KILOVIEW RE-3 Dual Channel Video Encoding Card User Guide

Contents

KILOVIEW RE-3 Dual Channel Video Encoding Card

USER MANUAL

RE-3 Dual-Channel Video Encoding Card
3G-SDI + 4K HDMI H.265 video encoding card V1.4

The RE-3, designed as a performance-tuned configuration based on the RE-3 encoder, takes on a card form factor and is specifically designed to match the Cradle series chassis. It aims to meet the demands of users seeking professional installations. The RE-3 provides a more convenient and flexible installation solution and offers outstanding video quality and stability through performance optimization. Whether in professional broadcasting, video conferencing, or other fields, the RE-3 delivers an exceptional video encoding experience to users.

Contents

- Packing List
- Device interfaces and functions
- Device connection, login and use guide
- Device upgrade and restore to factory settings

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 to 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.
Due to continuous product upgrades and updates, the product you purchased may have changes from the contents of this manual. Please refer to the actual product in the packaging box.

1. Packing List

(1) Device ×1

(2) Warranty Card ×1

(3) Quick Start Guide ×1

2. Device Interface

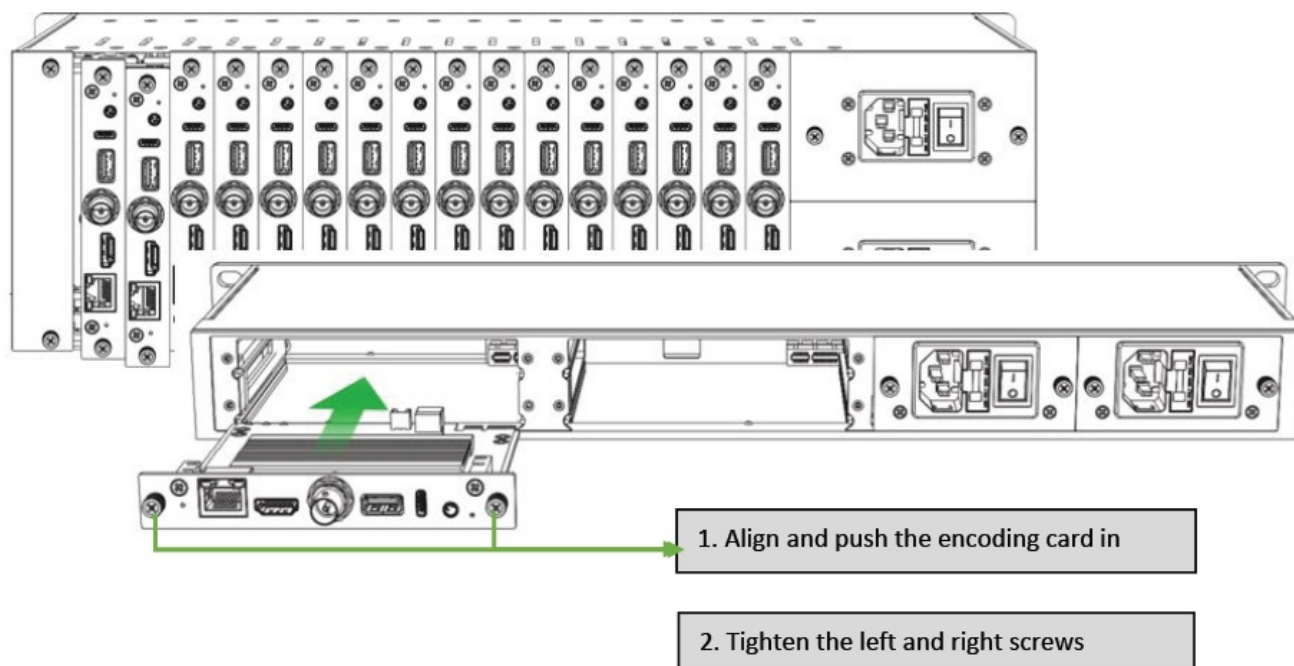|	
(1) Reset	(5) USB TYPE-A
(2) 1000M Ethernet	(6) USB TYPE-C
(3) HDMI input	(7) 3.5mm Line in
(4) 3G-SDI input	(8) Tally Singal Ligh

3. RE-3 Card Installation

To align the cardboard component with the left and right card slots, push it in parallel and then tighten the two hand-tightened screws on the left and right sides. The component is now installed. When disassembling, loosen the two hand-tightened screws on the left and right sides, and then pull out the cardboard component in parallel.

