BZB GEAR®
Solutions to Amplify Your World™

BG-C2HA

1080P Full HD USB 3.0 Full HD Video Capture Device/Box With HDMI 2.0 Loop-Out & Audio

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

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent damaging this product, avoid heavy pressure, strong vibration, or immersion during transportation, storage, and installation.
- Do not dismantle the housing or modify the module.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Do not put any heavy items on the extension cable in case of extrusion.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- The housing of this product is made of organic materials. Do not expose to any liquid, gas, or solids which may corrode the shell.
- Unplug this device during lightning storms.
- Do not use liquid or aerosol cleaners to clean this unit. Clean only with a soft dry microfiber cloth.
- Always unplug the power to the device before cleaning.
- If an object or liquid falls or spills on to the housing, unplug the module immediately.
- 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.
- Product specifications may be subject to technical upgrades without further notice.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

Introduction

The BG-C2HA is a USB 3.0 full HD video capture device with HDMI 2.0a loop out & audio provides a professional way to capture HDMI video signals. It utilizes the USB 3.0 interface to achieve high-speed transmission. Additionally, the HDMI input and loop out can support up to 4K2K@60. With this device, users can connect to a 4K2K@60 source and capture Full HD (1080p60) video. BG-C2HA also uses large volume image buffer technology which effectively avoids video tearing. The high sampling rate and high sampling accuracy assure images with high sharpness, rich details, and less color edges.

Features

- HDMI video and audio streams over USB 3.0
- UVC1.0
- Video resolutions up to 1080p@60Hz (Video stream over USB 3.0)
- HDMI input & loop out from 640x480 to 4K2K@60 (YUV 4:4:4), interlaced or progressive
- Resolution downscaling from 4K2K to 1080p
- Line-in mix with HDMI audio
- HDMI audio extraction
- Auto-detection of video format to ensure plug-play operations
- Recording Video Format: H.264 (Software Compression)
- Works on multiple operating system platforms (Windows 7/8.1/10, Mac and Linux OS)
- Compatible with most 3rd party software such as OBS Studio and AMCap
- USB 3.0 (MJPG/YUY2) and USB 2.0 (MJPG)
- Low Latency

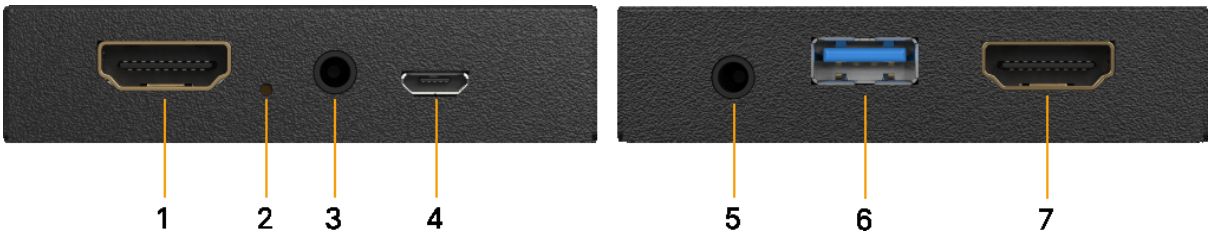
Packing List

- 1x BG-C2HA USB 3.0 Full HD Video Capture Device
- 1x USB 3.0 to A Cable (host to device)
- 1x DC 5V Wall Adapter
- 1x User Manual
- 1x Quick Start Guide

Technical Specifications

Technical	
USB Compliance	3.0
Max. Data Rate	350 Mbps
Max. USB Resolution	1080p@60
Audio Support	2ch 16 bit PCM
ESD Protection	8 KV - Contact Discharge 15KV - Air Discharge
Mechanical	
Housing Design	Metal
Casing Style	Portable
Power Connection	Micro-USB Port
Power Supply	5V DC, 2A
Power Consumption	5 watts (Max)
Operating Humidity	20-90% RH (no condensation)
Operation temperature	32~104°F / 0~40°C
Product Weight	0.3 lb [135g]
Package Weight	0.6 lb [270g]
Certifications	CE, FCC, RoHS

Operation Controls and Functions



1. **HDMI IN**: Connect to an HDMI source.
2. **LED INDICATOR**: Input signal indicator.
3. **STEREO AUDIO IN**: Embed audio to the HDMI out or USB using a 3.5mm stereo mini cable.
4. **Micro-USB Port**: Connect to the +5V DC power supply unit.
5. **STEREO AUDIO OUT**: Extract audio from HDMI input using a 3.5mm stereo mini cable.
6. **USB OUT**: Connect to a USB host device such as a PC, laptop, or MAC.
7. **HDMI LOOPOUT**: Connect to a HDMI display.

