



AVMATRIX H.265/ H.264 SDI Streaming Encoder SE1117 User Manual

[Home](#) » [AVMATRIX](#) » AVMATRIX H.265/ H.264 SDI Streaming Encoder SE1117 User Manual 

AVMATRIX®



SE1117
H.265/ H.264 SDI
STREAMING ENCODER

Contents

- 1 USING THE UNIT SAFELY
- 2 BRIEF INTRODUCTION
 - 2.1 Overview
 - 2.2 Main Features
 - 2.3 Interfaces
- 3 SPECIFICATIONS
- 4 OPERATIONS GUIDE
 - 4.1 Network Configuration and Login
 - 4.2 Management Web Page
 - 4.2.1 Language Settings
 - 4.2.2 Device Status
 - 4.2.3 Network Settings
 - 4.2.4 Main Stream Settings
 - 4.2.5 Sub Stream Settings
 - 4.2.6 Audio and Extension
 - 4.2.6.1 Audio Settings
 - 4.2.6.2 OSD Overlay
 - 4.2.6.3 Color Control
 - 4.2.6.4 ONVIF Settings
 - 4.2.6.5 System Settings
- 5 LIVE STREAM CONFIGURATION
- 6 Documents / Resources
- 7 Related Posts

USING THE UNIT SAFELY

Before using this unit, please read below warning and precautions which provide important information concerning the proper operation of the unit. Besides, to assure that you have gained a good grasp of every feature of your new unit, read 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 unit only on the specified supply voltage.
- Disconnect power cord by connector only. Do not pull on cable portion.
- Do not place or drop heavy or sharp-edged objects on power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check power cord for excessive wear or damage to avoid possible fire / electrical hazards.
- Ensure unit is always properly grounded to prevent electrical shock hazard.
- Do not operate 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 power off and disconnect power cord prior to removal. Internal servicing / adjustment of unit 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 effort to improve products and product features, specifications may change without notice.

BRIEF INTRODUCTION

Overview

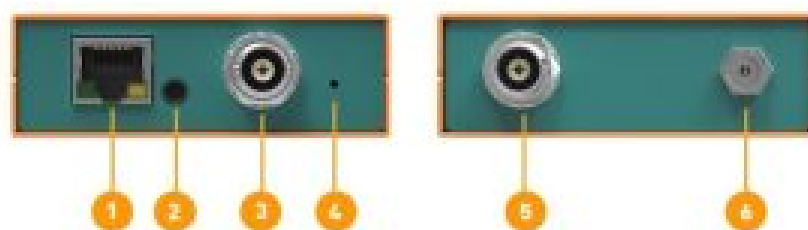
SE1117 is a HD audio and video encoder which can encode and compress SDI video and audio source into IP stream, and then transmit it to streaming media server via network IP address to live broadcast on platforms like Facebook, YouTube, Ustream, Twitch, Wowza etc.



Main Features

- 1×SDI input, 1×SDI loop out, 1×Analog audio input
- Supports H.265/ H.264 stream encode protocol, up to 1080p60hz
- Dual-stream (main stream and sub stream)
- RTSP, RTP, RTMPS, RTMP, HTTP, UDP, SRT, unicast and multicast
- Video and audio streaming or single audio streaming
- Image and text overlay
- Mirror image & upside-down image
- Live stream with no need for connecting a computer

Interfaces



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

SPECIFICATIONS

CONNECTIONS Video	Input: SDI Type A x1; Loop Out: SDI Type A x1
Analog Audio	3.5mm line in x1
Network STANDARDS SDI In Format Support	RJ-45x 1(100/1000M bps self-adaptive Ethernet) 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	H.265/ H.264
Video Bitrate	16Kbps — 12MKbps
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°C~60°C, Storage temp: -20°C~70°C
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 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

