DS-H2U

UVC HDMI 4K Capture

**USB-C 4K Video Capture Box with Scaler,
HDMI 2.0 loop-Out, Audio & HDR10 to SDR Conversion**

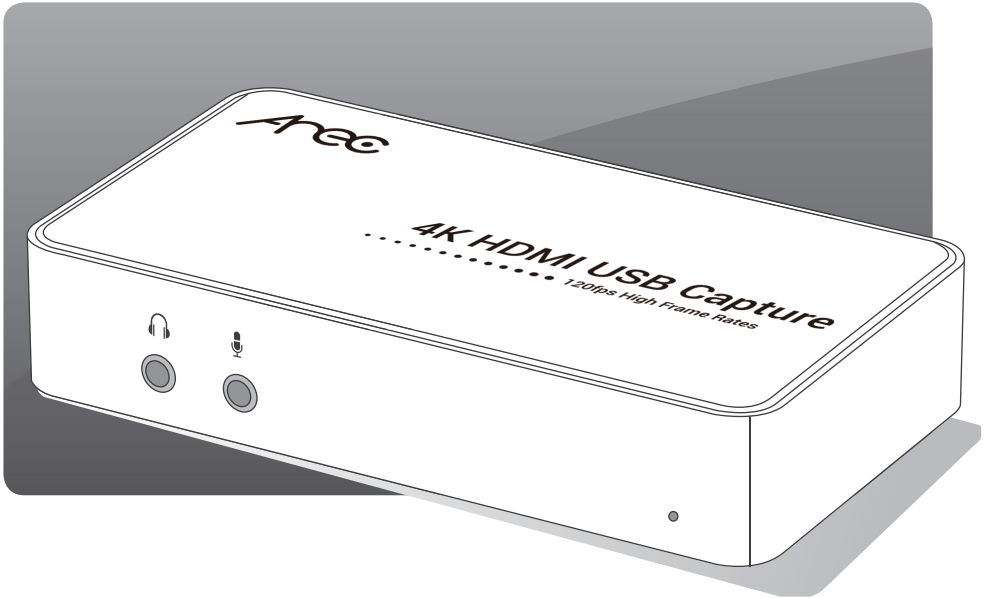## User Manual│English

Table of Contents

INTRODUCTION

The AREC DS-H2U USB-C 4K Video Capture Box with Scaler, HDMI 2.0 loop out, Audio & HDR10 to SDR Conversion provides a professional way to capture HDMI video signals. It adopts USB 3.1 Type-C Gen 1 (USB 3.0) interface, which can realize high-speed transmission. In addition, the HDMI input and loop out can support up to 4K2K@60. Users can connect AREC DS-H2U to a 4K2K@60 source and capture Ultra HD(4K2K@30) video with this capture device. In addition, AREC DS-H2U can capture and display original uncompressed HDMI video with a more realistic color rendition. AREC DS-H2U also uses large-volume image buffer technology which effectively avoids video tearing. The high sampling rate and high sampling accuracy assure the captured videos with high sharpness, rich details, and fewer color edges. Also, with HDR10 to SDR conversion, PS4/Xbox players can enjoy 4K2K@60 HDR games on 4K TV thru the loop-out HDMI port and record the real-time 4K2K@30 video streams with SDR quality through USB 3.0 port at the same time.

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 (Video stream over USB-C)
- Supports HDMI input &loop-outt up to 4K2K@60
- Supports deinterlacer & scaler∗
- Supports mic in the mix with HDMI audio
- Supports HDMI audio extraction
- Supports HDR10 to SDR conversion∗∗
- Supports playing 4K HDR on HDMI out while streaming perfect 4K2K@30 with SDR colors for gameplay capture.
- 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 such as OBS Studio and AMCap
- 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)
- USB-C reversible
- System Requirements (Recommended)
  - 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

1. Video quality is apparently related to the capability of computer and software setting.
2. Please use the included USB 3.0 cable in the box to protect the device and avoid further compatible issues.
3. Video resolution change may require to restart software.
4. Video output format is related to the software limitation. For example, the AMCap software does not support NV12 format

∗ Scale-up supports up to 1080P@60
∗∗ NOT supports HDR10 plus, HLG, and Dolby Vision to SDR conversion