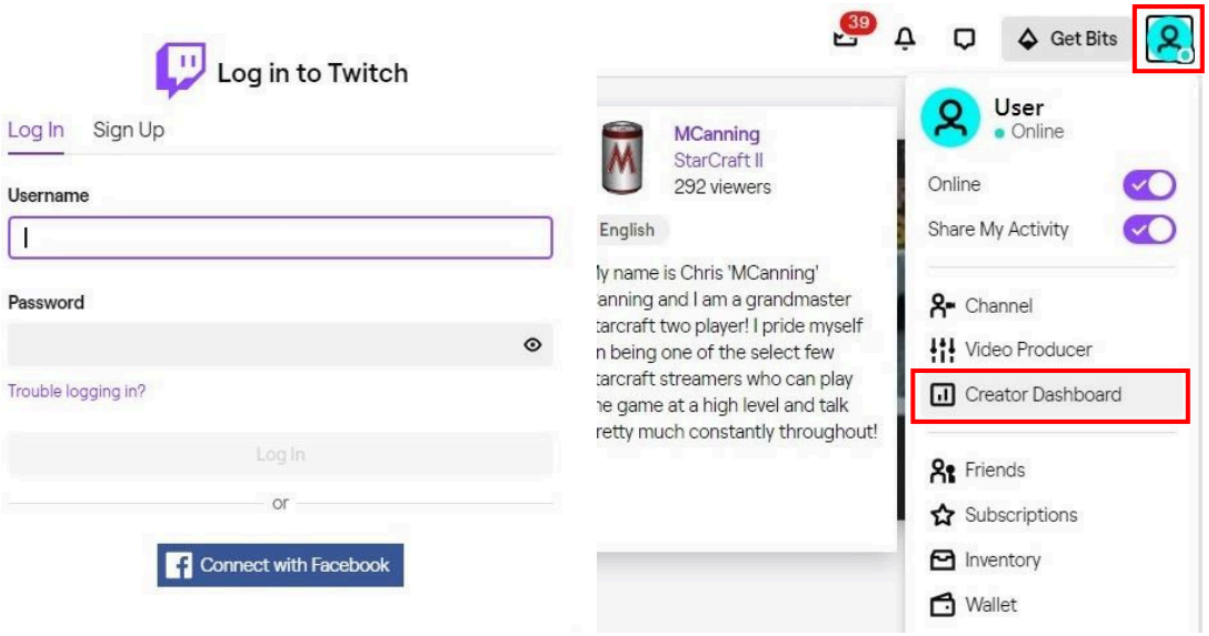
Video Streaming

Create a Video Stream

Users can create video streams on their streaming service platform of choice. The steps below show how to complete the video streaming settings for Twitch and YouTube.

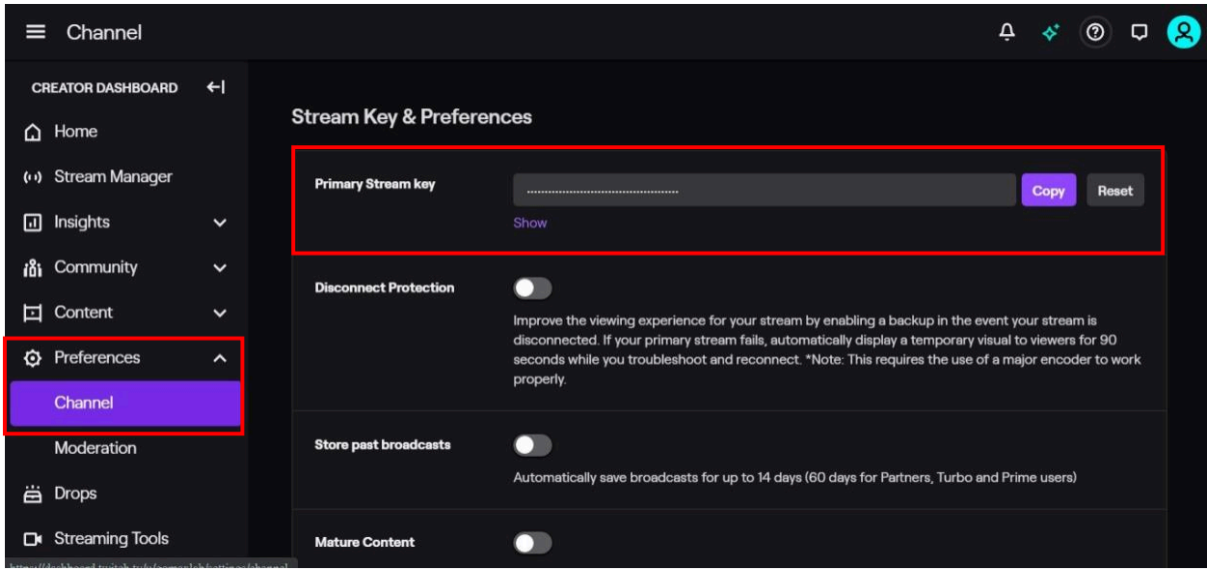
Twitch

1. Browse the Twitch website (https://www.twitch.tv/) and log in, then select "Creator Dashboard" from your account drop-down menu at the top right of the screen.

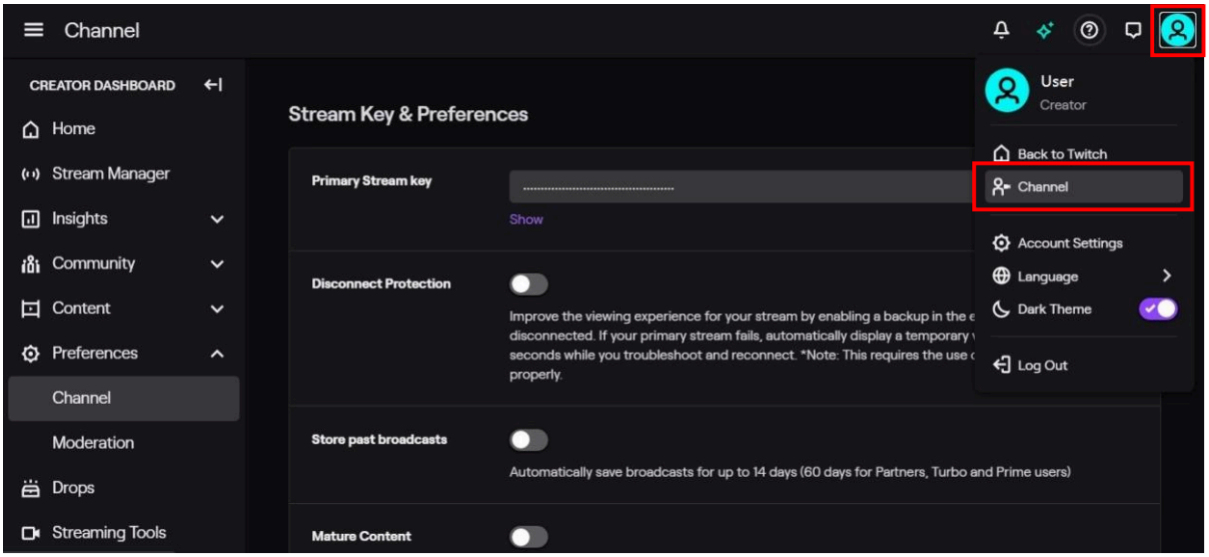


2. Find "Preferences" in the left menu, and click "Channel", then you will see "Primary Steam key" on the screen. Copy the "Primary Steam key" and paste it into the "Stream Key" field in the OBS, then click "Start Streaming" in the software.