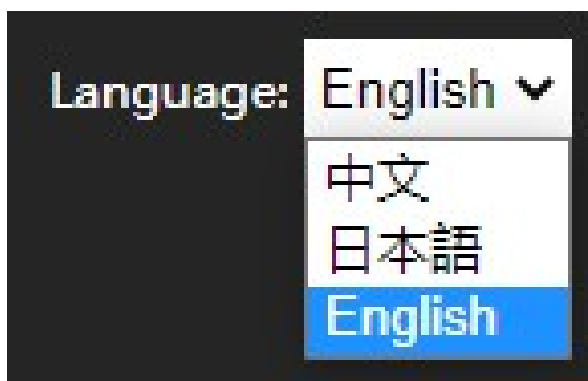
Visit encoder's IP address 192.168.1.168 through an Internet browser to login the WEB page for setting up. The default Username is admin, and password is admin.

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

DEVICE STATUS

NETWORK SETTINGS

MAIN STREAM SETTINGS

SUB STREAM SETTINGS

AUDIO AND EXTENSION

SYSTEM SETTINGS

MAIN PARAMETER

RTSP

HTTP

RTMP

UNICAST

MULTICAST

RTMP

RT

Stream Protocol

H.264

Minor Image

Enable

Spoken down Image

Enable

Aspect Ratio

Auto

Stream Control

CBR

Keyframe Interval

30

7-1000

Frame Resolution

Auto

Bitrate

1000

70-10000

Fluctuate Level

Auto

H.264 Profile

Main profile

Encoding Frame Rate

30

1-60

Package

FFmpeg

Buffer Mode

100x1

Apply

DEVICE STATUS

NETWORK SETTINGS

MAIN STREAM SETTINGS

SUB STREAM SETTINGS

AUDIO AND EXTENSION

SYSTEM SETTINGS

MAIN PARAMETER

RTSP

HTTP

RTMP

UNICAST

MULTICAST

RTMP

RT

RTSP Mode

Enable

RTSP Method

URL Mode

RTSP Content

Video & Audio

RTSP URL

rtsp://

Apply

DEVICE STATUS

NETWORK SETTINGS

MAIN STREAM SETTINGS

SUB STREAM SETTINGS

AUDIO AND EXTENSION

SYSTEM SETTINGS

MAIN PARAMETER

RTSP

HTTP

RTMP

UNICAST

MULTICAST

RTMP

RT

HTTP

Enable

HTTP Path

/api

Start with "/"

HTTP Port

80

1-65535

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

RTSP: Enable
RTSP Path: /rtsp Start with "/"
RTSP Port: 554 (1-65535)
RTSP Authentication: Disable
RTSP Content: Video & Audio
RTSP FCR: UDP
TTL: 10 (0-255)

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

Unicast: Enable
Unicast IP: 192.168.1.100 (Support Armv8 or F format)
Unicast Port: 1234 (1-65535)

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

Multicast: Enable
Multicast IP: 226.8.0.1
Multicast Port: 1234 (1-65535)

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

RTP: Enable
RTP Server IP: 192.168.1.100
RTP Port: 8080 (1-65535)

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

SRT: Enable
SRT Method: Listener
Encryption: Enable
Password: (Password length: 8-16)
Listener Port: 8080
Latency: 0 (0-1000)

Apply

Sub Stream Settings

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

DEVICE STATUS

NETWORK SETTINGS

MAIN STREAM SETTINGS

RTMP SETTINGS

RTMP SETTINGS

AUDIO AND EXTENSION

SYSTEM SETTINGS

MAIN PARAMETER

RTMP

HTTP

RTSP

UNICAST

MULTICAST

RTS

RTT

Stream Protocol

4.2.0.1

Aspect Ratio

Auto

Stream Control

COR

Encode Resolution

1040578

Stream

1280

(1~12800)

Frame Rate

Auto

RTSP Profile

Main Profile

Encoding Frame Rate

25

(1~50)

