



User Manual

DDMALL 4K HDMI Video Encoder

Model: HEV-4K

Table of Contents

1. Features.....	2
2. Technical Specifications.....	3
3. Package Contents.....	4
4. Hardware Description.....	4
4.1 Network port indicator status.....	5
4.2 Configuration Button.....	5
5. Typical Application.....	5
6. Change the IP Address of PC.....	6
7. Login for Configuration.....	6
8. Encoder Configuration.....	7
8.1 Audio configuration.....	7
8.2 Video Configuration.....	8
8.3 Network Configuration.....	11
8.4 RTMP Configuration.....	12
8.5 RTSP URL.....	17
8.6 System.....	22
9. Important Notes.....	23
10. FAQ.....	24

Dear Customer, Thank you for purchasing the DDMALL products. For optimum performance and safety, please read these instructions carefully before operating. Please keep this manual for future reference.

1. Features

The HEV-4K is a small, compact, yet powerful streaming system that can encode and stream high definition video from your HDMI source (e.g. HD camera, Blu-ray player) to a number of online services over any IP network. It features a maximum of 3840*2160@30Hz HDMI input, and has both the newer H.265/HEVC video codec as well as the H.264/AVC codec in the same unit. HEV-4K supports RTMP/RTMPS for stream to most online video platforms , supports RTSP/UDP protocol multicast and unicast to used for local streaming to computers and decoders.

- Compact, portable and easy to operate.
- Design of low power consumption. No power adapter needed.
- Support analog audio and digital audio coding format selection.
- Support AAC / G.711u audio coding format quality. The maximum code rate of AAC encoding is 256Kbps.
- Support DHCP and static IP mode setting.
- Support most of live streaming platforms such as YouTube, Facebook and other platforms.
- Support H.264/ H.265 encoding format.
- Support HDCP1.4 standard, audio and video can be input synchronously.
- OSD setting supported.

2.Specifications

General

Power supply	5V/1A
Operating Temperature	-10°~55°C
Storage Temperature	-20°~85°C
Operating humidity	10%- 90%RH (Non-condensing)
Weight	0.06kg
Dimension	75mm(L)×31mm(D)×22mm(H)
MTBF	30,000h

Video

Video input	1×HDMI 1.3 (support HDCP1.4)
Support video input resolution	3840*2160p@30Hz,1920*1200p@60Hz,1080p@60Hz,1080p@50Hz,1080p@30Hz,1080i@60Hz,1080i@50Hz, 720p@60Hz, 720p@50Hz, 720p@30Hz,
Pixel clock	165MHz (max)
Video encode	H.264/ H.265
Support output resolution	3840*2160@30Hz,1080p@60Hz, 720p@60Hz, 720p@30Hz, 960×720@60Hz, 960×540@60Hz, 640×480@60Hz, 360×200@60Hz
Bit rate	128kbps~64Mbps

Audio

Audio input	Line, HDMI, Mic
Audio encode	G.711u, AAC
Bit rate	32Kbps~256Kbps

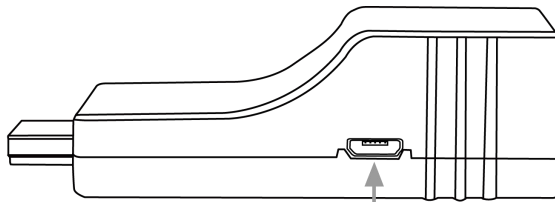
System

Video Transport Protocols	RTSP,UDP, RTMP,RTMPS
Broadcast Mode	Multicast/Unicast
Working Mode	Encode/ Live stream
Network Protocols	Static IP/ DHCP
Control Method	Login-protected Web UI Control

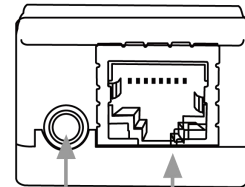
3.Package Contents

- 1× HEV-4K Video Encoder
- 1× USB Power Cable
- 1× HDMI Male to Female Cable
- 1× Type C to HDMI Female Adapter
- 1× User Manual

4.Hardware Description

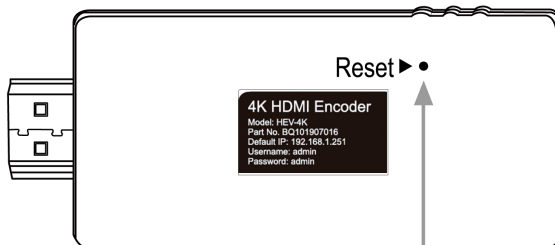


① Micro USB接口

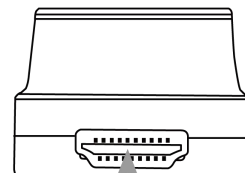


② RJ45网口

③ 3.5mm模拟音频口



④ 复位按键



⑤ HDMI接口

① USB供电

② 网口

③ 输出模拟音频

④ 一键恢复出厂默认设置

⑤ HDMI输入

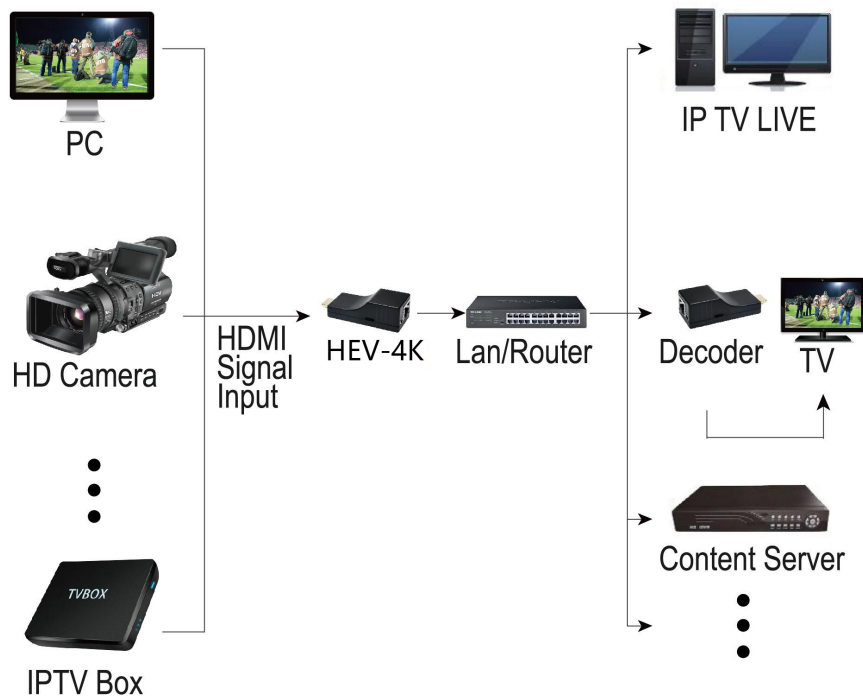
4.1 Network port indicator status

- Steady green light indicates that the HEV-4K is booting normally.
- Blinking green light means the device restarts or restores the factory settings.
- The orange light flashes and the green light is always on, indicating that the RTSP video is being streamed.
- Orange light flashes slowly and green light flashes fast to indicate RTMP live streaming.