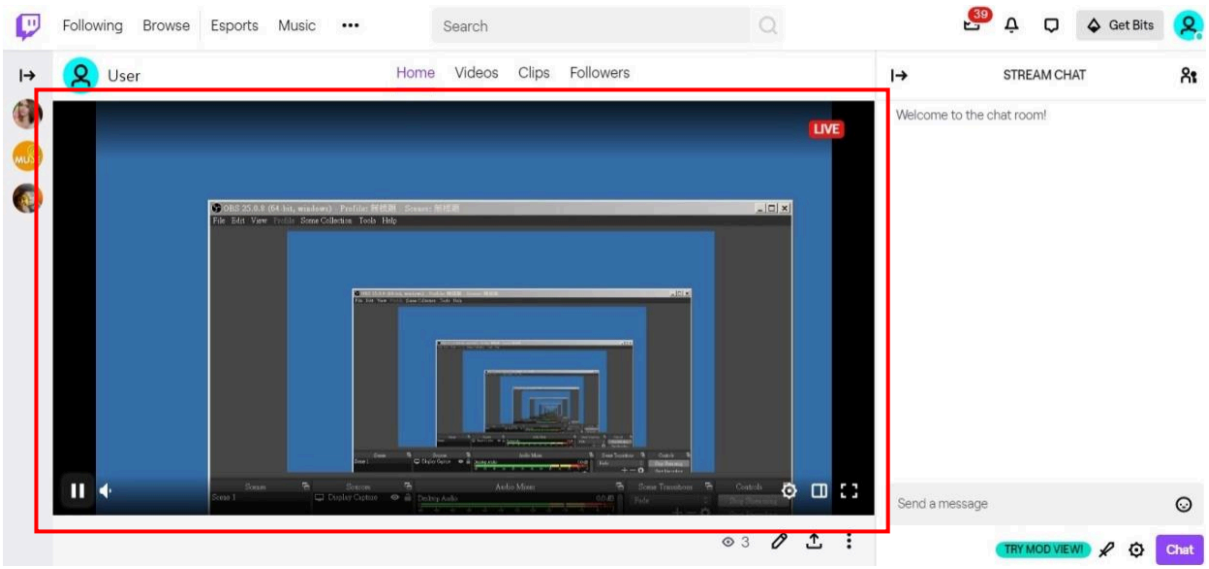
* Please refer to steps 4-6 of the OBS software control program.



3. Go back to Twitch and select "Channel" from your account drop-down menu.



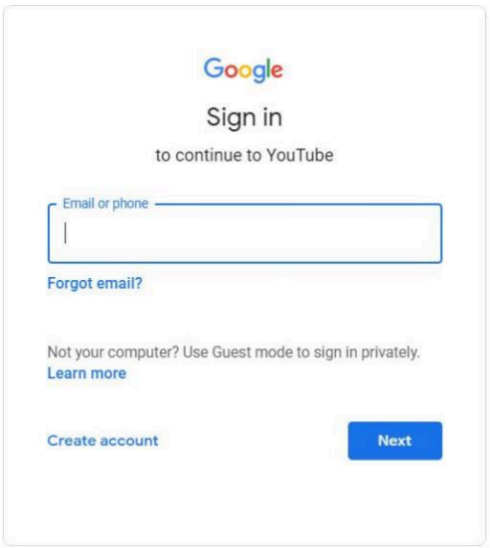
4. At this point, you will see the player start live streaming.