1. Align and push the encoding card in
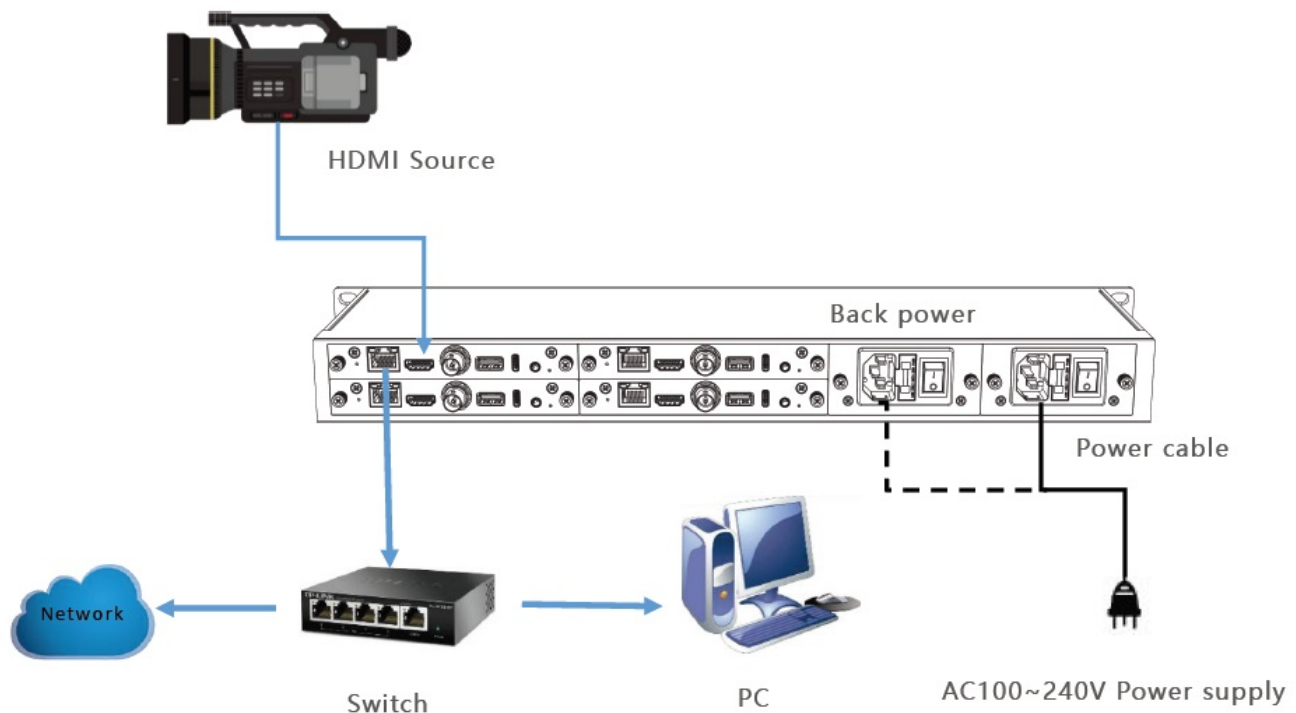
2. Tighten the left and right screws

By designing the RE-3 in a card form factor, you can easily install and adjust its integration with the Cradle series chassis. This design takes into account users' professional needs, allowing for a more flexible deployment and management of the equipment. Moreover, this integrated design can reduce the need for extensive device connections and wiring, simplifying the overall system configuration and maintenance.

For more help on installation and use, please visit Kiloview official website:
https://www.kiloview.com/en/support/docs/3u/ru-01/

4. Application

Note

- Please use the device's included power adapter to provide power to the device. Other unqualified power sources may damage the equipment.
- The device supports simultaneous HDMI and SDI inputs for separate or mixed encoding. Here, we will take the example of inputting a single HDMI signal separately.
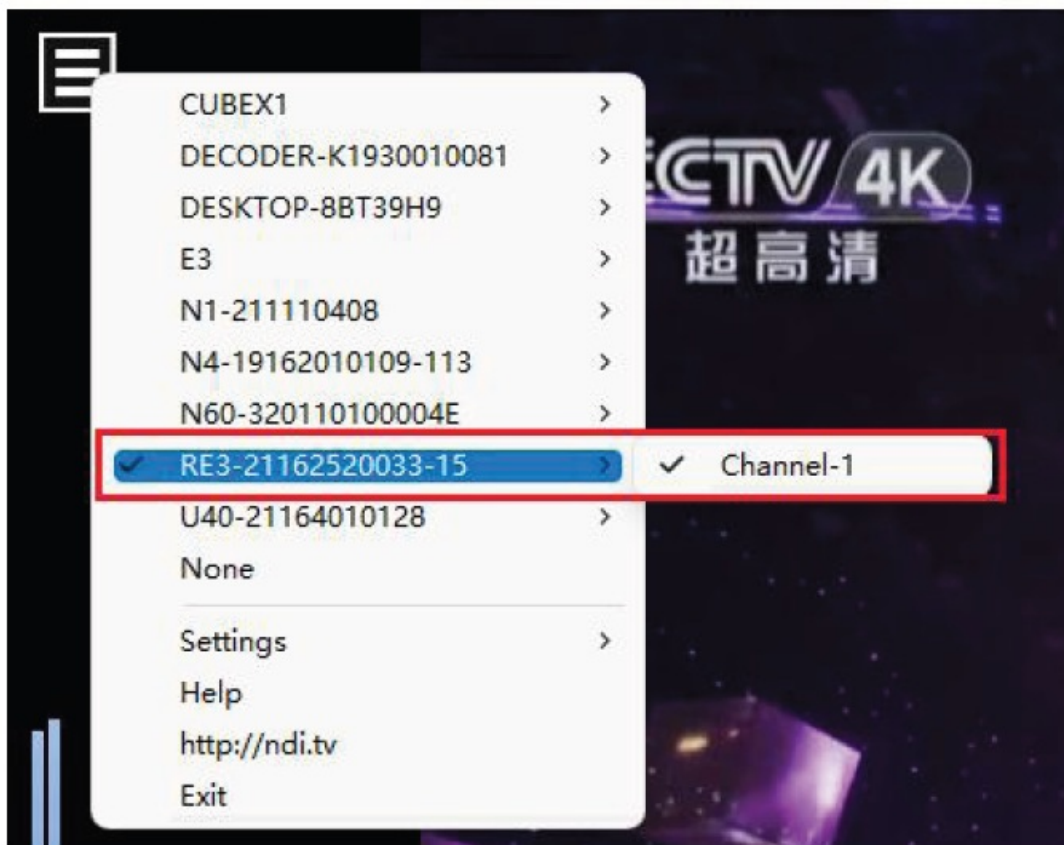
5. Device Discovery

5.1 Use the free tool —NDI Tools

If your network supports DHCP, the device will automatically obtain an IP address through DHCP after connecting to the network, and other tools that support NDI protocol on the PC in the same broadcast domain can automatically discover the NDI stream in the network. Through Studio Monitor, you can monitor the video sources connected to the device, and you can also jump to the web page of the device for management.

