High Definition

Bonding Live Video Streaming Encoder

# User Manual

LiveV400 Series

| | |
|---|---|
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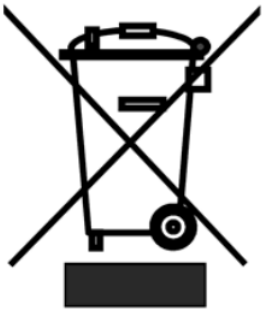
# Warnings and Precautions

1. Read all of these warnings and save them for later reference.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from the Power Adapter before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit in or near water.
5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked.
7. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
8. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your LiveV400 dealer or your local power company.
9. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
10. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord rating.
11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked “Do Not Remove” may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
13. Unplug this product from the Power Adapter and refer to qualified service personnel under the following conditions:
    a) When liquid has spilled into the unit.
    b) When the product has been exposed to rain or water.
    c) When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation.
    d) When the product has been dropped or the cabinet has been damaged.
    e) When the product exhibits a distinct change in performance, indicating a need for service.

# Disposal



**For EU Customers only - WEEE Marking**

This symbol on the product or its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

# Chapter 1 General

## 1.1 Overview

Thank you for purchasing LiveV400 – HD Live Streaming Encoder. The LiveV400 is a portable standalone, hardware-based video streaming encoder that can be mounted on top of the cameras or carried on a backpack. LiveV4X0 can encode and transmit video of camcorder or camera via 5G, 4G, WIFI or LAN to the cloud server in real-time for live broadcasting.

LiveV400 opened 5G live streaming era. It is a high definition, bonded dual video input streaming encoder plus video router. It is cost effective, easy to use, with tripod mount, supports modern USB Type-C charger and a range of innovative features.

The LiveV400 offers 1 *5G LTE channel and 5* 4G LTE channels (including 2 built-in 4G and 3 external 4G), 1 built-in WIFI and 1 Gigabit Ethernet port. Convenient users in indoor, outdoor and other bad situations live. In addition, the LiveV400 offers aggregation capabilities that aggregate LAN, WIFI, 2x built-in 4G, 3x external 4G, 5G eight-way network, adaptive link quality, and joint push. And after aggregation can be distributed 9 RTMP streams.

LiveV400 has 4.3” touch screen and user-friend operation and video and camera collage preview, live video switch, setup, status. It has full touch screen UI and full control of encoder. PC, phone and remote web encoder and settings are also supported.

LiveV400 supports dual 1080P HD video signal input, supports a variety of video graphics puzzles including two video seamless switching, picture-in-picture and so on, up to 6 different live display combinations, and also provides 2 user-defined video puzzles, can freely adjust HDMI and SDI dual video display size, location and so on.

LiveV400 uses efficient H.264 digital audio and video hardware encoding, encoding compressed video circulation too much network aggregation RTMP push to the server platform, replacing the traditional PC and video acquisition card, without the need for special PC software.

The LiveV400 provides multiple network channels, and when a network connection fails, the device automatically selects other available network push streams that are connected, without additional setup by the user. In addition, when the bandwidth of the push streaming network is less than the set target code rate, the user can choose to use the aggregation mode to push the stream, the encoder aggregates multiple networks to push the stream together, to achieve the set target code rate.

# General

## 1.2 Feature

- 4.3" touchable LCD for in field setting and video monitoring
- Up to 8 network links, include 3 built-in + 3 side USB 4G/LTE, Built-in WIFI and 1 Giga-Bit Ethernet port
- At the same time LAN/WIFI/5G 8-way aggregation improves the bandwidth and stability of live broadcast
- Up to 10mbits/s video stream by encoder, up to 20mbits/s for bonding server.
- Support multi-channel network bonding streaming mode, up to 9 RTMP Address stream at the same time
- SDI and HDMI dual channel inputs, as well as analog stereo audio in, SDI and audio out
- Accept RTMP and RTSP video stream over router
- SDI and HDMI dual channel seamless handover, picture in picture, customize the display area, position and background of dual-channel video
- Standalone and long battery life for up to 6-hour live event in the **Single** mode, live time is reduced by half in the **Bonding** mode
- QR Code scan for quick configuration with mobile phone. Local and remote management by mobile phone and PC
- Advance hardware H.264 MP/HP video codec for highest stability
- AAC audio encoder with HDMI/SDI embedded audio support
- Analog audio input and audio output for embedded and analog
- Automatic dual input resolution, format detection, no professional setting required
- Powerful and flexible OSD, text, logo and stamp can be supported with easy-to-user configuration
- With standard camera tripod mount
- Based on very stable Linux system. Local and online upgrades are available
- Onboard recording to TF for backup or post event editing
- The standard USB TYPE C power supply interface is portable and convenient
- Full web remote control without installing a mobile app
- Support various live streaming platforms such as YouTube, Facebook, twitch etc.
- Light weight and small size design for outdoor activities.
- Portable hardware encoder, no expensive PC and video captured card required.

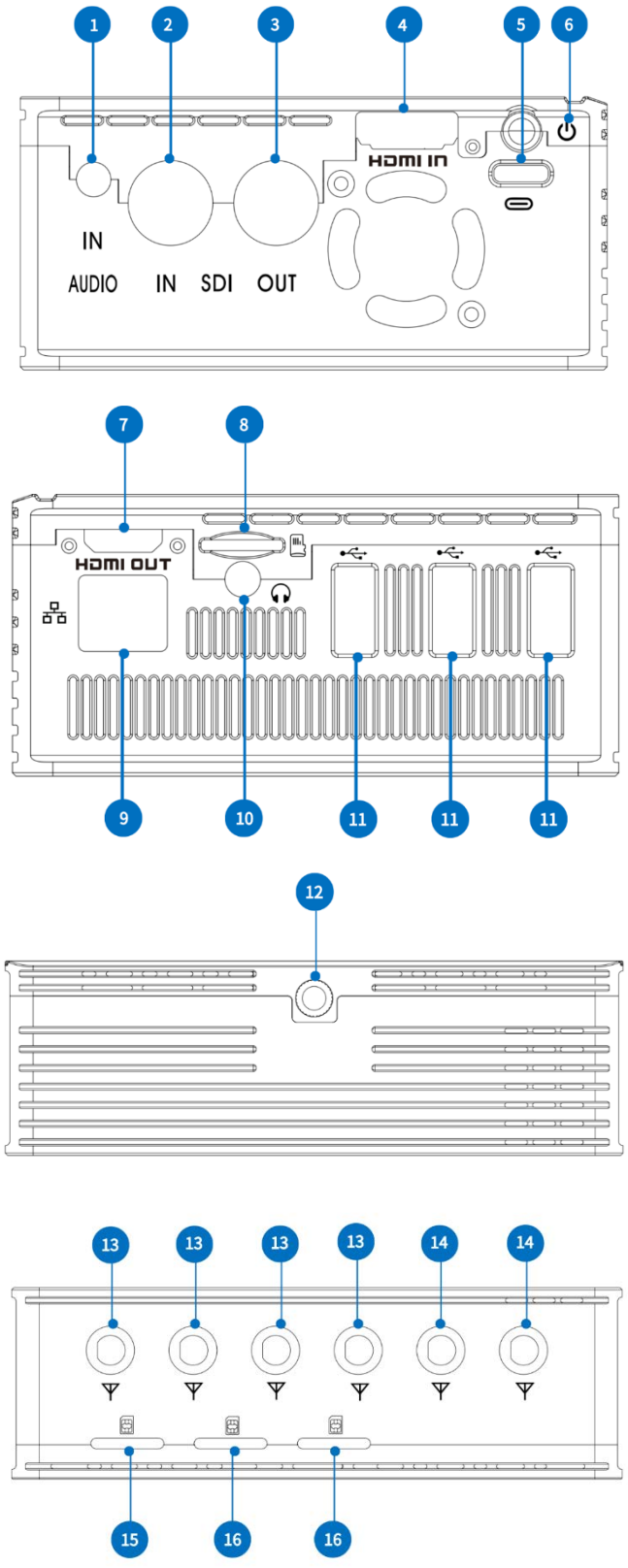
# Chapter 2 Quick Start Guide-Connection

## 2.1 What's in the Box

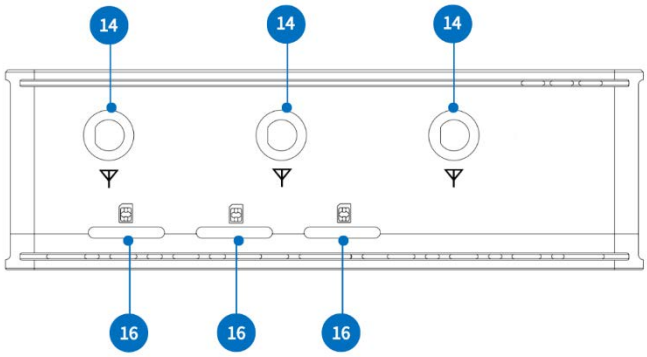
Encoder includes:

- LiveV400 unit
- USB TYPE C Travel Charge
- Type C cable
- 4 x 5G Antenna and 2 x 4G Antenna for LiveV400 (5G version); 3 x 4G Antenna for LiveV400 (4G version)
- Hot shoes
- Storage Bag
- USB 4G Dongle (Optional)

## 2.2 Connections and Controls




LiveV400 (5G version) TOP




LiveV400 (4G version) TOP

## 2.2.1 Physical Connections

| Label | Name | Icon | Description |
|---|---|---|---|
| 1 | Audio In | IN AUDIO | Stereo audio input. |
| 2 | SDI Input | IN | Connect up to SDI signal. |
| 3 | SDI Loop Out | OUT | Connect a SDI cable from this connector to a monitor or projector. |
| 4 | HDMI Input | HDMI IN | Connects HDMI and DVI signals (using an adapter). |
| 5 | Type-C Power Connector | | Plug the power supply in here. The port requires a 15V DC power source (center-positive). |
| 6 | RED Power Button | | Press to turn on encoder.<br>Press and hold more than 5 seconds to turn off. |
| 7 | HDMI Loop Out | HDMI OUT | Connect a HDMI cable from this connector to a monitor or projector. |
| 8 | TF Card Slot | | Plug the TF card in here. |
| 9 | RJ-45 Ethernet | | Ethernet network port. |
| 10 | 3.5mm Audio Output | | For audio confidence monitoring. Plays the audio for the currently visible channel |
| 11 | USB Connector | | Connect to USB 4G Dongle. |
| 12 | Hot Shoe Mount | | Mount encoder to camera |
| 13 | SMA Connector | | Connect to Internal 5G LTE antenna. |
| 14 | SMA Connector | | Connect to Internal 4G LTE antenna. |

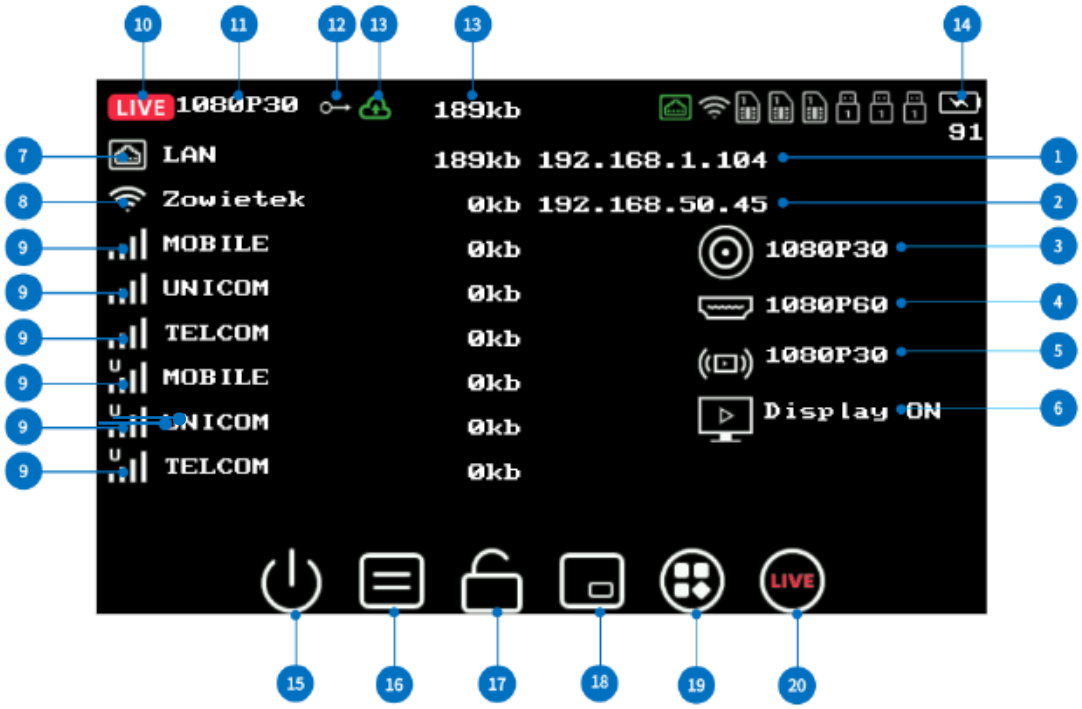
| | | | |
|---|---|---|---|
| 15 | SIM card slot | | Built-in 5G, Plug the NANO SIM card in here. |
| 16 | SIM card slot | | Built-in 4G, Plug the NANO SIM card in here. |

**NOTE:**

**LiveV400 has an internal rechargeable battery, so please keep it turning off and charging until fully charged when users first use it. This is required only for the first use.**

## 2.3 Screen Display

If Lan, WIFI, 4G network are connected, the screen will display all of the network information.




| Label | Description |
|---|---|
| 1 | The IP address of LAN network |
| 2 | The IP address of wireless network |
| 3 | SDI signal input, display **Resolution** and **Frame Rate** of SDI inputs;<br>Display **No Signal** when the no SDI input or SDI connection fail |
| 4 | HDMI signal input, display **Resolution** and **Frame Rate** of HDMI inputs;<br>Display **No Signal** when the no HDMI input or HDMI connection fail |
| 5 | Pull stream Signal input, display **Resolution** and **Frame Rate** of Stream inputs;<br>Display **No Signal** when the no Stream input or Stream connection fail |

| | |
|---|---|
| 6 | HDMI Display ON |
| 7 | Display **LAN** when the LAN connection is successful<br>Display uplink speed of LAN when the encoder using LAN as streaming network； Otherwise “0kb” is displayed |
| 8 | Display the **WIFI SSID** when the WIFI connection is successful<br>Display 0 kb when the WIFI is not involved in streaming |
| 9 | Display the **Operator** when the Built-in 5G/4G connection is successful<br>Display 0 kb when the Built-in 5G/ 4G is not involved in streaming |
| 10 | Streaming Icon.<br>The Streaming Icon is grey, when the streaming is offline |
| 11 | Streaming Resolution |
| 12 | Streaming Mode: means: Normal (Single) ; **means** Bonding |
| 13 | Streaming Icon and Video streaming bit rate, display 0 kb when the streaming is offline |
| 14 | Battery Level and Battery percentage |
| 15 | Power Off |
| 16 | Hide / Display desktop<br>Hide / Display text and icons on the LCD screen |
| 17 | Lock / Unlock screen |
| 18 | Video Collage<br>Customize layout, Picture in picture, Supports 6 fixed and 2 custom screen compositions |
| 19 | Menu<br>Setting |
| 20 | Streaming button |

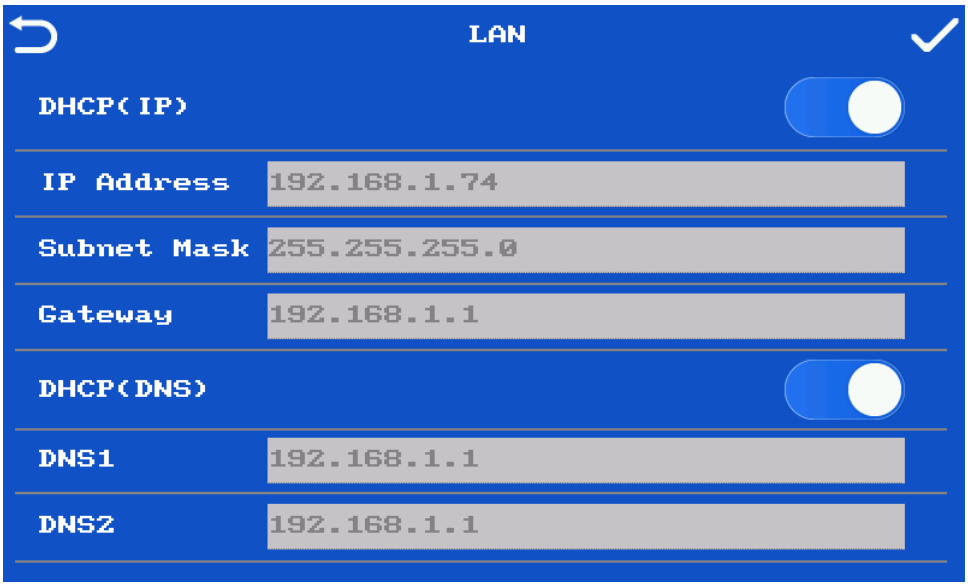
## 2.4 Menu/Setting

After clicking the Menu button, the Device Menu main interface will be shown as follows, including **“Network”**, **“Live”**, **“Audio”**, **“Video”**, **“Record”, “QR code”** and **“System”**. And the detailed description of each part will be given below.

## 1. Network

- **LAN**

  The default Network mode of the encoder is DHCP mode. Once the DHCP mode is selected to “open”, all of these network parameters will be set automatically. In addition, user can also fill in network parameters.

