



User Manual



Mini SD/HD/3D SDI Encoder streamer
UDP unicast/multicast, RTMP, HTTP, ONVIF, RTP, HLS, SRT

NetLink Mini

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Preface

In order to learn more about the product information, technical operation of HD encoder more efficiently, convenient and fast maintenance for engineers and professionals, we keep updating its instruction manual if renewed.

The user manual can be applied to general encoders!


Our products including:

ENCODER : HDMI/ SDI/ VGA/ YPBPR/ CVBS/ DVI over HTTP/ RTSP/ RTMP (pull/ push)/ UDP Unicast O Multicast/ RTP/ SRT/ 4G ,WIFI, Ethernet encoder

DECODER: 4K (4096*2160) IP decoder, transcoder

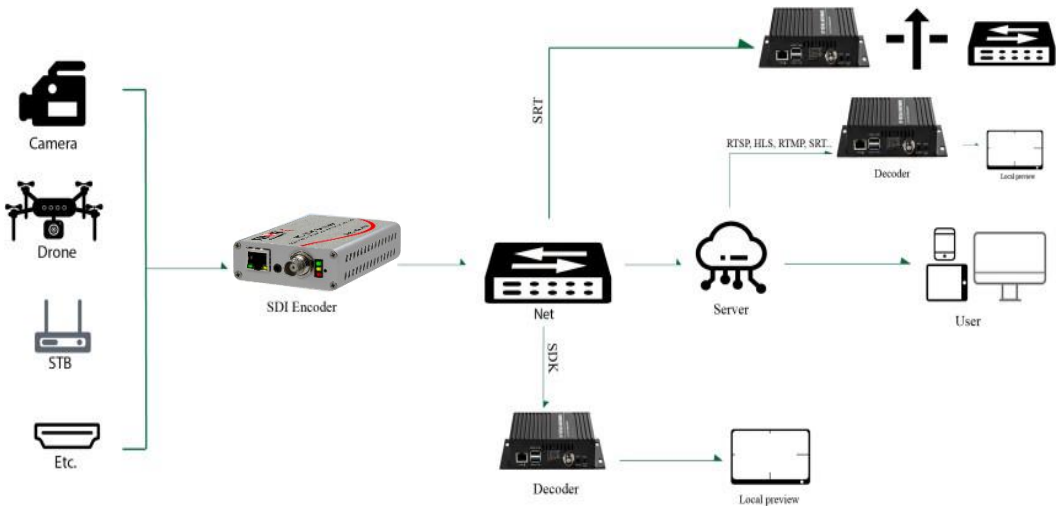
Transcoder: RTSP/ RTMP/ UDP/ HTTP/ HLS/ P-P/ SDK to HTTP/ HLS/ RTSP over UDP TCP/ RTMP/ UDP Unicast Multicast/ ONVIF/ RTP/ P-P

AI: AI camera, AI module, machine learning module

 It may lead to damage if privately disassemble the device



Part I: Connection illustrated



Part II: Configure network

DHCP suggested for new customer or will use it in different networks, so network configuration can be ignored if parameter of the stream configured.

If not DHCP enabled by default, please follow the following steps to configure the network for streaming



Part II: Configure Network

```
C:\Users\NleShion>ipconfig

Windows IP Configuration

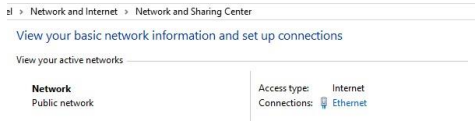
Ethernet adapter SSTAP 1:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix . . :

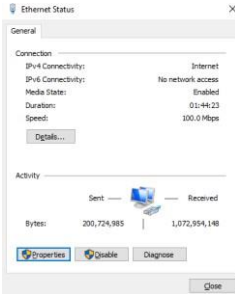
Ethernet adapter Network 1:

    Connection-specific DNS Suffix . . :
    Link-local IPv6 Address . . . . . : Fe80::859F:151f:646a:ab82%
    IPv4 Address. . . . . : 192.168.0.179
```