PACKAGE CONTENTS

- 1x AREC DS-H2U
- 1x Quick Guide

SPECIFICATIONS

| Technical	
Role of usage	4K HDMI USB Capture
Input Video bandwidth	600MHz
Output bandwidth	Up to 350Mbps (USB-C)
Video support (USB-C)	Up to 4K2K@30/1080P@120
Video support (Loopout)	Up to 4K2K@60
Audio Input	HDMI Embedded Audio & Stereo audio Input
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+ 1x 3.5mm
Output	1x USB-C + 1x HDMI + 1x 3.5mm
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), AMCap (Windows), Potplayer (Windows), VLC (OS X, Linux), XSplit Boardcast (Windows), Skype (Windows, OS X), 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 : 116 x 63 x 23mm [4.6" x 2.5" x 0.9"] Package : 230 x 95 x 41mm [9" x 3.7" x 1.6"]
Weight	187g
Power supply	Via USB-C
Power consumption	3.5 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]

* "DS-H2U follows the High-bandwidth Digital Content Protection (HDCP) rule."

PANEL DESCRIPTIONS
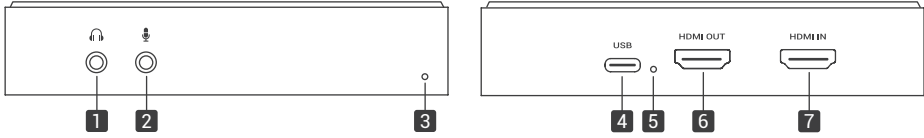
1. STEREO AUDIO OUT: Audio extracts from HDMI input
2. STEREO AUDIO IN: Connect to the analog stereo audio source
3. LED INDICATOR: HDMI input signal indicator LED
4. USB-C OUT: Connect to a USB host (PC, NB, MAC...)
5. LED INDICATOR: USB-C signal indicator LED

   [Red] Connect the device to the USB 2.0 port on the host

   [Blue] Connect the device to the USB 3.0 port on the host
6. HDMI OUT: Connect a toana HDMI display
7. HDMI IN: Connect to an HDMI source