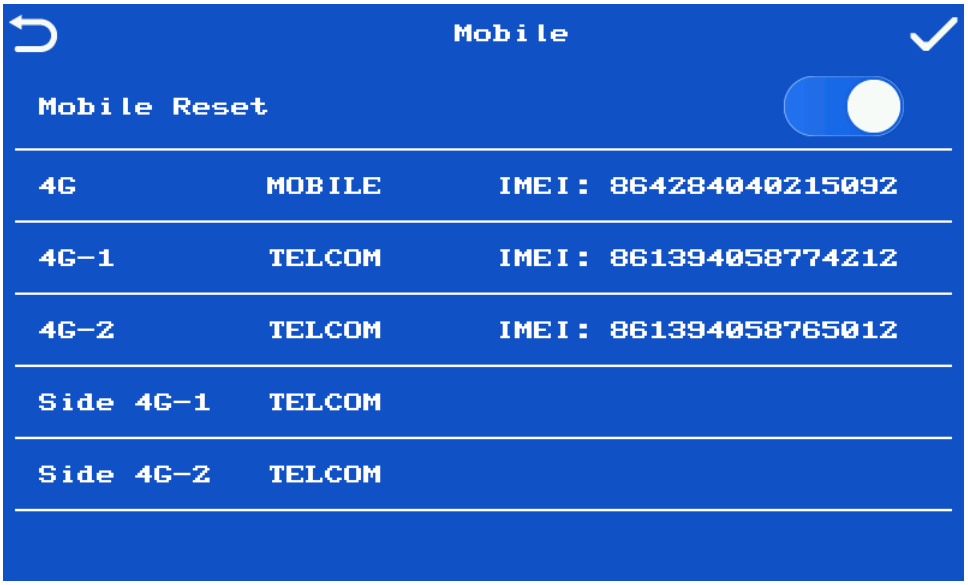



- **WIFI**

  First of all, please switch the **“WIFI”** button to **“Open”**, then the user can press the **“Scan”** button, find WIFI name and connect it. The second method is to click on the "Setting" button, enter "SSID" and "Password" to determine the connection to WIFI, and finally don't forget to click the "√".

- **Mobile**

  Turn on/off Mobile Reset, recognizing display connection status and its IMEI.




## 2. Live

- **Live**

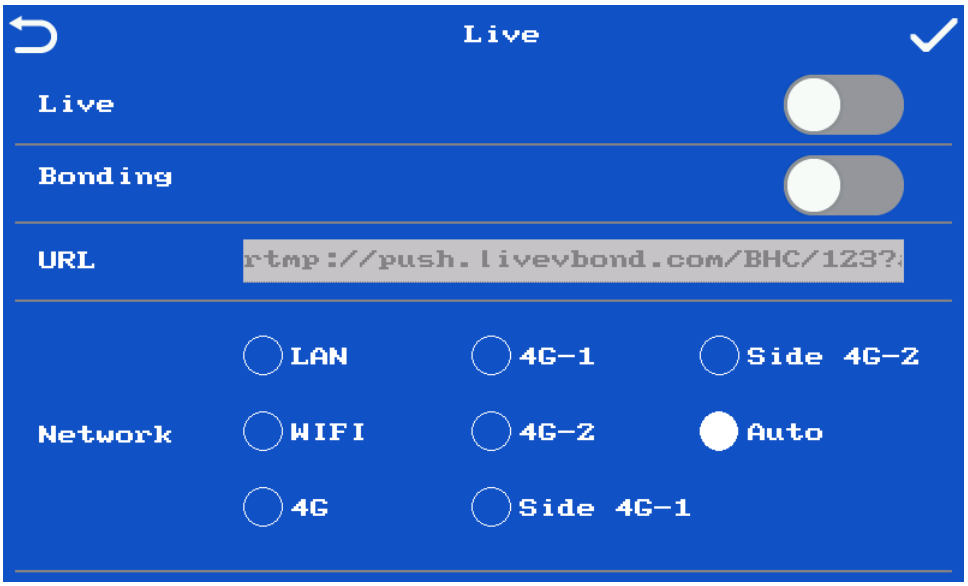
  **Live:** Button for Start/Stop streaming.

  **Bonding:** Turn on/off network bonding mode.

  **URL:** Combination of **RTMP URL** and **Stream Key**, equivalent to RTMP Address.

  **Network select:** User can select **LAN, WIFI, 4G, 4G-1**, **4G-2**, **Side 4G-1, Side 4G-2** or **Auto** as the streaming network.

  **Note:** 4G USB(Side-4G) automatically displays according to the quantity of inserted dongle.




### 3. Audio

- **Audio**

  Turn on/off audio output. Audio loop out, it can connect to earphone to monitor.

- **Source**

  **LINE IN:** Use the analog stereo input as the audio source.

  **HDMI:** Use the embedded digital stereo audio of HDMI input as the audio source.

  **SDI:** Use the embedded digital stereo audio of SDI input as the audio source.

- **Auto Gain**

  Turn on/off Auto Gain, the default setting of Auto Gain is on.

- **Volume**

  Set a volume when Audio gain is turn off. The range of volume is 0~100.

- **Loop Out**

  Turn on/off, monitor audio.

**4. Video**

- **Bit rate(kbps)**

  The bitrate range of LiveV400 is 100 kbps~2,0000kbps.

- **I Frame interval**

  The range of I frame interval is 5~200. The default is recommended 40.

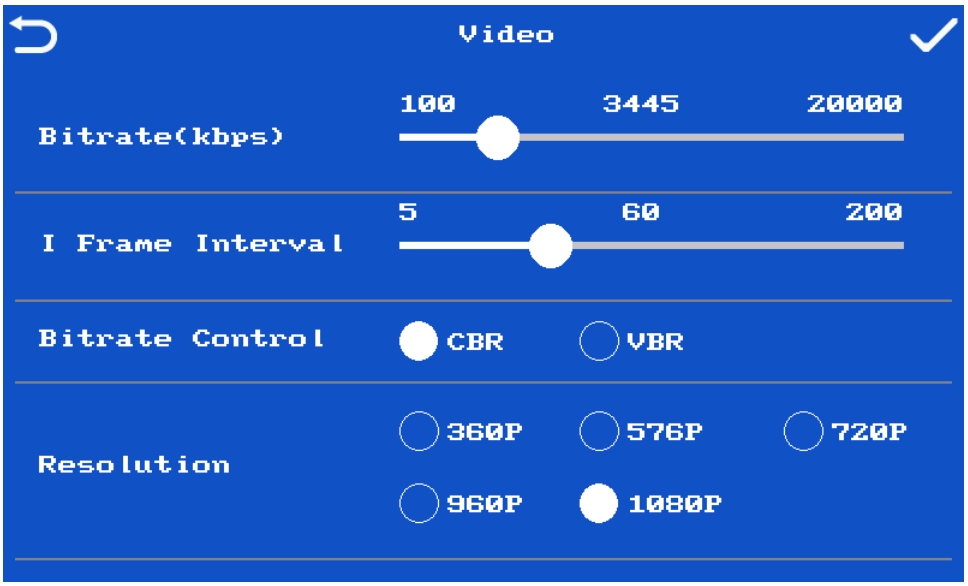
- **Bitrate control**

  **CBR:** Constant Bit Rate.

  **VBR:** variable Bit Rate.

- **Resolution**

  The Resolution choose from 360P, 576P, 720P, 960P or 1080P. The default value is 1080P.



### 5. Record

Turn on/off, insert the TF card to record.

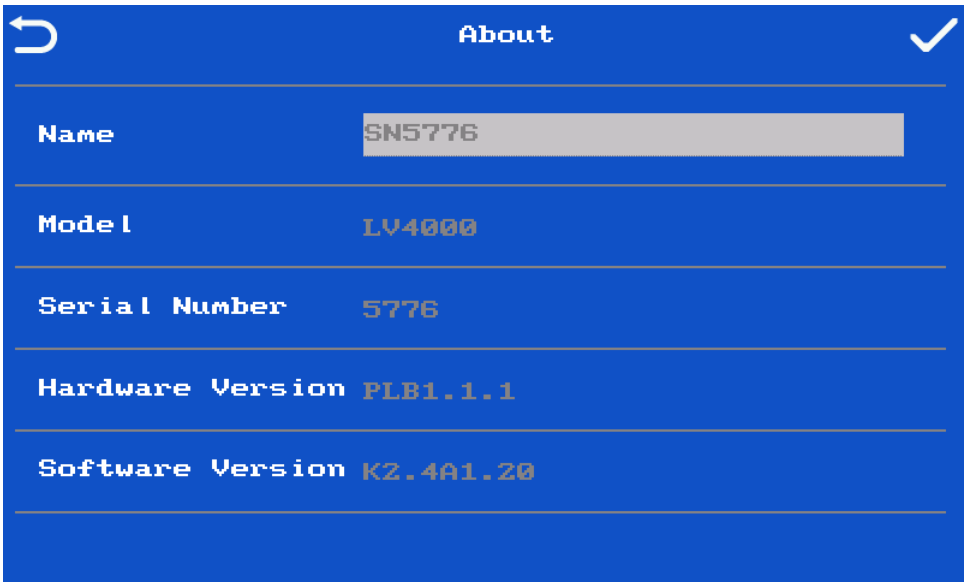
### 6. QR Code

Please scan by mobile browser or camera app, tap the notification to open the link. Click the “Create account” , if you don’t have account.

### 7. System

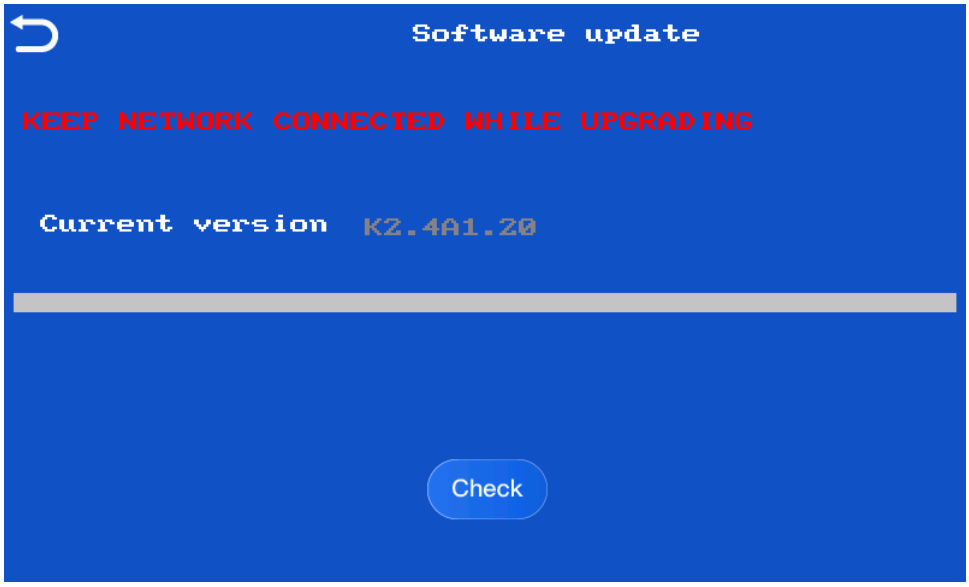
- **About**

  Display device **Name**, **Model**, **Serial Number, Hardware Version**, **Software Version**, and support users to rename the device.



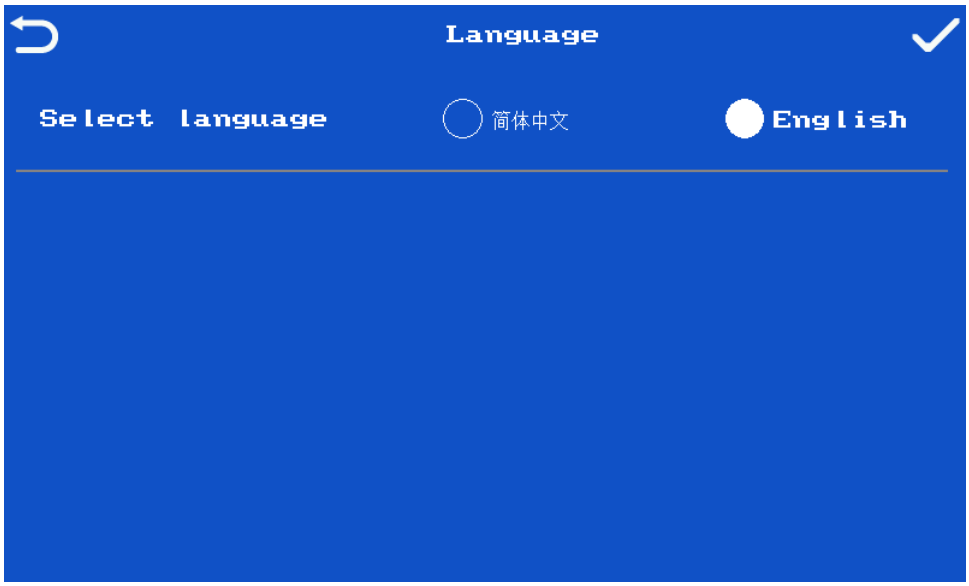

- **Software Update**

  Display current Software version and support users upgrade software while the network was connected.




- **Language**

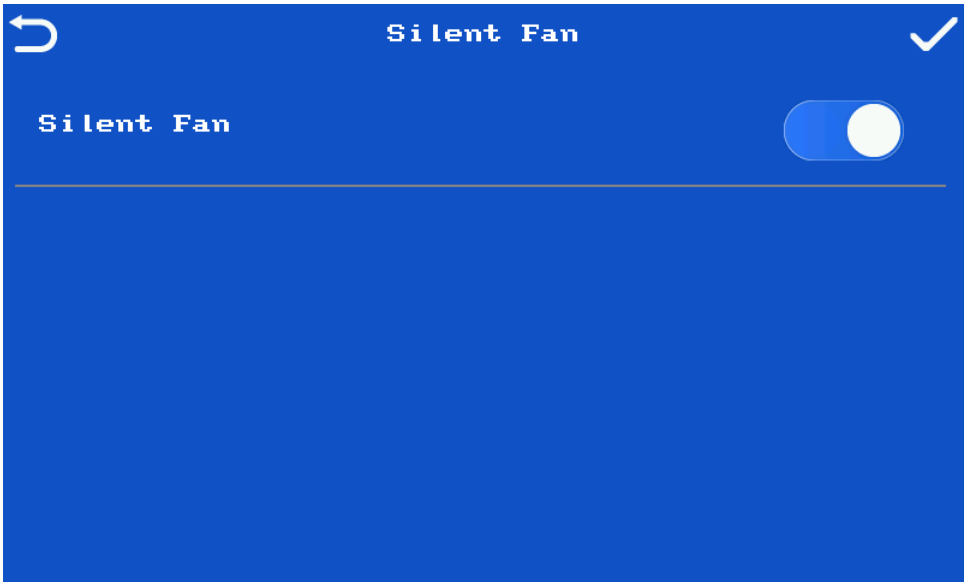
  Language can be chosen from English or Chinese (simplified).




- **Silent fan**

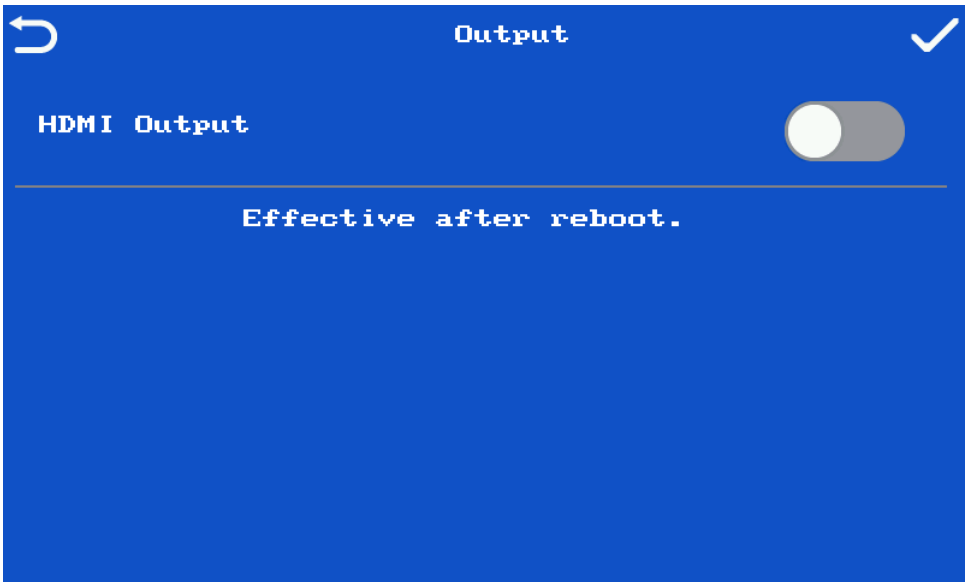
  Turn on, the fan will be stopped; turn off, the fan will be open.

  **Note:** In the silent fan mode, the encoder will stop charging the battery.




- **Output**

  HDMI Output turns on/off to connect the HDMI monitor to watch the preview video.




- **Restart & Reset**
  **Restart:** Restart the device.
  **Restore:** Restore the device to factory default status.

## 2.5 Quick Start Guide

Please follow the following steps for a quick connection guidance of the encoder.
Step1. Make the Power Adapter plugged.
Step2. Press the **RED Power** button on the left of encoder to turn on the system.
Step3. Turn on your camera or video source and connect the output to corresponding connection of the encoder.
Step4. (Optional) Plug speakers or headphones into the 3.5 mm headphone jack of encoder.
Step5. Connect encoder to Network.
Encoder allows you to connect multiple ways. Find brief descriptions of these modes below.

# Quick Start Guide

LAN mode: Connect RJ-45 Ethernet cable from the LAN port to the router.

WIFI mode: Complete WIFI connection setting, see WIFI connection setting for the detail.

Built-in 4G: Plug SIM card and connect antenna to encoder, device will connect to 5G/4G net automatically.

External 4G: Plug USB 4G Dongle into the encoder, device will connect to 4G net automatically.

Step6. Please refer to Chapter3 Encoder Web Control User Interface for subsequent settings.

Step7. Press

auto push video go to live.

