SE1117

SDI STREAMING ENCODER

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.

CONTENTS

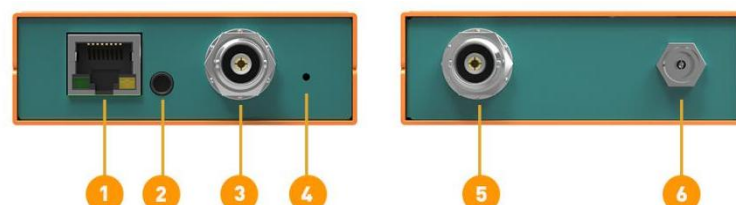# 1. BRIEF INTRODUCTION

1.1. 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.

1.2. Main Features

- 1×SDI input, 1×SDI loop out, 1×Analog audio input
- Supports 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

1.3. 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

2. SPECIFICATIONS

CONNECTIONS	
Video	Input: SDI Type A ×1; Loop Out: SDI Type A ×1
Analog Audio	3.5mm line in ×1
Network	RJ-45×1(100/1000Mbps self-adaptive Ethernet)
STANDARDS	
SDI 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, RTMPS, 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

3. OPERATIONS GUIDE

3.1. 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**
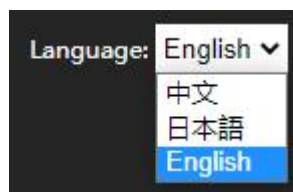Subnet Mask: **255.255.255.0**
Default Gateway: **192.168.1.1**
Visit encoder's IP address **192.168.1.168** through an Internet browser to login the WEB page for setting up. The default Username is **admin**, and password is **admin**.

3.2. Management Web Page

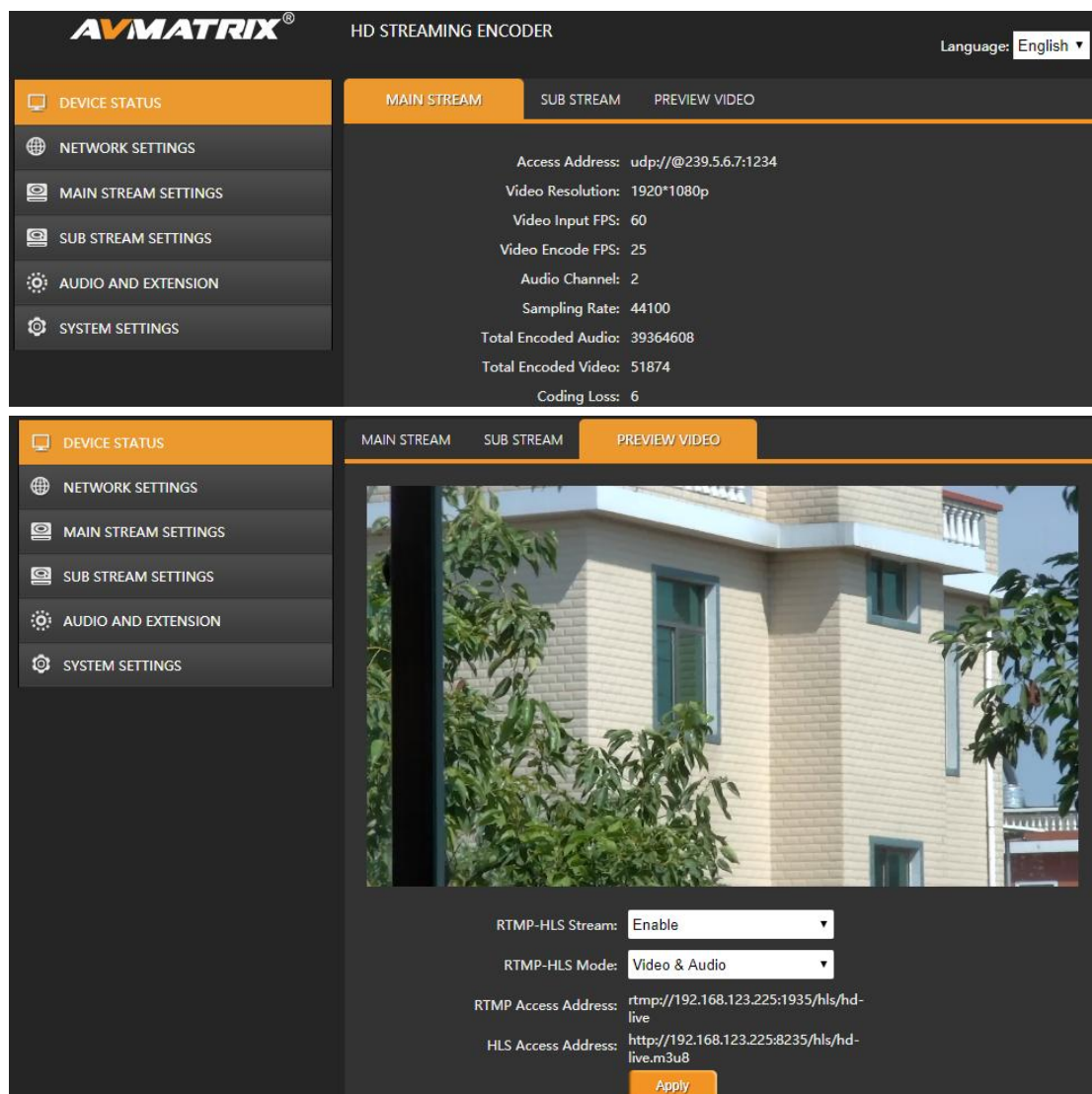The encoding settings can be set on the encoder management web page.

