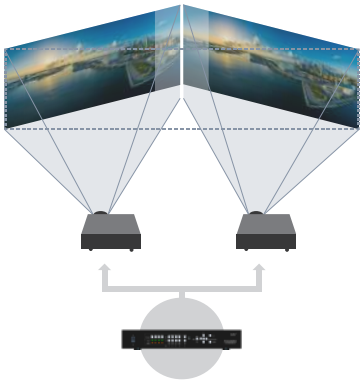
PRODUCT LINE-UP

GeoBox Multi-display Controller

2021 Spring

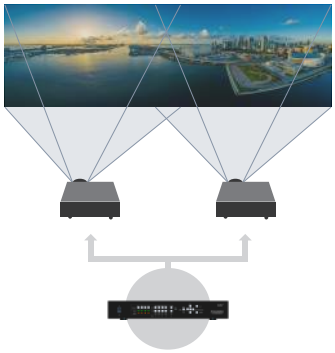
Projector edge blending, warping and stacking controller

Application



1.Geometry adjustment

2.Image crop overlap pixel creation



3.Edge Blend

https://www.youtube.com/watch?v=yPGxlqzHDL4&t=16s

Functions and features

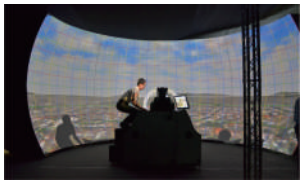
Input and output resolution

- Support input up to 8K2K@30hz or 4K2K@60hz, RGB4:4:4. Non-VESA standard resolution.
- Output up to 4K2K@60hz.

* Please refer to P.4 for max. resolution support of each model.

Built-in Edge Blending

- Edge blending on flat & curved surface up to H=1920 Px, V=1200 Px.
- Discrete RGB gamma correction.

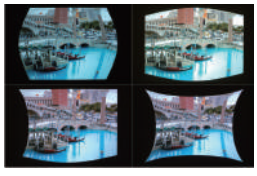


PC-free, pure hardware design

- With complete functions control and setup via IR remote, Ethernet, RS232, USB PC tool.
- Utilizing any digital input from any device.

Advanced warp and Geometry alignment technology

- Sophisticated geometry alignment.
- Real time geometry alignment through IR remote, USB or Web Gui to get optimized result.
- Flexible grid patterns.



Corner wall Alignment

- Geometry alignment at corner wall in both horizontal and vertical direction at any location.

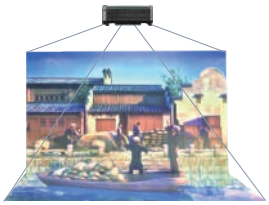
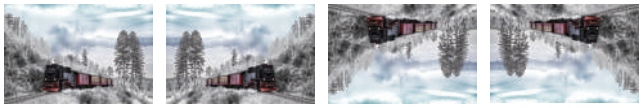


Image rotation, flip

- Individual 90/180/270 rotation, flip, cropping, scaling & color adjustment in each channel.



Selectable Frame-Sync

- User can select Frame Lock, Phase Lock or Free Run based on system requirements.
- 50Hz in / 50Hz out.
- Perfect synchronization can be achieved.

Programmable EDID

- Selectable output resolution and programmable EDID to optimize video quality.

Super low latency

- 2 frames system latency: 33ms (@V=60Hz).

High end 10-bit video processing

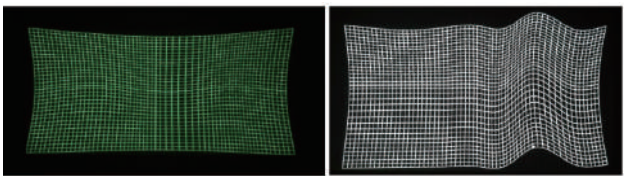
- 3D motion adaptive de-interlace, low angle smooth algorithm and 3:2/2:2 film mode detect and recovery function.

Multi-unit cascade

- HDMI2.0 loop-out port for multiple units cascade

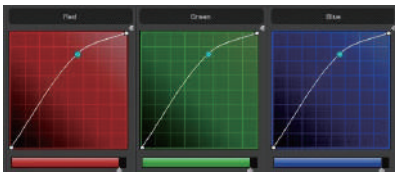
Linear grid line adjustment to get perfect image

- To compensate different scaling factors when projecting on surface wall with edge blending or warping alignment.



RGB gamma adjustment

- Independent RGB gamma correction to get optimized image quality.