**NOTE:**

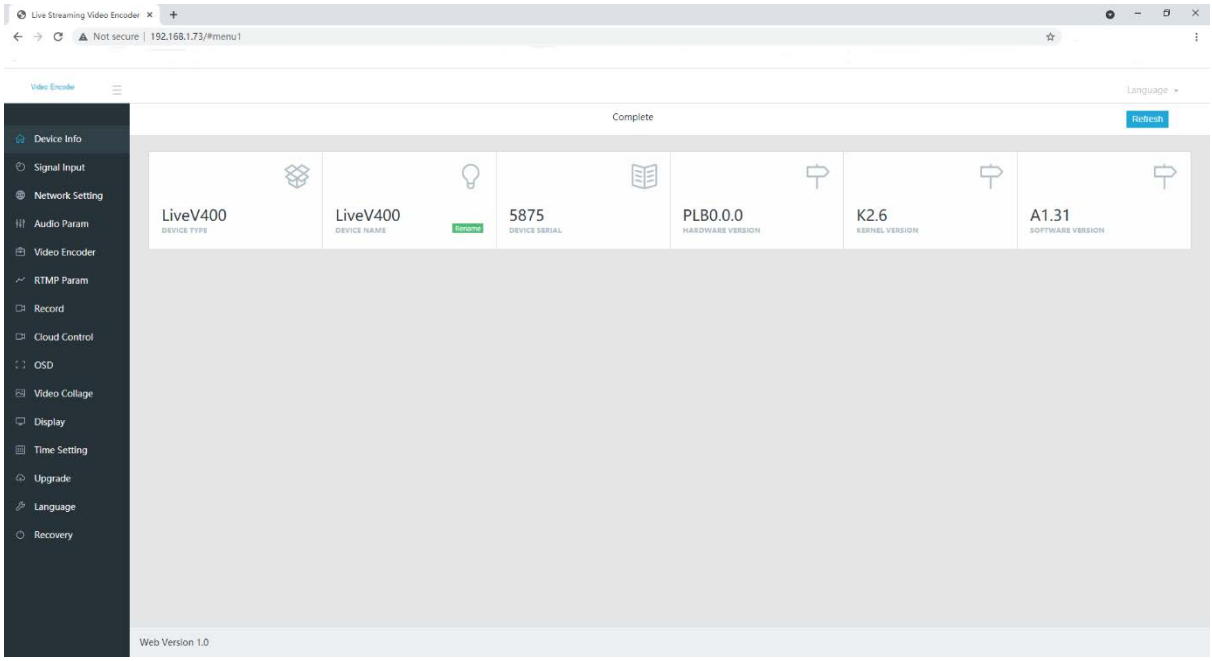
- **SIM doesn't support hot-plugging, please turn off the unit before plug.**
- **When WIFI connection setting is completed, don't need to set up again unless users want to connect to another WIFI.**

# Chapter 3 Web Control User Interface

After connecting the encoder, follow the steps of the quick start guide in the previous chapter, users can control the encoder Web Control User Interface now by PC or Phone. Please refer to the following chapters for details of the setting and control of the encoder.

## 3.1 Main Control Interface

The IP address of the encoder will show on the LCD once connected to LAN or WIFI, users can enter the IP address into the address bar of the web browser on PC or phone, and then the encoder Web Control User Interface will be shown as follows. In this example, the IP address is “192.168.1.73”.

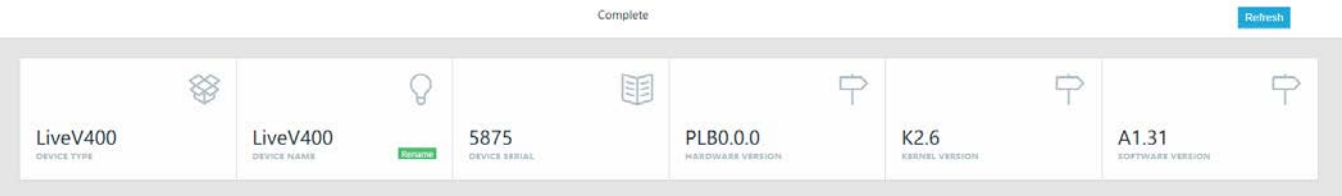



The main setting options of the web control UI include **“Device Info”**, **“Signal Input”**, **“Network Setting”**, **“Audio Param”**, **“Video Encoder”**, **“RTMP Param”**, **“OSD”**, **“Video Collage”**, **“Time Setting”**, **“Upgrade”**, **“Language”**, **“Recovery”**.

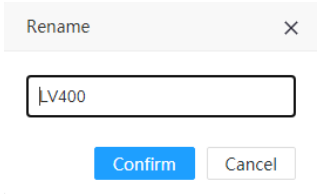
## 3.2 Device Info

After clicking the **“Device Info”** option on the left column of the web control UI, the Device Information option control page will be shown as follows. The Device Information page includes the information about **“DEVICE TYPE”**, **“DEVICE NAME”**, **“DEVICE SERIAL”**, **“HARDWARE VERSION”**, **“KERNEL VERSION”** and **“SOFTWARE VERSION”**, and support users change device name.

# Web Control User Interface Setting




After clicking the **“Rename”** option, the **“Rename”** window show as follows, users can enter a new user friend device name and click the **“confirm”** button to apply and save the setting.

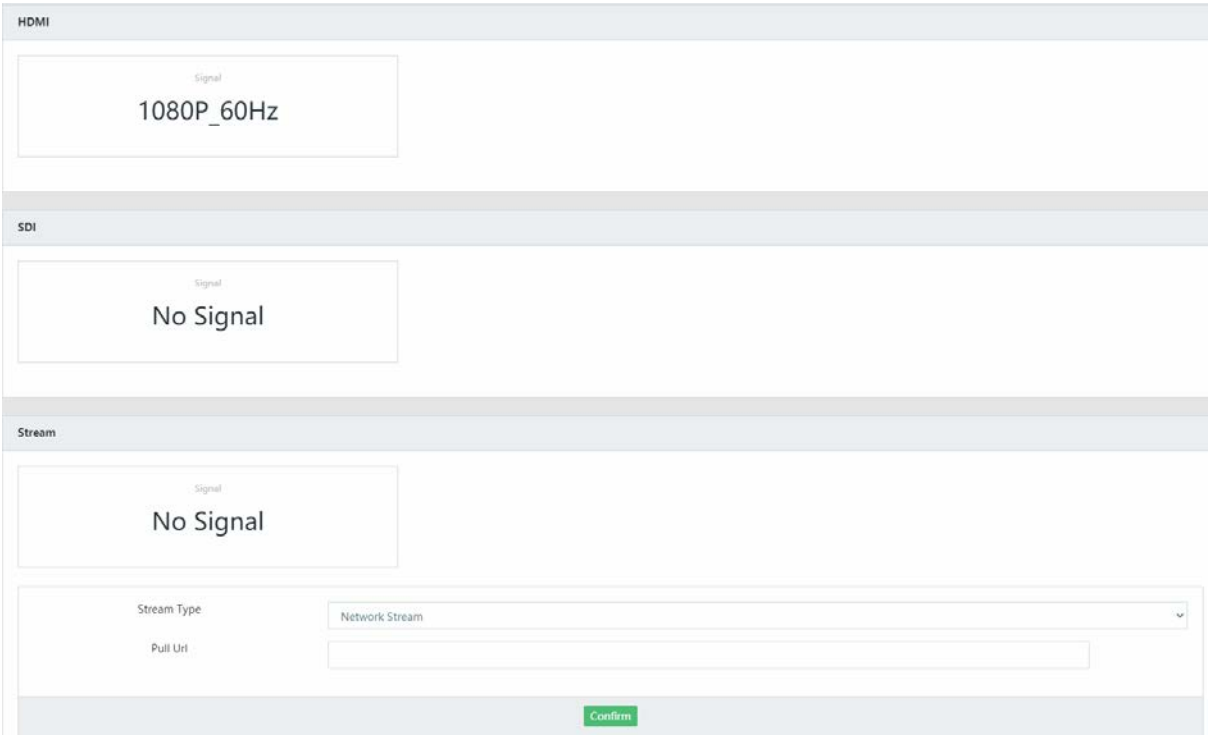



## 3.3 Signal Input

After clicking the **“Signal Input”** button on the left column of the web page, user can see information about the current detected input signal from **“HDMI”**, **“SDI” and “Stream”**, including Resolution and Frame Rate input channel. In this example, the device doesn’t connect to the SDI signal. The resolution of video input by HDMI is 1080P.

**Stream:** Select “Network Stream” at Stream Type, paste RTMP or RTSP address at Pull Url.

**Note:** when choose HDMI and SDI input, the router function is unavailable.

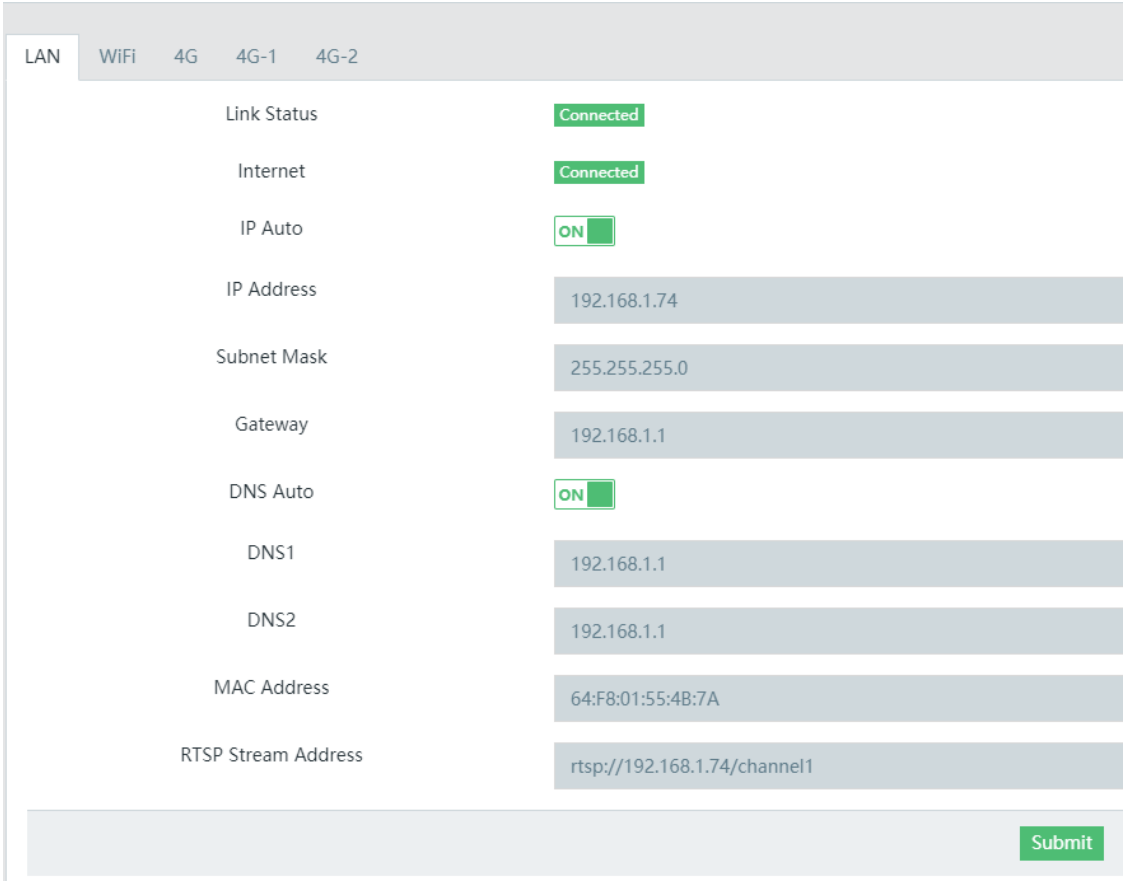


## 3.4 Network Setting

After clicking the **"Network Setting"** option on the left column of the web control UI, users can see the Network Setting option control page. This page provides details for the following items.

### 3.4.1 LAN

**LAN** - This page provides users to set LAN network relevant parameters. Because the factory default of **"IP Auto"** option is enabled, so once the **"IP Auto"** option is selected to be enabled, all of these network relevant parameters will be set automatically. Furthermore, user can also choose to turn off **"IP Auto"** and fill in network related parameters. Last, click the **"Submit"** button to apply and save the setting.



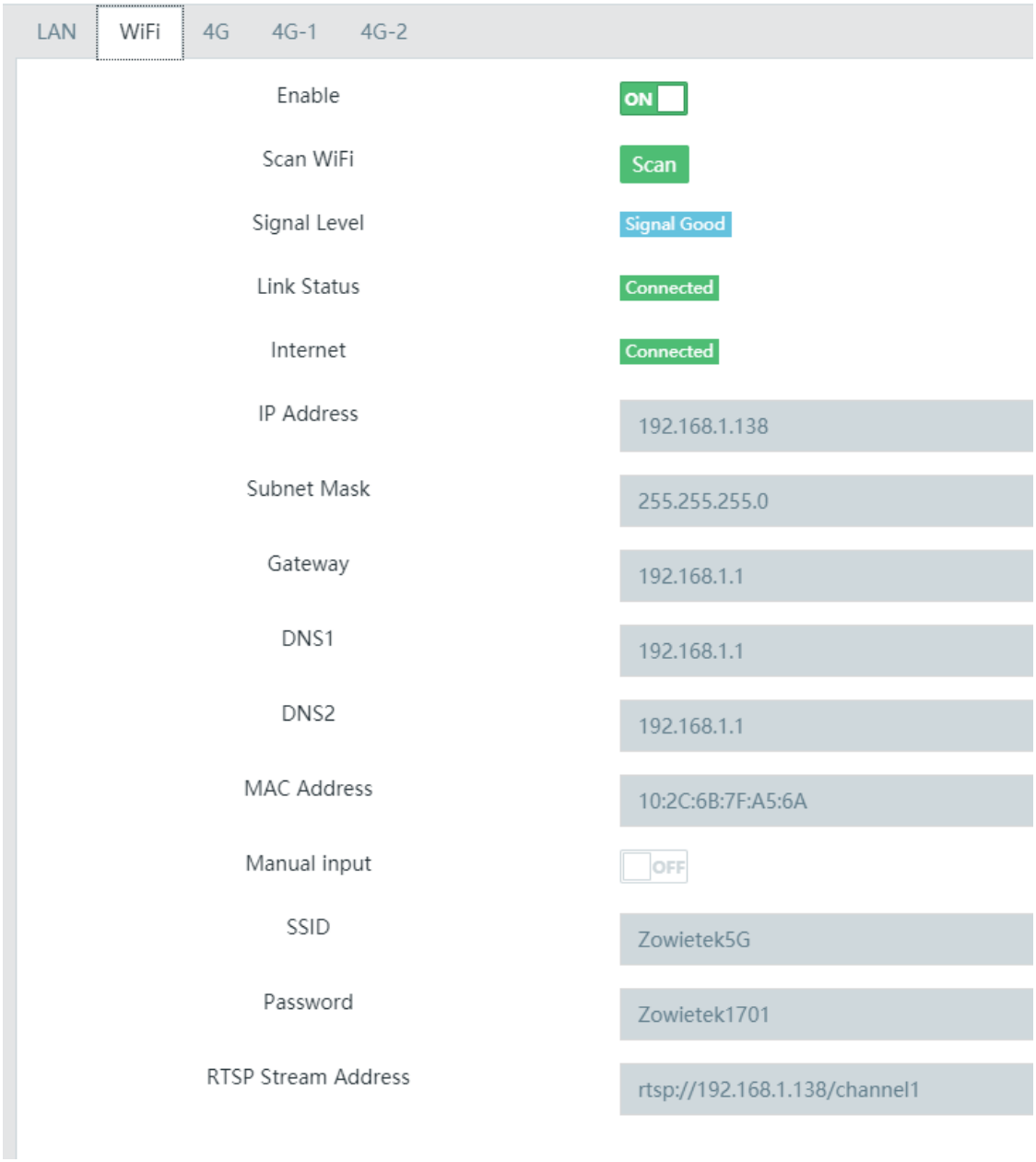

### 3.4.2 WIFI

**WIFI** - This page provides users to connect WIFI network. User can choose whether to enable built-in WIFI via **"Power"** button. If the **"Power"** option is **"ON"**, there are two ways to connect WIFI.

1. After clicking the **"Scan"** button, find WIFI name and connect it.
2. After clicking the **"Manual Input"** button, please enter WIFI **"SSID"** and **"Password"** to connect a network.

# Web Control User Interface Setting

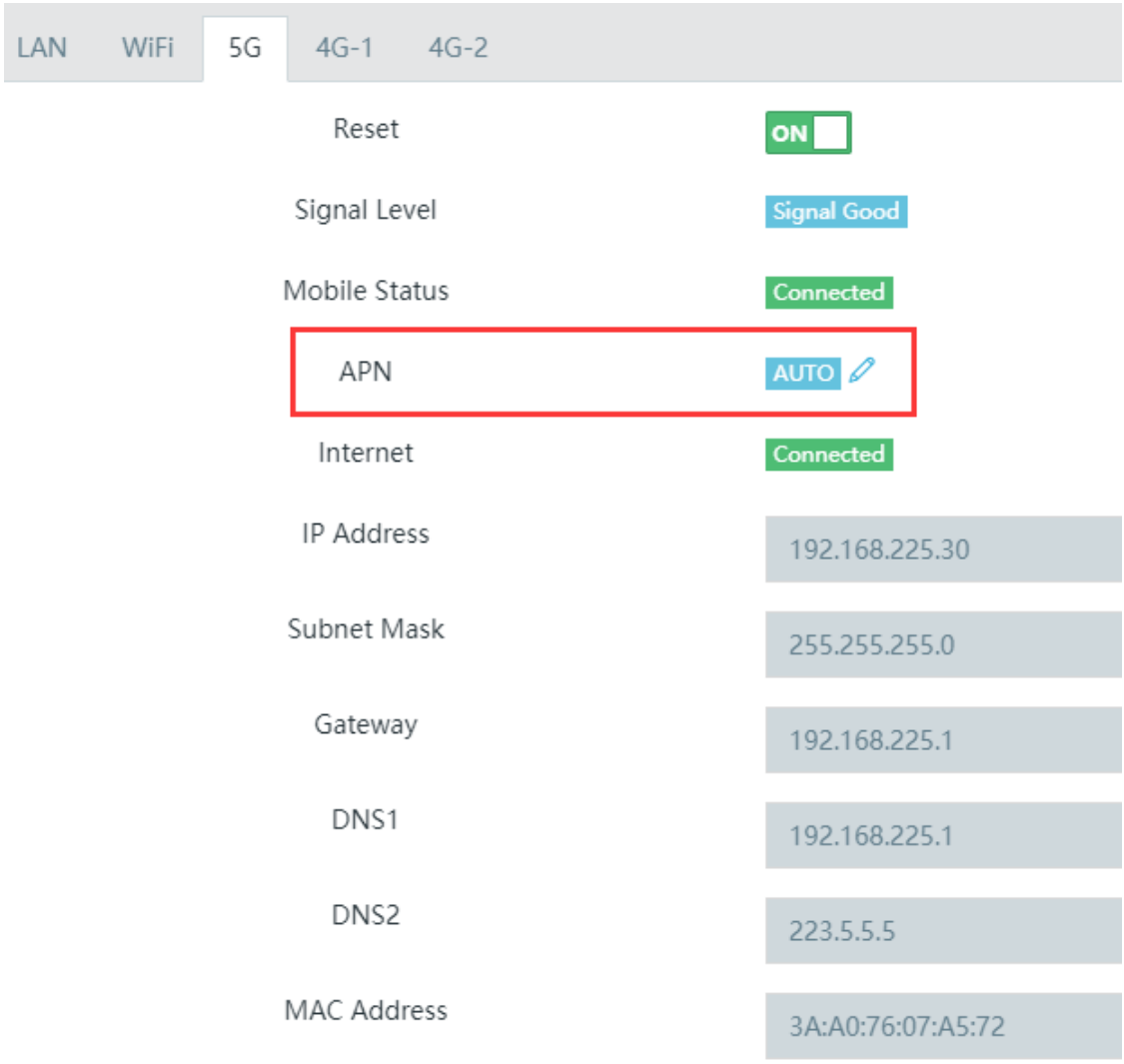
If connect success, the information about the WIFI will be updated after clicked **“refresh”** button.