1- Get current IP
Windows+R → cmd
→Enter: ipconfig
→Get the IPv4 Add



2- Enter Ethernet

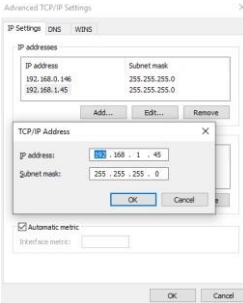


3- Enter Properties



4- Enter IPV4 and fill the IPv4 address you get from the 1st step and its subnet mask and default IP gateway

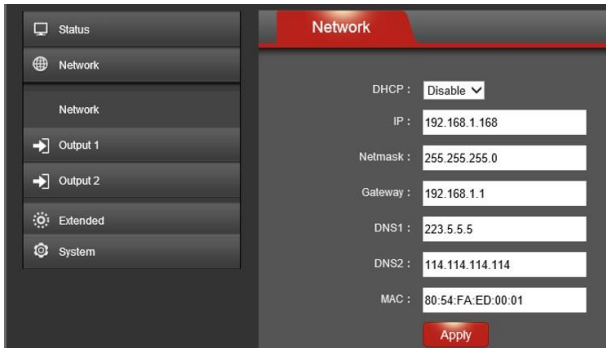
Fill the correct dns, 8.8.8.8 suggested for global streaming



5- Enter Advanced
6- Add an available IP address @192.168.1.xxx and save all configurations.



1- Open a Browser and enter Default IP address of the encoder [192.168.1.168](#)



→ **Enter an available IP**

→ **Enter your gateway**

→ **8.8.8.8 recommended**




Note: Reboot required while net configured

*** DNS**

In general, we recommend 8.8.8.8 for the DNS1, changing a DNS will probably helps if the stream does not start to decode.

Part III: Encoder Functions

1- States



Access address – Show the RTSP/ RTMP pull/ HTTP/ UDP/ RTP address

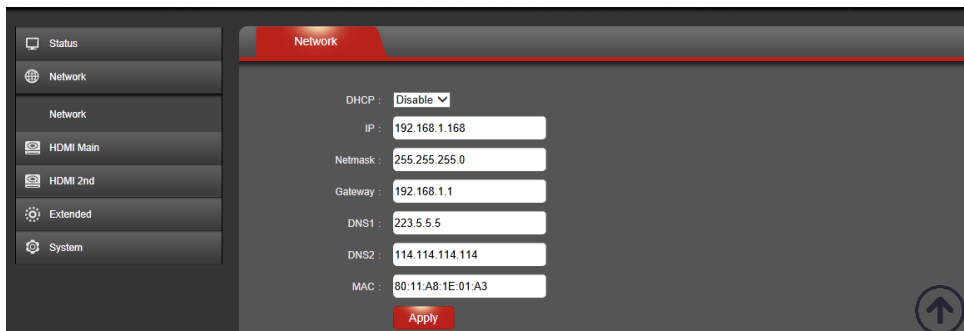
Video/ Audio parameters – Show the information of the inputting signal

Hardware status– If the encoder working normally, the data will keeps going

Preview– VLC based preview for P-P encoder, HTML5 based for general encoder

2- Network

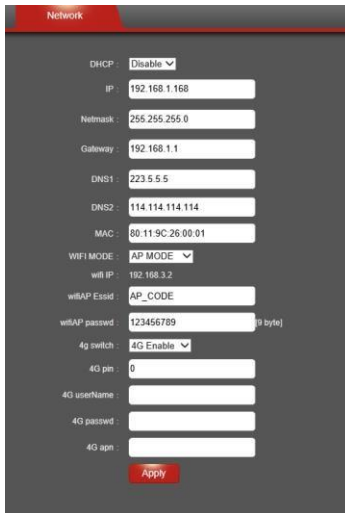
1)- general encoder- Once the network configured, to change the IP address of the encoder to your local IP gateway required