4.2 Configuration Button

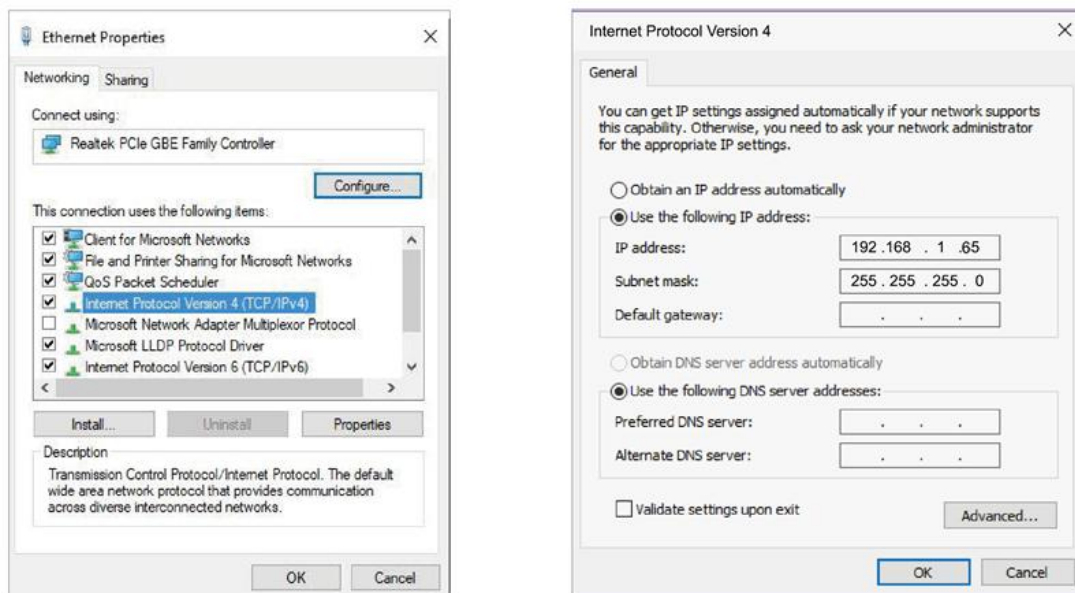
Press and hold the "reset" key for 5 seconds, the green indicator light flashes, and the HEV-4K will restore the factory settings. All parameters will become the factory default parameters. The default IP address is 192.168.1.251.

5. Typical Application



6.Change the IP Address of PC

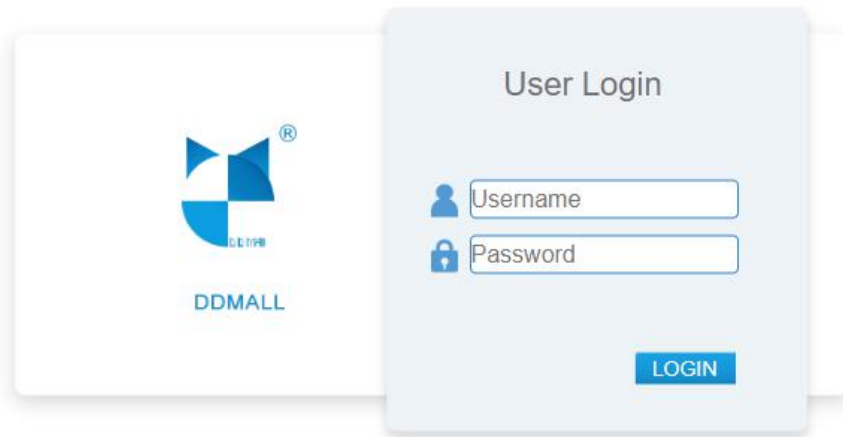
- On a Windows PC: Press the +R on your keyboard.
- Enter “control netconnections” in the run box and press “Enter”.
- You should see at least two types of network connections: Ethernet and WI-FI. Double-click the active network connection.
- Select “Properties” and double click “Internet Protocol Version 4 (TCP/IPv4)” .
- If you want to enable DHCP, make sure Obtain an IP address automatically is selected, as well as Obtain DNS Server address automatically; Or you can select Use the following IP address option and enter the IP address with 192.168.1.xxx (0-255 except 251) and Subnet mask 255.255.255.0. Press “OK” twice to save the configuration.



Note: Your computer' IP must be 192.168.1.xxx for connecting with Encoder. “xxx” can be any number ranging from 0 to 255 except 251. You can also set “DHCP” mode for practical application. Please make sure HEV-4K Encoder should be in the same Network environment as your LAN IP.

7.Login for Configuration

Enter “192.168.1.251” in your browser to open the HEV-4K's Web administrator page. Login with the default user name and password as “admin”.



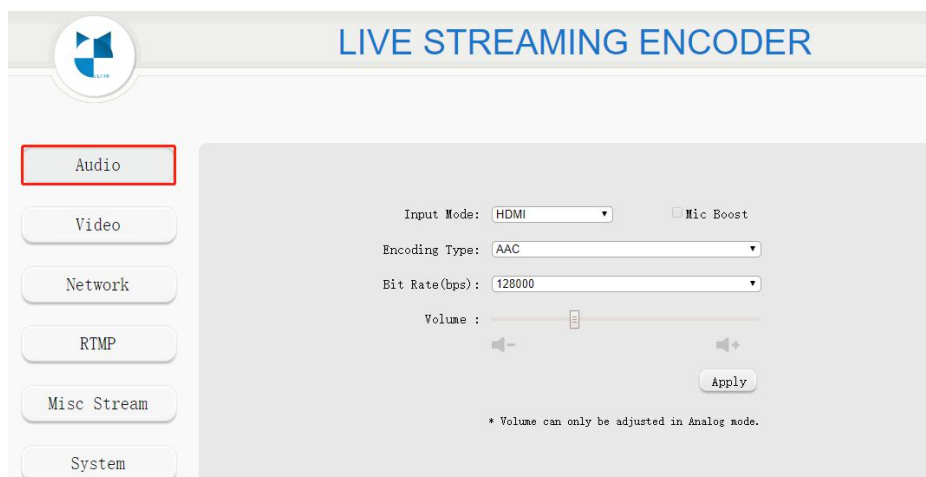
***User name: admin**

***Password: admin**

8.Encoder Configuration

8.1 Audio configuration

Step: Click “Audio” → configure your settings → click “Apply”.



Input Mode: Select either HDMI or Analog audio input mode. Analog input mode supports line in and microphone input. Volume can only be adjusted in Analog mode.

Encoding Type: To set audio coding/ live stream type as AAC or G.711u format. Bit rate can only be adjusted in AAC format, while G711u format only supports default parameter 64000bps which cannot be modified.

(Note: HEV-4K only supports AAC audio encoding type for live stream.)

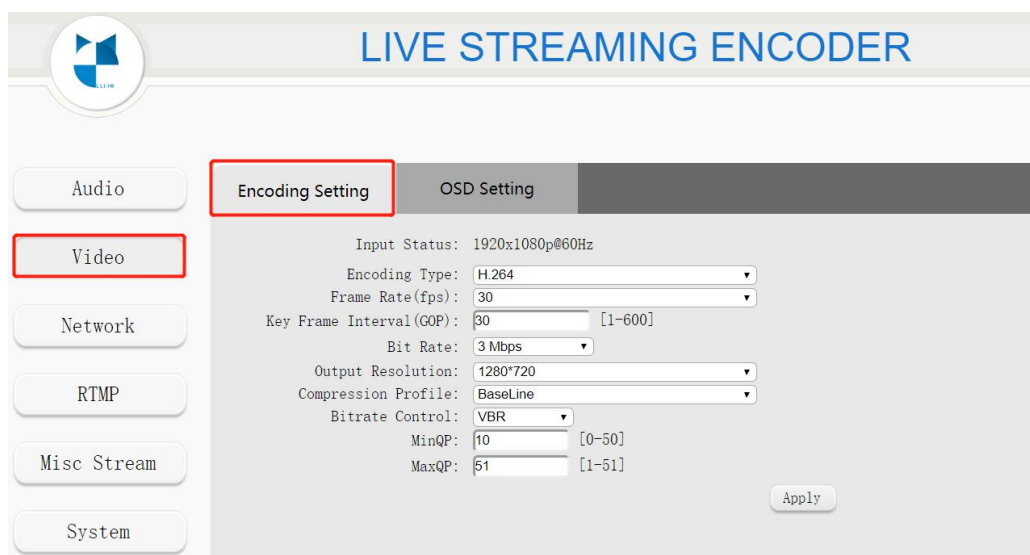
Bit Rate: Allows you to select different bitrates ranging from 32Kbps to 256Kbps according to your practical application.

