

Pro.2

H.265/H.264 HD HDMI Encoder for IP TV

Model: HE02

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.

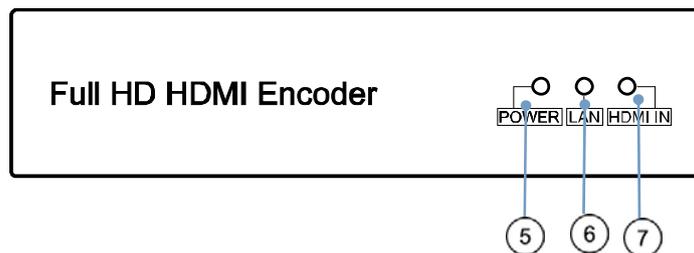
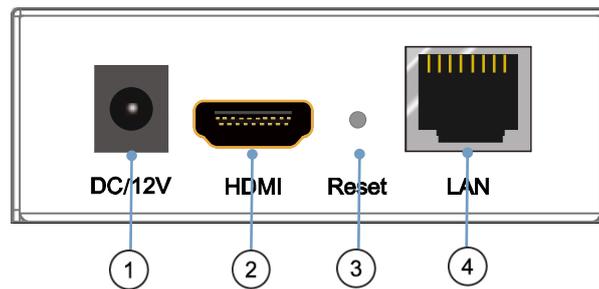
1. FEATURES

- Support H.265/H.264 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.

2. PACKAGE CONTENTS

- 1). Main Unit. H.265/H.264 HD HDMI Encoder
- 2). 1x Power adapter DC 12V
- 3). Operating Instruction manual

3. HARDWARE DESCRIPTION



- ① Power input port
- ② HDMI input
- ③ Reset button **1**
- ④ LAN output **2**
- ⑤ Indicator of power input
- ⑥ Indicator of LAN output
- ⑦ Indicator of HDMI input

Note: **1** . Reset to the factory default setting: press “Reset” for 10 seconds till all three indicators go out.

2 . LAN: default IP is 192.168.1.168 for the unit.