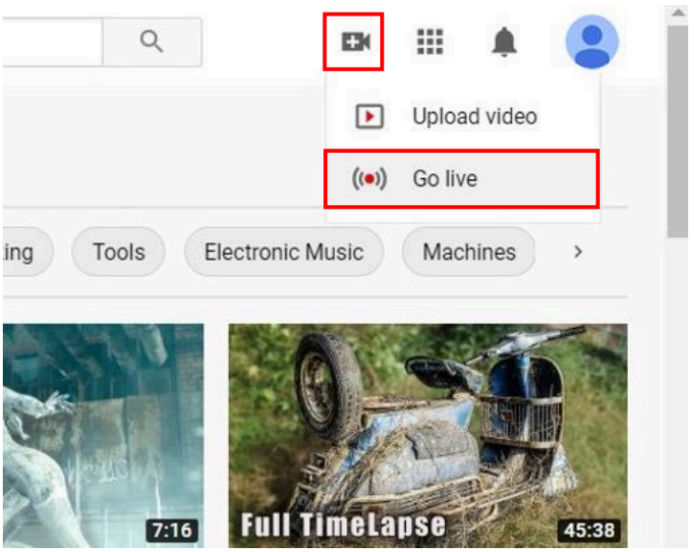


YouTube

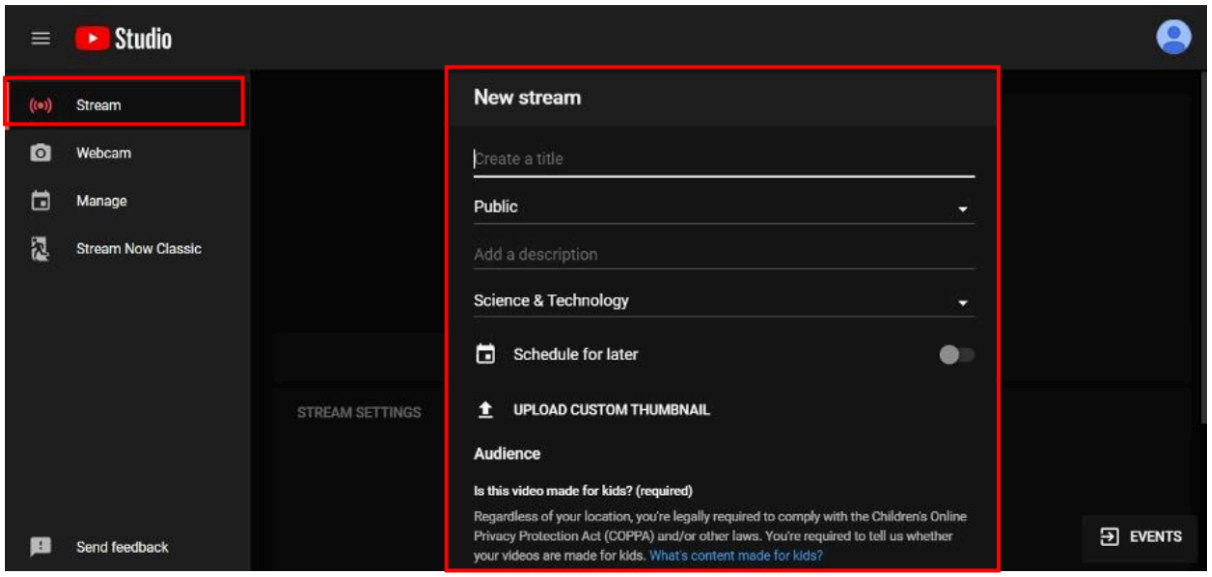
1. Browse the YouTube website (https://www.youtube.com/) and log in, then lick "Go live" from the "Create" icon menu at the top right of the screen.

* If your account is using YouTube for the first time to create a video stream, you need to wait 24 hours to enable the function.



