GeoBox

G408 Video Wall Controller Datasheet

8 channel 4k/60 Video Wall controller

Support up to 4k2k @60Hz or 7680x1200 @30 Hz input

2x HDMI 2.0b in, 8x HDMI 1.4 out, 10-bit processor 4:4:4 Chroma

sampling

Independent rotation/ scaling/ cropping Act as two

Quad channel Processors

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DCi/UHD 4k/60/4:4:4	HDMI 2.0	HDCP 2.2/1.4	10-bit High-end scaler	Cadence Film 3:2 / 2:2	3D Motion De-interlace	Deep Color xvYCC/12-bit
Mosaic Irregular wall	Multi-Unit Cascade	Flexible Aspect Ratio Bezel Correction	Rotation Landscape Portrait	Loop Out Daisy chain	Control IR/USB/RS232 /Ethernet	Projector Output overlap	RoHS CE FCC

G408 eight-channel controller

GeoBox G408 is an eight-channel 4k2k/60 fps Video Wall controller. It is designed with two processing modules. Each processing module consists of 1x HDMI 2.0b input, 1x HDMI 2.0b loop-out port for daisy chain connection, and 4 synchronized HDMI 1.4 outputs. It can serve as one eight-channel video wall controller or two quad-channel video wall controllers. Each output has independent image rotation/flip, scaling, split, cropping, and color adjustment to allow great freedom in creating video walls with variable display scales and styles.

It is pure hardware, a standalone system, and easy to use. All operations can be executed through IR remote controller, USB, RS232, or Ethernet. No additional PC or appropriate software is required in the setup.

Infinite creative configuration

- ✧ Two processing modules, each module consists of below I/O ports.
  1x HDMI2.0b input, 4x HDMI1.4 output up to 2048x1200 @60Hz with flexible multi-unit cascade.
- ✧ It can serve as two Quad channel processors or one 8-channel processor while the user connects two processing modules through the loop-out port.
- ✧ Support up to 4096x2160@60Hz, 7680x1200 @30Hz input.
- ✧ Input supports HDCP 1.4/2.2, and output supports HDCP 1.4.
- ✧ Two Loop-through ports for multiple unit cascade in any scale display.
- ✧ Pixel base position alignment up to +_ 1800 pixels in H&V for flexible image capture, cropping, position alignment, bezel compensation & irregular video wall.
- ✧ Set overlap output up to 1800 pixels for projector edge blending application.
- ✧ Independent Image color adjustment in each channel.
- ✧ Independent image rotation and flip/mirror in each channel for variable landscape, portrait, and irregular video wall display.
- ✧ The selectable output resolution and programmable EDID optimize video quality.
- ✧ Flexible aspect ratio adjustment in each edge up t0 +_ 1800 pixels.
- ✧ Frame rate conversion and 50Hz in / 50Hz out to keep video quality without artifacts.
- ✧ Frame-Lock function to get perfect synchronization among output channels.
- ✧ Easy setup via IR, USB, RS232 & Ethernet. No PC is required.
- ✧ Ready for a 24/7 working environment.
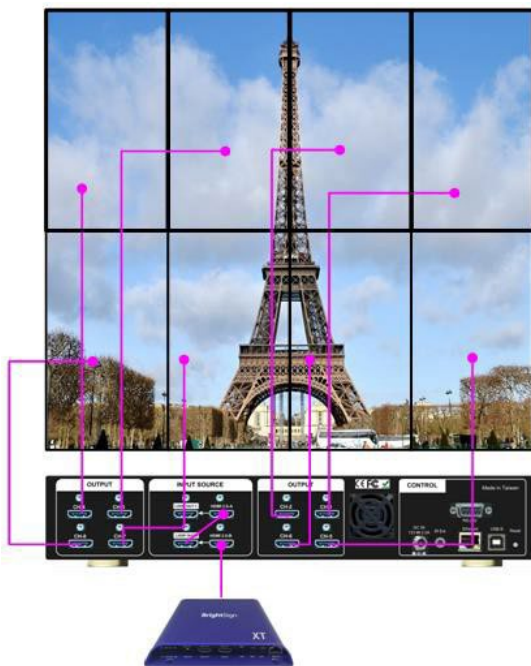
Specifications