CONNECTION DIAGRAM
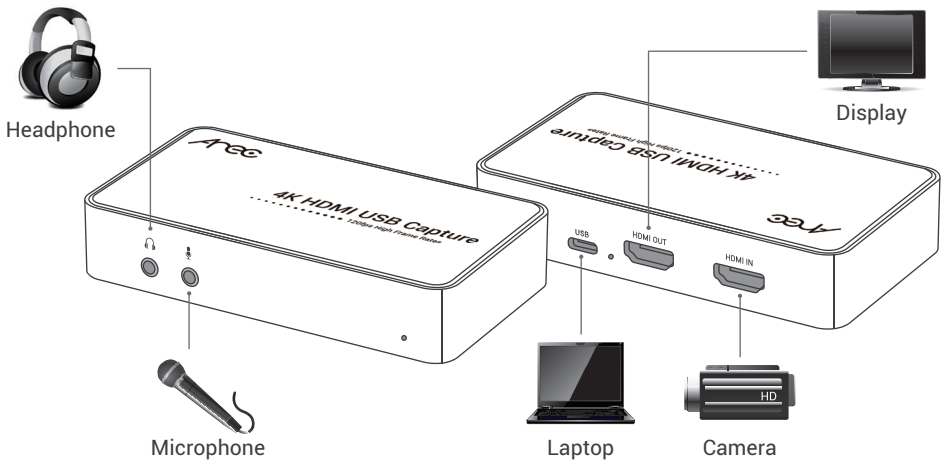
VIDEO STREAMING

Create a Video Streaming

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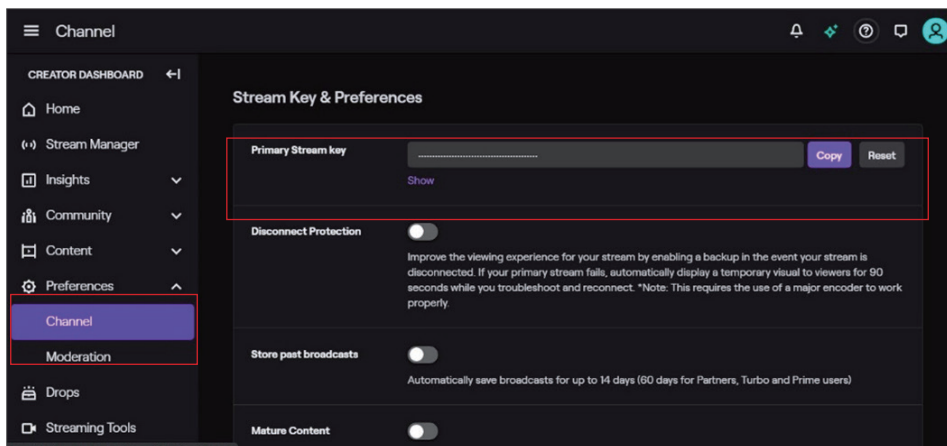
Twitch

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.
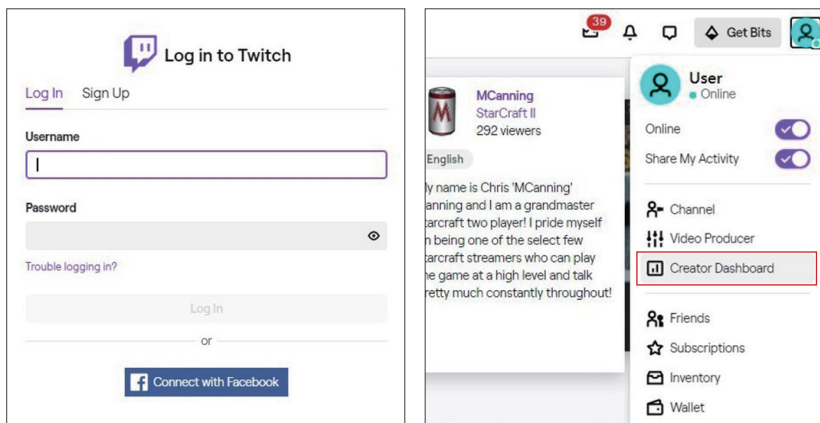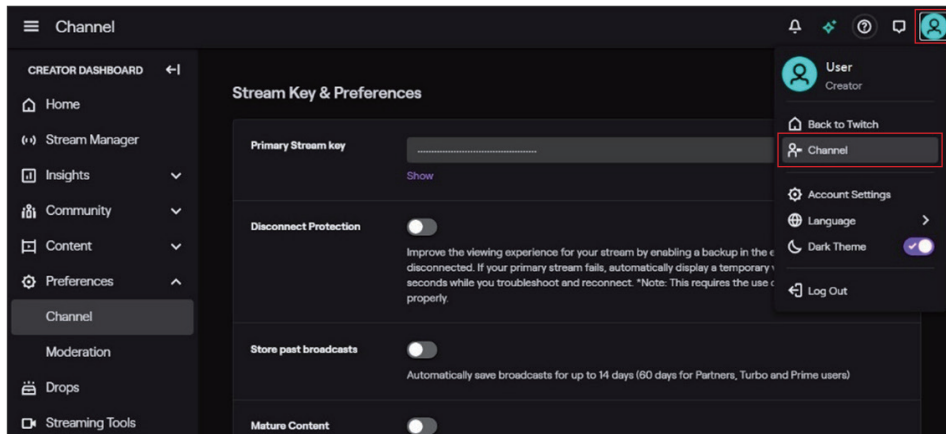

