AVMATRIX SE1217 HDMI Streaming Encoder User Manual

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AVMATRIX SE1217 HDMI Streaming Encoder

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Product Information

Brief Introduction

The HDMI Streaming Encoder (SE1217) is a HD audio and video encoder that can encode and compress HDMI video and audio sources into an IP stream. It can then transmit the stream to a streaming media server via a network IP address for live broadcasting on platforms like Facebook, YouTube, Ustream, Twitch, Wowza, etc.

Overview

The SE1217 is designed to provide high-quality audio and video streaming capabilities. It supports various network protocols for easy configuration and management. With its compact design and multiple interfaces, it offers flexibility in connecting to different devices.

Main Features

- HD audio and video encoding
- HDMI input with loop-out
- LAN port for streaming
- LED indicator and reset button
- Support for multiple network protocols
- Web configuration and remote upgrade

USING THE UNIT SAFELY

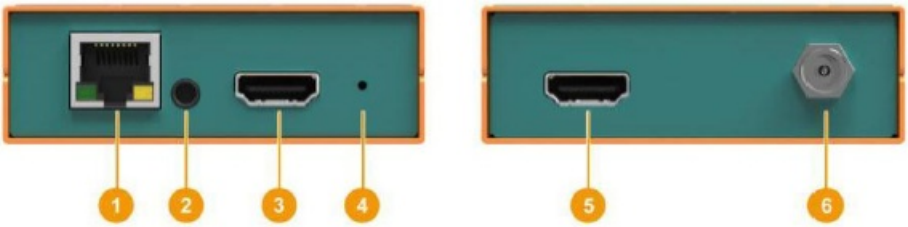
Before using this unit, please read below warnings and precautions which provide important information concerning the proper operation of the unit. Besides, to ensure that you have gained a good grasp of every feature of your new unit, read the below manual. This manual should be saved and kept on hand for further convenient reference.

Warning and Cautions

- To avoid falling or damage, please do not place this unit on an unstable cart, stand, or table.
- Operate the unit only on the specified supply voltage.
- Disconnect the power cord by connector only. Do not pull on the cable portion.
- Do not place or drop heavy or sharp-edged objects on the power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check the power cord for excessive wear or damage to avoid possible fire / electrical hazards.
- Ensure the unit is always properly grounded to prevent electrical shock hazards.
- Do not operate the unit in hazardous or potentially explosive atmospheres. Doing so could result in fire, explosion, or other dangerous results.
- Do not use this unit in or near water.
- Do not allow liquids, metal pieces, or other foreign materials to enter the unit.
- Handle with care to avoid shocks in transit. Shocks may cause malfunction. When you need to transport the unit, use the original packing materials, or alternate adequate packing.
- Do not remove covers, panels, casing, or access circuitry with power applied to the unit Turn the power off and disconnect the power cord before removal. Internal servicing/adjustment of units should only be performed by qualified personnel.
- Turn off the unit if an abnormality or malfunction occurs. Disconnect everything before moving the unit.

Note: due to constant efforts to improve products and product features, specifications may change without notice.

Interfaces



1. LAN Port for Streaming
2. AUDIO Input
3. HDMI Input
4. LED Indicator/RESET hole (Long press 5s)
5. DC 12V In
6. HDMI Loopout

SPECIFICATIONS

CONNECTIONS	
Video	Input: HDMI Type A ×1; Loop Out: HDMI Type A ×1
Analog Audio	3.5mm line in ×1
Network	RJ-45×1(100/1000Mbps self-adaptive Ethernet)
STANDARDS	
HDMI In Format Support	1080p 60/59.94/50/30/29.97/25/24/23.98/23.976, 1080i 50/59.94/60, 720p 60/59.94/50/30/29.97/25/24/23.98, 576i 50, 576p 50, 480p 59.94/60, 480i 59.94/60
Video Coding	Stream encode protocol
Video Bitrate	16Kbps ~ 12Mbps
Audio Coding	ACC/ MP3/ MP2/ G711
Audio Bitrate	24Kbps ~ 320Kbps
Encoding Resolution	1920×1080, 1680×1056, 1280×720, 1024×576, 960×540, 850×480, 720×576, 720×540, 720×480, 720×404, 720×400, 704×576, 640×480, 640×360
Encoding Frame Rate	5-60fps
SYSTEMS	
Network Protocols	HTTP, RTSP, RTMP, RTP, UDP, Multicast, Unicast, SRT
Configuration Management	Web configuration, Remote upgrade
OTHERS	
Consumption	5W
Temperature	Working temp: -10℃~60℃, Storage temp: -20℃~70℃
Dimension (LWD)	104×75.5×24.5mm
Weight	Net weight: 310g, Gross weight: 690g
Accessories	12V 2A power supply; Mounting bracket for optional

OPERATIONS GUIDE

Network Configuration and Login

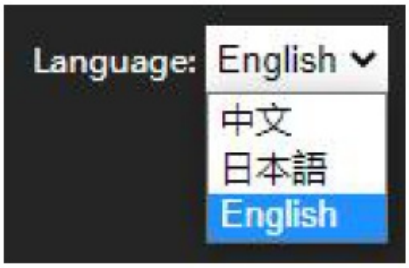
Connect the encoder to the network via a network cable. The default IP address of the encoder is 192.168.1.168. The encoder can auto-obtain a new IP address when it is using DHCP on the network, Or disable DHCP and configure the encoder and computer’s network in the same network segment. The default IP address as below.

- **IP Address:** 192.168.1.168
- **Subnet Mask:** 255.255.255.0
- **Default Gateway:** 192.168.1.1

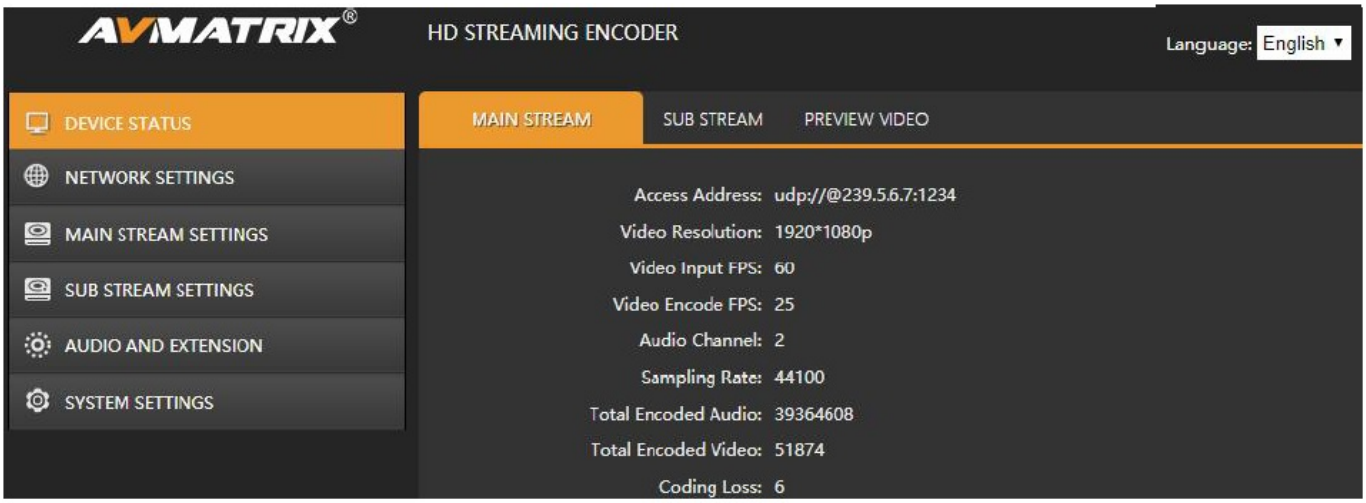
Visit the encoder's IP address 192.168.1.168 through an Internet browser to log in to the WEB page for setting up. The default Username is admin, and password is admin.