- ✧ Input: 2x HDMI 2.0b
- ✧ Output: 8x HDMI 1.4
- ✧ 2x HDMI 2.0b loop out port for multiple unit cascade & daisy chain connection.
- ✧ HDCP compliance: Input: HDCP V2.2/V1.4. output: HDCP V1.4
- ✧ Max. input resolution: 4096x2160 @60Hz, 7680x1200 @30Hz. 4:4:4 Chroma sampling.
- ✧ Support non-VESA STD input timings.
- ✧ 18 selectable output modes up to 2048x1200 60Hz in each independent output port.
- ✧ Selectable 8/10-bit output color depth.
- ✧ One frame latency: 16.7ms (V=60Hz)
- ✧ Support xvYCC color input processing & 8/10-bit deep color output.
- ✧ Overlap setting for edge blending in each edge up to +_ 1800 Pixels.
- ✧ 3:2/2:2 cadence, low angle smooth algorithm, high-quality scaling engine.
- ✧ 3D motion adaptive de-interlace.
- ✧ 10-bit processor, frame rate conversion.
- ✧ 50Hz in/out to avoid video artifacts.
- ✧ Frame lock for synchronized outputs.
- ✧ Support HDR input signal but no HDR effect in the output.
- ✧ Individual 90/180/270 rotation, flip, cropping, scaling & color adjustment in each channel.
- ✧ When image rotation is 90/270 degrees, the maximum input is 4k/2k 30 fps.
- ✧ Embedded HDMI audio in each output.
- ✧ Selectable and programmable EDID.
- ✧ ESD Protection: ±15kV (Air-gap discharge), ±8kV (Contact discharge).
- ✧ DC 12V/1.9A, max. 22.8w, (100-240 VAC PSU)
- ✧ Working environment: 45° C, 10-90% RH
- ✧ Control: IR, RS232, USB, Ethernet
- ✧ Dimensions (Body only): 330mm*162mm*58mm (without protruding parts). 330mm*173mm*69mm (including protruding part)
- ✧ Weight: 1.90 kg (body only)
- ✧ CE/FCC/RoHS Certified
- ✧ 30-Month Warranty.

