KILOVIEW®

E1-s Wired Video Encoder

USER MANUAL

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1 PRODUCT INTRODUCTION

1.1 E1-s wired video encoder

E1-s wired video encoder can encode SDI video source and compress into IP stream, to realize long-distance HD transmission/live broadcast over WAN or LAN network.

1.1.1 Advantages

- **High bandwidth adaptability, makes it possible to transmit high definition, low-latency, non-padding image under low bit network.**
- With branded chips solution together with video dynamic noise reduction and image enhancement technology, it can realize good encoding image under low bit transmission;
- High-quality video image can be achieved at 1Mbps@720p, 1.5Mbps@1080p network;
- Advanced video buffering technology and FEC technology ensures video encoding delay ≤ 67ms and stable and smooth transmission;
- Adjustable bit rate from 64kbit/s ~ 40Mbit/s.
- **Powerful streaming media service function, supports RTSP/RTMP/UDP-TS/Onvif/SIP/SRT and some other customized protocols.**
- SRT/RTSP/RTMP/ HLS/UDP-TS/Onvif and some other streaming media protocols supported for live broadcast on Facebook, YouTube, Ustream, Twitch, Wowza etc or security platform /NVR system;
- Dual stream output, the main code rate up to 1080p60Hz, and the sub-stream supports 720p60Hz video encoding, output resolution can be customized.
- **Portable and low power consumption makes it 24 hours continuous working available.**

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- Capable with customized text and image overlay function, which can be at any position on the screen;
- Audio embedding encoding supported, with voice intercom function (need to deploy voice intercom software);
- With Micro SD/TF card slot, supports local recording and NAS network storage.
- With video real-time loop function, there is no delay and convenient for monitoring;
- 24h continuous working available;

Note: (≤67ms) refers to the delay of the encoder end, and the end-to-end delay also relates to network, decoding, etc.

1.1.2 Parameters

Model	E1-s
Video input	1*BNC SDI
Video Loop out	1*BNC SDI
Analog audio ports	2*3.5mm
USB interface	2*USB 2.0 Type-A
Network Support	Ethernet
Media transmission protocols	RTMP/HLS/TS over UDP/RTSP /Onvif/SRT
Video resolution	Up to 1080P60Hz, resolutions supported: 1080p23.98/24/25/29.97/30Hz; 1080p50/59.94/60Hz; 1080i50/59.94/60Hz; 720p23.98/24/25/29.97/30Hz; 720p50/59.94/60Hz
Video coding	H264/AVC and Motion-JPEG

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Audio coding	AAC/G.711
Encoding latency	≤67ms
Image and text overlay	Custom text, image overlay function, can be superimposed to any position on the screen
Recording	1*Micro SD/TF card, local recording, NAS network storage
Management	WEB/Android APP
Power supply/consumption	DC 12V 1A/4W
Operating temperature	125*89*28mm/380g
Size/Weight	-20℃~55℃

2 Operation guidance

- Installation and connection of the device

Connect the power and video input source correctly, power on the device.

- Network Connection and Configuration

The simplest way is to connect the encoder to the network through a USB to network port or directly connect to a computer through a wired way, and use the default management IP address of the device to log in to the WEB page (default user name/password: admin/admin) to set it up.

- RTSP pull flow

Using a decoder or a PC-based player (such as VLC) to get RTSP stream from the encoder, and the RTSP stream service is continuously enabled.

- Other streaming service

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If necessary, you can also configure the device for live streaming such as RTMP, RTMPS, UDP, HLS, etc.

3 Packing list and interface description

3.1 Packing list

Name	Unit	Quantity	Note
Encoder	PCS	1	
DC12V/1A power adaptor	PCS	1	
Quick Start Guide	PCS	1	
Certificate/Warranty card	PCS	1	

3.2 Device interfaces

1 Power Input 2 Mini USB 3 Audio Output 4 Audio Line In

5 SDI IN 6 SDI LOOP 7 100M Ethernet Interface 8 Working Indicator

9 USB Expansion Port 10 Micro SD/TF Card 11 Power Switch 12 Reset

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3.3 Signal indicator

Name	Color	Status	Description
POWER	Red	Always on	Power supply is connected
		Flashing	Power failure
		Off	Power supply is not connected or failure
SIGNAL	Green	Always on	Signal is connected
		Flashing	Signal is not locked or reset to factory setting indication (while the RUN light also will flash)
		Off	Signal is not connected
RUN	Green	Always on	Device working normal
		Flashing	Restore device to factory settings (while the RUN light also will flash)
		Off	Device working abnormal/ not started

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4 Installation and connection

4.1 Installation and connection

4.1.1 Connect the power adapter

Using the power adapter (DC 12v) connect to the main product, after the power is turned on, then the product starts working immediately.

⚠ **Note: Please use the equipped power adapter. Using other unqualified power supplies may damage the device.**

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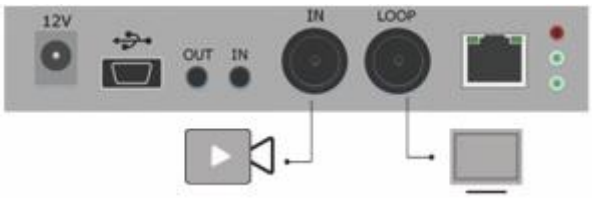
4.1.2 Connect video signal

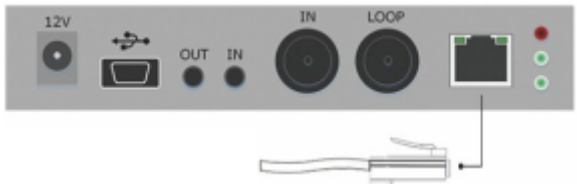
Connect the SDI signal from the source (such as a camera) to the input port of the device via a cable.

The LOOP end can be monitored in real time by connecting to the monitor.



4.1.3 Connect network

Connect one end of the network cable to the encoder Ethernet port. The other end is connected to the network switch or the computer's Ethernet port.



5 Login and network configuration

5.1 Login to the device through Ethernet

First connect the RJ45 Ethernet port of the encoder and the computer to the same switch, or connect the encoder directly to the computer network port. Then configure the encoder and computer to the same network segment so that the computer can access to the web page of the encoder.

The default management IP address of the encoder is 192.168.1.168（This is the failsafe address of the device. Generally, do not modify this IP address.）. If the IP address of the computer is not in the network segment of 192.168.1.*, please set the IP address of the computer network port to 192.168.1.*.

Open the WEB browser, directly input the encoder's IP address (default is 192.168.1.168) or the URL http://192.168.1.168 and press Enter to open the login interface. After opening the page, an authentication dialog will pop up, please fill in the username and password, the default username is admin, the default password is admin, and then click "Login".

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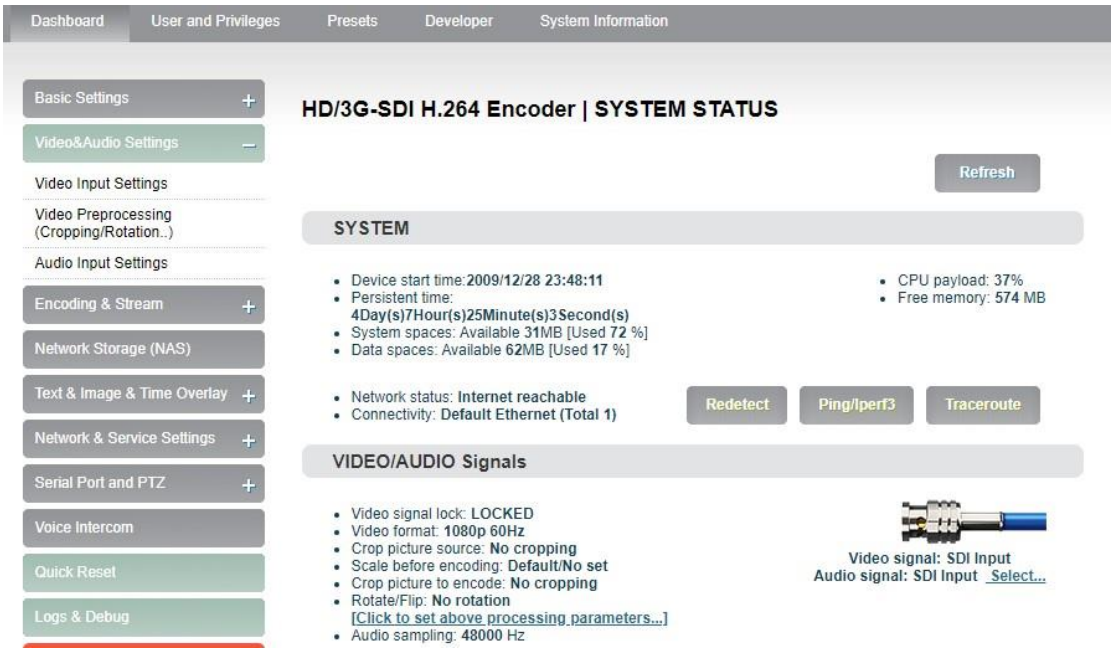
⚠***Note: Due to the browser compatibility issues, it may cause the web page display abnormal, it is recommended to use Chrome and Firefox.***

After login, the encoding and function parameters can be set on the encoder management web page. The page is shown as below:



5.2 Network configuration

5.2.1 Ethernet

The encoder can provide an Ethernet access through. This port can be configured with an IP address (The encoder network port can be configured with dual IP addresses, the IP address configured here is not the default management IP address) and default setting is DHCP. It will automatically get a complete IP address, gateway and DNS according to this LAN.

Click "Network & Service Settings", click "Network Manager" to enter the following interface, you can see the IP address with Ethernet.

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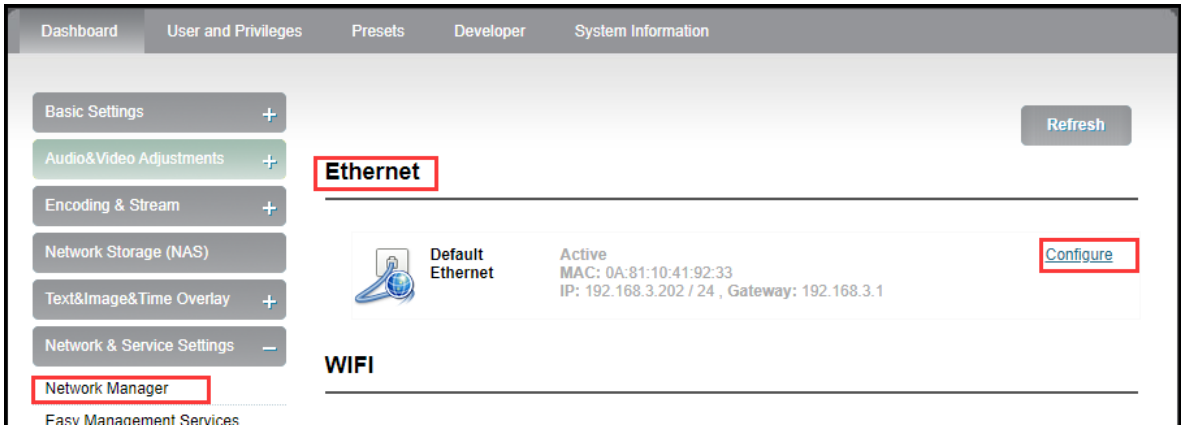
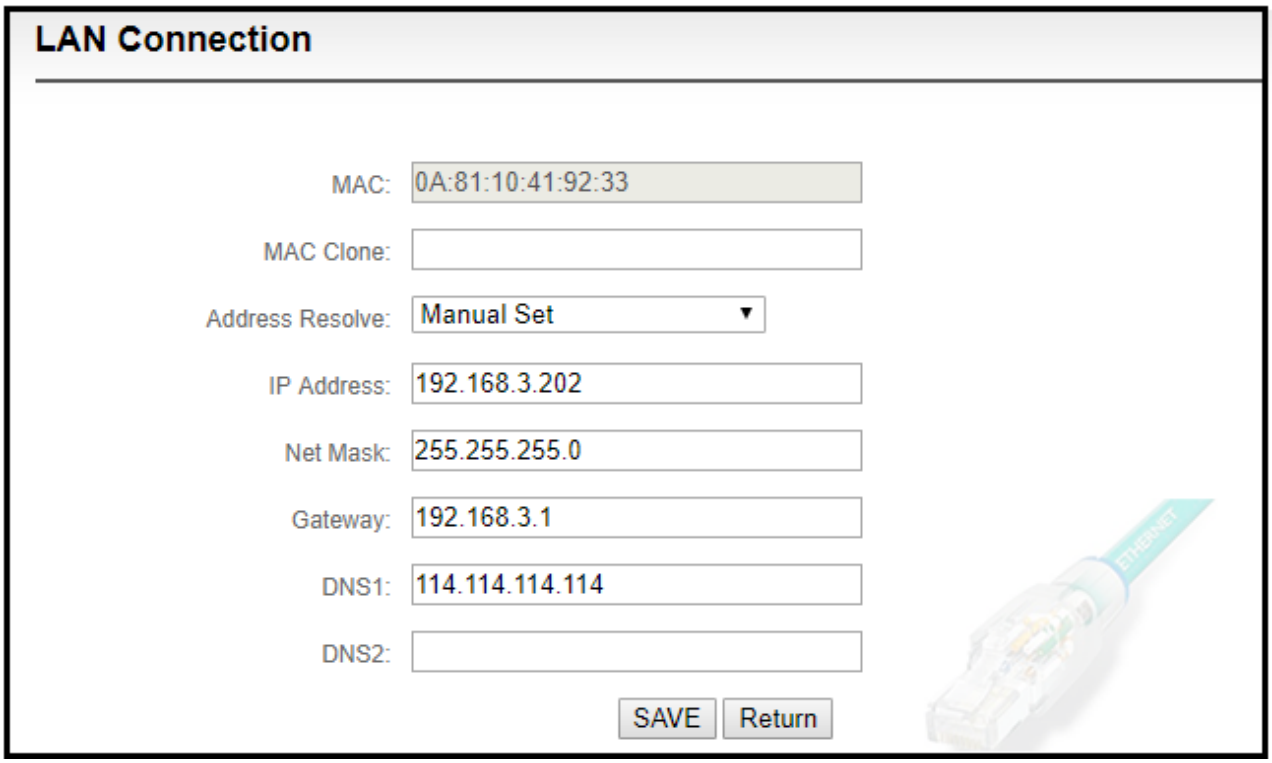


In addition to the way of DHCP, the encoder also supports manual IP assignment. To change the IP of the wired network, click "Configure" button in the Ethernet to enter the interface for configuring the IP. There are two ways to get the address, one is DHCP, and the other is to manual. To use DHCP to automatically obtain IP, you must first ensure that the router or switch has enabled the DHCP service. This method is simple and convenient, but the IP obtained by DHCP changes continuously, and you cannot directly know what IP address that the encoder gets. The way to manually specify is to enter a fixed IP to the encoder, and this IP address is fixed as long as the encoder does not restore the factory settings, and this method is more stable. Therefore, the two methods have their own advantages, and can be selected accordingly.



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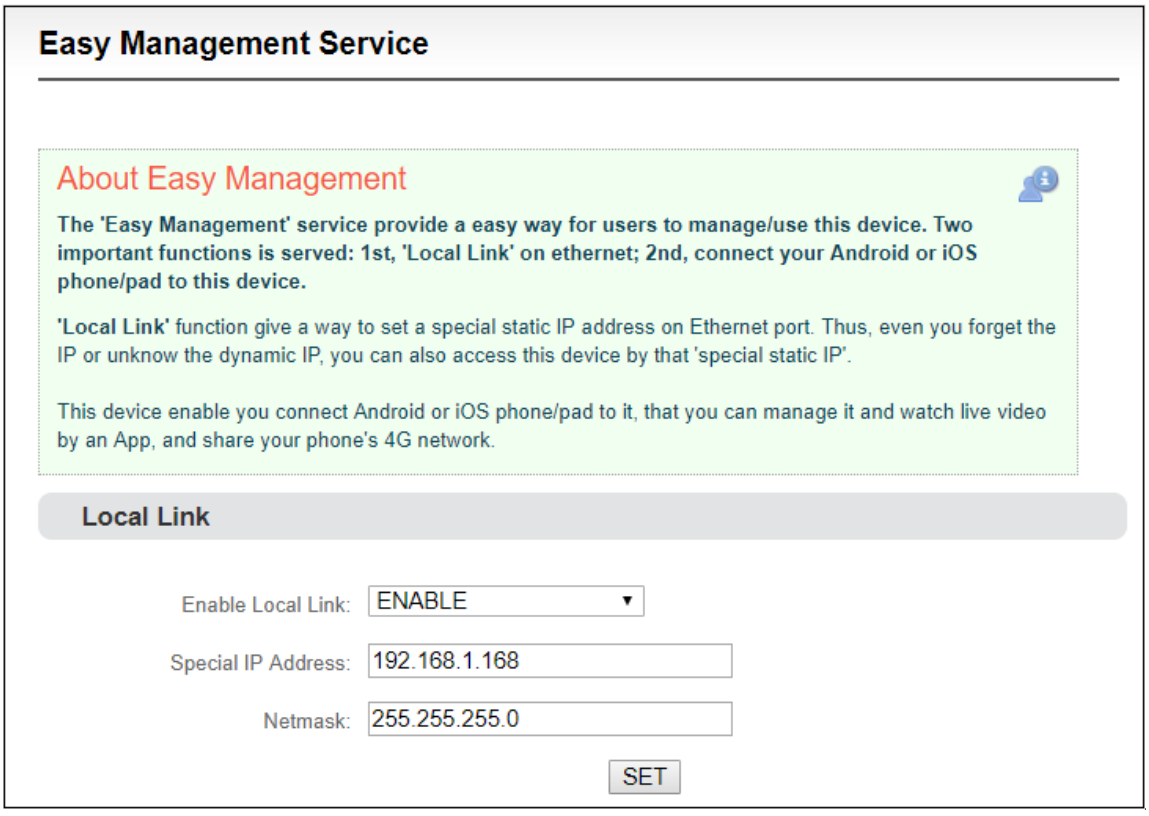
After Ethernet is configured correctly, you can see that the connection status is "Internet reachable" and the Internet connection is the default Ethernet port on the Information Board.