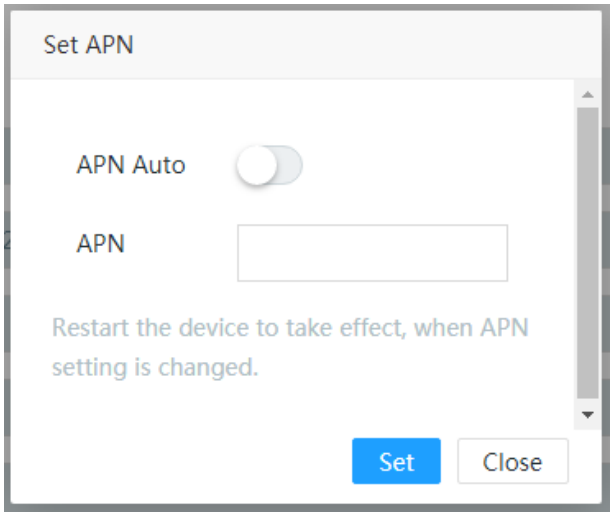

## 3.4.3 5G/4G

**Built-in 5G/4G** - This page provides users to choose whether to enable built-in 5G/4G network. The default 5G/4G option is selected to be enabled.

# Web Control User Interface Setting



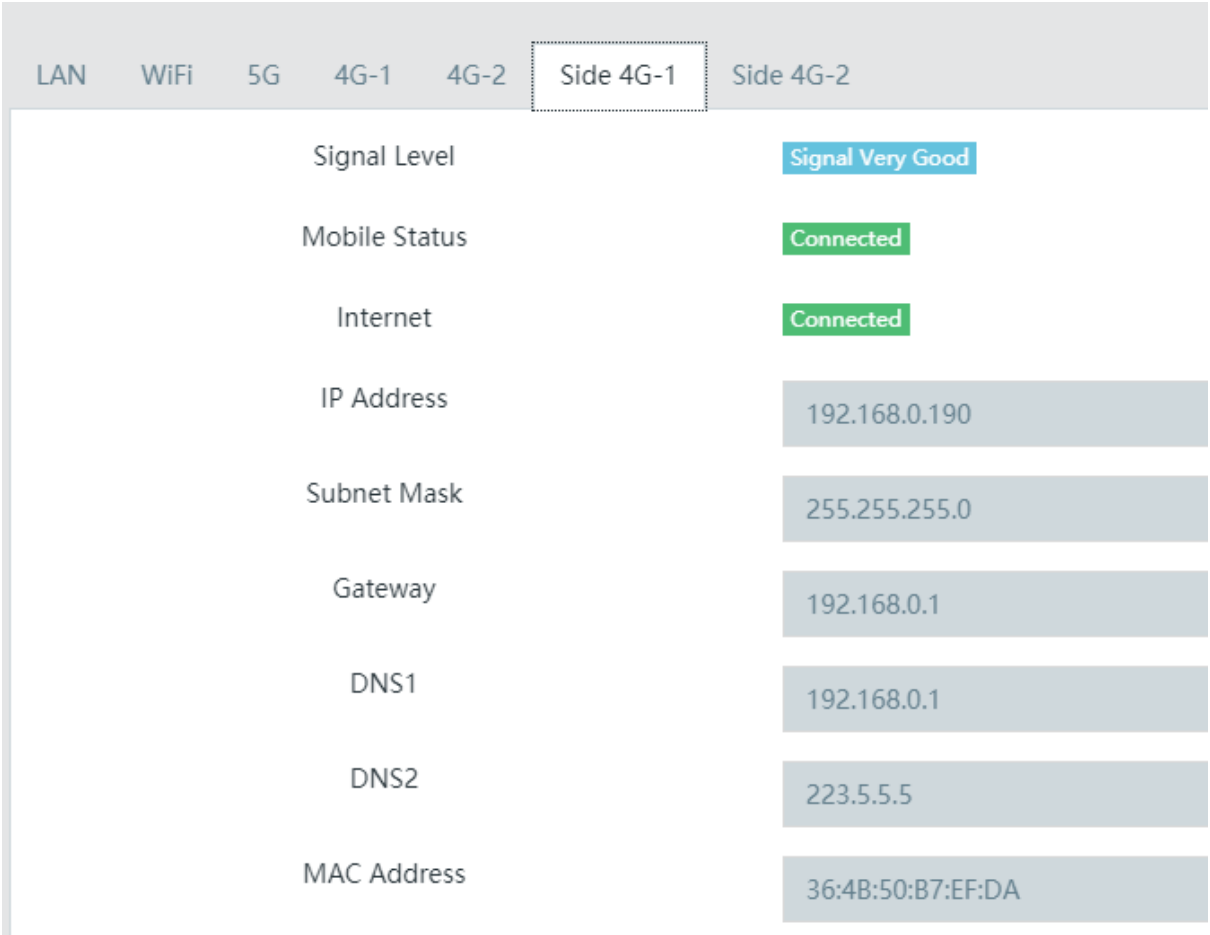

**APN setting:** After clicking the pen icon in the red mark box on the picture above, turn off **"APN Auto"** and fill in **"APN"**. Please ask your network operator or search online to find the APN of your 4G LTE network. When the APN setting is changed, don't forget to restart the device to take effect.



## 3.4.4 Side USB 4G

Side USB 4G – This Page contains information about Side USB 4G, including Signal Level, Mobile Status, Internet and network related parameters. Once encoder connects with USB 4G Dongle, device will connect to 4G net automatically. However, it is necessary to set the 4G dongle at first, please see USB 4G Dongle for the detail if necessary. **ZTE MF833V 4G LTE dongles is recommended**.

For LiveV400, USB 4G will show up here. APN setting may be required for internal 4G like built-in 4G settings above.




## 3.4.5 USB 4G Dongle

Using USB 4G dongle, push and slide the cover to the end direction of dongle to open the dongle cover. Locate the SIM card slot. It holds a Standard SIM card. Insert the SIM card into the corresponding card slots. If your SIM card is a Nano card, you will need a Nano to standard SIM card adapter. Face the SIM card metal contact side down, and replace the dongle cover and slide it into place.

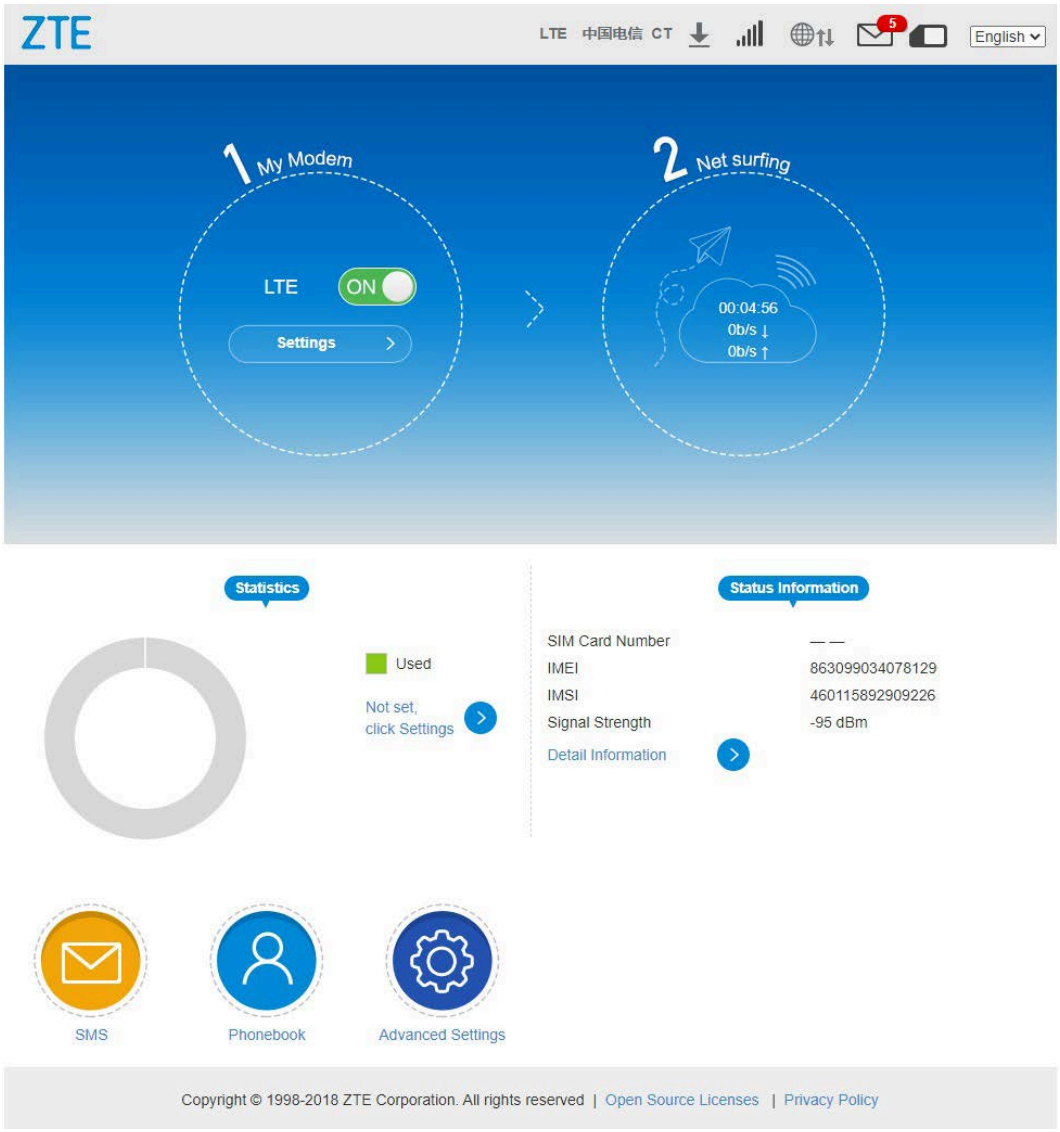
Then, insert the USB dongle into one of your computer ports. The computer identifies the new hardware and starts installation automatically.

# Web Control User Interface Setting

When the installation is complete. The USB dongle web management page is displayed and the USB dongle connects to the network automatically if the correct APN is set.

After installing the program, it will create a shortcut on the user device

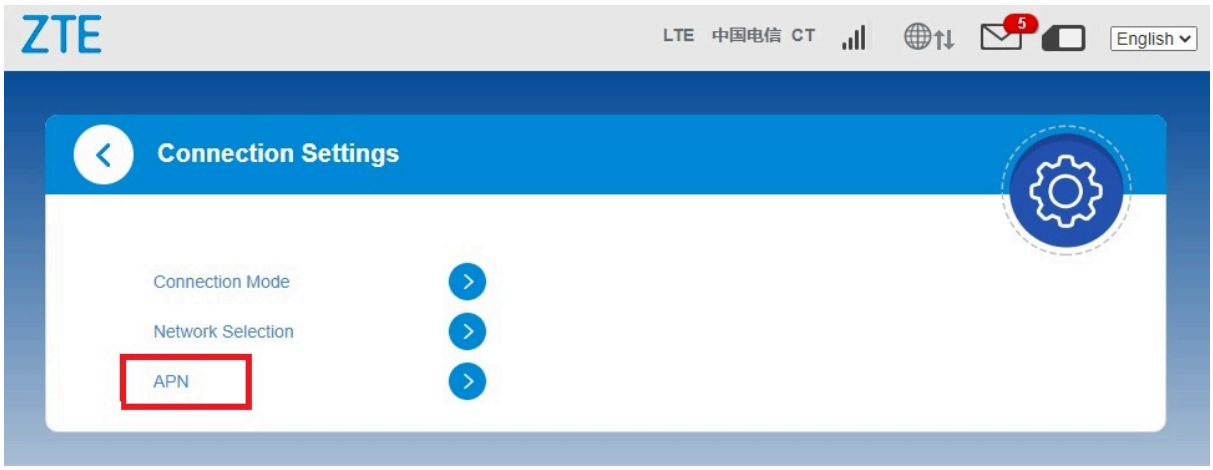
If the computer does not start the USB dongle installation automatically, find the AutoRun.exe file in the USB dongle root directory, and double-lick the file to run it. Access http://192.168.8.1 to check the device status.

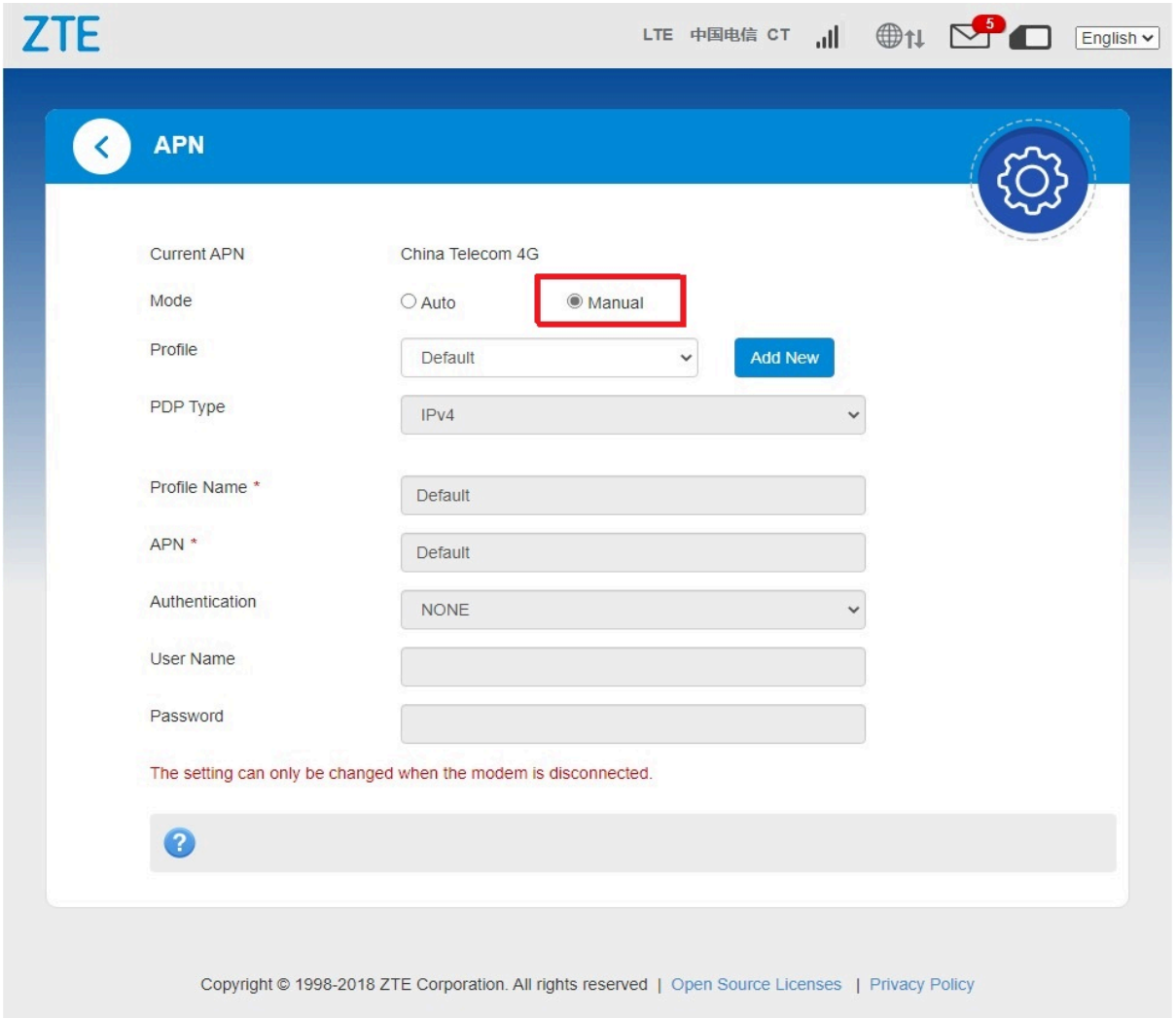



After inserting the USB dongle into one of your computer ports. The computer doesn't identify the new hardware and starts installation automatically. It is suggested to check and correct APN manually.

Click

to enter the setting interface. After clicking the "APN", selecting "Manual", user can set APN manually.