Buffer Mode

100x7

Apply

DEVICE STATUS

NETWORK SETTINGS

MAIN STREAM SETTINGS

RTMP SETTINGS

RTMP SETTINGS

AUDIO AND EXTENSION

SYSTEM SETTINGS

MAIN PARAMETER

RTMP

HTTP

RTSP

UNICAST

MULTICAST

RTS

RTT

RTMP

Enable

RTMP Method

URL Method

RTMP Context

Video & Audio

RTMP URL

rtmp://

Apply

DEVICE STATUS

NETWORK SETTINGS

MAIN STREAM SETTINGS

RTMP SETTINGS

RTMP SETTINGS

AUDIO AND EXTENSION

SYSTEM SETTINGS

MAIN PARAMETER

RTMP

HTTP

RTSP

UNICAST

MULTICAST

RTS

RTT

HTTP

Enable

HTTP Path

http://

Start with "/"

HTTP Port

80

(1~65535)

Apply

DEVICE STATUS

NETWORK SETTINGS

MAIN STREAM SETTINGS

RTMP SETTINGS

RTMP SETTINGS

AUDIO AND EXTENSION

SYSTEM SETTINGS

MAIN PARAMETER

RTMP

HTTP

RTSP

UNICAST

MULTICAST

RTS

RTT

RTSP

Enable

RTSP Path

rtsp://

Start with "/"

RTSP Authentication

Enable

User Name

admin

(length is 1~32)

Password

123456

(length is 1~32)

RTSP Context

Video & Audio

RTSP Port

554

(1~65535)

Apply

The screenshot shows the 'RTSP' settings page. On the left is a sidebar with menu items: DEVICE STATUS, NETWORK SETTINGS, MAIN STREAM SETTINGS, SUB STREAM SETTINGS (highlighted), AUDIO AND EXTENSION, and SYSTEM SETTINGS. The top navigation bar includes: MAIN PARAMETER, RTSP, RTP, RTMP, RTSP, UNICAST, MULTICAST, RTSP, and RTSP. The main content area contains the following fields:

- Unicast:
- Unicast IP: (Support domain or IP format)
- Unicast Port: (1-65535)

There is an 'Apply' button at the bottom right of the settings area.

The screenshot shows the 'RTSP' settings page. On the left is a sidebar with menu items: DEVICE STATUS, NETWORK SETTINGS, MAIN STREAM SETTINGS, SUB STREAM SETTINGS (highlighted), AUDIO AND EXTENSION, and SYSTEM SETTINGS. The top navigation bar includes: MAIN PARAMETER, RTSP, RTP, RTMP, RTSP, UNICAST, MULTICAST, RTSP, and RTSP. The main content area contains the following fields:

- Multicast:
- Multicast IP:
- Multicast Port: (1-65535)

There is an 'Apply' button at the bottom right of the settings area.

The screenshot shows the 'RTSP' settings page. On the left is a sidebar with menu items: DEVICE STATUS, NETWORK SETTINGS, MAIN STREAM SETTINGS, SUB STREAM SETTINGS (highlighted), AUDIO AND EXTENSION, and SYSTEM SETTINGS. The top navigation bar includes: MAIN PARAMETER, RTSP, RTP, RTMP, RTSP, UNICAST, MULTICAST, RTSP, and RTSP. The main content area contains the following fields:

- RTSP Server IP:
- RTSP Server IP:
- RTSP Port: (1-65535)

There is an 'Apply' button at the bottom right of the settings area.

The screenshot shows the 'RTSP' settings page. On the left is a sidebar with menu items: DEVICE STATUS, NETWORK SETTINGS, MAIN STREAM SETTINGS, SUB STREAM SETTINGS (highlighted), AUDIO AND EXTENSION, and SYSTEM SETTINGS. The top navigation bar includes: MAIN PARAMETER, RTSP, RTP, RTMP, RTSP, UNICAST, MULTICAST, RTSP, and RTSP. The main content area contains the following fields:

- RTSP:
- RTSP Method:
- Encryption:
- Resolution: (supported length: 10-10)
- Unicast port:
- Gateway: (optional)

There is an 'Apply' button at the bottom right of the settings area.

