



Part of **axing** group

HKI-135 / HKI 41/81-35

H.264/H.265 HD HDMI Encoder for IPTV

Operation Instructions

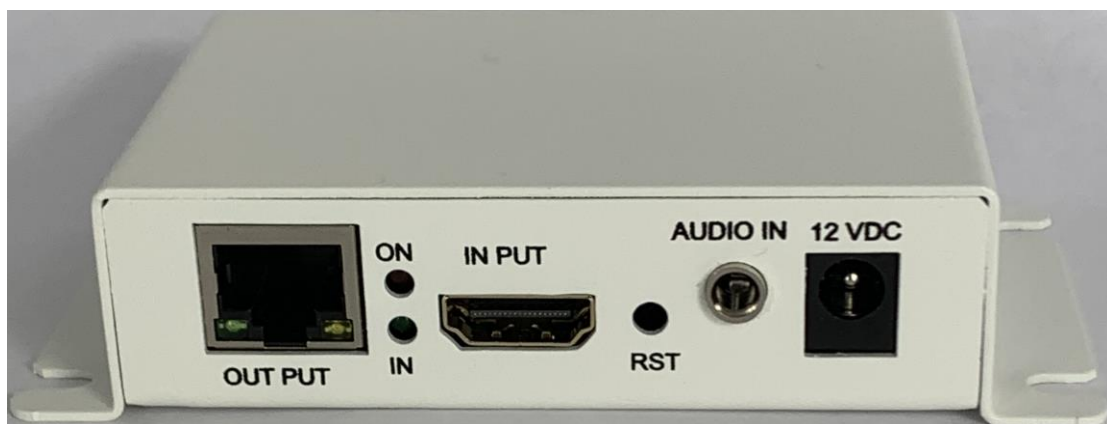


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Dear Customer

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

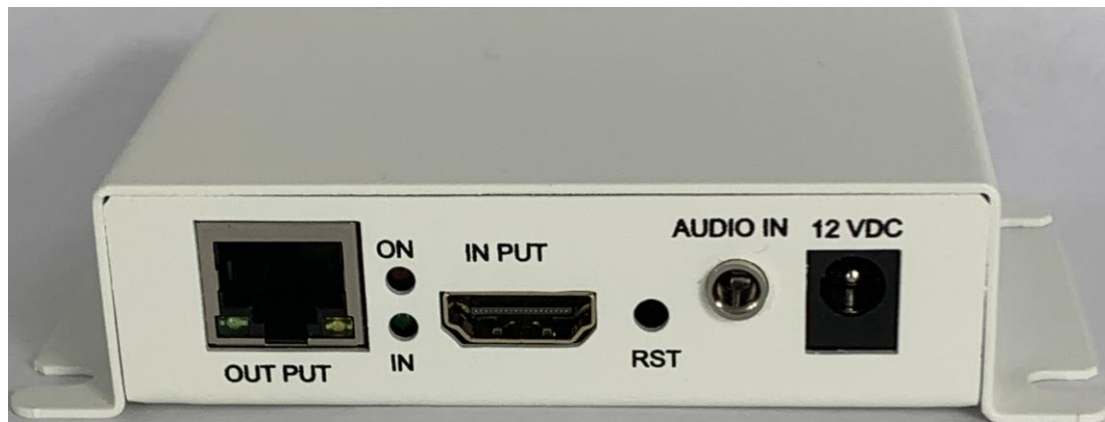
1. FEATURES

- Support H.264/H.265 encoding.
- Support UDP, HTTP, RTSP, RTMP, ONVIF protocol.
- Support MPEG1 Audio Layer 2.
- CBR/VBR rate: 16Kbps~16Mbps.
- 1000M network interface uses full duplex mode.
- Support up to 720p, 1080p@60HZ HD video input.
- Support image parameter settings.
- WEB interface management authority.
- Support remote management in WAN (WEB).
- Support resolution customized settings.
- Support one key to restore the factory configuration.
- Support Audio Embedded.

2. PACKAGE CONTENTS

- 1). Main Unit HD HDMI Encoder
- 2). 1x Power adapter DC 12V
- 3). Operating Instruction manual

3. HARDWARE DESCRIPTION



- ① LAN output **1**
- ② Indicator of the HDMI /Power input **2**
- ③ HDMI input port
- ④ Reset button
- ⑤ Audio input port
- ⑥ Power input port

Note: **1** LAN: default IP is 192.168.0.168 for the unit.

