

# BG-8K-22MA

Direktronik Art 20124337

**2x2 8K UHD HDMI 2.1 Matrix Switcher with Auto  
Downscaling/Audio De-embedder**

## User Manual





***DIREKTRONIK***

Direktronik AB tel. 08-52 400 700 [www.direktronik.se](http://www.direktronik.se)



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## Statement

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

## Safety Precaution

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- 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

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The BG-8K-22MA is an 8K HDMI 2x2 matrix switcher that can switch any of the two HDMI input signals to either output and also distribute the a signal to two displays simultaneously. It supports video resolutions up to 8K@60Hz 4:2:0, features advanced EDID management, and audio de-embedding functionality (output through the optical and analog ports).

The ability to be used as either a splitter or a switcher, this multi-functional product can be used in various scenarios for demonstration, video conferencing, teaching, and other applications.

## Features

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- HDMI 2.1 and HDCP 2.3 compliant
- 40Gbps video bandwidth
- Video resolutions up to 8K@60Hz 4:2:0 10bit, 8K@30Hz 4:4:4 10bit, 4K@120Hz 4:4:4 10bit
- VRR, FVA, ALLM
- HDR, HDR10, HDR10+, Dolby Vision, HLG pass through
- HDMI audio formats: LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
- Built-in Equalizer, Retiming, and Driver
- Advanced EDID management
- Audio de-embedding functionality (output through the optical and analog ports)
- IR remote control and front panel button switching
- Compact design for easy and flexible installation

## Packing List

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- |                                  |                                       |
|----------------------------------|---------------------------------------|
| • 1x 8K HDMI 2x2 Matrix Switcher | • 1x 5V/2A Multinational Power Supply |
| • 1x IR Remote                   | • 1x User Manual                      |



## Specifications

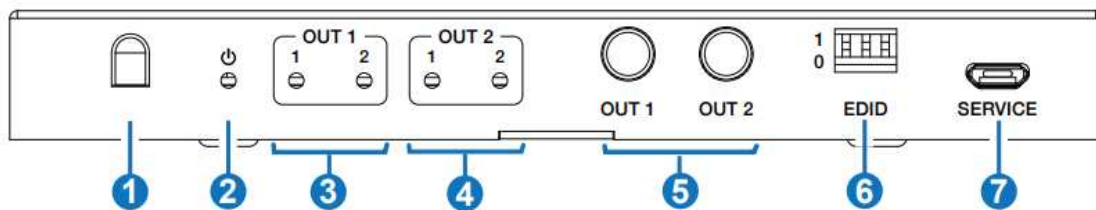
Technical	
HDMI Compliance	HDMI 2.1
HDCP Compliance	HDCP 2.3
Video Bandwidth	40Gbps
Video Resolution	Up to 8K@60Hz 4:2:0 10bit, 8K@30Hz 4:4:4 10bit, 4K@120Hz 4:4:4 10bit
Color Depth	8/10/12-bit
Color Space	RGB, YCbCr 4:4:4 / 4:2:2. YUV 4:2:0
Audio Formats	HDMI input/output: LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD Audio de-embedding outputs: Optical: LPCM 2/5.1 CH, Dolby Digital 2/5.1 CH, DTS 2/5.1 CH Analog: PCM 2.0
ESD Protection	Human body model — ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connection	
Input	2 × HDMI IN [Type A, 19-pin female]
Output	2 × HDMI OUT [Type A, 19-pin female] 1 × OPTICAL [S/PDIF] 1 × L/R [3.5mm Stereo Mini-jack]
Control	1 × SERVICE [Micro USB, Update port]
Mechanical	
Housing	Metal Enclosure
Silkscreen Color	Black
Dimensions	5.7"(W) x 2.7"(D) x 0.67"(H) [145mm(W) x 68mm(D) x 17mm(H)]
Weight	0.59 lbs [268g]
Power Supply	Input: AC100 - 240V 50/60Hz, Output: DC 5V/2A (US/EU standards, CE/FCC/UL certified)
Power Consumption	6.2 W (Max)
Operation Temperature	32°F ~ 104°F / 0°C ~ 40°C
Storage Temperature	-4°F ~ 140°F / -20°C ~ 60°C
Relative Humidity	20~90% RH (non-condensing)

Recommended HDMI Cable				
Video Resolution	8K	4K60	4K24	1080P
HDMI Cable Type	Ultra HDMI 2.1	HDMI 2.0	HDMI 1.4	HDMI 1.4
HDMI Cable Length (HDMI IN/OUT)	3m/10ft	8m/26ft	12m/39ft	15m/49ft
The use of "Premium High Speed HDMI" cable is highly recommended.				