9-region Black level uplift

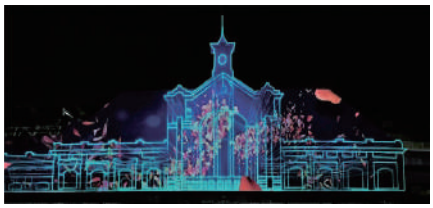
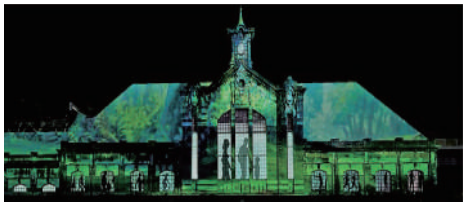
- Nine region precise Black Level Uplift to compensate light leakage from projectors.

Profile saving

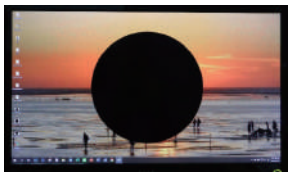
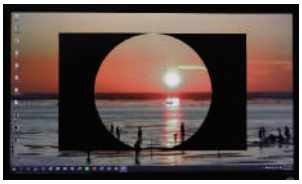
- All customized settings can be saved into profile.
- Up to 5 profiles can be saved and recalled by remote controller, RS232, USB or Ethernet.

Digital mapping (projection mapping)

- 10 patterns (images) can be input into M800Ex in each channel for projection mapping.

- User can use any signal source and select up to 4 display styles in each pattern without pre-mask at input source.

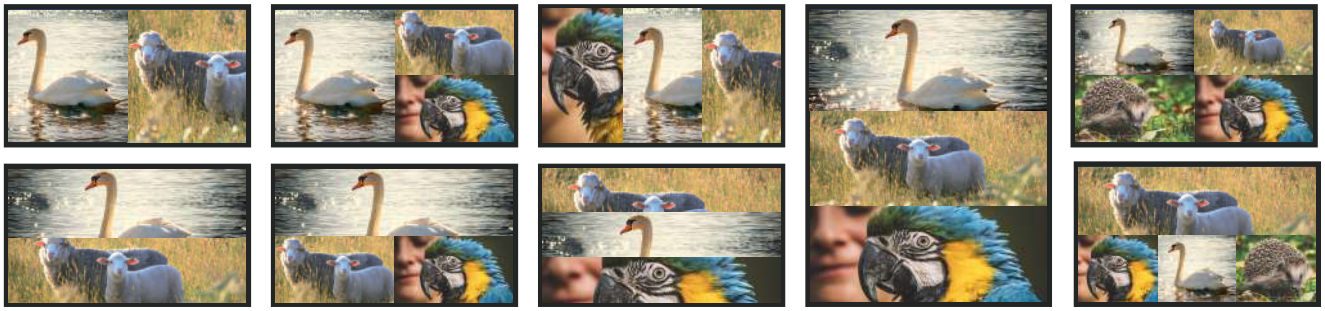

＊Only available in some models. Please refer to P.4 Key specification comparison for models with digital mapping feature.

PIP/POP, Multi-viewer

- Flexible position and adjustable aspect ratio.

Original PIP | Remove black border | Change size and location | Change shape and maintain all information | Change shape, position and cropping area

- 2/3/4 split view POP is available in each channel.



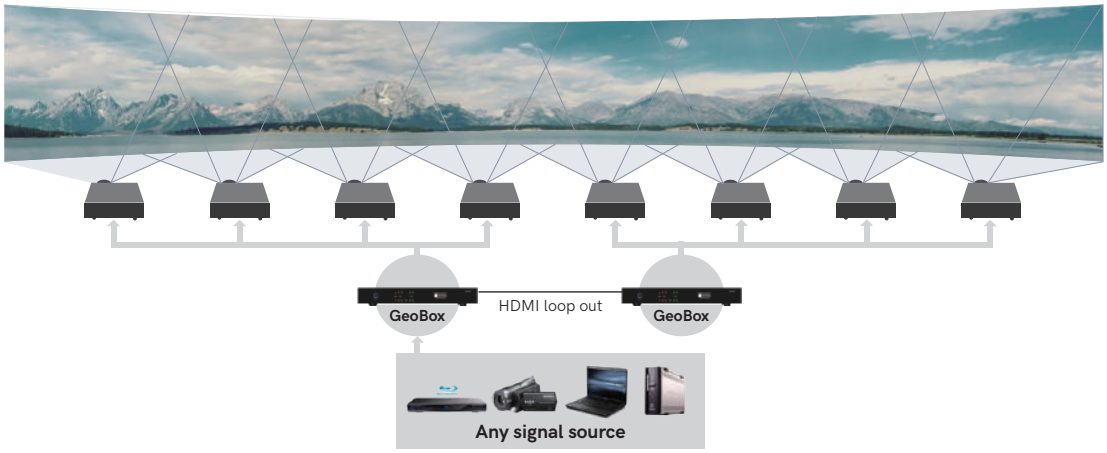
＊Only available in some models. Please refer to P.4 Key specification comparison for models with PIP/POP and Multi-viewer feature.

