

Video Wall Controller – 4K 60 Hz, HDMI/USB-C Input, 4x HDMI Output

Model:
B119-1X4-4K6-VW



Purchased product may differ from image.

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1. Safety Instructions

Thank you for purchasing the B119-1X4-4K6-VW. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge Protection Device Recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges and other power interruptions. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

2. Introduction

The Video Wall Controller is designed to capture, convert, route and distribute all video signal formats to a video wall.

It features HDMI and USB-C input with resolution up to 4K @ 60 Hz (4:4:4) and 4 HDMI outputs. It supports multiple video wall modes to be set for video output. Furthermore, optical audio and L/R analog audio de-embedding output are also supported.

You can control the Video Wall Controller using front-panel buttons, the included IR remote or RS-232 commands.

3. Product Features

- Supports both HDMI and USB-C input with 4K @ 60 Hz resolutions and 4:4:4 color
- Supports 8 video wall splicing modes: 1x1, 2x1, 3x1, 4x1, 1x2, 1x3, 1x4, 2x2
- HDCP 2.2 and DP 1.2a compliant
- Supports video bandwidth up to 18 Gbps
- Supports optical audio and L/R analog audio de-embedding output
- Supports image 180° rotation, convenient for ceiling installation
- Supports bezel adjustment for the splicing edge
- Advanced EDID management
- Control via front-panel buttons, IR remote or RS-232 commands
- Simple plug-and-play installation with no settings or software required

4. Package Contents

- 1x4 Video Wall Controller
- External Power Supply
- 12V 1A Locking Power Plug (AS/NZS 3112 Australia, BS 1363 U.K., CEE 7/16 Schuko, NEMA 1-15P North America)
- IR Remote
- 5V IR Receiver Cable, 5 ft. (1.5 m)
- 3-Pin 3.81 mm Phoenix Connector
- (4) KM 3x4 Machine Screws
- (2) Mounting Ears
- User Documentation

5. Specifications

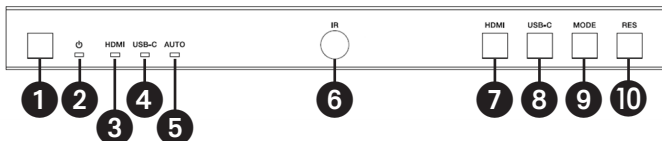
Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18 Gbps
Video Resolution	Input: up to 4K @ 60 Hz 4:4:4 Output: 720p @ 60 Hz, 1080p @ 60 Hz, 4K @ 30 Hz, 1024x768p @ 60 Hz
Color Space	RGB, YCbCr_4:4:4, YCbCr_4:2:2, YCbCr_4:2:0
Color Depth	8/10/12 bit
IR Level	5Vp-p
IR Frequency	38 kHz
Audio Formats	HDMI IN/OUT: LPCM 2.0/5.1, Dolby Digital/Plus/EX, DTS, DTS-EX, DTS-96/24 L/R OUT: PCM 2.0 SPDIF (Optical): Dolby Digital/Plus, DTS 5.1, PCM 2.0
Audio Latency	No Latency
Video Latency	No Latency
ESD	IEC 61000-4-2: ±8kV (Air-gap discharge), ±4kV (Contact discharge)
Connection	
Input Ports	1 × HDMI [Type A, 19-pin female] 1 × USB-C [Type C, 24-pin female]
Output Ports	4 × HDMI [Type A, 19-pin female] 1 × Optical Audio [S/PDIF] 1 × L/R Audio [RCA]
Control Ports	1 × RS-232 [3-pin 3.81mm Phoenix Connector] 1 × IR EXT [3.5 mm, Stereo Mini-Jack]

5. Specifications

Mechanical			
Housing	Metal		
Color	Black		
Dimensions (H x W x D)	1.2 x 8.7 x 3.9 in. / 30 x 220 x 100 mm		
Weight	1.3 lb. / 590 g		
Power Supply	Input: AC 100–240V, 50/60 Hz Output: DC 12V 1A (US/EU Standard, CE/FCC/UL Certified)		
Power Consumption	5.5W (Max)		
Operating Temperature	32° - 104°F / 0° - 40°C		
Storage Temperature	-4° - 140°F / -20° - 60°C		
Relative Humidity	20% - 90% RH (Non-Condensing)		
Video Resolution	4K @ 60 Hz	4K @ 24 Hz	1080p @ 60 Hz
HDMI Cable Length (HDMI In/Out)	26 ft. / 8 m	32 ft. / 10 m	49 ft. / 15 m
The use of "Premium High-Speed HDMI" cable is highly recommended.			

