# BG-4KCH

USB-C 4K Video Capture Box with Scaler

User Manual

**CONTACT**

1.888.499.9906 | support@bzbgear.com | bzbgear.com

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## INTRODUCTION

The **BG-4KCH USB-C 4K Video Capture Box with Scaler** provides a simple, reliable way to capture HDMI video signals. Users can instantly capture HDMI signals from devices like PTZ cameras, video game consoles, or PC's for broadcast to streaming services including YouTube, Twitch, and Facebook. The utilization of large volume image buffer technology prevents video tearing, allowing for optimal image reproduction. Compact and portable, the BG-4KCH is an ideal fit for a video technicians toolkit, as well as anyone needing a discreet capture device.

## FEATURES

- HDMI video and audio streams over USB 3.1 Type-C Gen 1
- Supports UVC1.0/1.1/1.5
- Supports video resolution up to 4K2K@30
- Supports deinterlace & scaler*
- Auto-detection on video format to ensure plug-play operations
- Recording Video Format: Software Compression
- Works on multiple operating system platforms (Windows 7/8.1/10, Mac and Linux OS)
- Compatible with most 3rd party software including YouTube, Twitch, Facebook, OBS Studio, and Zoom
- Supports USB 3.1 Gen 1 (RGB/YUY2/NV12) (capture up to 4K2K@30) and USB 2.0 (YUY2/NV12) (capture up to 720P@30)
- Low Latency (3~4ms at 1080P)
- System Requirements (Recommanded)
  - Windows® 7(SP1) / Windows 8.1 / Windows 10
  - PC: Intel® CoreTM i5-4440 3.10GHz + NVIDIA® GeForce® GTX 660 or higher
  - Laptop: Intel® Core i7-4810MQ + NVIDIA GeForce GTX 870M or higher
  - 4GB RAM or higher

* Scale-up feature supports up to 1080P@60

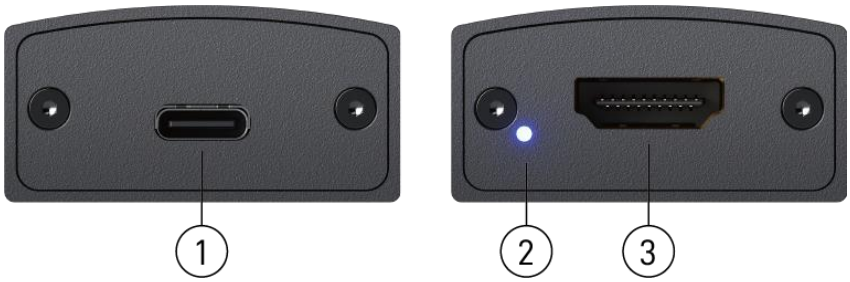
## PACKAGE CONTENTS

- 1x BG-4KCH
- 1x USB 3.0 A to C Cable (host to device)
- 1x User Manual

## SPECIFICATIONS

| Model Name | | BG-4KCH |
|---|---|---|
| **Technical** | | |
| Role of usage | | Video Capture Device |
| Input Video bandwidth | | 297MHz |
| Output bandwidth | | Up to 350Mbps (USB-C) |
| Video support(USB-C) | | Up to 4K2K@30 |
| Audio Input | | HDMI Embedded Audio |
| Audio Format | | 2CH 16bit PCM |
| Recording Mode | | Software Compression |
| Recording Video Format | | RGB/YUY2/NV12 (USB3.1 Gen 1), YUY2/NV12 (USB2.0) |
| ESD protection | | Human body model — ±15kV [air-gap discharge] & ±8kV [contact discharge] |
| PCB stack-up | | 4-layer board [impedance control — differential 100Ω; single 50Ω] |
| Firmware update | | Feasible via USB-C Port |
| Input | | 1x HDMI |
| Output | | 1x USB-C |
| HDMI connector | | Type A [19-pin female] |
| USB connector | | USB 3.1 Type C (SuperSpeed USB) |
| Software compatibility (not complete list) | | OBS Studio (Windows, Linux, MAC)¸Potplayer (Windows), VLC (MAC, Linux), AMCap (Windows), XSplit Boardcast (Windows), Skype (Windows, MAC), Zoom (Windows), Hangout (Windows), TeamViewer (Windows) |
| OS Support | | Windows 7 /8.1 /10, Mac and Linux OS |
| **Mechanical** | | |
| Housing | | Metal enclosure |
| Dimensions [L x W x H] | Model | 77 x 38 x 19mm [3" x 1.5" x 0.7"] |
| | Package | 165 x 111 x 42mm [6.4" x 4.4" x 1.7"] |
| | Carton | 490 x 426 x 352mm [1'6" x 1'4" x 13.8"] |
| Weight | Model | 58g[2 oz] |
| | Package | 142 g[5 oz] |
| Power supply | | Via USB-C |
| Power consumption | | 3 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. **USB-C OUT:** Connect to a USB host (PC, NB, MAC…)
2. **LED INDICATOR:** Power & input signal indicator LED

   [Blue] Device power on

   [Green] Input detects HDMI signal

   [Red]* Input source is HDCP protected
3. **HDMI IN:** Connect to an HDMI source

*When the input source is HDCP protected, LED will become red to indicate the content is legally encrypted and can NOT be captured.