Use GeoBox Video wall controller series to control projectors

- If your projectors have edge blending and warping functions already built in, you can use GeoBox video wall controller for image rotation, cropping, scaling and color adjustment for each projector.

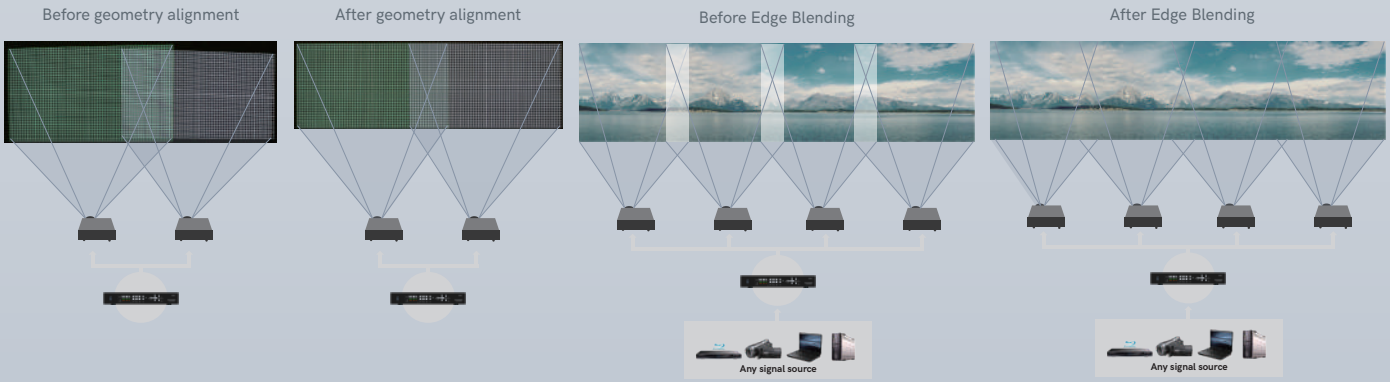
Crop image and assign to each projector | Create pixels for edge blending projectors | Get a seamlessly blended image

System configuration



Key specification comparison

Model name	Module configuration				Max. input resolution	Max. Output resolution	Edge blending	Geometric adjustment	Digital mapping	PIP/ POP	Multi-viewer
	Input	Output	Loop-out	Q'ty of module							
UD104	HDMI2.0x3 DP1.4x1	HDMI 2.0x1	HDMI 2.0x1	4	4096*2400@60Hz/ 7680*2160@30Hz (RGB4:4:4)	4096*2160@60Hz	O	33x33 (Gwarp) 17x17 (IR remote)	X	O	O
UD103				3			O		X	O	O
UD102				2			O		X	O	O
UD101				1			O		X	O	O
UD101Lite				1			X		X	O	O
M804	HDMI2.0x2 DP1.2x1 VGAx1	HDMI 1.4x1	HDMI 2.0x1	4	4096x2160@60Hz/ 5760x1200@60hz/ 7680x2160@30hz (RGB4:4:4)	2048*1200@60Hz	O	17x17 (Gwarp) 9x5 (IR remote)	X	O	X
M803				3			O		X	O	X
M802				2			O		X	O	X
M801				1			O		X	O	X
G116				1			X		X	O	X
M804EX	HDMI2.0x2 DP1.2x1 VGAx1	HDMI 1.4x1	HDMI 2.0x1	4	4096x2160@60Hz/ 7680x1200@30hz (RGB4:4:4)	2048*1200@60Hz	O	17x17 (Gwarp) 9x5 (IR remote)	O	O	X
M803EX				3			O		O	O	X
M802EX				2			O		O	O	X
M801EX				1			O		O	O	X
G804	HDMI2.0x2 DP1.2x1 VGAx1	HDMI 1.4x4	HDMI 2.0x1	2	4096x2160@60Hz/ 7680x1200@30hz (RGB4:4:4)	2048*1200@60Hz	O	17x17 (Gwarp) 9x5 (IR remote)	X	X	X
G802				1			O		X	X	X



Creative video wall controller

Main functions

Image Zoom and Pan

- Split image into max. 15 sections (vertically and horizontally) and assign the sections to the display devices as needed.