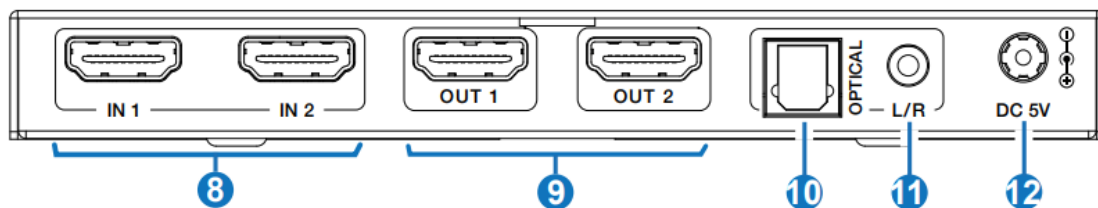


## Operation Controls and Functions

### Front Panel



### Rear Panel



No.	Name	Function Description
1	IR Window	IR input signal receiving window.
2	POWER LED	The power LED light is illuminated green when the device is working, and red when the device is in standby.
3	OUT 1 LED (1~2)	When the IN 1 or 2 port is selected as the signal source for the OUT 1 port, the corresponding green LED 1/2 will be illuminated.
4	OUT 2 LED (1~2)	When the IN 1 or 2 port is selected as the signal source for the OUT 2 port, the corresponding green LED 1/2 will be illuminated.
5	OUT 1~2 button	Used to select the signal source for OUT 1/2 ports. Pressing the OUT 1/2 buttons will allow the device to switch to either of the two connected HDMI input signals and distribute it to the corresponding output port.
6	EDID DIP switch	Use the DIP switch to set EDID. 111 - Copy OUT1 port sink EDID (factory default) 110 - HDMI 1080p@60Hz, Audio 2ch PCM 101 - HDMI 4K@60Hz 4:4:4, Audio 2ch PCM, HDR 100 - HDMI 4K@60Hz 4:4:4, Audio 5.1ch PCM/DTS/DOLBY, HDR 011 - HDMI 4K@60Hz 4:4:4, Audio 7.1ch PCM/DTS/DOLBY/HD, HDR 010 - HDMI 8K@60Hz 4:2:0+8K@30Hz 4:4:4, 4K@120Hz 4:4:4, Audio 2ch PCM, HDR 001 - HDMI 8K@60Hz 4:2:0+8K@30Hz 4:4:4, 4K@120Hz 4:4:4, Audio 5.1ch PCM/DTS/DOLBY, HDR 000 - HDMI 8K@60Hz 4:2:0+8K@30Hz 4:4:4, 4K@120Hz 4:4:4, Audio 7.1ch PCM/DTS/DOLBY/HD, HDR
7	SERVICE	Firmware update and debug port.
8	IN (1~2) port	Connecting to an HDMI source device such as Blu-ray player or PS5 with an HDMI cable.
9	OUT (1~2) port	Connecting to HDMI display devices such as TVs or Monitors with HDMI cables.
10	OPTICAL	Optical fiber audio output port.
11	L/R	Analog audio output port.
12	DC 5V	DC 5V/2A Power input port.