2. Find "Preferences" in the left menu, and click "Channel", then you will see "Primary Steam key" on the screen. Copy the "Primary Steam key" and paste it into the "Stream Key" field in the OBS, then click "Start Streaming" in the software.
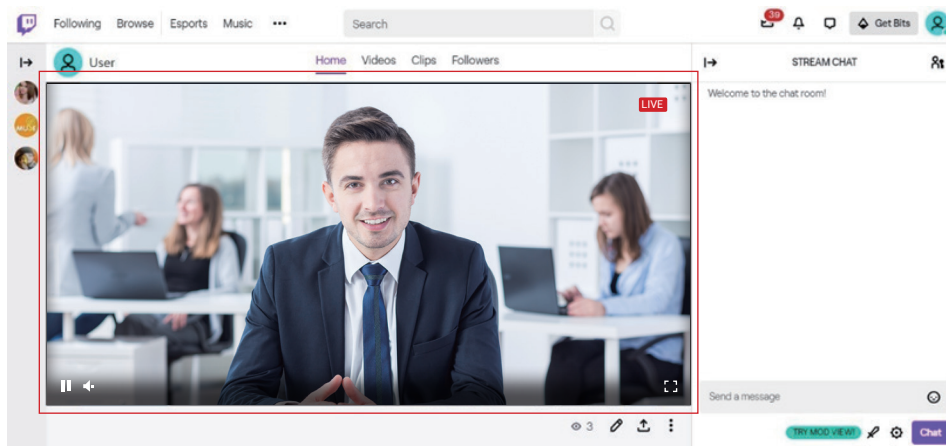   * Please refer to steps 4-6 of the OBS software control program.

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 click "Go live" from the "Create" icon menu at the top right of the screen.
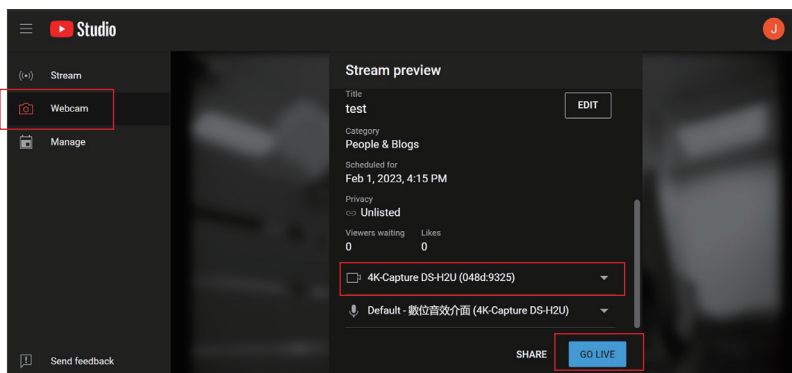
   * If your account is using YouTube for the first time to create a video stream, you need to wait 24 hours to enable the function.
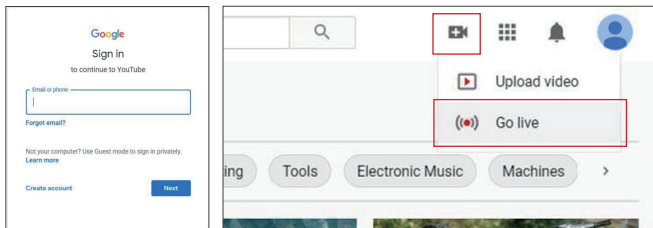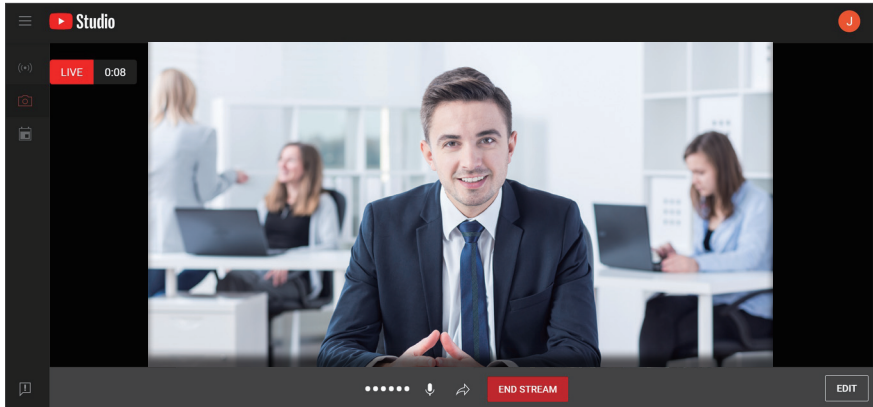