Audio and Extension

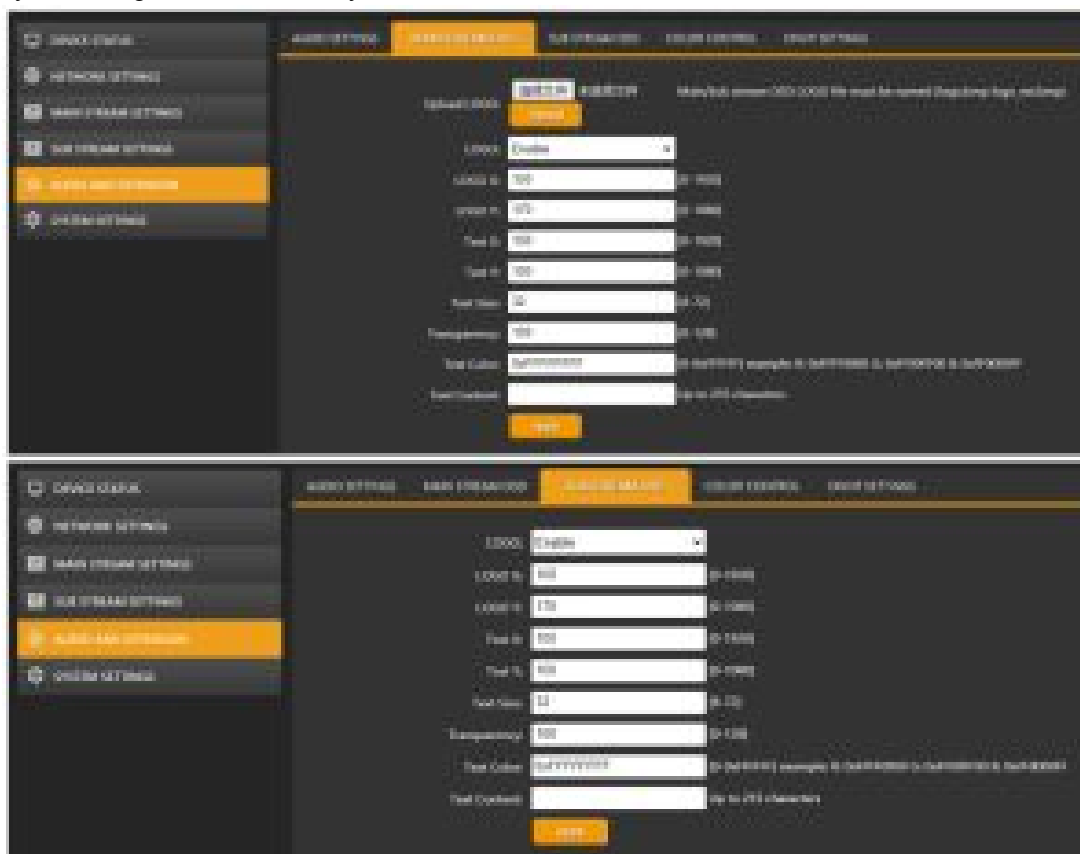
Audio Settings

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



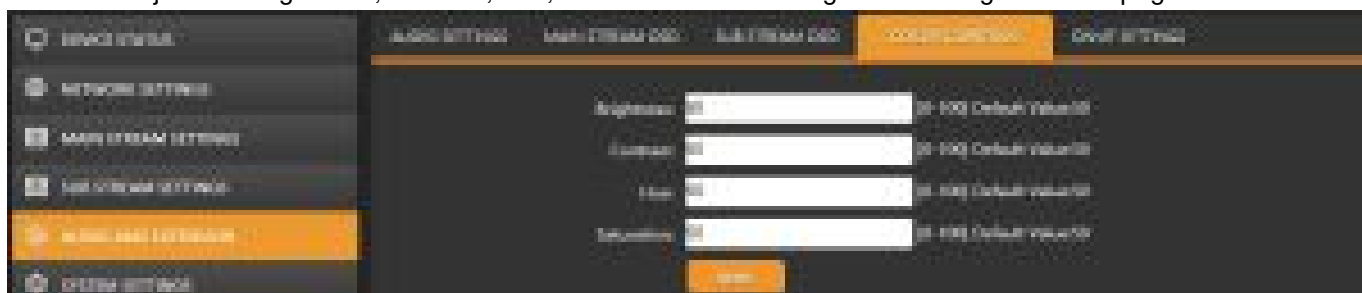
OSD Overlay

The encoder can insert logo and text to the Main Stream / Sub Stream video