Input source

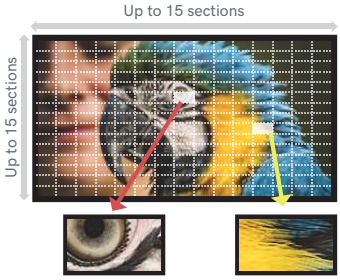
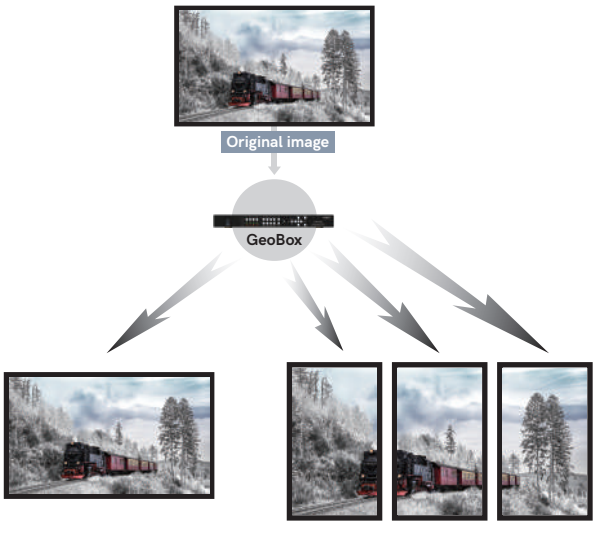


Image orientation adjustment

- Image orientation of each channel can be adjusted individually.

Original image | Flip | Upside Down | Rotate 180

- Image orientation of each channel can be adjusted individually.



Bezel compensation

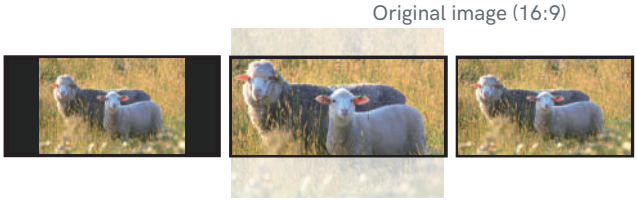
- Pixel base image location alignment for precise bezel compensation at any direction.

Without bezel compensation | After bezel compensation

Flexible aspect ratio adjustment

- User can adjust image in all directions up to 1800 pixels to compensate the aspect ratio difference between video wall and the content.

Original image (16:9)



Keep original size | Enlarge image with original aspect ratio | Adjust aspect ratio to fit the screen

Matrix switcher function

- Matrix switcher function to allow multiple window display. A/ B/ C/ D independent contents on four LCD video wall.

* Only available in G406.

Use video wall controller to control projectors

- Work with projectors with built-in edge blending and warping functions.
- Built-in functions for image rotation, cropping, scaling and color adjustment for each projector.

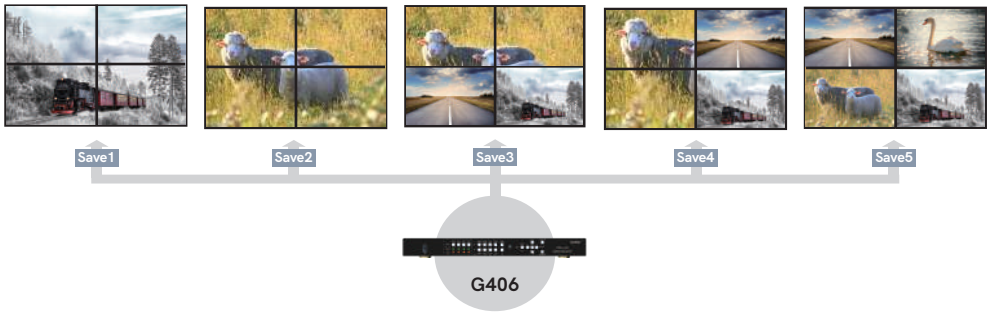
Crop image and assign to each projector

Create pixels for edge blending projectors

Get a seamlessly blended image

Profile saving

- All customized settings can be saved into profile.
- Up to 5 profiles can be saved and recalled by remote controller, RS232, USB or Ethernet.



Multi-unit cascade

- HDMI2.0 loop-out port for multiple units cascade

EDID

- Selectable output resolution and programmable EDID to optimize video quality.