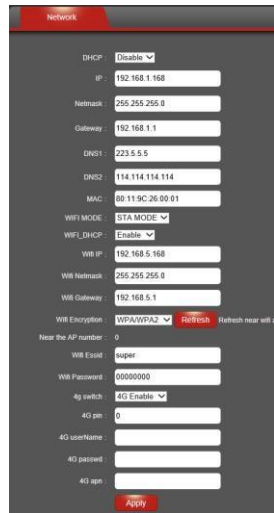
2)- 4G/ WIFI encoder- Once the network configured, to change the IP address of the encoder to your local IP gateway required;

If need to use WiFi, different IP gateway to encoder IP required; for 4G, enable STA MODE.

If need to Use 4G network, just enable it

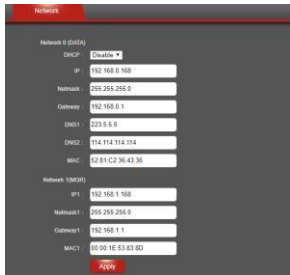


4G+ AP mode



4G+ STA mode

3)- Two Ethernet (U/Y520 series)




HDMI Main

Set Stream Venc:	H264		
Video Input:	HDMI		
channel name:	chan		
mirror control:	disable		
flip control:	disable		
aspect ration:	auto		
Bitrate control:	cbr		
Key Interval:	30	[5-200]	
Encoded size:	auto		
Bitrate:	800	[16-12000]	
Fluctuate Level:	auto		
H.264 Profile:	main profile		
Encoding frame rate:	25	[5-60]	
Package:	ffmpeg		
Buffer Mode:	188x7		
PMT ID:	280	[1-65535]	
Transport ID:	264	[256-3840]	
Stream ID:	280	[256-3840]	
Program ID:	1		
SDT name:	Service01		
HTTP:	/hdmi	Disable	
HTTP Port:	80	[1-65535]	
RTSP:	/hdmi	Enable	
RTSP Port:	554	[1-65535]	
RTSP Authentication:	Disable		
RTSP mode:	video+audio		
RTSP TCP:	UDP		
TTL:	16	[0-255]	
unicast IP:	192.168.1.200	Disable	
unicast port:	1234	[1-65535]	
Multicast IP:	238.0.0.1	Disable	
Multicast port:	1234	[1-65535]	
RTP Server Ip:	192.168.1.123	Disable	
RTP Port:	8666	[1-65535]	
RTMP:	URL MODE	Disable	
RTMP mode:	video+audio		
RTMP URL:			
	<input type="button" value="Apply"/>		

- To choose H.264/ H.265 for streaming
- To choose the input source
- Set your channel name for to recognize the encoder
- Rotate the video
- To choose the display resolution from 4:3 or 16:9
- To choose VBR/ CBR
- To change the GOP size
- To change the output resolution
- To change the output video bitrate
- higher level higher bit fluctuation
- Alternatives: H.265 main, H.264 high/ main/ baseline profile
- To choose your output frame frequency (from 5-60)
- To choose VLC/ FFMPEG package
- Modify it if signal detected wrongly
- To rename PMT ID
- To rename transport ID
- To rename stream ID
- To set up the channel name
- To rename SDT name
- To rename the HTTP stream name; Enable HTTP streaming
- To change the HTTP port
- To rename the RTSP stream name; Enable RTSP/ ONVIF streaming
- To change the RTSP port
- To enable RTSP authentication
- Alternatives: Audio/ video/ AV
- RTSP over UDP/ TCP
- Time To Live
- To choose the Unicast address; Enable Unicast streaming
- To change the Unicast port
- To choose the Multicast address; Enable Multicast streaming
- To change the Multicast port
- To choose the RTP address; Enable RTP streaming
- To change the RTP port
- RTMP/S by URL/ IP mode; Enable RTMP streaming
- Alternatives: Audio/ video/ AV
- RTMP stream address
- Save current setting



