



BG-8KCH

**HDMI 2.1 to USB-C 4K60 Video Capture Card Box with
8K60 Input/Loop-Out and Audio Mixing**

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-8KCH 8K HDMI to USB 3.2 Gen 1 Video Capture Card is a high-performance capture solution designed for professional video production, live streaming, and content creation workflows. It supports HDMI™ 2.1 input and loop-through output with resolutions up to 8K@60Hz and 4K@144Hz, while capturing video at up to 4K@60Hz or 2560×1440@144Hz. With a 48Gbps HDMI™ bandwidth and a USB 3.2 Gen 1 data transfer rate of up to 5Gbps, the BG-8KCH delivers smooth, low-latency video capture with broad format compatibility, including YUY2, NV12, I420, and MJPEG.

The BG-8KCH conforms to UVC and UAC standards, enabling true plug-and-play operation with no driver installation required across Windows, macOS, and Linux systems. Integrated HDMI™ loop-out allows simultaneous capture and local monitoring, while dedicated microphone and line-level audio inputs support precise audio mixing for professional streaming and recording applications. Compatible with popular software platforms such as OBS, Streamlabs, vMix, Zoom, and Microsoft Teams, the BG-8KCH is engineered to provide reliable, high-quality video and audio capture for demanding AV environments.

Features

- **HDM 2.1 Video Capture:** Captures HDMI™ video and audio over USB 3.2 Gen 1 with support for high-bandwidth signals.
- **8K HDMI™ Input & Loop-Through:** Supports HDMI™ input and loop-out up to 8K@60Hz and 4K@144Hz with HDR pass-through.
- **High-Frame-Rate Capture:** Captures video at up to 4K@60Hz or 2560×1440@144Hz for smooth motion performance.
- **USB 3.2 Gen 1 Interface:** Provides up to 5Gbps data transfer for stable, low-latency video capture.
- **UVC/UAC Compliance:** Supports plug-and-play operation with no driver installation required.
- **Multi-Format Video Capture:** Supports YUY2, NV12, I420, and MJPEG video capture formats.
- **Integrated Audio Mixing:** Mixes HDMI™, microphone, and line-in audio for output via USB and analog line-out.
- **Analog Audio I/O:** Features 3.5mm microphone input, line-in, and line-out ports for flexible audio integration.
- **EDID Management:** Built-in EDID dial allows selection of 8K, 4K, or source-copy display modes.
- **Wide Software Compatibility:** Works with OBS, Streamlabs, vMix, Zoom, Microsoft Teams, and other UVC-based applications.
- **Cross-Platform Support:** Compatible with Windows, macOS, and Linux operating systems.



- **Bus-Powered Operation:** Powered directly via USB-C connection for simplified installation and portability.

Packing List

- 1 × BG-8KCH 8K HDMI™ to USB 3.2 Gen 1 Video Capture Card
- 1 × USB Type-C to Type-C Cable (1 m)
- 1 × User Manual



Specifications

Technical	
HDMI™ Compliance	HDMI™ 2.1
HDCP Compliance	HDCP 2.3
Video Bandwidth	48 Gbps
USB Bandwidth	5 Gbps
Video Resolution (Input / Loop-Out)	Up to 8K@60Hz, 4K@144Hz
Capture Resolution	Up to 4K@60Hz, 2560×1440@144Hz
Color Space	RGB, YCbCr 4:4:4, 4:2:2, 4:2:0
Color Depth	8 / 10 / 12-bit
HDMI™ Audio Formats	Up to 8 channels, 32–192 kHz, standard & HD bitstream
USB Audio Formats	2-channel, 44.1 / 48 kHz
HDR Support	HDR, HDR10, HDR10+, Dolby Vision, HLG
Video Capture Formats	YUY2, NV12, I420, MJPEG
ESD Protection	IEC 61000-4-2: ±8 kV (air), ±4 kV (contact)
Power Supply	USB powered
Power Consumption	5.8 W (max)
Operating Temperature	32°F to 104°F / 0°C to 40°C
Storage Temperature	–4°F to 140°F / –20°C to 60°C
Operating Humidity	20%–80% RH (non-condensing)
Storage Humidity	10%–90% RH (non-condensing)
Connections	
HDMI™ Input	1 × HDMI™ Type-A (19-pin female)
HDMI™ Output	1 × HDMI™ Type-A (19-pin female)
USB Interface	1 × USB-C (USB 3.2 Gen 1)
Microphone Input	1 × 3.5 mm mic input
Line-Level Input	1 × 3.5 mm line-in