5.2.2 Convenient management functions

The "localized connection" is configured with a dedicated IP address on Ethernet (This is the failsafe IP address of the Ethernet port. Generally, do not modify this IP address). In this way, even if you forget the IP settings of the Ethernet, or if the IP cannot be learned because DHCP gets the address, you can still connect and access the device through the configured private IP address.



"Localized connection" is to bind the encoder to a separate IP address, this IP address does not affect the use of other network cards, in special cases, it can play a role to manage encoder. This address can be manually changed, and the default address is 192.168.1.168.

⚠ **Note: When accessing the device through a convenient managed IP address, your computer must have an IP address on the same network segment.**

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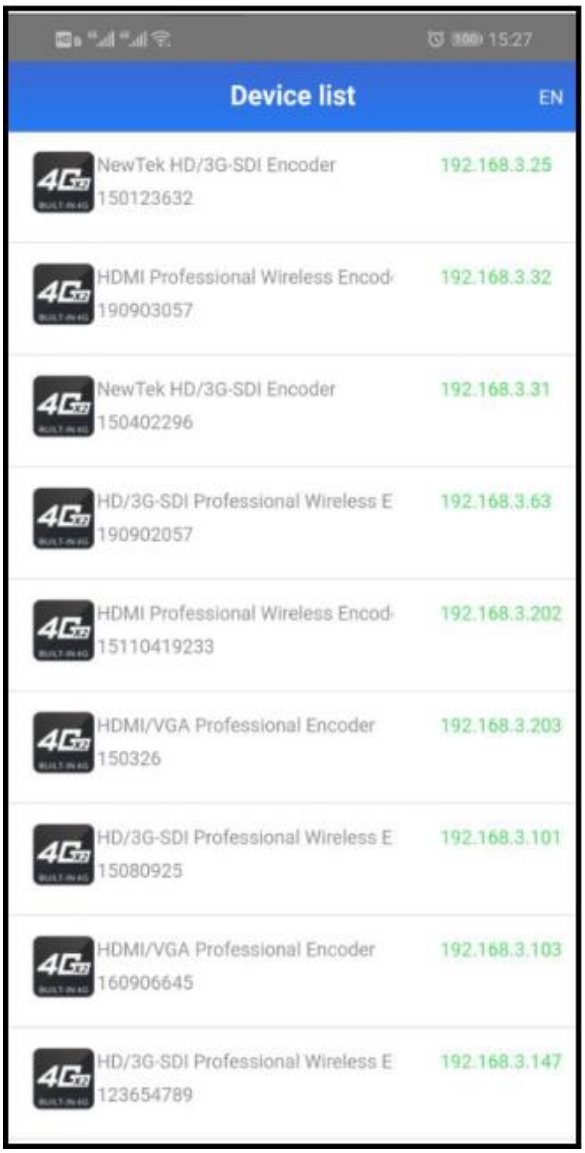
5.2.3 Android APP

- Please download the Android APP from Kiloview website, only support Android system at present. (http://www.kiloview.com/companyfile/shi-pin-bian-ma-qi-Android-APP-45.html)

- Connect your phone to the same network segment of the WIFI that the device connects. Open the APP and search the connected devices under the same network segment automatically in the device list.
- The device information shown in the list includes device interface information, device serial number, device IP address, etc.
- Click your device from the device list to enter into management page.



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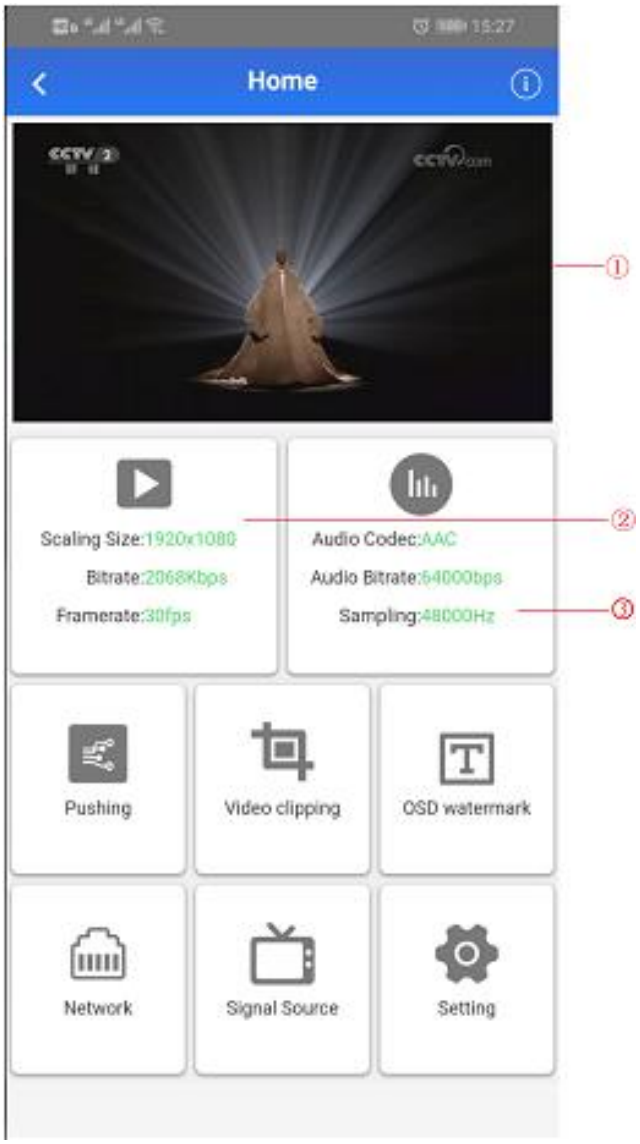

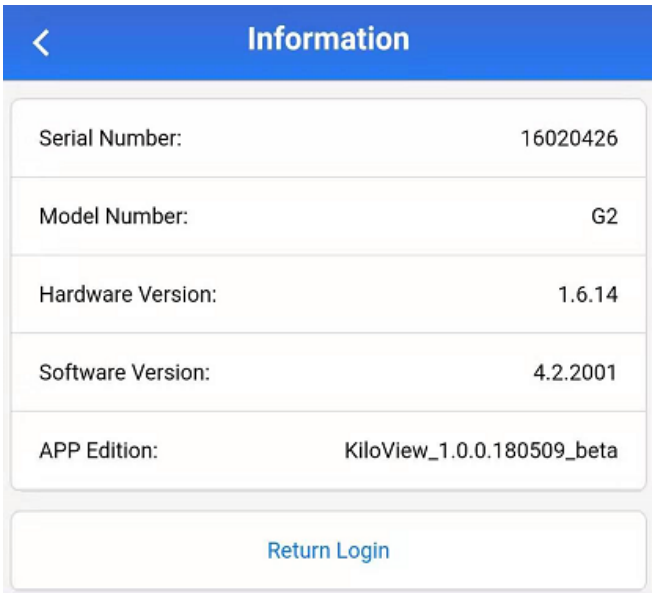

- On the configuration page, it shows video source image on the area of ① to monitor whether video source is normal. This image stream is refreshed in three seconds.
- Click②for main stream configuration (Please refer to 6.4.2).
- Click③for audio encoding configuration (Please refer to 6.4.1).
- Click “Pushing” for stream service configuration (Please refer to 6.4.3).
- Click “Video Clipping” for video clipping function.
- Click “OSD watermark” for image overlay function configuration. APP only supports text and time overlay configuration, image overlay is configured on Web page (Please refer to 6.7).
- Click “Network” for network configuration (Please refer to 5.3).
- Click “Signal Source” for audio and video source choice page (Please refer to 6.3).
- “Advanced setting” is used for quick reset, device reboot, restoring factory settings and device name modifications.

Click and enter into device information page.

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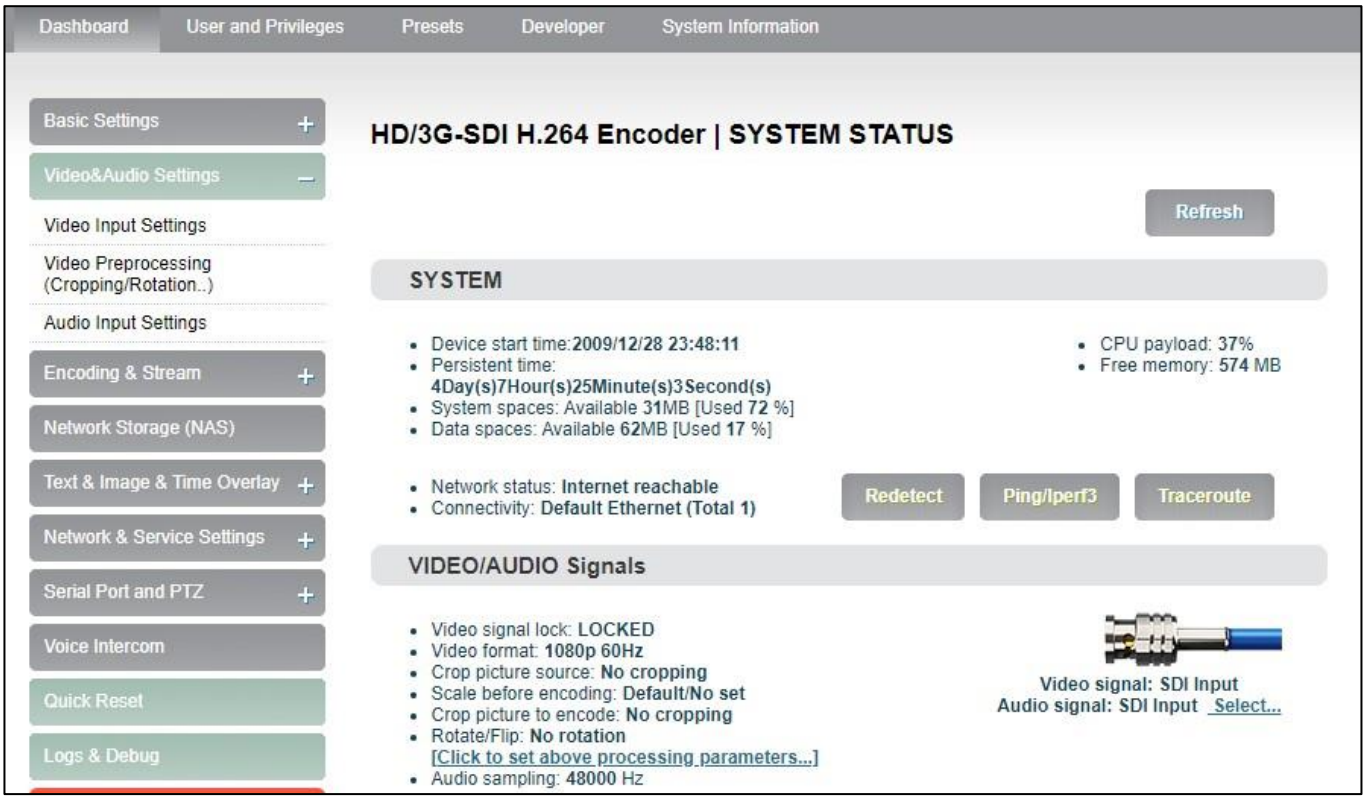
6 Parameters configuration

6.1 Dashboard

"Dashboard" is an overview of the current running status of the device and the status of audio and video streams. Users can click the "Refresh" button to refresh in real time, which can greatly help the encoder setting and troubleshooting.



- System

Users can check device information including "device start time", "persistent time", "system spaces", "data spaces", "network status" and "connectivity" of the device, and go for "Ping" testing. If users need to push to Internet platforms, network status should be "Internet reachable", or it cannot push streams.

The "Ping" provides a simple function to test whether the network is reachable. Open the "Ping" button, enter the test address, click "Ping", wait for 3s, and "Connectivity" is displayed as

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"reachable, packet loss rate 0%" which means the network is good and streams can be pushed to the Internet normally.

⚠ **Note: If Ping public IP address is reachable, but Ping domain name is unreachable, generally, it is because the DNS server configuration is incorrect.**

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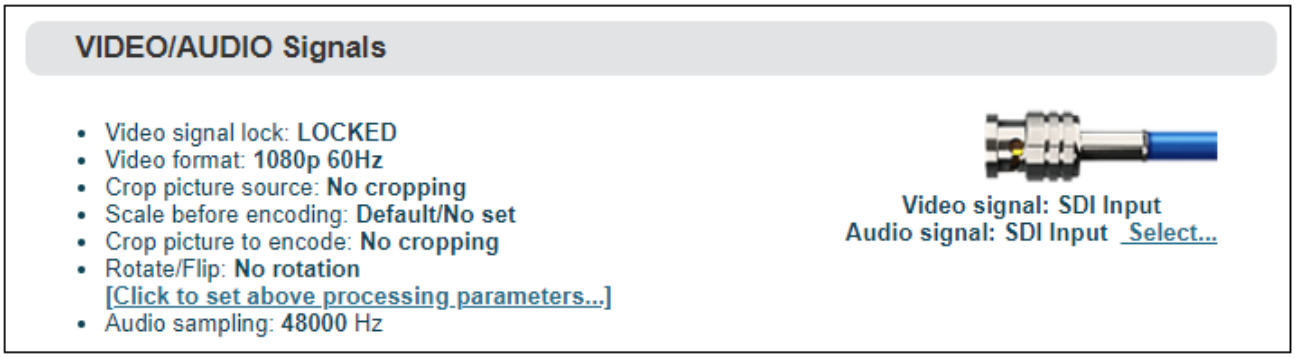
- Video/Audio signals status

It can show "Video/audio signal", "video format", "preprocessing", "audio sampling" as below: If "video signal lock" displayed as "no signal (display blue screen)", it means the video input source is not detected by the device. Please check if the input cable is plugged in. If "Audio sampling" is displayed as "0Hz", the audio signal is not collected on the device. Please check if the audio of the input source is normal.



6.2 Basic settings

Users can go for some basic function settings here.

6.2.1 Change WEB login password

Click "Change Password", an option box will pop up, users can modify the WEB login password, the default password is admin.

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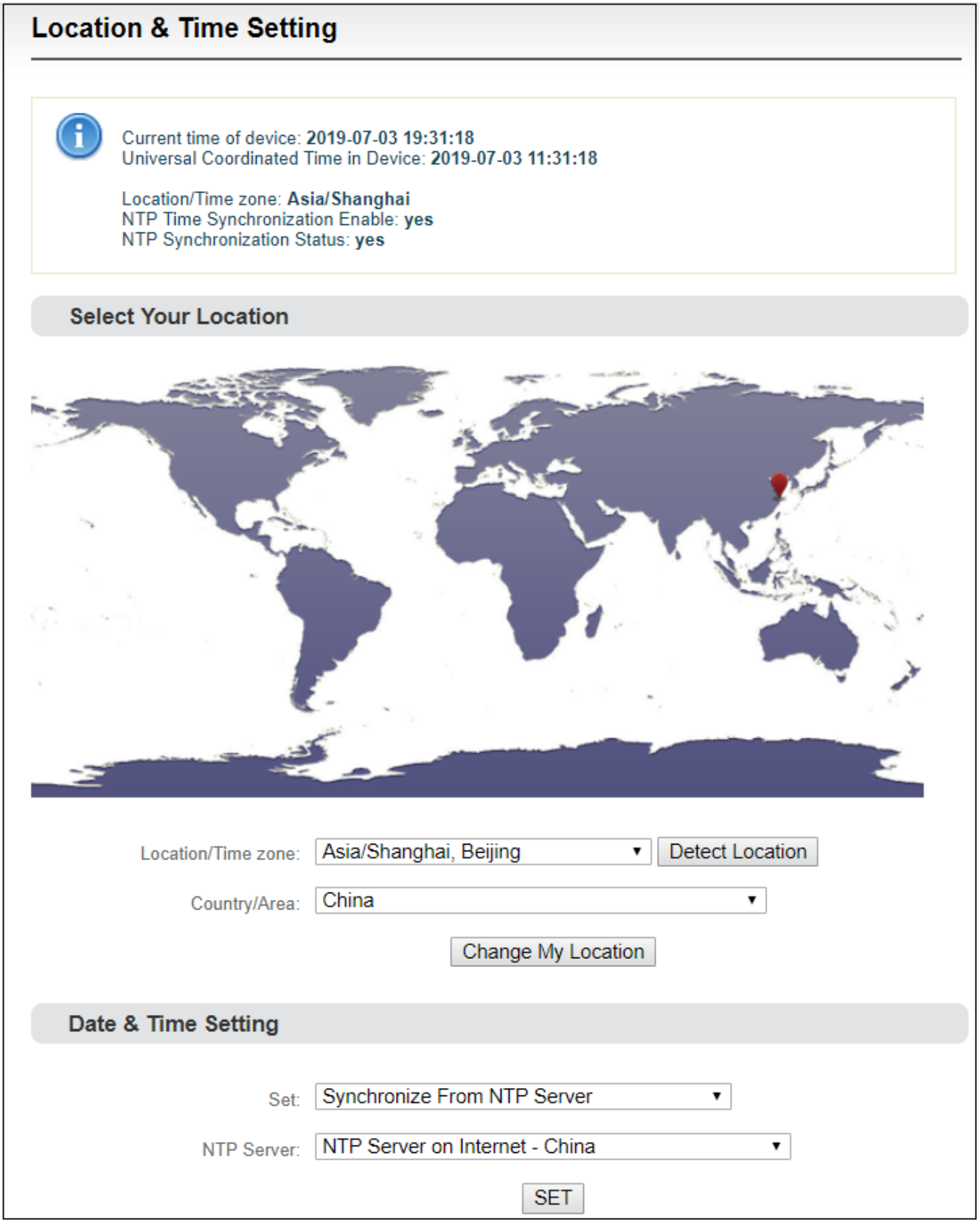
6.2.2 Location and time

Click "location and time", then users can modify system time of the encoder, or just select "Synchronize from this PC".



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6.2.3 Restore factory settings

After forgetting the IP address of the encoder or setting the parameters of the encoder incorrectly, you can restore factory settings to return all the parameters of the encoder to the factory default values. Restoring the factory settings will reset the IP address of the encoder, the network connection configuration such as wired and WIFI are all cleared, so please operate carefully.

Two methods for restoring factory settings:

1. Pressing on "Reset" button for 5 seconds, device will reboot.
2. Via the WEB interface, "Basic Setup > restore factory settings" function.

6.2.4 Firmware upgrading

The encoder supports online firmware upgrading, please contact technical support to obtain the upgrade package and experience the new functions of the encoder. The encoder supports online firmware upgrading.