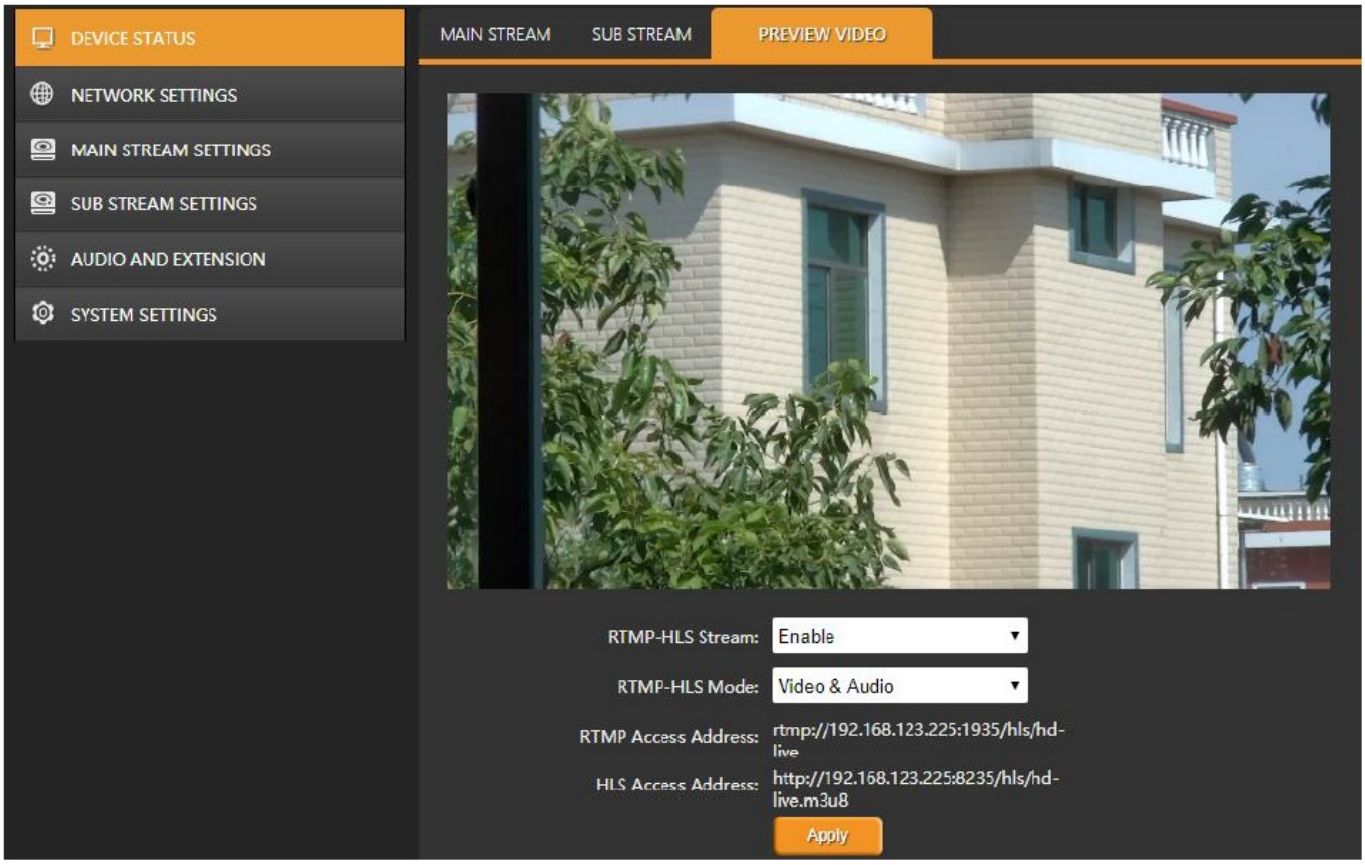
Management Web Page
The encoding settings can be set on the encoder management web page.

Language Settings
There are languages of Chinese, Japanese, and English options on the top-right corner of the encoder management web page.



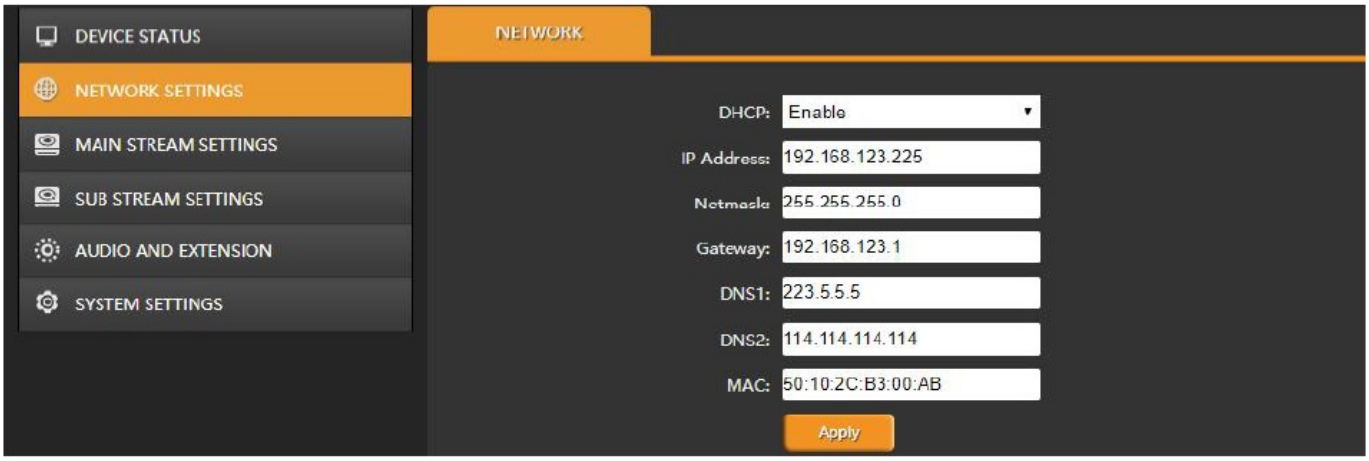
Device Status
The status of MAIN STREAM and SUB STREAM can be checked on the web page. And we also can have a preview on the streaming video from PREVIEW VIDEO.





