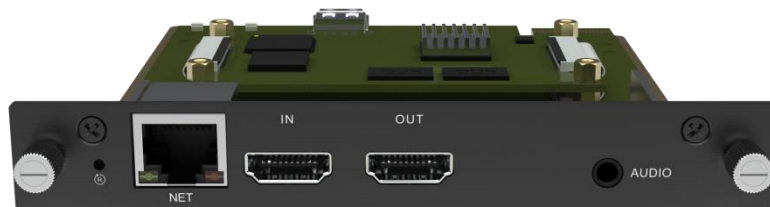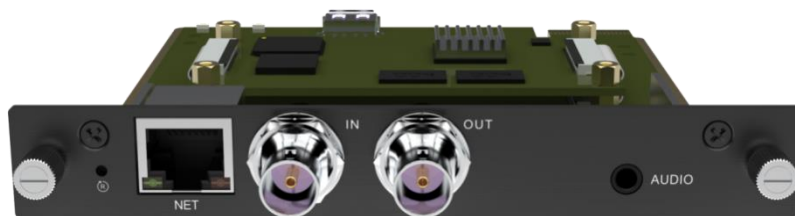# HD Rack-mount encoding card
RE-1/RE-2/REN-1/REN-2

Quick Start Guide


2021

Thanks for your purchasing! Before using this product, it is recommended that you read the guide carefully. To ensure your personal safety and avoid physical or electrical damage to the device, please strictly follow the instructions of this guide or install and use it under the guidance of professionals. Incorrect electrical connections or physical installation may cause permanent damage to the device and even threaten personal safety.
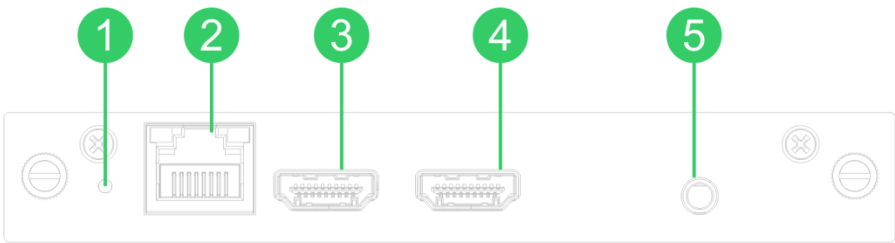
1. Interface description

1.1. RE-1/REN-1 Interface Description
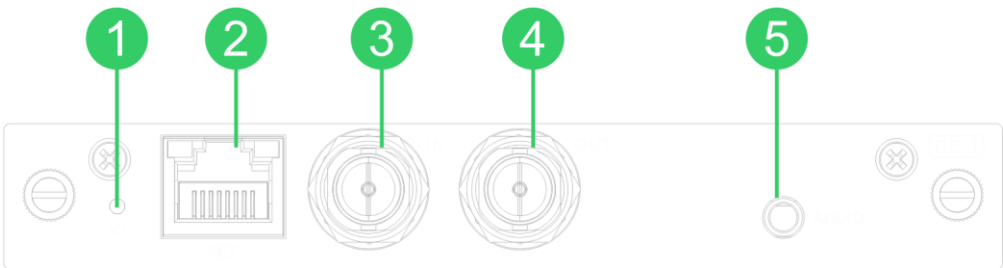
1.Reset button	Press and hold for 5 seconds to restore the factory settings
2.Ethernet port	100M self-adaptive Ethernet interface
3.SDI input	SDI input interface
4.SDI loop	SDI loop interface
5.Audio input	3.5mm audio input interface

## 1.2. RE-2/REN-2 Interface Description

| 1.Reset button	Press and hold for 5 seconds to restore the factory settings
2.Ethernet port	100M self-adaptive Ethernet interface
3.HDMI input	HDMI input interface
4.HDMI loop	HDMI loop interface
5.Audio input	3.5mm audio input interface

2. Device installation and Connection

2.1. Card installation and device connection

1) Card installation

Align the card assembly with the card slots and push in parallel, then tighten the double-sided screws.