6. Operation Controls and Functions

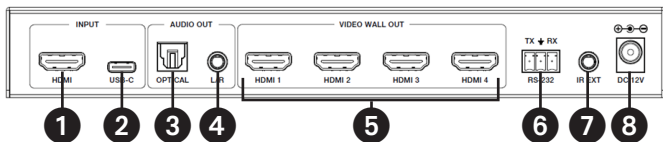
6.1 Front Panel



- 1 Power Button:** Press to power on the unit in shutdown/standby status. In power-on status, press for 2 to 3 seconds to enter standby status.
- 2 Power LED:** Lights green during normal operation. Lights red during standby status.
- 3 HDMI LED:** Lights green when HDMI input is selected.
- 4 USB-C LED:** Lights green when USB-C input is selected.
- 5 Auto LED:** Lights green when auto-switching is enabled.
- 6 IR Window:** IR signal receiving window.
- 7 HDMI Button:** Press to select HDMI input channel.
- 8 USB-C Button:** Press to select USB-C input channel.
- 9 Mode Button:** Press to choose one of the 8 splicing modes.
- 10 RES Button:** Press to choose one of the 4 HDMI output resolutions.

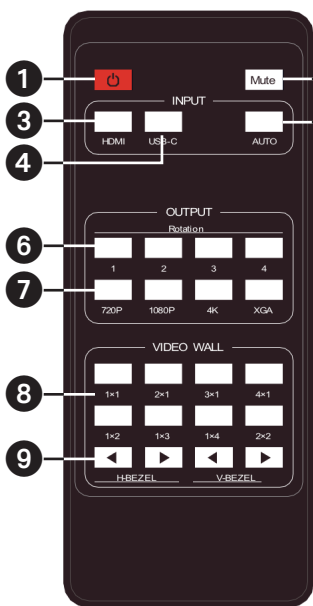
6. Operation Controls and Functions

6.2 Rear Panel



- 1 HDMI Input:** HDMI signal input port connects to an HDMI source device.
- 2 USB-C Input:** USB-C signal input port connects to a USB-C source device.
- 3 Optical Audio Out:** Connects to an optical audio output device, such as an audio amplifier.
- 4 L/R Audio Out:** Connects to an analog audio output device, such as a speaker.
- 5 Video Wall Out (HDMI 1-4):** HDMI signal output ports connect to HDMI displays.
- 6 RS-232 3-Pin Phoenix Connector:** Connects to a PC or control system for serial port upgrade or RS-232 command control.
- 7 IR EXT:** IR signal receiving port connects to included IR Receiver cable. If the IR signal receiving window (see **6.1 Front Panel**) is blocked or the unit is installed in a closed area out of infrared line-of-sight, the IR receiver cable can be connected to this port to receive the IR remote signal.
- 8 DC 12V:** Connects to included external power supply.

7. IR Remote



- 1 Power On or Standby:** Press to power on the device or set it to standby mode.
- 2 Mute:** Press to turn off or on the audio output, including HDMI, optical and L/R audio.
- 3 HDMI:** Press to select HDMI input channel.
- 4 USB-C:** Press to select USB-C input channel.
- 5 AUTO:** Press to disable or enable the input auto-switching.
- 6 Rotation 1/2/3/4:** Press to switch rotation angle between 0° and 180° for the corresponding output channel.
- 7 Resolution 720P/1080P/4K/XGA:** Press to switch the resolution for the 4 output channels at the same time.
- 8 VIDEO WALL MODE:** There are 8 splicing modes: 1x1, 2x1, 3x1, 4x1, 1x2, 1x3, 1x4, 2x2. Press to select the display mode.
- 9 H/V-BEZEL:** Press to adjust the bezels of the splicing images.