2 Reset to the factory default setting: press “Reset” for 10 seconds till all three indicators go out.

4. Typical Application

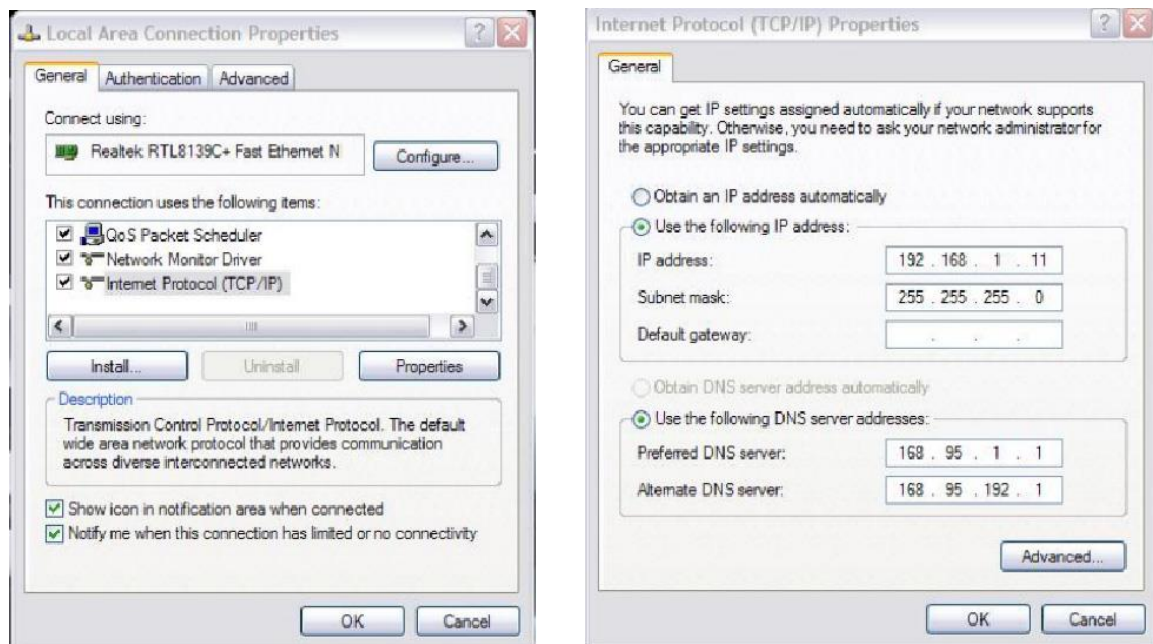


5. Environment Configuration

5.1 Software

5.1.1 Change the IP Address of PC

Assign the PC (or laptop) IP address on the computer: “Control Panel”→ “Network Connections”→ “Local Area Connections Status”→ “Properties”→ “Internet Protocol (TCP/IP)”→Type the IP address with 192.168.0.XX (0-255) and Subnet mask with 255.255.255.0. After that press OK to save the configuration.



5.1.2 Login for configuration

Enter the unit IP 192.168.0.168 on browser, to open the web GUI. Login with default user name and pass word both as admin.

5.1.3 Check the stream address

As below, the stream address is in the red frame.

6. Encode Setting

6.1 Encode Setting

Click Encode setting→Main stream→Setting the parameters→Click Apply

The screenshot shows the 'H.264 Encoder' web interface. On the left sidebar, the 'Main stream' option is selected under the 'Encoder' category. The main content area is titled 'Main stream' and contains the following settings:

- FPS: 30 [5-60]
- GOP: 30 [5-300]
- Bitrate(kbit): 1800 [32-32000]
- Encoded size: same as the input
- H.264 Level: high profile
- Bitrate control: vbr
- TS URL: /0.ts [Enable]
- HLS URL: /0.m3u8 [Enable]
- FLV URL: /0.flv [Enable]
- RTSP URL: /0 [Enable]
- Multicast IP: 238.0.0.1 [Enable]
- Multicast port: 1234 [1-65535]
- RTMP PUBLISH URL: rtmp://192.168.1.50/live/0 [Disable]

Below the RTMP PUBLISH URL, there is a text field with the example: `rtmp://ip/xxx/xxx or rtmp://user:pass@ip/xxx/xxx`. An 'Apply' button is located at the bottom of the settings area.

6.2 Audio setting

Click encode→Audio→Setting the parameters→Click apply

The screenshot shows the 'H.264 Encoder' web interface. On the left sidebar, the 'Audio' option is selected under the 'Encoder' category. The main content area is titled 'Audio' and contains the following settings:

- Samplerate: 44100
- Encoder: AAC
- Bitrate: (empty text field)

An 'Apply' button is located below the audio settings. Below the 'Audio' section, there is an 'ONVIF Audio' section with the following setting:

- G711A Over RTSP: Disable

An 'Apply' button is located below the ONVIF Audio settings.

6.3 Advanced

Click Encoder→Advanced→Setting all the parameter→Click apply.

The screenshot shows the 'H.264 Encoder' web interface. On the left is a dark sidebar with a menu. The main content area is divided into two sections: 'Audio' and 'CSC'.

Audio Section:

- TS Muxer:** A dropdown menu set to 'Compatible with VLC'.
- TS once pack:** A text input field with '[3-128]' as a hint.
- TS Password Enable:** A dropdown menu set to 'Disable'.
- Apply:** A green button.

CSC Section:

- CSC:** A dropdown menu set to 'Disable'.
- Contrast:** A text input field with '[0-255],Default:64' as a hint.
- Apply:** A green button.