4. Typical Application

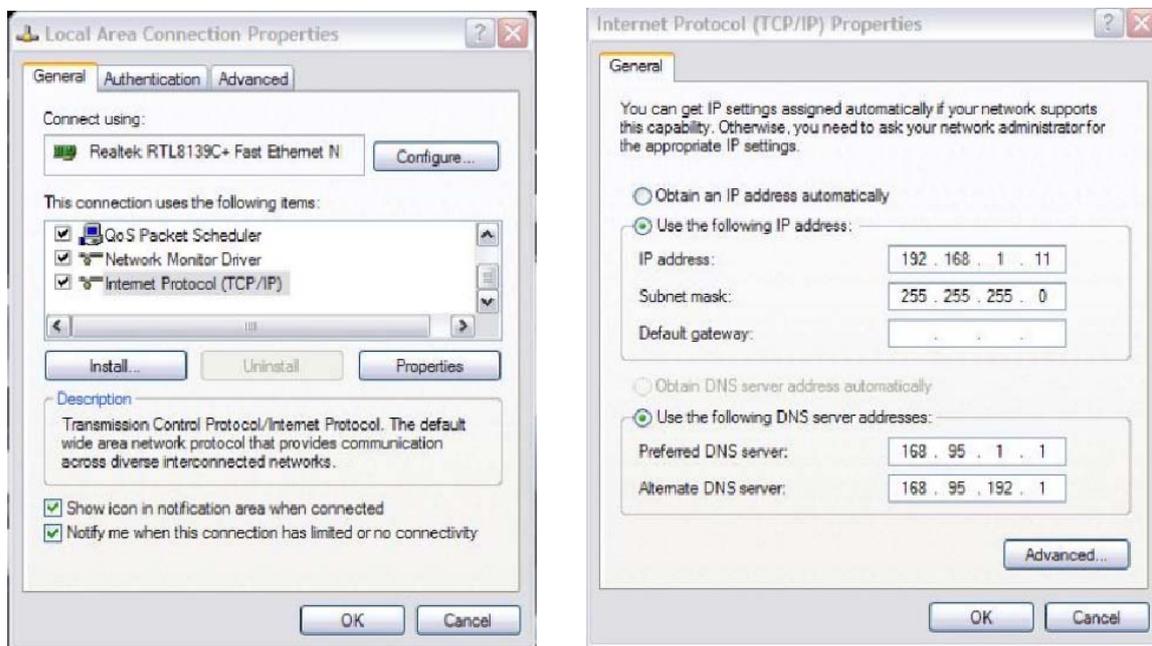


5. Environment Configuration

5.1 Software

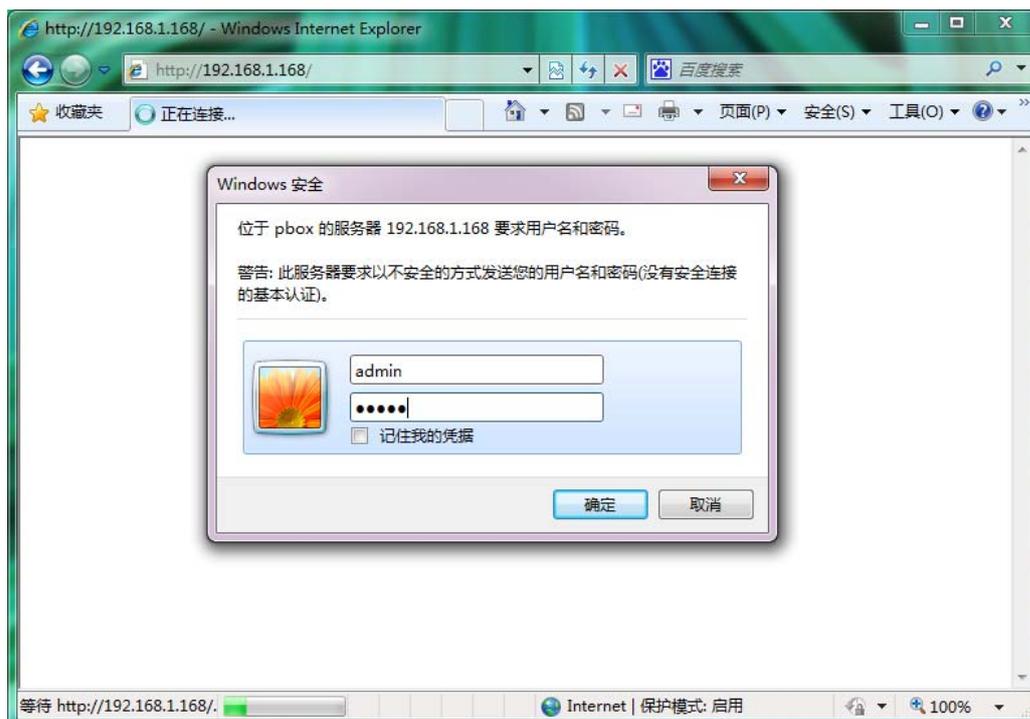
5.1.1 Change the IP Address of PC

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 192.168.1.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 192.168.1.168 on browser, to open the web GUI. Login with default user name and pass word as admin. Like below, into the home page.



5.1.3 Check the stream address

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

The screenshot shows the 'H.265/H.264 Encoder' interface. On the left is a navigation menu with 'Status', 'Encoder', 'OSD', and 'System'. The main content area is divided into two sections: 'System status' and 'Main stream'. The 'System status' section displays metrics like Running Time, CPU Usage, Memory Usage, Input Size, Collected Video Frames, Lost Video Frames, and Audio Samplerate. The 'Main stream' section displays encoding parameters such as Encoding Type, Encoder size, Bitrate, and various URLs (TS, HLS, RTSP, Multicast).

System status	
Running Time:	0000-00-00 00:01:00
CPU Usage:	23%
Memory Usage:	39.0M/248.3M
Input Size:	1920x1080p@60
Collected Video Frames:	3470
Lost Video Frames:	5
Audio Samplerate:	48000

Main stream	
Encoding Type:	H.265
Encoder size:	1920x1080@30
Bitrate(kbit):	1500
TS URL:	http://192.168.1.168/0.ts
HLS URL:	http://192.168.1.168/0.m3u8
RTSP URL:	rtsp://192.168.1.168/0
Multicast URL:	Disable

6. Encode Setting

6.1 Encode Setting

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

The screenshot shows the 'Main stream' configuration page. The left navigation menu is expanded to show 'Encoder', 'Main stream', 'Substream1', 'Substream2', 'Substream3', 'Audio', and 'Advanced'. The 'Main stream' section contains various configuration fields with dropdown menus and checkboxes. The 'Apply' button is visible at the bottom.