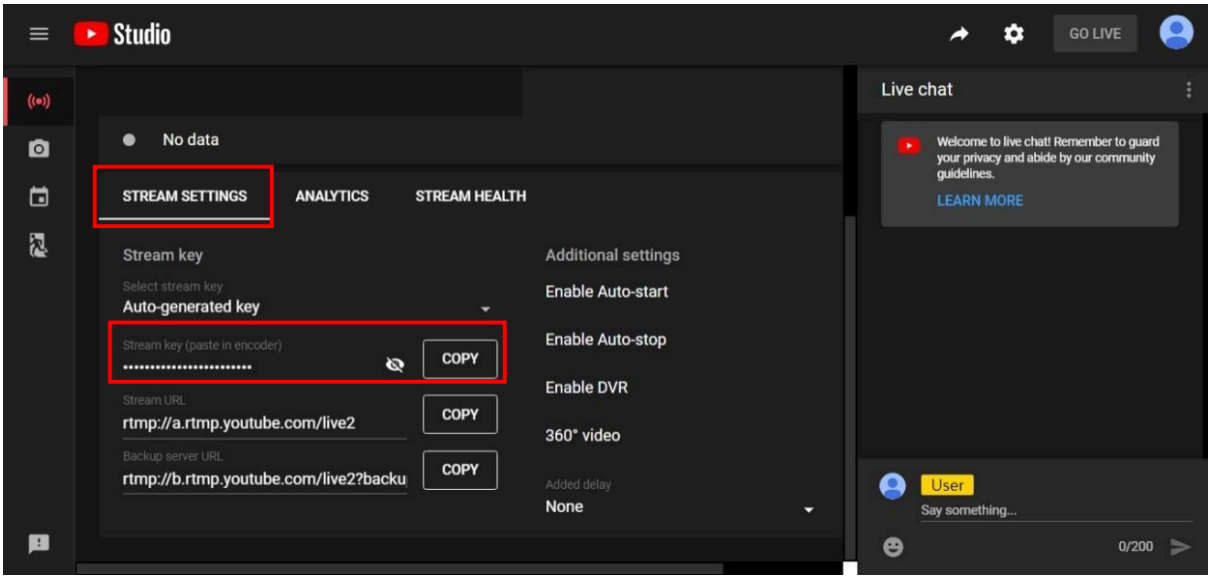


2. Click "Stream" in the left menu, and fill in the relevant information of the live video to create a new stream.

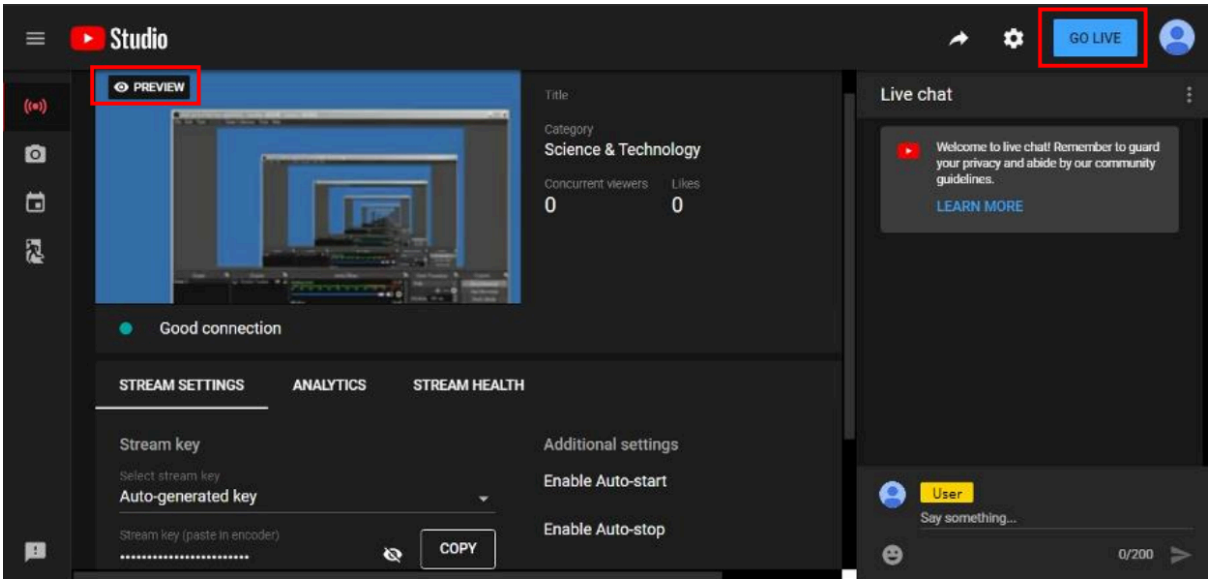


3. You will see "Stream key" from the “STREAM SETTINGS” below. Copy the "Stream key" and paste it into the "Stream Key" field in the OBS, then click "Start Streaming" in the software.

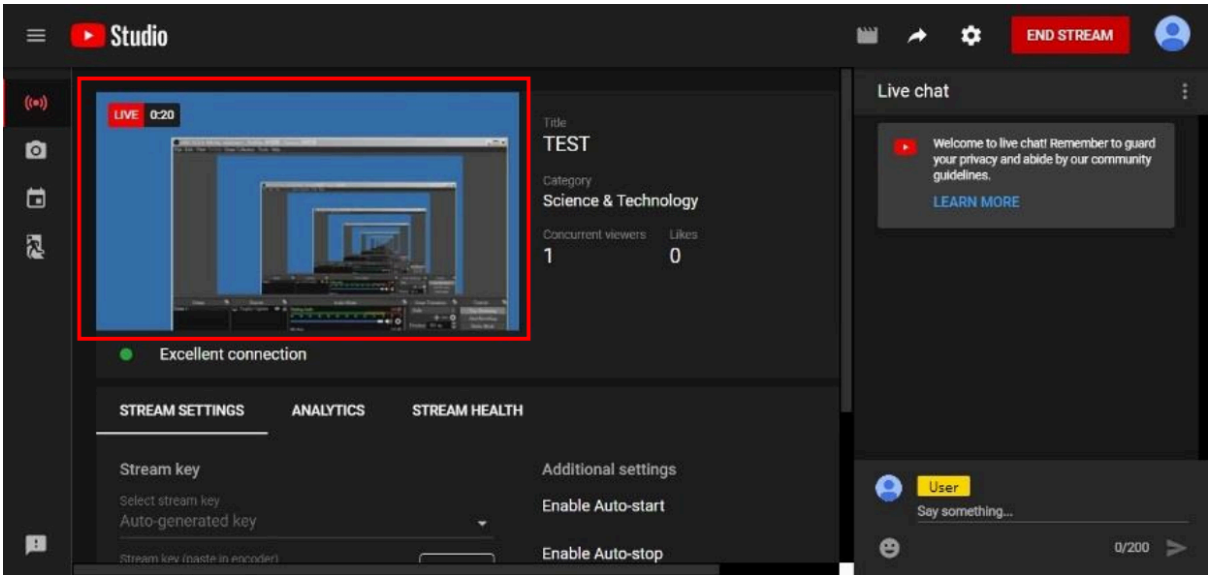
* Please refer to steps 4-6 of the OBS software control program.



4. Next, go back to YouTube, and then wait for 30-60 seconds, the player will display the live preview. At the same time, the "GO LIVE" button at the top right will turn blue, please press this button.



5. The player on YouTube will start live streaming.



Stream and record videos with OBS

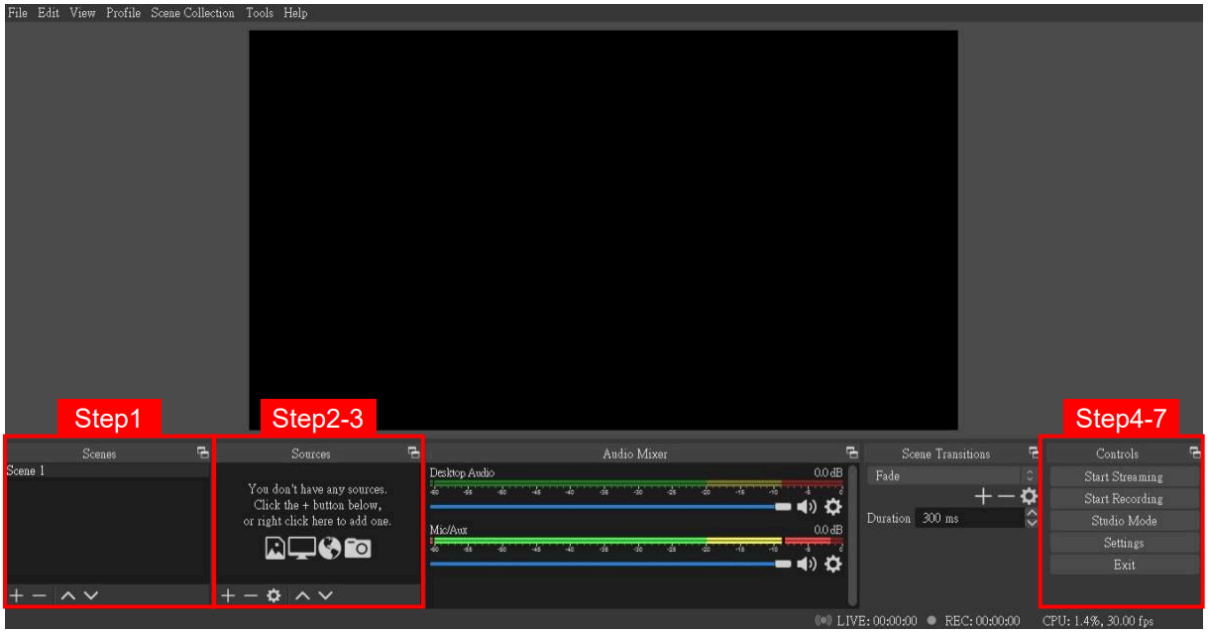
OBS is a popular USB capture freeware and has excellent compatibility. Please start with OBS if users are not familiar with USB capture devices.