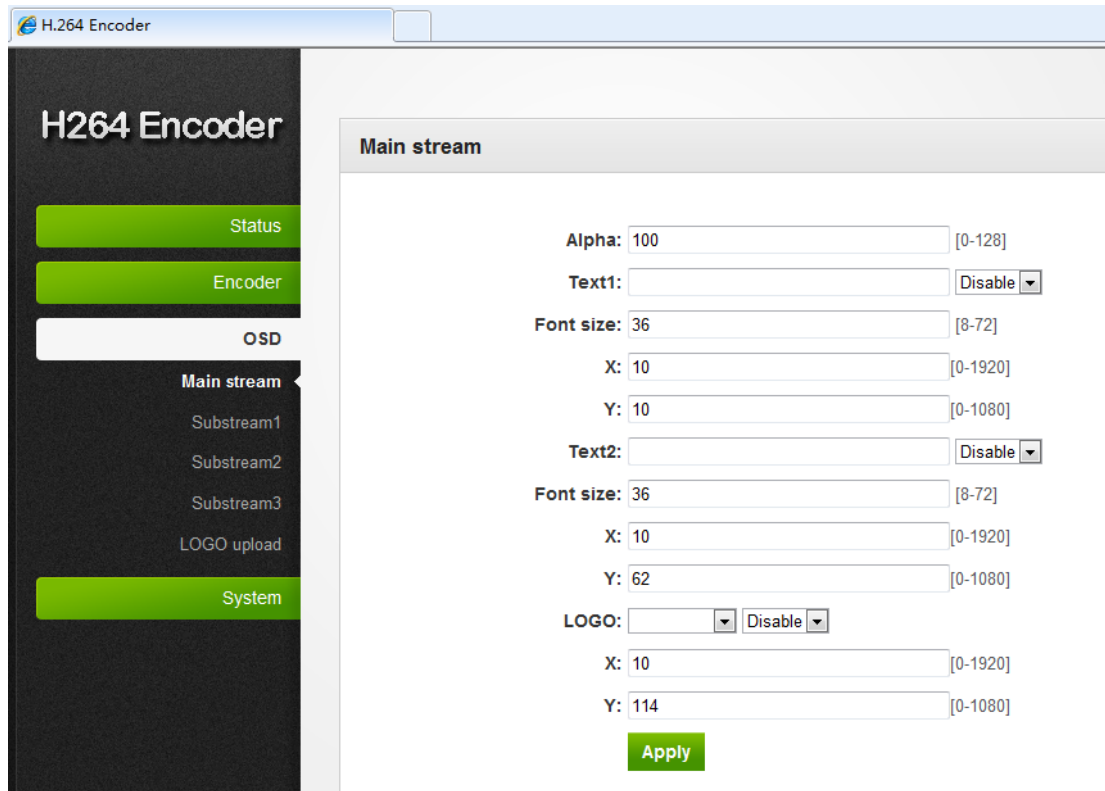
Left Sidebar Menu:

- H264 Encoder** (Title)
- Status** (Green button)
- Encoder** (White button)
- Main stream**
- Substream1**
- Substream2**
- Substream3**
- Audio**
- Advanced** (Selected, with a left arrow)
- OSD** (Green button)
- System** (Green button)

7. OSD Setting

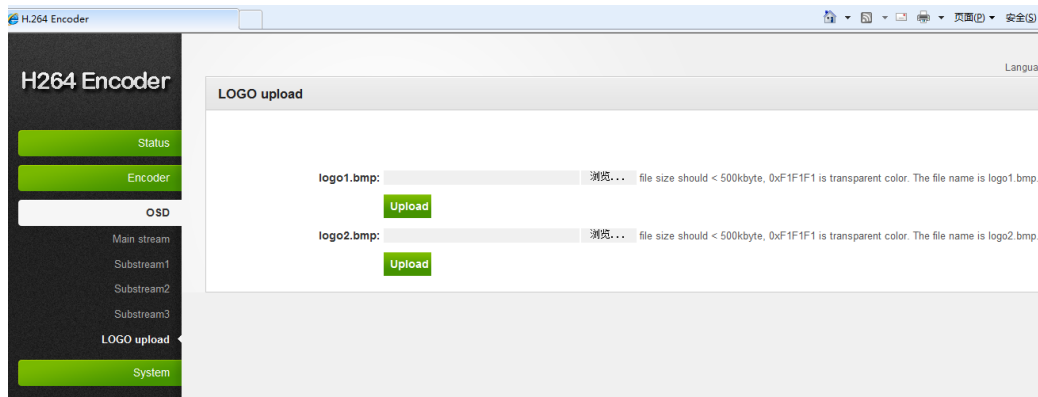
7.1 Streaming OSD Setting

Click OSD→Network→Setting all the Parameter→Click apply, as below picture show



7.2 LOGO uploading

Click logo upload→provide the logo picture as the requirements→Click Apply



※Note: The screenshots might have some difference with actual operation interface due to software upgrade, all the screenshots are for reference only, please follow up the real operation interface.

8. System

8.1 Network

Click system→Network→Setting all the parameter→Click apply.

H.264 Encoder

System

- Network
- Change Password
- Serial to TCP
- Upgrade
- Reset
- Reboot

Network

internet access

DHCP:

IP:

Netmask:

Gateway:

MAC:

DNS

DNS1:

DNS2:

Port

HTTP Port: [1-65500]

RTSP Port: [1-65500]