Network Settings

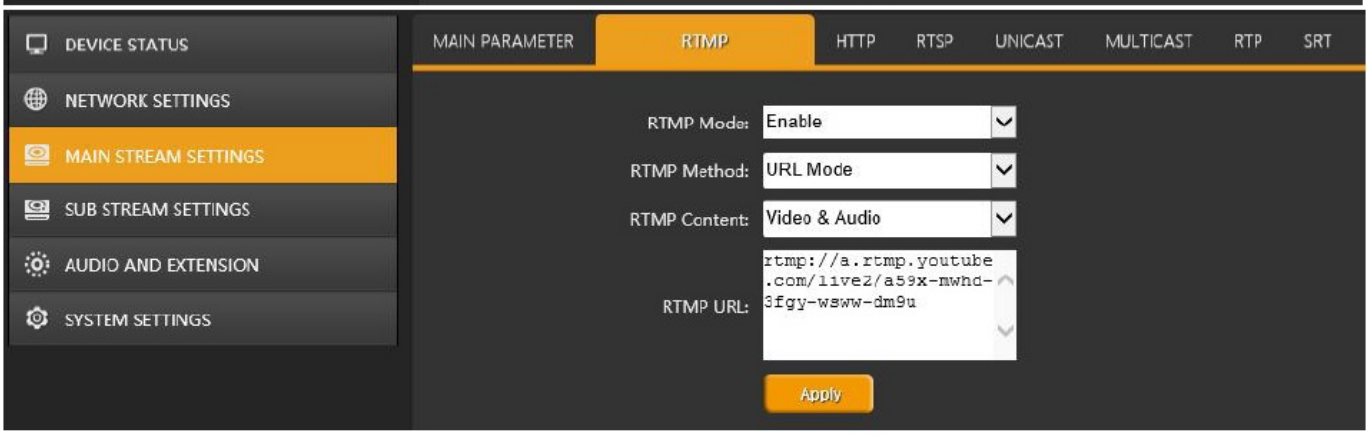
The network can be set to dynamic IP (DHCP Enable) or static IP (DHCP Disable). The default IP information can be checked in Part 3.1.



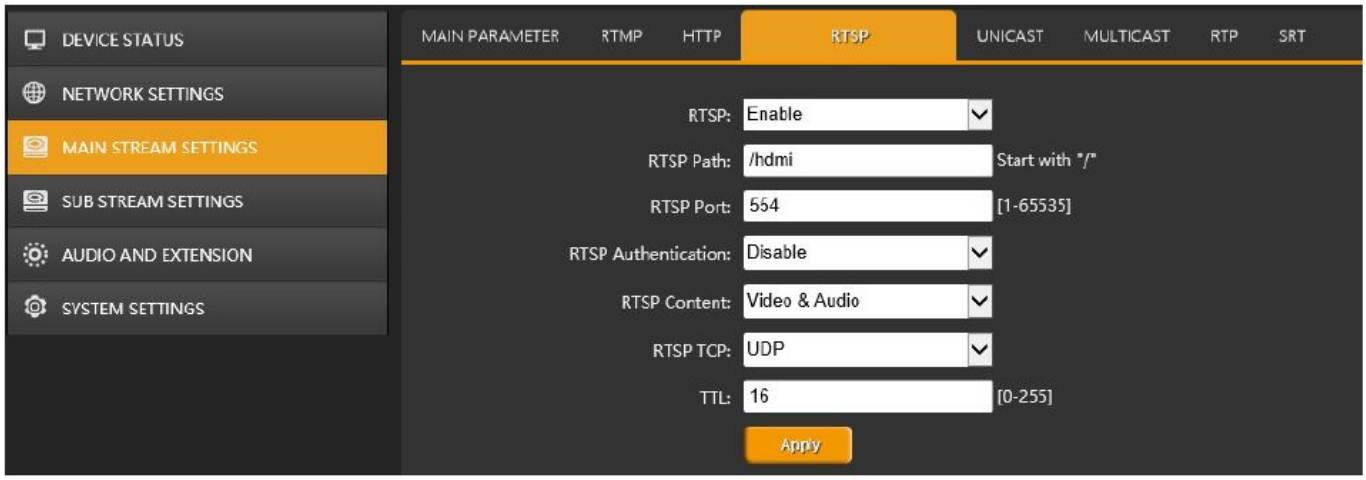
Main Stream Settings

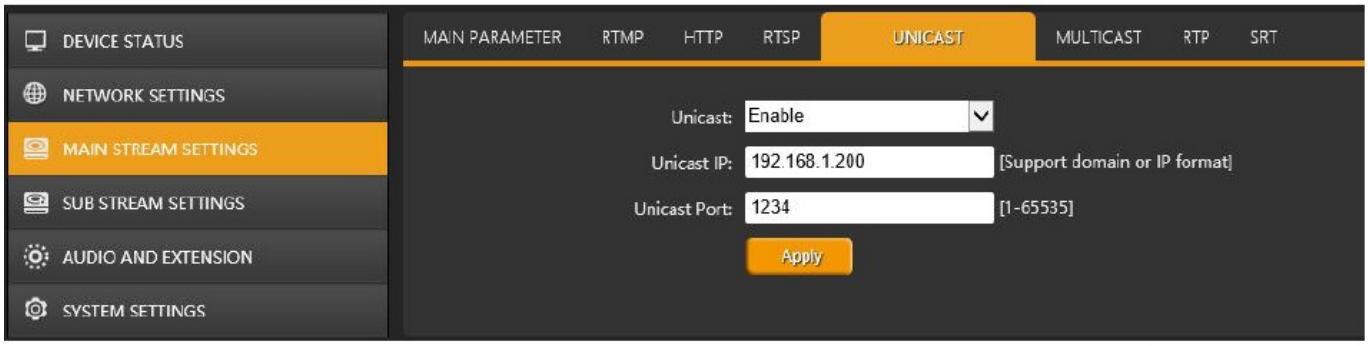
The mainstream can be set to mirror image and upside-down image from the MAIN PARAMETER tab. Configure main stream network protocol RTMP/ HTTP/ RTSP/UNICAST /MULTICAST/ RTP/ SRT accordingly. Please note that only one HTTP/RTSP/ UNICAST /MULTICAST/ RTP can be enabled at the same time.

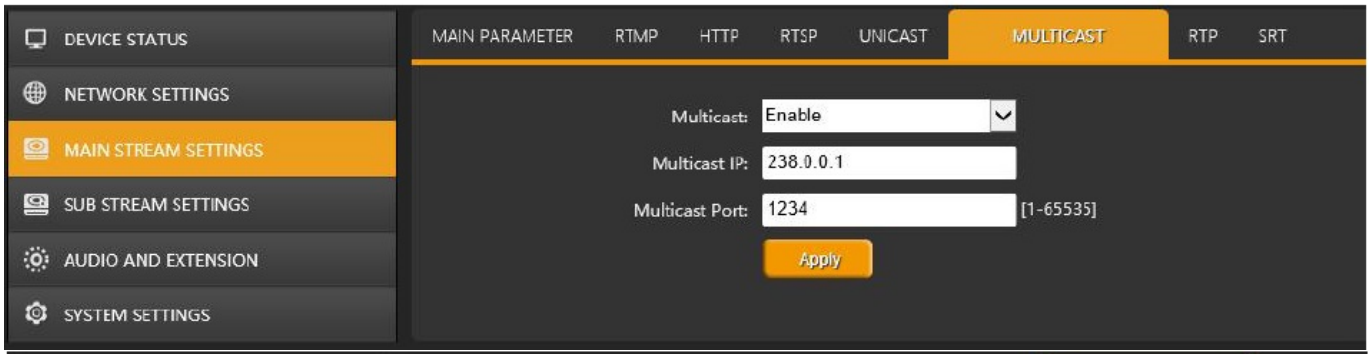

DEVICE STATUS
NETWORK SETTINGS
MAIN STREAM SETTINGS
SUB STREAM SETTINGS
AUDIO AND EXTENSION
SYSTEM SETTINGS
MAIN PARAMETER
RTMP
HTTP
RTSP
UNICAST
MULTICAST
RTP
SRT
Stream Protocol: H.264
Mirror Image: Enable
Upside-down Image: Enable
Aspect Ration: Auto
Bitrate Control: VBR
Keyframe Interval: 30 [5-200]
Encode Resolution: Auto
H.264 Profile: Main profile
Encoding Frame Rate: 25 [5-60]
MinQp: 5 [1-51]
MaxQp: 32 [MinQp-51]
MaxBitrate: 3200 [16-12000]
Package: FFmpeg
Buffer Mode: 188x7
Apply