Download the software

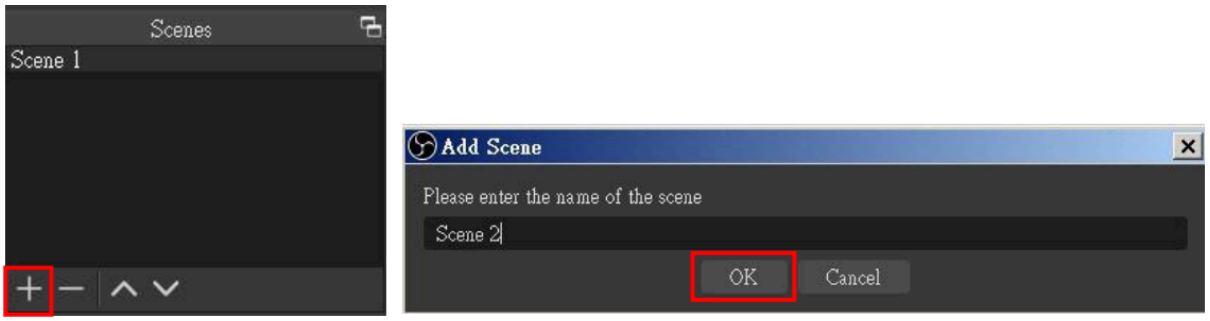
Browse the download page of the OBS official website (https://obsproject.com/download), then select the suitable computer operating system and start downloading.

Start the software control program

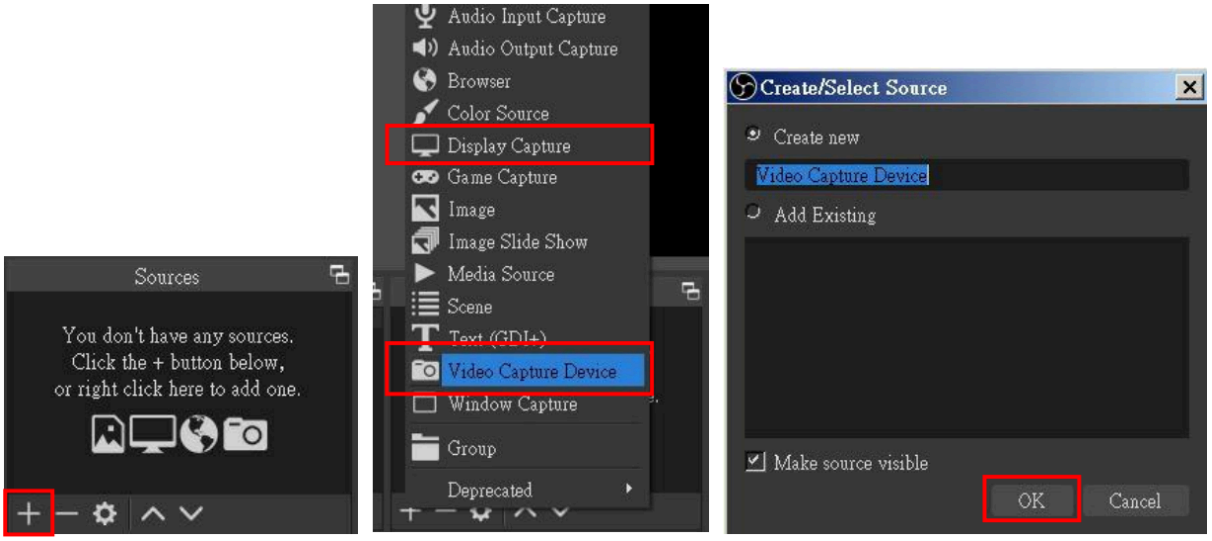
After downloading the software, please open it and follow the below steps to complete the video streaming settings.



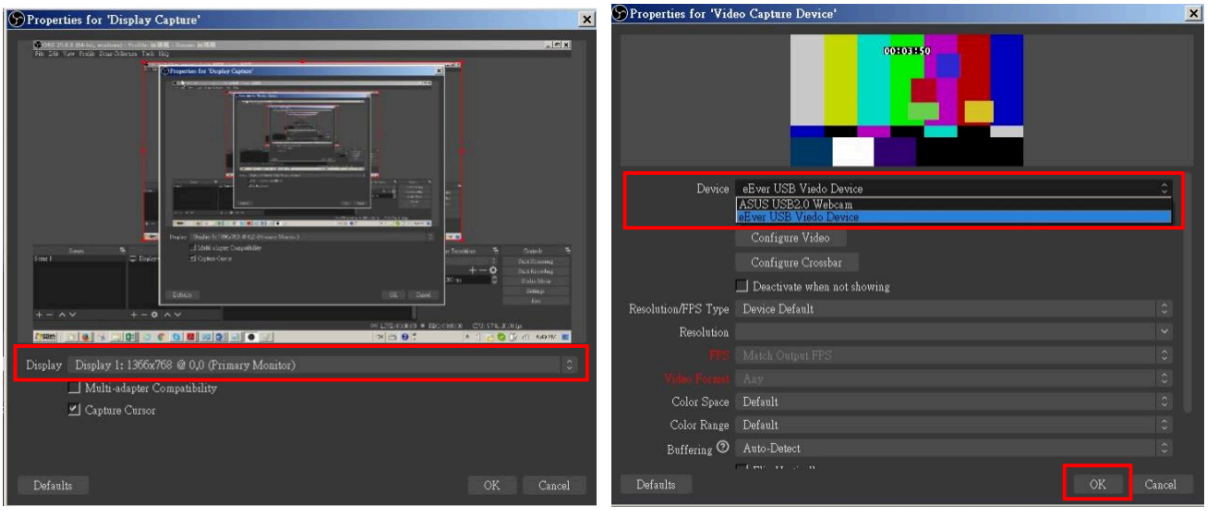
1. First, find the "Scenes" window, click "+" in the lower left corner, and then enter the name of the scene to create a new scene.