Apply

8.2 Change password

System→Change password→Set your password→Apply

H.264 Encoder

System

- Network
- Change password**
- Serial to TCP
- Upgrade
- Reset
- Reboot

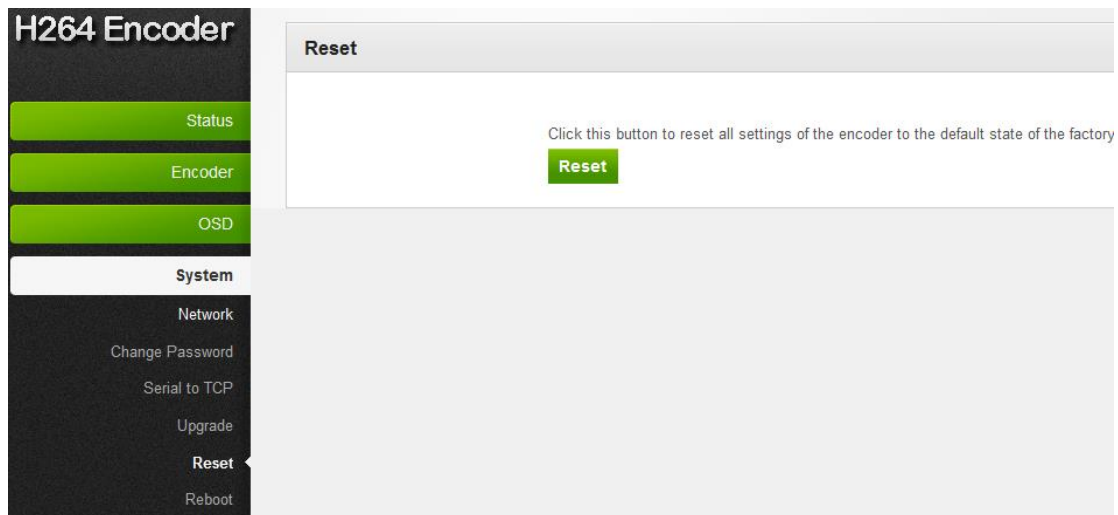
Change password

Old password:

New password:

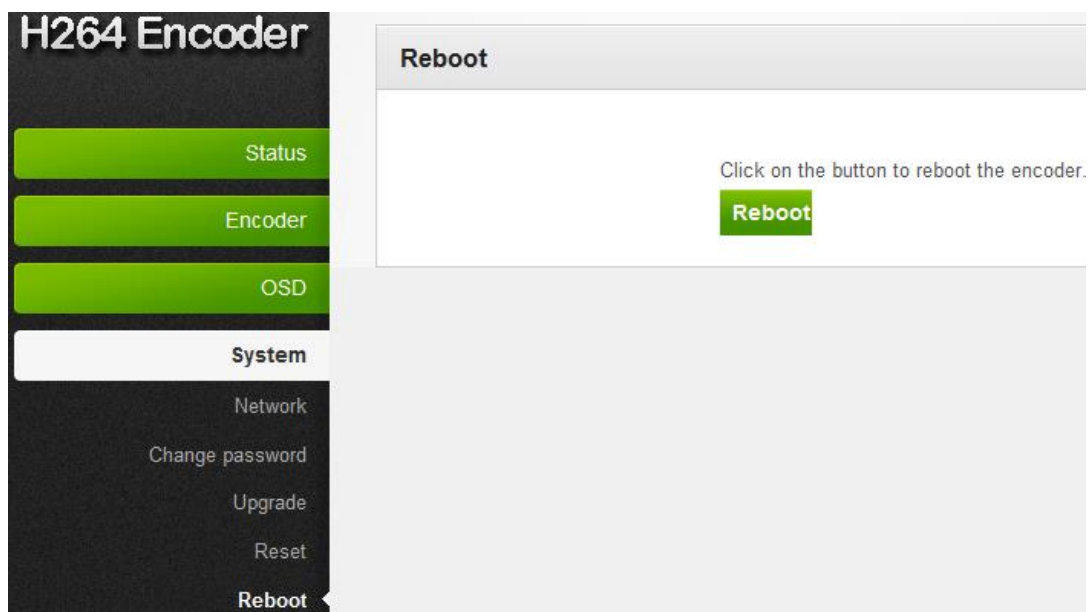
Confirm new password:

Apply



8.4 Reboot

System→Reboot→Reboot (please refresh the web after 1 minute)