## CONNECTION DIAGRAM

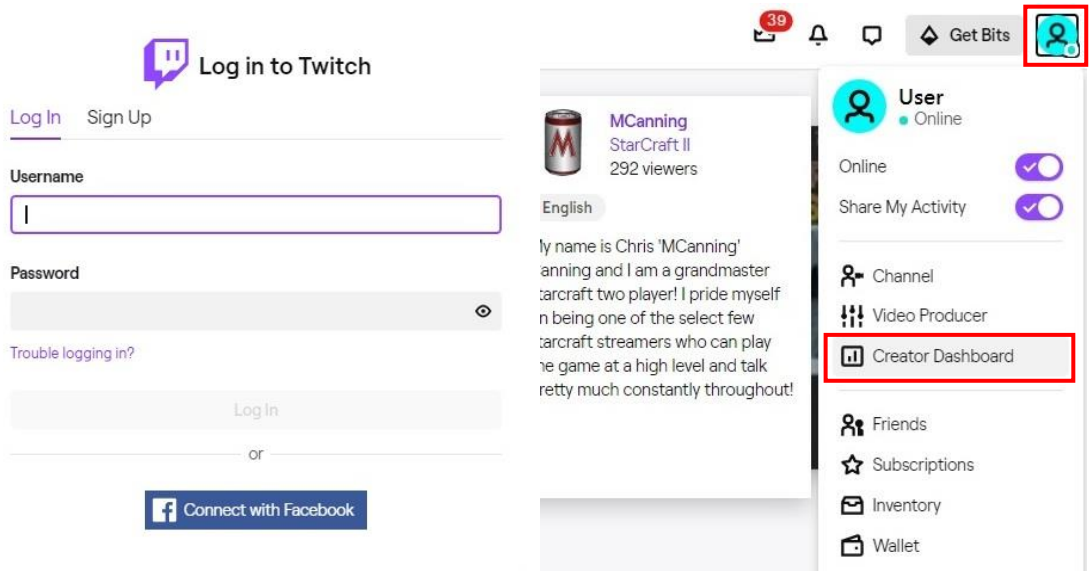
# VIDEO STREAMING

## Create a Video Stream

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

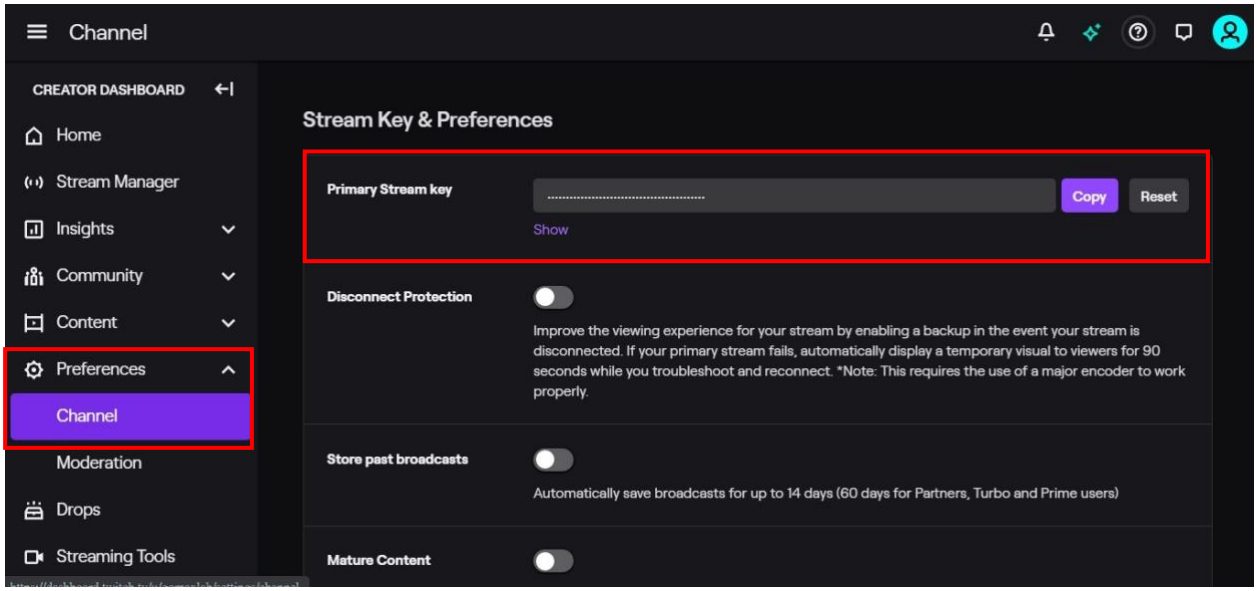
### Twitch

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.