Mic Boost: When Input Mode is set to Analog and a 3.5mm audio port is connected to the microphone, you can enable Mic Boost to increase the volume of the microphone.

8.2 Video Configuration

8.2.1 Encoding Setting

Step: Click “Video” → configure your settings → click “Apply”.



The screenshot displays the 'LIVE STREAMING ENCODER' web interface. On the left, a vertical sidebar contains navigation buttons: 'Audio', 'Video' (highlighted with a red box), 'Network', 'RTMP', 'Misc Stream', and 'System'. The main content area is titled 'ENCODING SETTING' and is divided into two tabs: 'Encoding Setting' (active) and 'OSD Setting'. The 'Encoding Setting' tab contains the following configuration options:

- Input Status: 1920x1080p@60Hz
- Encoding Type: H.264
- Frame Rate (fps): 30
- Key Frame Interval (GOP): 30 [1-600]
- Bit Rate: 3 Mbps
- Output Resolution: 1280*720
- Compression Profile: BaseLine
- Bitrate Control: VBR
- MinQP: 10 [0-50]
- MaxQP: 51 [1-51]

An 'Apply' button is located at the bottom right of the settings area.

Input Status: Display the resolution, sampling rate and other information of the current HDMI input video in real time.

Encoding Type: Select either H.265 or H.264 compression formats.

Frame Rates: Adjusts the number of frames between full picture refreshes.

Key Frame Interval: It is used to modify the key frame interval. Generally, it is recommended to set the GOP value to twice the FPS value.

Bit Rate: Allows you to select or enter different bit rates from 128kbps to 64Mbps. Lower bitrates require less bandwidth and may allow for a more stable stream while higher bitrates offer better video quality, but require more network bandwidth.

Output Resolution: To set output resolution of video encoding/ live streaming.

Compression Profile: Select the video compression curve mode. There are three types of video compression curves: BaseLine, Main and High.

Bitrate Control: Select the mode to control the bit rate. There are four modes: VBR, CBR, AVBR, and FixQP. When RTMP live streaming is recommended, CBR is recommended.

8.2.2 OSD Configuration

OSD settings provide two Text OSD settings and a Picture OSD setting.

Step: Click "Video" → "OSD Setting" → Configure your settings → Click "Apply".

Text Settings

The screenshot shows the 'LIVE STREAMING ENCODER' interface. On the left is a sidebar with buttons for 'Audio', 'Video', 'Network', 'RTMP', 'Misc Stream', and 'System'. The 'Video' button is highlighted with a red border. The main panel has two tabs: 'Encoding Setting' and 'OSD Setting', with the latter being active and highlighted with a red border. The 'OSD Setting' panel contains two text configuration sections. The first section, 'TEXT1', has a dropdown menu set to 'Disabled', a 'Content' field with 'Title', 'Location X' set to '10', 'Location Y' set to '10', 'Font Size' set to '36', 'Font Color' set to 'orange', and 'Alpha' set to '128'. The second section, 'TEXT2', has a dropdown menu set to 'Disabled', a 'Content' field with 'Subtitle', 'Location X' set to '40', and 'Location Y' set to '220'. An 'Apply' button is located below the first section.

Text: Enabled or disable to show text on your video stream.

Content: Enter your desired title text here [0-80].

Location X: Adjust Left and Right location of the text [0-3840].

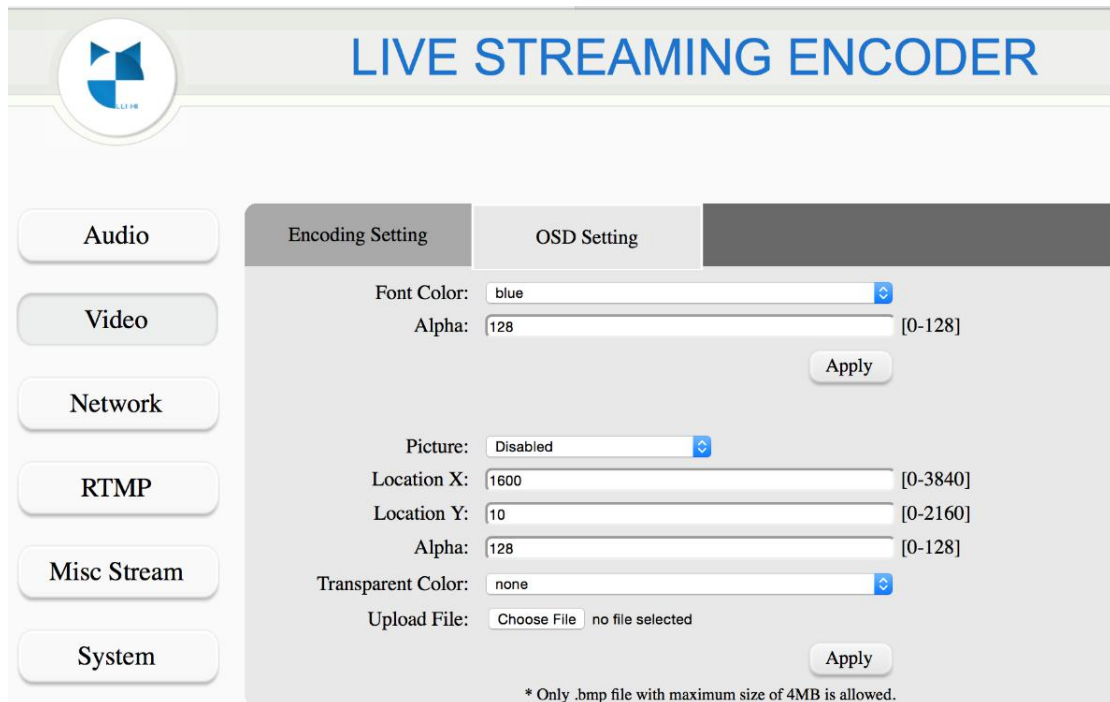
Location Y: Adjust Up and Down location of the text [0-2160].

Font Size: Size of text [8-72].

Font Color: Color of the text.

Alpha: Opacity of the text [0-128].

Picture Settings



Picture: Enabled/ Disabled to show logo on your screen.

Location X: Adjust Left and Right position of the picture [0-3840].

Location Y: Adjust Up and Down position of the picture [0-2160].

Alpha: Opacity of the picture.

Transparent Color: In this section, users can select the corresponding color, once you set a color to be the transparent one, any region of the image in that color will be transparent.