Through the "Basic Settings-Firmware Upgrade" of the Web page, users can upload the firmware online. Click "Select Files" to select the upgrade file, and click "Upgrade" to upgrade the device. The upgrade process is slow, around 1 to 3 minutes, please be patient. The encoder will restart, remember not to power off during the upgrade process, otherwise the upgrade will fail and the encoder will be abnormal. It is best to contact technical support to assist in completing the upgrade operation.

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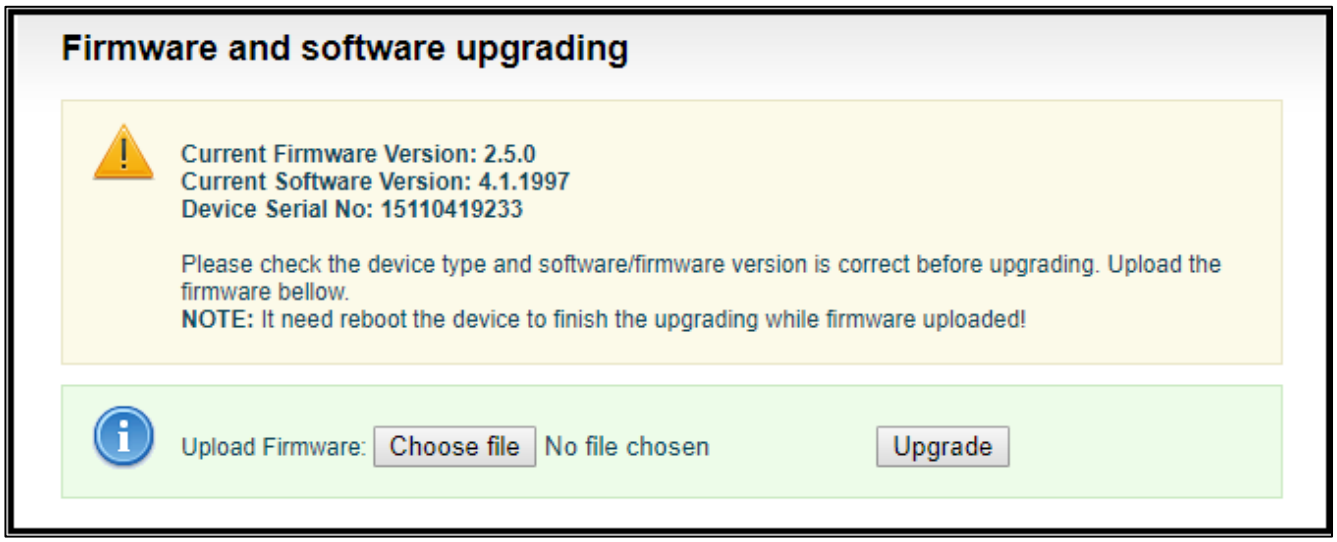
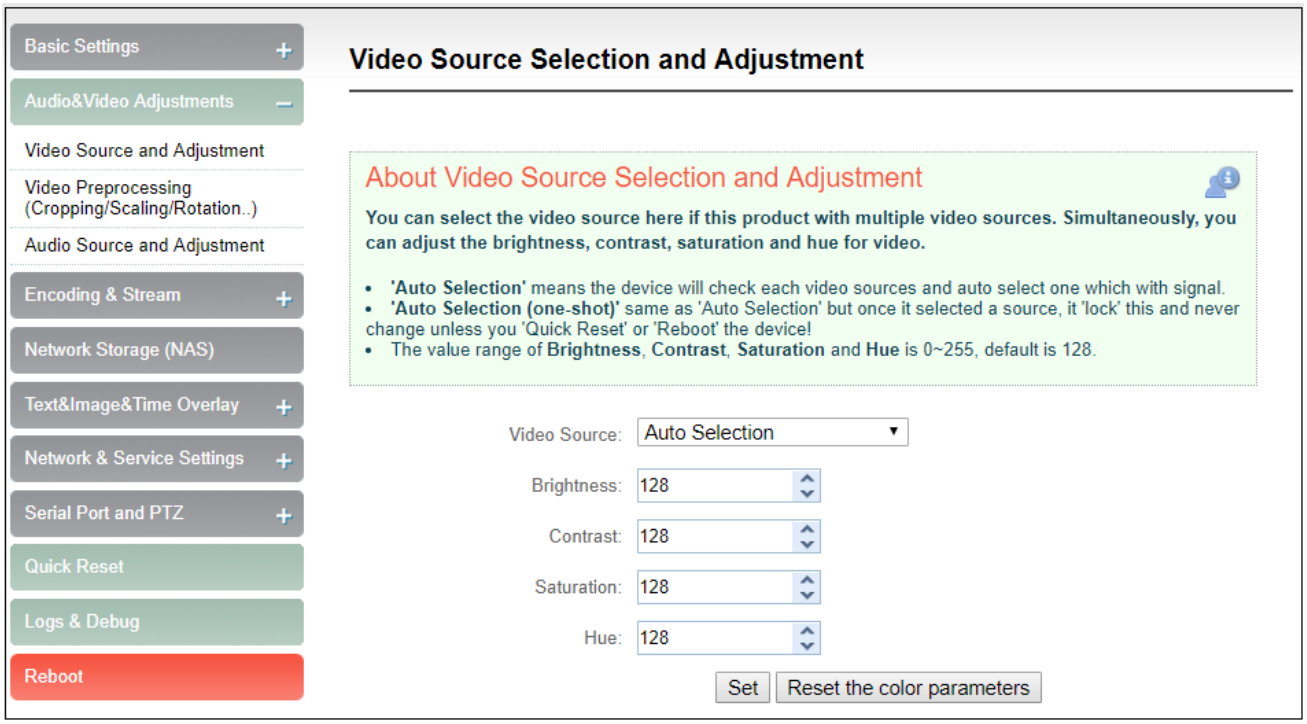


6.3 Video & Audio adjustments

6.3.1 Video source choice and adjustments

Users can choose video source, adjust brightness, contrast, saturation and hue parameters of the video here.



"Auto Selection" means the device will check each video source and automatically select the one which has signal. You can also manually select the specified video source.

The value range of Brightness, Contrast, Saturation and Hue is 0~255, default is 128. Based on the

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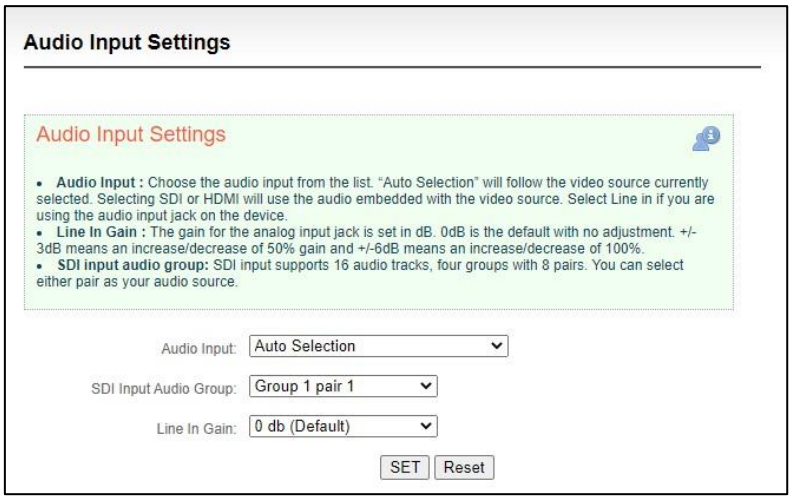
median value, the increase/decrease value corresponds to the increase/decrease in brightness/contrast/saturation. The default value of Hue is 128, which represents phase 0; the value range is 0-255.

6.3.2 Audio signal source

Audio source "Auto Selection" automatically selects the audio source according to the selection of the input video. The principle is: if the video input signal has embedded audio, the audio is automatically selected from the video input source; otherwise, the external analog audio input is automatically selected.

Audio gain is represented by db. 0db means the original volume; +/-3db means increase/decrease the audio by 50%, and +/-6db means increase/decrease the audio by 1 time.

SDI input channels: SDI provides up to 16 audio tracks for each video, divided into 4 groups of 8 pairs, and any pair of them can be selected as the audio source input.



6.4 Encoding and stream

6.4.1 Audio encoding parameter setting

Click "Encoding &stream", Select "Audio Encoding Engine", then entering into audio parameters setting. Audio encoding channel is forced to enable. Audio encoding modes include AAC and G.711,

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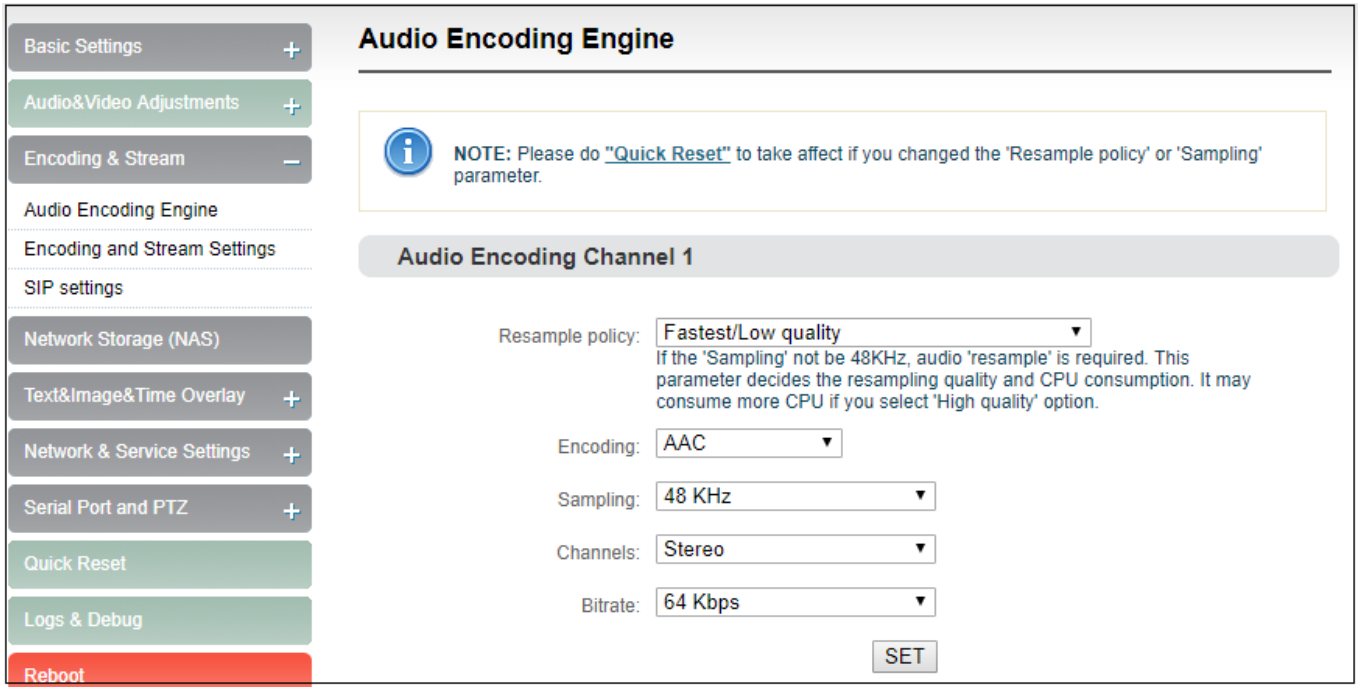
optional. Audio sampling is chosen according to actual situation. Channels consist of "Stereo" and "Mono". Encoding bitrate is adjustable between16K-256K, default is 64Kbps.



⚠ ***Note: Please do "Quick Reset" to take affect if you changed the 'Resample policy' or 'Sampling' parameter.***

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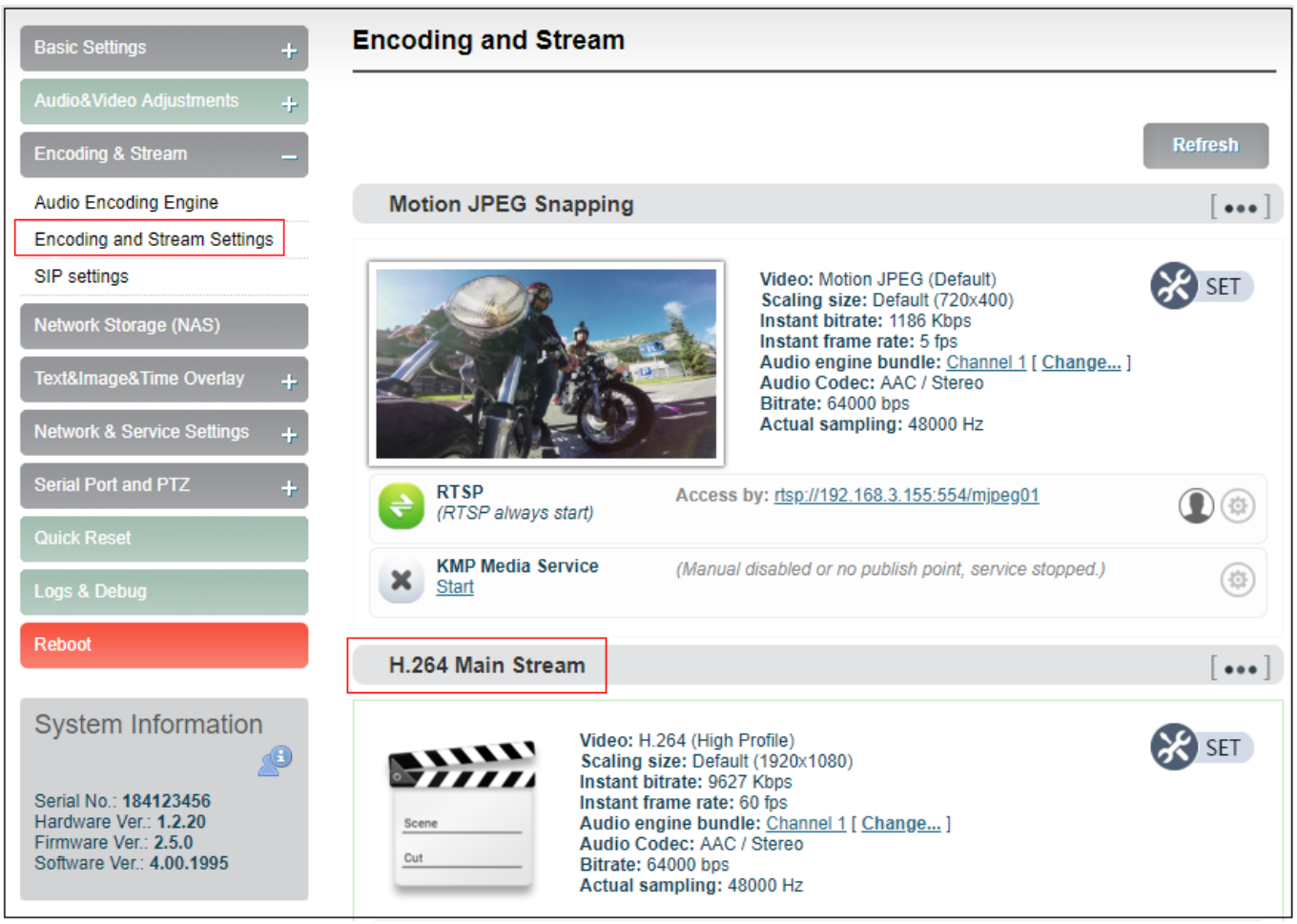
6.4.2 Encoding and stream setting

Video encoding parameters are adjustable. Click "Encoding &Stream", pull downward "Encoding and stream settings" to enter below interface. We generally set parameters of "H.264 main stream", click "Setting".

Note: It is H.264 Main stream, the second setting, not Motion JPEG setting.



Click SET, entering into below interface for main streaming encoding parameters setting, as follows:

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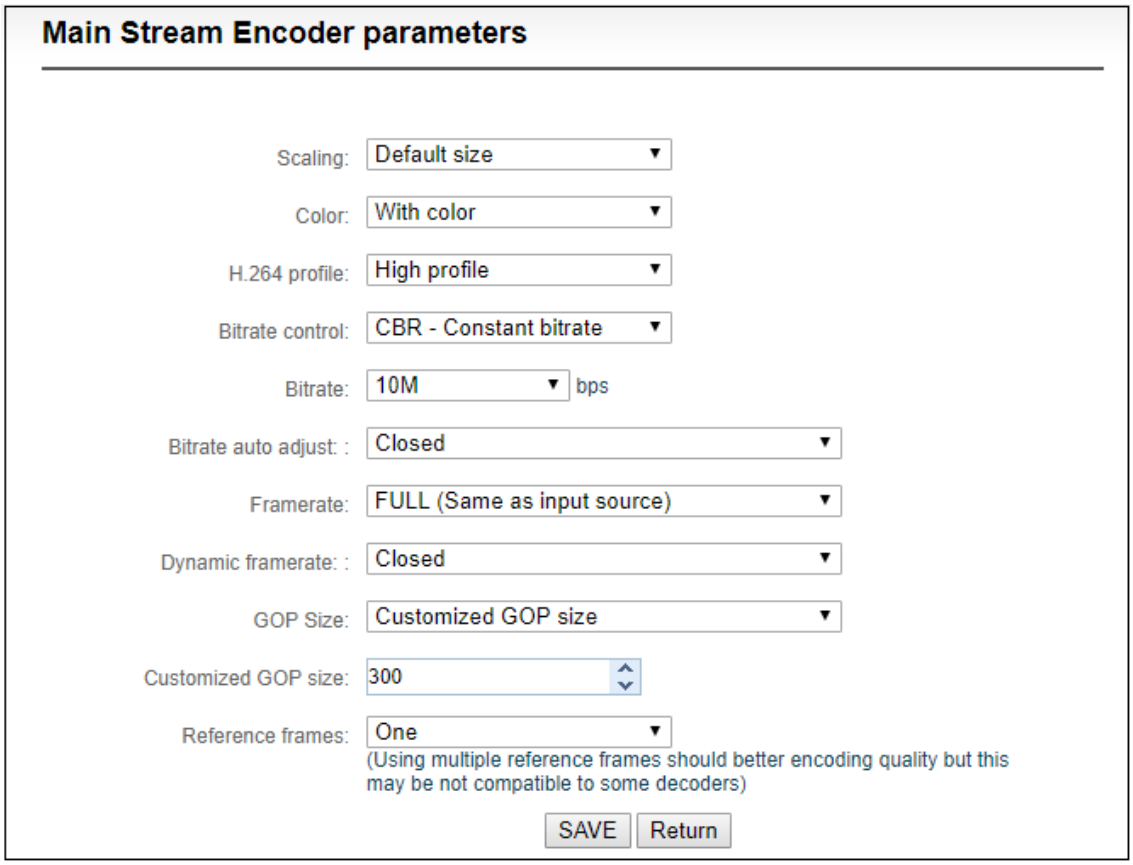

- "Scaling" has 9 options for choice. Default setting is "Default size", that is, the video size after encoding is the same as the input video size.
- "Color" has two options: "With color and monochrome". Monochrome is black and white color, "with color" remains the original color. Default setting is "With color".
- "H.264 Profile" supports High profile, main profile, baseline, which is set according to platform supported encoding profile. High Profile is the highest compression efficiency, that is, under the same bitrates, image quality is the best; Baseline is the most widely supported; default setting is High Profile.
- "Bitrate control" has two ways: CBR-Constant bitrate and VBR-Variant bitrate. From literal meaning, CBR is stable and unchanged bitrate, while VBR is constantly changing according to actual content. Generally, network transmission adopts CBR to guarantee transmission quality, while file storage uses VBR to guarantee file quality. Default setting is CBR-Constant bitrate.
- "Encoding Bitrate" supports adjustable 64K-40M. Users could choose default setting, or

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self-define bitrate size. The higher bitrates, video quality after encoding is better. But specific setting should be based on actual network situation, couldn't be higher than your own upstream bandwidth

- Dynamic bitrate can be selected as "off" or "automatically adjust bitrate according to network bandwidth". Default is off.
- "Framerate" has three options: FULL (same as input source, HALF (half when source framerate>=50 and customized framerate. "FULL" means framerate after encoding is the same as the framerate of input source; "HALF" means if input video is 1920*1080P50, video framerate after encoding will be 25. This will be a good saving on the consumption of network bandwidth; customized framerate is user assigning framerate after encoding, in theory, it shouldn't be higher than original framerate.
- Dynamic framerate can be selected as "off" or "When the bit rate is low, automatically reduce the frame rate". Default is off.
- "GOP size" has five options and supports user-defined adjustment. It is adjustable according to actual situation, default is 60, which normally could meet the most majority of needs.
- "Reference frames" has two options: one and multiframes. Theoretically using multiframes can improve encoding quality, but some decoders and players may not support multiframes.

