



BG-UHD-VWP110L

**1x10 4K UHD HDMI/USB-C Switcher and Video Wall Controller
with Scaling/Rotation/Bezel Adjustment/RS-232
and Audio De-Embedding**

User Manual







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Statement

Please read these instructions carefully before connecting, operating, or configuring this product. Please save this manual for future reference.

Safety Precaution

- To prevent damaging this product, avoid heavy pressure, strong vibration, or immersion during transportation, storage, and installation.
- The housing of this product is made of organic materials. Do not expose to any liquid, gas, or solids which may corrode the shell.
- Do not expose the product to rain or moisture.
- To prevent the risk of electric shock, do not open the case. Installation and maintenance should only be carried out by qualified technicians.
- Do not use the product beyond the specified temperature, humidity, or power supply specifications.
- This product does not contain parts that can be maintained or repaired by users. Damage caused by dismantling the product without authorization from BZBGear is not covered under the warranty policy.
- Installation and use of this product must strictly comply with local electrical safety standards.





Introduction

The BG-UHD-VWP110L 4K60 1x10 Video Wall Controller is a professional-grade signal processing solution designed for high-performance video wall deployments. It supports HDMI™ and USB-C inputs with resolutions up to 4K@60Hz 4:4:4 and distributes content across ten HDMI™ outputs with flexible scaling and configuration options. Built on HDMI 2.0b and HDCP 2.2 compliance, the unit ensures reliable transmission of protected 4K content while maintaining full digital signal integrity across all outputs.

Engineered for versatility in commercial and Pro AV environments, the BG-UHD-VWP110L supports multiple video wall layouts including 1x1 through 5x2 and 3x3 configurations, along with image rotation, bezel adjustment, and advanced EDID management for seamless integration. Control is available via front panel buttons, IR remote, and RS-232 commands, enabling easy deployment in both standalone and integrated control system installations. Additionally, the unit provides audio de-embedding via optical and analog outputs for flexible integration into external sound systems.

Features

- **HDMI & USB-C Dual Inputs:** Supports HDMI™ and USB-C sources with up to 4K@60Hz 4:4:4 resolution for flexible source compatibility.
- **10 HDMI Outputs:** Distributes a single input signal across ten HDMI™ outputs for large-scale video wall configurations.
- **Multiple Video Wall Modes:** Supports 15 splicing layouts including 1x2, 1x3, 1x4, 2x2, 3x3, 4x1, 5x2, and more for flexible display designs.
- **4K60 Ultra HD Processing:** Delivers up to 4K@60Hz video performance with full 18Gbps bandwidth for high-quality image reproduction.
- **HDCP 2.2 & HDMI 2.0b Compliance:** Ensures compatibility with protected 4K content and modern HDMI signal standards.
- **Advanced EDID Management:** Provides intelligent EDID handling for improved source/display compatibility and stable signal negotiation.
- **Image Rotation Support:** Enables 0° or 180° rotation per output for flexible installation orientations, including ceiling-mounted displays.
- **Bezel Compensation Control:** Allows fine adjustment of display edges to create seamless multi-screen video walls.
- **Audio De-Embedding:** Provides optical (S/PDIF) and analog L/R audio outputs for external audio system integration.
- **Multiple Control Methods:** Supports front panel buttons, IR remote control, and RS-232 serial commands for flexible system control.
- **Plug-and-Play Operation:** No software or driver installation required for quick and simple deployment.
- **Professional Signal Stability:** Designed for 24/7 operation with robust ESD protection and stable signal distribution across all outputs.





