

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

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.

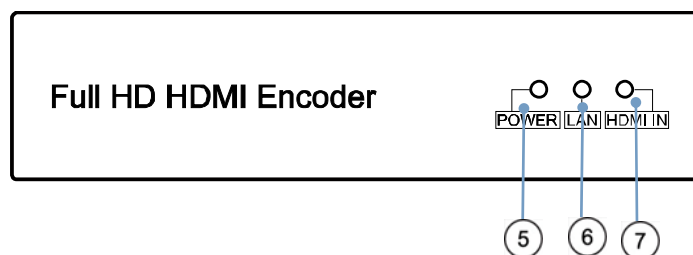
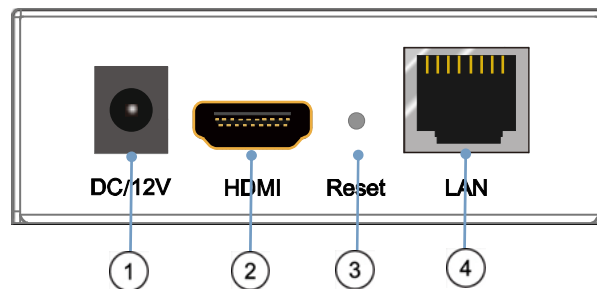
1. FEATURES

- 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

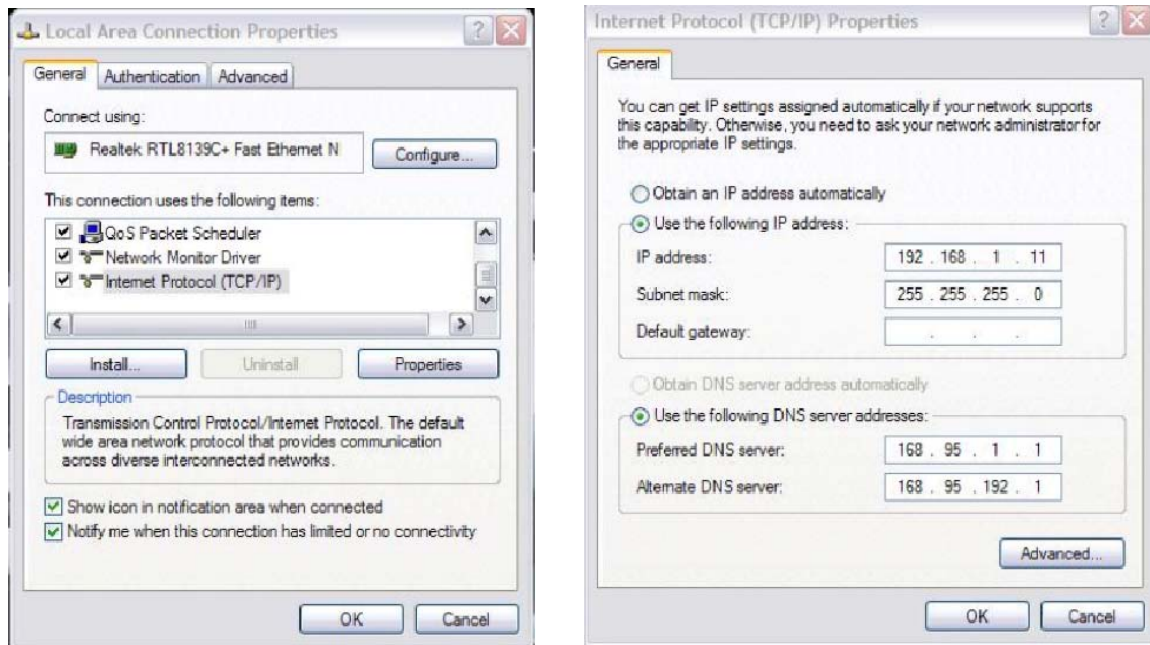


5. Environment Configuration

5.1 Software

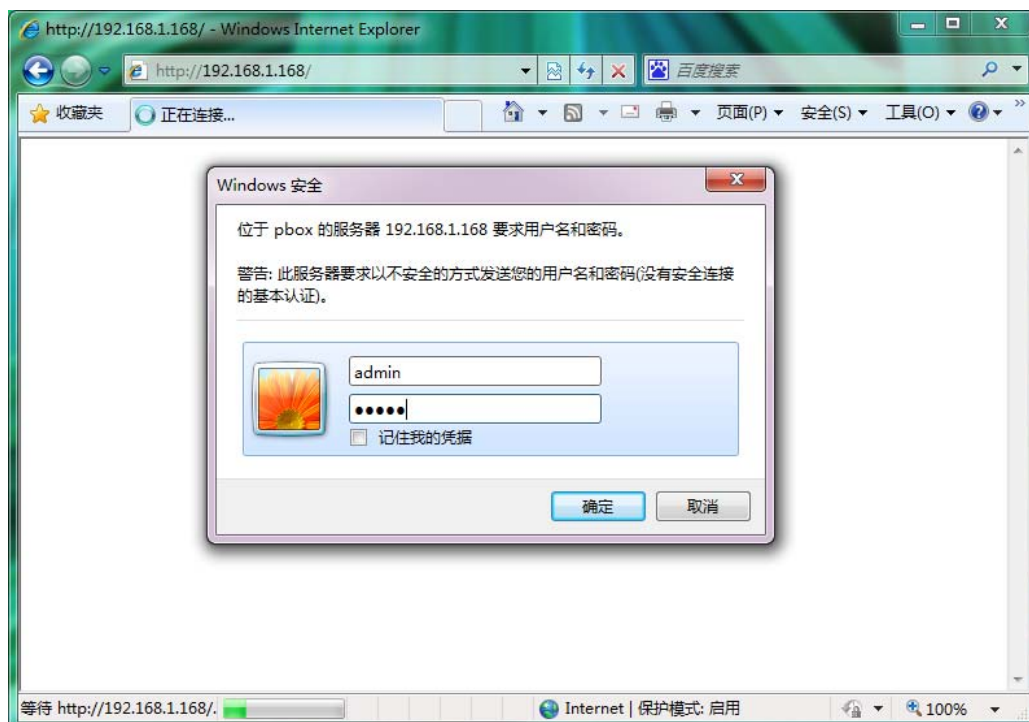
5.1.1 Change the IP Address of PC

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 'System status' and 'Main stream' sections. The 'System status' section includes: 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), and Audio Samplerate (48000). The 'Main stream' section includes: 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), and 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 includes 'Status', 'Encoder', 'Main stream', 'Substream1', 'Substream2', 'Substream3', 'Audio', 'Advanced', 'OSD', and 'System'. The 'Main stream' section contains the following settings: Encoding type (H.265), FPS (30), GOP (30), Bitrate(kbit) (1500), Encoded size (same as the input), Bitrate control (vbr), TS URL (/0.ts), HLS URL (/0.m3u8), RTSP URL (/0), Multicast IP (238.0.0.1), and Multicast port (1234). Each setting has a corresponding 'Enable' or 'Disable' dropdown menu. An 'Apply' button is located at the bottom of the settings area.