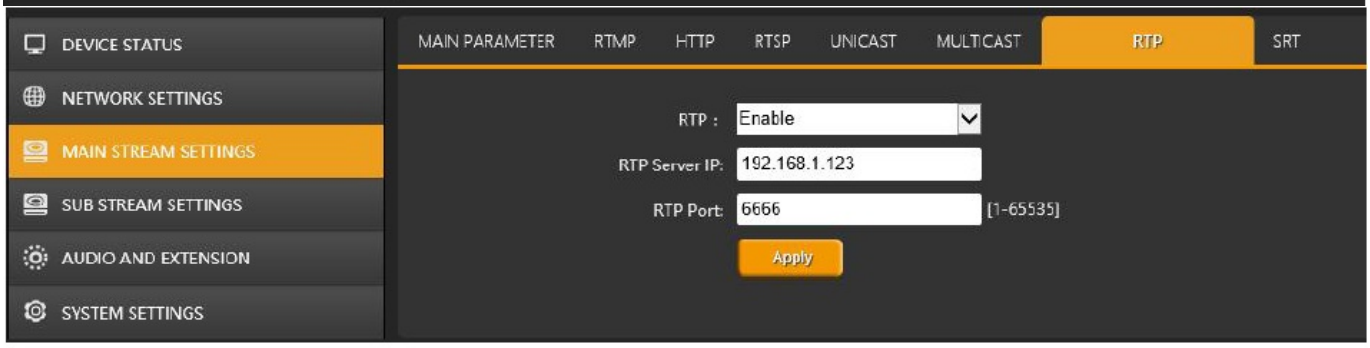

DEVICE STATUS
NETWORK SETTINGS
MAIN STREAM SETTINGS
SUB STREAM SETTINGS
AUDIO AND EXTENSION
SYSTEM SETTINGS
MAIN PARAMETER
RTMP
HTTP
RTSP
UNICAST
MULTICAST
RTP
SRT
RTMP Mode: Enable
RTMP Method: URL Mode
RTMP Content: Video & Audio
RTMP URL: rtmp://a.rtmp.youtube.com/live2/a59x-mwhd-3fgy-wsww-dm9u
Apply

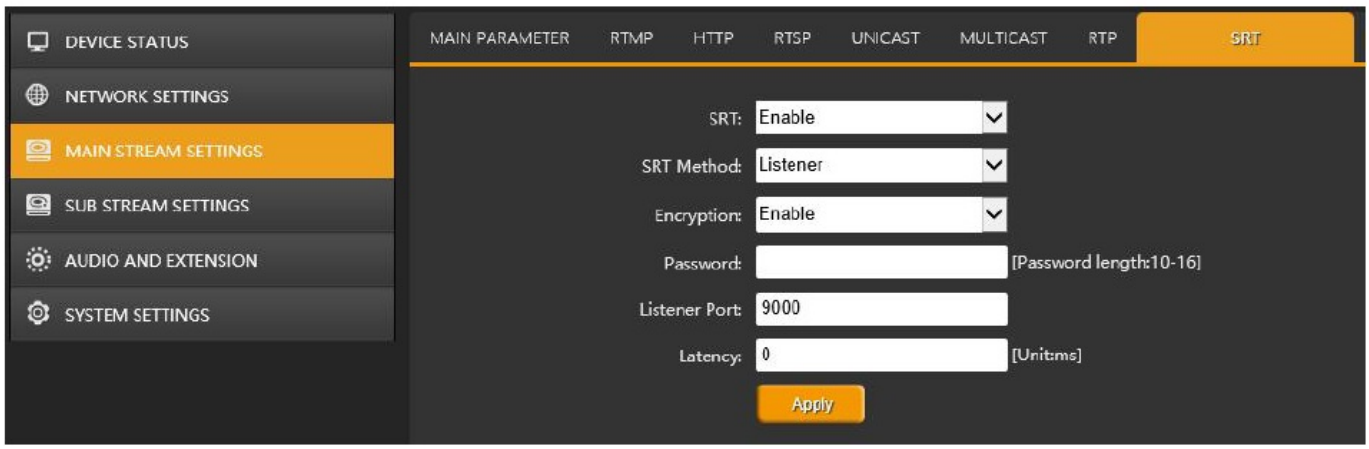

DEVICE STATUS
NETWORK SETTINGS
MAIN STREAM SETTINGS
SUB STREAM SETTINGS
AUDIO AND EXTENSION
SYSTEM SETTINGS
MAIN PARAMETER
RTMP
HTTP
RTSP
UNICAST
MULTICAST
RTP
SRT
HTTP: Enable
HTTP Path: /hdmi Start with "/"
HTTP Port: 80 [1-65535]
Apply