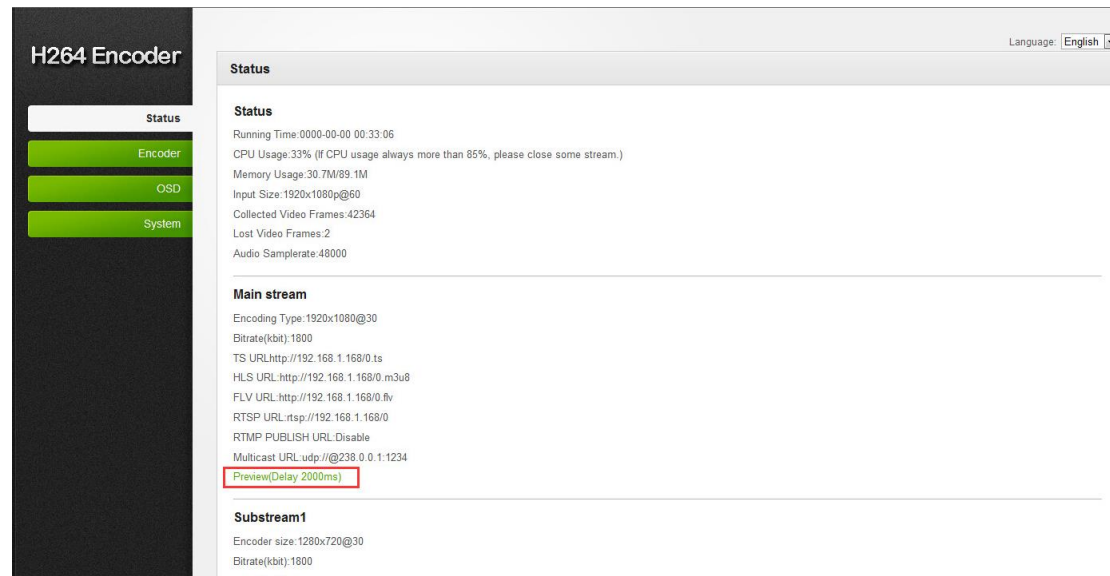


9. Application

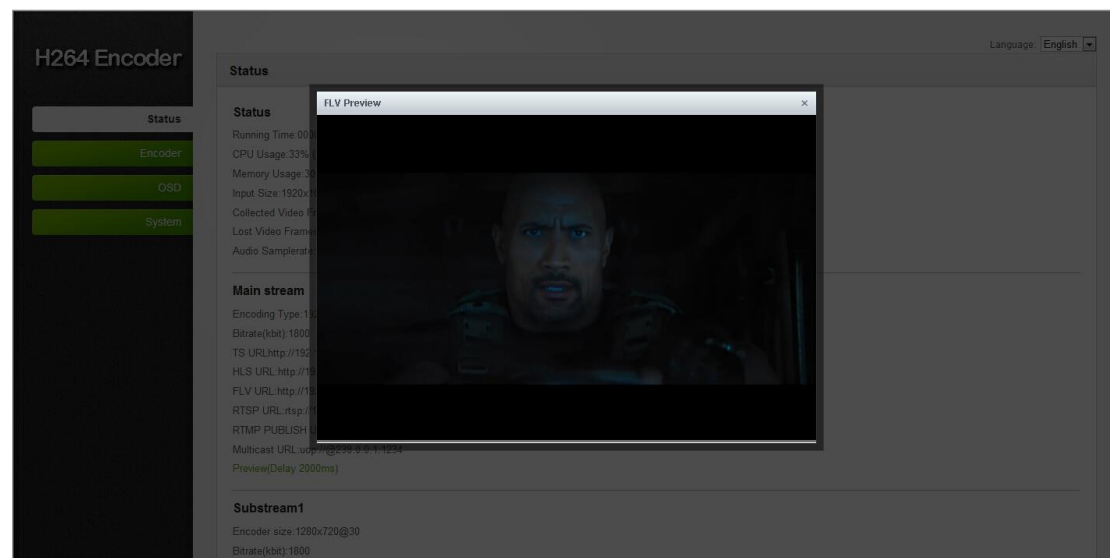
9.1 User Application Example

9.1.1 Web Video Preview

Status→Main stream→Preview

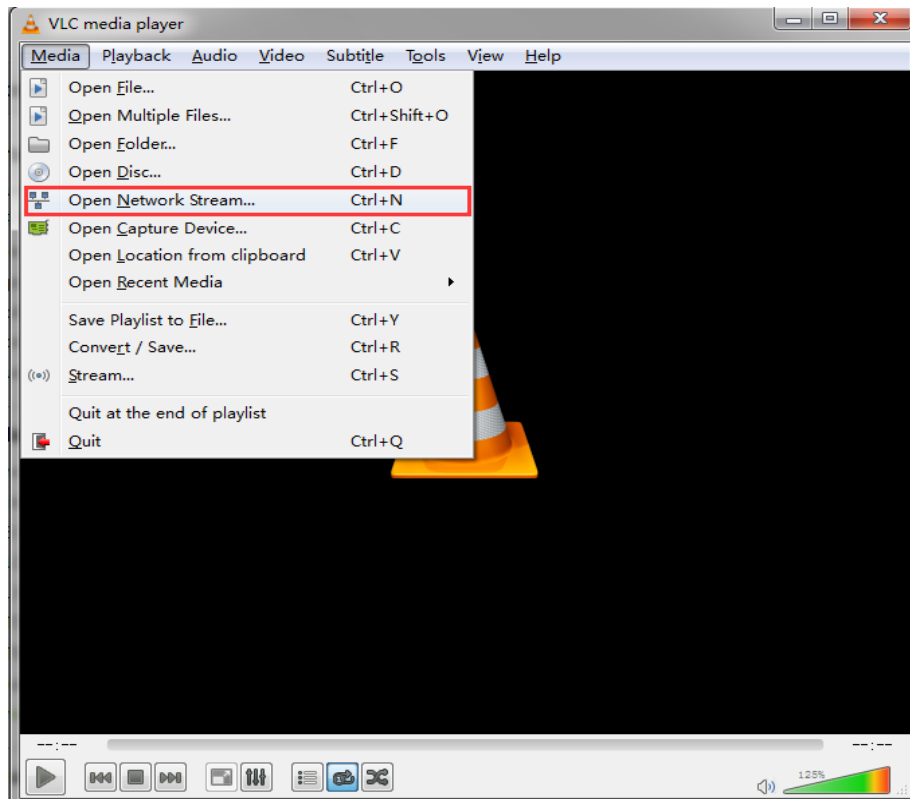


Belowing picture is the preview effect:

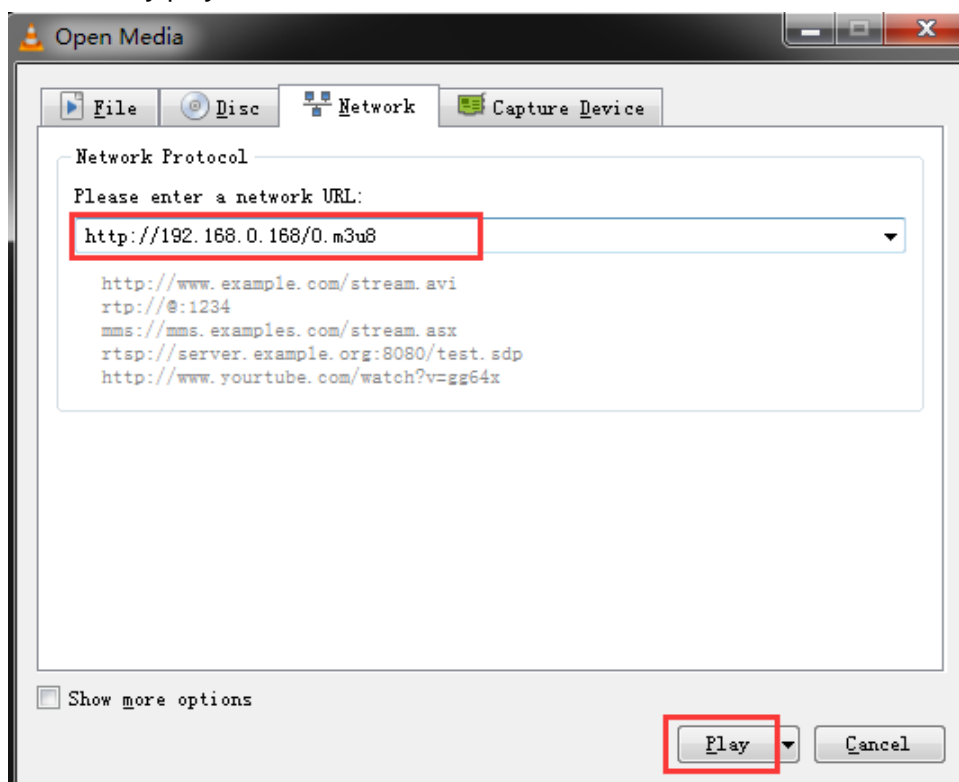


9.1.2 VLC Play

Connect HDMI source to the HD encoder, open VLC media player (Download website: <http://www.videolan.org/>) , Click “Media”, then click“Open Network Stream”.



Enter Stream URL which showed from the page of Main stream. Click “play”, You can successfully play the video stream encoded from this device.



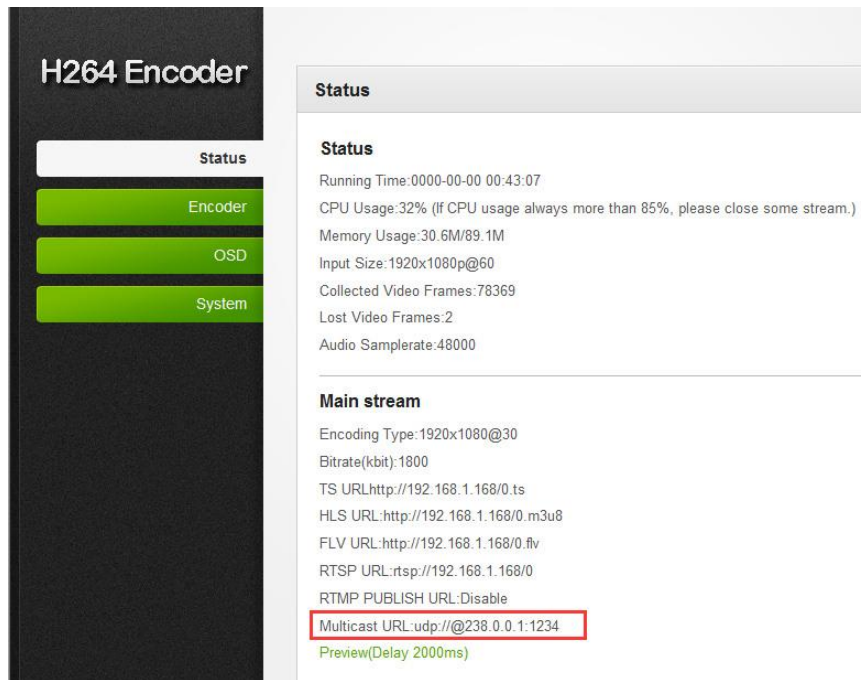
9.2 Multi Local User Application Multicast Way

If many local users need watch the video of same HD encoder at the same time, we suggest using multicast. Enable the multicast IP, then re-power the HD encoder.

The screenshot shows the 'H264 Encoder' web interface. On the left is a sidebar with navigation tabs: 'Status' (highlighted in green), 'Encoder', 'Main stream', 'Substream1', 'Substream2', 'Substream3', 'Audio', 'Advanced', 'OSD' (highlighted in green), and 'System' (highlighted in green). The main content area is titled 'Main stream' and contains several configuration fields. The top section includes 'FPS: 30' [5-60], 'GOP: 30' [5-300], 'Bitrate(kbit): 1800' [32-32000], 'Encoded size: same as the input', 'H.264 Level: high profile', and 'Bitrate control: vbr'. The bottom section includes 'TS URL: /0.ts' [Enable], 'HLS URL: /0.m3u8' [Enable], 'FLV URL: /0.flv' [Enable], 'RTSP URL: /0' [Enable], 'Multicast IP: 238.0.0.1' [Enable] (highlighted with a red box), 'Multicast port: 1234' [1-65535] (highlighted with a red box), and 'RTMP PUBLISH URL: rtmp://192.168.1.50/live/0' [Enable]. Below these fields is an 'Apply' button (highlighted in green).