Main stream	
Encoding type:	H.265
FPS:	30 [5-60]
GOP:	30 [5-300]
Bitrate(kbit):	1500 [32-32000]
Encoded size:	same as the input
Bitrate control:	vbr
TS URL:	/0.ts <input type="checkbox"/> Enable
HLS URL:	/0.m3u8 <input type="checkbox"/> Enable
RTSP URL:	/0 <input type="checkbox"/> Enable
Multicast IP:	238.0.0.1 <input type="checkbox"/> Disable
Multicast port:	1234 [1-65535]

Apply

6.2 Audio setting

Click encode→Audio→Setting the parameters→Click apply

Status	Audio
Encoder	Audio Input: HDMI
Main stream	Samplerate: 44100
Substream1	Encoder: AAC+
Substream2	Bitrate: 48000 [24000~48000]
Substream3	Analog Vol: 10 [-50~50]
Audio	Apply
Advanced	ONVIF Audio
OSD	G711A Over RTSP: Disable
System	Apply

6.3 Advanced

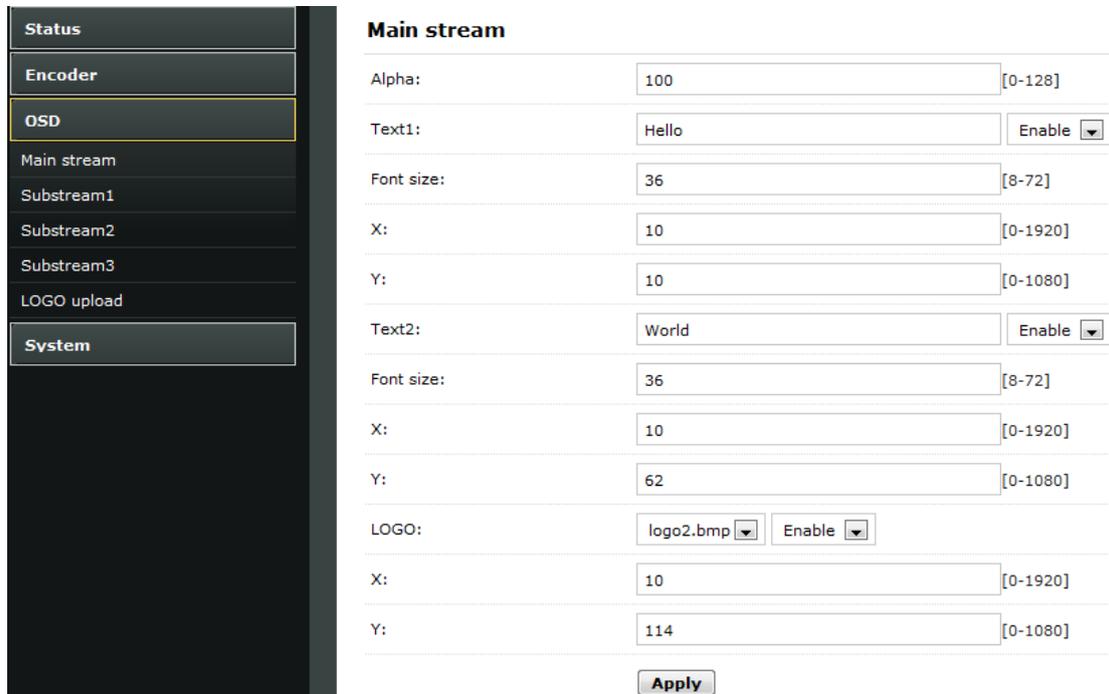
Click Encoder→Advanced→Setting all the parameter→Click apply.

Status	Advanced
Encoder	Deinterlaced: Both
Main stream	TS muxer: Compatible with FFmpeg
Substream1	TS once pack: 128 [3-128]
Substream2	TS password enable: Disable
Substream3	Slice split enable: Disable
Audio	Slice size: 1024 [128-65535]
Advanced	MIN_QP: 5 [1-35]
OSD	MAX_QP: 42 (MIN_QP-50)
System	SAR(H.264 Only): Disable
	Apply
	CSC
	CSC: Disable
	Luminance: 50 [0-100,Default:50]
	Contrast: 50 [0-100,Default:50]
	Hue: 50 [0-100,Default:50]
	Saturation: 50 [0-100,Default:50]
	Apply

