G406 4K/60 video wall controller with matrix function

Support 8k/4k with pixel to pixel video quality

4 in/out in one box, DCi/UHD 4K60 in all inputs, 10-bit processor, 4:4:4 Chroma sampling, Matrix switch function, Multi-windows, Independent rotation/ scaling/ cropping and color adjustment.

Application examples

Irregular video wall

Multi-window display

Image flip

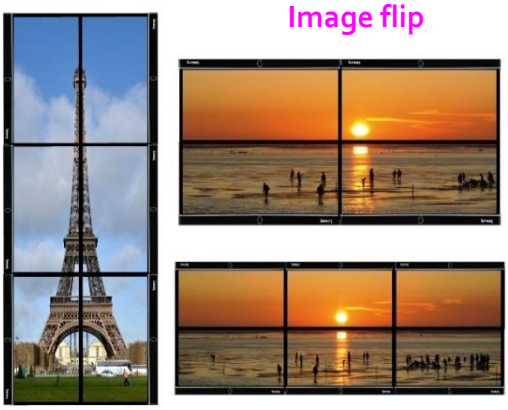
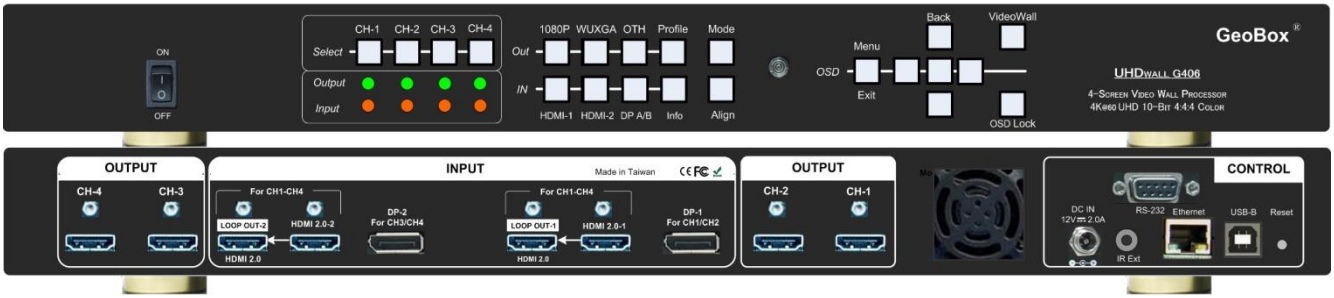


Image rotation

Multi-unit cascade

(Any type & size of LCD. All the setups can be achieved through only remote controller without PC system)

DCi/UHD 4k/60/4:4:4	HDMI 2.0 DisplayPort 1.2	HDCP 2.2/1.4	HDR Ready	10-bit High-end scaler	Cadence Film 3:2 / 2:2	3D Motion De-interlace	Deep Color xvYCC/12-bit	Matrix SW Free source selection
Mosaic Irregular wall	Multi-Unit Cacade	Multi-view Discrete display	Flexible Aspect Ratio Bezel Correction	Rotation Landscape Protrait	Loop Out Daisy chain	Control IR/USB/RS232 /Ethernet	Projector Output overlap	RoHS CE FCC



G406 Quad channel controller

GeoBox G406 is new generation DCi/UHD 60fps four screens video wall controller to allow great freedom in creating any scale video wall with multiple contents and different LCD arrays. It incorporates two HDMI 2.0, two DisplayPort 1.2 inputs and two HDMI 2.0 loop-through ports with HDCP 2.2/1.4 as well as four synchronized Full HD outputs. Each output has independent image rotation/flip, scaling, cropping and color adjustment. Support true 8k/4k video wall through multiple 4k input source with pixel to pixel video quality.

G406 is designed with matrix switcher function to display 1, 2, 3 or 4 independent contents on four LCD video wall. Two HDMI 2.0 loop-through ports are designed for multiple unit cascade and allows user to select different contents for entire video wall.