Packing List

- 1× BG-UHD-VWP110L 4K60 1x10 Video Wall Controller
- 1× 12V/1A Locking Power Supply with Multi-national Conversion Plug
- 1× IR Remote Control
- 1× IR Receiver Cable (1.5m)
- 1× 3-pin 3.5mm Phoenix Connector (Male)
- 4× Machine Screws
- 2× Mounting Ears (Rack/Wall Mount Brackets)
- 1× User Manual



Specifications

Technical	
HDMI™ Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
DP Compliance	DisplayPort 1.4 Alt Mode (USB-C)
Video Bandwidth	18Gbps
Input Resolution	Up to 4K@60Hz (3840×2160 / 4096×2160), plus legacy formats
Output Resolution	720p, 1080p, 4K30, 1024×768
Color Space	RGB 4:4:4, YCbCr 4:4:4 / 4:2:2 / 4:2:0
Color Depth	8 / 10 / 12-bit
Audio Formats (HDMI/USB-C)	LPCM 2.0/5.1, Dolby Digital/Plus/EX, DTS formats
Optical Audio Formats	Dolby Digital/Plus, DTS 5.1, PCM 2.0
L/R Audio Format	PCM 2.0
Connections	
HDMI Input	1× HDMI Type-A
USB-C Input	1× USB-C (DP Alt Mode)
HDMI Outputs	10× HDMI Type-A (Video Wall Outputs)
Optical Audio Output	1× S/PDIF
Analog Audio Output	1× 3.5mm L/R stereo
RS-232 Control	1× 3-pin Phoenix connector
IR Extension	1× 3.5mm IR EXT port
Power Input	DC 12V/1A locking connector
Mechanical	
Housing	Metal enclosure
Dimensions (W × D × H)	11in × 5.6in × 1.2in [270mm × 141mm × 30mm]
Weight	2.1lbs [935g]



Power Consumption	9.5W max
Operating Temperature	0°C to 40°C
Storage Temperature	-20°C to 60°C
Operating Humidity	20%–80% RH non-condensing
Storage Humidity	10%–90% RH non-condensing
RECOMMENDED HDMI CABLE	
Input Cable Length (4K60)	Up to 5m / 16ft
Input Cable Length (1080p)	Up to 10m / 33ft
Cable Type	Premium High Speed HDMI™ cable recommended
Installation Note	Short, high-quality HDMI cables recommended for stable 4K60 performance



Operation Controls and Functions

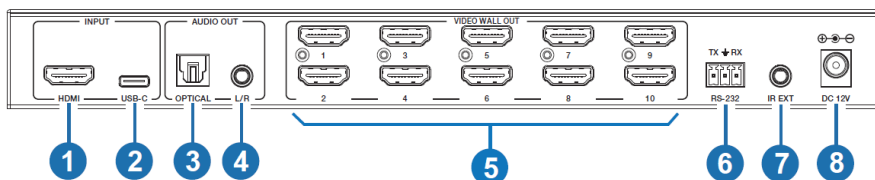
Front and Rear Panel

Front Panel



1. **Power Button:** Press to power on the unit; long press (2–3 seconds) to enter standby mode.
2. **Power LED:** Indicates power status (green = operating, red = standby).
3. **HDMI LED Indicator:** Illuminates green when HDMI input is selected.
4. **USB-C LED Indicator:** Illuminates green when USB-C input is selected.
5. **AUTO LED Indicator:** Illuminates green when auto switching is enabled.
6. **IR Window:** Receives IR signals from the remote control.
7. **HDMI Input Select Button:** Selects HDMI as the active input source.
8. **USB-C Input Select Button:** Selects USB-C as the active input source.
9. **MODE Button:** Cycles through available video wall splicing modes.
10. **RES Button:** Cycles output resolution settings (720p, 1080p, 4K, XGA) for all HDMI outputs.

Rear Panel



1. **HDMI INPUT:** Connects HDMI source devices such as media players, PCs, or set-top boxes.
2. **USB-C INPUT:** Connects USB-C source devices supporting DP Alt Mode.
3. **OPTICAL AUDIO OUT:** S/PDIF digital audio output for external audio systems or amplifiers.
4. **L/R AUDIO OUT:** Analog stereo audio output (3.5mm) for external speakers or audio devices.
5. **VIDEO WALL OUT (1–10):** Ten HDMI outputs for connection to displays in a video wall configuration.
6. **RS-232 Port:** 3-pin Phoenix connector for serial control or firmware/command integration.
7. **IR EXT Port:** External IR receiver connection for extended or concealed installations.
8. **DC 12V Power Input:** Connects to included 12V/1A locking power adapter.



