

High Definition Bonding Live Video Streaming Encoder

User Manual

LiveV400 Series

RevisionK1.2.0Release2021-10-25Product30501-0XX

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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) •











Type-C Cable

USB TYPE C Travel Charge



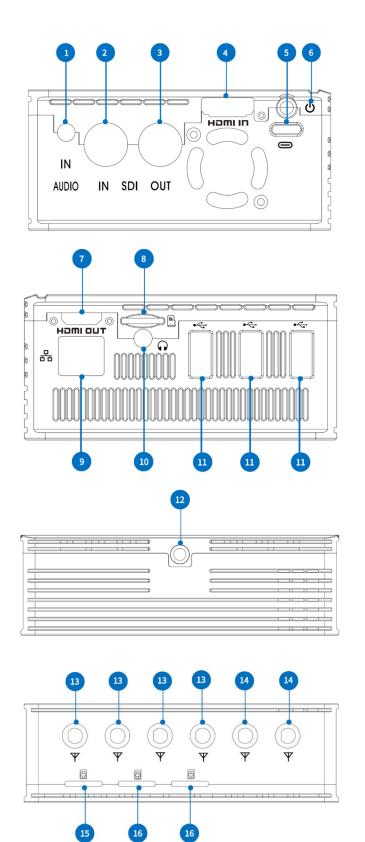


LiveV400 Unit

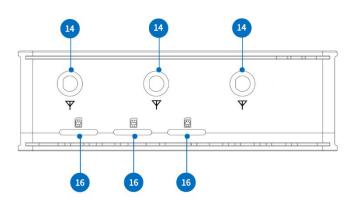


Storage Bag

2.2 Connections and Controls



LiveV400 (5G version) TOP



LiveV400 (4G version) TOP

2.2.1 Physical Connections

Label	Name	lcon	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	חו וחכא	Connects HDMI and DVI signals (using an adapter).
5	Type-C Power Connector	\bigcirc	Plug the power supply in here. The port requires a 15V DC power source (center-positive).
6	RED Power Button	Ċ	Press to turn on encoder. Press and hold more than 5 seconds to turn off.
7	HDMI Loop Out	нот опт	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	몲	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	\bigcirc	Mount encoder to camera
13	SMA Connector	Ψ	Connect to Internal 5G LTE antenna.
14	SMA Connector	Ψ	Connect to Internal 4G LTE antenna.

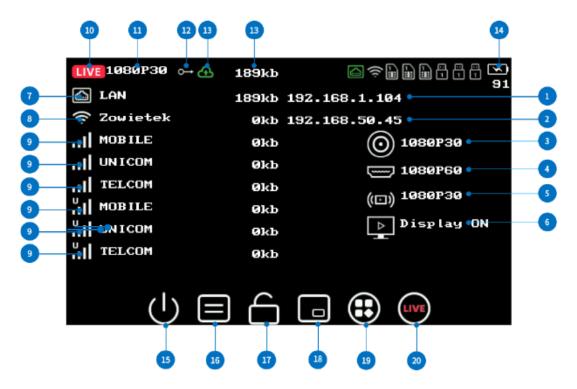
15	SIM card slot	Built-in 5G, Plug the NANO SIM card in here.
16	SIM card slot	Built-in 4G, Plug the NANO SIM card in here.

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;
	Display No Signal when the no SDI input or SDI connection fail
4	HDMI signal input, display Resolution and Frame Rate of HDMI inputs;
4	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;
	Display No Signal when the no Stream input or Stream connection fail

6	HDMI Display ON
	Display LAN when the LAN connection is successful
7	Display uplink speed of LAN when the encoder using LAN as streaming network; Otherwise "0kb"
	is displayed
	Display the WIFI SSID when the WIFI connection is successful
8	Display 0 kb when the WIFI is not involved in streaming
9	Display the Operator when the Built-in 5G/4G connection is successful
	Display 0 kb when the Built-in 5G/4G is not involved in streaming
10	Streaming Icon.
	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
	Hide / Display desktop
16	Hide / Display text and icons on the LCD screen
17	Lock / Unlock screen
	Video Collage
18	Customize layout, Picture in picture, Supports 6 fixed and 2 custom screen compositions
	Menu
19	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.

LAN	\checkmark
192.168.1.74	
255.255.255.0	
192.168.1.1	
192.168.1.1	
192.168.1.1	
	192.168.1.74 255.255.255.0 192.168.1.1 192.168.1.1

• 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 "V".