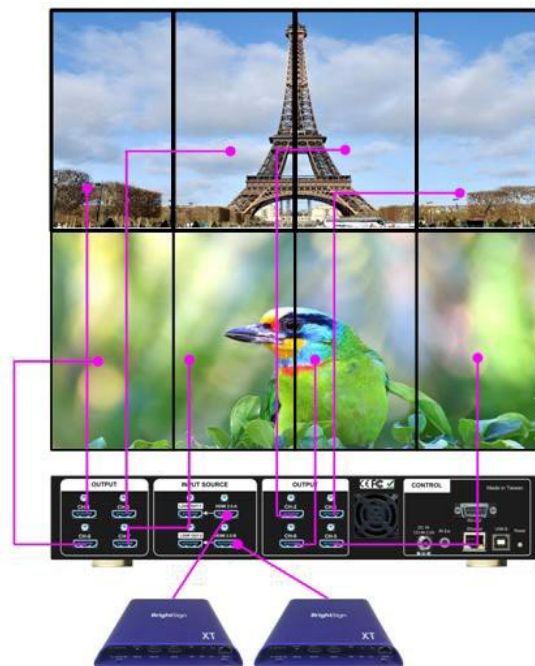# A. *Single G408 applications*

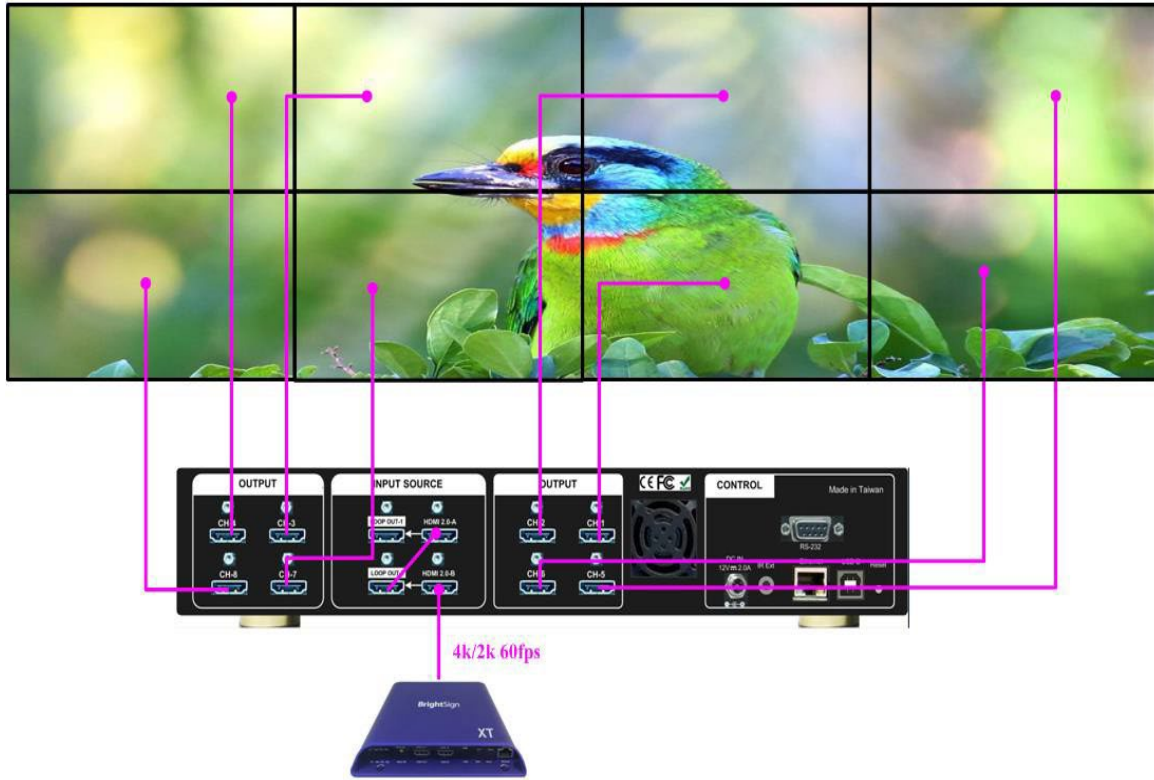**Configuration for 3x2, 4x2 video wall with one G-408**
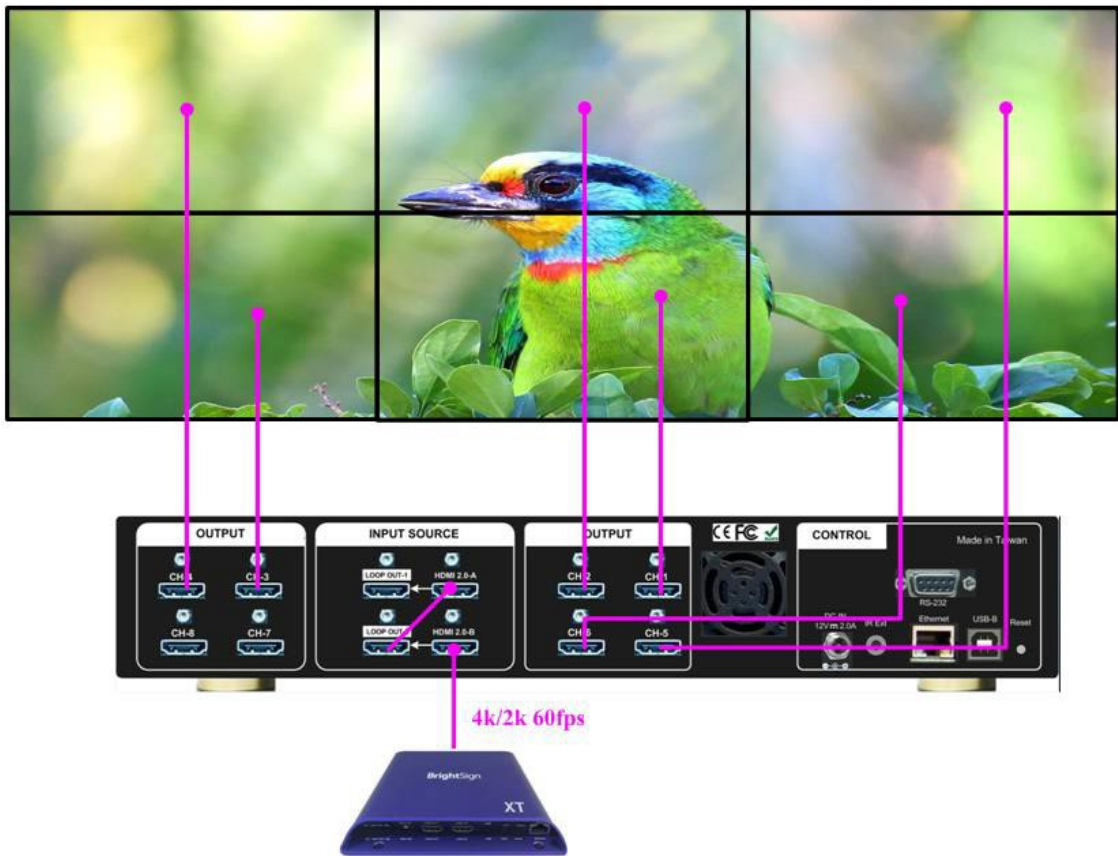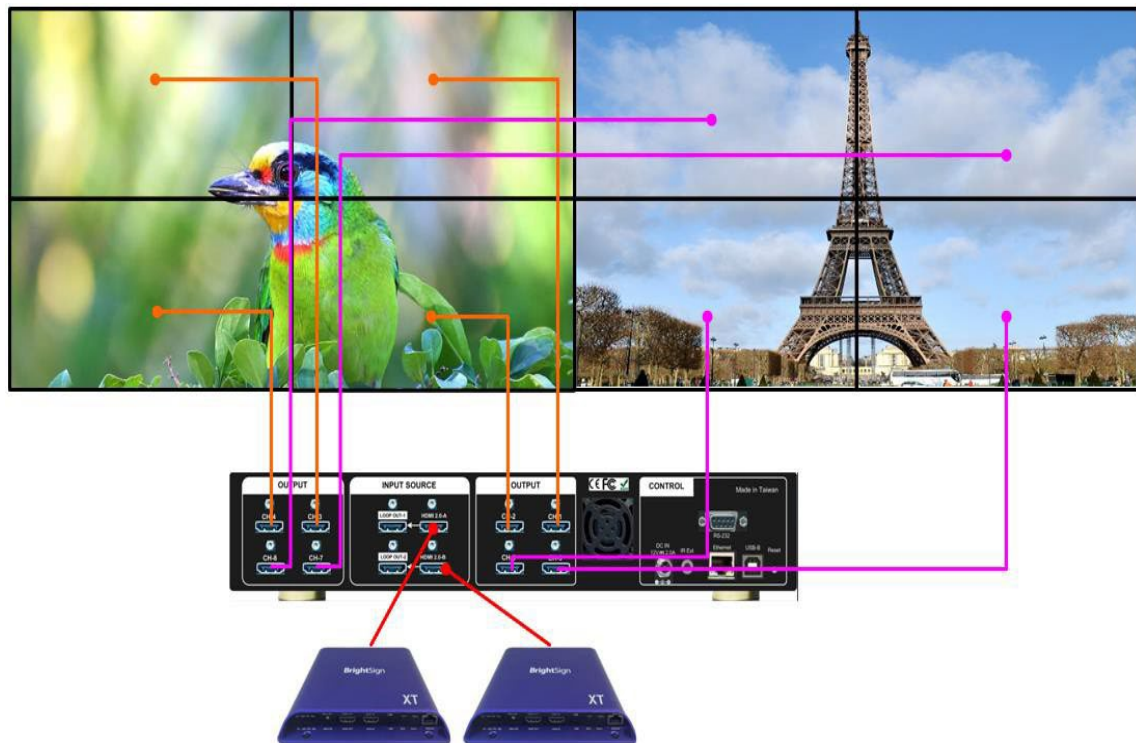

