GeoBox

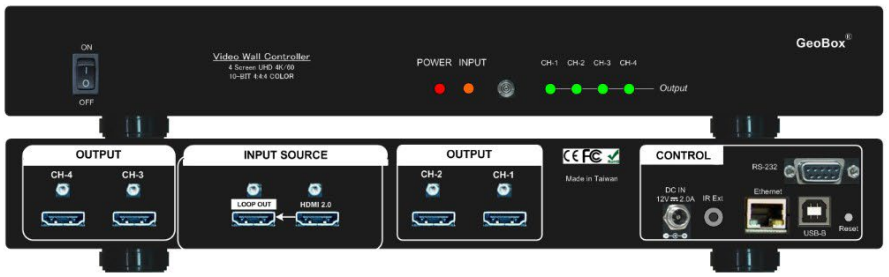
G406L Video Wall Controller Datasheet

4 channel 4k/60 Video Wall controller

Supports up to 7680x1200 30 fps input

1 in / 4 out, HDMI 2.0 / HDCP 2.2, input up to 7680*1200 30Hz, 4K/2k 60Hz, 4:4:4 chroma sampling,

Independent rotation/ scaling/ cropping and color adjustment



Sales & Technical support

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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 | Mosaic Irregular wall | 3D Motion De-interlace | Deep Color xvYCC/12-bit

Multi-Unit Cascade | Flexible Aspect Ratio Bezel Correction | Rotation Landscape Protrait | Loop Out Daisy chain | Control IR/USB/RS232 /Ethernet | Projector Output overlap | RoHS CE FCC

G406L Quad channel controller

GeoBox G406L is a quad-channel video wall controller, a simplified version of G406. It is also an ideal front-end processor for projector edge blending and LED display. G406L incorporates 1x HDMI 2.0 input and 1x HDMI 2.0 loop-through port to support up to 4k/2k 60 fps or 8k/1k 30 fps input signal as well as four synchronized 2048*1200 60Hz outputs. Each output has independent image rotation/flip, scaling, cropping, and color adjustment to allow great freedom in creating any scale video wall with different LCD arrays.

It is pure hardware, a standalone system with easy-of-use. All operations can be implemented through IR remote controller, USB, RS232, or Ethernet. No additional PC or appropriate software tool is required.

Infinite creative configuration

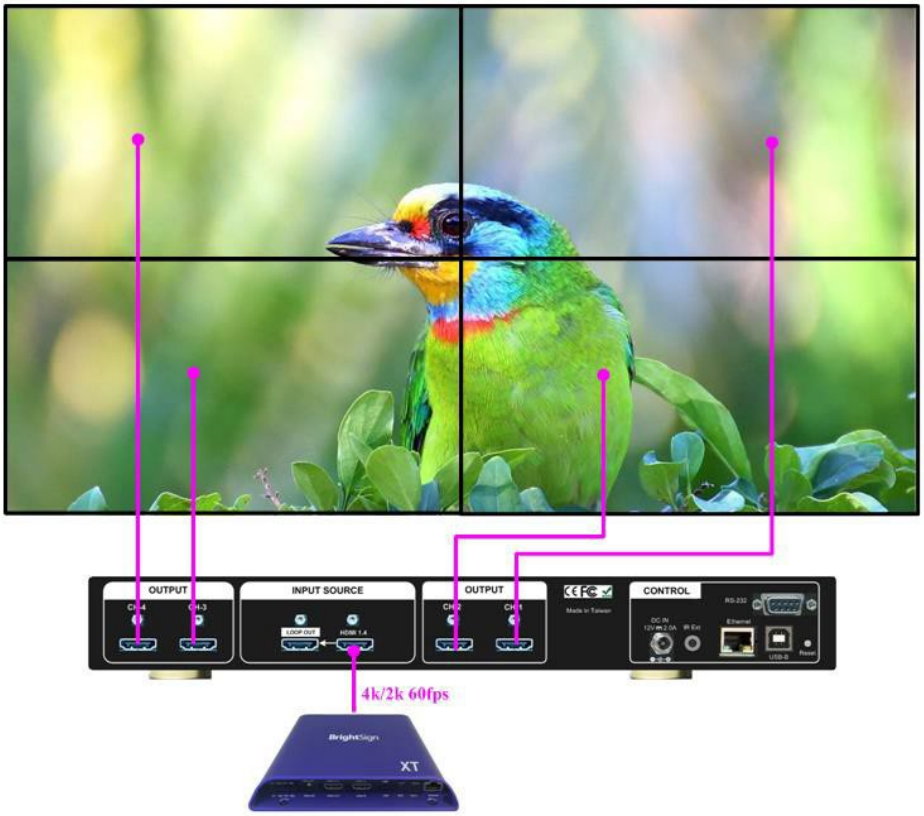
- ✧ 1x HDMI 2.0 input, 4x HDMI 1.4 output up to 2048x1200 @60Hz with flexible multi-unit cascade.
- ✧ Support up to 4096x2160@60Hz, 7680x1200 @30Hz input.
- ✧ Input supports HDCP 1.4/2.2 and output supports HDCP 1.4.
- ✧ One Loop-through port for multiple unit cascade in big scale display.
- ✧ Pixel 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.
- ✧ Selectable output resolution and programmable EDID to optimize video quality.
- ✧ Flexible aspect ratio adjustment in each edge up to +_ 1800 pixels.
- ✧ Frame rate conversion and 50Hz in / 50Hz out to keep video quality without artifact.
- ✧ Frame-Lock function to get perfect synchronization among output channels.
- ✧ Easy setup via IR, USB, RS232 & Ethernet. No PC is required.
- ✧ Ready for 24/7 working environment.