Sub stream parameter setting refers to Main stream configuration.

6.4.3 Steaming media service

E1-s NDI currently supports streaming services include: RTSP, RTMP, RTMPS, HLS, RTP, TS-UDP, SRT and Onvif2.0. One code stream can run up to 8 stream services at the same time for the encoder, which means it can push the video stream to 8 different live platforms. There are two code streams (the main stream and sub stream) for the encoder, so the encoder can stream up to 16 different live platforms at the same time (Multi-stream push requires network uplink bandwidth support, and the

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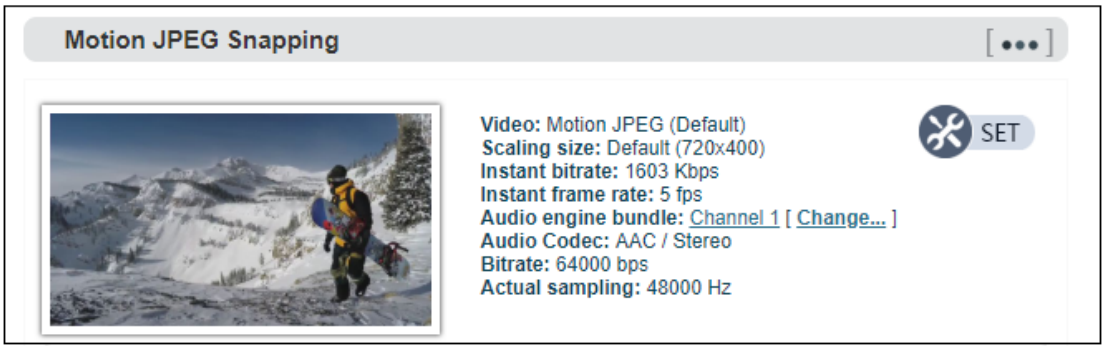
total output bandwidth of the encoder is recommended to less than 40M). In general, main stream is widely applied, and the sub stream is mainly used in the security monitoring field to integrate with NVR.

6.4.3.1 Motion JPEG stream

E1-s NDI has a Motion JPEG stream, which keeps running without stop. It is blank with blue color if without video access. If with a video signal access, Motion JPEG stream will display the content of current flow, "the video signal lock" displays locked and it will display the current video signal format.



⚠ **Note: Motion JPEG stream is a picture preview, refresh every 3 seconds, or click the mouse to refresh, so it is normal to see it is not fluent on the page.**

6.4.3.2 RTSP service

RTSP service cannot stop when the device is working. It will not have additional load on the encoder if the stream is not pulled for decoding. As shown in the red frame, the RTSP service flow address is "rtsp://192.168.1.168:554/ch01". "192.168.1.168" is the IP address of the encoder, If the for encoder, the IP address is 192.168.2.168, then the RTSP service address is "rtsp://192.168.2.168:554/ch01", if there are several IP encoding devices, these IP address can also directly pull RTSP flow accordingly.

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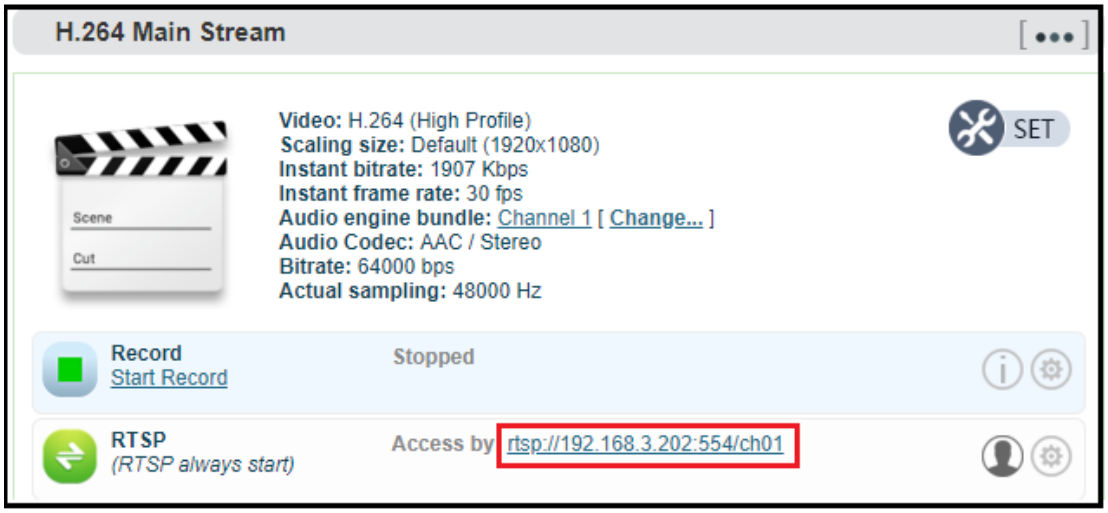
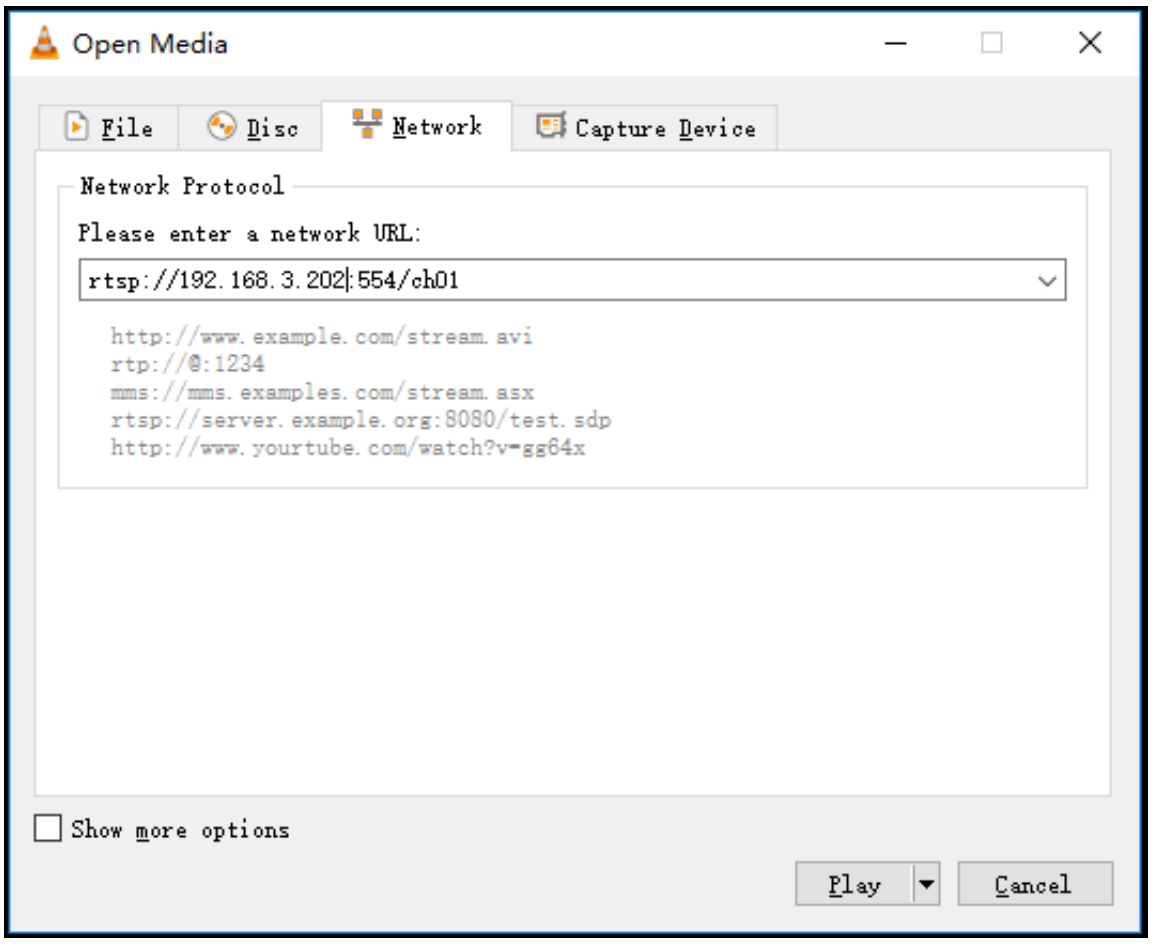


You can pull RTSP via VLC to test whether the encoding is normal and to review parameters details, on the same LAN computer. Install and open VLC media player, select the "media", and "open network stream", then enter the RTSP service URL address, you can play the video.



⚠ **Note: URL should be copied completely and the punctuation marks should be included.**

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6.4.3.3 RTMP Pushing (Live streaming)

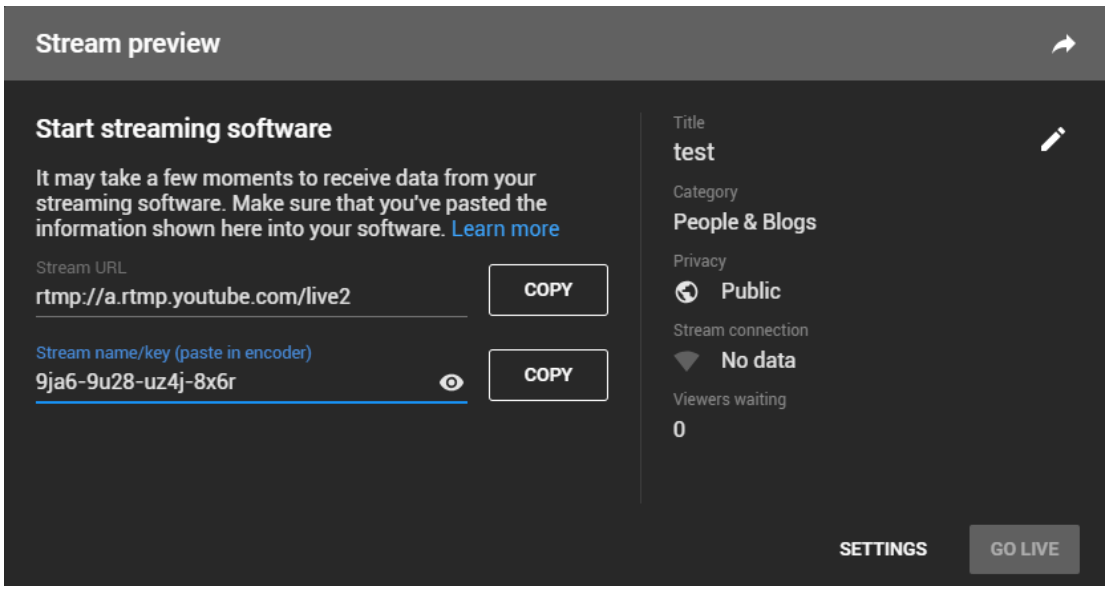
Using RTMP pushing, to make sure platform providing RTMP pushing address firstly, otherwise our encoders couldn’ t do RTMP pushing (Currently some live streaming APP couldn’ t provide RTMP pushing address.)

⚠ **Note: The principle of RTMP push stream is that it must be pushed from the encoder to the platform. The computer/decoder then pulls the RTMP stream from the platform for playback. The encoder cannot directly push the RTMP stream to the computer/decoder for playback.**

YouTube live streaming

“Streaming point” is RTMP address given by platform (Take YouTube as an example). (Other platforms are similar, if any questions please contact platform technical support for help).

1) Login to YouTube, get below address:



Streaming point should be like Server URL+Stream name/key.

For example: rtmp://a.rtmp.youtube.com/live2/9ja6-9u28-uz4j-8x6r

2) After you get the RTMP URL address, you need to set it up in the encoder. In the main stream of H.264, there is a stream service option to be added. By adding a RTMP push, you can get a RTMP push option. Click the settings button on the right side of the RTMP push, and you will

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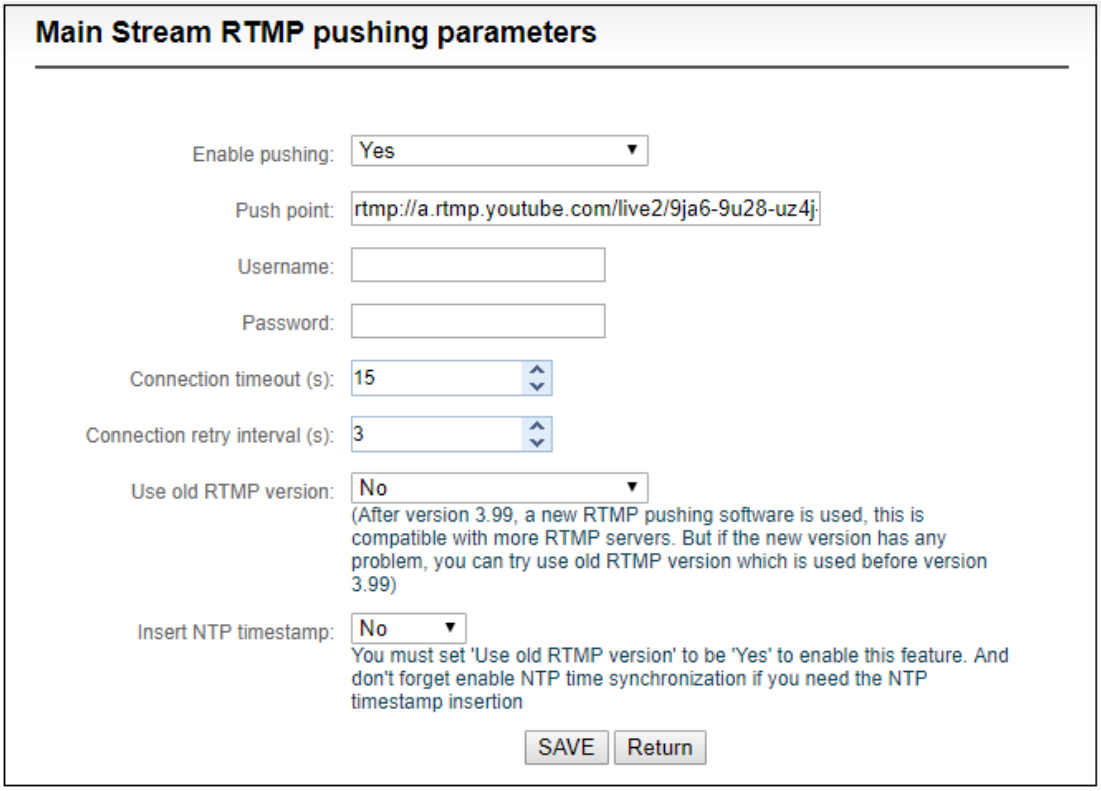
enter the interface to fill in the RTMP push configuration. The push address on YouTube platform is filled in the "push point", and set "Enable pushing" to "Yes". Click “Save”, then RTMP will stream to YouTube.



If the platform requires user name and password verification, you also need to fill in the corresponding parameters in the encoder.

3) On YouTube platform, if the video can be displayed, the push stream is successful; otherwise you need to check the network and other configurations.

⚠***Note: In the case of RTMPS push mode, fill in RTMPS URL at Push point and set 'Use old RTMP version' to yes, so that it can be supported.***

6.4.3.4 TS-UDP Pushing (unicast and multicast)

Click ⊕ Add a stream... to select TS-UDP Pushing, then entering into TS-UDP setting interface.