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

Infinite creative configuration

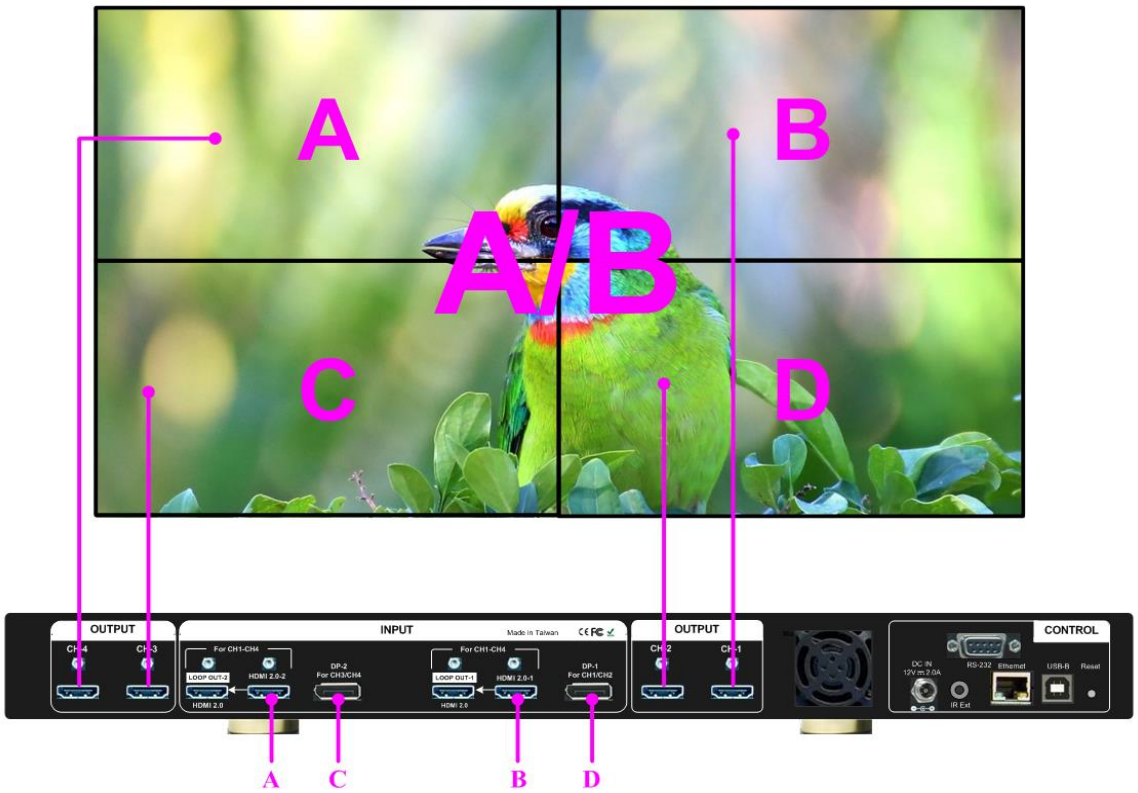
- ✧ 4x UHD/DCi 60fps inputs, 4x WUXGA/1080p outputs with flexible multi-unit cascade.
- ✧ Support up to 4096x2160@60Hz input through HDMI 2.0 & DisplayPort 1.2.
- ✧ All inputs and outputs support HDCP 1.4/2.2.
- ✧ Matrix switch function to allow multiple window display, 1/2/3/4 contents on 4x LCD
- ✧ Dual Loop-through ports for multiple units cascade in any scale display with selectable inputs.
- ✧ Pixel base position alignment up to +_ 900 pixels in H&V for flexible image capture, cropping, position alignment, bezel compensation & irregular video wall.
- ✧ Set overlap output up to 900 pixels for projector edge blending application.
- ✧ Independent Image color adjustment, cropping, scaling and bezel correction 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 for optimized input to provide superior video quality.
- ✧ Frame-Lock function to get perfect synchronization among output channels.
- ✧ Support HDR high dynamic Range color.
- ✧ Easy setup via IR, front panel Keypad, USB, RS232 & Ethernet. No PC is required.
- ✧ Flexible RS232 + Ethernet simultaneous system control.
- ✧ Support super high resolution content (more than 8k/4k) through multiple 4k inputs.
- ✧ Ready for 24/7 working environment.