Super low latency

- 1 frames system latency: 16ms (@V=60Hz)

10 bits high quality processor

- 3D motion adaptive de-interlace.
- 3:2/2:2 film mode detecting and recovery.
- Low angle smooth algorithm (similar to DCDi).
- Support non-VESA standard input.
- Programmable EDID

Multiple synchronization modes

- Frame Lock/Phase Lock/Free-run sync modes.
- Selectable output frame rate to avoid frame repeat or frame loss.

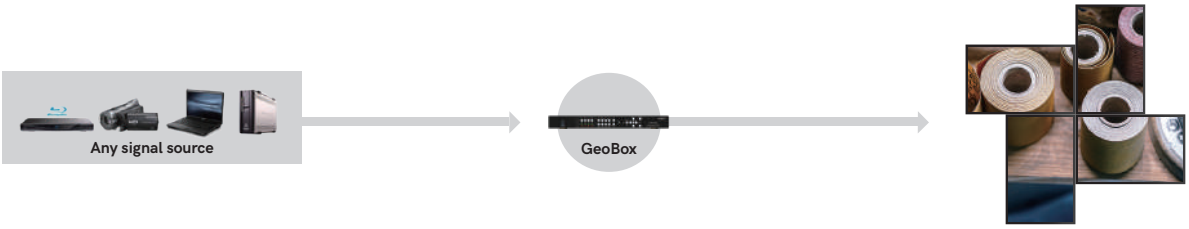
True 4K/60Hz

- Support up to 4096*2160/60Hz and7680*1080/30Hz with 4:4:4 full color sampling
- Support sRGB, xvYCC 8/10/12 bit deep color.
- HDMI 2.0, HDCP 2.2, HDR ready.

PC-free, pure hardware design

- With complete functions control and setup via IR remote, Ethernet, RS232, USB PC tool.
- Utilizing any digital input from any device.

System Configuration



G413 features highlight

Predefined display modes

- More than 27 pre-defined creative display modes that can be selected by OSD.
- User can modify from preset mode to get the required configuration with ease.

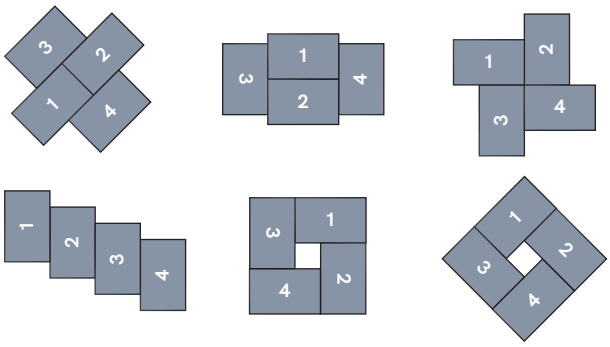
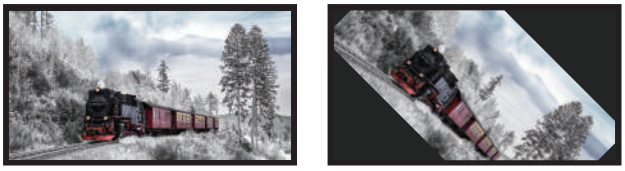


Image rotation at any angle

- 360° image rotation with 1 degree interval.



Crop image at any location

- Cropping image from any location.
- Save up to 10 cropped images.
- Seamless looping playback for cropped image.

Customize your own irregular video wall

- Manually create display modes for irregular shape video wall with monitors in different sizes, resolutions and bezel width at any angle and position.

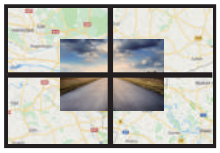
Auto looping playback

- User can set up to 10 display modes from the same display content and looping playback with selectable time interval.

https://www.youtube.com/watch?v=hEVl3RkL4LM

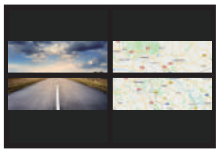
PIP/ POP

- PIP/POP can be implemented across 4 outputs with different PIP size and location.



PIP with 2 TV at top/ down flip

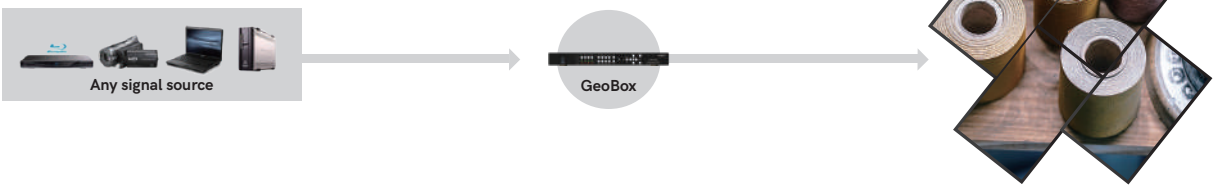
POP full screen display



POP with original aspect ratio

Creative TV wall with PIP

System Configuration



G901/G902/G904 features highlight

Support up to 8K input

- Support input up to 8K2K@30hz or 4K2K@60hz, RGB4:4:4.
- Non-VESA standard resolution.