SRT :

Encrypto:

Caller Server:

Caller Port:

latency: [unit:ms]

- To choose SRT caller or listener
- SRT encryption
- Set up the server IP
- Set up SRT port
- SRT server cache

HDMI 2nd

Set Stream Venc.:

aspect ration:

Bitrate control:

Encoded size:

Bitrate: [16-12000]

Fluctuate Level:

H.264 Profile:

Encoding frame rate: [5-60]

Buffer Mode:

PMT ID: [1-65535]

Transport ID: [256-3840]

Stream ID: [256-3840]

Program ID:

SDT name:

HTTP:

HTTP Port: [1-65535]

RTSP:

RTSP Authentication:

rtsp mode:

RTSP Port: [1-65535]

unicast IP:

unicast port: [1-65535]

Multicast IP:

Multicast port: [1-65535]

RTP Server Ip:

RTP Port: [1-65535]

RTMP:

RTMP mode:

RTMP URL:

2nd stream

- The parameters are same to the 1st stream, to see more details please check the previous page
- The 2nd stream can use at most 1280*720 for HDMI/ SDI encoder, the resolution will be lower than main stream
- 1st and 2nd stream can be used at same time



The screenshot shows the 'HD Encoder A' interface. On the left is a navigation menu with options: Status, Network, HDMI Main, HDMI 2nd, Extended, Audio Setting, Main OSD Setting, 2nd OSD Setting, Color Setting, Image Setting, RTMP-HLS Setting, Smart Encoder, onvif setting, and System. The 'Audio Encoder' tab is active, showing settings for Audio Input (HDMI audio), Audio bitrate (128000), Audio channel (L+R), Audio Codec (AAC), AAC type (LC), Resample (Disable), RTSP audio encode (AAC), and Audio gain (close). An 'Apply' button is at the bottom. Below this is the 'Main OSD' section with a logo upload field, and the '2nd OSD' section with similar settings.

- To choose the input source, SDI/ HDMI, Line In
- To modify the audio bitrate
- To choose audio channel, alternative: Left/ right/ stereo
- AAC/ MP3
- LC/ HE
- Enable/ disable Resample
- RTSP over AAC/ G.711
- Audio gain
- Save current setting

OSD function

Tips: if need transparent logo, black/ grey background required,
To make the OSD function work, 24 Bits in BMP format required



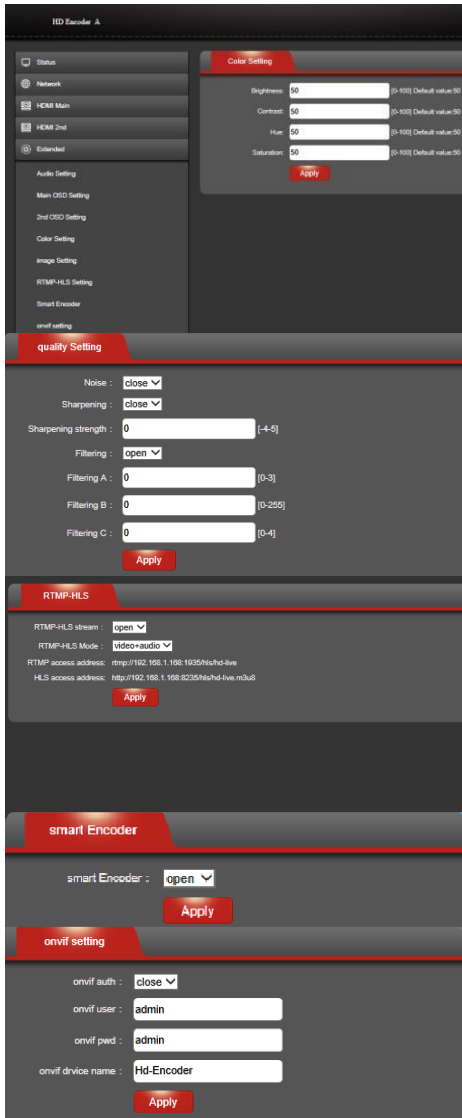


Image optimization

To adjust the video quality based on the video sources

RTMP-HLS

To enable RTMP pull and HLS protocol, for general encoder, HTML5 preview will be available once the HLS enabled.