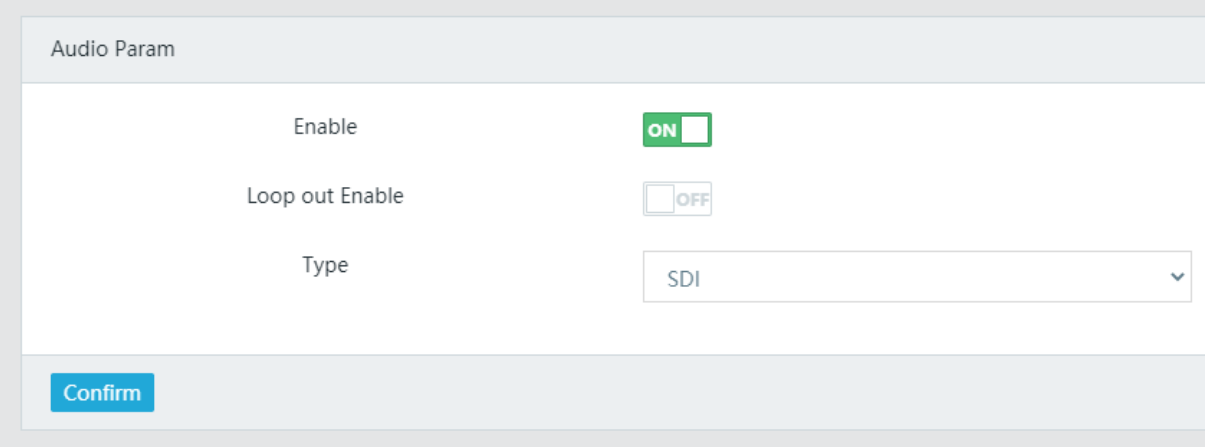



## 3.5 Audio Param

After clicking the **"Audio Param"** option on the left column of the web control UI, users can see the Audio control page. The Audio control page provides user to turn on/off audio and configure audio parameters. The user can turn on/off audio output by the **"Audio Status"** button. There are three different options of

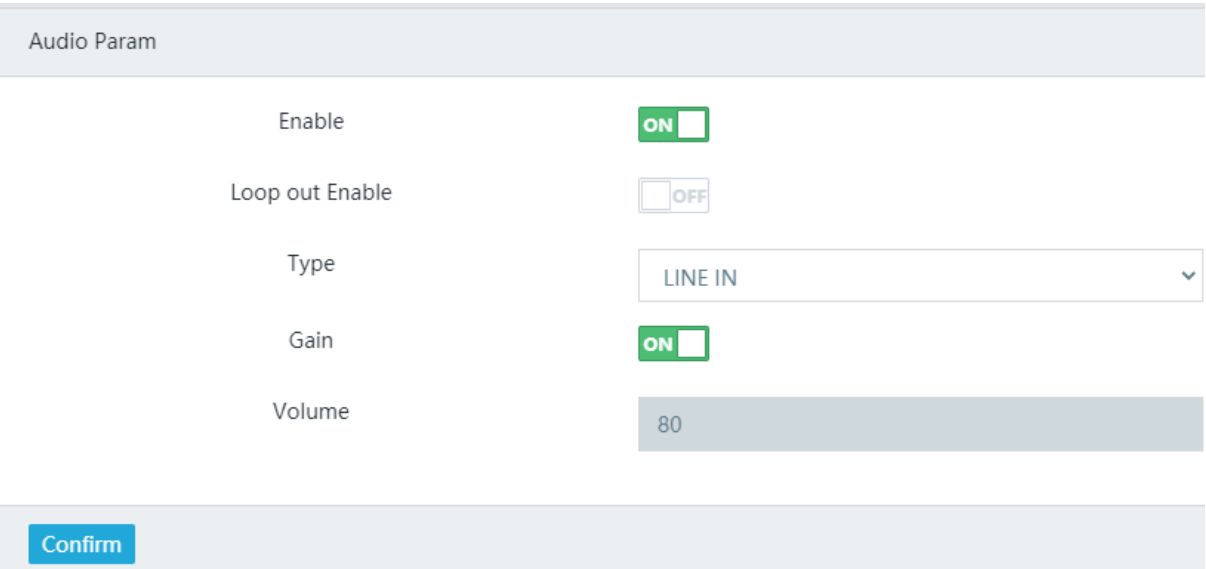
Audio Type to choose from when the audio is turned on. At last, don't forget to click **"Confirm"** to apply the setting.




### Audio Type

Select an audio input source from the available signal input connections. This is the audio that will be recorded and/or passed through.

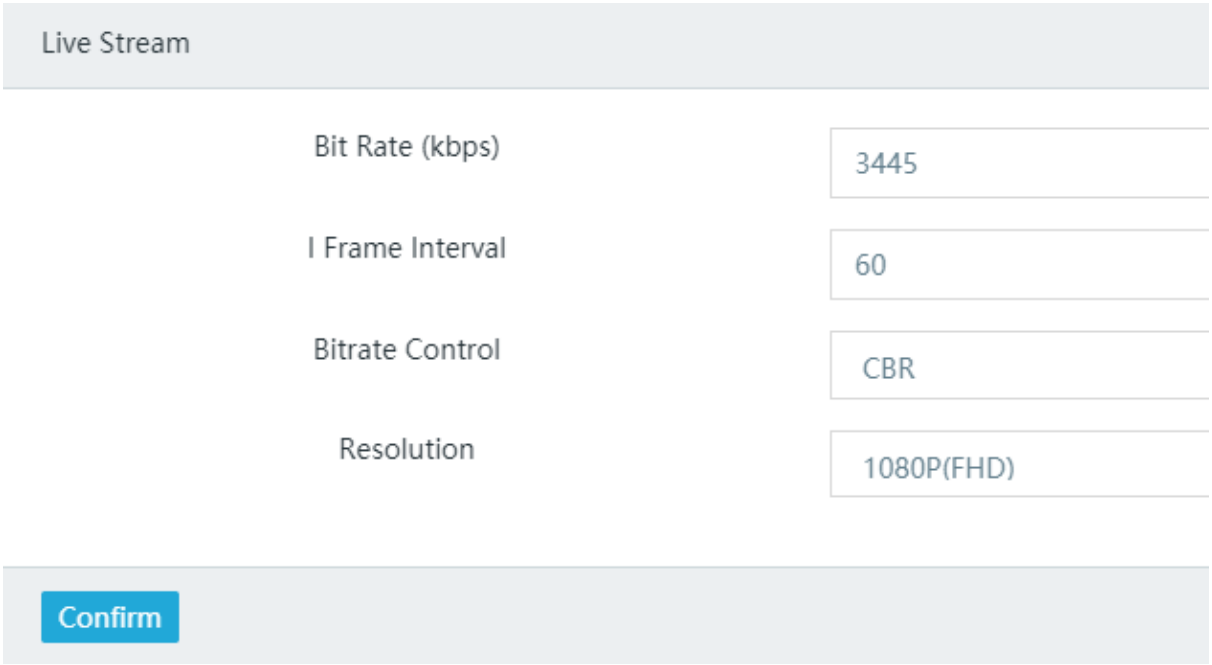
**HDMI** - Use the embedded digital stereo audio of HDMI input as the audio source.
**SDI** - Use the embedded digital stereo audio of SDI input as the audio source**.**
**LINE IN** –Use the analog stereo input as the audio source. In this mode, user can choose to turn on/off auto "**Gain**", the default setting of auto gain is on, at this condition, user can manually set a volume. The range of volume is 0~100.




## 3.6 Video Encoder

After clicking the **"Video Encoder"** option on the left column of the web control UI, users can see the Video Encoder option control page. 4 parameters of Encoder can be set on this page, including **"Bit Rate"**, **"I**

**Frame Interval”**, **“Bit Rate Control”** and **“Resolution”**.




### Bit Rate (kbps)

The range of bit rate is 100 kbps~ 20,000 kbps. The default value is 2,000 kbps. 2,000 kbps is the best economic setting for the trade-off between image quality and bit rate

**NOTE:**

**Once the video goes live, the real bitrate of video streaming is shown on the top-right of LCD. If the average bitrate on LCD is smaller than your target setting above. That means the upload bandwidth is not enough. In this situation, target bitrate can be lowered to improve the performance. The resolution can also be lowered if bitrate is low.**

### I Frame Interval

The range of I frame interval is 5~200. The default value is 40.

### Bitrate Control

The **“Bit Rate Control”** can be chosen as **“CBR”** (Constant Bitrate) or **“VBR”** (Variable Bitrate).

### Resolution

The Resolution choose from:

- 1080P (FHD)
- 960 (Portrait)
- 720P (HD)
- 576P (PAL)

- 360P (Standard)

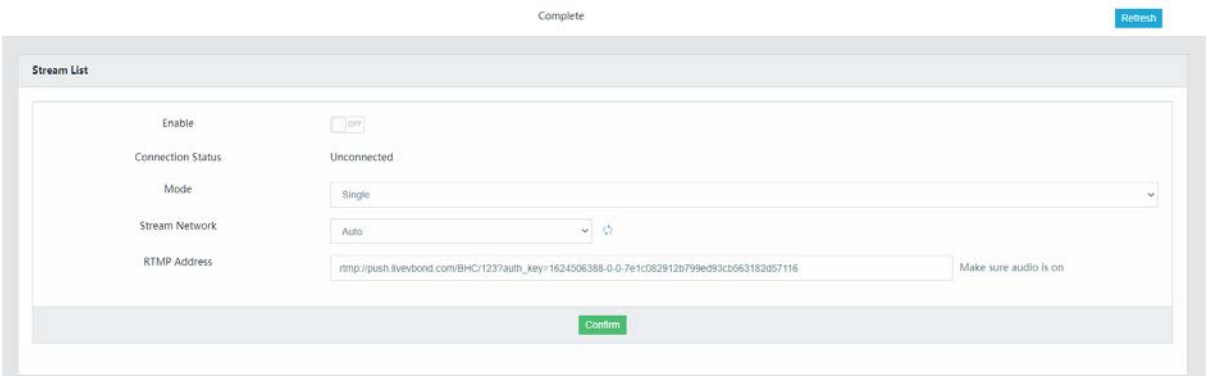
The default value is 1080P (FHD) .

## 3.7 RTMP Param

After clicking the **“RTMP Param”** option on the left column of the web control UI. User can configure streaming parameter that include **“Enable”**, **“Connection Status”**, **“Model”**, **“Streaming Network”** and **“RTMP Address”** on the RTMP Parameter option control page. At first please switch **“Enable”** button is **“ON”**. Then the user should select Streaming **“Model”**.

1. If the **“Model”** is selected as **“Single”**, the user can select one of Auto, Lan, Built-in WIFI, Built-in 4G and USB External 4G network as the **“Stream Network”**.
2. If the **“Model”** is selected as **“Bonding”**, the device will bond multiple connected networks as stream network. Furthermore, the encoder supports up to 9 RTMP Address streaming simultaneously in this model.

Last, please fill in **“RTMP Address”** and click **“Confirm”** button to apply the setting.




### Enable

Turn on/off to start/stop streaming.

### Connection Status

Display “connected” when the encoder is streaming, otherwise display “Unconnected”.

### Model

- **Signal:** use selected network in **“Streaming network”** to streaming.
- **Bonding:** The device aggregates all connected networks to push the stream together, pushing and streaming nine RTMP addresses at the same time.

### Streaming Network

Streaming Network choose from the following:

- **Auto**: encoder automatically chooses the best network as the stream network.
- **Lan**: encoder is using LAN network to stream.
- **Built-in WIFI**: encoder is using a Built-in WIFI network to stream.
- **Built-in 5G/4G**: encoder is using a Built-in 5G/4G network to stream.

- **External 4G**: encoder is using an external 4G network to stream, like USB 4G dongle.

### RTMP Address

Step1. Please login your video streaming provider account.

Step2. Find RTMP URL or server URL usually in ingestion area

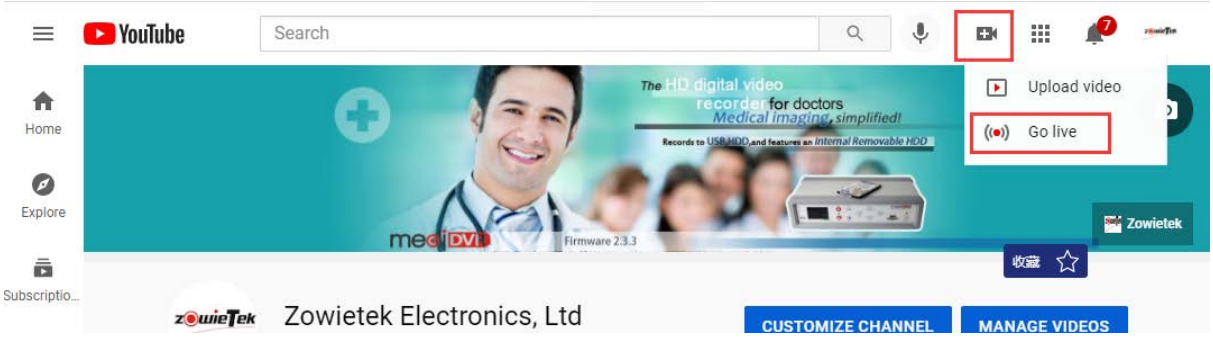
Step3. Find Stream key in the same section

Step4. Copy, paste and combine RTMP URL and Stream key to RTMP Address setting section of encoder.

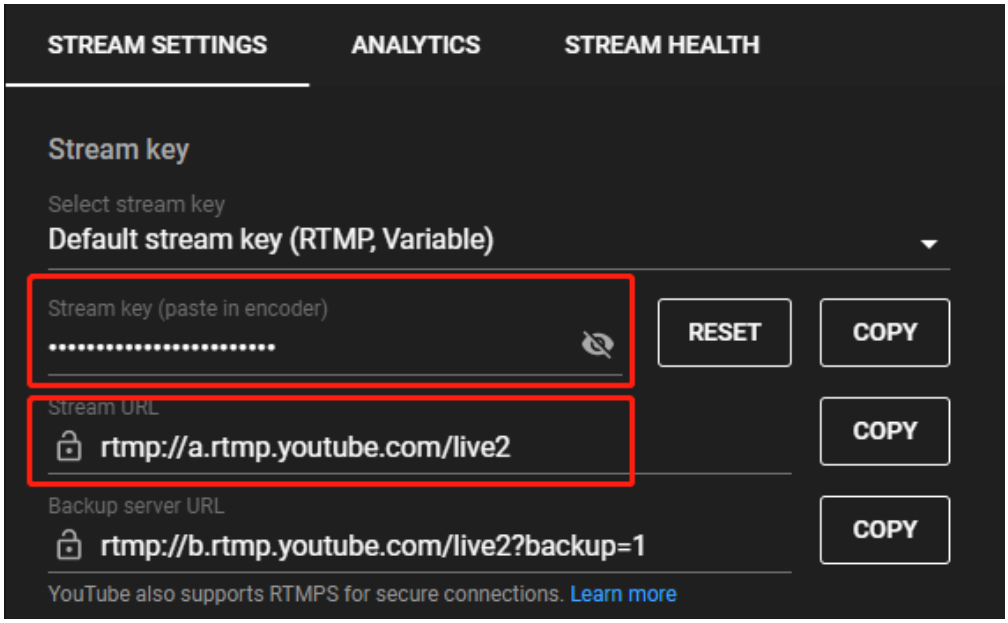
**NOTE:** Don't forget to click the confirm button to apply and save the setting.

YouTube

- Before beginning a live stream for the first time, the YouTube channel has to be enabled. Confirm that your channel is verified. If you already enabled live stream you can skip this step.
- Log in YouTube account and click "Go live" .

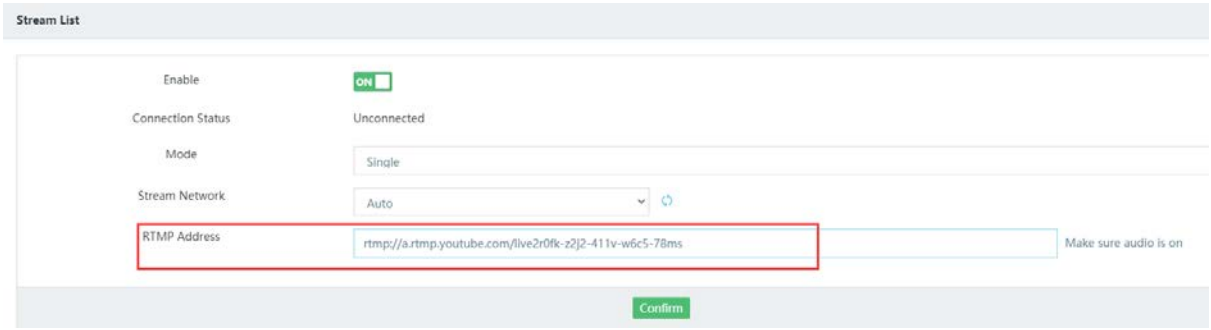



- Add a title and description in the BASIC INFO tab. Stream URL and Stream Key can be found at the bottom of Stream now.




- Copy Server URL, Reveal and copy Stream key and paste them into encoder RTMP setting section in the format below

# Web Control User Interface Setting




- Press Confirm to save the setting into encoder and it will work instantly.
- Now, configuration finished. Press to start live streaming.

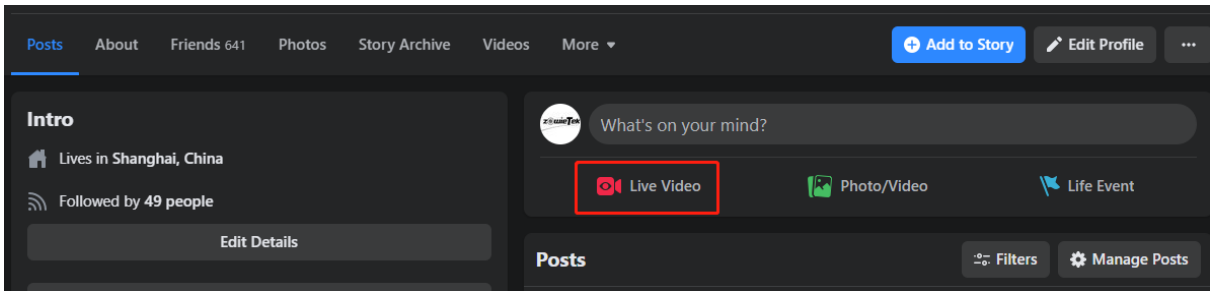
**NOTE:**

YouTube requires audio in the video stream, make sure audio is correctly set in the Video & Audio Input section of encoder.

Besides Stream now, YouTube Events give you more control over your stream. You'll be able to select privacy options, set a start time, enable a backup stream for redundancy, create multiple live events, and stream them all simultaneously.

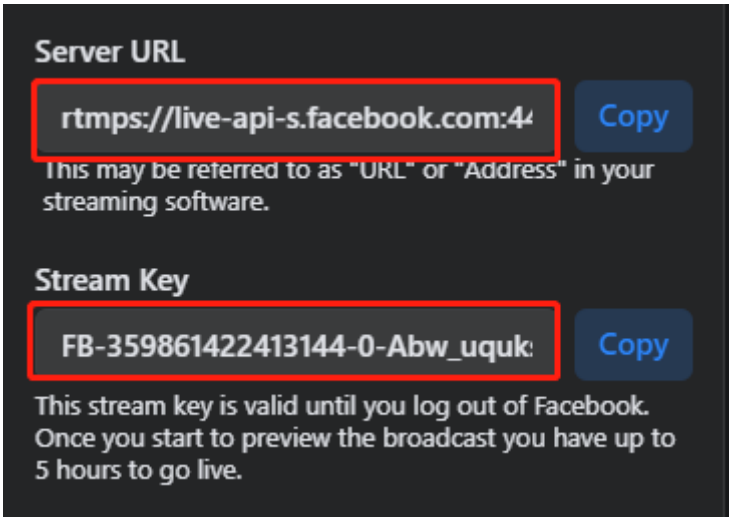
Facebook

- Log in Facebook account and go to Post, click "Live Video"

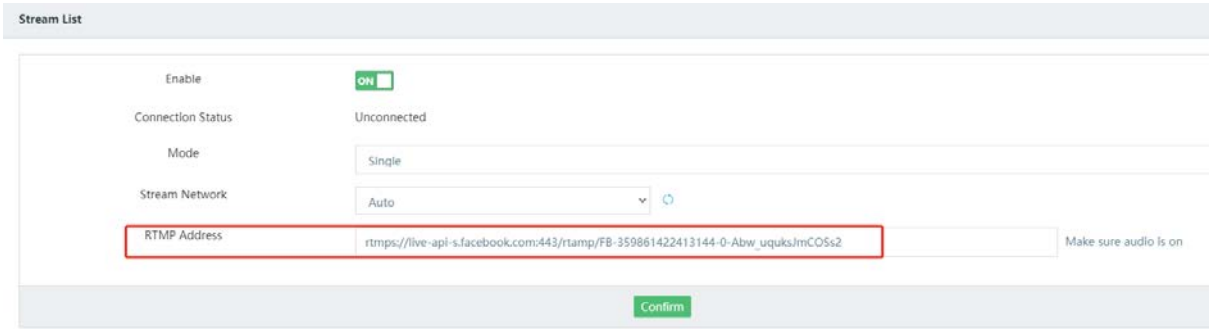



- Chose where to post your live video and fill out Title and Tags. Find Server URL and Stream key and paste them together.