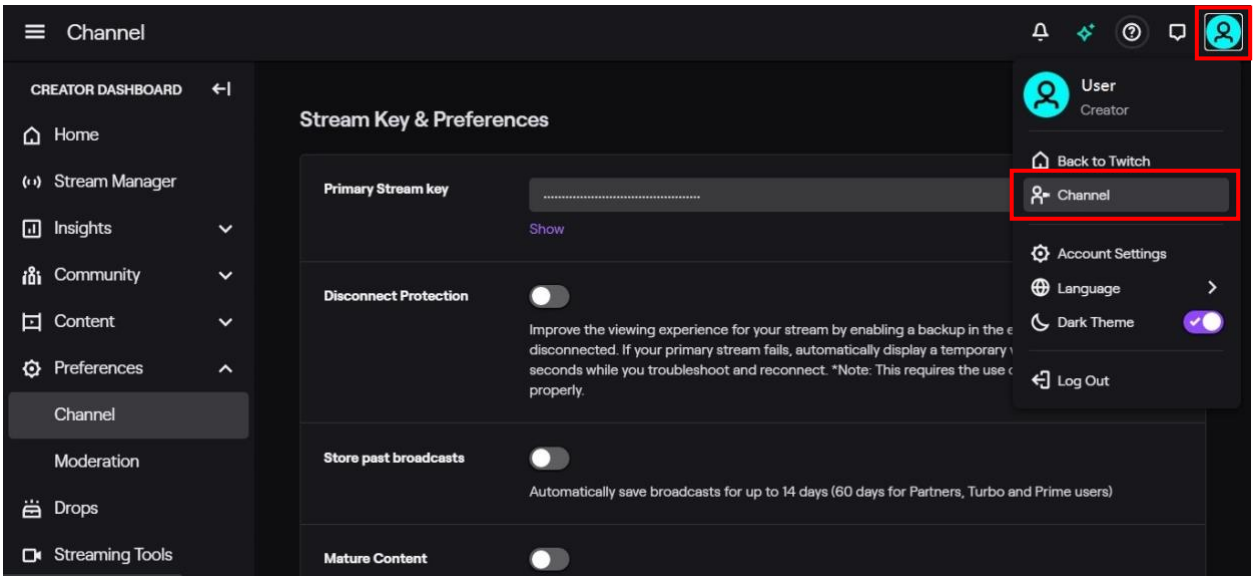



2. Find **"Preferences"** in the left menu, and click **"Channel"**, then you will see **"Primary Steam key"** on the screen. Copy the **"Primary Steam key"** and paste it into the **"Stream Key"** field in the OBS, then click **"Start Streaming"** in the software.

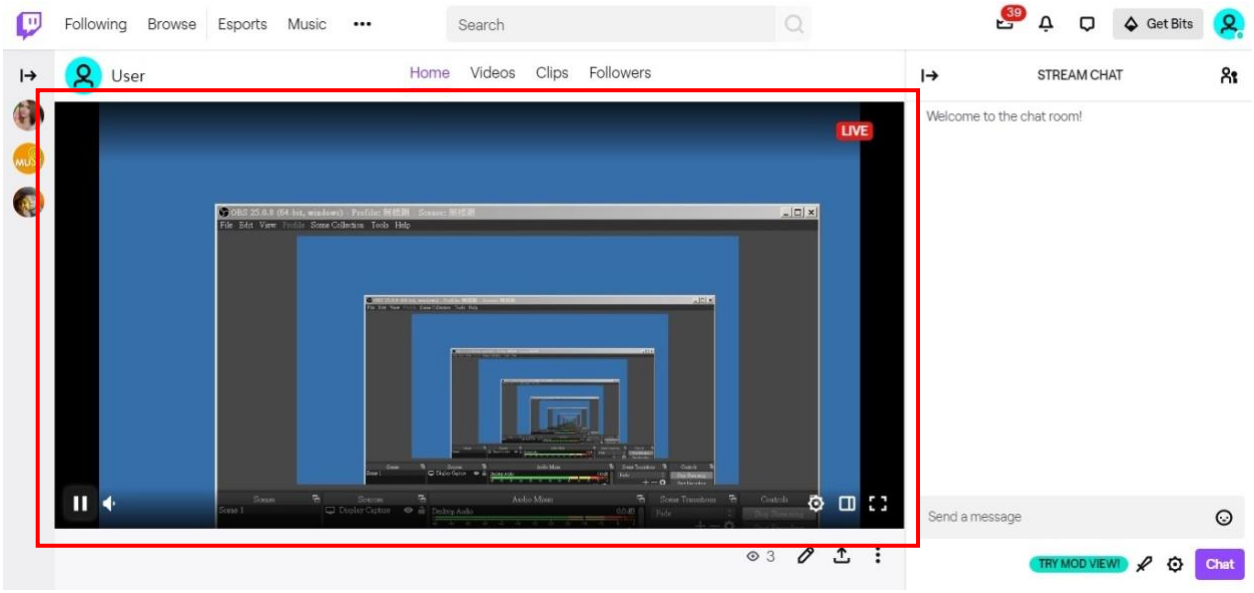
   * Please refer to steps 4-6 of the OBS software control program.