1. Align and push the encoding card in

2. Tighten the left and right screws
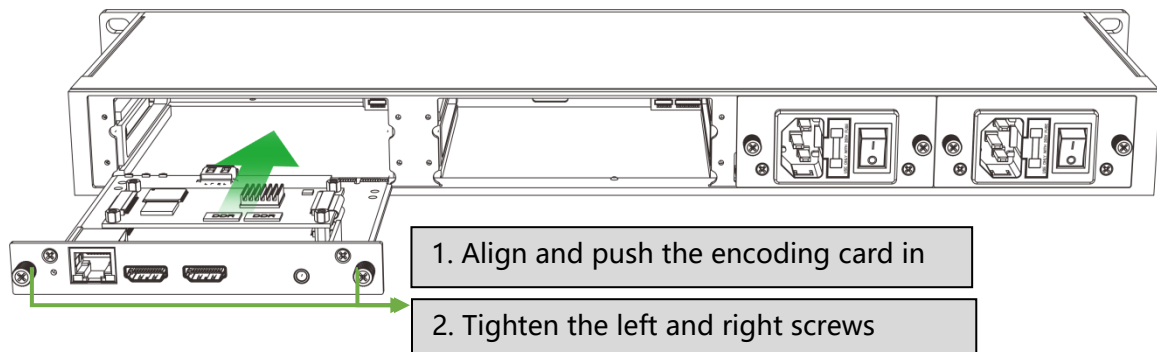
2) Device connection
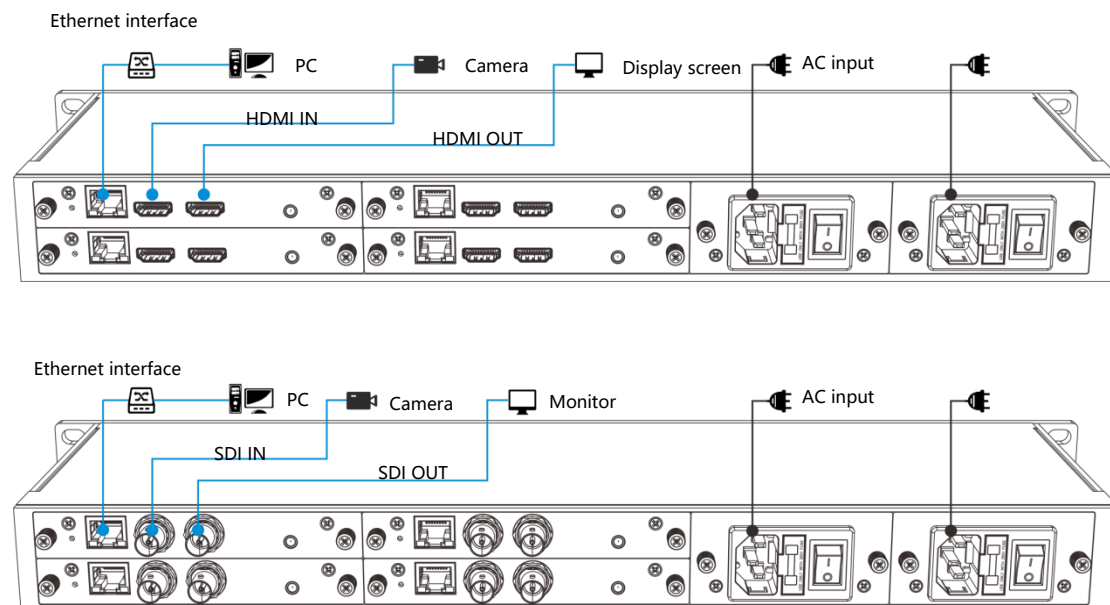
2.2. Device login

1) Default IP address

The default IP address is 192.168.1.168 with subnet mask 255.255.255.0.

Normally, you don't need to modify this IP address.

2) IP Configuration

Configure the IP address by clicking: "Network and Internet Settings-"Network and Sharing Center"-"Ethernet"-"Internet Protocol Version 4"-" Use the IP address below ", then manually enter the IP address with 192.168.1.*(* refers to numbers between 1-255 except 168) and subnet mask, and click "OK".

3) Log in the WEB Console

Enter 192.168.1.168 or http://192.168.1.168 in the browser URL to login the web console, and enter the username and password.
Login username: admin; Password: admin.