Portrait Display

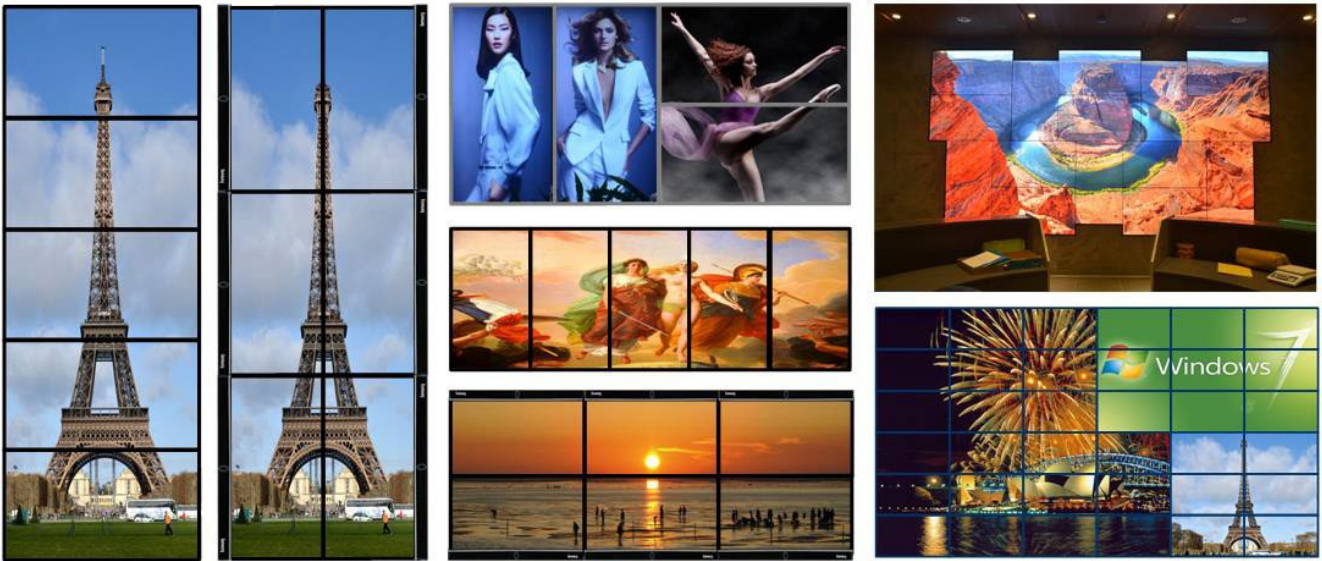**Dual Contents display**
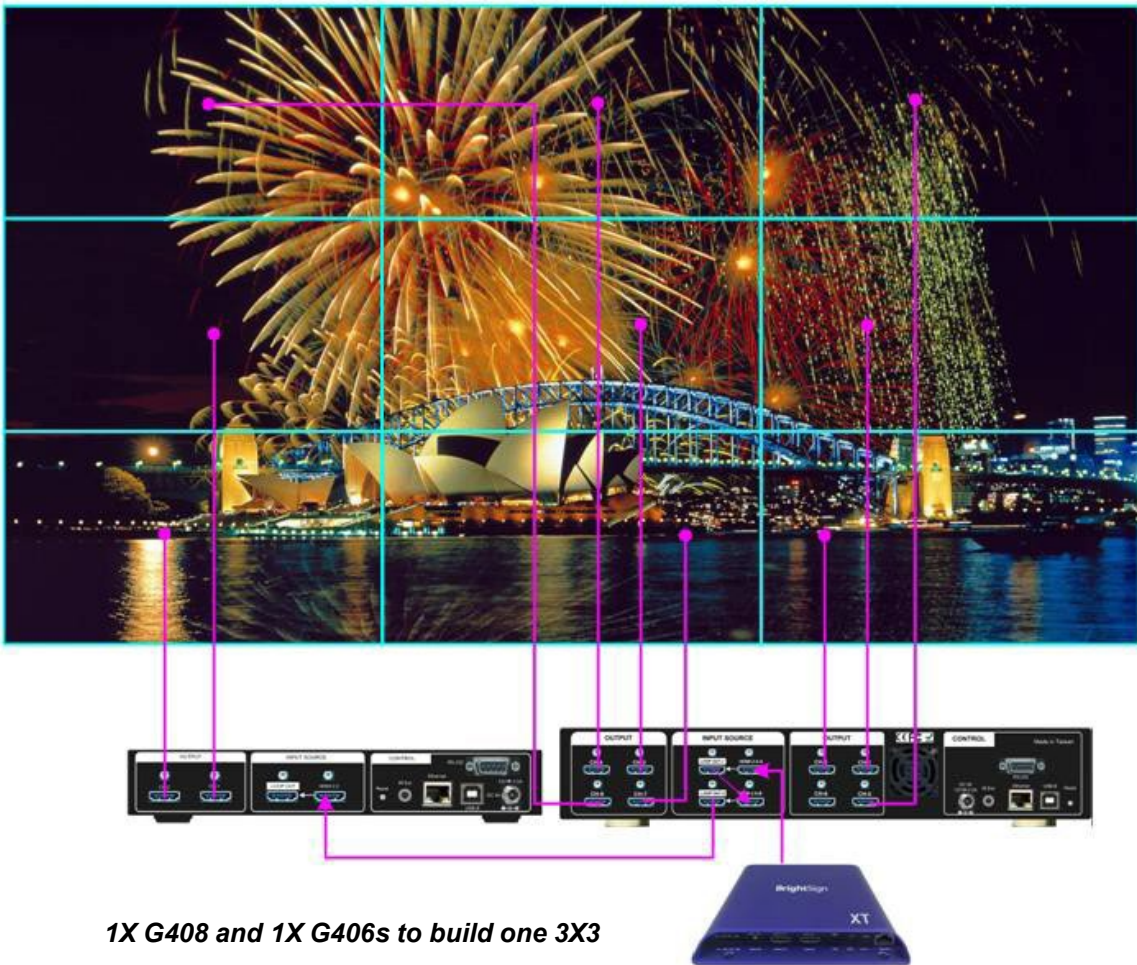
4x2 display

