Specifications

ST-IPHD-2GOPOE Receivers and Transmitters have built-in video wall functionality. In a distributed system, a source can be viewed as a single screen and video wall at the same time.

Requirements for Setup

- One Receiver per display in the video wall
- A computer with a network connection to the switch
- Static Route entered into router
  - Allows network devices to access the video wall devices
  - Alternatively, set computer's IP details manually so the Default Gateway is equal to the IP Address of the managed Ethernet switch running the system

Add Static Route

Description	Interface	Destination IP	Netmask	Gateway	Metric	Modify
XTENDEX	LAN ∨	10.0.0.0	255.0.0.0	192.168.1.4	4	Add Cancel

Static Route to devices at 10.0.0.0 – IP of switch is 192.168.1.4

Wall Sizes

- Wall sizes **up to 8 rows and 16 columns** are possible through the web interface.
- Wall sizes of **up to 16 rows and 16 columns** can be configured via the command line. If a wall larger than 8x16 is needed, contact sales@ntigo.com for more information.

Dynamic Wall

With Layer 3 control static walls are a thing of the past. 2x2 walls can easily become 4 individual screens. 3x3 walls can be a 2x2 with 5 individual screens. Larger walls have even more options.

3x3 Wall

2x2 with 5 singles

9 singles

Content Scaling

Receivers create a video wall by scaling the video content to a size that matches the full wall. This means that it does **NOT** take into account the aspect ratio or native resolution of the picture that it is sending.

Square Walls

When walls are square (2x2, 3x3, etc.) the content will be scaled appropriately because the aspect ratio (vertical-to-horizontal ratio) is maintained. No additional picture scaling is needed to ensure a quality picture.

Non-Square Walls

When walls are non-square – have a different number of rows and columns – the content will be 'stretched' by the Video Wall process. Standard 16:9 content will appear wider or taller than normal.

To maintain proper aspect ratio on non-square walls, content must be specially designed **BEFORE** being sent to a Transmitter for aspect ratios to be maintained properly on the video wall. This shows an example of content that has been compressed horizontally when viewed on a single-screen so that it scales properly on a 1-row, 2-column wall.

CAUTION: Multi-row, **1-column** walls can **NOT** be configured with 1080p resolution because of extra static that will show up on the right portion of the screen. 1-column walls have a maximum resolution of **720p**.

Setup Instructions

1. Configure the switch and all devices. Video should be showing on all video wall screens.

2. Configure the matrix so that the same Transmitter is showing on all video wall displays, and non-video wall displays are showing a *different* Transmitter. This will ensure that only video wall displays are set in video wall mode. The source must be outputting 720p or 1080p.

   (To simplify video wall setup, when multiple transmitters are going to be used in a system, disconnect all except the video wall source transmitter from the network switch, and all except the monitors to be used in the video wall. This will help prevent confusion during video wall configuration.)

3. Access the web interface of the **_Transmitter_** being shown on the video wall. Google Chrome or Firefox works best.
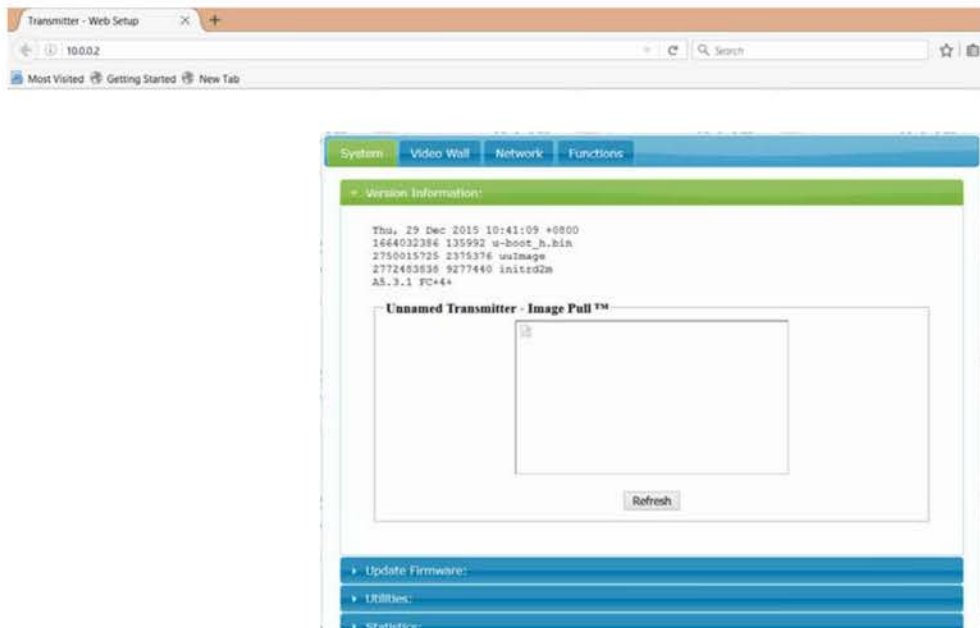
4. Click on the *Video Wall* tab to get to the configuration GUI