8. IR Cable Pin Assignment



9. Video Wall

Video wall supports eight splicing modes as below:



You can set display modes via front-panel buttons, IR remote or RS-232 commands.

Note: In video wall mode (except 1x1), only the screens that are selected to perform video wall splicing will display images, and their bezel can be adjusted.

10. RS-232 Control Command

The Video Wall Controller supports RS-232 command control. Connect its RS-232 port to a PC with a 3-pin Phoenix connector cable and an RS-232-to-USB cable. The connection method is as follows.



Then, open a Serial Command tool on PC to send ASCII command to control the device. The ASCII command list is shown below.

ASCII Command
Serial port protocol. Baud rate: 115200 (Default), Data bits: 8, Stop bits: 1, Check bit: 0
x: Parameter 1, y: Parameter 2, !: Delimiter

Command Code	Function Description	Example	Feedback	Default Setting
System Setting				
help!	List all commands	help!		
r status!	Get device current status	r status!	get the unit all status: power, video wall mode, output resolution	
r type!	Get device model	r type!	1x4 video wall controller	
r fw version!	Get firmware version	r fw version!	mcu fw version: x.xx.xx	

10. RS-232 Control Command

Command Code	Function Description	Example	Feedback	Default Setting
s power z!	Power on/off the device, z=0~1 (z=0 power off, z=1 power on)	s power 1!	power on system initializing... initialization finished! mcu fw version: x.xx.xx	
r power!	Get current power state	r power!	power on / power off	
s reboot!	Reboot the device	s reboot!	reboot... 1x4 video wall controller system initializing... initialization finished! mcu fw version: x.xx.xx	
s reset!	Reset to factory defaults	1x4 video wall controller	reset to factory defaults 1x4 video wall controller system initializing... initialization finished! mcu fw version: x.xx.xx	1. HDMI in; 2. EDID: 4K@60 4:4:4 2ch; 3. Audio mute off; 4. 1x1 video wall mode; 5. 1080p output; 6. All HDMI out no rotation; 7. H-Bezel=0, V-Bezel=0;

10. RS-232 Control Command

Command Code	Function Description	Example	Feedback	Default Setting
Input Setting				
s input x edid z!	Set input x edid mode (x=0~2, z=1~6) x=0. all input x=1. input1 x=2. input2 z=1. 4k60, 2.0ch z=2. 4k60, 5.1ch z=3. 4k30, 2.0ch z=4. 4k30, 5.1ch z=5. 1080p, 2.0ch z=6. 1080p, 5.1ch	s input 1 edid 1!	input 1 edid: 4k60, 2.0ch	4k60,2.0ch
r input x edid!	Get input x edid mode (x=0~2) x=0. all input x=1. HDMI in x=2. USB-C in	r input 1 edid!	HDMI in edid: 4k60, 2.0ch	
s output in source x!	Route input source to output (x=1~2) x=1. HDMI in x=2. USB-C in	s output in source 1!	output->HDMI in	output->HDMI in
r output in source!	Get output y selected input source	r output in source!	output->HDMI in	
Output Setting				
s tw mode x!	Set tv wall display mode (x=1~8) x=1. 1x1 mode x=2. 2x1 mode x=3. 3x1 mode x=4. 4x1 mode x=5. 1x2 mode x=6. 1x3 mode x=7. 1x4 mode x=8. 2x2 mode	s tw mode 1!	tv wall mode: 1x1	tv wall mode: 1x1
r tw mode!	Get tv wall display mode	r tw mode!	tv wall mode: 2x2	
s tw h bezel +!	Set tv wall horizontal bezel	s tw h bezel +!	tv wall horizontal bezel: (bezel+1)	tv wall horizontal bezel: 0