4x2 display with dual contents

B. *Multiple unit cascade and various applications*

G408 can build various video walls with LCD at landscape & portrait positions. The connection can be flexible without a specific sequence. G408 can assign image locations for each monitor.
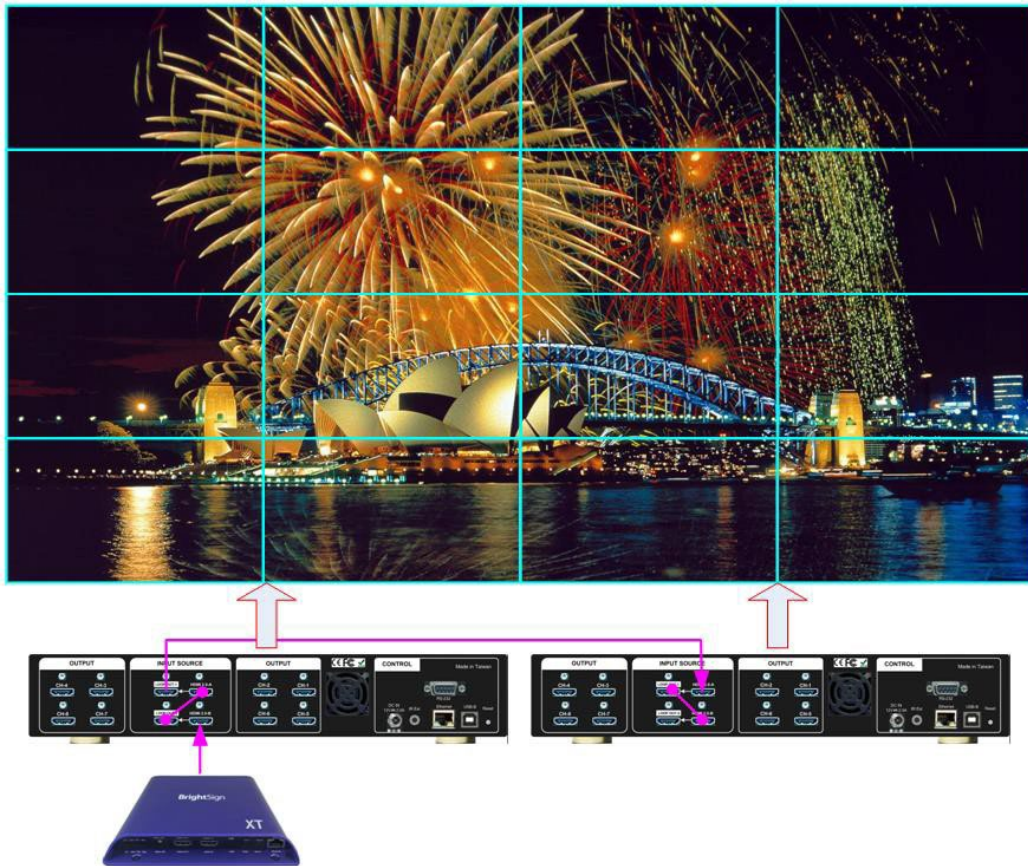

3X3 video wall can be achieved by one G408 plus any other 1-4 channels GeoBox.