3.2.1. Language Settings

There are languages of Chinese (中文), Japanese (日本語) and English for option on the top-right corner of the encoder management web page.

3.2.2. 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.

3.2.3. 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.

3.2.4. 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 | RTMP | HTTP | RTSP | UNICAST | MULTICAST | RTP | SRT

RTMP Mode: Enable
RTMP Method: URL Mode
RTMP Content: Video & Audio
RTMP URL: rtmp://

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: /sdi   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: /sdi   Start with "/"
RTSP Port: 554   [1-65535]
RTSP Authentication: Disable
RTSP Content: Video & Audio
RTSP TCP: UDP
TTL: 16   [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: 192.168.1.200   [Support domain or IP format]
Unicast Port: 1234   [1-65535]

Apply

3.2.5. 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 | MAIN PARAMETER | RTMP | HTTP | RTSP | UNICAST | MULTICAST | RTP | SRT |

RTMP page:

RTMP: Enable

RTMP Method: URL Mode

RTMP Conetent: Video & Audio

RTMP URL: rtmp://

Apply

| DEVICE STATUS | MAIN PARAMETER | RTMP | HTTP | RTSP | UNICAST | MULTICAST | RTP | SRT |

HTTP page:

HTTP: Enable

HTTP Path: /sdi_ext   Start with "/"

HTTP Port: 80   [1-65535]

Apply

| DEVICE STATUS | MAIN PARAMETER | RTMP | HTTP | RTSP | UNICAST | MULTICAST | RTP | SRT |

RTSP page:

RTSP: Enable

RTSP Path: /sdi_ext   Start with "/"

RTSP Authentication: Enable

User Name: subuse   [length:six,letter,num]

Password: subpsw   [length:six,letter,num]

RTSP Content: Video & Audio

RTSP Port: 554   [1-65535]

Apply

| DEVICE STATUS | MAIN PARAMETER | RTMP | HTTP | RTSP | UNICAST | MULTICAST | RTP | SRT |

UNICAST page:

Unicast: Enable

Unicast IP: 192.168.1.201   [Support domain or IP format]

Unicast Port: 1235   [1-65535]

Apply

| DEVICE STATUS | MAIN PARAMETER | RTMP | HTTP | RTSP | UNICAST | MULTICAST | RTP | SRT |

MULTICAST page:

Multicast IP: Enable

Multicast IP: 238.0.0.2

Multicast Port: 1235   [1-65535]

Apply

3.2.6. Audio and Extension

3.2.6.1. 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.

3.2.6.2. 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.

3.2.6.3. Color Control

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

3.2.6.4. ONVIF Settings

The settings of ONVIF as below:
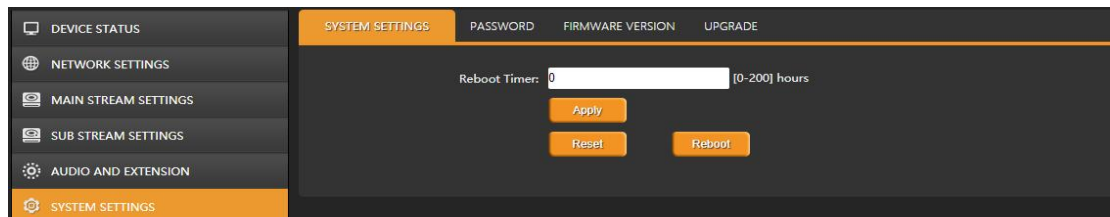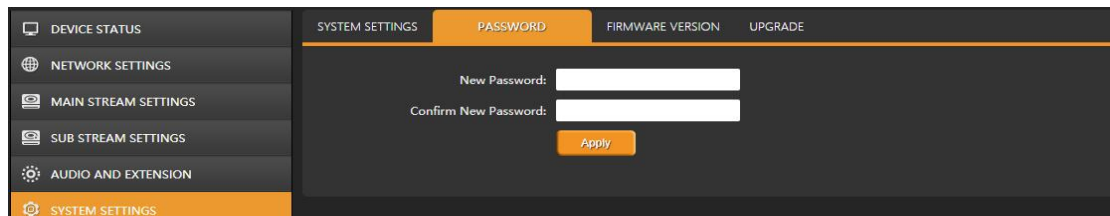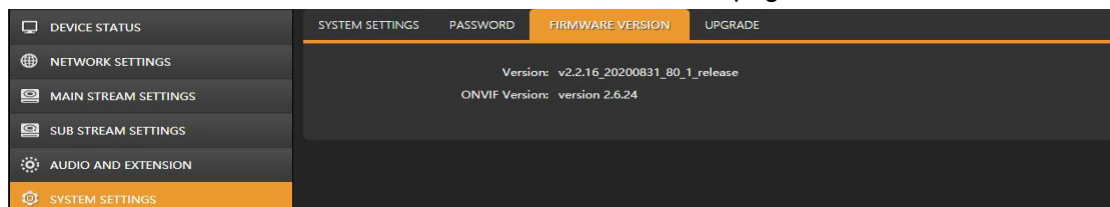