7. OSD Setting

7.1 Streaming OSD Setting

Click OSD→Network→Setting all the Parameter→Click apply



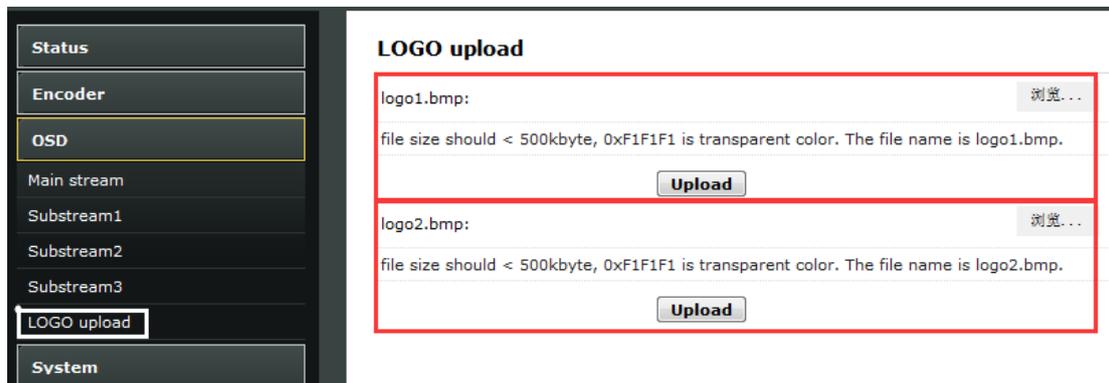
The screenshot shows a web interface for OSD settings. On the left is a sidebar menu with options: Status, Encoder, OSD (highlighted), Main stream, Substream1, Substream2, Substream3, LOGO upload, and System. The main content area is titled "Main stream" and contains several rows of input fields:

- Alpha: 100 [0-128]
- Text1: Hello Enable [dropdown]
- Font size: 36 [8-72]
- X: 10 [0-1920]
- Y: 10 [0-1080]
- Text2: World Enable [dropdown]
- Font size: 36 [8-72]
- X: 10 [0-1920]
- Y: 62 [0-1080]
- LOGO: logo2.bmp [dropdown] Enable [dropdown]
- X: 10 [0-1920]
- Y: 114 [0-1080]

An "Apply" button is located at the bottom of the form.

7.2 LOGO uploading

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



The screenshot shows the "LOGO upload" section of the web interface. The sidebar menu on the left has "LOGO upload" highlighted. The main content area is titled "LOGO upload" and contains two upload slots, each enclosed in a red box:

- Slot 1: logo1.bmp [浏览...]
file size should < 500kbyte, 0xF1F1F1 is transparent color. The file name is logo1.bmp.
[Upload]
- Slot 2: logo2.bmp [浏览...]
file size should < 500kbyte, 0xF1F1F1 is transparent color. The file name is logo2.bmp.
[Upload]

※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.

Status	
Encoder	
OSD	
System	
Network	
Change password	
Serial to TCP	
Upgrade	
Reset	
Reboot	

Network	
DHCP:	Disable ▾
IP:	192.168.1.168
Netmask:	255.255.255.0
Gateway:	192.168.1.1
MAC:	00:13:14:15:3A:B7
DNS	
DNS1:	61.139.2.69
DNS2:	8.8.8.8
Port	
HTTP Port:	8080 [1-65535]
RTSP Port:	8554 [1-65535]
Apply	

8.2 Change password

System→Change password→Set your password→Apply

H.265/H.264 Encoder

Status	
Encoder	
OSD	
System	
Network	
Change password	
Serial to TCP	
Upgrade	
Reset	
Reboot	

Change password	
Old password:	•••••
New password:	••••••
Confirm new password:	••••••
Apply	

8.3 Reset

System→Reset→Reset

The screenshot shows the web interface for an H.265/H.264 Encoder. The title bar at the top reads "H.265/H.264 Encoder". On the left side, there is a vertical navigation menu with the following items: Status, Encoder, OSD, System (highlighted with a yellow border), Network, Change password, Serial to TCP, Upgrade, Reset, and Reboot. The main content area on the right is titled "Reset" and contains the text "Restore the device to factory settings." Below this text is a button labeled "Reset".

8.4 Reboot

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

The screenshot shows the web interface for an H.265/H.264 Encoder. The title bar at the top reads "H.265/H.264 Encoder". On the left side, there is a vertical navigation menu with the following items: Status, Encoder, OSD, System (highlighted with a yellow border), Network, Change password, Serial to TCP, Upgrade, Reset, and Reboot. The main content area on the right is titled "Reboot" and contains the text "Please wait for 1 minute after reboot." Below this text is a button labeled "Reboot".