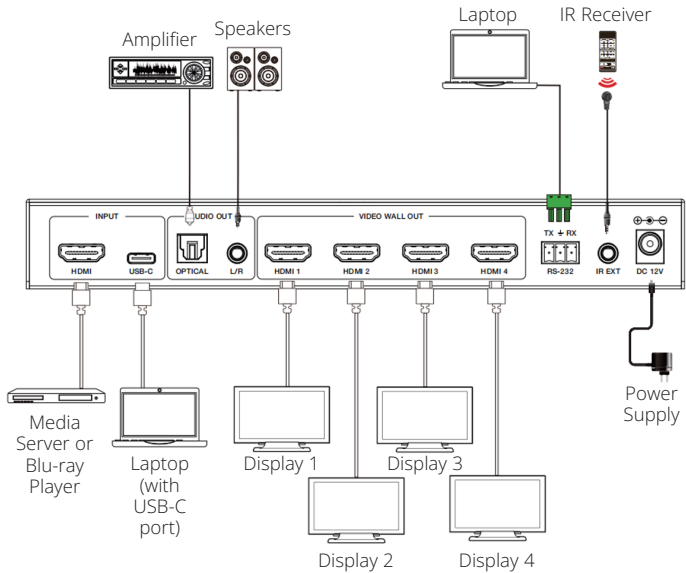
10. RS-232 Control Command

Command Code	Function Description	Example	Feedback	Default Setting
s tw h bezel -!	Set tv wall horizontal bezel	s tw h bezel -!	tv wall horizontal bezel: (bezel-1)	tv wall horizontal bezel: 0
s tw h bezel x!	Set tv wall horizontal bezel (x=0~10)	s tw h bezel 0!	tv wall horizontal bezel: 0	tv wall horizontal bezel: 0
r tw h bezel!	Get tv wall row bezel	r tw h bezel!	tv wall horizontal bezel: 0	
s tw v bezel +!	Set tv wall vertical bezel	s tw v bezel +!	tv wall vertical bezel: (bezel+1)	tv wall vertical bezel: 0
s tw v bezel -!	Set tv wall vertical bezel	s tw v bezel -!	tv wall vertical bezel: (bezel-1)	tv wall vertical bezel: 0
s tw v bezel x!	Set tv wall vertical bezel (x=0~10)	s tw v bezel 0!	tv wall vertical bezel: 0	tv wall vertical bezel: 0
r tw v bezel!	Get tv wall vertical bezel	r tw v bezel!	tv wall vertical bezel: 0	
s tw res x!	Set tv wall resolution (x=1~4) 1. 1280x720p60, 2. 1920x1080p60, 3. 3840x2160p30, 4. 1024x768@60 (XGA)	s tw res 2!	tv wall resolution: 1920x1080p60	tv wall resolution: 1920x1080p60
r tw res!	Get tv wall resolution	r tw res!	tv wall resolution: 1920x1080p60	tv wall resolution: 1920x1080p60
s output y rotate x!	Set output y mirror (y=1~4, x=0,1) y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4 x=0. 0° rotation x=1. 180° rotation	s output 1 rotate 0!	output1: 0° rotation	output1: 0° rotation output2: 0° rotation output3: 0° rotation output4: 0° rotation

10. RS-232 Control Command

Command Code	Function Description	Example	Feedback	Default Setting
r output y rotation!	Get output y mirror status (y=0~4) y=0. output all y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4	r output 0 rotation!	output1: 0° rotation output2: 0° rotation output3: 0° rotation output4: 0° rotation	
s output audio mute x!	Set output audio mute on/off (x=0~1) 0. mute off 1. mute on	s output audio mute 0!	output audio mute: off	off
r output audio mute!	Get output audio mute on/off	r output audio mute!	output audio mute: off	

11. Application Example



12. Warranty

3-YEAR LIMITED WARRANTY

We warrant our products to be free from defects in materials and workmanship for a period of three (3) years from the date of initial purchase. Our obligation under this warranty is limited to repairing or replacing (at its sole option) any such defective products. Visit Tripplite.Eaton.com/support/product-returns before sending any equipment back for repair. This warranty does not apply to equipment which has been damaged by accident, negligence or misapplication or has been altered or modified in any way.

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EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL WE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, we are not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise.

FCC Notice, Class B

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications to this equipment not expressly approved by Eaton could void the user's authority to operate this equipment.

Eaton has a policy of continuous improvement. Specifications are subject to change without notice.



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Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

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