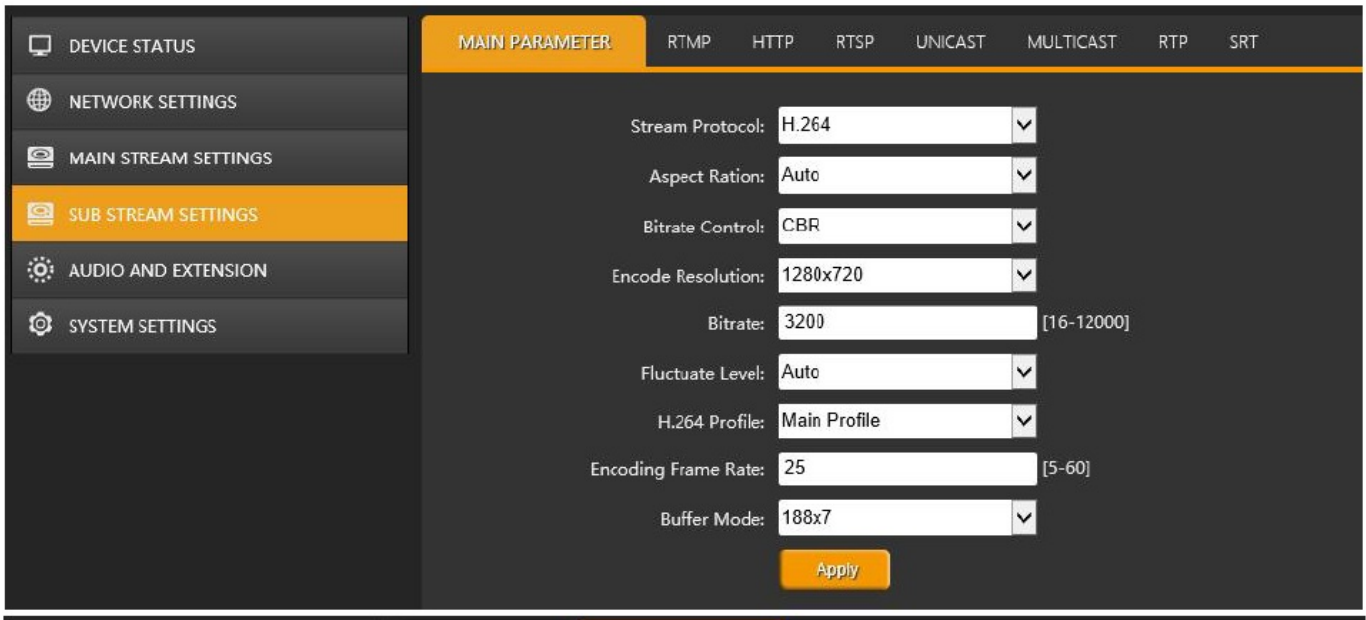


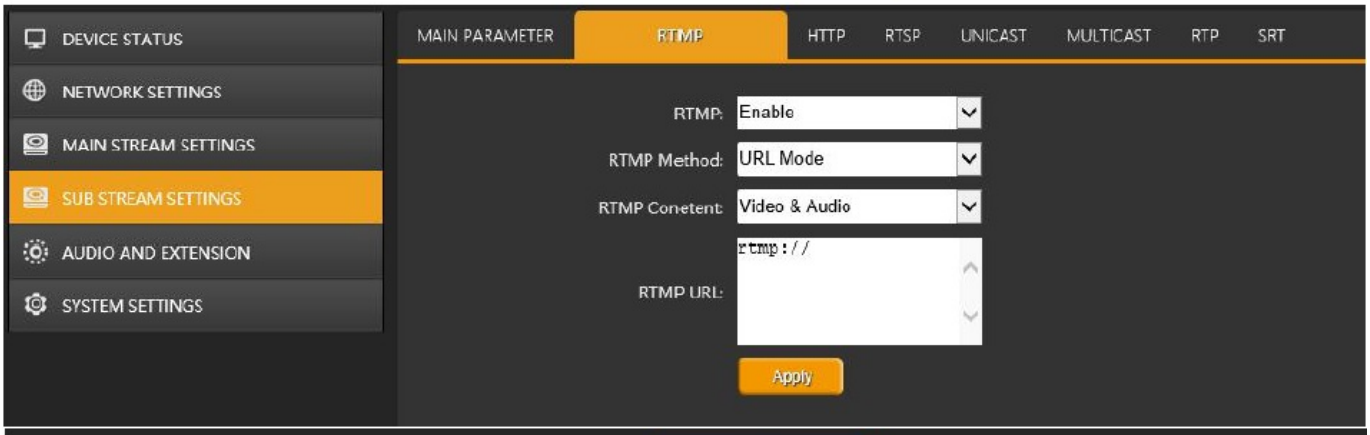


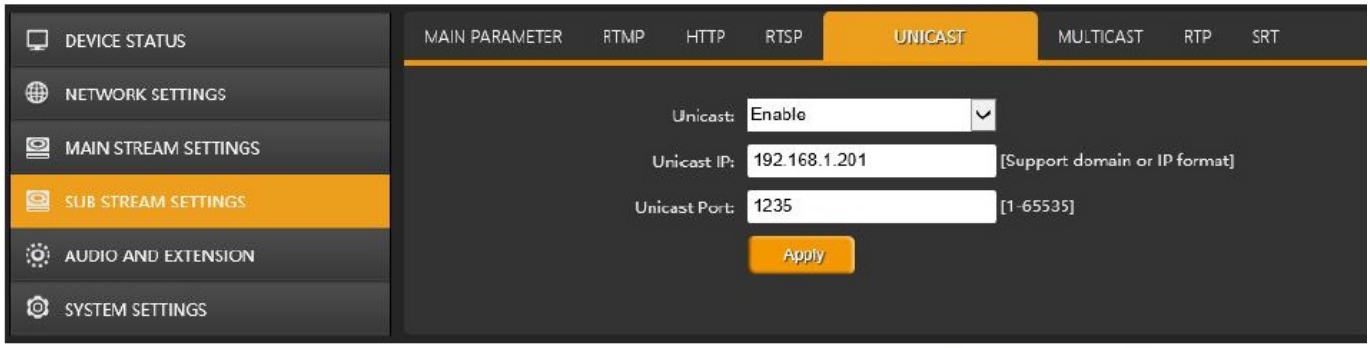


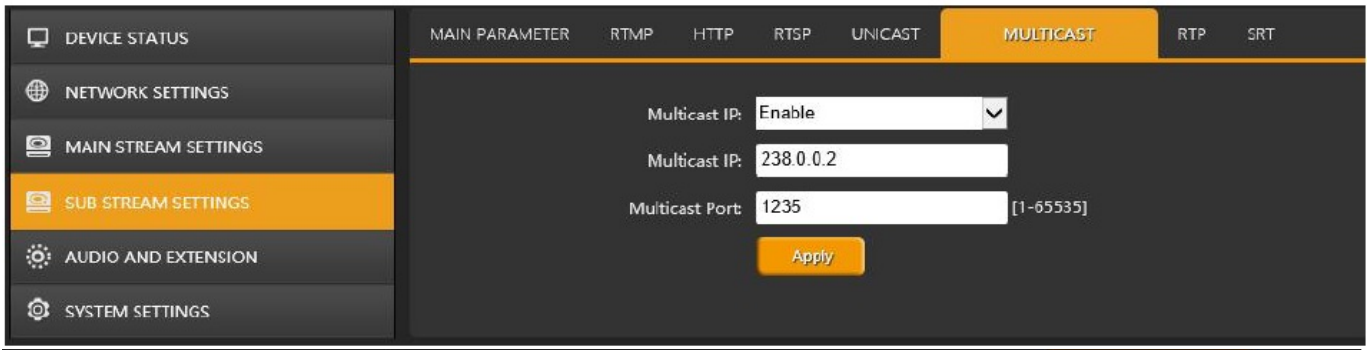
Sub Stream Settings

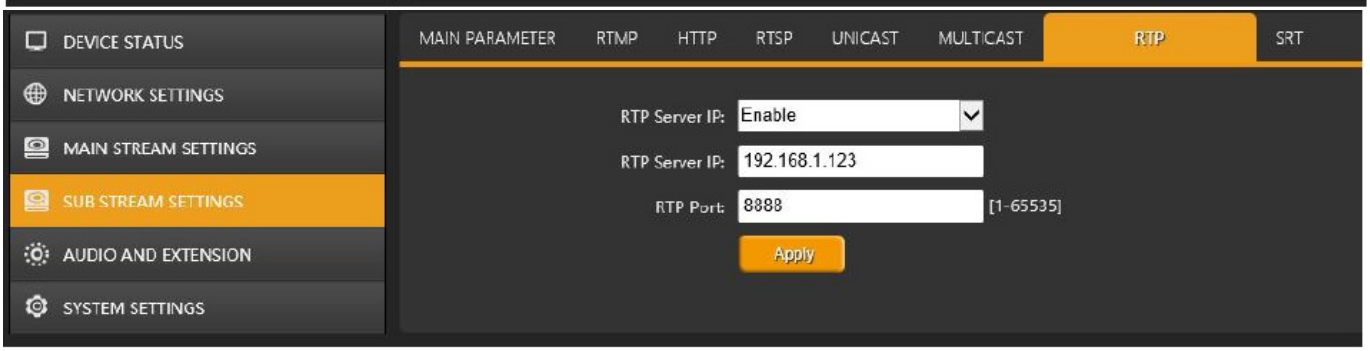
Configure substream network protocol RTMP/ HTTP/ RTSP/ UNICAST/ MULTICAST/RTP/ SRT accordingly. Please note that only one of HTTP/ RTSP/ UNICAST/MULTICAST/ RTP can be enabled at the same time.