Smart Encoder

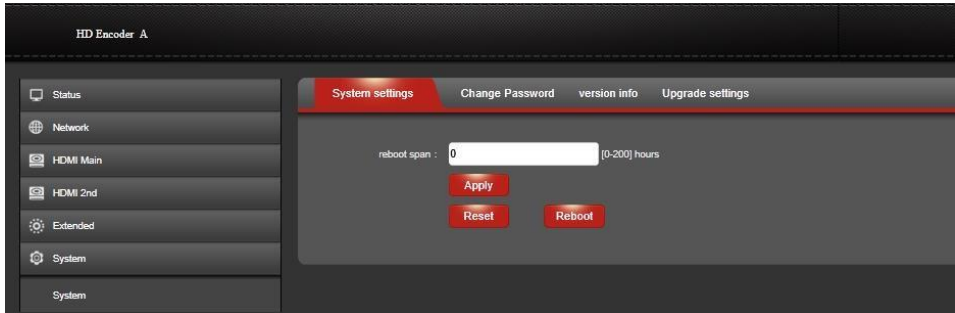
If using in low bitrate condition, the function would help for better quality and info completeness

ONVIF

To modify info of the ONVIF



System



To reboot, reset, change admin password, check the firmware version and upgrade the firmware.

If using TCP based protocols, 168 hours reboot span required (in case latency cache)

The encoder web GUI will be some kind different for the different design, the user manual can be applied to almost all encoder except K3, IPC, U/Y 10, for more details please ask for more information

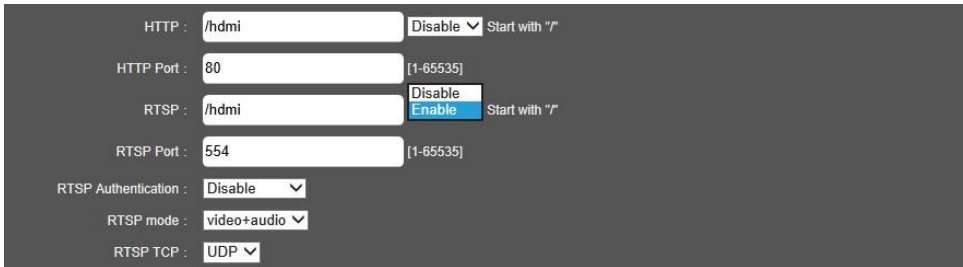


Part IV: Operation Guidance

1) HTTP-RTSP- RTMP pull- HLS

Copy the address and open it with VLC- streaming- network- fill the URL (Except RTMP push)

Such as HTTP: WEB management→ HDMI Main→ Enable HTTP/RTSPS→ Apply→ Status(find the URL) → VLC→ fill the URL→ Done



HTTP : /hdmii Disable Start with "/"

HTTP Port : 80 [1-65535]

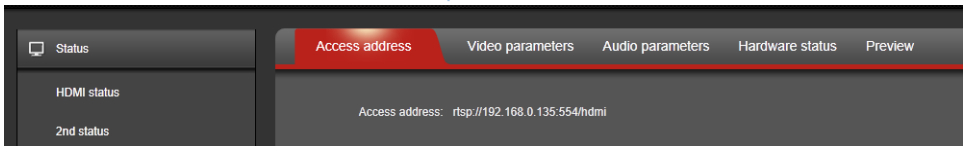
RTSP : /hdmii **Enable** Start with "/"