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

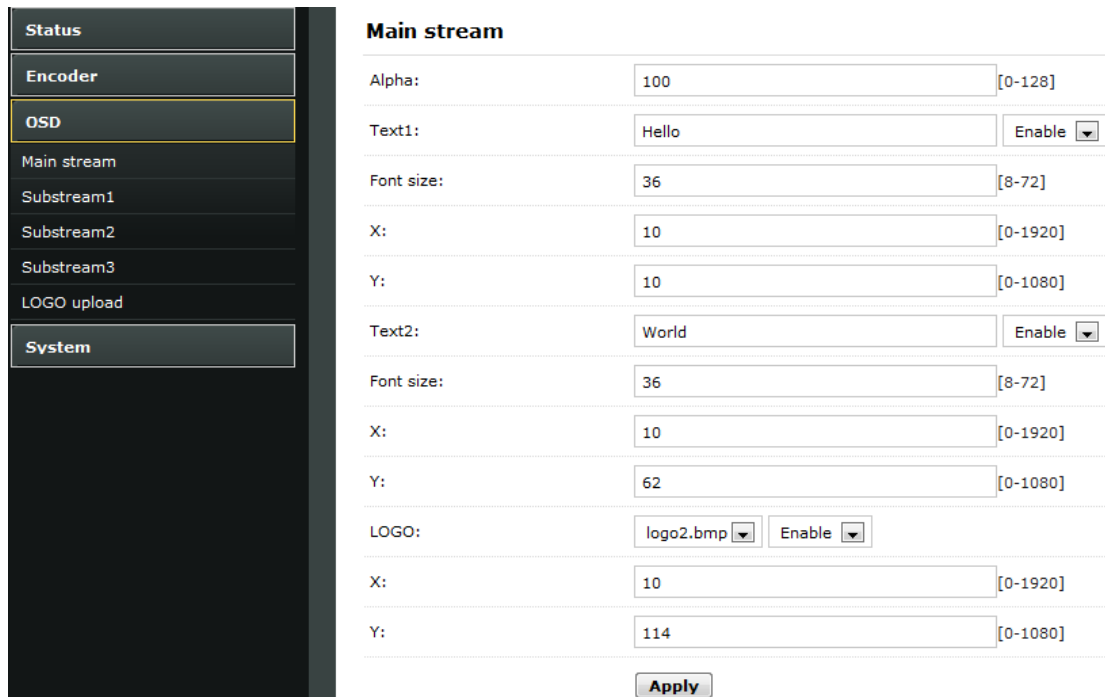
Click Encoder→Advanced→Setting all the parameter→Click apply.

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
	Satuature: 50 [0-100],Default:50
	Apply

7. OSD Setting

7.1 Streaming OSD Setting

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



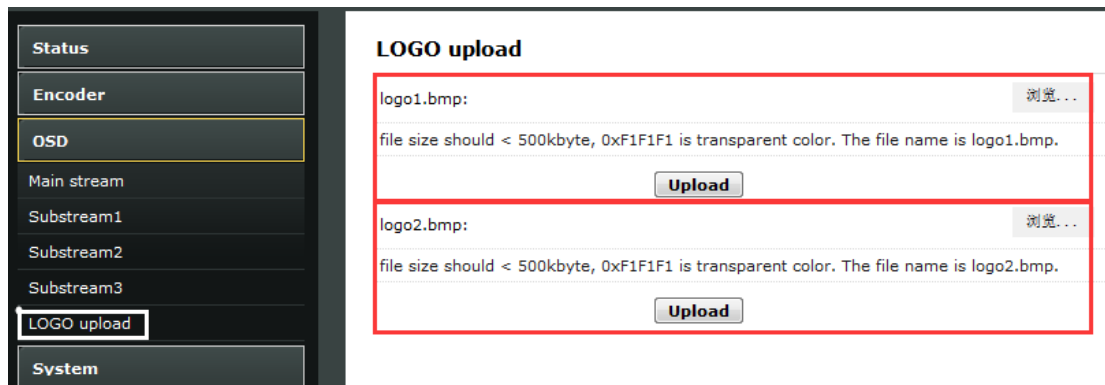
The screenshot shows the OSD Setting interface. On the left is a sidebar menu with options: Status, Encoder, OSD (highlighted), Main stream, Substream1, Substream2, Substream3, LOGO upload, and System. The main area is titled "Main stream" and contains the following configuration fields:

Alpha:	<input type="text" value="100"/>	[0-128]
Text1:	<input type="text" value="Hello"/>	Enable <input type="button" value="v"/>
Font size:	<input type="text" value="36"/>	[8-72]
X:	<input type="text" value="10"/>	[0-1920]
Y:	<input type="text" value="10"/>	[0-1080]
Text2:	<input type="text" value="World"/>	Enable <input type="button" value="v"/>
Font size:	<input type="text" value="36"/>	[8-72]
X:	<input type="text" value="10"/>	[0-1920]
Y:	<input type="text" value="62"/>	[0-1080]
LOGO:	<input type="text" value="logo2.bmp"/>	Enable <input type="button" value="v"/>
X:	<input type="text" value="10"/>	[0-1920]
Y:	<input type="text" value="114"/>	[0-1080]

At the bottom of the main stream section is an button.