Specifications

- Input: 2x HDMI 2.0b for all channels, 1x DP1.2a for CH 1/2, 1x DP1.2a for CH 3/4
- Output: 4x HDMI up to 1080P & WUXGA
- 2x HDMI 2.0 loop out ports for multiple unit cascade & daisy chain connection
- HDMI: HDCP V2.2/V1.4, DP: HDCP: V1.3
- Max. input resolution: 4096x2160 @60Hz for both HDMI 2.0 & DP 1.2
- Support 3840x2400 @30Hz input
- Support non-VESA STD input timings
- Support pixel to pixel 8k/4k display
- Selectable output up to 1920x1200 60Hz
- 10-bit processor, frame rate conversion
- 4:4:4 Chroma sampling, 30 Color bits, 12-bit RGB gamma CLUT
- Support sRGB & xvYCC color processing & 8/10/12-bit deep color
- 3:2/2:2 cadence, low angle smooth algorithm, high quality scaling engine
- 3D motion adaptive de-interlace
- Frame lock for synchronized outputs
- High Dynamic Range (HDR) support: SMPTE ST-2084, SMPTE ST-2086
- Individual 90/180/270 rotation, flip, cropping, scaling & color adjustment in each channel
- Matrix switch for multi-window display
- Embedded HDMI/DP audio in each output
- Selectable and programmable EDID
- ESD Protection: ±8kV (Air-gap discharge), ±4kV (Contact discharge)
- DC 12V/1.1A, max. 13w, (100-240 VAC PSU)
- Working environment: 45° C, 10-90% RH
- Control: Front panel keypads, IR, RS232, USB, Ethernet
- Dimensions: 440mm*194mm*45mm, Weight: 2.2kg
- CE/FCC/RoHS/Green Certified
- 2 Year Warranty, paid extension is available

A. Single G406 applications

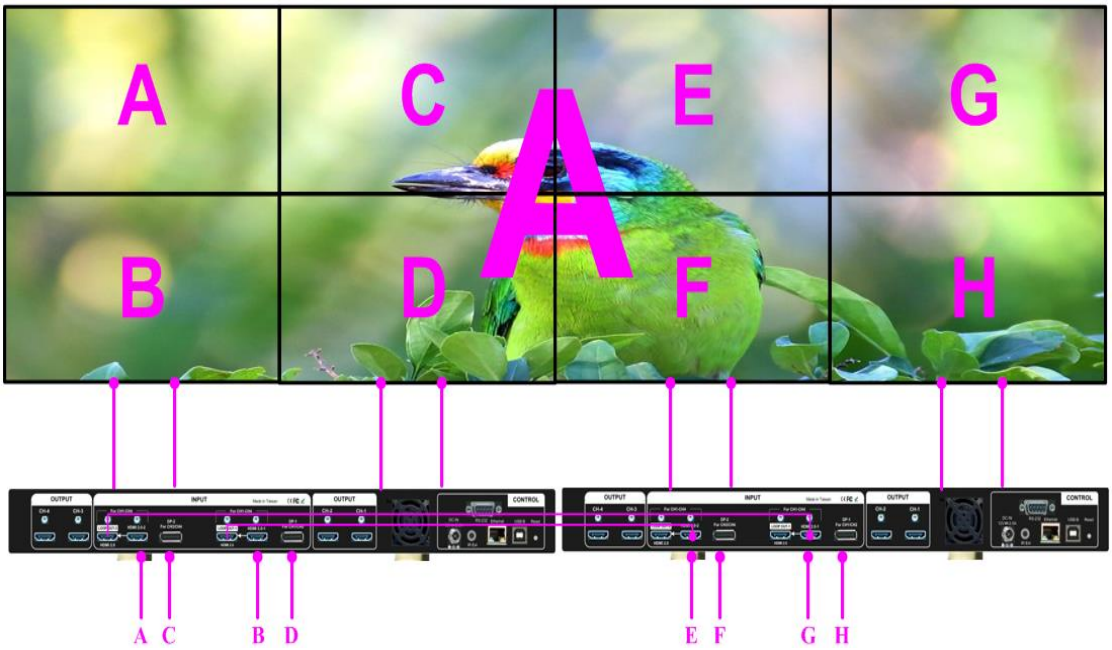
Configuration for 2x2 video wall with one G-406: (HDMI: A&B, DP: C&D)