Download and install NDI Tools from NEWTEK website:

(**https://www.newtek.com/ndi/tools/#**)

Open the Studio Monitor interface, click the icon in the upper left corner (or right-click), it will show the list of devices that have been discovered by the Studio Monitor software, behind the list of names, it will show all the NDI streams found in the network according to the different devices and channel names, directly select the device that needs to be connected to, then it can pull and play the currently selected video stream.

After opening the Monitor tool to play the video of RE-3, click the gear button at the bottom right corner of the player to open the WEB management page of RE-3 device directly.
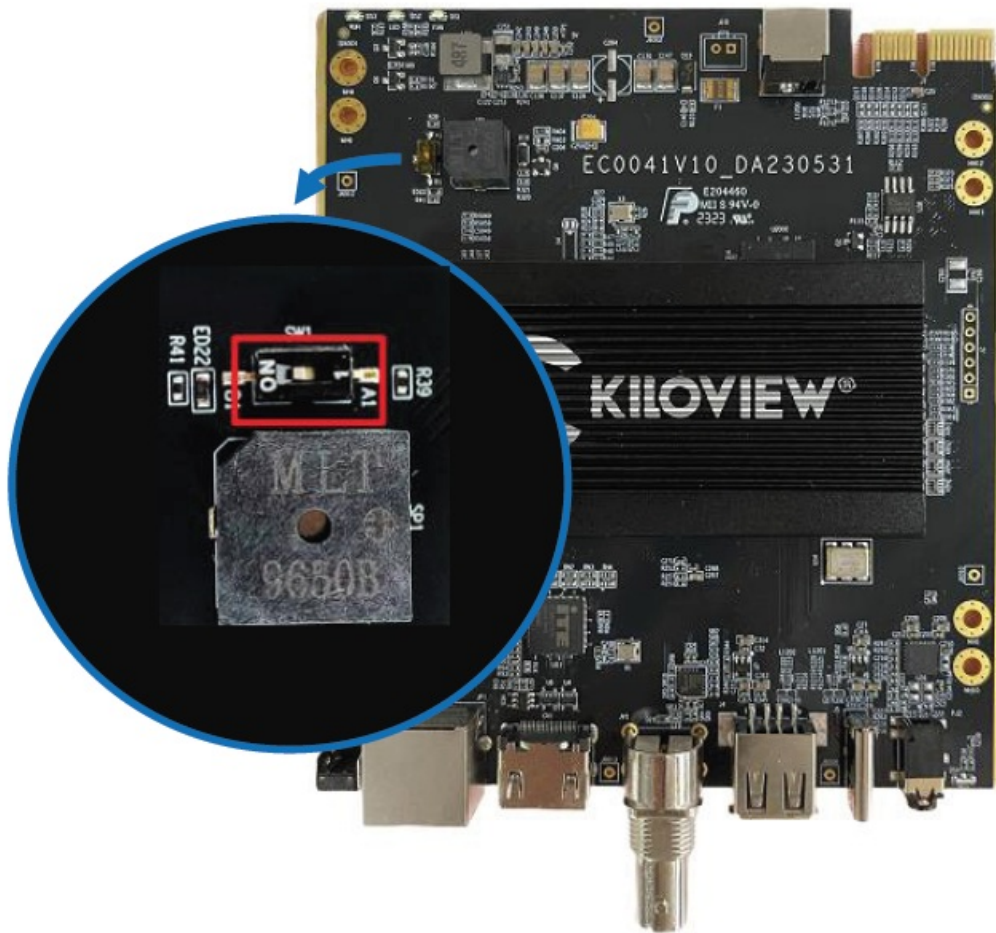

5.2 Use the default address

If your network doesn't support DHCP, you can manually obtain the default IP address by toggling the dip switch on the cardboard.

There is a dip switch located on the upper left part of the cardboard under a yellow protective film. Peel off the

yellow protective film to reveal a white dip switch. Move the switch to the ON position to obtain the card board's default IP address, which is 192.168.1.168.