# Web Control User Interface Setting




- Copy and paste the server URL and stream key or persistent stream key into the RTMP settings of encoder.

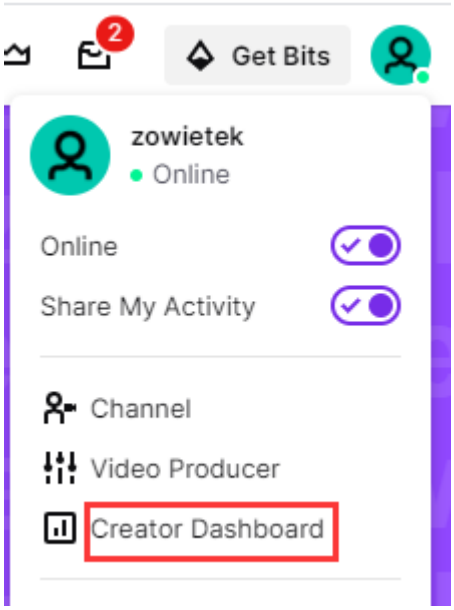



- Now, configuration finished. Press to start live streaming.

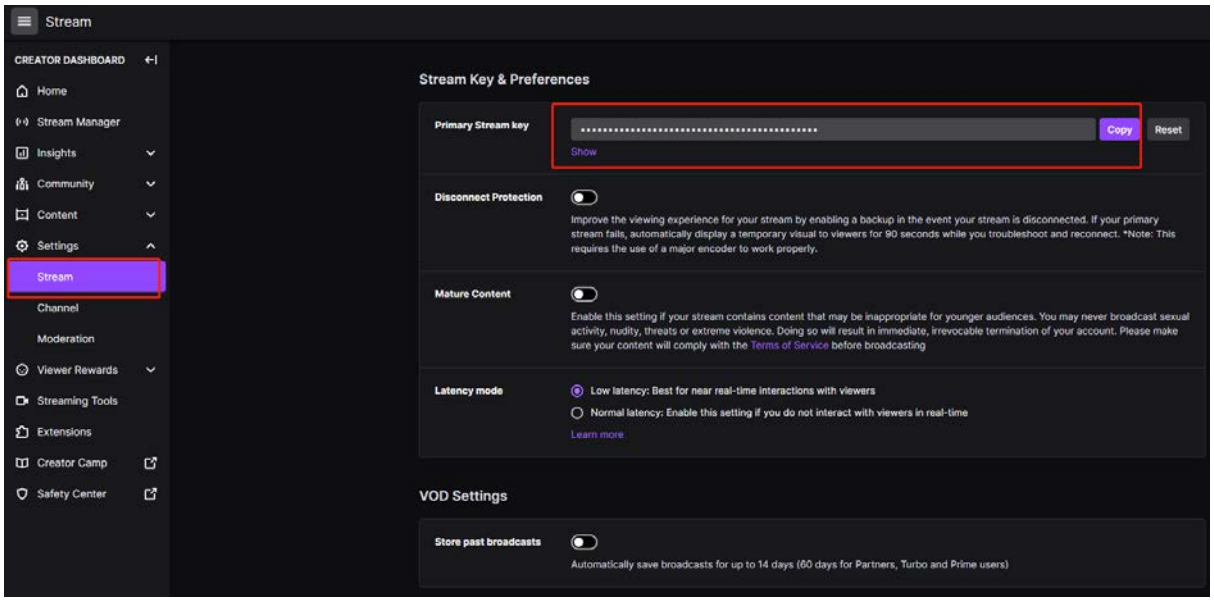
Twitch

- Log in Twitch.tv account and go to Creator Dashboard.

# Web Control User Interface Setting

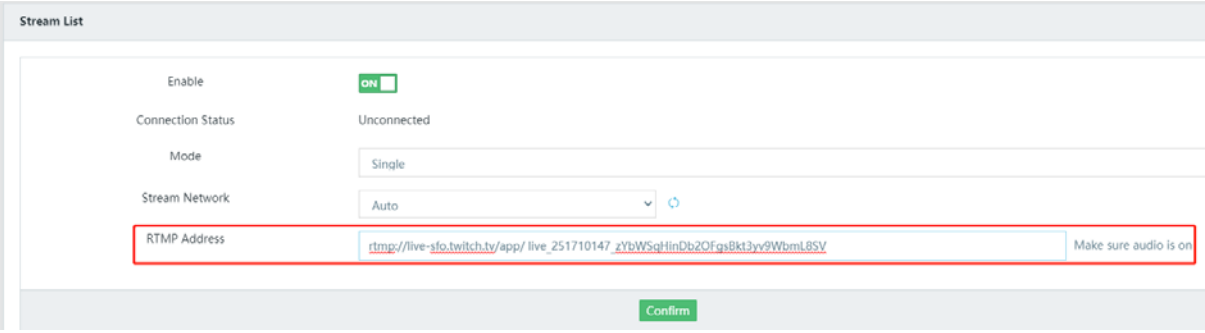



- Go to channel, the stream key can be found instantly.




The URL+ Stream Key of twitch looks like:
rtmp://server/{stream_key}
You can find best server in your area at twitch.tv, https://stream.twitch.tv/ingests/. Here is an example:
rtmp://live-sfo.twitch.tv/app/ live_251710147_zYbWSqHinDb2OFgsBkt3yv9WbmL8SV

- Copy and paste the server URL and stream key or persistent stream key into the RTMP settings of encoder.




- Now, configuration finished. Press

to start live streaming. A preview screen will appear on twitch.tv Live page under Dashboard or https://www.twitch.tv/username/dashboard/live

Twitter (Media Studio)

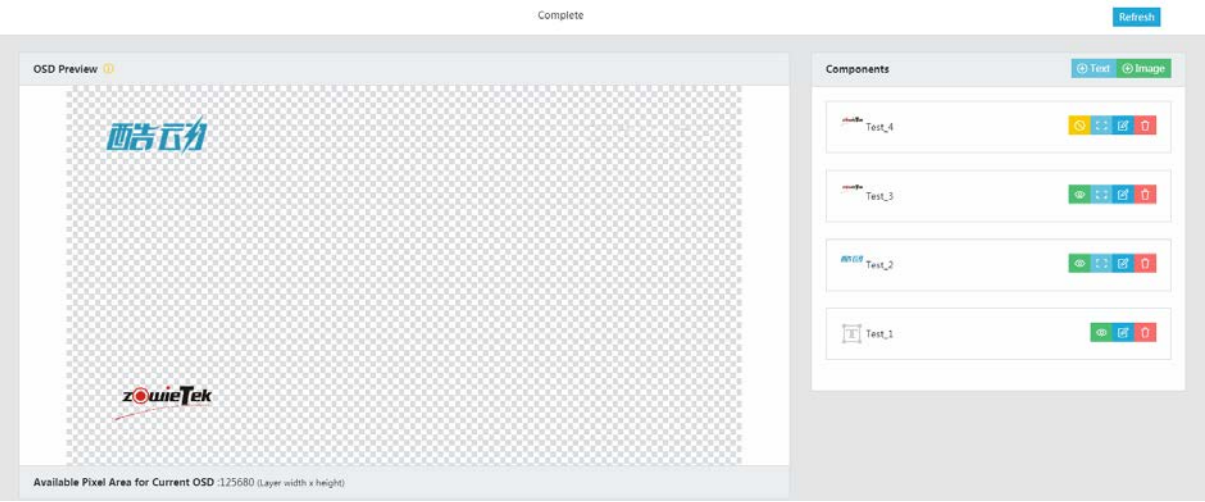
https://media.twitter.com/en/articles/products/2018/media-studio/producer

Livestream.com(Now Vimeo)

https://help.livestream.com/hc/en-us/articles/360002069647-Finding-the-RTMP-URL-and-Stream-Key-for-My-Event

## 3.8 OSD

By clicking the **"OSD"** option on the left column of the web control UI, users can see the OSD option control page. There are provides up to 4 customize OSD that can be either text or a picture, and the user can drag-and-drop OSD Components anywhere on the left grid area.



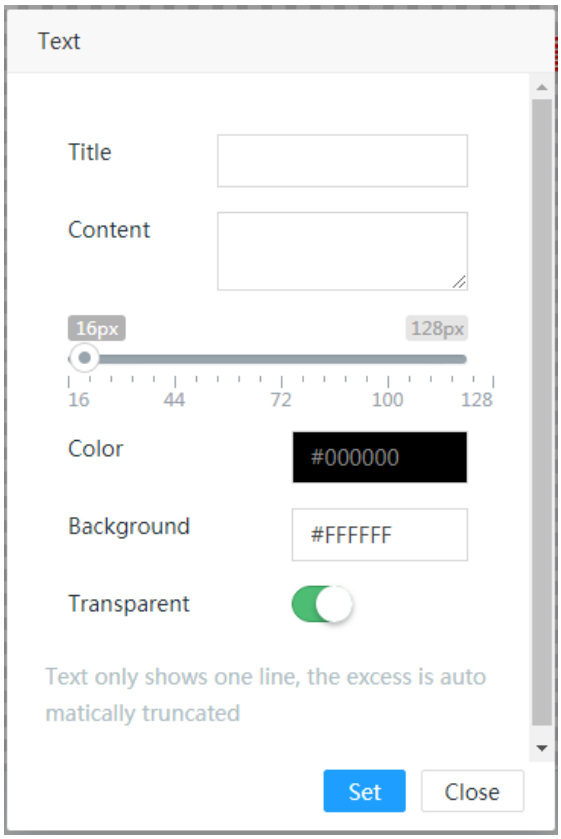

- : Click to hide/show OSD components (Test_4 is hidden in the above figure).

# Web Control User Interface Setting

- **:** click to change OSD Image size, the range of image length and width is 32Pixel~480Pixel. If the image size does not conform to the requirements, the image will be automatically hidden.
- **:** click to change a new OSD image or re-edit text.
- **:** delete OSD components.

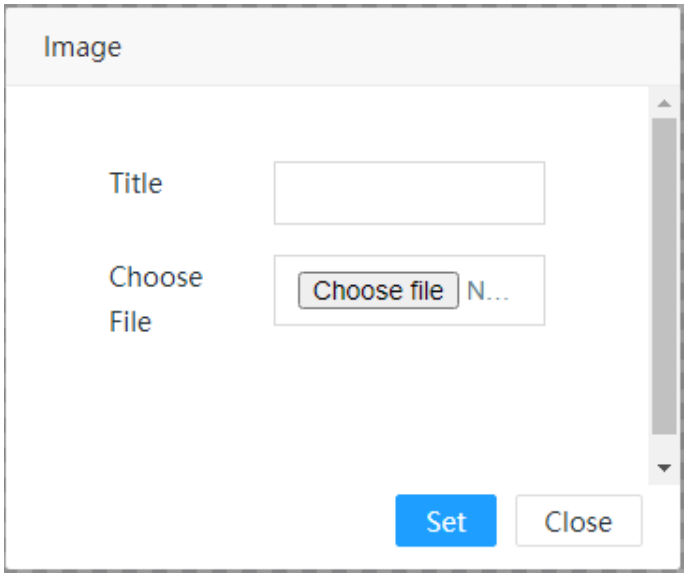
### ⊕Text

After clicking **"⊕Text"** button, the **"Text"** window will pop up on the page for the user to edit the text OSD that Includes **"Title"**, **"Content"** , **"Font size"**, **"Color"** and **"Background color"**. The background will be transparent when switching the **"Transparent switch"** button on. At last, click **"Set"** button to apply it.



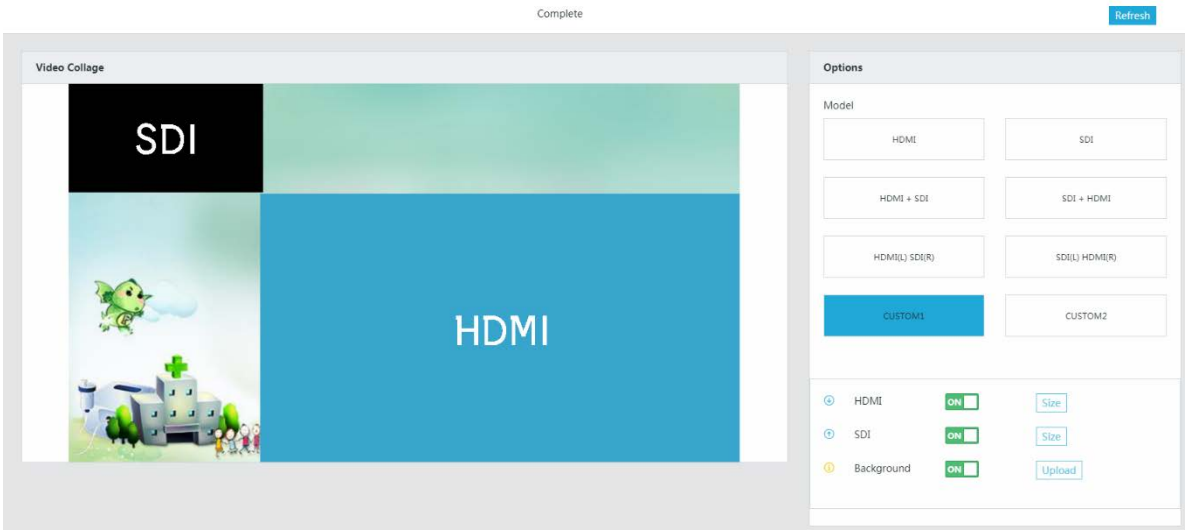

### ⊕Image

After clicking **"⊕Image"**, a new sub window will pop up on the page for the user to set Image OSD. Only for JPG/JPEG/PNG pictures and size must be greater than 32x32 and less than 480x480 pixels. After pressing the **"set"** button, if the picture fits, user can preview the picture in the grid area on the left.




## 3.9 Video Collage

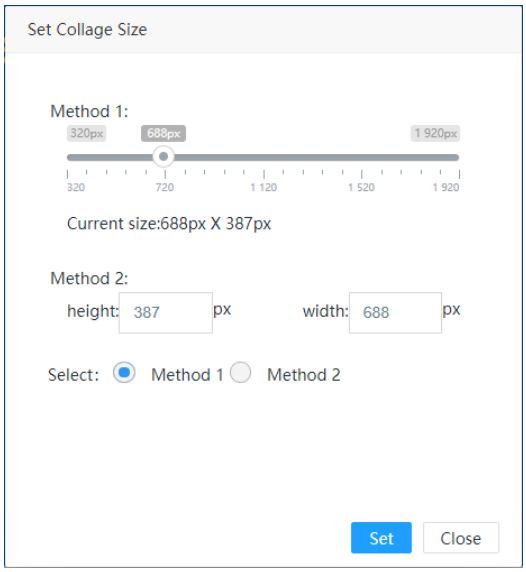
After clicking the **"Video Collage" o**ption on the left column of the web control UI, users can choose up to 6 different standard video collages that includes **"HDMI FIRST"**, **"SDI FIRST"**, **"HDMI (BIG) SDI (SMALL)"**, **"SDI (BIG) HDMI (SMALL)"**, **"HDMI (LEFT) SDI (RIGHT)"** and **"SDI (LEFT) HDMI (RIGHT)"**. Furthermore, user can also customize video collage that is **"CUSTOM1"** and **"CUSTOM2"**. Once the setting is completed, users can preview the display on the LCD screen immediately.




### CUSTOM1, CUSTOM2

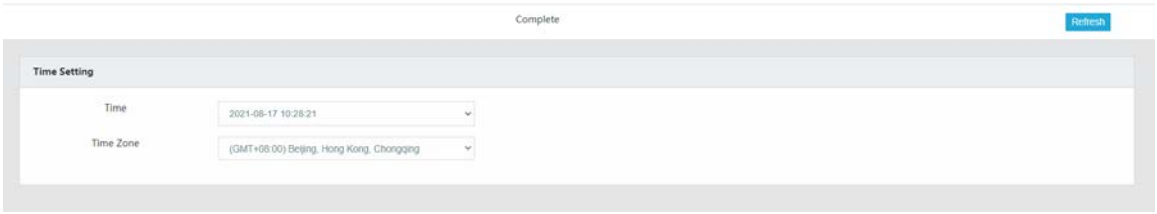
In the case of **"CUSTOM1"** or **"CUSTOM2"**, user can customize the size and location of **"SDI"** and **"HDMI"**, and also upload your favorite pictures as background. Users can turn HDMI or SDI on/off via the buttons on the right of **"HDMI"** and **"SDI"**. After clicking **"Size"** button on the right of **"HDMI"** or **"SDI"**, the **"Set Collage size"** window show as follows, then, the user can change the size of HDMI or SDI. Furthermore, the user can drag-and-drop HDMI and SDI anywhere on the left preview area. Moreover, when HDMI and SDI overlap, the

user can select the arrow on the left of the **“HDMI”** to place the HDMI on the top of bottom layer, the arrow on the left of **“SDI”** is similar.




## 3.10 Time Setting

After clicking the **“Time Setting”** option on the left column of the web control UI, users can see the Time Setting option control page. In the **“Time”** option, user can select Auto or manual to set the time.




## 3.11 Upgrade

After clicking the **“Upgrade”** option on the left column of the web control UI, users can see the Upgrade option control page. The Upgrade control page provides two ways to upgrade device.

**Local Upgrade** – please press the **"Choose file"** button to select a firmware firm from PC/laptop. After the firmware is selected, please press the **"Confirm"** button to start the firmware update procedure. Keep network connected while upgrading, do not power off. encoder will reboot when upgrade is successful.

