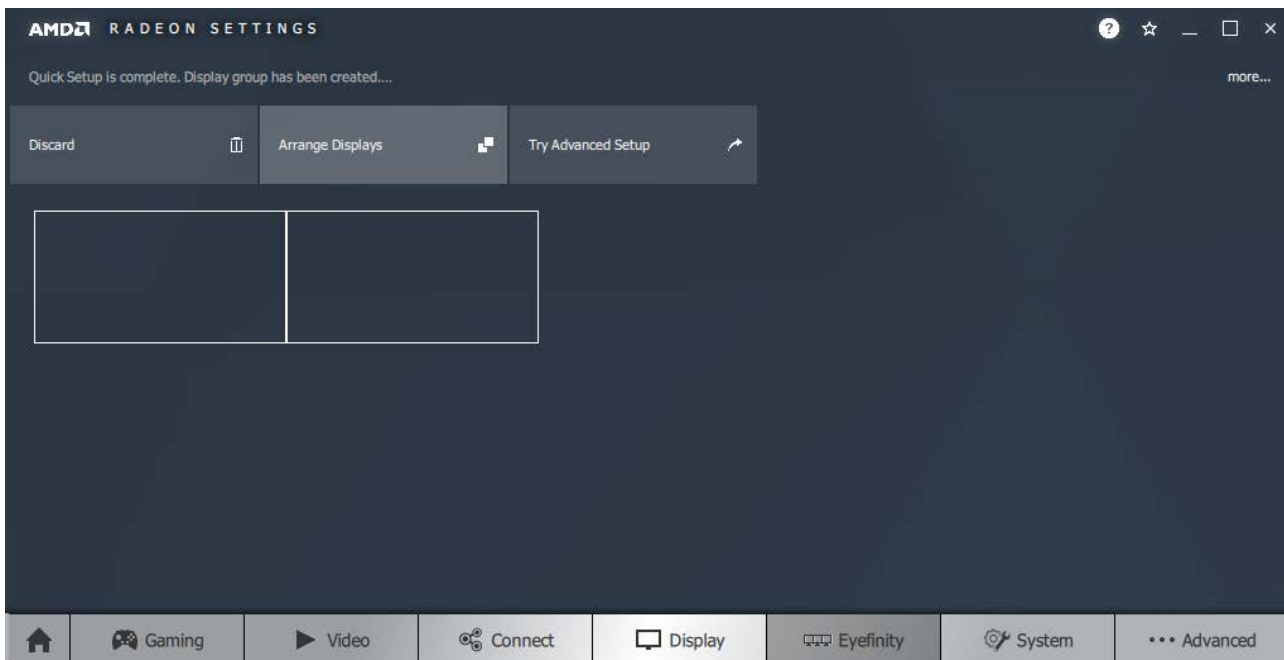


Eyefinity Display Grouping

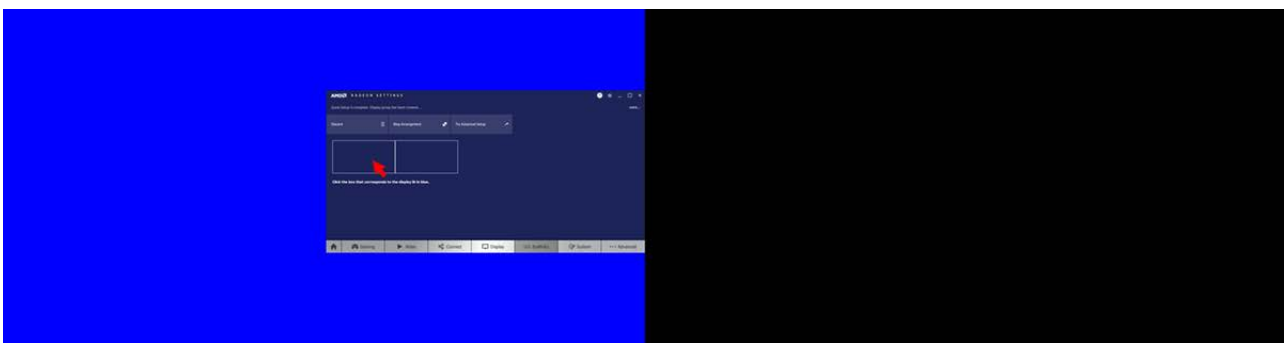
Having more than one connection now adds the 'Eyefinity' button.

The AMD driver for Pico currently only supports a single horizontal row of displays. [October 2019]

Click 'Eyefinity' and then on 'Quick Setup' to arrange the displays.



Click a display to identify the actual output that is lit up blue:



The final display needs no identification.

Close Radeon Settings and restart the Pico.

Document Information

Date	Document edition	Software version	Revision Details	Author/Editor
March 2016	1	Windows 7	New release	Helen Ward
August 2017	2	Windows 7	New edition	Andie Davidson
July 2018	3	Windows 7 and 10	Additions for Radeon Pro WX series cards under Windows 10; dual GPU setup (Win 7)	Andie Davidson
September 2018	4	Windows 7 and 10	Note on troubleshooting EDID with scaling option before grouping	Andie Davidson
October 2019	5	Windows 7 and 10	Pico AMD configuration added	Andie Davidson
July 2021	6	Windows 7 and 10 Radeon Pro 18.Q2.1	Inclusion of Radeon Pro VII	Andie Davidson
December 2021	7	Windows 10 Radeon Pro 21.Q1.2	Addition of 2021 AMD driver	Andie Davidson

A

- AMD Display Configuration 4
- AMD FirePro
 - CrossFire 12
 - desktops (dual GPU) 23
 - display matrix 16
 - display matrix (dual GPU) 23
 - display synchronization 31
 - EDID emulation 6
 - EDID emulation (dual GPU) 12
 - Eyefinity 16
 - Eyefinity (dual GPU) 23
 - genlocking 31
 - grouping 16
 - grouping (dual GPU) 23
 - scaling 16
 - settings 5
 - spoofing 6
 - synchronize (synchronise) displays 31
- AMD FirePro displays 5
- AMD Radeon Pro 18.Q2.1 36
 - display matrix 41
 - display synchronization 47
 - EDID emulation 37
 - genlocking 47
 - grouping 41
 - settings 36
 - synchronize (synchronise) displays 47
- AMD Radeon Pro 21.Q1.2 52
 - display matrix 59
 - display synchronization 61
 - EDID emulation 54
 - genlocking 61
 - grouping 59
 - synchronize (synchronise) displays 61

P

- Pico AMD Radeon
 - arrange displays 67
 - EDID emulation 67
 - triple buffer 67

E: info@7thsense.one
W: 7thsense.one

7thSense Design Ltd
2 The Courtyard, Shoreham Road
Upper Beeding
Steyning
West Sussex
BN44 3TN
UK

T: +44 (0) 1903 812299

7thSense LLC, Michigan
332 E Lincoln Ave
Suite 100
Royal Oak, MI 48067
USA

T: +1 248 599 2717

7thSense LLC, Orlando
4207 Vineland Rd
Suite M1
Orlando, FL 32811
USA

T: +1 407 505 5200