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



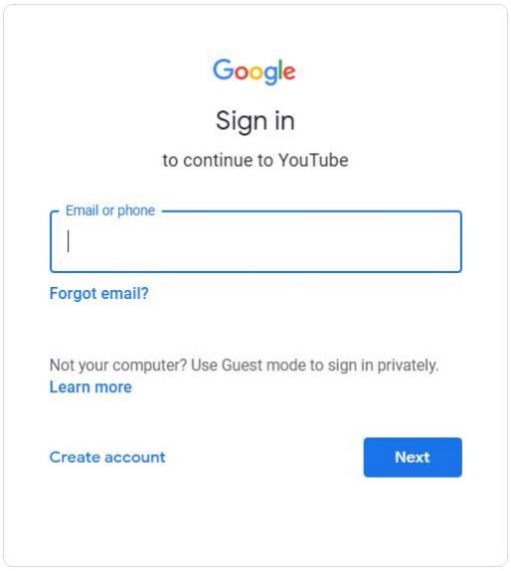

4. At this point, you will see the player start live streaming.

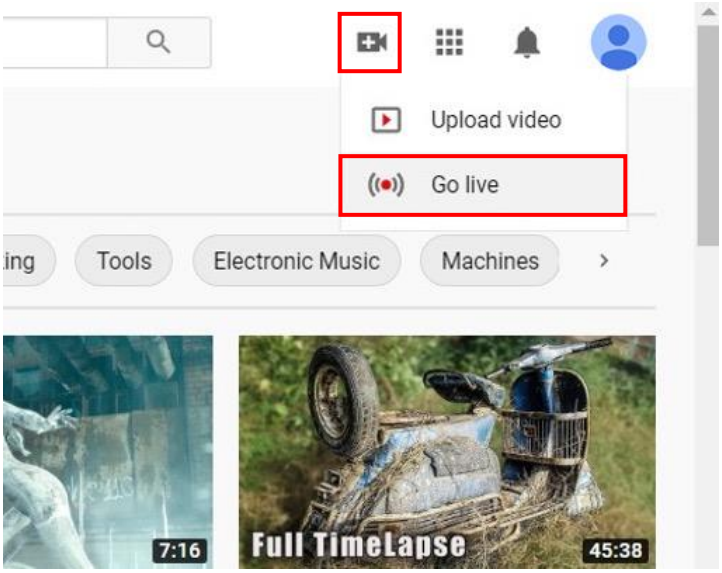


## YouTube

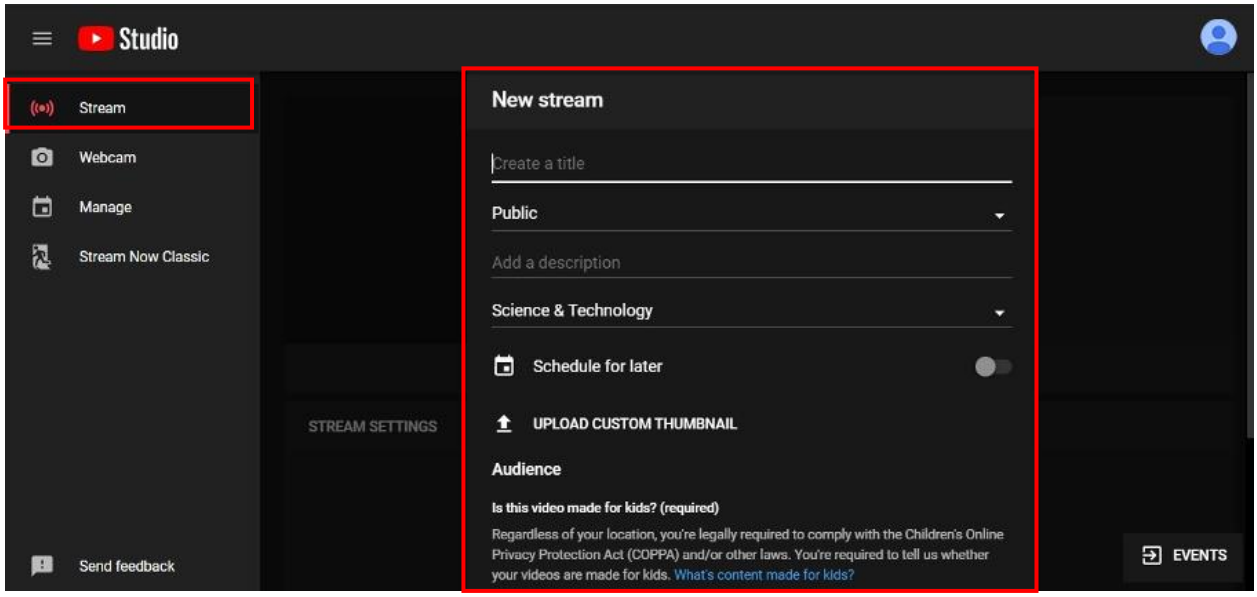
1. Browse the YouTube website (https://www.youtube.com/) and log in, then lick **"Go live"** from the **"Create"** icon menu at the top right of the screen.

   * 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.