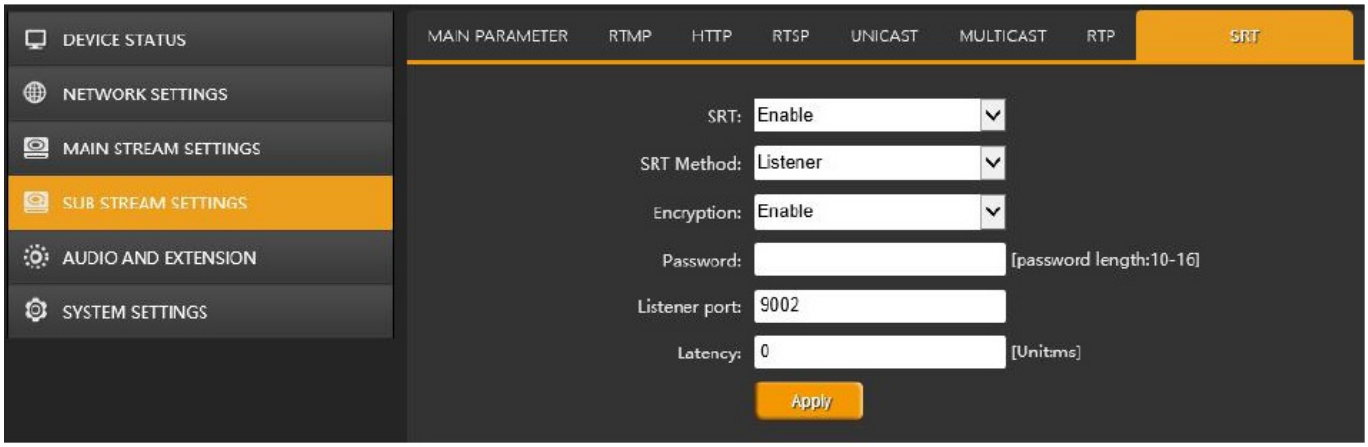








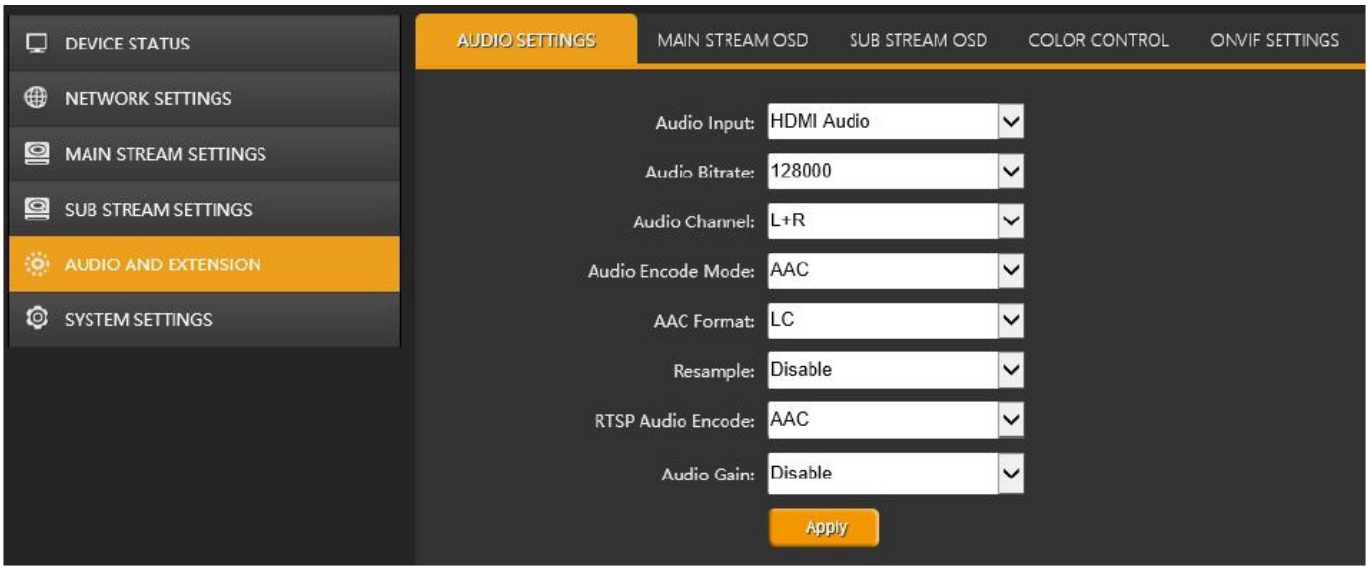




Audio and Extension

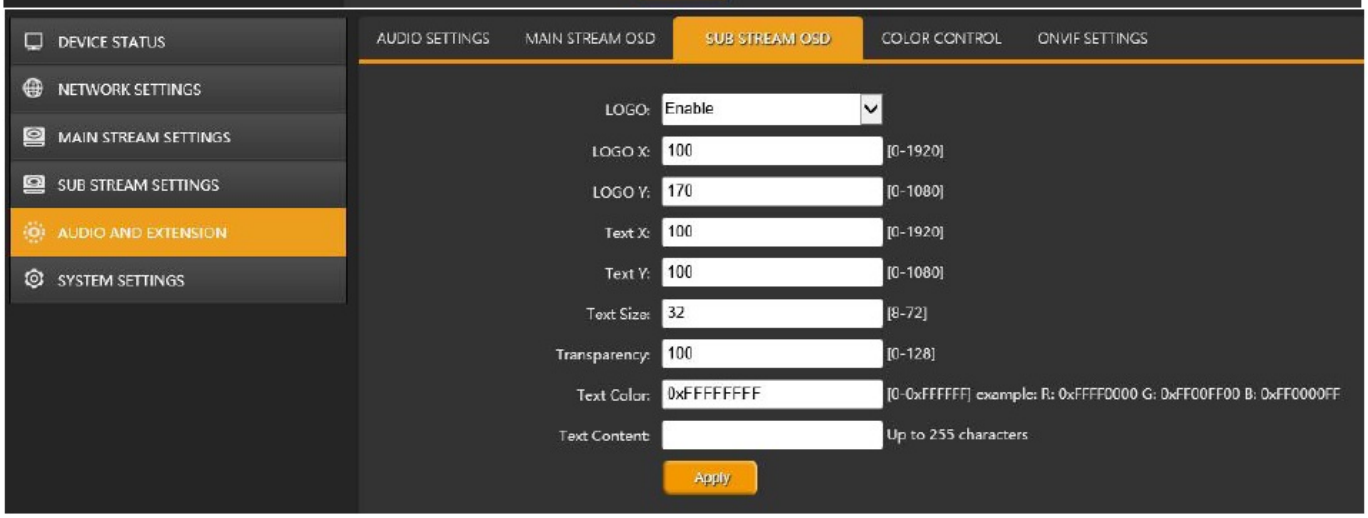
Audio Settings

The encoder supports audio embedding from external analog input. Therefore, the audio can be from HDMI-embedded audio or analog Line in audio. Besides, Audio Encode Mode can be ACC/ MP3/ MP2.