## IR Remote



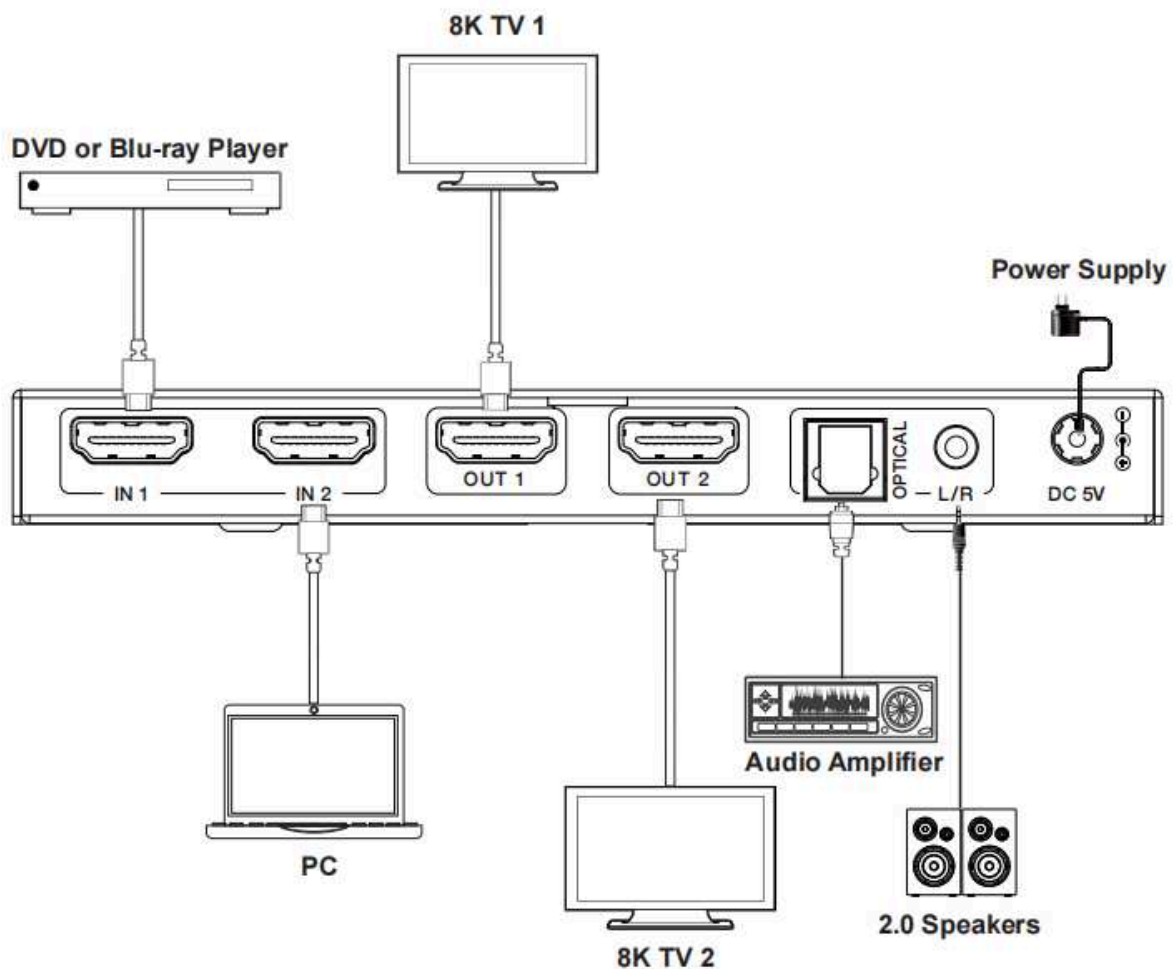
: Power on the product or set it to standby mode.

**1 / 2** : Press 1 or 2 buttons to select an HDMI signal source to the corresponding OUTPUT port.



: Press this button to cyclically switch HDMI signal sources on the corresponding OUTPUT port.

## SApplication Diagram







## Tech Support

Have technical questions? We may have answered them already!

Please visit BZBGear’s support page ([bzbgear.com/support](https://bzbgear.com/support)) for helpful information and tips regarding our products. Here you will find our Knowledge Base ([bzbgear.com/knowledge-base](https://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](https://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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**Direktronik AB** | Box 234, 149 23 Nynäshamn | Besöksadress Konsul Johnsons väg 15 149 45 Nynäshamn  
Telefon 08 52 400 700 | Fax | Epost [info@direktronik.se](mailto:info@direktronik.se) | Org.nr 556281-9663 | Bankgiro 922-0179

## 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](https://bzbgear.com/warranty).

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



## Mission Statement

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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.

## Copyright

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