2. Go to the "Webcam" and edit the streaming details. Click on the next.
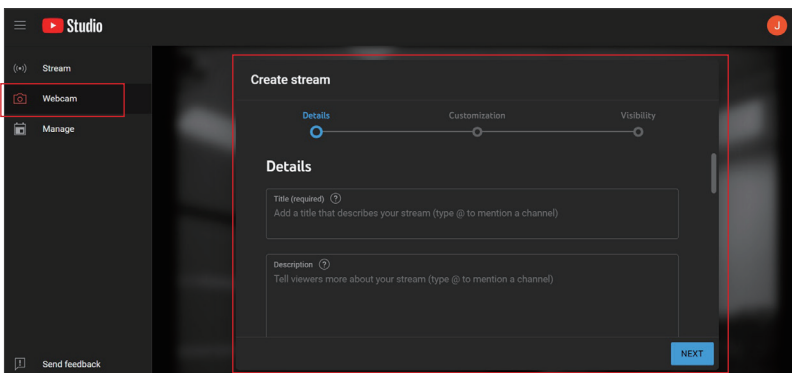
3. Select "4K Capture DS-H2U" as your source.

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4. 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 devices.
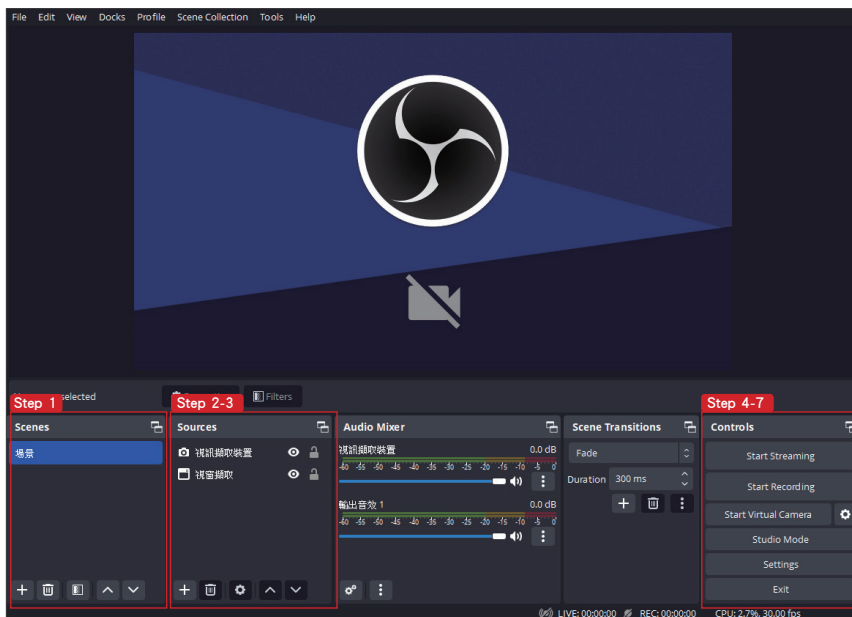
Stream and record videos with OBS

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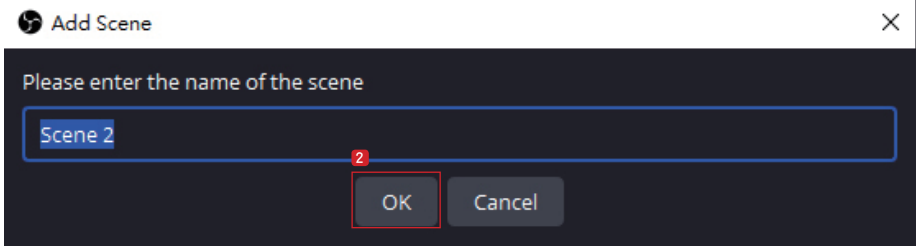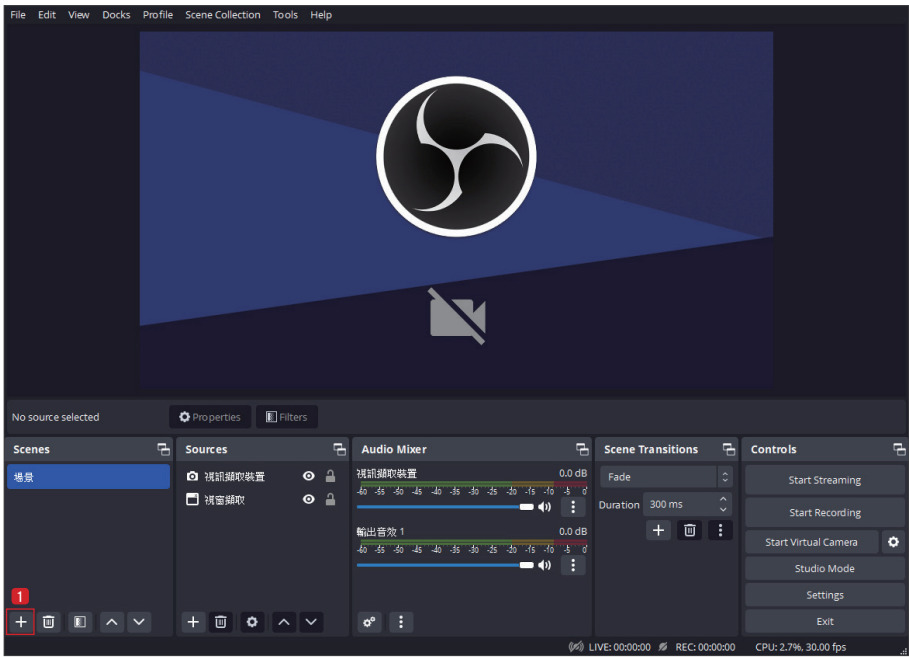