Mobile

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

5		Mobile	\checkmark
Mobile Res	et		
4G	MOBILE	IMEI:	864284040215092
4G-1	TELCOM	IMEI:	861394058774212
4G-2	TELCOM	IMEI:	861394058765012
Side 4G-1	TELCOM		
Side 4G-2	TELCOM		

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.

5		Live	\checkmark
Live			
Bonding			
URL	rtmp://pu	sh.livevbond	.com/BHC/123?
		4 6-1	Side 4G-2
Network		4G−2	Auto
	4 G	Side 40	-1

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.

Ð	Audio	\checkmark
Audio		
Source	OLINE IN OHDMI	SD I
Auto Gain		
Volume	0 80	100
Loop out		

4. Video

Bit rate(kbps)

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

• I Frame interval

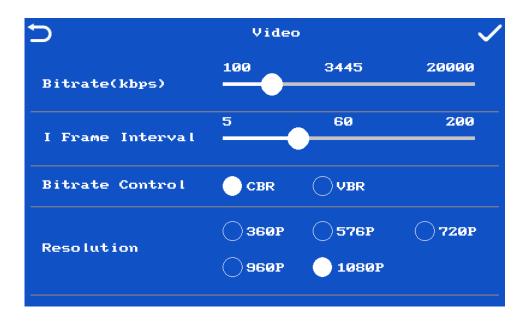
The range of I frame interval is 5~200. The default is recommended 40.

• 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

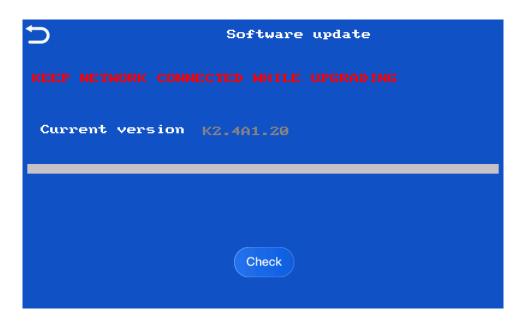
About

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

Þ	About 🗸
Name	SN5776
Mode l	LV4000
Serial Number	5776
Hardware Version	PLB1.1.1
Software Version	K2.4A1.20

• 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).



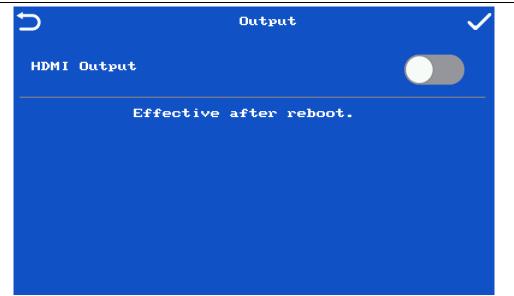
Silent fan

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.

5	Restart & Reset	
	Restart	
	Restore	

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.

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

WIFI mode: Complete WIFI connection setting, see <u>WIFI connection setting</u> 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 <u>Chapter3 Encoder Web Control User Interface</u> 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".

 → C ▲ Not secure 													
	192.168.1.73/#menu1										4		
Video Encoder 📃												Langua	ge ×
						Complete						Refres	h i
Device Info													
Signal Input		88		S				P		P		C	7
Network Setting				0		^A		1					
Audio Param	LiveV400		LiveV400	Rename	5875		PLB0.0.0		K2.6		A1.31		
Video Encoder													
RTMP Param													
Record													
Cloud Control													
OSD													
OSD Video Collage													
OSD Video Collage Display													
OSD Video Collage Display Time Setting													
OSD Video Collage Display Time Setting Upgrade													
OSD Video Collage Display Time Setting Upgrade Language													
Cloud Control OSD Video Collage Display Time Settling Upgrade Language Recovery													
OSD Video Collage Display Time Setting Upgrade Language													
OSD Video Collage Display Time Setting Upgrade Language													

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.

		Complete			Refresh
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Ş		P	P	P
LiveV400	LiveV400 Device Name Resurts	5875 Device serial	PLB0.0.0	K2.6	A1.31

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.