6. Login to the device management page

Open a web browser and enter in the address bar: **http://deviceIPaddress/login to the web UI.**
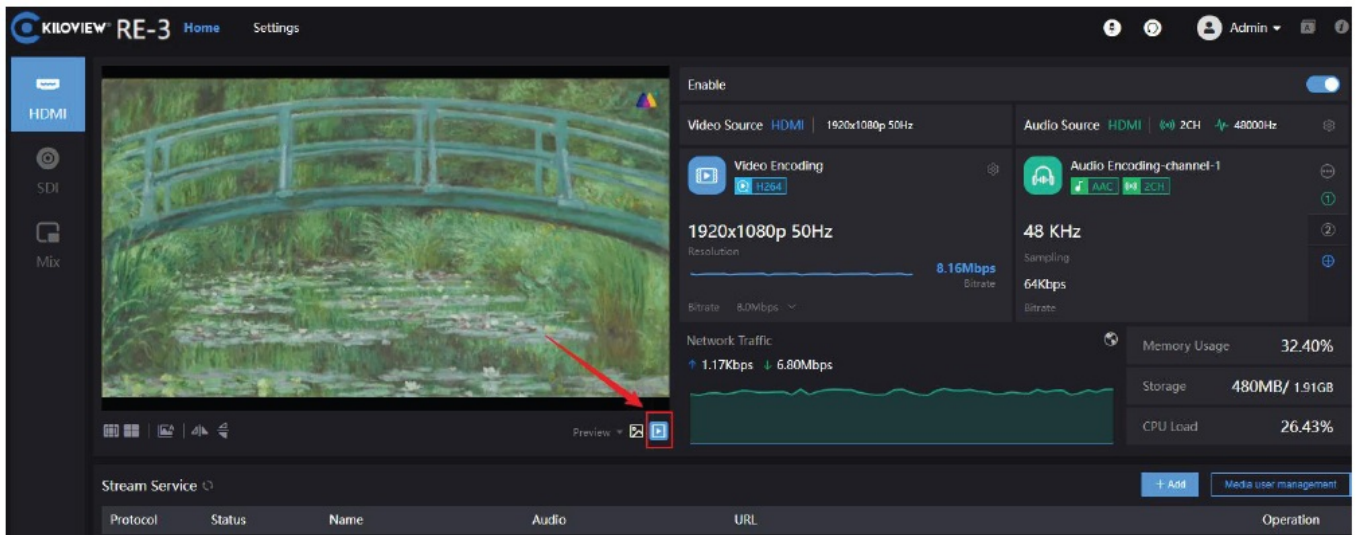
Note

- The user's name and password are admin by default.
- To ensure information security, it is recommended to change your password immediately after logging in for the first time.
- Due to the browser compatibility issues, it is recommended to use Chrome or Edge.

7. Start a live streaming

7.1 Video source checking

After connecting the video source, you can use a browser to preview the video in real-time on the RE-3. The video preview window is set to "Picture" mode by default, the screen refreshes one frame every 3 seconds. If your computer's CPU performance is strong, you can click the button to switch to "Video" mode, and you will experience smooth real-time video.
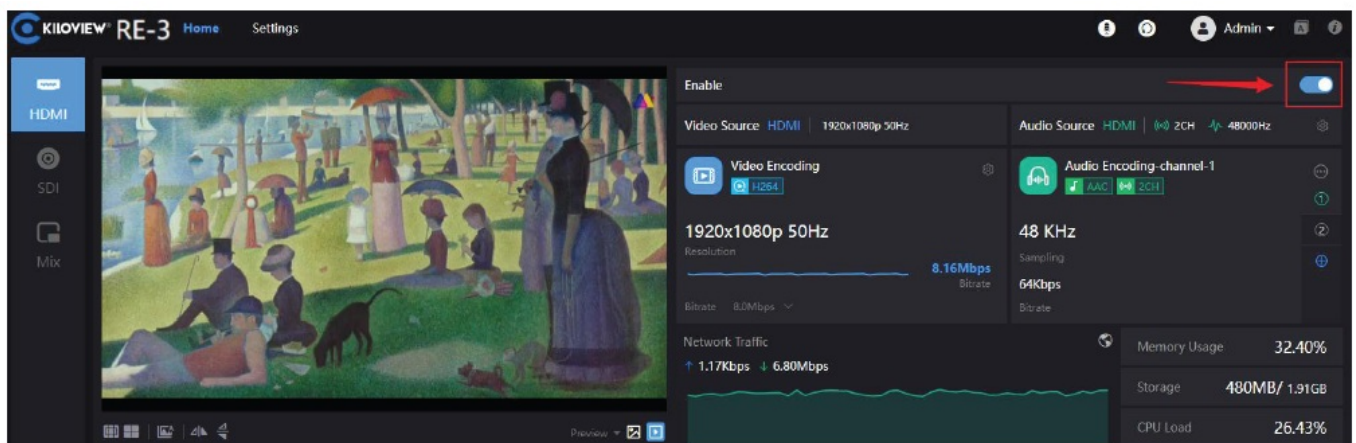
Note

If the video source connected, there is still a blue screen or video displayed abnormality. Please check the input video source, the video resolution format or cables, etc.

7.2 Stream service

After logging into the RE-3's web page, you can see that the device mainly includes three functions: HDMI Encoding, SDI Encoding, and Mix Encoding. RE-3 also supports simultaneous SDI and HDMI encoding. Clicking on the leftmost navigation bar "HDMI/SDI/Mix" allows you to configure different video source encoding parameters.

The HDMI Encoding module has the same functionality as the SDI Encoding module. By default, HDMI input is selected for encoding. Let's take HDMI encoding as an example: After connecting the HDMI input, you can set parameters such as resolution, frame rate, stream, and audio on the web UI. Once the settings are complete, click on the encoding output on the right side of the web page, as shown in the image below:

If you need to switch between HDMI and SDI video sources, you just need to click on the leftmost navigation bar on the web page. Clicking on "SDI" selects SDI video source encoding and clicking on "Mix" enters the mixed encoding mode.