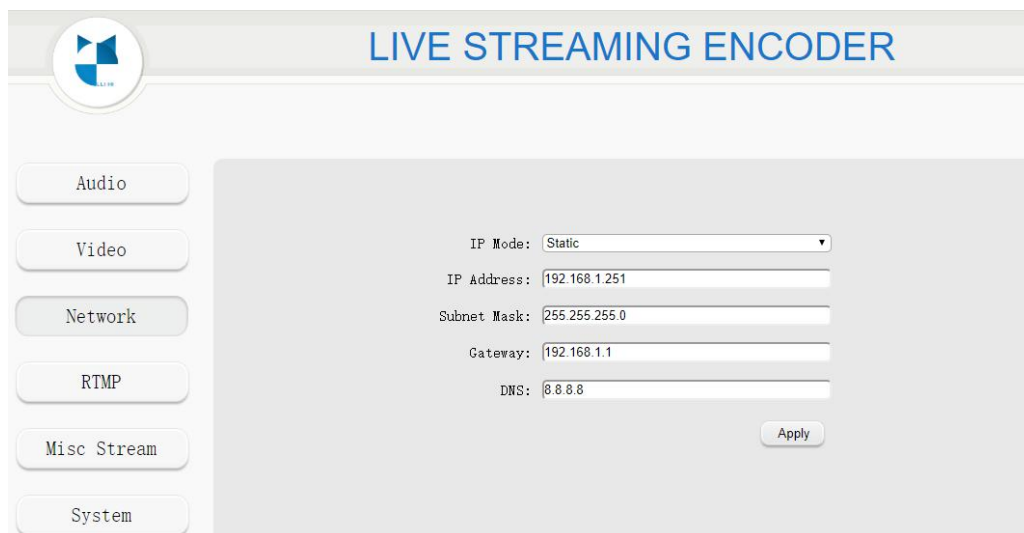
File Upload: Please note that only supports 16-bit, 24-bit and 32-bit BMP file and the size needs to be less than 1M.

8.3 Network Configuration

The HEV-4K supports both “DHCP” and “Static IP”. You can select “Static” for default IP address or select “DHCP” mode according to your practical application.

IP Address Mode:

- **Dynamic (DHCP)** – The connected router generates an IP address for the encoder. If you set it to DHCP, please login to the router to get the IP address that it assigns to the HEV-4K.
- **Static** – Manually enter the IP address value for HEV-4K.
- **DNS:** Domain Name System. When performing RTMP live streaming, filling in the correct DNS can make the live broadcast stable.



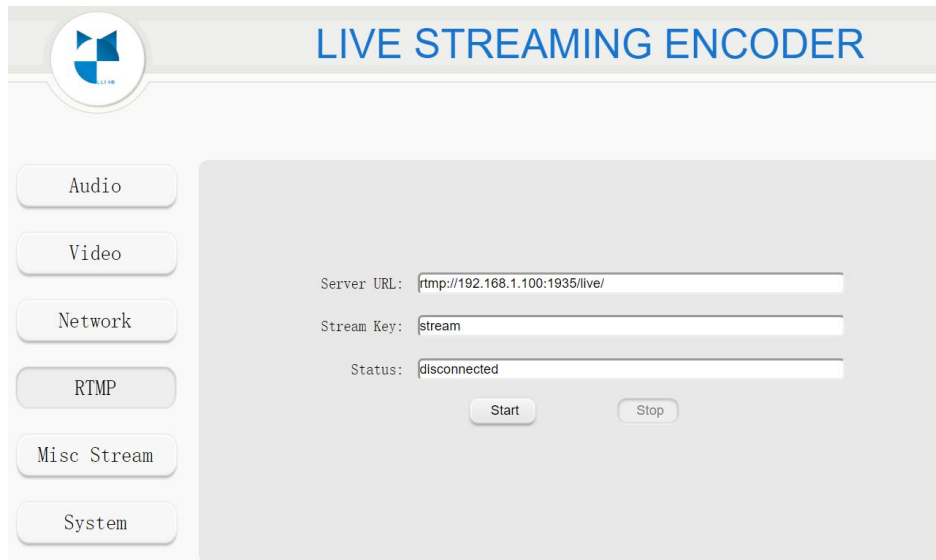
The screenshot displays the 'LIVE STREAMING ENCODER' web interface. On the left side, there is a vertical menu with buttons for 'Audio', 'Video', 'Network', 'RTMP', 'Misc Stream', and 'System'. The 'Network' button is currently selected. The main content area shows the following configuration fields:

IP Mode:	Static
IP Address:	192.168.1.251
Subnet Mask:	255.255.255.0
Gateway:	192.168.1.1
DNS:	8.8.8.8

An 'Apply' button is located at the bottom right of the configuration area.

8.4 RTMP Configuration

Most video streaming media live streaming platforms support RTMP live streaming, please register for an account on the live streaming platform, obtain the Server URL and Stream Key after opening the live broadcast, and fill in the RTMP of the HEV-4K webpage to broadcast the live HEV-4K video to the platform . (Note: H265 encoding mode does not support RTMP live broadcast, please make sure HEV-4K is set to H264 encoding mode)



8.4.1 YouTube Live

Step1: Obtain the RTMP push stream address of the live stream platforms.

1. Log in YouTube Live and click on the image icon in the top right corner (figure1).

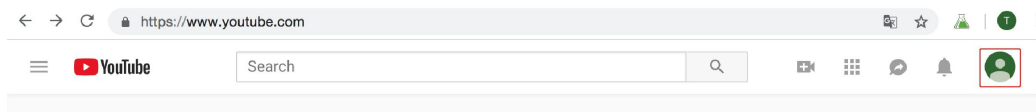


Figure1

2. Select “ENCODER LIVE STREAMING” as the picture shown (figure 2).

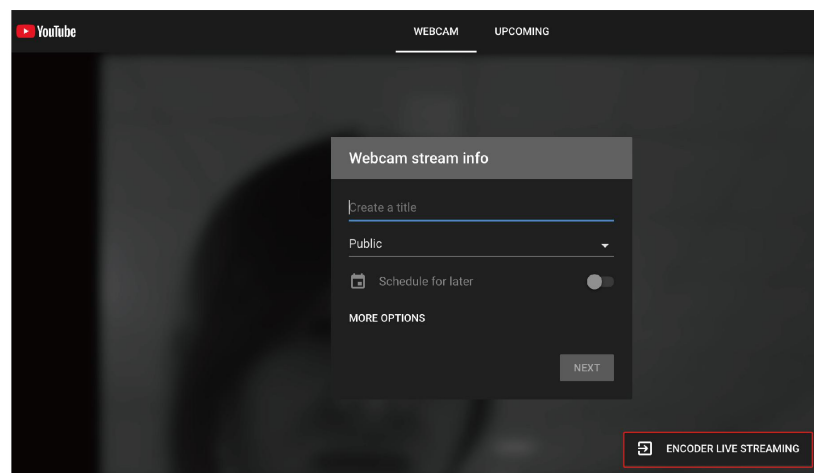


Figure 2

3. Select “Live Streaming” → select “Stream now” (figure 3).

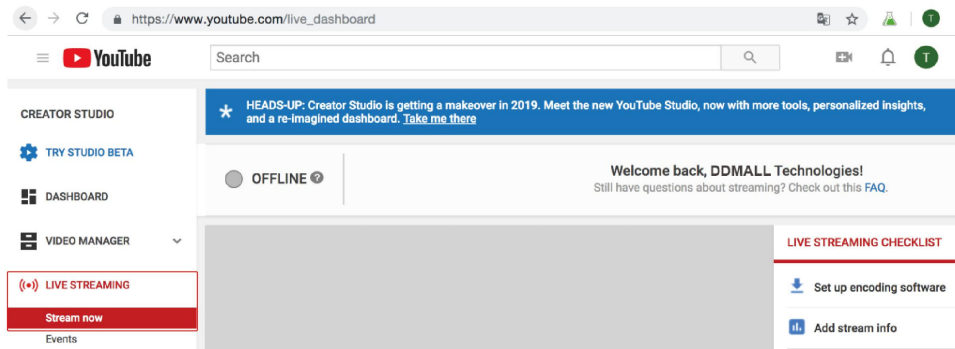


Figure 3

4. Then find “ENCODER SETUP” to get the Server URL and stream name/ key (figure 4).

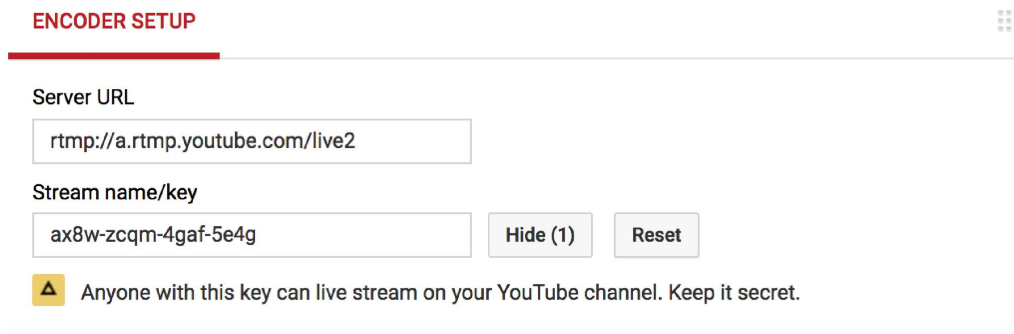


Figure4

Note: you need to click “Reveal” to get the stream name/ key.