Rename		×
LV400		
	Confirm	Cancel

# 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.

номі			
signal 1080P_60Hz			
SDI			
Signal			
Stream			
signal No Signal			
Stream Type Pull Url	Network Stream		~
		Confirm	

# **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.

LAN WiFi 4G 4G-1 4G-2					
Link Status	Connected				
Internet	Connected				
IP Auto	ON				
IP Address	192.168.1.74				
Subnet Mask	255.255.255.0				
Gateway	192.168.1.1				
DNS Auto	ON				
DNS1	192.168.1.1				
DNS2	192.168.1.1				
MAC Address	64:F8:01:55:4B:7A				
RTSP Stream Address	rtsp://192.168.1.74/channel1				
	Submit				

### 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.

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

LAN WiFi 4G 4G-1 4G-2					
Enable					
Scan WiFi	Scan				
Signal Level	Signal Good				
Link Status	Connected				
Internet	Connected				
IP Address	192.168.1.138				
Subnet Mask	255.255.255.0				
Gateway	192.168.1.1				
DNS1	192.168.1.1				
DNS2	192.168.1.1				
MAC Address	10:2C:6B:7F:A5:6A				
Manual input	OFF				
SSID	Zowietek5G				
Password	Zowietek1701				
RTSP Stream Address	rtsp://192.168.1.138/channel1				

# 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.

LAN WiFi 5G 4G-1 4G-2	
Reset	ON
Signal Level	Signal Good
Mobile Status	Connected
APN	AUTO 🖉
Internet	Connected
IP Address	192.168.225.30
Subnet Mask	255.255.255.0
Gateway	192.168.225.1
DNS1	192.168.225.1
DNS2	223.5.5.5
MAC Address	3A:A0:76:07:A5:72

**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.

Set APN		
		^
APN Auto	$\bigcirc$	ł
APN		l
Restart the de setting is chan	vice to take effect, when APN ged.	
	Set Close	

# 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 <u>USB 4G Dongle</u> 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.

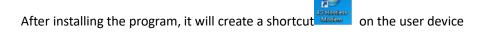
LAN	WiFi	5G	4G-1	4G-2	Side 4G-1	Side 4G-2	
			Signal Le	vel		Signal Very Goo	d
			Mobile Sta	atus		Connected	
			Interne	t		Connected	
			IP Addre	SS		192.168.0.19	0
			Subnet M	ask		255.255.255	0
			Gatewa	у		192.168.0.1	
			DNS1			192.168.0.1	
			DNS2			223.5.5.5	
			MAC Add	ress		36:4B:50:B7:	ef:da

### 3.4.5 USB 4G Dongle

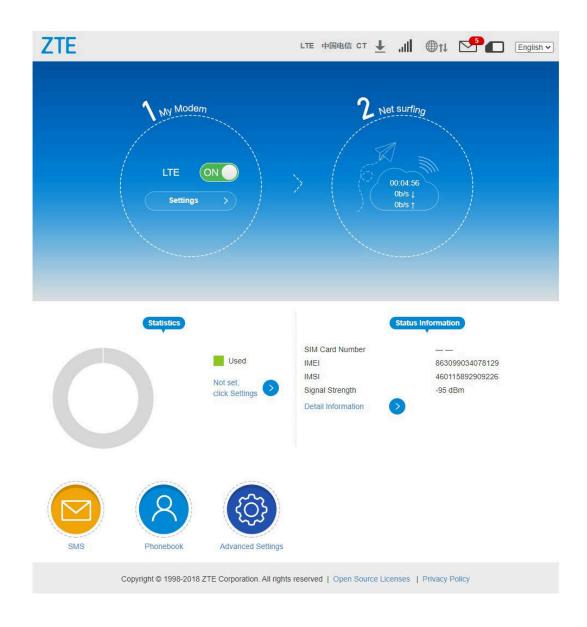
Using USB 4G dongle, push and slide the cover to the end direction of dongle to open the dongle cover. Locate the SIM card slot. It holds a Standard SIM card. Insert the SIM card into the corresponding card slots. If your SIM card is a Nano card, you will need a Nano to standard SIM card adapter. Face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

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.



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 <u>http://192.168.8.1</u> 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.