Note:

- The HDMI interface supports input resolutions of: 3840x2160p30fps

  1920x1080p60fps

1920x1080i50/59.94/60fps
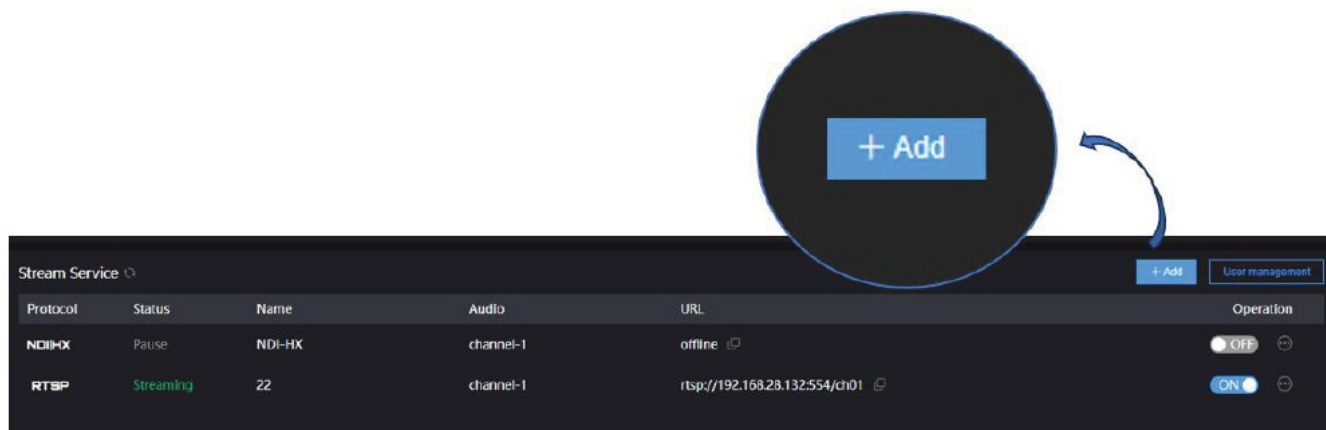
And downwards compatibility.

- The SDI interface supports input resolutions of: 1920x1080p60fps

1920x1080i50/59.94/60fps

1280x720p25/29.97/30/50/59.94/60fps

And downwards compatibility.

On the WEB UI, click" Add" at the right side to add stream service. Here let's take add RTSP as an example:
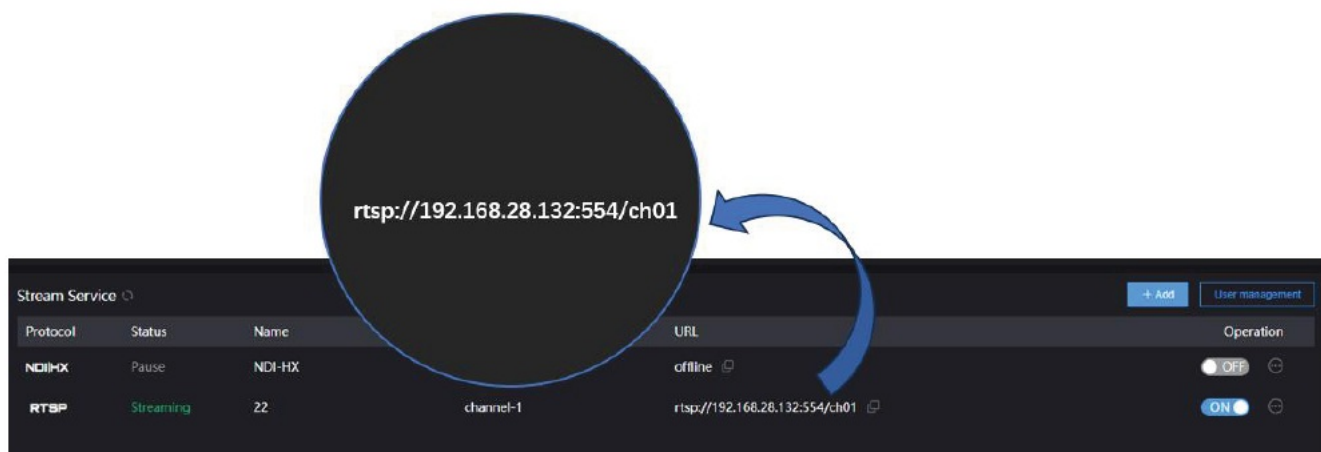

Select "RTSP" as the type, fill in the name, service port, and session ID. You can keep the other parameters at their default configurations. Click "OK" to save the settings.

NOTE:

- The default RTSP port is 554. When adding RTSP services for both HDMI and SDI inputs simultaneously, it's necessary to use different port numbers to avoid conflicts.
- The session ID can be a combination of numbers, letters, and symbols. It's not mandatory to fill in the session ID. However, if you specify a session ID on the encoder side, the decoder side will also need to use the same value for the session ID.

After saving configurations, it will be displayed under the stream service, which is closed by default. Click on to start the stream service, it will come up a RTSP stream address in the corresponding address.