RTSP Port : 554 [1-65535]

RTSP Authentication : Disable

RTSP mode : video+audio

RTSP TCP : UDP



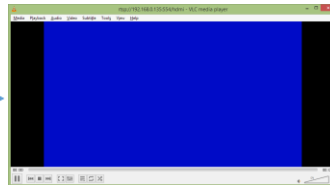
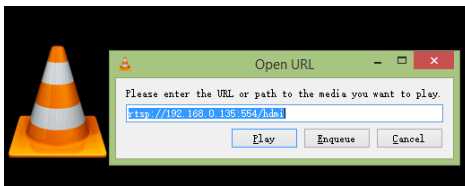
Status

Access address Video parameters Audio parameters Hardware status Preview

HDMI status

2nd status

Access address: rtsp://192.168.0.135:554/hdmii



2) Unicast- Multicast- RTP

For those three protocol, fill in the IP address required (multicast can be by default)

Then copy the address and open it with VLC- streaming- network- fill the URL

Such as HTTP: WEB management→ HDMI Main→ Enable HTTP/RTPS→ Apply→ Status(find the URL) → VLC→ fill the URL→ Done

unicast IP : 192.168.0.144 [Enable] [Support domain or ip format]
unicast port : 1234 [1-65535]
Multicast IP : 238.0.0.1 [Disable]



HD Encoder A

Status

HDMI status

2nd status

Network

HDMI Main

HDMI 2nd

Extended

System

Access address

Video parameters

Audio parameters

Hardware

Access address: rtmp://192.168.0.144:1234

Open URL

Please enter the URL or path to the media you want to play.

rtmp://192.168.0.144:1234

Play Request Cancel

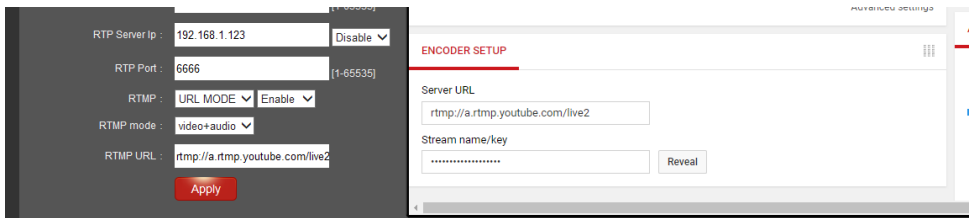
To get RTMP pull- HLS stream address on, UI- Extended- RTMP-HLS



3) RTMP (Push/ pull)- HLS

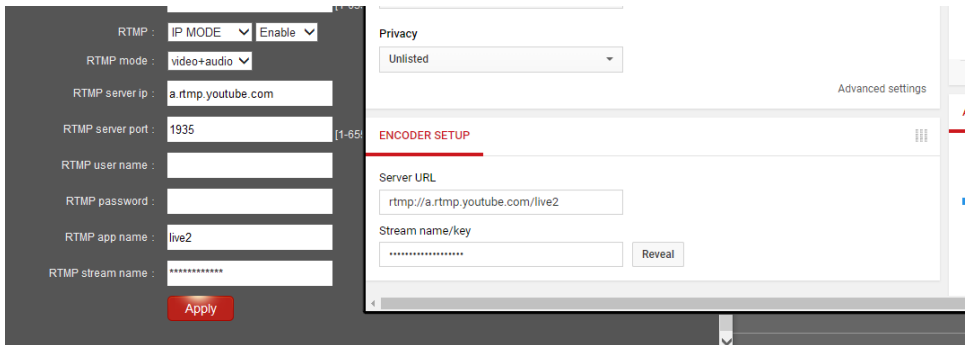
URL mode

Copy the CORRECT RTMP address from the server or platform and directly paste it on the RTMP filed, then “Enable” the RTMP function.