Step2: RTMP Setting

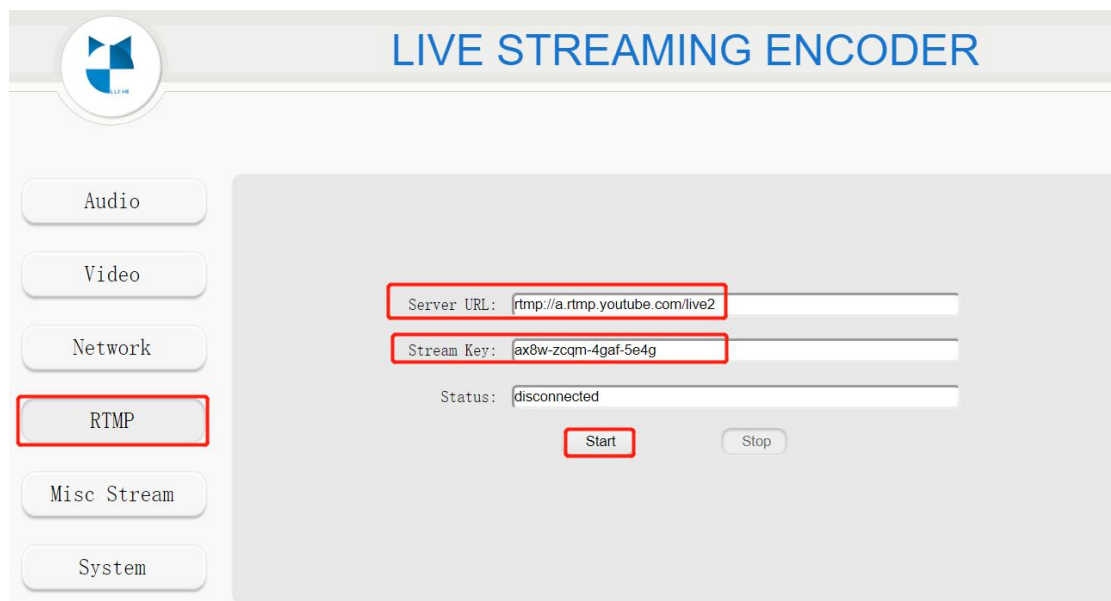
Step: Enter the full RTMP URL and stream name/ key in HEV-4K Encoder RTMP Interface → click “Start” to live. Click the button “Stop” in this page when you need to stop your live stream.

Server URL: To fill in the RTMP stream address of live stream platform. Each live

stream platform has different and unique RTMP push stream address.

Stream Name/Key: To fill the stream name/ key of live stream platform. Please make sure server URL and key/name are correct corresponding to the live stream platform.

Status: Displays the connection status of the device and the live stream platform. Please ensure the status column as “disconnected” so that you can enter the server URL and stream key.



8.4.2 Facebook Live

1. Log in Facebook Live and click on the image icon as the picture shown (Figure 1).



Figure1

2. Click “Live Video” in the pop-up page (Figure 2).

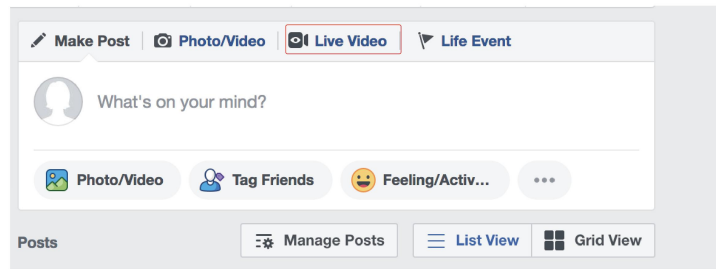


Figure 2

3. Click “Connect” in the popup web page (Figure 3).

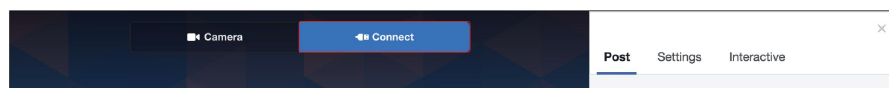


Figure3

4. Click “post” in the popup web page → click “Share in a Group” in the “Choose where to post your live broadcast” dialog box → click “Share on your Timeline”, you will get “Server URL” and “stream name/key” (Figure4).

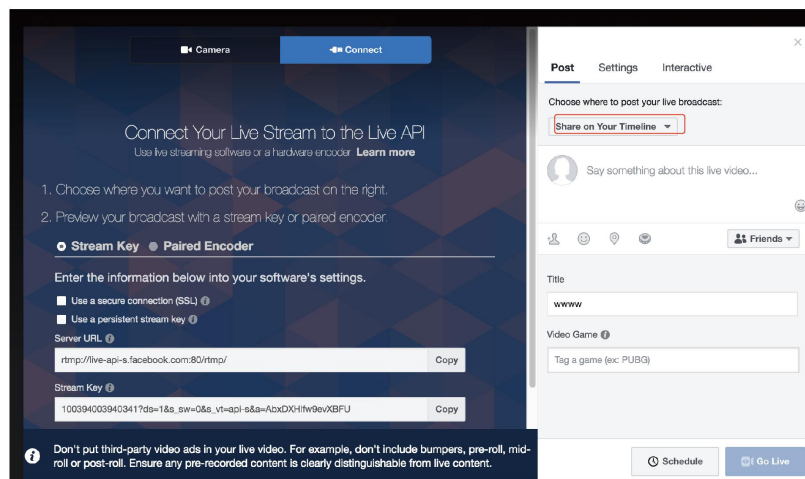


Figure4

5. Enter the full RTMP URL and stream name / key in the HEV-4K encoder RTMP interface → click "start" to push the stream to Facebook. (Figure 5).