Line-Level Output	1 × 3.5 mm line-out
Mechanical	
Housing	Aluminum enclosure
Color	Silver
Dimensions (W × D × H)	4.5 × 3.2 × 0.87in [114 × 82 × 22 mm]
Weight	0.4 lb [180 g]



Supported Resolutions

Format / Category	Supported Resolutions & Frame Rates
HDMI™ Input (PC / SD / HD / FHD)	640×480p@60Hz, 800×600p@60Hz, 1024×768p@60Hz, 1280×1024p@60Hz, 1360×768p@60Hz, 1440×900p@60Hz, 1440×1050p@60Hz, 1600×1200p@60Hz
SD / Interlaced Video	720×480i@59.94Hz, 720×480p@59.94Hz, 720×576i@50Hz, 720×576p@50Hz
HD Video	1280×720p@50/59.94/60Hz, 1920×1080i@50/59.94/60Hz, 1920×1080p@23.98/24/25/29.97/30/50/59.94/60Hz
4K UHD Video	3840×2160p@23.98/24/25/29.97/30/50/59.94/60/100/120Hz
DCI 4K	4096×2160p@23.98/24/25/29.97/30/50/59.94/60/100/120Hz
Ultra-Wide / Extended Resolutions	5120×2160p@50/60Hz
8K UHD Video	7680×4320p@23.98/24/25/29.97/30/50/60Hz
UVC Capture (NV12 / I420)	3840×2160@30fps and below, 2560×1440@60fps and below, 1920×1080@120fps and below, 1280×720@120fps and below, 720×576@50fps and below, 720×480@60fps and below, 640×480@60fps and below
UVC Capture (YUY2)	2560×1440@60fps and below, 1920×1080@60fps and below, 1280×720@120fps and below, 720×576@50fps and below, 720×480@60fps and below, 640×480@60fps and below
UVC Capture (MJPEG)	3840×2160@60fps and below, 2560×1440@144fps and below, 1920×1080@144fps and below, 1280×720@144fps and below, 720×576@50fps and below, 720×480@60fps and below, 640×480@60fps and below





Requirements for Capture Equipment

Windows PC Requirements (UVC Compatible)

MJPEG (4K@60 Capture)

Component	Desktop Computer	Laptop Computer
CPU	Intel Core i7 10th Gen or above	Intel Core i9 9th Gen or above
GPU	NVIDIA GeForce GTX 1650 or above	NVIDIA GeForce GTX 1650 or above
RAM	8 GB (Dual Channel)	8 GB (Dual Channel)

NV12 / I420 (4K@30 Capture)

Component	Desktop Computer	Laptop Computer
CPU	Intel Core i5 6th Gen or above	Intel Core i7-7700HQ or above
GPU	NVIDIA GeForce GTX 1060 or above	NVIDIA GeForce GTX 1050 Ti or above
RAM	8 GB (Dual Channel)	8 GB (Dual Channel)

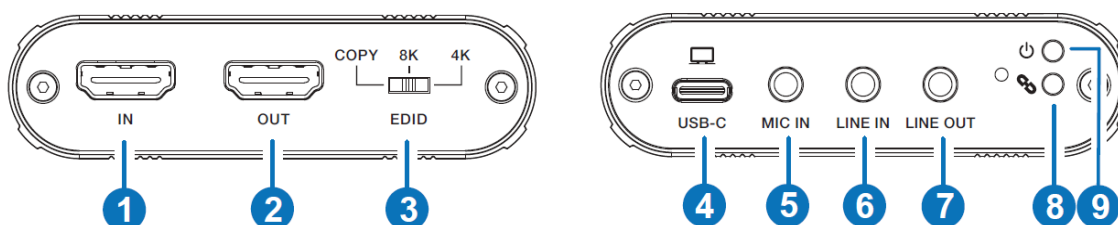
macOS Requirements

- macOS 10.12 or later (UVC compatible system required)