at 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.



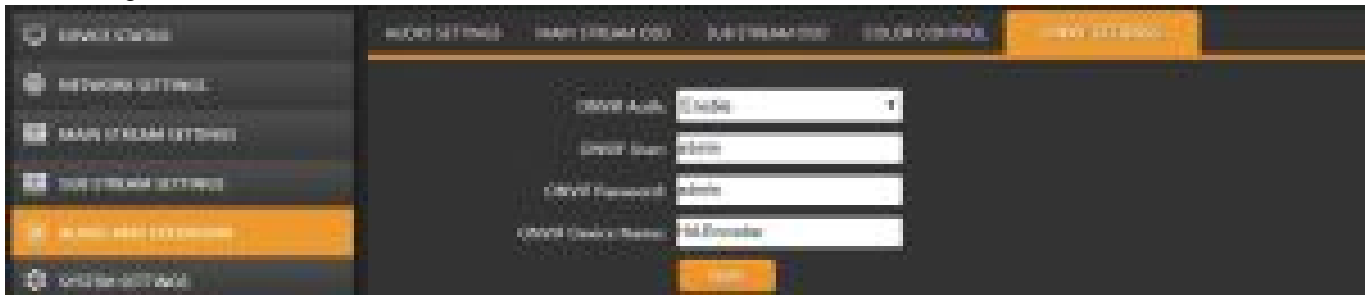
Color Control

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



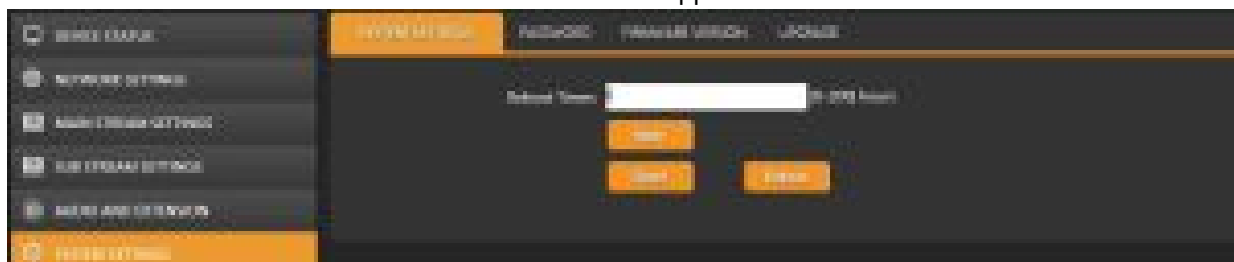
ONVIF Settings

The settings of ONVIF as below:

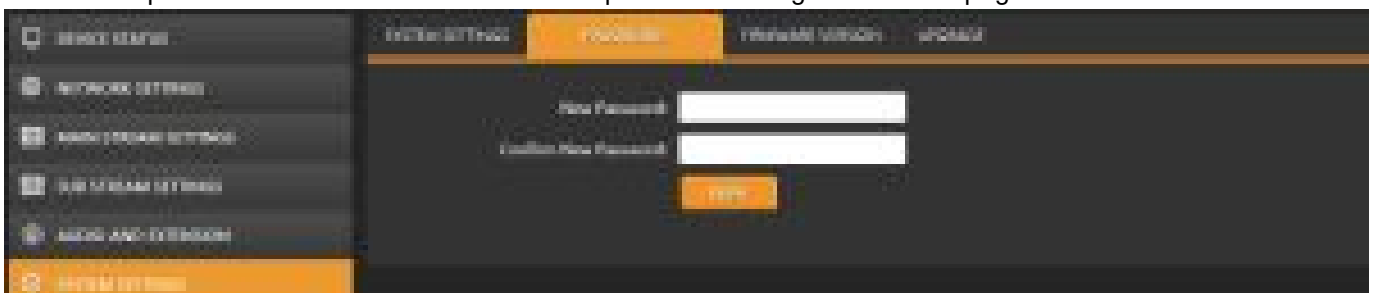


System Settings

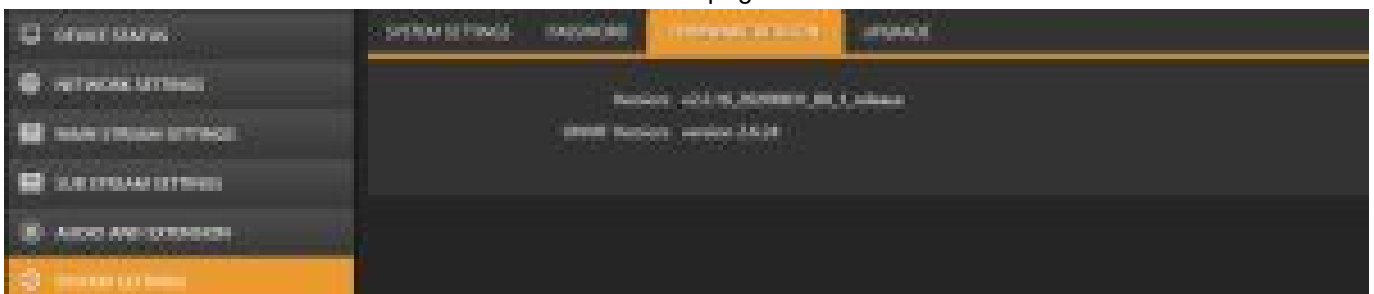
User can set the encoder reboot after 0-200 hours for some applications.



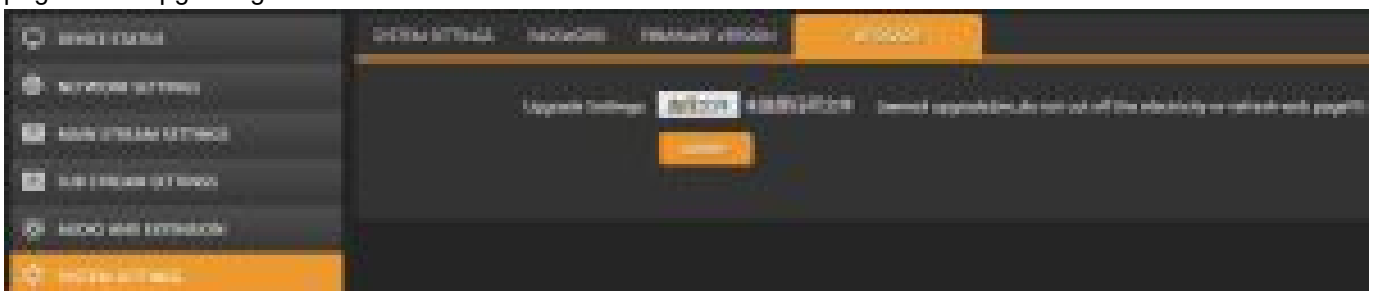
The default password is admin. User can set new password through below web page.



The firmware version information can be checked 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.