IP mode

Copy the CORRECT RTMP address from the server or platform, separately input it like following image, then “Enable” the RTMP function.



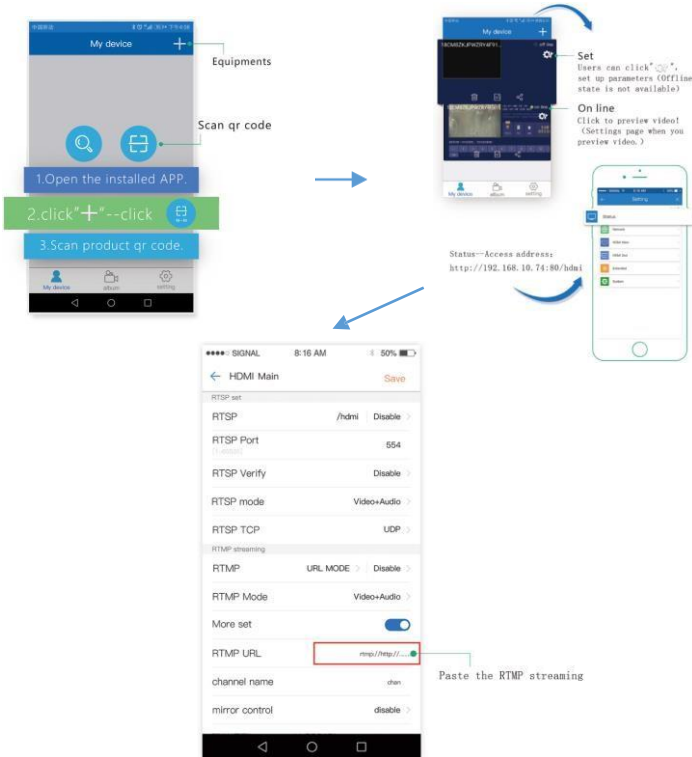
Part V: LiveX

APP—LiveX, control the encoder and record the video at anywhere, any network, any device.

Android/ IOS: download it on its apple/ Google play store

Video about LiveX on YouTube:

<https://www.youtube.com/watch?v=GyAD7EhDvAc=210s>



No	Question	Solution
1	How to connect encoder?	Connect encoder with computer directly via net cable.
2	How to access to encoder?	Set up one constant IP including IP: 192.168.1.1**, then access to 192.168.1.168 on PC browser.
3	How to watch the TS stream from the encoder?	Copy the streaming URL to VLC - Media- Open network stream- paste, enjoy it.
4	How to use RTSP?	1 Enable RTSP on the user interface, and watch it on VLC with same step to last question. 2. Enter RTSP address to your server
5	How to use UDP Unicast and RTP?	Enter your Unicast IP and RTP IP address, then you can watch it on the server or on VLC.
6	How to set up display resolution?	To set up the "encoded size" on the user interface , then click "apply"
7	How to set up bitrate?	To set up the output" Bitrate" on the user interface, then click "apply"
8	How to set up" IP address" of the encoder?	To set up the IP address at " Network" function on the user interface, new address works after "apply" and "reboot" the device
9	How to do RTMP streaming live?	You will get your streaming URL and key once created the live streaming function on the platform, then enter the full address on the RTMP option, if use ip mode, separate each part via"/".
10	How to set up my logo on the video?	logo size: 1920*1080; 2M: BMP: 24, name: logo.bmp, 2 nd logo name: logo_ext.bmp, upload the logo at"main/ 2 nd OSD setting" on the " extended", adjust the coordination and "apply"
11	Not smooth on the platform?	1 The problem of the platform. 2 Network unable to afford the bit, lower required.
12	Failed to use RTMP?	1 Network ip address not matched. 2 upload speed unable to upload the stream
13	How to makes encoder works on RTMP transmission?	Set up the same segment to the computer, and another available IP address.

