

H.264 / H.265 Video Encoder for 4K FHD Encoder

User Manual

Oupree Technology Company Limited
<https://www.oupree.com>

**This manual applies to the following products,
19" 1U/3U Rack available for all device.
some models may not List here.**

Picture	Item No.	Description	Dimension
	OPR-NH100N H.264 HDMI Encoder	Input: HDMI: 1080P/60fps and below Output: Stream 1080P@60fps and below	165*130*30mm
	OPR-NH100PH H.265 HDMI Encoder with HDMI loop back	Input: HDMI: 1080P/60fps and below Output: Stream 1080P@60fps and below	165*130*30mm
	OPR-NH401PH H.265 4 Channels HDMI Encoder	Input: HDMI: 1080P/60fps and below Output: Stream 1080P@60fps and below	128*89*28mm
	OPR-NH100PV H.265 VGA Encoder with VGA loop back	Input: HDMI: 1080P/60fps and below Output: Stream 1080P@60fps and below	190*110*30mm
	OPR-NH100CH H.264 HDMI & CVBS Video Encoder	Input: HDMI: 1080P/60fps and below CVBS: PAL / NTSC Output: HDMI Stream: 1080P / 720P and below @60fps CVBS Stream: PAL / NTSC	165*130*30mm
	OPR-NH1600N OPR-NH1600CH H.264 3U Rack Video Encoder	Input: HDMI / SDI: 1080P/60fps and below CVBS: PAL / NTSC Output: Stream: 1080P@60 / 30fps 720P and below @60fps CVBS Stream: PAL / NTSC	19" 3U Rack

Picture	Item No.	Description	Dimension
	OPR-NH100P H.265 HDMI Encoder POE Option	Input: HDMI: 1080P/60fps and below Output: Stream 1080P @ 60fps and below	165*130*30mm
	OPR-NH100PS H.265 SDI Encoder with SDI loop back	Input: SDI: 1080P/60fps and below Output: Stream 1080P @ 60fps and below	165*130*30mm
	OPR-NH400PU OPR-NH400PSU H.265 4 Channels HDMI / SDI Encoder	Input: HDMI / SDI: 1080P/60fps and below Output: Stream 1080P @ 60fps and below	19" 1U Rack
	OPR-NH1600P OPR-NH1600PH OPR-NH1600PS H.265 3U Rack Video Encoder	Input: HDMI / SDI: 1080P/60fps and below Output: Stream 1080P @ 60fps and below	19" 3U Rack

Application

1. IPTV (Wowza, Nginx, etc.,)
2. Online Live Broadcast
3. NVR (Net Video Recorder)
4. Teaching / Campus Broadcast
5. Hotel TV system
6. Video Conference
7. Digital Signage
8. Recording System
9. Others

Factory Default Settings

English UI - <http://192.168.1.168/indexE.html>

User name & Password - **admin**

Introduction

This device convert video & audio signals to IP streams, and send the IP streams to media streaming server (Wowza, nginx, etc..) or online live broadcast platform, such as YouTube, Facebook, Ustream, Twitter, etc, over network. By H.264 / H.265/MJPEG/JPEG efficient compression technique, our encoder use less data to transfer the better video. It supports RTMP(S) / SRT/ NDI /HTTP(S) / HLS / RTSP /, UDP Multicast /Unicast / RTP Stream Protocols and ONVIF.

Main Features

1. Adopts professional encoding chip, embedded Linux System, high stability and efficiency.
2. Friendly Web Control UI, support iOS, Android, Windows
3. Encoder Function customizes.
4. Support VBR / CBR rate control with Null Packets.
5. Output Stream bitrate adjustable.
6. Support the overlay of text, scrolling text, timestamps, and PNG images as stream logos on the video output.
7. Support for firmware upgrade.

Encoder Control Panel - It may little different with below photos for the firmware maybe upgraded.

Status Display

Input Status - show the information of the signals input and each output stream informations.

Running Time:0000-00-00 01:41:21

CPU Usage: 12%

Input Size:1920x1080p@60

Collected Video Frames:65116

Lost Video Frames:2

Audio Samplerate:48000

Network Settings

Internet access

DHCP:

IP:

Netmask:

Gateway:

MAC:

DNS

DNS1:

DNS2:

PORT

HTTP Port: [1-65500]

RTSP Port: [1-65500]

Set up

When the encoder has DHCP enabled, it is important to ensure that the correct DNS settings are configured for the encoder.