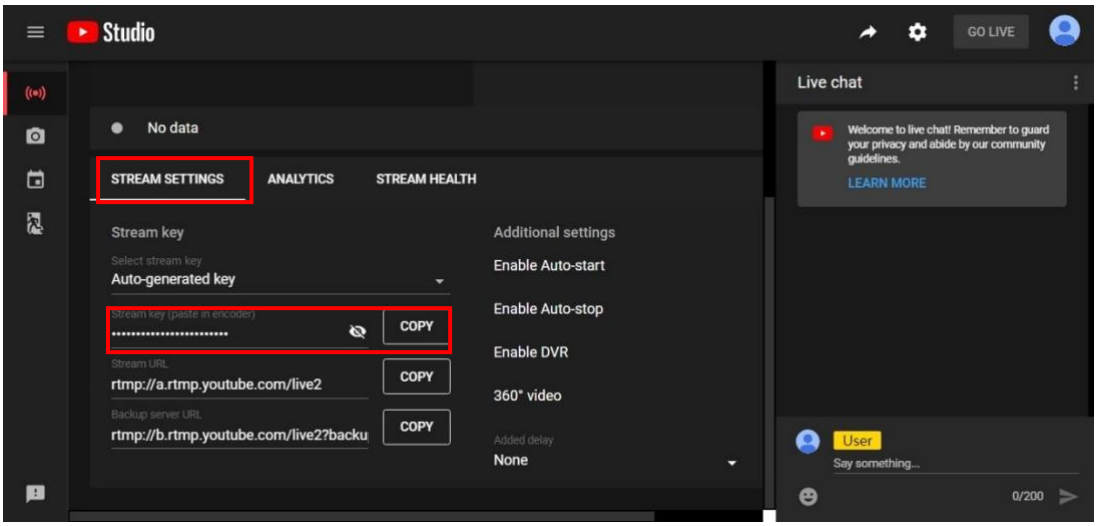


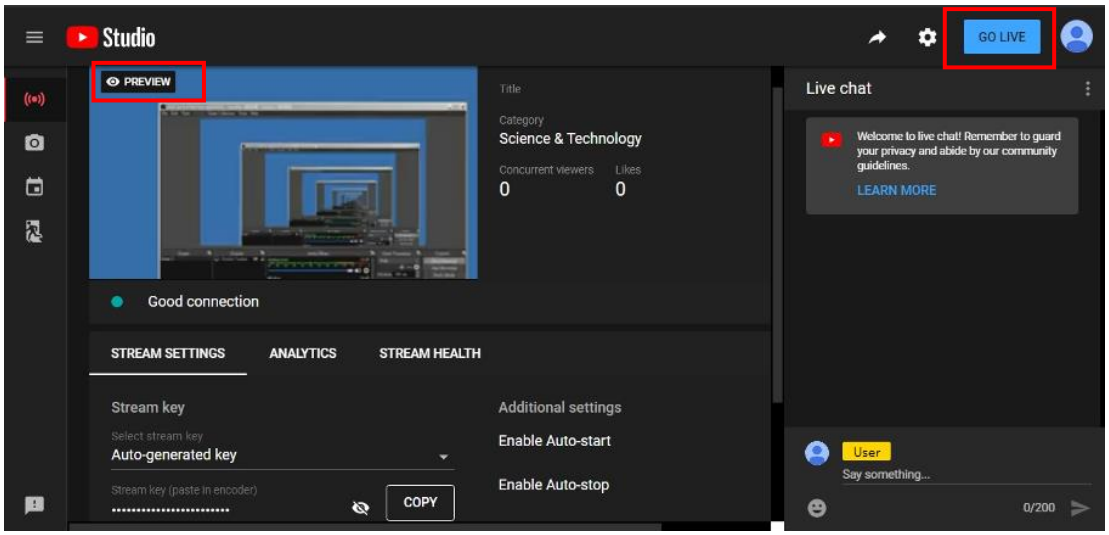

2. Click **"Stream"** in the left menu, and fill in the relevant information of the live video to create a new stream.



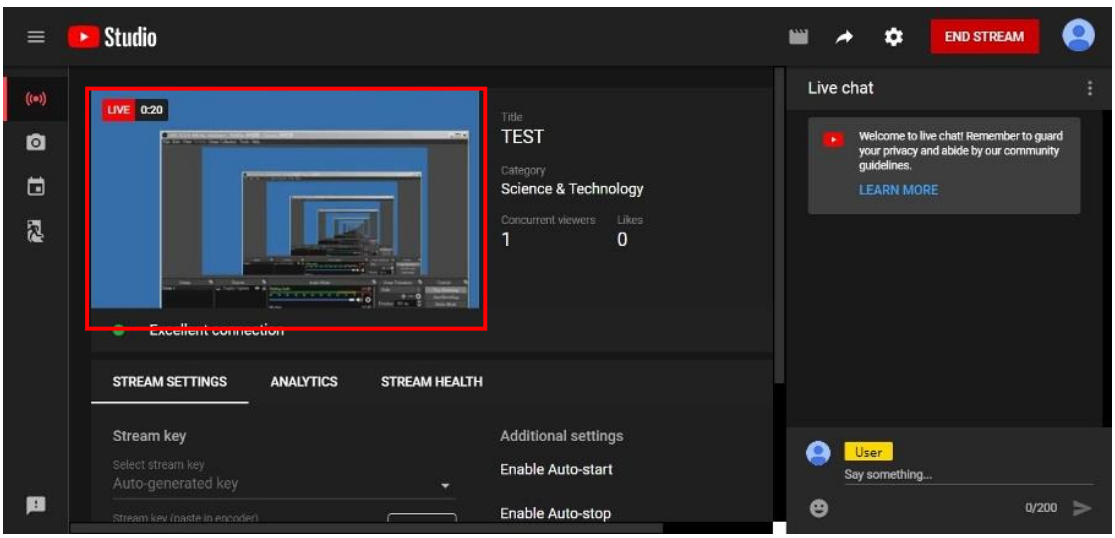
3. You will see **"Stream key"** from the **“STREAM SETTINGS”** below. Copy the **"Stream key"** and paste it into the **"Stream Key"** field in the OBS, then click **"Start Streaming"** in the software.
   * Please refer to steps 4-6 of the OBS software control program.




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

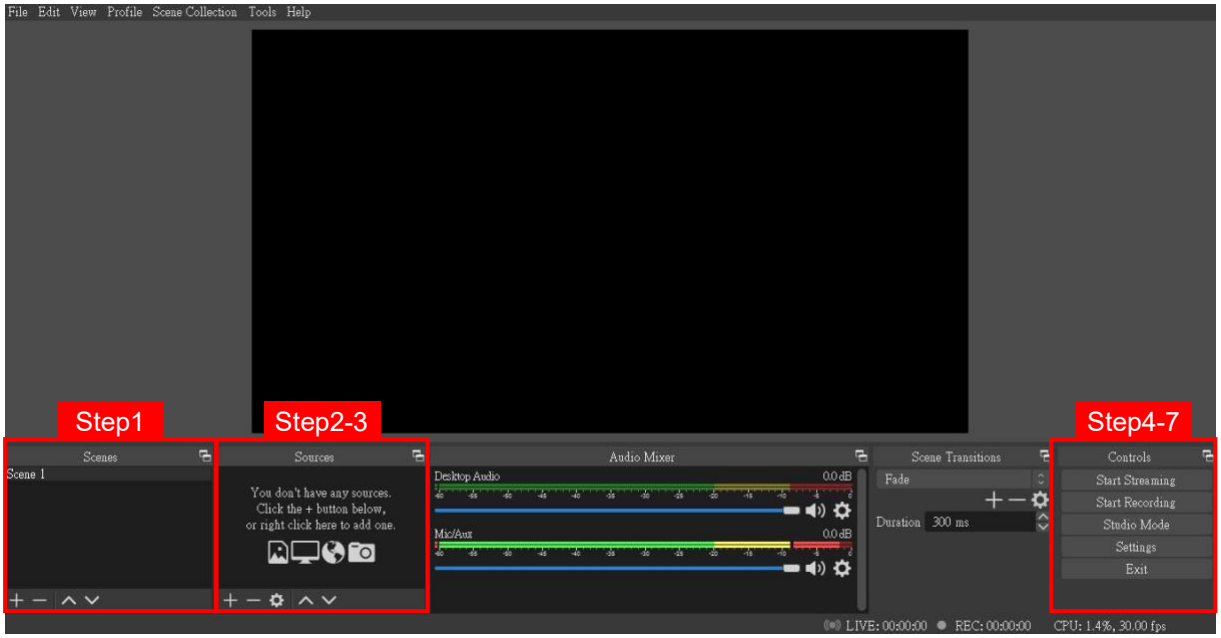
OBS is popular USB capture freeware and has excellent compatibility. Please start with OBS if users are not familiar with USB capture device.