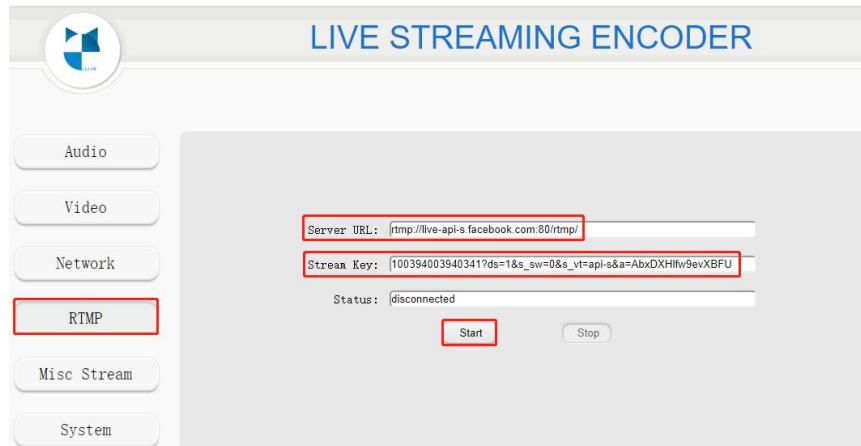
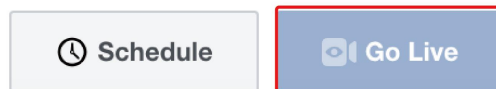


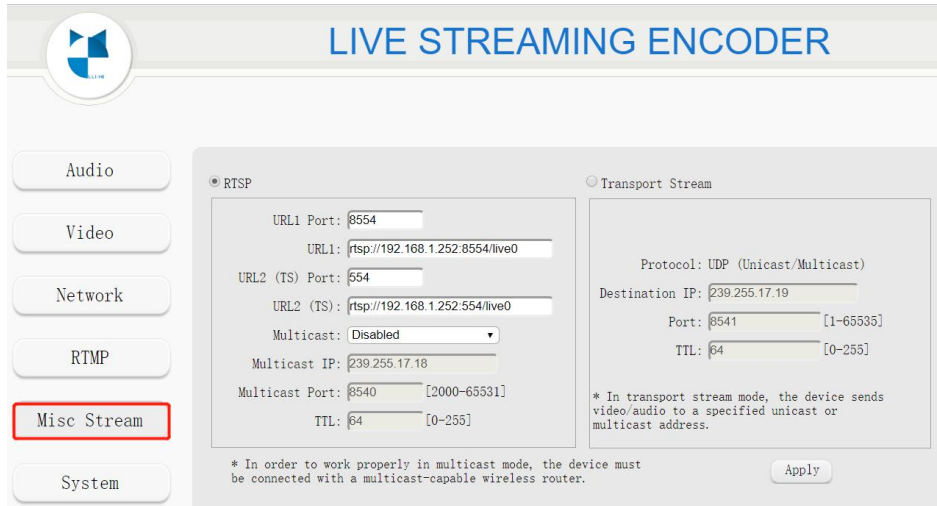
Figure 5

6. Then on the Facebook interface, click Go Live to view the live content.



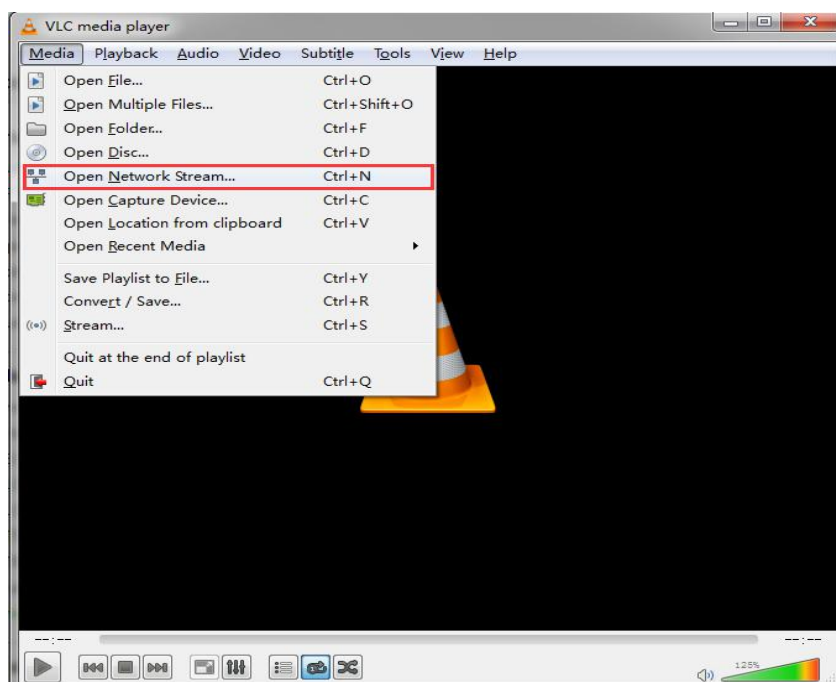
8.5 Misc Stream

Misc Stream provides HEV-4K media stream address information. Decoding terminal equipment or decoding software in the same local area network can play HEV-4K videos through streaming media addresses.

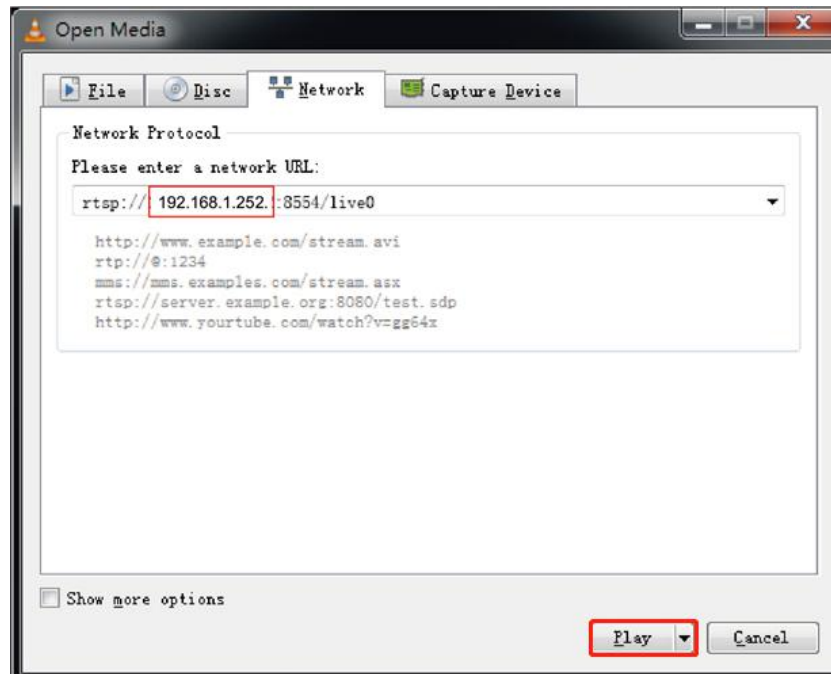


8.5.1 RTSP Unicast

The factory default of the HEV-4K is RTSP unicast mode. Decoding software or equipment in the local area network can directly play the HEV-4K video stream through URL1 or URL2. The URL1 and URL2 ports can be customized. If you need to change, just enter the URL Port value (range 1-65535) and click Apply. After the change is successful, the URL address will be automatically changed accordingly. Generally recommended Use the default 8554 and 554 ports. Take VLC player software as an example to explain how to play the HEV-4K video. Select “Media” at the top left of the VLC software and click “Open network stream”.

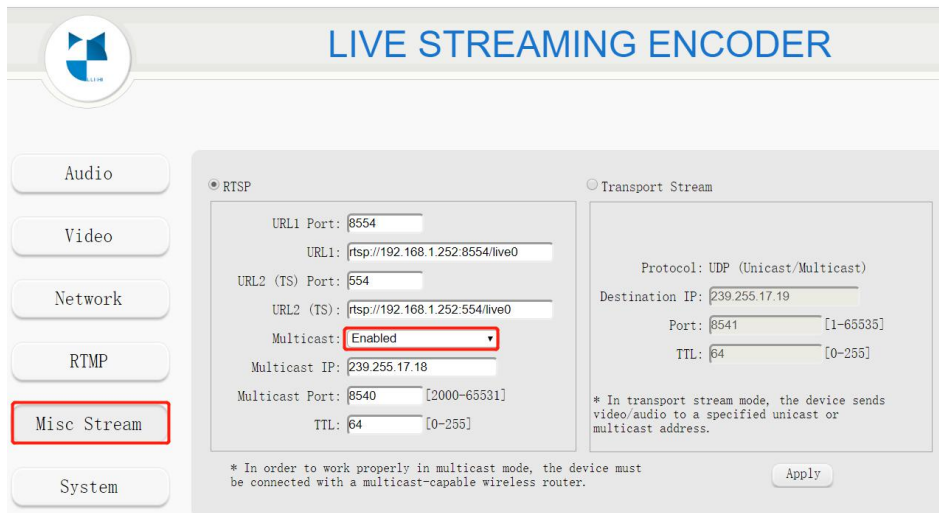


In the pop-up window, select "Network", fill in the URL, and click "Play" to play the video stream. URL fill in URL1 or URL2 in HEV-4K is OK.