Click to copy this address, you can check the encoded video stream by pulling the stream through VLC.
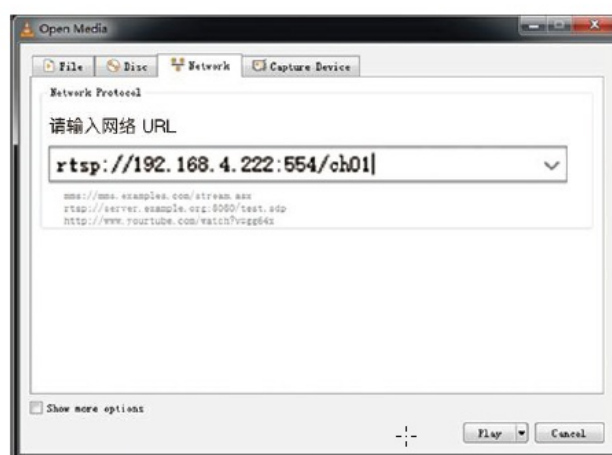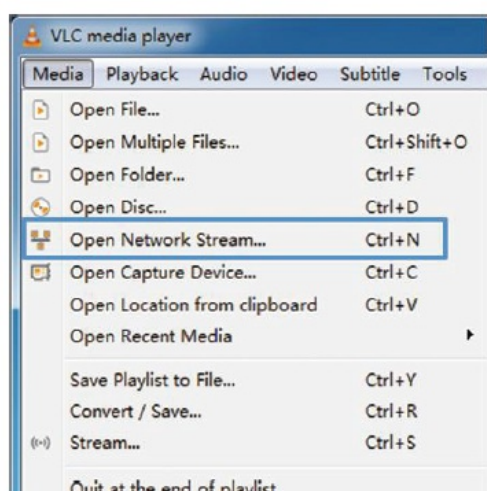
Download the VLC
Download and install the VLC through the official address **https://www.videolan.org/vlc/**. Please follow the official guidelines of VLC for the download /installation.
VLC is a free, open source, cross-platform multimedia player and framework that can play most multimedia files, as well as DVD, CD, VCD and various streaming protocols.

Click "Media " -> "Open Network Stream" Enter the RTSP URL address in the network field and click the [Play] button at the bottom right corner to start streaming playback.
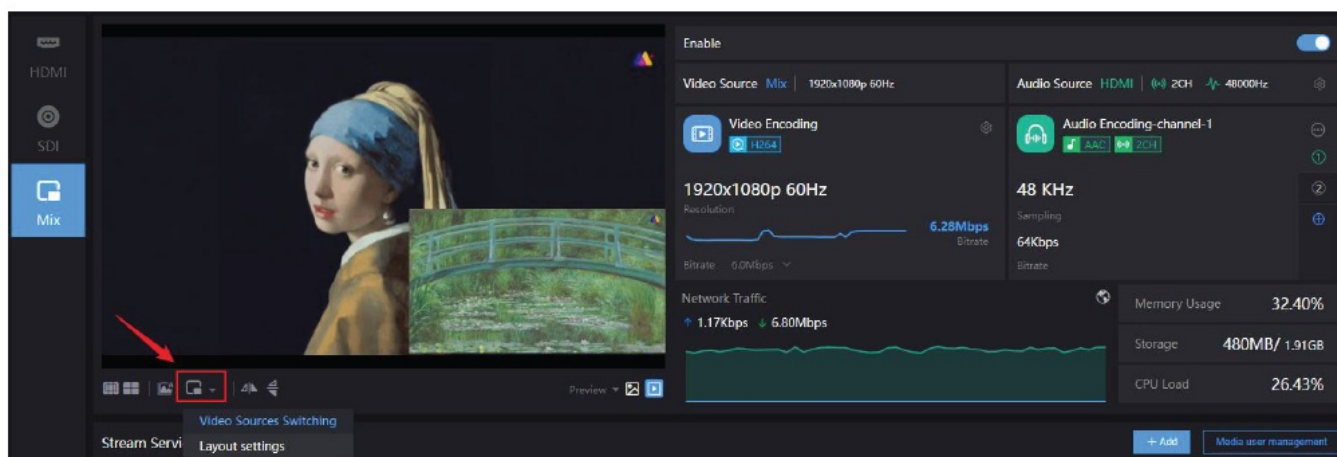

7.3 Mix encoding

RE-3 supports both 3G-SDI and HDMI encoding, as well as mix encoding.
Enter the Web UI, click Mix to enter the mix encoding mode, which can combine HDMI and SDI input video into picture-in-picture, and then encode and output to achieve the effect of multi view display. Click "Video Sources Switching" to switch the images between the inputs. Click "Layout settings", you can adjust the layout of the mixed
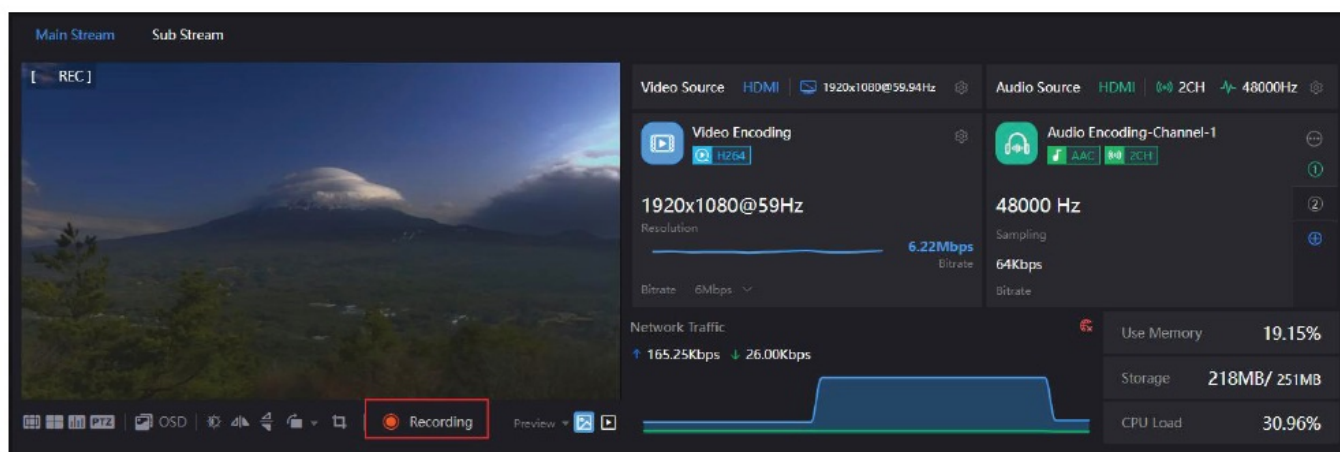
encoding.