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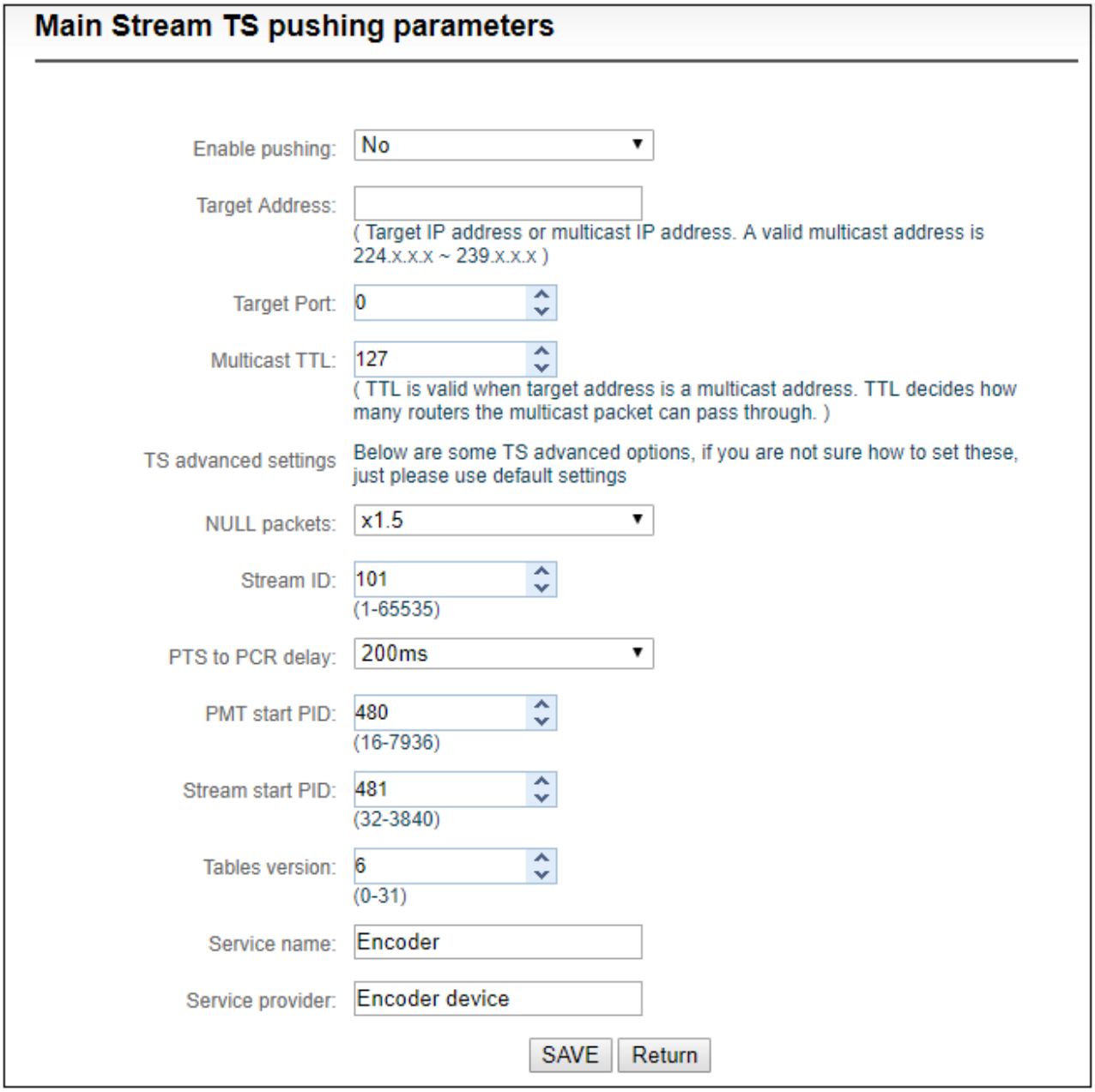
TS-UDP pushing divides into unicast and multicast. If using unicast, "pushing target address" is device IP address of receiving TS streaming. "Target port" is any port, but it is better not conflicted with other service port. No need to change Multicast TTL; If using multicast, "pushing target address" needs to write a correct multicast address (224.x.x.x ~ 239.x.x.x). "Target port" is any port, but it is better not conflicted with other service port.

It is recommended to use default parameters for others if no special requests.

Multicast push can only be decoded and played within the same network segment. Both the encoder and the player need to be configured with a gateway to decode and play the multicast source normally.



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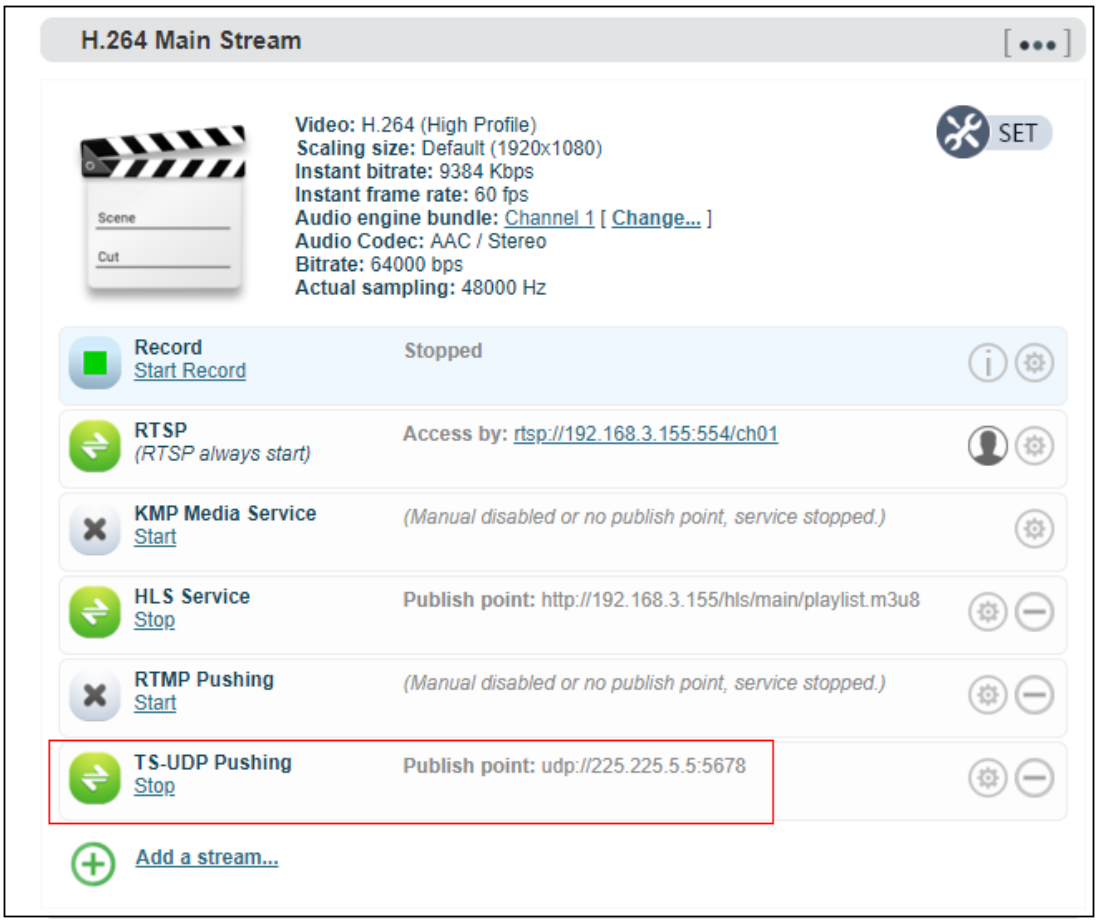
After finishing setting, it will come up an URL address from TS-UDP pushing, which could be decoded through VLC or others decoding player. If it is multicast, please remember to close Windows firewall.



⚠ **Note: When the URL obtained by configuring multicast push mode is udp://225.6.6.6:1234, if played by VLC Player, it needs to add @ for playing, that is udp://@225.6.6.6:1234。**

6.4.3.5 HLS service

Using HLS service, to "add a stream service" firstly, then click right-side SET icon of "HLS service" for setting.

Below is setting interface of HLS service. Very simple, if no special requirements, no need setting, only enable service.

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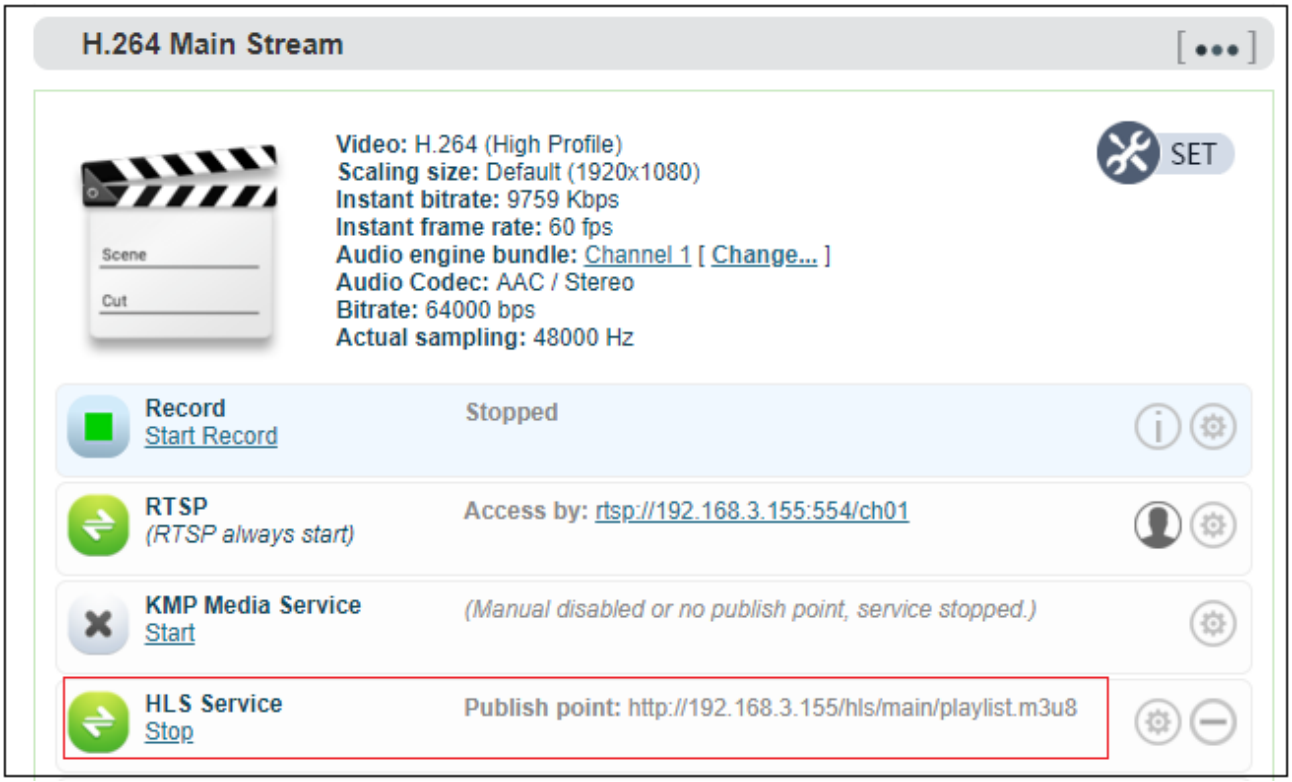
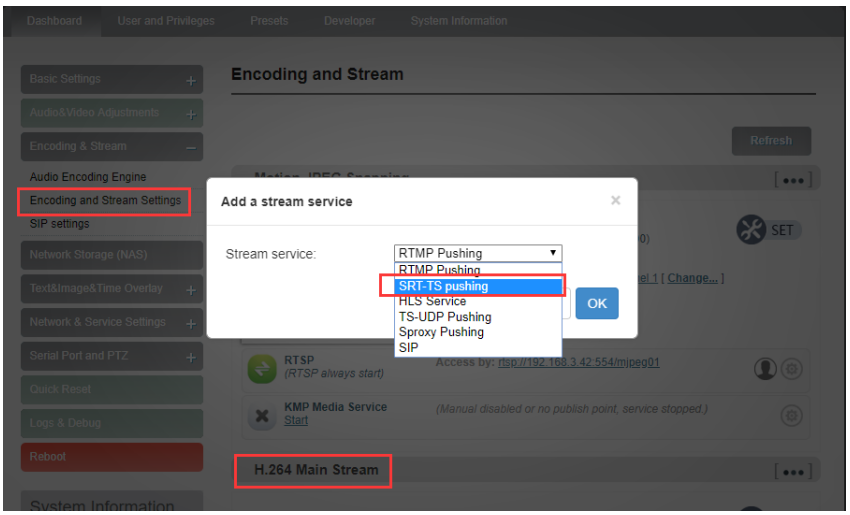
Once enabling service, it will get one HLS Publish point. You could watch it through VLC and other players using this address.



6.4.3.6 SRT-TS pushing

1) Click "Encoding & Stream" — "Encoding and Stream Settings" – "H.264 main stream" – "Add a stream". Choose "SRT-TS pushing", click "OK" and add a SRT service.



2) Click the icon for SRT configuration.

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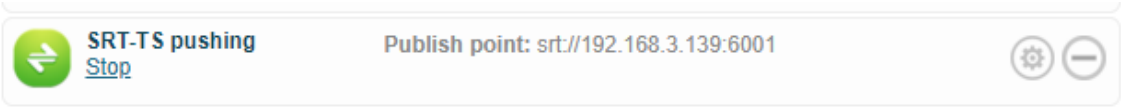
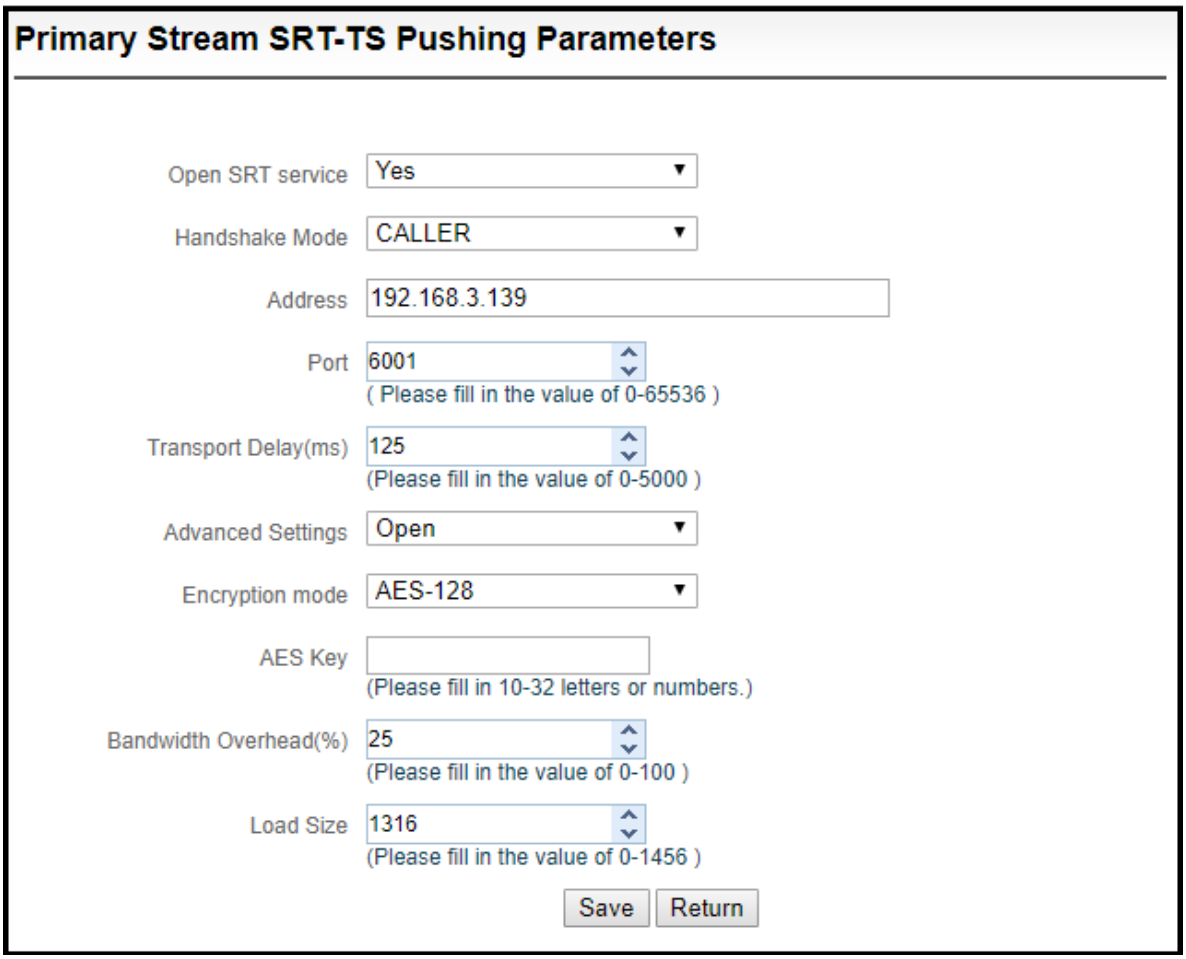


3) Fill in the pushing address and port, click "Save". Then SRT pushing is working.



The meanings of SRT streaming parameters are as follows (it can be set according to the actual network conditions, in general, you can choose the default configuration).

Turn on the push service: Yes or No, and you can also set "Start" or "Stop" after the push release point is generated;

- Handshake mode: Caller, Listener and Rendezvous;
- Address: Set IP address of the receiving port;
- Port: Set the listening port corresponding to the receiving port;
- Transport delay: Set it based on the performance of the current network, the delay value can be

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set on both SRT source device and the target device. The final SRT transmission delay will be the larger one of the two values.

- Encryption mode: AES-128, AES-192, AES-256;
- AES key: encryption AES key can be 10-32 letters or numbers combination;
- Bandwidth overhead: It is set as the percentage value based on network link quality. Using this value to multiply the total bitrate of the audio and video encoded by the encoder, this will get the occupied maximum bandwidth allowed by Bandwidth Overhead. This value plus the total of video and audio bitrate is the threshold of the current SRT transmission bandwidth, and also the maximum bandwidth that SRT stream can be used. From the perspective of "overhead", it is the extra "invalid" bandwidth to be used in addition to the media content required for transmission (which can be understood as the payload), but it is different from our common protocol overhead, TCP header overhead, UDP header overhead. The bandwidth overhead here is not a fixed 20~60 bytes TCP header overhead or 8 bytes UDP header overhead. It changes in real time according to the network conditions. The worse the network link conditions are, the more overhead needs for normal transmission. The range is 5%~100%, and the default overhead is 25%;
- Load size: Sending data packet size, it is optimal that the receiving port should equip with the same size. The default size is 1316, the optimal packet for the codec.