8.5.2 RTSP Multicast

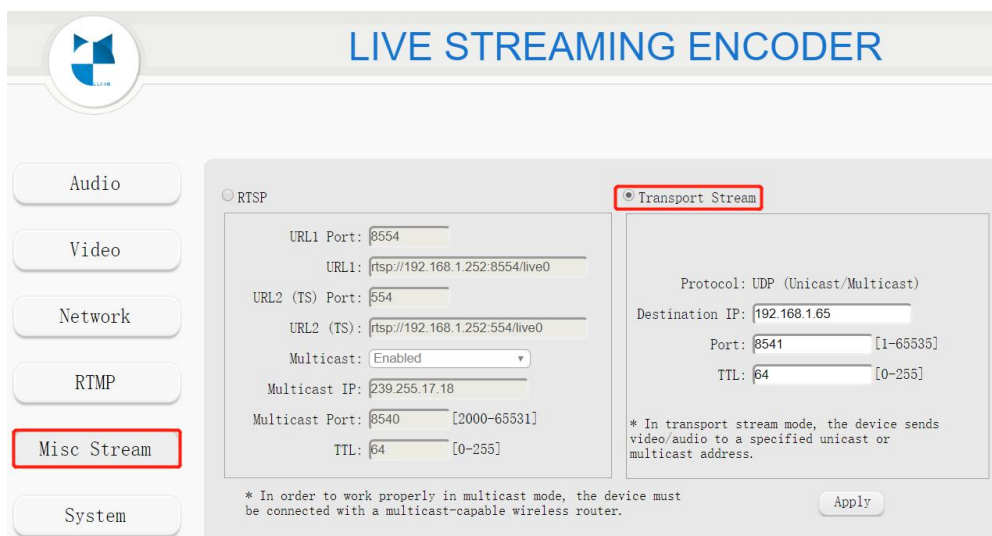
RTSP unicast mode outputs up to 8 video streams, and multiple video streams will share the HEV-4K encoding capability. The multicast mode supports a maximum of 200 video stream outputs, and can maintain each video stream for transmission at a maximum bit rate of 64M. First you need to make sure that the router or switch you use supports the multicast mode. Set "Multicast" to "Enabled" in the HEV-4K webpage, fill in "Multicast IP", the range of Multicast IP is 224.0.0.0 ~ 239.255.255.255, and then Fill in "Multicast Port" and "TTL", and click "Apply".



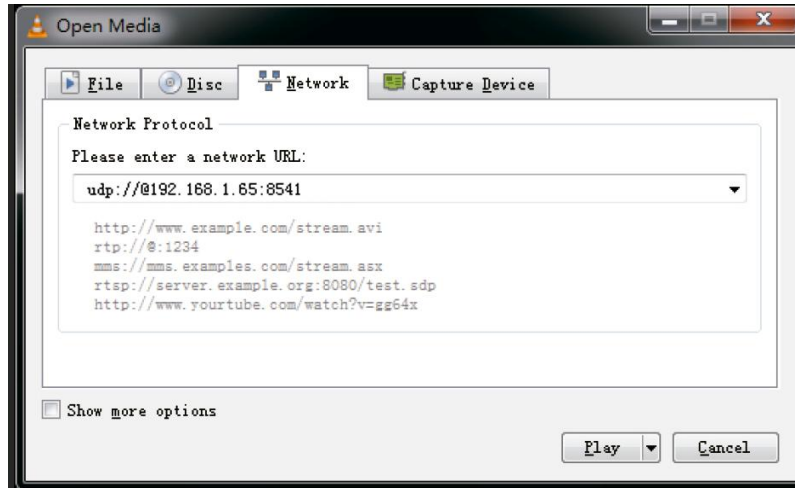
After the setting is successful, multiple devices can use URL1 or URL2 to play the video stream. Note that when multiple devices are playing at the same time, it is best to uniformly select the URL1 or URL2 address for playback, and it is best not to mix the two at the same time.

8.5.3 UDP Unicast

In the webpage, select "Transport Stream", which allows HEV-4K to perform unicast or multicast transmission using the UDP protocol. In the UDP unicast mode, HEV-4K will always push the stream to a client with a specified IP. Except for this client, other clients cannot play the HEV-4K video stream. Enter Destination IP, enter the IP address of the specified client decoding device, and enter Port and TTL to start the UDP unicast mode.

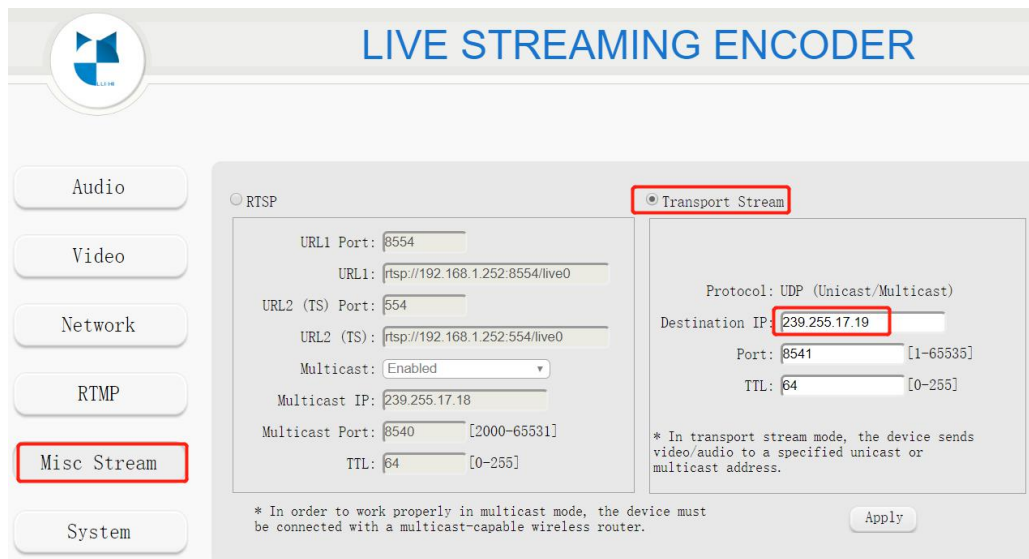


After the setting is successful, the HEV-4K video can only be played on the computer or decoding device with IP address "192.168.1.65", other devices cannot play it. Take VLC player as an example, enter the URL: **udp://@192.168.1.65: 8541**, where 192.168.1.65 is the "Destination IP" filled in the HEV-4K web page, and 8541 is the "Port" filled in the web page.



8.5.4 UDP Multicast

If you need to transmit video streams to multiple client decoding devices using the UDP protocol, you need to use the UDP multicast mode. As shown in Figure, "Destination IP" fills in the multicast address (the range is 224.0.0.0 ~ 239.255.255.255), Fill in "Port" and "TTL", click "Apply".