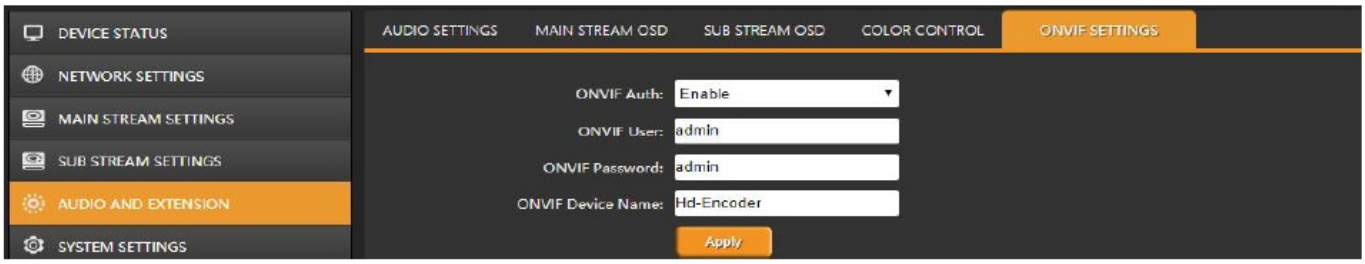
OSD Overlay

- The encoder can insert the logo and text to the Main Stream / Sub Stream video at the same time. The logo file should be named logo.bmp and resolution below 1920×1080 as well as less than 1MB. Text content overlay support up to 255
- characters. The size and color of the text can be set on the web page. And user also can set the position and transparency of the logo and text overlay.

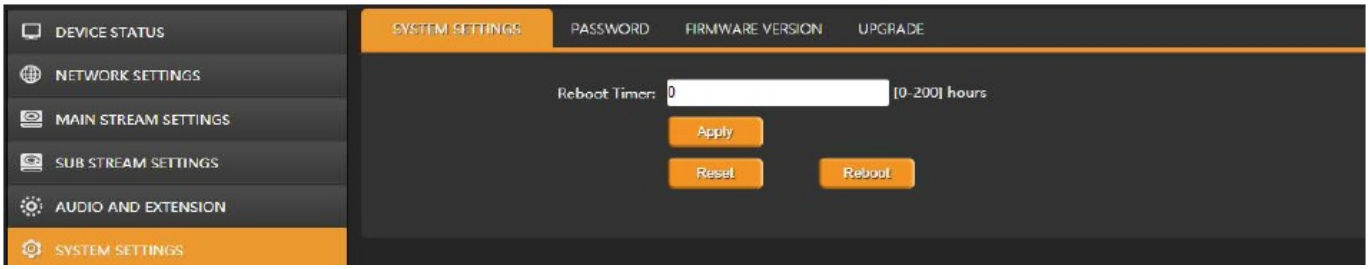


Color Control
User can adjust the brightness, contrast, hue, saturation of streaming video through the web page.

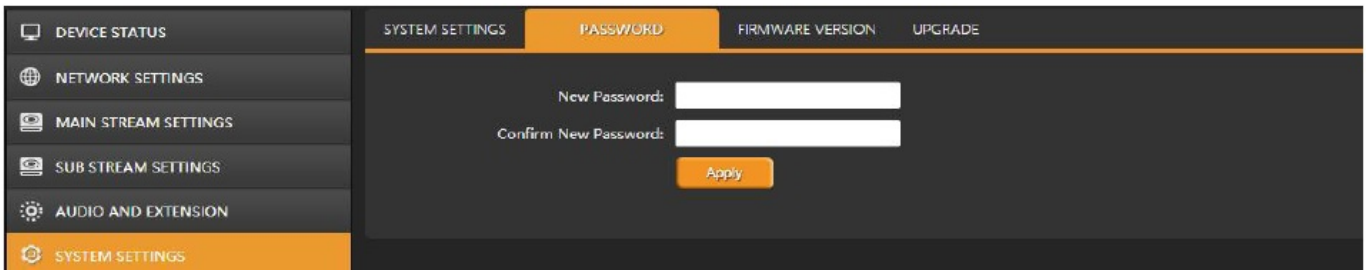
ONVIF Settings
The settings of ONVIF as below:



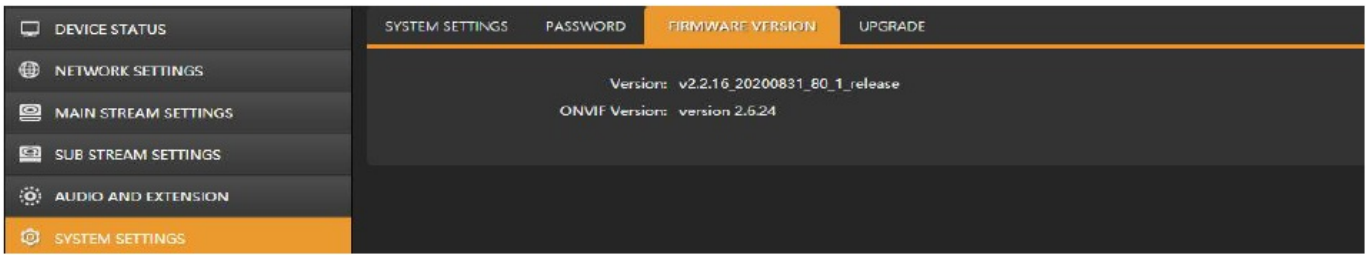
System Settings
Users can set the encoder to reboot after 0-200 hours for some applications.



The default password is admin. Users can set new passwords through below web page.



The firmware version information can be checked on the web page as below.

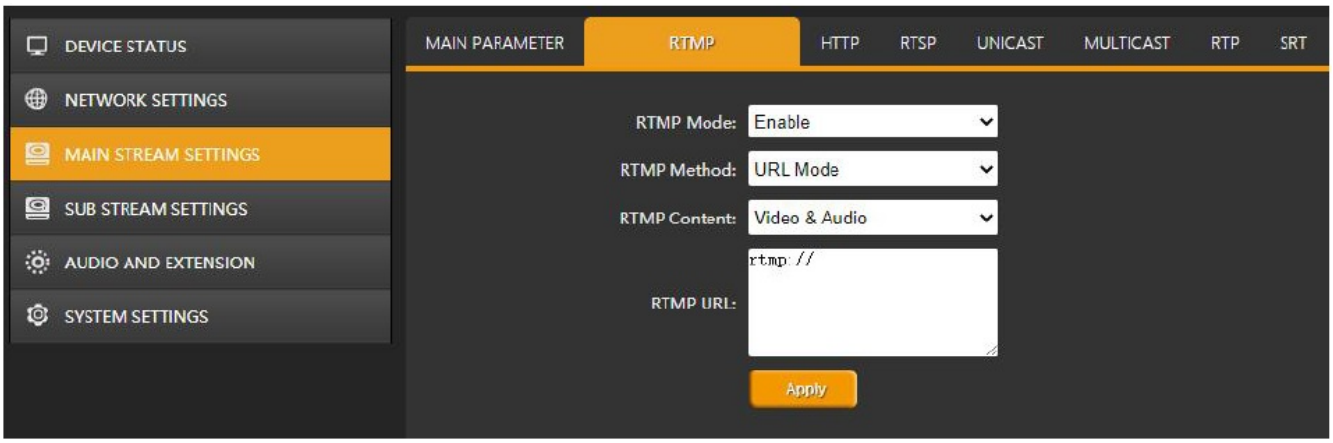


Upgrade new firmware through the web page as below. Please note that don't turn off the power and refresh web page when upgrading.