3.2.6.5. System Settings

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.
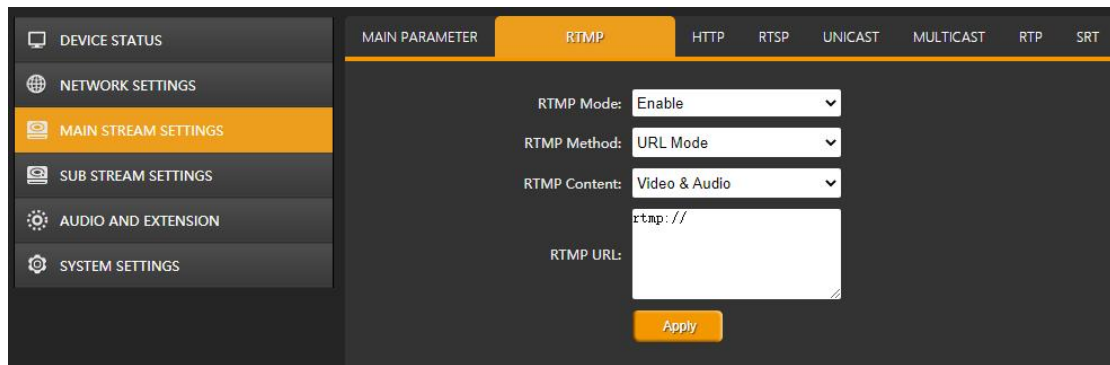

4. LIVE STREAM CONFIGURATION

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.
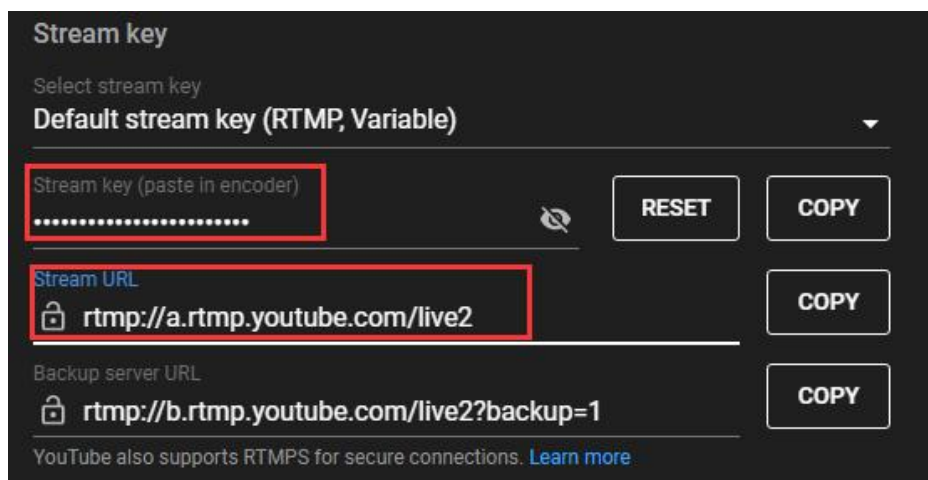**Step 2.** Setting the RTMP options as follow image:

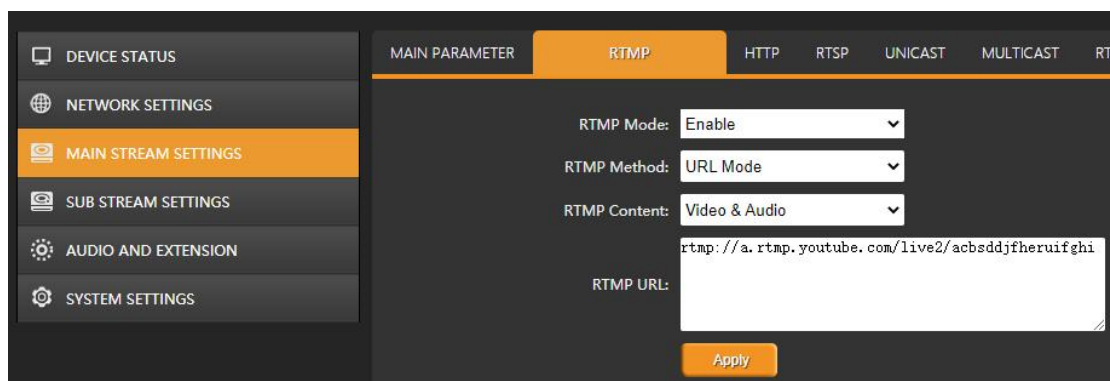**Step 3.** Enter the stream URL and stream key in the RTMP URL, and connect them with"/".

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

The Stream key is "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.