HDR support

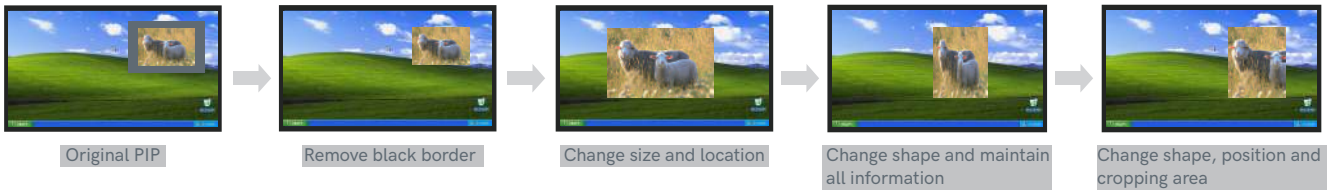
- Support BT.2020 HDR 10 input.
- True 10-bit deep color output for smooth gradient color.

Programmable output resolution

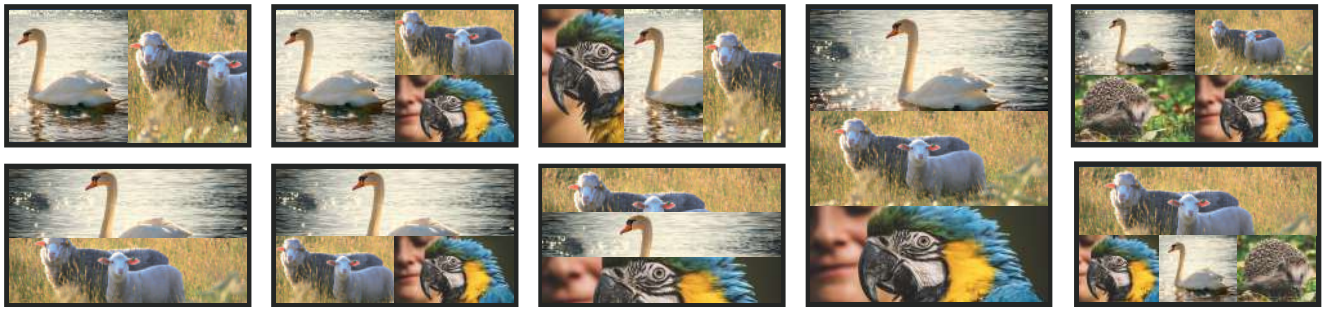
- Programmable output up to 4096x2400 or 3120x3120 @60Hz.
- Output range: 800-4096 in horizontal (16 pixels/step) and 600-3840 in vertical (1 pixel/step).

PIP/POP, Multi-viewer

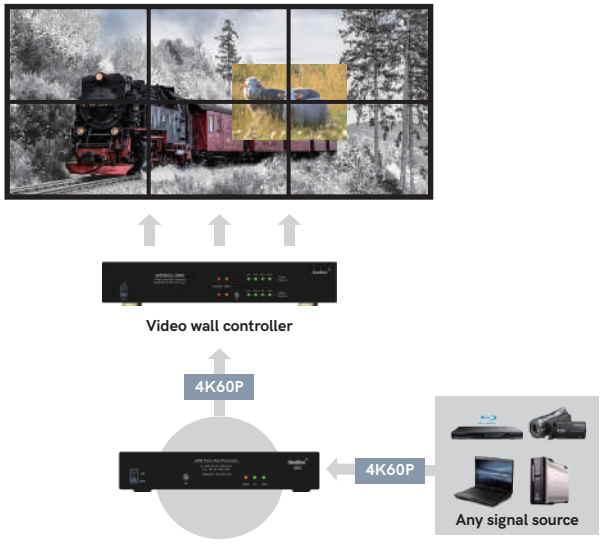
- Flexible position and adjustable aspect ratio.



- 2/3/4 split view POP is available in each channel.



