



BG-MV41A-G2

Direktronik art 20124306

**4K@30Hz HDMI 4x1 Quad Multi-Viewer & Seamless Switcher with
PIP, Audio De-Embedding, and 8 Display Modes**

User Manual





DIREKTRONIK

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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-MV41A-G2 is a high-performance 4x1 HDMI quad multi-viewer designed to display up to four HDMI input sources simultaneously on a single screen with seamless switching and flexible display options. Supporting resolutions up to 4K@30Hz and 10.2Gbps video bandwidth, this multi-viewer is fully compliant with HDMI 1.4b and HDCP 1.4 standards. Users can choose from eight versatile multi-view modes—including single view, picture-in-picture (PIP), picture-by-picture (PBP), triple-view, and quad-view - making it ideal for monitoring, control rooms, and content presentations.

Audio can be independently selected and output via the built-in analog port, supporting formats like LPCM, Dolby Digital, Dolby Digital Plus, and DTS. With support for both auto and manual input switching, seamless transitions in single- and multi-view modes, and on-screen display (OSD) in multi-view, the BG-MV41A-G2 offers both performance and control flexibility. The unit is easily managed via front panel buttons, IR remote, or RS-232 commands, and features advanced EDID management in a compact form factor ideal for professional AV installations.

Features

- Compliant with HDCP 1.4 and HDMI 1.4b standards
- Supports video bandwidth up to 10.2Gbps
- Input and output resolutions up to 4K@30Hz
- Seamless switching in both single-view and multi-view display modes
- Auto and manual input switching supported
- Multi-view functionality with up to 8 display modes:
 - SINGLE, PIP, PBP (1), PBP (2), Triple (1), Triple (2), Quad (1), Quad (2)
- Combine multiple HDMI inputs on a single UHD display in real time
- Supports LPCM, Dolby Digital (DD), Dolby Digital Plus (DD+), and DTS audio formats
- Audio de-embedding via analog stereo output
- Independent audio source selection
- On-screen display (OSD) for multi-view layouts
- Control options include front panel buttons, IR remote, and RS-232 commands
- Advanced EDID management for optimal compatibility
- Compact, space-saving design for flexible integration

Packing List

- 1× BG-MV41A-G2 Multiviewer
- 1× 12V/DC, 2A Power Supply
- 1× User Manual
- 1× Remote control



Specifications

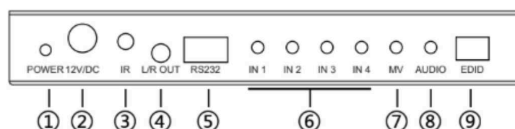
Technical	
Signal Inputs/Output	3840x2160@30 MAX
HDMI Input/Output Connector	Type A 19 pin
Operating Frequency	50/60Hz
Vertical Frequency Range	50/60Hz
Video Amplifier Bandwidth	10.2Gbps
Resolutions	480i60Hz, 480p60Hz, 576i50Hz, 576p50Hz, 720p50/60Hz, 1080i50/60Hz, 1080p24/25/30/50/60Hz, 2160p30Hz
Input Resolution	720p, 1080p, 1200p, 2160p
Output Resolution	720p, 1080p, 1200p, 2160p
Mechanical	
Dimensions (W x D x H)	5.8in x 4.1in x 0.85in / 148.5mm x 103mm x 21.5mm
Weight	0.75 lbs [342g]
Chassis Material	Metal
Color	Black
Operating Temperature	32°F to 158°F / 0°C to +70°C
Operating Humidity	10% to 85% RH (no condensation)
Storage Temperature	14°F to 176°F / -10°C to +80°C
Storage Humidity	5% to 90% RH (no condensation)
External Power Supply	12V DC @ 2A
Power Consumption (max)	10 W
Regulatory Approvals (Main Unit)	FCC, CE
Regulatory Approvals (Power Supply)	UL, CE, FCC, REACH, RoHS



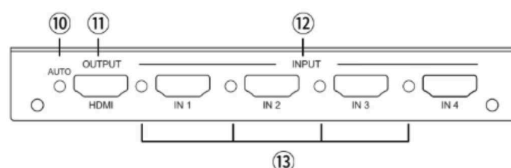
Operation Controls and Functions

Front and Rear Panel

Front Panel:



Back Panel:



#	Label	Description
1	POWER LED	When the device is powered on, the power LED is blue.
2	12V/DC	12V/DC power input port.
3	IR	IR signal receiving window.
4	L/R OUT	PCM 2.0 analog audio output port.
5	RS232	Connects to a PC or control system for serial update and command control.
6	IN 1/2/3/4 Switch Button	Single-view mode: Press IN 1/2/3/4 to switch to the corresponding input channel. Multi-view mode: IN 1/2/3/4 corresponds to window 1/2/3/4. Pressing IN 1 cycles sources in window 1; IN 2/3/4 work similarly.
7	MV Button	Press to cycle through 8 display modes: SINGLE, PIP, PBP (1), PBP (2), Triple (1), Triple (2), Quad (1), Quad (2).
8	AUDIO Button	In multi-view mode, press to cycle through the audio of the four input sources.
9	EDID DIP Switch	Used for EDID setting. <ul style="list-style-type: none"> • 111 - Copy OUT port sink EDID • 110 - 4K@30Hz, Audio 2.0ch PCM • 101 - 4K@30Hz, Audio 5.1ch PCM • 100 - 1080P, Audio 2.0ch PCM • 011 - 1080P, Audio 5.1ch PCM • 010 - 1920x1200, 2.0ch • 001 - 1920x1200, 5.1ch • 000 - Defined by RS-232 command



10	AUTO LED	When auto switching mode is enabled, the blue LED will be on.
11	OUTPUT	HDMI signal output port; connect to display device such as TV or monitor via HDMI.
12	INPUT	HDMI signal input ports; connect to source devices such as DVD or PS5 via HDMI.
13	INPUT LED	Single-view mode: Blue LED is on when the corresponding IN 1/2/3/4 is selected. Multi-view mode: Blue LED is on when the corresponding input is selected as the audio source.



RS-232 Commands

The matrix can be controlled using RS-232 commands, which are required for certain switching and format configurations that are not accessible through other control methods. We recommend using the MyUART app, as it provides a simple and user-friendly interface for sending commands to the device. The connection diagram is shown below:



To ensure proper communication, configure the RS-232 settings as follows:

- **Baud Rate:** 115200
- **Data Bits:** 8
- **Parity:** None
- **Stop Bits:** 1

ASCII Command	Command Functional Description
EZH	List all commands
EZSTA	Show system status
EZS POWER Z	Set system power on/off (Z:0~1)
EZG POWER	Get system power state
EZS REBOOT	Reboot the system
EZS RESET	Reset to factory defaults



EZS OUT RES Z	Set output resolution (Z:1~4)
EZG OUT RES	Get output resolution
EZS IN EDID Z	Set input EDID (Z:1~7)
EZG IN EDID	Get input EDID
EZS AUTO SWITCH Z	Enable/Disable auto switch (Z:0~1)
EZG AUTO SWITCH	Get auto switch state
EZS OUT IN Z	Set input to output (Z:1~4)
EZG OUT IN	Get output input source
EZS MULTIVIEW Z	Set Multi-viewer mode (Z:1~5)
EZG MULTIVIEW	Get Multi-viewer mode
EZG WIN X IN Y	Select one input for the current multiview mode (X:14)(Y:14)
EZG WIN X IN	Get window selected source (X:0~4)
EZS WIN BORDER Z	Set the border of the windows (Z:0~1)
EZG WIN BORDER	Get the border of windows
EZS WIN OSD Z	Set window OSD (Z:0~1)
EZG WIN OSD	Get window OSD

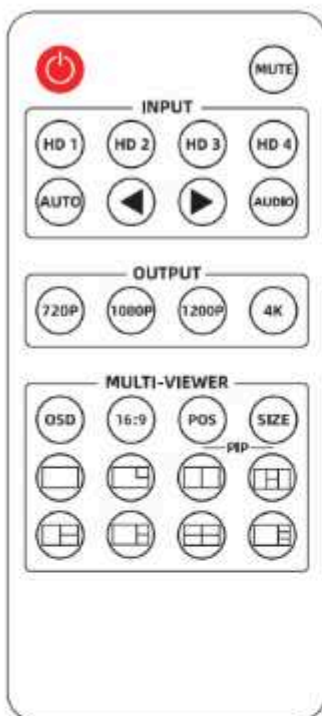


EZS PIP LOCATION Z	Set PIP window location (Z:1~4)
EZG PIP LOCATION	Get PIP window location
EZS PIP SIZE Z	Set PIP size (Z:1~3)
EZG PIP SIZE	Get PIP window size
EZS PBP MODE Z	Set PBP window mode (Z:1~2)
EZG PBP MODE	Get PBP window mode
EZS PBP ASPECT Z	Set PBP window aspect ratio (Z:1~2)
EZG PBP ASPECT	Get PBP window aspect ratio
EZS TRIPLE MODE Z	Set triple window mode (Z:1~2)
EZG TRIPLE MODE	Get triple window mode
EZS TRIPLE ASPECT Z	Set triple window aspect ratio (Z:1~2)
EZG TRIPLE ASPECT	Get triple window aspect ratio
EZS QUAD MODE Z	Set quad window mode (Z:1~2)
EZG QUAD MODE	Get quad window mode
EZS QUAD ASPECT Z	Set quad window aspect ratio (Z:1~2)
EZG QUAD ASPECT	Get quad window aspect ratio



IR Remote Guide

REMOTE CONTROL:



⏻: Power on the device or set it to standby mode.