1X G408 and 1X G406s to build one 3X3 video wall

4X4 video wall built by two G408

Any monitor can be independently in portrait or landscape position for irregular video walls.

C. *8k/1k or 1k 8k high resolution display*

8x FHD

8x FHD

8k/1k

1k/8
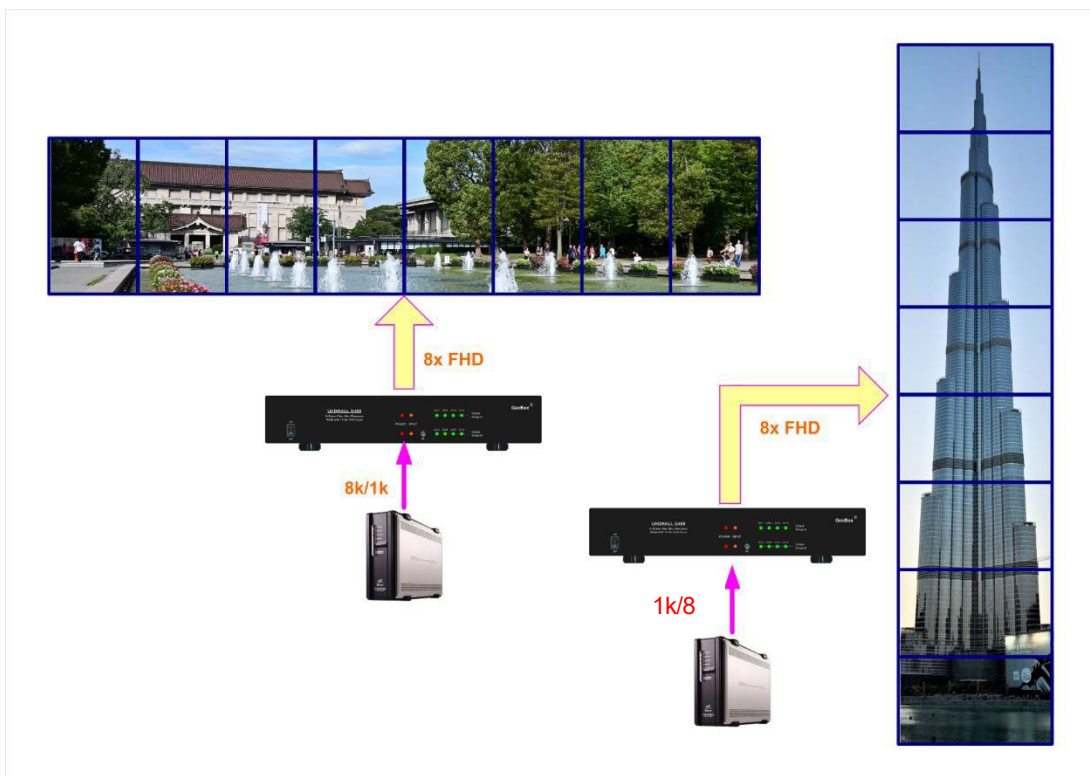
D. *Flexible Aspect Ratio Adjustment*