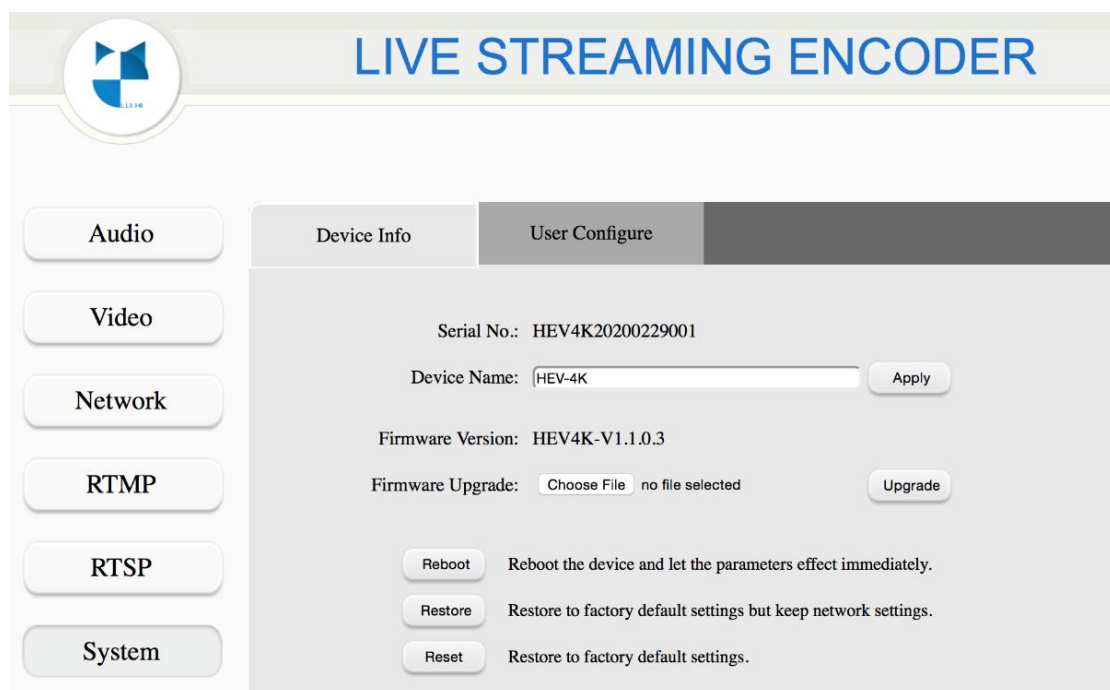


After successful setting, multiple devices can use the URL: **udp://@239.255.17.19:8541** to play the HEV-4K video stream, of which 239.255.17.19 is the "Destination IP" filled in the HEV-4K webpage, 8541 "Port" filled in the HEV-4K website.

8.6 System

8.6.1 Device Information

This interface allows to set your device name, upgrade the latest firmware, factory reset and change password. Find specific instructions below:



The screenshot displays the 'LIVE STREAMING ENCODER' web interface. On the left, there is a vertical menu with buttons for 'Audio', 'Video', 'Network', 'RTMP', 'RTSP', and 'System'. The main content area is titled 'User Configure' and shows the following information and controls:

- Serial No.: HEV4K20200229001
- Device Name:
- Firmware Version: HEV4K-V1.1.0.3
- Firmware Upgrade: no file selected
- Reboot the device and let the parameters effect immediately.
- Restore to factory default settings but keep network settings.
- Restore to factory default settings.

Device Name: Enter your desired name for your device and click "Apply".

Firmware Upgrade: For latest firmware of HEV-4K, please locate at www.ddmalltech.com to get more information about it.

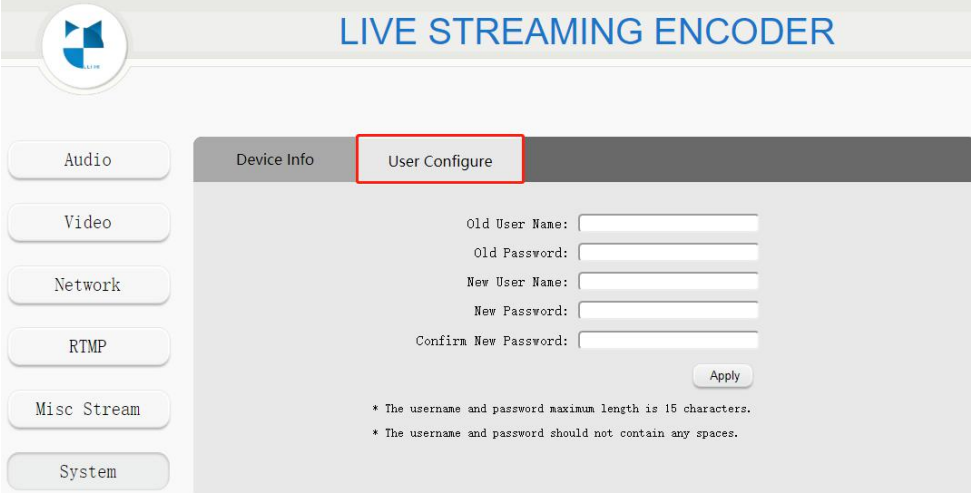
Reboot: Restart the device and let the parameters take effect immediately.

Restore : Restore the factory default settings, but retain the customer's network settings.

Reset: Restore all parameters to factory default settings. The user can also press and hold the button of the HEV-4K device for 5 seconds, until the indicator light flashes alternately, and then release it to complete the factory reset.

8.6.2 Change Password

To change your password from the default value “admin”, enter your desired password in the “New Password” field and Click “Apply”.



The screenshot shows the 'LIVE STREAMING ENCODER' web interface. On the left, there is a vertical menu with buttons for 'Audio', 'Video', 'Network', 'RTMP', 'Misc Stream', and 'System'. The main content area has a dark header with two tabs: 'Device Info' and 'User Configure'. The 'User Configure' tab is active and contains the following fields: 'Old User Name:', 'Old Password:', 'New User Name:', 'New Password:', and 'Confirm New Password:'. Each field has a corresponding input box. Below the fields is an 'Apply' button. At the bottom of the form, there are two asterisked notes: '* The username and password maximum length is 15 characters.' and '* The username and password should not contain any spaces.'

Note: It is important to remember your password after you changed it, if you changed a new one but you forget it, you can hold the reset button about 5 s to restore value to factory settings so you can login to WEB UI by the default one “admin”.

9.Important Notes

A. Whatever you choose “Static IP” or “DHCP” mode, please make sure that HEV-4K, router and your devices are in the same network segment.

B. After setting a new static IP address, it will take effect immediately without restarting. From static IP to "DHCP" IP mode, you need to restart the HEV-4K and enter the router to view the IP address assigned by the router to the HEV-4K.

C. If you have set a new password but you forget it, you can press the button about 5s to restore to factory settings.

D. When using the multicast function, make sure that the connected router supports the multicast function.

F. Lower bitrates require less bandwidth and may allow for a more stable stream while higher bitrates offer better video quality, but require more network bandwidth. So please set the parameters according to your practical network environment.

10.FAQ

1.What is the default IP address of HEV-4K?

The default IP address is 192.168.1.251. If you forgot IP address, you can also press the “Reset” button to the factory default setting.

2.Cannot RTMP live streaming successfully?

Check whether the RTMP streaming address and key of the live broadcast platform are correct.

3.Can the HEV-4K be powered directly from the HDMI sources?

HEV-4K has been built in advanced low-power features so it can be directly powered from most HDMI source such as PC, Media Player, etc. While for some devices with low-power HDMI port, please use the included USB cable to power on HEV-4K.

4.How can I get information about the latest firmware?

For the latest firmware of HEV-4K, please login to forum.ddmalltech.com to get more information about it. It is also recommended for you to leave your contact message at register.ddmalltech.com so we can inform you in time as long as there is any new update of the HEV-4K.