### Download the software

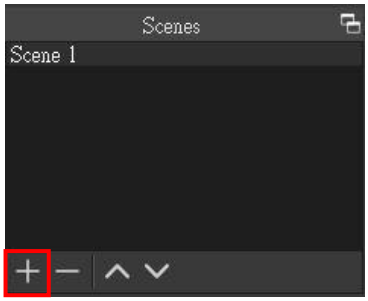
Browse the download page of the OBS official website (https://obsproject.com/download), then select the suitable computer operating system and start downloading.

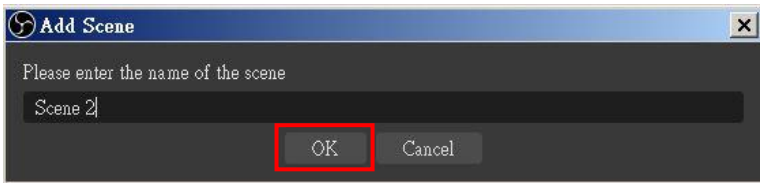
### Start the software control program

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

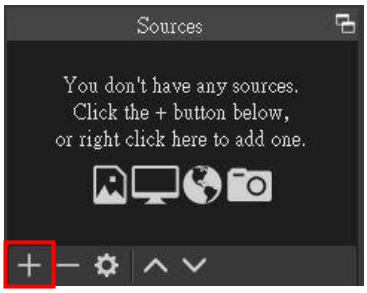


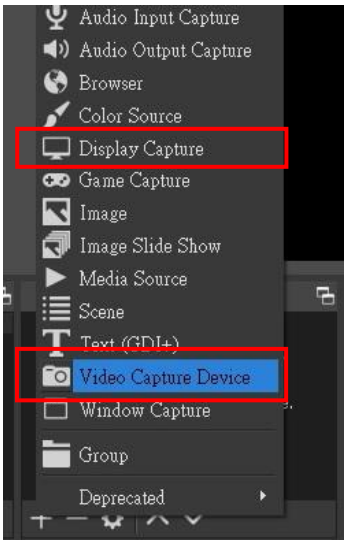
1. First, find the **"Scenes"** window, click **"+"** in the lower left corner, and then enter the name of the scene to create a new scene.

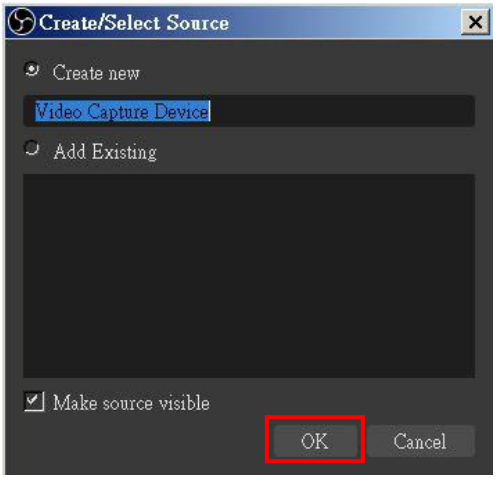


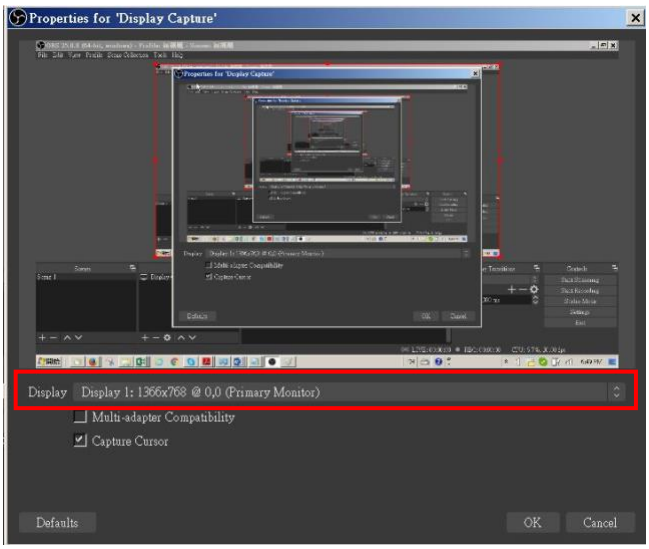

2. Find the **"Source"** window, click **"+"** in the lower left corner, and then select **"Display Capture"** or **"Video Capture Device"** to create a new source.