Users can shrink the image with black borders or stretch the image in a specific direction to compensate for the aspect ratio difference between the video wall and the content. The Maximum adjustment range is +_ 1800 pixels on each edge.
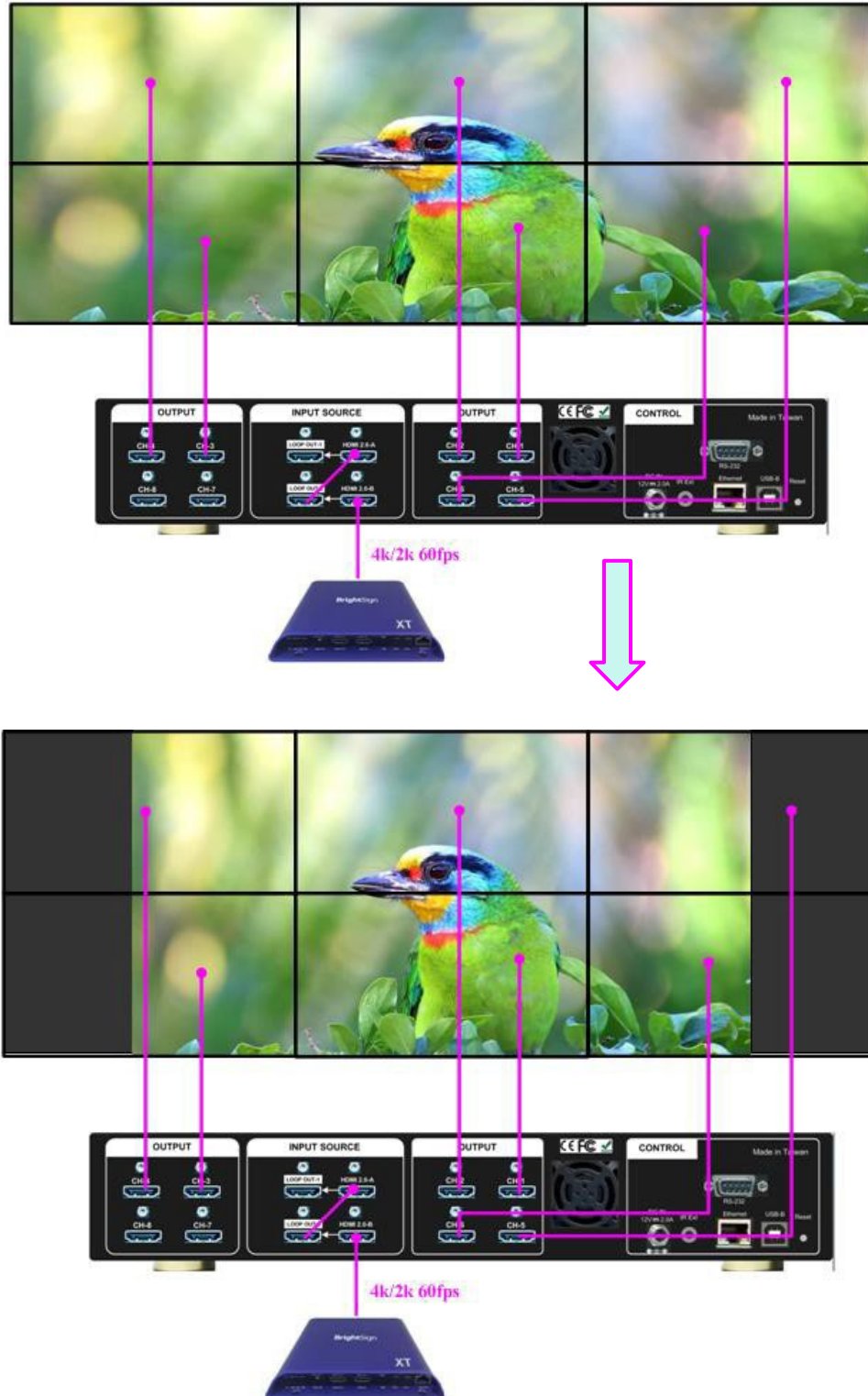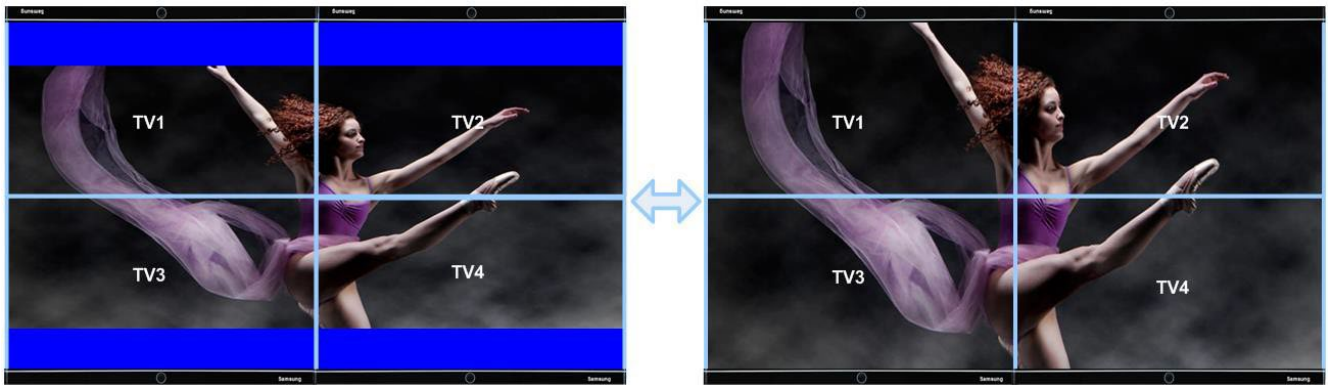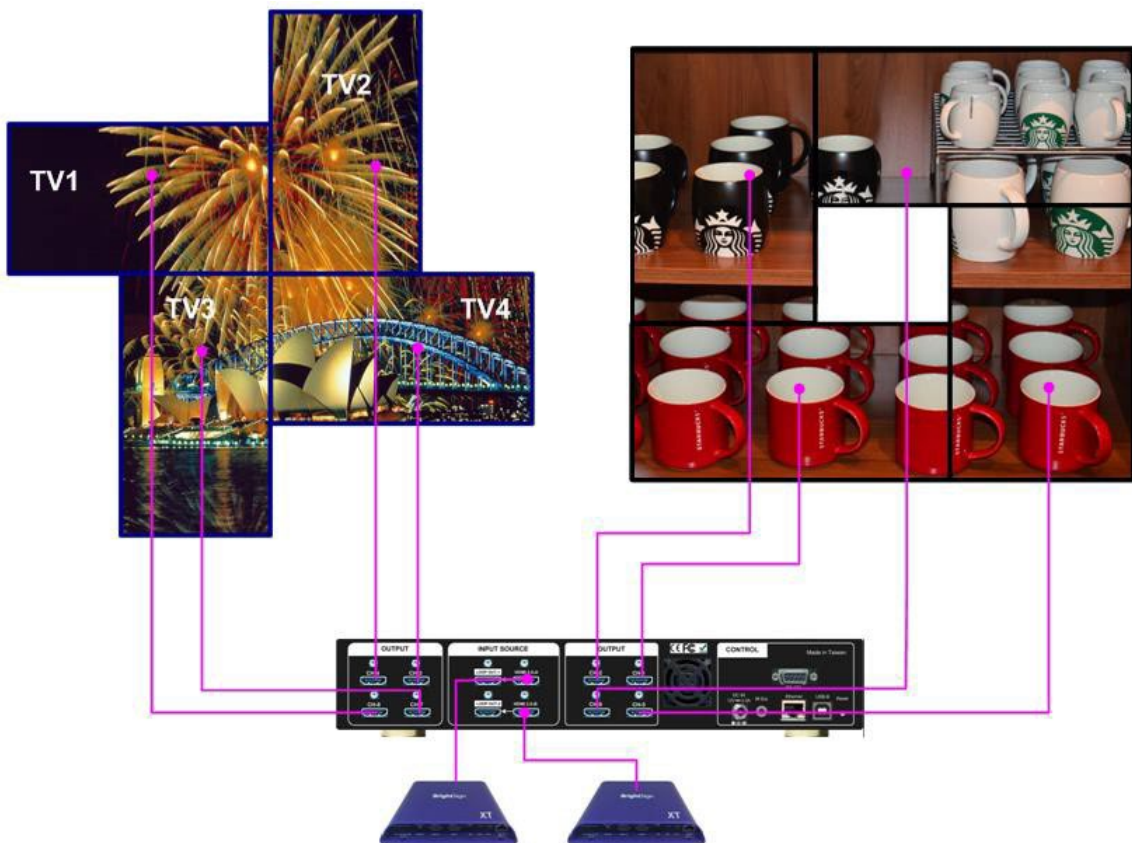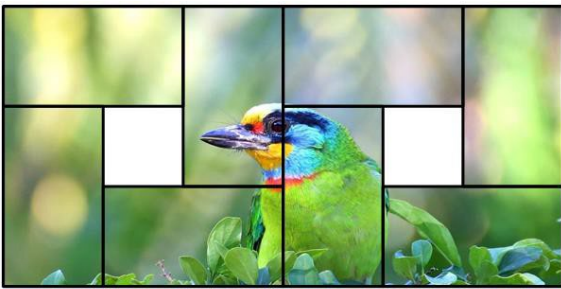
E. *Irregular Video wall*