Mainstream encoding settings

Main stream

Encoding type:	H.264 ▾	
FPS:	30	[5-60]
GOP:	30	[5-300]
Bitrate(kbit):	3200	[32-32000]
Encoded size:	same as the input ▾	
H.264 Level:	high profile ▾	
Bitrate control:	vbr ▾	
TS URL:	/0.ts	Enable ▾
M3U URL:	/0.m3u8	Disable ▾
FLV URL:	/0.flv	Enable ▾
RTSP URL:	/0	Enable ▾
RTMP URL:	/0	Disable ▾
RTMP(S)/RTSP PUSH URL:	rtmp://192.168.1.169/live/0	Disable ▾
Multicast IP:	238.0.0.1	Disable ▾
Multicast port:	1234	[1-65535]
SRT URL Port:	9000	Disable ▾ [1-65535]
SRT PUSH URL:	srt://192.168.1.169:9000	Disable ▾
SRT Encryption Password:	0123456789	Disable ▾

Set up

Mainstream (Sub-stream) encoding settings

1. Encode type - H.265 Encoder supports H.265 / H.264 / MJPEG.
2. FPS - max is 60fps, when input is 1080i, fps will be half, for de-interlacing.
3. GOP - group of pictures, suggest the value keep same as the FPS.
4. Bitrate(kbps) - value depends the video quality you need, suggest 1080P@3500kbs, 720P@2500kbs,SD@1000kbs.
5. H.264 Level-baseline/main/high Profile, we recommend the high profile, for H.265 Encoder can only select the main profile.
6. Bitrate Control - VBR (Variable Bitrate) / CBR (Constant bitrate)
7. MinQp / MaxQp MaxQp - the larger the value, the more stable the bandwidth, but video quality will be decrease, recommend keep as default value.

*for more information, you can visit here,
<https://www.oupre.com/knowledge/>*

RTMP(S) Settings

1. Wowza - rtmp://serverIP:port/Application/stream name
I.E **rtmp://192.168.1.50:1935/live/oupre**
If with Source Authentication, and source User Name - oupre, password - 123456, the address will be like,
rtmp://oupre:123456@192.168.1.50:1935/live/oupre
2. **OSD** -Support the overlay of text, scrolling text, timestamps, and PNG images.

Audio & Video Encoding Settings

Usually, keep as default, but you can set it according to your needs.

Audio encoder

Audio Input:	<input type="text" value="Digital"/>	
Sampling Rate:	<input type="text" value="48000"/>	
Encoder:	<input type="text" value="AAC"/>	
Audio Channel:	<input type="text" value="L+R"/>	
Bitrate:	<input type="text" value="128000"/>	[48000~320000]
Digital Volume Gain(dB):	<input type="text" value="0"/>	[-20~10]
Denoise:	<input type="text" value="Disable"/>	
Denoise(dB):	<input type="text" value="15"/>	[1~100]
G711A Over PTE:	<input type="text" value="Enable"/>	

ONVIF audio

G711A Over RTSP:	<input type="text" value="Disable"/>
G711:	<input type="text" value="G711A"/>

Apply

System Settings

You can change the password for the encoder.

Upgrade firmware-<https://dl.oupree.com/Encoder-Firmware.html>
select the right firmware which download from our website, and upload it, if upload success, please reboot the encoder.

The screenshot displays a web interface for system settings, organized into three distinct sections with teal headers:

- Upload firmware and configuration:** This section features a file selection area with a "Choose File" button and the text "No file chosen". To the right, there is a note: "(File name is 'up.r...". Below this, a warning message reads "the same time, don't power off during upload.)". A prominent green "Upload" button is centered below the text.
- Backup firmware and configuration:** This section contains two green buttons: "Firmware" on the left and "Configuration" on the right.
- System settings:** This section contains two buttons: a green "Reboot" button on the left and an orange "Reset" button on the right.