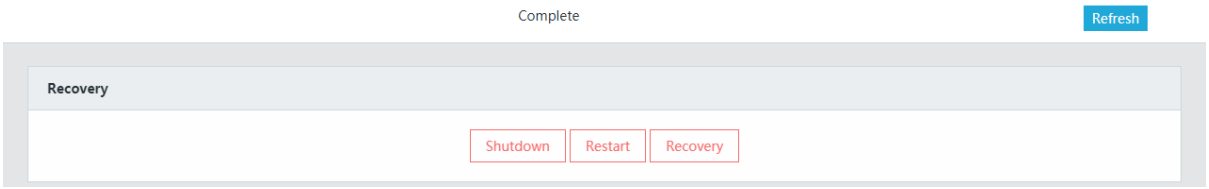
**Upgrade Online**–please press the **"Check"** button to check current version first. After detecting a new version, please press the **"Confirm"** button to start the firmware update procedure. Keep network connected while upgrading, do not power off. Encoder will reboot when upgrade is successful.

## 3.12 Language

After clicking the **"Language"** option on the left column of the web control UI, users can see the Language option control page. Once the language is changed, don't forget to click the **"confirm"** button to apply and save the setting.

## 3.13 Recovery

After clicking the **"Recovery"** option on the left column of the web control UI, users can see the Recovery option control page.




### Shutdown

Press the **"Shutdown"** button to shut down the encoder.

### Restart

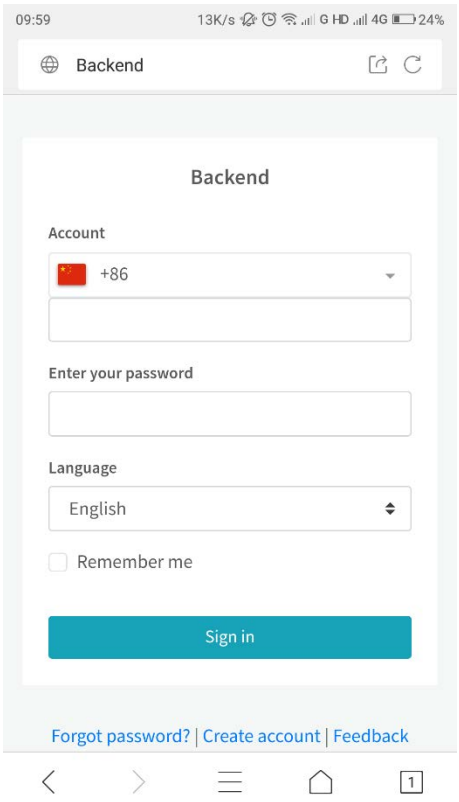
Press the **"Restart"** button to restart the Encoder.

### Recovery

Press the **"Recovery"** button to restore encoder to factory status.

# Chapter 4 Mobile-Phone Backend Setting

If you are not carrying or inconvenient for using your computer, you can also choose to configure your encoder by using your phone's backend settings. Please click **"QR Code"** at the Menu. Then, please scan the QR code with your mobile phone and enter the user interface as shown below. If you don't have an account yet, please click **"Create account"** at the bottom of the picture to create your own account.



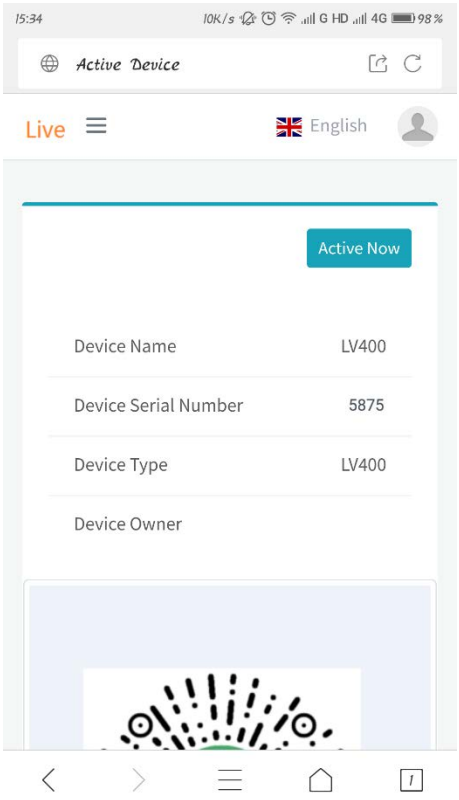

After logging in to your personal account and entering the interface as shown below, at first, please click on **"active now"** to bind the device to your account. Next time you can find your device in the list of personal devices. One account can have more than one encoder.

Once you registered your account, you can also login your account at xx.livevbond.com on PC to configure encoder, xx could be in, eu, us, au, cn etc. depends on the country or area of the encoder, such as eu.livevbond.com

**NOTE:**

- **Make sure connect a RJ45 network cable to the LAN port of encoder.**
- **Make sure the encoder connected to Internet before go ahead at the first time.**

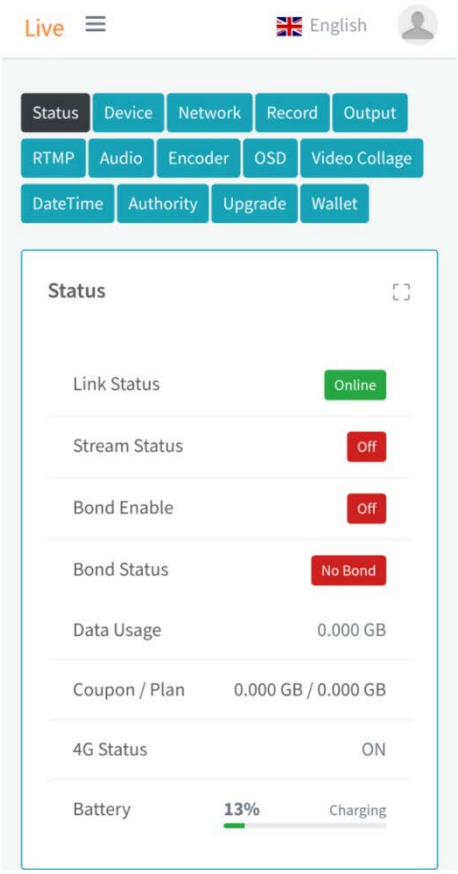
# Mobile-Phone Backend Setting




## 4.1 Status

After clicking **"Active now"** to activate the device, then you should find your encoder device under dashboard. Enter the interface as shown below to start configuring the device. First, you will see the **" Status"** optional control page. In the **“Status”** control page, the user can view information about the device including **“Link Status”**, **“Stream Status”**, **“Bonding Enable”**, **“Bonding Status”**, **“Date Usage”**, **“Coupon”**, **“4G Status”** and **“Devices Battery”**.

# Mobile-Phone Backend Setting




### Link Status

If the device is powered on and connected to the network, **"Device Online"** is displayed, otherwise **"Device Offline"** is displayed.

**Stream Status**

If the device is streaming, **"On"** is displayed, otherwise **"Off"** is displayed.

**Bonding Enable**

If the Bonding mode is turned on, **“On”** is displayed, otherwise **“Off”** is displayed.

**Bonding Status**

If the Bonding mode is turned on, **“Bonding On”** is displayed, otherwise **“No Bonding”** is displayed.

**Date Usage**

Device balance. Bonding mode is charged.

### Coupon

Top-up coupon.

### 4G Status

If the built-in 4G is turned on, **“On”** is displayed, otherwise **“Off”** is displayed.

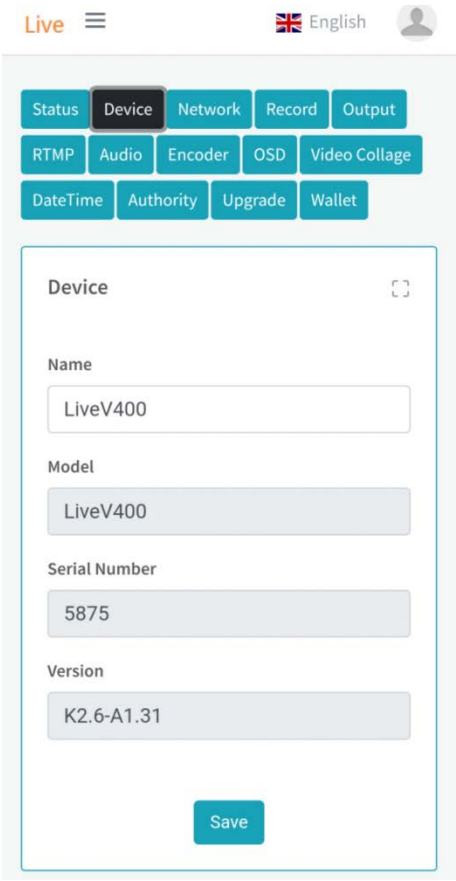
# Mobile-Phone Backend Setting

### Devices Battery

Percentage of remaining battery power. If the device is charging, **“Charging”** is displayed, otherwise **“Uncharged”** is displayed.

## 4.2 Device

In the **“Device”** optional control page, user can view information about the device, including **“Name”**, **“Model”**, **“Serial number”** and **“Version”**. Furthermore, user can change the name of the device.



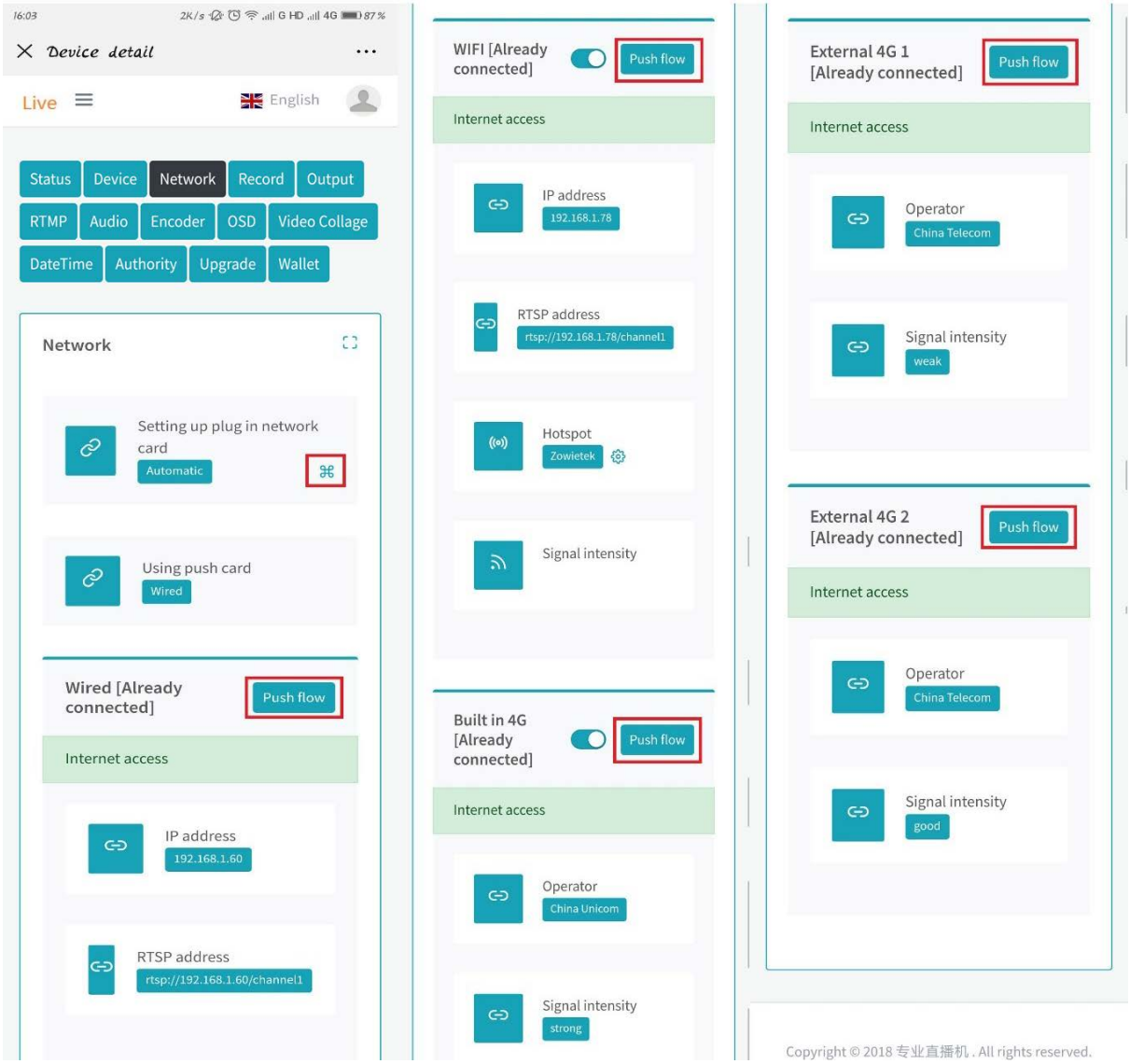

## 4.3 Network

In the **“Network”** optional control page, users can view the network information that the device has connected, set the device’s **“stream mode”**, **“stream network”** and turn on/off the built in WIFI and built-in 4G. The user can click on the icon in the red box mark below to select **"Stream Mode"**.

1. When the **“Stream Mode”** is selected as **“Automatic”**, the device will automatically select one of connected network as the current streaming network, the priority order is LAN > WIFI >Built-in 4G > External 4G. Furthermore, the user can also select the stream network by clicking “Push Flow” at the red mark box in the picture below.
2. When the **“Stream Mode”** is selected as **“Bonding”**, the bonding mode is turned on and the device will aggregation all connected networks as the current push network.

# Mobile-Phone Backend Setting

3. Users can also click on wired, WIFI, built-in 5G/4G, external 4G 1, or external 4G 2 right side of the "push flow" (red box marker below) settings specifically using a network as a push streaming network.
   a) Users can also turn built-in WIFI on/off, turn on/off built-in 5G/4G, and view network-related parameters.



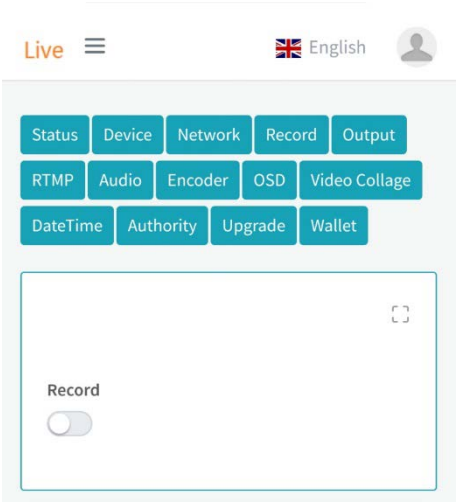

4. Click the setting button by the Hotspot to set WIFI connection.

# Mobile-Phone Backend Setting

## 4.4 Record

### Record

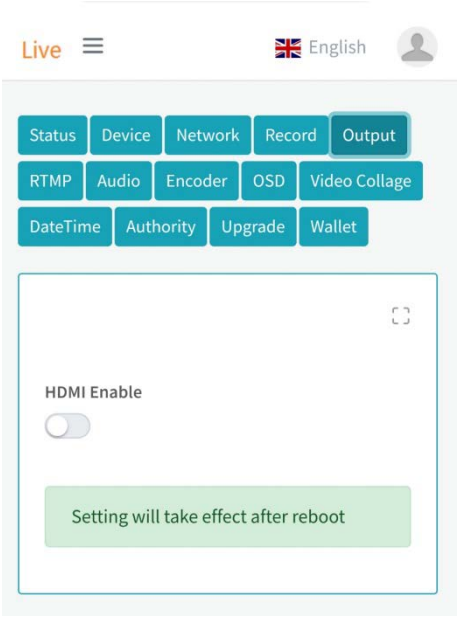
Click on the **“Record”** button to start to record.




## 4.5 Output

### HDMI Enable

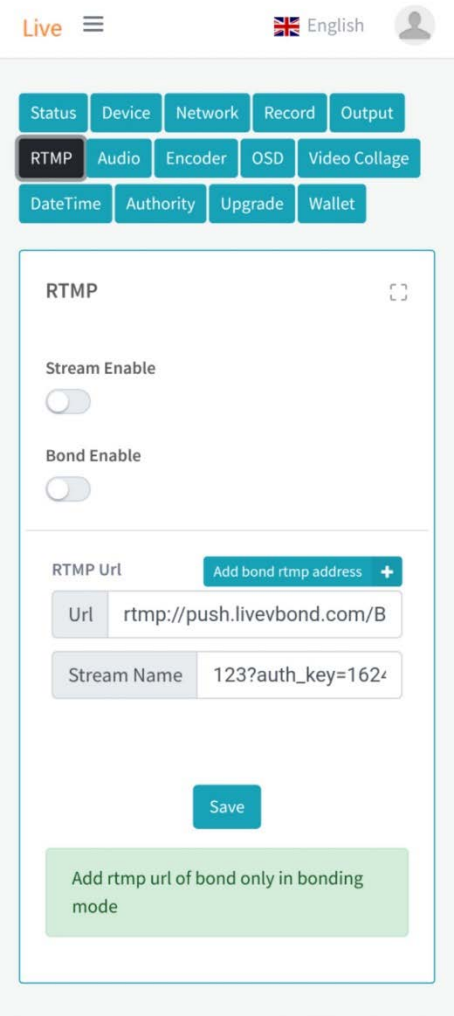
Click on the **“HDMI Enable”** button to start to watch the preview video by connect the HDMI monitor.




## 4.6 RTMP

In the **"RTMP"** optional control page, the user can choose to start/stop the live streaming, configure the stream mode and RTMP address.

## Mobile-Phone Backend Setting




### Stream Enable

Click on the **"Stream Enable"** button to start/stop broadcast.

### Bond Enable

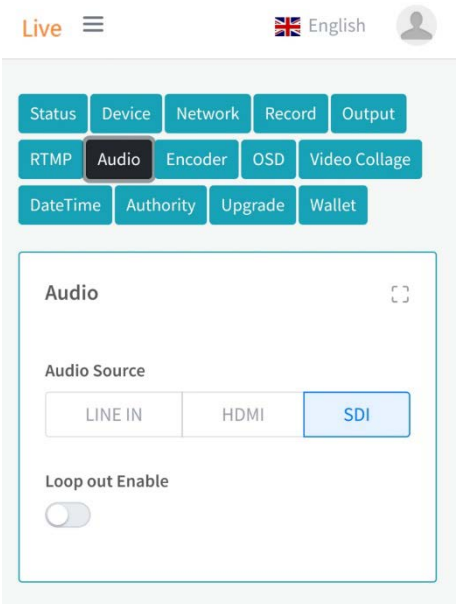
Click on the **"Bonding Mode"** button to turn on/off bonding mode.