ZTE			LT	E 中国电信	л то	@†↓	<b>₽</b> €	English 🗸
•	Connection Settings Connection Mode Network Selection APN	) ) )						3
ZTE			LT	E 中国电信	ст "П	€ţ		English 🗸
	APN   Current APN   Mode   Profile   PDP Type   Profile Name *   APN *   Authentication   User Name   Password   The setting can only be changed	China Telecom 4G Auto Default IPv4 Default Default NONE d when the modem is	Manual					3
	0							
	Copyright © 1998-2018 Z	TE Corporation. All r	rights reserved	Open Source	Licenses	Privacy F	Policy	

### 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 Param		
Enable	ON	
Loop out Enable	OFF	
Туре	SDI	~
Confirm		

#### 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.

Audio Param	
Enable	ON
Loop out Enable	OFF
Туре	LINE IN Y
Gain	ON
Volume	80
Confirm	

### 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".

 Live Stream
 3445

 Bit Rate (kbps)
 3445

 I Frame Interval
 60

 Bitrate Control
 CBR

 Resolution
 1080P(FHD)

### Confirm

### 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.

List		
Enable	[]] 007	
Connection Status	Unconnected	
Mode	Single	
Stream Network	Auto 🗸 🖒	
RTMP Address	http://push.livevbond.com/BHC/1237auth_key=1624506388-0-0-7e1c082912b799ed93cb663182d97116	Make sure audio is on

#### 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.

STREAM SETTINGS	ANALYTICS	STREA	M HEALTH				
<b>Stream key</b> Select stream key <b>Default stream key (R</b>	TMP, Variable)			Ŧ			
Stream key (paste in encoder		ø	RESET	СОРҮ			
Stream URL	tube.com/live2			СОРҮ			
	COPY						
YouTube also supports RTM	YouTube also supports RTMPS for secure connections. Learn more						

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

Enable	ON E	
Connection Status	Unconnected	
Mode	Single	
Stream Network	Auto 👻 🗘	
RTMP Address	rtmp://a.rtmp.youtube.com/live2r0fk-z2j2-411v-w6c5-78ms	Make sure audio is on

- 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.

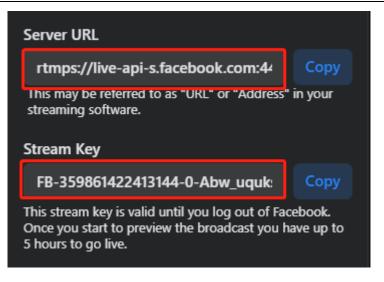
Besides Stream now, YouTube Events give you more control over your stream. You'll be able to select privacy options, set a start time, enable a backup stream for redundancy, create multiple live events, and stream them all simultaneously.

#### Facebook

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

Posts	About	Friends 641	Photos	Story Archive	Videos	More 🔻	(	+ Add to Story	🖍 Edit Profile	
Intro						What's on you	ur mind?			
	es in Shangh llowed by 49					Ot Live Video	Photo/V	ideo	🚩 Life Event	
		Edit De	etails			Posts		≌ <del>.</del> Filters	s 🏶 Manage P	Posts

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



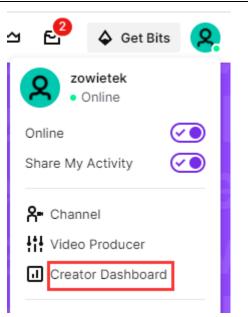
• Copy and paste the server URL and stream key or persistent stream key into the RTMP settings of encoder.

		ON				
	Connection Status	Unconnected				
	Mode	Single				
	Stream Network	Auto 🗸 O				
ſ	RTMP Address	rtmps://live-api-s.facebook.com:443/rtamp/FB-359861422413144-0-Abw_uquksJmCOSs2	Make sure audio is o			

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

#### Twitch

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



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

≡ Stream			
CREATOR DASHBOARD	۴I		
🛆 Home		Stream Key & Prefer	ences
(+) Stream Manager		Primary Stream key	Copy Reset
Insights			Show
ក្រី Community		Disconnect Protection	$\odot$
<ul> <li>Content</li> <li>Settings</li> </ul>			Improve the viewing experience for your stream by enabling a backup in the event your stream is disconnected. If your primary stream fails, automatically display a temporary visual to viewers for 90 seconds while you troubleshoot and reconnect. *Note: This requires the use of a major encoder to work property.
Stream		Mature Content	
Channel Moderation		mistori e serinena	Enable this setting if your stream contains content that may be inappropriate for younger audiences. You may never broadcast sexu activity, nudity, threats or extreme violence. Doing so will result in immediate, irrevocable termination of your account. Please make sure your content will comply with the Terms of Service before broadcasting
Viewer Rewards		Latency mode	Low latency: Best for near real-time interactions with viewers
Streaming Tools			Normal latency: Enable this setting if you do not interact with viewers in real-time
] Extensions			
Creator Camp	ď		
Safety Center	ď	VOD Settings	
		Store past broadcasts	Automatically save broadcasts for up to 14 days (60 days for Partners, Turbo and Prime users)

The URL+ Stream Key of twitch looks like:

rtmp://server/{stream_key}

You can find best server in your area at twitch.tv, <u>https://stream.twitch.tv/ingests/</u>. 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.