Network highest packet loss rate (%)	RTT Multiplier	BW Overhead	The lowest SRT delay (when RTT≤20ms)
≤1	3	33	60
≤3	4	25	80
≤7	5	20	100
≤10	6	17	120

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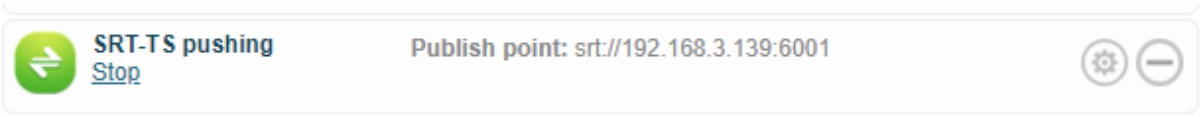
Note: Below format is the reference delay value under different packet loss. When RTT > 20ms, it requires to increase the delay appropriately.

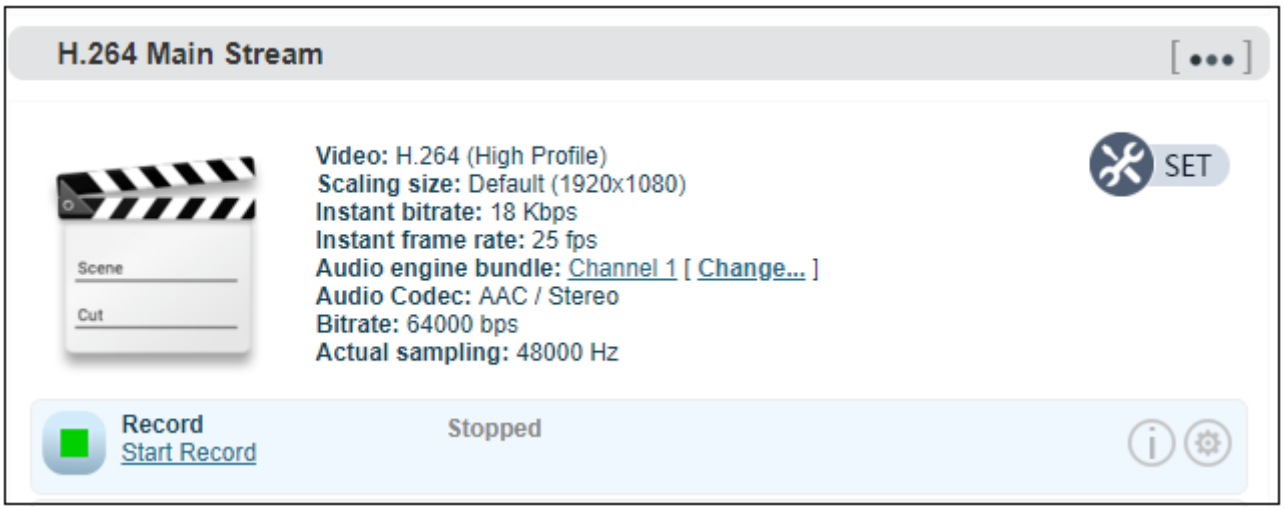
4) Save the settings, then a SRT-TS pushing address will be added. The encoder starts to initiate a handshake connection to the receiving port.



6.5 Local recording

E1-s NDI supports local recording via TF card and USB expansion. The recording operation is as follows:

1) Click "Record" below "H.264 Main Stream" under "Dashboard" or "Encoding and stream setting".



2) Click "Record settings" icon for setting

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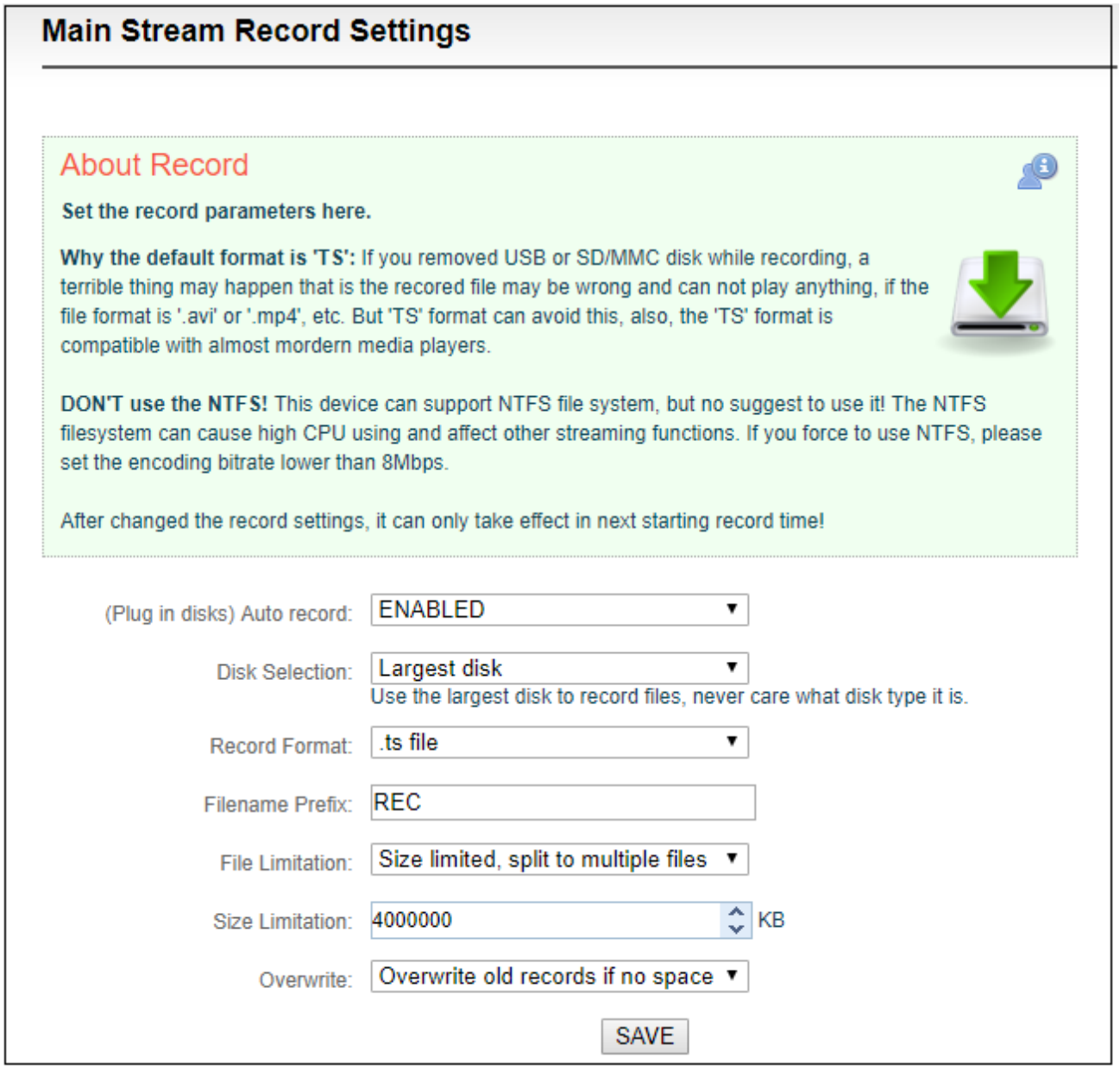

⚠ **Note: A real challenge for recording by removable disks: If you remove the storage disk while recording, the recorded file may be wrong and cannot be played if the file format is '.avi' or '.mp4', etc. But 'TS' format can avoid this, also, the 'TS' format is compatible with almost all the main media players.**

If recording is performed in a non-TS format, when the recording is completed, stop the recording manually, and then remove the storage device to ensure the recording can be played normally.

3) By default, it automatically starts recording when storage disks inserted, regardless its storage type.

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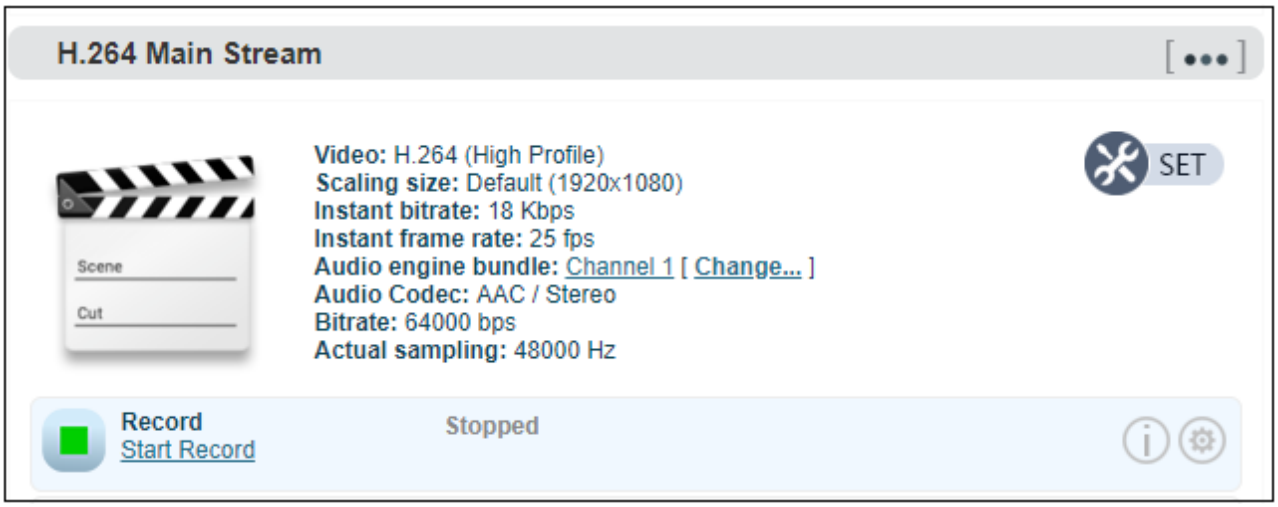
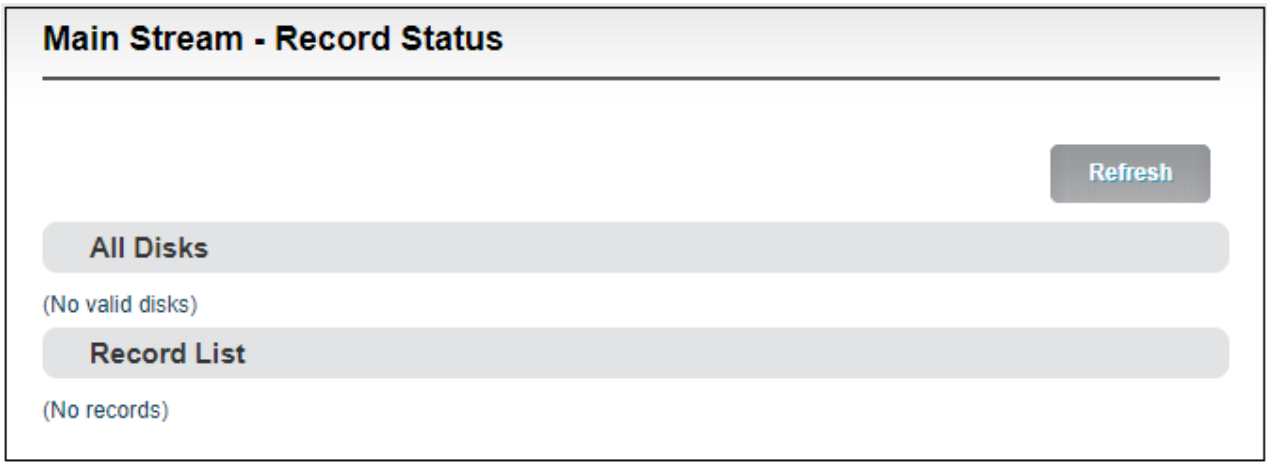
It will record to the biggest available storage area. Recording format is TS file by default. Users could set recording for automatic cutting based on specified size. And when storage space is insufficient, it will automatically overwrite the old video file to achieve redundant storage.

4) Click to check recording status and record list.

- When no disks inserted or NAS network storage not set, the status will be as follows, dashboard will show "Stopped".



Record status shows "No valid disks" and "No records".



- After inserted disks, the device will start recording automatically and the dashboard shows "Recording".

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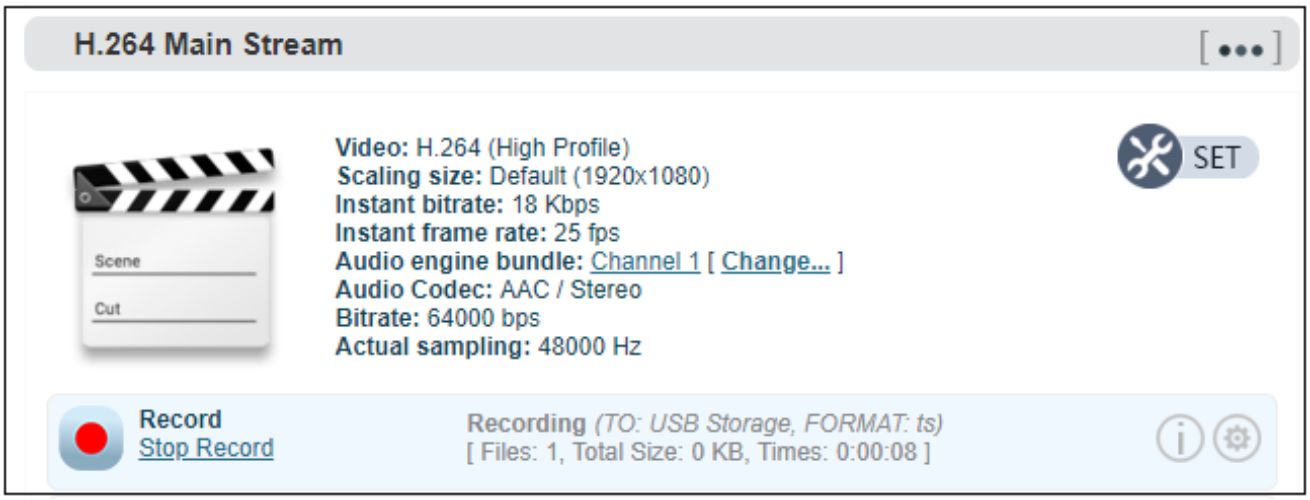
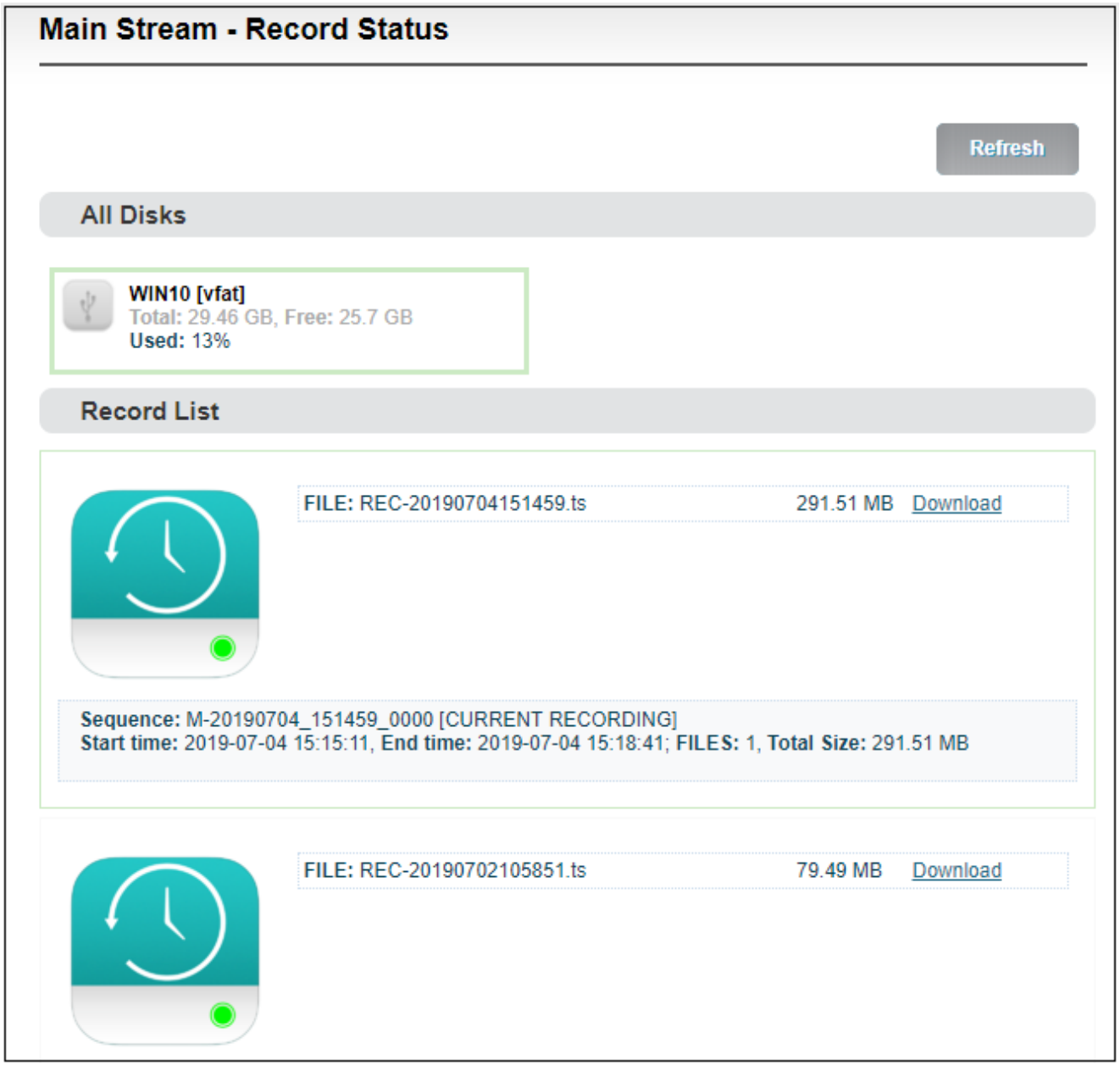


The "Video Status" is shown below, where you can view the usage of the memory or download the video files that have been stored in the memory to the computer.



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- When it is recording, users can stop the recording manually and it can be restarted again.