### Start the software control program

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.

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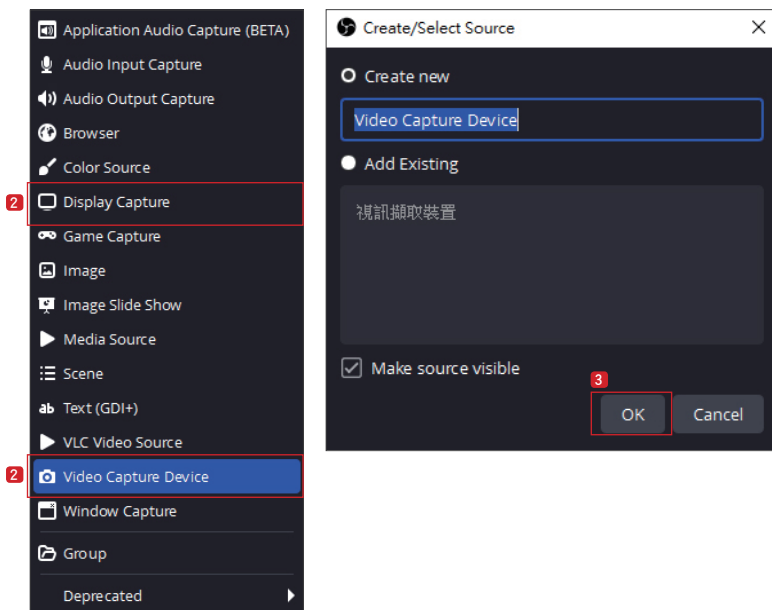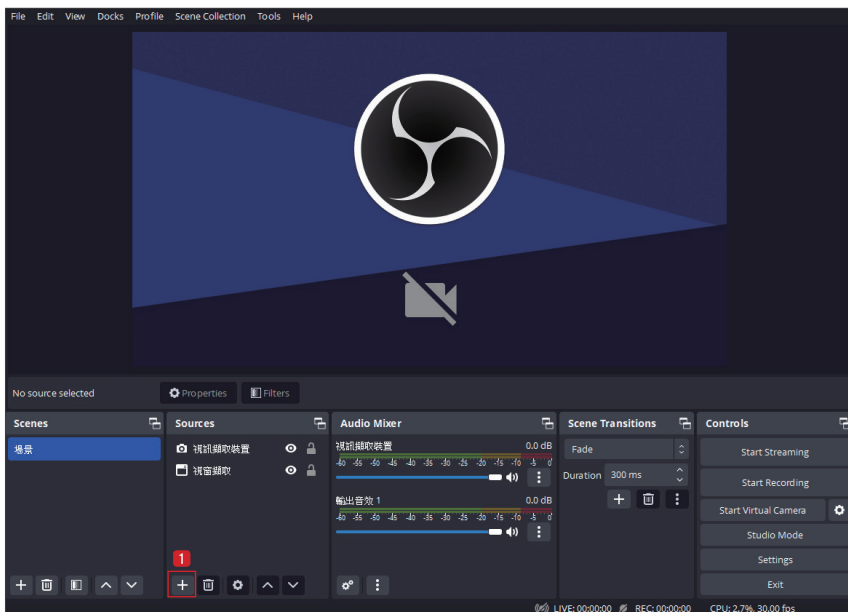
3. Next, you can set display capture properties. If you select "Display Capture" in step 2, you can select the primary monitor or other extended monitors as the display source. If you select "Video Capture Device" in step 2, you can select a USB video device as the display source. After al,l settings are completed, click "OK".