Stream List		
Enable		
Connection Status	Unconnected	
Mode	Single	
Stream Network	Auto 🗸 🗸	
RTMP Address	rtmg://live-sfo.twitch.ty/app/live_251710147_zYbWSqHinDb2OFgsBkt3yv9WbmL85V	Make sure audio is on
	Confirm	

• Now, configuration finished. Press to start live streaming. A preview screen will appear on twitch.tv Live page under Dashboard or <a href="https://www.twitch.tv/username/dashboard/live">https://www.twitch.tv/username/dashboard/live</a>

### 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 dragand-drop OSD Components anywhere on the left grid area.

OSD Preview 1	 Components	⊕ Text ⊕ Ima
西吉石州	Test_4	<mark>©</mark> 2 Ø 0
	Test_3	·
	an cor Test_2	© [] 8 1
	IT Test_1	@ C 10
z@wie <b>T</b> ek		

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

- 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.

Text	
	A
Title	
Content	
16px 16 44	128px 72 100 128
Color	#000000
Background	#FFFFF
Transparent	
Text only shows matically truncat	one line, the excess is auto ed
	Set Close

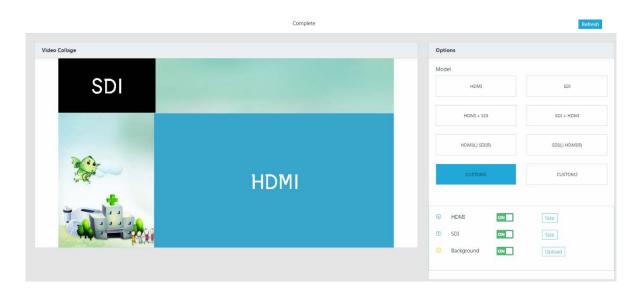
### ⊕ Image

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.

Image		
Title Choose File	Choose file N	
	Set	▼ Close

# 3.9 Video Collage

After clicking the **"Video Collage"** option 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.

Set Collage Size	
Method 1: 320px 688px 1	1 920px
Method 2: height: 387 px width: 68 Select: • Method 1 Method 2	as px
S	et Close

# 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.

			omplete	Refresh
ne Setting				
Time	2021-08-17 10:28:21	v		
Time Zone	(GMT+08:00) Betjing, Hong Kong, Chongqing	÷		

# 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.

	Complete	Refresh
Upgrade		
Upload File	Choose file No file chosen	
Contirm		
Upgrade Online		
Version Detection	Check	

**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.

	(	Complete	Refresh
Language			
Choose Language	English	5	v
Continu			

# 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.

Complete	Refresh
Recovery	
Shutdown Restart Recovery	

### 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.

09:59	13K/s 🕼 🕲 🗟 📶 G HD 💷 4G 💷 249
Backend	C C
	Backend
Account	
+86	·
Enter your passv	vord
Language	
English	\$
Remember	r me
	Sign in
Forgot passwo	ord?   Create account   Feedback
$\langle \rangle$	$\equiv$ $\cap$ 1

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 <u>xx.livevbond.com</u> 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 <u>eu.livevbond.com</u>

### 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.

15:34 10K/s &	🕒 泠 📶 G HD 📶 4G 📰 98 %
Active Device	C
Live =	English
	Active Now
Device Name	LV400
Device Serial Number	5875
Device Type	LV400
Device Owner	
O	10.
$\langle \rangle =$	$\land$ $\square$

### 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".

Live	=			*	En	glish	2
Status	Device	Netv	vork	Reco	ord	Outp	ut
RTMP	Audio	Encod	ler	OSD	Vic	leo Col	lage
DateTir	ne Auti	nority	Upg	rade	Wa	llet	
Stat	us						0
Li	nk Status	i			l	Online	
St	tream Sta	tus				Off	
В	ond Enab	le				Off	
В	ond Statu	IS			N	o Bond	
D	ata Usage	2			0.	000 GI	3
C	oupon / P	lan	0.0	000 GE	3/0.	000 GI	3
40	G Status					10	N
B	attery		139	6	0	Chargin	g