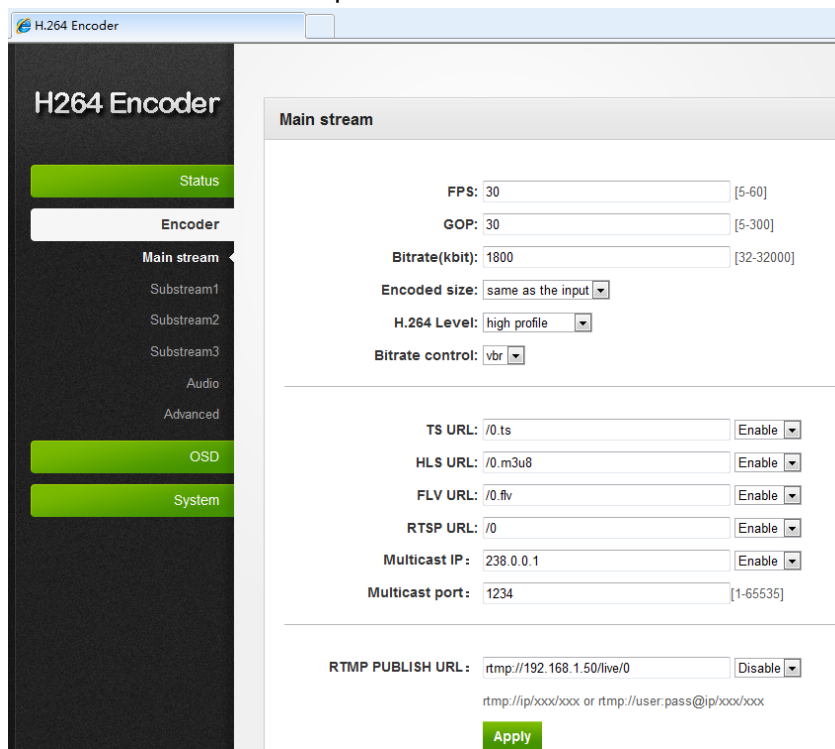
Main stream	
FPS:	30 [5-60]
GOP:	30 [5-300]
Bitrate(kbit):	1800 [32-32000]
Encoded size:	same as the input
H.264 Level:	high profile
Bitrate control:	vbr
TS URL:	/0.ts [Enable]
HLS URL:	/0.m3u8 [Enable]
FLV URL:	/0.flv [Enable]
RTSP URL:	/0 [Enable]
Multicast IP:	238.0.0.1 [Enable]
Multicast port:	1234 [1-65535]
RTMP PUBLISH URL:	rtmp://192.168.1.50/live/0 [Enable]
rtmp://ip/xxx/xxx or rtmp://user:pass@ip/xxx/xxx	
Apply	

There is a multicast URL in the Status page, copy it into the VLC Player.
This address can be visited by many visitors at the same time

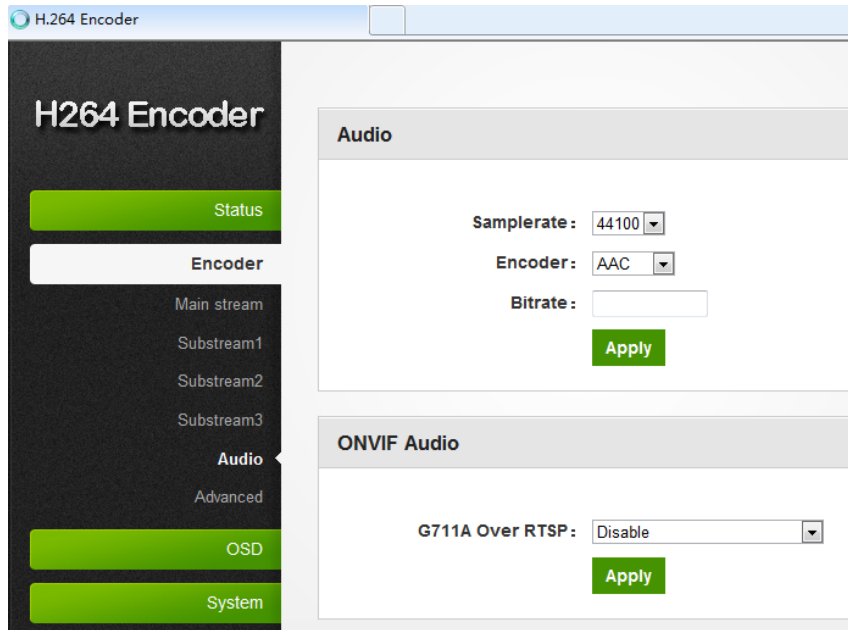


9.3 Local Surveillance System Application NVR Connection

1. Confirm if NVR support H.264 decoder. Since using ONVIF, you need enable the "RTSP" function as below picture.



2. If you need the NVR recognize the Audio of HD Encoder, you still need enable the Audio as below picture:



Note: If you've finished above setting and still can't open the video , we suggest you download the standard testing tool to test the ONVIF function of HD Encoder (Download address <http://url.cn/2ESQRcn>)