LIVE STREAM CONFIGURATION

Configure the encoder to live stream on platforms like YouTube, Facebook, twitch, Periscope, etc. Following is an example to show how to configure the encoder to live stream on YouTube.

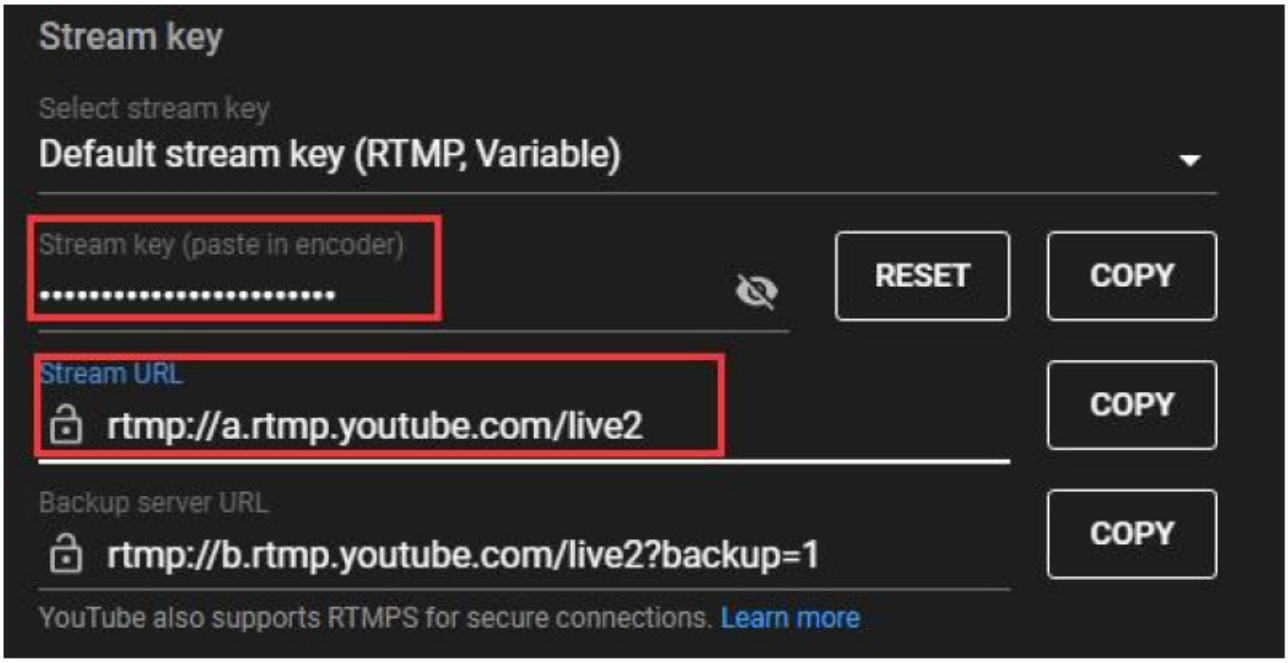
- **Step 1.** Set the main parameters of Stream Protocol to the H.264 mode, and other options are recommended to be the default configuration. On some occasions, they can be adjusted according to the actual situation. For example, if the network speed is slow, the Bitrate Control can be switched from CBR to VBR and adjust the Bitrate from 16 to 12000.
- **Step 2.** Setting the RTMP options as follows image:
-



Step 3. Enter the stream URL and stream key in the RTMP URL, and connect them with"/".

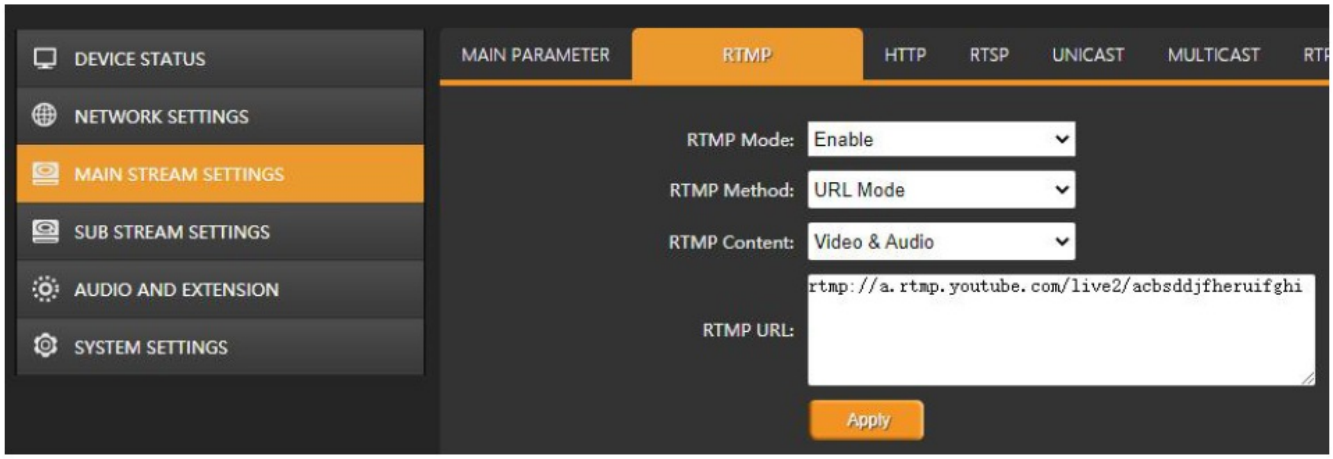
For example, the stream URL is "**rtmp://a.rtmp.youtube.com/live2**".

The Stream key is "acbsddjfheruifghi".



Then the RTMP URL will be “Stream URL”+ “/” + “Stream Key”:

“rtmp://a.rtmp.youtube.com/live2/acbsddjfheruifghi”. See below image.



- **Step 4.** Click“Apply” to live stream on YouTube.

FAQ

Frequently Asked Questions (FAQ)

- **Q: Can the encoder support multiple network protocols simultaneously?**
- A: No, the encoder can only enable one network protocol at a time for both the mainstream and substream.
- **Q: What is the default IP address of the encoder?**
- A: The default IP address is 192.168.1.168.
- **Q: How can I access the management web page?**
- A: Enter the encoder’s IP address (192.168.1.168) in an Internet browser to access the web page. The default username and password are both admin.

Documents / Resources

	**AVMATRIX SE1217 HDMI Streaming Encoder** [pdf] User Manual SE1217 HDMI Streaming Encoder, SE1217, HDMI Streaming Encoder, Streaming Encoder, Encoder

References

- **User Manual**