### 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.

### **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.

тмр	Audio	Enco	der (	DSD	Video (	Collage
ateTir	ne Aut	thority	Upgr	ade	Wallet	
Devi	ce					53
Name	2					
Liv	veV400					
Mode	el					
Liv	veV400					
Seria	l Numbe	r				
58	75					
Versi	on					
К2	.6-A1.3	1				

### 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 builtin 4G. The user can click on the icon in the red box mark below to select **"Stream Mode"**.

- 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.

- 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.

16:03 2K/s @ 🗇 🕾	[≈] _{all} G HD _{all} 4G 🗯 87%		
imes Device detail		WIFI [Already Connected]	External 4G 1 [Already connected]
Live 🗏 📑	English	Internet access	Internet access
Status         Device         Network         Re           RTMP         Audio         Encoder         OSD           DateTime         Authority         Upgrade		C-> IP address 192.168.1.78	CD Operator China Telecom
Network	C	CORTSP address rtsp://192.168.1.78/channel1	Signal intensity weak
Setting up plug ir card Automatic	n network	(v) Hotspot Zowietek 🚱	
Using push card		Signal intensity	External 4G 2 [Already connected] Ush flow
Wired [Already connected]	Push flow	Built in 4G [Already Push flow]	China Telecom
Internet access		connected]	Signal intensity
192.168.1.60		C-D Operator China Unicom	
CO RTSP address rtsp://192.168.1.60/	channell	CƏ Signal intensity strong	Convright © 2018 专业直播机, All rights reserved.

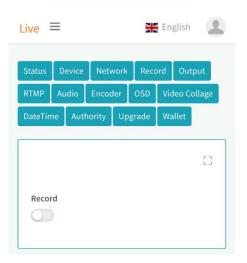
4. Click the setting button by the Hotspot to set WIFI connection.

Live	≡	💥 English
	WIFI [Conne	ected]
	Internet acces	55
	ශ	IP address 192.168.1.141
		P address p://192.168.1.141/channel1
	(0)	Hotspot Zowietek56
	۳	Signal intensity Strong

### 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.

ive	=		*	Engli	ish
itatus	Device	Netwo	rk Reco	ord	Output
ТМР	Audio	Encoder	OSD	Video	o Collage
ateTin	ne Autl	hority l	Jpgrade	Walle	et
	Enable				0
Se	etting wil	l take effe	ect after i	reboot	

### **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.

tatus	D	evice	Netv	work	Reco	ord	Outp	out
RTMP	Au	ıdio	Enco	der	OSD	Vid	eo Co	llage
)ateTi	me	Auth	nority	Upg	grade	Wa	llet	
RTM	٩P							[]
Stre		nable						
Bon	d Ena	able						
1.0								
0								
	MP U	rl		Add t	oond rtn	np ado	tress	+
RTI			p://pu		oond rtn			
RTI	MP U			ısh.li		ond.c	:om/	в
RTI	MP U	rtm		ısh.li	vevbo	ond.c	:om/	в
RTI	MP U	rtm		ısh.li	vevbo	nd.o	:om/	в
RTI	MP U	rtm		ısh.li	vevbo ?auth	nd.o	:om/	в

### 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 <u>3.7 RTMP Para</u> to get Url and Stream name.

# 4.7 Audio

atus MP	Device Audio	Netw Encode	-	Reco OSD		tput
teTin	_	nority		rade	Video C Wallet	Jonage
Audi	0					0
Audic	Source					

### Audio Source:

The audio source choose from

- LINE IN
- HDMI
- SDI

### 4.8 Encoder

atus	Device	Netw	vork Re	ecord	Output
MP	Audio	Encod	ler OSI	0 Vide	o Collage
teTime	e Auth	ority	Upgrade	e Wall	let
Encod	der				63
Encod	der				0
	der Resolutio	on			63
	Resolutio	on 76P	720P	1080	
/ideo F	Resolutio		720P	1080	
/ideo F 3601	Resolutio		720P	1080	

### Video Resolution

The Resolution choose from:

- Standard (360)
- PAL (576P)

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

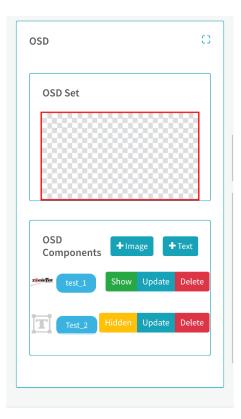
The default value is FHD (1080P)

### 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 <u>3.8 OSD</u> 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.