4) IP address configuration

After login, you can configure the IP according to the network, the IP will be used for streaming and device management. You can configure it to "manually" or "DHCP" (Default set is DHCP). And the IP can be used to login to the device directly.
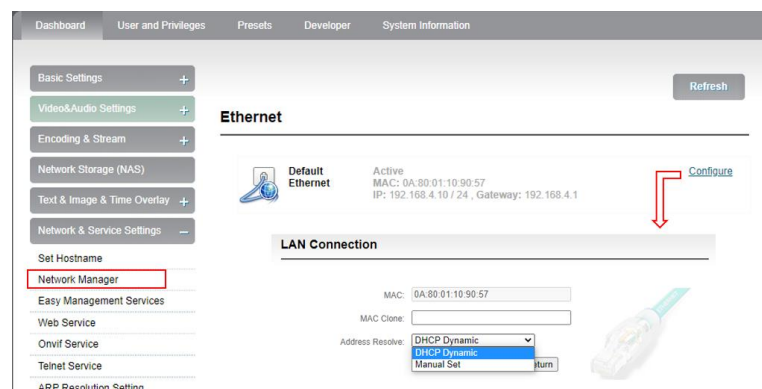
# 3. Video input and encoding

3.1. Video input inspection

The encoding card will output a Motion JPEG stream if the device works normally. When there is no video signal input, it is a blue screen. Correspond to the no signal state of "Video signal lock" in the above "Video and audio signal source status" (H.264 code stream output blue screen); When there is video signal connected, it will display the current video signal in the real-time screen, "Video Signal Lock" will display the locked state, and the current video signal format will be displayed in the "Video Format".
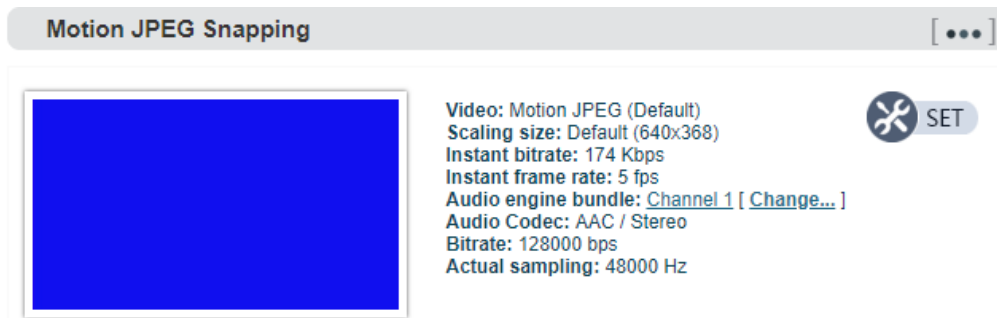
Note: If the source is connected, but the screen is still blue or abnormal, please check the input video format or cable connection.

3.2 Encoding stream inspection

A computer that in the same local area network can get the RTSP stream from the encoding card through VLC to check whether the audio and video are normal.
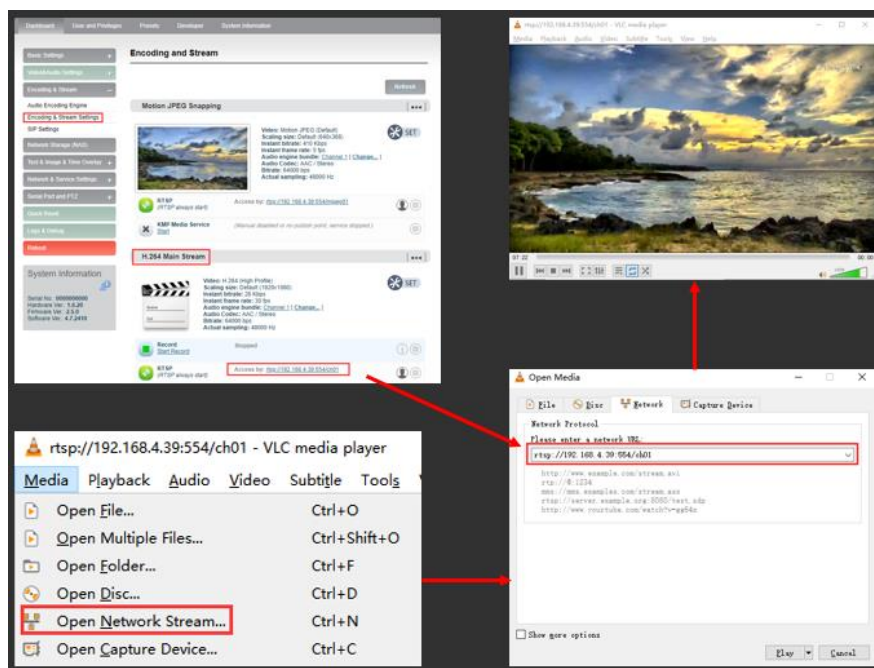
4. NDI|HX driver installation & NDI discovery and connection (only REN-1/REN-2 cards supported)