IR Remote Control

The included IR remote provides convenient control of the BG-UHD-VWP110L without requiring direct access to the front panel. It allows users to manage power, input selection, video wall configuration, and audio functions.



Power: Turns the unit on or places it into standby mode.

Mute: Mutes audio across HDMI, optical, and L/R analog outputs.

Input Selection

- **HDMI:** Selects HDMI input as the active source.
- **USB-C:** Selects USB-C input as the active source.
- **AUTO:** Enables or disables automatic input switching based on active signal detection.

Resolution Control (RES)

Cycles output resolution for all HDMI outputs between 720p, 1080p, 4K, and XGA.

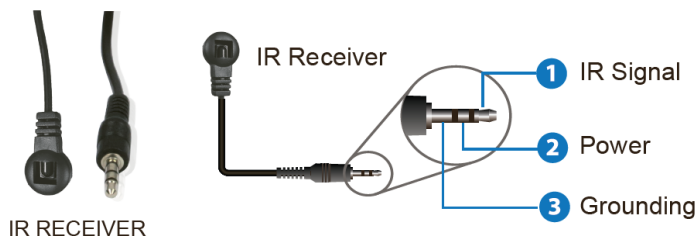
Video Wall Controls

- **MODE Buttons:** Switch between available video wall splicing layouts.
- **Rotation (1–10):** Individually toggles 0° or 180° image rotation for each output channel.
- **H-BEZEL / V-BEZEL (◀ ▶):** Adjusts horizontal and vertical bezel compensation for seamless multi-display alignment.



IR Cable Pin Assignment

The IR Receiver cable uses a standard 3.5mm stereo connector to extend IR signal reception when the front panel IR window is obstructed or the unit is installed in a concealed location.



3.5mm IR EXT Connector Pin Definition

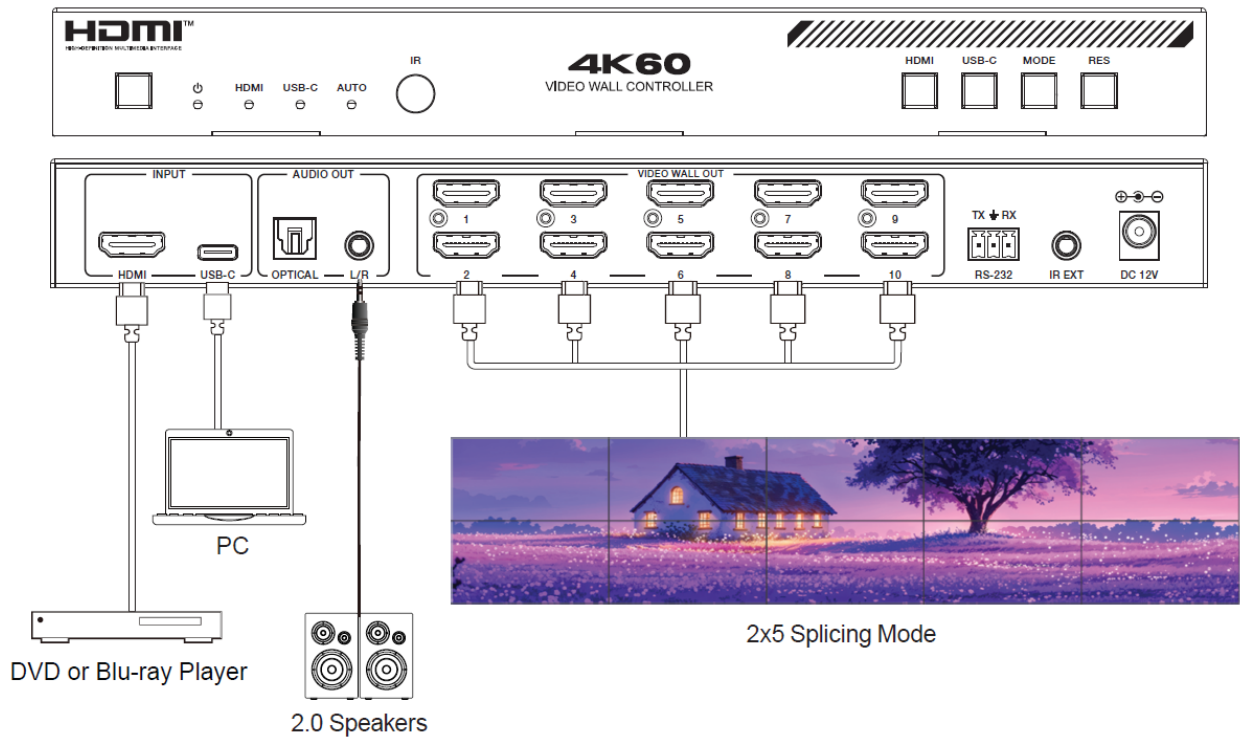
Pin	Signal	Description
Tip	IR Signal	Infrared data signal input
Ring	+5V DC	Power supply for IR receiver module
Sleeve	GND	Ground reference