16:17 📵	2K/s 🎲 🕲 🛜 तां। G HD तां। 4G 🔳 83%
X Device detail	
Live =	K English
OSD Set	
Image	
Title	
Choose File	
选择文件,未	<del>、</del> 选择任何文件
	Save Close
zawija test_1	Show Update Delete

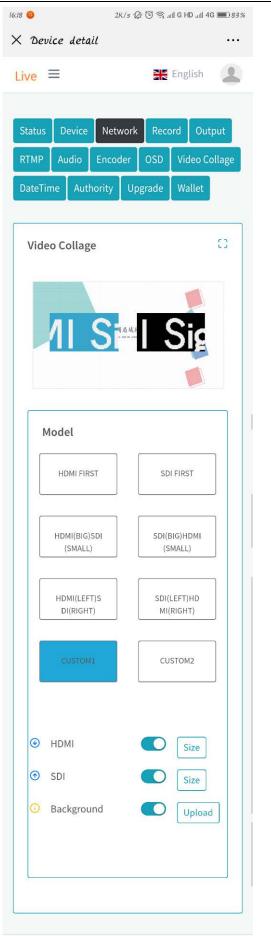
### +Text

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.

16:18 📵 2K/s : 🕼 🕒 🕤 🔝 83%
× Device detail
Live = Reglish
Title
Content
Color
#000000
Background
#FFFFF
Size
16px 128px
16 44 72 100 128
Transparent
Save Close

# 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".



### 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.

16:18 😑	2K/s 🕼 🕄 🖘 📶 G HD 📶 4G 🎟 83%	16:18 😑	3K/s 🕼 🛈 🧟 📶 G HD 📶 4G 🎟 83%
X Device detail		imes Device detail	
Live =	💥 English 🙎	Live ≡	💥 English
CUSTOM1	CUSTOM2	CUSTOM1	CUSTOM2
320px 1 + 1 + 1 + 1 320 Now Size688px X 34	1920px 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Choose File 选择文件 未	选择任何文件
	Save Close		Save Close

### 4.11 Date Time

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

tatus	Device	Networ	k Rec	ord Outpu	it
тмр	Audio	Encoder	OSD	Video Colla	age
ateTin	ne Autl	hority L	pgrade	Wallet	
Time		00) Beiiii	ng Hone	Kong Ch	c3
Time	Zone	00) Beijir	ng,Hong	। Kong,Cf	
Time	Zone VIT+08:(	00) Beijir	ng,Hong	J Kong,Cł +	
Time (GI	Zone VIT+08:(	natic	ng,Hong	J Kong,CF = Manual setting	

# 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.

TMP     Audio     Encoder     OSD     Video Collage       ateTime     Authority     Upgrade     Wallet         Authority     C3       Sharing Mode     Forbidden       Anyone     Need     Forbidden       Owner's     Authority	tatus	Device	Netv	vork	Reco	ord	Out	put
Authority C3 Sharing Mode Anyone Need Forbidden Owner's	гмр [	Audio	Encoc	ler	OSD	Vide	o Co	ollage
Sharing Mode Anyone Need Forbidden Owner's	ateTim	e Aut	hority	Up	grade	Wal	et	
Owner's								
		-				Fort	oidd	en
		-	Ow	ner's		Fort	oidd	en
No other users		-	Ow Aut	ner's	y	Fort	oidd	en

# 4.13 Upgrade

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

	Device		Network		Record		Output
RTMP	Aud	io	Encoc	ler	OSD	Vid	leo Collage
ateTir	ne Auth		ority Upg		grade	rade Wallet	
	nwar	e ver				. (202	21-08-02
Firr				0	1		
Firr			]	L0:54			

## 4.14 Wallet

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

Live ≡	💦 English						
Device Wallet	Return						
Device Balance 0.000 GB	Plan Balance 0.000 GB						
Data   Plan Purchase	Plan History Watch						
C Recharge History Watch	LII Data Usuage Watch						
Coupon List							

# **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