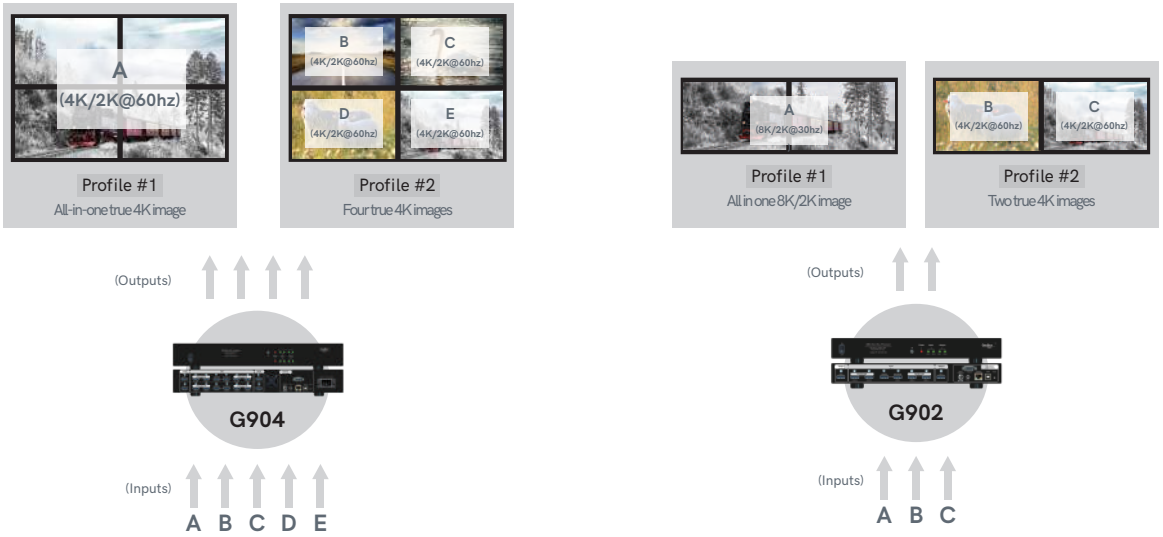
Front-end processor



- Use in front of any video wall controller to show PIP/POP across entire video wall.

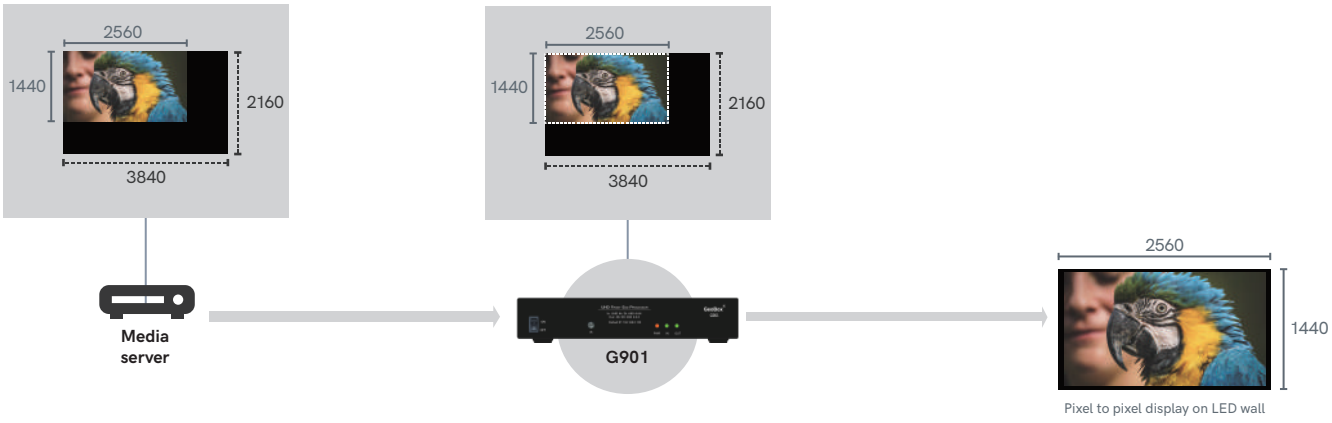
- Use in front of any edge blending controller to show PIP/POP across entire projection image.