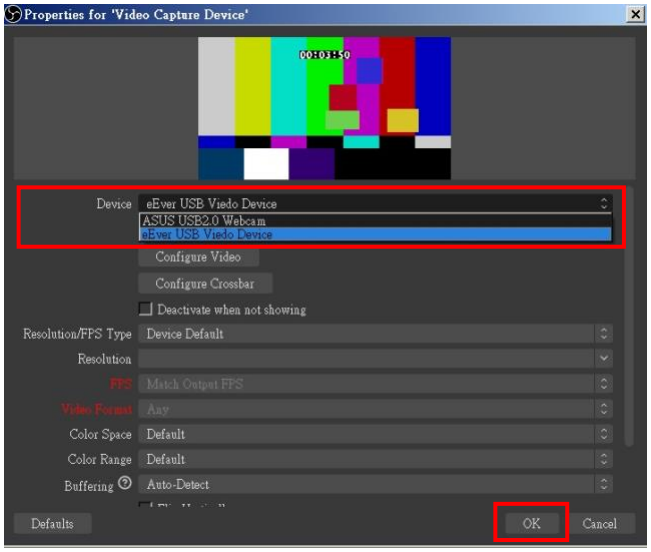


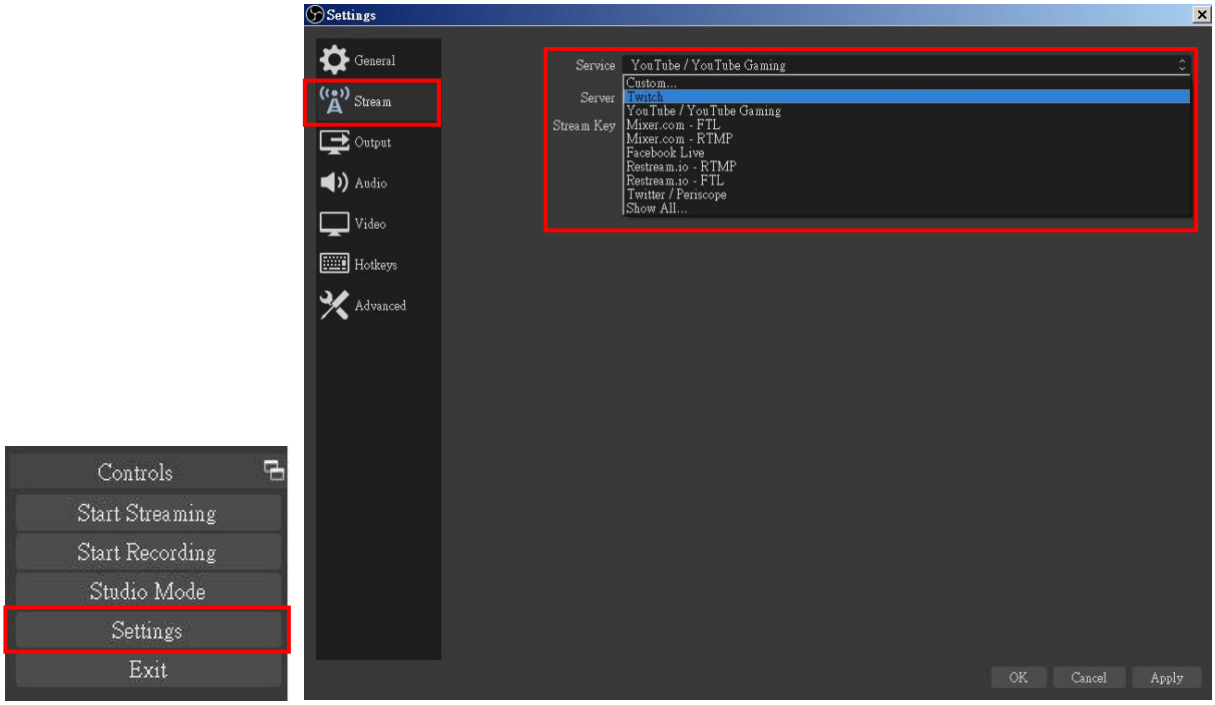




3. Next, you can set display capture properties. If you select **"Display Capture"** in step 2, you can select the primary monitor or other extended monitor as the display source. If you select **"Video Capture Device"** in step 2, you can select USB video device as the display source. After all settings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

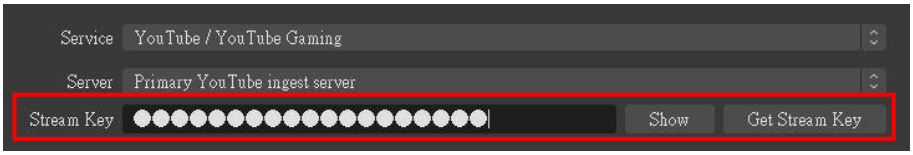


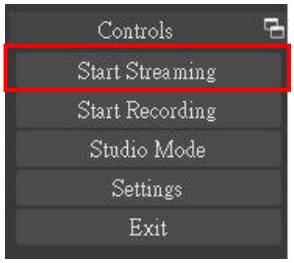
4. Click **"Settings"** and then select **"Stream"** to perform streaming settings. Users can choose service providers, including Twitch, YouTube, etc.