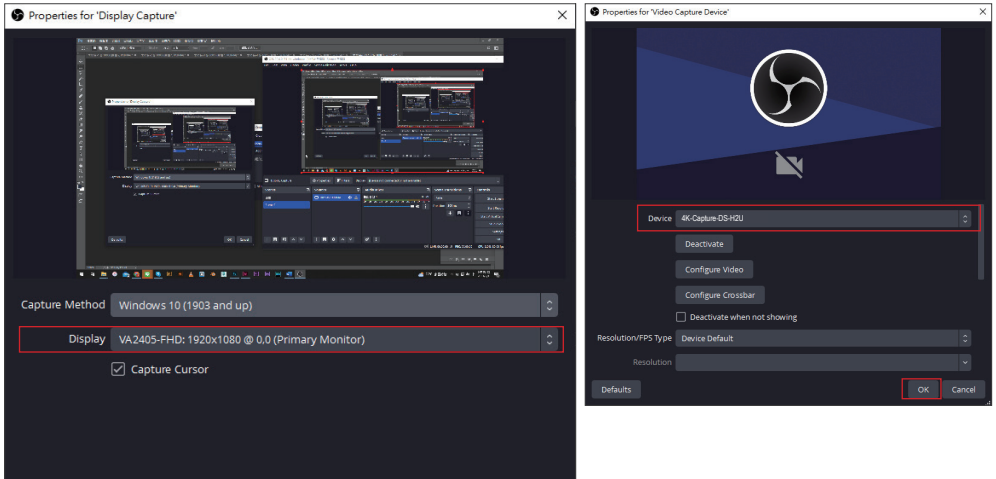
4. Click "Settings" and then select "Stream" to perform streaming settings. Users can choose service providers, including Twitch, YouTube, etc.
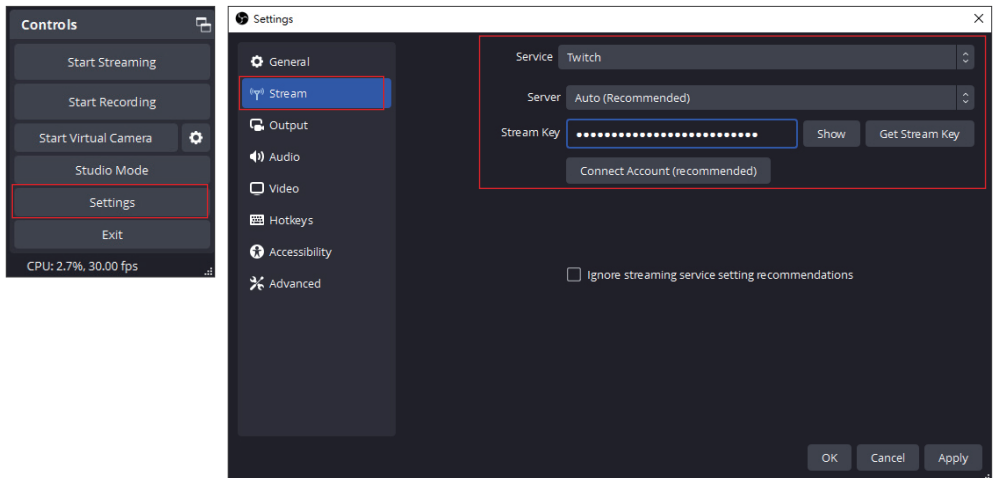
5. Paste the stream key provided by the service provider into the "Stream Key" field, then click "Apply" and "OK" after setting. In addition, users can click "Get Stream Key" at this step to open the service provider website.
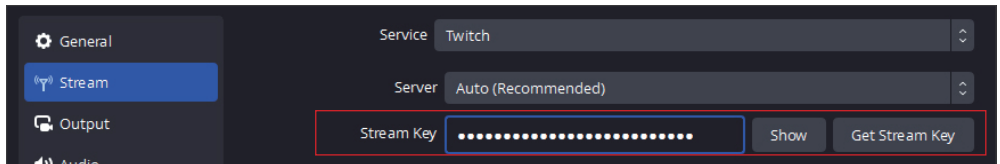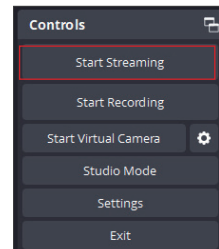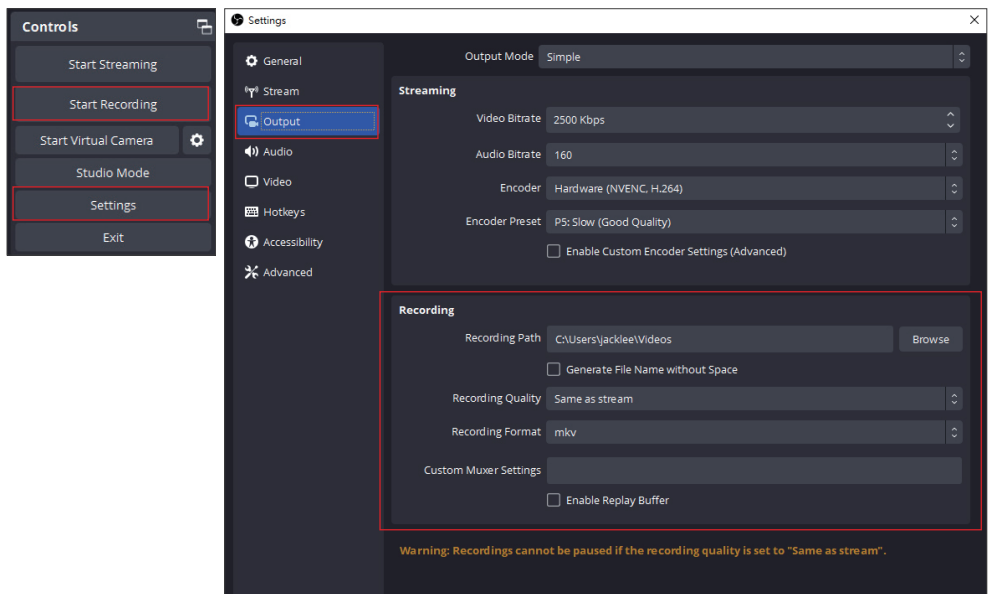