7.2 LOGO uploading

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



The screenshot shows the LOGO upload interface. On the left is a sidebar menu with options: Status, Encoder, OSD, Main stream, Substream1, Substream2, Substream3, LOGO upload (highlighted), and System. The main area is titled "LOGO upload" and contains two upload slots:

logo1.bmp:
file size should < 500kbyte, 0xF1F1F1 is transparent color. The file name is logo1.bmp.

logo2.bmp:
file size should < 500kbyte, 0xF1F1F1 is transparent color. The file name is logo2.bmp.

※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:	<input type="text" value="Disable"/>
IP:	<input type="text" value="192.168.1.168"/>
Netmask:	<input type="text" value="255.255.255.0"/>
Gateway:	<input type="text" value="192.168.1.1"/>
MAC:	<input type="text" value="00:13:14:15:3A:B7"/>
DNS	
DNS1:	<input type="text" value="61.139.2.69"/>
DNS2:	<input type="text" value="8.8.8.8"/>
Port	
HTTP Port:	<input type="text" value="8080"/> [1-65535]
RTSP Port:	<input type="text" value="8554"/> [1-65535]
<input type="button" value="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:	<input type="text" value="....."/>
New password:	<input type="text" value="....."/>
Confirm new password:	<input type="text" value="....."/>
<input type="button" value="Apply"/>	

8.3 Reset

System→Reset→Reset

The screenshot shows the web interface for an H.265/H.264 Encoder. The main header is "H.265/H.264 Encoder". On the left, there is a 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 is titled "Reset" and contains the text "Restore the device to factory settings." followed by a "Reset" button.

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 main header is "H.265/H.264 Encoder". On the left, there is a 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 is titled "Reboot" and contains the text "Please wait for 1 minute after reboot." followed by a "Reboot" button.