⚠ **Note: When recording with TF card, it only supports formats of NTFS AND FAT32. For TF cards over 64G, it will format to ex FAT by default under the formatting program of Windows system, which may lead to the TF card unrecognizable. Sometimes, due to the influence of some files or programs in the TF card, the TF card cannot be recognized. You need to format the TF card once.**

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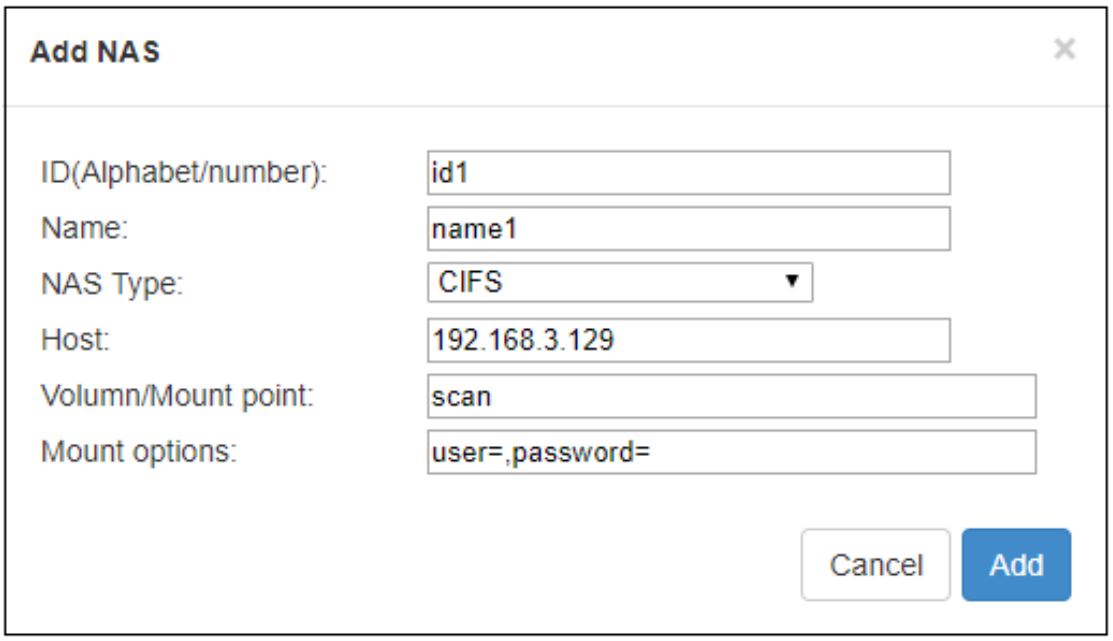
6.6 Network storage (NAS)

NAS is a Disk Arrays connected by network; it has all the main characteristics of disk arrays: high capacity, high efficiency and high reliability.

Open "NAS Manager", click "add NAS", then fill in the corresponding parameters.



ID/ Name: Any Alphabet/number

NAS Type: NFS or CIFS (CIFS is a shared protocol for network connection, which requires high reliability of network transmission, TCP/IP is usually adopted; NFS is transport-independent, TCP or UDP is adopted; One of the disadvantages of NFS is, it requires the user to install a special software, while CIFS is integrated inside the OS, and no additional software is needed.)

Host: IP address of the Host.

Volume/Mount point: Storage location on the host.

Mount options: Settings about the user name and password (Use English half-width commas to separate the parameters).

NAS manager will show "Mounted" if NAS connection has been established, and there is a RECORD file under the Mount point. If the connection is abnormal, it will be displayed as "Mounting".

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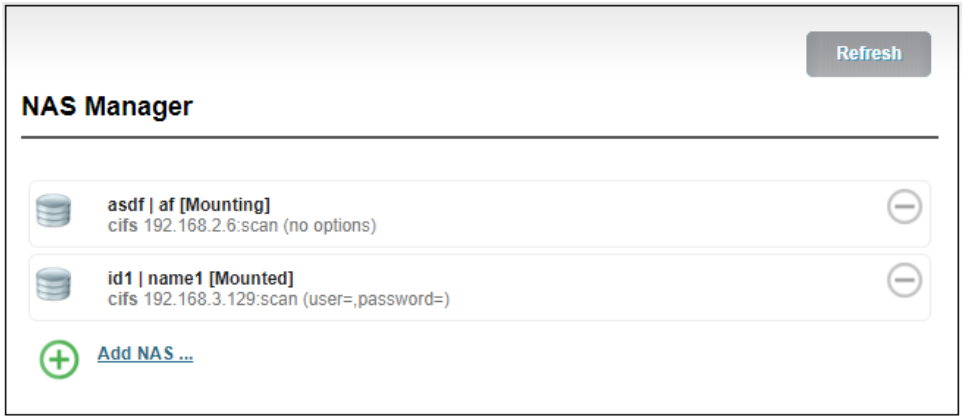


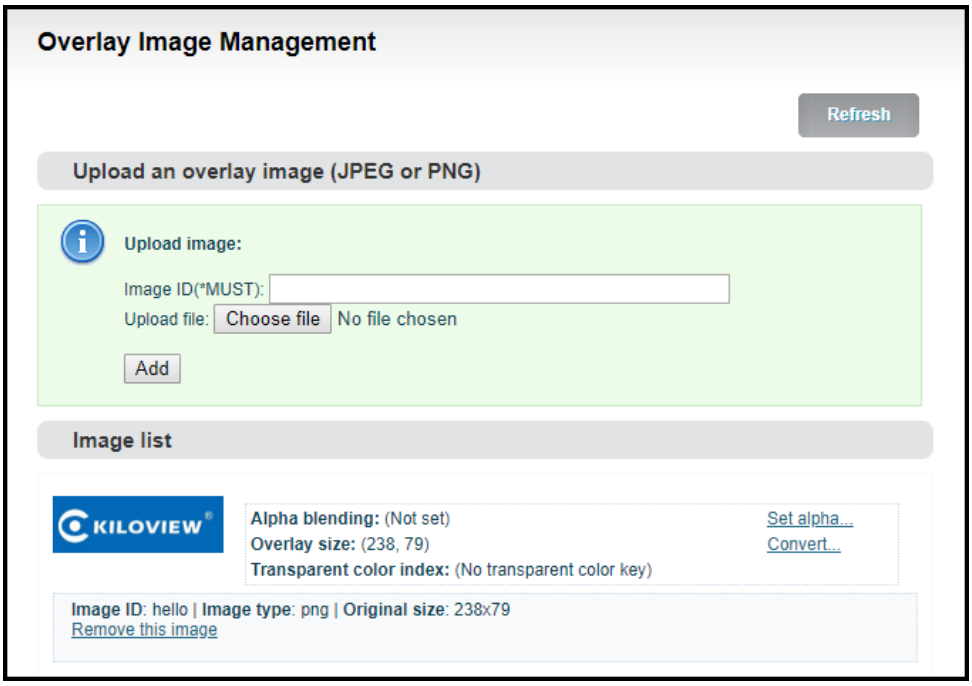
A recording folder will be created by default under the folder of the mount point of the network storage server: RECORD, you can go to the folder to view the corresponding recording files.

6.7 Text/ Image/Time overlay

Please open the "Overlay image management" to upload an image first if you want to make image overlay; if text or time overlay, you can set the overlay function directly.

6.7.1 Graphic overlay management

Enter "Image Management" ---fill in "Image ID-- Choose the image that you want—click "Add", then image is uploaded to the device. You can check the image and information listed under the Image list.



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You can change the parameters after uploading the image.

1）Set alpha blending: Value range is 0-255, 0 is full transparent and 255 is no alpha blending.

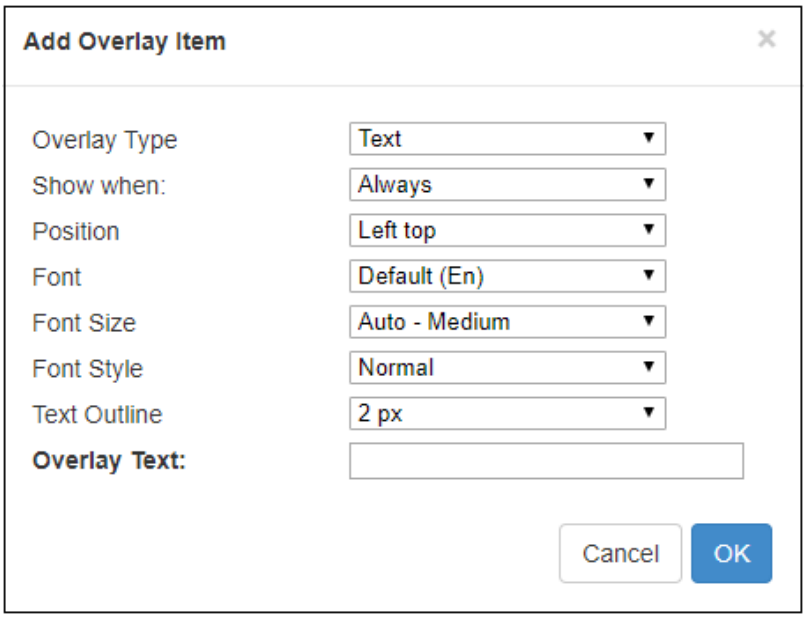
2）Convert

- Image size: If width/height set to 0, it will overlay the image as original size.
- PNG transparent threshold: If the original PNG transparent level is less than the threshold value, overlay that area as full transparent. Set a reasonable value can make the image border be smooth.
- Transparent color index: Manually specify an index color to erase background. Set tolerance (0%~100%) to control the similar color range selection. In most cases, transparent PNG images do not need to be processed manually.

6.7.2 Overlay

Go to the overlay settings page, in the settings of "Main stream", please choose "open" to enable overlay, for "Don't rotate follow picture", please choose yes or no. Then choose "Add overlay item" to set overlay functions for "Text", "Time" and "Image" respectively. You can set multiple overlays at the same time.

Add overlay item (text) as below:



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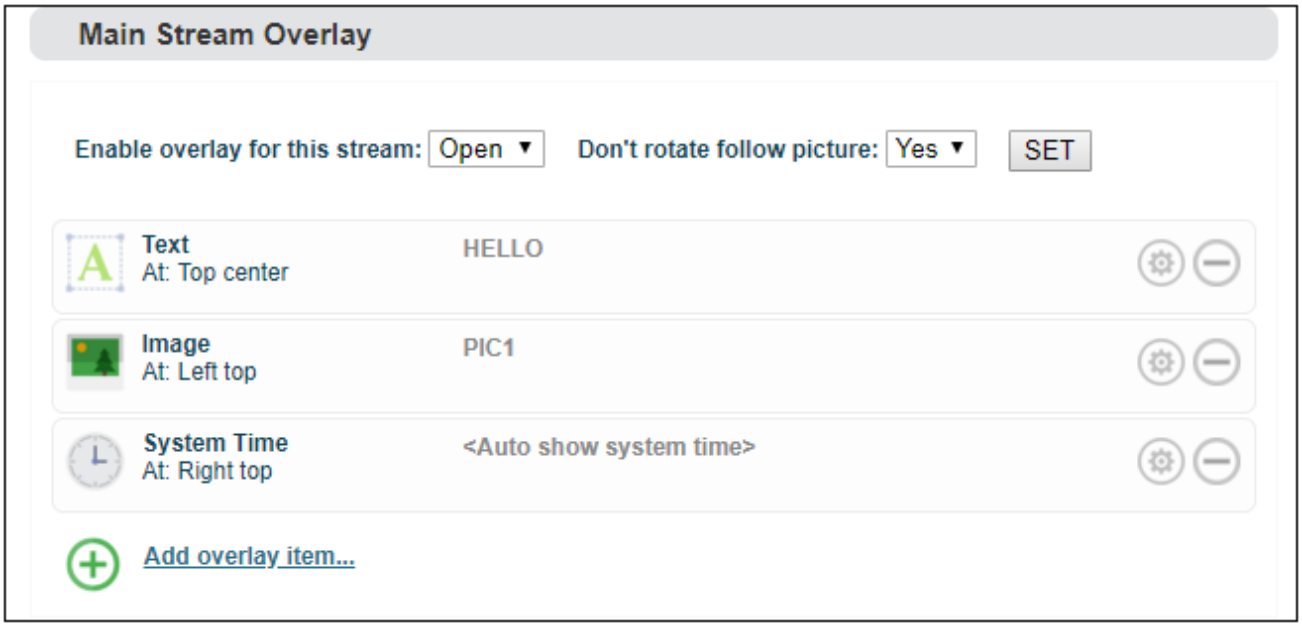
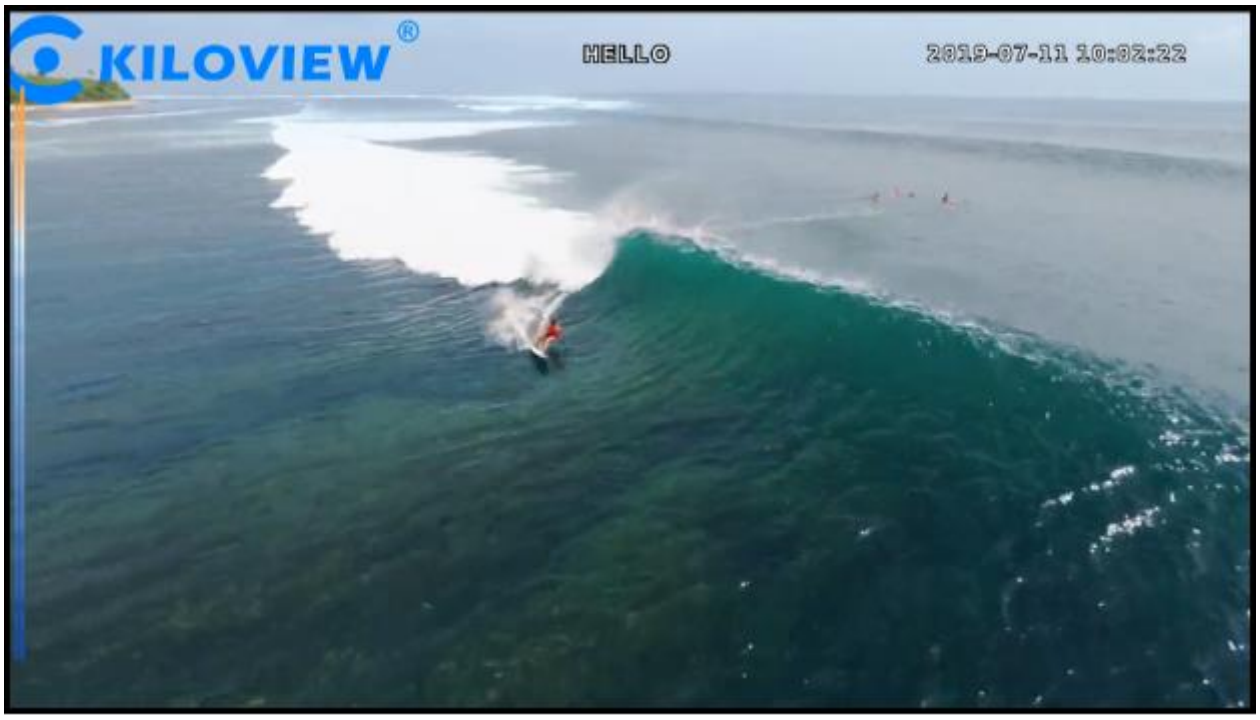
For every overlay, you can set the terms of overlay, position, font and font size, Image or text content and so on. After adding that, it will be shown as follows:



After encoding, the overlay will be shown as follow:



⚠ **Note:**

- **The resolution of uploaded image cannot be over the video. If the resolution of the video is 1920*1080, and the uploaded image is 3840*2160, then the image overlay will fail to display.**
- **Please pay attention to the overlay position, if you add image, text and time in the same**

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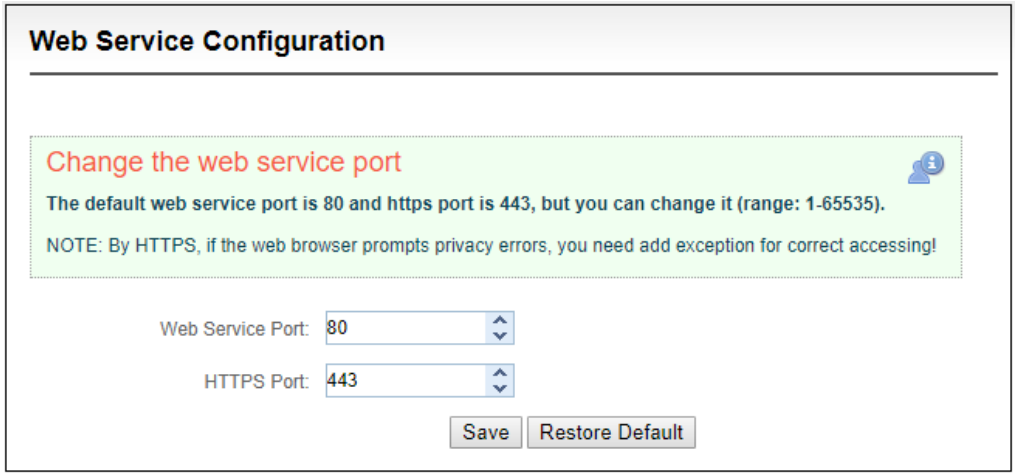
position, then some overlay may fail to display.

- **If the added image occupies the majority of the video screen, the actual bitrate and the set bitrate will be greatly reduced due to the low screen dynamic fluctuation.**
- **For the image format, only JPEG and PNG are supported.**

6.8 Service configuration

6.8.1 Web service configuration

The default web service port is 80 (https port is 443). You can change it (range: 1-65535) accordingly. By HTTPS, if the web browser prompts certificate errors which are caused by the browser certificate security authentication, you will need to add it to the safe list of the browser.



6.8.2 Onvif service configuration

Onvif (Open Network Video Interface Forum) is an IP-based security standard. Start the Onvif service to let a security-system which based on Onvif to discover and manage this device, and get the video streams.

Onvif is a 'Web Service' based protocol, you can even write your program to control this device by Onvif web service API. You can also use the WEB Service API of the Onvif. (It is compatible with Onvif 1.1/2.0 specifications).