Specifications

- ✧ Input: 1x HDMI 2.0b
- ✧ Output: 4x HDMI 1.4
- ✧ 1x 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.
- ✧ Video Wall cropping 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 in FHD to avoid video artifact.
- ✧ 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 at 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/0.93A, max. 11.2w, (100-240 VAC PSU)
- ✧ Working environment: 45° C, 10-90% RH
- ✧ Control: IR, RS232, USB, Ethernet
- ✧ Dimensions (Body only): 330mm*162mm*36mm (without protruding parts). 330mm*173mm*47mm (including protruding part)
- ✧ Weight: 1.48 kg (body only)
- ✧ CE/FCC/RoHS Certified
- ✧ 30-Month Warranty

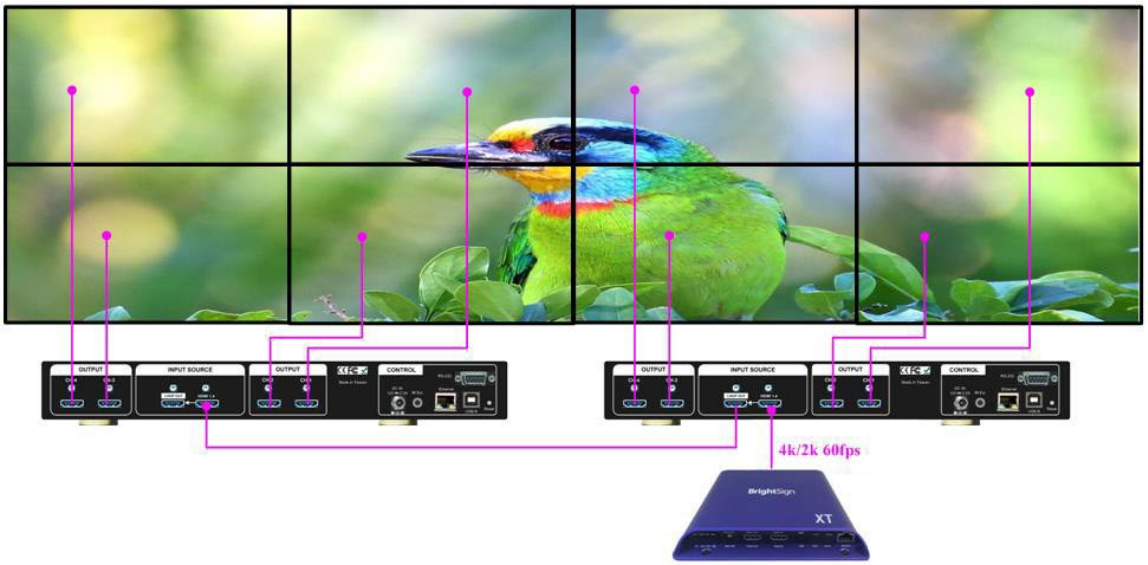
A. Single G406L applications

Configuration for 2x2 video wall with one G-406L:



B. Multiple units cascade applications

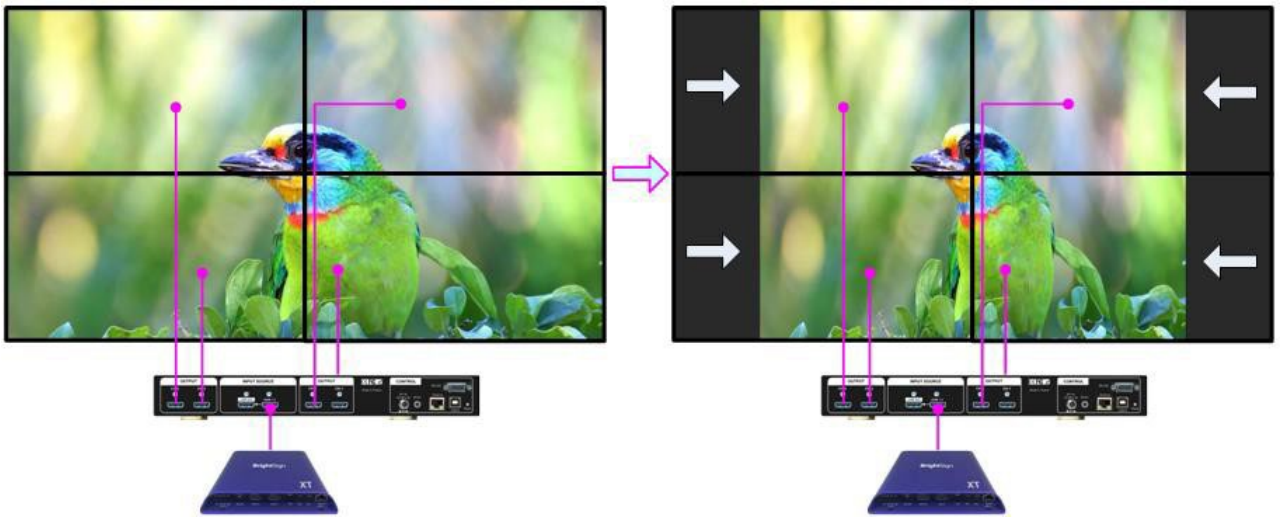
Example for 2 units of G406L application

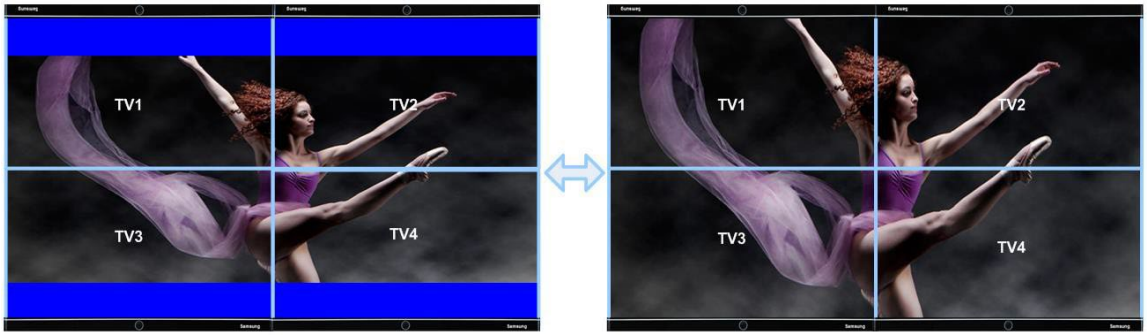


- Any LCD can be independently at portrait or landscape position for irregular video wall.

C. Flexible Aspect Ratio Adjustment

User can shrink the image with black borders or to stretch the image in specific direction to compensate the aspect ratio difference between video wall and the content. The Maximum adjustment range is +_ 1800 pixels in each edge.





D. Irregular Video wall

Each output channel can be set with different output resolution and rotated separately. User can use Video wall function to split the image and adjust Overlap value to align all images together to become seamless creative video wall. G406L can accurately compensate video wall with different monitor sizes and bezel dimensions.

E. Split images for projector with embedded blending function

Two GeoBox outputs with redundant data in overlap region

Projected images are overlapped and blended by projectors

After projector edge blending, resulting seamless image

One G406L can splitter one 4k2k or 8k1k image for up to four projectors

F. *Limitation in image rotation / flip mode*

Image rotation at 90/270 degrees is only available for input resolution not larger than 3840x2400 @30Hz.