Operation Controls and Functions

Front and Rear Panel

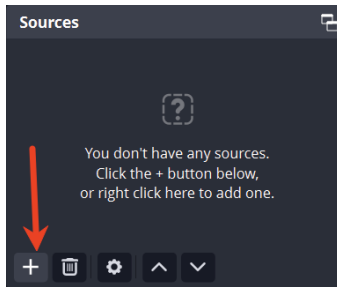


1. **HDMI IN:** HDMI input port for connecting a source device such as a PC, laptop, media player, or camera.
2. **HDMI OUT:** HDMI loop-out port for connecting a local display such as a monitor or TV for real-time pass-through viewing.
3. **EDID Dial Switch:** EDID selection switch used to configure input compatibility settings. Options include COPY (reads EDID from HDMI OUT and supports 2.0CH audio), 8K mode (FRL10G, 8K HDR, 2.0CH audio), and 4K mode (4K@60Hz 4:4:4, 2.0CH audio).
4. **USB-C Port:** USB 3.2 Gen 1 connection for video capture to a computer. Also provides bus power when connected.
5. **MIC IN:** 3.5 mm microphone input for external microphone sources (2-pin compatible).
6. **LINE IN:** 3.5 mm stereo line-level audio input for external audio devices.
7. **LINE OUT:** 3.5 mm stereo analog audio output for monitoring or external audio routing.
8. **Link LED:** Indicates USB connection and capture status. Solid ON indicates device recognition, blinking indicates active capture, and OFF indicates no software connection.
9. **Power LED:** Indicates power status; illuminates when the unit is powered on.



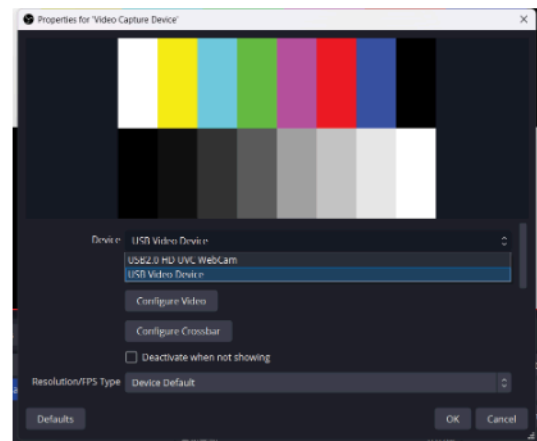
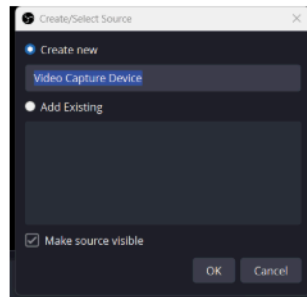
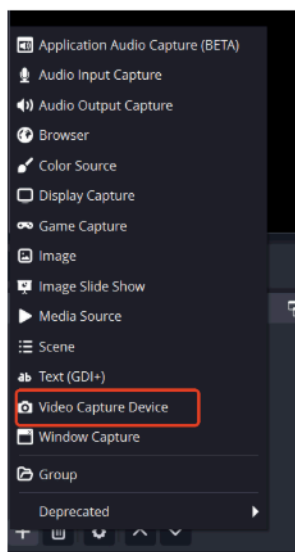
Software Setup and Operation (OBS Example)