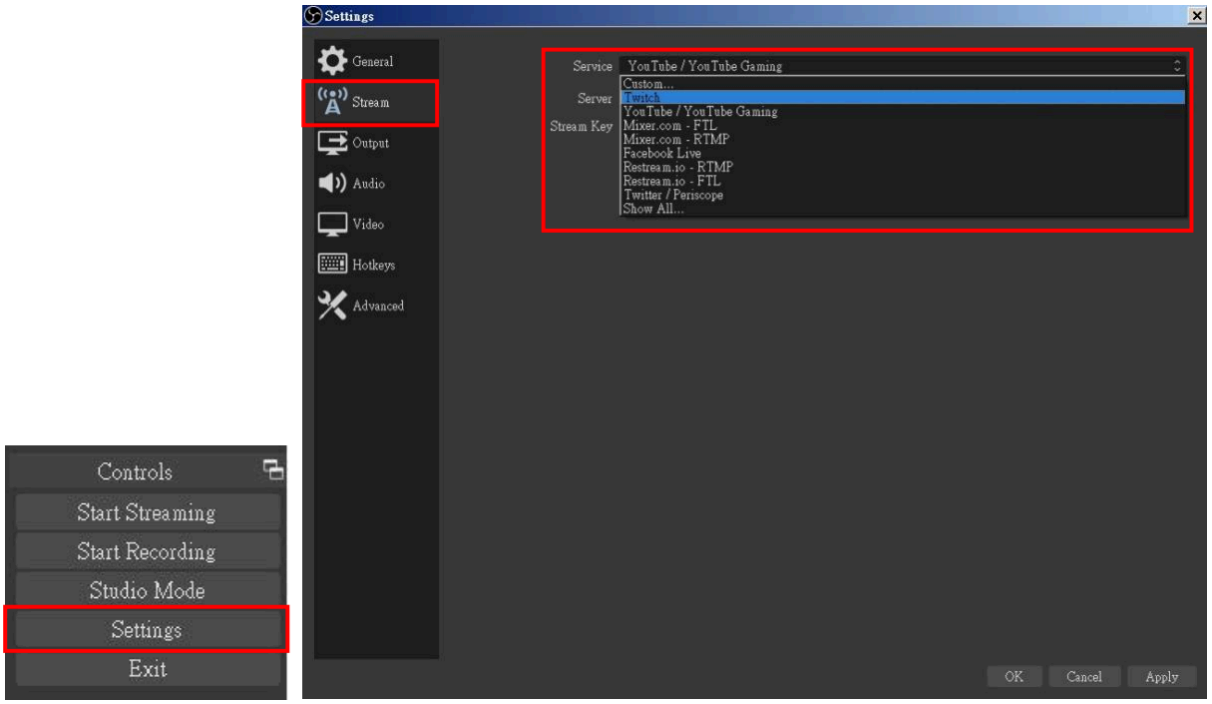
2. Find the "Source" window, click "+" in the lower left corner, and then select "Display Capture" or "Video Capture Device" to create a new source.



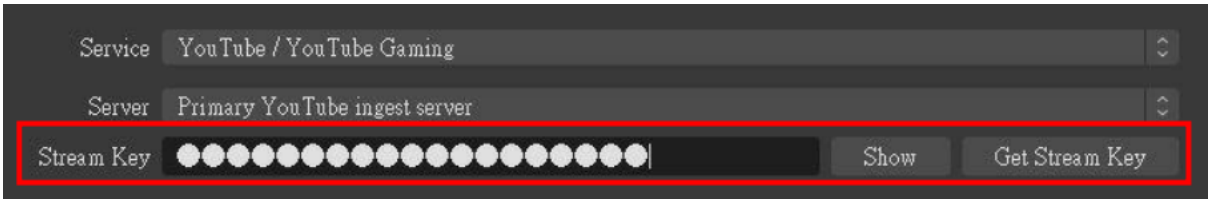
3. Next, you can set display capture properties. If you select "Display Capture" in step 2, you can select the primary monitor or other extended monitor as the display source. If you select "Video Capture Device" in step 2, you can select a USB video device as the display source. After all settings are completed, click “OK”.



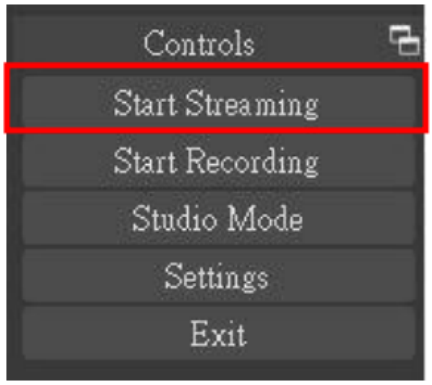
4. Click "Settings" and then select "Stream" to perform streaming settings. Users can choose service providers, including Twitch, YouTube, etc.