9. Application

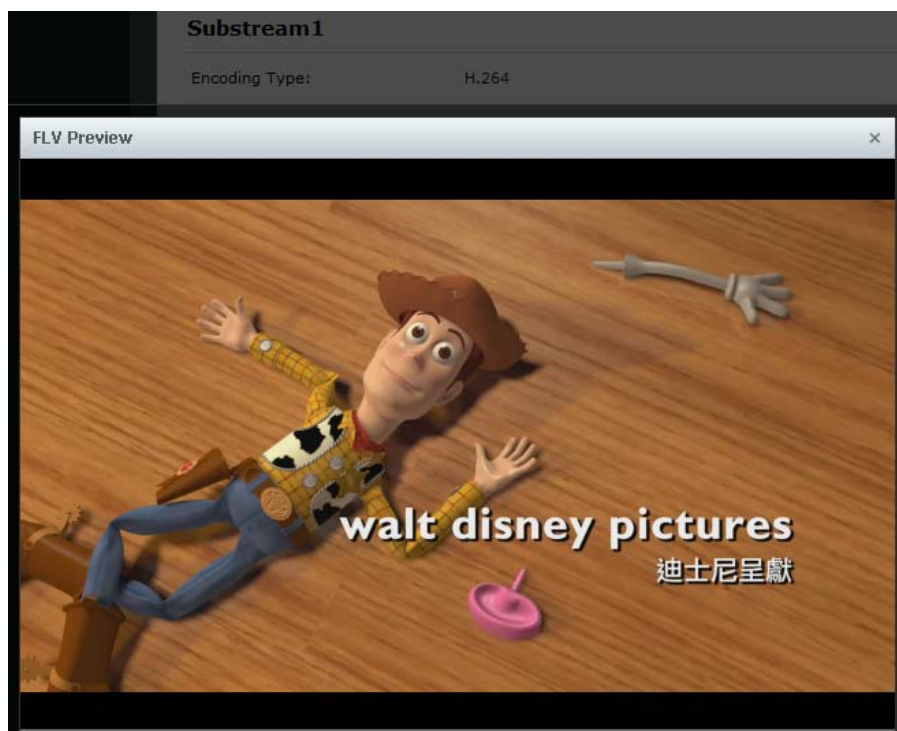
9.1 User Application Example

9.1.1 Web Video Preview

Status→Main stream→Preview

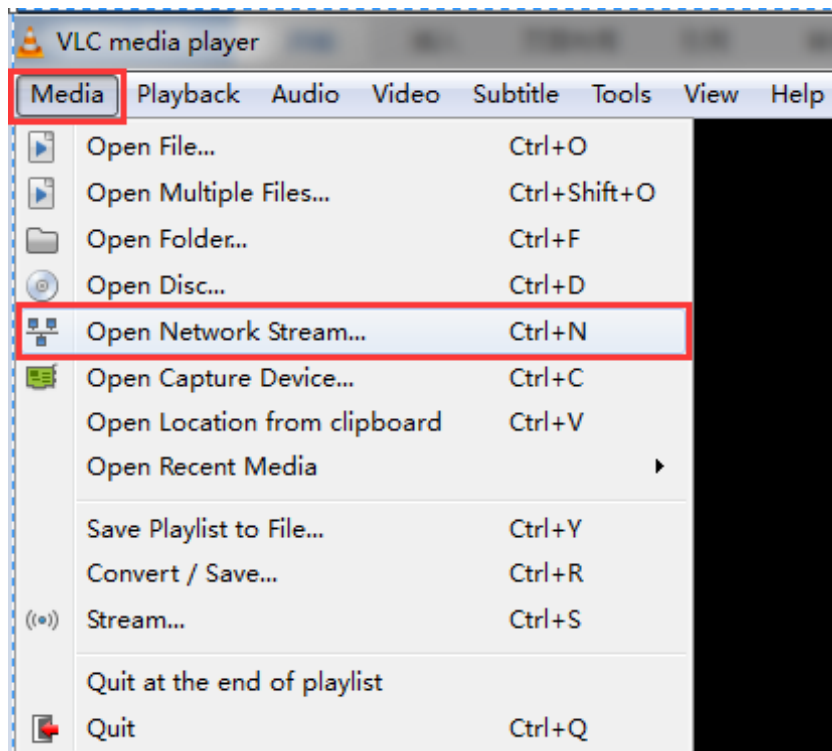
Substream 1	
Encoding Type:	H.264
Encoder size:	1280x720@30
Bitrate(kbit):	1800
TS URL:	http://192.168.1.168/1.ts
HLS URL:	http://192.168.1.168/1.m3u8
FLV URL:	http://192.168.1.168/1.flv
RTSP URL:	rtsp://192.168.1.168/1
RTMP PUBLISH URL:	Disable
Multicast URL:	Disable
Preview(Delay 1000ms)	

Belowing picture is the preview effect:

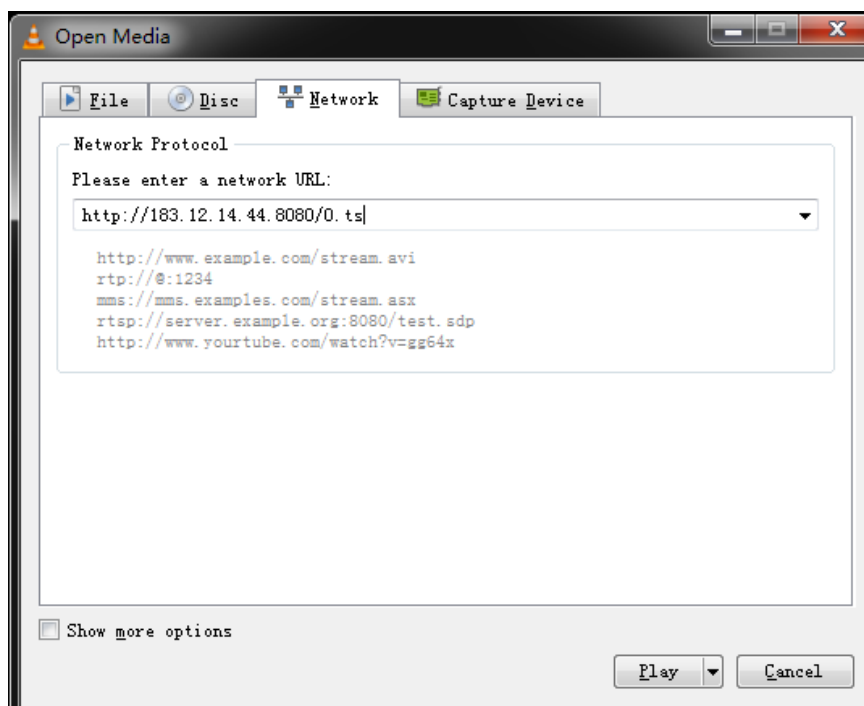


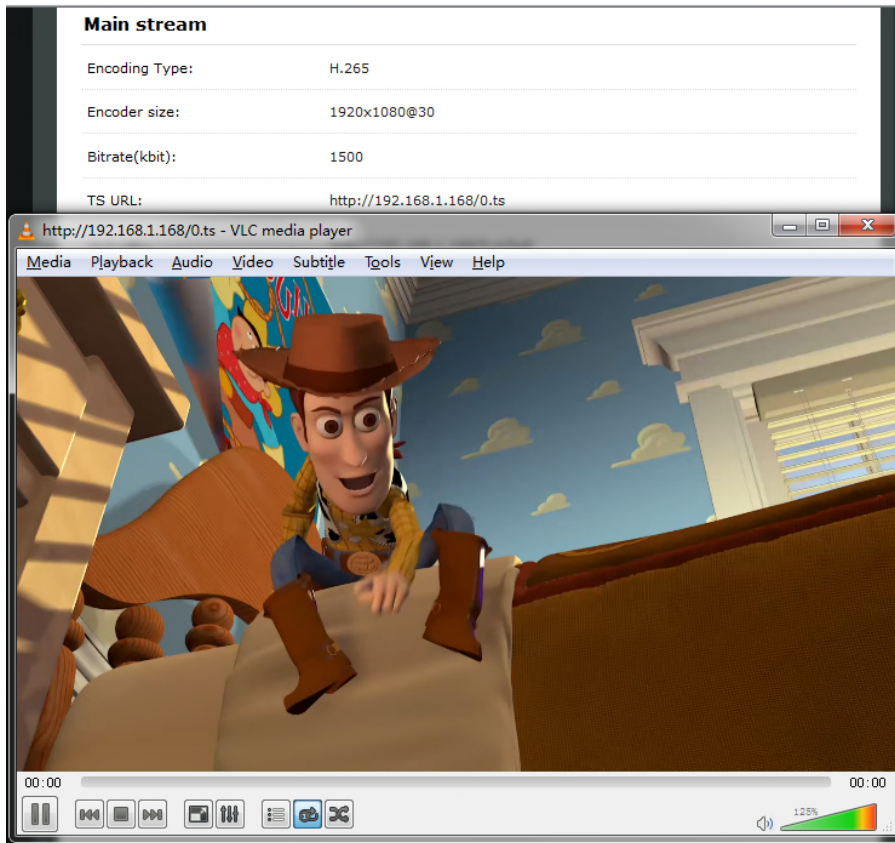
9.1.2 VLC Play

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



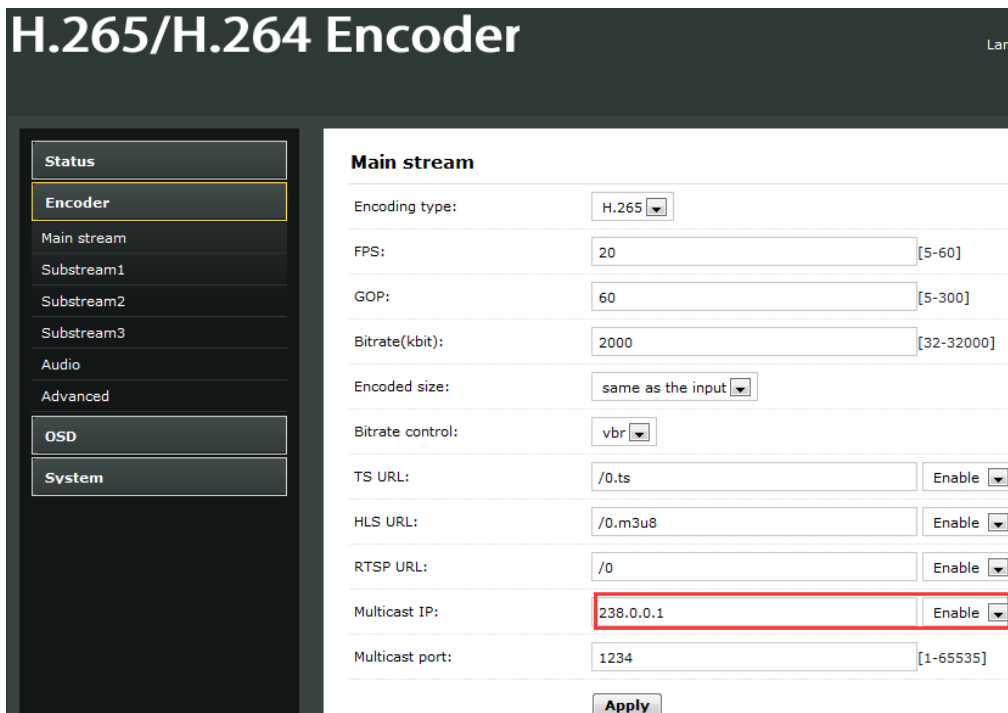
Enter Stream URL which showed from the page of Main stream. Click “play”, You can successfully play the video stream encoded from this device.





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	
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 options: Status, Encoder (selected), Main stream, Substream1, Substream2, Substream3, Audio, Advanced, OSD, and System. The main content area is titled 'Main stream' and contains the following settings:

Encoding type:	H.265
FPS:	30 [5-60]
GOP:	60 [5-300]
Bitrate(kbit):	2000 [32-32000]
Encoded size:	same as the input
Bitrate control:	vbr
TS URL:	/0.ts Disable
HLS URL:	/0.m3u8 Disable
RTSP URL:	/0 Enable
Multicast IP:	238.0.0.1 Disable
Multicast port:	1234 [1-65535]

An 'Apply' button is located at the bottom of the settings.

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 with the 'Audio' tab selected in the navigation menu. The main content area is titled 'Audio' and contains the following settings:

Audio Input:	HDMI
Samplerate:	44100
Encoder:	AAC+
Bitrate:	48000 [24000~48000]
Analog Vol:	10 [-50~50]

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

G711A Over RTSP:	Enable
------------------	--------

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

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 the following items: 'LIVE STREAMING' (with a red double arrow icon), 'Stream now BETA' (highlighted in red), 'Events', 'COMMUNITY', 'CHANNEL', 'ANALYTICS', 'CREATE', and 'Help and feedback'. The main content area features a video player showing 'This stream is OFFLINE'. Below the player are 'Create highlight' and 'Change thumbnail' buttons. A tabbed interface below the player has three tabs: 'BASIC INFO' (selected), 'STREAM OPTIONS', and 'CARDS'. The 'BASIC INFO' section includes a 'Live' status field, a description input area, a 'Schedule next stream' checkbox, a 'Category' dropdown set to 'Gaming', a 'Game title (recommended)' input field, and a 'Privacy' dropdown set to 'Public'. An 'Advanced settings' link is located at the bottom right of this section. The 'ENCODER SETUP' section below contains a 'Server URL' field with the value 'rtmp://a.rtmp.youtube.com/live2' and a 'Stream name/key' field with a masked input 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

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, maladjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Service, 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.