

BG-4KSH

12G/6G/3G/HD-SDI to HDMI 2.0 Converter with Audio Extraction

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 BZBGear BG-4KSH is a 12G/6G/3G/HD-SDI to HDMI 2.0 converter with audio extraction. The SDI signal is digitally converted into HDMI, guaranteeing lossless conversion for both audio and video. Featuring up to 8 channels of audio, the BG-4KSH is compatible with 7.1 or 5.1 surround sound systems. The 3.5mm analog stereo output, SDI input, SDI loop-out, and HDMI output provides users convenient flexibility. With these robust features, the BG-4KSH can take SDI signals from professional or commercial AV equipment and effortlessly convert it to HDMI without compression for use of popular consumer-grade video interfaces.

Features

- **Supported high-definition (HD) formats:**

720p@50, 720p@59.94, 720p@60, 1080i@50, 1080i@59.94, 1080i@60, 1080p@23.97, 1080p@24, 1080p@25, 1080p@29.97, 1080p@30, 1080p@50, 1080p@59.94, 1080p@60, 4K2K@23.98, 4K2K@24, 4K2K@25, 4K2K@29.97, 4K2K@30, 4K@50, 4K@59.94, 4K@60

Bit Rate: 11.88 Gbps, 11.88/1.001 Gbps, 5.94 Gbps, 5.94/1.001 Gbps, 2.97 Gbps, 2.97/1.001 Gbps, 1.485 Gbps, 1.485/1.001 Gbps, 270 Mbps

- **Auto 12G/6G/3G/HD-SDI detection**
- **Supports HDMI 2.0 and below**
- **Stereo audio output**
- **One SDI compliant input, one HDMI output, one 3.5mm stereo mini output, and one SDI loop-out**

Packing List

- 1 x BG-4KSH
- 1 x Rack-mounting ears set
- 1 x 5V power adapter
- 1 x User Manual



Specifications

Technical		
SDI standards	12G/6G/3G/HD-SDI	
HDMI standards	HDMI 2.0	
Auto 12G/6G/3G/HD-SDI detection	Yes	
Video support	[HD] - 720p @50/59.94/60Hz, 1080i @50/59.94/60Hz, 1080p @23.98/24/25/29.97/30Hz	
	[HDMI] up to 4K@60Hz	
Video bandwidth	[SDI][11.88 Gbps, 11.88/1.001 Gbps]	
	[HDMI] [up to 18Gbps]	
	[12G] 4K @50/59.94/60Hz	
	[6G] 4K2K @23.98/24, 25, 29.97, 30Hz	
	[3G] 1080p50/59.94/60	
Input signal	1x SDI	
Output signal	1x HDMI + 1x SDI + 1x 3.5mm Stereo (Audio)	
Output impedance (SDI)	75Ω	
Cable equalization	[12G-SDI] up to 80m	
	[6G-SDI] up to 100m	
	[3G-SDI] up to 190m	
	[HD-SDI] up to 300m	
Audio support	[Analog] Supports 2ch stereo	
	[SDI] Surround sound (up to 7.1ch)	
PCB stack-up	6-layer board [impedance control – differential 100Ω; single 50Ω]	
Input	1x BNC [SDI]	
Output	1x HDMI + 1x BNC [SDI] + 1 x 3.5mm Stereo Mini	
BNC connector	75 interlocked socket	
HDMI connector	Type A [19-pin female]	
Mechanical		
Housing	Metal enclosure	
Dimensions [L x W x H]	Model	92 x 45 x 23mm[3.7" x 1.8" x 0.9"]
	Package	198 x 137 x 74mm [7.8" x 5.4" x 2.9"]
	Carton	420 x 400 x 300mm [1'4"x 1'3" x 11.8"]
Weight	Model	175g[6.2 oz]
	Package	390g[13.8 oz]
Power supply	5V DC	
Power consumption	4 Watts [max]	
Operation temperature	0~40°C [32~104°F]	
Storage temperature	-20~60°C [-4~140°F]	
Relative humidity	20%~90% RH [no condensation]	

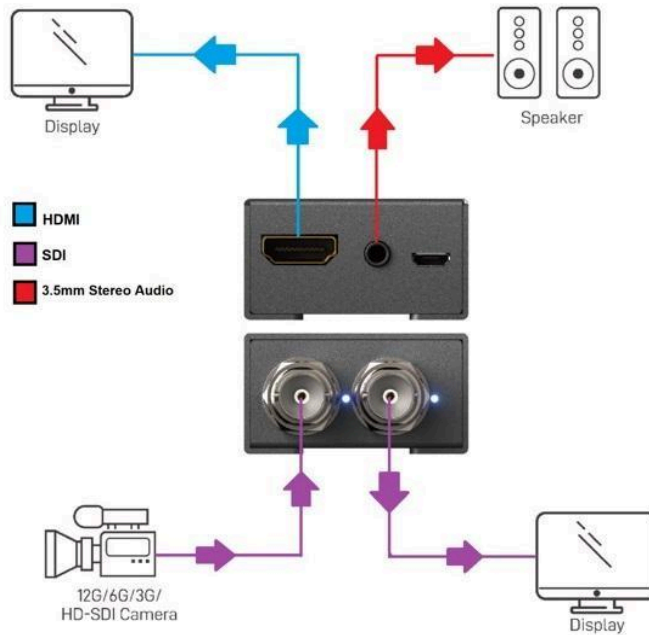


Panel Descriptions



1. SDI IN	12G/6G/3G/HD-SDI Input
2. LED	Signal LED indicator
3. SDI OUT	12G/6G/3G/HD-SDI loop-out
4. LED	Power LED indicator
5. HDMI OUT	Connect to an HDMI display using an HDMI male-to-male cable
6. Stereo Audio Output	3.5mm Stereo mini
7. Micro USB Port	5V DC power supply

Connection Diagram



Supported Resolutions

12G-SDI Output / 6G-SDI Output / 3G-SDI Output	
4K @50/59.94/60Hz	SMPTE ST-2082
4K2K @23.98/24, 25, 29.97, 30Hz	SMPTE ST-2081
1080p @ 50/ 59.94 / 60Hz	SMPTE 424M, SMPTE 425M
HD-SDI Output	
720p @ 50Hz	SMPTE 296M -3



720p @ 60 / 59.94Hz	SMPTE 296M -1, -2
1080i @ 50Hz	SMPTE 274M -6
1080i @ 60 / 59.94Hz	SMPTE 274M -4, -5
1080p @ 24 / 23.98Hz	SMPTE 274M -10, -11
1080p @ 25Hz	SMPTE 274M -9
1080p @ 30 / 29.97Hz	SMPTE 274M -7, -8

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

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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