FAQ

1. How to Reset the encoder?

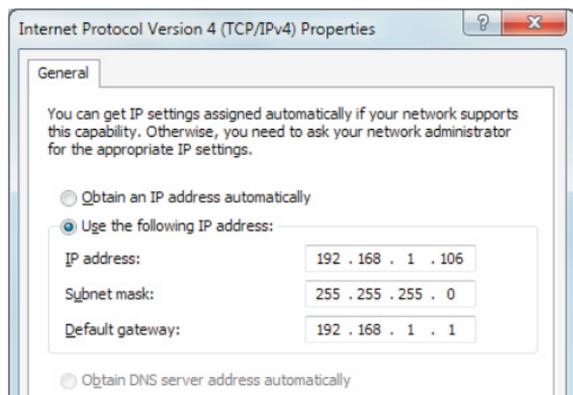
When you power on the device, press the RST (Reset) button for approximately 10 seconds until the status LED turns off. Once the LED is off, release the button to allow the encoder to initialize. This process will reset the encoder to its factory default settings.

2. I can't enter into the encoder control panel or ping it?

a. To ensure that the encoder is on the same network as your router, such as Encoder IP is 192.168.1.168, but your router IP is 192.168.0.1 or else, in this situation, you need Connect the encoder with your computer directly, and set the computer IP to 192.168.1.106, then login to encoder control panel, set the its IP to 192.168.0.168, click setup, and reboot the encoder.

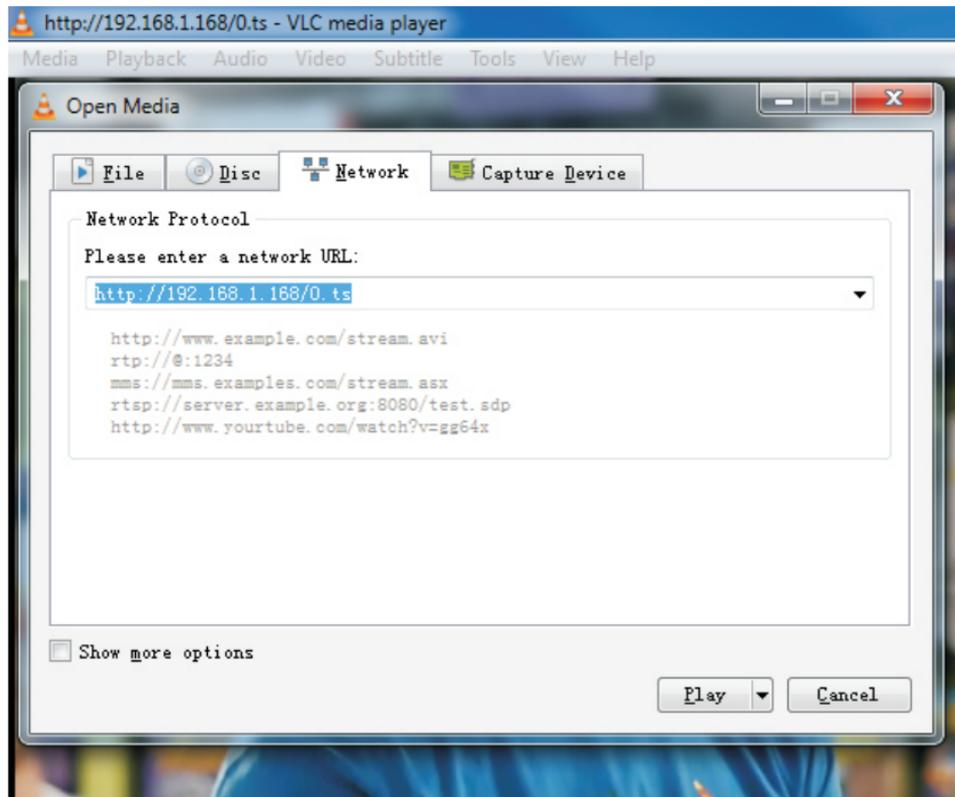
b. After the encoder is connected to the router, you can reset your computer's IP address back to its original settings.

c. Contact Support for IP Configuration Tool.



Test Stream by VLC

After all settings are ok, you can use VLC to test the stream.



If you have any questions or need assistance with the OUPREE Video Encoder, visit here or mail to us, <https://www.oupre.com/support/> support@oupre.com