6. Set *Vertical Monitor Count* and *Horizontal Monitor Count* to match the total wall size. Leave *Row Position* and *Column Position* alone for now. Set *Single Transmitter Mode* checkbox to **checked**. Check that the dropdown box at the bottom says *All* and click *Apply*. The screens will reappear in video wall mode.
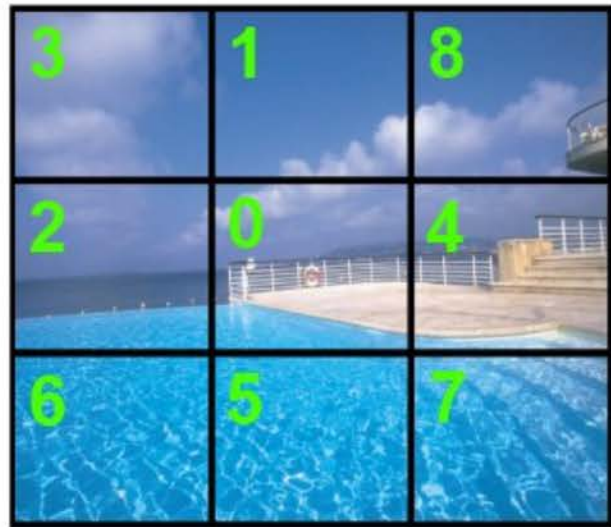

3x3 Wall Example

7. Check on the *Show OSD* checkbox at the bottom of the page and then click *Apply*. Green numbers will appear on each screen. Use these numbers for identifying screens in later steps. Numbering starts at 0.
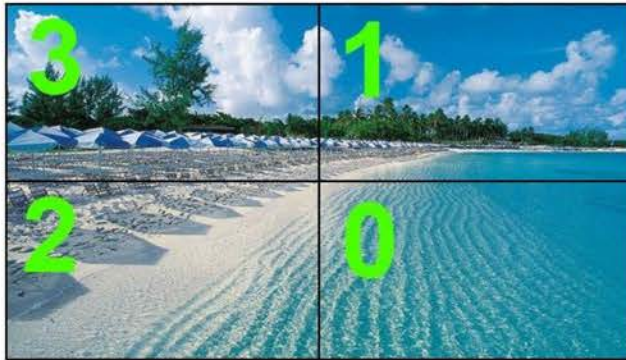
2x2 Wall   **3x3 Wall**

8. Next to the 'Apply' button is a dropdown menu. *Clients* references Receivers, and the first number corresponds to the green number shown on the screen. Use this dropdown to select specific screens for the next steps.

9. From the dropdown box, select the display in Row 1 Column 1 (the green number on the screen will match the first number for the entry in the dropdown list). Then, set the Row Position to 1 and Column Position to 1. Click *Apply*.
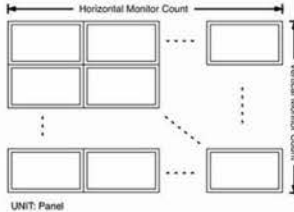
Wall Size and Position Layout

Vertical Monitor Count:
3

Horizontal Monitor Count:
3

Row Position:
1

Column Position:
1

☑ Single Transmitter Mode

Apply To:
3:10.128.0.4   Apply
☑ Show OSD

Row 1, Column 1

10. Repeat step 9 for each screen in the wall, matching the green number to the first number in the dropdown box, selecting the Row and Column Position, and clicking *Apply*.
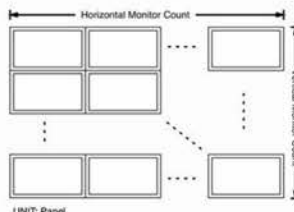
Wall Size and Position Layout

Vertical Monitor Count:
3

Horizontal Monitor Count:
3

Row Position:
1

Column Position:
2

☑ Single Transmitter Mode

Apply To:
1:10.128.0.5   Apply
☑ Show OSD

Row 1, Column 2

11. Once Row and Column Position is set for each screen, uncheck the *Show OSD* checkbox to remove the green numbers.

12. If the Bezel compensation on the screens does not look correct, check the display's menu for *Zoom* settings.

13. There may be a "tear" in the video wall on Row 2 or lower (never on Row 1). Click on the *Advanced Setup* bar at the bottom of the Video Wall tab to adjust.

a. Select one row of screens that need the tearing correction by clicking on the arrow next to that row of screens. Green buttons are selected, blue buttons are unselected.

2x2 – Bottom Row Selected

b. Scroll down and locate *Tearing Delay (us)*.

Tearing Delay is measured in microseconds (µs):
1000 microseconds = 1 millisecond
1000 milliseconds = 1 second

Increase the *Tearing Delay* value by 1000 and click *Apply*. The tear will move down the wall. Continue to increase the Tearing Delay value by quantities of 1000 until the tear has moved off the bottom.

Warning: **For 60fps video (1080p60/720p60):** Maximum Tearing Delay value is 16000.
For 24fps video (1080p24): Maximum Tearing Delay value is 40000.
Exceeding maximum Tearing Delay could cause devices to constantly reboot.

c. If there are more rows that have tears, repeat step 12 with the rows selected.

14. **Congratulations!** The video wall is up and running.