MUTE: Press this button to enable or disable the audio output.

INPUT:

HD 1/2/3/4:

Single-view Mode: Press HD 1/2/3/4 to switch to the corresponding HDMI input channel.

Multi-view Mode: HD 1/2/3/4 corresponds to the window 1/2/3/4. For example, pressing HD 1 can switch the four input sources circularly to output on window 1. HD 2/3/4 is the same.

AUTO: Press this button to enable or disable auto switching for input signal sources.

◀▶: In single-view mode, press to select the input source circularly.

AUDIO: In multi-view mode, press to switch the audio of the four input sources circularly.

OUTPUT:

720P/1080P/1200P/4K: Press to select the corresponding resolution to output.

MULTI-VIEWER:

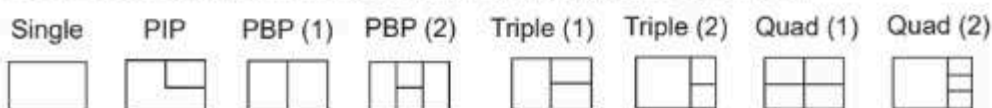
OSD: Press to switch three OSD display states: no OSD, display current input channels, display current input channels and borders.

16:9: Press to switch the aspect ratio between full-screen and 16:9.

POS: Press to switch the position of PIP view: top left, bottom left, top right, bottom right.

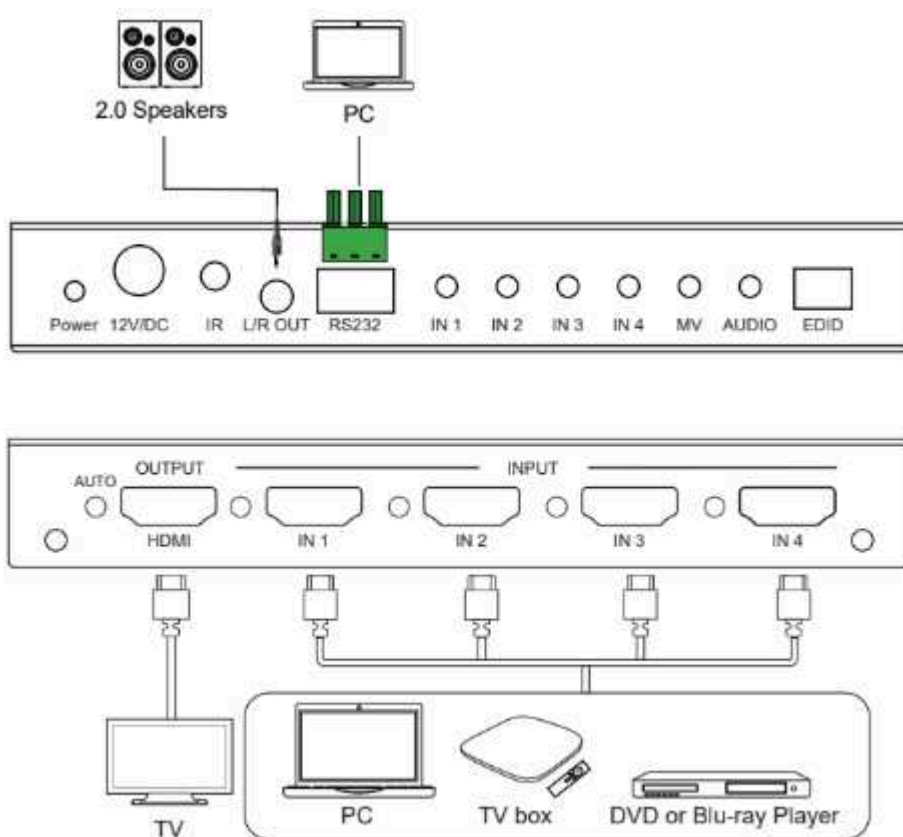
SIZE: Press to switch the size of PIP view: large, middle, small.

Display Mode: Press to select the multi-view modes as follow:





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

1.888.499.9906

Email

support@bzbgear.com

Live Chat

bzbgear.com



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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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