6. Please click "Start Streaming". At this time, the screen after clicking "Start Streaming" will be displayed in the live video.

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 provides at the time when the manual is written. The most recent way to make live streaming happen is supposed to be very likely as the above procedures but subject to change by the website interface update from the social media.

TROUBLESHOOTING

DS-H2U has done comprehensive tests before shipment. Most of the incompatibilities we have experienced are not from the USB capture device itself but from the sophisticated software and hardware combination of PC or laptop. Please follow the following suggestions to see any help.

1. OBS is popular USB capture freeware and has excellent compatibility. 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 a PC or laptop may have different performances or limitations. Please try all USB ports to see if there are any differences.

3. Please must use the USB cable in the box. We do not guarantee the overall performance when the USB capture box works with some other USB cables.

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

5. If the audio has noise when using the PotPlayer software, please adjust the audio renderer to WaveOut on the software. The setting path is:

   PotPlayer → Audio → Audio Output → Audio Renderer → WaveOut

6. If there are problems such as video flipping or wrong direction when using VLC software, please rotate, flip or transpose the video in the VLC software to correct the video. The setting path is:

   Tool → Effects & Filters → Video Effects → Geometry → Transform

WARRANTY

The SELLER warrants the **DS-H2U 4K HDMI USB Capture with Scaler, HDMI 2.0 loop-out, Audio & HDR10 to SDR Conversion** to be free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period, The SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse, or any unauthorized modifications including static discharge and power surges.

The unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is instead of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required to claim a warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables are limited to a 30-day warranty and cable must be free from any markings, and scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. **Also, the technical information contained herein regarding the DS-H2U features and specifications is subject to change without further notice.**

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