NOTE:

In the Mixing Encoding mode, the HDMI interface supports a maximum resolution of 1080P60. The capability to support 4KP30 is available only when operating in the single-interface mode.
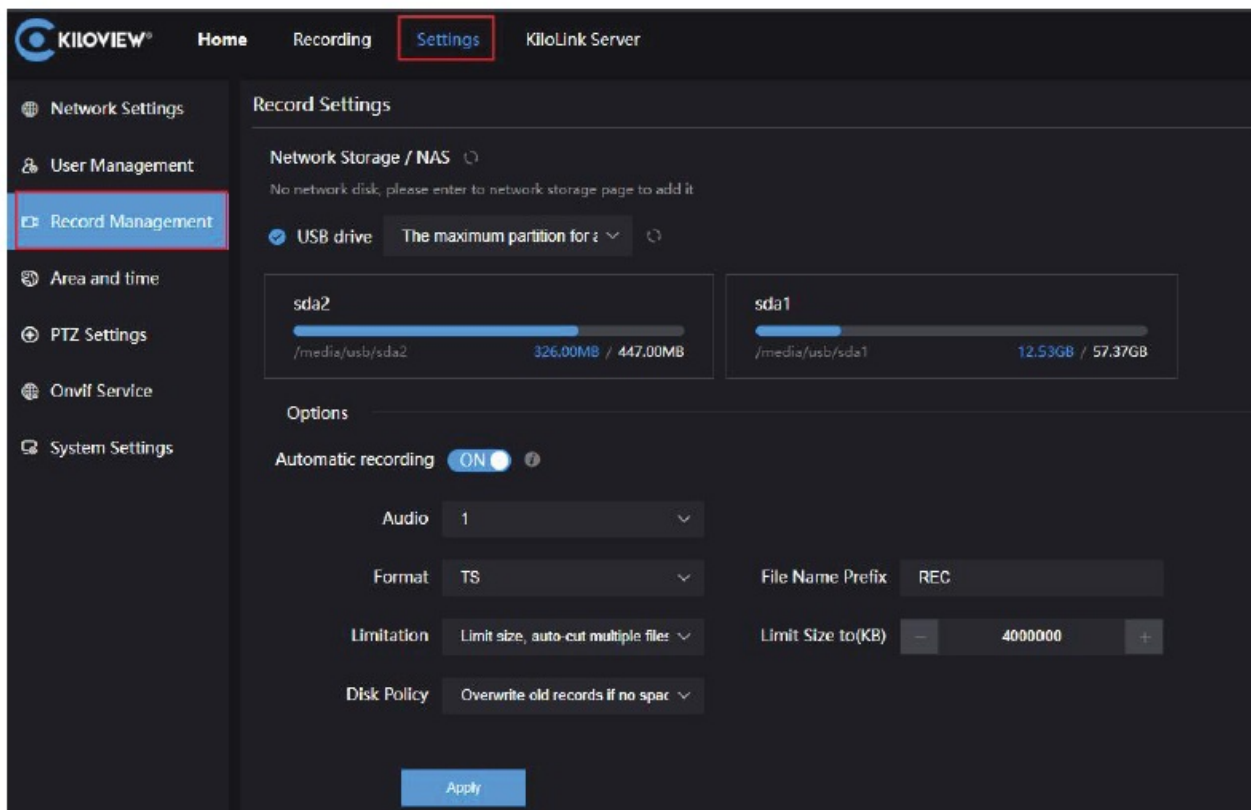
7.4 Recording

RE-3 supports local recording by USB and NAS recording. Take local recording as an example, operate as follows:

1 Insert the USB memory into RE-3.
2 RE-3 can turn on recording.

3 Record Settings: Click "Settings" in the WEB UI, click Record Management, you can see the record parameters and configurations.
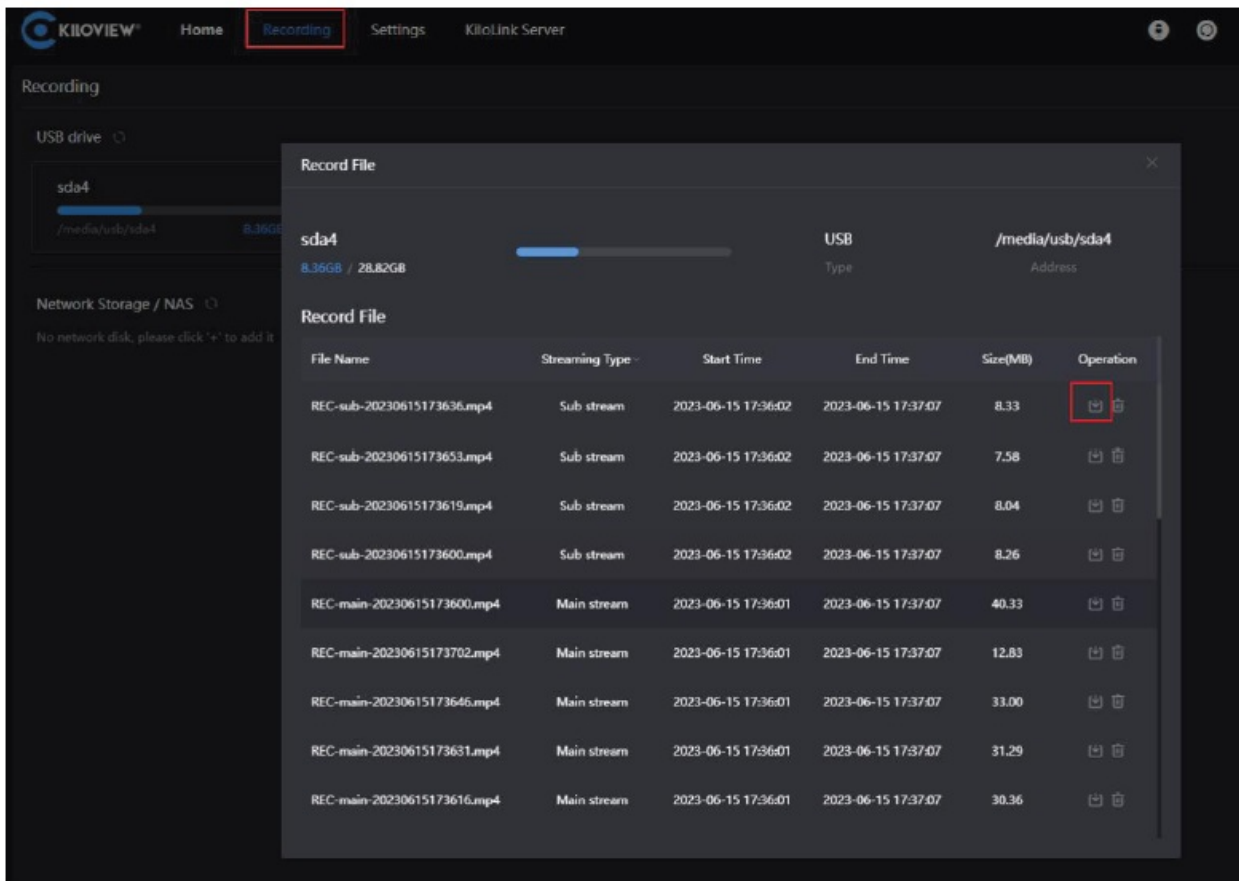
Note

If the power supply is cut down in the process of recording, for the recording file format selected as.avi/.mp4 and other formats, the video file may be permanent damaged, but .TS format video files would be saved. Also, TS files are supported by most video players.

If you record in a format other than .TS, please manually stop the recording and remove the storage device when the recording is completed to ensure the recording files can be played properly.

4 Click stop recording, you can view the recording status and memory usage, as well as download the files to the computer.

8. Firmware update

8.1 Download firmware

Kiloview will provide the firmware of updating functions for RE-3, please visit.
https://www.Kiloview.com/en/support/download/
Select "Rackmount Codec" > "RE-3", find and download the latest firmware.

8.2 Upgrade device firmware
Login to the web page of RE-3, click "Settings">" System setting">"Firmware Upgrade" to check if there is any latest firmware available to download. If yes, select the downloaded firmware and click "Firmware update". After uploaded the firmware successfully, it needs to reboot the device. After clicking "ok", the device will restart, please be patient. After rebooting the device, refresh the WEB management interface to access the backend again.

9. Restore to factory settings

If the device cannot work normally after changing the parameters or forgetting internet IP configuration and couldn't search and find the device, please restore factory settings.

Two methods for restoring factory settings:

1) If you can login to web page, then via the web page, click "Settings>System settings>Restore factory settings".
2) If you can't login to web page, press the RESET button for 10 seconds in the bottom of device.

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

- Login username and password will be "admin".
- Your device will be restored to obtain a DHCP-assigned IP address by default and the failover address 192.168.1.168 will be bound to the device.
- All encoding parameters of video and audio will be restored to default value.

10. Others

To prolong the device life, please unplug the power and keep it properly if you do not use it for a long time.

Specifications

- Product: RE-3 Dual-Channel Video Encoding Card
- Video Inputs: 3G-SDI, 4K HDMI
- Video Encoding: H.265
- Interfaces: Reset, 1000M Ethernet, HDMI input, 3G-SDI input,
  USB TYPE-A, USB TYPE-C, 3.5mm Line in, Tally Signal Light

Product Usage Instructions

1. RE-3 Card Installation

To install the RE-3 card, follow these steps:

1. Align the cardboard component with the left and right card slots.
2. Push it in parallel and tighten the two hand-tightened screws on the left and right sides.

2. Device Integration

The RE-3 card is designed in a card form factor for easy installation and integration with the Cradle series chassis. Follow the manufacturer's guidelines for proper integration to ensure flexible deployment and management of the equipment.

3. Device Discovery

To discover the device, you can use the NDI Tools or manually obtain the default IP address by toggling the dip switch on the cardboard.

4. Login to the Device Management Page

Open a web browser and enter the device's IP address in the address bar. The default user name and password are admin. It is recommended to change the password after the first login for security purposes.

FAQ

Q: What power source should be used with the device?

A: Please use the device's included power adapter to provide power. Using other unqualified power sources may damage the equipment.

Documents / Resources

KILOVIEW RE-3 Dual Channel Video Encoding Card [pdf] User Guide
RE-3 Dual Channel Video Encoding Card, RE-3, Dual Channel Video Encoding Card, Channel Video Encoding Card, Video Encoding Card, Encoding Card, Card

References

- 🐚 **NDI - Removing the limits of video connectivity.**
- 🔺 **Official download of VLC media player, the best Open Source player - VideoLAN**
- **User Manual**