9. Application

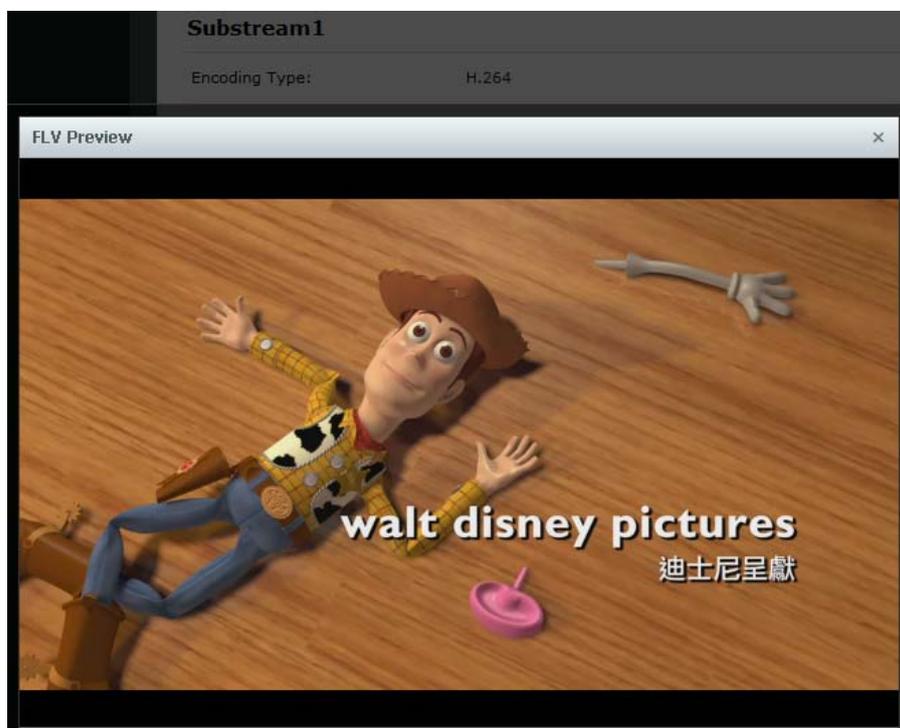
9.1 User Application Example

9.1.1 Web Video Preview

Status→Main stream→Preview

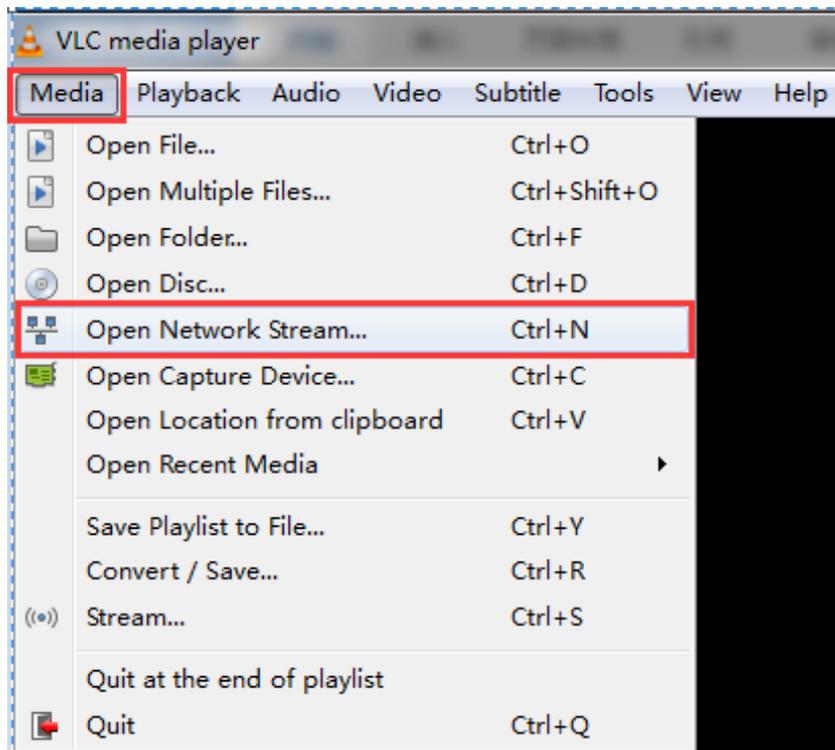
Substream1	
Encoding Type:	H.264
Encoder size:	1280x720@30
Bitrate(kbit):	1800
TS URL:	http://192.168.1.168/1.ts
HLS URL:	http://192.168.1.168/1.m3u8
FLV URL:	http://192.168.1.168/1.flv
RTSP URL:	rtsp://192.168.1.168/1
RTMP PUBLISH URL:	Disable
Multicast URL:	Disable
Preview(Delay 1000ms)	

Belowing picture is the preview effect:

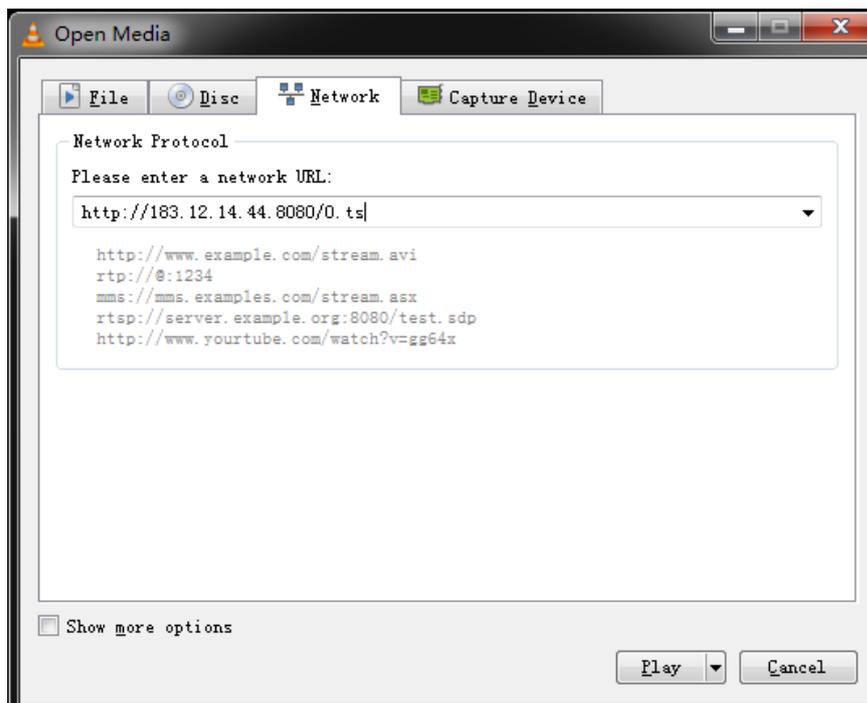


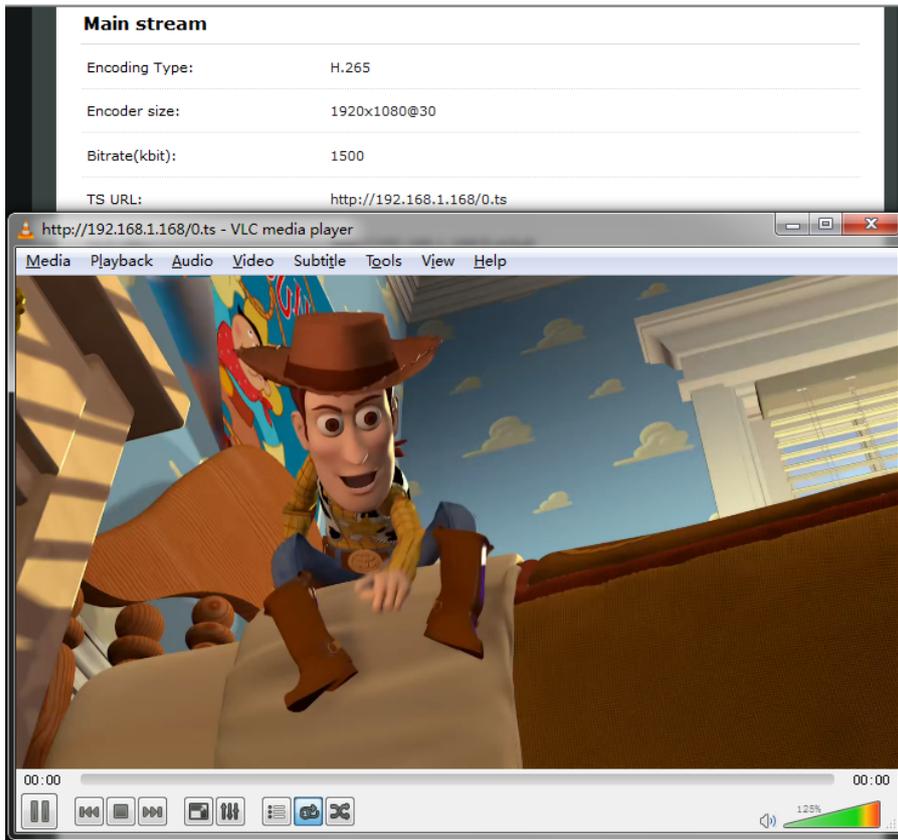
9.1.2 VLC Play

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



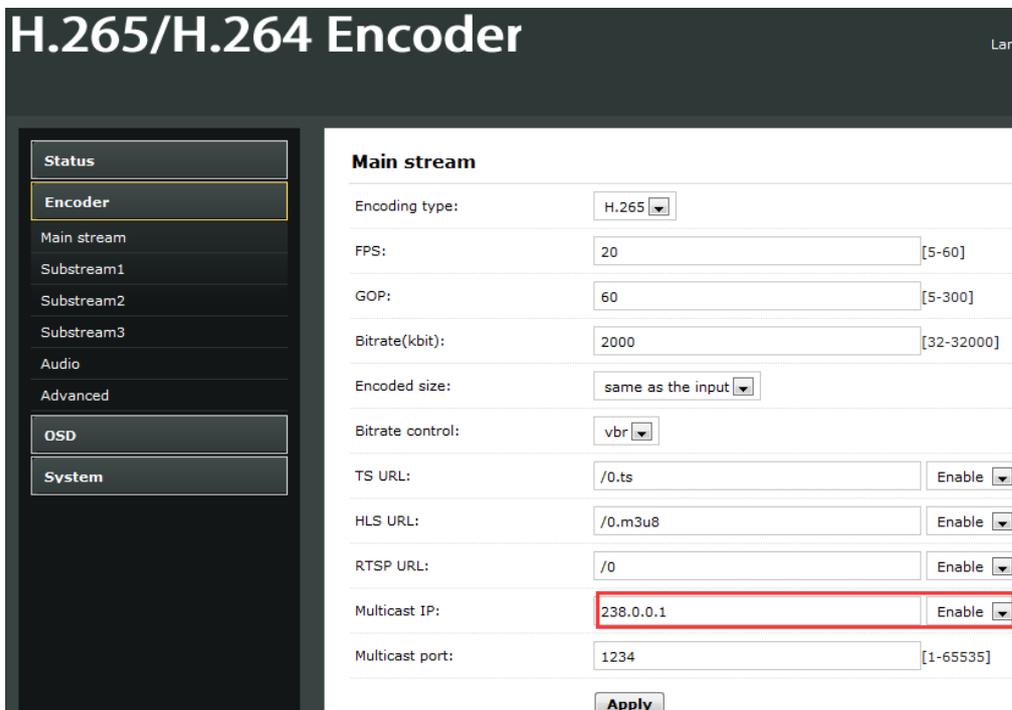
Enter Stream URL which showed from the page of Main stream. Click “play”, You can successfully play the video stream encoded from this device.





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.



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

Status
Encoder
OSD
System

System status

Running Time:	0000-00-00 00:37:23
CPU Usage:	38%
Memory Usage:	66.8M/248.3M
Input Size:	1920x1080p@60
Collected Video Frames:	134307
Lost Video Frames:	5
Audio Samplerate:	48000

Main stream

Encoding Type:	H.265
Encoder size:	1920x1080@20
Bitrate(kbit):	2000
TS URL:	http://192.168.1.168/0.ts
HLS URL:	http://192.168.1.168/0.m3u8
RTSP URL:	rtsp://192.168.1.168/0
Multicast URL:	udp://@238.0.0.1:1234

9.3 Local Surveillance System Application NVR Connection

1. Confirm if NVR support H.265/H.264 decoder. Since using ONVIF, you need enable Set the "Encoding type" according to the encoder type.

H.265/H.264 Encoder

Language: English

Status
Encoder
Main stream
Substream 1
Substream 2
Substream 3
Audio
Advanced
OSD
System

Main stream

Encoding type:	H.265	[5-60]
FPS:		[5-60]
GOP:	60	[5-300]
Bitrate(kbit):	2000	[32-32000]