### RTMP Url

Fill in the Stream address, please refer 3.7 RTMP Para to get Url and Stream name.

# 4.7 Audio

# Mobile-Phone Backend Setting

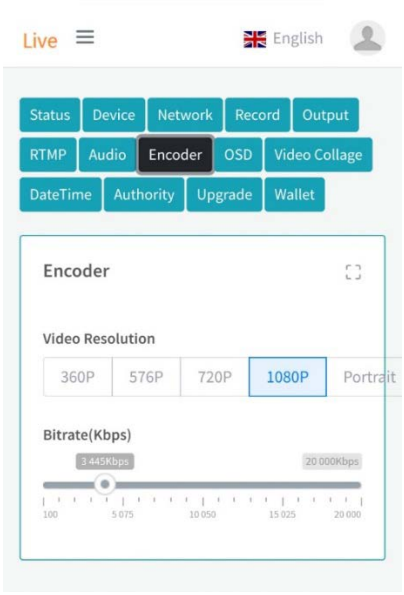



**Audio Source:**

The audio source choose from

- LINE IN
- HDMI
- SDI

## 4.8 Encoder




**Video Resolution**

The Resolution choose from:

- Standard (360)
- PAL (576P)

- HD (720P)
- FHD (1080P)

The default value is FHD (1080P)

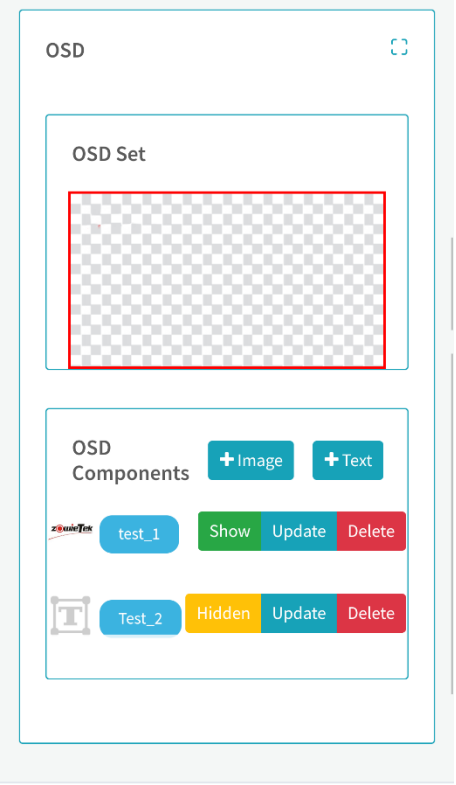
### Bitrate (kbps)

The range of bit rate is 100 kbps~ 10,000 kbps. The default value is 2,000 kbps.

## 4.9 OSD

In the **"OSD"** optional control page, there are provides up to 4 customize OSD components that can be either text or a picture, once OSD components is added, it will appear in the upper left corner of the screen. However, if you want to change the location of the OSD components, it is recommended to operate on your computer in order to get best user experience. Please refer to 3.8 OSD for details.

**NOTE:** The OSD function is limited on mobile phone. It's better to use it on PC

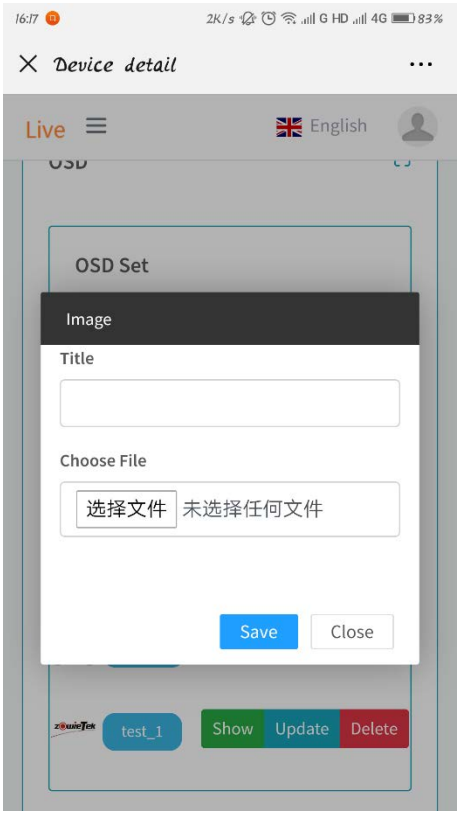



- **Hidden/show**: Click to hide/show OSD components (Test_2 is hidden in the above figure).
- **Update**: click to change a new OSD image or re-edit text.
- **Delete**: delete OSD components.

### +Image

After clicking **"+Image"**, a new sub window will pop up in the page for the user to set Image OSD. Only for JPG/JPEG/PNG picture and size must be greater than 32x32 and less than 480x480 pixels. After pressing the **"set"** button, if the picture fits, user can preview the picture in the grid area.

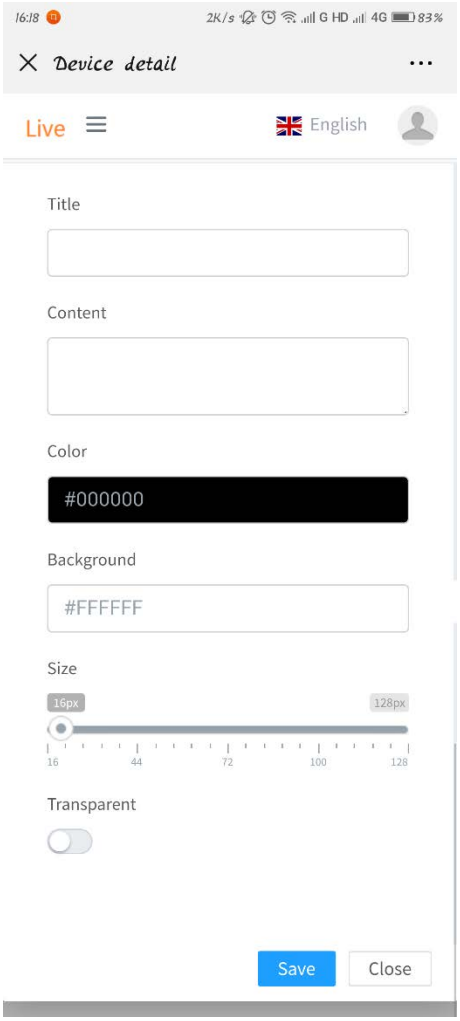
# Mobile-Phone Backend Setting




**+Text**

After clicking **“⊕Text”** button, the **“Text”** window will pop up on the page for the user to edit the text OSD that Includes **“Title”**, **“Content”**, **“Color”**, **“Background”** and font **“Size”**. The background will be transparent when switching the **“Transparent”** button on. At last, click **“Save”** button to apply it.

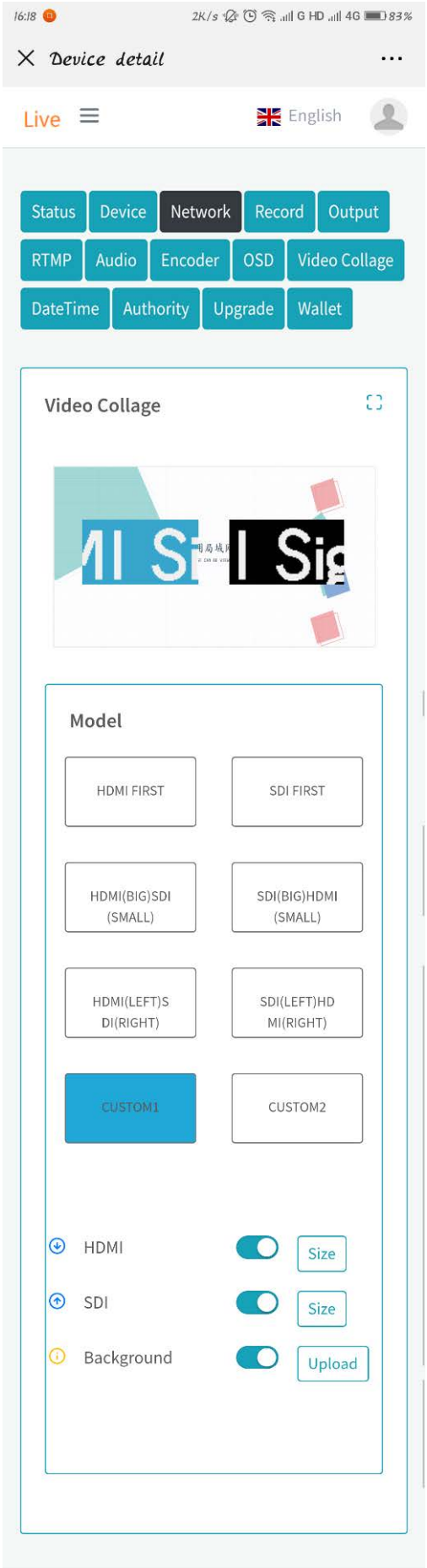
# Mobile-Phone Backend Setting




## 4.10 Video collage

In the **“Video Collage”** optional control page, the user can choose up to 6 different standard video collages that including **“HDMI FIRST”**, **“SDI FIRST”**, **“HDMI (BIG) SDI (SMALL)”**, **“SDI (BIG) HDMI (SMALL)”**, **“HDMI (LEFT) SDI (RIGHT)”** and **“SDI (LEFT) HDMI (RIGHT)”**. Furthermore, user can also customize video collage that is **“CUSTOM1”** and **“CUSTOM2”**.

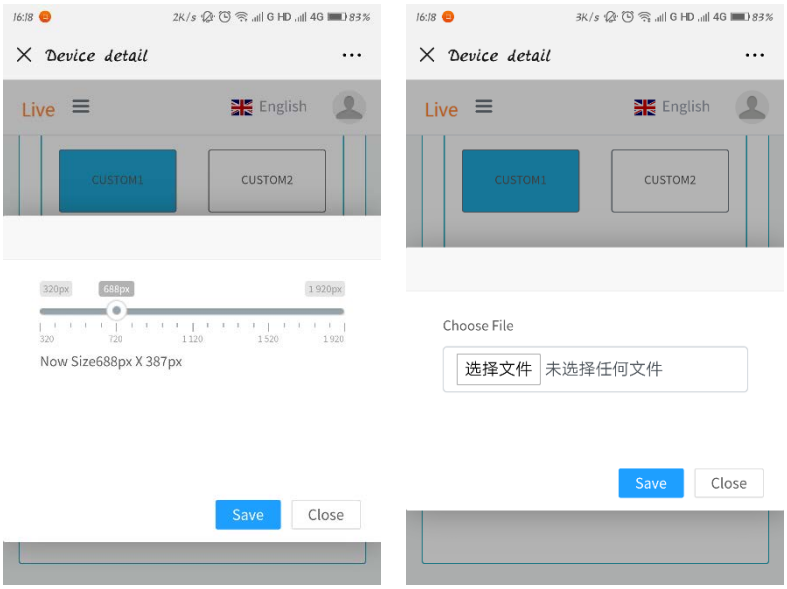
# Mobile-Phone Backend Setting



# Mobile-Phone Backend Setting

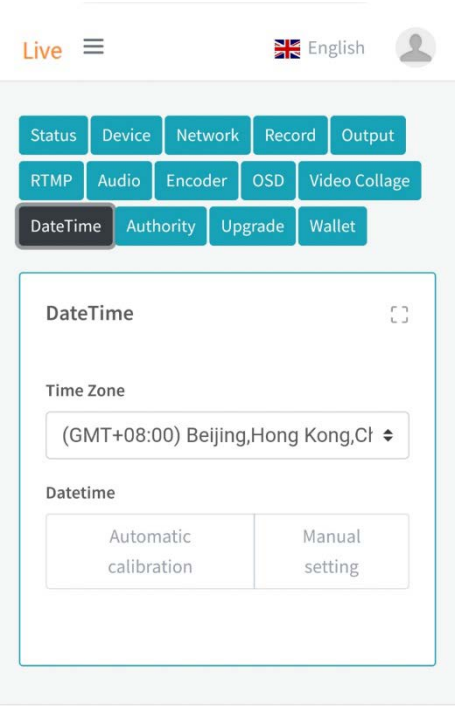
### CUSTOM1, CUSTOM2

In the case of **“CUSTOM1”** or **“CUSTOM2”**, user can customize the size and location of **“SDI”** and **“HDMI”**, and also upload your favorite pictures as background. Users can turn HDMI or SDI on/off via the buttons on the right of **“HDMI”** and **“SDI”**. After clicking **“Size”** button on the right of **“HDMI”** or **“SDI”**, the **“Set Collage size”** window show as follows, then, the user can change the size of HDMI or SDI. Furthermore, when HDMI and SDI overlap, the user can select the arrow on the left of the **“HDMI”** to place the HDMI on the top of bottom layer, the arrow on the left of **“SDI”** is similar. However, if you want to change the location of the HDMI or SDI, you will need to operate on your computer.



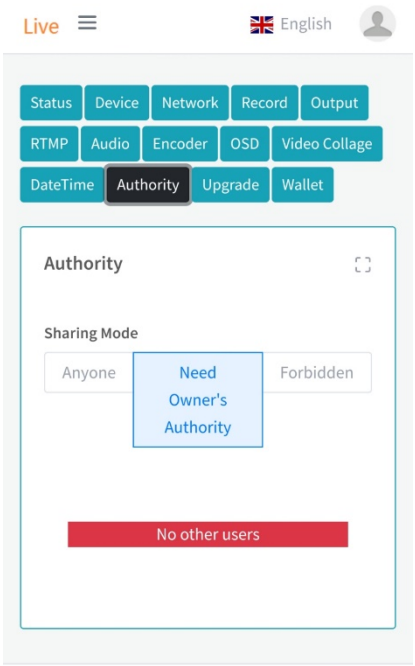

## 4.11 Date Time

In the **“Date Time”** optional control page, the user can select **“Automatic calibration”** or **“Manual setting”** to set the time.



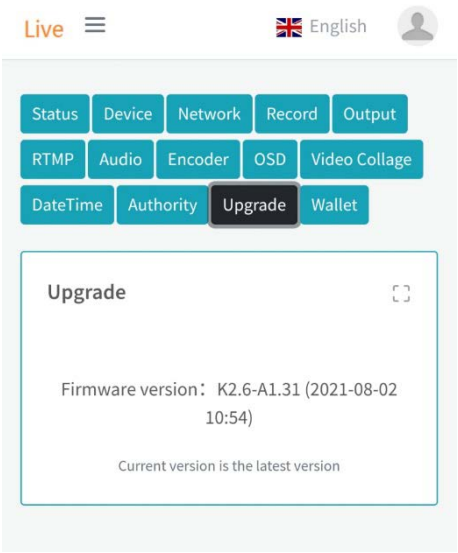

## 4.12 Authority

In the **“Authority”** optional control page, users can set the sharing mode of the device, including the **“Anyone”**, **“Need Owner’s Authority”** and **“Forbidden”**. Once the user has opened the Anyone, anyone can bind the device by scanning the QR code, please choose carefully.



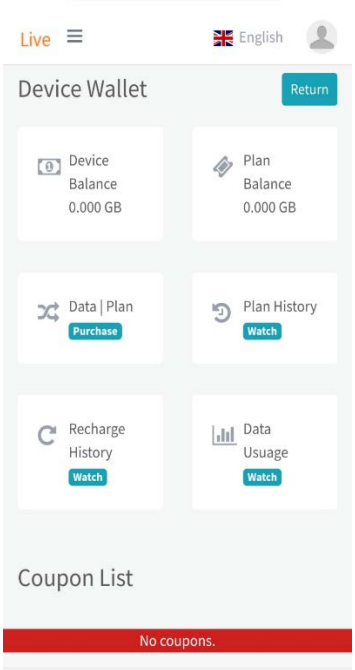
## 4.13 Upgrade

In the **“Upgrade”** optional control page, users can check and upgrade the firmware version of the device here.




## 4.14 Wallet

In the **“Wallet”** optional control page, users can recharge devices money, check recharge records, consumption records and coupon.



# Specification

**Power**:
Power Adapter: USB TYPE C, up to 60W 20V
Battery: Lion, 19AH Fast Charge
Consumption: 18V @ ~1.15A max without ext. Meory

**Video**:
Encoder: H.264/AVC MP/HP
Resolution: 1920x1080p25/30/50/59.94/60/, SD 1920x1080i50/59.94/60, 720p50/60
Bitrate: 256K-20Mbits/s
Frame Rate: 25/30
Delay: <200ms
Storage: mp4

**Network:**
Video Streaming: RTMP, RTMPS, RTSP
WIFI: 802.11b/g/n/ac/ax, 2.4/5.8GHz
4G: LTE, Global Bands
5G: SA/NSA, Global Band
LAN: 100/1000Base-T
Bonding: 1x5G/4G+2x4G
optional 3x4G+LAN+WIFI simultaneously up to 8
Distribution: 9 via aggregation server

**Audio**:
Sampling: 48KHZ
Encoder: AAC,128Kbit/s
Channel: Dual, AGC
Input: 0.7 $V_{RMS,}$ 20K
MIC: 2.2V, 2.2K Bias, 60db gain adj.

**Input**:
SDI: SD SDI, HD SDI, 3G SDI,
SMPTE 296M/274M/292M
HDMI: 1.4a
Streaming: RTMP, RTSP
Audio: SDI/HDMI Embedded, Analog Input

**Management**
Configuration: Mobile Phone, PC
WEB: Local or Remote
LCD: Touch UI

**Interface**:
SDI Input: 1 x BNC, 75ohm, 800mVpp
SDI loop out: 1 x BNC, 75ohm, 800mVpp
HDMI Input: 1 x Type A
HDMI out: 1xMini HDMI
Audio Input: 1 x 3.5mm Jack
Audio Out: 1 x 3.5mm Jack
Ethernet: 1 x RJ45
4G: 3 x SMA/M
5G: 3 x SMA/F
USB: 3 x USB
SIM: 3 x Nano SIM Auto Eject
Storage: 1 x MicroSD/TF
Sound: Buzz
Indicator: Charging LED
Display: 4.3” IPS LCD, Touch

**Others**:
OSD: Text, Logo Caption, Time Stamp
Collage: 8 Modes and 2 customized

**Physical**:
Size: 131x 85 x 42mm(5.15” x 3.34” x 1.65”)
ABS black
Weight: 596g (1 lb, 5oz) without accessories
Temp: 0°C to 45°C

**Certification**
CE, FCC

*Above spec is based on LiveV400