- One content display: Display A or B on entire video wall (All-in-one)
- Two content display: Display A or C on two LCD and B or D on another two LCD (1+1)
- Three content display: Display A & C in two LCD and B or D across another two LCD (2+1/1+2)
- 4x content display: display A, B, C, D discrete contents across 4x LCD. (1+1+1+1)
- Each LCD can be randomly rotated at 90/180/270 degrees with 900 pixels image alignment.
- Display 2x LCD at landscape + 2x LCD at portrait, like wind-mill style.
- Display 1/2/3/4 portrait or horizontal array.

B. ***Multiple units cascade applications***

Example for 2 units of G406 application (HDMI input signal: A/B/E/G, DP input signal: C/D/F/H)



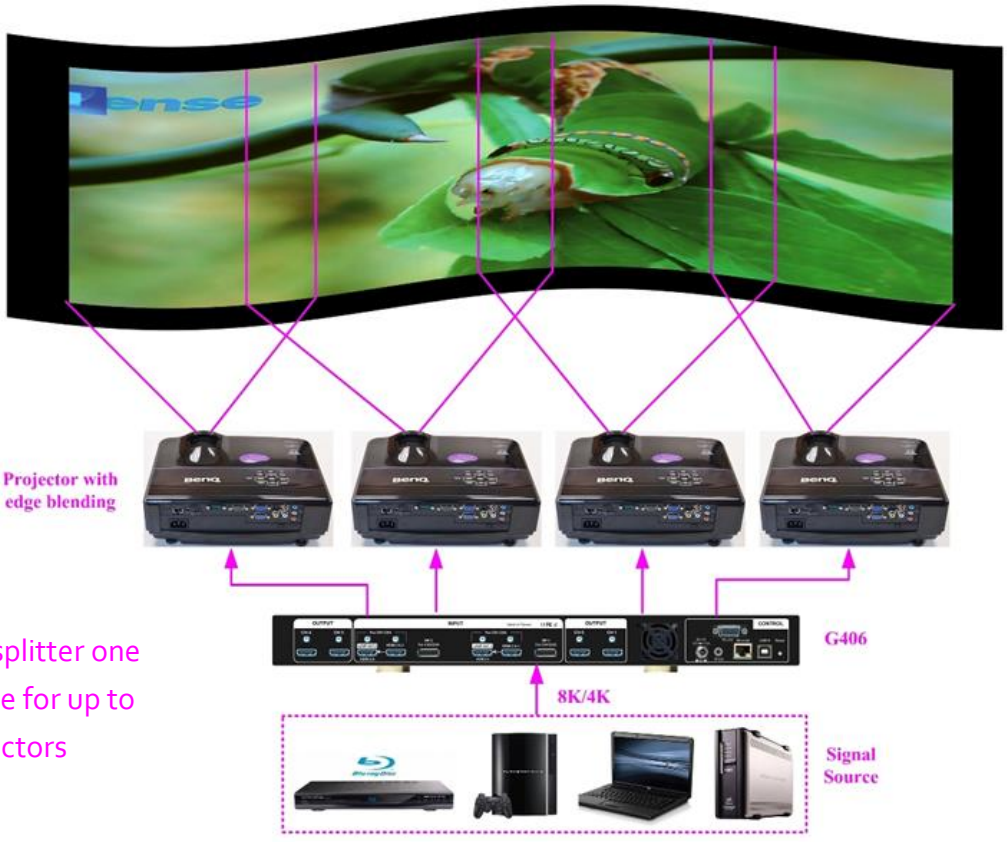
- Display A or B across entire video wall (All-in-one)
- If user swap loop out port connection, user can display E or G across entire video wall
- Display A on LH 4x LCD and B on RH 4x LCD or vice versa (1+1)
- Display 2/3/4/5/6/7/8 different contents across entire video wall. It depends on input connection configuration. Each LCD can select content from max. 3 input ports. Example: LCD-A can select signal from A, B and C. LCD-D can select signal from A, B & D.
- Any LCD can be independently at portrait or landscape position for irregular video wall.