Encoded size:	same as the input	
Bitrate control:	vbr	
TS URL:	/0.ts	Enable
HLS URL:	/0.m3u8	Enable
RTSP URL:	/0	Enable
Multicast IP:	238.0.0.1	Enable
Multicast port:	1234	[1-65535]

Apply

2. Since using ONVIF, you need enable the “RTSP” function as below picture.

The screenshot shows the 'H.265/H.264 Encoder' configuration page. On the left is a navigation menu with 'Encoder' selected. The main area is titled 'Main stream' and contains various settings. The 'RTSP URL' field is set to '/0' and its dropdown menu is open, showing 'Enable' selected and circled in red. Other settings include Encoding type: H.265, FPS: 30, GOP: 60, Bitrate: 2000, Encoded size: same as the input, Bitrate control: vbr, TS URL: /0.ts, HLS URL: /0.m3u8, Multicast IP: 238.0.0.1, and Multicast port: 1234. An 'Apply' button is at the bottom.

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

The screenshot shows the 'H.265/H.264 Encoder' configuration page, specifically the 'Audio' section. The 'ONVIF Audio' section has 'G711A Over RTSP' set to 'Enable', which is circled in red. Other audio settings include Audio Input: HDMI, Samplerate: 44100, Encoder: AAC+, Bitrate: 48000, and Analog Vol: 10. There are 'Apply' buttons for both the main audio settings and the ONVIF Audio section.

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.