4.1. NDI|HX driver installation

REN-1/REN-2 cards support NDI|HX protocol, which is a kind of compressed encoding NDI technology. Before using other tools to connect to the device, please download and install the NDI|HX driver from NewTek's official website. NDI tools include Mac and Windows versions (https://ndi.tv/tools/).
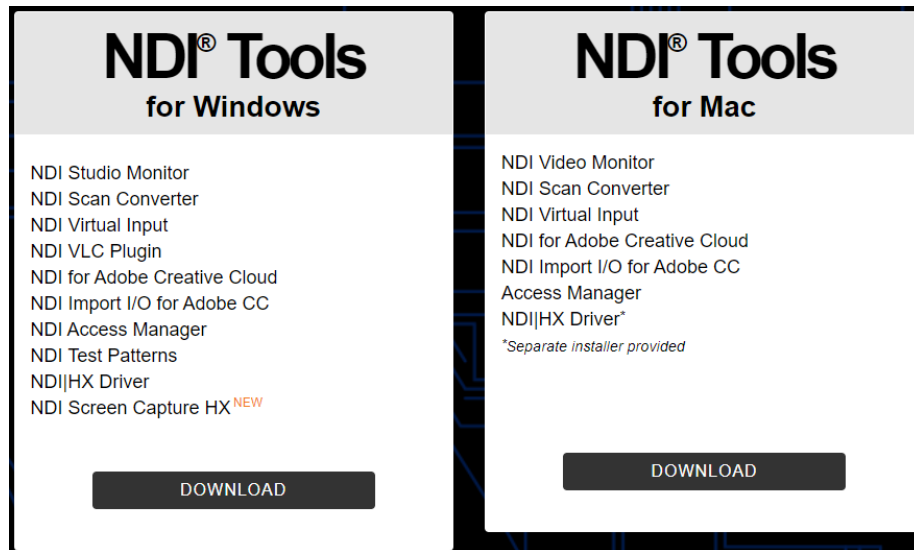
4.2. NDI discovery and connection

NDI stream service is enabled by default on the device. When the device and NewTek Studio Monitor (other NDI-enabled software OBS, vMix) on the same subnet, the software can automatically discover the NDI streaming of the device. Select the device name and channel, it will play the NDI streams.

When there are multiple NDI encoding devices in the same network, different devices can be identified by modifying the device name and channel name.
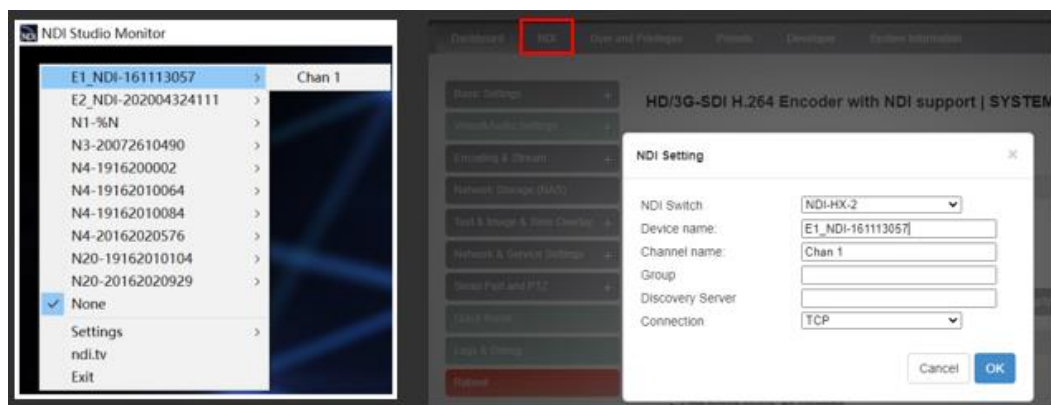
5. Streaming service

The encoding device also supports multiple protocols outputting, such as RTMP, TS over UDP, SRT and HLS, and supports the simultaneous output of multiple services. Taking RTMP streaming as an example:

First, click "Encoding and Media Streaming"-"Encoding and Streaming Parameter Settings", and click "Add a Streaming Service" under the H.264 main stream, and select "RTMP Push" in the pop-up dialog box.
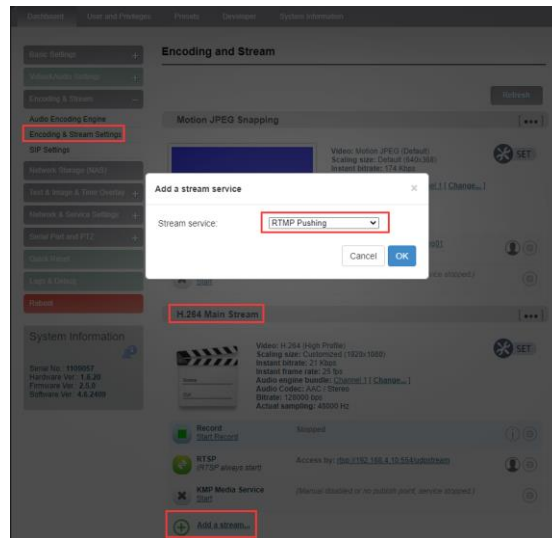
Then, get the RTMP stream URL and Stream Key from the video platforms (take Facebook as an example) and copy them. Click the setting button on the right of "RTMP Push" to enter the RTMP streaming address configuration page. Fill in the address on the platform into the "push point" and start the RTMP push service, then save and start the streaming.
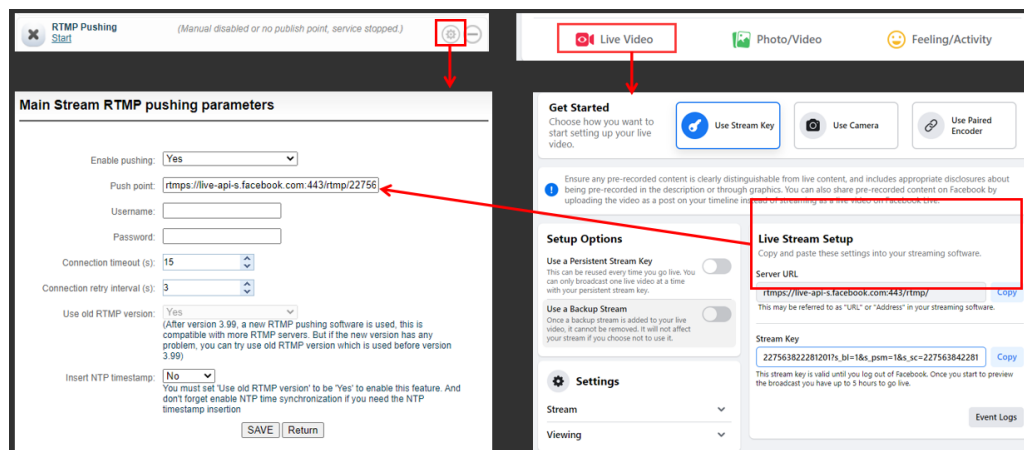
Note: Some RTMP streaming URL and stream key are separate. Please use "/" to add the stream key after the RTMP address. The format is: rtmp URL/stream key.

6. Restore factory settings

If the device cannot work normally after modifies the parameters (the typical situation is to modify the network address and the encoding card cannot be accessed), please restore factory settings.

Two methods for restoring factory settings:
①Via the WEB page, click "Basic Setup > restore factory settings" function;
②Press RESET button:

Pressing the RESET button for 5 seconds on the device, and the device will restore to factory settings and it will take about 30s.

NOTE:

After restoring factory setting, below parameters will be turned to default value:

●Login password will be as admin;

●IP address will be restored as 192.168.1.168, subnet mask will be 255.255.255.0;

●All encoding parameters of video and audio will be restored to factory default value;

●Media transmission parameters will be restored as factory default value.

7. Quick reset and reboot

"Quick reset" is used to reset the encoding card, generally for modify audio or encoding parameters. After the quick reset, the current encoding service will be interrupted briefly, which takes about 3S.

"Device reboot" is used to restart the device software, which is equivalent to restarting the device, and it takes about 1 minute.

8. Firmware upgrading

The encoder card supports online firmware upgrading. Through the "Basic Settings-Firmware Upgrade" of the web management interface, you can upload the firmware online.

The device will restart automatically after upgraded. The upgrade process is slow, around 30s to 2 minutes (depending on the upgrading content), please be patient.

After finish upgrading, check whether the version information of the latest firmware is consistent with the expected status through the System Status-Software Version on the web page.

Note: Configurations may change greatly after updating for certain versions, and some functions may be used abnormally. It is recommended to restore the factory settings after the firmware upgrade.