9.4 Remote Multi User Application RTMP Connection

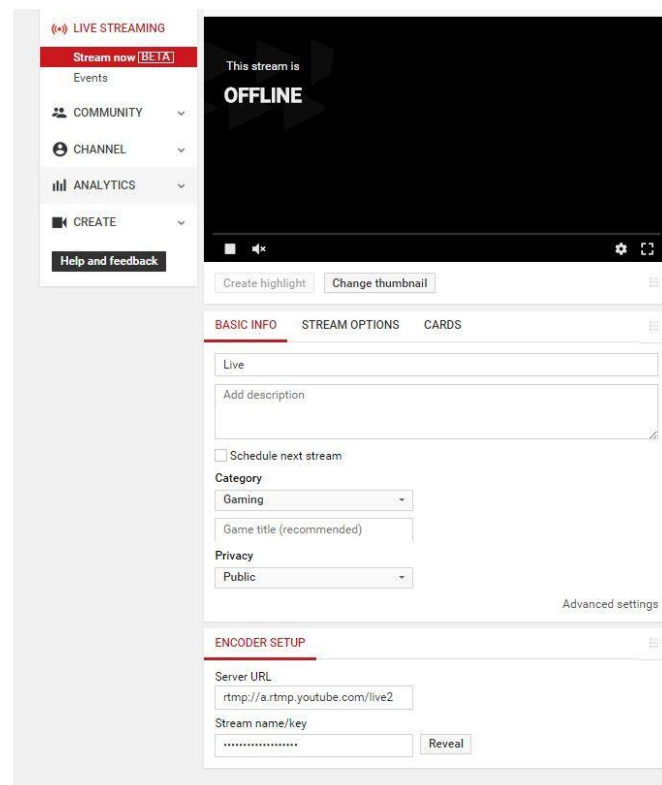
If many users from different location need watch the source of the same HD Encoder, we suggest you use RTMP.

Our product support belowing Free platform: NGINX, RED5 MEDIA SERVER etc.

Charged platform: ADOBE MEDIA SERVER5 and <http://mudu.tv/> etc.

Since the current RTMP protocol only support H.264 function, you need set the HD Encoder as H.264, set the RTMP Address and enable it as below picture. Re-

Start the HD encoder after finishing the setting.



H264 Encoder

Main stream

FPS: 30 [5-60]
 GOP: 30 [5-300]
 Bitrate(kbit): 1800 [32-32000]
 Encoded size: same as the input
 H.264 Level: high profile
 Bitrate control: vbr

TS URL: /0.ts [Enable]
 HLS URL: /0.m3u8 [Enable]
 FLV URL: /0.flv [Enable]
 RTSP URL: /0 [Enable]
 Multicast IP: 238.0.0.1 [Enable]
 Multicast port: 1234 [1-65535]

RTMP PUBLISH URL: rtmp://192.168.1.50/live/0 [Disable]
 rtmp://ip/xxx/xxx or rtmp://user:pass@ip/xxx/xxx

Apply

Note: If you have finished above setting and still can't open the video, please check as below:

1. Check the collected data of HD Encoder, if it shows 0, then the HD Encoder connection is failed; you need check if the hardware connection is correct.
2. Check the RTMP connection status, if it shows unconnected, you need check if the Network setting is correct (You need set the IP Address to have access to the internet)

H264 Encoder

Status

Running Time:0000-00-00 00:14:22
 CPU Usage:32% (If CPU usage always more than 85%, please close some :
 Memory Usage:30.2M/89.1M
 Input Size:1920x1080p@60
 Collected Video Frames:51588
 Lost Video Frames:2
 Audio Samplerate:48000

Main stream

Encoding Type:1920x1080@30
 Bitrate(kbit):1800
 TS URL:http://192.168.0.168/0.ts
 HLS URL:http://192.168.0.168/0.m3u8
 FLV URL:http://192.168.0.168/0.flv
 RTSP URL:rtsp://192.168.0.168/0
 RTMP PUBLISH URL(Not Connected):rtmp://192.168.1.50/live/0
 Multicast URL:udp://@238.0.0.1:1234
 Preview(Delay 2000ms)

MAINTENANCE

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

PRODUCT SERVICE

1) **Damage requiring service:** The unit should be serviced by qualified service personnel if:

- (a) The DC power supply cord or AC adaptor has been damaged;
- (b) Objects or liquids have gotten into the unit;
- (c) The unit has been exposed to rain;
- (d) The unit does not operate normally or exhibits a marked change in performance;
- (e) The unit has been dropped or the cabinet damaged.

2) **Servicing Personnel:** Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.

3) **Replacement parts:** When parts need replacing ensure the service uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.

4) **Safety check:** After repairs or service, ask the service to perform safety checks to confirm that the unit is in proper working condition.

WARRANTY

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor") will, for the length of the period indicated as below, (Parts(2)Year, Labor(90) Days) which starts with the date of original purchase ("Limited Warranty period"), at its option either(a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" Limited Warranty period there will be no charge for labor.

During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

MAIL-IN SERVICE

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

LIMITED WARRANTY LIMITS AND EXCLUSIONS

This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage.

The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable,

travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.)

PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.