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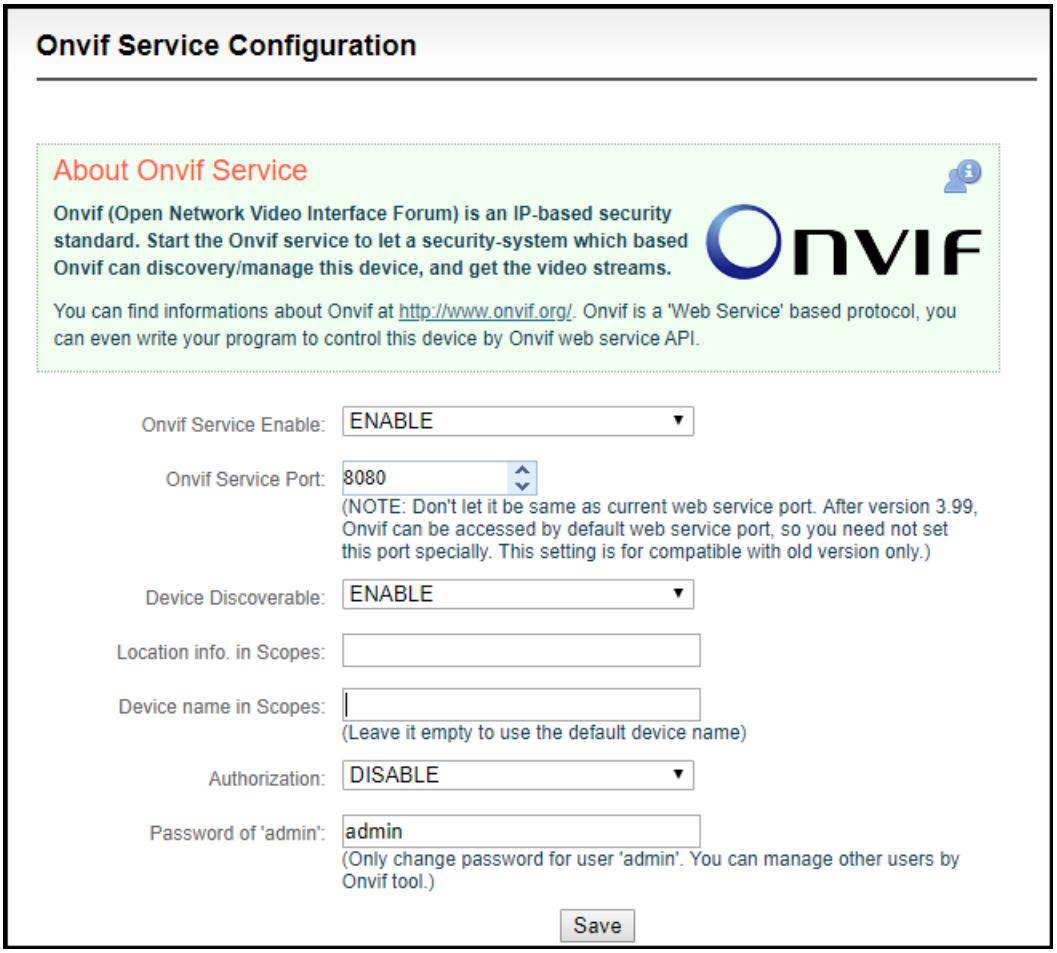
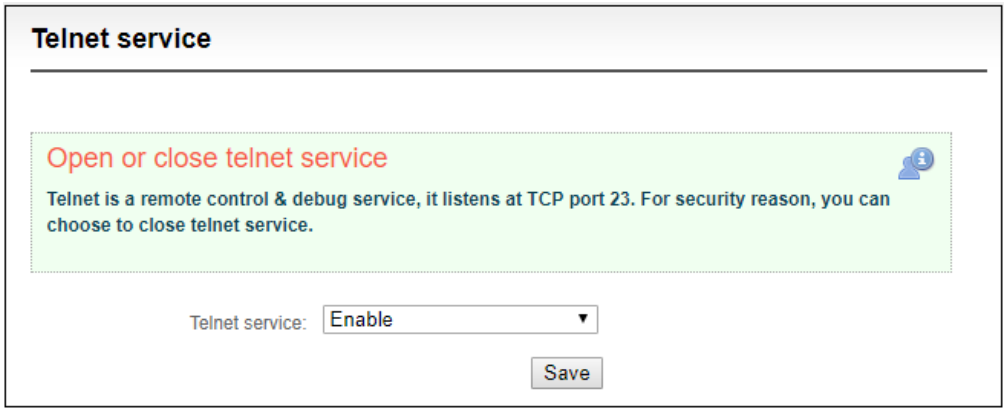


6.8.3 Telnet service configuration

Telnet service listens on port 23 for remote connection and debugging of devices. For security reasons, you can choose to close Telnet service.



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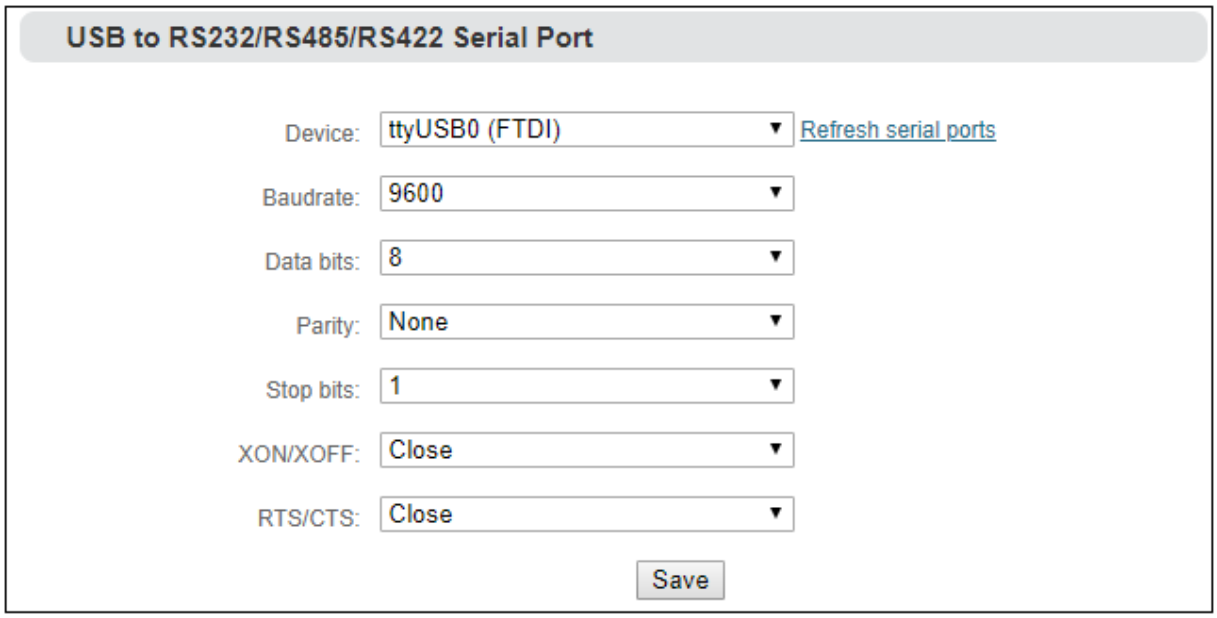
6.9 Serial port and PTZ

6.9.1 USB serial port

Connect USB to RS232/RS422/RS485 adaptor (cable). When the device identify the serial port correctly, USB port will be listed at "Device", then you can set the corresponding serial port parameters.



⚠ **Note: The encoder can automatically identify the USB serial port with general USB to Serial/FDTI chip/PL2303 chip. If the USB to RS232/RS422/RS485 adapter (cable) you inserted cannot be recognized, it means the converter chip in the adapter or cable is not supported by default, please contact Kiloview support team for assistance.**

6.9.2 PTZ setting

The encoder can control the PTZ camera via Sony Visca, Pelco-D, Pelco-P protocols; you can also set the control speed.

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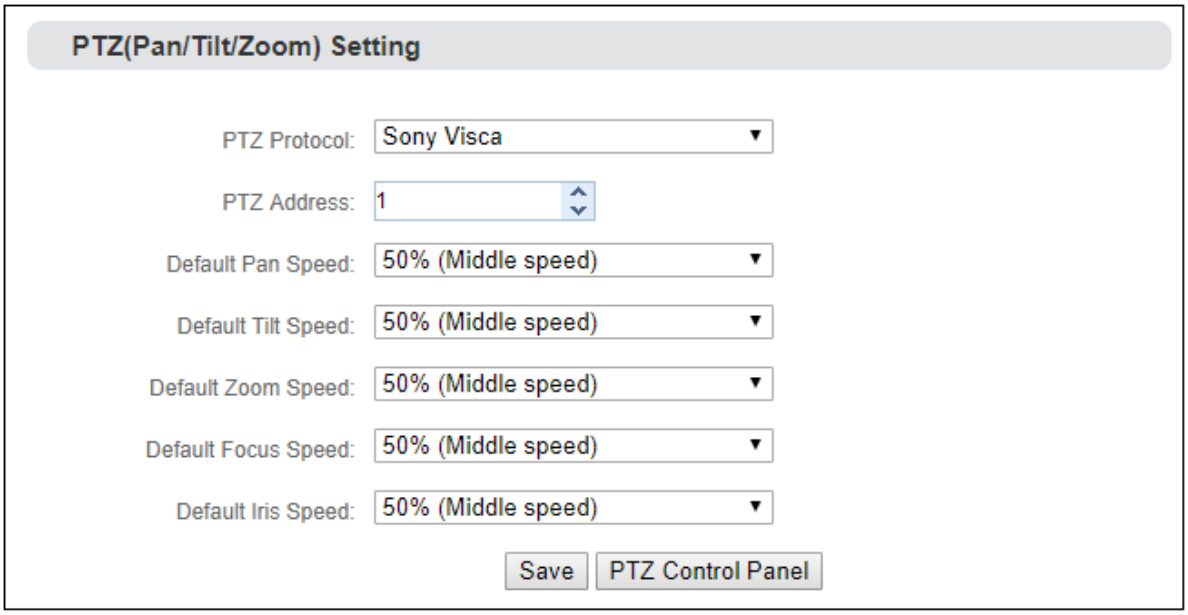
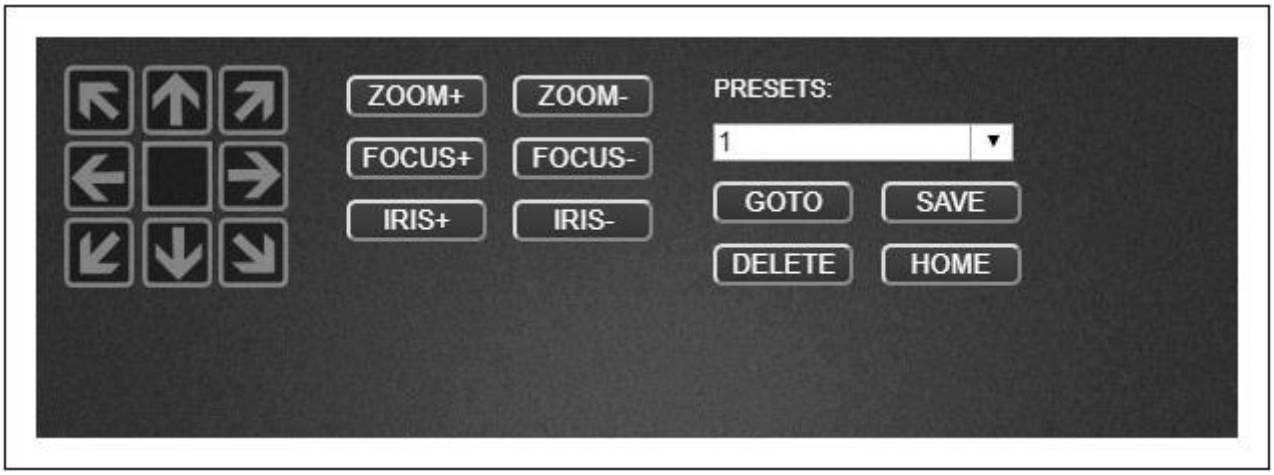


6.9.3 Control panel

Through the web page of the encoder, you can control the movement, zoom and focus of the camera in all directions.



6.10 Quick reset and reboot

6.10.1 Quick reset

"Quick Reset" is used to quickly reset the video encoding service of the encoder, normally it’ s used to parameters come into force after modification or encoding abnormal, the current encoding service will be stopped and it will take about 3 seconds.

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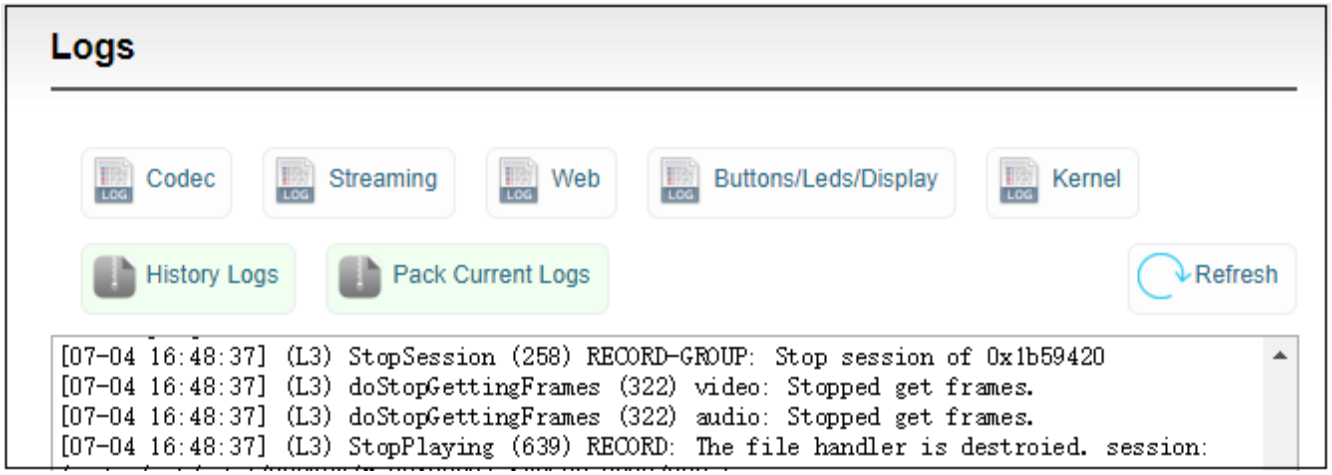
6.10.2 Reboot

"Reboot" is used to restart the device software, it will take about 1 minutes.

6.11 Logs and debug

System logs are available for download, which can be provided to technical service engineers for technical analysis



6.12 Preset configuration

When there are multi-devices in your system and required to set the same configurations, you could save or download the current configuration parameters to your device, then upload to other devices. After the device is restarted, the preset saved parameters will take effect.

"Preset configuration" - "Save current configuration", you can choose to save the required parameters and download, and the configuration name is customized

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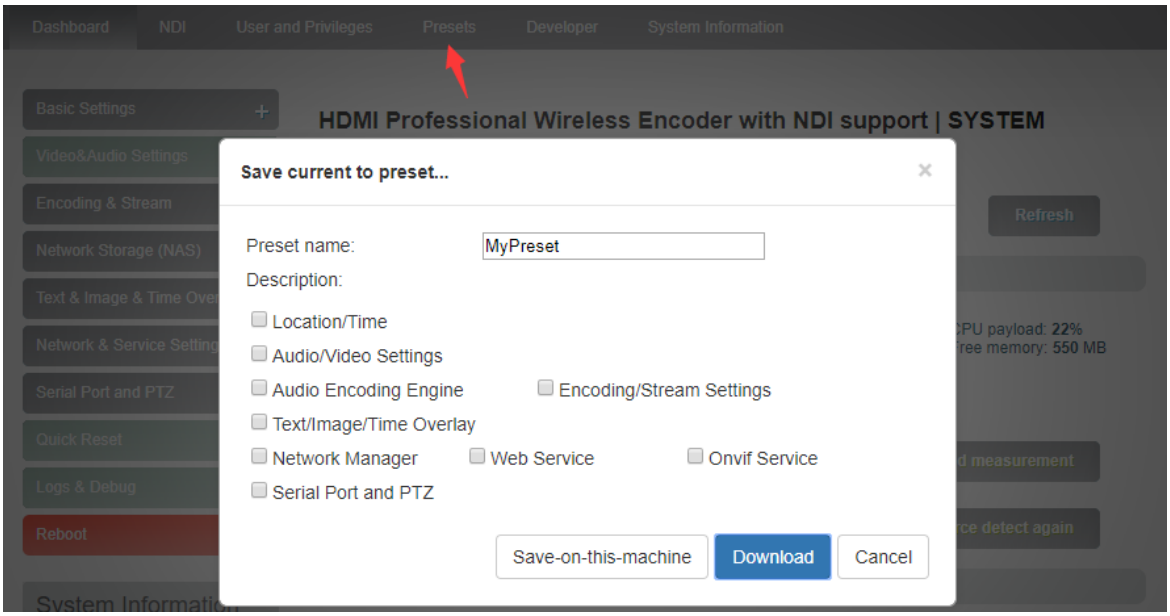
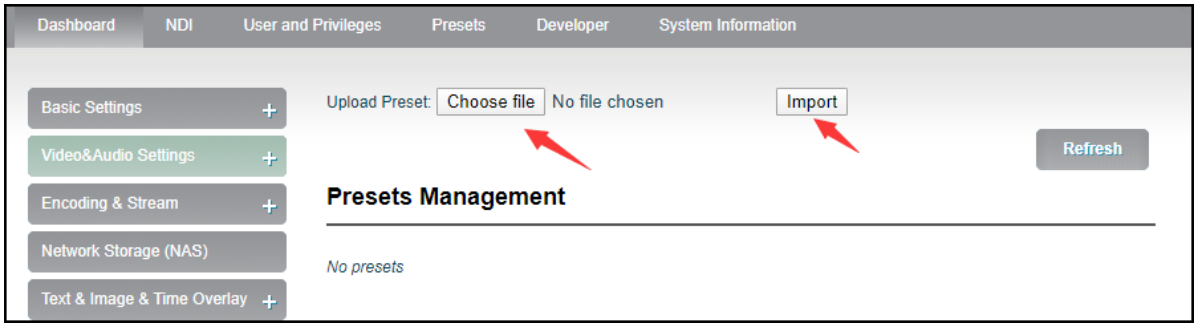


When there are other devices on site or the parameters of your device are restored to the factory, you want to use the parameters previously set. You can upload the saved configuration file in "manage or load preset configuration", restart the device after loading, and the parameter configuration will take effect.



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Thank you for reading

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