5. Paste the stream key provided by the service provider into the "Stream Key" field, then click "Apply" and "OK" after setting. In addition, users can lick "Get Stream Key" at this step to open the service provider website.



6. Please click "Start Streaming". At this time, the screen after clicking "Start Streaming" will be displayed in the live video.



7. On the other hand, users can also click "Start Recording" to record videos with OBS. Besides, you can click "Settings" and then select "Output" to set “Recording Path” and “Recording Format”.

Note: The procedures the manual demonstrates are based on the interface that each website provides at the time when the manual is written. The most recent method of live streaming should be similar to the above procedures but is subject to change by the website interface update from the social media platforms.

Troubleshooting

Our USB device has been subjected to rigorous testing before shipping. Most of the incompatibilities we have experienced are not from the USB capture device itself, but from the sophisticated software and hardware combinations of PCs or laptops. Please try the following suggestions:

1. OBS is a popular USB capture freeware and has excellent compatibility with most devices. Please download it and start with OBS if users are not familiar with USB capture devices.

https://obsproject.com/download

2. Due to the complexities of OS and computer hardware, different USB ports on PCs or laptops may have different performance or limitations. Please try all USB ports to see if there are any differences.

3. Please use the included USB cable. We do not guarantee the overall performance when the USB capture box is connected with other USB cables.

4. SDI cable quality may also play an essential role when capturing. Please be sure the SDI cable is capable of 1080P@60 SDI signal transmission or better. Try different cables when the device is not able to work as expected.

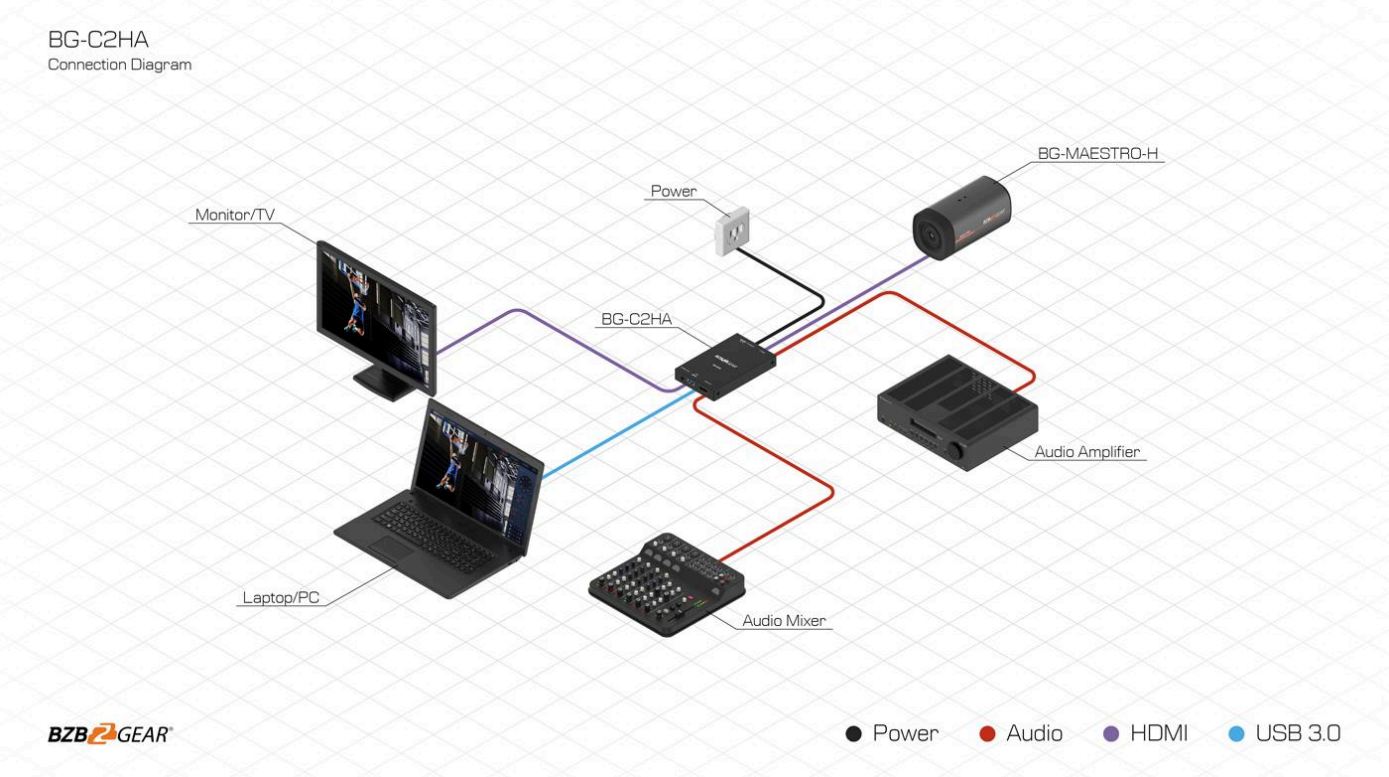
5. If audio has noise, please adjust sampling frequency setting on PC or laptop. If the default sampling rate is 48000 Hz, please select 44100 Hz and vice versa. The path of setting sampling frequency on windows 10 is:

Start → Setting → System → Sound → Device properties → Additional device properties → Advanced

Usb Pin Definition

	P1		P2
VBUS	1	⟷	1
D-	2	⟷	2
D+	3	⟷	3
GND	4	⟷	4
SSRX-	5	⟷	5
SSRX+	6	⟷	6
GND	7	⟷	7
SSTX-	8	⟷	8
SSRX+	9	⟷	9
Shield	SHELL	⟷	SHELL

Application Example



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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