Each output channel can be set with a different output resolution and rotated separately. Users can use the Video wall function to split the image and adjust the Overlap value to align all images to become a seamless creative video wall. G408 can accurately compensate for video walls with different monitor sizes and bezel dimensions.
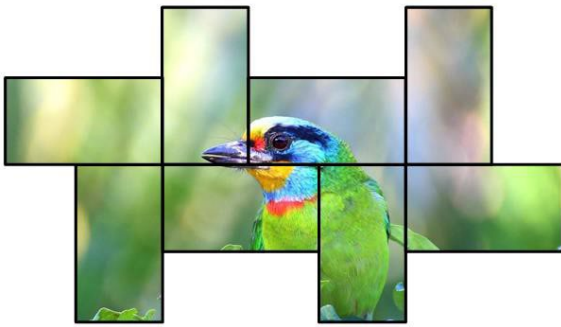
Two contents creative video wall with single G408

8-monitor creative Video wall

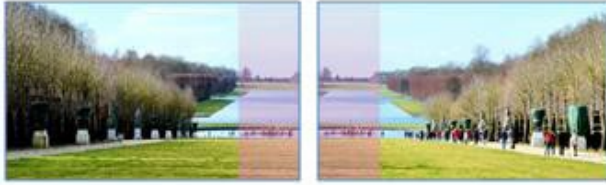**The irregular video wall in the fashion shop with one G408**

16-monitor asymmetric video wall

F. *Split image for a projector in an edge blending application*

Two GeoBox outputs with
redundant data in overlap region

Projected images are
overlapped

After projector
edge blending,
resulting
seamless image

One G408 can splitter one
or two 4k image for up to
8 projectors

Any Signal Source

G. *Limitation in image rotation/flip mode*

Image rotation at 90/180/270 degrees and RH/LH or Top/Bottom flip is only available for input resolution not larger than 3840x2400 @30Hz.