The screenshot displays a live streaming control interface. On the left is a navigation sidebar with options: LIVE STREAMING (with a sub-option 'Stream now BETA'), Events, COMMUNITY, CHANNEL, ANALYTICS, CREATE, and Help and feedback. The main content area shows a video player with the text 'This stream is OFFLINE'. Below the player are buttons for 'Create highlight' and 'Change thumbnail'. The interface is divided into sections: 'BASIC INFO' (with sub-sections 'STREAM OPTIONS' and 'CARDS') and 'ENCODER SETUP'. The 'BASIC INFO' section includes a 'Live' status indicator, a description field, a 'Schedule next stream' checkbox, a 'Category' dropdown set to 'Gaming', a 'Game title (recommended)' field, and a 'Privacy' dropdown set to 'Public'. An 'Advanced settings' link is visible at the bottom right of this section. The 'ENCODER SETUP' section contains a 'Server URL' field with the value 'rtmp://a.rtmp.youtube.com/live2' and a 'Stream name/key' field with masked characters and a 'Reveal' button.

Status	Main stream
Encoder	Alpha: <input type="text" value="100"/> [0-128]
OSD	Text1: <input type="text" value="Hello"/> <input type="button" value="Enable"/>
Main stream	Font size: <input type="text" value="36"/> [8-72]
Substream1	X: <input type="text" value="10"/> [0-1920]
Substream2	Y: <input type="text" value="10"/> [0-1080]
Substream3	Text2: <input type="text" value="World"/> <input type="button" value="Enable"/>
LOGO upload	Font size: <input type="text" value="36"/> [8-72]
System	X: <input type="text" value="10"/> [0-1920]
	Y: <input type="text" value="62"/> [0-1080]
	LOGO: <input type="text" value="logo2.bmp"/> <input type="button" value="Enable"/>
	X: <input type="text" value="10"/> [0-1920]
	Y: <input type="text" value="114"/> [0-1080]
	<input type="button" value="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)

H.265/H.264 Encoder

Language:

Status	System status
Encoder	Running Time: 0000-00-00 00:01:00
OSD	CPU Usage: 23%
System	Memory Usage: 39.0M/248.3M
	Input Size: 1920x1080p@60
	Collected Video Frames: 3470
	Lost Video Frames: 5
	Audio Samplerate: 48000
	Main stream
	Encoding Type: H.265
	Encoder size: 1920x1080@30
	Bitrate(kbit): 1500
	TS URL: http://192.168.1.168/0.ts
	HLS URL: http://192.168.1.168/0.m3u8
	RTSP URL: rtsp://192.168.1.168/0
	Multicast URL: Disable



CUSTOMER CARE CENTRE



- 1 THIS PRODUCT IS WARRANTED FOR 12 MONTHS FROM THE DATE OF PURCHASE.**
Subject to the conditions of this warranty, the Customer Care Centre will perform necessary service on the product without charge for parts, or labour if, in the opinion of the manufacturer/ manufacturer's agent, the product is found to be faulty within the warranty period.
- 2** This warranty only applies if the product has been installed and used in accordance with the manufacturer's recommendations (as noted in the operating instructions) under normal use and reasonable care. The warranty covers normal domestic use only and does not cover damage, malfunction or failure resulting from use of incorrect voltage, accident, misuse, neglect, build-up of dirt or dust, abuse, mis-adjustment of customer controls, mains supply problems, thunderstorm activity, infestation by insects or vermin, tampering or repair by unauthorised persons (including unauthorised alterations), exposure to abnormally corrosive conditions or any foreign object or matter having entered the product.
- 3** If warranty service is required you should:
 - Telephone the Customer Care Centre on 1300 662 946
 - Provide a copy of your purchase receipt that shows retailer's identity and date of purchase.
 - Send or bring the product to your Customer Care Centre.
Please note that freight to and/or from your Customer Care Centre must be arranged by you.
- 4** The warranties hereby conferred do not extend to any costs associated with the delivery, handling, freighting or transportation of the product or any part thereof or replacement of and do not extend to any damage or loss occurring during, or associated with transit.

**THIS WARRANTY CARD AND THE PURCHASE DOCKET
(OR SIMILAR PROOF OF PURCHASE)
SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES**

**TROUBLE SHOOTING HELP LINE
1300 662 946**

**Customer Care Centre
562 Spencer Street, West Melbourne
VICTORIA 3003**

Pro.2
Providing AV Solutions

This advice does not limit, override or later your guaranteed rights under the Australian Consumer Law, including remedies for any failure of the Consumer Guarantees, which may include repair or replacement or it a Major Failure (as defined under the Australian Consumer Law) a replacement or refund. These guaranteed rights cannot be varied by Pro.2 or retailers of its products and have no set time limit.