Windows 10 / OBS Studio used as reference

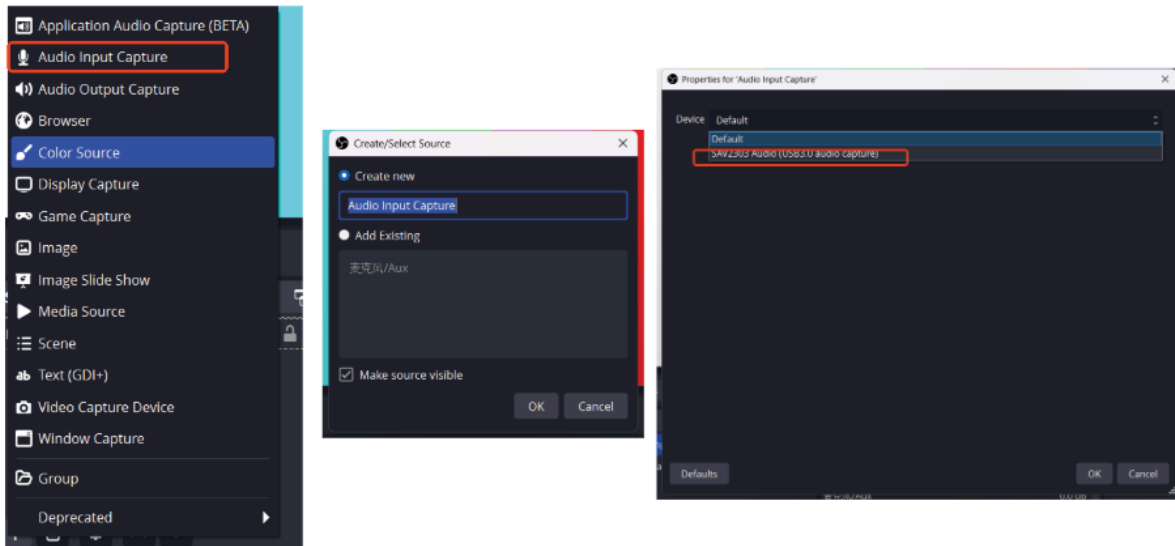


1. Install **OBS Studio** on your computer from the official OBS website.
2. Launch **OBS Studio** by double-clicking the application icon.
3. In the main interface, click the “+” (**Add Source**) button under the *Sources* panel.

4. Select **Video Capture Device** from the list to create a new video source.

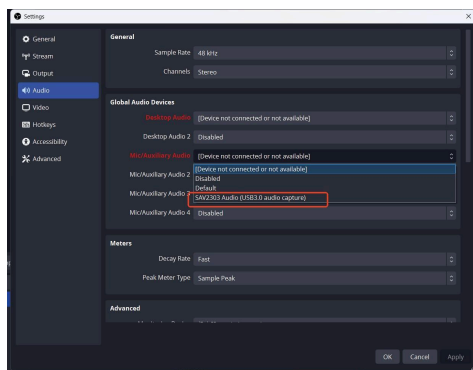


5. In the properties window, select the BG-8KCH as the active video capture device and confirm settings.
6. Click the “+” (**Add Source**) button again to add audio input.
7. Select **Audio Input Capture** and choose the corresponding audio device (e.g., USB audio device).



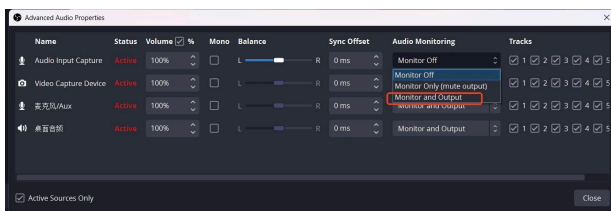
8. Navigate to **Settings** → **Audio**:

- Set **Sample Rate** (recommended 48 kHz)
- Select **Mic/Auxiliary Audio Device** (e.g., USB audio capture device)
- Click **Apply** → **OK**



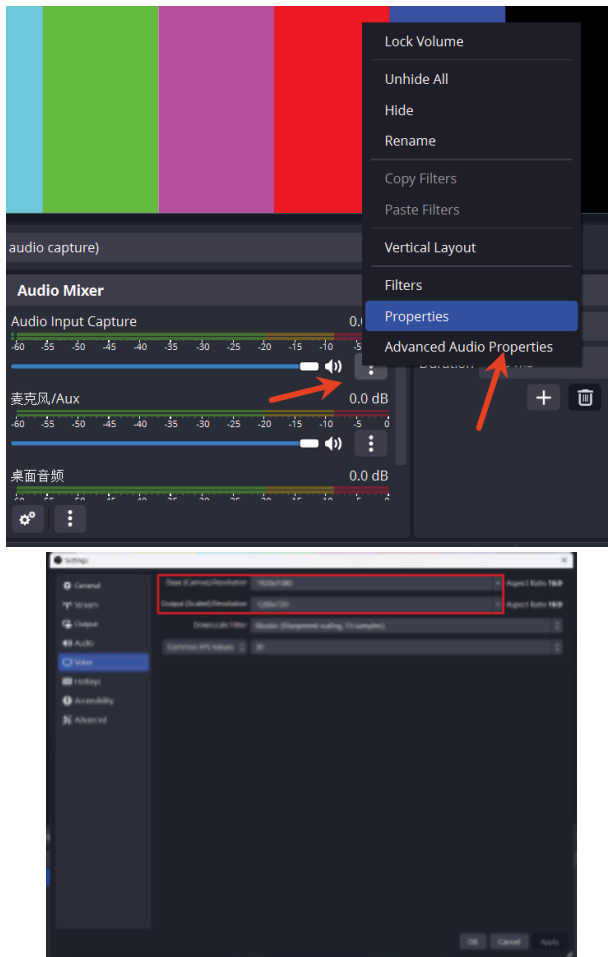
9. Open **Settings** → **Advanced Audio Properties**:

- Set audio monitoring mode to **“Monitor and Output”**
- Close the window once complete



10. Go to **Settings** → **Video**:

- Set **Base (Canvas) Resolution**
- Set **Output (Scaled) Resolution**
- Click **Apply** → **OK**



11. Go to **Settings** → **Output**:

- Select recording path
- Choose recording quality and format
- Click **Apply** → **OK**

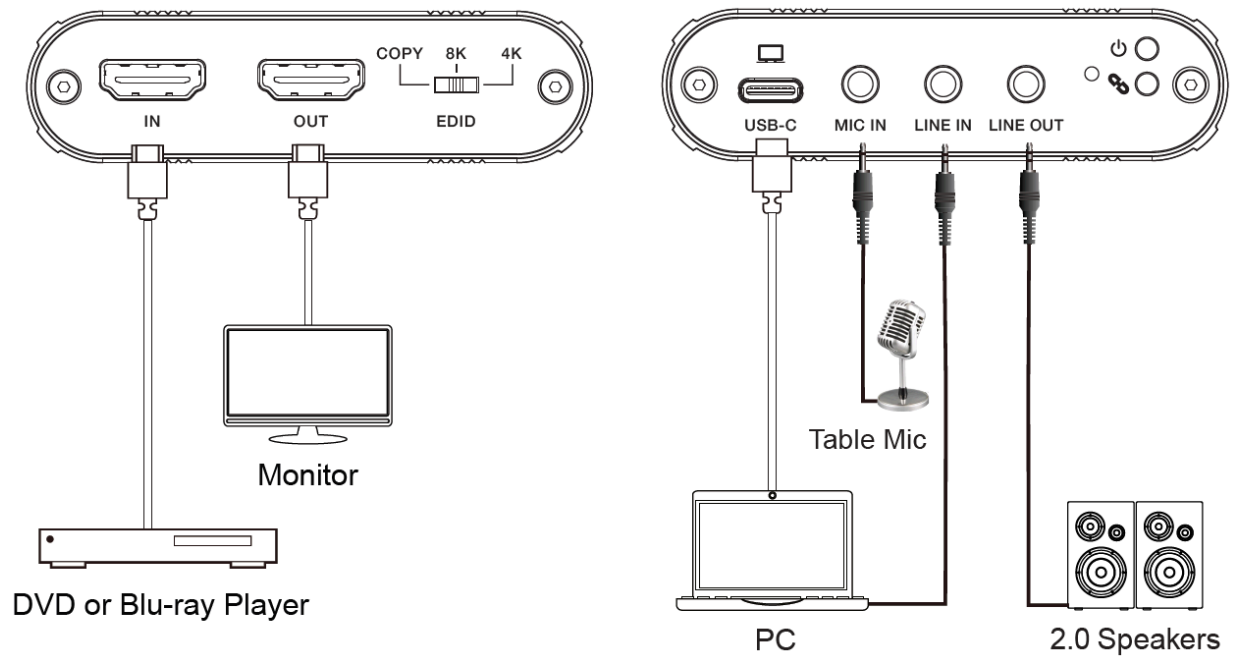
12. Once configuration is complete, click **Start Recording** to begin capture.

13. Click **Stop Recording** when finished.

Exit OBS Studio when capture is complete.



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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