8K/4K video wall controller with ability to show discrete 4K contents on each monitor



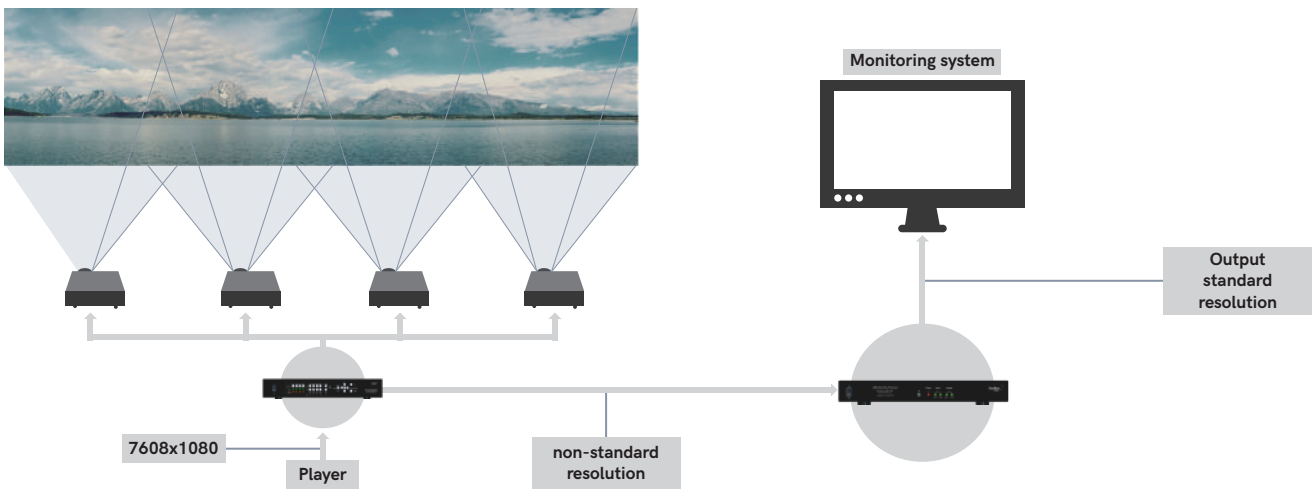
Output non-standard resolution for pixel-to-pixel picture quality

- Crop the image and output as the same resolution as the display device (such as LED wall). The whole system can be maintained in pixel-to-pixel display quality without scaling compromise.



Non-standard image resolution conversion

- Convert non-standard resolution input into playable resolution output for monitoring purpose.



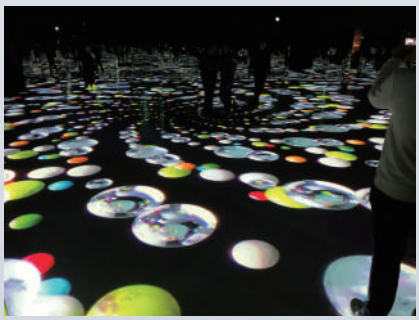
Key specification comparison

Model name	Module configuration				Max. input resolution	Max. Output resolution	PIP/ POP	Multi-viewer per channel	360° image rotation
	Input	Output	Loop-out	Q'ty of module					
G904	HDMI2.0x5 (1 for both outputs, 2 pairs for each output)	HDMI2.0x2	HDMI2.0x1	2	4096*2400@60Hz/ 7680*2160@30Hz (RGB4:4:4)	4096*2400 @60fps / 2400*4096 @60fps	O	O (up to 3-split)	X
G902				1			O	O (up to 3-split)	X
G901	HDMI2.0x3 DP1.4x2	HDMI2.0x1	n/ a	-	HDMI: 4096*2400@60Hz/ 7680*2160@30Hz DP: 7680*4320 @30Hz (RGB4:4:4)		O	O (up to 4-split)	X
G413	HDMI2.0x2 DP1.2x1 VGAx1	HDMI1.4x4	HDMI2.0x1	-	4096x2160@60Hz/ 7680x1200@30hz (RGB4:4:4)	2048*1200@60Hz	O	X	O
G406	HDMI2.0x2 DP1.2x2	HDMI1.4x4	HDMI2.0x2	-			X	X	X
G406L	HDMI2.0x1	HDMI1.4x4	HDMI2.0x1	1			X	X	X
G408				2			X	X	X
G406S	HDMI2.0x1	HDMI1.4x2	HDMI2.0x1	-			X	X	X

Reference cases

GeoBox recreates the Fifth Aztec Sun at Stuttgart's Linden Museum.

https://matrix-works.eu/museum-case-study-01/



GeoBox helps to bring the Silla Kingdom to life at Gyeongju World Culture Expo.

https://youtu.be/XS227KprJd0

GeoBox adds edge blending interaction to Vodafone's flagship store in Netherland.

https://matrix-works.eu/case-study-vodafone/

More videos please visit YouTube

VNS Inc. was founded in year 2000, Taipei, Taiwan, engaged in the research, development and manufacturing of video processing products. GeoBox is own brand video processors for professional AV applications.

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