Notes

- Ensure correct orientation when connecting the IR receiver cable to the IR EXT port.
- Use only the provided IR receiver cable to avoid signal compatibility issues.
- Avoid bending or sharply pulling the IR cable to maintain stable IR performance.



Connection Diagram





Troubleshooting

Problems	Causes	Solutions
No Power / All LED off	Power supply not connected, connected fully, or wrong power supply.	Check if the power supply is connected correctly and the output voltage value is within recommended specifications.
No sound or sound issues	The HDMI connection is faulty, the audio format is not supported by the displays, or the source player is set to another port for audio output	Check if the HDMI cables are connected correctly. Check if the audio format is supported by the display and that a user has not changed the supported audio format on the player's audio output. Ensure output settings from the HDMI source device as set correctly.
No picture or picture flickers	The HDMI cable may be faulty or the category cable quality is faulty.	Check if the HDMI and category cable connections are correct and undamaged. Change to another good working HDMI cable or category cable (CAT6 or better cable is recommended).



Tech Support

Have technical questions? We may have answered them already!

Please visit BZBGear's support page (bzbgear.com/support) for helpful information and tips regarding our products. Here you will find our Knowledge Base (bzbgear.com/knowledge-base) with detailed tutorials, quick start guides, and step-by-step troubleshooting instructions. Or explore our YouTube channel, BZB TV (youtube.com/c/BZBTVchannel), for help setting up, configuring, and other helpful how-to videos about our gear.

Need more in-depth support? Connect with one of our technical specialists directly:

Phone	Email	Live Chat
1.888.499.9906	support@bzbgear.com	bzbgear.com

Limited Product Warranty Terms

Pro Line: 5-year warranty from the date of purchase for AV/Broadcasting products bought on or after August 1, 2024.

Essential Line: 3-year warranty from the date of purchase for AV/Broadcasting products bought on or after August 1, 2024.

Cables: Lifetime Limited Product Warranty.

For complete warranty information, please visit bzbgear.com/warranty.

For questions, please call 1.888.499.9906 or email support@bzbgear.com.

Mission Statement

BZBGear is a breakthrough manufacturer of high-quality, innovative audiovisual equipment ranging from AVoIP, professional broadcasting, conferencing, home theater, to live streaming solutions. We pride ourselves on unparalleled customer support and services. Our team offers system design consultation, and highly reviewed technical support for all the products in our catalog. BZBGear delivers quality products designed with users in mind.

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