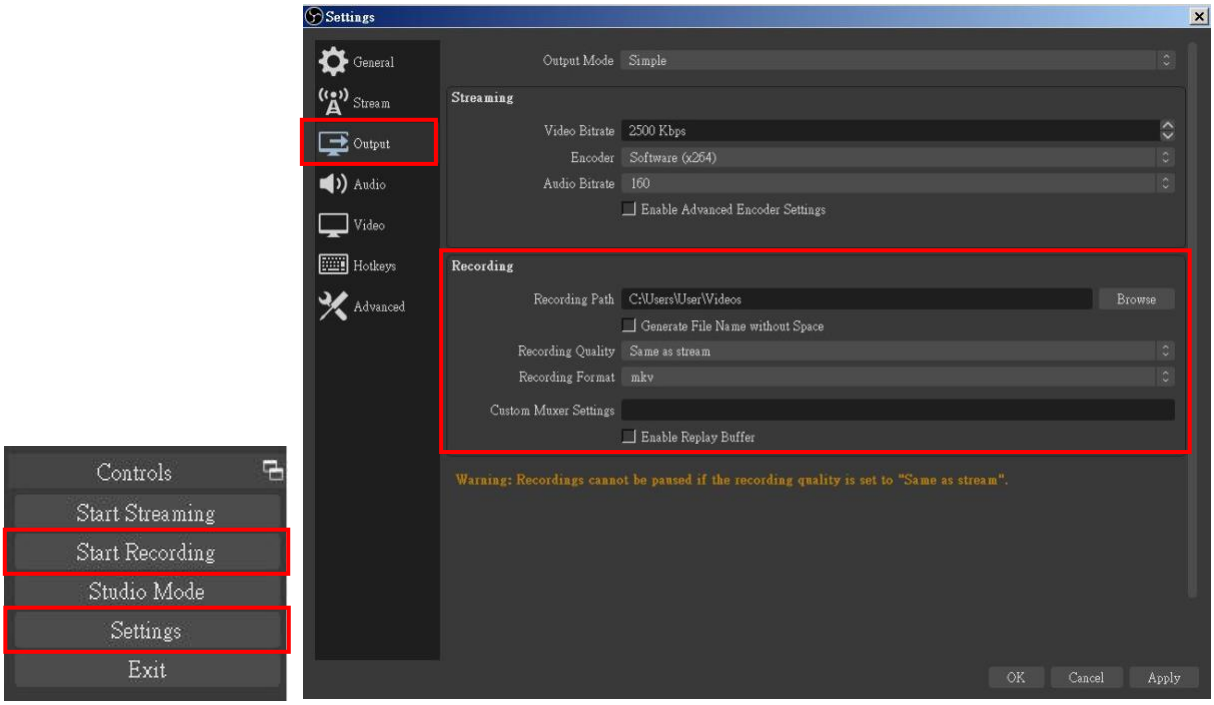

5. Paste the stream key provided by the service provider into the **"Stream Key"** field, then click **"Apply"** and **"OK"** after setting. In addition, users can lick **"Get Stream Key"** at this step to open the service provider website.




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”.**




The procedures the manual demonstrates are based on the interface that each website provided at the time the manual was written. These procedures may not be accurate and are subject to change by the provider.

## TROUBLESHOOTING

1. The BG-4KCH supports HDCP to protect legal content from copyright infringement. If an HDMI input is eequipped with HDCP protection, the status LED will turn red to indicate the presence of HDCP. No capture will be legally allowed if HDCP is detected. Please use non-HDCP protected HDMI sources or disable HDCP in order to enable content capture. Check connected device for an option to disable HDCP.

2. Due to the complexities of OS and computer hardware, different USB ports on your PC or laptop may have different performance or limitations. If the device does not work on one USB connection it still may work on another.

3. If video quality is low or the video connection is intermittent, try another HDMI cable.

## USB PIN DEFINITION

| P1 | | | P2 | |
|---|---|---|---|---|
| VBUS | A4, B4, A9, B9 | ⟷ | 1 | VBUS |
| Dn1 | A7 | ⟷ | 2 | D- |
| Dp1 | A6 | ⟷ | 3 | D+ |
| GND | A1, B1, A12, B12 | ⟷ | 4 | GND |
| SSTxn1 | A3 | ⟷ | 5 | SSRX- |
| SSTxp1 | A2 | ⟷ | 6 | SSRX+ |
| GND | A1, B1, A12, B12 | ⟷ | 7 | GND |
| SSRxn1 | B10 | | 8 | SSTX- |
| SSRxp1 | B11 | | 9 | SSTX+ |

## TECH SUPPORT

Before contacting tech support, we may have answered your question already! Visit our BZBGEAR support page at bzbgear.com/support for valuable information on our products.

Here you will find our Knowledge Base (bzbgear.com/knowledge-base) consisting of tutorials, quick start guides, and step-by-step troubleshooting instructions. Also visit our YouTube channel BZB TV at youtube.com/c/BZBTVchannel for help setting up, connecting, and other how-to videos regarding our products.

If you still need answers, please call 1.888.499.9906, email support@bzbgear.com, or chat at bzbgear.com.

## WARRANTY

BZBGEAR Pro AV products and Cameras come with a **three-year warranty**. An extended two-year warranty is available for our Cameras upon registration for a total of five years.

For an extended two-year warranty on our Cameras, follow these steps:

1. Register your Camera within 90 days of purchase by visiting bzbgear.com/warranty.

2. Complete the registration form. Provide all necessary proof of purchase details, including serial number and a copy of your sales receipt.

For complete warranty information, please visit bzbgear.com/warranty or scan the QR code below.

## MISSION STATEMENT

BZBGEAR manifests from the competitive nature of the audiovisual and live streaming industry to innovate while keeping the customer in mind. AV solutions can cost a pretty penny, and new technology only adds to it. We believe everyone deserves to see, hear, and feel the advancements made in today's AV world without having to break the bank. BZBGEAR is your answer for applications requiring the latest pro AV and live streaming solutions.

You'll notice comparably lower prices with BZBGEAR while the performance and quality are on par with the top brands in the industry. Our team offers system design consultation and expert tech support seven days a week for all BZBGEAR products. Our unparalleled support is our way of showing we care for every one of our customers. Whether you're an integrator, home theater enthusiast, or a do-it-yourselfer, BZBGEAR offers solutions allowing you to focus on your project and not your budget.