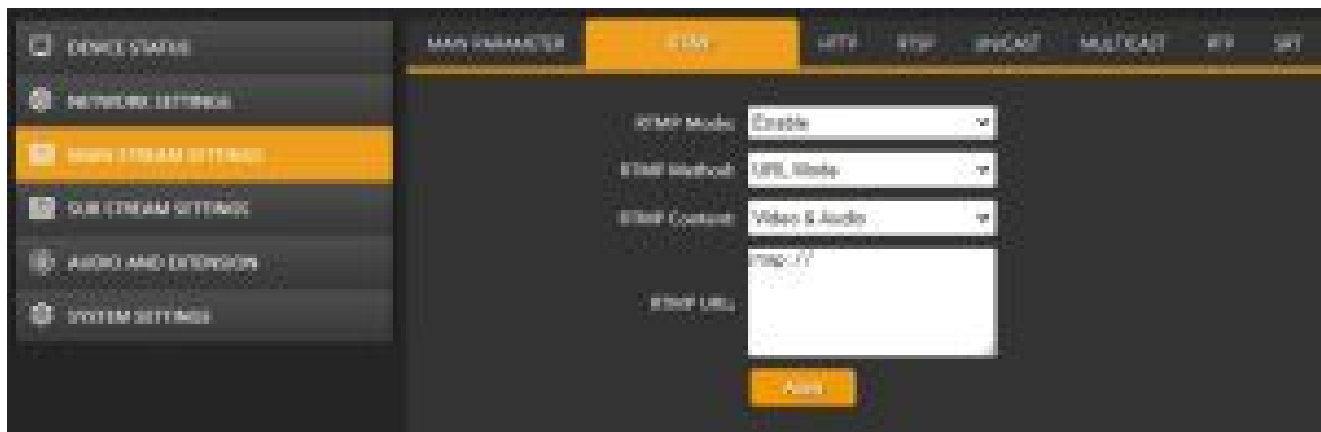


LIVE STREAM CONFIGURATION

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. In some occasion, 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.

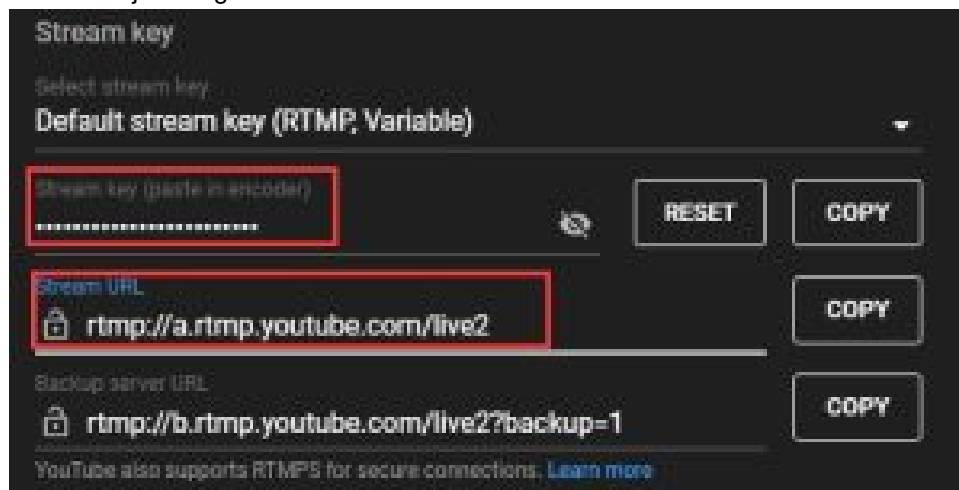
Step 2. Setting the RTMP options as follow image:



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 "acbsddjfhheruifghi".



Then the RTMP URL will be "Stream URL" + "/" + "Stream Key":

"rtmp://a.rtmp.youtube.com/live2/acbsddjfhheruifghi". See below image.



Step 4. Click "Apply" to live stream on YouTube.

Documents / Resources

AVMATRIX



SE1117
H.265/H.264 SDI
STREAMING ENCODER

[AVMATRIX H.265/ H.264 SDI Streaming Encoder SE1117](#) [pdf] User Manual
AVMATRIX, SE1117, H.265, H.264, SDI, Streaming, Encoder