C. Split image for projector with embedded blending function

Two GeoBox outputs with redundant data in overlap region

Projected image are overlapped and blended by projectors

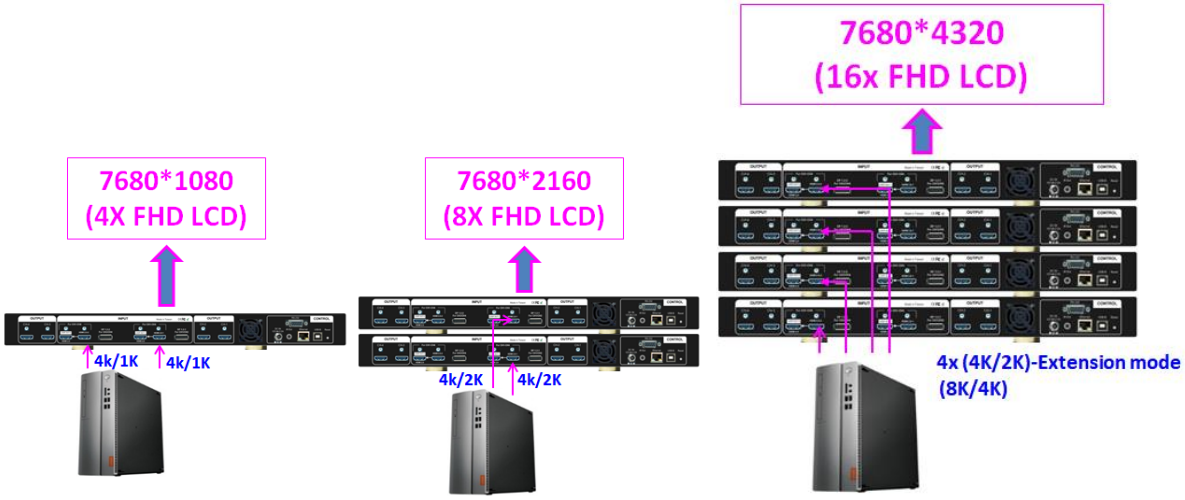
After projector edge blending, resulting seamless image



One G406 can splitter one or two 4k image for up to four projectors

D. High resolution system applications

Multiple 4k signal sources can build supper high resolution display system with high quality pixel to pixel mapping video wall.



E. Limitation in HDMI input ports

- G406 is designed with two display groups. Group A consists of CH1 & CH2. Group B consists of CH3 & CH4. It can be treated as two dual channel systems or one quad channel processor. User can use 4 units of G-406 together with 4x UHD signals (8k/4k signal source) to display pure 8k/4k video wall with pixel to pixel video quality.
- Two display groups will share the same HDMI input signal. User can select HDMI-1 or HDMI-2 signal for CH1/CH2 but can't select HDMI-1 & HDMI-2 at the same time for CH1/CH2. If HDMI-1 is selected for CH1, then CH2 can only select from HDMI-1 or DP1 input signals. If user selects HDMI-2 for CH2, then CH1 input will be changed to HDMI-2 at the same time.
- Group B CH3/CH4 will have the same limitation in HDMI-1 & HDMI-2 inputs.
- DP1 is for group A (CH1/CH2) and DP2 is for group B (CH3/CH4) only, not swappable. DP input is independent and will not affect all other input port selection.

F. 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. When image flip, there are some limitations in image position shift range. It may be only enough for video wall bezel compensation.

Sales & Technical support

Web site: www.vnstw.com E-mail: sales@vnstw.com
Tel: +886-2-2792-2819 Cell: +886-935-678-033
Skype: vns-inc Version: 1.00
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